

DEVELOPMENT AGREEMENT
Greenbrier Subdivision Phase 13 (FP 15-33)
Oversize Participation on Sanitary Sewer

This Agreement is by and between **Carter Arden, LLC**, (“Developer”), and the **City of Bryan, Texas** (“City”) a Texas home-rule municipal corporation.

WHEREAS, the Developer is proposing to construct Phase 13 of the Greenbrier Subdivision, a residential subdivision development located north of the Miramont Subdivision, north of FM1179 and south of Austin’s Colony Subdivision. As part of this development, the Developer is proposing to extend approximately 2,109 linear feet of Twenty Four inch sanitary sewer line; and

WHEREAS, the Sanitary Sewer Masterplan for the Greenbrier Subdivision shows additional developable lands outside the Greenbrier subdivision boundary that will be served by this sewer trunk line. Therefore, the opportunity to partner with the Developer to oversize the sanitary sewer line from six inch pipe to twenty-four inch pipe to accommodate future development of adjacent tracts of land motivates the City to cost participate in the sanitary sewer line construction (“Project”); and

WHEREAS, the Developer has submitted a proposal for the City to cost participate in the Project, as shown in the attached Letter titled “Greenbrier Phase 13 – Oversize Participation Request” with **Exhibit A&B** showing the extents of sewer cost participation, **Exhibit C** showing the calculations to determine the line size difference, and **Exhibit E** showing the total cost for the Public Infrastructure without upsizing the sewer, and **Exhibit D** showing the total cost for the Public Infrastructure that will be dedicated (including upsizing the 6 inch line to a 24 inch line) to the City of Bryan from Phase 13; and

WHEREAS, the total cost of the Public Infrastructure on this Project based on the Developer’s Engineer’s Estimate is \$819,843.00 and the Developer is requesting the City participate in the reimbursement of the actual construction costs for the oversizing of the sanitary sewer line from 6 inch to 24 inch in an amount not to exceed **\$158,989.00** (City Contribution Amount), which is approximately 19.4% of the total estimated construction costs.

WHEREAS, TEXAS LOCAL GOVERNMENT CODE SECTION 212.071 authorizes the City to cost participate with a Developer of a subdivision or land to construct public improvements.

NOW, THEREFORE, the parties agree to the following:

1. The Project will be constructed according to plans and specifications approved by the City. A Vicinity Map depicting the Project is shown in **Exhibit A**.
2. The cost breakdown for the Project is set forth in the attached **Exhibit D & E**.
3. The Developer will be responsible for the design and construction of the Project.
4. The City is cost participating at a not to exceed cost of \$158,989.00, which is the estimated cost of the oversizing of the sanitary sewer line. The City’s actual payment will be \$158,989.00 or the documented hard costs associated with the project, whichever is less.
5. The Project will be constructed according to plans and specifications approved by the City.

6. The Developer shall be solely responsible for selecting, supervising and paying the construction contractor(s) or subcontractors and for complying with all applicable laws, including but not limited to all requirements concerning workers compensation and construction retainage. The parties agree and understand that all contractors, employees, volunteers and personnel furnished or used by the Developer in the sanitary sewer line construction shall be the responsibility of the Developer and shall not be deemed employees or agents of the City for any purpose.
7. Upon completion of the Project, defined as acceptance of the public infrastructure by the City in accordance with applicable ordinances and rules of the City (including but not limited to the requirements of the Bryan-College Station Unified Design Manual), the Developer shall submit a request to the City for reimbursement and payment of the City Contribution Amount. The request for reimbursement must be accompanied by a copy of any contracts for construction, contractors' applications for payment; affidavits and any other evidence the City may reasonably request supporting these are actual costs incurred by the Developer to construct the sanitary sewer line in accordance with approved plans.
8. The Project must be completed by December 15, 2016. This completion date will not be extended without the City's written consent.
9. Insurance Requirements. The Developer shall include in the contract requirements that the contractor must maintain Commercial General Liability insurance coverage for all of its operations under the contract, with a limit of not less than \$1,000,000 per occurrence, and the City must be listed as an additional insured. All persons engaged in work under the contract must be covered by workers' compensation insurance.
10. Payment and Performance Bonds. The Developer must obtain a payment bond and a performance bond, in compliance with the requirements of Texas Government Code chapter 2253.
11. **No Waiver of Immunity. The City's execution of and performance under the Agreement will not act as a waiver of any immunity of the City to suit or liability under applicable law. The parties acknowledge that the City, in executing and performing this Agreement, is a governmental entity acting in a governmental capacity.**
12. **Indemnity and Release. Developer agrees to and shall indemnify, hold harmless, and defend City and its officers, agents, and employees from and against any and all claims, losses, damages, causes of action, suits, and liability of every kind, including all expenses of litigation, court costs, expert fees and attorneys' fees, for injury to or death of any person, or for damages to any property, or for breach of contract, arising out of or in connection with the work done by Developer, its officers, employees, agents and contractors, under the Agreement, regardless of whether such injuries, death, damages or breach are caused in whole or in part by the negligence of City , any other party indemnified hereunder, or the Developer.**

13. Release. The Developer assumes full responsibility for the work to be performed hereunder, and releases, relinquishes and discharges the City, its officers, agents and employees, from all claims, demands, and causes of action of every kind and character, including the cost of defense therefore, for any injury to or death of any persons and any loss of or damage to any property that is caused by, alleged to be caused by, arising out of, or in connection with, the Developer's work to be performed hereunder.

14. Notices shall be mailed to the addresses designated herein or as may be designated in writing by the parties from time to time and shall be deemed received when sent postage prepaid U.S. Mail to the following addresses:

City of Bryan:

Attn: W. Paul Kaspar, P.E.
P.O. Box 1000
Bryan, Texas 77805

Developer:

Carter Arden Development, LLC
Attn: Steve Arden
311 Cecilia Loop
College Station, TX 77845

15. Assigns. This Agreement shall be binding on and inure to the benefit of the parties to it and permitted assigns. Developer shall not assign this Agreement without the written approval of the City Council. An assignment to a subsidiary or affiliate company of Developer shall not be prohibited under this section.

16. Severability. If any provision of this Agreement is held to be illegal, invalid or unenforceable under present or future laws effective while this Agreement is in effect, such provision shall be automatically deleted from this Agreement and the legality, validity and enforceability of the remaining provisions of this Agreement shall not be affected thereby, and in lieu of such deleted provision, there shall be added as part of this Agreement a provision that is legal, valid and enforceable and that is as similar as possible in terms and substance as possible to the deleted provision.

17. Texas law to apply. This Agreement shall be construed under and in accordance with the laws of the State of Texas and the obligations of the parties created hereunder are performable by the parties in the City of Bryan, Texas. Venue for any litigation arising under this Agreement shall be in a court of appropriate jurisdiction in Brazos County, Texas.

18. Sole Agreement. This Agreement constitutes the sole and only Agreement of the Parties hereto respecting the subject matter covered by this Agreement, and supersedes any prior understandings or written or oral agreements between the parties.

19. Amendments. No amendment, modification or alteration of the terms hereof shall be binding unless the same shall be in writing and dated subsequent to the date hereof and duly executed by the parties hereto.
20. Incorporation of Recitals. The determinations recited and declared in the preambles to this Agreement are hereby incorporated herein as part of this Agreement.
21. Incorporation of Exhibits. All exhibits to this Agreement are incorporated herein by reference for all purposes wherever reference is made to the same.
22. Duplicate Originals. The parties may execute this Agreement in duplicate originals, each of equal dignity. If the parties sign this Agreement on different dates, the later date shall be the effective date of this Agreement for all purposes.

Gender and Number. Words of any gender used in this Contract shall be held and construed to include any other gender, and words in the singular number shall be held to include the plural and vice versa, unless the context requires otherwise.

Executed this ____ day of _____, 2015, to be effective when executed by each of the parties.

CITY OF BRYAN

Approved:

Jason P. Bienski, Mayor

DEVELOPER:

Steve Arden

ATTEST:

Mary Lynne Stratta, City Secretary

Approved as to Form:

Janis K. Hampton, City Attorney



December 4, 2015

Mr. Paul Kaspar, PE

City Engineer
City of Bryan
Post Office Box 1000
Bryan, Texas 77802

Re: Greenbrier Phase 13 – Oversize Participation Request

Dear Paul:

On behalf of the owner, Carter-Arden Development, I wish to request Oversize Participation payment for costs associated with the extension of sanitary sewer lines to the Greenbrier Phase 13 Subdivision in the amount of \$158,989. Please see attached exhibit detailing the cost determination.

The proposed 24" sewer line along the southwestern boundary of Phase 13, as shown on the preliminary plan for this phase, is in compliance with the previous sanitary sewer analysis of the area that was provided with the oversize participation request for Greenbrier Phase 9. A 6" sanitary sewer line would have been required under normal development of this phase. Exhibit C shows calculations of the anticipated flows from the Greenbrier Subdivision to demonstrate the capacity of the 6" line. Therefore, the price difference between the 24" line and the 6" line is the basis for the over size participation request.

Additionally, it is our understanding that the City of Bryan has agreed to pay for the entire cost of boring under Thornberry Drive. The OP request includes this cost.

If you need additional information, please contact me at your convenience.

Sincerely,

Jeffery L. Robertson, P.E.
Vice President – Engineering



Attachments

- Exhibit A – Sewer Map for Lines to Serve Greenbrier Subdivision Only
- Exhibit B – Sewer Map for Line Sizes to serve Greenbrier and the Surrounding Area under Ultimate Conditions
- Exhibit C – Sewer Line Calculations
- Exhibit D – Cost Estimate for Proposed Sewer System (24" Sewer Line)
- Exhibit E – Cost Estimate for Minimum Required Sewer System (6" Sewer Line)



EXHIBIT A

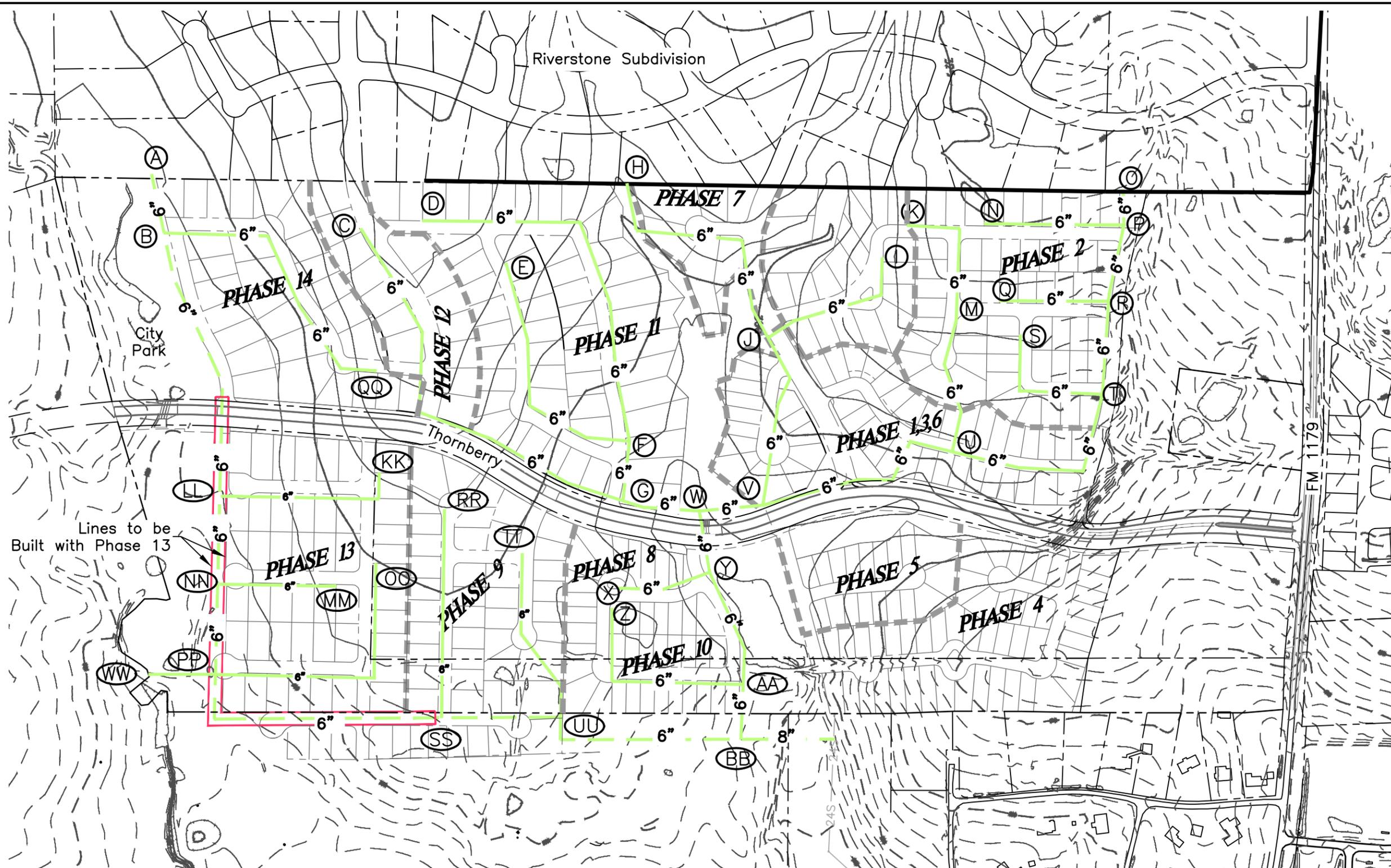


EXHIBIT A
Line Sizes to Serve Greenbrier Subdivision

SCALE: Hor: 1" = 500'



GREENBRIER SUBDIVISION
 Oversize Participation Request
 BRYAN, BRAZOS COUNTY, TEXAS


McCLURE & BROWNE ENGINEERING/SURVEYING, INC.
 1008 Woodcreek Drive, Suite 103, College Station, TX 77845
 (979) 693-3838 Fax: (979) 693-2554
 Firm Reg. No. F-458



EXHIBIT B

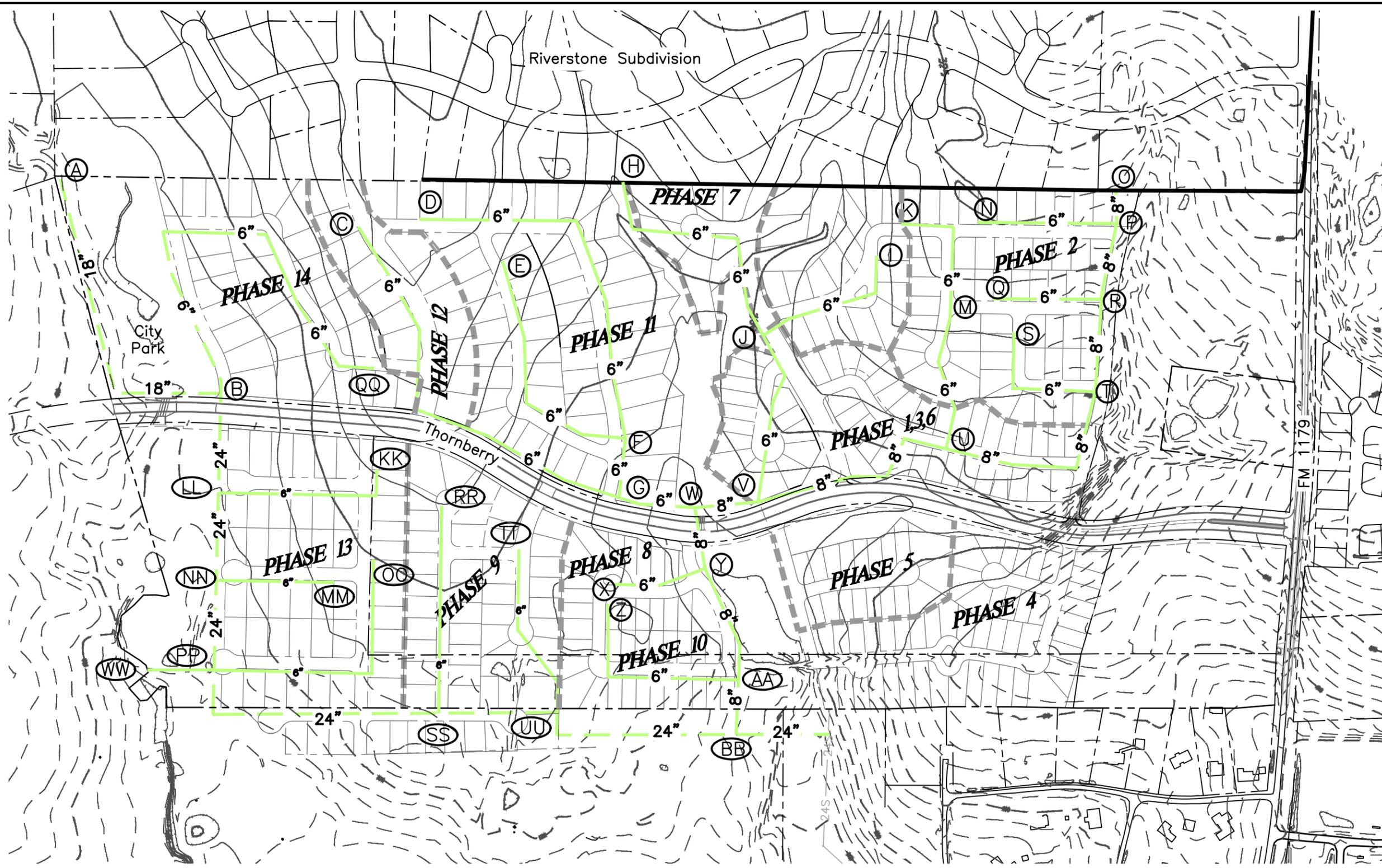


EXHIBIT B

Line Sizes to Serve Ultimate Development of Surrounding Area

SCALE: Hor: 1" = 500'



GREENBRIER SUBDIVISION
Oversize Participation Request
BRYAN, BRAZOS COUNTY, TEXAS

M&B McCLURE & BROWNE ENGINEERING/SURVEYING, INC.
1008 Woodcreek Drive, Suite 103, College Station, TX 77845
(979) 693-3838 Fax: (979) 693-2554
Firm Reg. No. F-458



EXHIBIT C

Exhibit C Greenbrier Subdivision Sanitary Sewer Analysis

Line		Flow Calculations								Pipe Calculations													
From	To	Residential	Commercial	Flow From Node to Node	Contributing Flow from Upstream Nodes	Average Daily Flows (ADF)		Infiltration (10% ADF)	Peaking Factor	Peak Flows	Size	Material	Inside Diameter	Manning Friction Slope ADF	Min. Design Slope ADF	Ave. Daily Flow Velocity	Ave. Daily Flow Depth	Manning Friction Slope Peak Flows	Min. Design Slope Peak Flows	Actual Slope for Existing or Designed Systems	Pipe Slope Check	Peak Flow Velocity	Peak Flow Depth
MH #	MH #	267 GPD per Lot	1500 GPD per acre	GPD		GPD	CFS	CFS		CFS	(in.)		Inches	%	%	fps	Inches	%	%	%		fps	Inches
A	B	15	0	591,405	-	591,405	0.9150	0.0915	4.00	3.75	18	DIP	18.88	0.0283	0.20	2.68	3.78	0.0983	0.20	0.40	OK	3.86	9.44
QQ	B	27	0	7,209	-	7,209	0.0112	0.0011	4.00	0.05	6	D3034	5.793	0.0023	0.80	1.06	0.58	0.0080	0.80	0.80	OK	1.55	1.16
B	LL	0	0	-	598,614	598,614	0.9262	0.0926	4.00	3.80	24	DIP	18.88	0.0290	0.20	2.68	3.78	0.1007	0.20	0.40	OK	3.89	9.44
KK	LL	15	0	4,005	-	4,005	0.0062	0.0006	4.00	0.03	6	D3034	5.793	0.0007	0.80	0.86	0.00	0.0025	0.80	0.80	OK	1.34	0.87
LL	NN	0	0	-	602,619	602,619	0.9324	0.0932	4.00	3.82	24	DIP	25.06	0.0065	0.20	2.58	3.76	0.0225	0.20	0.40	OK	3.81	7.52
MM	NN	12	0	3,204	-	3,204	0.0050	0.0005	4.00	0.02	6	D3034	5.793	0.0005	0.80	0.80	0.00	0.0016	0.80	0.80	OK	1.22	0.58
NN	PP	0	0	-	605,823	605,823	0.9373	0.0937	4.00	3.84	24	DIP	25.06	0.0066	0.20	2.58	3.76	0.0228	0.20	0.40	OK	3.81	7.52
PP	SS	18	0	4,806	605,823	610,629	0.9448	0.0945	4.00	3.87	24	DIP	25.06	0.0067	0.20	2.58	3.76	0.0231	0.20	0.40	OK	3.85	7.52
RR	SS	18	0	4,806	-	4,806	0.0074	0.0007	4.00	0.03	6	D3034	5.793	0.0010	0.80	0.95	0.29	0.0035	0.80	0.80	OK	1.37	0.87
SS	UU	0	0	-	615,435	615,435	0.9522	0.0952	4.00	3.90	24	DIP	25.06	0.0068	0.20	2.58	3.76	0.0235	0.20	0.40	OK	3.85	7.52
TT	UU	15	0	4,005	-	4,005	0.0062	0.0006	4.00	0.03	6	D3034	5.793	0.0007	0.80	0.86	0.00	0.0025	0.80	0.80	OK	1.34	0.87
VV	UU	0	0	-	-	-	0.0000	0.0000	4.00	0.00	6	D3034	5.793	0.0000	0.80	0.00	0.00	0.0000	0.80	0.80	OK	0.00	0.00
UU	BB	0	0	-	619,440	619,440	0.9584	0.0958	4.00	3.93	24	DIP	25.06	0.0069	0.20	2.58	3.76	0.0238	0.20	0.40	OK	3.85	7.52
C	G	16	0	4,272	-	4,272	0.0066	0.0007	4.00	0.03	6	D3034	5.793	0.0008	0.80	0.91	0.29	0.0028	0.80	0.80	OK	1.34	0.87
D	F	27	0	7,209	-	7,209	0.0112	0.0011	4.00	0.05	6	D3034	5.793	0.0023	0.80	1.06	0.58	0.0080	0.80	0.80	OK	1.55	1.16
E	F	22	0	5,874	-	5,874	0.0091	0.0009	4.00	0.04	6	D3034	5.793	0.0015	0.80	0.99	0.29	0.0053	0.80	0.80	OK	1.49	0.87
F	G	3	0	801	13,083	13,884	0.0215	0.0021	4.00	0.09	6	D3034	5.793	0.0085	0.80	1.30	0.87	0.0295	0.80	0.80	OK	1.92	1.45
G	W	0	0	-	18,156	18,156	0.0281	0.0028	4.00	0.12	6	D3034	5.793	0.0145	0.80	1.37	0.87	0.0505	0.80	0.80	OK	2.08	1.74
H	J	8	0	2,136	-	2,136	0.0033	0.0003	4.00	0.01	6	D3034	5.793	0.0002	0.80	0.74	0.00	0.0007	0.80	0.80	OK	1.06	0.58
I	J	15	0	4,005	-	4,005	0.0062	0.0006	4.00	0.03	6	D3034	5.793	0.0007	0.80	0.86	0.00	0.0025	0.80	0.80	OK	1.34	0.87
J	V	15	0	4,005	6,141	10,146	0.0157	0.0016	4.00	0.06	6	D3034	5.793	0.0045	0.80	1.17	0.58	0.0158	0.80	0.80	OK	1.76	1.45
K	M	12	0	3,204	-	3,204	0.0050	0.0005	4.00	0.02	6	D3034	5.793	0.0005	0.80	0.80	0.00	0.0016	0.80	0.80	OK	1.22	0.58
M	U	9	0	2,403	3,204	5,607	0.0087	0.0009	4.00	0.04	6	D3034	5.793	0.0014	0.80	0.99	0.29	0.0048	0.80	0.80	OK	1.44	0.87
N	P	16	0	4,272	-	4,272	0.0066	0.0007	4.00	0.03	6	D3034	5.793	0.0008	0.80	0.91	0.29	0.0028	0.80	0.80	OK	1.34	0.87
O	P	0	0	-	-	-	0.0000	0.0000	4.00	0.00	6	D3034	5.793	0.0000	0.80	0.00	0.00	0.0000	0.80	0.80	OK	0.00	0.00
P	R	2	0	534	4,272	4,806	0.0074	0.0007	4.00	0.03	6	D3034	5.793	0.0010	0.80	0.95	0.29	0.0035	0.80	0.80	OK	1.37	0.87
Q	R	11	0	2,937	-	2,937	0.0045	0.0005	4.00	0.02	6	D3034	5.793	0.0004	0.80	0.80	0.00	0.0013	0.80	0.80	OK	1.22	0.58
R	T	2	0	534	7,743	8,277	0.0128	0.0013	4.00	0.05	6	D3034	5.793	0.0030	0.80	1.12	0.58	0.0105	0.80	0.80	OK	1.64	1.16
S	T	14	0	3,738	-	3,738	0.0058	0.0006	4.00	0.02	6	D3034	5.793	0.0006	0.80	0.86	0.00	0.0021	0.80	0.80	OK	1.30	0.87
T	U	17	0	4,539	12,015	16,554	0.0256	0.0026	4.00	0.11	6	D3034	5.793	0.0121	0.80	1.37	0.87	0.0420	0.80	0.80	OK	2.00	1.74
U	V	17	0	4,539	22,161	26,700	0.0413	0.0041	4.00	0.17	6	D3034	5.793	0.0314	0.80	1.55	1.16	0.1092	0.80	0.80	OK	2.30	2.32
V	W	0	0	-	36,846	36,846	0.0570	0.0057	4.00	0.23	6	D3034	5.793	0.0599	0.80	1.72	1.16	0.2080	0.80	0.80	OK	2.51	2.90
W	Y	0	0	-	55,002	55,002	0.0851	0.0085	4.00	0.35	6	D3034	5.793	0.1334	0.80	1.95	1.74	0.4634	0.80	0.80	OK	2.75	3.77
X	Y	15	0	4,005	-	4,005	0.0062	0.0006	4.00	0.03	6	D3034	5.793	0.0007	0.80	0.86	0.00	0.0025	0.80	0.80	OK	1.34	0.87
Z	AA	15	0	4,005	-	4,005	0.0062	0.0006	4.00	0.03	6	D3034	5.793	0.0007	0.80	0.86	0.00	0.0025	0.80	0.80	OK	1.34	0.87
Y	AA	0	0	-	59,007	59,007	0.0913	0.0091	4.00	0.37	6	D3034	5.793	0.1536	0.80	1.98	1.74	0.5334	0.80	0.80	OK	2.78	3.77
AA	BB	0	0	-	63,012	63,012	0.0975	0.0097	4.00	0.40	6	D3034	5.793	0.1751	0.80	2.03	1.74	0.6082	0.80	0.80	OK	2.82	4.06



EXHIBIT D

GREENBRIER SUBDIVISION, PHASE 13

MBESI PROJ #: 1015-0022

Engineer's Preliminary Opinion of Project Costs

Full Development with 24" Sewer Mains

December 4, 2015

Item #	Description	Unit	Quantity	Unit Price	Total
Paving Construction					
1	Site Preparation (includes clearing & grubbing)	Ac.	4.60	\$2,500.00	\$11,500.00
2	Earthwork Excavation and Embankment for ROW, Lots, and Common Area (+/-6,100 CY Cut and Fill, contractor to verify quantity during bid, all excess material to be wasted on site)	LS	1	\$42,500.00	\$42,500.00
3	6" Lime Stabilized Subgrade (6% by weight)	S.Y.	6,507	\$3.75	\$24,401.25
4	6" Crushed Limestone Base	S.Y.	3,461	\$11.00	\$38,071.00
5	2" HMAC Surface Course (including prime coat)	S.Y.	3,461	\$13.50	\$46,723.50
6	Concrete Curb and Gutter (all types)	L.F.	2,549	\$10.00	\$25,490.00
7	6" Reinforced Concrete Pavement	S.Y.	1,666	\$40.00	\$66,640.00
8	4" Reinforced Concrete Sidewalk	S.F.	12,259	\$3.50	\$42,906.50
9	Sidewalk Ramps	EACH	4	\$700.00	\$2,800.00
10	End/Road Markers	EACH	3	\$250.00	\$750.00
11	6" PVC Conduit Sleeves	L.F.	105	\$15.00	\$1,575.00
Paving Subtotal					\$303,357
Drainage System Construction					
12	24" HDPE ADS N-12	L.F.	95	\$50.00	\$4,750.00
13	30" HDPE ADS N-12	L.F.	119	\$65.00	\$7,735.00
14	24" RCP, ASTM C76, CLIII	L.F.	569	\$60.00	\$34,140.00
15	5' Rec. Inlet	EACH	4	\$3,200.00	\$12,800.00
16	Safety End Treatment for 24" RCP	EACH	1	\$1,250.00	\$1,250.00
17	Safety End Treatment for 30" RCP	EACH	1	\$1,400.00	\$1,400.00
18	Rock Rip Rap	S.Y.	25	\$75.00	\$1,875.00
Drainage System Subtotal					\$63,950
Water System Construction					
19	12" PVC Casing	L.F.	84	\$75.00	\$6,300.00
20	16" PVC Casing	L.F.	42	\$120.00	\$5,040.00
21	4" PVC, C909 Cl 200, Water Line, Non-Str. Backfill	L.F.	913	\$22.00	\$20,086.00
22	6" PVC, C909 Cl 200, Water Line, Non-Str. Backfill	L.F.	138	\$25.00	\$3,450.00
23	8" PVC, C909 Cl 200, Water Line, Non-Str. Backfill	L.F.	511	\$30.00	\$15,330.00
24	12" PVC, C909 Cl 200, Water Line, Non-Str. Backfill	L.F.	189	\$40.00	\$7,560.00
25	Fire Hydrant Assembly	EACH	2	\$3,800.00	\$7,600.00
26	8"x6" M.J. Tee	EACH	2	\$400.00	\$800.00
27	12"x8" M.J. Tee	EACH	1	\$450.00	\$450.00
28	6" M.J. Gate Valve	EACH	2	\$1,200.00	\$2,400.00
29	8" M.J. Gate Valve	EACH	3	\$1,400.00	\$4,200.00
30	12" M.J. Gate Valve	EACH	1	\$2,250.00	\$2,250.00
31	6"x13" M.J. Anchor Coupling	EACH	2	\$350.00	\$700.00
32	8"x13" M.J. Anchor Coupling	EACH	3	\$350.00	\$1,050.00
33	12"x13" M.J. Anchor Coupling	EACH	2	\$500.00	\$1,000.00
34	6"x4" Reducer	EACH	2	\$350.00	\$700.00
35	4"x22.5 Degree Bend	EACH	2	\$350.00	\$700.00
36	2" Blow Off Valve Assembly	EACH	3	\$1,000.00	\$3,000.00
37	12" Cap	EACH	1	\$400.00	\$400.00
38	Connect to Existing Waterline	EACH	1	\$1,000.00	\$1,000.00
39	Water Service, 1" short side	EACH	2	\$1,100.00	\$2,200.00
40	Water Service, 1.5" short side	EACH	10	\$1,300.00	\$13,000.00
41	Water Service, 1" long side	EACH	2	\$1,400.00	\$2,800.00

GREENBRIER SUBDIVISION, PHASE 13

MBESI PROJ #: 1015-0022

Engineer's Preliminary Opinion of Project Costs

Full Development with 24" Sewer Mains

December 4, 2015

Item #	Description	Unit	Quantity	Unit Price	Total
42	Water Service, 1.5" long side	EACH	6	\$1,500.00	\$9,000.00
Water System Subtotal					\$111,016
Sewer System Construction					
43	6" PVC, D-3034 SDR 26	L.F.	1,095	\$16.00	\$17,520.00
44	24" ASTM F679 SDR 115	L.F.	1,992	\$62.00	\$123,504.00
45	36" Ductile Iron Pipe installed by Dry Bore w/ 24" ASTM F679, PS 115 carrier pipe (includes casing spacers, end seals, joint restraints, and all appurtenances)	L.F.	117	\$550.00	\$64,350.00
46	0'-5' Trenching and Backfill, Non-Str. Backfill	L.F.	421	\$13.00	\$5,473.00
47	5'-8' Trenching and Backfill, Non-Str. Backfill	L.F.	1,471	\$13.00	\$19,123.00
48	8'-10' Trenching and Backfill, Non-Str. Backfill	L.F.	150	\$18.00	\$2,700.00
49	10'-12' Trenching and Backfill, Non-Str. Backfill	L.F.	377	\$23.00	\$8,671.00
50	5'-8' Trenching and Backfill, Str. Backfill	L.F.	422	\$20.00	\$8,440.00
51	8'-10' Trenching and Backfill, Str. Backfill	L.F.	246	\$25.00	\$6,150.00
52	Standard Manhole, 0-6 ft. deep	EACH	4	\$3,000.00	\$12,000.00
53	5' Diam. Manhole, 0-6 ft. deep	EACH	7	\$3,001.00	\$21,007.00
54	Extra Depth for Std. Manhole	V.F.	5.8	\$300.00	\$1,740.00
55	Short Side 4" Sewer Service (<=20')	EACH	8	\$750.00	\$6,000.00
56	Long Side 4" Sewer Service (>20')	EACH	11	\$1,450.00	\$15,950.00
57	TV Inspection	L.F.	3,087	\$3.50	\$10,804.50
58	Trench Safety (sewer)	L.F.	3,087	\$1.00	\$3,087.00
Sewer System Subtotal					\$326,520
Erosion Control Construction					
59	Erosion Control Plan & Sedimentation Control (per Item 106) (includes silt fencing, construction exits, straw bale barriers, inlet protection, grass seeding, and any other sedimentation control devices)	L.S.	1	\$15,000.00	\$15,000.00
Erosion Control Subtotal					\$15,000

TOTAL CONSTRUCTION COST \$819,843

The above construction estimate is based on the engineer's preliminary opinion of probable construction costs. This estimate constitutes our best judgment at this time. Please note that the engineer does not have any control over contractor or supplier



 Jeffrey L. Robertson, P.E.

12/4/15

 Date





EXHIBIT E

GREENBRIER SUBDIVISION, PHASE 13

MBESI PROJ #: 1015-0022

Engineer's Preliminary Opinion of Project Costs

Full Development with 6" Sewer Mains

December 4, 2015

Item #	Description	Unit	Quantity	Unit Price	Total
Paving Construction					
1	Site Preparation (includes clearing & grubbing)	Ac.	4.60	\$2,500.00	\$11,500.00
2	Earthwork Excavation and Embankment for ROW, Lots, and Common Area (+/-6,100 CY Cut and Fill, contractor to verify quantity during bid, all excess material to be wasted on site)	LS	1	\$42,500.00	\$42,500.00
3	6" Lime Stabilized Subgrade (6% by weight)	S.Y.	6,507	\$3.75	\$24,401.25
4	6" Crushed Limestone Base	S.Y.	3,461	\$11.00	\$38,071.00
5	2" HMAC Surface Course (including prime coat)	S.Y.	3,461	\$13.50	\$46,723.50
6	Concrete Curb and Gutter (all types)	L.F.	2,549	\$10.00	\$25,490.00
7	6" Reinforced Concrete Pavement	S.Y.	1,666	\$40.00	\$66,640.00
8	4" Reinforced Concrete Sidewalk	S.F.	12,259	\$3.50	\$42,906.50
9	Sidewalk Ramps	EACH	4	\$700.00	\$2,800.00
10	End/Road Markers	EACH	3	\$250.00	\$750.00
11	6" PVC Conduit Sleeves	L.F.	105	\$15.00	\$1,575.00
Paving Subtotal					\$303,357
Drainage System Construction					
12	24" HDPE ADS N-12	L.F.	95	\$50.00	\$4,750.00
13	30" HDPE ADS N-12	L.F.	119	\$65.00	\$7,735.00
14	24" RCP, ASTM C76, CLIII	L.F.	569	\$60.00	\$34,140.00
15	5' Rec. Inlet	EACH	4	\$3,200.00	\$12,800.00
16	Safety End Treatment for 24" RCP	EACH	1	\$1,250.00	\$1,250.00
17	Safety End Treatment for 30" RCP	EACH	1	\$1,400.00	\$1,400.00
18	Rock Rip Rap	S.Y.	25	\$75.00	\$1,875.00
Drainage System Subtotal					\$63,950
Water System Construction					
19	12" PVC Casing	L.F.	84	\$75.00	\$6,300.00
20	16" PVC Casing	L.F.	42	\$120.00	\$5,040.00
21	4" PVC, C909 CI 200, Water Line, Non-Str. Backfill	L.F.	913	\$22.00	\$20,086.00
22	6" PVC, C909 CI 200, Water Line, Non-Str. Backfill	L.F.	138	\$25.00	\$3,450.00
23	8" PVC, C909 CI 200, Water Line, Non-Str. Backfill	L.F.	511	\$30.00	\$15,330.00
24	12" PVC, C909 CI 200, Water Line, Non-Str. Backfill	L.F.	189	\$40.00	\$7,560.00
25	Fire Hydrant Assembly	EACH	2	\$3,800.00	\$7,600.00
26	8"x6" M.J. Tee	EACH	2	\$400.00	\$800.00
27	12"x8" M.J. Tee	EACH	1	\$450.00	\$450.00
28	6" M.J. Gate Valve	EACH	2	\$1,200.00	\$2,400.00
29	8" M.J. Gate Valve	EACH	3	\$1,400.00	\$4,200.00
30	12" M.J. Gate Valve	EACH	1	\$2,250.00	\$2,250.00
31	6"x13" M.J. Anchor Coupling	EACH	2	\$350.00	\$700.00
32	8"x13" M.J. Anchor Coupling	EACH	3	\$350.00	\$1,050.00
33	12"x13" M.J. Anchor Coupling	EACH	2	\$500.00	\$1,000.00
34	6"x4" Reducer	EACH	2	\$350.00	\$700.00
35	4"x22.5 Degree Bend	EACH	2	\$350.00	\$700.00
36	2" Blow Off Valve Assembly	EACH	3	\$1,000.00	\$3,000.00
37	12" Cap	EACH	1	\$400.00	\$400.00
38	Connect to Existing Waterline	EACH	1	\$1,000.00	\$1,000.00
39	Water Service, 1" short side	EACH	2	\$1,100.00	\$2,200.00
40	Water Service, 1.5" short side	EACH	10	\$1,300.00	\$13,000.00
41	Water Service, 1" long side	EACH	2	\$1,400.00	\$2,800.00
42	Water Service, 1.5" long side	EACH	6	\$1,500.00	\$9,000.00
Water System Subtotal					\$111,016

GREENBRIER SUBDIVISION, PHASE 13

MBESI PROJ #: 1015-0022

Engineer's Preliminary Opinion of Project Costs

Full Development with 6" Sewer Mains

December 4, 2015

Item #	Description	Unit	Quantity	Unit Price	Total
Sewer System Construction					
43	6" PVC, D-3034 SDR 26	L.F.	3,087	\$16.00	\$49,392.00
44	24" ASTM F679 PS 115	L.F.	0	\$62.00	\$0.00
45	0'-5' Trenching and Backfill, Non-Str. Backfill	L.F.	421	\$13.00	\$5,473.00
46	5'-8' Trenching and Backfill, Non-Str. Backfill	L.F.	1,471	\$13.00	\$19,123.00
47	8'-10' Trenching and Backfill, Non-Str. Backfill	L.F.	150	\$18.00	\$2,700.00
48	10'-12' Trenching and Backfill, Non-Str. Backfill	L.F.	377	\$23.00	\$8,671.00
49	5'-8' Trenching and Backfill, Str. Backfill	L.F.	422	\$20.00	\$8,440.00
50	8'-10' Trenching and Backfill, Str. Backfill	L.F.	246	\$25.00	\$6,150.00
51	Standard Manhole, 0-6 ft. deep	EACH	10	\$3,000.00	\$30,000.00
52	5' Diam. Manhole, 0-6 ft. deep	EACH	0	\$3,001.00	\$0.00
53	Extra Depth for Std. Manhole	V.F.	5.8	\$300.00	\$1,740.00
54	Short Side 4" Sewer Service (<= 20')	EACH	8	\$750.00	\$6,000.00
55	Long Side 4" Sewer Service (>20')	EACH	11	\$1,450.00	\$15,950.00
56	TV Inspection	L.F.	3,087	\$3.50	\$10,804.50
57	Trench Safety (sewer)	L.F.	3,087	\$1.00	\$3,087.00
Sewer System Subtotal					\$167,531
Erosion Control Construction					
58	Erosion Control Plan & Sedimentation Control (per Item 106) (includes silt fencing, construction exits, straw bale barriers, inlet protection, grass seeding, and any other sedimentation control devices)	L.S.	1	\$15,000.00	\$15,000.00
Erosion Control Subtotal					\$15,000

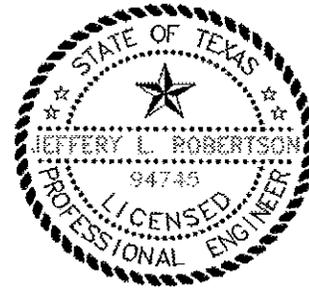
TOTAL CONSTRUCTION COST \$660,854

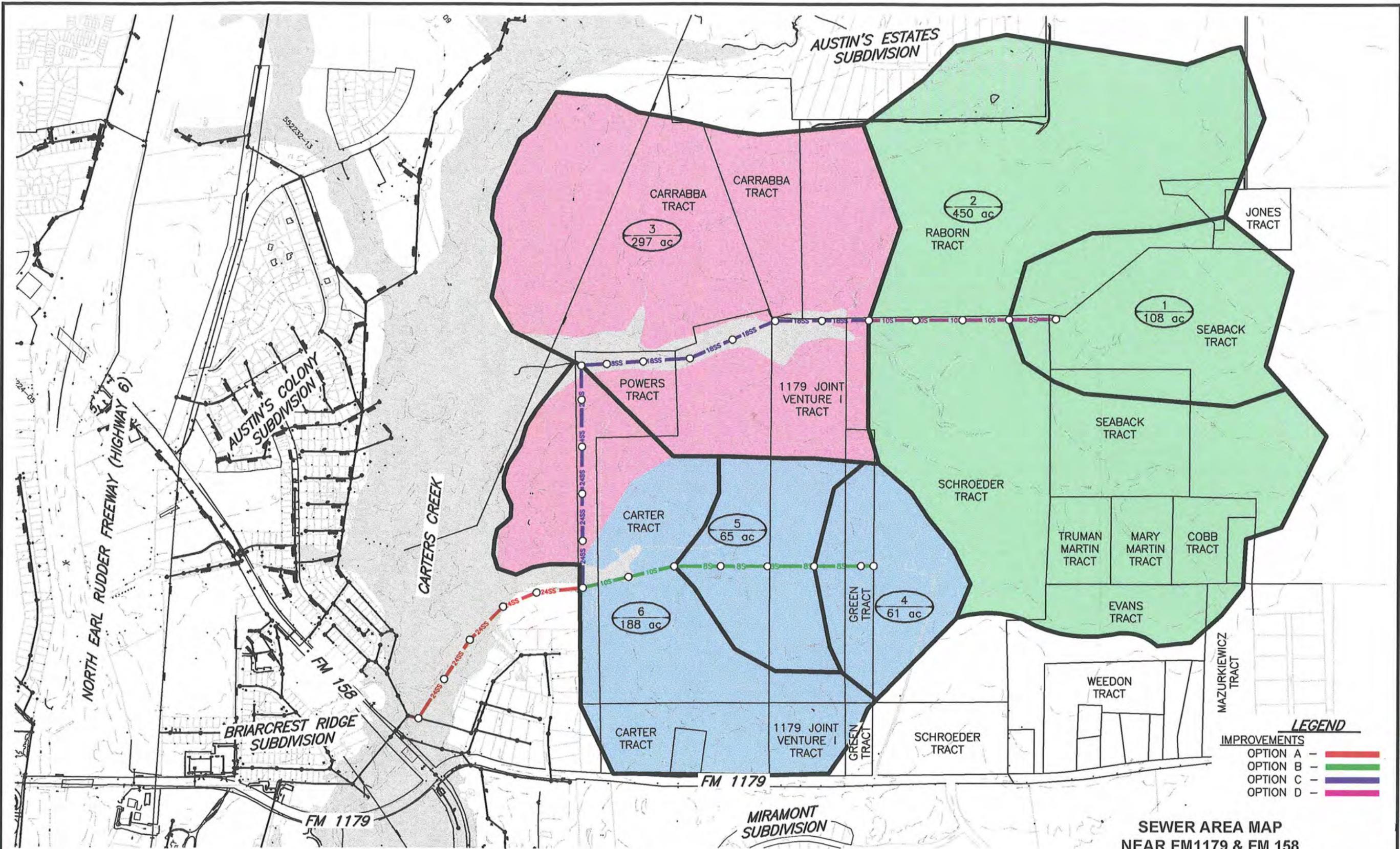
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 Jeffrey L. Robertson, P.E.

12/4/15
 Date





SEWER AREA MAP

SCALE: 1" = 1000'
 0 500' 1000'

LEGEND

IMPROVEMENTS

OPTION A	-	Red
OPTION B	-	Green
OPTION C	-	Blue
OPTION D	-	Pink

SEWER AREA MAP
 NEAR FM1179 & FM 158
 BRYAN, BRAZOS COUNTY, TEXAS

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