

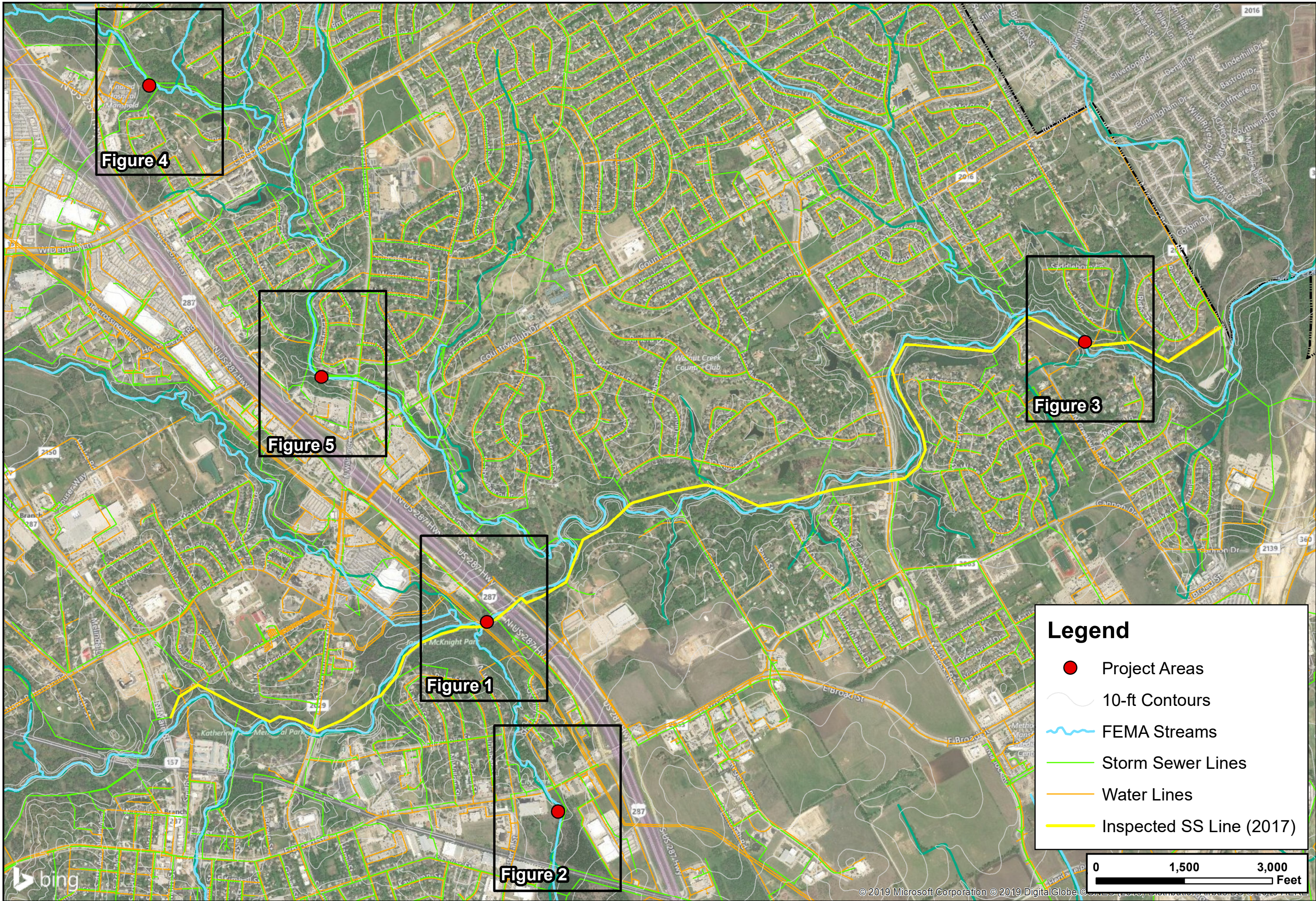


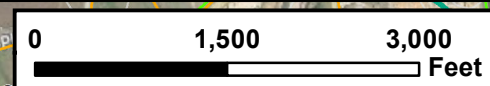
FIGURE	
A	
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FILE	Mapbook
DATE	2/13/2019
SCALE	1:18,000
DRAFTED	02531

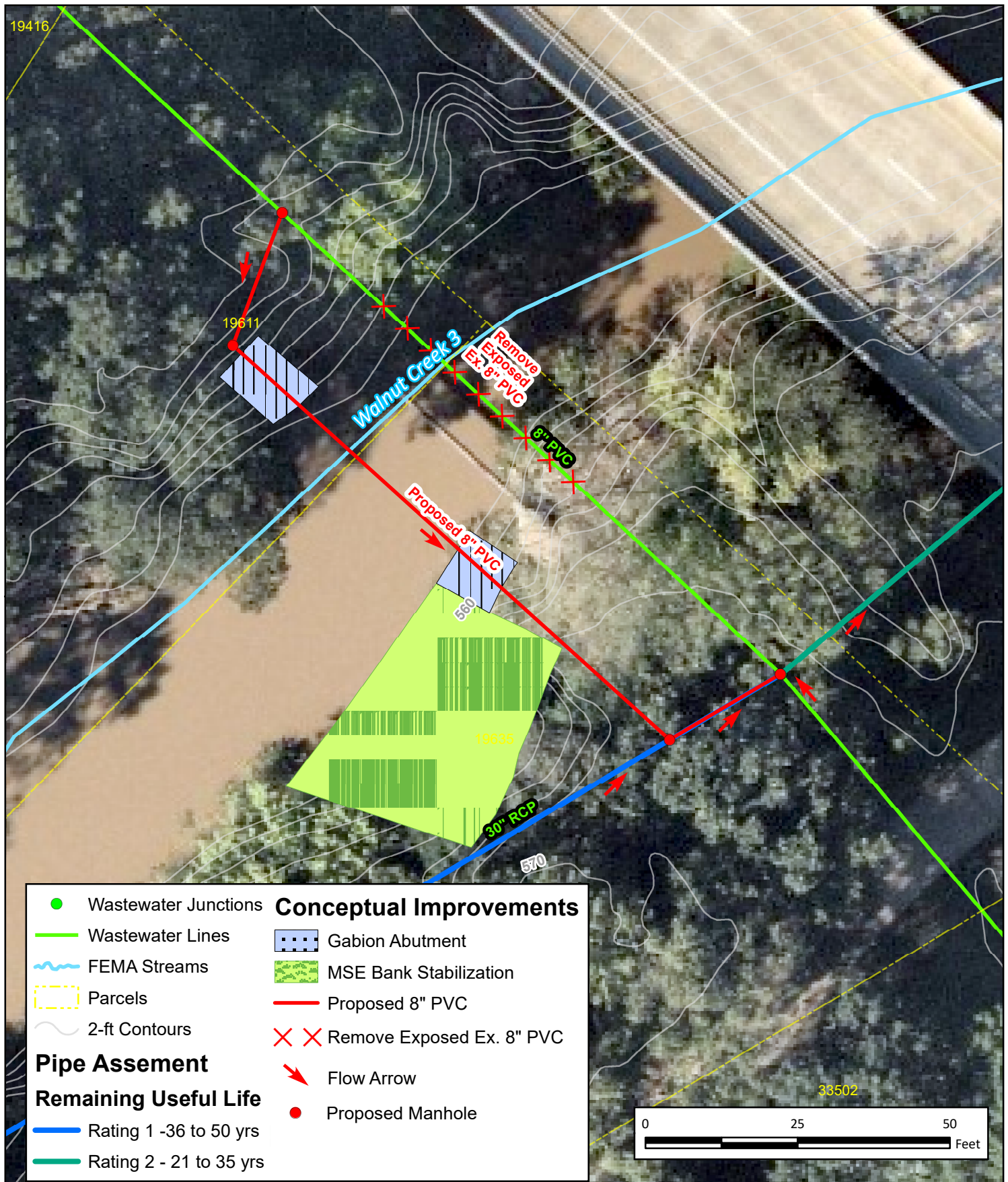
Project Areas	
City of Mansfield, TX	

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Legend

- Project Areas
- 10-ft Contours
- FEMA Streams
- Storm Sewer Lines
- Water Lines
- Inspected SS Line (2017)





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Walnut Creek at 287 - Alt. 1

City of Mansfield, TX

FN JOB NO	OFF19041
FILE NAME	Figure1A_Alt1_WalnutCreek_287.mxd
DATE	2/18/2019
SCALE	1:254
DESIGNED	MRM
DRAFTED	02435

FIGURE
1A



**FREESE
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NICHOLS**

Innovative approaches
Practical results
Outstanding service

OPINION OF PROBABLE CONSTRUCTION COSTS

PROJECT TITLE	Aerial Sanitary Sewer Crossings	DATE	3/22/2019
CLIENT	City of Mansfield	GROUP	1156 & 1112
% OF SUBMITTAL	Conceptual	PM	Scott Hubley

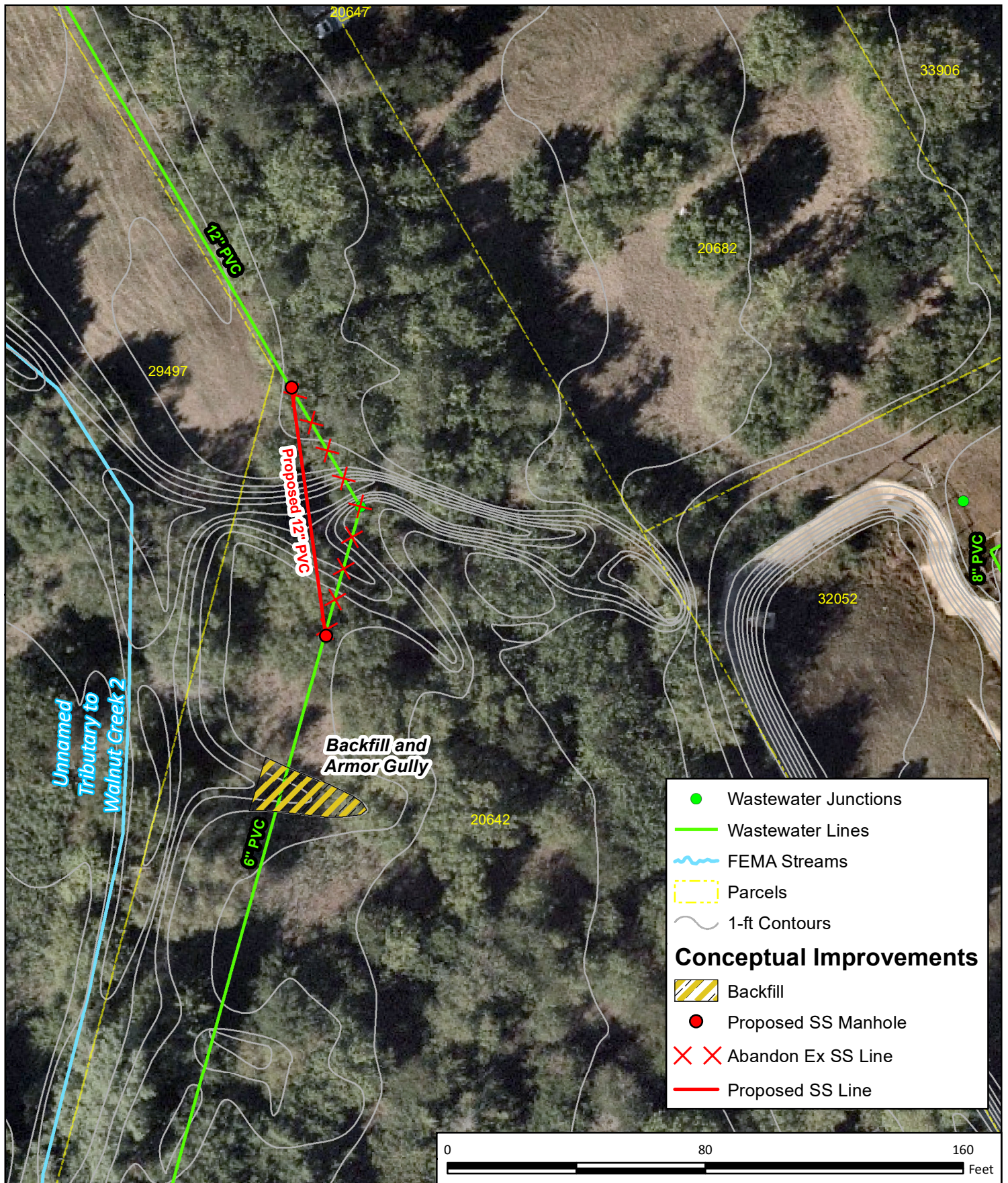
ESTIMATOR	QC CHECKED BY	FNI PROJECT NO.
MRM & TPN	RO	OFF19041

Area 1 - Walnut Creek at 287 Alt. A

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
MOBILIZATION & SWPPP (ITEMS 1-2)					\$ 17,000
1	Mobilization and Bonds (3%)	1	LS	\$ 2,700	\$ 2,700
2	Storm Water Pollution Prevention Plan (SWPPP) (1%)	1	LS	\$ 3,700	\$ 3,700
3	Site Preparation (Includes Temporary Construction Access)	1	LS	\$ 10,000	\$ 10,000
SANITARY SEWER IMPROVEMENTS (ITEMS 4-12)					\$ 89,000
4	8" PVC Sewer Line	80	LF	\$ 80	\$ 6,400
5	8" PVC Sewer Line Inside 16" Steel Casing	60	LF	\$ 96	\$ 5,760
6	Trench Safety	80	LF	\$ 1	\$ 80
7	Standard 4' Diameter Manhole	3	EA	\$ 20,000	\$ 60,000
8	Removal of Exposed Sanitary Sewer Pipe	50	LF	\$ 40	\$ 2,000
9	Sanitary Sewer Abandonment	1	LS	\$ 2,500	\$ 2,500
10	Piers (15 VLF)	2	EA	\$ 1,200	\$ 2,400
11	Bypass Pumping	1	LS	\$ 5,000	\$ 5,000
12	Seeding/Sodding	1	LS	\$ 2,000	\$ 2,000
13	Clearing and Grubbing	1	LS	\$ 2,000	\$ 2,000
DRAINAGE IMPROVEMENTS (ITEMS 13 - 20)					\$ 278,000
13	Channel Excavation	33	CY	\$ 25	\$ 833
14	Dewatering	1	LS	\$ 10,000	\$ 10,000
15	Embankment (Fill)	500	CY	\$ 20	\$ 10,000
16	Mechanically Stabilized Earth (MSE) Retaining Wall	900	SF	\$ 80	\$ 72,000
17	Gabion Basket - 3'X3'	100	CY	\$ 350	\$ 35,000
18	Toe Protection	500	SF	\$ 55	\$ 27,500
19	Soil Nail Earth Reinforcement	80	EA	\$ 1,500	\$ 120,000
20	Sodding	200	SY	\$ 10	\$ 2,000
SUBTOTAL				\$	384,000
CONTINGENCY				30% \$	115,200

PROJECT TOTAL	\$ 500,000
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NOTES:



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Walnut Creek at Hobby Lobby

City of Mansfield, TX

FN JOB NO	OFF19041
FILE NAME	Figure2_WalnutCreek_HobbyLobby.mxd
DATE	2/18/2019
SCALE	1:480
DESIGNED	MRM
DRAFTED	02537

FIGURE

2

**FREESE
AND
NICHOLS**Innovative approaches
Practical results
Outstanding service**OPINION OF PROBABLE CONSTRUCTION COSTS**

PROJECT TITLE	Aerial Sanitary Sewer Crossings	DATE	3/22/2019
CLIENT	City of Mansfield	GROUP	1156 & 1112
% OF SUBMITTAL	Conceptual	PM	Scott Hubley

ESTIMATOR	QC CHECKED BY	FNI PROJECT NO.
MRM & TPN	RO	OFF19041

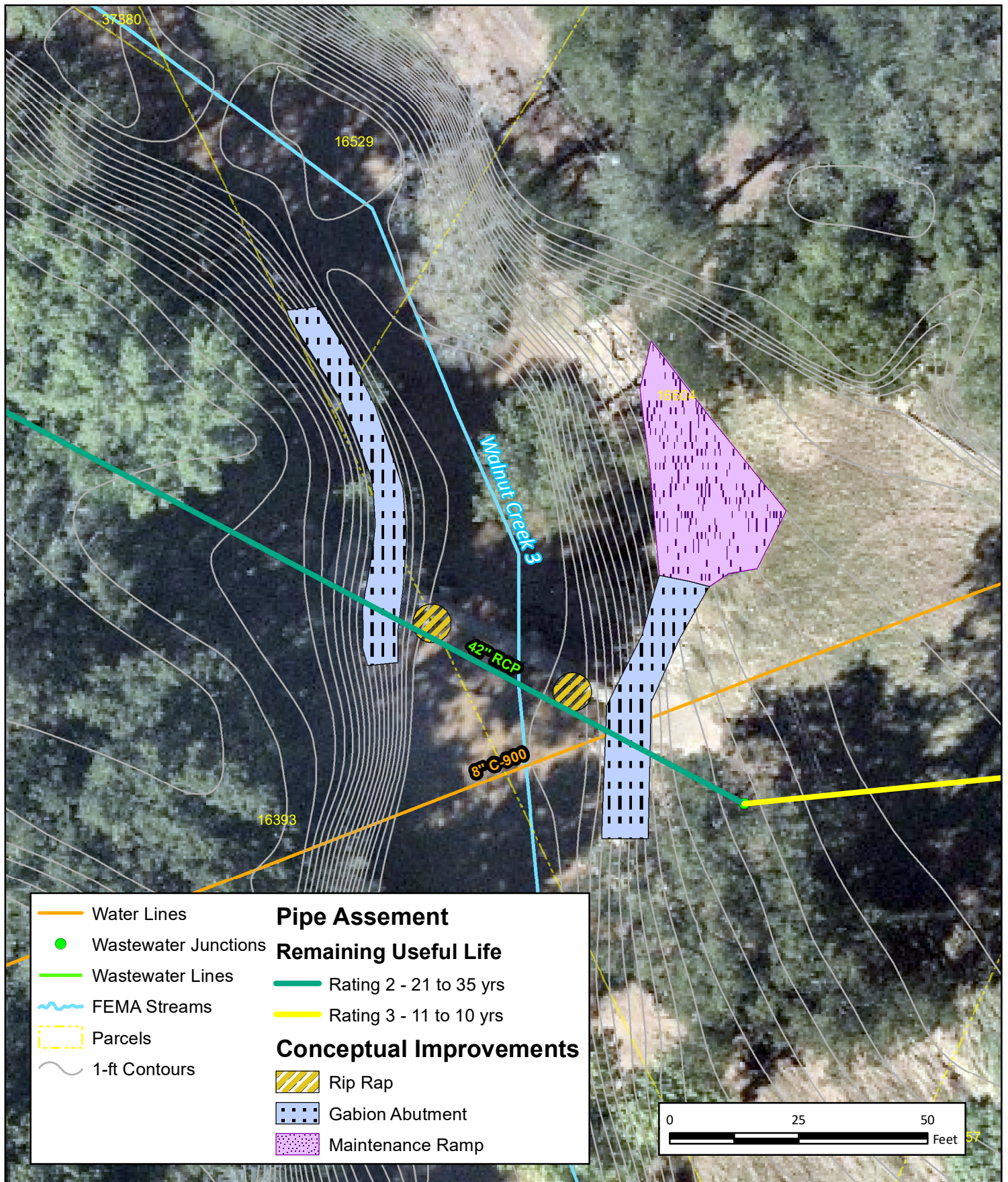
Area 2 - Walnut Creek at Hobby Lobby

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
MOBILIZATION & SWPPP (ITEMS 1-2)					\$ 14,000
1	Mobilization and Bonds (3%)	1	LS	\$ 2,500	\$ 2,500
2	Storm Water Pollution Prevention Plan (SWPPP) (1%)	1	LS	\$ 900	\$ 900
3	Site Preparation (Includes Temporary Construction Access)	1	LS	\$ 10,000	\$ 10,000
SANITARY SEWER IMPROVEMENTS (ITEMS 4-13)					\$ 81,000
4	12" PVC Sewer Line	80	LF	\$ 120	\$ 9,600
5	12" PVC Inside 20" Steel Casing	80	LF	\$ 144	\$ 11,520
6	Trench Safety	80	LF	\$ 1	\$ 80
7	Standard 4' Diameter Manhole	2	EA	\$ 20,000	\$ 40,000
8	Removal of Existing Manhole	1	EA	\$ 5,000	\$ 5,000
9	Sanitary Sewer Abandonment	1	LF	\$ 2,500	\$ 2,500
10	Piers (15 VLF)	2	EA	\$ 1,200	\$ 2,400
11	Bypass Pumping	1	LS	\$ 5,000	\$ 5,000
12	Seeding/Sodding	1	LS	\$ 2,000	\$ 2,000
13	Clearing and Grubbing	1	LS	\$ 2,000	\$ 2,000
DRAINAGE IMPROVEMENTS (ITEM 14)					\$ 25,000
14	Backfill and Armor Gully	1	LS	\$ 25,000	\$ 25,000
SUBTOTAL					\$ 120,000
CONTINGENCY					30% \$ 36,000

PROJECT TOTAL	\$ 156,000
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NOTES:

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Walnut Creek at Fox Hollow

City of Mansfield, TX

FN JOB NO	OFF19041
FILE NAME	Figure3_WalnutCreek_FoxHollow.mxd
DATE	2/18/2019
SCALE	1:300
DESIGNED	MRM
DRAFTED	02531

FIGURE
3



Innovative approaches
Practical results
Outstanding service

OPINION OF PROBABLE CONSTRUCTION COSTS

PROJECT TITLE	Aerial Sanitary Sewer Crossings	DATE	3/22/2019
CLIENT	City of Mansfield	GROUP	1156 & 1112
% OF SUBMITTAL	Conceptual	PM	Scott Hubley

ESTIMATOR	QC CHECKED BY	FNI PROJECT NO.
MRM & TPN	RO	OFF19041

Area 3 - Walnut Creek at Fox Hollow

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
MOBILIZATION & SWPPP (ITEMS 1-2)					\$ 45,000
1	Mobilization and Bonds (3%)	1	LS	\$ 25,800	\$ 25,800
2	Storm Water Pollution Prevention Plan (SWPPP) (1%)	1	LS	\$ 8,600	\$ 8,600
3	Site Preparation (Includes Temporary Construction Access)	1	LS	\$ 10,000	\$ 10,000
DRAINAGE IMPROVEMENTS (ITEMS 4 - 10)					\$ 859,000
4	Channel Excavation	667	CY	\$ 25	\$ 16,667
5	Dewatering	1	LS	\$ 10,000	\$ 10,000
6	24" Rip Rap	100	CY	\$ 150	\$ 15,000
7	Gabion Basket - 3'X3'	900	CY	\$ 350	\$ 315,000
8	Articulated Concrete Block (6" min)	1,000	SF	\$ 20	\$ 20,000
9	Soil Nail Earth Reinforcement	320	EA	\$ 1,500	\$ 480,000
10	Sodding	200	SY	\$ 10	\$ 2,000
SUBTOTAL					\$ 904,000
CONTINGENCY				30%	\$ 271,200

PROJECT TOTAL	\$ 1,180,000
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NOTES:

OPCC assumes existing piers for storm sewer pipeline are structurally sound and will not need to be replaced.

**FREESE
AND
NICHOLS**Innovative approaches
Practical results
Outstanding service**OPINION OF PROBABLE CONSTRUCTION COSTS**

PROJECT TITLE	Aerial Sanitary Sewer Crossings	DATE	3/22/2019
CLIENT	City of Mansfield	GROUP	1156 & 1112
% OF SUBMITTAL	Conceptual	PM	Scott Hubley

ESTIMATOR	QC CHECKED BY	FNI PROJECT NO.
MRM & TPN	RO	OFF19041

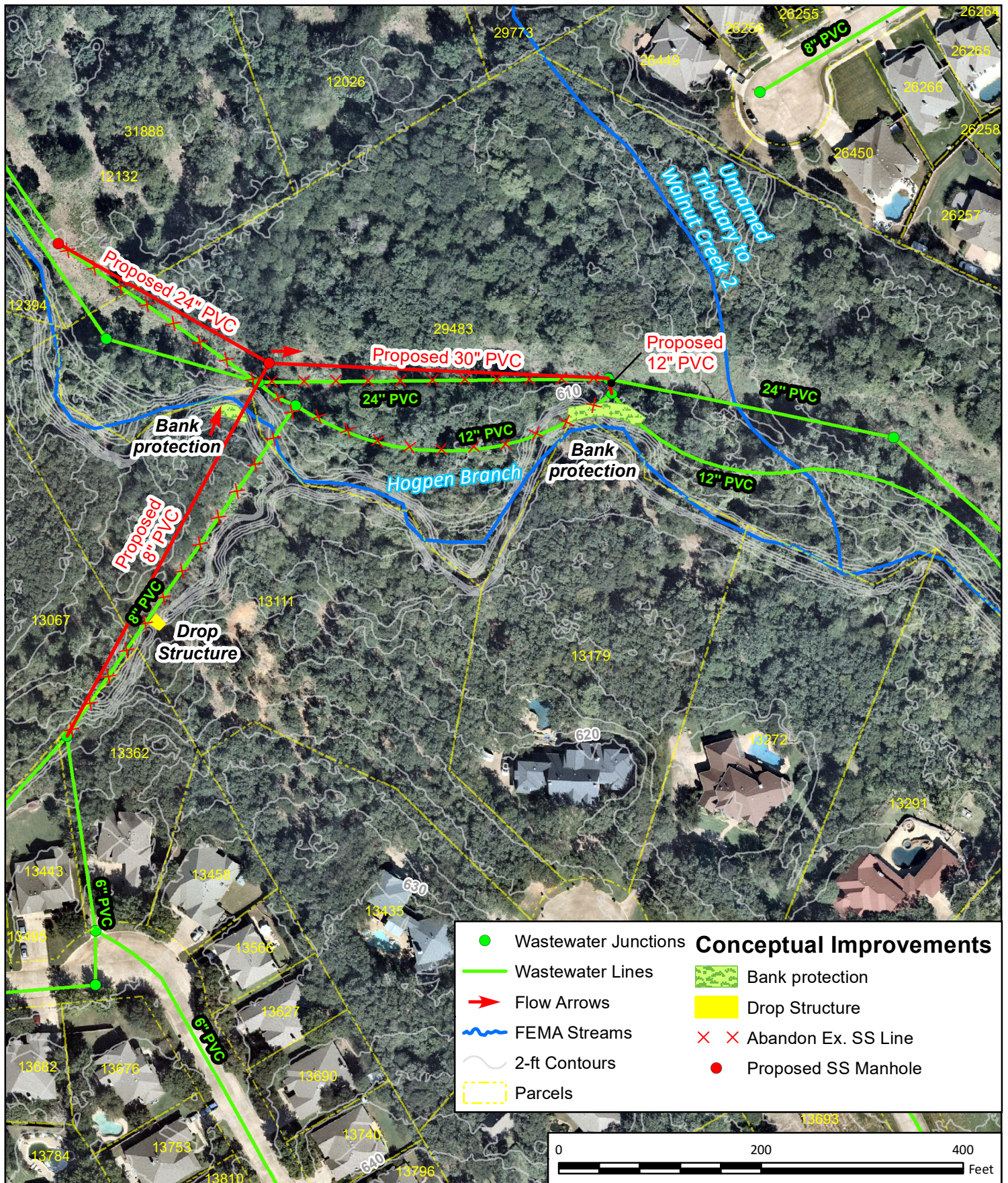
Area 4 - Hogpen Branch at Cains Lane Alt. A

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
MOBILIZATION & SWPPP (ITEMS 1-2)					\$ 39,000
1	Mobilization and Bonds (3%)	1	LS	\$ 10,400	\$ 10,400
2	Storm Water Pollution Prevention Plan (SWPPP) (1%)	1	LS	\$ 3,500	\$ 3,500
3	Site Preparation (Includes Temporary Construction Access)	1	LS	\$ 25,000	\$ 25,000
SANITARY SEWER IMPROVEMENTS (ITEMS 4-15)					\$ 344,000
4	8" PVC Sewer Line	330	LF	\$ 80	\$ 26,400
5	12" PVC Sewer Line	200	LF	\$ 120	\$ 24,000
6	30" PVC Sewer Line	680	LF	\$ 270	\$ 183,600
7	Trench Safety	1,210	LF	\$ 1	\$ 1,210
8	8" PVC Sewer Line Inside 16" Steel Casing	90	LF	\$ 96	\$ 8,640
9	Standard 4' Diameter Manhole	3	EA	\$ 20,000	\$ 60,000
10	Removal of Existing Manhole	1	EA	\$ 5,000	\$ 5,000
11	Sanitary Sewer Abandonment	1	LS	\$ 5,000	\$ 5,000
12	Existing Manhole Abandonment	3	EA	\$ 1,500	\$ 4,500
13	Bypass Pumping	1	LS	\$ 15,000	\$ 15,000
14	Seeding/Sodding	1	LS	\$ 5,000	\$ 5,000
15	Clearing and Grubbing	1	LS	\$ 5,000	\$ 5,000
DRAINAGE IMPROVEMENTS (ITEMS 16-17)					\$ 40,000
16	Bank Protection	1	LS	\$ 25,000	\$ 25,000
17	Drop Structure	1	LS	\$ 15,000	\$ 15,000
SUBTOTAL				\$	423,000
CONTINGENCY				30% \$	126,900

PROJECT TOTAL	\$ 550,000
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NOTES:

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Hogpen Branch at Cains Lane

City of Mansfield, TX

FN JOB NO	OFF19041
FILE NAME	Figure4_HogpenCreek_CainsLane-4B.mxd
DATE	3/22/2019
SCALE	1:1,530
DESIGNED	MRM
DRAFTED	02537

FIGURE
4B



Innovative approaches
Practical results
Outstanding service

OPINION OF PROBABLE CONSTRUCTION COSTS

PROJECT TITLE	Aerial Sanitary Sewer Crossings	DATE	3/22/2019
CLIENT	City of Mansfield	GROUP	1156 & 1112
% OF SUBMITTAL	Conceptual	PM	Scott Hubley

ESTIMATOR	QC CHECKED BY	FNI PROJECT NO.
MRM & TPN	RO	OFF19041

Area 4 - Hogpen Branch at Cains Lane Alt. B

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
MOBILIZATION & SWPPP (ITEMS 1-2)					\$ 36,000
1	Mobilization and Bonds (3%)	1	LS	\$ 7,800	\$ 7,800
2	Storm Water Pollution Prevention Plan (SWPPP) (1%)	1	LS	\$ 2,600	\$ 2,600
3	Site Preparation (Includes Temporary Construction Access)	1	LS	\$ 25,000	\$ 25,000
SANITARY SEWER IMPROVEMENTS (ITEMS 4-15)					\$ 260,000
4	8" PVC Sewer Line	330	LF	\$ 80	\$ 26,400
	12" PVC Sewer Line	20	LF	\$ 120	\$ 2,400
5	24" PVC Sewer Line	240	LF	\$ 240	\$ 57,600
6	30" PVC Sewer Line	330	LF	\$ 270	\$ 89,100
7	Trench Safety	920	LF	\$ 1	\$ 920
8	8" PVC Sewer Line Inside 16" Steel Casing	90	LF	\$ 96	\$ 8,640
9	Standard 4' Diameter Manhole	2	EA	\$ 20,000	\$ 40,000
10	Removal of Existing Manhole	1	EA	\$ 5,000	\$ 5,000
11	Sanitary Sewer Abandonment	1	LS	\$ 3,000	\$ 3,000
12	Existing Manhole Abandonment	1	EA	\$ 1,500	\$ 1,500
13	Bypass Pumping	1	LS	\$ 15,000	\$ 15,000
14	Seeding/Sodding	1	LS	\$ 5,000	\$ 5,000
15	Clearing and Grubbing	1	LS	\$ 5,000	\$ 5,000
DRAINAGE IMPROVEMENTS (ITEMS 16-17)					\$ 95,000
16	Bank Protection	1	LS	\$ 80,000	\$ 80,000
17	Drop Structure	1	LS	\$ 15,000	\$ 15,000
SUBTOTAL				\$	391,000
CONTINGENCY				30% \$	117,300

PROJECT TOTAL	\$ 510,000
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NOTES:



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Hogpen Branch at Brookfield - Alt. A

City of Mansfield, TX

FN JOB NO	OFF19041
FILE NAME	Figure5A_Hogpen_Brookfield.mxd
DATE	2/18/2019
SCALE	1:250
DESIGNED	MRM
DRAFTED	02531

FIGURE
5A



Innovative approaches
Practical results
Outstanding service

OPINION OF PROBABLE CONSTRUCTION COSTS

PROJECT TITLE	Aerial Sanitary Sewer Crossings	DATE	3/22/2019
CLIENT	City of Mansfield	GROUP	1156 & 1112
% OF SUBMITTAL	Conceptual	PM	Scott Hubley

ESTIMATOR	QC CHECKED BY	FNI PROJECT NO.
MRM & TPN	RO	OFF19041

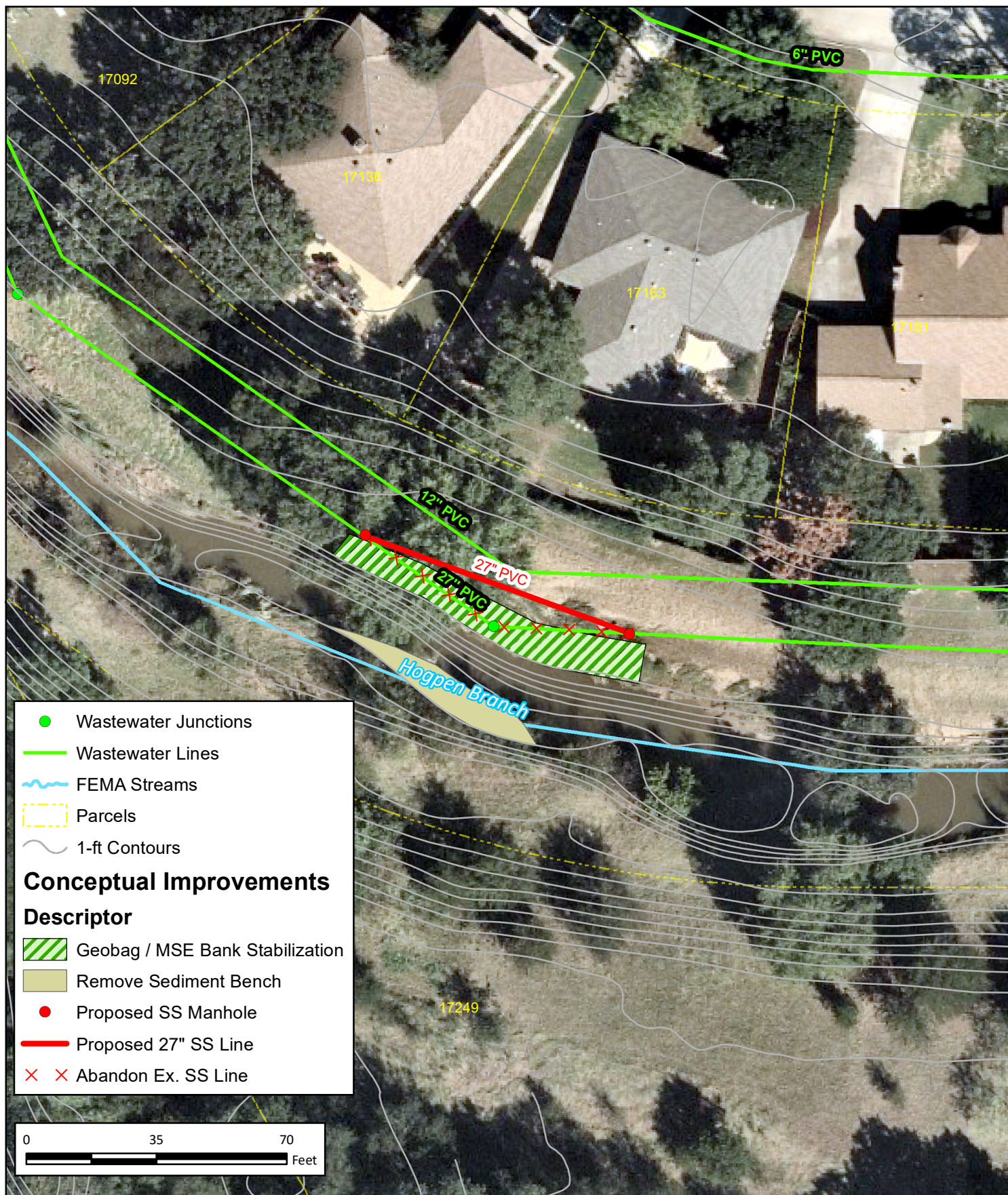
Area 5 - Hogpen Branch at Brookfield Alt. B

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
MOBILIZATION & SWPPP (ITEMS 1-2)					\$ 36,000
1	Mobilization and Bonds (3%)	1	LS	\$ 7,800	\$ 7,800
2	Storm Water Pollution Prevention Plan (SWPPP) (1%)	1	LS	\$ 2,600	\$ 2,600
3	Site Preparation (Includes Temporary Construction Access)	1	LS	\$ 25,000	\$ 25,000
SANITARY SEWER IMPROVEMENTS (ITEMS 4-5)					\$ 77,000
4	27" PVC Sewer Line	80	LF	\$ 270	\$ 21,600
5	Standard 4' Diameter Manhole	2	EA	\$ 20,000	\$ 40,000
6	Bypass Pumping	1	LS	\$ 15,000	\$ 15,000
DRAINAGE IMPROVEMENTS (ITEMS 7-12)					\$ 259,000
7	Channel Excavation	60	CY	\$ 25	\$ 1,500
8	Dewatering	1	LS	\$ 10,000	\$ 10,000
9	Geobag Envirolock, MSE, or Approved Equal	800	SF	\$ 80	\$ 64,000
10	Soil Nail Earth Reinforcement	100	EA	\$ 1,500	\$ 150,000
11	Toe Protection	410	SF	\$ 55	\$ 22,550
12	Vegetation	1	LS	\$ 10,000	\$ 10,000
SUBTOTAL				\$	372,000
CONTINGENCY				30% \$	111,600

PROJECT TOTAL	\$ 490,000
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NOTES:

5	
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FREESE & NICHOLS 4055 International Plaza Suite 200 Fort Worth, Texas 76109 P: (817) 735-7300		Hogpen Branch at Brookfield - Alt. B City of Mansfield, TX	FN JOB NO	OFF19041	FIGURE 5B
			FILE NAME	Figure5B_Hogpen_Brookfield.mxd	
			DATE	2/18/2019	
			SCALE	1:420	
			DESIGNED	MRM	
			DRAFTED	02537	



Innovative approaches
Practical results
Outstanding service

OPINION OF PROBABLE CONSTRUCTION COSTS

PROJECT TITLE	Aerial Sanitary Sewer Crossings	DATE	3/22/2019
CLIENT	City of Mansfield	GROUP	1156 & 1112
% OF SUBMITTAL	Conceptual	PM	Scott Hubley

ESTIMATOR	QC CHECKED BY	FNI PROJECT NO.
MRM & TPN	RO	OFF19041

Area 5 - Hogpen Branch at Brookfield Alt. B

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
MOBILIZATION & SWPPP (ITEMS 1-2)					\$ 36,000
1	Mobilization and Bonds (3%)	1	LS	\$ 7,800	\$ 7,800
2	Storm Water Pollution Prevention Plan (SWPPP) (1%)	1	LS	\$ 2,600	\$ 2,600
3	Site Preparation (Includes Temporary Construction Access)	1	LS	\$ 25,000	\$ 25,000
SANITARY SEWER IMPROVEMENTS (ITEMS 4-5)					\$ 77,000
4	27" PVC Sewer Line	80	LF	\$ 270	\$ 21,600
5	Standard 4' Diameter Manhole	2	EA	\$ 20,000	\$ 40,000
6	Bypass Pumping	1	LS	\$ 15,000	\$ 15,000
DRAINAGE IMPROVEMENTS (ITEMS 7-12)					\$ 259,000
7	Channel Excavation	60	CY	\$ 25	\$ 1,500
8	Dewatering	1	LS	\$ 10,000	\$ 10,000
9	Geobag Envirolock, MSE, or Approved Equal	800	SF	\$ 80	\$ 64,000
10	Soil Nail Earth Reinforcement	100	EA	\$ 1,500	\$ 150,000
11	Toe Protection	410	SF	\$ 55	\$ 22,550
12	Vegetation	1	LS	\$ 10,000	\$ 10,000
SUBTOTAL				\$	372,000
CONTINGENCY				30% \$	111,600

PROJECT TOTAL	\$ 490,000
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NOTES:

5
