



# Recycling and Resource Management

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## PROGRAM DESCRIPTION AND OBJECTIVES

The principal objectives of Montgomery County's Recycling and Resource Management program are to: ensure that the solid waste generated in the County is managed in a safe, environmentally sound manner; encourage the reduction of waste generated by residents and businesses in the County; recycle as much as feasible of the resources contained in, and extractable from, solid waste; and minimize the use of landfilling. The major elements in the management of solid waste are to:

- continue implementation of the ban on all recyclable materials at all waste disposal facilities and encourage greater on-site management of grass clippings and yard trim by homeowners;
- operate the mass burn, Resource Recovery Facility (RRF) located in Dickerson;
- provide rail transport of solid waste from the Solid Waste Transfer Station to the RRF; and
- beneficially reuse or recycle at private facilities ash from the RRF and rubble delivered to the Transfer Station at private facilities, transport any non-processible waste, and bypass waste that cannot be handled at the RRF for disposal to a private out-of-County landfill.

## HIGHLIGHTS

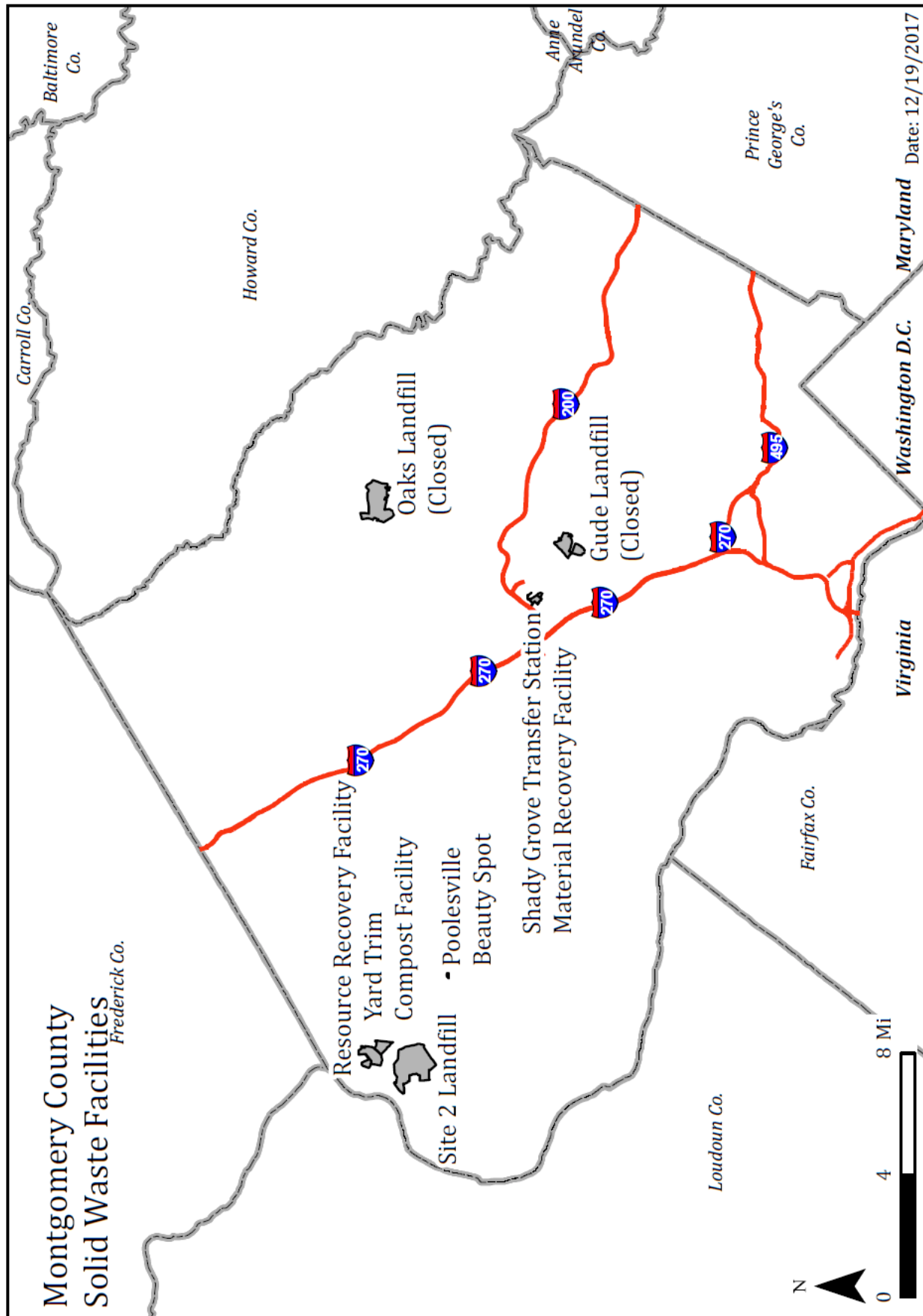
- Begin construction of upgrades to the Recycling Center in FY23, which will allow the County to process 100 percent of the material it generates rather than sending excess material out of the State for processing.
- Improve the capture of methane, a powerful greenhouse gas, from the decommissioned Gude Landfill, and install a toupee cap to prevent groundwater contamination.

## PROGRAM CONTACTS

Contact Anthony Skinner of the Department of Environmental Protection at 240.777.6438 or Richard H. Harris of the Office of Management and Budget at 240.777.2796 for more information regarding this department's capital budget.

## CAPITAL PROGRAM REVIEW

The FY23-28 Capital Program for Solid Waste Management contains three projects funded with \$49.5 million over six years, a reduction \$35.8 million, or 41.9 percent, from the FY21-26 Amended CIP, due to previously-approved funding for the Gude Landfill Remediation project shifting out of the six-year period.





# Full Upgrade of Existing Recycling Center Complex

(P802201)

|               |                                   |                      |                          |
|---------------|-----------------------------------|----------------------|--------------------------|
| Category      | Recycling and Resource Management | Date Last Modified   | 01/05/22                 |
| SubCategory   | Recycling and Resource Management | Administering Agency | Environmental Protection |
| Planning Area | Rockville                         | Status               | Final Design Stage       |

## EXPENDITURE SCHEDULE (\$000s)

| Cost Elements                    | Total         | Thru FY21 | Est FY22      | Total 6 Years | FY 23        | FY 24    | FY 25    | FY 26    | FY 27    | FY 28    | Beyond 6 Years |
|----------------------------------|---------------|-----------|---------------|---------------|--------------|----------|----------|----------|----------|----------|----------------|
| Planning, Design and Supervision | 810           | -         | 810           | -             | -            | -        | -        | -        | -        | -        | -              |
| Construction                     | 19,540        | -         | 11,090        | 8,450         | 8,450        | -        | -        | -        | -        | -        | -              |
| <b>TOTAL EXPENDITURES</b>        | <b>20,350</b> | <b>-</b>  | <b>11,900</b> | <b>8,450</b>  | <b>8,450</b> | <b>-</b> | <b>-</b> | <b>-</b> | <b>-</b> | <b>-</b> | <b>-</b>       |

## FUNDING SCHEDULE (\$000s)

| Funding Source                        | Total         | Thru FY21 | Est FY22      | Total 6 Years | FY 23        | FY 24    | FY 25    | FY 26    | FY 27    | FY 28    | Beyond 6 Years |
|---------------------------------------|---------------|-----------|---------------|---------------|--------------|----------|----------|----------|----------|----------|----------------|
| Current Revenue: Solid Waste Disposal | 810           | -         | 810           | -             | -            | -        | -        | -        | -        | -        | -              |
| Revenue Bonds                         | 19,540        | -         | 11,090        | 8,450         | 8,450        | -        | -        | -        | -        | -        | -              |
| <b>TOTAL FUNDING SOURCES</b>          | <b>20,350</b> | <b>-</b>  | <b>11,900</b> | <b>8,450</b>  | <b>8,450</b> | <b>-</b> | <b>-</b> | <b>-</b> | <b>-</b> | <b>-</b> | <b>-</b>       |

## APPROPRIATION AND EXPENDITURE DATA (\$000s)

|                             |        |                          |        |
|-----------------------------|--------|--------------------------|--------|
| Appropriation FY 23 Request | 8,450  | Year First Appropriation | FY22   |
| Appropriation FY 24 Request | -      | Last FY's Cost Estimate  | 20,350 |
| Cumulative Appropriation    | 11,900 |                          |        |
| Expenditure / Encumbrances  | -      |                          |        |
| Unencumbered Balance        | 11,900 |                          |        |

## PROJECT DESCRIPTION

This project will update the existing Material Recycling Center (MRF) with state of the art equipment to increase commingled processing capacity to 200 - 240 tons per day (TPD). This includes a minor modification of the existing MRF building to increase storage capacity for both incoming and baled material. Equipment will be substantially replaced because the existing equipment is incompatible with modern recycling processing technology. An updated facility will have higher operation uptime (90% rather than the current 83%) and produce higher quality product that can receive higher prices in the market.

Features of the renovated facility include removing glass at the beginning of sorting to reduce wear and tear on equipment, improved sorting screens, optical sorting, high efficiency electric motors, and reduced reliance on labor for sorting. An upgrade to the facility's electrical capacity may be added if it is determined that the current facility cannot handle the load needed after the renovation. This design will allow for the future addition of single stream processing equipment within the existing facility to receive and process

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recyclables from other jurisdictions, if expansion to a regional concept is supported in an effort to improve the recycling program's cost-benefit ratio.

## **LOCATION**

16103 Frederick Road, Derwood, MD

## **ESTIMATED SCHEDULE**

The project will begin in Spring FY22 and is scheduled for completion in FY23.

## **PROJECT JUSTIFICATION**

The current commingled processing system at the Recycling Center (MRF) was installed in 1991 and upgraded in 2002 to process 10 tons per hour (TPH) or 80 tons per day (TPD). Due to increased population, expanded material mix, and increased resident participation, the MRF currently receives 130 - 150 TPD of commingled material, almost double the current capacity. To keep up with the incoming volume, the MRF must export 40 - 45% of the commingled material received at an annual cost of approximately \$1.2 million.

After almost 30 years of operation, the majority of the current system components have operated beyond their useful life, causing frequent downtime and high repair and maintenance costs. Replacement parts are increasingly difficult to source for some equipment. This project's improvements will reduce operating costs, increase revenue from the sale of recyclables, increase processing efficiency, and continue to provide high quality recycling services to the County.

## **FISCAL NOTE**

The Solid Waste Enterprise Fund is self-supporting through user fees, and revenue from the Solid Waste Enterprise Fund will be the source of repayment of the Solid Waste Revenue Bonds.

## **COORDINATION**

Maryland Environmental Service, Department of Permitting Services. Special Capital Projects Legislation [Bill No. 23-21E] was adopted by Council June 29, 2021.



# Gude Landfill Remediation

(P801801)

|               |                                   |                      |                          |
|---------------|-----------------------------------|----------------------|--------------------------|
| Category      | Recycling and Resource Management | Date Last Modified   | 01/04/22                 |
| SubCategory   | Recycling and Resource Management | Administering Agency | Environmental Protection |
| Planning Area | Upper Rock Creek Watershed        | Status               | Ongoing                  |

## EXPENDITURE SCHEDULE (\$000s)

| Cost Elements                    | Total         | Thru FY21    | Est FY22      | Total<br>6 Years | FY 23         | FY 24         | FY 25         | FY 26        | FY 27      | FY 28    | Beyond<br>6 Years |
|----------------------------------|---------------|--------------|---------------|------------------|---------------|---------------|---------------|--------------|------------|----------|-------------------|
| Planning, Design and Supervision | 6,955         | 2,619        | 678           | 3,658            | 932           | 905           | 877           | 854          | 90         | -        | -                 |
| Site Improvements and Utilities  | 192           | 96           | 96            | -                | -             | -             | -             | -            | -          | -        | -                 |
| Construction                     | 54,599        | 72           | 17,294        | 37,233           | 10,561        | 11,200        | 9,810         | 5,004        | 658        | -        | -                 |
| <b>TOTAL EXPENDITURES</b>        | <b>61,746</b> | <b>2,787</b> | <b>18,068</b> | <b>40,891</b>    | <b>11,493</b> | <b>12,105</b> | <b>10,687</b> | <b>5,858</b> | <b>748</b> | <b>-</b> | <b>-</b>          |

## FUNDING SCHEDULE (\$000s)

| Funding Source                        | Total         | Thru FY21    | Est FY22      | Total<br>6 Years | FY 23         | FY 24         | FY 25         | FY 26        | FY 27      | FY 28    | Beyond<br>6 Years |
|---------------------------------------|---------------|--------------|---------------|------------------|---------------|---------------|---------------|--------------|------------|----------|-------------------|
| Current Revenue: Solid Waste Disposal | 22,700        | 2,787        | 18,068        | 1,845            | 1,845         | -             | -             | -            | -          | -        | -                 |
| Revenue Bonds                         | 39,046        | -            | -             | 39,046           | 9,648         | 12,105        | 10,687        | 5,858        | 748        | -        | -                 |
| <b>TOTAL FUNDING SOURCES</b>          | <b>61,746</b> | <b>2,787</b> | <b>18,068</b> | <b>40,891</b>    | <b>11,493</b> | <b>12,105</b> | <b>10,687</b> | <b>5,858</b> | <b>748</b> | <b>-</b> | <b>-</b>          |

## OPERATING BUDGET IMPACT (\$000s)

| Impact Type                       | Total<br>6 Years | FY 23    | FY 24    | FY 25    | FY 26    | FY 27      | FY 28      |
|-----------------------------------|------------------|----------|----------|----------|----------|------------|------------|
| Maintenance                       | 1,431            | -        | -        | -        | -        | 711        | 720        |
| Program-Staff                     | -                | -        | -        | -        | -        | -          | -          |
| Program-Other                     | -                | -        | -        | -        | -        | -          | -          |
| <b>NET IMPACT</b>                 | <b>1,431</b>     | <b>-</b> | <b>-</b> | <b>-</b> | <b>-</b> | <b>711</b> | <b>720</b> |
| <b>FULL TIME EQUIVALENT (FTE)</b> |                  | <b>-</b> | <b>-</b> | <b>-</b> | <b>-</b> | <b>-</b>   | <b>-</b>   |

## APPROPRIATION AND EXPENDITURE DATA (\$000s)

|                             |        |                          |        |
|-----------------------------|--------|--------------------------|--------|
| Appropriation FY 23 Request | 23,598 | Year First Appropriation | FY18   |
| Appropriation FY 24 Request | -      | Last FY's Cost Estimate  | 61,746 |
| Cumulative Appropriation    | 20,855 |                          |        |
| Expenditure / Encumbrances  | 7,444  |                          |        |
| Unencumbered Balance        | 13,411 |                          |        |

## PROJECT DESCRIPTION

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This project provides for the remediation of low-level environmental contamination at the Gude Landfill. The Maryland Department of the Environment (MDE) approved an Assessment of Corrective Measures (ACM) report for Gude Landfill in July 2016 which specifically outlines the approved Corrective Measure Alternative (CMA) for this remediation project. The MDE approved CMA will include toupee capping (regrading and capping the top of the landfill and selected slope areas with a synthetic liner and two feet of soil) and increased gas collection through the installation of additional gas extraction wells. These remediation measures will reduce infiltration of rainwater into the landfill resulting in the generation of less leachate, fewer leachate seeps, and better control of landfill gas migration.

## **LOCATION**

600 E. Gude Drive, Rockville, Maryland

## **ESTIMATED SCHEDULE**

The Gude Landfill Remediation project construction will begin in Fall FY23 and is scheduled to be completed in FY27.

## **PROJECT JUSTIFICATION**

The County and MDE entered a consent order in May 2013 which outlined requirements for assessing low-level groundwater contamination, gas migration, and other problems at the Gude Landfill. The Consent Order included provisions requiring a Work Plan and schedule to be established for assessing potential risks to human health and the environment, and development of an ACM report and implementation schedule. After consultation with industry experts, community groups, MDE, and County government leadership, the Department of Environmental Protection's (DEP) initial proposal to MDE in 2014 addressed the low-level groundwater contamination at the site with installation of bioremediation wells on the property. MDE's assessment of this bioremediation corrective measure in April 2015 determined that additional corrective measures would need to be included in the bioremediation approach to address all of MDE's requirements. A revised ACM report was submitted to MDE in April 2016 addressing all MDE's comments and selecting corrective measures consisting of a toupee cap, additional landfill gas collection, and stormwater drainage improvements. The County has been mandated to perform work outlined in the consent order. Moving forward with the remediation of Gude Landfill, as required by MDE, will also address concerns raised by the adjacent community and allow planning for future reuses of the property.

## **FISCAL NOTE**

Solid Waste (Disposal Fund) Revenue Bonds will be issued to support this project. A mid-FY21 amendment reduced Current Revenue: Solid Waste Disposal by \$6,000,000 and increased Revenue Bonds by \$6,000,000.

## **COORDINATION**

Northeast Maryland Waste Disposal Authority (NMWDA), Maryland Department of the Environment (MDE), Department of Permitting Services, Health and Human Services, the Maryland-National Capital Park and Planning Commission, the U.S. Army Corps of Engineers, the Gude Landfill Concerned Citizens (GLCC), County social service agencies, and adjacent property owners. Special Capital Projects Legislation [Bill No. 16-19E] was adopted by Council on October 20, 2020.



# Transfer Station Fire Detection and Suppression System

(P802101)

|               |                                   |                      |                          |
|---------------|-----------------------------------|----------------------|--------------------------|
| Category      | Recycling and Resource Management | Date Last Modified   | 01/12/22                 |
| SubCategory   | Recycling and Resource Management | Administering Agency | Environmental Protection |
| Planning Area | Gaithersburg and Vicinity         | Status               | Ongoing                  |

## EXPENDITURE SCHEDULE (\$000s)

| Cost Elements      | Total | Thru FY21 | Est FY22 | Total 6 Years | FY 23 | FY 24 | FY 25 | FY 26 | FY 27 | FY 28 | Beyond 6 Years |
|--------------------|-------|-----------|----------|---------------|-------|-------|-------|-------|-------|-------|----------------|
| Construction       | 6,000 | 160       | 5,663    | 177           | 177   | -     | -     | -     | -     | -     | -              |
| TOTAL EXPENDITURES | 6,000 | 160       | 5,663    | 177           | 177   | -     | -     | -     | -     | -     | -              |

## FUNDING SCHEDULE (\$000s)

| Funding Source                        | Total | Thru FY21 | Est FY22 | Total 6 Years | FY 23 | FY 24 | FY 25 | FY 26 | FY 27 | FY 28 | Beyond 6 Years |
|---------------------------------------|-------|-----------|----------|---------------|-------|-------|-------|-------|-------|-------|----------------|
| Current Revenue: Solid Waste Disposal | 6,000 | 160       | 5,663    | 177           | 177   | -     | -     | -     | -     | -     | -              |
| TOTAL FUNDING SOURCES                 | 6,000 | 160       | 5,663    | 177           | 177   | -     | -     | -     | -     | -     | -              |

## APPROPRIATION AND EXPENDITURE DATA (\$000s)

|                             |       |                          |       |
|-----------------------------|-------|--------------------------|-------|
| Appropriation FY 23 Request | -     | Year First Appropriation | FY22  |
| Appropriation FY 24 Request | -     | Last FY's Cost Estimate  | 6,000 |
| Cumulative Appropriation    | 6,000 |                          |       |
| Expenditure / Encumbrances  | 4,700 |                          |       |
| Unencumbered Balance        | 1,300 |                          |       |

## PROJECT DESCRIPTION

This project provides for the comprehensive design and installation of a new fire detection and suppression systems at the Shady Grove Processing and Transfer Facility. This project will include the installation of detection and suppression systems to replace the existing detection and suppression systems that are beyond their useful life. The project will also address other fire detection and suppression deficiencies and violations as identified by the County's Fire Department and Department of Permitting Services (DPS). The construction project will span approximately two years.

## LOCATION

16101 Frederick Road, Derwood, Maryland

## ESTIMATED SCHEDULE

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The construction for the new fire detection and suppression systems began FY21 and is scheduled to be completed in FY23.

## **PROJECT JUSTIFICATION**

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On February 13, 2020, the Department of Environmental Protection (DEP) received a Notice of Violation (Case No. 418905) from the County's Department of Permitting Services (DPS). This Notice of Violation cited a NFPA1-System Restore Violation for Case No. 418905. The Department is currently working through the Northeast Waste Disposal Authority with contractors to complete a design for the fire detection and suppression systems to address the Notice of Violation and the concerns posed by the County's insurance provider (FM Global). Therefore, this project completion is essential to remain DPS compliant, to mitigate frequent fires, and to eliminate health and safety concerns associated with having a deficient fire detection and suppression systems for solid waste operations.

## **FISCAL NOTE**

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Design of this project was funded in the operating budget using \$1.0 million in funds appropriated in FY19 and encumbered for this purpose. A FY21 supplemental appropriation added \$4.7 million in Current Revenue: Solid Waste Disposal.

## **COORDINATION**

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Northeast Maryland Waste Disposal Authority (NMWDA), Maryland Department of the Environment (MDE), Department of Permitting Services, FM Global, Covanta Energy, and County social service agencies, and adjacent property owners.