

2018 RELLIS Campus Area Annexation Feasibility and Strategy Study

INFRASTRUCTURE ASSESSMENT



AUGUST 2018 | VERSION 2

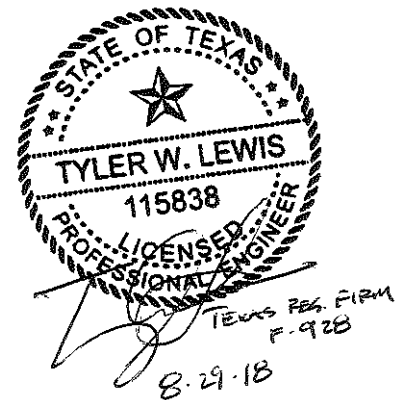
Prepared By:

Kimley»»Horn

2800 South Texas Avenue, Suite 201

Bryan, TX 77802

TBPE Registration No. F-928



Contents

Executive Summary	2
Introduction	4
Description of study area.....	4
Objective and Scope of Assessment	4
Water	4
Existing Conditions.....	4
Anticipated Waterline Improvements	5
Wastewater	5
Previous Studies.....	5
Existing Conditions.....	5
Methodology and Design Criteria	6
Design Criteria	6
Anticipated Wastewater Improvements.....	6
Roadways & Drainage	7
Existing Conditions.....	7
Methodology and Design Criteria	7
Anticipated Roadway & Drainage Improvements	8

Tables

Table 1. Roadway Infrastructure Costs	8
---	---

Appendices

- Appendix 1: Vicinity Map
- Appendix 2: Roadway and Drainage Infrastructure Exhibit
- Appendix 3: Water / Wastewater Infrastructure Exhibit
- Appendix 4: Projected Infrastructure Cost Summary
- Appendix 5: Infrastructure Cost Projection Information

EXECUTIVE SUMMARY

Kimley-Horn and Associates, Inc. (KHA) completed this infrastructure assessment in collaboration with Kendig Keast Collaborative (KKC) and TischlerBise, Inc. (TBI) in order to assess costs for conceptual water, sewer, and roadway infrastructure to serve the area identified for annexation by the City of Bryan, Texas. The area for the assessment included approximately 4,170 acres on the city's west side in the area of, but not including, Texas A&M University System's RELLIS Campus. Existing development within the study area is generally limited to rural property and agricultural lands. Subsequently, water and sewer services within the study area are limited as are improved public roadways. This infrastructure assessment was prepared as a supplement to the KKC feasibility and strategy study.

The annexation area and development scenarios were developed by KKC and TBI and organized into three 5-year phases comprised of fiscal analysis zones (FAZ). Infrastructure items were determined by assessing ultimate demands and associated infrastructure needs for the entire annexation area. These items were subsequently divided and assigned to each of the respective FAZ. This document includes a summary of existing conditions and the methodology and design criteria used in assessing conceptual water, sewer, and roadway alignments and construction cost projections.

INTRODUCTION

DESCRIPTION OF STUDY AREA

The subject area for this assessment consisted of approximately 4,170 acres on the City of Bryan's west side. The area is bounded on the south and east by the city's existing western limit and the limit line along SH 47, and Villa Maria Rd forming an area nicknamed the "horseshoe" due to its characteristic shape. Texas A&M University System's RELLIS campus forms the western boundary and the SH 21 corridor the northern. The area is primarily rural property with limited acreage homesteads and agricultural lands. The annexation area and development scenarios were developed by KKC and TBI and organized into three 5-year projections or phases (See Appendix for Vicinity Map).

Phase 1, with a 0 to 5-year projection, is comprised of FAZs 2 & 4. FAZ 4 encompasses the southern portion of the "horseshoe" along Leonard Road. FAZ 2 includes the area along the SH 21 corridor from the road crossing with Still Creek and the western city limit.

Phase 2, with a 5 to 10-year development horizon, is defined by FAZ 3, which includes the majority of the infill of the "horseshoe".

Phase 3, defined by a 10 to 15-year development horizon, includes FAZ 1, which is comprised of the area along the SH 21 corridor north of the RELLIS Campus.

OBJECTIVE AND SCOPE OF ASSESSMENT

This assessment was completed in accordance with the project scope in order to:

1. Document the types and levels of existing city services in the incorporated areas closest to the project study area, specifically including:
 - Water,
 - Wastewater,
 - Drainage and Transportation.
2. Identify and discuss service provision and considerations relevant to the study area.
3. Provide an itemization of infrastructure to satisfy statutory requirements.

WATER

EXISTING CONDITIONS

This area primarily consists of undeveloped property, small and large lot residential homes, and agricultural uses. Given the limited development throughout the study area, most property owners are currently served by private water wells; however, the City of Bryan did acquire the former Brushy Creek Special Utility District distribution network that previously served the area. The Certificate of Convenience and Necessity (CCN) was also purchased from OSR Water Supply Corporation in April of 2010.

The area along Villa Maria Road and Leonard Road within the southern portion of the “horseshoe” is currently served by an existing 24-inch water line parallel to Leonard Road. This large infrastructure should have adequate capacity to serve the development in Phase 1 (FAZ 4).

ANTICIPATED WATERLINE IMPROVEMENTS

As mentioned previously, development within FAZ 4 of this assessment should be adequately supported by existing infrastructure; however, future development within FAZs 2 and 3 will require some public improvements. Fortunately, the city has already taken action to address this need. At the time of this assessment, Phase 1 of the SH 47 water line will extend an 18” water line from the 24-inch line parallel to Leonard Road, along SH 47, to SH 21. Phase 2 of this project will loop the line back to the existing lines in the area of SH 21 and FM 2818 and connect existing infrastructure acquired from OSR Water Supply Corporation. These improvements should address the demand associated with FAZs 2, 3, and 4 of this assessment. Subsequently, service will need to be extended along the north side of SH 21 to serve FAZ 1 at some future date.

Additionally, the 2007 Water Master Plan prepared by Mitchell & Morgan, LLP also identified a 2-million-gallon elevated storage tank that would be required within the boundary of FAZ 3. The city confirmed that the property for the future tank site has been acquired.

WASTEWATER

PREVIOUS STUDIES

The basis of the wastewater portion of this assessment expands upon the work and conclusions of the following reports:

- City of Bryan Westside Wastewater Collector System - Conceptual Engineering Study; dated 12/29/2010, prepared by Steve Duncan, P.E. of Jones & Carter, Inc.
- Riverside Sewer Extension – Conceptual Engineering Study; dated 1/26/2018, prepared by Matt Dawson-Mather, P.E. of the City of Bryan

The improvements identified in the reports that are required to serve the subject area of this assessment were upsized based on the demand projections of this study and incorporated in the sewer costs.

EXISTING CONDITIONS

The subject area primarily consists of undeveloped property, large lot residential homes, and agricultural land uses. While most of the subject area falls within the city’s sewer CCN, it is assumed the individual properties are currently served with private onsite septic systems. Separately, it should be noted that the Riverside, Silver Hill Estates, and Linda Lakes residential subdivisions in the area of Leonard Road, SH 47, and Linda Lane are within the River Side WWTP CCN. The approximate 95-acre River Side WWTP CCN privately owns and maintains a WWTP for service of the residential lots within the CCN boundary. At the time of this study it was communicated that city staff does not have interest in acquiring this service area or infrastructure.

The topography of the study area generally falls to the south and southwest. There are several creeks, tributaries and low-lying areas contained within the study area. Still Creek runs from the northeast to the southwest across the northern portion of the study area where it intersects with Thompson Creek that eventually discharges to the Brazos River. No survey was performed as a part of the scope of this assessment. The depth and location of the existing lines were based on the city's GIS information.

METHODOLOGY AND DESIGN CRITERIA

KHA utilized information provided by the City of Bryan as the basis of this study. This information included the City of Bryan GIS data on existing sanitary sewer systems, aerial topography, property boundaries, and aerial photographs. The primary service area of the assessment was limited to the Annexation FAZs prepared by others.

To evaluate the wastewater collection system alternatives, KHA generated preliminary pipe alignments that would serve the primary service area. Utilizing the topography information and the flow line information on the existing sanitary mains, KHA laid out preliminary alignments. The proposed pipe grades used minimum pipe slopes or followed natural ground where possible with the goal to maintain adequate cover and terminating with a minimum of 4-feet of depth. Based on the conceptual grades, the wastewater service area will require two lift stations in addition to the three lift stations west of SH 47 that were identified in the 2010 Jones and Carter Report. Demands for the service area were assigned based on the greatest wastewater demand scenario prepared by others. Wastewater capacity was assessed for each alignment based on the minimum grade. Manning's Equation was used to calculate the full flow capacity of each segment of the pipe network in order to assign a preliminary sewer pipe size.

DESIGN CRITERIA

The 2012 Bryan / College Station Unified Design Guidelines for Sanitary Sewer were used as the primary design guidelines for this study. Texas Commission on Environmental Quality (TCEQ) guidelines, as established in the Texas Administrative Code under Title 30 – Environmental Quality, Part I, Chapter 217 – Design Criteria for Wastewater Systems, were also utilized.

ANTICIPATED WASTEWATER IMPROVEMENTS

It is estimated that Phase 1 can be served in a 2-step approach, by first constructing the infrastructure identified in the Jones & Carter report from the connection in Foster Lane to the area surrounding the River Side WWTP CCN. Step 1 includes the two lift stations identified in the Jones & Carter report and approximately 55,000 linear feet of gravity sewer and 10,800 linear feet of force main. These improvements can serve the portion of the SH 47 corridor up to Linda Lane that is currently in the city limits, as well as FAZ 4 that includes the Leonard Road corridor. This does not include the area within FAZ 2 that is identified to be included in Phase 1 of the Annexation scenario.

Step 2 of Phase 1 provides the necessary infrastructure to serve FAZ 2. It includes the additional lift station identified at Thompson Creek in the city's sewer report as well as another proposed by this study on the west side of SH 47 at Thompson Creek. Approximately 28,000 linear feet of gravity sewer and 4,000 linear feet of force main are also required.

Phase 2 provides service to FAZ 3 and will require approximately 8,700 linear feet of gravity sewer.

Phase 3 provides service to FAZ 1 and will require another lift station to serve the western portion along the floodplain of the Brazos River and approximately 13,000 linear feet of gravity sewer and 5,800 linear feet of force main.

It should also be noted that future upgrades will be required to the Thompson Creek WWTP as development occurs within the annexation area and wastewater discharges increase. The plant's current capacity is 2 million gallons per day (MGD), with an average demand of 0.8 MGD. Since the actual timing of future development and subsequent sanitary connections are unknown at this time, it is the consensus of city staff and the consultant team to include only costs for a 2 MGD expansion to the current permitted capacity of 4 MGD.

ROADWAYS & DRAINAGE

EXISTING CONDITIONS

Given the large lot undeveloped nature of the subject area, there are limited private and county roads that traverse the area. Public facilities include state maintained Leonard Road that bisects FAZ 4, and SH 21 that bisects FAZs 1 and 2. SH 47 also lies on the southern boundary of the study area. FAZ 3 does not include any public facilities at this time.

METHODOLOGY AND DESIGN CRITERIA

KHA completed the roadway assessment by overlaying the city's thoroughfare plan in the subject area and evaluating connectivity of the area in context of the future development of the RELLIS Campus. Costs included in the study were limited to collectors and arterials as it was assumed local and freeway sections would be constructed by others. Since future development of the area is assumed to be initiated and completed by private developers, in accordance with the Thoroughfare Plan, it is the consensus of city staff, based on past experience, to assess only half of the ultimate roadway construction cost to the city.

Cost for upgrading existing county roads to the ultimate section identified in the Thoroughfare Plan were also included; however, future maintenance and staff time cost were not included. Upgrades to existing local county roads were assumed to be addressed as future maintenance or reconstructed with development.

Within the annexation study area, the adopted thoroughfare plan includes:

- NW/SE minor arterial extending from Traditions Boulevard at Villa Maria to SH 21
- NE/SW minor arterial extending from Shiloh Avenue to SH 47
- Upgrading Leonard Road to a minor arterial
- NE/SW Major collector from Silver Hill Road to the proposed NW/SE minor arterial
- Extending Linda Lane as a major collector to FM 2818
- Upgrading and extending Chick Lane to a major collector intersecting Linda Lane to the north

Additionally, at the request of city staff, cost for upgrades to the portion of Goodson Bend Road bounding the RELLIS campus were included in the FAZ 1 numbers.

Costs were evaluated and assigned in accordance with the respective cross sections reflected in the 2012 Bryan / College Station Unified Design Guidelines for Streets and Alleys. Major Collectors were evaluated as a 48-foot wide pavement section with two travel lanes, a shared left turn lane, and two

6' bike lanes. Minor Arterials were evaluated as a divided section with four travel lanes, and two 6' bike lanes. Two 6-foot sidewalks were also included with both sections.

Additionally, bridge costs were assessed at all proposed creek crossings throughout the study area. Costs for traffic signals, storm drainage, landscaping, survey and design were also included. Assumptions for these can be reviewed in the Roadway Cost Assessment included in the Appendix of this report.

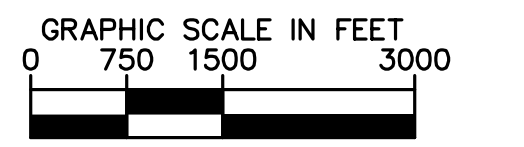
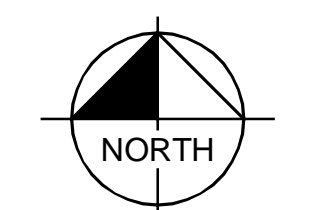
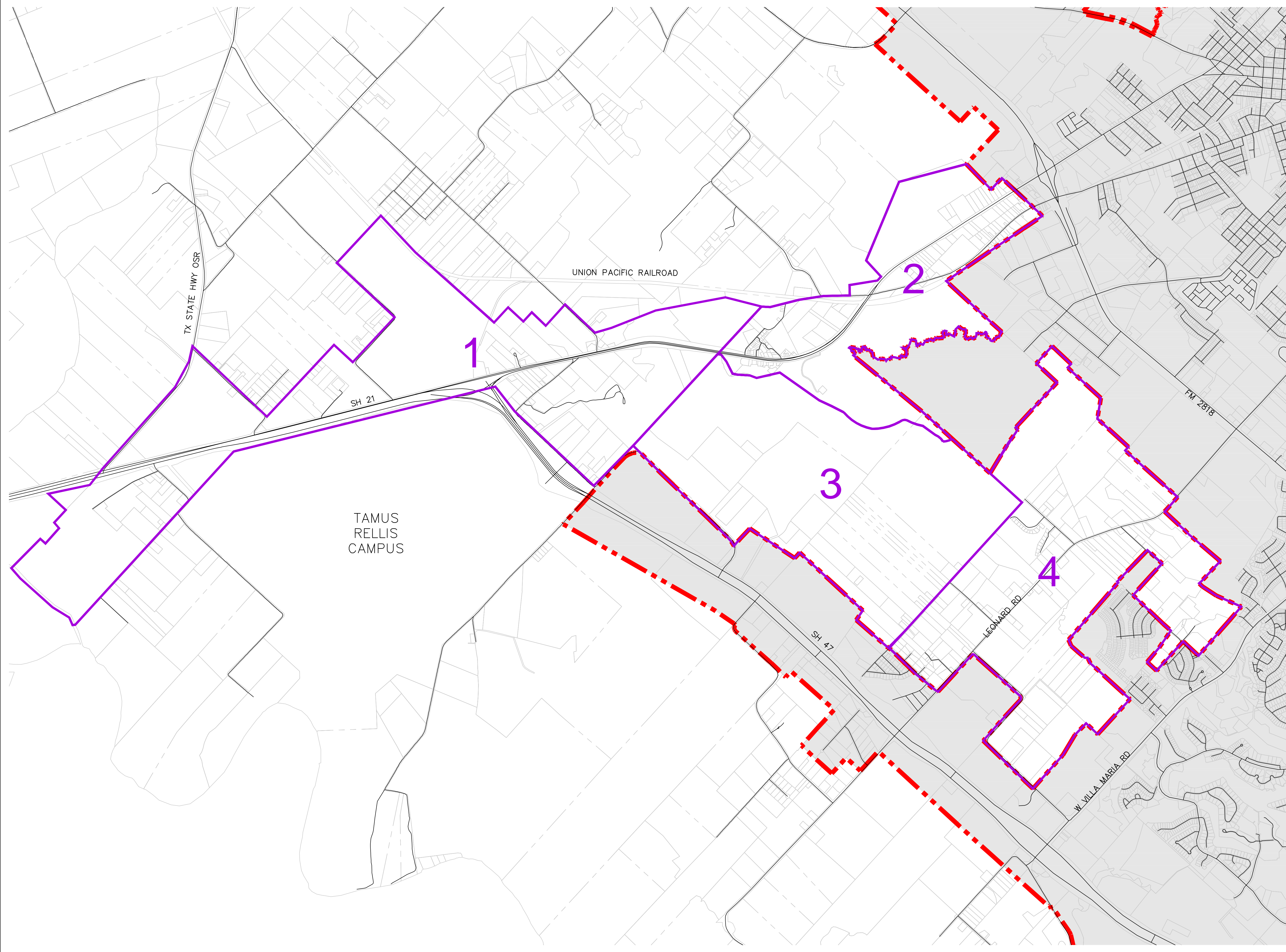
ANTICIPATED ROADWAY & DRAINAGE IMPROVEMENTS

Given the RELLIS Campus location at the intersection of SH 47 and SH 21 and the basis and nature of the subject assessment, KHA did not determine the need for additional public roadway alignments; however, given the limited development and existing public roadway network in the annexation area, the roadway improvements are the most significant infrastructure cost. A breakout of these costs is presented in Table 1 below.

Table 1. Roadway Infrastructure Costs

Annexation Phase	Upgrades (ft)	New Construction (ft)	Bridge Construction (ft)	Total Cost
Phase 1 (FAZs 2 & 4)	6,920	30,300	3,750	\$81.8 M
Phase 2 (FAZ 3)	5,060	23,640	5,000	\$91.1 M
Phase 3 (FAZ 1)	8,620	0	0	\$6.6 M
Total	10,060	53,305	8,750	\$179.5 M

Appendix 1: Vicinity Map



LEGEND

- ANNEXATION STUDY SECTION
- - - CITY LIMIT
- - - PROPERTY BOUNDARY

VICINITY MAP STUDY SECTION BOUNDARIES

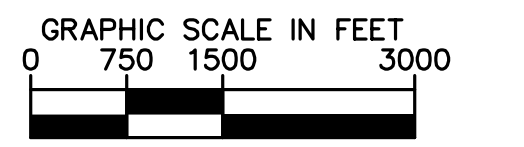
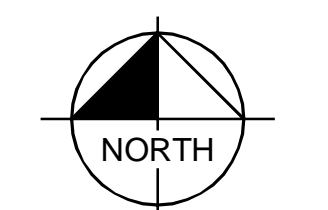
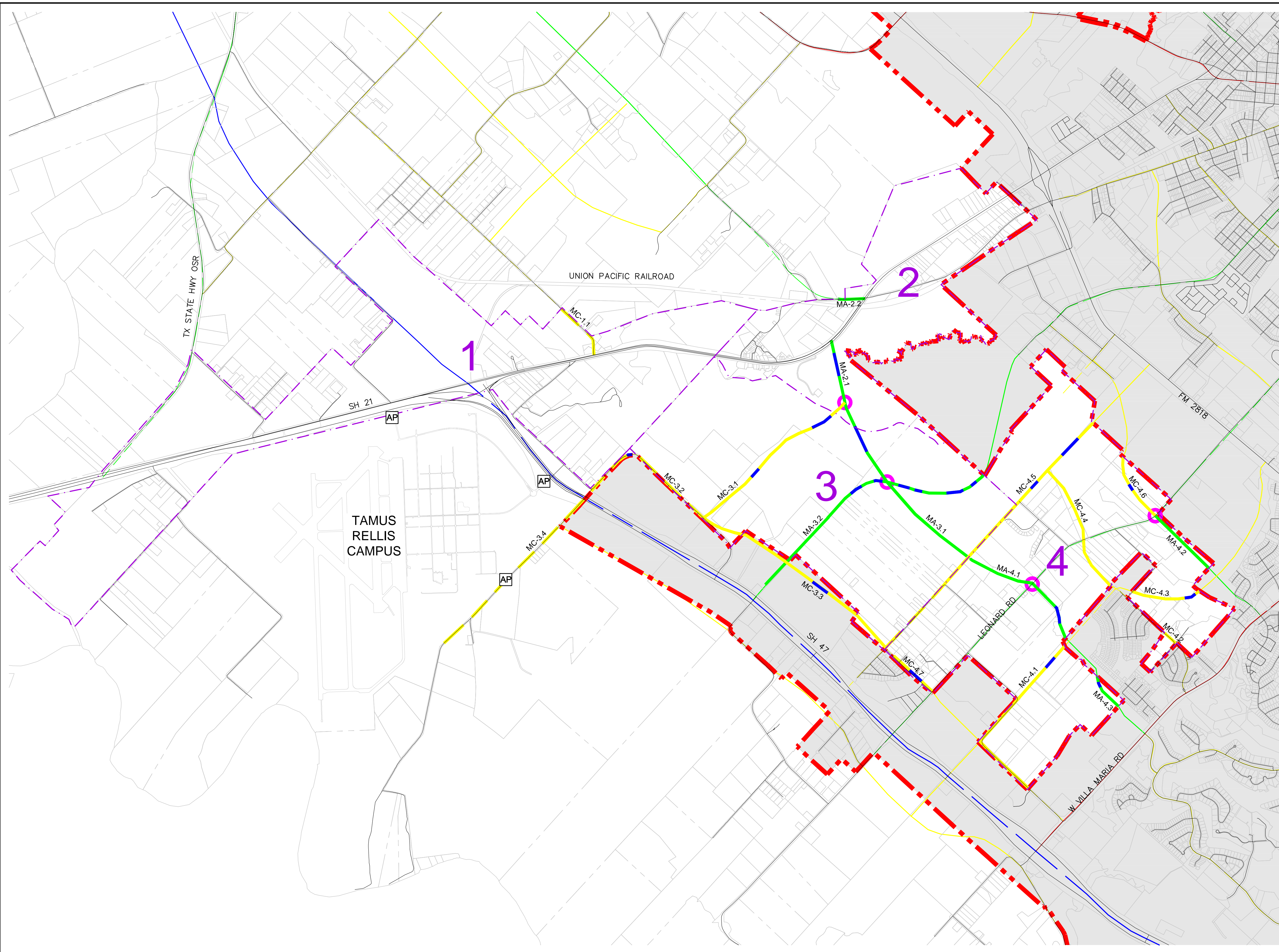
2018 RELIS CAMPUS AREA ANNEXATION STUDY
BRYAN, TX.



2800 South Texas Avenue, Suite 201
Bryan, Texas 77802
Tel. No. (979) 775-9595
Fax No. (979) 775-9599
TBPE Registration No. F-928

Appendix 2: Roadway and Drainage Infrastructure Exhibit





LEGEND

- ANNEXATION STUDY SECTION
- - - CITY LIMIT
- - - PROPERTY BOUNDARY
- MAJOR COLLECTOR
- MINOR ARTERIAL
- BRIDGE/DRAINAGE STRUCTURE
- TRAFFIC SIGNAL
- RELLIS ACCESS POINT

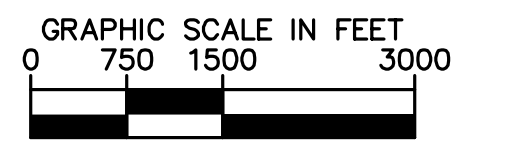
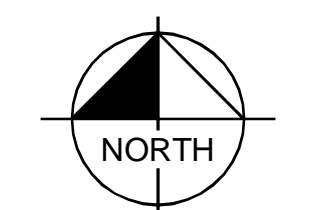
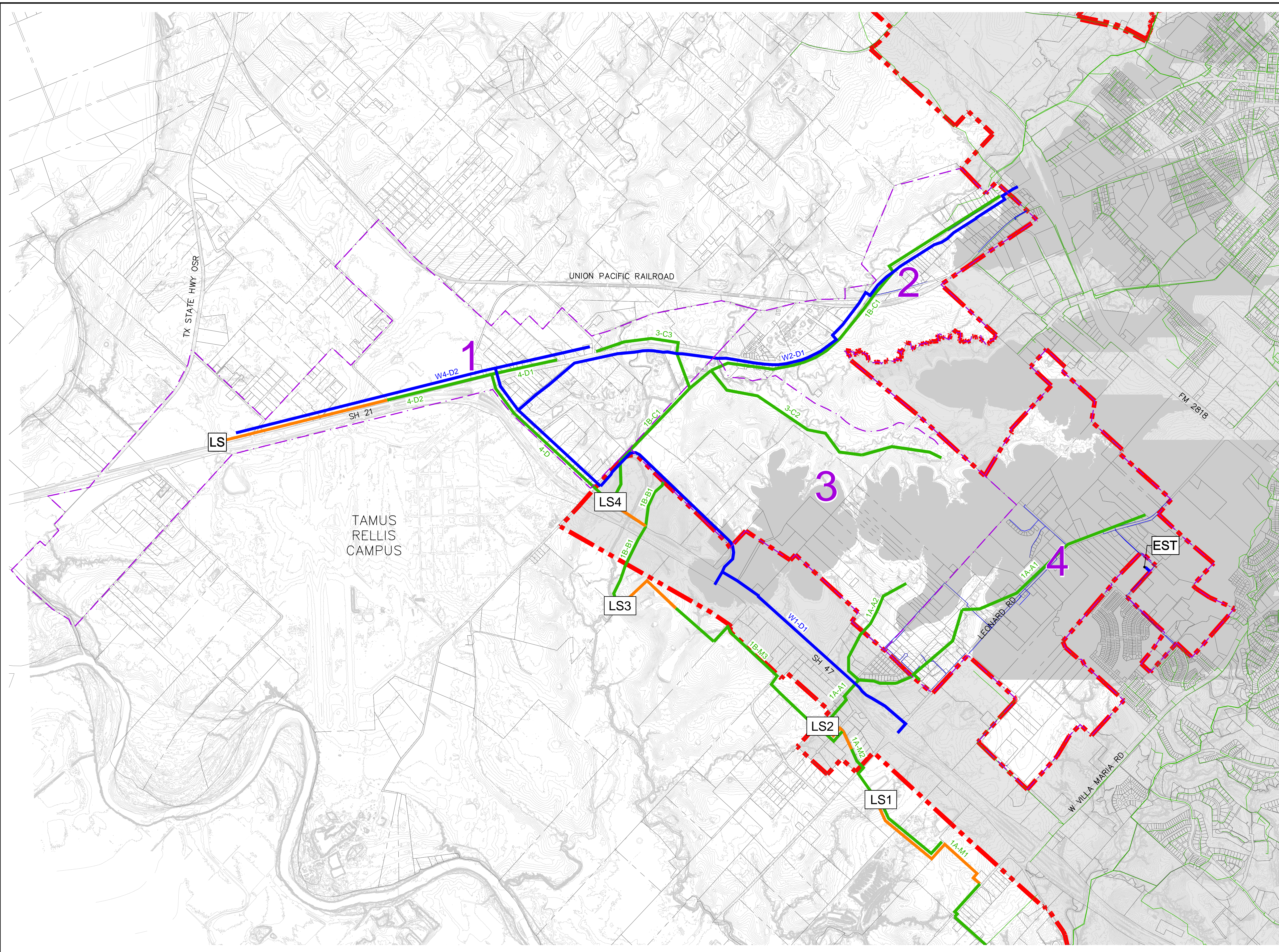
**ROADWAY AND DRAINAGE
INFRASTRUCTURE
EXHIBIT**

**2018 RELLIS CAMPUS
AREA ANNEXATION
STUDY
BRYAN, TX.**



2800 South Texas Avenue, Suite 201 Tel. No.(979) 775-9595
 Bryan, Texas 77802 Fax No.(979) 775-9599
 TBPE Registration No. F-928

Appendix 3: Water / Wastewater Infrastructure Exhibit



LEGEND

- ANNEXATION STUDY SECTION BOUNDARY
- - - CITY LIMIT
- - - PROPERTY BOUNDARY
- WASTE WATER
- WASTEWATER FORCE MAIN
- WATER
- LS LIFT STATION
- EST ELEVATED STORAGE TANK
- EX. WASTEWATER LINE
- EX. WATER LINE

WATER/WASTEWATER INFRASTRUCTURE EXHIBIT

**2018 RELIS CAMPUS AREA ANNEXATION STUDY
BRYAN, TX.**



2800 South Texas Avenue, Suite 201
Bryan, Texas 77802
Tel. No. (979) 775-9595
Fax No. (979) 775-9599
TBPE Registration No. F-928

Appendix 4: Projected Infrastructure Cost Summary



INFRASTRUCTURE COST SUMMARY

Issue Date 8/29/2018

Description	Construction Cost	Contingency	Engineering, Surveying and Testing	Subtotal
<i>PHASE 1 (FAZ 2 and 4) Public Infrastructure Components</i>				
Roadways*	\$ 31,184,362	\$ 4,677,654	\$ 5,020,682	\$ 40,882,699
Sanitary Sewer	\$ 26,830,176	\$ 4,024,526	\$ 3,756,225	\$ 34,610,927
Water	\$ 1,735,635	\$ 260,345	\$ 279,437	\$ 2,275,417
Subtotal	\$ 59,750,173	\$ 8,962,526	\$ 9,056,344	\$ 77,769,043
<i>PHASE 2 (FAZ 3) Public Infrastructure Components</i>				
Roadways*	\$ 34,753,472	\$ 5,213,021	\$ 5,595,309	\$ 45,561,802
Sanitary Sewer	\$ 2,313,070	\$ 346,961	\$ 323,830	\$ 2,983,860
Water	\$ 2,546,703	\$ 382,005	\$ 410,019	\$ 3,338,727
Subtotal	\$ 39,613,244	\$ 5,941,987	\$ 6,329,158	\$ 51,884,389
<i>PHASE 3 (FAZ 1) Public Infrastructure Components</i>				
Roadways*	\$ 2,501,008	\$ 375,151	\$ 402,662	\$ 3,278,822
Sanitary Sewer	\$ 4,956,160	\$ 743,424	\$ 693,862	\$ 6,393,446
Water	\$ 5,473,625	\$ 821,044	\$ 881,254	\$ 7,175,922
Subtotal	\$ 12,930,793	\$ 1,939,619	\$ 1,977,778	\$ 16,848,191
Grand Total				\$ 146,501,623

*Roadway estimates reduced by 50% to reflect developer participation in future construction cost.

Appendix 5: Infrastructure Cost Projection Information

Opinion of Probable Roadway Cost

Key	Project Name	Description	Phase	Bridge Component Cost per SF	Bridge Allowances				15%		14%	Total Project Cost
				\$ 135	Mobilization	Traffic Control	Pavement Markings	Bridge Allowance Subtotal	Construction Cost Subtotal	Overall Contingency	Engineering Surveying & Testing	
1	MC-4.1		1A	\$0	10%	6%	3%	\$0	\$4,094,794	\$614,219	\$659,262	\$5,368,275
2	MC-4.1-B1		1A	\$3,037,500	10%	6%	3%	\$577,125	\$3,614,625	\$542,194	\$581,955	\$4,738,773
3	MC-4.2		1A	\$0	10%	6%	3%	\$0	\$309,137	\$46,371	\$49,771	\$405,278
4	MC-4.3		1A	\$0	10%	6%	3%	\$0	\$1,332,156	\$199,823	\$214,477	\$1,746,456
5	MC-4.3-B1		1A	\$2,632,500	10%	6%	3%	\$500,175	\$3,132,675	\$469,901	\$504,361	\$4,106,937
6	MC-4.4		1A	\$0	10%	6%	3%	\$0	\$3,073,791	\$461,069	\$494,880	\$4,029,740
7	MA-4.3		1A	\$0	10%	6%	3%	\$0	\$973,261	\$145,989	\$156,695	\$1,275,946
8	MA-4.3-B1		1A	\$1,667,250	10%	6%	3%	\$316,778	\$1,984,028	\$297,604	\$319,428	\$2,601,060
9	MA-4.1		1A	\$0	10%	6%	3%	\$0	\$4,021,668	\$603,250	\$647,489	\$5,272,407
10	MA-4.1-B1		1A	\$5,265,000	10%	6%	3%	\$1,000,350	\$6,265,350	\$939,803	\$1,008,721	\$8,213,874
11	MA-4.2		1A	\$0	10%	6%	3%	\$0	\$2,792,439	\$418,866	\$449,583	\$3,660,888
12	MC-4.5		1A	\$0	10%	6%	3%	\$0	\$4,209,000	\$631,350	\$677,649	\$5,517,999
13	MC-4.5-B1		1A	\$7,452,000	10%	6%	3%	\$1,415,880	\$8,867,880	\$1,330,182	\$1,427,729	\$11,625,791
14	MC-4.6		1A	\$0	10%	6%	3%	\$0	\$1,432,595	\$214,889	\$230,648	\$1,878,133
15	MC-4.6-B1		1A	\$1,552,500	10%	6%	3%	\$294,975	\$1,847,475	\$277,121	\$297,443	\$2,422,040
16	MC-4.7		1A	\$0	10%	6%	3%	\$0	\$303,609	\$45,541	\$48,881	\$398,032
16	MC-4.8	Higgs Road Improvements	1A	\$0	10%	6%	3%	\$0	\$2,882,005	\$432,301	\$464,003	\$3,778,309
17	MA-2.1		1B	\$0	10%	6%	3%	\$0	\$2,562,841	\$384,426	\$412,617	\$3,359,884
18	MA-2.1-B1		1B	\$6,844,500	10%	6%	3%	\$1,300,455	\$8,144,955	\$1,221,743	\$1,311,338	\$10,678,036
19	MA-2.2	Pleasant Hill Road Improvements	1B	\$0	10%	6%	3%	\$0	\$524,441	\$78,666	\$84,435	\$687,542
20	MC-3.1		2	\$0	10%	6%	3%	\$0	\$3,998,672	\$599,801	\$643,786	\$5,242,258
21	MC-3.1-B1		2	\$2,470,500	10%	6%	3%	\$469,395	\$2,939,895	\$440,984	\$473,323	\$3,854,202
22	MC-3.1-B2		2	\$4,995,000	10%	6%	3%	\$949,050	\$5,944,050	\$891,608	\$956,992	\$7,792,650
23	MC-3.2	Silver Hill Road Improvements	2	\$0	10%	6%	3%	\$0	\$2,937,144	\$440,572	\$472,880	\$3,850,596
24	MC-3.2-B1	Silver Hill Road Improvements	2	\$1,228,500	10%	6%	3%	\$233,415	\$1,461,915	\$219,287	\$235,368	\$1,916,571
25	MC-3.3	(Higgs)	2	\$0	10%	6%	3%	\$0	\$4,698,598	\$704,790	\$756,474	\$6,159,862
26	MC-3.3-B1		2	\$4,185,000	10%	6%	3%	\$795,150	\$4,980,150	\$747,023	\$801,804	\$6,528,977
27	MA-3.1		2	\$0	10%	6%	3%	\$0	\$4,417,100	\$662,565	\$711,153	\$5,790,818
28	MA-3.1-B1	(Shiloh)	2	\$8,160,750	10%	6%	3%	\$1,550,543	\$9,711,293	\$1,456,694	\$1,563,518	\$12,731,504
29	MA-3.2	(Shiloh)	2	\$0	10%	6%	3%	\$0	\$6,186,577	\$927,987	\$996,039	\$8,110,603
30	MA-3.2-B1	(Shiloh)	2	\$3,834,675	10%	6%	3%	\$728,588	\$4,563,263	\$684,489	\$734,685	\$5,982,438
31	MA-3.2-B2	(Shiloh)	2	\$2,544,750	10%	6%	3%	\$483,503	\$3,028,253	\$454,238	\$487,549	\$3,970,039
32	MA-3.2-B3	(Shiloh)	2	\$3,352,050	10%	6%	3%	\$636,890	\$3,988,940	\$598,341	\$642,219	\$5,229,500
33	MA-3.2-B4	(Shiloh)	2	\$8,950,500	10%	6%	3%	\$1,700,595	\$10,651,095	\$1,597,664	\$1,714,826	\$13,963,586
34	MC-1.11	Smetana Road Improvements	3	\$0	10%	6%	3%	\$0	\$1,148,380	\$172,257	\$184,889	\$1,505,526
35	MC-1.21	Goodson Bend Road Improvements	3	\$0	10%	6%	3%	\$0	\$3,853,637	\$578,046	\$620,436	\$5,052,118
36												
37												
38												
39												
40												
41												
42												
43												
44												
45												
46												
47												
48												
49												
50												
51												
52												
53												
54												
55												
56												
57												
58												
59												
60												
61												
62												
63												
64												
65												
66												
67												
68												
69												
70												
71												
72												
73												
74												
75												
76												
77												
78												
79												
80												
81												
82												
Totals									\$136,877,685	\$20,531,653	\$22,037,307	\$179,446,645

Opinion of Probable Water Cost

Key	Project Name	Description	Phase	Water Costs												Elevated Storage Tank (MG)	Ground Storage Tank (MG)	Back-up Pump (HP)	Pump Station (HP)	Fire Hydrant Assembly (\$4000 ea)	Water Fittings (\$3500/ton)	15%		14%	
				8" (LF)	10" (LF)	12" (LF)	14" (LF)	16" (LF)	18" (LF)	24" (LF)	27" (LF)	36" (LF)	42" (LF)	Construction Cost Subtotal	Overall Contingency							Engineering Surveying & Testing	Total Project Cost		
1	W1-D1	West Side Water Main - Phase 1 (2018)	1	\$0	\$0	\$0	\$0	\$0	\$1,458,900	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$220,000	\$56,735	\$1,735,635	\$260,345	\$279,437	\$2,275,417	
2	W2-D1	West Side Water Main - Phase 2 (2019)	2	\$0	\$0	\$0	\$0	\$0	\$2,143,350	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$320,000	\$83,353	\$2,546,703	\$382,005	\$410,019	\$3,338,727	
3	W3-D1	Chick Lane EST	3	\$0	\$0	\$0	\$0	\$0	\$13,500	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,000	\$525	\$4,018,025	\$602,704	\$646,902	\$5,267,631	
4	W4-D2	SH 21	3	\$0	\$0	\$0	\$0	\$0	\$1,224,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$184,000	\$47,600	\$1,455,600	\$218,340	\$234,352	\$1,908,292	
5				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
6				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
7				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
8				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
9				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
10				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
11				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
12				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
13				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
14				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
15				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
16				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
17				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
18				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
19				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
20				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
21				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
22				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
23				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
24				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
25				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
26				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
27				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
28				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
29				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
30				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
31				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
32				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
33				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
34				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
35				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
36				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
37				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
38				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
39				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
40				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
41				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
42				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
43				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
44				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
45				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
46				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
47				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
48				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
49				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
50				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
51				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
52				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
53				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
54				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
55				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
56				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
57				\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total																					\$9,755,963	\$1,463,394	\$1,570,710	\$12,790,067	