

Appendix C - Surface Drainage Project Evaluation Summary

Project Area	Ward No.	Evaluation Factors/Criteria											Total Points	Estimated Cost
		Number of Houses Flooded	Structural Damage	Permanent Solution	Property Damage	Cost/Benefit	Multiple Area Impact	Life Expectancy	Health & Safety	Environmental Impact	Multi-Purpose Land Use Potential	Solvability and Timeliness		
Maximum Points		1000	100	100	100	100	100	100	100	50	50	50	1850	
Woodmont Watershed	6,10	1000	100	50	70	0	100	10	100	2	50	25	1507	\$ 1,698,000
Hurst Drive, Great Oaks	4,5	400	0	50	22	0	0	10	100	7	0	8	597	\$ 313,000
Windsor Drive Watershed	4,10	200	6	50	28	0	100	10	60	2	0	8	464	\$ 908,000
Apache Dr at Pawnee Dr	11	200	10	50	20	0	0	10	20	5	0	50	365	\$ 33,000
Westwood Area	3	100	0	50	13	0	100	10	40	2	0	6	321	\$ 914,000
West 15th Street at Phelps Ave	11	100	35	50	1	0	100	10	0	2	0	5	303	\$ 446,000
212 Country Club Lane at Faircourt	8	200	0	50	10	0	0	10	10	0	0	0	280	\$ 107,000
Bahama Dr, Tanglewood Dr	7	100	46	50	10	0	0	10	10	7	0	8	241	\$ 241,000
1079 North Main at Hilltop Dr	2	100	0	50	10	0	0	10	10	12	0	10	202	\$ 76,000
Howell Street near Lewis St	1	100	0	50	10	0	0	10	10	2	0	0	182	\$ 152,000
Morningside/Sunnyvale Area	8	0	0	50	6	0	100	10	0	5	0	10	181	\$ 255,000
Hillaire-Skyline Park Area	7	0	0	50	1	0	100	10	0	7	0	8	176	\$ 449,000

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Maximum Points		1000	100	100	100	100	100	100	100	100	50	50	50	1850	
Sanderson Dr and Whispering Hills	3	0	0	50	1	0	100	10	0	2	0	8	171	\$ 620,000	
Braden St at Sarah Ave	2	100	0	50	10	0	0	10	0	0	0	0	170	\$ 61,000	
Metcalfe Drive	2	100	0	50	5	0	0	10	0	0	0	0	165	\$ 65,000	
130 Donna Dr.	4	100	0	50	5	0	0	10	0	0	0	0	165	\$ 14,000	
510.5 Country Club Ln near Nelson	8	100	0	50	2	0	0	10	0	0	0	0	162	\$ 38,000	
7th St at Greenville Rd	1	0	0	50	0	0	50	10	30	0	0	0	140	\$ 374,000	
Evergreen Apartments, Glass Ave	3	0	0	50	0	0	50	10	20	0	0	0	130	\$ 231,000	
Wayne Drive Area	4	0	0	50	24	0	0	10	30	2	0	8	124	\$ 716,000	
East 9th St at RR	12	0	0	50	0	0	20	20	30	0	0	0	120	\$ 84,000	
Locust Grove Road at RR	7	0	0	50	7	0	0	50	0	2	0	10	119	\$ 76,000	
Calvin Manor Apt	8	0	0	50	2	0	0	10	30	5	0	10	107	\$ 66,000	
814 Lacy Dr	2	0	0	50	3	0	0	10	0	5	0	0	68	\$ 69,000	
130 North Vine St at Wood St	1	0	0	50	0	0	0	10	0	0	0	5	65	\$ 18,000	

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Maximum Points		1000	100	100	100	100	100	100	100	50	50	50	1850	
Center St, between 18th and 19th	9	0	0	50	0	0	0	10	0	5	0	0	65	\$ 72,000
Campbell St at 2nd St	12	0	0	50	0	0	0	10	0	0	0	0	60	\$ 30,000
Clarence Dr	8	0	0	50	0	0	0	10	0	0	0	0	60	\$ 84,000
2611 Cayce Meade	8	0	0	50	0	0	0	10	0	0	0	0	60	\$ 88,000
South Main at Old RR near Latham	10,12	0	0	50	0	0	0	10	0	0	0	0	60	\$ 103,000
McHenry Dr, Durrett Ave	9	0	0	50	0	0	0	10	0	0	0	0	60	\$ 176,000
2619 South Virginia at Dixie Dr	10	0	0	50	0	0	0	10	0	0	0	0	60	\$ 193,000

**Hopkinsville Surface and Stormwater Utility
Evaluation Factors for Master Drainage Plan**

The evaluation factors in the table below will be used to rank the various surface drainage and river flooding projects. These are the same factors developed by PDR and the Citizens' Flooding and Drainage Committee in 2001. A brief description of each evaluation factor is provided for informational purposes.

Evaluation Factors for Surface Drainage Projects		
Item	Factor	Maximum Points
1	Number of Houses Flooded	1000
2	Structural Damage	100
3	Permanent Solution	100
4	Property Damage	100
5	Cost/Benefit Ratio	100
6	Multiple Area Impact	100
7	Life Expectancy	100
8	Health & Safety	100
9	Environmental Impact	50
10	Multi-Purpose Land Use Potential	50
11	Solvability and Timeliness	50
Total Points Possible		1850

EVALUATION FACTORS

1. NUMBER OF HOUSES FLOODED: 0 - 1,000 Points

How many houses have flooded (1st floor living area) within the last 10 years? Assign 100 points per occurrence.

2. STRUCTURAL DAMAGE: 0 - 100 Points

Has there been any structural damage to habitational property within the last 10 years? If so, enter one (1) point for each \$1,000 in damage. If structural damage is equal to or greater than the value of the property, then assign 100 points.

3. PERMANENT SOLUTION: 0 - 100 Points

This relates to the permanency of the solution and if substantial maintenance is required. The more permanent the solution, the more points will be assigned. Also, the less maintenance is required, the more points will be assigned. Points will be assigned accordingly from "0" to "100".

4. PROPERTY DAMAGE: 0 - 100 Points

Property damage may be either private or public, and may consist of flood-inundating damages relating to a structure (including furnaces, basements & crawl spaces), furnishings, or routine clean-up of a site after flooding. Damages may also consist of erosion or sedimentation deposits. Assign a zero (0) if there are no apparent property damages arising from drainage-related conditions. In applying points from "1" to "100", consider not only the extent of property damages for specific events, but also the frequency of such damages. Assign one (1) point per \$1,000 damage.

5. COST/BENEFIT RATIO: 0 - 100 Points

Cost effectiveness relates a project's total cost versus economic benefits to either public or private entities. The actual cost benefits may be either subjective or predicated on a computational format comparing potential for damage versus flood protection improvements. As an example of a subjective evaluation, one life-threatening situation would probably dictate expenditure of considerable funds without a particular formula.

6. MULTIPLE AREA IMPACT: 0 - 100 Points

An improvement in one area may have a positive or adverse effect on another area. For example, if a problem is corrected, it may reduce the maintenance required for areas downstream. It may also reduce the maintenance budget or it may increase the budget requirements. This feature relates to outside or additional financial and physical benefits or burdens which might result from the implementation of the project. Assign points only if the

project creates positive benefits.

7. **LIFE EXPECTANCY: 0 - 100 Points**

Solutions may be short-term in nature, i.e. rip-rap channel stabilization whose life is limited until development occurs upstream. The improvements may be permanent in nature such as a lined channel sized to accommodate 100% development. Assign two (2) points for each year of life expectancy of the project. Maximum life expectancy for any project shall be no greater than fifty (50) years.

8. **HEALTH AND SAFETY: 0 - 100 Points**

Will this work reduce/eliminate an existing or future health/safety problem? A rating of zero (0) implies that the health and safety has no bearing on the particular project. A rating of one hundred (100) implies that the problem is of life-threatening proportions.

9. **ENVIRONMENTAL IMPACT: 0 - 50 Points**

Consider impact of project on water quality, pollution, visual pollution, unpleasant odors, wildlife habitat, etc. Assign points in accordance with the following Table.

	POINTS	
	Improve	Deteriorate
Water Quality (biological chemical)	10	- 10
Erosion	5	- 5
Ponding (unsightly wetlands)	2	- 2
Wildlife Habitat	5	- 5

10. **MULTI-PURPOSE LAND USE POTENTIAL: 0 - 50 Points**

The project is enhanced if multiple benefits may be derived from the project. An example might be the installation of a large retention/detention basin which could offer recreational benefits in addition to flood control. O & M costs and outside funding may also be impacted. The type, amount and community need should also be evaluated.

11. SOLVABILITY AND TIMELINESS: 0 - 50 Points

These two features go "hand-in-hand". If a project can be incorporated as a part of an existing project, then it might receive a high rating. However, if a major utility relocation would have to occur for the project to be implemented, then its rating might be zero (0) due to the difficulty or "solvability" of the project.