DEVELOPMENT FEASIBILITY STUDY

FOR

203.621 ACRE – COLONY PARK TRACT

MAY 2008

Prepared For:

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1.0 LOCATION

This feasibility study considers a 203.621 acre site which is located in the City of Austin, Travis County, Texas (Grids P-24 and P-25). The subject tract is located along Loyola Lane in east Austin. The tract is generally bordered by Loyola Lane to the south; Colony Loop Drive, Overton Elementary School, the Meadows of Walnut Creek to the west; the Austin & NW Railroad and the Schieffer tract to the north; and Lakeside Hills to the east. See ***Exhibit 1*** for the site location map and ***Exhibit 2*** for an aerial view. The tract is composed of Tract B, Tract C, and Tract D (as referenced on the Carson and Bush survey prepared July, 2001) out of the James Burleson Survey No. 19, Abstract No. 4 as conveyed to Austin Housing Finance Corporation in Document #2001119347 ***(Appendix A)*** and shown on ***Exhibit 3***. The subject tract is located within the City of Austin Full Purpose jurisdiction.

The tract is currently zoned for single family residence (SF-2 and SF-3) and multi-family residence (MF-3), as shown on the zoning maps presented herein as ***Exhibit 4***. The subject tract is shown on official Travis County Tax Maps 02_1831 and 02_1841, which are included as ***Exhibit 5***. The majority of the tract lies within the Walnut Creek Watershed, with small portions in the northeast corner located in the Decker Creek and Elm Creek Watersheds. The tract is not within the Edwards Aquifer Recharge Zone, per the City of Austin and the Texas Commission on Environmental Quality (TCEQ) Recharge Zone Maps. The Austin East and Manor, Texas USGS quadrangle maps with the subject tract identified have been included as ***Exhibit 6***.

2.0 EXISTING TITLE, SURVEYS AND STUDIES

The subject tract was deeded to the current owner Austin Housing Financing Corporation (AHFC) as indicated in the General Warranty Deed ***(Appendix A)*** recorded as Document # 2001119347 of the Real Property Records of Travis County, Texas. Per Exhibit B of the warranty deed, and Schedule B of Title Commitment GF No. 01042105 (provided by AHFC), there are numerous exceptions and encumbrances to the subject tract. Only those exceptions identified in the warranty deed and title commitment are addressed with the survey and this report. The majority of these exceptions affect Tract A, the AISD tract, and thus do not affect

the subject tract. Those that do affect the subject tract include a Koch Refining Company pipeline easement, various drainage and utility easements, and mineral reservations. The mineral reservations are set out in Volume 515, Page 68 and Volume 2088, Page 519 of the Deed Records of Travis County, Texas. The mineral reservations in Volume 515, Page 68 convey 1/16 of all oil, gas, and all other mineral royalties to the Federal Land Bank of Houston. The mineral reservations in Volume 2088, Page 519 grant one half of all oil, gas, and other mineral mining, drilling, and exploration rights to H.C. and Alice Barnes and their heirs and assigns. Other various public utility, storm sewer, drainage, lateral support, and wastewater easements dedicated to the City of Austin are also noted.

The title survey prepared by Zamora-Warrick and Associates, LLC ***(Exhibit 3)*** indicates those exceptions that affect the subject tract, and include the following:

- Item 6. - pipeline and electric line easement dedicated to the City of Austin (Vol. 3654, Pg. 193) – This easement bisects Tracts B and C, but **does not affect** the subject tract as title is vested in the City of Austin per Vol. 5000, Pg. 1992, and is for the purpose of maintaining existing Austin Energy overhead electric transmission lines.
- Item 14. - 20' wastewater easement dedicated to the City of Austin (Vol. 13035, Pg. 457) – This easement is located on the eastern end of Tract B and is for the purpose of maintaining an existing 12" wastewater line.
- Item 15. - 80' temporary working space easement dedicated to the City of Austin (Vol. 13035, Pg. 452 and Vol. 13344, Pg. 54) – This easement was for the purpose of constructing the 12" wastewater line located in Item 14. The easement expired on September 1, 1999. The title company should revise the title to reflect the expiration of this easement.
- Item 8. - 15' public utility easement dedicated to the City of Austin (Vol. 4729, Pg. 1637) – This easement is located on Tract D and is for the purpose of maintaining and existing 8" water line.
- Item 8. - 15' public utility easement dedicated to the City of Austin (Vol. 4729, Pg. 1637) – This easement is located along the western boundary of Tract D and is for the purpose of maintaining and existing 12" wastewater line.
- Item 13. - 10' lateral support easement dedicated to the City of Austin (Vol. 12691, Pg. 1198) – This easement is located along Loyola Lane at the southeast corner of

Tract D and is for the purpose of maintaining a retaining wall / culvert headwall for the adjacent roadway.

- Item 11. - open drainage ditch or enclosed storm sewer easement dedicated to the City of Austin (Vol. 12691, Pg. 1191) – This easement is located at the southeast corner of Tract D and is for the purposed of maintaining an existing culvert approach and open channel.
- Item 7. – pipeline easement dedication to Koch Refining Company (Vol. 11090, Pg. 367 and Vol. 11112, Pg. 40) – This easement is located along the western boundary of Tract B is for the purpose of maintaining an existing pipeline carrying refined gasoline to a distribution facility located north of the subject tract on Johnny Morris Road.

3.0 SUBJECT PROPERTY CHARACTERISTICS

3.1 EXISTING SITE USE/TOPOGRAPHY

The subject tract is currently vacant and is zoned for single family and multi-family use. The tract consists of partially wooded rangeland with site terrain that can be characterized as of rolling slopes. The subject tract slopes from north to south with slopes generally between 2.0% and 15.0%, with occasional areas exceeding 35.0%. Tract B consists of approximately 11.34 acres (12.27% of the tract) with slopes over 15%. Tracts C and D consist of approximately 1.08 acres (4.12%) and approximately 7.86 acres (9.26%), respectively, with slopes over 15%. The slope breakdown for each of the three tracts is shown on the slope maps attached as ***Exhibit 7***. A topographical and tree survey, prepared by Chaparral Professional Land Surveying, Inc., is also provided herein as ***Exhibit 8***.

Vegetation consists mainly of underbrush with a significant amount of scattered trees. The tract also has large areas of significant erosion in the center portions of the tract. Evidence of this erosion dates back as early as 1951, as shown on aerial photos provided by Horizon Environmental Services, Inc. The subject tract has approximately 2,100 feet of roadway frontage along Loyola Lane on the south boundary.

3.2 SOIL SURVEY

According to the Soil Conservation Service (SCS) Soil Survey of Travis County, Texas, the soil types located on the subject tract ***(Exhibit 9)*** are Burleson clays (BsB), Ferris-Heiden complex (FhF3), Heiden clays (HeC2), Heiden gravelly clays (HgF2), Houston Black clays (HnA and HnB), Houston Black gravelly clay (HoD2), and Trinity clays (Tw). Burleson clays consist of dark gray and gray clay underlain by pale brown silty clay. Burleson clays occur on foot slopes and on high, irregularly shaped ridges and slopes range from 1 to 2 percent. Ferris-Heiden complex soils occur on rolling to hilly topography and have slopes ranging from 8 to 20 percent with severely eroded areas. Ferris soils make up 60 percent of the FhF3 complex and Heiden soils the remaining 40 percent. Ferris clays consist of light olive-gray clay underlain by pale yellow silty clay and Heiden clays consist of dark grayish-brown clay underlain by yellow silty clay. Heiden clays occur on complex side slopes and have slopes ranging from 3 to 5 percent. Erosion hazard is severe for Heiden clays. Heiden gravelly clays occupy rolling to hilly topography with slopes ranging from 8 to 20 percent. The surface layer is dark grayish-brown gravelly clay underlain by a similar layer that is 60 percent chert gravel. The underlying layer is composed of grayish-brown clay with pockets of chert gravel. Houston Black clays consist of very dark gray and dark gray clay underlain by dark gray clay with mottles of olive yellow. Houston Black clays have slopes ranging from 0 to 3 percent and occur on smooth ridges and foot slopes. Erosion hazard is moderate. Houston Black gravelly clays occur on ridges and side slopes. Chert rock covers 30 to 75 percent of the surface in most areas within the Houston Black complex. A representative profile consists of a surface layer of dark gray gravelly clay overlaying a layer of gray clay with pockets of chert gravel. Slopes range from 2 to 8 percent. Trinity clays are found on flood plains where slopes average 0.5 percent. The soil profile for Trinity clays is representative of the series: dark gray clay underlain by layers of very dark gray clay and light olive-gray silty clay.

Per a Preliminary Geotechnical Report prepared by HVJ Associates, Inc. for the Colony Park subdivision ***(Appendix B)***, dark gray clay, brown silty clay, and gray gravelly clay were found at the subject tract. This is consistent with typical clayey soil conditions associated with geology in the eastern portion of the Austin area. The geotechnical firm obtained 20 soil samples by boring approximately to a depth of twenty feet. Based on that report, these soils are primarily fat clays exhibiting high shrink / swell potential. The specific affects of these soils on pavement and foundation designs can be found in that report.

3.3 CRITICAL ENVIRONMENTAL FEATURES

Per the City of Austin Environmental Site Assessment, prepared by Horizon Environmental Services, Inc., two potential wetland critical environmental features (CEFs) were observed on the subject tract. Both potential CEFs are located on the southeastern portion of the subject tract and are labeled as W-1 and W-2 on Figure 1 of the Horizon report, both of which are wetland features as defined by the City of Austin. Note that these features are not necessarily Army Corps of Engineers defined wetlands. CEF W-1 is approximately 340 feet long and 8 feet wide and is located within an on-site drainage area. CEF W-2 was observed approximately 1,500 feet southwest of feature W-1 and has approximate dimensions of 165 feet wide by 300 feet long. Horizon believes feature W-2 is a stock tank that is no longer functional. No new growth of wetland vegetation was observed and it is Horizon's opinion that changes to the hydrology of the area have occurred and that feature W-2 will unlikely continue to function as an herbaceous wetland. Horizon's Environmental Site Assessment also includes descriptions of site topography, soils, geology, vegetation, and existing land use. The City of Austin Environmental Assessment is included with this report as ***Appendix C.***

4.0 SURROUNDING PROPERTY CHARACTERISTICS

4.1 EXISTING ZONING & LAND USE

The western portion of the subject tract is bordered by Tract A as identified on the 2001 Bush and Carson survey (zoned P-Public), also known as the Austin Independent School District (AISD) tract, Colony Park Section I, Phases 4A and 4B, and Sections Five and Six of The Meadows of Walnut Creek (all zoned SF-2). Colony Park Section I, Phases 4A and 4B are part of an existing single family subdivision developed in 1983. The Meadows of Walnut Creek Sections Five and Six are part of an existing single family subdivision developed in 1984. The AISD tract is owned by the City of Austin and is currently under construction for AISD as the Overton Elementary School and City of Austin Turner Roberts Recreation Center, per an approved site plan on file with the City (case no. SPC-06-0046CX). The Turner Roberts Recreation Center was previously known as the Colony Park Recreation Center (case no. SPC-03-0021C).

The northern portion of the subject tract is bordered by a segment of the Southern Pacific Railroad and a mostly undeveloped tract owned by Clarence E. Schieffer and Ralph E. Parker (zoned SF-2). From the aerial photo, it appears that the Schieffer-Parker tract has one single family home and three accessory structures constructed on it. The eastern portion of the subject tract is bordered by the existing Colony Park Hills Section 1-A subdivision (zoned SF-3), the existing Lakeside Phase 1-B subdivision (zoned SF-3), and the existing Lakeside Hills Phase 3-A subdivision (zoned MF-2). From a search of Travis Central Appraisal District (TCAD) records, it appears that the homes in Colony Park Hills Section 1-A were constructed between 1974 and 1976. The average lot size is 65' with an average home size of approximately 1,300 square feet. TCAD records also show that the Lakeside Phase 1-B subdivision was mostly constructed between 1977 and 1978 with an average home size of approximately 1,250 square feet. The average lot size in the Lakeside Phase 1-B subdivision is 65'. A search of TCAD records also shows that the Lakeside Hills Phase 3-A subdivision has an average lot size of 70'. The Lakeside Hills Phase 3-A subdivision was built between 1981 and 1984 and consists mainly of duplexes with an average size of approximately 1,770 square feet.

The southern portion of the tract is bordered by Loyola Lane. Loyola Lane is a four lane divided arterial. The western portions of the subject tract are bordered by the AISD tract (zoned P-Public) and the existing Meadows of Walnut Creek Section 5 and Section 6 subdivisions (zoned SF-2). As previously mentioned, the AISD tract is currently under construction. From a search of TCAD records, it appears that all the homes in Walnut Creek Sections 5 and 6 were constructed between 1996 and 1998. The average lot size is 55' with an average home size of 2,085 square feet. All tracts bordering the subject tract are shown on the title survey prepared by Zamora-Warrick and Associates ***(Exhibit 3)***.

4.2 SURROUNDING PROPERTY DRAINAGE PATTERNS

Portions of the properties located to the north, east and west of the subject tract generally sheet flow towards the subject tract. The overall contributing drainage area is approximately 600 acres. Portions of these surrounding properties are currently undeveloped but it is anticipated that upon development of these properties stormwater flows will be maintained at existing levels through detention, per the COA Drainage Criteria Manual. Runoff from these tracts will be diverted by berms and roadways or piped to existing drainage channels. Stormwater runoff

ultimately drains to three tributaries of Walnut Creek located on the subject tract. Conveyance of stormwater runoff for all off-site and on-site drainage areas will be required for developed conditions throughout the project.

Three tributaries of Walnut Creek pass through the subject tract. The westernmost tributary is identified on FEMA Flood Insurance Rate Map Panel No. 48453CO125E ***(Exhibit 10)*** as Walnut Creek Tributary No. 1. A City of Austin floodplain study was performed on this tributary in February 2005 and is referred to by City staff as the Halff 2005 Walnut Creek Study. The COA study extends to the north of Loyola Lane and ends just east of the intersection of Colony Loop Drive and Ritchie Drive. The waterway continues along the western boundary of Tract B, but this reach was not included in the COA study. As stated in Section 4.1, the properties on either side of this tributary have been developed as the AISD tract, Colony Park Sec. 1, Phases 4A & 4B, and the Meadows of Walnut Creek Sections 5 & 6. It appears that the existing single family developments located along this tributary were developed at a time when water quality and detention were not required. However, the majority of the AISD tract drains to Walnut Creek Tributary No. 1 and water quality controls and detention were provided as part of that development. Two offline water quality ponds and an offline detention pond were provided for the portion of the tract that drains to Walnut Creek Tributary No. 1. A third online water quality pond was provided for the portion of the tract that drains to the tributary crossing the middle portion of the subject tract.

The tributary crossing the middle portion of the subject tract begins north of the subject tract, near the Walnut Creek/Decker Creek watershed boundary, crosses the entire tract from north to south, and extends south of Loyola Lane to its eventual confluence with Walnut Creek. With the exception of the AISD tract, all areas draining to this tributary are undeveloped. As mentioned above, an online water quality pond was built with the development of the AISD tract. An existing stock tank is also located on the tributary north of the subject tract. The existing stock tank may provide some attenuation of peak flows for this tributary, but because it was not designed and permitted as a detention pond, it cannot be considered for attenuation of flows for any drainage study required for the subject tract. This tributary drains the majority of the subject tract and portions of the existing Lakeside Phase 1-B and Colony Park Hills 1-A subdivisions.

A smaller tributary drains approximately 22 acres located in the southeast corner of the subject tract. A portion of the drainage area for this tributary includes portions of the existing Lakeside

Hills Ph. 3-A and Colony Meadows Sections 1 and 2 subdivisions. No detention or water quality controls exist for this tributary. All three of these tributaries are conveyed under Loyola Lane via existing culverts. An existing conditions drainage area map for all three tributaries is included as ***Exhibit 11***.

5.0 ZONING

5.1 EXISTING ZONING

As stated earlier in Section 1.0, the subject tract is located within the City of Austin's full purpose jurisdiction and is zoned for single family residence (SF-2 and SF-3) and multi-family residence (MF-2) per the following ordinances: 030306-Z-2, 810122-F, 870107-R and 760617-D. Zoning has been verified by the City of Austin. A zoning verification letter and zoning map have been included in this study ***(Exhibit 4)***.

Tract B is zoned SF-2, which is the designation for moderate density single family residential use on a lot that is a minimum of 5,750 square feet. The SF-2 designation is applied to uses in an existing single family neighborhood that has moderate sized lots or to a new development or single family housing on lots that are 5,750 square feet or more.

Tract C and a portion of Tract D are zoned SF-3, which is the designation for moderate density single family residential or duplex uses on a lot that is a minimum of 5,750 square feet. This district designation is applied to a uses in an existing single family neighborhood with moderate sized lots or to a new development of family housing on lots that are 5, 750 square feet or more. A duplex use that is designated as an SF-3 district is subject to development standards that maintain single family neighborhood characteristics.

The remainder of Tract D is zoned MF-2, which is the zoning designation for a multi-family use with a maximum density of up to 23 units per acre, depending on unit size. An MF-2 district designation is applied to uses in a multi-family residential area located near single family neighborhoods or in an area for which low density multi-family use is desired.

It is our understanding that AHFC desires to develop the subject tract per Article 15 in Section 25-1 of the Land Development Code (LDC), also known as the S.M.A.R.T. Housing Ordinance. The S.M.A.R.T. Housing Ordinance establishes criteria for development of affordable housing. In addition to complying with the S.M.A.R.T. Housing Ordinance, the development of the subject tract will comply with a new ordinance that has been passed and which amends Section 25-2 of the LDC. The new ordinance, number 20080131-132, allows properties zoned as SF-2 or SF-3 to be developed under the SF-4A zoning regulations, provided the property is developed under the City's S.M.A.R.T. Housing Ordinance. In addition, the property must be at least three acres in size and not previously subdivided. SF-4A is the zoning designation for moderate density single family residential use on a lot that is a minimum of 3,600 square feet. Uses in the SF-4A zoning district must maintain single family neighborhood characteristics.

Ordinance no. 20080131-132 also amends the LDC to add Section 25-2-567. Section 25-2-567 allows undeveloped tracts that are zoned MF-2 through MF-5 to be developed to MF-6 regulations, provided development of the tract complies with the City's S.M.A.R.T. Housing Ordinance. In a rental development, ten percent of the units must be reserved for affordable housing for a minimum of 40 years at 60% median family income. In an owner occupied development, five percent of the residential units must be reserved as affordable housing for a minimum of 99 years at 80 to 100% median family income. Development under Section 25-2-567 must comply with height regulations established elsewhere in the LDC.

Per the City of Austin map of Neighborhood Planning Areas, dated November 2007, the subject tract is not located in an existing neighborhood plan area.

5.2 COMMERCIAL DESIGN STANDARDS

The City of Austin has recently adopted *Subchapter E: Design Standards and Mixed Use* of the LDC. These standards mostly affect commercial land uses, however there are some provisions that do affect residential uses. The Commercial Design Standards also provide for greater flexibility when developing a mixed use project that includes a residential component. The benefits of this type of project are not discussed within this report, but should the project include mixed use development, then a summary of these additional standards can be provided separately.

5.3 COMPATIBILITY STANDARDS

Based on the existing zoning and uses for the adjacent tracts, there would not be compatibility setbacks required on the SF-2 and SF-3 portions of the subject tract. However, the MF-2 portions, and any future rezoning of the subject tract for retail or commercial uses may require compatibility setbacks for the portions of the subject tract that border existing or proposed SF-5 or more restrictive tracts or uses. For purposes of identifying the need for potential compatibility setbacks, we have identified all properties, and their respective zoning districts, within 540' of the subject tract. The zoning for all tracts located within 540' feet of the subject tract is summarized in the table below:

Table 6.1: Zoning of Adjacent Tracts

TCAD ID	Prop. Owner	Zoning District	Legal Description	Location	Comment
0218310604	Gold A&A, Inc.	MF-2 & GR	53.513 Ac. of the James Burleson Survey No. 19, Abstract No. 4	S-SE of the subject tract	Undeveloped tract
0218310606	Rites of Passage Development I	SF-2	33.140 Ac. of the James Burleson Survey No. 19, Abstract No. 4	South of the subject tract	Undeveloped tract
0218310603	City of Austin	SF-2	2.188 Ac. of the James Burleson Survey No. 19, Abstract No. 4	SW of the subject tract	COA elec. Easement
0218310607	Westminster Falcon/Trinity, LLP	SF-3	64.699 Ac. of the James Burleson Survey, Abstract A75	SW of the subject tract	Undeveloped tract
Multiple	Multiple	SF-2 & SF-3	Park Place I subdivision	SW of the subject tract	Existing SF subdivision
0218310501	City of Austin	P	49.889 Ac. of the James Burleson Survey No. 19, Abstract No. 4	West of the subject tract	AISD Tract
Multiple	Multiple	SF-2	The Meadows of Walnut Creek Sec. 5	West of the subject tract	Existing SF subdivision
Multiple	Multiple	SF-2	The Meadows of Walnut Creek Sec. 6	West of the subject tract	Existing SF subdivision
0218410202	Ralph & Peggee Parker	SF-2	142.888 Ac. of the James Burleson Survey No. 19, Abstract No. 4	North of the subject tract	One SF residence
0218410203	Jose & Cynthia Gonzales	SF-2	3.282 Ac. of the James Burleson Survey No. 19, Abstract No. 4	NE of the subject tract	One SF residence
0218410217	Vincent & Minnie Padilla	SF-2	3.288 Ac. of the James Burleson Survey No. 19, Abstract No. 4	NE of the subject tract	Three SF residences
Multiple	Multiple	SF-3	Lakeside 1-B subdivision	East of the subject tract	Existing SF subdivision
Multiple	Multiple	SF-3	Colony Park Hills I-A	East of the subject tract	Existing SF subdivision
0218410301	Decker Lane Partners, LP	MF-2	Gardens at Decker Lake Lot 1, Block A	East of the subject tract	Existing apt. complex
Multiple	Multiple	MF-2	Lakeside Hills Phase 3-A	E-SE of the subject tract	Existing MF subdivision

Multiple	Multiple	MF-2	Colony Meadows Sec. 1	E-SE of the subject tract	Existing MF subdivision
Multiple	Multiple	MF-2	Colony Meadows Sec. 2	E-SE of the subject tract	Existing MF subdivision
0217380502	Sattar Investments, Inc.	GR	0.423 Ac. of the James Burleson Survey No. 19, Abstract No. 4	SE of the subject tract	Undeveloped tract
0217380501	New Century Investments, LLC	GR-CO	1.824 Ac. of the James Burleson Survey No. 19, Abstract No. 5	SE of the subject tract	Undeveloped tract
217380128	City of Austin	P	Lakeside Hills Phase 3-A Lot 1, Block B	SE of the subject tract	AFD Station #26
217380127	City of Austin	P	Lakeside Hills Phase 3-A Lot 2, Block B	SE of the subject tract	AFD Station #26
217380126	City of Austin	P	Lakeside Hills Phase 3-A Lot 3, Block B	SE of the subject tract	AFD Station #26
-	D&R Associates, Inc.	GR & GR-CO	Colony Meadows Sec. III, Ph. II	SE of the subject tract	SP-06-0006C

Particular attention should be paid to the tracts zoned as SF-2 and SF-3. Development of the subject tract adjacent to those zoning districts that includes commercial or retail uses will be required to abide by the applicable compatibility setbacks per Chapter 25-2 of the Land Development Code.

5.4 BUILDING SETBACKS/DENSITIES/HEIGHT

The following table summarizes the City of Austin Design Guidelines based on the three zoning classifications discussed in Section 5.0:

	Zoning Reg.		
	SF-2	SF-3	MF-2
Minimum Lot Size (square feet)	5,750	5,750	8,000
Minimum Lot Width	50'	50'	50'
Maximum Height	35'	35'	40' or 3 stories
Minimum Setbacks			
Front Yard	25'	25'	25'
Street Side Yard	15'	15'	15'
Interior Side Yard	5'	5'	5'
Rear Yard	10'	10'	10'
Maximum Impervious Cover	45%	45%	60%
Maximum Building Coverage	40%	40%	50%
Minimum Site Area/Dwelling Unit			
Efficiency	N/A	N/A	1,600
One Bedroom	N/A	N/A	2,000
Two or more Bedrooms	N/A	N/A	2,400

5.5 *PIPELINE ORDINANCE*

A gasoline pipeline has been located along the west/northwest boundary of the subject tract. The pipeline is owned by Koch Pipeline Company, L.P. and carries refined gasoline to a distribution center located north of the subject tract on Johnny Morris Road. LJA has contacted Koch Pipeline and requested a copy of the plans for the refined gasoline pipeline. A copy of the plans will be provided to AHFC as soon as it is available.

The Koch pipeline is defined as a hazardous pipeline per Title 49, Code of Federal Regulations, Section 195.2. Per that definition, any new construction on the Colony Park tract is subject to Section 25-2-516 (Development Near a Hazardous Pipeline) of the City of Austin Land Development Code. This section of the LDC prohibits a use requiring evacuation assistance in a structure intended for human occupancy (day care services, hospitals, medical offices, educational facilities, retirement housing, etc.) within 500 feet of a hazardous pipeline. New construction within 200 feet of a hazardous pipeline is prohibited unless the fire chief determines that the new construction has performance based design that provides a minimum one-hour period for occupant evacuation to a safe place in the event of a pipeline leak or fire or if the new construction incorporates a system for early detection and notification of a pipeline leak. New construction or excavation is not allowed within a restricted pipeline area. A restricted pipeline area is defined as an area within 25 feet of a hazardous pipeline and an area within a hazardous pipeline easement. Utilities that cross the restricted pipeline area, utility service connections, road, surface parking lots, or structures or excavation that the director determines do not disturb the pipeline or impede its operation are not prohibited within the restricted pipeline area. Before roads, surface parking lots, or utility lines may be placed in a restricted pipeline area, certification by a registered engineer stating that the proposed construction activity and structure are designed to prevent disturbing the pipeline or impeding its operation must be delivered to the director.

6.0 ROADS, ACCESS AND PARKING REQUIREMENTS

6.1 EXISTING ROADS

Access to the subject tract will be provided from the existing Loyola Lane and the existing Colony Loop Drive from the east and west sides of the subject tract. Loyola Lane intersects with U.S. 183, which is a four-lane divided roadway with dedicated left turn lanes at the major intersections. U.S. 183 is classified as a major arterial by the City of Austin Transportation Criteria Manual (TCM). The intersection of Loyola Lane and U.S. 183, located approximately 8,000 feet west of the subject tract, is signalized. Loyola Lane also intersects Decker Lane (F.M. 3177) approximately 1,500 feet east of the subject tract. Decker Lane is a four-lane undivided roadway with some stretches of the roadway having a continuous left-turn lane. The intersection of Loyola Lane and Decker Lane is also signalized. The subject tract is also located approximately 2.5 miles southeast of the intersection of U.S. 183 and U.S. 290 East and approximately 3.5 miles west of State Highway 130.

Loyola Lane is a four-lane, divided street with a 120' right-of-way and is classified as a major arterial by the City of Austin. Arterials are designed to carry high volumes of through traffic and access is usually limited to intersections and major driveways. Colony Loop Drive will be extended east to west (approximately 2,000 feet) across the width of the subject tract, via ROW that has previously been dedicated to the City of Austin per Document #2001119349. Approximately 980 linear feet of this extension was completed with the Overton Elementary School project. Colony Loop Drive is a two-lane, undivided street with a 70' right-of-way and is classified as a neighborhood collector street by the City.

6.2 PROPOSED ROADS

The design of all new streets for a subdivision is subject to the City of Austin standards. Based on existing zoning, we anticipate the need for construction of local streets, residential collectors, and neighborhood collectors. Local streets serve abutting land use and traffic within a neighborhood and are not always continuous through a district. Per the City of Austin TCM, local streets for the SF-2 and SF-3 zoning districts have slightly different design criteria. For

both zoning districts, a local street is used where the average daily traffic (ADT) count is less than 1,000 trips per day. A local street typically has a length less than 1,500 feet and the minimum curb basis is 10 feet. However, the design speed varies based on the zoning district. A local street may be designed for a 25 or 30 mph design speed in the SF-2 zoning district. In the SF-3 zoning district, a local street should be designed for a 30 mph design speed. A typical cross section for a local street in the SF-2 zoning district consists of a 30-foot face of curb to face of curb pavement section with a minimum 50-foot right-of-way. A typical cross section for a local street in the SF-3 zoning district consists of a 36-foot face of curb to face of curb pavement section with a minimum 56-foot right-of-way.

Collector streets intercept traffic from intersecting local streets and expedite the movement of traffic in the most direct route to arterials or other collector streets. Per the City's TCM, a residential collector is used where the ADT ranges from 500 to 3,000 vehicle trips per day. A residential collector typically has a length less than one mile with 300 foot spacing between intersections. Typical spacing between residential collectors is one quarter mile. The minimum tangent length between horizontal curves is 100 feet and the minimum curb basis is ten feet. A residential collector may be designed for a 30 or 35 mph design speed. A typical cross section for a residential collector consists of a 40-foot face of curb to face of curb pavement section with a minimum of 60 feet of right-of-way. A residential collector is typically used within the SF-1 through SF-6 or MF-1 zoning districts. Per the City's TCM, a neighborhood collector is used where the ADT ranges from 2,000 to 6,000 vehicle trips per day. A neighborhood collector typically has a length ranging from one to two miles with 500 foot spacing between intersections. Typical spacing between neighborhood collectors is one half mile. The minimum tangent length between horizontal curves is 100 feet and the minimum curb basis is ten feet. A neighborhood collector should be designed for a 35 mph design speed. A typical cross section for a neighborhood collector consists of a 44-foot face of curb to face of curb pavement section with a minimum 64-foot right-of-way.

Additionally, street and ROW widths will need to take into consideration any Transit Oriented Development or Traditional Neighborhood District requirements in order to provide adequate space for on-street parking, bus maneuverability, bike lanes, pedestrian walks, etc. The details of these requirements can be determined once a proposed land use and land plan are prepared.

6.3 PARKING

Per the COA Land Development Code 25-6 Appendix A, two parking spaces are required per single family residence and four parking spaces are required per duplex residential unit for the portions of the tract zoned SF-2 and SF-3. For the portion of the subject tract zoned MF-2, one parking space is required per efficiency unit and one and a half spaces per one-bedroom unit. Each additional bedroom requires another half parking space (1BR -1.5sp; 2BR -2sp; 3BR -2.5sp). Typical parking spaces are 8.5 feet wide and 17.5 feet long, with a 27 foot wide travel way. Various other combinations of sizes are allowed depending on parking angle and space width. For the MF-2 tract, compact parking is allowed up to 15% of the total provided spaces, with typical dimensions of 7.5 feet wide and 15.0 feet long. Minimum widths for one-way travel ways are 12.5 feet, unless the travel way is for emergency access, which must have a minimum width of 15 feet. The minimum width for two-way travel ways is 25 feet. A maximum of 15% grade running slope is allowed. There are no requirements for covered parking and there are no special requirements for detached carports and garages with regard to parking, though both detached carports and garages are subject to any building setback requirements. Table 9-1 from the Transportation Criteria Manual is included as ***Appendix D***.

It should be noted that parking requirements for mixed use, retail and commercial sites vary based on the type of development. A complete analysis of the parking requirements for these potential uses will be completed during the conceptual planning phase of the project.

6.4 TRANSPORTATION IMPACT ANALYSIS

A Transportation Impact Analysis (TIA) will be required for any uses that generate 2,000 or more vehicle trips per day. A TIA will be prepared in accordance with City of Austin requirements during the conceptual planning phase of the project, once proposed land uses have been determined. The TIA will be required in conjunction with any rezoning application or Preliminary Plan application. Typically, if the TIA identifies intersections or street capacity issues caused by the proposed project, the owner will be required to either make the necessary improvements to eliminate the capacity issues, or post fiscal surety with the City for the owner's prorated share of the improvements. The City will then use that money at some time in the

future to make the improvements. Since AHFC is a subsidiary of the City, it is not clear as to how the City may enforce this requirement should there be any improvements necessary.

6.5 ACCESSIBILITY STANDARDS

All public facilities will be required to comply with the Americans with Disabilities Act (ADA), the International Building Code (IBC), and the Texas Accessibility Standards (TAS), as enforced by the Texas Department of Licensing and Regulation (TDLR). All subdivision and public building plans will be required to be submitted to the TDLR for review and approval. TDLRs review is limited to those facilities considered public, which typically includes sidewalks in public ROW, public parks, or other public facilities. Within one year of constructing these improvements, TDLR will inspect the accessible facilities that were under their review and in many cases actually measure ramp and sidewalk slopes, to insure that all structures meet the standards. All structures not meeting standards will be required to be brought to standards, or a variance will have to be approved by TDLR.

Four and six foot sidewalks will be required to be constructed within the subdivision to be paired with ADA compliant sidewalk curb ramps at proposed street intersections. Sidewalks are required to be sloped at no more than 5% in the direction of travel with no more than 2.0% cross slope, as is typically required for the natural space between the back of curb and the property boundary. ADA curb ramps are typically 6-feet in length with the lower end matching the existing pavement and the higher end flush with the back of curb. ADA ramps typically have a slope of 8.33% for a six inch rise over six feet. Four-foot landing areas are also required at the ends of the proposed curb ramps.

7.0 PUBLIC TRANSPORTATION

7.1 BUS

The subject tract is serviced by two Capitol Metro Transportation Authority (CMTA) bus routes, the Colony Park Local Service Route and the Colony Park Flyer. The Colony Park Local Service Route runs all day and stops frequently. Midday the time between busses is approximately 15

minutes. At the beginning and end of the day, buses run every 30 minutes. This route's purpose is to provide service within the area. The Colony Park Flyer is a limited-stop route that provides quick service to and from downtown. It makes five trips from Colony Park in the morning and five trips to Colony Park in the evening. Verdi has prepared context maps that show the Colony Park Flyer route and neighboring bus routes. The context maps are included herein as ***Exhibit 12.***

CMTA recommends the use of Colony Park Loop as a future bus route for the area. This will allow for bus service on both sides of the road with stops provided for riders coming and going from the area. Future coordination with CMTA planners will guide the design and engineering of all bus routes designated during the planning process. Impacts of bus routes on roadway design include appropriate drive lane width and turning radii as well as elimination of front-in angled parking along bus routes. In addition, identification of bus stop locations during the preliminary design phase will allow for appropriate material selection and roadway articulation in order to make the bus stops inviting and safe.

7.2 RAIL

The subject tract abuts the Southern Pacific rail line which connects Elgin and Manor to downtown Austin. It is also less than one mile to the MoKan Corridor which connects Round Rock to downtown. Both lines have been designated by Capital Metro Rail as having potential future service. Under this classification, a referendum is required to convert these lines to transit. CMTA has acquired two adjacent tracts of land on Loyola Lane that link the MoKan and Southern Pacific lines. This tract is being assessed as a possible location for a future rail transfer station connecting the Southern Pacific and MoKan Corridor lines. Despite the common planning convention that establishes a 1/4 mile as the maximum walking distance for pedestrians, a 2007 study at San Joseph State University has found that for rail transit destinations, people will walk up to ½ a mile. This station would be approximately one mile from the heart of the subject tract and therefore not pedestrian accessible from Colony Park. This distance would necessitate use of bicycle and bus transportation within the site to and from Loyola Lane which would then be used to access the station.

7.3 BIKE

The Austin Bicycle Route Map, published by the City of Austin Bicycle and Pedestrian Program in 2007, rates established bicycle routes by their assessed ease of use. Loyola Lane, running along the southern perimeter of the site, is a recommended route and is designated as having high ease of use. This designation is generally based upon the criteria of having low traffic volume or, on higher volume streets, having wide bike lanes. The Loyola Lane bicycle route is shown on the context map prepared by Verdi ***(Exhibit 12)***.

Colony Park Loop and any roads built within the subject tract are not part of the current City bikeway plan but the potential for bike traffic in the area should be addressed. The City of Austin Transportation Criteria Manual (TCM) list two types of bikeways applicable to the subject tract: Type II Bicycle Lane and Type III Bicycle Compatible Street. Type II calls for the delineation of a 5' bicycle lane with pavement markings. Type III does not rely on pavement markings but allows bicycles to share the road with vehicles. Neighborhood and residential collectors do not require additional pavement. Collectors and arterials require a minimum 12-1/2 feet outer lane for collectors and 13-1/2 feet outer lane for arterials measured from outer lane line to the face of curb.

7.4 PEDESTRIAN

The pedestrian network of the subject tract should provide ease of accessibility to bus stops, Overton Elementary and Colony Park Recreation Center. Attempts should be made to reduce the need for pedestrian/vehicle interaction. Where vehicles and pedestrians do connect design preference should be given to the pedestrian.

7.5 TRANSIT ORIENTED DEVELOPMENT STANDARDS

The subject tract does not fall within a City of Austin designated Transit Oriented Development district but a Transit-Ready Development Guide will be available soon for use by the public. Considering the proximity of the track to a potential major rail hub and the current access to City of Austin bus routes, this guide should be taken into account.

8.0 UTILITIES

8.1 ELECTRIC, GAS, PHONE AND CABLE

Electric service is provided by Austin Energy. Telephone service is provided by AT&T, and gas service and cable television is provided by Texas Gas Service and Time Warner Cable respectively. Service availability letters for these utilities have been included in ***Appendix E***. Additional coordination with these utility companies will be required once the proposed land uses are determined, in order to verify if any offsite extensions will be required based upon demand. Additionally, per the maps provided by Texas Gas Services, it appears that an existing gas line is located parallel to an existing 8" water line located on Tract D. The exact location is unknown at this time, however it is highly unlikely that the gas line is located in the existing 15' PUE that the water line is located in, and thus may not be located in an appropriate easement.

8.2 WASTEWATER COLLECTION

Wastewater service for the tract will be provided by an existing City of Austin 12-inch PVC gravity main that runs from north-to-south through the middle of the tract, and a 12-inch PVC gravity main that runs along the west side of Tract B and the AISD tract. These lines appear to have sufficient depth to provide gravity wastewater service to the tract, however there are numerous existing connections to these lines, including a lift station located north of the subject tract. The actual capacity of the line cannot be determined at this time as more information is required from the Austin Water Utility (AWU) regarding the discharge rate of the lift station and any other downstream restrictions. Per our discussions with AWU, it is recommended that a Service Extension Request be filed with AWU in order to determine if the existing facilities have sufficient capacity, or if additional improvements will be required, based upon the expected total build out of the proposed project. Existing water and wastewater facilities are shown on the City of Austin Water and Wastewater Grids included as ***Exhibit 13***.

8.3 WATER DISTRIBUTION

Water service for the tract will be provided by existing City of Austin water mains. COA water mains are located in Colony Loop Drive (12-inch asbestos cement and PVC), in Loyola Lane (12-inch cast iron), and crossing the tract starting at Wilmington Drive and connecting to the 12-inch water line in Loyola Lane (8-inch asbestos cement). Based on the service availability letter from AWU, the minimum, typical and maximum Hydraulic Grade Lines for the Central Pressure Zone are elevations 690, 710 and 720 respectively. This correlates to static pressures of 76 psi, 86 psi and 91 psi at the low end of the site, and static pressures of 30 psi, 39 psi and 43 psi at the high end of the site, respectively. The City of Austin requires a minimum pressure of 50 psi for average daily demands, which correlates to elevation 575 to 605 for this pressure zone. Approximately 20 acres in the far northeast corner of Tract C are located above this elevation. Based on this, it is likely that any connections in this area will require connection to the North Pressure Zone, which operates above elevation 575. Water facilities for this pressure zone are located in the adjacent Lakeside Subdivision. Development in this area may require parallel water systems to provide adequate service. Based on conversations with AWU, it is likely that a looped connection for the North Pressure Zone will be required to connect the system between Johnny Morris Road and Decker Lane. We recommend that a Service Extension Request be filed with the AWU in order to determine what, if any, offsite improvements / extensions will be required.

A fire flow test was conducted by the Austin Fire Department (AFD) on the 12-inch water line in Loyola Lane (hydrant no. 531600) on April 1, 2008. The fire flow test on hydrant no. 531600, located approximately 700 feet east of Colony Park Loop on Loyola Lane, yielded a flow rate of 1,453 gallons per minute (gpm). This corresponds to a pressure of 65 pounds per square inch (psi) at 3,500 gpm. A pressure of 20 psi at 3,500 gpm is the minimum acceptable fire flow pressure for a commercial development. A second fire flow test was performed by AFD on the 8-inch water line that crosses tract D (hydrant no. 133251) on April 7, 2008. The test on hydrant no. 133251, located at the intersection of Wilmington Drive and Colony Loop Drive, yielded a flow rate of 948 gpm. This corresponds to a pressure of 18 psi at 3,500 gpm. AFD attempted to flow test hydrant no. 131238, located on the 12-inch water line in the Colony Loop Drive R.O.W., and reported that it was dry. We believe a valve may be closed on the fire hydrant lead or on the 12-inch water line. If a valve is closed on the 12-inch water line, it could have affected the results of the fire flow test on hydrant no. 133251. Further investigation is required.

AFD also supplied the results of a fire flow test performed on November 17, 2005 for the 12-inch water line in Colony Loop Drive (hydrant no. 130772). The fire flow test on hydrant no. 130772, located approximately 800 feet east of the intersection of Colony Loop Drive and Ritchie Drive, yielded a flow rate of 1,278 gpm. This corresponds to a pressure of 42 psi at 3,500 gpm. Copies of the AFD fire flow tests are included as ***Exhibit 14***.

8.4 STORMWATER CONVEYANCE

Stormwater conveyance for the subject tract will be provided by a series of public storm sewer systems and open channels designed for the site. Any stormwater releases from the subject tract will be discharged to the existing tributaries via storm sewer piping that discharges at a standard City of Austin headwall with energy dissipators. Level spreader devices may also be used to minimize any downstream erosion or disturbance. Stormwater runoff from the AISD tract is collected in a series of storm sewer pipes and is conveyed to the water quality ponds and detention pond before it is discharged to Walnut Creek Tributary No. 1 and the tributary crossing the middle portion of the tract. The properties downstream of the subject tract will not be adversely affected by stormwater discharges from the subject tract, as COA regulations prohibit an increase of stormwater flows downstream of a newly developed site.

Preliminary review of the three tributaries crossing the subject tract has revealed that a City of Austin floodplain study will be required for the westernmost tributary (Walnut Creek Tributary No. 1) and the tributary crossing the middle of the tract. The City of Austin requires a floodplain study be performed on tributaries up to the point where the waterway drains 64 acres. A partial City of Austin floodplain study has been performed on Walnut Creek Tributary No. 1 and will need to be extended to the northern boundary of the subject tract. The floodplain study on the tributary crossing the middle of the tract will need to be extended approximately 500 feet downstream of Loyola Lane to effectively model the existing culverts crossing under the roadway.

9.0 DETENTION AND WATER QUALITY

The City of Austin requires that detention and water quality improvements be constructed whenever proposed development increases impervious cover or peak runoff from a proposed development. The specific criteria for these improvements are detailed within the COA Drainage and Environmental Criteria Manuals. A short discussion of what is required follows.

9.1 DETENTION

Stormwater runoff peak flow rates may not be increased at any point of discharge from a site for the 2-, 10-, 25-, and 100-year storm frequency events under COA rules. Regulation of peak flows to allowable levels shall be achieved by storage on-site, or by participation in an approved Regional Stormwater Management Program (RSMP). RSMP is an option where a landowner may be allowed to pay a fee rather than construct an on-site detention pond. Based on our experience, it would not be appropriate for the owner to participate in RSMP for this project. For this particular site, RSMP fees would likely exceed the cost of pond construction. In addition, there is ample land area available for construction of the necessary detention ponds due to open space requirements.

We have identified two detention pond alternatives that will work for the subject tract: an online regional detention pond or multiple offline detention ponds. Both of these alternatives have advantages and disadvantages. A regional online detention pond would most likely be located on the southern portion of the tract near Loyola Lane. A regional detention pond would require a large capital investment at the start of the project, as the pond would be sized for the ultimate development and would have to be constructed with the first phase of the project. An online regional pond would also be subject to the floodplain modification regulations found in Section 1.7.0 of the Environmental Criteria Manual. Those regulations state that development within a floodplain should respect the natural characteristics of the waterway and should prevent direct degradation of water quality. The request for approval of a floodplain modification shall be submitted in conjunction with an application for a development permit. It should also be noted that in order to construct an online pond, an environmental consultant will have to determine if the existing waterway is classified by the U.S. Army Corps of Engineers as "waters of the United States". Such a classification would require that the owner obtain a dredge/fill permit per

Section 404 of the Clean Water Act. The second alternative includes multiple offline detention ponds that could be designed and constructed as needed with the various phases of the project. Multiple detention ponds would require a smaller initial capital investment than a regional detention pond, but overall expense and required land area would be greater than the regional approach.

9.2 WATER QUALITY

To minimize the effect of non-point source pollution in stormwater due to the impact of development, the City of Austin requires water quality controls to serve all new development. These water quality controls are designed to improve water quality by removing suspended particulate matter and associated constituents such as bacteria, nutrients and metals. The primary control strategy for water quality basins is to capture and isolate at least the first flush of stormwater runoff for treatment. The minimum volume is the first half inch of runoff plus an additional one-tenth inch for each 10% increase of gross impervious cover above 20% within the drainage area to the control. The water quality volume must include runoff from all impervious surfaces such as roadways, parking areas and roof tops. The most common water quality control for improving the quality of stormwater runoff is a water quality pond. If required, a water quality pond will most likely be located at the furthest downstream end of the site. We have identified three types of BMPs that would be suitable for the subject tract: a sedimentation/filtration pond, a biofiltration pond, and a wet pond.

A sedimentation/filtration pond is the typical structural water quality control used to reduce non-point source pollution in Urban, Suburban, Water Supply Suburban, and Water Supply Rural watersheds within the City of Austin. In a sedimentation/filtration pond system, the water quality treatment is comprised of a sedimentation basin followed by a filtration basin. Stormwater runoff beyond the water quality volume is diverted to a stormwater detention basin or a conveyance structure such as an open channel or storm sewer, as specified by the City of Austin Drainage Criteria Manual. A sediment basin is required prior to the filtration basin to ensure the long-term effectiveness of the system by protecting the filter media from excessive sediment loading. In a full sedimentation/filtration system, the sedimentation basin is designed to hold the entire water quality volume and to release the water quality volume to the filtration

basin over an extended period of time. Unless the design is considered unfeasible, a full sedimentation/filtration system is required when the City will be responsible for maintenance.

Biofiltration ponds use chemical, biological, and physical properties of plants, microbes, and soils for removal of pollutants found in stormwater runoff. Similar to a sedimentation/filtration pond, a sedimentation basin is used for pretreatment of runoff in order to protect the biofiltration media from becoming clogged by sediment loads. However, a biofiltration pond differs from a sedimentation/filtration pond in that it uses a biological community of plants and microorganisms, which can theoretically provide a higher level of treatment of runoff. A biofiltration pond typically consists of a splitter box at the pond entrance, a flow spreading structure, a sedimentation basin, a separator element, a biofiltration media filtration basin with an underdrain piping system, an outlet structure, and native vegetation selected for tolerance to ponding and dry soil conditions. When designed properly, biofiltration ponds can provide stormwater runoff treatment equal or better than a sedimentation/filtration pond. It is also important to note that maximum velocities of stormwater entering the sedimentation chamber must be controlled for the biofiltration pond to work effectively. This requirement limits the amount of impervious cover that is practical for treatment. When native plantings are established, biofiltration ponds are relatively low maintenance. Any uses that would negatively affect the function of a biofiltration pond should be restricted. To ensure this, the City of Austin requires an approved and recorded Integrated Pest Management plan for the drainage area up to and including the pond area.

When designed properly, wet ponds are highly effective at treating stormwater runoff. Wet ponds are designed to have a permanent pool with an average minimum hydraulic residence time of 14 days. Holding stormwater runoff for this period of time allows for settling of suspended solids and biological uptake of nutrients. When wet ponds are designed to the criteria found in Section 1.6.6(C) of the Environmental Criteria Manual, they are assumed to provide water quality treatment equivalent to a sedimentation/filtration pond. Wet ponds are not considered critical environmental features by the City of Austin when designed and maintained properly. Because a wet pond needs to provide depths great enough to minimize water surface fluctuations, an adequate area for vegetation, and enough surface area to allow aeration, use of wet ponds should be restricted to areas that drain a minimum of 20 acres. Use of wet ponds should also be restricted to drainage areas that do not exceed 320 acres so that disturbance to waterways is minimized and higher flow-through rates are avoided.

Should a single regional type of detention pond be feasible, then a combination wet pond/detention pond design might also be an acceptable alternative for the subject tract. This would allow for a single facility to be constructed to provide detention and water quality for the entire tract. However, significant land area and initial capital expense is required for this type of facility.

10.0 ENVIRONMENTAL REGULATIONS

10.1 IMPERVIOUS COVER

As an additional environmental regulation, the City of Austin has established impervious cover limitations based on the watershed classification of a site. The allowable impervious cover may be different that the impervious cover allowed by zoning classification, and thus the more restrictive number will be what the City enforces. Furthermore, the impervious cover is calculated as a percentage of the Net Site Area, rather than the gross site area. The Net Site Area requires that deductions be taken from the gross area based on slope categories, CWQZ and WQTZ setbacks, and on-site wastewater disposal fields. The subject tract is located in a Suburban Watershed, and therefore the allowable impervious cover for single family development with lots greater than 5,750 sf is 45%, for single family with lots less than 5,750 is 55%, for multi-family development is 60%, and for commercial development is 65%. The impervious cover includes all building structures, driveways, streets, parking areas and sidewalks not located within public right-of-way. Net Site Area and Impervious Cover calculations for Tracts B, C, and D are included as ***Appendix F***.

10.2 CONSTRUCTION ON SLOPES / CUT AND FILL REQUIREMENTS

The City of Austin prohibits construction of streets or driveways on existing slopes greater than 15%, unless the street or driveway is necessary to provide primary access to at least two contiguous acres or an area with at least five residential units. Additionally, the City prohibits construction of a building or parking garage on existing slopes greater than 25%. Parking lots are prohibited on existing slopes greater than 15%. For buildings and parking garages on slopes between 15% and 25%, the area of impact on those slopes cannot exceed 10% of the

total area of those slopes. These requirements do not apply to existing man-made slopes, which do exist on the site as street rough cuts from earlier subdivisions.

The subject tract will be required to limit cuts and fills to no more than four (4) feet from natural ground for all proposed grading, except for ponds and building foundations, or eight (8) feet with an administrative waiver. Though for building foundations, this does include the grading around the perimeter of the building, for example, it is allowable to construct a foundation with a perimeter beam of ten (10) feet in height, but not allowable to construct the same foundation with a three (3) foot perimeter beam and seven (7) feet of fill grading down at a 3:1 slope. Any exceptions to this will require a variance to the Land Development Code approved by City staff, the Environmental Review Board and the Planning Commission. An evaluation of this can be performed once a concept plan has been prepared.

The site exhibits significant areas of erosion due to the soil characteristics throughout. In order to develop in these areas, it is very likely that environmental variances will be required from the City. This process will require negotiation with City staff in order to show that the Findings of Fact are being met, and will likely require additional environmental protection / enhancement above and beyond the minimum requirements. Once support from City staff is gained, then the variance request will be required to be heard by the Environmental Board and the Zoning and Platting Commission. Both hearings are public.

10.3 TREE PRESERVATION

A tree survey of all trees 8" in diameter or larger will be required for the subject tract. Trees 19" in diameter or larger are classified as protected trees and must receive approval from the City of Austin arborist for removal. If a protected tree is approved for removal, it must be replaced with an approved tree species with a ratio typically of one caliper inch to one caliper inch.

10.4 FLOODPLAIN / CWQZ / WQTZ

The subject tract is located within the Walnut Creek watershed, which is classified as a Suburban Watershed, according to Chapter 25-8 of the Land Development Code. A portion of

Tract B is located within Zone A of the effective FEMA Flood Insurance Rate Map No. 48453C0125 E, effective June 16, 1993. A Zone A floodplain is approximate only, as a detailed study of the floodplain was not performed. This floodplain is associated with Walnut Creek Tributary No. 1 located along the west boundary of the AISD tract, and encroached onto the southwest corner of Tract B. However, the City of Austin has recently performed a city wide study of all waterways, and is currently in the process of revising the floodplain maps with FEMA. This process in ongoing, however, the City has adopted the revised floodplains for regulatory purposes as the Floodplain Administrator. Based on the Preliminary Revised Flood Insurance Rate Maps, the revised floodplain for this waterway ends at the downstream end of a culvert beneath Colony Loop Drive, and thus once these maps become effective, Tract B would not be affected by FEMA floodplain. According to the proposed and existing FEMA maps, Tract C and D are not affected by any floodplain.

The City of Austin requires that a City defined floodplain be calculated for all watersheds with a contributing drainage area of 64 acres or more, for fully developed conditions. The purpose of calculating this floodplain is to establish a drainage easement to contain the floodplain, size conveyance structures, and to insure that no development will occur within the floodplain. Based on preliminary drainage area calculations, the floodplain study for the upper reach of Walnut Creek Tributary No. 1 will need to be extended along the west boundary of Tract B to the Southern Pacific Railroad. The unnamed tributary located along the west boundary of Tract D will also require a floodplain study from downstream of Loyola Lane to Colony Loop Drive.

Additionally, in Suburban Watersheds, waterways with a contributing drainage area of 320 acres to 640 acres are classified as minor waterways. The unnamed tributary along the west boundary of Tract D has a drainage area of 262 acres at the Loyola Lane crossing, and thus is not classified as a minor waterway. All the other waterways on the subject tract would be unclassified. Therefore there are no Critical Water Quality Zone setbacks or Water Quality Transition Zone setbacks on the tract.

10.5 CRITICAL ENVIRONMENTAL FEATURE SETBACKS

Per the Environmental Assessment prepared by Horizon Environmental, there are two potential wetland features located on Tract D. Both potential CEFs are located on the southeastern

portion of the subject tract and are labeled as W-1 and W-2 on Figure 1 of the Horizon report, both of which are wetland features as defined by the City of Austin. Note that these features are not necessarily Army Corps of Engineers defined wetlands. CEF W-1 is approximately 340 feet long and 8 feet wide and is located within an on-site waterway south of Colony Loop Drive. CEF W-2 was observed approximately 1,500 feet southwest of feature W-1 and has approximate dimensions of 165 feet wide by 300 feet long. Horizon believes feature W-2 is a stock tank that is no longer functional. No new growth of wetland vegetation was observed and it is Horizon's opinion that changes to the hydrology of the area have occurred and that feature W-2 will unlikely continue to function as an herbaceous wetland. Horizon's Environmental Site Assessment also includes descriptions of site topography, soils, geology, vegetation, and existing land use. The City of Austin Environmental Assessment is included with this report as ***Appendix C.***

The City of Austin typically requires a 150' setback around all CEFs, however historically City staff has allowed setbacks for wetland features to be reduced to 50' if other mitigation of riparian zone protections was incorporated, or a plan for wetland restoration was prepared. Once a conceptual land plan is prepared, a meeting will be scheduled with the City's environmental staff in the field to evaluate and determine what an acceptable setback would be for each feature. Given the lack of quality for feature W-2, it is likely that a setback will not be required for the feature.

10.6 CORPS OF ENGINEERS DEFINED WETLANDS

Historically, the Corps of Engineers (COE) has used the USGS Quadrangle maps as a tool to preliminarily determine whether a waterway meets the definition of a "waters of the U.S." according to the COE's Wetland Determination Manual. This manual is what the COE uses to enforce Section 404 of the Federal Clean Water Act. Per the Quad map for the subject tract, it appears that there may be three features that the COE may consider jurisdictional, and thus requiring either protection from disturbance, a Nationwide Permit for "minor" disturbances, or an Individual Permit for significant disturbances. These features include the three waterways previously described that traverse across the subject tract. Based on this, we recommend that AHFC perform a COE jurisdictional wetland delineation by a qualified environmental firm, in order to determine if these features have potential to be "waters of the U.S." Upon completion

of that study, it can be determined what level of impact, if any, the proposed development will have on the features, and then the appropriate permitting process can be determined. For impacts of less than 0.1 acre, upon documenting the wetlands and associated impacts, no action is required with the COE. For impacts less than 0.5 acres or 300 LF of stream length, a Nationwide Permit will be required. This permit requires documentation of the wetland determination process, preparation of required applications and forms, and payment of fees to be submitted to the COE. The review process is generally 120 days. Should the level of impact exceed the thresholds for the Nationwide Permit, then an Individual Permit will be required. This process is substantially more arduous, time consuming, and requires mitigation of any disturbed wetlands.

11.0 EXISTING APPROVALS

The following subdivisions, site plans, preliminary, and utility projects have been previously approved for the subject tract:

1. The Meadows of Walnut Creek Preliminary (C8-84-100) ***(Exhibit 15)***
2. Colony Park Hills/Walnut Creek Section I & II (C8-73-70)
3. Overton Elementary School and City of Austin Turner Roberts Recreation Center (SPC-06-0046CX)
4. Colony Park Recreation Center (SPC-03-0021C)
5. 12-in COA water line in Loyola Ln. (AWU project number 2003-0004)
6. 12-in. COA water line in Colony Loop Dr. (AWU project number 85-0910)
7. 8-in. COA water line in southern portion of the tract (AWU project number 73-0325)
8. 8-in. COA wastewater line running north to south within the subject tract (line connects to manhole number 80664 in Loyola Lane)

It is our understanding that because this is an AHFC project, Local Government Code Chapter 245 (grandfathering) rights will not be pursued.

12.0 REQUIRED APPROVALS AND PERMITS

12.1 REZONING

As discussed in Section 5.0, the subject tract is currently zoned for single family residence (SF-2 and SF-3) and multi-family residence (MF-2). If retail or commercial uses are desired for future development of the tract, the subject tract will need to be rezoned. This process will require the preparation of an application, a Traffic Impact Analysis, and a survey of the area to be rezoned. City staff will review the proposed zoning changes and either provide a positive recommendation or a negative recommendation. It will be critical to include input from any adjacent neighborhood groups or other groups with interest. This process will likely be very public, transparent and political.

12.2 SITE DEVELOPMENT PLAN

Any proposed commercial or multi-family development will require a site development plan that will need to be submitted only to the City of Austin and TDLR for review and approval. It should be noted that prior to submission of a site plan application to the City of Austin, a plat must be prepared and approved for the subject tract. A site plan is required to determine if a proposed development complies with the Land Development Code and the ordinances of the City of Austin. City codes require that a site plan application be reviewed for land use, zoning, transportation, drainage, storm water detention, water and wastewater, environmental and safety considerations. The City of Austin site plan review process involves review by Austin Water Utility and the various departments within the Watershed Protection and Development Review Department (WPDRD) of the City, and typically takes 90 to 180 days for approval of the site development permit. When the site development plan is submitted to the City, it is assigned to a WPDRD case manager who is responsible for the review of the case and who serves as the public contact for the case. WPDRD typically returns a written report of staff review comments to the applicant within 28 calendar days after submittal. The applicant then addresses staff comments and resubmits the site development plan to WPDRD. WPDRD may generate new comments based on the resubmittal and the applicant is required to address any new comments in a timely manner. This process continues until all comments from WPDRD

staff have been cleared. The process is entirely administrative if there are no variances required for approval. Any variances to the site plan must be heard before the Environmental Board and the Zoning and Platting Commission.

12.3 SUBDIVISION

Based upon the single-family residence (SF-2 and SF-3) zoning, a subdivision plan will need to be submitted to the City of Austin for review and approval. The process involves approval of a Preliminary Plan, approval of a Final Plat, and approval of subdivision construction plans. The preliminary plan requires approval from the Zoning and Platting Commission and at times, may require approval through other City boards and commissions. The final plat review process requires a public hearing and approval from the COA Zoning and Platting Commission. The review process for subdivision plans involves review by the AWU and the various departments within the WPDRD. A typical review of a subdivision plan by WPDRD includes the review of streets and drainage, clearing, rough cut and grading, and water and wastewater utility planning. The City of Austin review process typically takes 90 to 180 days for approval of the development permit and has a review/comment period similar to a site development plan. The subject tract is located within the City of Austin's Full Purpose Jurisdiction, so review of the subdivision plan is not required by Travis County.

12.4 LANDSCAPING

The portions of the subject tract zoned single family residence (SF-2 and SF-3) are exempt from the City's landscape requirements. It is expected that any proposed improvements within the portion of the subject tract zoned multi-family residence (MF-2) or commercial will be required to meet the City's landscape requirements including "preserving the existing natural character of the landscape, including the retention of trees eight inches or larger in diameter to the extent feasible." This will require a tree survey of all trees with a diameter of at least eight inches. Additional requirements include landscaping at least 20% of street yard areas, a landscape median within 50' of each parking space, buffering, or view obstruction of parking areas, and cars, irrigation of all required landscape areas, and compliance with screening standards. The City also allows for alternative compliance when site restrictions don't allow for basic

compliance standards mentioned above. It is assumed that a Registered Landscape Architect will be responsible for the development and approval of all aspects of a landscape compliance plan at the site plan stage.

12.5 PARKLAND DEDICATION

Per the City of Austin Land Development Code, a requirement for parkland dedication shall apply to all residential subdivisions and all site plans with three or more dwelling units. The area to be dedicated as parkland must be shown on the preliminary plan and the plat for a subdivision. For a site plan, the parkland area must be shown on the site plan and in a deed to the City. The amount of parkland required to be dedicated to the City is five acres for every 1,000 lots or residents. A cash payment or fiscal security may be deposited with the City instead of the dedication of parkland if the land required to be dedicated is less than six acres or if the land available for dedication does not comply with the standards for dedication. Land to be dedicated as parkland must comply with the standards in the Comprehensive Plan, the Park and Recreation Action Plan, the Administrative Criteria Manual, and section 25-1-603 of the Land Development Code. As the final use for the subject tract is not known at the time this report was written, an accurate parkland dedication area or dedication fee cannot be calculated.

In calculating the amount of parkland to be dedicated, the number of residents in each dwelling unit shall be calculated based on the following table:

Dwelling Units per Acre	**Residents in Each Dwelling Unit**
Not more than 6	2.8
More than 6 and not more than 12	2.2
More than 12	1.7

Using the above densities, an example parkland dedication calculation, based on 600 lots, is shown below:

600 units / 203.621 Ac = 2.9 dwelling units per acre

2.9 dwelling units/acre corresponds to 2.8 residents/dwelling unit (per above table)

(5 acres x 600 units x 2.8 residents/unit) / 1,000 = <u>8.4 acres required for parkland dedication</u>

It is our understanding that AHFC donated the land for the Turner Roberts Recreation Center and therefore, it is possible that the PARD may agree that this satisfies the parkland requirements for the subject tract.

12.6 TCEQ APPROVAL

The subject property is not located within the Edwards Aquifer Recharge Zone per TCEQ maps. Therefore, a Water Pollution Abatement Plan permit will not be required. However, the Texas Commission on Environmental Quality (TCEQ) Texas Pollutant Discharge Elimination System (TPDES) program has federal regulatory authority over discharges of pollutants to Texas surface water. A storm water permit is required for construction activity that disturbs 5 or more acres. A Storm Water Pollution Prevention Plan (SWPPP) will need to be submitted to the TCEQ for review and approval. The SWPPP identifies areas and activities that could produce contaminated runoff and how to ensure that the contamination is mitigated. A Notice of Intent (NOI) will also be required to be submitted to the TCEQ at least two days prior to commencing construction activities.

13.0 REQUIRED STUDIES

A Preliminary Geotechnical Study has been prepared for the subject tract and is included as ***Appendix B*** to this report. A final geotechnical study will be preformed during the construction plan phase of the project and will include a street pavement design. A City of Austin Environmental Assessment has also been prepared and is included as ***Appendix C*** to this report. As part of the City of Austin review process, a floodplain study and a traffic impact analysis will need to be prepared for the subject tract. The TIA will be prepared in conjunction with rezoning and/or when a Preliminary Plan is approved.

14.0 SUMMARY AND CONCLUSION

The 203 acre Colony Park tract is located in east Austin, in an area that is expected to incur significant growth over the next five to ten years. The site is located in Walnut Creek

Watershed, which is classified as a Suburban Watershed, and is within the Full Purpose Jurisdiction of the City of Austin. The site appears to have adequate water and wastewater service to be provided by the Austin Water Utility; however, further analysis will be required based upon the proposed land uses and densities for the project. The site does exhibit areas of moderately steep slopes, which will limit the ability to develop large structures in those areas. However, there are sufficient areas with flatter slopes that can accommodate such structures. Some areas with slopes greater than 15% may require environmental variances in order to develop on those slopes. The soils on the site are highly expansive and highly erosive, and thus will require special consideration when streets, retaining walls, earthwork and foundations are designed. Foundation designs will be very critical depending on how the structure is loaded, and likely will have an impact financially on any structure.

The site is in close proximity to State Highway 130, US Highway 183, US Highway 290, and two potential rail transit lines. As well, the site is currently served by two CMTA bus routes, and a potential transit station site is located within one mile of the subject tract. Based on this, access to major thoroughfares is exceptional and alternative public transportation is readily available and will likely be enhanced in the future. However, due to the subject tract's distance from the possible location of a future CMTA transit station, it may be difficult to consider Transit Oriented Development (TOD) for this tract with a rail component, as the walking distance to the station is too great. However, a TOD with a bus transit station to transfer pedestrians to the rail transit station or a Traditional Neighborhood District (TND) may be more feasible. With an AISD elementary school under construction adjacent to the subject tract, and a middle school located less than a mile from the site, some of the destinations for TND are in place. Nevertheless, both types of development are heavily dependant on density and mixed use. We recommend that AHFC perform a market study in order to determine if these types of development are feasible.

DISCLAIMER: LJA Engineering and Surveying has prepared this report based upon our experience in working with the City of Austin, and other reviewing agencies, on similar projects. In preparing this report and stating conclusions, we have relied on information provided by others, both verbally and written, as well as information contained in printed documents available by these agencies, some information provided to LJA. The conclusions made by LJA based upon this information, is subject to interpretation by the reviewing agency, and therefore such interpretations may contradict information contained within this report. This report is to be

used solely for the subject property, and only by the Client this report was prepared for. LJA does not guarantee that the project can be developed based upon the information contained in this report, and as such will not be held liable for project performance and yield; development permits procedures, requirements and fees; or construction related costs as a result of using this report.