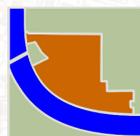
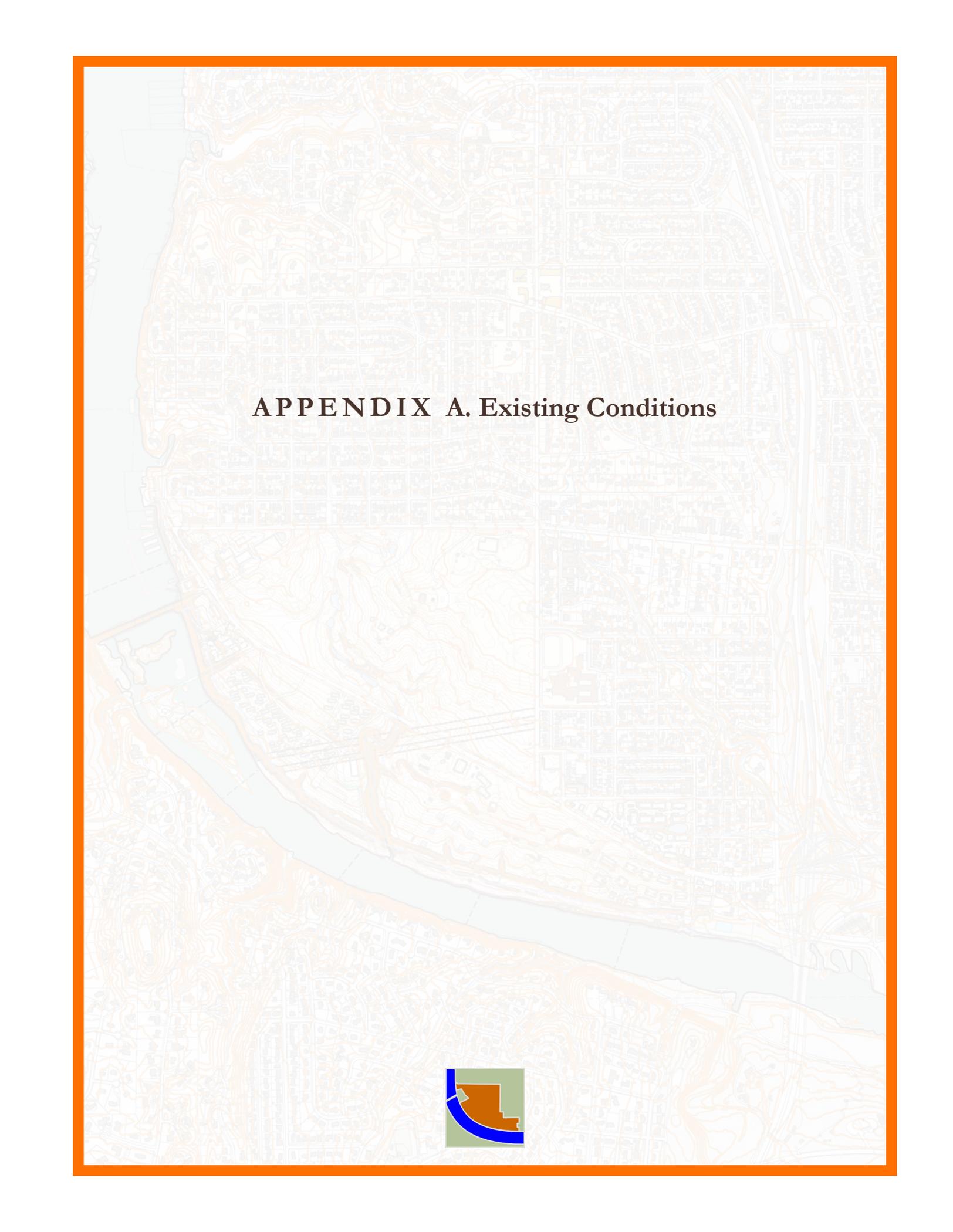


Conceptual Master Plans for the Brackenridge Tract

PROJECT REPORT - APPENDICES

VOLUME 1

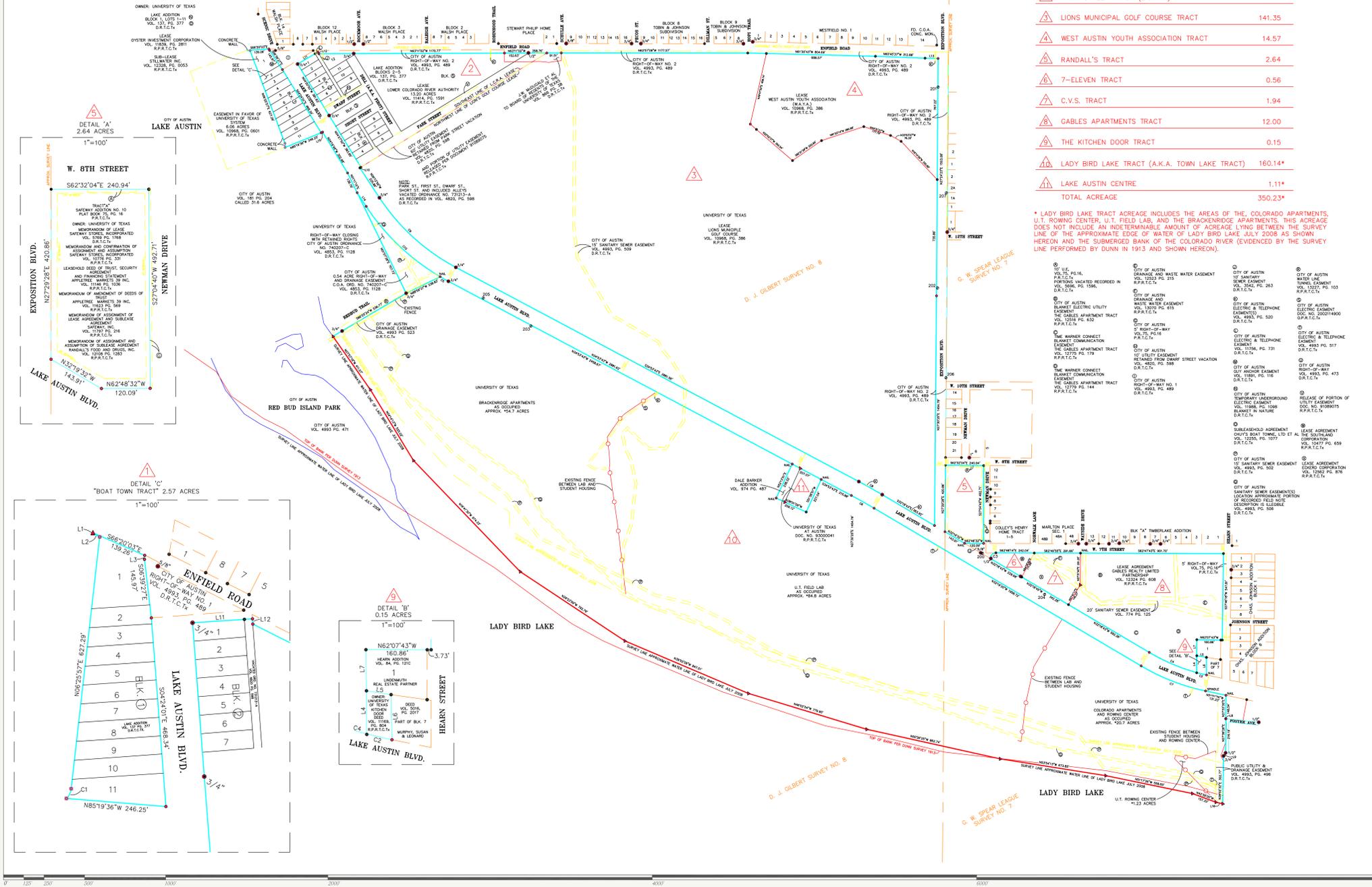




APPENDIX A. Existing Conditions



BOUNDARY SURVEY



TRACT	ACREAGE
BOAT TOWN TRACT	2.57
PARK STREET TRACT (L.C.R.A.)	13.20
LIONS MUNICIPAL GOLF COURSE TRACT	141.35
WEST AUSTIN YOUTH ASSOCIATION TRACT	14.57
RANDALL'S TRACT	2.64
7-ELEVEN TRACT	0.56
C.V.S. TRACT	1.94
GABLES APARTMENTS TRACT	12.00
THE KITCHEN DOOR TRACT	0.15
LADY BIRD LAKE TRACT (A.K.A. TOWN LAKE TRACT)	160.14*
LAKE AUSTIN CENTRE	1.11*
TOTAL ACREAGE	350.23*

* LADY BIRD LAKE TRACT ACREAGE INCLUDES THE AREAS OF THE COLORADO APARTMENTS, U.T. ROWING CENTER, U.T. FIELD LAB, AND THE BRACKENRIDGE APARTMENTS. THIS ACREAGE DOES NOT INCLUDE AN INDETERMINABLE AMOUNT OF ACREAGE LYING BETWEEN THE SURVEY LINE OF THE APPROXIMATE EDGE OF WATER OF LADY BIRD LAKE JULY 2008 AS SHOWN HEREON AND THE SUBMERGED BANK OF THE COLORADO RIVER (EVIDENCED BY THE SURVEY LINE PERFORMED BY DUNN IN 1913 AND SHOWN HEREON).

- LEGEND**
- - 1/2" IRON ROD FOUND (UNLESS NOTED)
 - - IRON PIPE FOUND (SEE NOTES)
 - - 1/2" IRON ROD W/AM MC CAP SET (UNLESS NOTED)
 - - SQUARE CONCRETE MONUMENT FOUND
 - - CHISELED PLUS SIGN
 - - CONTROL POINT (CAP) IRON ROD W/ALUM. CAP
 - ▲ - REAL PROPERTY RECORDS TRAVIS COUNTY TEXAS
 - - DEED RECORDS TRAVIS COUNTY TEXAS
 - - PLAT RECORDS TRAVIS COUNTY TEXAS
 - - OFFICIAL PUBLIC RECORDS TRAVIS COUNTY TEXAS

PROJECT CONTROL - GRID COORDINATES

NAME	NORTHING	EASTING	ELEVATION
300	1077784.201	316365.814	618.87
301	1077784.201	316365.814	618.87
302	1077448.433	316473.218	563.54
303	1077448.433	316473.218	563.54
304	1077448.433	316473.218	563.54
305	1077448.433	316473.218	563.54
306	1077448.433	316473.218	563.54
307	1077448.433	316473.218	563.54
308	1077448.433	316473.218	563.54
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315	1077448.433	316473.218	563.54
316	1077448.433	316473.218	563.54
317	1077448.433	316473.218	563.54
318	1077448.433	316473.218	563.54
319	1077448.433	316473.218	563.54
320	1077448.433	316473.218	563.54

CURVE TABLE

NUMBER	LENGTH	RADIUS	CHORD BEARING	DEFLECTION
C1	127.57	1000.00	N00°00'00"E	90°00'00"
C2	55.39	24.17	S27°04'24"E	89°59'59"
C3	30.87	144.87	S27°04'24"E	89°59'59"
C4	437.24	1000.00	S27°04'24"E	89°59'59"
C5	169.14	200.00	S27°04'24"E	89°59'59"
C6	100.00	100.00	S27°04'24"E	89°59'59"
C7	100.00	100.00	S27°04'24"E	89°59'59"
C8	100.00	100.00	S27°04'24"E	89°59'59"
C9	100.00	100.00	S27°04'24"E	89°59'59"
C10	100.00	100.00	S27°04'24"E	89°59'59"

NOTES

1. UNIVERSITY LAND SURVEYED AS SHOWN HEREON AND FOR CONFIRMATION FROM RECORDS. A RECORDED DEED TO THE STATE OF TEXAS FOR THE COUNTY OF TRAVIS BY AUSTIN BY DEED RECORDED VOLUME 94 PAGE 57 DEED RECORDS TRAVIS COUNTY TEXAS (UNLESS NOTED OTHERWISE HEREON).

2. LOT 7 OF BLOCK 4 IN DIVISION "A" OF LAKE AUSTIN AS SHOWN HEREON WAS DEED TO THE UNIVERSITY OF TEXAS SYSTEM BY WESTFIELD DEVELOPMENT COMPANY AS FOR WARRANTY DEED RECORDED VOLUME 358 PAGE 244 D.R.T.C.T.X.

3. BLOCK 4 AND 8 IN DIVISION "A" OF LAKE AUSTIN AS SHOWN HEREON WAS DEED TO THE UNIVERSITY OF TEXAS BY JUDICIAL PROCEEDING NO. 70209 IN THE DISTRICT COURT OF TRAVIS COUNTY TEXAS DATED 07/19/06 VOL. 527 PG. 341 AND UNDER NO. 1461 IN THE EASTERN DISTRICT COURT OF THE UNITED STATES, EASTERN DISTRICT OF MISSOURI DATED 12/30/1948 (REC. VOL. 827 PAGE 210).

4. ALL REFERENCED RECORDED DOCUMENTS SHOWN HEREON ARE OF THE DEED RECORDS TRAVIS COUNTY TEXAS (UNLESS OTHERWISE NOTED).

5. TITLE AND EASEMENT RESEARCH FOR THE SUBJECT PROPERTY WAS PERFORMED BY HERITAGE TITLE COMPANY OF AUSTIN, TEXAS RETAINING RECORDS IN THE FOLLOWING COMPUTER GENERATED SAN FILE. DO NOT PERFORM INDEPENDENT TITLE OF EASEMENT RESEARCH FOR THE SUBJECT TRACTS.

6. COMMENT NO. 0819205 ISSUED 6/25/08 (THE GABLES APARTMENT TRACT).

7. COMMENT NO. 0819205 ISSUED 6/24/08 (BRACKENRIDGE APARTMENTS).

8. COMMENT NO. 0819205 ISSUED 6/24/08 (EVIDENCE "D" & "H" TRACTS).

9. COMMENT NO. 0819205 ISSUED 6/24/08 (THE OYSTER LANDING TRACT).

10. COMMENT NO. 0819205 ISSUED 6/26/08 (THE LIONS DOOR TRACT).

11. COMMENT NO. 0819205 ISSUED 6/27/08 (TOWN LAKE TRACT).

I HEREBY CERTIFY THAT THIS SURVEY WAS MADE ON THE GROUND UNDER MY DIRECTION AND SUPERVISION AND THAT THIS PLAN IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

DEAN S. SCOTT
REGISTERED PROFESSIONAL LAND SURVEYOR
NO. 539 - STATE OF TEXAS



A2. INVENTORY & MAPPING REPORT



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Section 3:	Existing Utility Infrastructure Inventory and Capacity Analysis
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CAS CONSULTING & SERVICES, INC.

Civil, Transportation, and Environmental Engineering
Austin • San Antonio

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D R A F T – August 22, 2008

OVERVIEW AND SUMMARY FINDINGS

1.0 INTRODUCTION

The University of Texas System (UTS) owns 350.23 acres of land along the north shore of Lake Austin in Austin, Texas known as the Brackenridge Tract. This property is located in central west Austin on both sides of Lake Austin Boulevard between MoPac Expressway and Enfield Road. UTS accepted the Cooper, Robertson and Partners (CRP) proposal for conceptual master planning for the development of this Tract on April 21, 2008. CRP accepted the CAS Consulting & Services, Inc. (CAS) proposal for services relating to infrastructure/traffic engineering and surveying for this project on May 2, 2008.

As part of the scope of services, CAS has prepared this Existing Site Analysis Report which contains the most pressing infrastructure-related issues, environmental and regulatory constraints that may affect redevelopment of the Brackenridge Tract. As part of this analysis, a boundary survey for the Tract was completed by Surveying and Mapping, Inc. (SAM) in August 2008 and a summary of environmental and cultural findings was provided by Raba-Kistner Consultants Inc. (RKCI) in July 2008.

The purpose of this section of this report is to provide an overall summary of the findings, highlight key issues and provide recommendations. In addition to this summary, complete analysis reports, along with appropriate drawings and attachments, have been provided in the remaining sections of this report for reference. All data has also been submitted electronically for graphical incorporation into CRP's concept plan working files.

2.0 FACILITY AND BUILDING INVENTORY & ANALYSIS SUMMARY

Baer Engineering and Environmental Consulting, Inc. completed an inventory and review of the building envelope materials and conditions for the buildings currently existing on the Brackenridge Tract.

The purpose of the inventory is to provide information on materials currently included in the building envelopes. The inventory phase also included interviews with staff such as property managers and maintenance staff to identify intermittent problems such as water leaks. The purpose of the evaluations was to identify significant construction flaws or deterioration of building envelope components such as building walls, windows and doors. Some roofs were specifically excluded due to inaccessibility. Roofs that could be easily accessed and viewed were reviewed with other components of the building envelope. Items identified include corrective/maintenance work needed and

determination of service life remaining on existing buildings. For some facilities additional investigation is needed.

The buildings reviewed include the Colorado and Brackenridge student apartments, rowing dock and storage building, field lab and outbuildings, UT Lake Austin Centre, Oyster Landing, LCRA Complex, Lions golf course club house and outbuildings, West Austin Youth Association buildings, ball fields and outbuildings, Randall's, 7-11, CVS Pharmacy, Gables Apartments, and the Kitchen Door. Specific information on each structure is included in Section 2 of the report and its related appendices.

Minor deficiencies were noted for almost all buildings. Minor issues include loose fascia, damaged doors, minor wall cracks, trees too close to foundations, leaking gutters, minor plaster cracking, missing downspouts, and slight damage to shingles. More major issues include erosion areas near foundations at Lions pump house, ridge line deflection at the vacant restaurant, damaged frames and roofs at the lab, water damage and plant growth on the roof at the Kitchen Door, erosion under the stairwells at the Colorado Apartments (building 55761, 56272), mold at the Colorado Apartments (building 55877), exposed reinforcing steel at the Colorado Apartments (building 91462) and roof drainage problems at the CVS Pharmacy.

Remaining service life of the buildings ranges from 15 to 50 years based on the tables provided in the report prepared by Baer Engineering in Section 2. CAS recommends further evaluation of existing buildings prior to any demolition or remodeling, as the existing condition and maintenance needs of roofs and interiors of buildings were not addressed in this report. An inventory of interior materials should also be performed to identify if hazardous materials exist (i.e. asbestos or lead based paint).

Please refer to Section 2 of the full report for more information and diagrams of the buildings that were inventoried.

3.0 UTILITY INFRASTRUCTURE INVENTORY AND ANALYSIS SUMMARY

The Brackenridge Tract is within the COA jurisdiction and therefore within the City's utility service area. The Brackenridge Tract is served by the COA as well as commercial utility providers. City-provided utilities include water, wastewater (sanitary sewer), storm water (drainage) and electric services for all development within the COA's jurisdiction. Water and wastewater are provided by the Austin Water Utility (AWU), electricity is provided by Austin Energy (AE) and storm water runoff is handled by the Watershed Protection and Development Review Department. Phone, cable, telecommunications and gas are provided by commercial utility providers, and further coordination with each utility provider will be required to determine capacity, service locations, additional requirements for service, and to avoid utility conflicts when placing new utilities.

An inventory of available utility data was compiled and then the data was analyzed as related to the Brackenridge Tract. Mapping relating to existing utilities is provided within the appendices of Section 3 in the full report.

Note that CAS recommends that the existing process of the Austin Area Utility Location Coordinating Committee (AULCC) be utilized to determine if existing utilities are in conflict with proposed development. The current COA AULCC contact is Gregory Pepper at (512) 974-7180.

EXISTING & PROPOSED UTILITY EASEMENTS SUMMARY

Existing easements within the property will restrict development unless relocations are accomplished and the easements vacated. Dedication of new water, wastewater, electric, and public utility easements may reduce developable area of the Tract. Locations proposed for utilities should be scrutinized to determine if options exist to place them within other limited use areas (e.g. building setbacks) in order to minimize undevelopable areas created on site.

WATER SERVICE SUMMARY

The AWU Development Services Division calculated water pressures within the Tract ranging from 84 psi to 106 psi. While not guaranteed accurate by the Utility, this pressure data indicates a very strong supply of water for domestic consumption and fire flow required for the potential build-out of the Brackenridge Tract. Note that additional fire hydrants and fire flow testing data will certainly be needed as building plans for the area are developed. In addition, existing service and meter locations will need to be verified. There are no indications that the area is served with reclaimed water.

WASTEWATER SERVICE SUMMARY

Existing wastewater tunnels in the area have limited available capacity. The City has new tunnel infrastructure under design that is currently scheduled to come online in 2013. The AWU estimated available peak flow capacity in the major sanitary sewers serving the area, and adjusted the data to assume reduced inflow/infiltration and include planned future flows from the Ullrich Water Treatment Plant and West Lake Hills (a neighboring town that COA serves with wastewater service). A review of the available system indicates a current available peak flow capacity of 1,576 LUEs (1 LUE = 0.9 GPM). However, there is potential to upsize an existing 10" sewer (from the golf course to MoPac) to approximately double that available capacity. Existing service locations still need to be verified.

ELECTRIC SERVICE SUMMARY

The Brackenridge Tract is within the Austin Energy (AE) West service area. The area is currently served with 3 phase over-head electric service and a sub-station and is estimated by AE to have sufficient amp capacity to serve the future Tract development. CAS Consulting and Services is unaware of any existing deficiencies, but recommends that further discussion with AE is needed to verify metering and service location requirements for the tracts.

STORM SEWER SUMMARY

Because the Brackenridge Tract is generally undeveloped, there are few storm water lines within the property. The exceptions include lines that direct storm water south into the Tract from Tarrytown, a line that allows storm water to pass beneath Lake Austin Boulevard, and inlets/storm sewers that direct storm water offsite to either Johnson Creek or Lady Bird Lake.

Future changes in impervious cover resulting from development of the Brackenridge Tract will necessitate changes in the drainage pattern and the addition of new drainage infrastructure.

TELEPHONE and COMMUNICATIONS SERVICE SUMMARY

The Brackenridge Tract is within the service area of several telephone and communications companies, including AT&T, Grande Communications, SBC and Time Warner Communications. CAS Consulting and Services is unaware of any existing deficiencies, but recommends future discussions with providers to determine additional requirements for service and coordination to avoid utility conflicts as new utilities are constructed.

GAS SERVICE SUMMARY

The Brackenridge Tract is within the service area for Texas Gas Service and potentially by Atmos Energy. CAS has no knowledge of the actual capacity of that current system. CAS Consulting and Services is unaware of any existing deficiencies, but recommends future discussions with utility providers to determine additional requirements for service and coordination to avoid utility conflicts as new utilities are constructed.

4.0 TRANSPORTATION INFRASTRUCTURE ANALYSIS SUMMARY

Transportation infrastructure in the Brackenridge Tract area is adequate from a functionality perspective for the area's current development state. The City's only current plan for improvements to the area is the plan to reconstruct a bike lane on Lake Austin Boulevard from Exposition Boulevard to Enfield Road.

Street capacity, as measured by average daily traffic volumes, is well below the threshold that would require widening or enhancements. The frequency of traffic accidents, another measure of system functionality, is low for the area. Although the streets lack a full compliment of sidewalk, bikeway and drainage build-outs, the transportation system is functioning at a level generally acceptable to the City's Capital Improvements Program planning staff.

Structural condition of the roadway pavement and concrete appurtenances such as sidewalks, inlets and curb and gutter is generally average to good. Very few localized areas of impending pavement failure were noted. Areas of Lake Austin Boulevard where utility construction has occurred are showing signs of localized backfill settlement along trench repairs, but the overall condition of the pavement remains in serviceable condition.

Drainage is poor on Lake Austin Boulevard from Exposition to points west due to the existing ground profile that ponds water at the intersection. Anticipated reconstruction of the bike lane on the north side of the street will likely improve or eliminate this ponding problem as a result of regrading in the project design. No appreciable upgrades are currently included in the multi-year Capital Improvements Program's current plan. However, City roadways are scheduled to receive maintenance treatments on a 7-year cycle. These streets can be expected to receive scheduled maintenance and to remain in a functional state for many years before full reconstruction of the roadway and underground utilities is ever contemplated.

In a scenario where the University lands are developed for non-University purposes, the BDA provides guidance on cost-sharing and standards applicable to public infrastructure, including driveways, private streets, and public streets. The BDA also addresses the need for Traffic Assessment Reports (TAR) if land use changes will significantly increase traffic to the area. If the TAR suggests improvements are needed, then the BDA addresses cost-sharing of the improvements between the University and the City.

Generally speaking, the existing transportation infrastructure is adequate for existing development, and should remain adequate if similar land uses are maintained. Any significant educational use involving large numbers of students attending classes, or any significant increase in commercial/retail use of the area would likely require traffic studies and physical improvements.

5.0 ENVIRONMENTAL, CULTURAL & GEOLOGIC DATA & ANALYSIS

RKCI performed limited site visits and research on environmental, cultural/historical, and geologic constraints on the Tract during June and July of 2008. It is recommended that further field observation and research be completed so that all critical environmental issues can be verified before development plans are finalized.

ENVIRONMENTAL CONSTRAINTS

Environmental regulations at the city, state, and federal level may apply to the Tract. Under University related development, only state and federal rules apply. For non-University use the BDA as well as state and federal rules apply. If the University elects to develop outside the BDA, then city, state and federal rules will all apply. Environmental constraints will limit developable areas of the site, may require remedial measures prior to development, or will require mitigation following development. Restricted development areas include buffers surrounding critical environmental features, geologic features, waterways, floodplains, vegetation, hazardous materials sites and endangered species. Each item is covered more completely in Section 5 of the full report, and mentioned briefly here.

CRITICAL ENVIRONMENTAL FEATURES (CEF)

Potential canyon rim rock, springs and wetlands are noted in the RKCI data tables. It is anticipated that further field observation and research is necessary to determine whether these features qualify as critical environmental features under the City definition, and

whether the wetlands meet United States Army Corps of Engineers (USACE) criteria. If so, then a 150-foot development setback is typically required by the City, with no development allowed inside this setback. There is an administrative procedure available to reduce this setback to a minimum of 50 feet based on the characteristics of the development and its potential to impact the feature. If the wetlands qualify under the USACE criteria, then further research is needed to determine what type of permit applies.

GEOLOGY

There appear to be mapped faults and outcrops of bedding planes in the area of the tracts that may function as point recharge features. These recharge features may also qualify as COA defined CEFs as described in the section above. Further field work is needed.

WATERWAYS, WETLANDS, & FLOODPLAINS

Portions of the Tract are within the 100-year floodplain as defined by FEMA. Development and building code restrictions will apply in these areas. No significant fill can be placed within floodplains.

VEGETATION & SIGNIFICANT TREES

Though a tree survey has not been performed, it is apparent that the Tract has many large trees. Transplanting of large trees would be preferred over removal. Large trees have been successfully relocated under University developments in the past. Significant areas of riparian vegetation are noted and may be inventoried with future wetlands surveys. The University should perform further research to determine if heritage trees exist onsite as there may be state level protection of these trees. In the case of development required to meet City requirements, then any tree over 8" diameter will be subject to scrutiny and the COA will likely require mitigation for the removals. Any tree over 60" circumference are considered "protected trees" per the COA and their removal is severely restricted. Tree removals should be considered carefully to avoid controversy.

HAZARDOUS MATERIALS

A potential leaking underground storage tank exists at the boat dock. Further review of records and potential field sampling should be accomplished to determine if remedial action is required before development plans are finalized.

ENDANGERED SPECIES

Endangered species are regulated at the federal level United States Fish and Wildlife Service (USFWS), and must be considered for any development at the federal, state or local level. No endangered species records were found for the site. Future field observation and habitat surveys should be conducted to determine if endangered species and nest sites occur within the subject Tract. If so, then restrictions on development or specific restriction on clearing dates could apply to development. Potential review by the Texas Parks and Wildlife Department (TxPWD) or USFWS may be required.

CULTURAL RESOURCES

Cultural resources are regulated at the state and federal level, and must be considered for any development at the federal, state or local level. The majority of the area has been

surveyed for cultural resources, with the exception of the Safeway, Colorado Apartments, Boat Town and Deep Eddy tracts. A few sites of interest are noted but none are federally protected under the National Listing. CAS has not addressed the requirements of a National Environmental Policy Act (NEPA) process for preparing an Environmental Impact Study (EIS) for the development. If federal funding is used for the development, then the University should review the requirements and comply with rules and regulations for the NEPA process.

6.0 EXISTING FLOODPLAIN, TOPOGRAPHY AND WATER QUALITY ANALYSIS SUMMARY

The Brackenridge Tract has some limitations to development related to floodplains, environmental conditions, and topography based on COA as well as Federal regulations. The following description is a summary which discusses the overall issues under Section 6 of this report.

FEMA FLOODPLAINS

The COA has adopted regulations that are more restrictive than those required by FEMA. The COA regulations do not allow any increase in the 100-year water surface elevation that would be caused by development. This requirement severely limits any development within the 100-year floodplain. FEMA regulations allow up to one foot of rise in the 100-year water surface elevation caused by development. FEMA regulations would allow some development within the 100-year floodplain.

EDWARDS AQUIFER

Maps available to the public from TCEQ show the Brackenridge Tract is not in the Edwards Aquifer recharge zone. Maps available from the COA show the Brackenridge Tract in the Edwards Aquifer recharge zone. The COA has decided to require the standard practices for the Edwards Aquifer recharge zone in this area based on the COA's regulatory authority. The COA Environmental Criteria Manual (ECM) regulations require all ponds within the Edwards Aquifer to be lined and all Critical Environmental Features (i.e. caves, sinkholes, faults) be protected with setbacks.

REGULATORY SETBACKS

Critical waterway and wetland setbacks were determined based on the COA Watershed Ordinances. The setbacks are based on several factors including the watershed type which includes Urban and Water Supply Suburban for the Brackenridge Tract. Regulatory setbacks are used to protect critical environmental features, buffer waterways, and protect wetlands. No construction activities related to buildings are allowed in the setback areas, according to COA regulations.

DELINEATION OF EXISTING WATERSHED CONDITIONS

The existing drainage areas for the Brackenridge Tract have been delineated into three drainage basins which are sub-basins of Town Lake, Lake Austin, and Johnson watersheds. Each of the drainage basins has been divided into on-site and off-site areas to separate the Brackenridge Tract from the adjacent properties. The on-site drainage basins

have been further divided into areas representing current land use, resulting in 11 drainage areas. This information has relatively little impact on development and is only related to engineering design of the drainage systems.

EXISTING DETENTION AND WATER QUALITY PONDS

Existing detention and water quality ponds will require site specific analyses to determine if these existing structures can be retained for any future development. It is unlikely that the existing ponds will be retained due to the age of the structures and increased regulatory requirements. New detention and water quality ponds should be planned for areas requiring detention and water quality by the COA. The current pond sites will be utilized as much as possible but new structures, where required, should be used for planning purposes.

The COA will require water quality ponds for all portions of the site that are developed with more than 20% impervious cover.

The COA will not require detention ponds for the areas between Lake Austin Blvd and Lady Bird Lake (LBL) which drain directly into LBL. The COA will require detention ponds in all other areas of the site unless agreements are reached with the city and improvements are made to drainage structures under Lake Austin Blvd.

EXISTING SLOPES

The COA has regulations that limit development potential in varying degrees for existing ground slopes that exceed 15%. Also cut and fill limits of 4 feet are required to minimize erosion and limit changes to the existing topography in Water Supply Suburban Watershed areas. The cut and fill limits are not required in Urban watershed areas.

EROSION CONTROLS

Temporary erosion controls to meet the COA and Federal requirements will be necessary for all construction areas. Permanent erosion controls (sedimentation) will be required by the COA as part of the water quality ponds when required.

NET SITE AREA

Net site area is a COA determination that identifies portions of a site that are readily available for development and these calculations have been prepared in the main body of this report. The net site area does not include any areas identified as buffers, setbacks, 100yr floodplains, or other environmentally sensitive areas. The net site area determined for University related development is approximately 325 acres and for non-University related development is less than 208 acres.

COMMUNITY DRAINAGE ISSUES

The COA has compiled a database of drainage and erosion complaints. Neighborhood plans have been prepared by community organizations to identify issues relating to the neighborhoods that individuals or groups would like to see addressed by the COA or any developer in the area.

WETLANDS

Wetlands were included in the body of this report under Regulatory Setbacks. The regulatory setbacks are a COA requirement; however, there are also Federal requirements that prohibit construction activities in the wetland areas.

7.0 NEIGHBORHOOD, VIEW CORRIDORS AND DEVELOPMENT SUMMARY

The Brackenridge Development Agreement, (BDA), is an intergovernmental agreement entered into between the COA and the University of Texas and is in effect for a 30 year period with three extensions included in the terms. The agreement went into effect on May 25, 1989.

The BDA establishes regulations for non-University development of certain parcels within the Brackenridge Tract – the Boat Town Tract, Deep Eddy Tract, Park Street Tract, Safeway Tract, Stratford, and the Town Lake Tract. The agreement affects an area totaling 279 acres of the entire Brackenridge Tract. The BDA does not apply to development of these parcels for University related purposes. It excludes the land leased to the COA for a golf course and to the West Austin Youth Association.

The parties agree that for non-University purposes, “no existing or future City ordinances or regulations of any kind, except as specifically set forth herein, shall apply to the property for so long as the property is subject to this agreement”.



D R A F T – August 22, 2008

2.0 EXISTING FACILITY INVENTORY AND ANALYSIS

Baer Engineering and Environmental Consulting, Inc. completed a basic review of the building envelope conditions for 173 structures of various types ranging from commercial and governmental offices to commercial retail to residential and recreational, all located on the Brackenridge Tract. The structures are shown on the *Map of Existing Buildings*, included in **Exhibit 2A**. Significant construction flaws or deterioration associated with building envelope systems, including exterior walls, windows, and doors were identified. Some roofs were specifically excluded due to inaccessibility. Roofs that could be easily accessed and viewed were reviewed with other components of the building envelope. The complete *Report of Simplified Building Envelope Evaluations* can be found in **Exhibit 2B**.

The survey was not intended to address routine maintenance items or to develop detailed remedial plans for identified problems. The general rating system is described as follows:

- Good – Generally well maintained; minor maintenance required
- Fair – In need of repairs to avoid progressive deterioration
- Poor – In need of immediate repairs or replacements

The following items were accomplished as part of this evaluation:

- Developed an inventory of buildings with sizes using the City of Austin building object identification numbers from the City of Austin aerial images.
- Viewed each group of buildings, from the exterior to perform a conceptual, simplified evaluation of the building envelopes of each building group.
- Interviewed available property managers and maintenance engineers.
- Identified types of building envelope materials.
- Developed color-coded maps of findings.
- Developed a rating system for building envelopes.
- Developed a ratings spreadsheet of general repair and maintenance costs for the types of building envelopes identified for selected buildings.

The buildings that were reviewed and their overall ratings are listed below:

- The Colorado Student Apartments and Office—Fair
- The University of Texas Rowing Dock and Storage Building—Good
- The Brackenridge Field Laboratory and Outbuildings—Good (Office), Poor (Storage)
- University of Texas Lake Austin Center—Good
- The Brackenridge Student Apartments—Good
- Oyster’s Landing—Good
- Lower Colorado River Authority Complex—Good
- The Lions Municipal Golf Course Club House and Outbuildings—Fair (Clubhouse), Poor (Storage)

- The West Austin Youth Association Buildings, Ball Fields, and Outbuildings—Good
- Randall's Food and Drugs—Good
- 7-11 Store—Good
- CVS Pharmacy Store—Good
- The Gables Apartments—Good
- The Kitchen Door Restaurant—Fair

ANALYSIS

This evaluation was not intended to be a detailed analysis of each separate building component. Observations were limited to the exterior of the buildings without access to the roof areas or interior spaces. Although a "standard of care" is exhibited by trained professionals, in this type of preliminary review it is possible that conditions may exist that will affect the value and/or performance of the facility but that will not be discovered by the limited conceptual reviews performed.

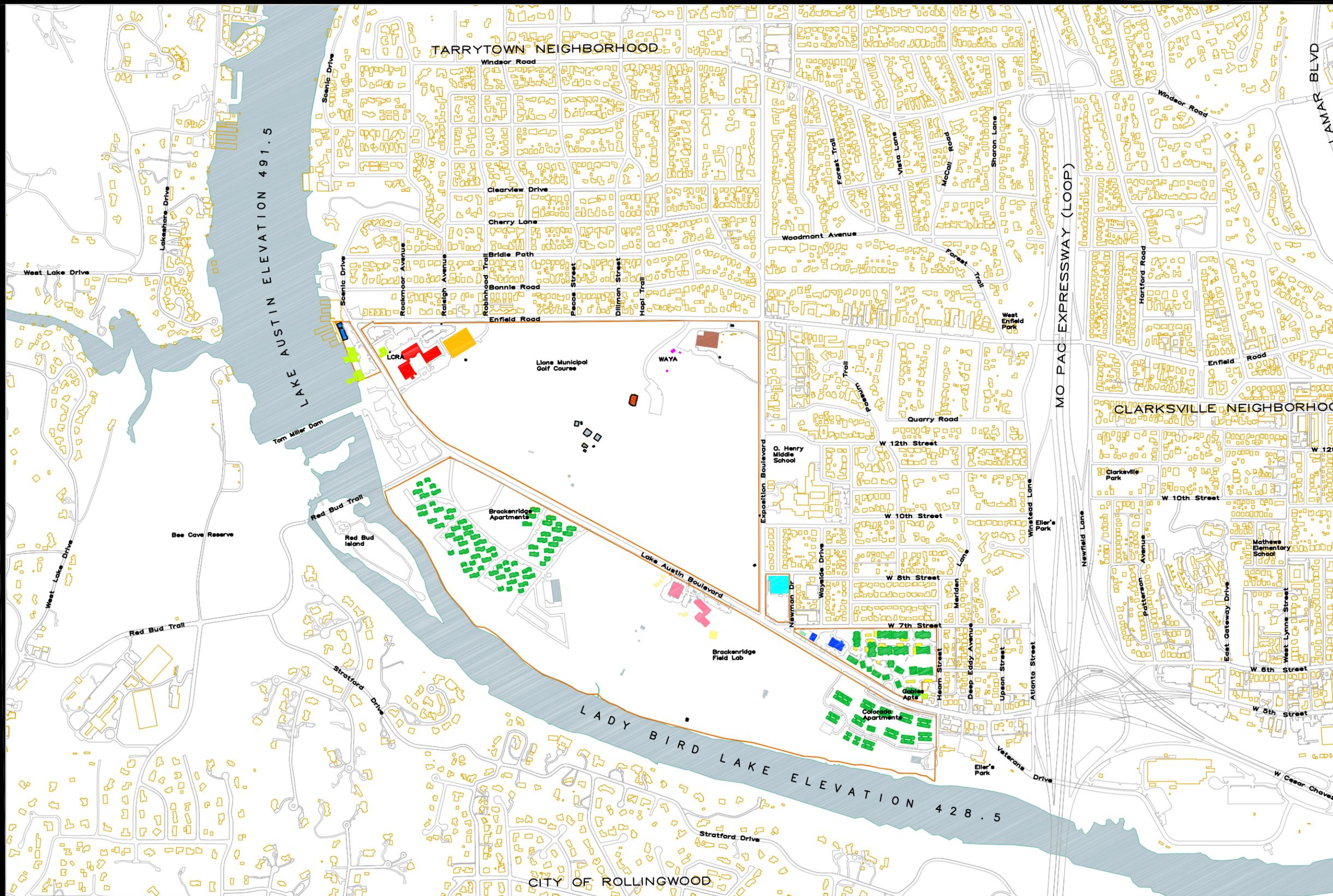
The inventory is intended to provide information on materials currently included in the building envelopes, identify corrective/maintenance work needed, and determine service life remaining on existing buildings. For some facilities, additional investigation is needed. The inventory phase also included interviews with staff such as property managers and maintenance staff to identify intermittent problems such as water leaks.

CONCLUSIONS

Minor deficiencies were noted in Baer Engineering's report for almost all buildings. Minor issues include loose fascia, damaged doors, minor wall cracks, trees too close to foundations, leaking gutters, minor plaster cracking, missing downspouts, and slight damage to shingles. More major issues include erosion areas near foundations at Lions pump house, ridge line deflection at the vacant restaurant, damaged frames and roofs at the lab, water damage and plant growth on the roof at the Kitchen Door, erosion under the stairwells at the Colorado Apartments (building 55761, 56272), mold at the Colorado Apartments (Building 55877), exposed reinforcing steel at the Colorado Apartments (building 91462), inadequate foundation vents at the Brackenridge Apartments and roof drainage problems at the CVS.

Remaining service life of the buildings ranges from 15 to 50 years based on the tables provided in the report prepared by Baer Engineering. CAS Consulting & Services, Inc. recommends further evaluation of existing buildings prior to any demolition or remodeling, as the existing condition and maintenance needs of roofs and interiors of buildings were not addressed in this report.

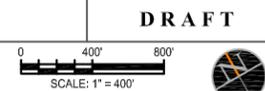
Please refer to the full report for more information and diagrams of the buildings that were inventoried.



LEGEND

- Brackenridge Tract
- Building Footprint
- Apartment
- Commercial
- Commercial Parking Garage
- Dugout
- Garage
- Gas Station
- Government Office
- Greenhouse
- Grocery Store
- Press box at Baseball Field
- Restaurant
- Storage
- Office
- Non profit

Source of Data:
Building Footprints and Designations supplied by City of Austin.



DRAFT

CONCEPTUAL MASTER PLAN:

UNIVERSITY OF TEXAS: Brackenridge Tract

Cooper, Robertson & Partners
Master Planner and Team Leader
TBO Partners
Landscape Architects
K. FRIESE & ASSOCIATES, INC.
Civil Engineers
IIS&A
Concept Development and Communications, LLC
Stakeholder Input and Communications Consultant

Prime Strategies, Inc.
Traffic and Transportation Analyst
Economics Research Associates
Financial and Market Analyst
DuBois, Bryant & Campbell, LLP
Zoning and Public Policy Specialist
Raba-Kristner Consultants, Inc.
Environmental Consultant



Baer Engineering
and Environmental Consulting, Inc.

July 13, 2008

CAS Consulting & Services, Inc.
6633 Hwy 290 East, Suite 104
Austin, Texas 78723

Delivered via e-mail to gary.stegeman@casengineers.com and by U.S. Mail.

Attention: Mr. Gary Stegeman, P.E.

Reference: Report of Simplified Building Envelope Evaluations
University of Texas Systems–Brackenridge Tract Structures, Austin, Texas
Baer Engineering Proposal 084014-8i.010

Dear Mr. Stegeman:

Baer Engineering and Environmental Consulting, Inc. has completed a review of the building envelope conditions for the buildings included in the referenced project. We were authorized to perform these services by your acceptance of our proposal, dated June 4, 2008. The following sections present an overview of the scope of services completed and the findings of our review.

1.0 PROJECT INFORMATION

The above referenced property is owned by The University of Texas Systems (UT–Systems) and is referred to as the UTS Brackenridge Tract. The property is located along the north shore of Lake Austin, on both sides of Lake Austin Boulevard, between MoPac Expressway and Enfield Road in Austin, Texas. The buildings located on this tract that were included in the scope of our evaluations are listed in the attached **Table 1**. We understand that the building envelope evaluations completed by Baer Engineering are one element to assist in UT–Systems' development of a master plan for the property.

2.0 SCOPE OF SERVICES

General

The purpose of the simplified building envelope evaluation services is to identify significant construction flaws or deterioration associated with building envelope systems, including exterior walls, windows, and doors. Baer Engineering performed a conceptual evaluation of these building envelope systems of the buildings noted in the attached spreadsheet, noting building envelope systems that seem to exhibit significantly less than expected service life or that obviously have been poorly maintained. Our survey is not intended to address routine maintenance items or develop detailed remedial plans for identified problems. The services are qualitative in nature and do not include engineering calculations or verification of the adequacy of the original design.

This report includes a summary of our findings, on a group-by-group basis of similar building types, and our general rating system indicating whether the building can sustain deferred maintenance, needs immediate repair, or must be replaced. We have also included our opinion of

Baer Engineering and Environmental Consulting, Inc.

7756 Northcross Drive, Suite 211, Austin, Texas 78757

Phone: 512/453-3733 – Fax: 512/453-3316 – Toll Free: 800/926-9242

www.baereng.com

probable cost of implementing our recommendations for selected buildings. The general rating system developed is as follows:

- Good – Generally well maintained; minor maintenance required
- Fair – In need of repairs to avoid progressive deterioration
- Poor – In need of immediate repairs or replacements

The original scope of work included simplified building envelope evaluation services to identify significant construction flaws or deterioration associated with flat roofs. Sloped roofs were not included in the original or final scopes of services. At the request of the client, Baer Engineering did not complete this scope item due to schedule and irresolvable accessibility issues. However, some roofs were readily observable or viewed from the ground to obtain the provided assessments in **Table 1**.

Similarly, Baer Engineering did not complete our opinion of probable cost of implementing our recommendations for all buildings in the original scope of services, also due to schedule and irresolvable accessibility issues. Our opinions of probable costs are included only for buildings where we able to spend enough time to collect necessary data and gather necessary information to prepare a reasonable opinion of cost.

Scope of Services Deleted from Contract

The following scope items were deleted from Baer Engineering's scope of services, at the request of the client, due to schedule and irresolvable accessibility issues:

- Perform a desktop review of sloped roofs, including record review and building maintenance supervisor interview, if records are readily available and provided to Baer Engineering by the owner.
- Access flat roofs over LCRA buildings, Randall's grocery store, and other flat roofs, to evaluate each flat roof. A maximum of 33 flat roofs was used for the purpose of the original fee proposal.
- Develop a ratings spreadsheet of general repair and maintenance costs for the types of building envelopes identified. (Baer Engineering was able to obtain cost information for some of the building repairs for selected buildings but was unable to complete this scope item for all buildings in the original scope of services due to schedule and irresolvable accessibility issues. Some costs are provided in Table 1.)

Scope of Services Performed

In general, Baer Engineering performed the following scope of services:

- Developed an inventory of buildings with sizes using the City of Austin building object identification numbers. See **Exhibits**.
- Viewed each group of buildings, from the exterior to perform a conceptual, simplified evaluation of the building envelopes of each building group. (Baer Engineering originally proposed to view each building, but due to schedule and accessibility issues, eventually viewed building groups and evaluated the groups by viewing a representative selection of buildings in each group. Baer Engineering did not enter buildings to evaluate envelope systems from the interior. Baer Engineering did not enter buildings to gain access to flat roofs. Roofs were deleted from the scope of services.)

- Identified types of building envelope materials. See subsection on **Descriptions of Structures** below and information provided in attached **Table 1**.
- Developed color-coded maps of findings. See **Exhibits**.
- Developed a rating system for building envelopes. These are provided in attached **Table 1**.
- Developed a ratings spreadsheet of general repair and maintenance costs for the types of building envelopes identified for selected buildings. These are provided in attached **Table 1**.

Preliminary Reviews and Walk-around

The survey began with preliminary reviews of available and relevant drawings, specifications, reports, and records. We interviewed available property managers and maintenance engineers identified by the owner for a few of the properties. In general, property managers and maintenance engineers were unavailable for interview. These reviews occurred during the walk-around of the properties. During the walk-around, we noted the general condition of the property and located obvious defects in the building envelope systems and materials.

The walk-around consisted of a visual observation of the following construction elements:

- Exterior walls, and
- Windows.

Exterior Walls and Windows Survey

Our evaluation of the exterior walls and window systems focused on determining the general types of wall and window systems used and their current conditions, using the rating system we developed as part of the scope of services. We performed a walk-around of most of the facilities to identify obvious improper construction installations, obvious distress, and obvious evidence of water leaks or structural distress in the exterior window/wall system. This evaluation was performed from the exterior only. Baer Engineering did not enter the buildings to look for signs of water intrusion or indicators of failed envelope systems. Exterior visual surveys of each building located on the Brackenridge Tract were initiated on June 18, 2008, by Messrs. Wayne C. Malek, P. E., CFM, Alton E. Greeven, P. E., and Ryan Wagner of Baer Engineering. Several trips to the tract were necessary to complete the exterior walls and windows survey. Baer Engineering was unable to complete this scope item due to schedule and irresolvable accessibility issues; however, most of the buildings were reviewed, as indicated in the attached **Table 1**.

Roof Surveys – (Roof surveys were removed from the scope of services by the client.)

Our roof surveys were to focus on determining the types of roof systems and ages, and providing a general estimation of the expected remaining useful life. We were to access only the roof-tops of flat-roofed buildings to determine the general condition of the roofing membrane, flashings, penetrations, and expansion joint details and the general performance of the drainage system. We were not to perform intrusive testing.

Our proposal was based upon the assumption that the roof-top areas would be accessible through an interior stairway or roof access hatch and would not require the use of lift equipment or ladders. We were to rely on the property manager identified by the owner to provide access to the roof surfaces to perform our observations. We were to observe portions of the underside of the roof deck, if accessible, to determine if there is evidence of water leakage. We were not to access

sloped roof-tops. The evaluation of sloped roof-tops was to be based upon a review of readily available records provided by the owner and interviews with property managers identified by the owner.

Baer Engineering did not perform this scope item, at the request of the client, due to schedule and irresolvable accessibility issues. However, some roofs were observable from the ground and assessed for overall condition. The limited observation of these roofs are provided in **Table 1**.

3.0 REPORTING

Baer Engineering is providing three copies of this final written report. The final report includes a summary of our observations with color-coded maps and other material necessary to document our findings.

The report contains recommended repairs and/or the need for further investigations for selected buildings, as discussed above. Opinions of costs for recommended actions that are provided are for financial implications associated with deficiencies observed. Estimations of remaining service life of the building envelope systems surveyed are also provided for selected buildings, as discussed above.

Structures Reviewed

The buildings that were reviewed include the following:

- The Colorado Student Apartments and Office
- The University of Texas Rowing Dock and Storage Building
- The Brackenridge Field Laboratory and Outbuildings
- University of Texas Lake Austin Center
- The Brackenridge Student Apartments
- Oyster's Landing
- Lower Colorado River Authority Complex
- The Lions Municipal Golf Course Club House and Outbuildings
- The West Austin Youth Association Buildings, Ball Fields, and Outbuildings
- Randall's Food and Drugs
- 7-11 Store
- CVS Pharmacy Store
- The Gables Apartments
- The Kitchen Door Restaurant

Descriptions of Structures Reviewed

The Colorado Student Apartments and Office – The Colorado Student Apartments complex is composed of thirteen freestanding, brick and veneer, two-story buildings and an office building, constructed as follows:

- The roof and second floor are concrete slabs spanning to exterior concrete masonry bearing walls, structural steel beams and structural steel columns.
- The superstructure is supported by a grade beam stiffened, reinforced concrete slab on-ground.

During the survey, the following deficiencies were note at certain buildings:

- Foundation erosion due to rainwater runoff.
- Landscape elevations along the perimeter are not adequate to provide proper drainage away from foundations.
- Algae formation at condensation water lines is creating a slip and fall problem at sidewalks.
- Leaking roof fascia is causing mildew in the brick veneer.
- Trip hazards in sidewalks exist due to spalled concrete.

The roofs were not accessed.

The University of Texas Rowing Dock and Storage Building – This building is a prefabricated structural steel framed building with a metal roof. The building is clad with concrete masonry and the superstructure is supported by a reinforced grade beam stiffened slab on-ground. The building is unremarkable.

The Brackenridge Field Laboratory and Outbuildings – The Brackenridge Field Laboratory complex is composed of a main laboratory building, boathouse, well-house, five greenhouses, and eight storage sheds.

The main laboratory is a single -story structural steel framed building clad with stucco. The superstructure is supported by a reinforced concrete grid beam stiffened slab-on-ground. The building is unremarkable.

The boathouse is constructed with concrete masonry units and has a metal roof. The foundation is a reinforced concrete slab-on-ground with continuous concrete perimeter beams.

The well-house is a metal roofed concrete bearing wall structure supported by a concrete slab-on-ground.

The Greenhouses are constructed using several different structural systems; some are wood framed and others metal framed. Most foundations are slab-on-ground and the others are concrete masonry units forming continuous foundation perimeter beams. Some are in good condition, others fair to poor, and some under repair.

The storage sheds also vary in construction. Some are metal framed and others wood framed. The foundations range from concrete slabs-on-ground, individual concrete spread footings, to wood piers.

The University of Texas Lake Austin Center – The UT Lake Austin Center is composed of a main office building, two greenhouses and a storage building.

The main building is a four-story freestanding structural steel framed structure clad with masonry and glass. A parking garage is located below the first level. A concrete foundation supports the superstructure. The superstructure was unremarkable.

The two greenhouses are metal framed with reinforced concrete slab-on-ground foundations.

The storage building is a prefabricated building with a reinforced concrete slab-on-ground foundation.

All four structures are in good condition.

The Brackenridge Student Apartments – The Brackenridge Student Apartment complex consists of a single-story freestanding office and maintenance building and forty-nine one and two-story freestanding reinforced precast concrete modular apartment buildings.

The office and maintenance building is a prefabricated structural steel structure supported by a reinforced concrete grid beam stiffened slab-on-grade. The superstructure was unremarkable.

The precast concrete apartment buildings are supported above-grade by continuous reinforced concrete foundation walls. The apartment roofs are composition shingle and wood framed. The roof framing bears on the concrete modular ceilings. The superstructures and roofs were unremarkable; however, foundation venting appears inadequate.

Oyster's Landing – Oyster's Landing complex is composed of four freestanding buildings. From north to south, Moreland Properties, Oyster Marina and Lakeside Mediation, Mozart's Restaurant and vacant Boat Town Restaurant, and the Hula Hut Restaurant.

The Moreland Properties building is wood framed and clad with masonry. The foundation is a reinforced concrete slab-on-ground. Considering the site, concrete or metal piles, more likely than not, support the foundation.

Deficiencies noted are:

- Soil against wood framing members;
- Extensive dry rot of wood fascia;
- Missing downspouts; and
- Warped wood at the second level.

The other three buildings are constructed similar to the Moreland building. The buildings are all in good condition, with the exception of some dry rot in the fascia board.

Lower Colorado River Authority (LCRA) Complex – The Lower Colorado River Authority Complex is composed of the four following freestanding buildings:

- A vacant restaurant located on the northwest corner of the property;
- A small wood structure adjacent to the restaurant;
- A main office building;

- A parking garage; and
- A bus stop.

The restaurant building is single-story and was constructed in two phases, an original structure and an addition. The original structure is wood framed with masonry bearing walls. The floor is suspended above ground. The addition is wood framed with masonry veneer and supported by a reinforced concrete slab-on-ground. The roof was not accessed.

The following defects were noted:

- In certain areas the masonry has cracked. These cracks should be sealed to prevent insect infestation and joints in the masonry pointed;
- A downward deflection at the ridge line of the original building was noted; and
- At certain areas the wood fascia boards need repair.

Overall the building is in fair condition.

The small building adjacent to the restaurant is wood framed and clad with masonry. It is supported by a reinforced concrete slab-on-ground. The building is in good condition.

The main office building is a four-story freestanding structural steel framed structure clad with masonry and glass. The superstructure is supported by a reinforced concrete grid beam stiffened slab-on-ground. Heavy column loads are more likely than not supported on drilled concrete shafts. The building is in good condition and unremarkable.

The parking garage is a three-story freestanding precast concrete structure. The foundation is a reinforced concrete grid beam slab-on-ground. Heavy column loads are more likely than not supported by drilled concrete shafts. This building is in good condition and unremarkable.

The bus stop is steel framed with a metal roof. The foundation is a reinforced concrete grid beam slab-on-ground. The structure is in good condition.

The Lions Municipal Golf Course Club House and Outbuildings – The Lions Municipal Golf Course complex is composed of the following buildings:

- Club House;
- Three tee box shelters;
- Cart barn;
- Three equipment sheds;
- Canopy over gasoline pumps;
- Greens keeper house; and
- Water pump house.

The club house is wood framed and clad with masonry. The roof is composition shingles. Part of the building is suspended above ground and supported by piers and part supported by a reinforced concrete slab-on-ground.

The tee box shelters are load bearing masonry wall structures. The roofs are metal supported by wood rafters. The foundations are concrete slabs-on-ground.

The cart barn is a prefabricated metal building supported on a reinforced concrete grid beam slab-on-ground. The building is unremarkable.

The equipment sheds are wood framed with metal roofs. Foundations vary with individual buildings.

The greens keeper's house is wood framed with load bearing masonry walls. The foundation is a reinforced concrete grid beam stiffened slab-on-ground. The house is in good condition.

The water pump house is wood framed with a metal roof. The foundation is a reinforced concrete slab-on-ground. The soil has eroded beneath the foundation on the west side.

The buildings in this complex range from poor to fair with some buildings having little economic value.

The West Austin Youth Association Buildings, Ball Fields, and Outbuildings – This complex is composed of five freestanding buildings and two roofed baseball dugouts. The buildings are as follows:

- A main recreational building;
- Press box at the baseball field; and
- Three storage buildings.

The main recreational building is a prefabricated metal building supported on a reinforced concrete grid beam stiffened slab-on-ground. The building is in good condition.

The press box is a structural steel building clad with masonry. The foundation is a reinforced concrete grid beam stiffened slab-on-ground. The building is in good condition.

The storage buildings vary in construction, two are load bearing masonry wall buildings supporting metal roofs and one is a prefabricated metal building. All buildings are supported on reinforced concrete foundations on-ground. The buildings are in good condition.

Randall's Food and Drugs – This building is a reinforced concrete exposed aggregate tilt-wall structure with a structural steel framed roof. The superstructure is supported on a reinforced concrete grid beam stiffened slab-on-ground. The concrete bearing walls are in good condition, however, at certain areas the decorative wood trim has deteriorated due to dry-rot. The roof was not accessed. The roof drains rearward to conductor heads and downspouts. Drainage around the building is adequate. Structurally, the building is in good condition.

7-11 Store – This building is a freestanding structural steel framed structure clad with stucco. The superstructure is supported by a grid beam stiffened reinforced concrete slab-on-ground. The roof was not accessed. A structural steel framed canopy covers the gas pumps.

For the purposes of this survey the building faces west.

The following minor problems were noted during the survey:

- At the east side, gutters are leaking creating rust stains in the stucco;
- The downspouts (4-inch round) are undersized for the roof area drained;
- The downspouts are emptying adjacent to the foundation;

- Pipe penetrations at the northwest corner not sealed; and
- Minor horizontal cracking in the stucco on three sides of the building.

Structurally the building is in good condition.

CVS Pharmacy – This single story building is reinforced concrete tilt-wall structure with a structural steel framed roof. The concrete walls are clad with stucco and masonry. The superstructure is supported by a grid beam stiffened reinforced concrete slab-on-ground. The roof drains eastward to three through-wall scuppers and 4-inch x 6-inch downspouts. The roof was not accessed.

For the purposes of this survey the building faces west.

The following minor problems were noted during the survey:

- The automatic sliding glass front doors are binding and not completely closing;
- Isolated damage to stucco at drive-through; and
- Staining on walls below overflow scuppers indicating possible undersize of downspouts.

Structurally the building is in good condition.

The Gables Apartments – The Gables Apartment complex is composed of thirty-seven freestanding buildings. Twenty-four are two and three story apartment buildings having a total of two hundred fifty-six apartments; twelve are single-story parking garages having a total of sixty-six spaces; and a single-story leasing center with an adjacent swimming pool. The buildings are wood framed and clad with masonry and stucco. The superstructures are supported by post-tensioned concrete slabs-on-ground. The roofs are Spanish tile.

No major deficiencies were noted at any of the buildings. Some minor cracks in the stucco at certain buildings were observed, however, these cracks are in the process of being repaired. The buildings have been well maintained.

The Kitchen Door Restaurant – This building is a single-story load bearing wall structure. The roof is structural steel framed. The foundation is a reinforced grid beam stiffened slab-on-ground. The roof was not accessed.

For the purposes of this survey the building faces south.

The following minor problems were noted during the survey:

- Gutters at the north wall have leaked creating heavy stains; and
- Some stair-step cracking was noted in the masonry walls indicating some differential foundation movement. Although foundation movement has created problems with respect to the appearance of the masonry work, the foundation movement has not progressed to a point where the structural performance of the foundation or the safety of the inhabitants is impaired.

Overall, the building is in fair condition.

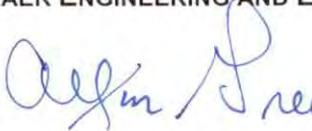
4.0 QUALIFICATIONS

The survey data presented in this report are preliminary reviews intended to identify significant deficiencies and general associated costs. The scope of services was not intended to be a detailed analysis of each separate building component. Our observations were limited to the exterior of the buildings without access to the roof areas or interior spaces. Although a "standard of care" is exhibited by trained professionals, in this type of preliminary review it is possible that conditions may exist that will affect the value and/or performance of the facility but that will not be discovered by the limited conceptual reviews performed. Our observations were limited to readily visible components and did not include any destructive or non-destructive testing at the property.

We appreciate the opportunity to be of services to CAS Consulting & Services, Inc. We would be happy to meet with you to review the contents of this report and answer any questions you may have.

Sincerely yours,

BAER ENGINEERING AND ENVIRONMENTAL CONSULTING, INC.



Alton Greeven, P.E.
Senior Consultant



TABLE 1
SUMMARY OF BUILDING ENVELOPE CONDITIONS
 University of Texas System - Brackenridge Track
 July 12, 2008

ID NO.	Building Type	Property Name Address	Total Building(s) Size (sq ft)	Overall Contrition Rating (good/fair/poor)			Property/Building Description	Identified Deficiencies	Opinion of Repair Costs	Useful Remaining Life (yrs)	Notes
				Foundations	Exterior Walls	Roofs					
57183	Commercial	CVS Pharmacy Store # 06964-01 2610 Lake Austin Blvd. Austin, Texas 78703	11549	Good	Good	Unknown	Concrete floor slab on grade Stone masonry and plaster walls Aluminum frame store front windows EIFS at drive-through window Low sloped roof	Vehicle damages to EIFS Loose fascia at roof line north side Roof over flow scuppers show active water flow down east exterior walls, possible roof drainage issues. Automatic Dorr not Closing Completely	\$3,000	50	Roof not assessed
See Exhibit	Apartment	Breckenridge Apartments 3501 Lake Austin Blvd. Austin, Texas 78703	195844	Good	Good	Good	Concrete module buildings Elevated concrete floor over crawl space Aluminum frame windows Metal doors Sloped metal roofs	Foundation vents are inadequate for crawl space Downspouts need to be extended away from buildings	Unable to obtain due to schedule and/or accessibility issues.	30	
357801	Storage / Service	Breckenridge Apartments (Maint./Office Bldg.) 3501 Lake Austin Blvd. Austin, Texas 78703	17535	Good	Good	Good	Concrete slab on grade Pre-fabricated metal building Aluminum framed windows Sloped metal roofs			30	
See Exhibit	Apartment	Gables Town Lake Apartments 2600 Lake Austin Blvd. Austin, Texas 78703	151023	Good	Good	Good	Concrete slab on grade Concrete masonry unit walls Stucco Walls Sloped roofs	Doors on Garages are damaged Minor cracking in walls Some trees are to close to foundation	Unable to obtain due to schedule and/or accessibility issues.	50	
55330	Storage / Service	University of Texas Rowing Boathouse 2501 Lake Austin Blvd. Austin, Texas 78703	5604	Good	Good	Good	Pre-fabricated Steel Building Concrete masonry unit walls (only lower portion of wall) Sloped metal roofs			30	

TABLE 1
SUMMARY OF BUILDING ENVELOPE CONDITIONS
 University of Texas System - Brackenridge Track
 July 12, 2008

See Exhibit	Apartment	Colorado Apartments 2501 Lake Austin Blvd. Austin, Texas 78703	104775	Good	Fair	Unknown	Concrete slab on grade Aluminum frame windows Hollow core wooden doors Concrete masonry unit walls Low sloped grave; ballasted roofs	Drainage Problem, accumulating water at foundations Building ID No. 91462, has exposed reinforced steel, needs epoxy Stair step cracks in the masonry: Building ID No. 91462, east elevation of 5763. Mild/Mold: northwest corner of building ID No. 55877, under scupper on south elevation of 55761 and 55831. Condensation line at base of slabs Seal in window damaged Building ID No. 56197, 357717, and 55761 Spalling (trip hazard): east & north elevations of Building ID No. 357717 and near stairs. Erosion: under stairwell Building ID No. 55761 and 56272, under walkway/stair on 56283. Tree planted to close to foundation: Building ID No. 56208, 56283, and 55593. Leaking from facia: Building ID No. 56272 and 5763.	Unable to obtain due to schedule and/or accessibility issues.	25	Roofs not assessed
96887	Restaurant	The Kitchen Door 2504 Lake Austin Blvd. Austin, Texas 78703	2366	Fair	Fair	Poor	Concrete floor slab foundation Concrete masonry unit Walls Stucco on side of aluminum store front Aluminum store front Low sloped built-up roof	Accumulated water and plant growth on roof Gutters leaking along rear wall Heavy stains on back wall from gutters	\$25,000	20	Replace roof and gutters
102549	Commercial	7-11 Store #25175 2620 Lake Austin Blvd. Austin, Texas 78703	3335	Good	Good	Unknown	Concrete slab on grade Aluminum storefront Stucco walls Low sloped roof	Minor horizontal cracking to walls Damaged gutters on east side of building		20	Roof not assessed
57031	Grocery Store	Randall's Food & Drugs Store # 2483 715 Exposition Blvd. Austin, Texas 78703	33871	Good	Good	Unknown	Concrete slab on grade Concrete tilt wall building Aluminum frame storefront windows Concrete walls with wood trim Low sloped roof	Wood trim boards on exterior walls extensively rotted. Isolated damage to EIFS at storefront. Minor plaster cracking above main entrance.	\$5,000	40	Roof not assessed

TABLE 1
SUMMARY OF BUILDING ENVELOPE CONDITIONS
 University of Texas System - Brackenridge Track
 July 12, 2008

56638	Office	Breckenridge Field Laboratory 2907 Lake Austin Blvd. Austin, Texas 78703	22060	Good	Good	Unknown	Concrete slab on grade Metal door and window frames Stucco exterior walls Low sloped roof			40	Roof not assessed
88931 88008 90786 90436 70331 9099 93007 9229	Storage / Service	Breckenridge Field Laboratory 2907 Lake Austin Blvd. Austin, Texas 78703	3242	Poor	Poor	Poor	Wood framed Sloped metal roof	Frame and roofs are damaged	Unable to obtain due to schedule and/or accessibility issues.	15	
57890	Office	Breckenridge Field Laboratory 2907 Lake Austin Blvd. Austin, Texas 78703	15459	Good	Good	Unknown	Concrete piers, reinforced concrete parking garage Concrete masonry unit walls Aluminum framed windows and glass doors Low sloped roof			40	Roof not assessed
7492 9725 9436 99805 102245 56760 9908	Greenhouse	Breckenridge Field Laboratory 2907 Lake Austin Blvd. Austin, Texas 78703	11146	Good	Good	Good	Concrete slab on grade Building ID No. 102245, glass Building ID No. 7492, corrugated plastic Building ID No. 56760, concrete masonry unit supporting wood structure. Steel and wood framed greenhouses	Building ID No. 7492 is under repair		15	
101646	Storage / Service	Breckenridge Field Laboratory 2907 Lake Austin Blvd. Austin, Texas 78703	897	Good	Good	Good	Concrete slab on grade Pre-fabricated metal building Metal doors Sloped metal roof			25	
80366	Storage / Service	Breckenridge Field Laboratory 2907 Lake Austin Blvd. Austin, Texas 78703	Unknown	Good	Good	Unknown	Concrete slab on grade Roll-up door CMU/Masonry walls Metal Roof	Boat House is in good condition		25	Roof not assessed
	Storage / Service	Breckenridge Field Laboratory 2907 Lake Austin Blvd. Austin, Texas 78703	Unknown	Fair	Fair	Unknown	Concrete slab on grade CMU/Masonry walls Metal Roof	Well House No.1, is in fair condition			

TABLE 1
SUMMARY OF BUILDING ENVELOPE CONDITIONS
 University of Texas System - Brackenridge Track
 July 12, 2008

59117	Government Office	Lower Colorado River Authority (LCRA) 3700 Lake Austin Blvd. Austin, Texas 78703	56132	Good	Good	Unknown	Concrete slab on grade with concrete piers Concrete masonry unit walls Steel framed windows Low sloped roofs			50	Roof not assessed
57680	Commercial Parking Garage	LCRA (Parking Garage) 3700 Lake Austin Blvd. Austin, Texas 78703	52726	Good	Good	Good	Pre-cast concrete parking garage Concrete slab on grade with concrete piers			50	
10603	Storage / Service	Vacant Restaurant 3804 Lake Austin Blvd. Austin, Texas 78703	81	Good	Good	Good	Concrete slab on grade Concrete masonry unit walls Sloped composition shingle roof			25	
57044	Restaurant	Vacant Restaurant 3804 Lake Austin Blvd. Austin, Texas 78703	5382	Good	Fair	Fair	Wood frame supported by concrete footings North elevation has CMU walls Sloped composition shingle roof	Walls need to be pointed and sealed in some spots Some deflection in the ridge line	Unable to obtain due to schedule and/or accessibility issues.	15	
57132	Restaurant	Oyster Landing 3825 Lake Austin Blvd. Austin, Texas 78703	13267	Good	Good	Good	Concrete slab on grade and wood floor decks supported on steel framing and piers Wood siding Aluminum frame windows Sloped composition shingle roof	Some Dry Rot, probably for building theme		15	
56537	Restaurant	Hula Hut 3825 Lake Austin Blvd. Austin, Texas 78703	9700	Good	Good	Good	Concrete slab on grade and wood floor decks supported on steel framing and piers Aluminum Windows Wood siding with metal siding on south elevation Sloped composition shingle roof			15	
102574	Commercial	Oyster Landing 3825 Lake Austin Blvd. Austin, Texas 78703	2280	Good	Good	Good	Concrete slab on grade Concrete masonry unit walls Wood doorframes with full glass Aluminum frame windows Sloped composition shingle roof	Soil against wood columns Some dry rot Some missing downspouts Trim needs maintenance on south elevation	Unable to obtain due to schedule and/or accessibility issues.	15	

TABLE 1
SUMMARY OF BUILDING ENVELOPE CONDITIONS
 University of Texas System - Brackenridge Track
 July 12, 2008

119815	Bus Stop	Bus Stop	101	Good	Good	Good	Steel structure Sloped metal roof			15	
96972	Bus Stop	Bus Stop	230	Fair	Fair	Fair	Wood framed structure Wood floor Sloped metal roof			10	
56850	Commercial	Oyster Landing 3825 Lake Austin Blvd. Austin, Texas 78703	5713	Good	Good	Good	Slab on grade with piers Glass and metal doors Aluminum frame storefront Aluminum windows Concrete masonry unit walls Sloped composition shingle roof	Slight stair step separation in north and west elevation walls Vertical crack in masonry on north-west door Laminated board supporting is not sealed, subject to dry rot Dry rot on fascia boards and below storefront windows	Unable to obtain due to schedule and/or accessibility issues.	15	
9100 114178	Storage / Service	Lion's Golf Course (tee box shelters) 2901 Enfield Austin, Texas 78703	555	Good	Good	Good	Concrete slab on grade Concrete masonry unit load bearing walls Sloped metal roof				
113386	Storage / Service	Lion's Golf Course (cart barn) 2901 Enfield Austin, Texas 78703	3120	Good	Good	Good	Concrete slab on grade Pre-fabricated metal building Roll-up doors	Some damaged siding	Unable to obtain due to schedule and/or accessibility issues.		
11610 109256	Storage / Service	Lion's Golf Course (equipment shed) 2901 Enfield Austin, Texas 78703	N/A	Poor	Poor	Poor	Wood sheds with concrete masonry unit foundations Plywood walls Building ID No. 11610, has a roll-up door Sloped metal roof				

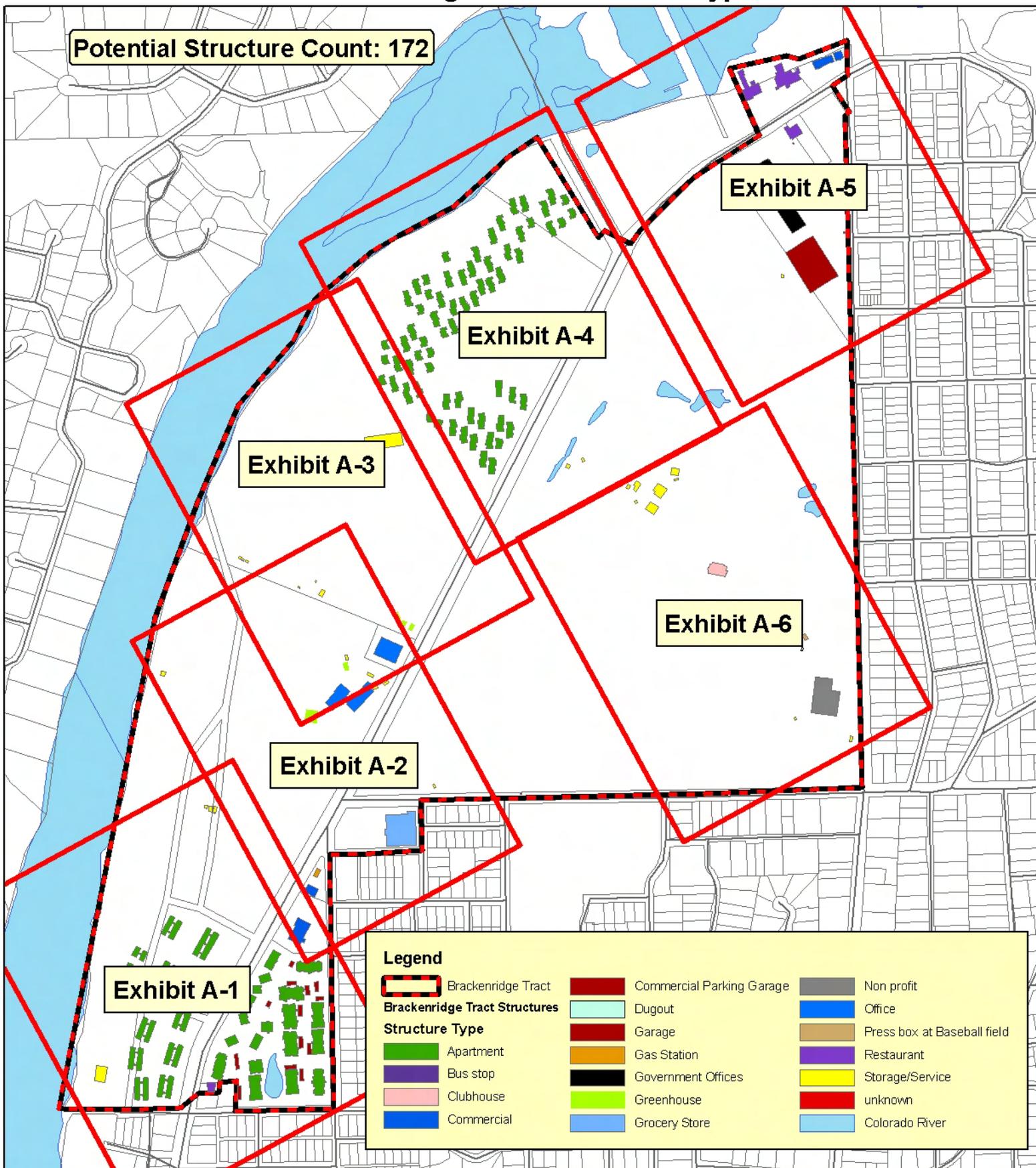
TABLE 1
SUMMARY OF BUILDING ENVELOPE CONDITIONS
 University of Texas System - Brackenridge Track
 July 12, 2008

11497	Storage / Service	Lion's Golf Course (equipment shed) 2901 Enfield Austin, Texas 78703	1880	Poor	No Walls	Poor	Wood frame structure supporting sloped metal roof			10	
108766	Storage / Service	Lion's Golf Course (gas pumps) 2901 Enfield Austin, Texas 78703	215	Good	No Walls	Good	Concrete foundation Metal structure Sloped metal roof			10	
358001	Storage / Service	Lion's Golf Course (storage building) 2901 Enfield Austin, Texas 78703	4055	Fair	Fair	Fair	Concrete slab on grade Concrete masonry unit load bearing walls Roll-up Door Wood Door Wood Framed Windows Sloped metal roof			25	
111531	Storage / Service	Lion's Golf Course (Greens keeper's house) 2901 Enfield Austin, Texas 78703	1510	Good	Good	Good	Concrete slab on grade Concrete masonry unit load bearing walls Wood framed windows and doors Sloped metal Roof			30	
97928	Storage / Service	Lion's Golf Course (pump house) 2901 Enfield Austin, Texas 78703	455	Poor	Poor	Good	Concrete slab on grade Aluminum framed windows Metal door Sloped metal Roof	Water erosion on south elevation		25	
58578	Club House	Lion's Municipal Golf Course (club house) 2901 Enfield Austin, Texas 78703	7155	Fair	Fair	Good	Part concrete slab on grade, part wood framed elevated floor. Wood framed with masonry veneer Concrete masonry unit walls Sloped composition shingle roof	Masonry joints need pointing Dry rot Shingles damaged by storm possibly	Unable to obtain due to schedule and/or accessibility issues.	20	

TABLE 1
SUMMARY OF BUILDING ENVELOPE CONDITIONS
 University of Texas System - Brackenridge Track
 July 12, 2008

358313	Non profit	West Austin Youth Association (WAYA) 1314 Exposition Blvd. Austin, Texas 78703	28762	Good	Good	Good	Concrete slab on grade Pre-fabricated metal building Rollup vehicle doors Aluminum frame storefront entrance Metal siding with masonry front/entry Sloped metal roofs			40	
14267	Press Box at Baseball Field	West Austin Youth Association (WAYA) 1314 Exposition Blvd. Austin, Texas 78703	862	Good	Good	Good	Concrete slab on grade Structural steel building Concrete masonry unit walls Sloped metal roof			20	
13007 123108	Dugout	West Austin Youth Association (WAYA) 1314 Exposition Blvd. Austin, Texas 78703	283	Good	Good	Good	Concrete slab on grade Concrete masonry unit load bearing walls Sloped metal roof			20	
124556	Storage / Service	West Austin Youth Association (WAYA) 1314 Exposition Blvd. Austin, Texas 78703	486	Good	Good	Good	Concrete slab on grade Pre-fabricated metal building			20	
123902 126629	Storage / Service	West Austin Youth Association (WAYA) 1314 Exposition Blvd. Austin, Texas 78703	343	Good	Good	Good	Concrete slab on grade Concrete masonry unit load bearing walls Rollup Door Sloped metal roof			20	

Exhibit A - Key Plan Brackenridge Tract Structure Types



Note: Structure count was taken from a 2006 City of Austin Aerial image.

Date:
7/12/08



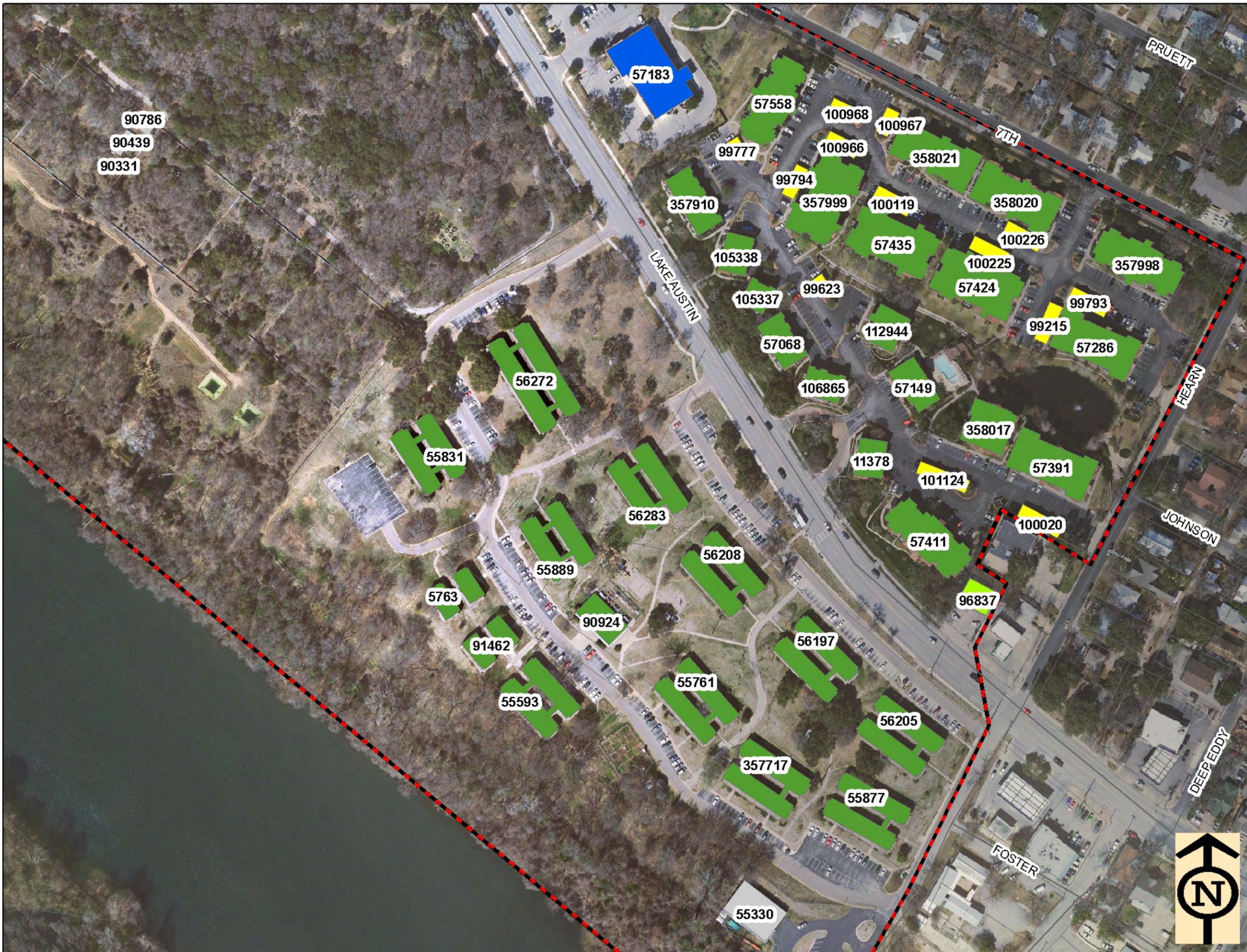
Baer Engineering
and Environmental Consulting, Inc.

Exhibit A-1 Brackenridge Tract Structure Types

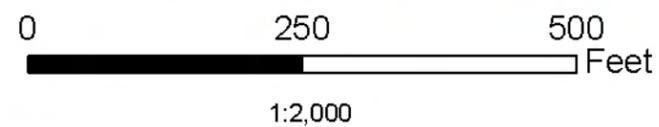
Legend

- Apartment
- Bus stop
- Clubhouse
- Commercial
- Commercial Parking Garage
- Dugout
- Garage
- Gas Station
- Government Offices
- Greenhouse
- Grocery Store
- Non profit
- Office
- Press box at Baseball field
- Restaurant
- Storage/Service
- unknown
- Brackenridge Tract

Key Map



Note: Structure count was taken from a 2006 City of Austin Aerial image.



Date:
7/12/08



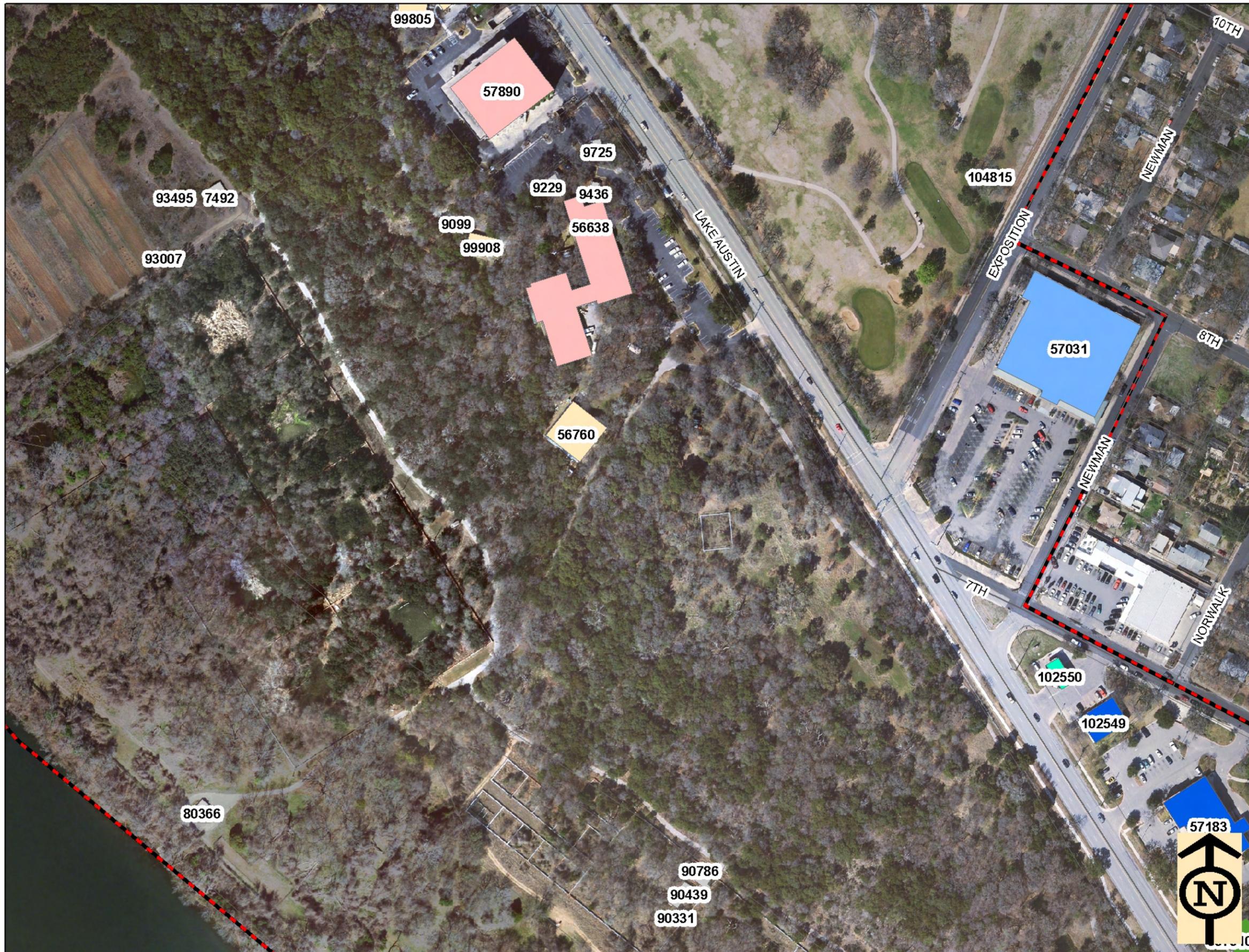
Baer Engineering
and Environmental Consulting, Inc.

Exhibit A-2 Brackenridge Tract Structure Types

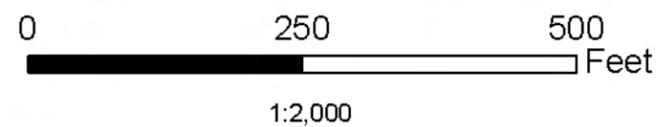
Legend

- Apartment
- Bus stop
- Clubhouse
- Commercial
- Commercial Parking Garage
- Dugout
- Garage
- Gas Station
- Government Offices
- Greenhouse
- Grocery Store
- Non profit
- Office
- Press box at Baseball field
- Restaurant
- Storage/Service
- unknown
- Brackenridge Tract

Key Map



Note: Structure count was taken from a 2006 City of Austin Aerial image.



Date:
7/12/08



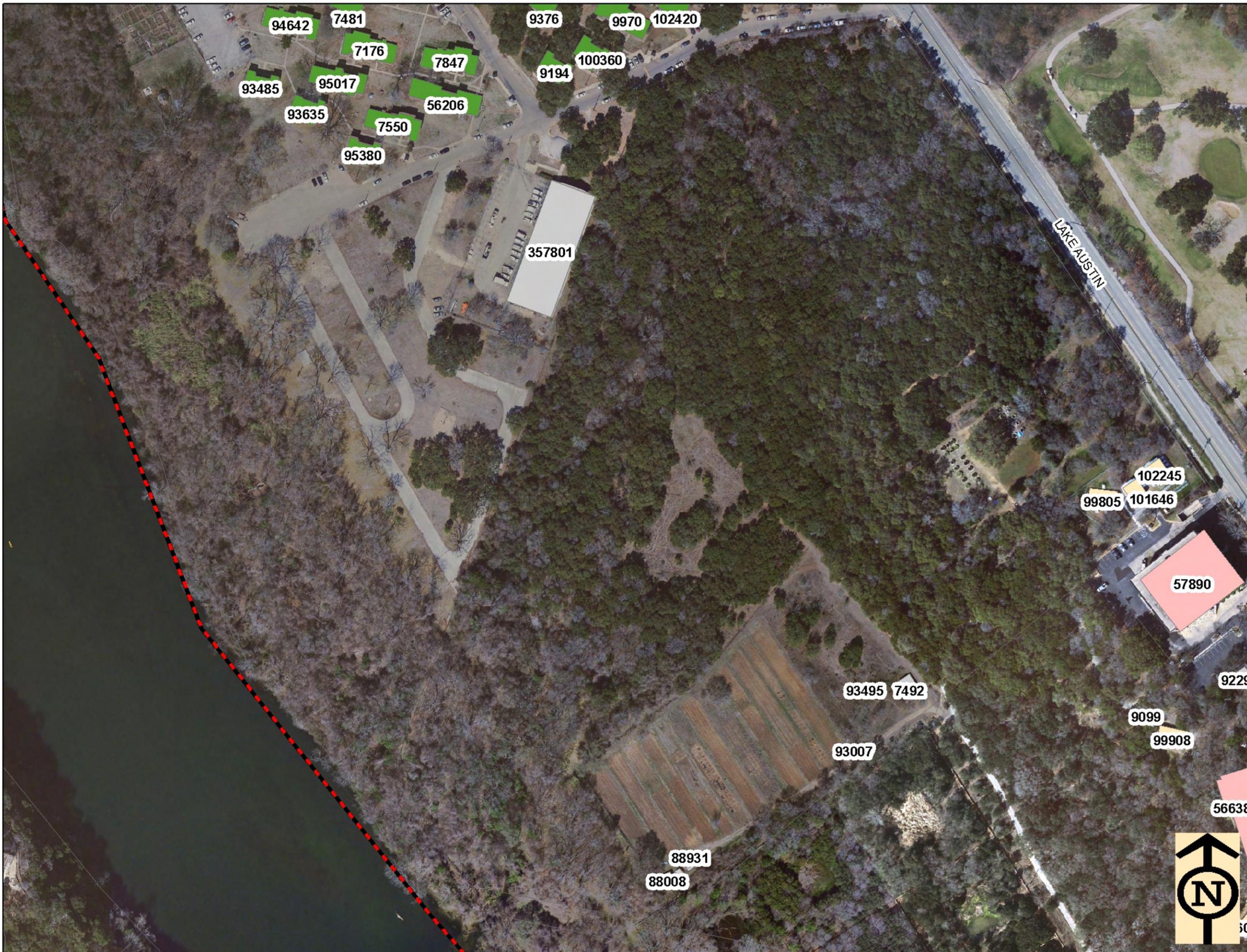
Baer Engineering
and Environmental Consulting, Inc.

**Exhibit A-3
Brackenridge Tract Structure Types**

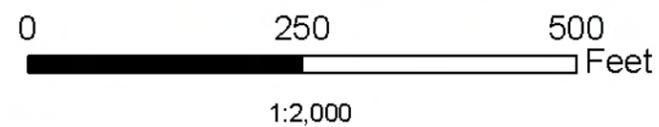
Legend

- Apartment
- Bus stop
- Clubhouse
- Commercial
- Commercial Parking Garage
- Dugout
- Garage
- Gas Station
- Government Offices
- Greenhouse
- Grocery Store
- Non profit
- Office
- Press box at Baseball field
- Restaurant
- Storage/Service
- unknown
- Brackenridge Tract

Key Map



Note: Structure count was taken from a 2006 City of Austin Aerial image.



Date:
7/12/08



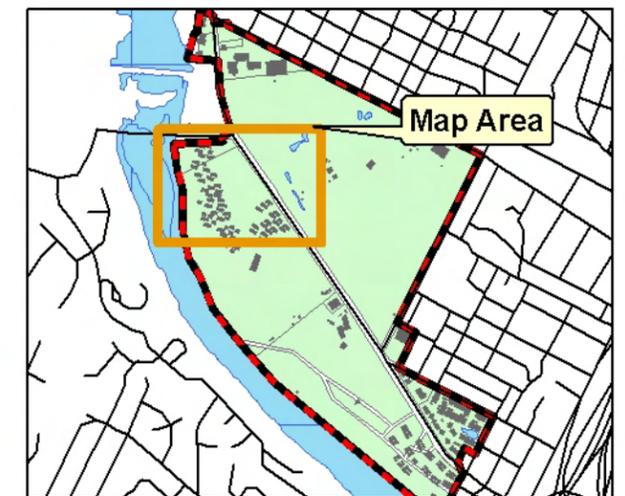
Baer Engineering
and Environmental Consulting, Inc.

**Exhibit A-4
Brackenridge Tract Structure Types**

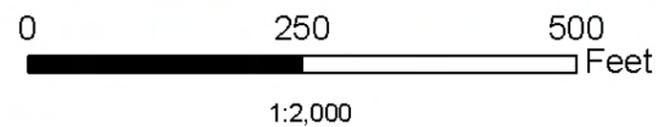
Legend

- Apartment
- Bus stop
- Clubhouse
- Commercial
- Commercial Parking Garage
- Dugout
- Garage
- Gas Station
- Government Offices
- Greenhouse
- Grocery Store
- Non profit
- Office
- Press box at Baseball field
- Restaurant
- Storage/Service
- unknown
- Brackenridge Tract

Key Map



Note: Structure count was taken from a 2006 City of Austin Aerial image.



Date:
7/12/08



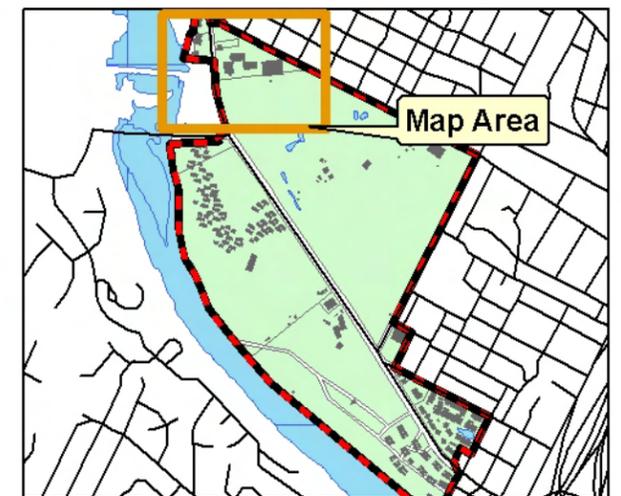
Baer Engineering
and Environmental Consulting, Inc.

**Exhibit A-5
Brackenridge Tract Structure Types**

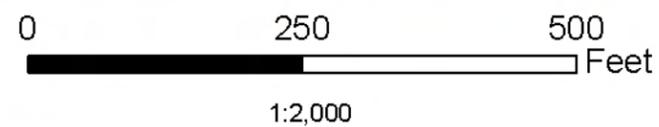
Legend

- Apartment
- Bus stop
- Clubhouse
- Commercial
- Commercial Parking Garage
- Dugout
- Garage
- Gas Station
- Government Offices
- Greenhouse
- Grocery Store
- Non profit
- Office
- Press box at Baseball field
- Restaurant
- Storage/Service
- unknown
- Brackenridge Tract

Key Map



Note: Structure count was taken from a 2006 City of Austin Aerial image.



Date:
7/12/08



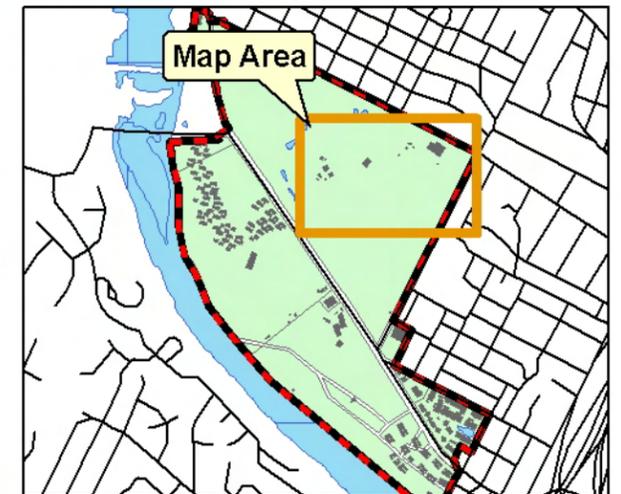
Baer Engineering
and Environmental Consulting, Inc.

**Exhibit A-6
Brackenridge Tract Structure Types**

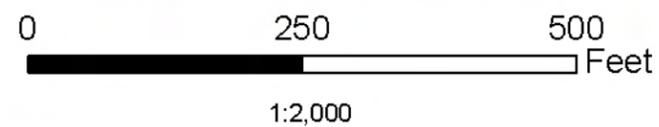
Legend

- Apartment
- Bus stop
- Clubhouse
- Commercial
- Commercial Parking Garage
- Dugout
- Garage
- Gas Station
- Government Offices
- Greenhouse
- Grocery Store
- Non profit
- Office
- Press box at Baseball field
- Restaurant
- Storage/Service
- unknown
- Brackenridge Tract

Key Map



Note: Structure count was taken from a 2006 City of Austin Aerial image.

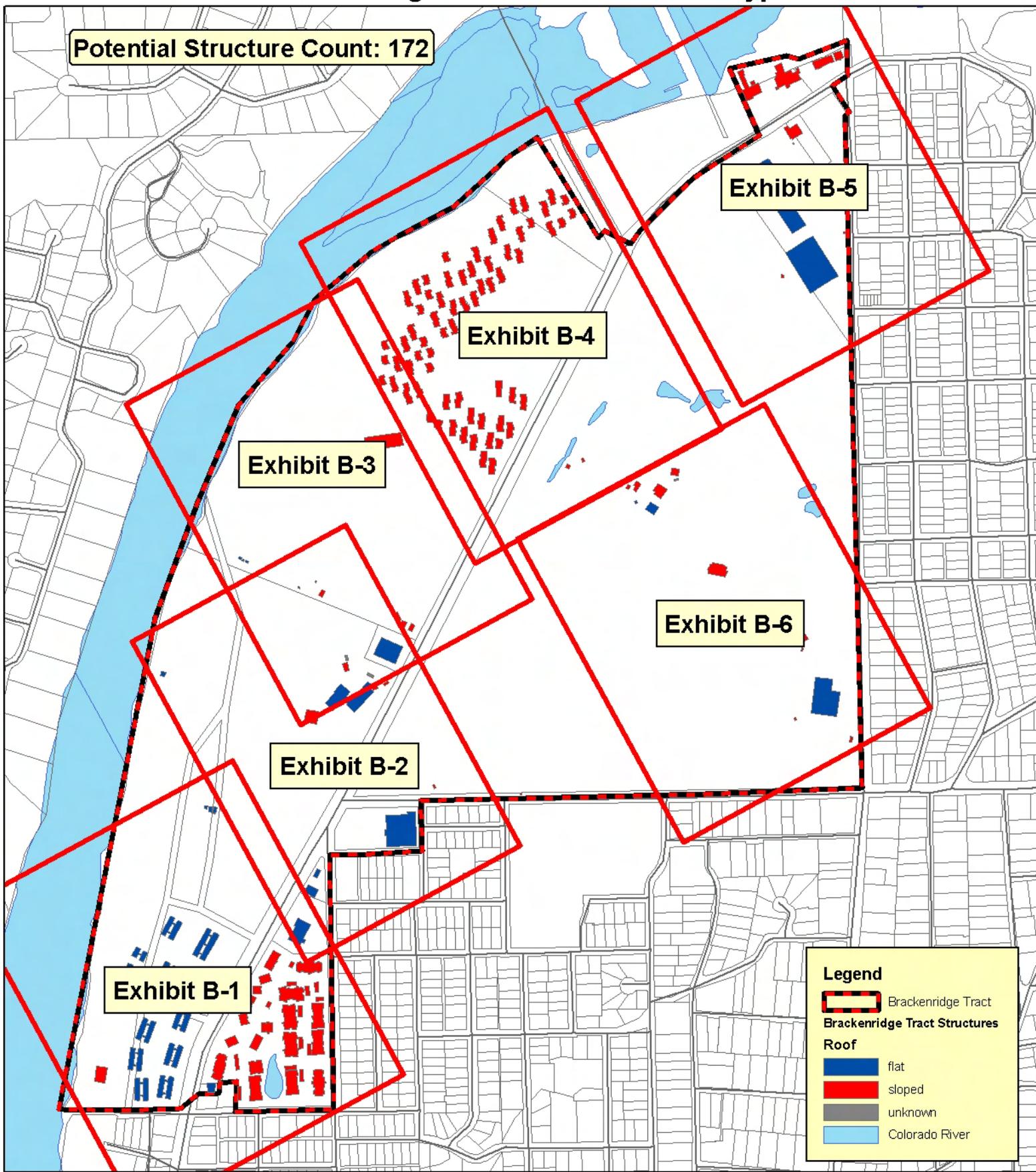


Date:
7/12/08



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Exhibit B - Key Plan Brackenridge Tract Structure Roof Types



Note: Structure count was taken from a 2006 City of Austin Aerial image.

Date:
7/12/08



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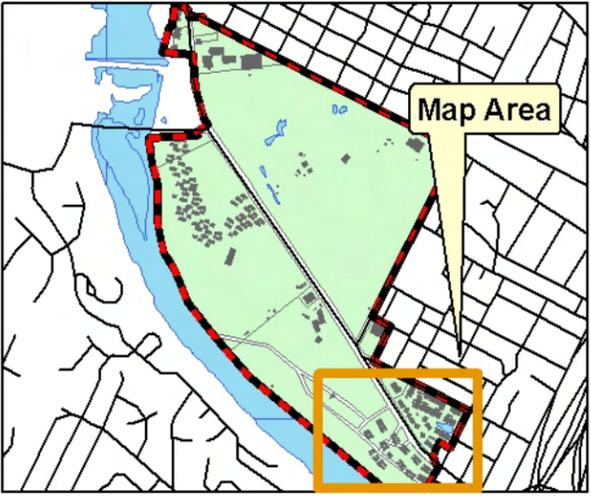
**Exhibit B-1
Brackenridge Tract Roof Types**

Legend

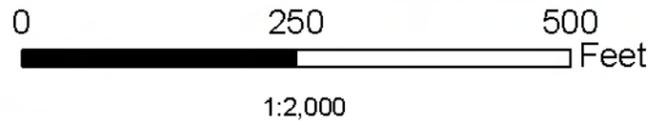
- flat
- sloped
- unknown
- Brackenridge Tract



Key Map



Note: Structure count was taken from a 2006 City of Austin Aerial image.



Date:
7/12/08

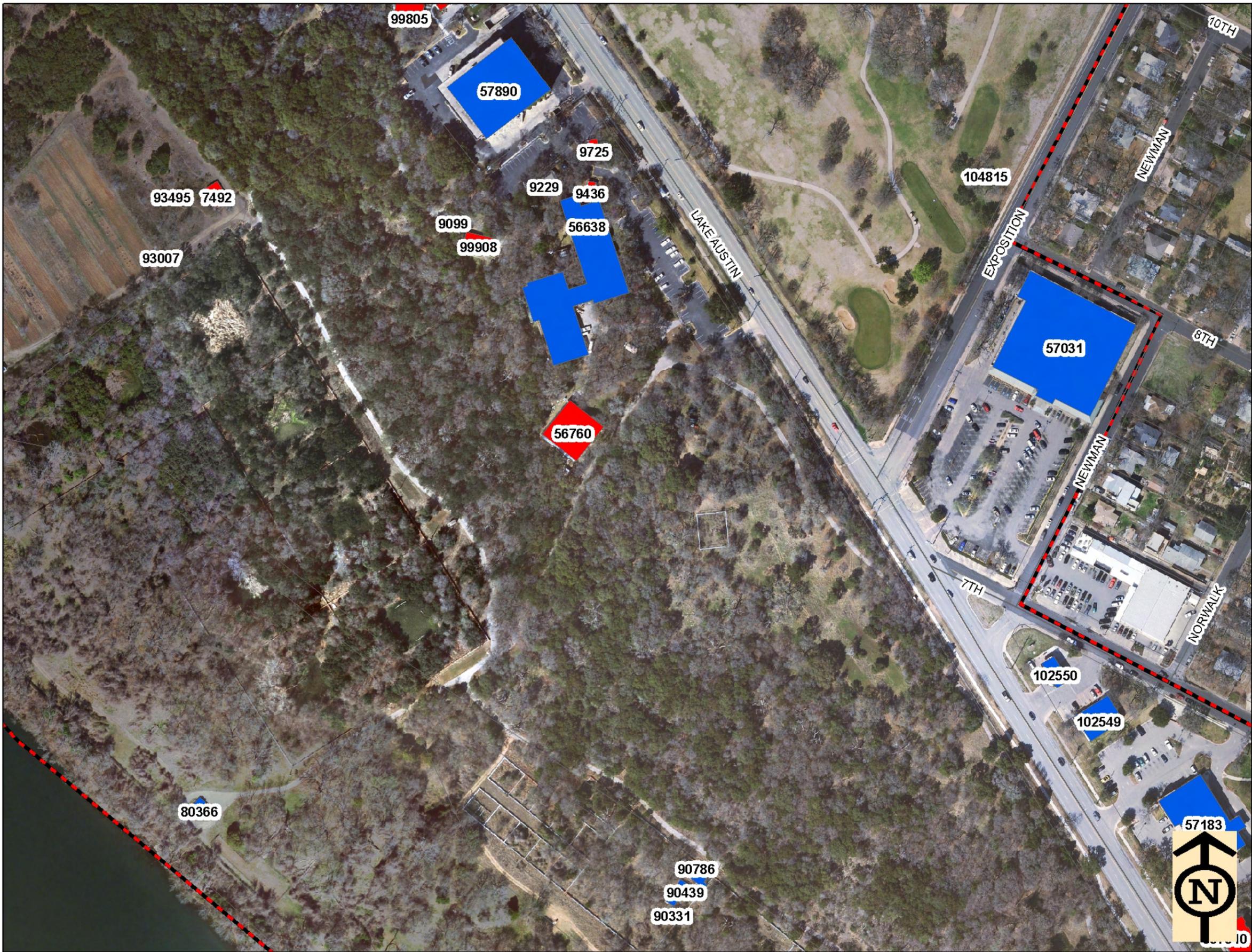


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and Environmental Consulting, Inc.

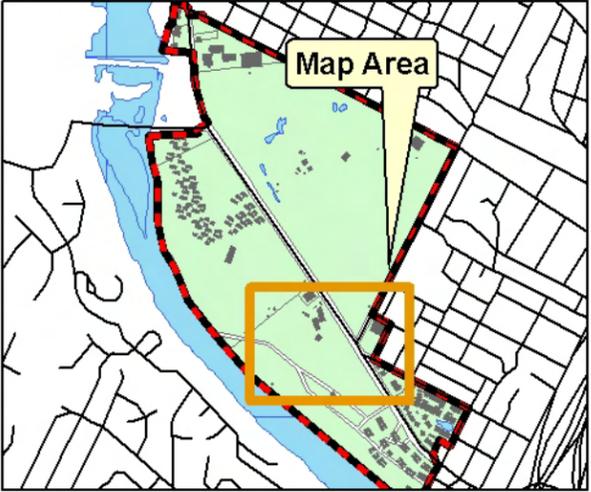
**Exhibit B-2
Brackenridge Tract Roof Types**

Legend

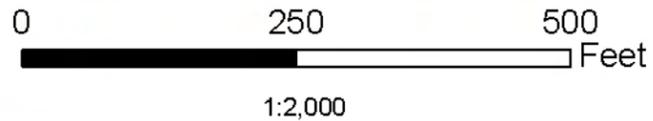
- flat
- sloped
- unknown
- Brackenridge Tract



Key Map



Note: Structure count was taken from a 2006 City of Austin Aerial image.



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7/12/08

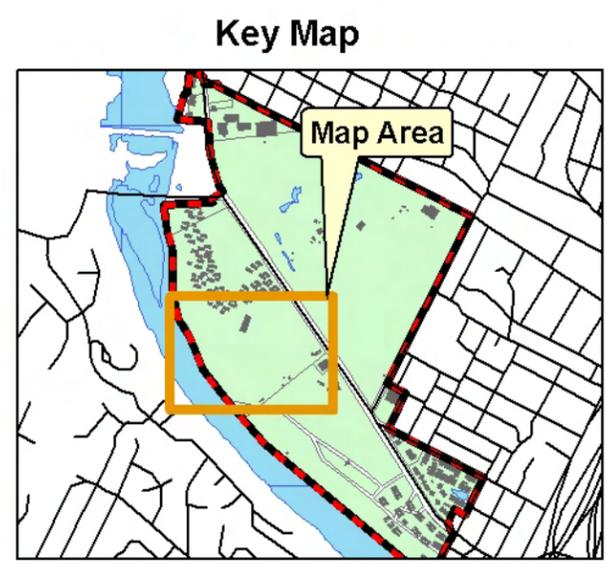


Baer Engineering
and Environmental Consulting, Inc.

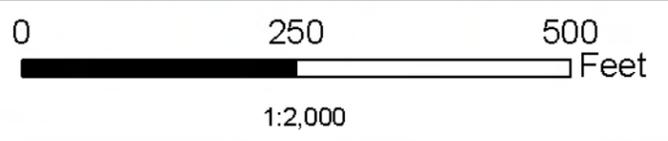
**Exhibit B-3
Brackenridge Tract Roof Types**

Legend

- flat
- sloped
- unknown
- Brackenridge Tract



Note: Structure count was taken from a 2006 City of Austin Aerial image.

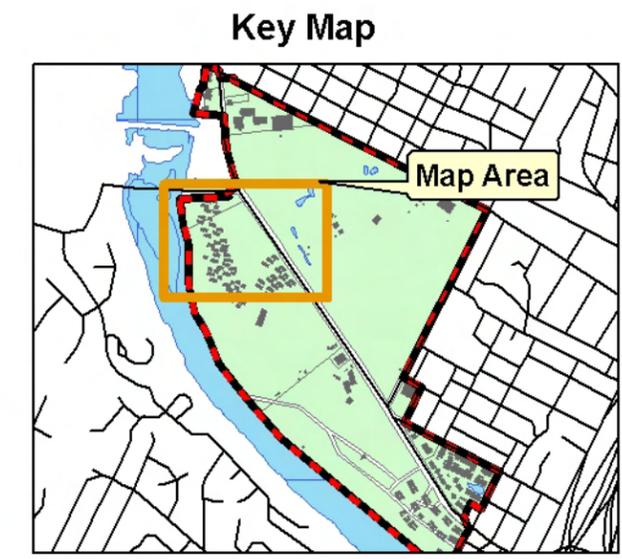
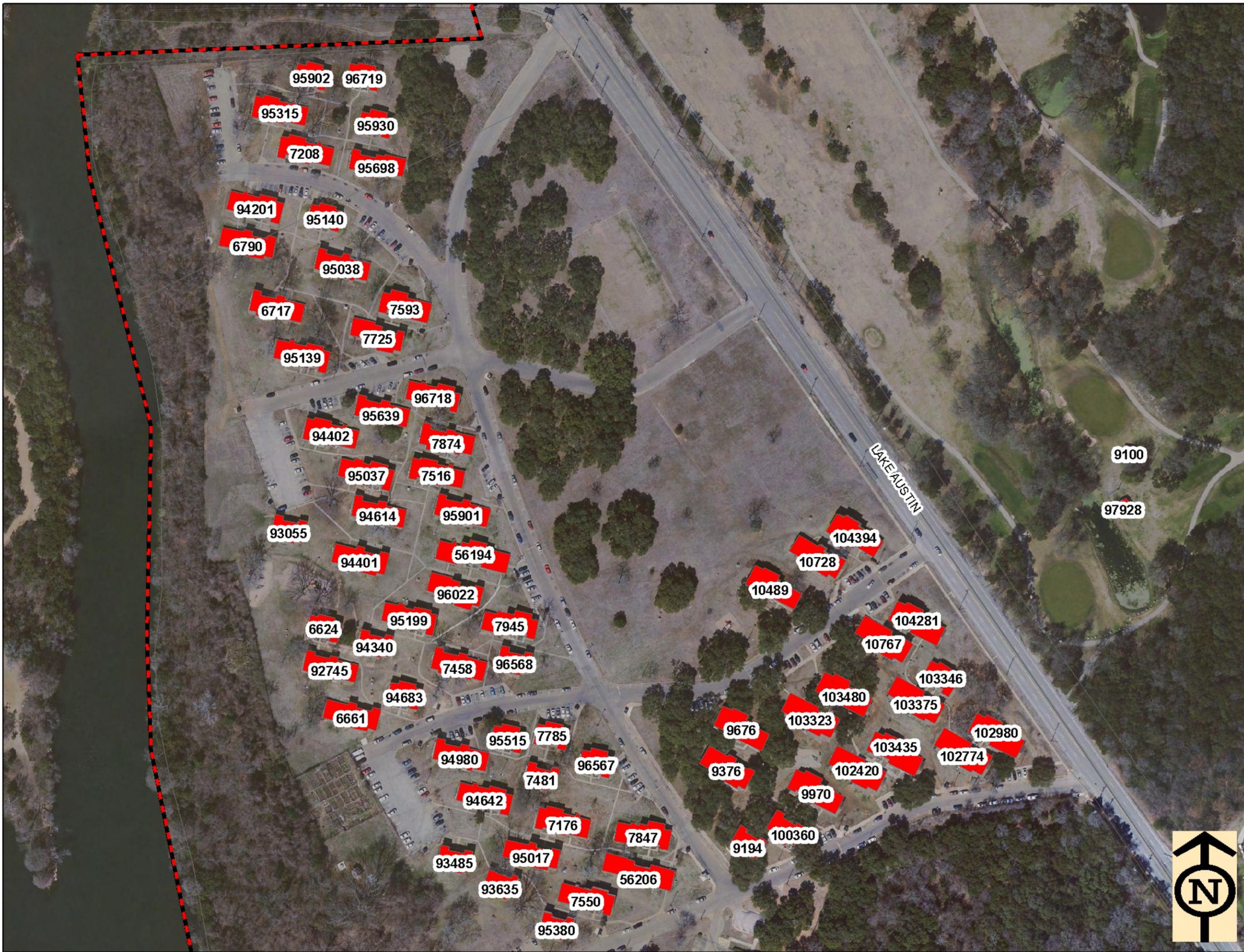


Date:
7/12/08

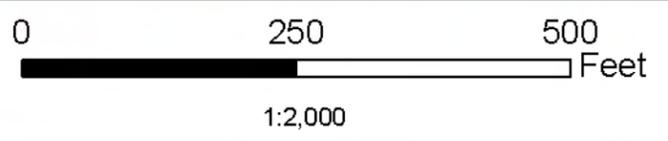
**Exhibit B-4
Brackenridge Tract Roof Types**

Legend

- flat
- sloped
- unknown
- Brackenridge Tract



Note: Structure count was taken from a 2006 City of Austin Aerial image.

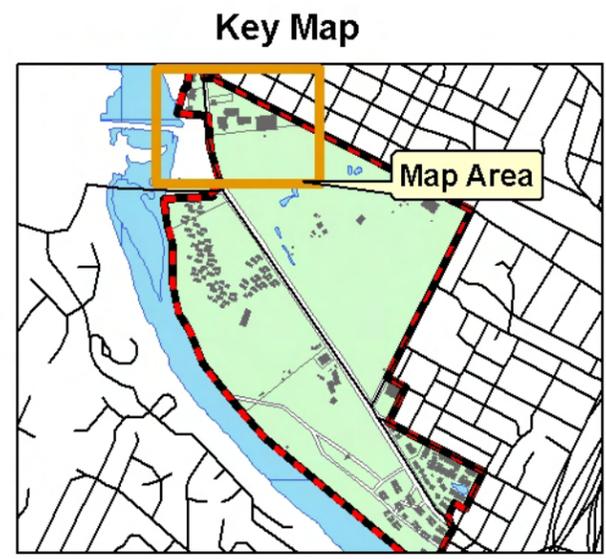


Date:
7/12/08

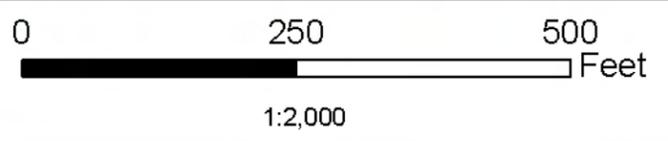
**Exhibit B-5
Brackenridge Tract Roof Types**

Legend

- flat
- sloped
- unknown
- Brackenridge Tract



Note: Structure count was taken from a 2006 City of Austin Aerial image.

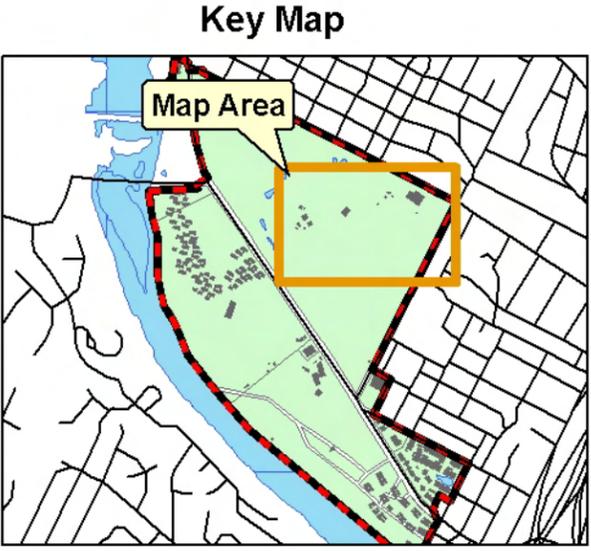
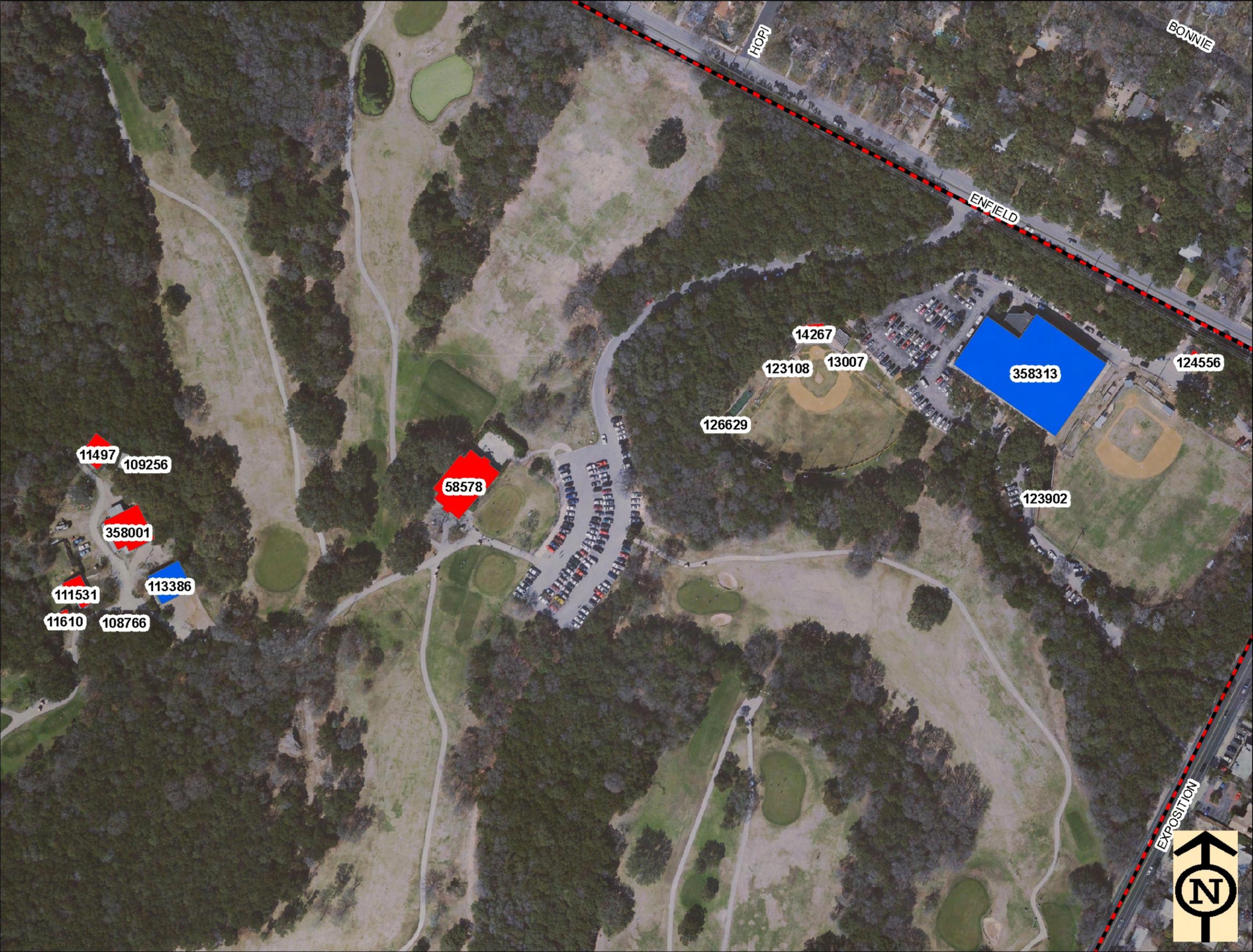


Date:
7/12/08

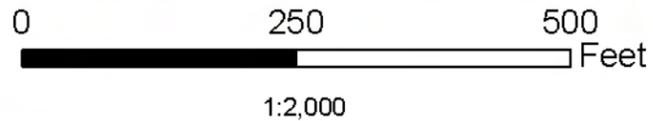
**Exhibit B-6
Brackenridge Tract Roof Types**

Legend

- flat
- sloped
- unknown
- Brackenridge Tract



Note: Structure count was taken from a 2006 City of Austin Aerial image.



Date:
7/12/08



D R A F T – August 22, 2008

3.0 UTILITY INFRASTRUCTURE INVENTORY & CAPACITY ANALYSIS

Introduction

The Brackenridge Tract is within the City of Austin jurisdiction and therefore within the City's utility service area. The Brackenridge Tract is served by the City of Austin as well as commercial utility providers. City-provided utilities include water, wastewater (sanitary sewer), storm water (drainage) and electric services for all development within the City of Austin's jurisdiction. Water and wastewater are provided by the Austin Water Utility (AWU), electricity is provided by Austin Energy (AE) and storm water runoff is handled by the Watershed Protection and Development Review Department. Telephone, cable, telecommunications and gas are provided by commercial utility providers, and further coordination with each utility provider will be required to determine capacity, service locations, additional requirements for service, and to avoid utility conflicts when placing new utilities.

An inventory of available utility data was compiled and then the data was analyzed as it relates to the Brackenridge Tract. Furthermore, the Brackenridge Development Agreement (BDA) in Article I, Section 1.1, commits the City to reserve and provide sufficient water and wastewater capacity for the use of the proposed development of the Brackenridge Tract. Mapping relating to existing utilities is provided within the appendices of this Section.

Note that CAS Consulting & Services recommends that the existing process of the Austin Area Utility Location Coordinating Committee (AULCC) be utilized to determine if existing utilities are in conflict with proposed development. The AULCC consists of representatives of all utilities that have infrastructure within the city limits. The current City of Austin Contact is Gregory Pepper at (512)974-7180.

WATER

The *Existing Water Main Lines Figure (See Exhibit 3A)* depicts the location and size of the existing water mains serving the West Austin Neighborhood Group (WANG) area. This depiction is based on City of Austin GIS Department information.

The tract is served by an 8-inch water line and a 72-inch water transmission main in Lake Austin Boulevard, an 8-inch water line in Enfield Road and a 12-inch water line in Exposition Boulevard. A 24-inch water line also crosses along the line between the LCRA building and the Lions Municipal Golf Course. Per the *AWU Development Services Division memo dated June 10, 2008 (See Exhibit 3B)* which includes pressure data from James S. Grabbs, PE, they calculated pressures in these water lines ranging from 84 psi to 106 psi. These calculated pressures, while not guaranteed by the utility, indicate a very strong supply of water for domestic consumption and fire flow required

for the potential build-out of the Brackenridge tract. The AWU provides capacity as needed, with capacity limits coming into play only in the case of City Council action affecting any tract of land. Private developers pay for new facilities that serve only their development.

A review of the City of Austin Water Distribution System Long-Range Planning Guide dated February 1994 identifies no major CIP infrastructure improvements through 2040.

The internal portions of each undeveloped property within the tract are currently not provided with water services. This appears to be easily accomplished. It may also be desirable to create internal additional water main loops within the tract to connect the water mains in two or more streets in an effort to further bolster pressures or fire flows. There is a lack of fire hydrants along Lake Austin Boulevard. Development along this street will require that fire hydrants be provided no more than 500 feet apart.

Per *Article III – Site Development Plan Review, Section 3.8 Findings* of the BDA...“the city commits to reserve within the city’s water and wastewater service capacity for the use and occupancy of the proposed Development....” Furthermore, *BDA Article X – Water and Wastewater Facilities – Section 10.1 – Wastewater Service Commitment* states that “The city hereby commits to provide sufficient levels of water service available at the Property to meet the requirements of development allowed by this agreement....” *BDA Article X – Water and Wastewater Facilities – Section 10.9 – No City Capacity* describes remedies available to the University if the city cannot provide the service.

The ***Existing Water Main Lines Map (See Exhibit 3A)*** also shows the location of fire hydrants in the tract area. More fire hydrants will be required to service the tract for any new development. New hydrant service laterals may need to cross the existing arterial roads, Lake Austin Boulevard, Exposition Boulevard, and Enfield Road.

As previously noted, the existing water system pressure ranges from approximately 84 to 106 psi. These values do not reflect fire flow conditions. Service extension and fire flow tests for future development will be required after water demand and location for the connection to the existing system is known. The need for water easements is unknown at this phase. The data source is the City of Austin (COA).

Existing deficiencies are unknown, but CAS Consulting and Services recommends that future connection to the existing system be accomplished using looped, 8-inch lines, or larger, to have sufficient capacity to meet fire flow demand and to comply with 10 FPS maximum velocity regulated by the AWU. A final determination of available water system capacity should be made by the AWU once the new local water demands are calculated for design and permit purposes.

WASTE WATER

The *Existing Waste Water Main Lines Map (See Exhibit 3C)* depicts the location and size of the existing sewer mains serving the West Austin Neighborhood Group (WANG) area. This depiction is based on City of Austin GIS Department information.

The Brackenridge Tract is located in the Town Lake Drainage Basin and is also served by the AWU. According to the AWU wastewater grid maps there is a section of 12-inch waste water (WW) line in Enfield Boulevard along the north side of the Tract that connects to a 10-inch WW line crossing the tract through the golf course. Per AWU records, this line was constructed in 1941. This line is collecting sanitary waste flows from all of the services from the north side of Enfield Road, crossing Lake Austin Boulevard south to follow the north bank of Lady Bird Lake where it discharges into a 15-inch collection sewer. The 15-inch sewer parallels a 30-inch line that flows east on the north side of the Lady Bird Lake embankment.

WANG is served by both the Crosstown Tunnel and the North Austin Interceptor – Govalle Tunnel (NAI) system that discharges to the Walnut Creek and the South Austin Regional wastewater treatment plants. Per the *AWU Preliminary Wastewater System Assessment for WANG-Windsor Neighborhood Planning dated July 8, 2008 (See Exhibit 3D)*, the Austin Water Utility (AWU) assesses whether the existing wastewater collection system capacity is adequate for new development.

The NAI currently does not have capacity to accept increased flows. The May 1994 Wastewater Collection System Long-Range Planning Guide prepared by the City of Austin projected the need to upsize the 15-inch collection sewer along Town Lake to a 30-inch by the year 2040. However, significant and unplanned growth in downtown Austin has increased the urgency of the near-term need to upgrade the NAI. For that reason, a new Downtown Tunnel project has been conceived to provide long term downtown and west Austin capacity needs. This tunnel is currently in design and is scheduled to come on line 2013.

Per BDA *Article III – Site Development Plan Review, Section 3.8 Findings* of the BDA... “the city commits to reserve within the city’s water and wastewater service capacity for the use and occupancy of the proposed Development...” Furthermore, per BDA *Article X – Water and Wastewater Facilities – Section 10.4 – Wastewater Service Commitment* states that “The city hereby commits to provide sufficient levels of wastewater service available at the Property to meet the requirements of development allowed by this agreement...” BDA *Article X – Water and Wastewater Facilities – Section 10.9 – No City Capacity* describes remedies available to the University if the city cannot provide the service.

The AWU estimated available peak flow capacity in the major sanitary sewers serving the WANG area. Their estimate included future flows from the Ullrich WWTP, future contract flows from an area outside the city limits (West Lake Hills) and a reduction of I/I flows in the existing 10-inch sewer that crosses the Municipal Golf Course (MUNI) which has an unusually high I/I. The total flow estimates did not account for any

development within the Brackenridge Tract. Locally, additional available capacity is defined as the difference between pipe full capacity and the peak flows that occur during large storm events (4-5 inches of rain). The capacity estimates assume a typical amount of infiltration/inflow (I/I) that enters the collection system, thereby reducing the overall capacity of the system. If site investigations determine I/I rates are in excess of the “norm,” a decision would be made by the AWU to remediate the sewer(s).

The peak and additional available capacities (1 LUE = 0.9 gpm peak flow) are summarized in the following table:

This system has additional available flow capacity per a Preliminary Wastewater System Assessment for the WANG-Windsor Neighborhood Report done by the utility dated 7/08/08 (see attached report). The data source is the City of Austin (COA).

Location	Sewer Capacity - LUE	
	Peak	Additional Available
Red Bud Trail to Golf Course 10" sewer	9,267	6,767
Golf Course 10" to MoPac / Johnson Creek 24" sewer	5,020	1,409 to 1576
Johnson Creek 24" sewer to Austin High School	10,039	872 to 3,261
Austin High School 24" sewer to Shoal Creek 30" sewer	11,197	363 to 2,752

Clearly the sewer segment from the Golf Course 10-inch sewer to MoPac/Johnson Creek is the currently the downstream constraint for available peak flow capacity (1,576 LUE), because the downstream capacity from Johnson Creek 24” to Austin High School 24” has a larger available peak capacity (3,261 LUE). This segment must be upsized if additional capacity is needed, even following construction of the proposed Downtown Tunnel.

The Brackenridge tract is adequately served by a local sanitary collection sewer system, within the limits calculated by the AWU and listed above. The 10-inch sewer that traverses the Lions Municipal Golf Course exhibits excessive I/I and is a candidate for replacement or rehabilitation in the future. Development of the Brackenridge Tract could certainly be a catalyst to make this happen.

A final determination of available wastewater system capacity should be made by the AWU once the new local WW demands are calculated for permit purposes.

Existing sewer structural deficiencies are unknown and should be determined using smoke testing and closed circuit television. The existing 10-inch sewer crossing the tract is more than 50 years old and may need to be either replaced or rehabilitated to reduce infiltrations and improve capacity for any new development on the tract.

WATER & WASTE WATER SERVICES

Service lines will have to be researched to verify actual location, with the appropriate address for each existing structure; information shall be obtained from the City of Austin Water and WW Taps and Records.

STORM SEWER (DRAINAGE)

The attached drawing *Existing Storm Lines (Exhibit 3E)* depicts the location and size of storm sewers that allow storm water to either enter, leave or traverse the Brackenridge Tract. The source of this information is the City of Austin GIS Department and a CAS Consulting site visit. Also, Section 6 of this report, Existing Floodplain, Topography and Water Quality Analysis, describes the various drainage basins within the Tract.

Two storm sewers bring storm water onto the site along Enfield Road. The largest is a 60-inch box culvert that is the upstream continuation of the un-named creek that crosses the Golf Course Tract and the Brackenridge Apartments before discharging into Lady Bird Lake. Storm water flow in the creek also passes through an existing 18-inch culvert in the golf Course Tract just south of Enfield Road. The storm water in the creek then passes beneath Lake Austin Boulevard through an existing culvert. The second storm sewer bringing storm water onto the Tract is an 18-inch culvert that directs storm water from Tarrytown west of Hopi Trail.

Curb inlets collect storm water on both sides of Exposition Boulevard, directing the storm water off of the Brackenridge site eastward to Johnson Creek. These inlets are located one lot south of Enfield Road and at Quarry Road.

Curb inlets on both sides of Red Bud trail collect storm water and direct it southward to Lady Bird Lake. This prevents storm water from flowing directly downhill across the pavement on Red Bud Trail.

Curb inlets on both sides of West 7th Street near CVS Pharmacy collect storm drainage and curb inlets on both sides of Hearn Street collect storm drainage and discharge storm water offsite.

There is a 36-inch drainage culvert solely within the Gables Apartment tract. Current capacities within that system are unknown. Proposed development plans must address runoff, water quality, detention and storm sewer outfall locations

ELECTRIC SERVICE

The Brackenridge Tract is within the Austin Energy (AE) West service area. The area is currently served with 3 phase over-head electric service and a sub-station and is estimated by AE to have sufficient amp capacity to serve the future tract development.

CAS Consulting and Services is unaware of any existing deficiencies, but recommends that further discussion with AE is needed to verify metering and service location requirements for the tracts.

TELEPHONE and COMMUNICATIONS

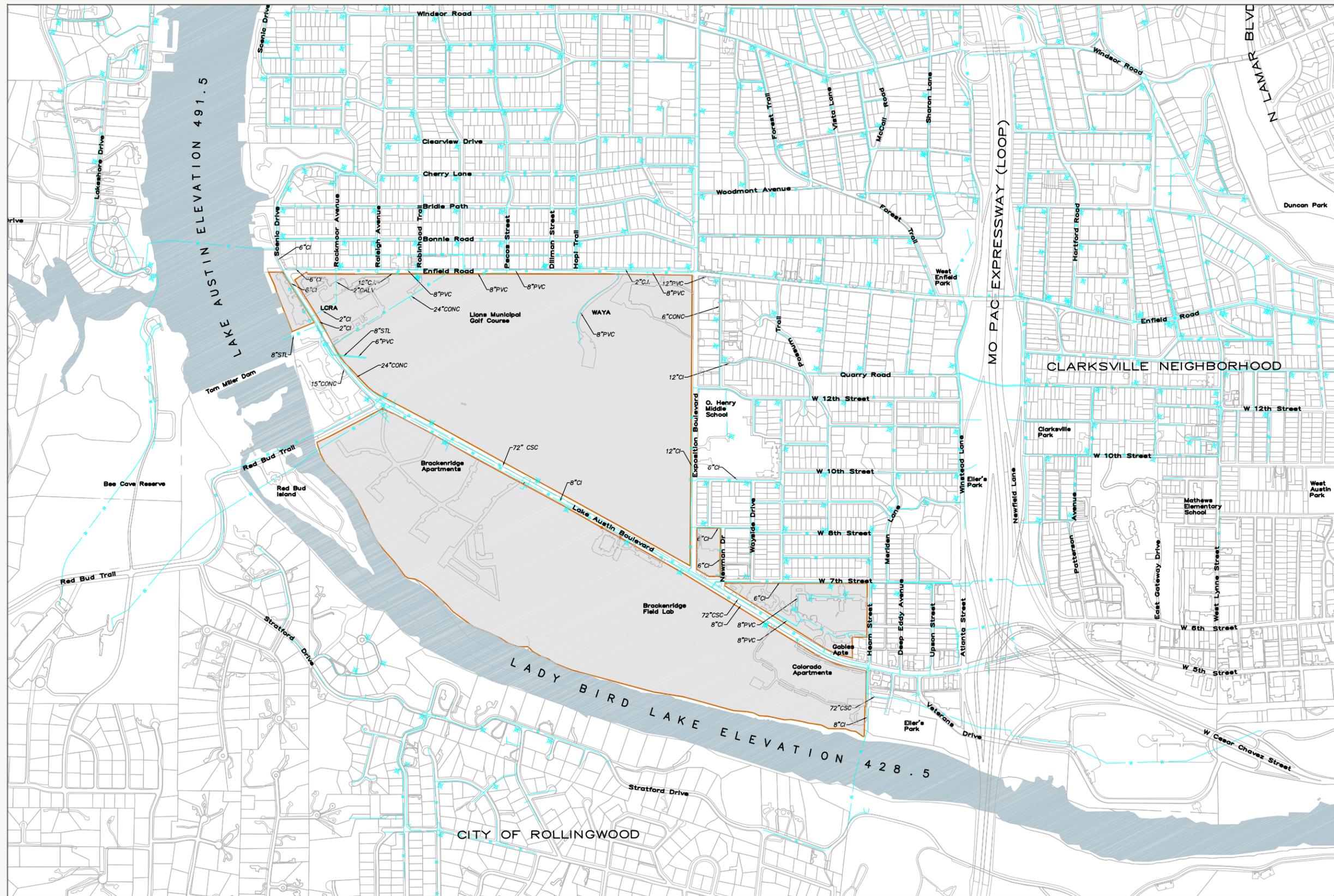
The Brackenridge Tract is within the service area of several telephone and communications companies, including AT&T, Grande Communications, SBC and Time Warner Communications.

CAS Consulting and Services is unaware of any existing deficiencies, but recommends future discussions with providers to determine additional requirements for service and coordination to avoid utility conflicts as new utilities are constructed.

GAS SERVICE

The Existing Gas Main Lines Figure depicts the location and size of the existing gas mains serving the West Austin Neighborhood Group (WANG) area. This depiction is based on Texas Gas Service Engineering Department information. Refer to *Existing Gas Main Lines (Exhibit 3F)* for locations of existing gas lines.

The Texas Gas Company would be expected to work to support the development of the Brackenridge Tract. There appears to be a strong gas infrastructure already in place within the tract. CAS has no knowledge of the actual capacity available in that system. CAS Consulting and Services is unaware of any existing deficiencies, but recommends future discussions with utility providers to determine additional requirements for service and coordination to avoid utility conflicts as new utilities are constructed.

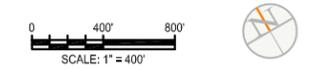


LEGEND

-  Brackenridge Tract
-  Water
-  Fire Hydrant

Source of Data:
City of Austin GIS Department

DRAFT



CONCEPTUAL MASTER PLAN: EXISTING WATER MAIN LINES

UNIVERSITY OF TEXAS: Brackenridge Tract
AUSTIN, TEXAS

Cooper, Robertson & Partners
Musier, Planner and Team Leader
 TBG Partners
 Landscape Architects
 K. FRIESE & ASSOCIATES, INC.
 Civil Engineers
 HS&A
 Cost Estimator and Academic Programmer
 Concept Development and Communications, LLC
 Stakeholder Input and Communications Consultant

Prime Strategies, Inc.
 Traffic and Transportation Analyst
 Economics Research Associates
 Financial and Market Analyst
 DuBois, Bryant & Cambell, LLP
 Zoning and Public Policy Specialist
 Raba-Kristner Consultants, Inc.
 Environmental Consultant

August 22, 2008



AUSTIN WATER UTILITY
Utility Development Services Division
625 East 10th Street, Suite 515
Austin, Texas 78701

(512) 972-0207

fax: (512) 972-0251



June 10, 2008

Hilario Arriaga, P. E.
CAS Consulting & Services, Inc.
6633 Hwy.290 E, Suite 104
Austin Tx.78723

Re: Assessment of water and wastewater service for 2907 LAKE AUSTIN BLVD
TCAD Parcels ('0111071201', '0110070201', '0112080203')

Dear Mr. Arriaga:

The property at 2907 LAKE AUSTIN BLVD consists of the property described as: TCAD Parcels ('0111071201', '0110070201', '0112080203'). The property elevation contours can be seen in the attached map. The property is within the Central North pressure zone, the TOWN LAKE drainage basin, Grid G23, and the Service Area of the Austin Water Utility. Wastewater flows are part of the SAR WW basin.

The tract appears to be near an 8-inch water line in LAKE AUSTIN BLVD, a 12-inch water line in EXPOSITION BLVD, and a 72-inch water transmission main (Project 98-0014) in LAKE AUSTIN BLVD. Water Pressure Calculations for these lines are provided below:

Pressure Calculation Results

8-inch water line in LAKE AUSTIN BLVD	MINIMUM	TYPICAL	MAXIMUM
HGL (ft. above MSL)	720	740	760
Pressure (psi)*	84	93	101
12-inch water line in EXPOSITION BLVD	MINIMUM	TYPICAL	MAXIMUM
HGL (ft. above MSL)	720	740	760
Pressure (psi)*	88	97	106
72-inch water transmission main in LAKE AUSTIN BLVD	MINIMUM	TYPICAL	MAXIMUM
HGL (ft. above MSL)	720	740	760
Pressure (psi)*	87	96	104

*HGLs and pressures are roughly approximated and not guaranteed. The HGL or pressure in a given zone could vary significantly from this range. Field testing in conjunction with water model analysis is the best source of HGL and pressure information. HGLs can vary significantly especially at remote locations in the water distribution system and near pump station locations. Values do not reflect fire flow conditions.

The property appears to be near a 15-inch Gravity Wastewater Line southwest of the subject tract. The line is connected to manhole Unit ID: 100095 which has an approximate elevation of 441 feet.

Service Extension Requests may be required for future water service and may be required for future wastewater service.

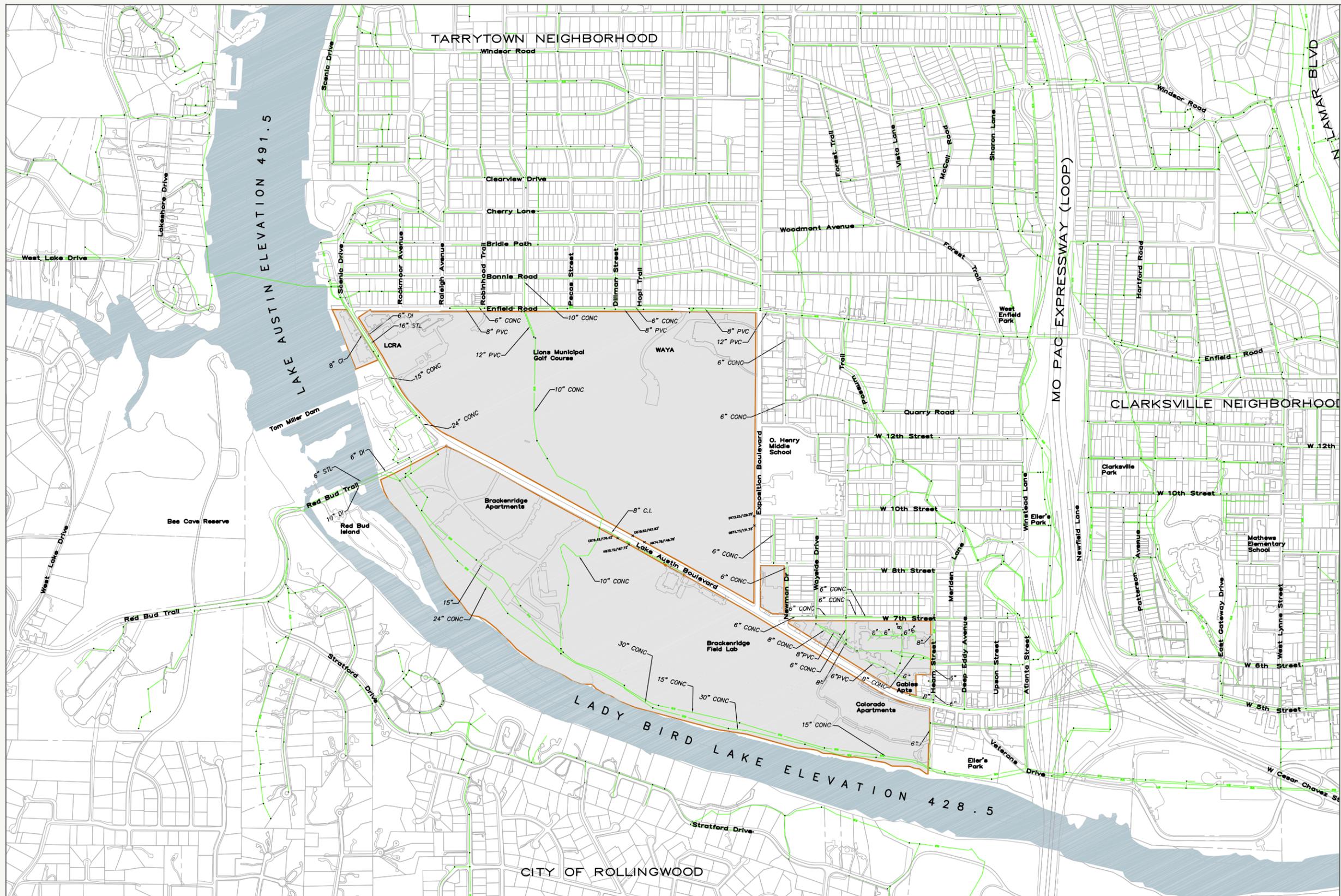
This assessment reflects our Geographical Information System data as of this date. Additional water and wastewater information is available at: <ftp://ftp.ci.austin.tx.us/>

Actual service delivery will be contingent upon available system capacity at the time an application for Tap and/or Service Extension Request is made and will be subject to all fees, charges, ordinances and policies in effect at that time. Notwithstanding this assessment, service may be reasonably limited by the city if necessary to protect the public health, safety and welfare or for compliance with applicable orders or ruling of the State or Federal Government or any political subdivision having lawful jurisdiction over these matters.

If we can provide additional information, please call me at (512) 972-0304 or email me at: James.Grabbs@ci.austin.tx.us.

Sincerely,

James S. Grabbs, P.E.
Utility Development Services Division
Austin Water Utility

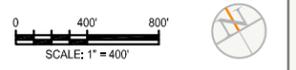


LEGEND

- Brackenridge Tract
- Waste Water

Source of Data:
City of Austin GIS Department

DRAFT



CONCEPTUAL MASTER PLAN: EXISTING WASTE WATER MAIN LINES

UNIVERSITY OF TEXAS: Brackenridge Tract
AUSTIN, TEXAS

Cooper, Robertson & Partners
Musier, Planner and Team Leader
 TBG Partners
 Landscape Architects
 K. FRIESE & ASSOCIATES, INC.
 Civil Engineers
 HS&A
 Cost Estimator and Academic Programmer
 Concept Development and Communications, LLC
 Stakeholder Input and Communications Consultant

Prime Strategies, Inc.
 Traffic and Transportation Analyst
 Economics Research Associates
 Financial and Market Analyst
 DuBois, Bryant & Campbell, LLP
 Zoning and Public Policy Specialist
 Rahn-Kristner Consultants, Inc.
 Environmental Consultant

August 22, 2008

ATTACHMENT

Preliminary Wastewater System Assessment WANG-Windsor Neighborhood Planning 7/8/08

Overview

West Austin Neighborhood Group (WANG) and Windsor Road Neighborhood areas are served by both the Crosstown Tunnel system that discharges to Walnut Creek treatment plant and the North Austin Interceptor (NAI) – Govalle Tunnel system that discharges to South Austin Regional treatment plant. These two systems are shown on the accompanying map. More specifically, 5 different interceptor system areas are involved in providing service:

- Area 1 – WANG - Taylor Slough Lift Station to Crosstown Tunnel
- Area 2 – Windsor - Upper Shoal Creek Interceptor to Crosstown Tunnel
- Area 3 – Windsor - Lower Shoal Creek Interceptor to NAI
- Area 4 – WANG - West of Exposition to NAI
- Area 5 – WANG & Windsor - East of Exposition to Johnson Creek Interceptor, then NAI

Austin Water Utility works to keep ahead of the growing capacity needs of the aggregate of development through the Capital Improvements Program (CIP). The Service Extension Request (SER) process provides a measure of development activity, and this together with Planning Department population and employment forecasts are the basis for facility planning. The Utility provides capacity as needed, and capacity limitation comes into play only in the case of City Council action affecting specific tracts of land. In this broad context, public facility sizing and timing is governed by cost-effectiveness considerations. Private developers pay for new facilities that serve only their development. When developments add new growth loading to the system, the impact fee paid by property owners when they buy a water meter acts as a partial reimbursement to the city for the public investment in major facilities built to serve growth.

In the ongoing processes of system planning and SER review, and in the work of the Austin Clean Water Program (ACWP), the wastewater load versus capacity situation of major wastewater facilities is routinely monitored. An assessment of the system keys on whether additional capacity is available for new development. Additional available capacity is defined as the difference between pipe full capacity and the peak flows that occur during large storm events (4 to 5 inches of rain) when infiltration and inflow (I/I) leakage into the pipe produces flows many times the average. This is the unused capacity available for new development under current conditions.

For the NAI assessment for areas 4 and 5, three “future” conditions were included in this baseline analysis. The first is a small increase in wastewater from Ullrich water plant operations in order to “reserve” capacity for a possible future plant expansion. The

second is an increase in West Lake Hills flows to reflect the amount allowed by the current contract. The third is a scenario in which two areas identified with unusually high I/I are reduced to an I/I level corresponding to the high end of the normal range in anticipation of flow reductions accomplished by ACWP improvements. These conditions are noted in the results text and tables. Other than these three items the baseline results presented here reflect current loading conditions and do not address future growth scenarios, changes in system operations, or the possibility of even greater peak flow reductions by ACWP work.

AWU is constantly taking measures to reduce I/I. In this context, the engineering design objective is to provide sufficient capacity so that overflows do not occur. Computer models of the pipe system are used along with a number of flow meters to estimate flow loading and available capacity at key points in the system. In the following preliminary assessments of the 5 drainage areas flow loading and capacity are stated in terms of Living Unit Equivalents (LUE) corresponding to the amount of flow from a typical single family residence, and the following peak flow conversions apply:

- 0.9 gpm peak flow = 1 LUE and 1 LUE = 3.5 people

Preliminary Load Versus Capacity Assessment of Area Facilities

Area 1 WANG - Taylor Slough Lift Station to Crosstown Tunnel

Taylor Slough lift station is the key facility in the northwest corner of the WANG area. It was recently rebuilt and redirected so that it now discharges to the Crosstown Tunnel to the north. The additional available capacity estimate is as follows:

- Approximate lift station firm capacity: 1667 LUE (1500 gpm)
- Existing peak flow estimate: 1389 LUE (1250 gpm)
- Additional available capacity estimate: 278 LUE (250 gpm)
- 278 LUE = 973 people = 250 gpm

Should additional capacity be needed, in many cases it is a matter of routine lift station practice to increase the size of pump impellers or replace pumps to increase capacity in the 10 to 20% range at nominal cost.

Area 2 Windsor - Upper Shoal Creek Interceptor to Crosstown Tunnel

The northeast corner of Windsor Road Neighborhood is a small area that flows to the new 66-inch upper Shoal Creek interceptor built as part of the ACWP. This line was sized to provide for the long term including growth in the large upper Shoal Creek basin, so it has additional available capacity to handle new development in the small tributary Windsor Road Neighborhood area.

Area 3 Windsor - Lower Shoal Creek Interceptor to NAI

The eastern part of Windsor Road Neighborhood is served by the 30-inch lower Shoal Creek interceptor that flows to the NAI. This pipe has a representative capacity of 11,583 LUE (10,425 gpm). During the November 2004 storm event peak flow

reached 9667 LUE (8700 gpm) which indicated high I/I stormwater leakage into the system. After ACWP improvements were completed, the November 2007 storm event peak flow only reached 2239 LUE (2,015 gpm) which corresponds to low I/I. Because the two flow events are so different, it is not possible to put a number to additional available capacity at this time. Because the ACWP improvements were comprehensive in isolating the lower Shoal pipe system from the upper Shoal system, and because old pipes were removed from the creek bed, it is expected that future flows will be characterized by the lower flows of the 2007 storm event. If this proves to be the case there will be a large amount of additional capacity available.

Area 4 – WANG - West of Exposition to NAI

The southwest area of WANG flows to the NAI paralleling the river. NAI flows in this region include flows from West Lake Hills contract areas, Stratford Drive and Westlake Drive service areas, and Ullrich water treatment plant wastewater. For purposes of analysis, the NAI has been divided into the 4 segments shown on the accompanying Table 1. Assessment of the NAI must take into account the consideration of West Lake Hills contracted maximum flows as well as the possibility of an expansion of Ullrich plant. This is represented by the Existing Plus Future Ullrich and West Lake Hills scenario shown on Table 1. All additional available capacity results refer to this scenario. While no information is available on future Brackenridge tract proposed flows, this NAI assessment serves as a preliminary baseline from which to examine development proposals as regards NAI loading and capacity.

This WANG area 4 flows to Segments 1 and 2 of the NAI. Segment 1 begins at Red Bud Trail and Segment 2 is the segment downstream of the golf course to Mopac. Flow data from the golf course 10" line indicates high I/I during large storm events. It is expected that I/I in this line will be reduced to a more normal level (peaking factor in the 4 to 6 range), so the assessment includes a Reduced I/I scenario based on a peaking factor of 6 to address this condition where peak flow is reduced by 167 LUE (150 gpm).

Results for additional available capacity on Table 1 show that Segment 1 of the NAI has 6767 LUE (6090 gpm) additional capacity available. Segment 2 is an unusual condition where the downstream capacity is less than upstream in Segment 1 because the line slope is not as steep. Additional available capacity ranges from 1409 LUE (1268 gpm) for the Existing Plus Future Ullrich and West Lake Hills scenario to 1576 LUE (1418 gpm) for the Reduced I/I scenario which involves reducing I/I in the golf course line. As stated in note 2 of the Table 1 spreadsheet, the representative capacity of NAI Segment 2 is based on a 1000 ft low-slope section near Mopac. To make additional capacity available beyond the 1576 LUE number, this section could be upsized for capacity to be more in line with the upstream segment, in which case the limiting pipe capacity would be that of the NAI siphon under Johnson Creek (8111 LUE, 7300 gpm), which would add 3091 LUE (2782 gpm) to the available capacity.

Area 5 – WANG & Windsor - East of Exposition to Johnson Creek, then NAI

The eastern third of WANG and western third of Windsor Neighborhood flow to the Johnson Creek collection system that connects to the NAI in the Mopac vicinity. Flow data from the Johnson Creek Interceptor has indicated high I/I. The ACWP program is taking many I/I reduction measures in the area including replacement of the lower end of the Johnson interceptor where it ties into the NAI. For this reason the assessment of Segment 3 of the NAI downstream of Johnson Creek includes a Reduced I/I scenario in the same manner as the golf course line in Area 4. Reducing I/I in the Johnson Creek interceptor to a normal level equates to an estimated 2222 LUE (2000 gpm) flow reduction.

Results for additional available capacity on Table 1 show that Segment 3 of the NAI from Johnson Creek to Austin High School has a range of 872 LUE (785 gpm) additional capacity available at observed Johnson Creek interceptor peak flow levels to 3261 LUE (2935 gpm) for the Reduced I/I case with anticipated I/I reduction in the golf course line and the Johnson interceptor.

To complete the NAI assessment it is useful to examine the remaining Segment 4, from the Austin High School 24-inch, the main pipe adding load on the segment, to the Shoal Creek 30-inch mentioned in Area 3. Results for additional available capacity are 363 LUE (327 gpm) at observed flow levels, to 2752 LUE (2477 gpm) for the Reduced I/I case where golf course line and Johnson Creek line I/I is reduced to normal levels.

Downstream Capacity

Where NAI and Shoal Creek interceptor flows come together the combined flows are near the capacity of the Shoal Creek lift station that pumps and lifts the flow across Shoal Creek so that it can flow by gravity down the lower NAI below Shoal Creek to a connection with the Govalle tunnel in the vicinity of the Holly Power Plant. An overflow due to high I/I and insufficient pumping capacity was experienced in the November 2004 storm event. Since the lower NAI does not have capacity to accept increased flow, and since future growth of the central city is anticipated, a new Downtown Tunnel CIP project has been created to provide the long term additional capacity needed in the central city on both sides of the river.

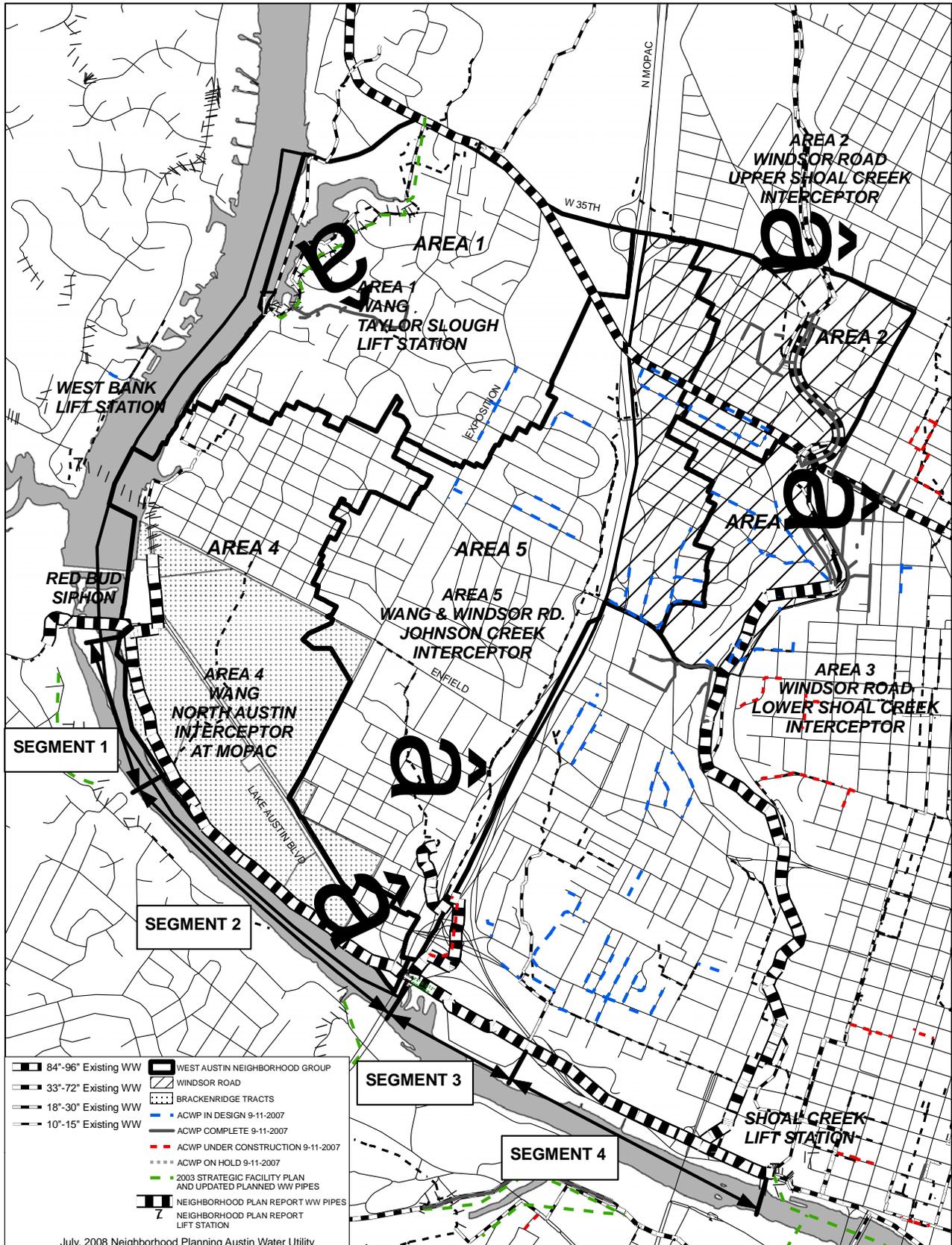
7-Jul-08

Table 1 -- Preliminary Assessment of North Austin Interceptor -- LUE Basis
(1 LUE = 0.9 gpm peak flow)

Segment	North Austin Interceptor Segment Description	NAI Size inches	Peak Flow Estimate Scenarios			Capacity	
			Existing Peak LUE	Existing w/ Future Ullrich & WL Hills Peak LUE	Reduced I/I Existing w/ Future Ullrich & WL Hills Peak LUE	Representative Pipe Capacity LUE	Additional Available Capacity Range LUE
1	Red Bud Trail to Golf Course 10" (gage 26)	24	2167	2500	2500	9267	6767
2	Golf Course 10" to Mopac/Johnson Creek 24" (gage 26 + gage 25 = gage 24)	24/30	3278	3611	3444 Note 1	5020 Note 2	1409 to 1576 Notes 1&2
3	Johnson Creek 24" to Austin High School 24" (gage 24 + gage 23)	42	8833	9167	6778 Notes 1&3	10039	872 to 3261 Notes 1&3
4	Austin High School 24" to Shoal Creek 30" (gage 24 + gage 23 + gage 22)	42	10500	10833	8444 Notes 1&3	11197	363 to 2752 Notes 1&3

Notes

1. The golf course pipe flow data suggests high I/I.
Reduced I/I scenario corresponding to peaking factor of 6 gives the higher additional capacity available number.
2. The stated 24" NAI capacity of 5020 LUE (4518 gpm) is for the 1000 ft section at Mopac that is limiting.
Additional capacity above stated range can be obtained by upsizing this section of the NAI.
(Upstream to Red Bud Trail the representative capacity is 9267 LUE (8340 gpm).
Downstream siphon under Johnson Creek capacity is 8111 LUE (7300 gpm.)
3. Johnson Creek pipe flow data suggests high I/I.
Reduced I/I scenario corresponding to peaking factor of 6 gives the higher additional capacity available number.



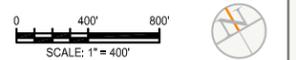


LEGEND

-  Brackenridge Tract
-  Storm Sewer
-  Existing Creek

Source of Data:
City of Austin GIS Department

DRAFT



0 2000 4000 8000 10560 (2 miles) 16000 21120 (4 miles) 26000 42240 (8 miles) 54000 84480 (16 miles) 96000

CONCEPTUAL MASTER PLAN: EXISTING STORM LINES

UNIVERSITY OF TEXAS : Brackenridge Tract
AUSTIN, TEXAS

Cooper, Robertson & Partners
Master Planner and Team Leader
 TBG Partners
 Landscape Architects
 K. FRIESE & ASSOCIATES, INC.
 Civil Engineers
 HSKA
 Cost Estimator and Academic Programmer
 Concept Development and Communications, LLC
 Stakeholder Input and Communications Consultant

Prime Strategies, Inc.
 Traffic and Transportation Analyst
 Economics Research Associates
 Financial and Market Analyst
 DuBois, Bryant & Campbell, LLP
 Zoning and Public Policy Specialist
 Rahn-Kristner Consultants, Inc.
 Environmental Consultant

August 22, 2008

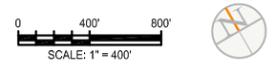


LEGEND

-  Brackenridge Tract
-  Gas Lines

Source of Data:
Texas Gas Service Department

DRAFT



CONCEPTUAL MASTER PLAN: EXISTING GAS MAIN LINES

UNIVERSITY OF TEXAS: Brackenridge Tract
AUSTIN, TEXAS

Cooper, Robertson & Partners
Master Planner and Team Leader
 TBG Partners
 Landscape Architects
 K. FRIESE & ASSOCIATES, INC.
 Civil Engineers
 HSKA
 Cost Estimator and Academic Programmer
 Concept Development and Communications, LLC
 Stakeholder Input and Communications Consultant

Prime Strategies, Inc.
 Traffic and Transportation Analyst
 Economics Research Associates
 Financial and Market Analyst
 DuBois, Bryant & Cambell, LLP
 Zoning and Public Policy Specialist
 Rabs-Kristner Consultants, Inc.
 Environmental Consultant

August 22, 2008



D R A F T – August 22, 2008

4.0 EXISTING TRANSPORTATION INFRASTRUCTURE, TRAFFIC & ANALYSIS SUMMARY

The federally required Metropolitan Planning Organization (MPO) for the Austin area is CAMPO (Capital Area Metropolitan Planning Organization) comprised of TxDOT (Texas Department of Transportation), Williamson, Travis and Hays counties, and 39 cities of which Austin is the largest. Austin has its own transportation plan called the Austin Metropolitan Area Transportation Plan (AMATP). The AMATP is a subset of the CAMPO plan specific to the immediate Austin area; however, it is not uncommon to see exhibits from the CAMPO files with one or both plan acronyms.

The City of Austin Neighborhood Planning & Zoning Department (NPZD) in conjunction with the Public Works Department Transportation Division is the authority jointly responsible for transportation planning and implementation within the City. Transportation design criteria are contained in the City's Transportation Manual.

ROADWAY ACCESS

The Brackenridge Tract is readily accessed from all directions via established roadways that are generally in fair to excellent condition. The surrounding neighborhoods and riverside developments are at full or near build-out status suggesting that current average daily traffic (ADT) volumes will remain fairly stable until new development is introduced into the area.

This area has adequate roadway infrastructure to serve the mixed uses of recreational, educational, single and multi-family residential, limited light industrial, governmental, office and commercial developments scattered throughout the area. As indicated in the attached map *Minor and Major Arterials (see Exhibit 4A)*, MOPAC (Loop 1) lies in the eastern periphery of this area and serves as a main conduit for north-south traffic through the City's central core. MOPAC also serves as the western section of the City's inner loop completed by Ben White/Hwy 290 on the south, Interstate 35 on the east and US Hwy 183 on the north.

Tying the Brackenridge Tract to the City's inner loop is Lake Austin Boulevard on the tract's south side, Enfield Road on the north boundary and Exposition Boulevard tying these two roadways in a north-south direction. West 7th Street on the north and Hearn Street on the east define the boundaries of the smaller of the two Brackenridge Tract triangles of land north of Lake Austin Boulevard. Red Bud Trail at the west end of Lake Austin Boulevard serves as a tie to Westlake and points south of Lady Bird Lake.

STREET CLASSIFICATIONS AND AMENITIES

Lake Austin Boulevard: The CAMPO plan classifies Lake Austin Boulevard as an undivided, four-lane minor arterial (MNR-4). A typical cross-section of an MNR-4 arterial is shown in attached **Figure 1-35A (Exhibit 4B)** from the City's Transportation Criteria Manual (TCM) (available online at http://www.amlegal.com/austin_techmanuals/) which varies from the actual street cross-section of 57 feet curb-to-curb only in the width of the vehicular lanes due to the dedicated bike lanes on Lake Austin Boulevard. There is a dedicated bike lane from MOPAC to Enfield Road on the south side of the boulevard. A useable bike lane exists on the north side from MOPAC to Exposition Boulevard, but engineering plans are currently under development to reconstruct the west-bound bikeway from Exposition Boulevard to Enfield Road (see attached **Bike Routes map (Exhibit 4C)**). Sidewalks exist on the south side with only very short sections missing west of Red Bud Trail. Sections of sidewalk in this area are not concrete, but appear to be well-functioning crushed granite or paver paths maintained by the Lower Colorado River Authority (LCRA). The sidewalk on the north side is limited to the section between MOPAC and Exposition Boulevard with a short section in front of the LCRA office building. The City has no current plans to construct sidewalks on the north side from Exposition Boulevard to Enfield Road. A typical sidewalk assignment for a non-retrofit site is shown on attached **COA Standard Detail 432S-1 (Exhibit 4D)**. The boulevard has curb and gutter between MOPAC and Exposition Boulevard on both sides of the street; however, the curb and gutter is absent on the south side almost the full length of the Field Laboratory property. There is curb and gutter in front of the University's Lake Austin Centre, then skips about 200 feet and then picks up again and continues past Enfield Road. Curb and gutter is lacking on the north side west of Exposition all the way to Red Bud Trail, but it starts again in front of the LCRA building and terminates at Enfield Road.

Enfield Road and Exposition Boulevard: These two roadways are classified as undivided, 2-lane minor arterials (MNR-2). There isn't a typical cross-section of an MNR-2 arterial in the TCM that exactly matches the cross-section of these two streets, but attached **Figure 1-34A from the COA TCM (Exhibit 4E)** communicates all the transportation attributes (pedestrian, bicycle and vehicular) that minor arterials should ideally have. Unlike the MNR-2 cross-section of **Figure 1-34A**, however, Exposition Boulevard has a wider effective width of 44 feet while Enfield Road has an effective width of 36 feet curb-to-curb. This wider pavement width can be found in the typical cross-section for a neighborhood collector (as shown in attached **Figure 1-28 from the COA TCM in Exhibit 4F)** which is not unusual, since the terminology of minor arterials and neighborhood collectors are often used interchangeably. Bikeways exist on the south side of Enfield Road and on both sides of Exposition Boulevard. There are no sidewalks on Enfield Road, but there are sidewalks on both sides of Exposition Boulevard from Lake Austin Boulevard northerly to West 10th Street. The sidewalk on Exposition Boulevard continues on the east side all the way to Enfield Road. Exposition Boulevard has curb and gutter its full length while Enfield Road has curb and gutter only on the north side.

West 7th Street and Hearn Street: Both streets function as local streets although West 7th Street carries a designation of a neighborhood collector in the AMATP. The latter is technically correct since the multi-family Gables development borders the street on the south side; however, limited access onto West 7th minimizes traffic out of the complex. Attached **Figure 1-23 from the COA TCM (Exhibit 4G)** reflects a 36-foot local street whereas traditional neighborhood collectors are typically 44 feet wide. Both West 7th and Hearn Streets have widths of 36 feet curb-to-curb designed to be wider than most residential streets (normally 30 feet wide) due to the long history of multi-family housing in the University-owned triangle bounded by these two streets and Lake Austin Boulevard to the south. The current Gables multi-family residential development was preceded by the University's student housing of World War II, multi-storied barracks that occupied the site until the 1980's. Both streets have curb and gutter on both sides while neither has designated bike lanes.

Red Bud Trail: Red Bud Trail is classified as an undivided, 2-lane minor arterial (MNR-2) in the AMATP due to its strategic location on the transportation grid. This roadway serves as the westernmost connection between the north and south shores of Lady Bird Lake within the inner City. The roadway has curb and gutter in good condition on both sides of the street. There is a 4-foot sidewalk on the east curblin, but it is in very poor condition and unsafe for pedestrian use. The sidewalk connects Lake Austin Boulevard to points south, but the sidewalk transitions to a width of only 2-1/2 feet on the bridge. The narrow sidewalk on the bridge, coupled with a non-standard traffic rail too low for pedestrian safety, make the sidewalk on this roadway useable only as a refuge in case of an emergency. The roadway is only 30 feet curb-to-curb and narrows down to 24 feet at the bridge. Dedicated bike lanes are not feasible on this roadway.

STREET CAPACITIES AND CONDITION

Lake Austin Boulevard: Although the City's typical cross-section of an MNR-4 (**Figure 1-35 from the COA TCM in Exhibit 4B**) lists an ADT range of 3500 to 35500 vehicles per day, the street's urban setting and its residential terminus on the west end contribute to the relatively low counts of about 10,000 to 21,000 vehicles per day as illustrated in the City's **Central West Austin 24-Hour Counts map (Exhibit 4H)** and verified with statistics from the Public Works Department Transportation Division office. Nevertheless, of all the tract's subject streets, Lake Austin Boulevard has the highest traffic count and the highest number of signalized intersections (4) as shown on the attached map, **Signalized Intersections (Exhibit 4I)**. The City's Public Works Department Street and Bridge Division rates roadway pavement into classifications of A (Excellent), B (Good), C (Fair), D (Poor) and F (Failed). The pavement between MOPAC and Hearn Street is currently rated an A, with the section between Hearn Street and Red Bud Trail rated at B. The section west of Red Bud Trail is rated C. The proposed widening of Lake Austin Boulevard to accommodate the new bike lane west of Exposition Boulevard may prompt an asphalt overlay of this section. The entire section of Lake Austin Boulevard has localized pavement failures due to some degree to the disturbance of the pavement when the Ullrich Water Treatment Plant 72" water

transmission main was constructed a few years ago. The heavy loading of bus traffic that travels on this roadway adds to this problem (see attached **Bus Routes Map in Exhibit 4J**). The nature of ever-expanding pavement failures will require localized full-depth pavement repairs. In turn, the increasing patchwork of pavement repairs will prompt consideration of seal coats and overlays uniformly across the full street cross-section.

Enfield Road and Exposition Boulevard: The City's typical cross-section of an MNR-2 (**Figure 1-34A from the COA TCM in Exhibit 4E**) and a collector (**Figure 1-28 from the COA TCM in Exhibit 4F**) show typical ADT's of 1750 to 15250 vehicles per day; however, actual counts on these two streets were more in the 5000-plus range as indicated in the City's **Central West Austin 24-Hour Counts map (Exhibit 4H)**. The actual counts are quite typical for neighborhood collectors and minor arterials in a predominantly residential setting. The Enfield Road/Exposition Boulevard intersection is signalized. The pavement condition of these two streets varies from a low C on Enfield Road at the Lake Austin Boulevard intersection to a high B the farther east you go towards Exposition Boulevard. Exposition Boulevard is in better condition with A's northerly from West 10th Street while points southerly rate C's.

West 7th Street and Hearn Street: **Figure 1-23 from the COA TCM (Exhibit 4G)** shows typical ADTs of less than 1000 on local streets. ADTs for neighborhood collectors can be as high as 3000. The lower figure was supported by observed traffic during morning and afternoon site visits when traffic was busiest on City streets. The street pavements are rated at low to high C's; however, the low traffic volume will ensure that the pavement on these streets will last almost indefinitely provided the City performs routine seal coats to seal pavement cracks and delay oxidation of the hot mix asphalt layer.

Red Bud Trail: There weren't any archived traffic counts for this roadway at Public Works Department Transportation Division; however, a close approximation of typical ADT's can be calculated from statistics for Lake Austin Boulevard taken east and west of Red Bud Trail. On that basis, ADT volumes on Red Bud Trail are in the 5000-plus range. The intersection of Red Bud Trail with Lake Austin Boulevard is signalized. While the pavement at the intersection is in fair to poor condition, the pavement exhibits a better profile on the slope south towards Lady Bird Lake.

STREET RIGHT-OF-WAY WIDTHS

The existing right-of-way was taken off Travis County Appraisal District maps and compared to maps maintained by the City's Public Works Department. Not surprisingly, the information at both sources matched although the Public Works archive has more detailed information such as vacated street right-of-ways on the tract where the LCRA building was built.

The street right-of-ways recommended in the TCM are typically minimum widths developers are asked to dedicate in the platting process. Since most large plats are in largely undeveloped areas, dedication of widths in excess of the recommended minimums

is not unusual especially when a developer chooses to include wide landscaped medians or wide parkways with park-like settings and winding sidewalks.

Conversely, new developments or re-developments in established neighborhoods with old right-of-ways narrower than current standards often attempt to meet required transportation enhancements within the existing right-of-way. Input from neighborhood concerns may dictate the preservation of large trees, select structures, the width of front yards or the preservation of the neighborhood's character by limiting the development to existing roadway capacities. These kinds of issues are aired and negotiated in the public hearing process at City Council and in neighborhood meetings.

Lake Austin Boulevard: The existing right-of-way width is consistently 100 feet wide from MOPAC to Enfield Road. While the existing width is more than the minimum shown on *Figure 1-35A from the COA TCM (Exhibit 4B)* of the TCM, consideration of medians or wider sidewalks may be limited due to existing development in the section between MOPAC and Hearn Street. The same constraint may apply to the section west of Red Bud Trail. The section of Lake Austin Boulevard between Hearn Street and Red Bud Trail is a good candidate for widening and aesthetic enhancements of the roadway.

Exposition Boulevard: The existing right-of-way is consistently 66 feet wide. This right-of-way is also wider than the minimum shown for neighborhood collector streets and minor, 2-lane arterials. Exposition Boulevard between Enfield Road and Lake Austin Boulevard is an excellent candidate for widening and aesthetic enhancements such as landscaped medians and parkways due to the property available on the west side of the right-of-way.

Enfield Road: The existing right-of-way on Enfield Road is 70 feet wide at Exposition Boulevard and stays that way westerly to Hopi Trail. The right-of-way narrows between Hopi Trail and Lake Austin Boulevard to 55 feet. The narrowing of the right-of-way occurs on the north side where all the residential lots extend 15 feet further south than they do east of Hopi Trail. Due to some shallow front yards, widening the right-of-way by taking an additional 15 feet on the north right-of-way line is not feasible. Nevertheless, Enfield Road is also an excellent candidate for widening and visual enhancements due to the availability of land on the south side.

West 7th Street and Hearn Street: The right-of-way on West 7th Street varies uniformly from 60 feet at Hearn Street to 55.5 feet at Lake Austin Boulevard while the right-of-way on Hearn Street is consistently 50 feet wide. Although the current minimum right-of-way width in the TCM is 60 feet for neighborhood collectors adjacent to multi-family parcels, the two streets' established development will dictate that the roadways remain unchanged unless the use of the University property is drastically changed.

Red Bud Trail: The right-of-way is 98 feet wide despite the fact that the street is only 30 feet curb-to-curb and bounded by steep slopes on both sides. The primary factor limiting potential widening of this roadway is the poor structural condition of the north bridge across Lady Bird Lake that the City rehabilitated in the mid-1990's. The bridge is also classified as a low water crossing that is inundated in a 50-year storm (COA Floodplain Office) and the roadway bridge approach geometrics do not comply with current standards.

TRANSPORTATION INFRASTRUCTURE SUMMARY

Transportation infrastructure in the Brackenridge tract area is adequately structured from a functionality perspective for the area's current development state. The City's only plan to enhance current system assets in the area is to reconstruct a bike lane on Lake Austin Boulevard from Exposition Boulevard to Enfield Road. Street capacity, as measured by average daily traffic volumes, is well below the threshold that would trigger pavement widening or other traffic management plan enhancements. The frequency of traffic accidents, another measure of system functionality, is low for the area as indicated in the attached map, *Central West Austin Traffic Collisions - January 2006 to August 2007* (see **Exhibit 4K**). Although the streets lack a full compliment of sidewalk, bikeway and drainage build-outs, the transportation system is functioning at a level generally acceptable to the City's Capital Improvements Program planning staff.

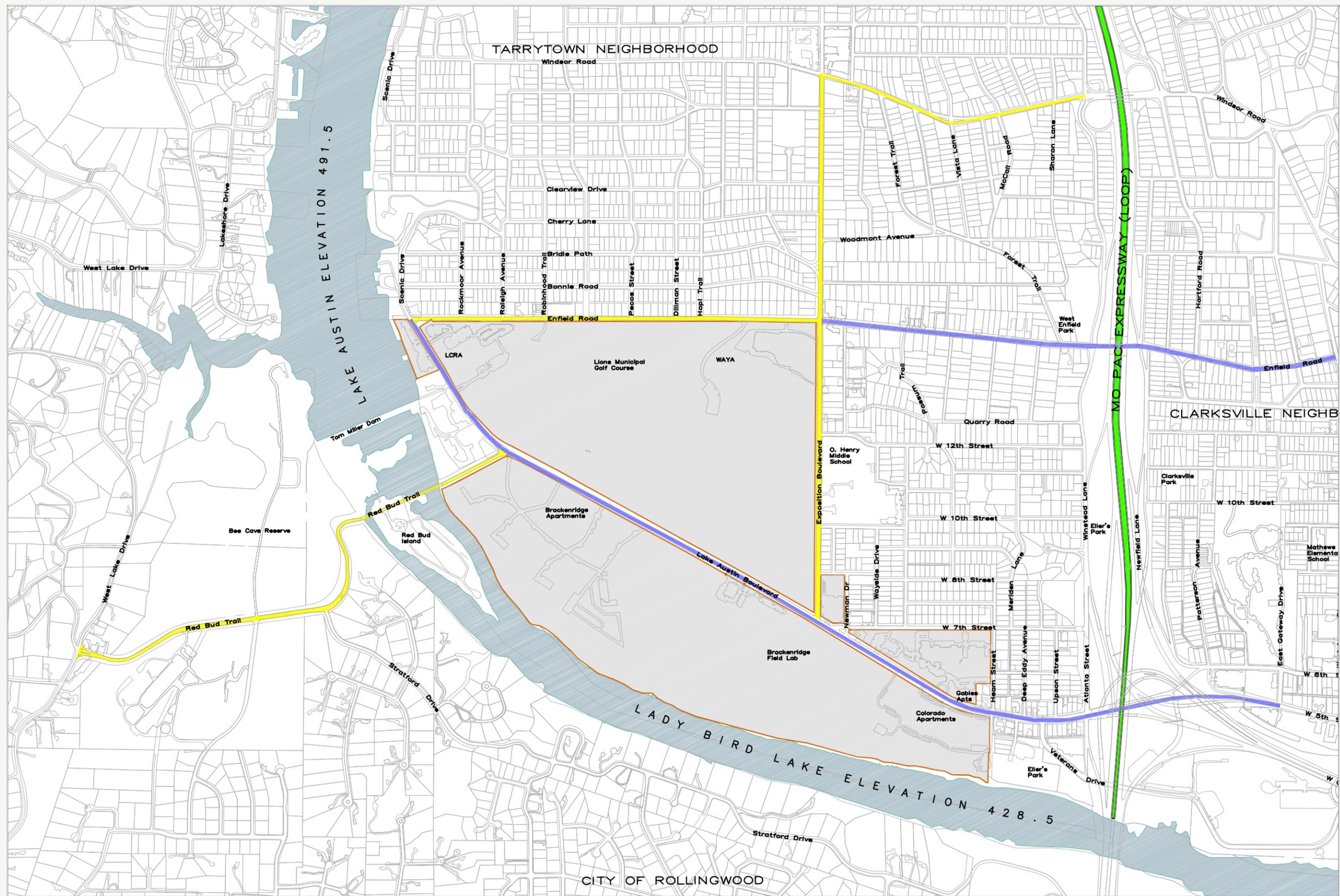
Another measure of the system's functionality is the structural condition of the roadway pavement and concrete appurtenances such as sidewalks, inlets and curb and gutter. Very few localized areas of impending pavement failure were noted. The distressed area in Lake Austin Boulevard where the Ullrich 72-inch water transmission main was constructed is showing signs of localized backfill settlement, but the extent of this activity is limited and the overall condition of the pavement remains in serviceable condition. With few exceptions, sidewalks, inlets and curb and gutter are in average to good condition where they exist. Drainage is poor on Lake Austin Boulevard from Exposition to points west, but re-grading of the shoulder in recent years and the anticipated reconstruction of the bike lane on the north side of the street will likely improve and perhaps eliminate the problem. At the time of this report, the City did not have any of the subject streets scheduled for appreciable upgrades under the multi-year Capital Improvements Program. Barring budget shortfalls, all City roadways are scheduled to receive maintenance treatments (crack sealing, liquid asphalt/aggregate seal coats, and/or hot mix asphaltic concrete overlays) on a 7-year cycle. These streets can be expected to receive scheduled maintenance and to remain in a functional state for many years before full reconstruction of the roadway and underground utilities is ever contemplated.

In a scenario where the University lands are developed for Non-University purposes, the Brackenridge Development Agreement (BDA) (available online at <http://www.deepeddy.com/wang/BrackenridgeAgreement.pdf>) provides guidelines for planning, design, review, and cost-sharing of public transportation infrastructure improvements. *Section 8.5 Utility, Road and Driveway Construction* of the BDA states

that improvements that will be dedicated or conveyed to the City for ownership, operation and maintenance will be designed and constructed in accordance with an approved Site Development Plan and the City's design and construction standards. *Section 8.5* further clarifies that even driveways and private streets connecting to public streets will be designed and constructed in accordance with an approved Site Development Plan and the City's design and construction standards for the portions within the public right-of-way. All other transportation infrastructure within private property will be designed and constructed in conformance to the University's Land Development Code and Criteria Manuals unless the University elects to abide by COA requirements.

Section 12 of the BDA addresses traffic impacts in the North Tracts to the public transportation system. A baseline Traffic Assessment Report will be required when triggered by any one of three site-generated traffic impact scenarios detailed in *Section 12.2 Traffic Assessment* of the BDA. As appropriate, the Traffic Assessment Report may recommend improvements to the public transportation infrastructure to ensure that traffic will operate at an acceptable level of service. Generally, the requirements of *Section 12* of the BDA mirror what is applicable already to most developments in the City. Namely, when existing traffic is adequately served by the existing transportation infrastructure, the extent that site-generated traffic can be accommodated with minimal physical or operational changes to the existing public infrastructure (re-striping vehicular lanes, striped bike lanes, changing traffic signal timing, etc.), that cost is typically borne by the developer. When site-generated traffic impacts the public transportation system to the degree that major improvements are warranted, the scope of the improvements will often benefit the pre-existing traffic. In those cases, the University's pro-rata share of expenses will be calculated as a ratio of anticipated site-generated traffic to total post development traffic.

Equally important as any codified standard or requirement of a development process are tacit expectations that the community often has whenever developments occur in established neighborhoods. Fearing that the neighborhood character may be adversely impacted, the public input process can be long and difficult. Transportation system enhancements are often the target of organized protests and effecting the necessary improvements is sometimes compromised in the negotiation process to less than optimum standards. Enhancements such as wide medians and parkways, meandering sidewalks, extensive professional landscaping, ample bikeways, fountains and other water features, sensitive street lighting, and accentuated colored paver details on cross-walks, sidewalks and respite areas serve to make public transportation improvements more palatable. Almost without exception, increased right-of-way (land) demands required for enhancements as described above are borne by the developer. The BDA addresses this point in *Section 13.10 Acquisition of Easements and Right-of-Ways*. Nevertheless, many developers choose to build transportation infrastructure around their developments in a style and level commensurate with the character of the site development, itself.

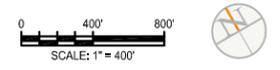


LEGEND

-  Brackenridge Tract
-  MINOR ARTERIAL 2 LANE
-  MINOR ARTERIAL 4 LANE
-  PARKWAY

Source of Data:
MINOR AND MAJOR ARTERIALS
based on Austin Metropolitan
Area Transportation Plan data.

DRAFT



0 2000 4000 8000 10560 (2 miles) 16000 21120 (4 miles) 26000 42240 (8 miles) 54000 84480 (16 miles) 96000

CONCEPTUAL MASTER PLAN: MINOR and MAJOR ARTERIALS



UNIVERSITY OF TEXAS : Brackenridge Tract
AUSTIN, TEXAS

Cooper, Robertson & Partners
Master Planner and Team Leader
TBG Partners
Landscape Architects
K. FRIESE & ASSOCIATES, INC.
Civil Engineers
HS&A
Cost Estimator and Academic Programmer
Concept Development and Communications, LLC
Stakeholder Input and Communications Consultant

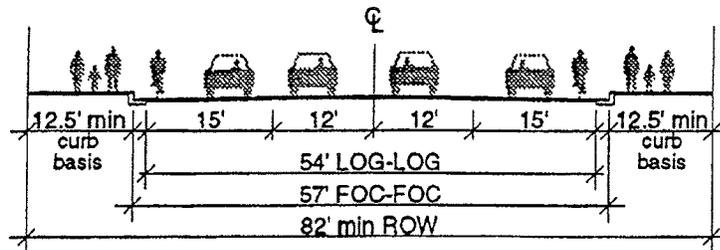
Prime Strategies, Inc.
Traffic and Transportation Analyst
Economics Research Associates
Financial and Market Analyst
DuBois, Bryant & Cambell, LLP
Zoning and Public Policy Specialist
Rabs-Kristner Consultants, Inc.
Environmental Consultant

August 22, 2008

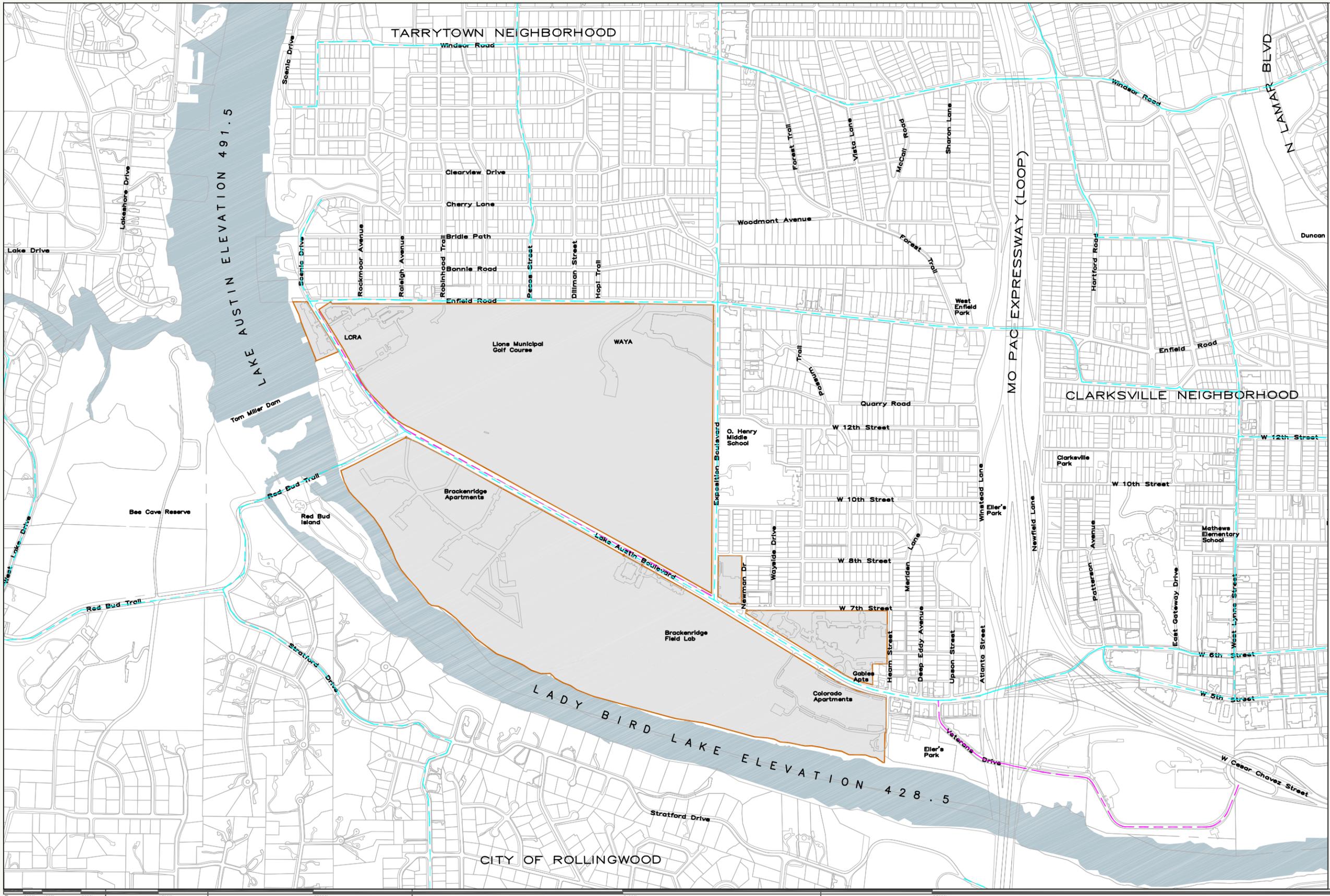
Figure 1-35A Design Criteria for MNR 4: Four Lanes, Undivided Minor Arterial Streets with Shared Wide Curb Lanes

Typical ADT Range, 3500-35500
 Design speed, 45 mph
 Typical Spacing Between Intersections, 1000'
 Minimum Centerline Radius, See Page 1-8
 Minimum Tangent Length Between Horizontal Curves, 150'
 Minimum Curb Basis, 12.5'

TYPICAL CROSS-SECTION



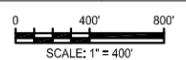
Source: City of Austin Department of Public Works and Transportation



LEGEND

- - - Bike Route
- - - Proposed Bike Route
- Brackenridge Tract

Source of Data:
Bike Routes are based on City of Austin data. Routes indicated are non-directional.



DRAFT

Scale in Feet

CONCEPTUAL MASTER PLAN: BIKE ROUTES



UNIVERSITY OF TEXAS: Brackenridge Tract
AUSTIN, TEXAS

Cooper, Robertson & Partners
Master Planner and Team Leader

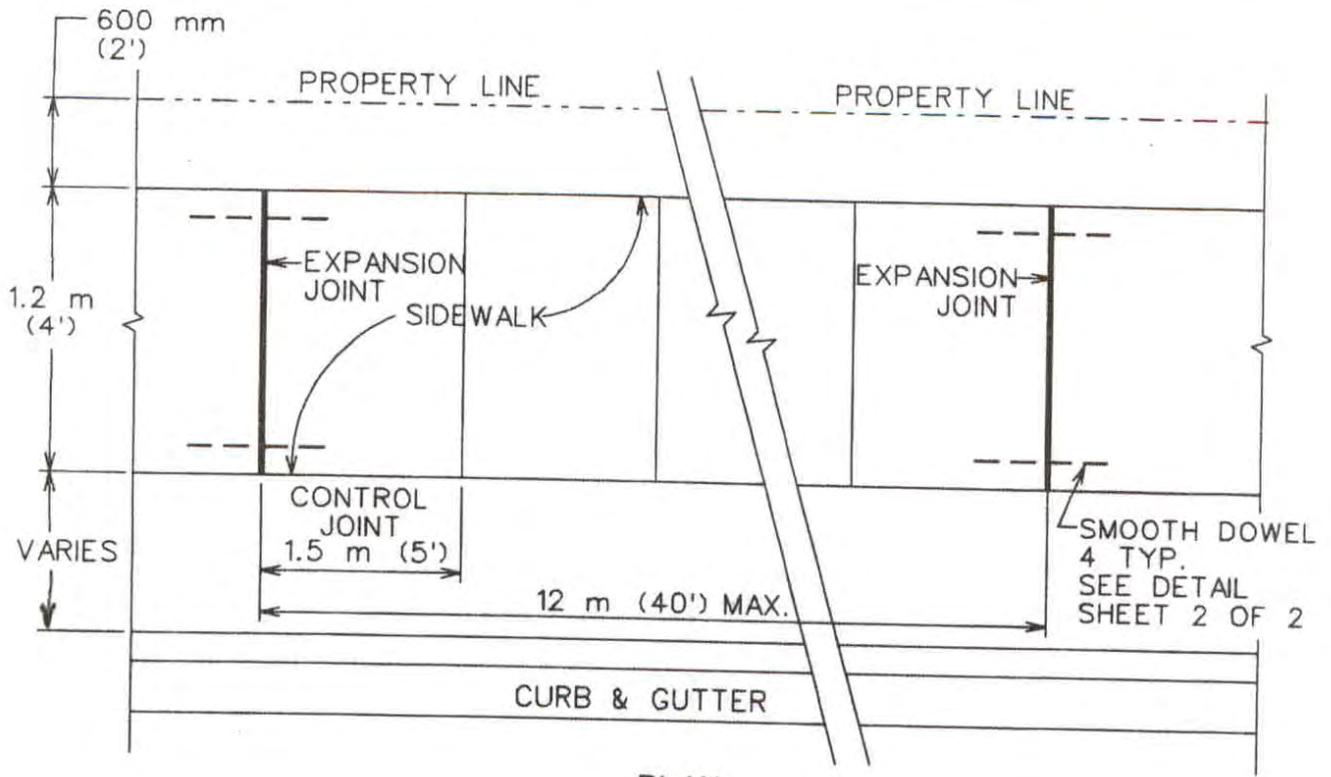
TBG Partners
Landscape Architects
K. FRIESE & ASSOCIATES, INC.
Civil Engineers

Prime Strategies, Inc.
Traffic and Transportation Analyst
Economics Research Associates
Financial and Market Analyst

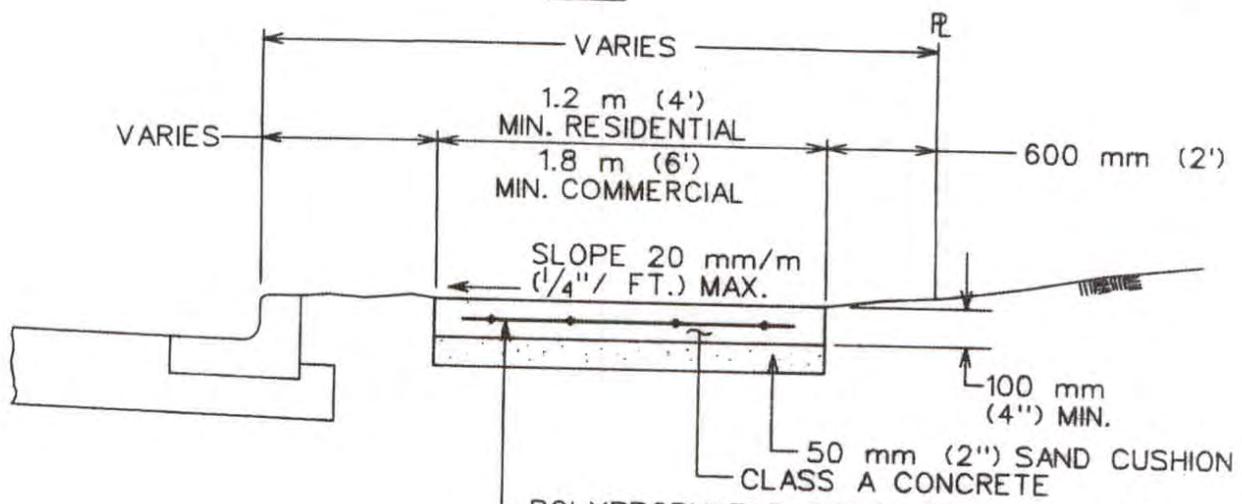
HSA
Cost Estimator and Academic Programmer
Concept Development and Communications, LLC
Stakeholder Input and Communications Consultant

DuBois, Bryant & Campbell, LLP
Zoning and Public Policy Specialist
Rabs-Kristner Consultants, Inc.
Environmental Consultant

August 22, 2008



PLAN



SECTION

POLYPROPYLENE FIBRILLATED FIBERS, OR 150 mm X 150 mm X MW9 X MW9 (6" X 6" X W1.4 X W1.4) WELDED WIRE FABRIC OR ONE LAYER 10M (#3) BARS PLACED NOT MORE THAN 450 mm (18") C.C. BOTH DIRECTIONS.

REINFORCEMENT SHALL ACCURATELY PLACED AT SLAB MID-DEPTH AND HELD FIRMLY IN PLACE BY MEANS OF BAR SUPPORTS OF ADEQUATE STRENGTH AND NUMBER THAT WILL PREVENT DISPLACEMENT AND KEEP THE STEEL AT ITS PROPER POSITION DURING THE PLACEMENT OF THE P.C. CONCRETE. IN NO INSTANCE SHALL THE STEEL BE PLACED DIRECTLY ON THE SUBGRADE OR SAND CUSHION LAYER.

CITY OF AUSTIN
DEPARTMENT OF PUBLIC WORKS

SIDEWALK

Bill Gardner 3/26/08
ADOPTED

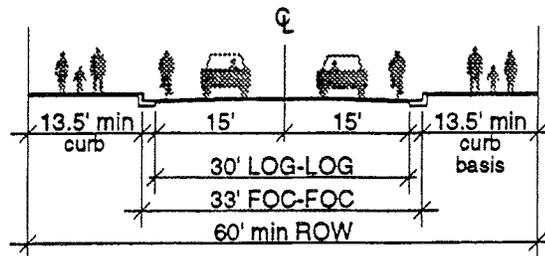
THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.

STANDARD NO.
432S-1
1 OF 3

Figure 1-34A Design Criteria for MNR 2: Two Lanes, Undivided Minor Arterial Streets with Shared Wide Curb Lanes

Typical ADT Range, 1750-15250
Design speed, 45 mph
Typical Spacing Between Intersections, 1000'
Minimum Centerline Radius, See Page 1-8
Minimum Tangent Length Between Horizontal Curves, 150'
Minimum Curb Basis, 13.5'

TYPICAL CROSS-SECTION

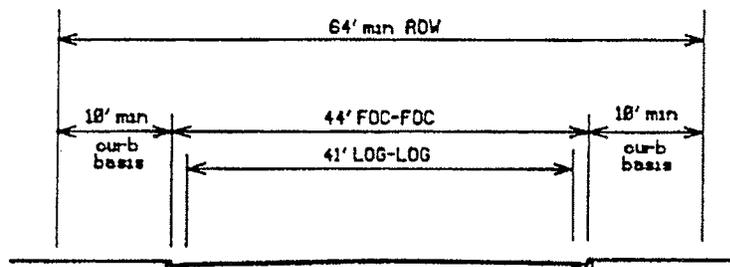


Source: City of Austin Department of Public Works and Transportation

Figure 1-28 Design Criteria for Neighborhood Collector Streets

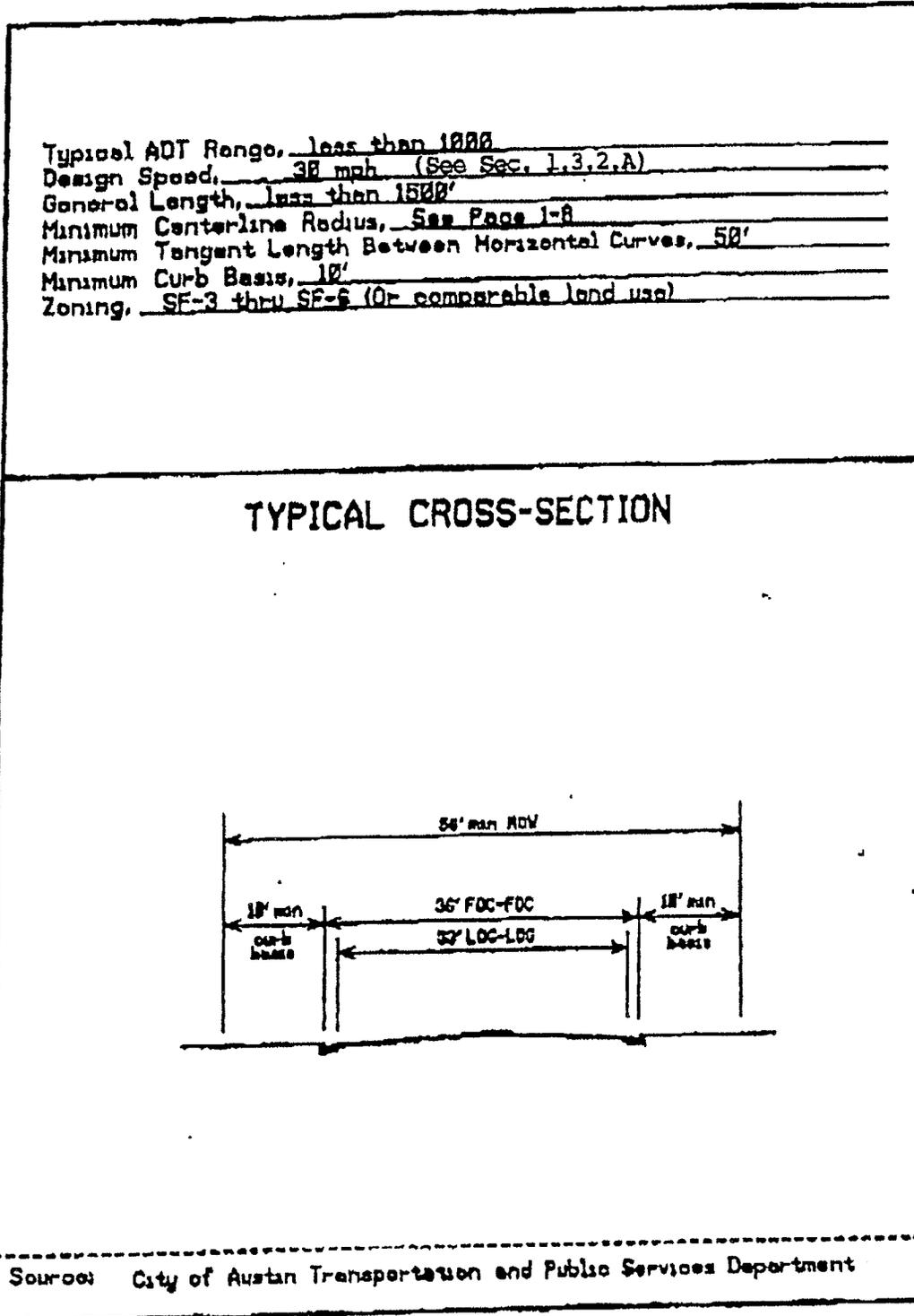
Typical ADT Range, from 2000 to 6000
Design Speed, 35 mph
General Length, 1-2 miles
Typical Spacing Between Intersections, 500'
Typical Spacing Between Neighborhood Collectors, 1/2 mile
Minimum Centerline Radius, See Page 1-8
Minimum Tangent Length Between Horizontal Curves, 100'
Minimum Curb Basis, 10'

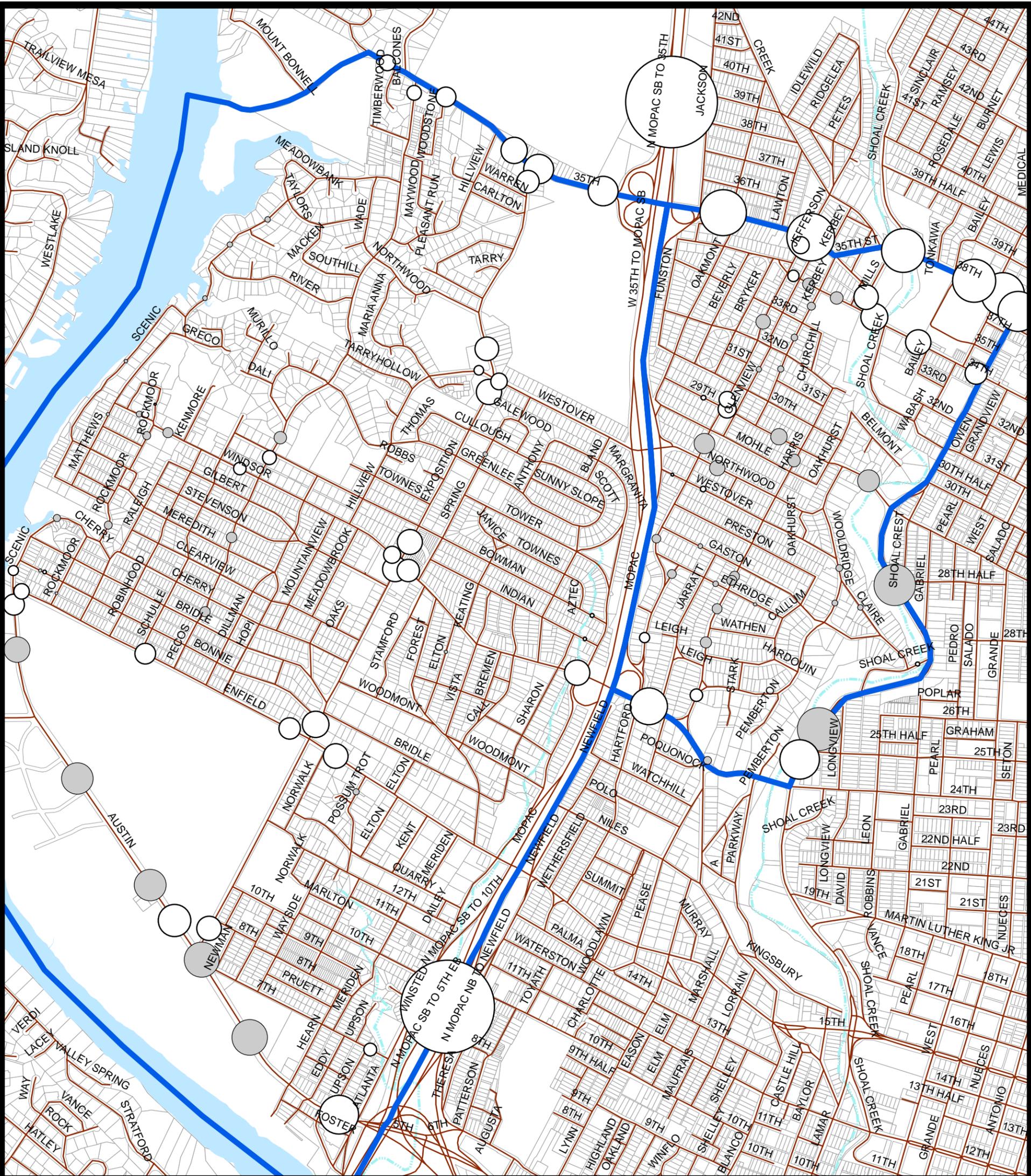
TYPICAL CROSS-SECTION



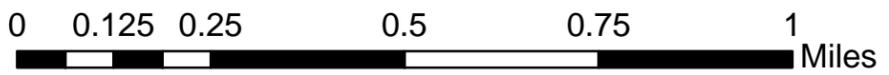
Source: City of Austin Transportation and Public Services Department

Figure 1-23 Design Criteria for Local Streets (SF-3 thru SF-6)

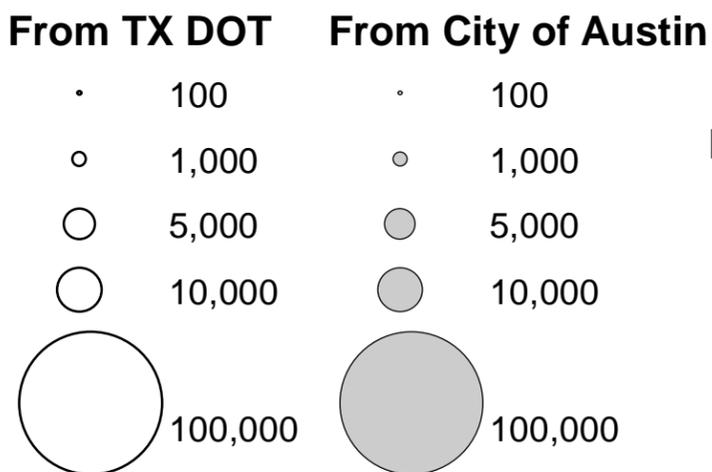




Central West Austin 24-Hour Traffic Counts



1:15,000



EXAMPLE TRAFFIC COUNTS
 Lowest: Rockmoor Ave, 1400 block: 126
 Highest: Loop 1/MoPac, 15th St--Cesar Chavez: 148,000

Windsor Rd, 1500 block: 1222
 West Enfield Rd, 3200 block: 6857
 Lake Austin Blvd, 2500 block: 21,579
 Lamar Blvd, 3200 block: 32,012

Traffic counts are tallied from a single 24-hour weekday period, except for Loop 1/MoPac, which are averaged based on 2 to 6 tallies of Monday through Thursday traffic in non-summer months.



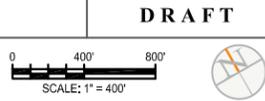
This map has been produced by the City of Austin Neighborhood Planning & Zoning Department for the sole purpose of aiding neighborhood planning decisions and is not warranted for any other use. No warranty is made by the City regarding its accuracy or completeness.



LEGEND

- + Signalized Intersections
- Brackenridge Tract

Source of Data:
City of Austin Transportation
Division



DRAFT

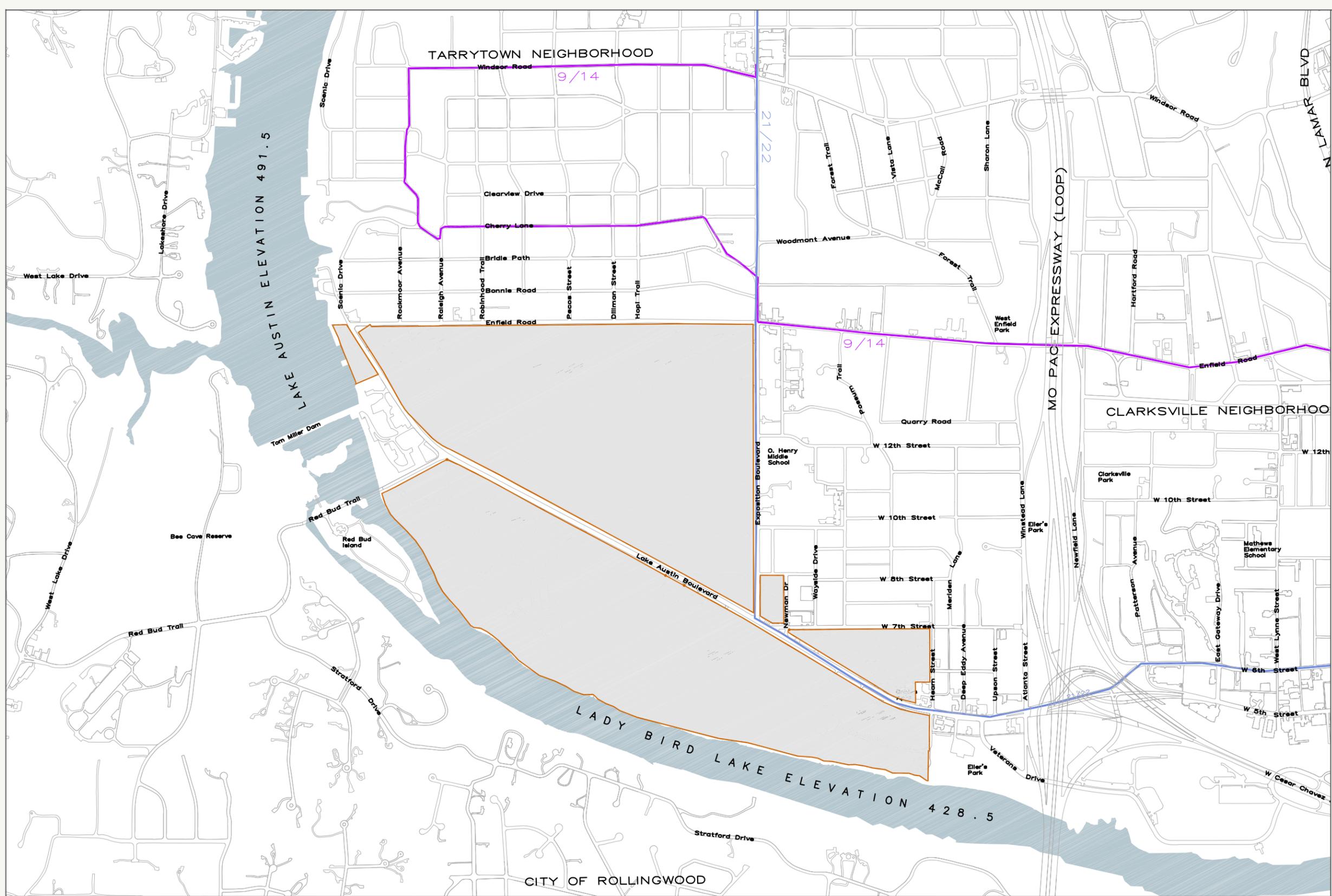
CONCEPTUAL MASTER PLAN: SIGNALIZED INTERSECTIONS



UNIVERSITY OF TEXAS: Brackenridge Tract
AUSTIN, TEXAS

Cooper, Robertson & Partners
Master Planner and Team Leader
 TBG Partners
Landscape Architects
 K. FRIESE & ASSOCIATES, INC.
Civil Engineers
 HSKA
Cost Estimator and Academic Programmer
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Zoning and Public Policy Specialist
 Rahn-Kristner Consultants, Inc.
Environmental Consultant

August 22, 2008

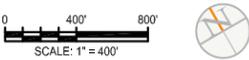


LEGEND

- 9/14 Bus Route
- 21/22 Bus Route
- Brackenridge Tract

Source of Data:
Bus Routes are based on
Capital Metro Transportation.

DRAFT



0 2000 4000 8000 10560 (2 miles) 16000 21120 (4 miles) 26000 42240 (8 miles) 54000 84480 (16 miles) 96000

CONCEPTUAL MASTER PLAN: BUS ROUTE MAP



UNIVERSITY OF TEXAS: Brackenridge Tract
AUSTIN, TEXAS

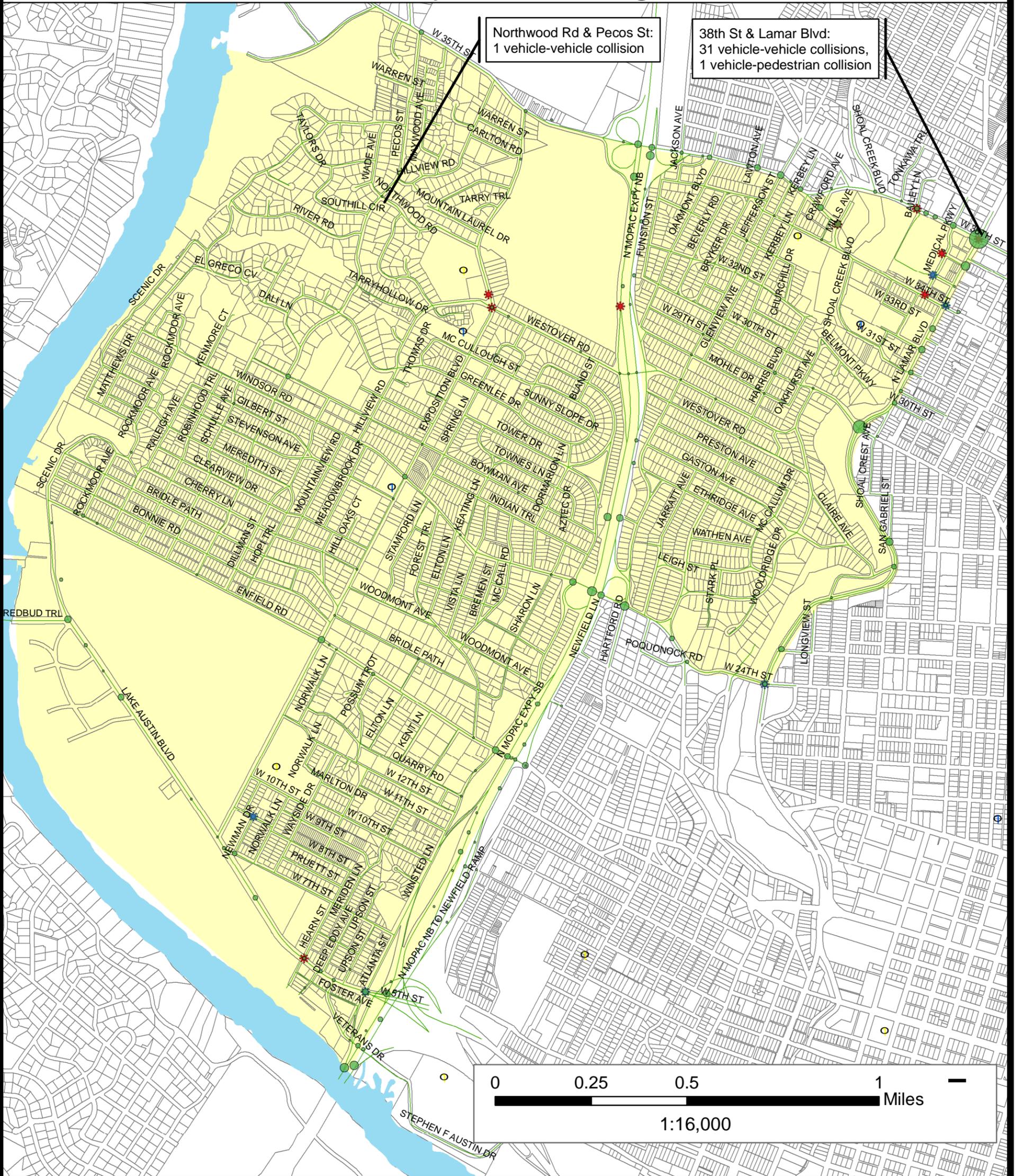
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DuBois, Bryant & Cambell, LLP
Zoning and Public Policy Specialist
Rabs-Kristner Consultants, Inc.
Environmental Consultant

August 22, 2008

Central West Austin

Traffic Collisions, January 2006 – August 2007



Legend

Vehicle-Vehicle collisions Other collisions

Number of collisions

- 1
- 5
- 10

- ⋈ Bicycle accidents
- ⋈ Pedestrian accidents

Schools

- ⦿ Public
- ⦿ Private



This map has been produced by the City of Austin Neighborhood Planning & Zoning Department for the sole purpose of aiding neighborhood planning decisions and is not warranted for any other use. No warranty is made by the City regarding its accuracy or completeness.

GAC // 5 December 2007

Source of collision data: Austin Police Department, December 2007

5.0 ENVIRONMENTAL, CULTURAL & GEOLOGIC DATA & ANALYSIS

The following summarizes findings from review of published information and limited site visits performed by Raba-Kistner Consultants, Inc. between June and July 2008 on the Brackenridge Tract. This abbreviated summary corresponds to the Constraints Table, figures, and photographic documentation submitted on July 11, 2008.

Critical Environmental Features (CEFs): Developments subject to City of Austin (COA) Land Development Code (LDC) must identify Critical Environmental Features (CEFs), which include springs, bluffs, canyon rimrocks, caves, sinkholes and recharge features, and wetlands. Initial site visits revealed multiple features likely to be considered CEFs by the City of Austin. These include wetlands, canyon rim-rock, and springs. Developments subject to COA land development requirements require standard setbacks of a 150' radius around identified CEFs.

Cultural Resources: The Antiquities Code of Texas requires a review of impacts on cultural resources on publicly-owned land. Section 106 of the National Historic Preservation Act (NHPA) requires a review of cultural resources when federal funding or federal agencies are involved. The review typically entails a field investigation. Portions of the project area have been previously surveyed for cultural resources. Historic and archival background review available through the Texas Historical Commission/Texas Archeological Research Laboratory (THC/TARL) revealed 9 recorded sites within or partially within the Brackenridge Tract. Potentially significant, intact deposits may exist within areas of the Brackenridge Tract that have not been previously surveyed (Safeway, Deep Eddy, Colorado Apts., and Boat Town Tracts).

Floodplains: Portions of the Brackenridge Tract (along Town Lake) are located within a 100 year floodplain. Development projects located in floodplains and subject to the LDC require completion of an Environmental Assessment and CEF Worksheet submitted to the director of Watershed Protection and Development Review. Coordination with local floodplain administrator should occur prior to development for compliance with local FEMA regulations.

Hazardous Materials: Multiple registered Underground Storage tank (UST) facilities were mapped within the vicinity of the Brackenridge Tract. All have received official closure by the Texas Commission on Environmental Quality (TCEQ). One LUST facility was mapped within the site boundaries at the Boat Dock Tract. Eight RCRA Generator (RCRAGN) facilities were mapped in the site vicinity, most of which are located off-site at the east end of the Brackenridge Tract. One on-site facility is identified as the University of Texas at Austin located at 3501 Lake Austin Boulevard (mapped at the Brackenridge Apartments property). No violations were reported for mapped RCRAGN facilities. A site map of the Brackenridge Field Laboratory (BFL) depicts a former fuel

station at the adjacent Lake Austin Center located at 3001 Lake Austin Boulevard. This facility was not identified in the environmental database search.

Rare, Threatened, or Endangered Species and Migratory Bird Treaty Act (MBTA):

The TPWD NDD indicates Bracted twist flower and Texas Garter Snake located on or near the Brackenridge Tract. Although not federal or state listed species, these are considered “rare” in Texas. A portion of the BFL appears to contain potential suitable habitat for potential use by the Golden Cheeked Warbler, a federally-listed endangered species; however, actual use of the site is not considered likely due to the extensive area development and resulting habitat fragmentation. According to map provided by the Balcones Canyonlands preserve 2008 Endangered Caves Species Habitat karst Zones 1 and 2 cross are found on the Town lake tracts and the golf course. Karst Zones 1 & 2 are zones which have a high possibility of containing karst features that may be suitable habitat for endangered karst invertebrates. Presence and absence surveys for the golden-cheeked warbler and endangered karst invertebrates are recommended prior to development.

Vegetation:

According to the Texas Parks and Wildlife Department (TPWD) Vegetation Types of Texas, the Brackenridge Tract is located in vegetation communities described as “Live Oak - Ashe Juniper Woods” and “Urban.” Live Oak - Ashe Juniper Woods typically contain Texas oak, shin oak, cedar elm, evergreen sumac, escarpment cherry, saw greenbriar, mescal bean, poison oak, twistleaf yucca, elbowbush, cedar sedge, little bluestem, Neally grama, Texas grama, meadow dropseed, Texas wintergrass, curly mesquite, pellitory, noseburn, spreading sida, woodsorrel, mat euphorbia. The project is consistent with the designation; however, a moderate density of invasive plant species was observed, particularly on the golf course and BFL.

Waters of the U.S. and Wetlands:

Multiple wetlands and waters of the U.S. were identified, specifically located on the golf course and BFL. A man-made amenity pond is located on the Gables Town Lake Apartments; however, the pond appears to be isolated from jurisdictional waters and would likely not be jurisdictional. Filling in any portion of on site waters of the U.S. (i.e. Town Lake, streams exhibiting an “ordinary high water mark,” or connected water bodies) will require a Section 404 permit from the U.S. Army Corps of Engineers (USACE). Impacts exceeding 0.10 acre will require pre-construction notification to the USACE. Impacts exceeding 0.50 acre will require a more involved Individual Permit application process.

UNIVERSITY OF TEXAS BRACKENRIDGE TRACT

Table 1. Summary of Environmental & Cultural Findings

Feature	Regulating Entity	Description	Anticipated Action Required Prior to Development	Relevant Figure
Critical Environmental Features (CEFs)	City of Austin	<p>A City of Austin EA is required. This EA must identify CEFs, which include springs, bluffs, canyon rimrocks, caves, sinkholes and recharge features, and wetlands. In general, initial field visits revealed multiple features likely to be considered CEFs by the City of Austin.</p> <p><u>Wetlands</u></p> <p>Wetlands conditions were observed associated with ponds and drainages at the Golf Course Tract, Deep Eddy Tract, and the BFL. In addition, a man-made amenity pond is located on the Gables Town Lake Apartments. The pond is augmented by city waters and supports fringe wetland plants apparently by design, including narrow leaf cattails and water lilies. Although the pond is not likely subject to USACE Section 404 permitting, since wetland conditions are apparent this pond may be classified as a CEF by the City of Austin.</p> <p><u>Geologic Features</u></p> <p>The Brackenridge Field Lab and the Golf Course Tract are located over a fault zone; lineaments (approximately 43° orientation) observed in rock outcrops in bed of creek and just south of the Laboratory buildings within the field lab. Additionally, lineaments observed on the southwest and eastern portions of the Golf course tract.</p> <p>Canyon rim-rock observed within dry drainage crossing at the west side of the Brackenridge Field Lab. Additionally rim-rock was exposed by historical quarry activities through the center of the field lab parallel to the river; vuggy rock outcrops observed along east wall of drainage near the bridge on Lake Austin Blvd.</p> <p>Solution-enlarged bedding planes observed near bend of creek in the northwestern portion of Brackenridge Field Lab; opening extended approximately 9 feet into canyon wall; observed numerous cave spiders within opening.</p> <p>Numerous dry springs observed along canyon wall as identified by maidenhair ferns growing out from the canyon wall.</p> <p>Spring-fed pool observed within southern portion of dry creek; pool appears to be approximately 8 feet deep; springs issuing along west wall of canyon feeding pool; observed cave spiders and toads within crevices in rock approximately 4 feet above pool.</p>	<p>Submit Austin EA with including the following:</p> <ul style="list-style-type: none"> ○ CEF Worksheet identifying CEFs with lat.-long. Coordinates ○ Hydrogeologic Report in accordance with Section 25-8-122, ○ Vegetation Report in accordance with Section 25-8-123, and ○ Wastewater Report in accordance with Section 25-8-124 (Wastewater Report). <p>Development will require standard setbacks of a 150' radius around identified CEFs. The Director may grant administrative variances (modified buffer, but same square footage as standard setback) to further reduce setbacks for CEFs; however the applicant must demonstrate that the proposed measures used in place of setbacks would preserve all characteristics of the CEFs.</p> <p>Routine Wetland Delineations using the Army Corps of Engineers 1987 Wetland Delineation Manual. The 1987 Manual calls for a three parameter approach to identifying wetlands. Once confirmed, wetlands should be delineated using a survey-grade GPS system.</p>	1
Cultural Resources	THC, USACE	<p>The Antiquities Code of Texas requires a review of impacts on cultural resources on publicly-owned land. Section 106 of the NHPA requires a review of cultural resources when federal funding or federal agencies are involved. The review typically entails a field investigation. Portions of the project area have been previously surveyed for cultural resources. Historic and archival background review available through the THC/TARL revealed 9 recorded sites within or partially within the Brackenridge Tract (See sub-table, Archaeological Site Summary**). Potentially significant, intact deposits may exist within areas of the Brackenridge Tract that have not been previously surveyed (Safeway, Deep Eddy, Colorado Apts., and Boat Town Tracts).</p>	<p>A field investigation, including review of historic standing structures as well as an archeological survey, is recommended to identify significant cultural resources within the project area and to ensure compliance under the Antiquities Code of Texas. A cultural resource investigation may also be required as part of any USACE permitting to ensure compliance with NEPA under Section 106 of NHPA. A single field survey and report (one for historic structures and one for archeological) will satisfy both state and federal compliance issues.</p>	2
Floodplains	City of Austin	<p>Portions of the Brackenridge Tract (along Town Lake) are located within a 100 year floodplain.</p>	<p>Pursuant to the City of Austin's Land Development Code (LDC), Section 25-8-121, an EA and City of Austin CEF Worksheet shall be submitted to the director of Watershed Protection and Development Review for proposed development located in a floodplain. Coordinate with local floodplain administrator at the City of Austin.</p>	3

Feature	Regulating Entity	Description	Anticipated Action Required Prior to Development	Relevant Figure
Hazardous Materials	TCEQ	<p>Multiple registered UST facilities were mapped within the vicinity of the Brackenridge Tract. All have received official closure by the TCEQ. One LUST facility was mapped within the site boundaries at the Boat Dock Tract.</p> <p>Eight RCRA Generator facilities were mapped in the site vicinity, most of which are located off-site at the east end of the Brackenridge Tract. One on-site facility is identified as the University of Texas at Austin located at 3501 Lake Austin Boulevard (mapped at the Brackenridge Apartments property). No violations were reported for mapped RCRA facilities.</p> <p>A site map of the BFL depicts a former fuel station at the adjacent Lake Austin Center located at 3001 Lake Austin Boulevard. This facility was not identified in the environmental database search.</p>	<p>Prior to any re-development activities, Limited Subsurface Investigation (Phase II) activities are recommended for the following:</p> <ul style="list-style-type: none"> o <u>Boat Dock LUST</u>: Although this case is officially closed, limited sub-surface sampling in the vicinity of any re-development activities within this tract would be recommended. o <u>Southeast End of Brackenridge Tract</u>: Due to the multiple UST, LUST, and RCRA facilities located near this portion of the Brackenridge Tract, including two dry cleaning facilities, limited sub-surface sampling at this portion of the Brackenridge Tract is recommended prior to any development activities. o <u>Lake Austin Center Vicinity</u>: Although this is an off-site facility, on-site limited sub-surface investigation activities near this property are recommended in order to characterize soils potentially impacted by historic fuel storage activities. 	4
Rare, Threatened, or Endangered Species and Migratory Bird Treaty Act (MBTA)	USFWS	<p>The TPWD NDD indicates Bracted twist flower and Texas Garter Snake located on or near the Brackenridge Tract. Although not federal or state listed species, these are considered "rare" in Texas.</p> <p>The observed area located on the appears to contain the suitable vegetation composition and canopy cover for potential use by the Golden Cheeked Warbler (Federal and State listed Endangered Species) as it is described by the Texas Parks and Wildlife Service. However, actual use of the site is not considered like due to the extensive area development and resulting habitat fragmentation.</p> <p>According to map provided by the Balcones Canyonlands preserve 2008 Endangered Caves Species Habitat karst Zones 1 and 2 cross are found on the Town lake tracts and the golf course. Karst Zones 1 & 2 are zones which have a high possibility of containing karst features that may be suitable habitat for endangered karst invertebrates.</p>	<p>A presence and absence survey for Golden Cheeked Warbler and endangered karst invertebrates is recommended. Habitat for state "rare" species (i.e. not classified as endangered or threatened) is not afforded protection from development; however, they are protected from handling collections, sale, killing, and export.</p>	5
Vegetation	City of Austin	<p>According to the TPWD <i>Vegetation Types of Texas</i>, the Brackenridge Tract is located in vegetation communities described as "Live Oak - Ashe Juniper Woods" and "Urban." Live Oak - Ashe Juniper Woods typically contain Texas oak, shin oak, cedar elm, evergreen sumac, escarpment cherry, saw greenbriar, mesquite, poison oak, twistleaf yucca, elbowbush, cedar sedge, little bluestem, Neely grama, Texas grama, meadow dropseed, Texas wintergrass, curly mesquite, pellitory, noseburn, spreading sida, woodsorrel, mat euphorbia. The project is consistent with the designation; however, a moderate density of invasive plant species including ligustrum, Chinaberry, Chinese tallow, and elephant ear were located in wood areas within the golf course.</p> <p>Field visits to the various property of the Brackenridge Tract indicated the following:</p> <p><u>Park Street, Safeway, Deep Eddy, Colorado Apts., Brackenridge Apts., Boat Town Tracts</u>: These properties have been largely disturbed by development (buildings, paved areas). Vegetation on these property consists of urban landscaping. Live oaks remain in maintained grass areas. A closed-access riparian edge is located along Town Lake. Typical vegetation in upland areas includes live oak, black willow, and ashe juniper. Many trees exceed 8" dbh. The densely-wooded riparian edge along Town Lake also exhibits a heavy understory. Other common trees within this area include sugar hackberry, cedar elm, ashe juniper, and live oak.</p> <p><u>Golf Course Tract, WAYA</u>: Vegetation on this property consists mainly of maintained fairways and other spaces associated with golf recreation. Remnant live oak – ashe juniper woods are observed between fairways and along natural drainage features. Typical trees include live oak, Texas red oak, Durand oak, eastern cottonwood, black jack oak, hackberry, and cedar elm, with multiple trees exceeding 8" dbh. Some live oaks were observed with greater than 19" dbh.</p>	<p>All trees greater than 8" DBH are scrutinized for preservation potential by the City of Austin. Trees 19" DBH or greater receive enhanced preservation evaluation. All trees greater than 8" DBH are required to be accurately located on site plans submitted for development review. A minimum of 50% of the trees CRZ is required to remain undisturbed to achieve minimal conformance with regulations. If significant trees must be removed, the City Arborist will determine appropriate mitigation (including replanting, saving blocks of natural areas, maintenance of maintained trees, special construction techniques, transplanting). Will require a survey and mitigation for trees lost based on category. A tree preservation plan would be required.</p>	6

Feature	Regulating Entity	Description	Anticipated Action Required Prior to Development	Relevant Figure
		<p>BFL: Although it hosts on site buildings (e.g. indoor laboratories, greenhouses, maintenance buildings, and other small structures), the BFL property contains the highest density of vegetation cover, including tree canopy and understory, among the other Brackenridge Tract properties. Field visits revealed multiple vegetation communities located throughout the property. BFL staff provided data for known communities within the BFL, and the data was modified and generalized based on field visit observations. Existing vegetation communities observed throughout the BFL appear to be influenced by several factors including:</p> <ul style="list-style-type: none"> o topography, o Town Lake floodplain and associated soils, o historic disturbances on the site (e.g. quarrying, residential), invasive species, o an unnamed creek traversing the western portion of the property, and o research activities at BFL. 		
Waters of the U.S. and Wetlands	USACE	<p>There are approximately three ephemeral drainages located on BFL that would be considered jurisdictional for purposes of Section 404 permitting under the Clean Water Act. In addition six ponds within the golf course property have been constructed on channel with the largest drainage which flows on to the BFL Tract and into Town Lake. These water features are connected by drainage with defined channels and ordinary high water marks. These water features and the associated "fringe" wetlands would be considered jurisdictional.</p> <p>Small wetland areas were observed associated with Golf Course Tract ponds and drainages. These appear as emergent herbaceous wetlands dominated by sand spike rush and polygonum species.</p> <p>A man-made amenity pond is located on the Gables Town Lake Apartments. The pond is augmented by city waters and supports fringe wetland plants apparently by design, including narrow leaf cattails and water lilies. The pond appears to be isolated from jurisdictional waters and would likely not be jurisdictional; however, since wetland conditions are apparent, this pond may be classified as a CEF by the City of Austin.</p> <p>Multiple wetlands were observed associated with on site ponds on the BFL property. These wetlands receive hydrology from groundwater wells and outfalls from fish enclosures (concrete cisterns). Vegetation associated with these wetlands included black willow, water lily, sand spikerush, cattails, smartweed, among others.</p>	<p>Routine wetland delineations using the Army Corps of Engineers 1987 Wetland Delineation Manual are recommended. The 1987 Manual calls for a three parameter approach to identifying wetlands. Once confirmed, WOUS and wetlands should be delineated using a survey-grade GPS system.</p> <p>Filling in any portion of on site WOUS (i.e. Town Lake, streams exhibiting an "ordinary high water mark," or connected water bodies) will require a Section 404 permit from the USACE. Impacts exceeding 0.10 acre will require pre-construction notification to the USACE. Impacts exceeding 0.50 acre will require a more involved Individual Permit (IP) application process.</p> <p>Developments impacting jurisdictional wetlands require a Section 404 permit and pre-construction notification to the USACE in order to meet section 401 State water quality certification with the TCEQ. In addition, City of Austin requirements call for a minimum setback of 150' for wetlands unless appropriate mitigation occurs. Wetland mitigation must be approved by the Director of Watershed Protection and Development Review.</p>	7

Acronyms:

BFL	UT Brackenridge Field Laboratory	RCRAGN	RCRA Hazardous Waste Generator
CEF(s)	Critical Environmental Feature(s)	TARL	Texas Archaeological Research Laboratory
CRZ	Critical Root Zone, Reported in feet, this is the tree diameter in inches X 2 (e.g. 20" DBH = 40' CRZ)	TCEQ	Texas Commission on Environmental Quality
DBH	Diameter at breast height (measured 4.5' from ground)	THC	Texas Historical Commission
EA	Environmental Assessment	TPWD	Texas Parks & Wildlife Division
LUST	Leaking Underground Storage tank	USACE	U.S. Army Corps of Engineers
MBTA	Migratory Bird Treaty Act	USFWS	U.S. Fish & Wildlife Service
NEPA	National Environmental Policy Act	UST	Registered Underground Storage Tank
NHPA	National Historic Preservation Act	WOUS	Waters of the U.S.
NDD	Natural Diversity Database		

Table 2. Archaeological Site Summary

Property	Previously Surveyed?		Site ID	Description
	Yes	No		
Boat Town		X	41TV1583	A known site is recorded for this property, although an official survey has not been conducted. No further information was available on the Texas Historical Commission Archaeology Sites Atlas regarding this recorded site.
Park Street	X		41TV1588	Recorded in 1991, this site is described as a prehistoric lithic procurement/possible campsite which is heavily disturbed. This site is not considered eligible for listing as a State Archaeological Landmark (SAL) or for listing on the National Register of Historic Places (NRHP).
Park Street	X		41TV1589	Recorded in 1991, this site is described as an historic dumpsite. not considered eligible for listing as a SAL or for listing on the NRHP.
Golf Course	X		41TV1246	Located within the boundaries of the Golf Course Tract. This site was recorded in 1986 and is described as the historic Lions Municipal Golf Course Clubhouse, built in 1930. This structure has potential for designation as an SAL and for listing on the NRHP. Further work has been recommended in order to determine its significance.
W. A. Y. A.		X	N/A	No sites have been recorded within the W. A. Y. A. Tracts boundaries.
Safeway		X	N/A	No recorded sites, unsurveyed
Deep Eddy		X	N/A	No recorded sites, unsurveyed
Colorado Apts.		X	41TV328 (partial)	This site lies partially within the Colorado Tract. This site is described as the historic Johnson house with an historic lime kiln and a stone quarry. The eligibility for this site was not specified, but further research has been recommended. The property has not been officially surveyed.
Town Lake	X		41TV1242	Recorded in 1986, this site is described as an historic house site. However all that remains in the fireplace. This site is not eligible for listing as an SAL or for listing on the NRHP and no further work was recommended.
Town Lake	X		41TV1243	Recorded in 1986, this site is a prehistoric lithic scatter and or campsite with modern and historic trash scattered over the site. This site is also not eligible for listing as an SAL or for listing on the NRHP and no further work has been recommended
Town Lake	X		41TV1244	Recorded in 1986, , this site is a prehistoric open campsite that is not an eligible SAL or NRHP, however, further testing is recommended if the site will be impacted.
Town Lake	X		41TV1245	Recorded in 1986, this site is an historic homestead with only the cistern and concrete steps remaining. This site is not considered eligible for listing as an SAL or for listing as a NRHP, but further archival research and testing has been recommended if the site will be impacted.

Photographs – City Of Austin Critical Environmental Features

Fringe Wetland Vegetation
(Golf Course Tract)



Wetland Vegetation
(Deep Eddy Tract)



Wetlands
(Brackenridge Field Laboratory)



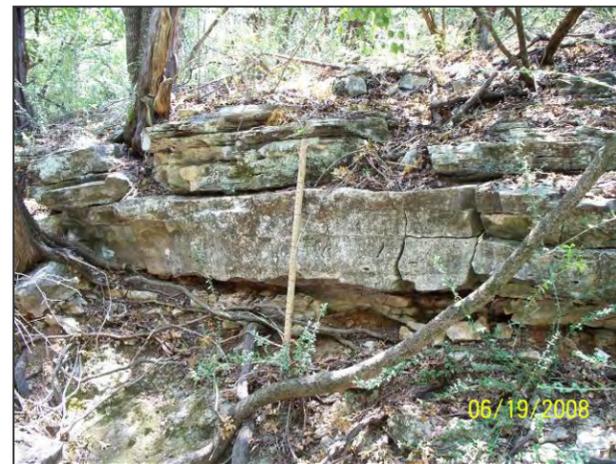
Fracture Zone
(Brackenridge Field Laboratory)



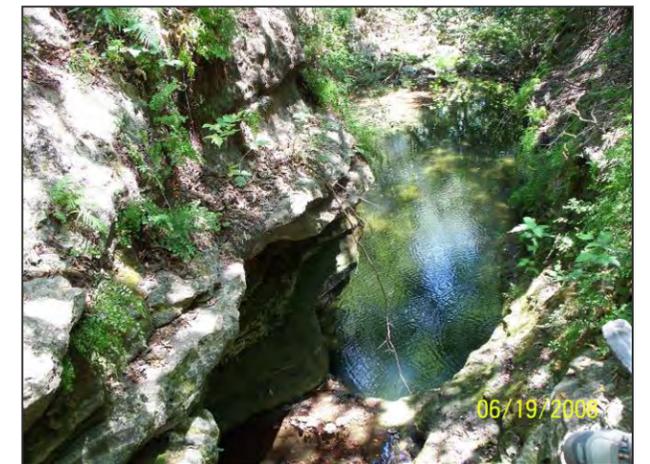
Canyon Rimrock at Unnamed Creek
(Brackenridge Field Laboratory)

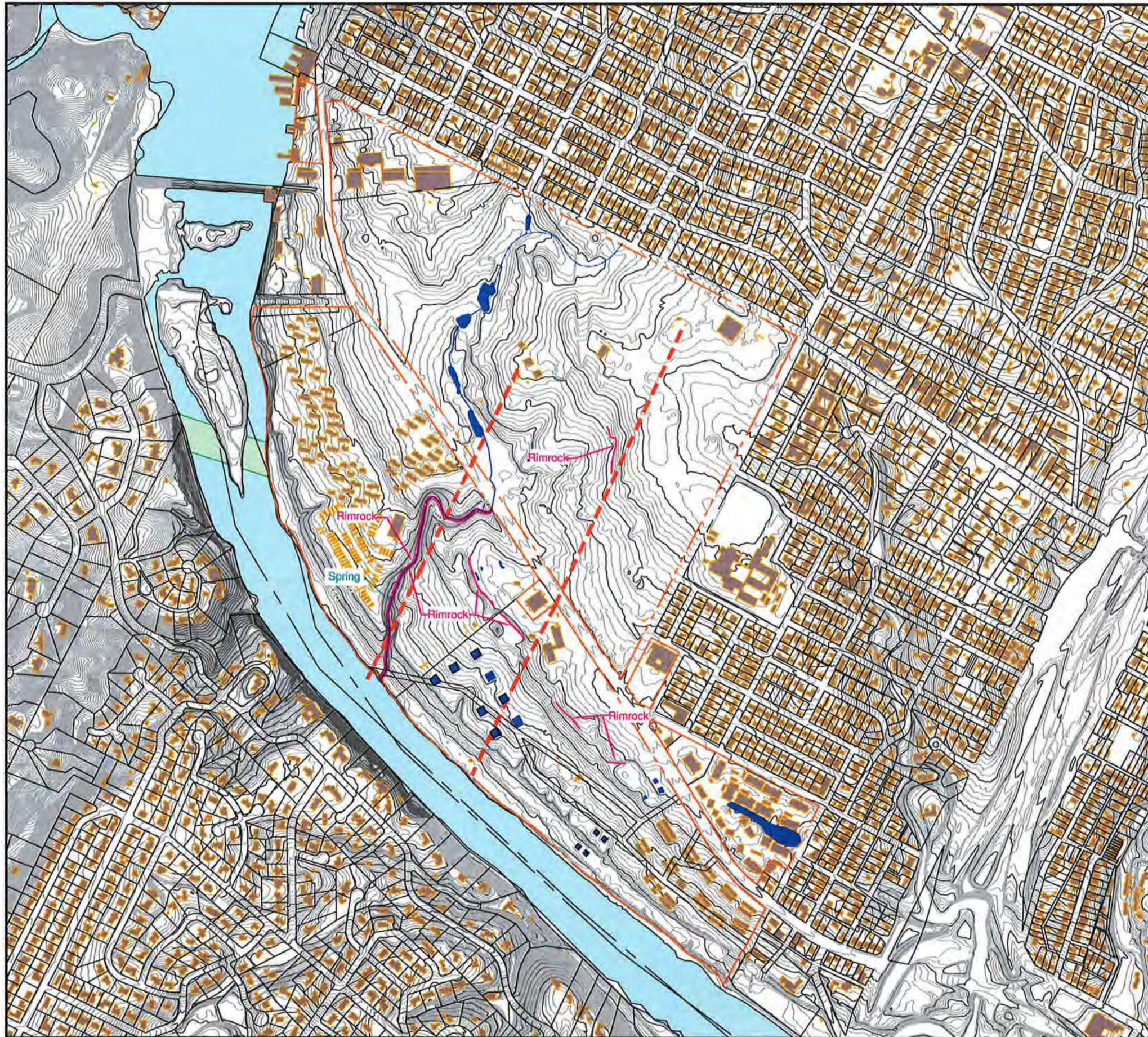


Rimrock – Former Quarry Area
(Brackenridge Field Laboratory)



Spring-fed Pool in Unnamed Creek
(Brackenridge Field Laboratory)





R-K LEGEND

-  SITE BOUNDARY
-  RIMROCK
-  INFERRED FRACTURE ZONE
-  SPRING
-  WETLAND

NOTES:

- 1.) BASE MAP PROVIDED BY CAS CONSULTING AND SERVICES, INC. ON JULY 7, 2008



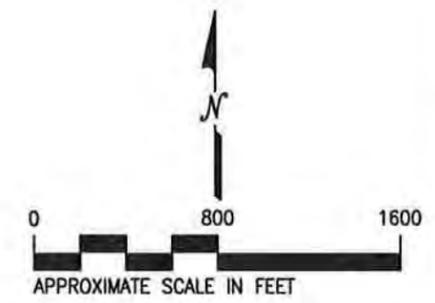
Engineering • Testing
• Environmental •
Facilities • Infrastructure

REVISIONS: No.	DATE	DESCRIPTION

**CRITICAL ENVIRONMENTAL
FEATURES MAP**
CULTURAL & ENVIRONMENTAL CONSTRAINTS
UT BRACKENRIDGE TRACT
AUSTIN, TRAVIS COUNTY, TEXAS

PROJECT No.:
ASF08-116-00
DRAWN BY: CHECKED BY:
LAW SB
DATE: July 10, 2008

FIGURE
1





R-K LEGEND

- - - SITE BOUNDARY
- REGISTERED UNDERGROUND STORAGE TANK
- LEAKING UNDERGROUND STORAGE TANK (LUST)
- RCRA-GENERATOR (RCRA)

NOTES:

- 1.) BASE MAP PROVIDED BY CAS CONSULTING AND SERVICES, INC. ON JULY 7, 2008
- 2.) HAZARDOUS MATERIAL DATA PROVIDED BY THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ).



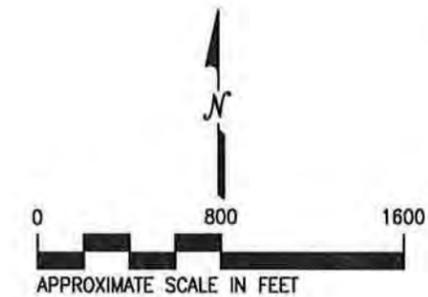
Engineering • Testing
• Environmental •
Facilities • Infrastructure

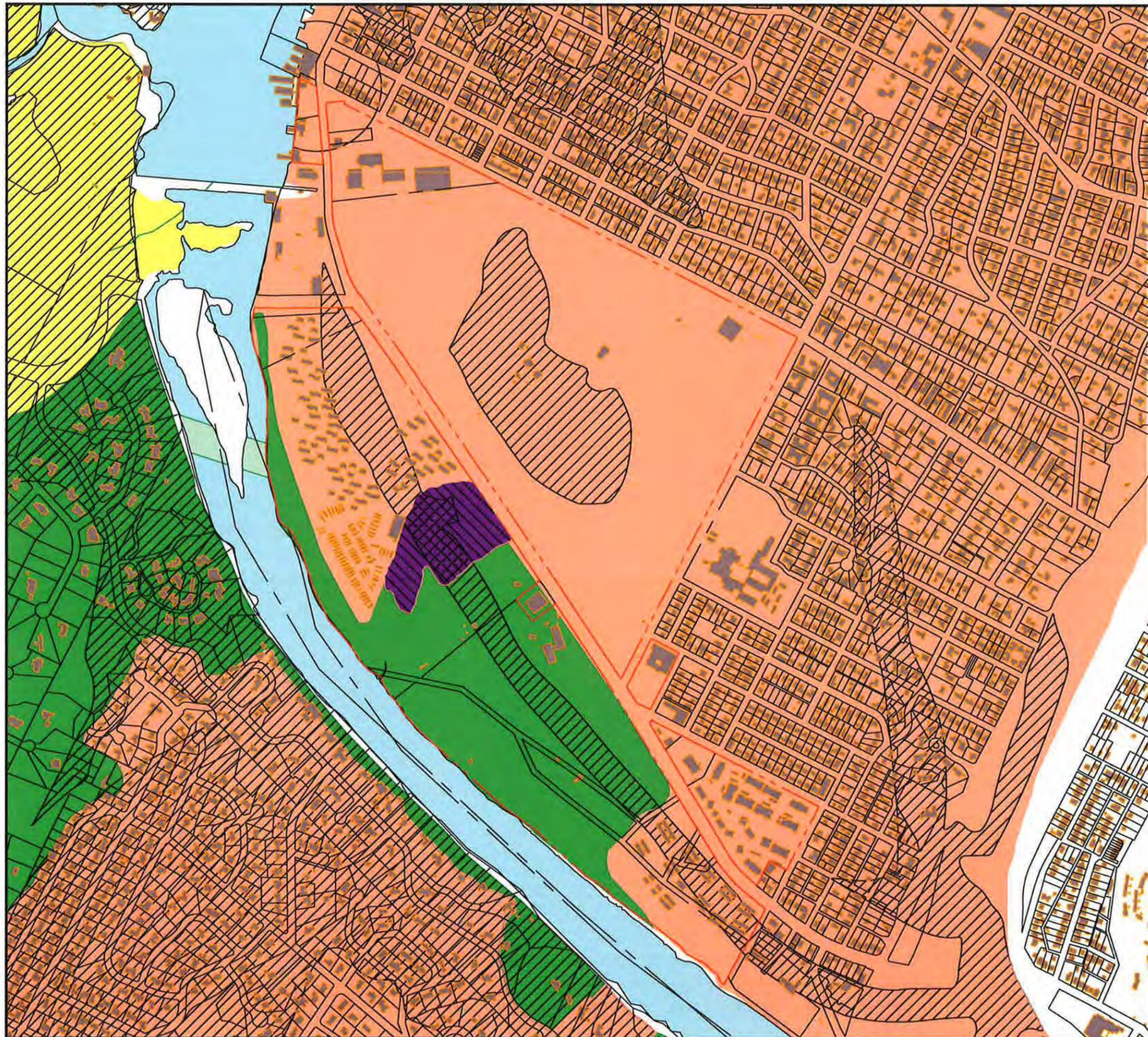
REVISIONS:	DATE	DESCRIPTION
No.		

**REGULATORY DATABASE
REVIEW MAP**
CULTURAL & ENVIRONMENTAL CONSTRAINTS
UT BRACKENRIDGE TRACT
AUSTIN, TRAVIS COUNTY, TEXAS

PROJECT No.:
ASF08-116-00
DRAWN BY: LAW CHECKED BY: SB
DATE: July 10, 2008

FIGURE
4





R-K LEGEND

- SITE BOUNDARY
- GOLDEN CHEEKED WARBLER - ZONE 1 (CONFIRMED HABITAT)
- GOLDEN CHEEKED WARBLER - ZONE 2 (UNCONFIRMED HABITAT)
- GOLDEN CHEEKED WARBLER - ZONE 3 (NOT KNOWN TO BE HABITAT)
- POTENTIAL GOLDEN CHEEKED WARBLER HABITAT
- ENDANGERED CAVE SPECIES HABITAT (KARST ZONES 1 & 2)

NOTES:

- 1.) BASE MAP PROVIDED BY CAS CONSULTING AND SERVICES, INC. ON JULY 7, 2008
- 2.) BCCP QUADRANGLE, AUSTIN WEST, PROVIDED BY BALCONES CANYONLANDS PRESERVE, 2008.



Engineering • Testing
• Environmental •
Facilities • Infrastructure

REVISIONS: No.	DATE	DESCRIPTION

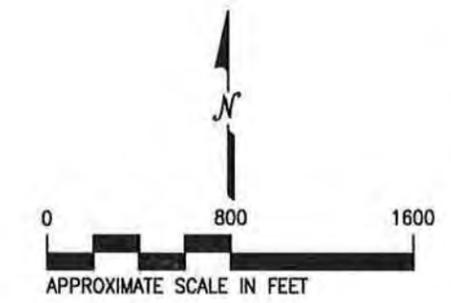
**RARE, THREATENED, OR
ENDANGERED SPECIES &
MIGRATORY BIRD TREATY ACT MAP**
CULTURAL & ENVIRONMENTAL CONSTRAINTS
UT BRACKENRIDGE TRACT
AUSTIN, TRAVIS COUNTY, TEXAS

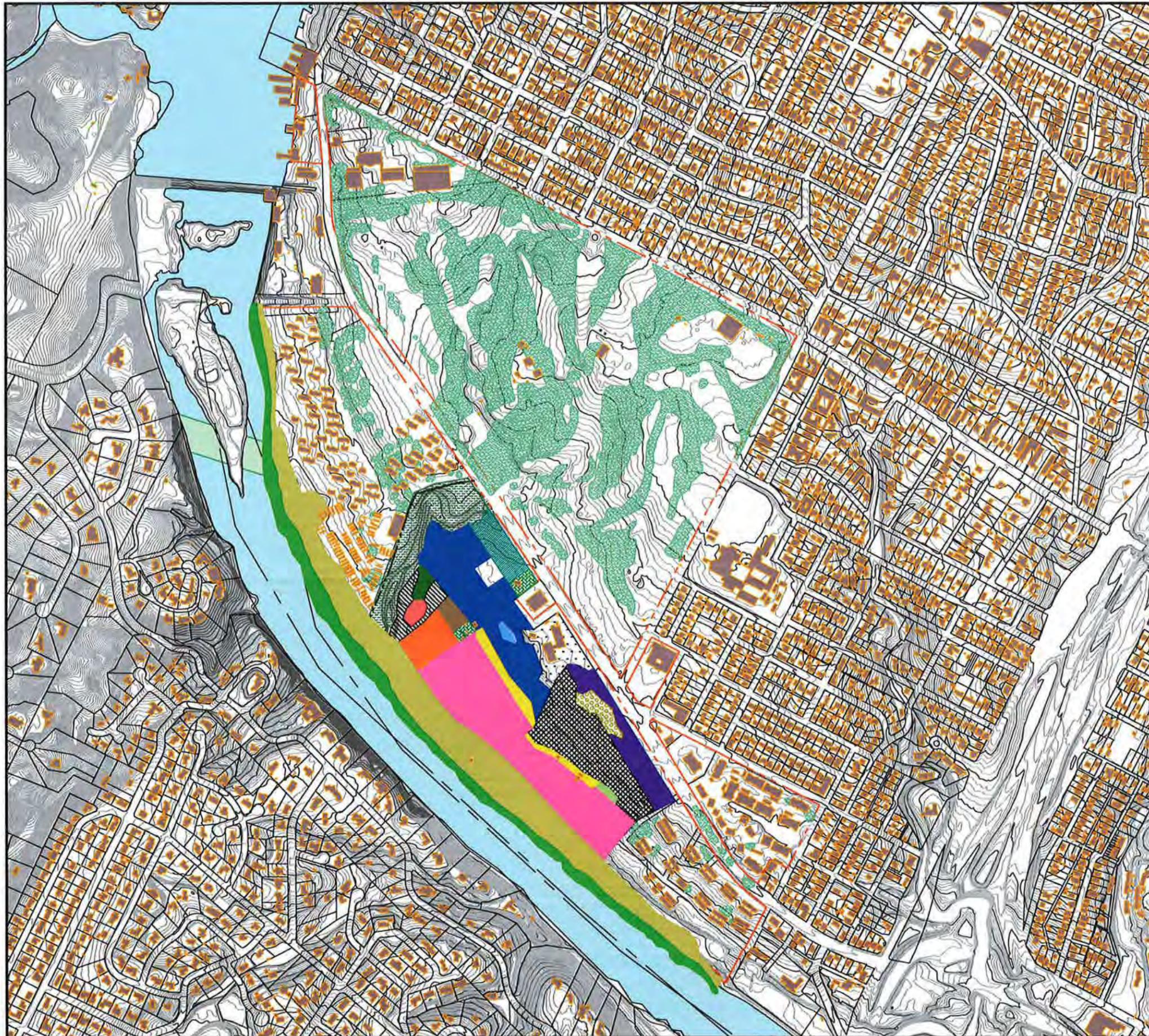
PROJECT No.:
ASF08-116-00

DRAWN BY: CHECKED BY:
LAW SB

DATE:
July 11, 2008

FIGURE
5



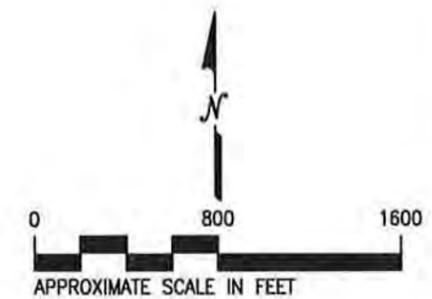


R-K LEGEND

-  SITE BOUNDARY
-  GREENHOUSE
-  OAK MOTTE
-  EXPERIMENTAL GARDEN
-  FENCED PRAIRIE
-  FOREST EDGE
-  TRANSITIONAL UPLAND
-  MANAGED MEADOW
-  CHAPARRAL
-  RIPARIAN EDGE
-  CLIMAX PRAIRIE
-  BALCONES CANYON WOODS
-  REMNANT LIVE OAK / ASHE JUNIPER WOODS
-  LIVE OAK / PERSIMMON / ASHE JUNIPER WOODS
-  ASHE JUNIPER / LIVE OAK / LIGUSTRUM WOODS
-  NORTHERN PASTURE
-  RESTORATION MEADOW
-  LIVE OAK / ASHE JUNIPER / LIGUSTRUM WOODS
-  OAK / MESQUITE SAVANNA
-  EXPERIMENTAL ENCLOSURES
-  BUILDINGS

NOTES:

- 1.) BASE MAP PROVIDED BY CAS CONSULTING AND SERVICES, INC. ON JULY 7, 2008
- 2.) VEGETATION TYPES / LANDUSE BASED ON FIELD OBSERVATIONS, JUNE 2008 AND PORTIONS MODIFIED FROM DATA PROVIDED BY BRACKENRIDGE FIELD LABORATORY (BFL), JULY 2008.



Engineering • Testing
• Environmental •
Facilities • Infrastructure

REVISIONS:	DESCRIPTION
No. _____	_____
DATE _____	_____

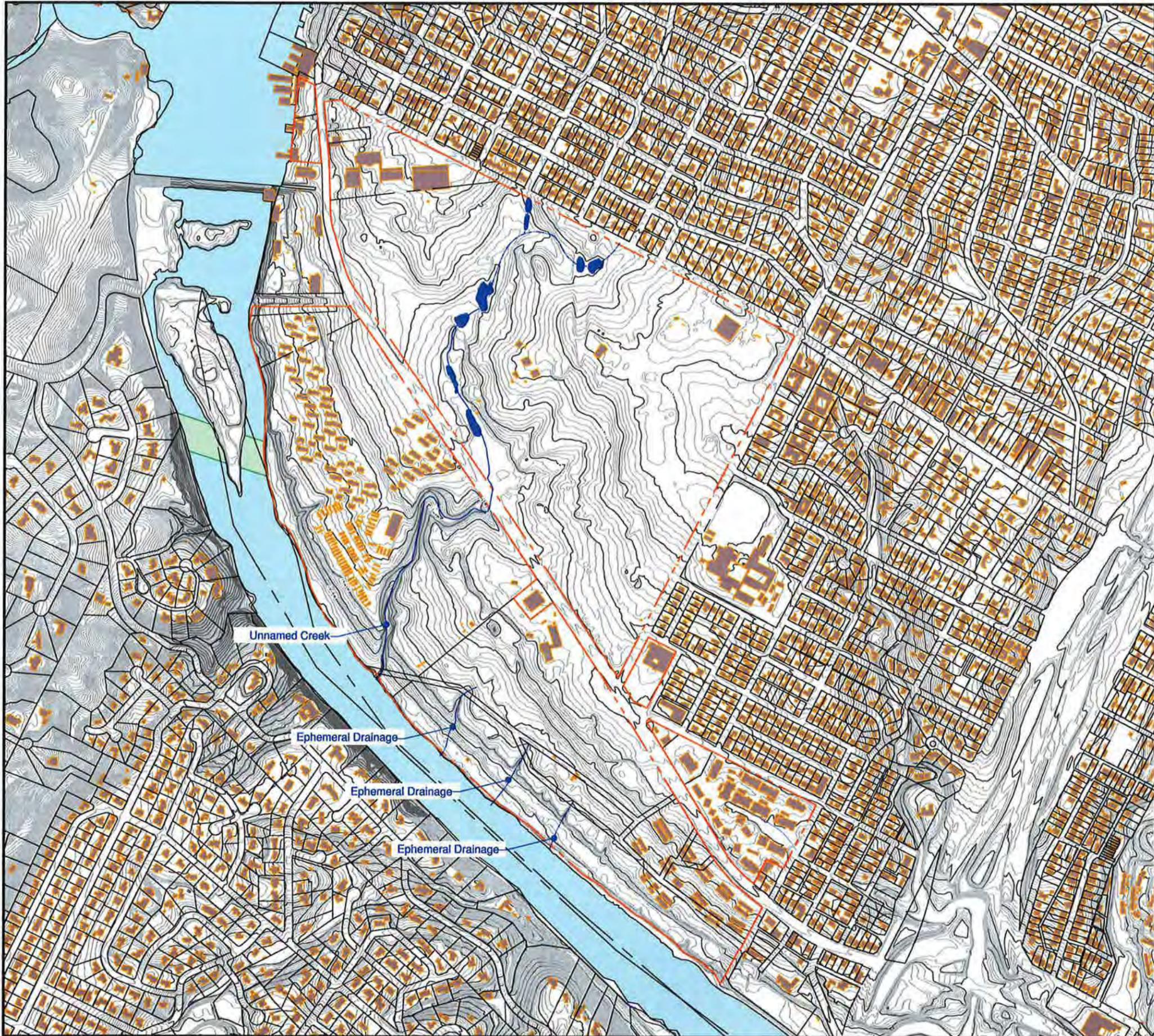
VEGETATION MAP
CULTURAL & ENVIRONMENTAL CONSTRAINTS
UT BRACKENRIDGE TRACT
AUSTIN, TRAVIS COUNTY, TEXAS

PROJECT No.:
ASF08-116-00

DRAWN BY: LAW CHECKED BY: SB

DATE: July 11, 2008

FIGURE
6



R-K LEGEND

-  SITE BOUNDARY
-  WETLANDS AND WATERS OF THE U.S.

NOTES:

- 1.) BASE MAP PROVIDED BY CAS CONSULTING AND SERVICES, INC. ON JULY 7, 2008.



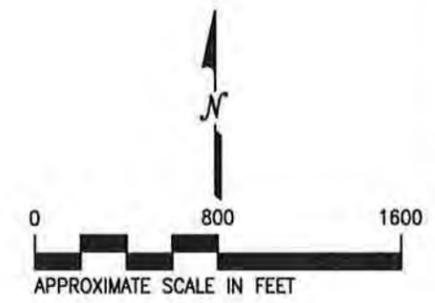
Engineering • Testing
• Environmental
Facilities • Infrastructure

REVISIONS: No.	DATE	DESCRIPTION

**WATERS OF THE U.S. AND
WETLANDS MAP**
CULTURAL & ENVIRONMENTAL CONSTRAINTS
UT BRACKENRIDGE TRACT
AUSTIN, TRAVIS COUNTY, TEXAS

PROJECT No.:
ASF08-116-00
DRAWN BY: LAW CHECKED BY: SB
DATE: July 8, 2008

FIGURE
7





D R A F T – August 22, 2008

6.0 EXISTING FLOODPLAIN, TOPOGRAPHY & WATER QUALITY ANALYSIS

Sources: City of Austin (COA) GIS database, COA Environmental Criteria Manual (ECM), COA Drainage Design Manual, and COA Land Development Code, Raba-Kistner Consultants, Inc. (RKCI) - Summary of Environmental and Cultural findings.

Observations: Floodplain data is available from 1993 (Federal Emergency Management Agency - FEMA), 2003 (COA GIS), and 2007 (COA GIS/FEMA). The 2007 COA GIS and preliminary FEMA map contained, in general, the largest floodplain boundaries and will be adopted by the COA in the near future. The 2007 FEMA map was used in this report.

FLOODPLAINS

Based on the FEMA Flood Insurance Rate Map (FIRM) dated 2007 and the current COA GIS data, some of the Brackenridge Tract is in the 100-year and 500-year floodplains of Lady Bird Lake (LBL) and an unnamed minor tributary of LBL. This unnamed tributary has been classified as minor in accordance with the COA ECM which states that the drainage area for a minor creek on a Water Supply Suburban Watershed is within 120 and 320 acres. The 2007 FEMA 100-year and 500-year floodplains of LBL extend from the northwest corner to the southeast corner of the Brackenridge Tract (see attached drawing *Flood Plains, Exhibit 6A*). The floodplain for a minor tributary of LBL extends into the Tract almost to Lake Austin Blvd. for the 500 year floodplain.

The COA has adopted regulations that are more restrictive than those required by FEMA. The COA regulations do not allow any increase in the 100-year water surface elevation that would be caused by development. This requirement effectively severely limits any development within the 100-year floodplain. FEMA regulations allow up to one foot of rise in the 100-year water surface elevation caused by development. FEMA regulations would allow some development within the 100-year floodplain.

EDWARDS AQUIFER

The Edwards Aquifer is located in the Austin area and extends south to San Antonio. The Texas Commission on Environmental Quality (TCEQ) is the lead regulatory agency for the Edwards Aquifer. Maps available to the public from TCEQ show the Brackenridge Tract is not in the Edwards Aquifer recharge zone (see attached figures *Edwards Aquifer TCEQ Mapping, Exhibit 6B*). Maps available from the COA show the Brackenridge Tract in the Edwards Aquifer recharge zone (see attached drawing *Edwards Aquifer Recharge Zone, Exhibit 6C*). The COA has decided to require the standard practices for the Edwards Aquifer recharge zone in this area based on the COA's regulatory authority. The COA ECM regulations require all ponds within the Edwards Aquifer to be lined and

all Critical Environmental Features (i.e. caves, sinkholes, faults) be protected with buffers.

REGULATORY SETBACKS

All setbacks (critical water quality zones and critical environmental feature buffers) were determined based on the COA Watershed Ordinances (see attached table ***Watershed Ordinances, Exhibit 6D***) and potential Critical Environmental Features (CEFs) provided by RKCI (***Exhibit 5C***). The Brackenridge Tract is regulated by two watershed categories, Water Supply Suburban and Urban (see attached drawing ***Watershed Regulations, Exhibit 6E***); these categories will determine the critical water quality zone (waterway setback) limits. The Brackenridge Tract is not in an area that requires Water Quality Transition Zones (a setback between the critical water quality zone and upland area). Setbacks must also be established to protect any CEF. CEFs as defined by the COA include bluffs, canyon rimrocks, caves, sinkholes, springs and wetlands. All potential CEFs as determined by the Critical Environmental Feature drawing provided by RKCI (***Exhibit 5C***) are preliminary and subject to change upon completion of a final Environment Assessment. In the case of the Edwards Aquifer recharge zone, any CEF that potentially allows surface runoff to impact groundwater may be classified as a point recharge feature (i.e. caves, faults and sinkholes). In this case additional buffering may be required. The following describes the COA ECM setback requirements for this site:

- A residential lot may not include a critical environmental feature or be located within 50 feet of a critical environmental feature.
- For a point recharge feature, the setback coincides with the topographically defined catchment basin, not less than 150 feet and not more than 300 feet.
- Except for a point recharge feature, the width of the setback is 150 feet from the edge of the critical environmental feature.
- Waterways require setbacks depending on the size of the drainage area and the waterway classification. The waterways on the Brackenridge Tract are classified in a Water Supply Suburban Watershed. The setbacks for these waterways are based on the size of the drainage area. Waterways are classified as below:
 - Minor waterway = 128 – 320 acres of drainage
 - setback = 50 to 100 feet from centerline of waterway
 - Intermediate waterway = 320 – 640 acres of drainage
 - setback = 100 to 200 feet from the centerline of the waterway.

In the Brackenridge Tract, the COA has already delineated the setback for Lady Bird Lake, therefore, its classification was not necessary. The unnamed tributary of LBL was classified as a minor creek based on a drainage area of less than 320 acres.

In areas where waterway setbacks are delineated within a critical environmental feature setback, the larger setback will be used as the regulatory limit. No construction activities

related to buildings are allowed in the setback areas (prior to granting of a variance, if applicable).

The setbacks displayed in the attached drawing, **Regulatory Setbacks (Exhibit 6F)**, are subject to COA variances and may be reduced. Variances can be granted on the grounds stated in the COA ECM (i.e. topographic characteristics and compatible land uses).

DELINEATION OF EXISTING WATERSHED CONDITIONS

The existing drainage areas for the Brackenridge Tract have been delineated into three drainage basins which are sub-basins of Town Lake, Lake Austin, and Johnson watersheds (see attached drawing **Watersheds, Exhibit 6G**). Each of the drainage basins has been divided into on-site and off-site areas to separate the Brackenridge Tract from the adjacent properties. The on-site drainage basins have been further divided into areas representing current land use, resulting in 11 drainage areas (see attached drawing **Drainage Areas, Exhibit 6H**). Drainage areas DA-1 and DA-8 through DA-11 all outfall into Lady Bird Lake. DA-2 and DA-3 outfall offsite through an existing storm drain pipe under Lake Austin Blvd. DA-4 outfalls to DA-10 through an existing storm drain pipe under Lake Austin Blvd. DA-5 outfalls offsite through an existing storm drain pipe under Exposition Blvd. DA-6 outfalls to the existing storm sewer system on Lake Austin Blvd. DA-7 outfalls offsite through an existing storm drain pipe under Hearn St. The off-site drainage areas flow onto the Brackenridge Tract from the north side of Enfield Road (ODA-1 and ODA-2) and east of Exposition Blvd. (ODA-3). The drainage areas for ODA-1 and ODA-2 are 118.30 and 22.00 acres, respectively. The drainage area for ODA-3 is 40.9 acres.

EXISTING DETENTION AND WATER QUALITY PONDS

The COA requires all development to provide water quality ponds to treat the first 0.5 inch of runoff from a development. The city further requires detention ponds to control runoff rates as storm water leaves the site. Therefore most developments will have two pond requirements with volumes determined by calculations based on impervious cover. Existing ponds are shown in the attached drawing **Existing Ponds (Exhibit 6I)**. These pond delineations reflect the latest COA GIS data for residential and commercial ponds as well as data provided by RKCI. No designation of whether these ponds are detention or water quality ponds is provided in the COA data.

DETENTION PONDS

Required existing detention pond flood storage volumes have been approximated based on a comparison of the existing conditions to an undeveloped base condition. The detention pond volumes have been determined to provide no increase in discharge rate for the 2, 10, 25 and 100 year storm events as required by the COA. The volumes are listed based on the current on-site drainage areas shown in **Exhibit 6H**. They were calculated using hydraulic modeling (HEC-HMS). Please see the below table:

Existing Detention Storage Requirements

DA	Area	% Impervious	Peak Storage Volume	
	Acres	Cover Area	Cubic Feet	Acre-Ft
1	2.95	67.58	N/A	N/A
2	12.37	50.77	104347.83	2.40
3	11.40	1.05	2173.91	0.05
4	131.00	1.42	808695.65	18.60
5	24.50	12.24	182608.70	4.20
6	2.65	83.13	165217.39	3.80
7	14.82	56.02	115217.39	2.65
8	21.23	25.97	N/A	N/A
9	80.83	1.86	N/A	N/A
10	46.09	3.69	N/A	N/A
11	45.80	17.47	N/A	N/A

N/A-Not Applicable for areas between Lake Austin Blvd. and Lady Bird Lake

WATER QUALITY PONDS

Required existing water quality pond runoff storage volumes for each drainage area have also been calculated based on existing impervious cover. The volumes were calculated using formulas provided in the COA ECM. Please see the below table:

Existing Water Quality Storage Requirements

DA	Total Area	Impervious Cover Area	% Impervious Cover Area	Water Quality Depth	Water Quality Volume	
	Acres	Acres		in.	Cubic Feet	Acre-Ft
1	2.95	1.99	67.58	1.16	12372.93	0.28
2	12.37	6.28	50.77	0.99	44349.89	1.02
3	11.40	0.12	1.05	0.49	N/A	N/A
4	131.00	1.86	1.42	0.49	N/A	N/A
5	24.50	3.00	12.24	0.60	N/A	N/A
6	2.65	2.20	83.13	1.31	12608.88	0.29
7	14.82	8.30	56.02	1.04	55964.00	1.29
8	21.23	5.51	25.97	0.74	56992.74	1.31
9	80.83	1.50	1.86	0.50	N/A	N/A
10	46.09	1.70	3.69	0.52	N/A	N/A
11	45.80	8.00	17.47	0.65	N/A	N/A

N/A-Not Applicable for areas with 20% or less impervious cover

DEVELOPMENT IMPLICATIONS

Commercial development of the site will not require detention ponds for the areas between Lake Austin Blvd and LBL (DA-1 and DA-8 through DA-11) which drain directly into LBL. Detention ponds will be required for DA-5 and DA-7. Detention ponds

may not be required for DA- 2 through DA-4 and DA-6 if drainage improvements and easements are obtained to transfer flood flows safely to LBL. Improvements to COA owned drainage facilities under Lake Austin Blvd. would allow flood flows from the adjacent upland drainage areas to flow safely to LBL without detention ponds. Site grading to drain runoff to the improved drainage facilities under Lake Austin Blvd. could reduce detention pond requirements for DA-5.

Proposed development that results in increased impervious cover will require additional storage volume for water quality than those calculated. The existing impervious cover for each drainage area has been calculated and found to be similar to data supplied by the COA (see attached figure *Brackenridge Tract Development Summary, Exhibit 6J*). Water quality ponds will be required for all portions of the site that are developed with more than 20% impervious cover.

Existing detention and water quality ponds will require site specific analyses to determine if these existing structures can be retained for any future development. It is unlikely that the existing ponds will be retained due to the age of the structures and increased regulatory requirements. New detention and water quality ponds should be planned for areas requiring detention and water quality. The current pond sites will be utilized as much as possible but new structures, where required, should be used for planning purposes.

EXISTING SLOPES

Portions of the Brackenridge Tract have existing ground slopes that exceed the COA 15% slope limit (see attached drawing *Existing Critical Slopes, Exhibit 6K*). The Critical Slopes Map displays the approximate steep slope areas as determined by the COA ECM. A building or parking structure may not be constructed on a slope with an existing gradient of more than 25 %. Roadways and driveways may not be constructed on a slope with a gradient of more than 15% unless construction is necessary to provide primary access to:

- At least two contiguous acres with a gradient of 15% or less; or
- Building sites for at least five residential units.

Buildings and parking structures constructed on a slope with an existing gradient of 15% to 25% shall meet the following requirements:

- Impervious cover on slopes with an existing gradient of more than 15% may not exceed 10% of the total area of the slopes.
- The terracing techniques in the ECM are required for construction that is uphill or downhill of a slope with an existing gradient of more than 15%.
- Hillside vegetation may not be disturbed except as necessary for construction, and disturbed areas must be restored with native vegetation.

- For construction described in this section, a cut or fill must be revegetated, or if a cut or fill has a finished gradient of more than 33%, stabilized with a permanent structure. This does not apply to a stable cut.
- A surface parking area may not be constructed on a slope with an existing gradient of more than 15%.

Also cut and fill limits of 4 feet are required to minimize erosion and limit changes to the existing topography in Water Supply Suburban watershed areas. The cut and fill limits are not required in Urban watershed areas.

COMMUNITY DRAINAGE ISSUES

The COA has compiled a database of drainage and erosion complaints (see attached drawing *Drainage and Erosion Complaints, Exhibit 6L*). Neighborhood plans have been prepared by community organizations to identify issues relating to the neighborhoods that individuals or groups would like to be addressed by the COA. A review of the West Austin Neighborhood Plan identified the following drainage issues:

- Existing storm water infrastructure needs to be improved to prevent local flooding.
- No increase in storm water flow due to development, storm flowrates should remain the same as pre-developed conditions.
- Pollution prevention measures.
- Incorporate recreational opportunities such as walking trails around detention ponds.

It should be noted that future drainage improvements along Lake Austin Blvd may be constructed by the COA to facilitate a proposed bike lane.

CONCLUSIONS AND IMPACT ON FUTURE DEVELOPMENT OF THE TRACT

Regulatory requirements for flood protection include limitations on construction within the 100 year floodplain and critical water quality zones as discussed above. The net site developable area has been calculated based on the COA ECM (see attached drawing *Restricted Areas, Exhibit 6M*). Net site area includes the portions of a site that lie in an uplands zone that have not been designated for wastewater irrigation, historical site status, utility easements, or tree protection. Net site area in an upland zone has limitations to development for areas with existing steep slopes, as outlined below:

- 100 % of the land with an existing gradient of 15 % or less
- 40 % of the land with an existing gradient of 15-25 %,
- 20 % of the land with an existing gradient of 25-35 %
- 0 % of the land with an existing gradient of more than 35 %.

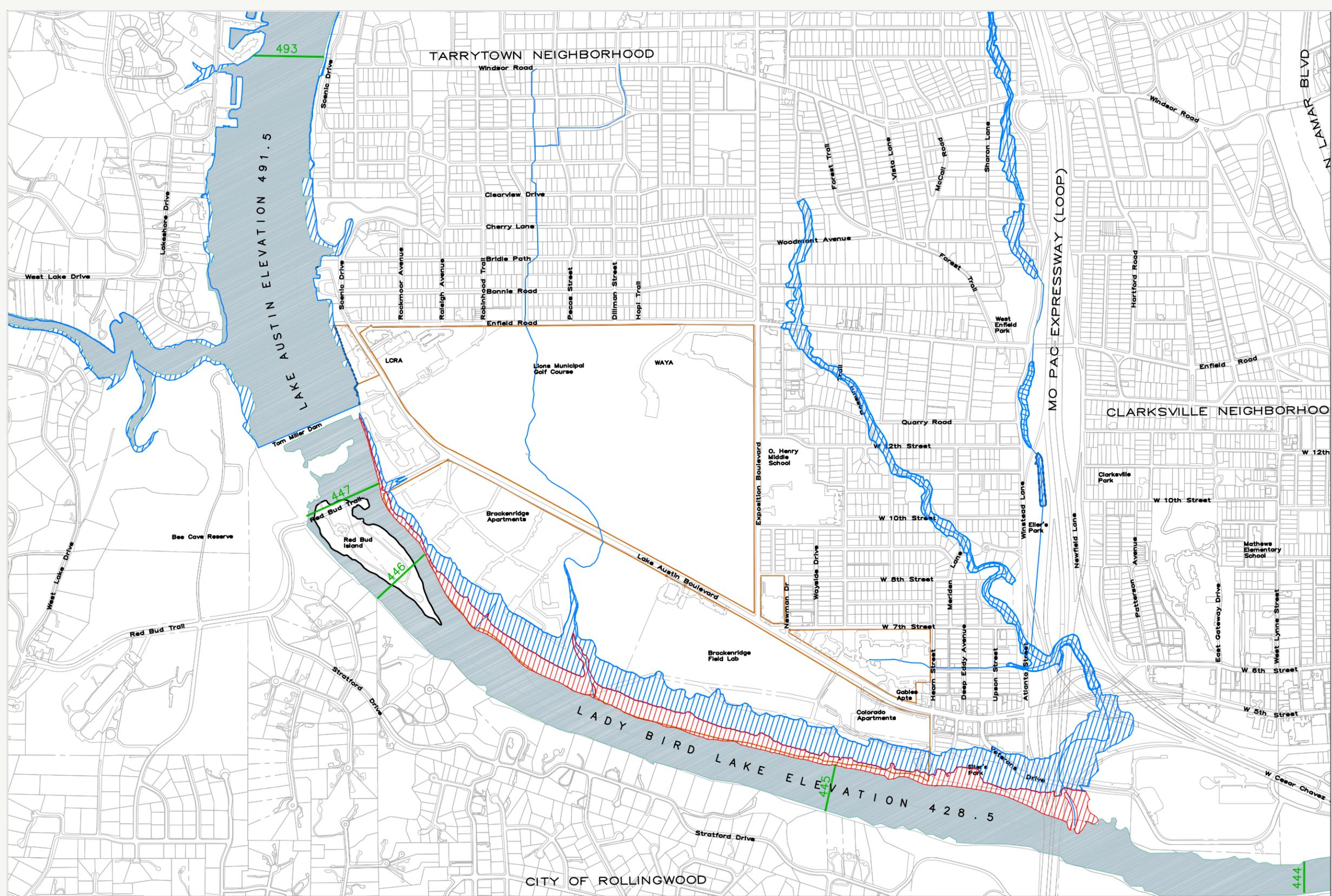
The net site area does not include any areas identified as buffers, setbacks, 100yr floodplains, or other environmentally sensitive areas.

Detention ponds to reduce flood flow rates to the existing or pre-development conditions will be required for some areas of the Tract but several options are possible to minimize the areas where detention ponds are required depending on the COA's willingness to cooperate and cost share with the proposed development.

Water quality ponds will be required for the entire Tract depending on the proposed impervious cover. Pond liners will be required if the COA enforces the Edwards Aquifer recharge standards.

Erosion control measures will be required on a temporary and permanent basis for the entire Tract. Temporary erosion controls to meet the COA requirements will be necessary for all construction areas. Permanent erosion controls (sedimentation) will be provided as part of the water quality ponds.

Regulatory limitations on construction in areas with steep slopes and maximum depths for cut and fill are required to minimize erosion potential and avoid changes to the existing site conditions.



LEGEND

-  Brackenridge Tract
-  100yr Flood Plain
-  500yr Flood Plain
-  Creeks
-  Water Surface Elevation

Source of Data:
 Flood Plains created by CAS
 Consulting and Services, INC
 based on City of Austin data.

DRAFT

0 400' 800'
 SCALE: 1" = 400'

Scale in Feet

CONCEPTUAL MASTER PLAN: FLOOD PLAINS

UNIVERSITY OF TEXAS: Brackenridge Tract
 AUSTIN, TEXAS

Cooper, Robertson & Partners
Master Planner and Team Leader

TBG Partners
Landscape Architects
 K. FRIESE & ASSOCIATES, INC.
Civil Engineers

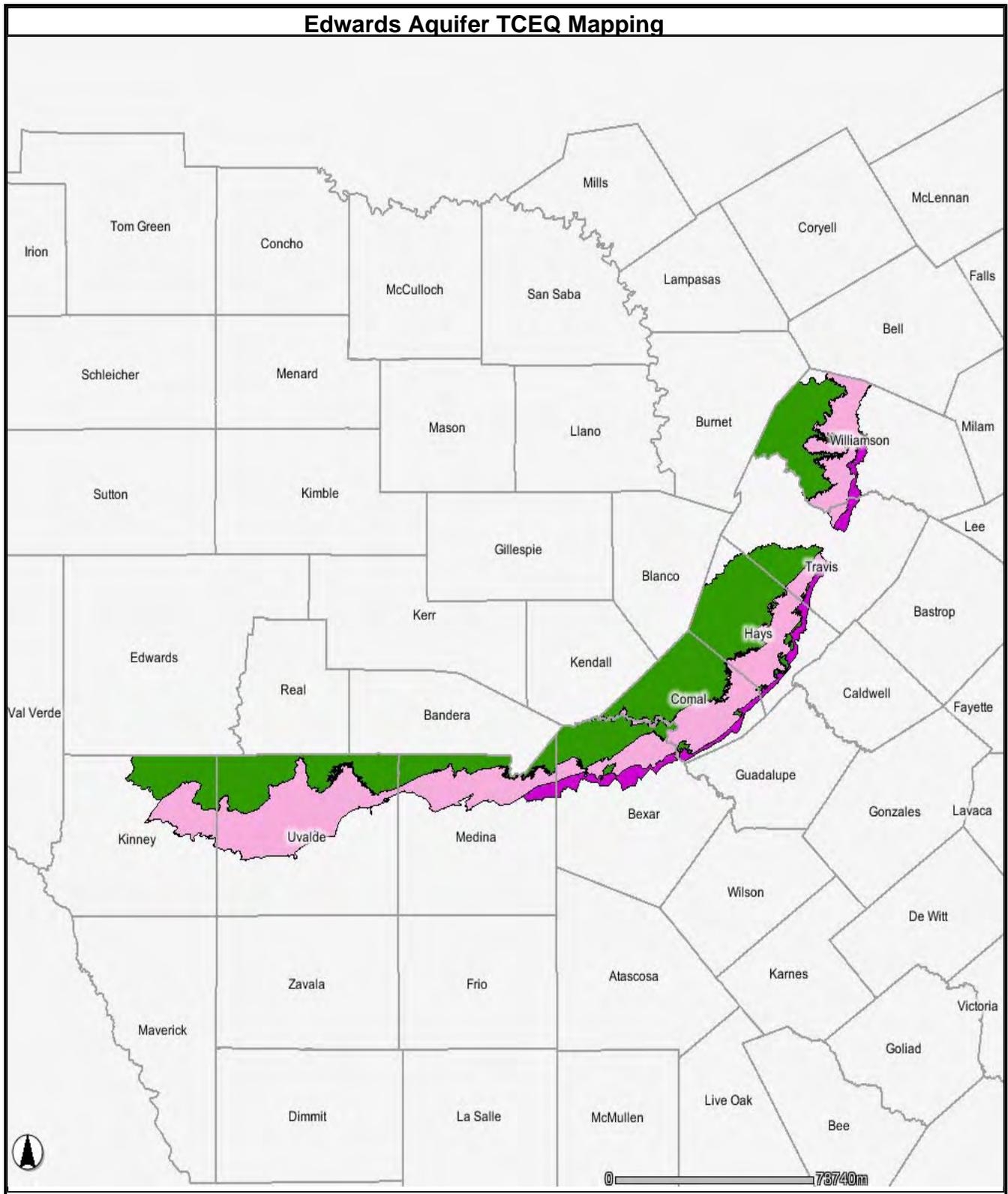
Prime Strategies, Inc.
Traffic and Transportation Analyst
 Economics Research Associates
Financial and Market Analyst

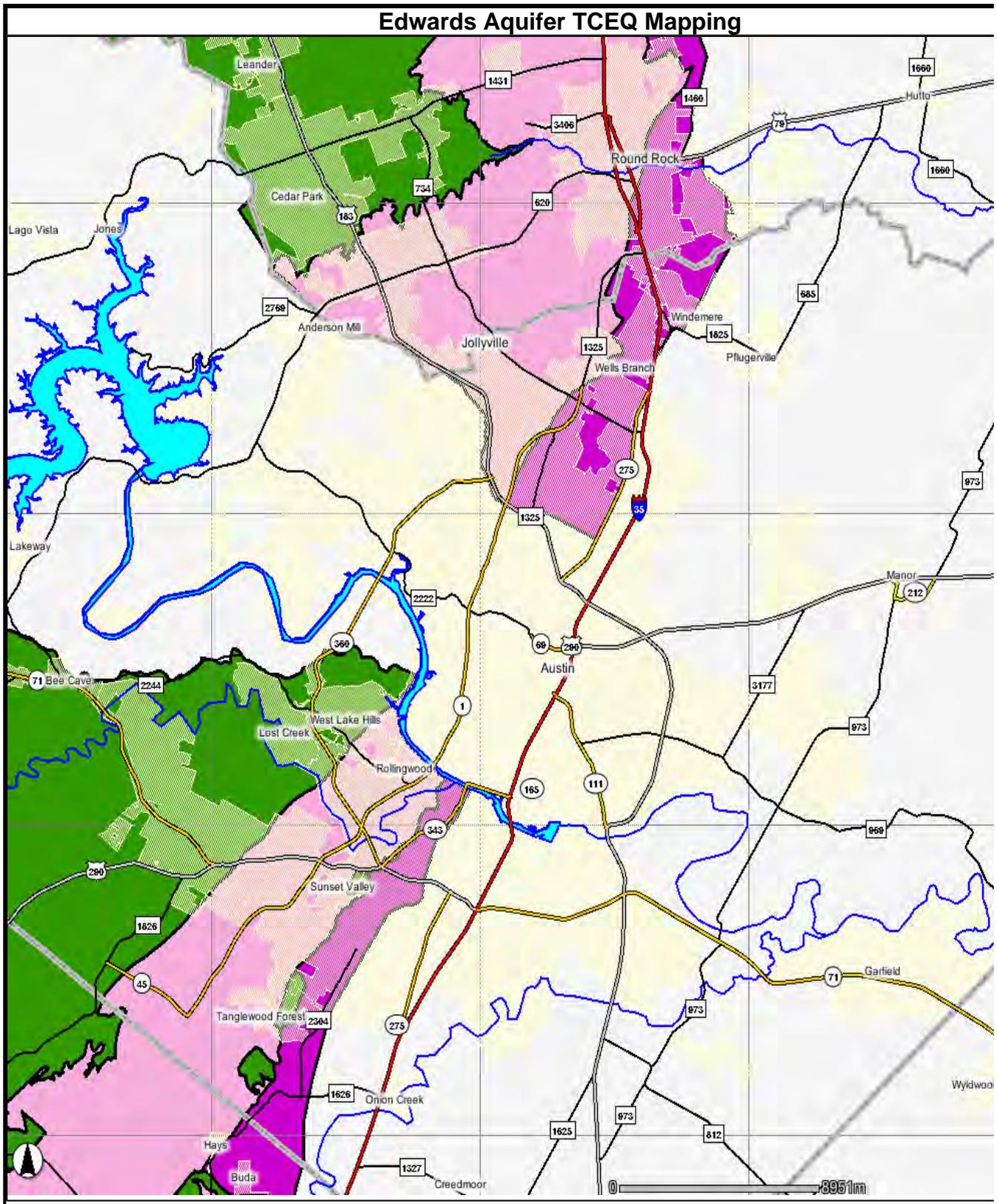
HS&A
Cost Estimator and Academic Programmer
 Concept Development and Communications, LLC
Stakeholder Input and Communications Consultant

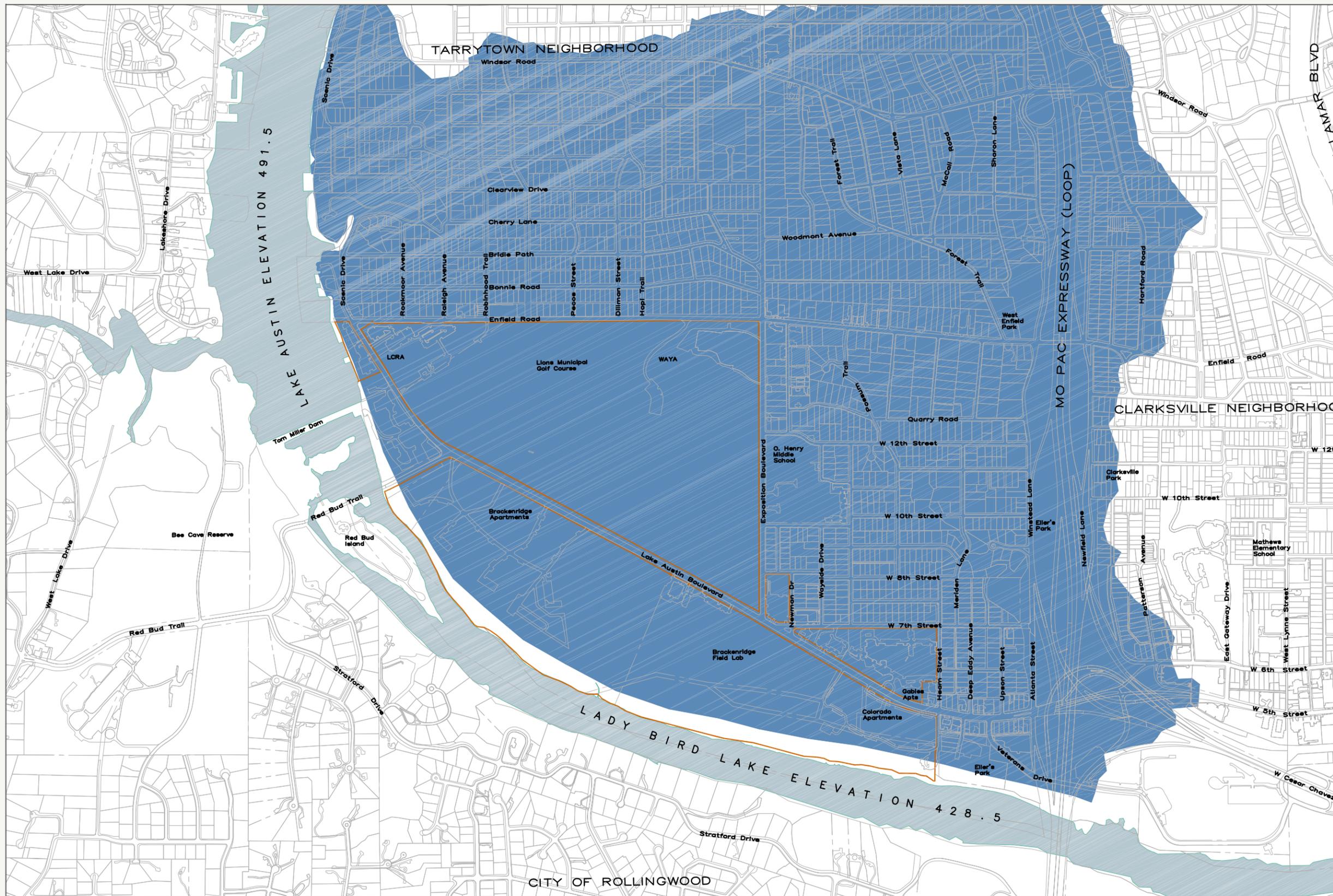
DuBois, Bryant & Cambell, LLP
Zoning and Public Policy Specialist

Raba-Kristner Consultants, Inc.
Environmental Consultant

August 22, 2008





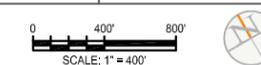


LEGEND

-  Brackenridge Tract
-  Recharge Zone

Source of Data:
Boundaries for the EDWARDS
AQUIFER RECHARGE ZONE supplied
by the City of Austin.

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CONCEPTUAL MASTER PLAN: EDWARDS AQUIFER RECHARGE ZONE

UNIVERSITY OF TEXAS: Brackenridge Tract
AUSTIN, TEXAS

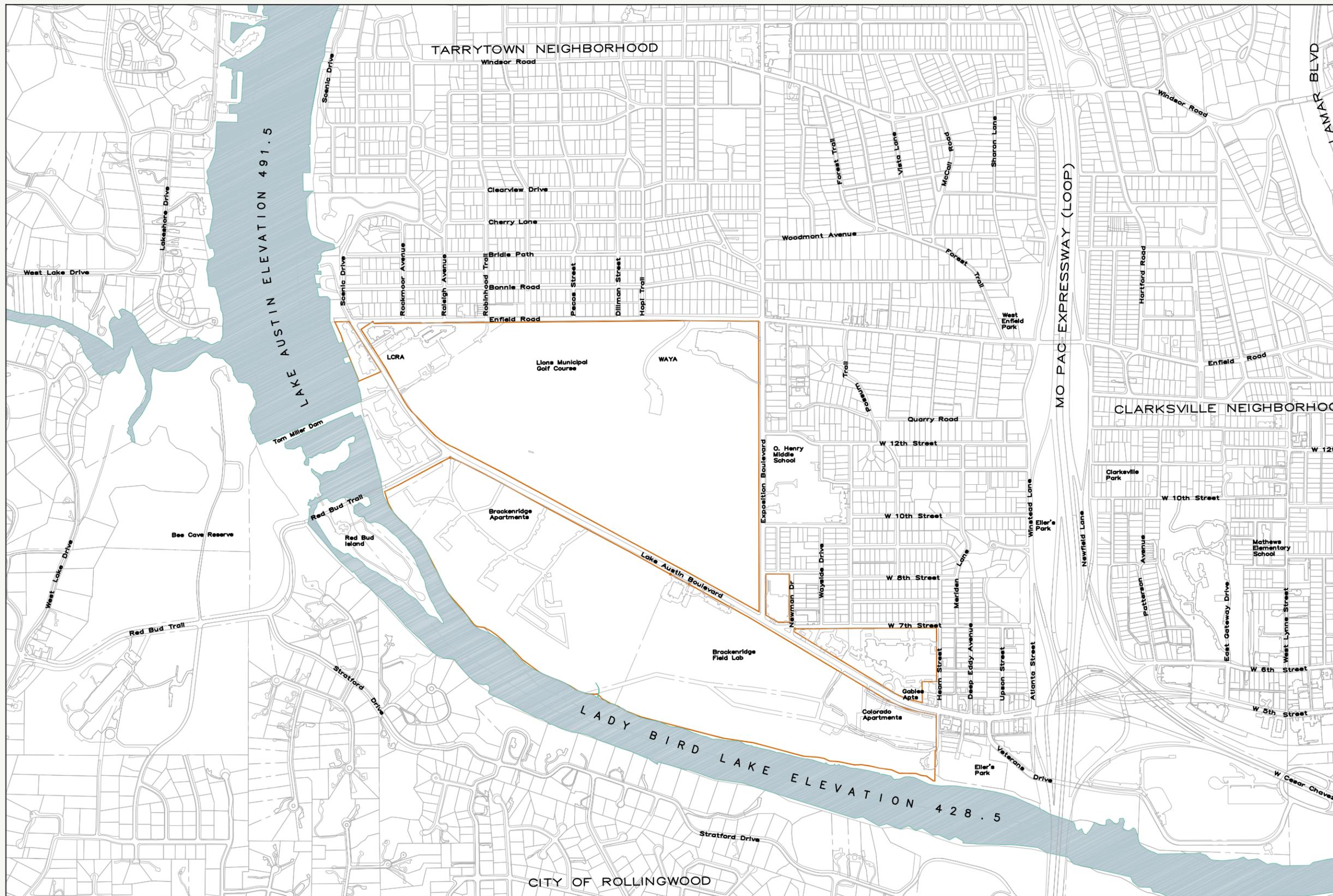
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TBC Partners
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K. FRIESE & ASSOCIATES, INC.
Civil Engineers
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Economics Research Associates
Financial and Market Analyst
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Zoning and Public Policy Specialist
Rabs-Kristner Consultants, Inc.
Environmental Consultant

August 22, 2008

● Watershed Regulations Summary Table

IMPERVIOUS COVER	DESIRED DEVELOPMENT ZONE			DRINKING WATER PROTECTION ZONE		
	URBAN	SUBURBAN CITY LIMITS	SUBURBAN North Edwards/ETJ	WATER SUPPLY SUBURBAN	WATER SUPPLY RURAL	BARTON SPRINGS ZONE
Uplands (Net Site Area)						R = Recharge BC = Barton Creek C = Contributing
						R / BC / C
Single-Family	No Limitation	45-60%	45-60%	30-40%	1 Unit / 1-2 acres	15% / 20% / 25%
Multi-Family	No Limitation	60-70%	60-65%	40-55%	20-25%	15% / 20% / 25%
Commercial	No Limitation	80-90%	65-70%	40-55%	20-25%	15% / 20% / 25%
Water Quality Transition Zone	N/A	30%	30%	18%	1 SF Unit / 3 acres	1 SF Unit / 3 acres None over recharge
Transfers Allowed	No	Yes	Yes	Yes	Yes	No
WATERWAY CLASSIFICATIONS	URBAN	SUBURBAN CITY LIMITS	SUBURBAN North Edwards/ETJ	WATER SUPPLY SUBURBAN	WATER SUPPLY RURAL	BARTON SPRINGS ZONE
Minor	64 acres	320-640 acres	320-640 acres	128-320 acres	64-320 acres	64-320 acres
Intermediate	64 acres	640-1280 acres	640-1280 acres	320-640 acres	320-640 acres	320-640 acres
Major	64 acres	over 1280 acres	over 1280 acres	over 640 acres	over 640 acres	over 640 acres
						Williamson/Slaughter same as WSS

Critical Water Quality Zone						
Minor	50-400 ft.	50-100 ft.	50-100 ft.	50-100 ft.	50-100 ft.	50-100 ft.
Intermediate	50-400 ft.	100-200 ft.	100-200 ft.	100-200 ft.	100-200 ft.	100-200 ft.
Major	50-400 ft.	200-400 ft.	200-400 ft.	200-400 ft.	200-400 ft.	200-400 ft.
						Barton 400 ft. min.
Water Quality Transition Zone						
Minor	Not Required	100 ft.	100 ft.	100 ft.	100 ft.	100 ft.
Intermediate	Not Required	200 ft.	200 ft.	200 ft.	200 ft.	200 ft.
Major	Not Required	300 ft.	300 ft.	300 ft.	300 ft.	300 ft.
WATER QUALITY CONTROLS	URBAN	SUBURBAN CITY LIMITS	SUBURBAN North Edwards/ETJ	WATER SUPPLY SUBURBAN	WATER SUPPLY RURAL	BARTON SPRINGS ZONE
Treatment Standard	Sed/Fil	Sed/Fil	Sed/Fil	Sed/Fil	Sed/Fil	Non-Degradation
Alternatives Strategies Allowed	Yes	Yes	Yes	Yes	Yes	No
Optional Payment-in-Lieu	Yes	No	No	No	No	No

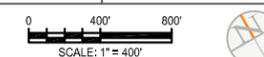


LEGEND

-  Brackenridge Tract
-  Water Supply Suburban
-  Urban
-  Water Supply Rural (City of Austin Data)

Source of Data:
WATERSHED REGULATIONS is based on City of Austin Data.

DRAFT



0 2000 4000 8000 10560 (2 miles) 16000 21120 (4 miles) 26000 42240 (8 miles) 54000 84480 (16 miles) 96000

CONCEPTUAL MASTER PLAN: WATERSHED REGULATIONS

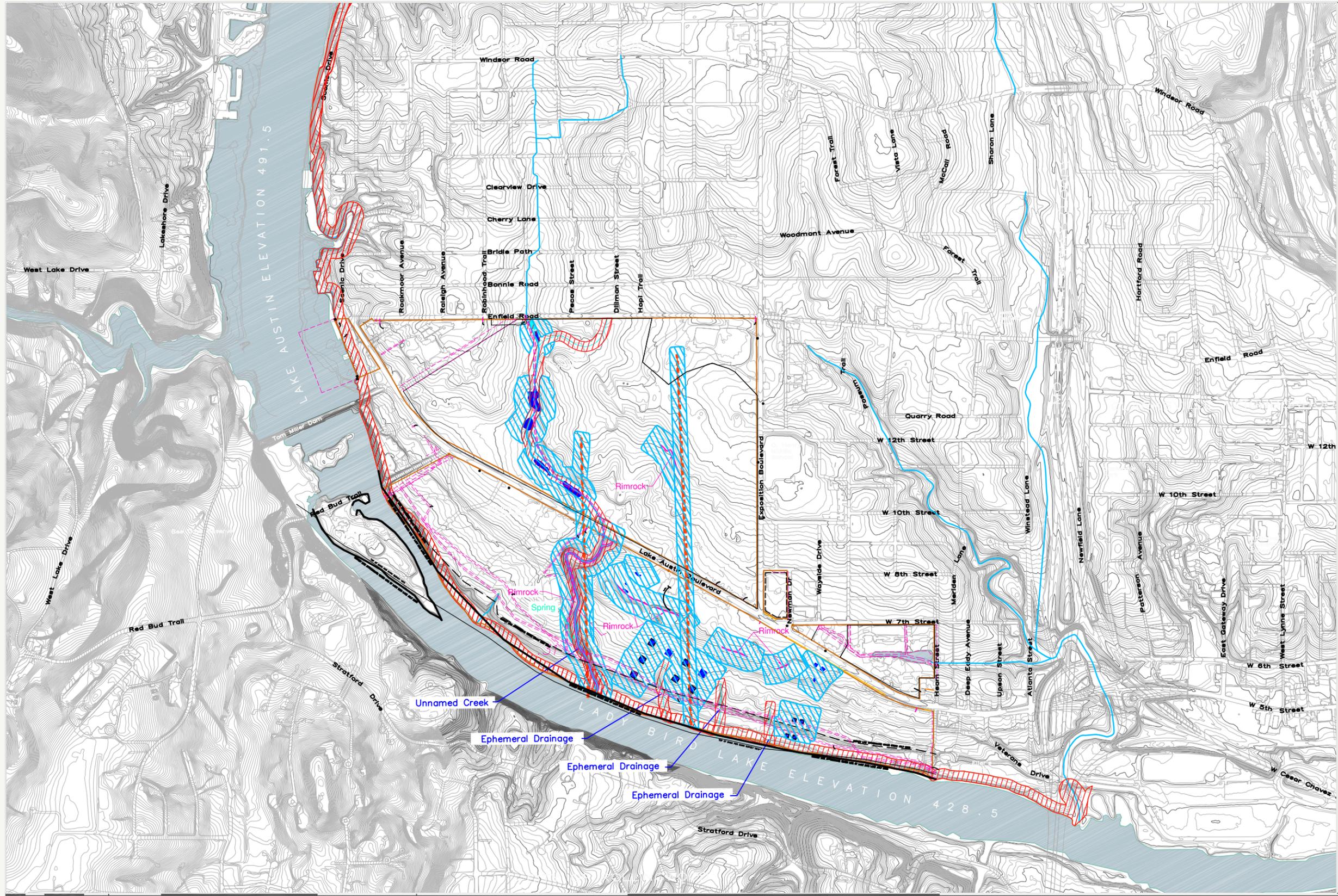


UNIVERSITY OF TEXAS: Brackenridge Tract
AUSTIN, TEXAS

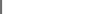
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Zoning and Public Policy Specialist
Rabs-Kristner Consultants, Inc.
Environmental Consultant

August 22, 2008



LEGEND

-  Brackenridge Tract
-  Waterway Setback
-  Critical Environmental Feature Buffer 150' Radius
-  Wetland
-  Rimrock
-  Existing Man Made Pond (may be classified as a wetland by the City of Austin)
-  Utility Easements
-  Inferred Fracture Zones
-  Creeks

Source of Data:
 Regulatory Setbacks were prepared by CAS Consulting Services, Inc. based on City of Austin Regulations and Raba Kistner critical environmental features. The City of Austin created the Regulatory setback along Lady Bird Lake.

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CONCEPTUAL MASTER PLAN: REGULATORY SETBACKS

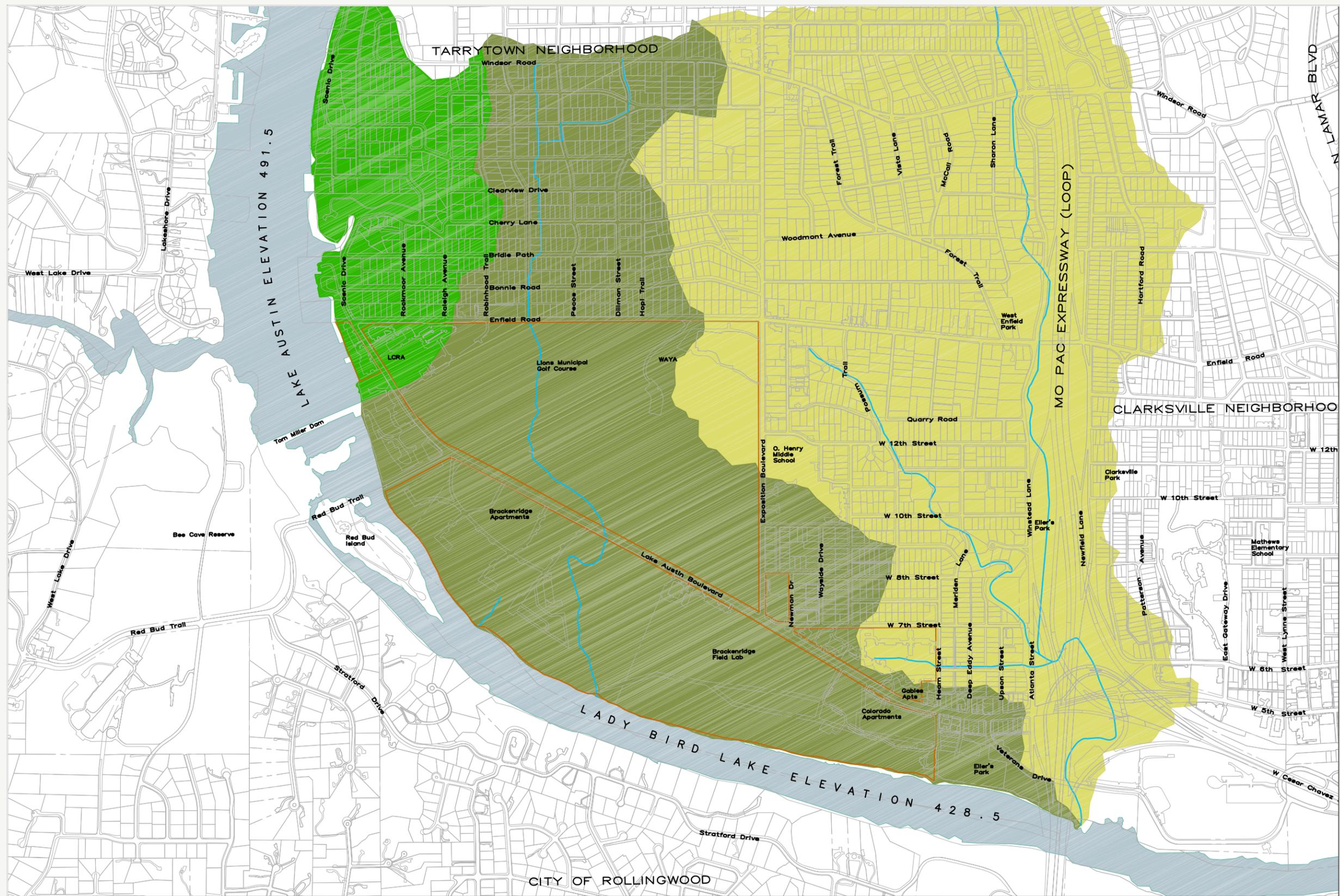
UNIVERSITY OF TEXAS: Brackenridge Tract
 AUSTIN, TEXAS



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LEGEND

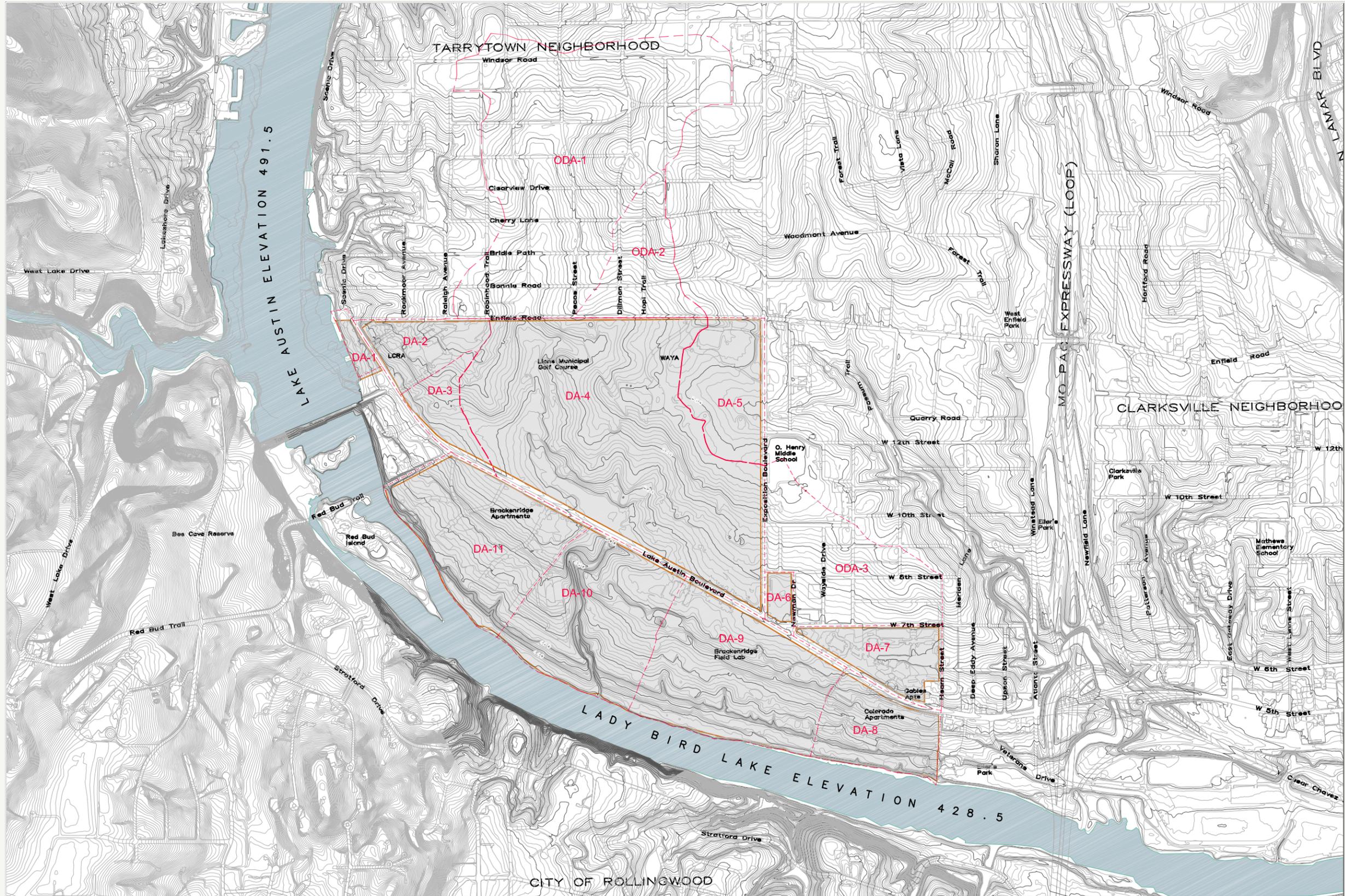
- Brackenridge Tract
- Johnson Watershed
- Townlake Watershed
- Lake Austin
- Creeks

Source of Data:
Watersheds based on the City of Austin Data.

DRAFT

0 400' 800'
SCALE: 1" = 400'

Scale in Feet

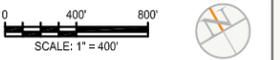


LEGEND

- Brackenridge Tract
- DA - Drainage Areas
- ODA - Offsite Drainage Areas

Source of Data:
 Drainage areas created by
 CAS Consulting and Services,
 Inc. based on City of Austin
 Topography data.

DRAFT



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CONCEPTUAL MASTER PLAN: DRAINAGE AREAS MAP

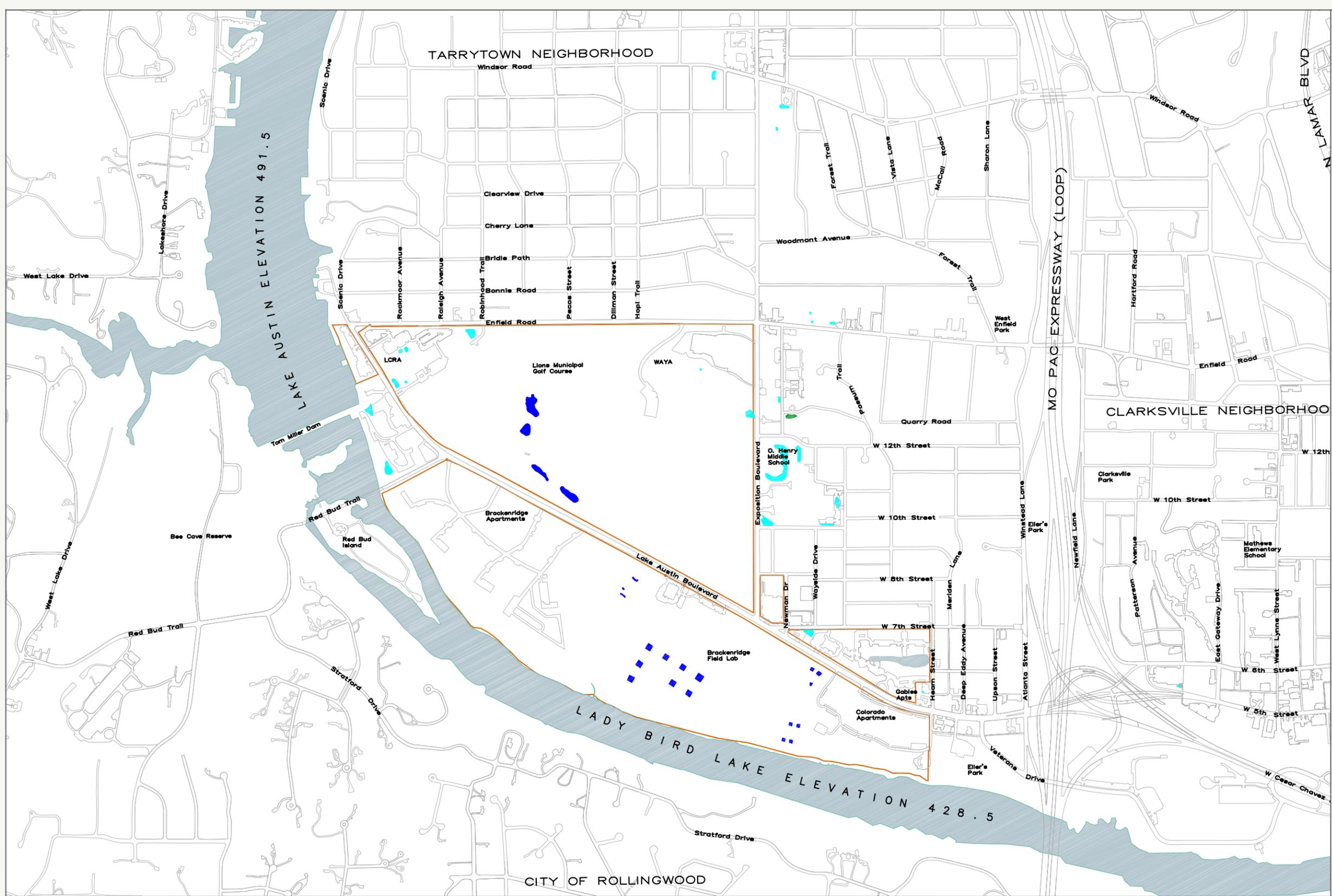


UNIVERSITY OF TEXAS : Brackenridge Tract
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 Environmental Consultant

August 22, 2008



LEGEND

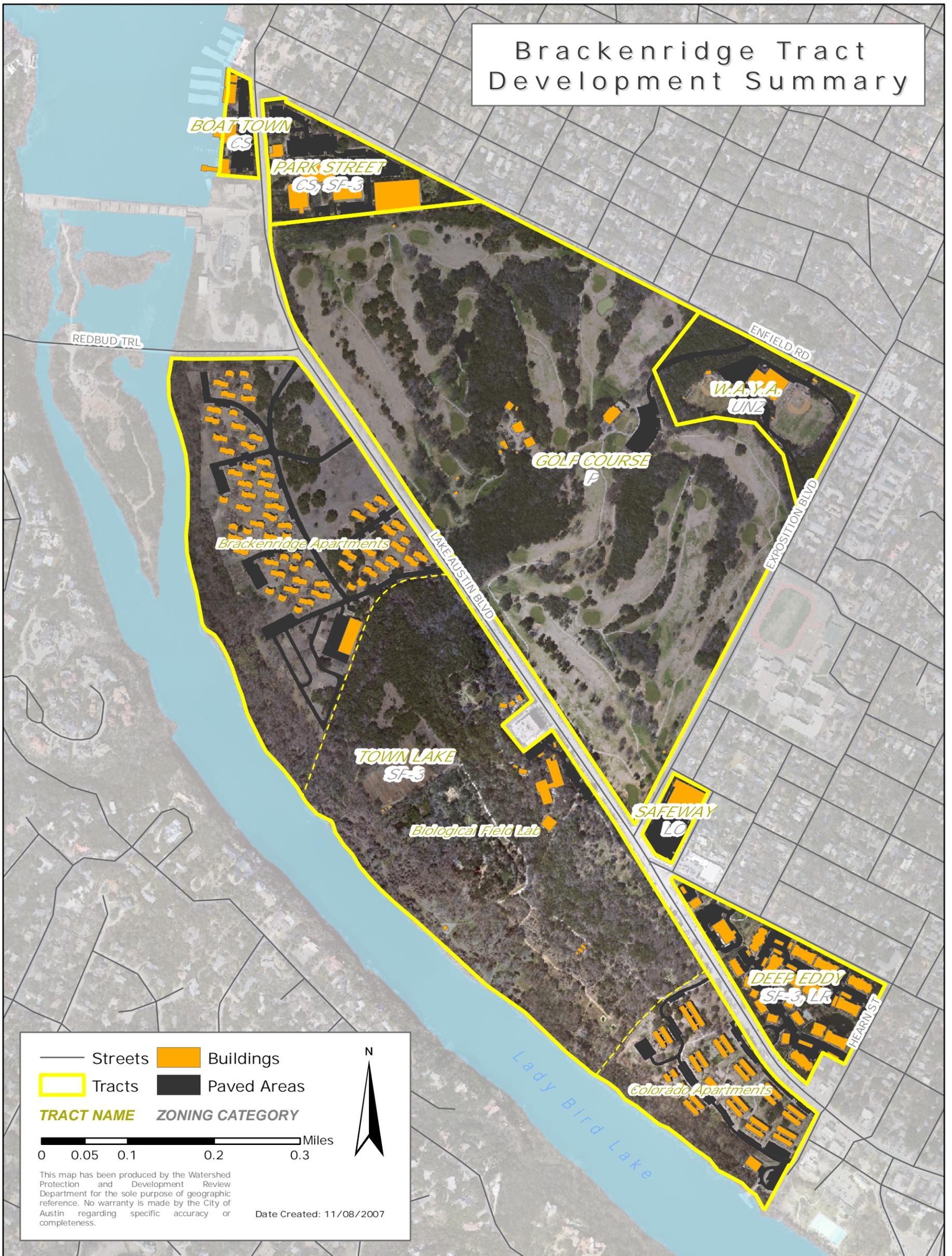
- Brackenridge Tract
- Commercial Ponds
- Ponds Identified by RKCI
- Existing Man Made Pond (May be classified as a Wetland by the City of Austin)
- Residential Ponds

Source of Data:
Existing Ponds data supplied by the City of Austin.

DRAFT

0 400' 800'
SCALE: 1" = 400'

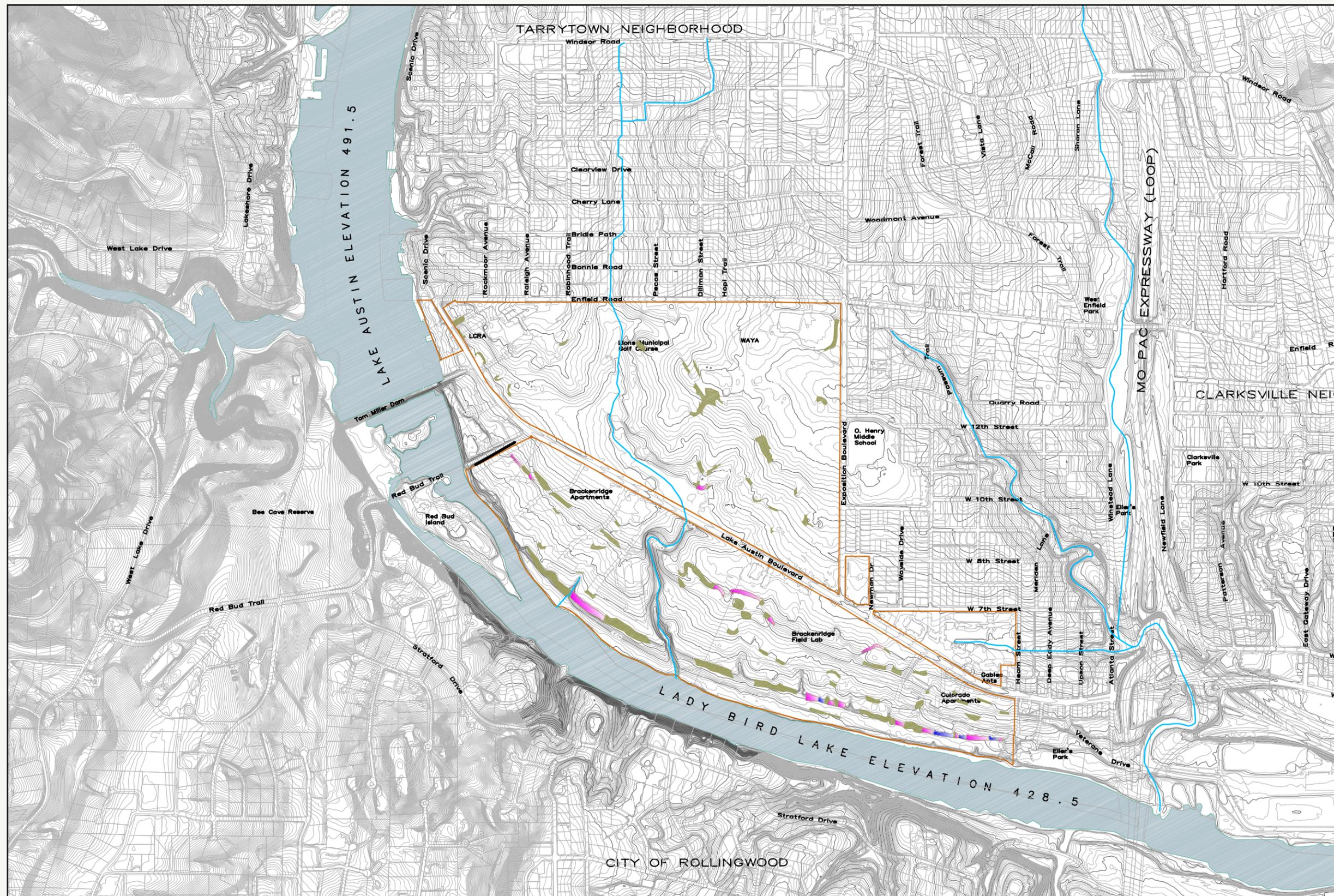
Brackenridge Tract Development Summary



TRACT	TRACT AREA (SQ FT)	IMPERVIOUS COVER (SQ FT)	IMPERVIOUS COVER %	BUILDING AREA (SQ FT)	FAR
BOAT TOWN	128,219	86,660	67.59%	48,017	0.374
PARK STREET*	537,926	272,961	50.74%	406,693	0.756
SAFEWAY	115,176	95,753	83.14%	34,012	0.294
DEEP EDDY	644,380	361,007	56.02%	252,431	0.392
TOWN LAKE/COLORADO APTS	922,882	239,640	25.97%	211,573	0.229
TOWN LAKE/BRACKENRIDGE APTS	2,444,617	520,119	21.28%	330,022	0.135
TOWN LAKE/BIOLOGICAL FIELD LAB	3,640,740	75,572	2.08%	38,223	0.010
GOLF COURSE**	6,185,112	80,730	1.31%	19,985	0.003
W.A.Y.A.**	651,296	125,820	19.32%	40,228	0.062
TOTAL	15,270,348	1,858,261	12.17%	1,381,183	0.090

*LCRA not subject to Agreement

**Not subject to Agreement

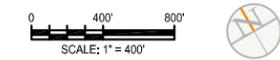


LEGEND

- Brackenridge Tract
- CRITICAL SLOPES 15% to 25%
- CRITICAL SLOPES 25% to 35%
- CRITICAL SLOPES 35% or Greater
- Creeks

Source of Data:
 Critical Slopes created by CAS
 Consulting Services, INC based on
 City of Austin topography data.

DRAFT



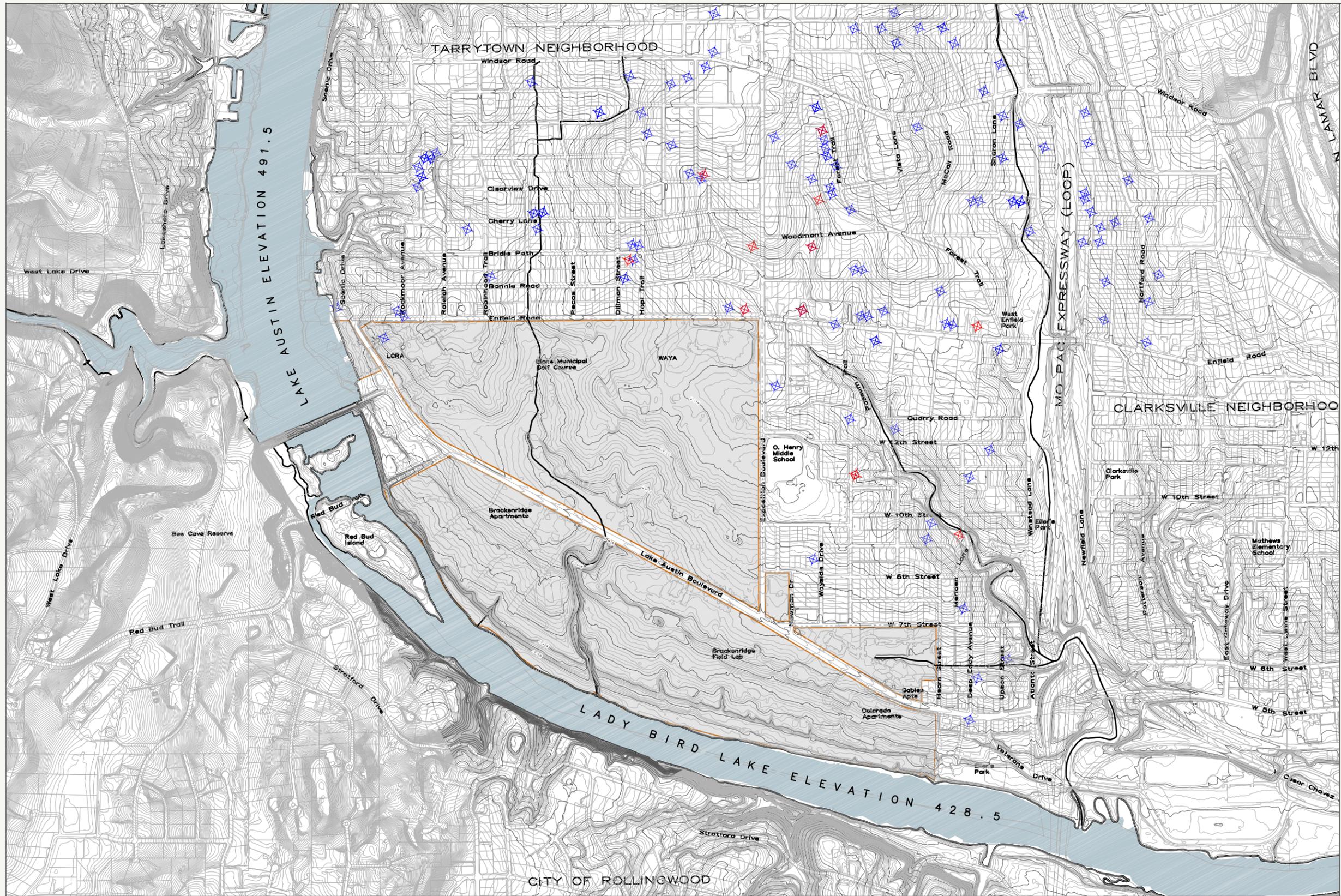
CONCEPTUAL MASTER PLAN: EXISTING CRITICAL SLOPES

UNIVERSITY OF TEXAS: Brackenridge Tract
 AUSTIN, TEXAS

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 TBG Partners
Landscape Architects
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 DuBois, Bryant & Campbell, LLP
Zoning and Public Policy Specialist
 Rabs-Kristner Consultants, Inc.
Environmental Consultant

August 22, 2008



LEGEND

-  Brackenridge Tract
-  Drainage Compliant
-  Erosion Compliant

Source of Data:
 Drainage and Erosion complaints
 were based on City of Austin data.

DRAFT



0 2000 4000 8000 10560 (2 miles) 16000 21120 (4 miles) 30000 42240 (8 miles) 54000 64000 84480 (16 miles) 96000

CONCEPTUAL MASTER PLAN: DRAINAGE AND EROSION COMPLAINTS MAPS

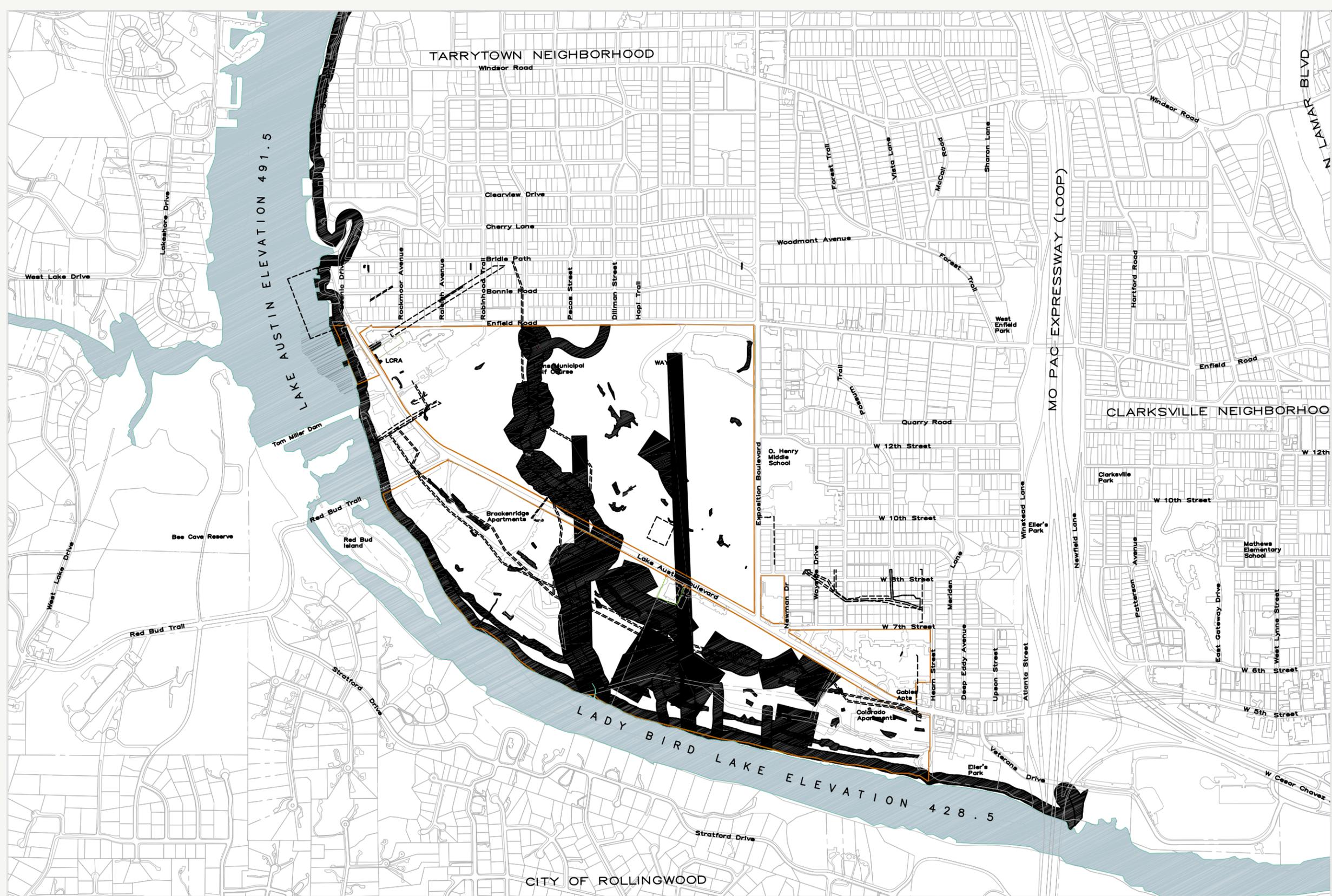


UNIVERSITY OF TEXAS : Brackenridge Tract
 AUSTIN, TEXAS

Cooper, Robertson & Partners
Master Planner and Team Leader
 TBG Partners
 Landscape Architects
 K. FRIESE & ASSOCIATES, INC.
 Civil Engineers
 HSKA
 Cost Estimator and Academic Programmer
 Concept Development and Communications, LLC
 Stakeholder Input and Communications Consultant

Prime Strategies, Inc.
 Traffic and Transportation Analyst
 Economics Research Associates
 Financial and Market Analyst
 DuBois, Bryant & Cambell, LLP
 Zoning and Public Policy Specialist
 Rahn-Kristner Consultants, Inc.
 Environmental Consultant

August 22, 2008

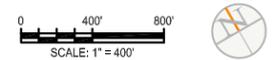


LEGEND

-  Brackenridge Tract
-  Restricted areas
 - Slopes greater than 15%
 - Waterway Setbacks
 - Critical Environmental Feature Buffers
 - 100 year Flood Plain
-  Utility Easements

Source of Data:
 Restricted areas created by
 CAS Consulting and Services, Inc.
 based on City of Austin
 Regulations.

DRAFT



CONCEPTUAL MASTER PLAN: RESTRICTED AREAS MAP

UNIVERSITY OF TEXAS: Brackenridge Tract
 AUSTIN, TEXAS

Cooper, Robertson & Partners
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 Raba-Kristner Consultants, Inc.
 Environmental Consultant

August 22, 2008



D R A F T – August 22, 2008

7.0 NEIGHBORHOOD/VIEW CORRIDORS/DEVELOPMENT SUMMARY

Within the City of Austin (COA), there is considerable weight given to neighborhood desires when property is developed, re-developed, or zoned. The neighborhood input process can be arduous and hostile if neighbors are not in support of development. Organized protests are not uncommon. With the BDA in place, it appears that involvement by the neighborhood may not be a substantial factor in deciding how the University develops the property for educational uses, but any piece of property that is removed from the agreement would face this process prior to receiving a site development permit from the City.

Preparation of the West Austin Neighborhood Plan is currently ongoing with the goal to present a Draft Neighborhood Plan to the neighbors followed by a presentation to the COA Planning Department. The original schedule was to go to the City Council in December 2008. The current website does not appear to set future deadlines but have planned Workshops on August 27, September 11 and September 24, 2008.

Numerous findings and suggestions are currently being considered for inclusion in the Plan and are found in the narrative within this Report and are noted below:

Transportation Information

1. Goal Statement: “Support and not compromise the livability and vitality of Central West Austin neighborhood streets by not widening existing streets, enhancing safety and convenience for pedestrians, cyclists and transit users (with particular attention to routes serving neighborhood schools, parks, and libraries), improving access to reliable transportation services, enforcing speed limits, controlling on-street parking to protect residents’ property rights, and maintaining acceptable traffic service levels and traffic safety and protecting against cut-thru traffic”.
2. Both Exposition Boulevard has excessive volume due to traffic going to/from MoPac.
3. Neighborhood support for intersection widening as long as it doesn’t allow increased traffic volume.
4. Beautify bus stops.
5. Recreate Lake Austin Boulevard as a gateway to Central West Austin destinations. It should become a “real” boulevard, complete with added sidewalks, bike lanes, and street trees in a coherent framework, but without expanding capacity. Conflicting recommendations.
6. Recreate Lake Austin Boulevard as a commuter boulevard, but maintain its existing car capacity.
7. Direct traffic from Brackenridge exclusively to Lake Austin Boulevard. Plan needs to clarify.
8. Requested sidewalks surrounding the property on Enfield, Exposition Boulevard and Lake Austin Boulevard.

9. Requested new bike lanes along Enfield Road.
10. Suggested adding pedestrian bump-outs to intersections.
11. Suggested increased bus service to UT student housing

Parks, Open Space and Environmental Issues

1. Add a perimeter sidewalk around Lions Golf Course.
2. Add public access and benches to the waterfront at Walsh Boat Landing.
3. Lions Golf Course should remain a public golf course.
4. Extend the Lady Bird Lake Hike & Bike Trail to Red Bud Trail without impacting the environmentally sensitive habitat located within the Biological Field Lab Tract.
5. Encourage the City and University to expand Eilers Park into the Brackenridge Tract.
6. Preserve open space as a buffer whenever more intense development of the Brackenridge Tract, etc occurs adjacent to existing single-family home neighborhoods.

Environmental Goals

1. Should the Brackenridge Tract be redeveloped, trees and open space should buffer the neighborhood from any incompatible development of this property.

Drainage Issues

1. Improve storm water infrastructure to reduce local flooding
2. Should the Brackenridge Tract redevelop, no additional storm water should flow from this property. Water quality devices should be installed to minimize pollution. The tract is within the suburban water supply zone. This system should incorporate recreational opportunities for the public, such as walking trails around detention ponds.

VIEW CORRIDORS

Capital View Corridors are established by the COA to preserve existing views of the State Capital Building from designated viewing point around the town. Within these view corridors, development restrictions restrict the height of new buildings in order to preserve the view corridor to the Capital building. Two Capital View Corridors (Red Bud Trail # 19 and Red Bud Trail State Corridor # 35) cross or are adjacent to the Brackenridge Tract. These corridors restrict the construction of obstructions to the view of the Texas State Capital Building from designated locations within the city. Restricted elevation varies across the Tract from 679.52 to 673.75 feet elevation above sea level, as indicated on *Capitol View Corridor Determination Memo* completed on 7/2/2008 by the COA (**Exhibit 7A**).

Lake Austin Boulevard is one of 23 routes designated by COA as a scenic route.

The *Capitol View Corridor & Scenic Route Map (See Exhibit 7B)* depicts the location of the corridors. The source of this data is the City of Austin.

PARKS & OPEN SPACE

The *Parks & Open Space Map (See Exhibit 7C)* depicts the location of the parks and open spaces within the area. The source of this data is the City of Austin.

Two draft goals have been formulated among stakeholders at recent neighborhood planning meetings to date, though they may be revised in future. One of the draft goals regards parks and is as follows:

"Preserve and enhance existing parks and recreational areas and facilities in the Central West Austin Planning Area, as well as open space on large properties (e.g., State School, Brackenridge Tract, etc.). Create additional public open space such as trails, pocket parks, and landscaped traffic islands, as well as parks and recreational areas and facilities on large properties."

BRACKENRIDGE DEVELOPMENT AGREEMENT (BDA)

The University has defined the BDA "as a detailed, extensive document, totaling 140 pages. It establishes height restrictions, use restrictions, floor to area ratios, pervious and impervious cover requirements, mechanisms for reviewing site plans and constructions plans, mechanisms for the provision of utility services to the parcels, and a variety of other matters pertaining to the non-university development of parcels of land." This is a 30 year agreement which covers 279 acres of the 503 Brackenridge acre tract. Any non-university development of these parcels would be subject to these conditions.

The BDA does not govern development of the Brackenridge Tract for university purposes, nor does it address development of the 141 acres leased to the City of Austin for the golf course or the 14 acres leased to the West Austin Youth Association. Any development for university purposes while not subject to the terms of the BDA will need to be sensitive to the City's concerns.

The following table summarizes some of the development restrictions outlined in the BDA. The building setbacks identified below are also shown in the attached drawing *Building Setbacks Map (Exhibit 7D)*.

BRACKENRIDGE DEVELOPMENT AGREEMENT: Development Regulations Summary

Tract	FAR	Height Limit, ft	Building Setback Line	Building Coverage Limit (% of gross area of Tract)	Impervious Cover Limit (% of gross area of Tract)	Driveway Limit
Boat Town	0.4	40	10' from Lake Austin Blvd.	50%	80%	3 along Lake Austin Blvd.
Park Street	0.45	65 (5 stories)	35' from ROW along Lake Austin Blvd	50%	80%	3 along Lake Austin Blvd.
			25' along Enfield (residential)			
			50' along Enfield (non-residential)			
			10' from Golf Course Tract			
Safeway	0.45	40 (3 stories)	35' from ROW along Lake Austin Blvd	50%	90%	2 along Lake Austin Blvd.
			25' from W. 8th & Newman St.			1 along Newman St.
			15' from Exposition Blvd.			2 along Exposition Blvd.
Deep Eddy	0.45	40 (3 stories)	35' from ROW along Lake Austin Blvd			
			50' from W 7th St & Hearn St. (non-residential)	50%	80%	5 along Lake Austin Blvd.
						3 along W 7th St.
						1 along Hearn St.
Town Lake	0.45	65 (5 stories), Brackenridge Apt. Parcel	50' from ROW along Lake Austin Blvd	50%	75%	1 along Red Bud Trail
		570' above mean sea level, Colorado Apt. Parcel	25' from Red Bud Trail & Hearn St.			
			200' from Town Lake (normal water elev.)			
			100-yr floodplain / 10' from high bank along Schulle Branch			



City of Austin

Founded by Congress, Republic of Texas, 1839
Watershed Protection and Development Review Department
One Texas Center, 505 Barton Springs Road
P.O. Box 1088, Austin, Texas 78767

CAPITOL VIEW CORRIDOR DETERMINATION

C17-2008-0137

For: Brackenridge Tract

7/2/2008

Case Reviewer: Lynda Courtney

974-2810

This site is traversed by Capitol View Corridor # 19, "Red Bud Trail" and State-Defined Capitol Corridor # 35 "Red Bud Trail", which is narrower. These were established as view corridors in the Capitol View Preservation Ordinances 840802-T and 841220-CC. The Capitol View Corridor calculations are established to determine the maximum height structures may be built without compromising a straight line which connects a viewpoint to the base of the capitol dome.

For the Capitol View Corridor # 19, twelve points were identified on the site where the view corridor crosses the site property lines and where street lines cross the view corridor. Additional points were placed at the center points of the line segments between these. Points A-F and M-R are shown on the attached graphic to illustrate the locations on which this determination was made.

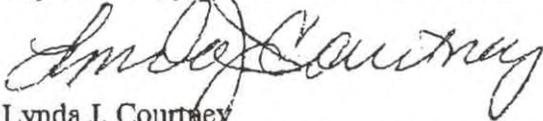
The specified points, as shown on the graphic attachment, would allow for building heights between 129.75 and 249.52 feet above the ground level. The maximum height allowable for any structure at this location would be between 673.75 and 679.52 feet elevation above sea level. The set of calculations are shown on the worksheet, included as an exhibit with this report. Height is measured as explained in the definition from the City of Austin Land Development Code. **The maximum elevations shown at this point represents the heights above sea level beyond which any development on the site cannot exceed.**

For the SDCC Capitol View Corridor # 35, twelve points were identified on the site where the view corridor crosses the site property lines and where street lines cross the view corridor. Additional points were placed at the center points of the line segments between these. Points A-L are shown on the attached graphic to illustrate the locations on which this determination was made.

The specified points, as shown on the graphic attachment, would allow for building heights between 129.75 and 249.52 feet above the ground level. The maximum height allowable for any structure at this location would be between 673.73 and 679.52 feet elevation above sea level. The set of calculations are shown on the worksheet, included as an exhibit with this report. Height is measured as explained in the definition from the City of Austin Land Development Code. **The maximum elevations shown at this point represents the heights above sea level beyond which any development on the site cannot exceed.**

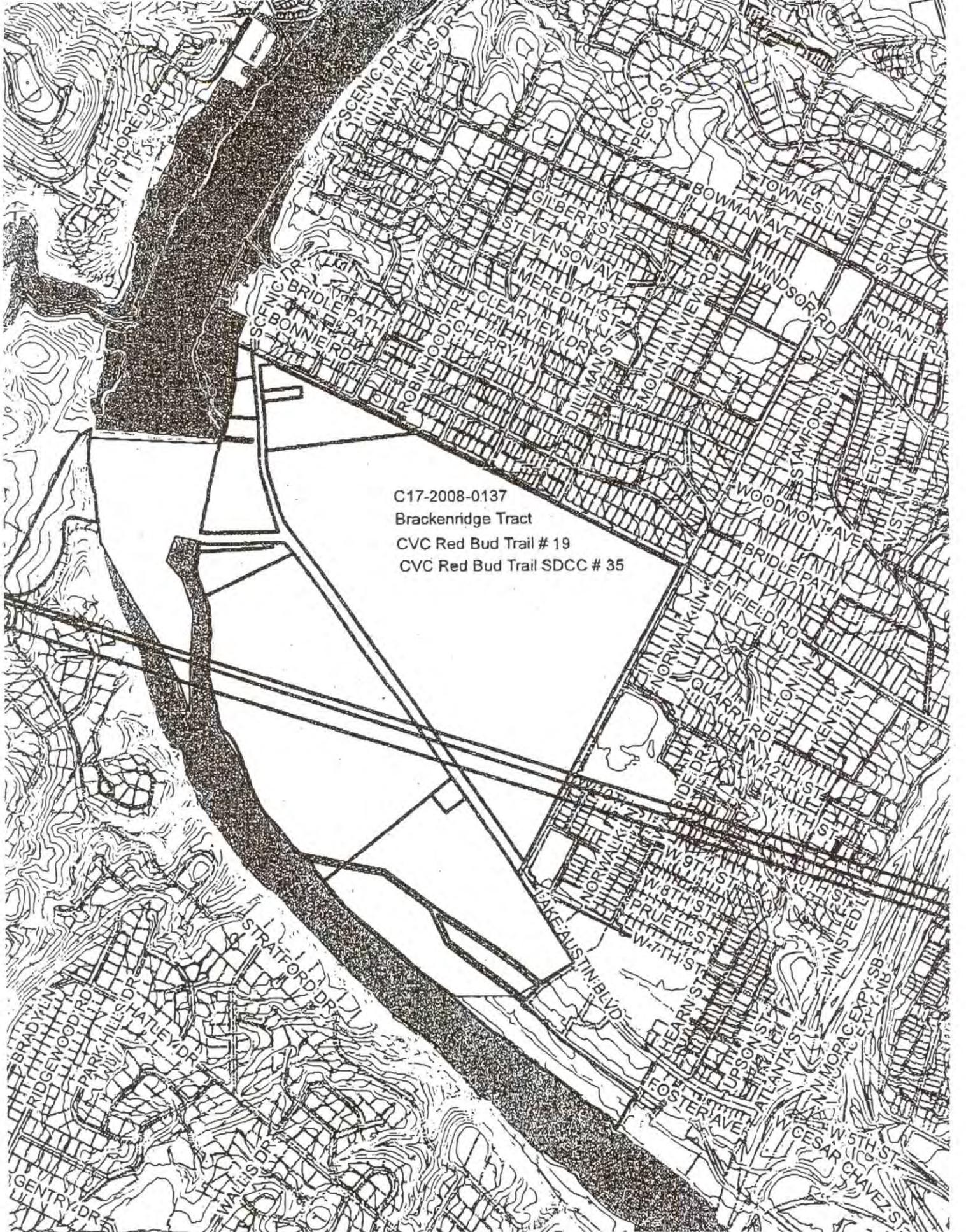
Allowable heights may be interpolated along the capitol view corridor lines based on these calculated points. There is no zoning for this site as it is state owned property, so there is no zoning-specified height limitations at this time. When the site is zoned, those height limits may be more restrictive than the capitol view corridor height limits contained in this report. At this time, the capitol view corridor height limitations are more restrictive than the zoning and the heights must be limited to the maximum limits specified by the Capitol View Corridors.

If you have any questions about this determination, please call Lynda Courtney at 974-2810.

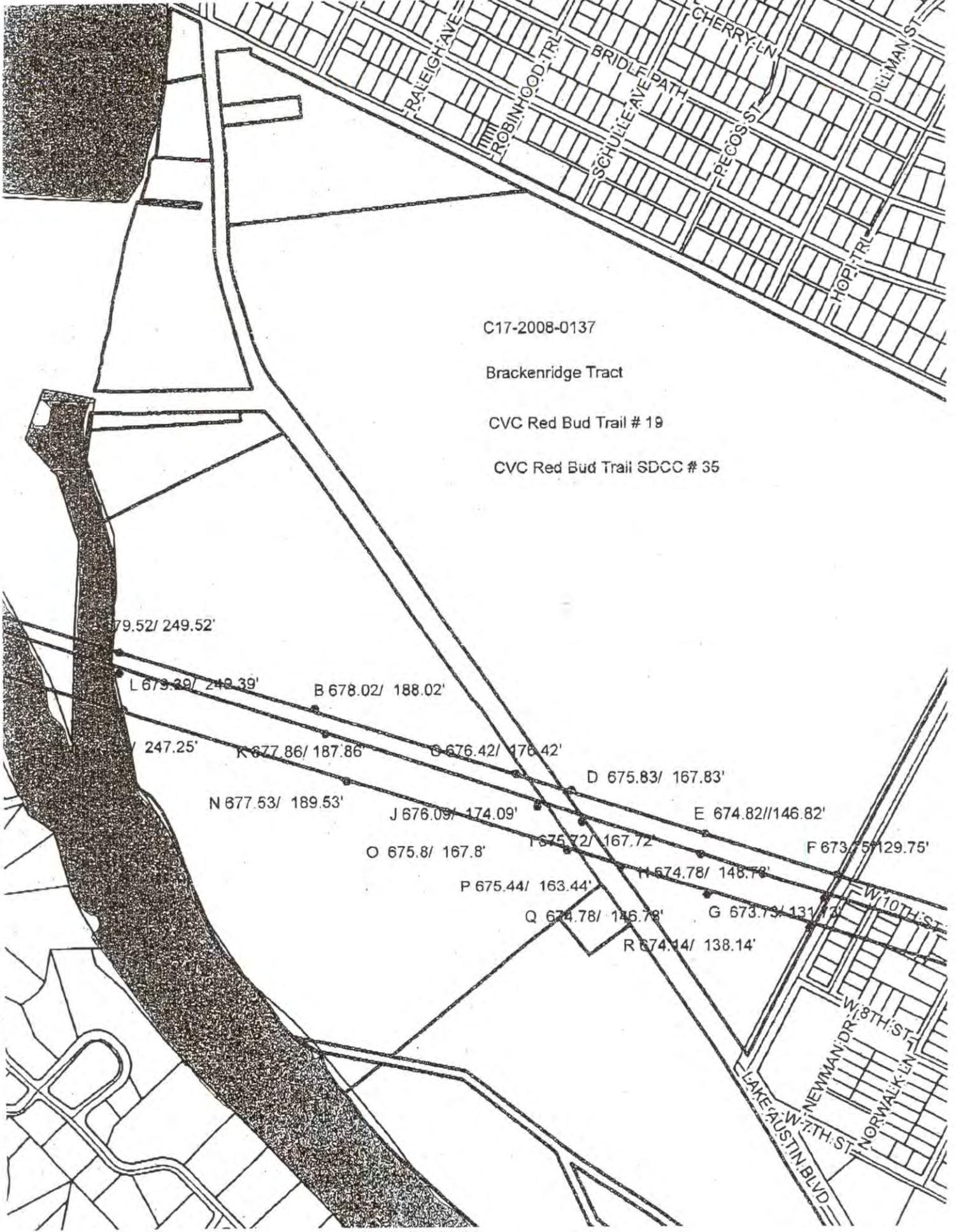


Lynda J. Courtney
Development Services Process Coordinator
Watershed Protection and Development Review Department

Attachments



C17-2008-0137
Brackenridge Tract
CVC Red Bud Trail # 19
CVC Red Bud Trail SDCC # 35



C17-2008-0137

Brackenridge Tract

CVC Red Bud Trail # 19

CVC Red Bud Trail SDCC # 35

79.52/ 249.52'

L 679.39/ 249.39'

B 678.02/ 188.02'

247.25'

K 677.86/ 187.86'

C 676.42/ 176.42'

D 675.83/ 167.83'

N 677.53/ 189.53'

J 676.09/ 174.09'

E 674.82/ 146.82'

O 675.8/ 167.8'

I 675.72/ 167.72'

F 673.75/ 129.75'

P 675.44/ 163.44'

H 674.78/ 146.78'

Q 674.78/ 146.78'

G 673.73/ 131.73'

R 674.14/ 138.14'

W 10TH ST

W 8TH ST

LAKE AUSTIN BLVD

NEWMAN DR

MORWALK LN

W 7TH ST

W 6TH ST

CAPITOL VIEW CORRIDOR
Height Determination Worksheet

Location Map

C17-2000-0137
CVC #19 Red Bud Trail
Brackensridge Tract



name of CVC and which point
letter at dot on site
VP - viewpoint
a - elevation of base of dome (600) minus VP elevation
b - distance from VP to capitol
c - distance to capitol
d - VP elevation to sightline at review site
e - distance from VP to review site
h - alternate height

from sheet
measure site to capitol subtract from
45"

Viewpoint	Review Site	VP Elevation	RS Elevation (approx.)	a	b	can't	b'	a'	Max. Elev + a'	h
				553 - VP Elevation	Distance VP to Cap	a/b	Distance VP to RS	can't times b'	VP elev.	Max. alt - RS elev (approx.)
CVC #19	A	684	430	-31	15045 17584	-0.018	2489	-4.48	679.52	249.52
Red	B	"	490	"	14209 17534	-0.018	3325	-5.98	678.02	188.02
Bud	C	"	500	"	13324 17534	-0.018	4210	-7.58	676.42	176.42
Trail	D	"	508	"	13025 17534	-0.018	4509	-8.17	675.83	167.83
	E	"	528	"	12432 17534	-0.018	5109	-9.18	674.82	146.82
	F	"	544	"	11840 17534	-0.018	5694	-10.25	673.75	129.75
	M	"	432	"	14888 17784	-0.017	2795	-4.75	679.25	247.25
	N	"	488	"	13976 17784	-0.017	3808	-6.47	677.53	189.53
	O	"	508	"	12962 17784	-0.017	4822	-8.20	675.8	167.8
	P	"	512	"	12748 17784	-0.017	5036	-8.56	675.44	163.44
	Q	"	528	"	12363 17784	-0.017	5421	-9.22	674.78	146.78
	R	"	536	"	11892 17784	-0.017	5802	-9.86	674.14	138.14

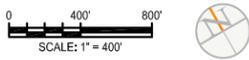


LEGEND

- Brackenridge Tract
- Scenic Route
- Capitol View Corridor (Inside Brackenridge Tract)

Source of Data:
City of Austin Watershed
Protection and Development
Review Department.

DRAFT



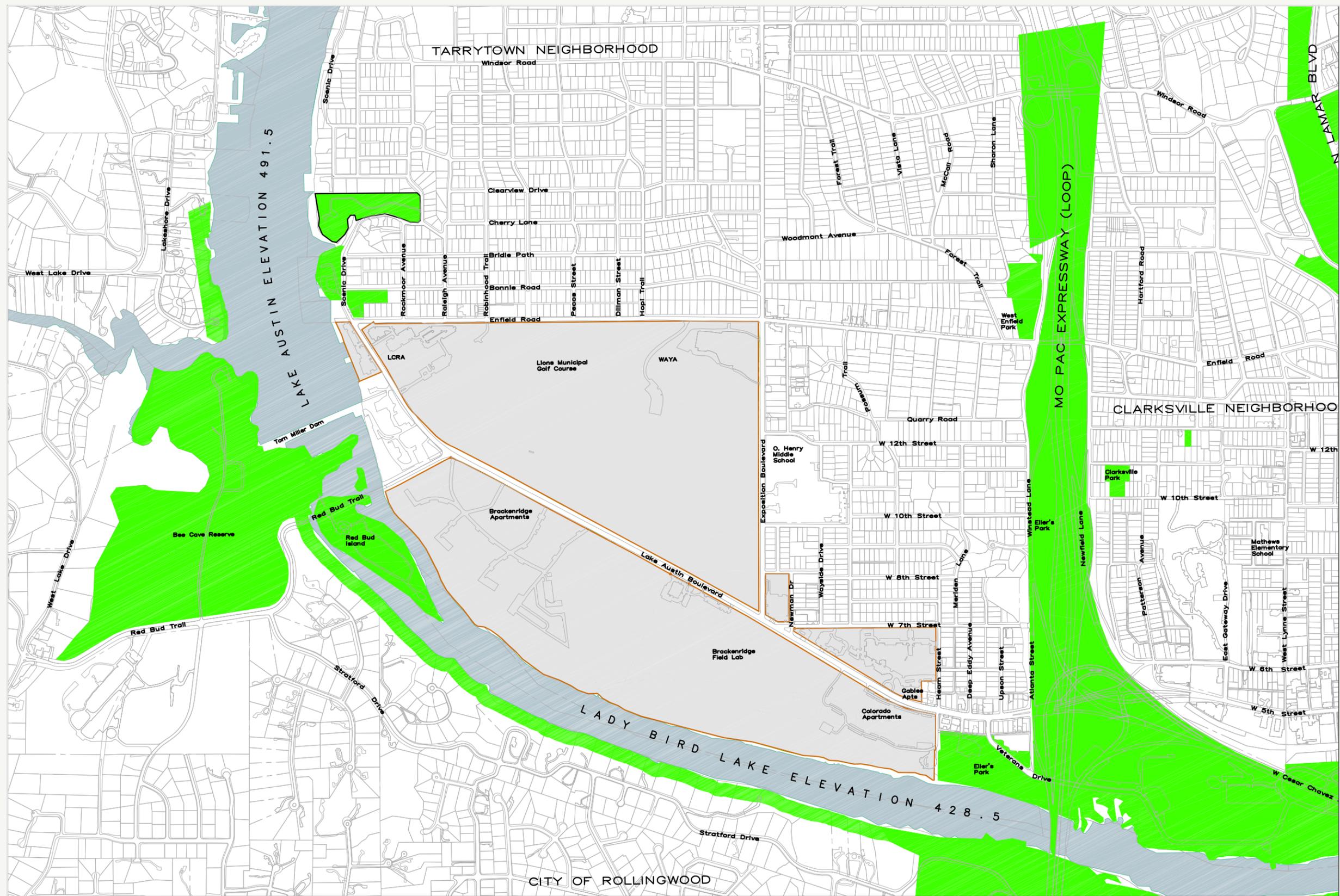
CONCEPTUAL MASTER PLAN: CAPITOL VIEW CORRIDOR & SCENIC ROUTE

UNIVERSITY OF TEXAS: Brackenridge Tract
AUSTIN, TEXAS

Cooper, Robertson & Partners
Master Planner and Team Leader
TBG Partners
Landscape Architects
K. FRIESE & ASSOCIATES, INC.
Civil Engineers
HS&A
Cost Estimator and Academic Programmer
Concept Development and Communications, LLC
Stakeholder Input and Communications Consultant

Prime Strategies, Inc.
Traffic and Transportation Analyst
Economics Research Associates
Financial and Market Analyst
DuBois, Bryant & Campbell, LLP
Zoning and Public Policy Specialist
Rabs-Kristner Consultants, Inc.
Environmental Consultant

August 22, 2008



LEGEND

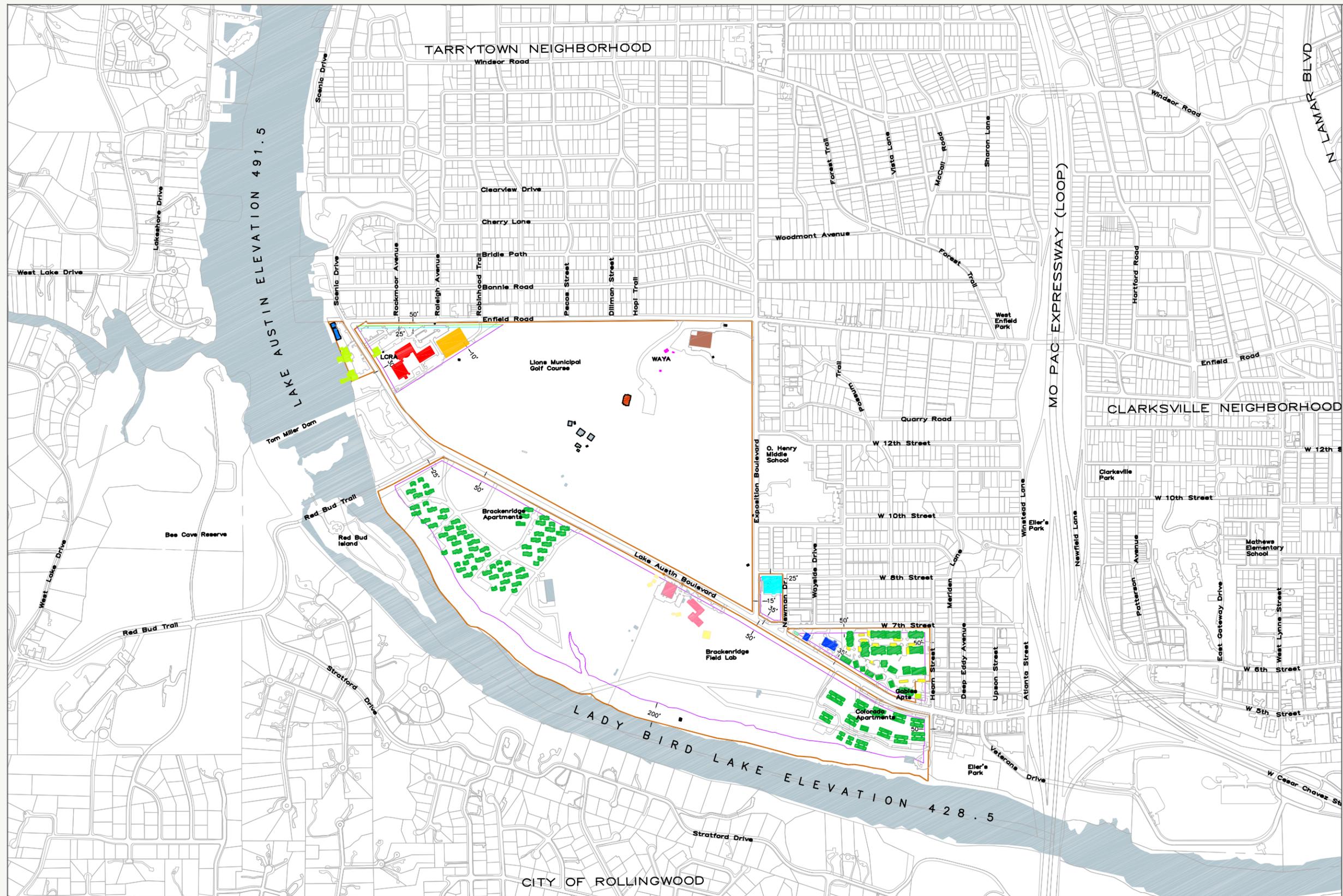
- Brackenridge Tract
- Parks and Open Space

Source of Data:
Parks and Open Space data
supplied by the City of Austin.

DRAFT

0 400' 800'

SCALE: 1"=400'

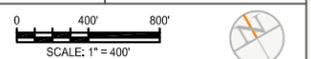


LEGEND

- Building Setback
- Residential Building Setback
- Non-Residential Building Setback
- Brackenridge Tract
- Apartment
- Commercial
- Commercial Parking Garage
- Dugout
- Garage
- Gas Station
- Government Office
- Greenhouse
- Grocery Store
- Press box at Baseball Field
- Restaurant
- Storage
- Office
- Non profit

Source of Data:
 BDA Building Setbacks were created by CAS Consulting Services, Inc. based on data from Brackenridge Development Agreement

DRAFT



0 2000 4000 8000 10560 (2 miles) 16000 21120 (4 miles) 26000 42240 (8 miles) 54000 84480 (16 miles) 96000

CONCEPTUAL MASTER PLAN: BDA BUILDING SETBACKS



UNIVERSITY OF TEXAS : Brackenridge Tract
 AUSTIN, TEXAS

Cooper, Robertson & Partners
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 TBG Partners
 Landscape Architects
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 Civil Engineers
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 DuBois, Bryant & Campbell, LLP
 Zoning and Public Policy Specialist
 Rahn-Krister Consultants, Inc.
 Environmental Consultant

August 22, 2008

A4. TBG MEMOS: AUSTIN ECOREGIONS



To: Cooper Robertson & Partners
Paul Milana
Richard Ashcroft
Michele van Deventer
David McGregor

FROM: Kimberly Doerle
DATE: July 9, 2008
PROJECT: UT Brackenridge Tract
PROJECT NO.: A08220

CONFIDENTIAL

SUBJECT: Austin Ecoregions

FOR:

- YOUR USE
- APPROVAL
- REVIEW/COMMENT
- INFORMATION ONLY
- AS REQUESTED

REMARKS:

The greater Austin, Texas metro area is a region of great ecological diversity (1). There are three ecological communities which bisect the Austin area (see attached exhibit), which include:

1. Edwards Plateau – located in western Travis County
2. Texas Blackland Prairies – located in eastern Travis County
3. East Central Texas Plains – located east of Travis County (location of UT Stengl Field Lab)

With regard to the debate on the Brackenridge Field Lab, it is important to understand the ecological characteristics of each of the three ecoregions. Located at the boundary of two ecoregions, the Brackenridge Field Lab exhibits characteristics of both the Edwards Plateau and the Texas Blackland Prairies. Plant and wildlife communities present on the Tract differentiate the two ecoregions making the site invaluable for teaching and research. UT's other Field Lab, the Stengl Field Lab, is located within the East Central Texas Plains ecoregion.

The Edwards Plateau is a dissected limestone plateau. Regional physical characteristics include plains and valleys defined by deeper soils that combine with hills to the south comprised of shallow Mollisols soils and shrub vegetation. The region has a sparse network of perennial streams which are relatively clear and cool in temperature (1). Biologically, the region is home to juniper-oak savanna and mesquite-oak savanna plant communities along with various endemic vascular plants. Ashe juniper has increased in some areas within the region due to its rapid seed dispersal and a decline in fires, reducing the extent of grassy savannas (1). According to Norma Fowler, a professor in UT's section of Integrative Biology, the ecoregion is home to a variety of endangered species including the black-capped vireo, golden-cheeked warbler, various salamanders and karst invertebrates, San Marcos gambusia, Texas wild rice, canyon mock orange, and the bracted twistflower. Non-native fire ants have established residency in the area and are contributing to diminished native biodiversity (2).

The Texas Blackland Prairie is characterized by a high degree of plant community diversity (3). The soil structure in the region includes fine-textured, clayey soils and prairie potential natural vegetation (1).



July 3, 2008

Dominant grasses in the region include little bluestem, big bluestem, yellow indiagrass and switchgrass. In addition, deciduous bottomland woodland and forest are common along the rivers and creeks (3). Woody vegetation including mesquite, hackberry, elm and osage orange provide habitat for a variety of wildlife. Upland wildlife communities include small game animals, songbirds, waterfowl and shore birds, and a limited population of white-tailed deer (4).

The East Central Texas Plains ecoregion is characterized by the post oak savanna, or claypan area (1). Common hardwoods of the region include vegetation characteristic of the oak-hickory forest association including scarlet, post, blackjack oaks, pignut and mockernut hickories, as well as forests of elm, pecan and walnut (3). Soils in the region tend to be acidic, with sands and sandy loams on the uplands and clay to clay loams located in low lying areas (1). Previously, the region was home to the jaguar and bison, and is currently a vibrant butterfly and reptile habitat (3).

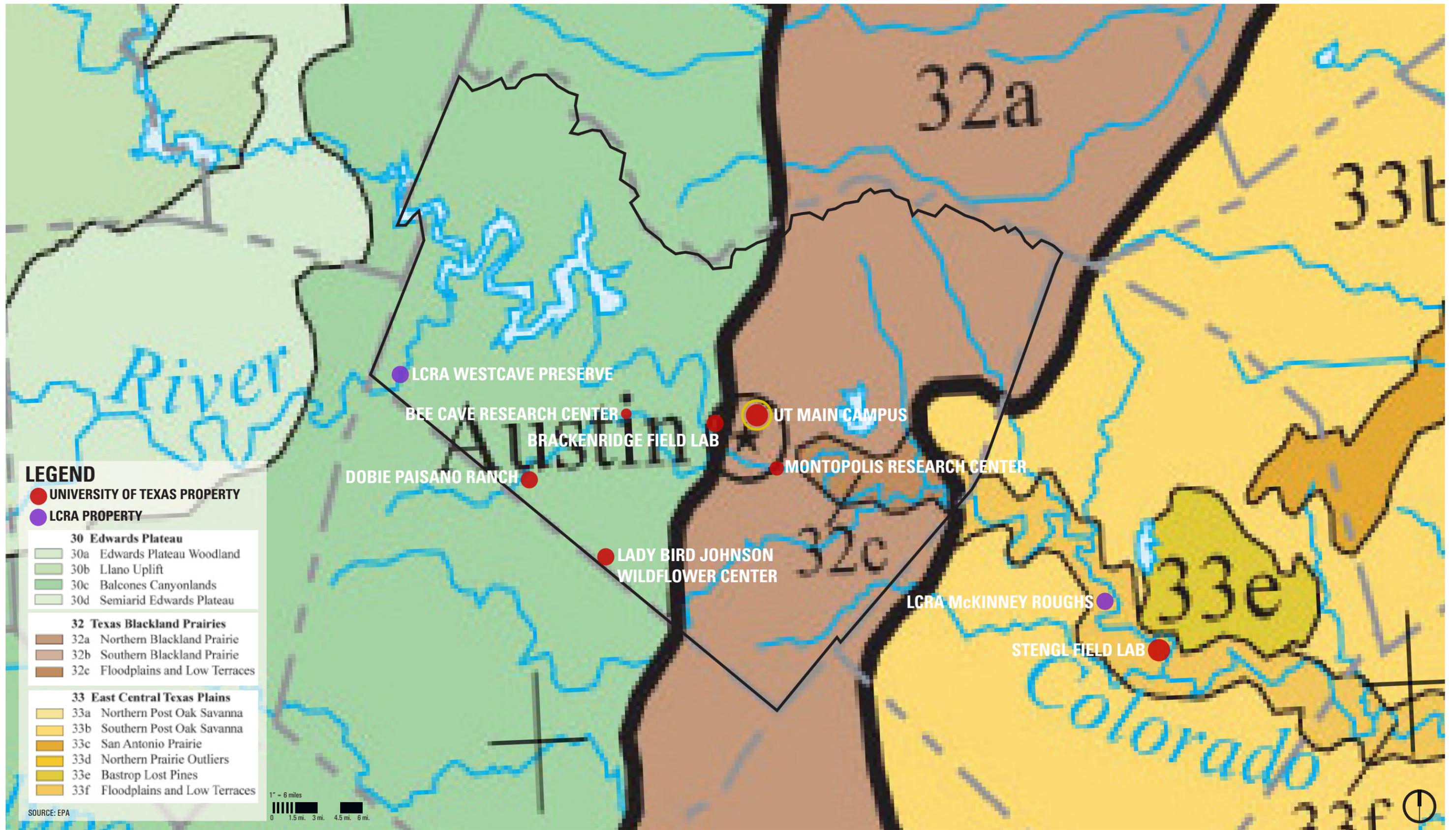
In conclusion, the Brackenridge Field Lab combines three distinctive components making it a valuable ecological education resource—lakefront access, characteristics of the Edwards Plateau ecosystem and characteristics of the Texas Blackland Prairies. The University of Texas system has other properties which might be possible candidates for a potential relocation of the field lab, but none that exhibit these three physical characteristics.

References

1. EPA website, www.epa.gov
2. Norma Fowler, UT section of Integrated Biology, www.sbs.utexas.edu/fowler/epveg/epmainpage.htm
3. World Wildlife Organization, www.worldwildlife.org
4. Texas Parks and Wildlife, www.tpwd.state.tx.us

CC: Sean Compton

Y:\Brackenridge-P\00-Administration\Corespondence\Memo\Memo_CRP Ecoregions_08-07-09.doc



LEGEND
 ● UNIVERSITY OF TEXAS PROPERTY
 ● LCRA PROPERTY

- 30 Edwards Plateau**
- 30a Edwards Plateau Woodland
 - 30b Llano Uplift
 - 30c Balcones Canyonlands
 - 30d Semiarid Edwards Plateau
- 32 Texas Blackland Prairies**
- 32a Northern Blackland Prairie
 - 32b Southern Blackland Prairie
 - 32c Floodplains and Low Terraces
- 33 East Central Texas Plains**
- 33a Northern Post Oak Savanna
 - 33b Southern Post Oak Savanna
 - 33c San Antonio Prairie
 - 33d Northern Prairie Outliers
 - 33e Bastrop Lost Pines
 - 33f Floodplains and Low Terraces

SOURCE: EPA



ECOSYSTEMS OF AUSTIN

JUNE 23, 2008

The information shown is based on the best information available and is subject to change without notice.



T B G
 PARTNERS



TO: Cooper, Robertson & Partners

FROM: Kimberly Doerle
Mindy Cooper
DATE: 03/09/2009
PROJECT: Brackenridge Tract
PROJECT NO.: A082220

SUBJECT: Community Gardens - Inventory

FOR:

- YOUR USE
- APPROVAL
- REVIEW/COMMENT
- INFORMATION ONLY
- AS REQUESTED

REMARKS:

Austin is home to 22 public community gardens throughout the downtown area. Community gardening provides fresh vegetables and plants to the community, neighborhood involvement and creates a sense of community. Below is a collection of information on community gardens in the Austin area and an inventory of each one.

Community Garden – General Guidelines

- food bank donation requirements
- organic growing method requirements
- contributions to maintaining the garden facility
- agree to maintain and agree that if not maintain, plot is forfeited
- no trees allowed
- no plants or structures that will shade other plots

Existing Community Gardens in Austin

1- Alamo Community Garden, 2101 Alamo Street

15 plots total

(14) 200 sq. ft. plots (10' x 20')

Horticultural therapy bed @ wheelchair height

Composting, Rainwater Collection

Purple martin house

<http://groups.yahoo.com/group/alamogarden/?v=1&t=search&ch=web&pub=groups&sec=group&slk=1>

\$50 full plot or \$25 half plot

1 work hours per gardener per month to maintain garden facility



2- Blackland Learning Garden, Pennsylvania Ave. across from Kealing Middle School

(1) 50' x 150' lot

Medicinal herb garden

Vegetable gardens maintained by Kealing students

Underground cistern & rainwater harvesting system

<http://www.nicoletelkes.com/community.htm>

Volunteer project

3- Cedar Park Community Garden, Elizabeth Milburn Park @ 1901 Sun Chase Blvd, Cedar Park

10' x 20' = \$15 for resident, \$30 for non-resident

10' x 10' = \$8 for resident, \$16 for non-resident

2-1/2" x 24' ADA accessible plot = \$5 for resident, \$10 for non-resident

All gardeners must donate 10% of their produce to the community through a local food bank.

<http://www.cedarparktx.us/cp/page6595215.aspx>

4- Deep Eddy Community Garden, 401 Deep Eddy Avenue

32 plots total

20' x 20' (full, 1/2, 3/4, 3/5 or 7/16 plots available)

Rental fees = 6 month terms

Full = \$35, 3/4 = \$25, 3/5 = \$21, 1/2 = \$17.50, 7/16 = \$15.75

\$10 donation for tool coop

3 work hours per plot per 6 month subscription to maintain garden facility

5- El Jardin Alegre Community Garden, 1801 East 2nd Street

40 plots total

10' x 12' plots

Urban orchard

2 herb beds

Compost

Bee hive

Gathering area w/benches

Tool shed

Art mural

<http://groups.yahoo.com/group/eljardinalagreg/?v=1&t=search&ch=web&pub=groups&sec=group&slk=1>

\$30 full plot

2 work hours per month per gardener to maintain garden facility

6- Good Soil Community Garden, SW corner of 12th & Chicon

12 plots total

Vary in size

Participant in Sustainable Food Center's Spread the Harvest program



<http://peggysue.as.utexas.edu/kaisa/Garden/>

Free plots

7- Martin Middle School, 1602 Haskell Street

A school garden which allows members from the surrounding community to garden in some of its plots.

9- Quilombo Garden Collective, 5606 Harold Court

Formed in 2006 by neighbors and friend who wanted to create gardens and protect Huston & Harold Ct. from illegal dumping. Since gardens were started, there has been no illegal dumping and the gardens have reduced weeds & remediated the soil that once sat under used cars.

10- South Austin Community Garden, Cumberland & S. 5th Street

32 plots total

12' x 18' plots

Large co-op garden

Orchard

Provides vegetables to the neighboring Salvation Army's soup kitchen

<http://www.main.org/sacgarden/index.html>

\$4/month per plot

\$5/month for co-op garden

2 work hours of community volunteer time per month/per plot

11- Sunshine Community Gardens, 4814 Sunshine Drive

One of the largest in the nation

200+ plots total on 4 acres of TX School for the Blind & Visually Impaired land

20' x 20' full plot or 10' x 20' half plot

Voted Best Community Garden by Austin Chronicle '98, '04, '06, '07

<http://www.sunshinecommunitygardens.org/>

Full plot = \$90/year, \$50/half year

Half plot = \$45/year, \$30/half year

Tool Co-op = \$20

Unworked service hours: \$30/hour

6 work hours per full plot & 3 hours per ½ plot per season to maintain garden facility

12- Travis County Southeast Metro Park, Hwy 71 at FM 973

8 plots total

10' x 10' plots

Started by Popham Elementary school

In a county park

Compost, tools, hoses provided

Fruit trees, vineyard & berry patch

http://www.co.travis.tx.us/tnr/parks/southeast_metro.asp



No fees

No work hours required but must keep plots free of bermuda grass & weeds, only organic fertilizers allowed.

13- Windsor Park Community Garden, 5801 Westminster

4' x 10' raised beds

Pond, apiary (beekeeping), orchard

http://www.wpcg.org/index.php/Main_Page

\$40/year

1 work hour per month per member to maintain garden facility

14- Blackshear Community Garden, 2001 E. 9th Street

Part communal, part individual plots

11 plots total, 5 neighborhood rows

http://communitygardensaustin.org/?page_id=26

15- Clarksville Community Garden, 1705 Waterston Avenue

Located behind the Haskell House

No fee, but must volunteer to maintain garden

16- Garden of Eden, 1901 Rio Grande Street

17- Homewood Heights Community Garden, 2106 Sol Wilson

Part communal, part individual plots

<http://homewoodheightsgarden.blogspot.com/>

18- Lifeworks Community Garden, 2001 Chicon Street

New, will be accepting gardeners fall of 2008

19- Montopolis Community Garden, 1417 Montopolis Drive

New garden funded by an APF grant

21- CoLab Community Garden, 613 Allen Street

Free Garden

<http://www.colabspace.org/>

22- Hyde Park Community Garden, 610 E. 45th Street at Eilers

12 plots total

4' x 8' plots

One plot devoted to a pilot garden for Godly Play a Montessori-based children's curriculum

Existing Youth Gardens in Austin (school sponsored programs)

1- Open Door Preschool

2- Sanchez Elementary School



- 3- Maplewood Elementary School
- 4- UT Elementary School
- 5- Presidential Meadows Elementary School
- 6- Perez Elementary School
- 7- Linder Elementary School
- 8- Ann Richards Middle School
- 9- Dobie Middle School
- 10- Webb Middle School
- 11- Gus Garcia Middle School
- 12- Manor Middle School
- 13- Excel High School
- 14- Garza Independence High School



TO: Cooper Robertson & Partners

FROM: Kimberly Doerle
DATE: 03.06.2009
PROJECT: UT Brackenridge Tract
PROJECT NO.: A08220

SUBJECT: Open Space Inventory

FOR:

- YOUR USE
- APPROVAL
- REVIEW/COMMENT
- INFORMATION ONLY
- AS REQUESTED

REMARKS:

I. Context: Open Space

Introduction

Open Space is a term used to describe open land for active or passive use. There are a number of open spaces in the form of state parks, county parks, city parks and private land which are open to the public in the Austin metropolitan region. Most publically accessible open space in the urban core of Austin is owned and operated by the city of Austin.

The City of Austin defines Open Space as "an outdoor or unenclosed area, located on the ground or on a roof, balcony, deck, porch, or terrace, designed and accessible for outdoor living, recreation, pedestrian access, or landscaping, excluding parking facilities, driveways, utility, and service areas." One important component of open space is the ability for the public to access it. A distinction must be made between usable open space that is accessible to the general public and land that is open and undeveloped or private, and therefore not accessible to the general public.

a. Regional

Within the Central Texas Region, there are a variety of outdoor destinations open to the public. Some of these areas include state parks, county parks, city parks, and areas on private lands.



State Parks

The Texas Parks and Wildlife Department has many state parks in the Austin region, specifically six which are within or around an hour drive from downtown Austin. Those parks are the McKinney Falls State Park (744 acres), Pedernales Falls State Park (5,212 acres), Bastrop State Park (5,926 acres), Buescher State Park (1,017 acres), Lockhart State Park (264 acres) and the Monument Hill/Kreische Brewery State Historic Site (40 acres). Parks owned and operated by the state require a fee for entry which runs between \$2 and \$4 dollar per day for persons 13 years and older. The state parks within the Austin area all are in a natural setting and have similar programs, which generally include camping, picnicking, hiking, wildlife observation, fishing, bird watching and biking. Some parks, such as the Pedernales Falls State Park, provide river swimming, and tubing.

County Parks

The Travis County Parks Department oversees 26 parks throughout the county. These parks range in size from 3 acres to over 300 acres and offer residents numerous park activities. The base program of the County parks includes hiking, nature study, picnicking, biking and camping in a natural setting. Some parks, including Bob Wentz Park, offer scuba diving, swimming, sailing and wind surfing on Lake Travis. Entrance fees are generally range between \$3 for pedestrians and bicyclists to \$20 for improved camping sites.

LCRA

In addition to the State and County Parks in the area, there are also a variety of parks open to the public land owned by the Lower Colorado River Authority (LCRA). The LCRA has 40 parks and recreational areas along the Colorado River from the hill country counties of San Saba and Lampasas in the north to Matagorda County on the Gulf of Mexico.

LCRA parks are broken down into developed parks, recreational areas, natural resource areas and river access sites. Developed parks are parks that have amenities, such as docks, boat ramps or trails which are programmed for activity. Recreational areas are much more rustic and un-programmed than the developed parks. A natural resource area is protected areas open to the public on a limited basis and lastly, and river access sites are un-programmed areas that provide access to the Colorado River for kayaks and canoes. Most of the LCRA parks require an annual permit to be purchased on top of entry fees.

b. City: Parks, Town Lake Trail, Golf Courses

City of Austin Public Parkland

The City of Austin's Park and Recreation Department, also known as PARD, oversees 206 parks, 26 greenbelts and 12 preserves totaling an astonishing land acre of 16,682 acres. The City park

portfolio ranges between small urban plazas, such as Plaza Saltillo located in East Austin to expansive greenbelts, such as the 772 acre Barton Creek Greenbelt. The inventory of city parks could be narrowed into four basic types: the linear park or greenbelt, the neighborhood park, the preserve and the city park.

Greenbelt or Linear Park. The greenbelts or linear parks in Austin are located adjacent to existing creeks and waterways for two main reasons – for water quality protection and recreational purposes. One of the most popular greenbelts in Austin is the Barton Creek Greenbelt which is composed of over 700 acres that extends from southwest Austin, south of the City of West Lake Hills, to Zilker Park and Lady Bird Lake in the downtown area. The main programmatic element of the greenbelt is the 7.9 mile trail that runs adjacent to the creek. Users of the trail also swim and wade in the creek when the water is running.

Neighborhood Park. Austin is a city of neighborhoods, and each neighborhood has a centrally located neighborhood park that serves the residents, generally within a 1 mile radius of the park. Most neighborhood parks have basic programmatic features, which might include a playscape, a multi-purpose field, picnic area and benches. Many of the neighborhood parks, notably Reed Park in the Tarrytown neighborhood, provide a community pool for public use during the summer months. Austin’s neighborhood park range in size between 2 and 30 acres.

The Preserve. PARD’s goal for Austin’s Nature Preserves is to provide “sanctuaries for native plants, native animals and unique natural features. They provide educational and scientific opportunities for the people of Austin.” There are a variety of preserves which are open to the public, but some require a reservation for educational groups. There are 12 preserves under the jurisdiction of the city of Austin’s park department.

City Park. There are a number of larger city wide parks that serve the general population of Austin. One of the most notable city parks is Zilker Park, located south of downtown on the shores of Lady Bird Lake. Zilker’s park’s 355 acres consists of numerous fields, a playground with running train (the Zilker Zephyr), picnic areas, pavilions, a municipal swimming hole (Barton Springs), 1.5 miles of trails, a disc golf course, concessions, restrooms, and parking facilities.

The City of Austin’s park inventory exceeds the national standard of 10 acres of open space per every 1000 residents with a current park acreage to person ratio is 23 acres per 1000 people, making it the highest in the state of Texas. The City’s goal is to increase this ratio to 24 acres per 1000 people. In addition, the City’s Park and Recreation department has the goal to provide a park within one mile of every resident in the urban area of Austin.

In addition to the city of Austin’s Park and Recreation, the Families and Children’s task Force published a recommendation in July 2008 to increase the City’s goal of providing one park within a mile distance to providing, by 2018, “a park or public green space within a quarter mile radius of all existing and planning housing located in the urban core, and a half-mile radius for all other parts of the city.” This may be considered in PARD’s updated Long Range Plan.



Town Lake Trail

Town Lake Trail is a 10 mile hike and bike trail located along the shores of Lady Bird Lake in downtown Austin. The trail's meandering path travels along both the north and south side of the lake and connects to a number of city parks, such as Zilker Park and Auditorium Shores; the downtown central business district and surrounding neighborhoods. The trail also connects other trails, such as the Barton Creek Greenbelt trail to the south and the Johnson Creek trail to the north. The trail's northwestern terminus is adjacent to the Brackenridge Tract at Eilers Park. It has been expressed by the public and other groups, that there is an opportunity to bring the trail up through the Brackenridge Tract. This potential trail has the ability to link the entire Town Lake Trail to Red Bud Isle, the Walsh Boat Landing on Lake Austin and to west Austin neighborhoods.

Golf Courses

The city of Austin has approximately 28 golf courses in the greater metropolitan area. Among the 28 courses, five golf courses are owned and operated by the City of Austin's Park and Recreation Department (PARC). These courses include the Hancock Golf Course, located at 811 East 41st Street; the Jimmy Clay Golf Course and the Kizer Golf Course; both located in southeast Austin, south of Ben White Boulevard and east of I-35; Morris Williams Golf Course, located in east Austin, adjacent to the Mueller community; and lastly The Lions Municipal Golf Course, located in West Austin on the Brackenridge Tract. The rates slightly vary, but generally do not exceed \$23 dollars for a round of golf. In addition to the five municipal golf courses, there are also a number of both public (approximately 9 courses) and private golf courses (approximately 14 courses) in the Austin area. Rates for these courses range from the municipal cost to over one hundred dollars for a round of golf.



TO: Cooper Robertson & Partners

FROM: Kimberly Doerle
DATE: 03.06.2009
PROJECT: UT Brackenridge Tract
PROJECT NO.: A08220

SUBJECT: Open Space Categories and Precedents

FOR:

- YOUR USE
- APPROVAL
- REVIEW/COMMENT
- INFORMATION ONLY
- AS REQUESTED

REMARKS:

c. Open Space Types / Precedents

The City of Austin’s Park and Recreation Department, in their 1998 Long Range Plan for Land and Facilities identifies five (5) park categories. Those categories include Neighborhood Parks, District Parks, Metropolitan Parks, Greenbelts and Special Parks. In the context of the Brackenridge site and its location in West Austin, we have collected information on the following open space categories, which may or may not fall within the PARD categories, but are applicable to an open space system considering the scale and setting of the 346 acre Brackenridge Tract. The categories are Neighborhood Park, District (or Community Park), Greenbelt/Greenway, Special Parks, Community Gardens, and Pocket Park. We have collected information on the following types, as well as local and national precedents of relevant examples in each category.

Neighborhood Park

The neighborhood park is the recreation foundation of the park’s system. They serve a recreational and social purpose for an immediate area and should respond to the demographics and cultural composition of the community. The size of a neighborhood park typically is 5 acres or more, 8 to 10 acres are preferred and City of Austin extends the size to 30 acres. The service area of a neighborhood park should be between ¼ mile (preferred) to a mile (City of Austin goal) and should be unobstructed by major roads or other physical barriers (A). School parks are used in the City of Austin as neighborhood parks, with limited use, to provide recreational and social opportunities in built out areas of the City where park sites were not secured in advance (B).

The program of a neighborhood park should bring people together to socialize and recreate close to home. Amenities should be tailored to multiple age groups, and should be a balance between

passive and active recreation. Neighborhood parks do not provide a parking facility, since users of the park typically walk or bike since the park is in close proximity. Some potential programming elements might include:

- Open informal lawn area or play fields for informal recreation
- Play area/playscape for multiple age groups
- Active recreation courts, such as basketball court, volleyball court and/or tennis court
- Internal trail loop with access from streets, or potentially from a nearby community trail
- Pavilion or picnic area for social gatherings
- General park amenities, such as benches, bike rack, water fountains, trash receptacles, and lighting
- Landscaping which might include both ornamental plantings near high use areas and entrances and naturalized landscaping adjacent to storm water systems or low use areas.
- Limited parking, most parking should be street parking.

Precedent:

1. Mueller Neighborhood Park, Austin, TX – Mueller Neighborhood Park is located in the new Mueller development in east Austin. The park is 2.5 acres and includes the following amenities: playscape, 1 acre open lawn area, a junior Olympic swimming pool, wading pool, pool house with pool equipment and restrooms, a basketball court and a shaded picnic area.

2. Suntime Park, Austin, TX – Suntime Park is located in the suburban subdivision of RiverPlace in west Austin and is maintained by the River Place Municipal Utility District (MUD). The park is approximately 4.6 acres and includes the following amenities: shaded playscape, pavilion, restrooms, grills and picnic areas, one soccer field, one multi-purpose field, basketball court, exercise stations, jogging trail and various park amenities, such as water fountains and benches.

3. Zilker Neighborhood Park, Austin, TX – Zilker Neighborhood Park is located in south Austin. The park is 4.5 acres and is adjacent to the Zilker Elementary School, but the land is owned by the City of Austin. The park includes: a multipurpose field, BBQ pits with picnic tables, a playscape, softball fields and quarter mile walking trail.

4. Big Stacy Park, Blunn Greenbelt and Little Stacy Park, Austin, TX – The three parks: Big Stacy Park, the Blunn Greenbelt and Little Stacy Park are adjacent to one another and are located in south Austin. Big Stacy Park serves as the southern bookend of the three parks and is 3.31 acres in size. The park program includes: a multi-purpose field, a volleyball court, picnic tables, BBQ pits, an indoor restroom, a swimming pool (444 Sq. yards) and a 1.5 mile trail system. Little Stacy Park serves as the northern bookend and is 6.73 acres. The park program includes: a

multi-purpose field, 1 lighted tennis courts, a volleyball court, a multi-purpose court, a playscape, picnic tables, picnic pavilion, BBQ pits, indoor Restroom, a wading Pool and 0.25 miles of trails. The 12.9 Blunn Greenbelt is located between Big Stacy and Little Stacy Parks and has a 0.67 mile trail which connects the two parks adjacent to the creek.

District Park (or Community Park)

A Community Park serves a broader demographic than a neighborhood park. The focus of these parks should be to provide community based recreational needs, preserving unique landscapes and provide open space for a number of neighborhoods. The size of a community park typically varies in size depending on the size of the community (several neighborhoods to an entire region) that it is serving, but a range between 20 to 40 acres is typical. The City of Austin in their Long Range Plan, identified community parks ranging in size from 30 to 200 acres and should serve a 2 mile area. A community park should provide recreational and social needs for a wide-ranging community (A).

The program of a community park should bring people together from the general community. It should include all of the amenities of a neighborhood park, but at a larger scope and scale. Some potential programming elements might include:

- Larger open spaces for both active and passive use
- Open maintained green space
- Extensive looping trail system with trail amenities
- Multiple group picnic facilities, ranging in size to accommodate both small and large gatherings
- Athletic facilities which might include basketball courts, tennis courts, baseball/softball fields, etc.
- Restrooms
- Special-use facilities that serve a specific recreational purpose (i.e. dog parks, skateboard park, aquatic center / swimming pool, etc.)
- Parking facility for multiple cars (need to get City requirements)

Precedent: Olmstead Linear Park, Atlanta, GA
Mueller Lake Park, Austin, TX

Riverside/waterfront Precedent: Buffalo Bayou, Houston, TX
Trinity River, Dallas, TX
Waterfront Park, Charleston, SC

Greenbelt /Greenway

A Greenbelt as a linear park that usually is located along rivers, creeks and scenic ravines with a focus on protecting ecological resources. Greenbelts provide passive recreational opportunities, such as walking, hiking, jogging, and biking and ideally serve as alternative transportation links between neighborhoods, parks, schools and other destinations (B). The width of the greenbelt may vary and should provide direct linkages to adjacent neighborhoods, parks and destinations.

The program of a greenbelt should provide for passive recreation and a nature experience. Some potential programming elements might include:

- Extensive trail system to provide for walking, hiking, running and biking
- Interpretative and directional signage at key locations
- General park amenities, such as benches, bike rack, water fountains, trash receptacles, and lighting at key locations
- Naturalized minimal landscaping, with no irrigation requirements
- Restroom (composting type) at the trail head
- Parking facility at the trail head

A Greenway is similar in program as a greenbelt, but serves a larger function. Some additional functions of a greenway, aside from recreational purposes, may be wildlife corridors, flood control, preserving water quality, alternative transportation routes with upgraded trail surfaces (B).

Precedent: Pease Park and the Shoal Creek Greenbelt, Austin, TX
Boise Greenbelt, Boise, ID

Special Parks

Special Parks are parks that have a serve a specific function or preserve an historic, natural or cultural feature, which may include a nature preserve, art centers, museum, historic landmark, golf courses, scenic viewpoints or urban squares. Services might vary, but typically special parks attract city-wide users.

The program of a Special Park varies greatly depending on the scope and scale of the park, but might include the following elements:

- General park amenities, such as benches, bike rack, water fountains, trash receptacles, and lighting at key locations
- Restrooms
- Parking facility



Precedent: Republic Square, Austin TX
Woolridge Square, Austin TX

Community Gardens

Austin is home to 22 public community gardens throughout the downtown area. Community gardening provides fresh vegetables and plants to the community, neighborhood involvement and creates a sense of community. Community gardens are typically publically owned and operated and users must agree to following guidelines:

- Food bank donation requirements
- Organic growing method requirements
- Contributions to maintaining the garden facility
- Agree to maintain and agree that if not maintain, plot is forfeited
- No trees allowed
- No plants or structures that will shade other plots

The size of the community gardens in the Austin area range from 200 square feet to 4 acres. One of the most notable public gardens in the area is the Sunshine Community Gardens, which is one of the largest community gardens in the nation and has been voted the 'Best Community Garden' for multiple years by the Austin Chronicle. This particular garden's cost ranges between \$30 for a half plot for 6 months to \$90 for a full plot for 1 year, which is the most expensive community garden in Austin. Most other gardens in the area are free or costs are minimal. Some gardens in Austin grow medicinal herbs, have installed a rainwater harvesting system or are maintained by nearby elementary school children.

Precedent: Deep Eddy Community Garden, Austin, TX

Pocket Park

A pocket park is a small park, typically on a single vacant lot or on an irregular piece of land that has been converted for public use. Pocket parks can be either publically or privately owned and may be designed to be locked at night, or when not in use. Pocket parks are great opportunities for introducing public green space in an urbanized or previously developed area which is lacking neighborhood parks since they require minimal land area. The program of a pocket park is nominal and may include:

- Seating, which may be either fixed to the ground (benches) or movable (movable chairs)
- Ornamental landscaping
- Feature, which may include a historic marker, a monument, public art, fountain, or small playground



Precedent: Greenacre Park, New York, NY
Waterfall Garden Park, Seattle, WA
Harborside Fountain Park, Bremerton, WA

Sources

- (A) Planning and Urban Design Standards, APA
- (B) Long Range Plan for Land and Facilities, City of Austin Parks and Recreation Department, 1998



TO: Cooper, Robertson & Partners

FROM: Kimberly Doerle
DATE: March 24, 2008
PROJECT: Brackenridge Tract
PROJECT NO.: A08220

SUBJECT: Rain Gardens in Austin Texas

FOR:

- YOUR USE
- APPROVAL
- REVIEW/COMMENT
- INFORMATION ONLY
- AS REQUESTED

REMARKS:

Green Streets, and specifically Rain Gardens located on the public right-of-way, is a storm water management strategy that uses biofiltration, which is a technique using living materials to capture and biologically degrade pollutants in storm water runoff. This could be used on the Brackenridge Tract for many benefits, including:

- Improve water quality
- Reducing irrigation needs in a standard streetscape landscape scheme
- Provides habitat corridors
- Contributes to landscape in the public realm
- Reduce downstream erosion
- Reduce flooding
- Enhancing neighborhood livability,
- Improves the function of the street
- Promotes connectivity
- Enhances the pedestrian environment
- Creates district identity and character

Rain Gardens are a way to manage storm water, but there are issues that arise when planning for these systems in the hot and arid Austin climate of low rainfall coupled with brief concentrated periods of heavy rainfall events. Therefore, two items need to be addressed in planning for Rain Gardens in the Austin climate:

- Aesthetic quality and survivability of the landscape within the rain garden during the summer months of low rainfall periods and high temperatures



- The management of a high volumes of water in a short time period

We believe that incorporating a rain garden system within the street right-of-way can be addressed, but there are several considerations that need to be incorporated including:

- Incorporating an irrigation system to supplement rain water to sustain plant material. Ideally, using reclaimed gray water or stored rainwater through a rainwater harvesting system from the adjacent buildings.
- A collecting storm pipe should be located at the terminus of the rain garden system to collect overflow water during periods of heavy rainfall. The rain gardens would permit a potential reduction of the downstream detention area and should be a part of a connected system.

We have coordinated with K. Frieze and Associates and have determined the following rain garden sizes based on the conceptual street sections provided to us on March 17, 2009.

120 ROW – Symmetrical

While reviewing the rain garden required sizes, we determined an area of 100' LF of R.O.W., so all below sizes and dimensions are what we would be required every 100 LF. The Lake Austin Boulevard symmetrical section requires the following rain garden sizes:

- Rain Garden width 32', or 16' on each side
- Rain Garden length 61.5', or 30.75' on each size
- Needed surface area, min 1960 SF

These calculations are based on the following street dimensions:

- Total ROW length 100'
- Total ROW width 120' R.O.W.
- Width of asphalt area 58'
- Width of sidewalk area 30', or 15' on each side

120 ROW – Asymmetrical with Porous Paving

The 120' asymmetrical ROW section unfortunately can not sustain a rain garden to manage the storm water because there is an excess of imperious area. We have discovered that the 120' asymmetrical ROW rain gardens will only work with porous paving in all pedestrian areas (i.e. sidewalks). Again, we have determined a ROW length of 100 LF. The Lake Austin Boulevard asymmetrical section requires the following rain garden sizes:



- Rain Garden width 16' on one side
- Rain Garden length 91'
- Needed surface area, min 1448 SF
- Planter size 6' x 10' or 60 SF
- Number of planters 4

These calculations are based on the following street dimensions:

- Total ROW length 100'
- Total ROW width 120' R.O.W.
- Width of asphalt area 58'
- Width of sidewalk area 46', or 28' and 18' on each side (porous paving)

80 ROW –Asymmetrical with Porous Paving

The 80 ROW section unfortunately can not sustain a rain garden to manage the storm water because there is an excess of impervious area. Like the 120' asymmetrical section, the 80' ROW rain gardens will work with porous paving on all pedestrian areas (i.e. sidewalks). We have determined a ROW length of 100 LF. The West Lake Terrace and Lady Bird Drive sections require the following rain garden sizes:

- Rain Garden width 12' on one side
- Rain Garden length 88'
- Needed surface area, min 1056 SF
- Planter size 6' x 10' or 60 SF
- Number of planters 2

These calculations are based on the following street dimensions:

- Total ROW length 100'
- Total ROW width 80' R.O.W.
- Width of asphalt area 44'
- Width of sidewalk area 24', or 8' (2') and 14' on each side (porous paving)

70 ROW

The 70 ROW section unfortunately can not sustain a rain garden to manage the storm water because there is an disproportion of impervious area and available rain garden surface area. We have also tested using porous paving, and it still could not support a functional rain garden.

cc: Sean Compton
Joe Skidmore

APPENDIX B. Traffic & Transportation



B1. LOOP 1 (MOPAC EXPRESSWAY) HISTORICAL ANNUALIZED AVERAGE DAILY TRAFFIC

**B2. KLOTZ & ASSOCIATES 2008 BRACKENRIDGE TRACT EXISTING TRAFFIC ANALYSIS
DRAFT TECHNICAL MEMORANDUM**
