



**MONTGOMERY COUNTY DEPARTMENT OF PARKS**  
THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

MCPB  
Item No.  
Date: 6/23/16  
June 6, 2016

## MEMORANDUM

**TO:** Montgomery County Planning Board

**VIA:** Michael F. Riley, Director *MR*  
Mitra Pedoeem, Acting Deputy Director *Mitra*  
Michael Ma, Acting Chief, Park Development Division (PDD) *MM*  
Christy Turnbull, Chief, Enterprise Division *CT*

**FROM:** Aaron Feldman, Landscape Architect (PDD), 301-650-2887 *AF*  
Patricia McManus, Design Section Supervisor (PDD), 301-495-3580 *PM*

**SUBJECT:** Feasibility Study and Driveway Alignment Alternatives for Rockwood Manor Special Park

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### STAFF RECOMMENDATION

- 1) Approve Feasibility Study for Rockwood Manor Special Park. The recommendations from this study will guide future phases of improvements to the park.
- 2) Approve the Recommended Alternative for design and construction of access, driveway and parking improvements beginning in FY 2017.

### EXECUTIVE SUMMARY

On 30 July, 2015, Parks staff presented to the Planning Board recommendations of a comprehensive feasibility study to recommend short and long term solutions to the current facility without changing the character of the site, its use or the existing event capacity. Following the presentation, public testimony and discussion, the Planning Board deferred a decision on the project and directed staff to study additional alternatives for the first phase of work, to improve access and circulation into and within the Rockwood Manor site. Parks staff is returning to the Planning Board with additional driveway alignment alternatives for consideration.

### Existing Conditions

Rockwood Manor is a public park and event center located on a heavily forested site punctuated with several large specimen oak, tulip poplar and beech trees that create a near-continuous canopy over the property's developed area. The sole vehicular entrance into Rockwood Manor is currently inadequate for large emergency vehicles, maintenance vehicles, catering trucks and buses who

can only access the site with great difficulty. Furthermore, vehicle access and circulation to and within Rockwood Manor is comprised of a network of asphalt driveways as narrow as twelve feet, requiring one vehicle to pull off the edge of pavement to allow an oncoming vehicle to pass.

### **Driveway Alignment Alternatives Study**

Parks staff looked at several alternatives for improving the site's internal vehicular circulation to meet safety, space efficiency, environmental and customer service goals for the property. Staff developed five driveway alignment alternatives, listed below:

- Alternative 1: Create a one-way driveway loop that enters the site at the existing driveway on MacArthur Boulevard and exits the southwest edge of the site via a right-turn only onto Belfast Road.
- Alternative 2: Create a one-way driveway loop that enters the site at the existing driveway on MacArthur Boulevard and exits onto Belfast Road directly across from Whiterim Terrace.
- Alternative 3: Expand the existing driveway into a full-width, two-way driveway for the entire length of the site.
- Alternative 4: Create a one-way driveway loop that enters and exits from MacArthur Boulevard and extends to the front of the Manor House. Provide a widened two-way driveway between the Manor House and the parking area.
- Alternative 5: Provide minimal improvements to the existing circulation system to reduce some conflicts.

### **Recommended Alternative**

After speaking with representatives from relevant regulatory agencies as well as facility staff and members of the community, Parks developed a Recommended Alternative that most closely resembles Alternative 1. This Recommended Alternative best achieves all of the goals for the project and provides for additional stopping sight distance along Belfast Road. If approved, next steps will include closer study of the Recommended Alternative to further improve vehicle and pedestrian safety, minimize tree impacts and reduce construction costs.



*Driveway alignment Recommended Alternative.*

## **PROJECT BACKGROUND**

Rockwood Manor Special Park is a public park and event center operated by the M-NCPPC Montgomery County Department of Parks' Enterprise Division. Rockwood Manor is used for weddings, business retreats, education sessions, reunions, workshops and other events. On 30 July 2015, Parks staff presented to the Planning Board (Agenda Item 12) the findings and recommendations of a comprehensive Feasibility Study (Attachment A) that explored solutions to address environmental, circulation and site utilization issues present at Rockwood Manor. The purpose of the study was to recommend short and long term improvements to the current facility without changing the character of the site, its use or the existing event capacity. Following the presentation, public testimony and discussion, the Planning Board deferred a decision on the project and directed staff to study additional alternatives for the first phase of work: to improve access and circulation into and within the Rockwood Manor site. Parks staff is returning to the Planning Board with additional driveway alignment alternatives for consideration.

### **Location & Context**

Rockwood Manor Special Park occupies approximately 45 acres of hilly, forested parkland located at 11001 MacArthur Boulevard in the Potomac Sub-Region Master Plan Area. The property is bounded on the north, east and south by low density, single-family residential development (zoned R-200), and on the west by the Chesapeake and Ohio Canal National Historical Park. The site is bisected by Belfast Road, a primary residential street, which provides vehicular access to the adjacent residences. The portion of the park south of Belfast Road is located entirely within stream buffer. The park's developed area is concentrated on the approximately 20-acre parcel that lies to the north and west of Belfast Road and is the focus of this effort. The park is what remains of a 93-acre country estate originally developed in the 1920s. The property was donated to the Girl Scouts of America and was later sold for residential development with a portion of it transferred to the M-NCPPC for public use.

### **Existing Conditions**

The facility's main building, the Manor House, is situated on a knoll, affording views down to the stream buffer that runs from the northwest corner of the site to the southeast. The Manor House contains event spaces, offices for Enterprise Staff and guest rooms. The remaining flat areas of the site contain guest houses (Skyview Lodge, French House and the Caretaker's Residence), a maintenance garage and the main parking lot. Three bunkhouses of more recent construction (Weston Hill, The Oaks and Tall Timbers) are located at the edge of the stream buffer just north of the Manor House. The remainder of the site is densely wooded, located within stream buffer or contains steep slopes, making additional development infeasible.

A network of narrow asphalt driveways provides vehicular access onto the property and between its various buildings and parking areas. Largely unimproved since at least the early 1980s, portions of the main vehicular access routes are as narrow as twelve feet, requiring one vehicle to pull off the edge of pavement to allow an oncoming vehicle to pass. Existing mature trees and character-defining built elements (landscape walls, pillars, etc.) line the narrow driveway, further restricting two-way vehicular traffic through the site. A total of 85 parking spaces are scattered throughout the park to accommodate both guests of Rockwood Manor and visitors to the Chesapeake and Ohio Canal National Historical Park, accessible via a hiking trailhead directly across MacArthur Boulevard. The parking lots are also a popular staging area from which local outfitters embark on rafting and kayaking tours of the Potomac River.



Rockwood Manor Special Park and surrounding area.



The main developed area of Rockwood Manor Special Park in relation to the existing stream buffer.

The park's main developed area contains several large specimen oak, tulip poplar and beech trees (30-inch to 45-inch diameter) that line the entrance driveway and create a nearly continuous canopy over the space. Surrounding the main developed area is a healthy, mature oak-hickory forest, which also contains tulip poplar, beech, birch and pine trees.

### **FEASIBILITY STUDY**

In the spring of 2014, Parks staff initiated a project to address long-standing problems with Rockwood Manor's sole vehicular access point, which does not adequately accommodate two-way traffic nor does it provide adequate turning radii for fire trucks, large maintenance vehicles, catering trucks and buses to access the site. Instead of focusing on this issue in isolation, staff chose to take a holistic look at the needs for the entire property to ensure an integrated approach for making individual improvements to the property. This led to the development of a comprehensive Feasibility Study, which explores solutions to address a number of environmental, circulation and site utilization issues present at Rockwood Manor.

During the Feasibility Study process, Parks staff met with members of the community on several occasions to hear and respond to concerns and complaints related to noise, hours of use, vehicular traffic and other physical and operational considerations. In response to these issues raised by the community, Parks staff initiated several physical, operational and policy changes. Rockwood Manor's Rules and Regulations were formally revised in February 2015 to incorporate many of these changes, and they are included in Attachment B.

In the 30 July, 2015 presentation to the Planning Board, Parks staff summarized the findings of the Feasibility Study, outlined the changes made to the operation and management of Rockwood Manor and provided recommendations for future phased improvements to the Rockwood Manor property. In their discussion, members of the Planning Board expressed concurrence with most of the findings and recommendations from the Feasibility Study but deferred a decision on the project and directed Parks staff to study additional alternatives for the first phase of the project to improve access and circulation into and within the Rockwood Manor site.

Following further study, Parks staff prepared a total of five concept alternatives for improving the existing driveway alignment and parking layout at Rockwood Manor. Additionally, staff met with representatives from the various County agencies having jurisdiction over the construction of a new driveway to understand the relevant regulatory requirements and to get preliminary feedback on the concept alternatives that were developed. Finally, the driveway alignment alternatives were posted online for public comment, and Parks staff hosted a field walk with community members to review the alignment alternatives on site (Attachment C).

### **DRIVEWAY ALIGNMENT ALTERNATIVES STUDY**

In the original Feasibility Study, Parks staff defined a number of specific goals for the project. In studying ways to improve access and circulation into and within the Rockwood Manor site as a first phase project, the relevant goals were re-stated to help define the scope of work and to use as a standard for comparing the alternatives.

#### **Safety Goals**

- Improve emergency, service vehicle and bus access to the site and internal site circulation.
- Improve passenger vehicle ingress and egress.
- Reduce internal conflicts between pedestrians and vehicles.

### **Space Efficiency Goals**

- Maximize efficiency and function of parking layout.
- Economize service and loading areas.

### **Environmental Goals**

- Preserve the site's existing mature tree canopy to the maximum extent possible.
- Reduce impervious cover.

### **Customer Service Goals**

- Improve accessibility to comply with the Americans with Disabilities Act (ADA).
- Improve first impressions of the property and wayfinding into and throughout the property.
- Retain and enhance the original character of the property.

To develop the additional driveway alignment alternatives, Parks staff re-examined research and field investigations done as part of the original Feasibility Study and supplemented it with additional information. The following overview of existing site conditions, regulations and processes describes information that was compiled both as part of the initial Feasibility Study effort and as part of the more recent Driveway Alignment Alternatives effort.

### **Turning Study**

The impetus for this Feasibility Study was based on anecdotal evidence that large emergency vehicles, maintenance vehicles, catering trucks and buses are only able to access the site with great difficulty. Based on this information, a turn study (Attachment D) was conducted using Montgomery County Fire Code Standards to identify any obstructions preventing fire truck access into the site. Mathematical models were developed based on the existing site survey and the turning radius of an Aerial Tower 729 fire truck as it would enter the site.

Coming from the north (the direction of the three nearest fire houses), a fire truck must leave the edge of pavement of MacArthur Boulevard in order to make the turn into the site. Any miscalculation in this initial entry turn will bring the truck in conflict with an entry pillar and cause damage to the roots of two large canopy trees which flank either side of the site's entrance. If a fire truck were to clear these first obstacles, it may not be able to get past parked cars in the constricted parking area closest to MacArthur Boulevard.

If a fire truck were to drive past the site, turn around and approach the entrance drive from the south, it would be required to maneuver into oncoming traffic on MacArthur Boulevard in order to make the turn into the driveway and would then be confronted by obstacles described above.

This Turn Study and subsequent coordination with the Montgomery County Fire & Rescue Services' Fire Code Compliance Section underlined the need for site circulation improvements to ensure that Rockwood Manor, its staff and guests will be safe in the event of an emergency. These improvements are also an opportunity to increase efficiency and safety for all vehicles accessing the facility, including buses, catering and maintenance vehicles.

### **Tree Assessment**

One of the most distinct character-defining features of Rockwood Manor is its mature, healthy tree canopy. In order to more fully understand the impact of changing the site's internal circulation patterns on the site's existing trees, a tree survey was conducted within and around the main

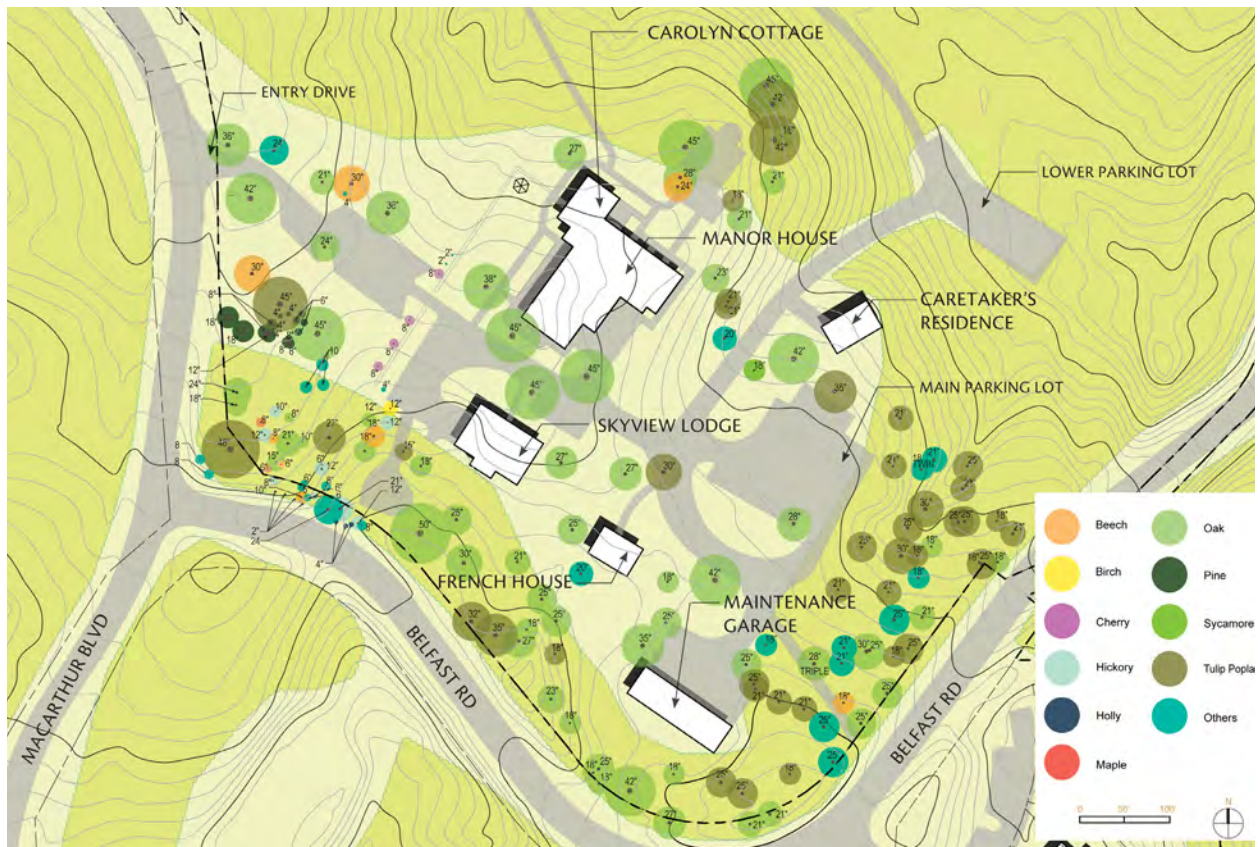


*Left: 1967 photograph of the Manor House. (From Rockwood, A National Girl Scout Program Center (promotional brochure), Girl Scouts of America, 1967). Right: A large cavity has been discovered in the main stem of the oak in front of the Manor House. This cavity has caused enough strength loss in the tree that the main stem requires removal.*

developed area of Rockwood Manor. Additionally, a staff arborist was consulted on the health of the trees and potential risks associated with site improvements. This initial assessment provided an understanding of the opportunities and constraints afforded by the existing trees on site. Additional study would be required during future phases of design work.

Rockwood Manor's frontage along MacArthur Boulevard is lined with several mature canopy and evergreen trees that visually separate the site from the adjacent roadway and create an impressive gateway into the site. Parks staff utilized a supersonic air spade to reveal the location and extent of existing tree roots adjacent to the existing driveway entrance and along the property's western boundary. This investigation discovered relatively few major tree roots in the compacted areas immediately adjacent to the vehicular entrance. In contrast, investigations along the property's MacArthur Boulevard edge revealed intertwining tree roots relatively near the surface throughout the area. While minor improvements could be made to allow an additional two to three feet of pavement along the existing entry drive (enough to allow a fire truck to enter the site and stay within the limits of paving), any effort to widen the driveway to fully allow two-way traffic or to create a second point of entry along MacArthur Boulevard would necessitate the removal of at least one significant tree.

Between the Manor House and Skyview Lodge, four large oak trees flank the driveway, preventing any further expansion beyond its current width, which fluctuates between 14 and 18 feet. Based on their size (three trees are 45 inches diameter and one is 38 inches diameter), it is likely that these trees predate the construction of the Manor House and they have been prominently featured in images of the property throughout its history.



Survey of existing trees, including species and diameter. Note that all trees over 18 inches diameter were recorded. Smaller trees were only recorded in the open area between the Manor House and MacArthur Boulevard. The darker yellow tone indicates the aerial extents of forest cover.



Air spade root investigation operations at the park's vehicular entrance. While investigations within the compacted areas alongside the driveway (where no grass is growing) revealed minimal tree roots, an abundance of tree roots were discovered in the lawn and mulched areas along the park's frontage with MacArthur Boulevard.



In June of 2016, Parks arboriculture staff determined that the central leader of the 45 inch diameter oak tree closest to the Manor House must be removed due to a large cavity (letter of findings included in Attachment E). The removal of a significant portion of this tree's canopy will have an impact on the character of Rockwood Manor. The removal of additional trees in this area would compound the impact and create a hole in the tree canopy that would in turn affect the shade-loving trees and shrubs that have been growing on this site for decades.

Two large trees adjacent to the existing parking lot are in rapid decline and have been scheduled for removal because they pose a potential safety hazard. The 30 inch diameter tulip poplar to the northeast of the French House is missing its crown and a large cavity has formed at its base. The 35 inch diameter oak at the northwest corner of the maintenance garage has a 25-foot tall lateral crack in its trunk, creating the possibility of failure during a storm.

Although densely vegetated, the tree stand that covers the property's southeast and southwest frontage with Belfast Road consists of significantly fewer large, mature trees than most other areas throughout the developed portion of Rockwood Manor. This edge of the property has already been disturbed with development, and the area would be easier to restore than other areas that contain larger, more mature stands of trees, such as the property's frontage with MacArthur Boulevard.

## **REGULATORY REQUIREMENTS**

Parks staff spoke with representatives from the Montgomery County Planning Department, the Montgomery County Department of Transportation, the Montgomery County Department of Permitting Services and the Office of the Fire Marshal to confirm their understanding of the regulatory and permitting requirements associated with enlarging an existing commercial driveway or constructing a new commercial driveway connecting to a County-maintained road. Although much of this correspondence was in the form of face-to-face meetings or telephone conversations, relevant written correspondence has been included in Attachment E of this report.

### **Traffic Study**

Because there is no proposal to change or increase the existing use of the facility, modifications to the existing driveway alignment do not require a traffic study. Nevertheless, Parks staff conducted two separate studies to evaluate the vehicle load that current and potential future driveway alignments might place on the roadways surrounding Rockwood Manor. Although the parameters of the traffic studies did not conform to the Montgomery County Planning Department's 2013 Local Area Transportation Review and Transportation Policy Area Review Guidelines (the counts included Mondays, Fridays and weekends during the summer months), they were designed to capture scheduled events at Rockwood Manor and those times when the most traffic would be flowing into and out of the site, thereby providing staff with a worst case scenario of traffic impacts.

In June 2014, a consultant was hired to evaluate the effects of a new egress drive on the traffic flow of both Belfast Road and MacArthur Boulevard (Attachment F). Using 24-hour machine counts along both Belfast Road and MacArthur Boulevard and a "beyond worst case scenario" of 200 occupants at the facility (maximum capacity for any single event is 150 occupants), the traffic consultant concluded that "the proposed modifications to the Rockwood Manor Facility [an egress drive onto Belfast Road] would not result in unsatisfactory conditions along the adjacent roadways in Montgomery County."

In May 2015, Parks staff conducted an additional evaluation of traffic. Time-stamped, motion-activated cameras were set up at Rockwood Manor’s existing entrance/exit and along Belfast Road to count, simultaneously, the number of cars on both roadways under a variety of conditions. Cameras were set up for one week, and specific events at the facility were analyzed to compare the number of vehicles exiting Rockwood Manor with the number of vehicles travelling on Belfast Road toward MacArthur Boulevard within distinct half-hour increments before, during and after events occurring at the facility.

		5/20/2015 Corporate Event, 20 People		5/21/2015 No Events (Control)		5/23/2015 Wedding, 100 People		5/24/2015 Wedding Checkout	
30 MINUTE BLOCK		ROCKWOOD MANOR	BELFAST ROAD	ROCKWOOD MANOR	BELFAST ROAD	ROCKWOOD MANOR	BELFAST ROAD	ROCKWOOD MANOR	BELFAST ROAD
<b>MORNING</b>									
8:00	8:30	2	1		2	No traffic-generating events occurred at Rockwood Manor during this time.			
8:30	9:00		8	1	6				2
9:00	9:30	1	3	2	1			3	2
9:30	10:00		5		4			2	6
10:00	10:30		4		1			3	7
10:30	11:00	2	8		3			11	6
11:00	11:30	4	5	2				2	6
11:30	12:00	1	2		2			1	8
<b>AFTERNOON</b>									
12:00	12:30	3	5	1		No traffic-generating events occurred at Rockwood Manor during this time.			
12:30	1:00				1				
1:00	1:30		2					6	4
1:30	2:00	3	6					3	5
2:00	2:30	1	6		1			4	4
2:30	3:00	1	5	1				4	8
3:00	3:30	1	2					7	6
3:30	4:00	1	5		5			1	5
4:00	4:30	2	6	1	3			4	1
4:30	5:00	16	8	1	4			2	5
5:00	5:30	2	5					4	4
5:30	6:00	3	5		3				7
6:00	6:30	3	3		4			1	1
6:30	7:00	No traffic-generating events occurred at Rockwood Manor during this time.		No traffic-generating events occurred at Rockwood Manor during this time.				1	1
7:00	7:30								5
7:30	8:00							1	2
8:00	8:30					4	2		
8:30	9:00								
9:00	9:30								
9:30	10:00								
10:00	10:30					5			
10:30	11:00								
11:00	11:30								
11:30	12:00								

Counts by half-hour time slot of vehicles exiting Rockwood Manor and eastbound vehicles on Belfast Road.

For the most part, there was little overlap between vehicles leaving Rockwood Manor and westbound vehicles leaving the neighborhood on Belfast Road. The traffic exiting large events from Rockwood Manor tended to be dispersed over several hours, rather than in a concentrated flow. In any given half-hour time period, the combined number of vehicles leaving Rockwood Manor and vehicles headed westbound on Belfast Road from the neighborhood was usually less than ten, and only once were more than 20 vehicles observed on both roadways within one half-hour period. Overall, the findings of this more detailed (although less technical) traffic study concur with the initial study that the addition of an egress drive onto Belfast Road would not constitute a significant impact on the surrounding neighborhood traffic flow.

### **County Code Requirements**

Section 49-31 of the Montgomery County Code classifies MacArthur Boulevard (35 mph target speed, 22-foot road width) as an Arterial, which is defined as “a road meant primarily for through movement of vehicles at a moderate speed, although some access to abutting property is expected.” The Code classifies Belfast Road (25 mph target speed, 22-foot road width) as a Primary Residential Street, which is defined as “a road meant primarily for circulation in residential zones, although some through traffic is expected.” Chapter 49.28.01 (Context Sensitive Road Design Standards) of the Code of Montgomery County Regulations (Standard 020.01 Target and Design Speed) states that the “minimum sight distance for travel at 30 miles per hour should be provided” for a Primary and Principal Secondary Residential Street. According to the American Association of State Highway and Transportation Officials (AASHTO), the minimum stopping sight distance for a vehicle traveling 30 miles per hour is 200 feet (A Policy on Geometric Design of Highways and Streets, AASHTO 2011, p. 3-11).

In April, 2016, Parks staff had face-to-face meetings and telephone conversations with representatives from the Montgomery County departments of Permitting Services and Transportation who are responsible for processing and approving Work in Public Right of Way Permit applications. The reviewers indicated that commercial driveways not directly aligned with a road intersection must be located at least 100 feet away from the closest intersection. Additionally, adequate sight distances must be verified before an existing driveway is improved or a new driveway is constructed.

### **Fire Code Compliance**

On June 25, 2015, Parks staff met with a representative from the Office of the Fire Marshal within the Montgomery County Department of Fire and Rescue Services to review vehicular circulation conditions at Rockwood Manor. After reviewing the findings of the Feasibility Study the Assistant Fire Marshal concluded that the property does not conform to current Montgomery County Fire and Rescue Service vehicular access requirements. Because this project is not proposing to increase or change existing use of the facility, there is no requirement to bring the property into full compliance with current Montgomery County Fire Code. Despite the lack of any requirement, the Assistant Fire Marshal encouraged any improvements that would allow for more efficient emergency access and laydown throughout the site. She provided several recommendations for improvement, such as:

- All drive alignments should accommodate the unobstructed turning movements of a full-sized fire truck.
- Driveways should be a minimum of twelve feet wide through straight areas. Ideally, driveways should be 15 to 18 feet wide through curving sections of the drive.

- Curb aprons should be of a sufficient width as to allow a fire truck through.
- Accommodations should be made for two fire trucks to lay down directly in front of the entrance to the Manor House. This can be accomplished through a single, continuous, clear area of 20 feet by 80 feet or through two areas measuring 20 feet by 40 feet each.
- Any elevated driveway (e.g. a bridge) should be designed to have load bearing capacity to handle a full-sized fire truck.

### **DRIVEWAY ALIGNMENT ALTERNATIVES**

After generating several ideas for possible driveway alignments, Parks staff evaluated them based on their success in meeting the goals outlined above and selected five concepts to develop into the driveway alignment alternatives described below. Based on consultation with representatives from County agencies having jurisdiction, Parks staff feels that each of the five alternatives meet applicable County codes or could potentially be eligible for a waiver, if necessary.

**Alternative 1.** Create a one-way driveway loop that enters the site at the existing driveway on MacArthur Boulevard and exits the southwest edge of the site via a right-turn only onto Belfast Road. *This is the original staff recommendation from the Planning Board presentation on 30 July, 2015.*

- The existing driveway alignment from MacArthur Boulevard is maintained as an entrance only.
- Parking spaces along the entry drive are removed and the existing parking lot at the rear of the property is reconfigured to accommodate all of the site's parking needs, apart from accessible spaces near the Manor House. *Note: parking capacity will remain unchanged.*
- The accessible parking spaces are reconfigured near the entrance to the Manor House so they meet ADA standards.
- A small entry court/drop off area is created in front of the Manor House. This space doubles as a lay-down area for emergency vehicles.
- A new sidewalk is constructed in front of the Manor House, connecting the parking lot to the building's main entrance.
- Dumpsters are relocated from the loading dock to an enclosure adjacent to the parking lot.



*Left: View to Belfast Road, looking between the French House and the Maintenance Garage. Right: Proposed one-way exit to Belfast Road.*

- A new one-way exit driveway is constructed between the French House and the Maintenance Garage, bridging over the drainage swale that runs along the southwest edge of the property and connecting to Belfast Road. The exit driveway turning radii and signage are configured to encourage right turn movements and make a left turn movement difficult. *Note: this driveway location complies with the 100-foot minimum required distance for a commercial driveway from a road intersection and the 200-foot sight distance requirement.*

**Alternative 2. Create a one-way driveway loop that enters the site at the existing driveway on MacArthur Boulevard and exits onto Belfast Road directly across from Whiterim Terrace.** *This alternative could create additional traffic on neighborhood roads.*

- The existing driveway alignment from MacArthur Boulevard is maintained as an entrance only.
- Parking spaces along the entry drive are removed and the existing parking lot at the rear of the property is reconfigured to accommodate all of the site's parking needs, apart from accessible spaces near the Manor House. *Note: parking capacity will remain unchanged.*
- The accessible parking spaces are reconfigured near the entrance to the Manor House so they meet ADA standards.



*Left: Existing asphalt path from the parking lot to Belfast Road. This path connects to Belfast Road across from the intersection with Whiterim Terrace. Right: Proposed exit driveway to Belfast Road, across from Whiterim Terrace.*

- A small entry court/drop off area is created in front of the Manor House. This space doubles as a lay-down area for emergency vehicles.
- A new sidewalk is constructed in front of the Manor House, connecting the parking lot to the building's main entrance.
- Dumpsters are relocated from the loading dock to an enclosure adjacent to the parking lot.
- The existing asphalt trail leading from the parking lot to the intersection of Belfast Road and Whiterim Terrace is widened to become a vehicular exit.

**Alternative 3. Expand the existing driveway into a full-width, two-way driveway for the entire length of the site.** *This alternative removes significant character-defining elements of the property.*

- The existing driveway alignment is widened to fully accommodate two-way traffic from MacArthur Boulevard to the parking lot at the rear of the site.



*Top Left: Existing entry/exit drive onto MacArthur Boulevard. Top Right: Widened two-way entry/exit drive. Note the removal of the tree on the right and the brick pillar on the left. Bottom Left: Existing view toward the Manor House. Bottom Right: View toward the Manor House with a widened, two-way driveway. Note the large oak tree on the right and original entrance walls have been removed.*

- Parking spaces along the entry drive are removed and the existing parking lot at the rear of the property is reconfigured to accommodate all the site's parking needs, apart from accessible spaces near the Manor House. *Note: parking capacity will remain unchanged.*
- The accessible parking spaces are reconfigured near the entrance to the Manor House so they meet ADA standards.
- A new sidewalk is constructed in front of the Manor House, connecting the parking lot to the building's main entrance.
- Dumpsters are relocated from the loading dock to an enclosure adjacent to the parking lot.

**Alternative 4. Create a one-way driveway loop that enters and exits from MacArthur Boulevard and extends to the front of the Manor House. Provide a widened two-way driveway between the Manor House and the parking area. This alternative has few measurable benefits in comparison with other alternatives.**

- The existing driveway becomes an exit-only drive.
- A new entry-only driveway is constructed on MacArthur Boulevard, closer to the intersection with Belfast Road.



*Left: Existing view along MacArthur Boulevard. The intersection of Belfast Road is in the background. Right: View of the proposed entrance along MacArthur Boulevard. Note how close the proposed entrance would be to Belfast Road.*

- The entry and exit drives connect on the east side of the brick entry wall, just in front of the Manor House.
- A small entry court/drop off area is created in front of the Manor House. This space doubles as a lay-down area for emergency vehicles.
- The existing driveway between the Manor House and the parking area is widened to accommodate two-way traffic.
- A new sidewalk is constructed in front of the French House and Skyview Lodge, connecting the parking lot to the new entry court.
- All of the site's parking spaces, including accessible spaces, are relocated to a reconfigured parking lot at the rear of the property. *Note: parking capacity will remain unchanged.*
- Dumpsters are relocated from the loading dock to an enclosure adjacent to the parking lot.

**Alternative 5. Provide minimal improvements to the existing circulation system to reduce some conflicts.** *The pavement width in this alternative is less than the minimum acceptable width for a two-way driveway and it does not achieve all project goals for circulation.*

- The existing driveway is widened to the maximum extent possible without damaging tree roots.
- A lay-by is created along the entry drive near MacArthur Boulevard to allow one vehicle to pull over so another can pass.
- Parking spaces along the entry drive are removed and the existing parking lot at the rear of the property is reconfigured to accommodate all the site's parking needs, apart from accessible spaces near the Manor House. *Note: parking capacity will remain unchanged.*
- The accessible parking spaces are reconfigured near the entrance to the Manor House so they meet ADA standards.
- A sidewalk is constructed along one segment of the driveway between the French House and Skyview Lodge, where space is available.
- Dumpsters are relocated from the loading dock to an enclosure adjacent to the parking lot.



# Alternative 1

Designer's Name: _____ Address: _____ City/State: _____ Telephone Number: _____		DESIGN Landscape Architect: _____ Architect: _____ Engineer: _____ Planner: _____		PROFESSIONAL STAMP Professional Certification I hereby certify that I am a duly licensed professional engineer under the laws of the State of Maryland. License No.: _____ Expiration Date: _____		THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION 500 River Avenue of Parks Silver Spring, Maryland 20901 (301) 495-2255		REVIEW AND APPROVAL Project Manager: _____ Construction Manager: _____ Park Manager: _____		ISSUED FOR PROCUREMENT ON: _____ REVISIONS Rev. No.   Date   Description		DWG. # <b>L-001</b> SHT. # of 14 DRIVEWAY OPTION 1 Liber: 05989 Folio: 0866	
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# Alternative 2

Designer's Name: _____ Address: _____ City/State: _____ Telephone Number: _____	<b>DESIGN</b> Landscape Architect: _____ Date: _____ Architect: _____ Date: _____ Engineer: _____ Date: _____ Planner: _____ Date: _____	Professional Certifications: I hereby certify that these individuals are duly licensed professional engineers under the laws of the State of Maryland. License No.: _____ Expiration Date: _____	THE MARYLAND-NATIONAL CAPITAL Park and Planning Commission 5000 River Avenue of Parks Silver Spring, Maryland 20901 (301) 495-2525	ISSUED FOR PROCUREMENT ON: _____ REVISIONS: _____ Project Manager: _____ Construction Manager: _____ Park Manager: _____	DWG. # <b>L-002</b> SHT. # _____ of 14 DRIVEWAY OPTION 2 Liber 05989 Folio 0866
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# Alternative 3

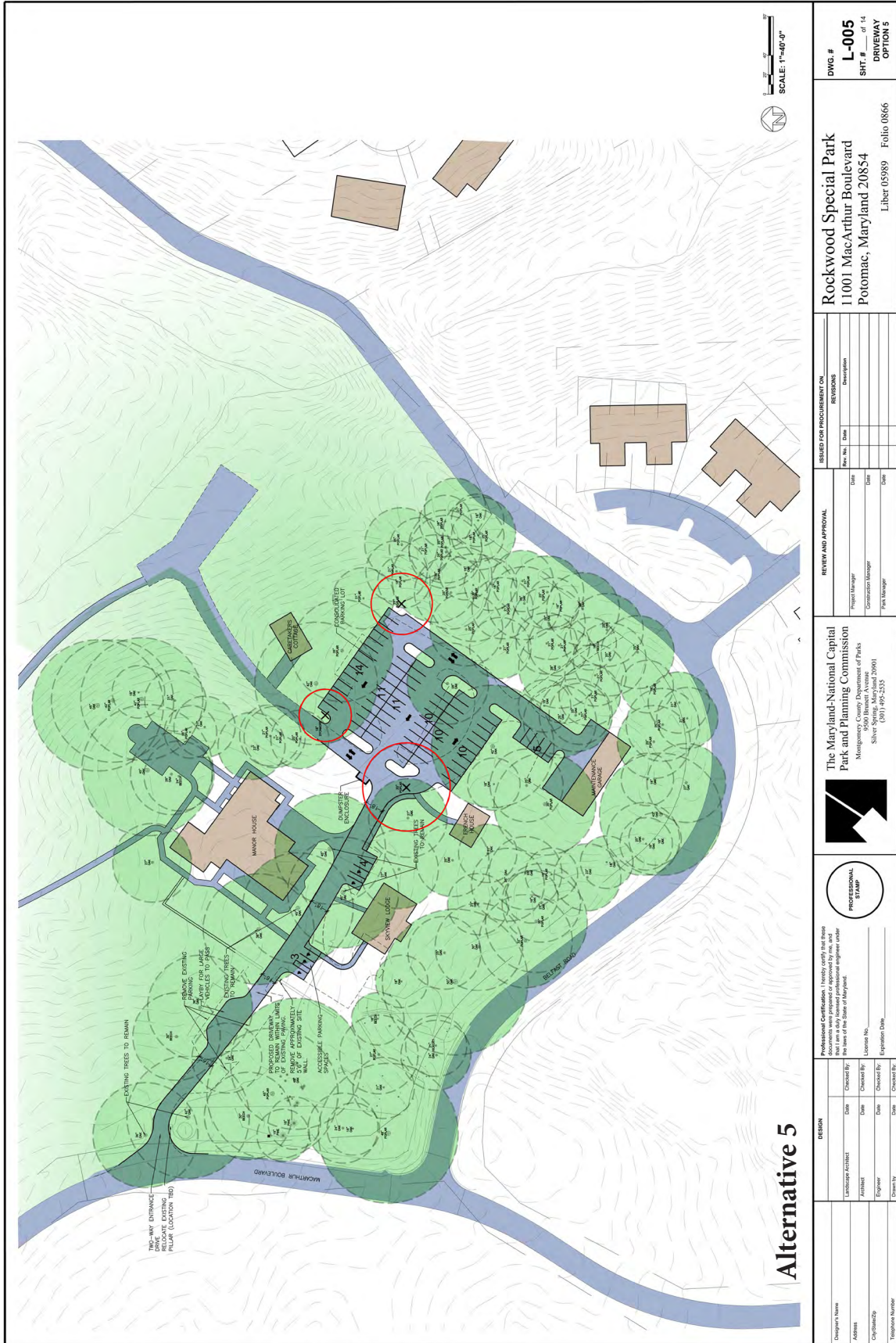
<b>DESIGN</b> Designer's Name: _____ Address: _____ City/State: _____ Telephone Number: _____		Checked By: _____ Date: _____ Checked By: _____ Date: _____ Checked By: _____ Date: _____ Checked By: _____ Date: _____		Professional Certification I hereby certify that I am a duly licensed professional engineer under the laws of the State of Maryland. License No.: _____ Expiration Date: _____ Signature: _____ Date: _____		<b>PROFESSIONAL STAMP</b> [Stamp Area]		<b>The Maryland-National Capital Park and Planning Commission</b> Montgomery Department of Parks Silver Spring, Maryland 20901 (301) 495-2525		<b>REVIEW AND APPROVAL</b> Project Manager: _____ Construction Manager: _____ Park Manager: _____		<b>ISSUED FOR PROCUREMENT ON:</b> REVISIONS Rev. No. Date Description _____ _____ _____		<b>DWG. #</b> <b>L-003</b> SHT. # _____ of 14 <b>DRIVEWAY</b> <b>OPTION 3</b> Folio 0866 Liber 05989	
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# Alternative 4

Designer's Name Address City/State/Zip Telephone Number	DESIGN Landscape Architect Architect Engineer Planner	Date Date Date Date	Checked By Checked By Checked By Checked By	License No. License No. License No. License No.	Expiration Date Expiration Date Expiration Date Expiration Date	PROFESSIONAL STAMP	Professional Certification I hereby certify that these plans were prepared by me or under my direct supervision and that I am a duly licensed professional engineer under the laws of the State of Maryland.	THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION 5000 River Avenue of Parks Silver Spring, Maryland 20901 (301) 495-2525	REVIEW AND APPROVAL Project Manager Construction Manager Park Manager	ISSUED FOR PROCUREMENT ON REVISIONS	DWG. # <b>L-004</b> SHT. # of 14 DRIVEWAY OPTION 4
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Rockwood Special Park  
 11001 MacArthur Boulevard  
 Potomac, Maryland 20854  
 Liber 05989 Folio 0866



## **COMMUNITY OUTREACH**

On 6 May, 2016, Parks staff posted five driveway alignment alternatives to the project's web page (Attachment G) and solicited public comment via emails and postcards sent to neighboring residents and signs posted at the entrance to Rockwood Manor. Staff also invited the community to attend a field walk on 24 May, 2016 to review the driveway alignment alternatives on site (Attachment C). Eighteen members of the neighborhood, most of whom live on Whiterim Drive or Whiterim Terrace, attended the field walk in which all five of the alignments were clarified on site and specific potential impacts were identified. Besides answering several questions on site, staff encouraged attendees to submit comments and questions as they considered a recommended alignment alternative. At the time of writing, staff received comments from eight community members who expressed a preference for Alternative 3, the two-way driveway, or Alternative 5, the minimal improvement scheme (Attachment H). In general, throughout the course of the project, neighborhood residents have expressed a preference for alternatives that maintain entry and exit from MacArthur Boulevard. Prior public comments on the Feasibility Study also included concerns to protect existing trees on the property.

## **RECOMMENDED ALTERNATIVE**

After consulting with representatives from relevant regulatory agencies, operations staff and members of the surrounding neighborhood, staff developed a Recommended Alternative that represents a refinement of Alternative 1. At the suggestion of Montgomery County Department of Transportation staff, the vehicular exit onto Belfast Road has been shifted approximately 60 feet to the northwest to increase the stopping sight distance for traffic coming from the Woodrock neighborhood to well over 250 feet to account for speeding traffic on this section of roadway. As an added benefit, the driveway connection to Belfast Road will be within view of MacArthur Boulevard and further from the Woodrock neighborhood, addressing safety concerns raised by members of the community. Additionally, the consolidated parking lot has been slightly reconfigured to minimize tree impacts, shifting four parking spaces to an area adjacent to Skyview Lodge.

While all of the alternatives are feasible from a construction and operations standpoint, the Recommended Alternative best achieves the safety, space efficiency, environmental and customer service goals outlined below.

### **Safety Goals**

- Minor expansion to the limits of paving at the entry allow for easier turning movements for large vehicles, including emergency vehicles.
- Emergency vehicle access and laydown is accommodated at the main entrance to the Manor House.
- An exit drive separate from the entry drive ensures guests will be able to leave the facility even if emergency vehicles block the driveway in front of the Manor House.
- The narrow driveway alignment associated with a one-way drive may reduce vehicular speeds, resulting in a safer pedestrian experience.
- A sidewalk from the consolidated parking lot to the main entrance of the Manor House provides safe pedestrian circulation physically separated from vehicular traffic.
- A vehicular egress onto Belfast Road can be designed to comply with Montgomery County Department of Transportation requirements for a commercial driveway, ensuring safe sight distance, stopping distance and acceleration/deceleration for all vehicles.



# Recommended Alternative

Designer's Name Address City/State/Zip Telephone Number	DESIGN Landscape Architect: _____ Date: _____ Architect: _____ Date: _____ Engineer: _____ Date: _____ Planner: _____ Date: _____	Professional Certification: I hereby certify that these plans are the work of a duly licensed professional engineer under the laws of the State of Maryland. License No. _____ Expiration Date: _____	PROFESSIONAL STAMP	The Maryland-National Capital Park and Planning Commission 5600 Research Avenue of Parks Silver Spring, Maryland 20901 (301) 495-2525	REVIEW AND APPROVAL Project Manager: _____ Date: _____ Construction Manager: _____ Date: _____ Park Manager: _____ Date: _____	ISSUED FOR PROCUREMENT ON: REVISIONS <table border="1"> <tr> <th>Rev. No.</th> <th>Date</th> <th>Description</th> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </table>	Rev. No.	Date	Description							DWG. # <b>L-006</b> SHT. # of 14 <b>RECOMMENDED DRIVEWAY PLAN</b> Rockwood Special Park 11001 MacArthur Boulevard Potomac, Maryland 20854 Liber 05989 Folio 0866
Rev. No.	Date	Description														

### **Space Efficiency Goals**

- Relocation of all of the parking spaces (except the accessible spaces near the Manor House) to the rear of the property reduces conflicts between parked vehicles and those entering/exiting the site.
- Relocation of the dumpsters away from the loading area eliminates conflicts between trash collection and deliveries to the Manor House.

### **Environmental Goals**

- While all alternatives result in some tree removal, the narrow driveway alignment associated with the one-way drive allows for the preservation of the significant and character defining trees along MacArthur Boulevard and adjacent to the Manor House.
- Construction of an elevated roadway over the swale at the proposed exit may reduce the amount of land disturbance and tree removals compared to the construction of an at-grade driveway. The trees that would need to be removed for this construction can be more easily replaced than the large, mature trees along MacArthur Boulevard and adjacent to the Manor House.
- A consolidated parking lot at the back of the property allows for a net reduction of impervious surface across the entire site.

### **Customer Service Goals**

- Accessible parking spaces will meet Americans with Disabilities Act requirements.
- The removal of the parking spaces from the front of the property will create a more attractive and appropriate first impression of the facility.
- The right-turn only egress onto Belfast Road gives visitors a clear view of MacArthur Boulevard, reinforcing wayfinding and minimizing contact with the adjacent residential development.
- Significant, character defining features, such as the mature trees and site wall are preserved.

### **FUNDING AND COSTS**

If approved, design efforts would begin immediately for implementation of the following items:

- Create a one-way drive system with the entrance drive located on MacArthur Boulevard and the egress on Belfast Road.
- Create an entrance court/drop off area in front of the main entrance to the Manor House that would include a clear area to accommodate fire truck access and laydown.
- Reconfigure the existing accessible parking spaces in front of the main entrance to the Manor House to meet ADA requirements.
- Consolidate the remainder of the site's parking spaces in a reconfigured main parking lot and provide pedestrian access to the Manor House.

The overall anticipated cost for design and construction for this phase of work is approximately \$650,000, to be funded by the Enterprise Fund. Detailed design for this project is proposed to begin immediately with construction following in FY 18-20. Additional phases of work would be designed and constructed as Enterprise funds become available and as the need arises.

## **NEXT STEPS**

The recommendations from this Driveway Alignment Alternatives study ensure the continued safe operation of a culturally significant facility within an ecologically sensitive setting. If approved by the Planning Board, a project to design and construct the driveway and parking lot improvements would be initiated immediately. Parks staff will work to refine the Recommended Driveway Alternative to incorporate comments from regulatory agencies, facility staff, neighboring residents and other key stakeholders. Specific comments received to date that warrant additional study and refinement include:

- Improve pedestrian access to and through the site from the surrounding community.
- Incorporate a vehicle detection and notification system to warn through traffic on Belfast Road of cars exiting Rockwood Manor.
- Incorporate traffic calming devices along Belfast Road to ensure vehicles obey posted speed limits.
- Develop a long-range tree planting plan to ensure the continuous tree canopy that extends across the site is retained as the health of mature trees begins to decline.

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## **ATTACHMENTS**

- A. Rockwood Manor Feasibility Study
- B. Rockwood Manor Event Rules and Regulations
- C. 24 May, 2016 Driveway Alternatives Field Walk Community Sign-In Sheet and Postcard
- D. Turning Study
- E. Email Correspondence with Regulatory Agency Staff
- F. Traffic Study
- G. Driveway Alignment Alternatives Report
- H. Community Correspondence