

City of Ladue

PROJECT IDENTIFICATION INFORMATION SHEET

Storm Water Management Program
 Phase II: Master Plan
 Ladue, Saint Louis County, Missouri

PROJECT NAME: Burroughs Lane Drainage Improvements
LOCATION(S): Burroughs Lane and S. Price Road
PROJECT No: 1643

STATUS:	
Easements Required:	2
Properties Benefited:	4
Properties Impacted:	2
Project Benefit Points:	235
Property Benefit Multiplier: X	2.00
Priority WGT Multiplier: X	1.05
Adj Prjct Benefit Points:	493.50
EOPC, thousand:	\$666.01
Cost Sharing, MSD:	
Cost Sharing, Other:	
Adj EOPC, thousand:	\$666.01
Benefit to Cost Ratio:	0.74

Project Source:

- Citizen Complaint
- Ladue
- MSD
- Other:

Coordination Required:

- MSD
- Corps of Engineers
- MO DNR
- MODOT
- County Highways
- City Streets
- City Parks
- County Parks
- Municipality: City of Ladue
- Railroad:
- Subivision Trustees
- Other: Local Utilities

Problem Categories:

- | <input checked="" type="checkbox"/> | <u>WGT</u> | <u>Description</u> |
|-------------------------------------|------------|---|
| <input type="checkbox"/> | 1.15 | Habitable structural flooding & erosion from overland flow (non-floodplain) |
| <input type="checkbox"/> | 1.15 | Public roadway flooding & erosion |
| <input type="checkbox"/> | 1.10 | Private roadway flooding & erosion |
| <input type="checkbox"/> | 1.05 | Flooding from inadequate sinkhole |
| <input checked="" type="checkbox"/> | 1.05 | Maintenance of stormwater system facilities |
| <input type="checkbox"/> | 1.05 | Non-habitable structural flooding & erosion |
| <input checked="" type="checkbox"/> | 1.00 | Yard erosion & erosion of common ground or unmaintained area |
| <input checked="" type="checkbox"/> | 1.00 | Yard flooding |
| <input type="checkbox"/> | 0.85 | Structural flooding from creeks or rivers (floodplain) |

Benefited Property Definition:

- 1 A benefited property is one at which flooding and/or erosion is reduced;
- 2 A property that does not receive an actual reduction in flooding or erosion from the construction of storm water improvements is NOT a benefited property; and
- 3 A property that only receives a financial gain from the construction of storm water improvements is NOT a benefited property.

Impacted Property Definition:

- 1 An impacted property is one at which physical disturbance occurs to construct storm water improvements.

MSD/MO American Water Base Map Number(s):

Laclede Gas Map Number(s):

FEMA FIRM Map Number(s):

USGS Quadrangle Map Number(s):

Attachments

- Scope of Work
- Benefit Points Calculation
- Engineer's Opinion of Probable Construction Cost
- Property Contact Information
- Improvement Concept Plan

Notes:

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SCOPE OF WORK

Problem Description:

The project is located at the upstream end of Burroughs Creek. The project reach was geomorphically unscorable.

The project reach consists of twin channels separated by what was originally an embankment for an abandoned streetcar line. The channels flow from west to east. An existing concrete cross-road culvert, approximately 24-inches in diameter and half filled with sediment, is located at about the segment half-way point. Yard erosion and ponding was observed particularly at #750 So. Price Road likely caused by backup from the disfunctional culvert. An exposed sanitary sewer was observed in the south channel creek bank just south of the cross-road culvert.

Proposed Solution:

Remove the cross-road culvert. Restore the north channel by reshaping and bank stabilization from So. Price Road to the existing culvert location. Cut through the embankment at the culvert removal location. Restore the south channel by reshaping and bank stabilization from the existing culvert location to the east property line of #40 Burroughs Lane; stabilize the exposed sanitary sewer. Use the material excavated to make the embankment cut-through to fill and re-grade the north channel so that it slopes from #714 So. Price Road west to the existing culvert location.

Approximately 500 lineal feet of streambank protection/restoration is estimated.

Commentary:

The project is not located in the FEMA 100-yr floodplain, however a Floodplain Study and "No-Rise" is anticipated to be required.

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BENEFIT POINTS CALCULATION

PROBLEM SOLVED CATEGORY		Chronic (<=2-Yr) Flooding		Frequent (>2<=15-Yr) Flooding		Infrequent (>15-Yr) Flooding		Total Points	
		Points per Category	No. Lots Affected	Points per Category	No. Lots Affected	Points per Category	No. Lots Affected		
Note: Problem points are awarded only for those problems solved by the proposed solution.									
1.0 STREAM	1.1. FLOODING	1.1.1. Structure Flooding							
		Habitable 1st floor, residential; includes spaces with mechanical equipment (1 lot per structure) Address:	300		150		25		
		Basement (1 lot per structure) Address:	200		100		15		
		Attached Garage (1 lot per structure) Address:	100		50		8		
		Misc. structures including patio/decks, pools, sheds, tennis courts, detached garages, etc.(1 lot per structure) Address:	50		25		4		
		Industrial, office, commercial and warehouse (1 lot per 2,500 sf of floor space flooded) Address:	300		150		25		
		Yard Flooding (1 per lot) Address:	10		5		0		
		1.1.2. Roadway Flooding (allocate 1 lot per 250' of roadway impacted & 2 lots per intersection impacted)							
		Emergency Access restricted (>12" water over only access route to habitable structure), pts per structure Address:	200		100		15		
		Traffic obstruction (> 6" of water) on arterial street Address:	50		25		4		
	Traffic obstruction (> 6" of water) on collector street Address:	25		12		2			
	Traffic obstruction (> 6" of water) on residential street Address:	10		5		1			
	1.2. EROSION	1.2.1. Threatening Structure (Ratio=Height of bank / distance from structure)		Pts. for Ratio \wedge 0.70	No. Lots	Pts. for Ratio 0.36 - 0.70	No. Lots	Pts. for Ratio 0.15- 0.35	No. Lots
		Habitable structures, residential (1 lot per structure) Address:	300		200		50		
		Misc structures including pools, patio/decks, sheds, tennis courts, detached garages, etc.(1 lot per structure) Address:	150		100		25		
		Industrial, office, commercial and warehouse (1 lot per structure) Address:	300		200		50		
		1.2.2. No. of lots (from 1.2.1) on outside of bend			lots	10 points per lot			
		1.2.3. Threatening Roadway (Ratio=Height of bank / distance from road)		Pts. for Ratio \wedge 0.70	No. Lots	Pts. for Ratio 0.36 - 0.70	No. Lots	Pts. for Ratio 0.15- 0.35	No. Lots
		Arterial Road: Address:	75		50		12		
		Collector Road: Address:	35		25		6		
Residential Road: Address:		20		12		3			

CONTINUED:

2.0 STORM SEWER / OVERLAND FLOW	2.1. FLOODING	PROBLEM SOLVED CATEGORY, CONT.	Chronic (<=2-Yr) Flooding		Frequent (>2<=15-Yr) Flooding		Infrequent (>15-Yr) Flooding		Total Points
			Points per Category	No. Lots Affected	Points per Category	No. Lots Affected	Points per Category	No. Lots Affected	
			Note: Problem points are awarded only for those problems solved by the						
		2.1.1. Structure Flooding							
		Habitable 1st floor, residential; includes spaces with mechanical equipment (1 lot per structure)* <i>Address:</i>	350		250		65		
		Basement (1 lot per structure)* <i>Address:</i>	250		200		50		
		Industrial, office, commercial and warehouse (1 lot per 2,500 sf of floor space flooded)* <i>Address:</i>	300		200		50		
		* If there is an existing public system and points are taken for any of the 3 items above, add 50 points.	Existing System Y/N						
		Attached Garage (1 lot per structure) <i>Address:</i>	100		75		25		
		Misc. structures including patio/decks, pools, sheds, tennis courts, detached garages, etc.(1 lot per structure) <i>Address:</i>	50		35		12		
		Yard Flooding (1 per lot) <i>Address: 714, 718, 750 S. Price Rd</i>	10	3	6		0		30
		2.1.2. Roadway Flooding (allocate 1 lot per 250' of roadway impacted & 2 lots per intersection impacted)							
		Emergency Access restricted (>12" water over only access route to habitable structure), pts per structure <i>Address:</i>	200		150		25		
		Traffic obstruction (> 6" of water) on arterial street <i>Address:</i>	50		35		6		
		Traffic obstruction (> 6" of water) on collector street <i>Address:</i>	25		15		2		
		Traffic obstruction (> 6" of water) on residential street <i>Address:</i>	10		6		1		
		Ponding (per ponding area) <i>Address:</i>	No. Ponds:		Points/pond:		5		
		2.2. Moderate Risk Erosion of misc. structures <i>Address: Approx. 250' of Burroughs Ln</i>	No. Lots:		1	Points/lot:		20	20
		2.3. Yard Erosion (1 per lot) <i>Address: #714, 718, 726, 750 S. Price Rd</i>	No. Lots:		4	Points/lot:		10	40
		2.4. Age of Existing System Points for Age	>50 yrs (30 pts)		26-50 yrs (15 pts)		<25 yrs (0 pts)		
		Note: Problem points are awarded only for those problems solved by the proposed solution.	TOTAL PROBLEM POINTS						90

CONTINUED:

SOLUTION BENEFIT CATEGORY						
3.0 REGIONAL	3.1. Reduction of flowrate leaving site		% reduction of peak flowrate :	Max points:	1000	
	3.2. Combines smaller projects into regional solution (see note)		No. Add'l Projects:	Points per Add'l Proj.:	50	
4.0 ENVIRONMENTAL / WATER QUALITY	4.1. Addresses pollutants:		No. Units		Points per Unit	
	Bioswales		PER 100 LF	10		
	Forebays		AC	200		
	Wet Ponds		AC	100		
	Wetlands		AC	50		
	Biostabilization of banks (per bank)		14.5 PER 100 LF	10	145	
	Riffle Pool Complex		PER 100 LF	10		
	4.2. Eliminates combined sewer (per project)		EA	100		
4.0 ENVIRONMENTAL / WATER QUALITY	4.3	Eliminates inflow into sanitary system (1 each per basement flooded, yard vent overtopped, street inlet or driveway drain connected to sanitary/combined system, etc.)		EA	10	
5.0 MISC.	5.1. Ease of Implementation (No. of Easements)		0-5 (20 pts)	6-10 (10 pts)	11-15 (5 pts)	>15 (0 pts)
	Points for Easements		0	0	0	0
	5.2. Recreational/Educational		Yes = 100, no = 0 pts		0	
TOTAL SOLUTION POINTS					145	
TOTAL BENEFIT POINTS					235	

Note: A regional solution combines several smaller projects into a watershed or subwatershed solution.

TOTAL COST IN THOUSANDS=

\$666.01

MSD BENEFIT/ COST RATIO= TOTAL POINTS/ TOTAL COST IN THOUSANDS=

0.35

PROJECT NAME:		Burroughs Lane Drainage Improvements			
PROJECT No:		1643			
<u>ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST</u>					
ITEM NUMBER	PAY ITEM DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT PRICE	EXTENDED PRICE
1	Mobilization	1	Lump Sum	\$10,627.20	\$10,627.20
2	Bank Protection - Biostabilization	2,160	Square Yards	\$155.00	\$334,800.00
3	Bypass Pumping	1	Lump Sum	\$10,800.00	\$10,800.00
4	Clearing (Channel Projects)	1	Lump Sum	\$8,640.00	\$8,640.00
5	Protection and Restoration of Site	1	Lump Sum	\$47,433.00	\$47,433.00
6	Utility Relocation (Allowance)	1	Lump Sum	\$7,298.00	\$7,298.00
*Excavation Class 'C' cost included in unit price					
				Sub-Total:	\$419,598.20
				Estimated Construction Engineering Fee:	\$8,387.14
				Estimated Construction Survey Fee:	\$1,049.76
				Estimated MSD Construction Permit Fee:	\$195.00
				Estimated MSD Stormwater Construction Inspection Fee:	
				Estimated MSD Sanitary Construction Inspection Fee:	
		Estimated area disturbed:	0.45 ac		
				Estimated MDNR Land Disturbance Permit Fee:	
				Estimated CWA 404/401 Permit Fee:	
				Sub-Total:	\$429,230.10
				30% Contingency:	\$128,769.03
				SUB-TOTAL - CONSTRUCTION:	\$557,999.13
				Estimated Design Engineering Fee:	\$47,527.15
				Estimated MSD Plan Review Submittal Fee:	
				Estimated MSD Conceptual Review Fee:	
				Estimated MSD Plan Review Fee:	
<i>Note: MSD submittal & review fees are waived by reciprocal agreement with the City of Ladue.</i>					
				CWA 404/401 Permit Application Preparation:	\$3,000.00
				MDNR Land Disturbance Permit Application & SWPPP Preparation:	
				Sinkhole Report:	
				Floodplain Study:	\$15,000.00
				No Rise Certification or LOMR:	\$5,000.00
		Estimated Geotechnical Engineering Fee:	2 Borings @	\$2000/each =	\$4,000.00
				Estimated Property Strip Map Survey Fee:	\$3,000.00
				Estimated Topographic Survey Fee:	\$3,499.20
		Estimated Property Title/Easement Search Report Fee:	2 ESR's @	\$500/each =	\$1,000.00
		Estimated Easement Preparation:	2 Plats @	\$450/each =	\$900.00
				Estimated Saint Louis County Recording Fee - Easements:	\$90.00
				Sub-Total:	\$83,016.35
				30% Contingency:	\$24,904.91
				SUB-TOTAL - DESIGN:	\$108,011.26

				TOTAL PROJECT:	\$666,010.39

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PROPERTY CONTACT INFORMATION

BENEFITED PROPERTY OWNERS			
Count	Property Address	Contact Name	Phone Number
1	714 S PRICE RD	VAN DYKE NANCY B	
2	718 S PRICE RD	LOCK SEAN M & LAURA A H/W	
3	726 S PRICE RD	BURROUGHS LANETRUST ASSOCIATION	
4	750 S PRICE RD	GILES JEFFREY D & CHRISTINA A H/W	
IMPACTED PROPERTY OWNERS			
Count	Property Address	Contact Name	Phone Number
1	726 S PRICE RD	BURROUGHS LANETRUST ASSOCIATION	
2	750 S PRICE RD	GILES JEFFREY D & CHRISTINA A H/W	
3			
4			
5			
6			
7			
8			
9			
10			
EASEMENTS REQUIRED			
Count	Property Address	Contact Name	Phone Number
1	726 S PRICE RD	BURROUGHS LANETRUST ASSOCIATION	
2	750 S PRICE RD	GILES JEFFREY D & CHRISTINA A H/W	
3			
4			
5			
6			
7			
8			
9			
10			