

Docket Item #6
SPECIAL USE PERMIT #2005-0042
Virginia Paving Company

Planning Commission Meeting
September 7, 2006

ISSUE: Consideration of a request for a special use permit to amend the hours that vehicles can enter and exit the property and to permit a stack height of 20 meters.

APPLICANT: Virginia Paving Company
by Mary Catherine Gibbs, attorney

LOCATION: 5601 Courtney Avenue

ZONE: I/Industrial

CITY COUNCIL ACTION, NOVEMBER 28, 2006: City Council approved the special use permit with amended conditions.

CITY COUNCIL ACTION, OCTOBER 14, 2006: City Council closed the public hearing. City Council continued the discussion with City staff, consultants and the attorney for the applicant on the proposed application. Council offered commentary on the public hearing and issues that were raised by members of the public. City council deferred consideration of this item until a Council work session has been scheduled to discuss specific concerns and conditions and will bring the item back to a legislative meeting in November.

PLANNING COMMISSION ACTION, OCTOBER 3, 2006: On a motion by Mr. Jennings, seconded by Mr. Komoroske, the Planning Commission voted to recommend approval of the request, subject to compliance with all applicable codes, ordinances and staff recommendation, and to amend conditions #25, #28, #44, #60, #61 and #74, and to add conditions #28a and #28b. The motion carried on a vote of 6 to 1, with Ms. Fossum voting against.

Reason: A majority of the Planning Commission members concurred with the staff analysis. While several members expressed general concerns about potential impacts of this industrial use on residents and Tucker School, the majority of the Commission believed that the conditions of the proposed SUP will reasonably address the various concerns raised by citizens. The Chairman stated that there were three separate groups of scientists who had carefully analyzed the environmental impacts of the facility and after that analysis, supported the proposal, and further stated his belief that the Commission was making a well-informed decision, despite claims to the contrary. In addition, a member indicated that he had contacted a representative of the School District, who advised that the School District did not oppose the proposal. Ms. Fossum discussed concerns of enforceability, and wanted to defer the case in order to discuss additional conditions, and perhaps a sunset of the permit.

Note: A work session regarding Virginia Paving was held immediately prior to the meeting, where staff from the Office of the City Attorney and the Departments of Planning and Zoning and Transportation and Environmental Services reviewed the background of the case, land use issues, enforcement, the analysis of environmental issues, and proposed conditions. City staff and the City's consultants responded to several questions.

Speakers:

Mary Catherine Gibbs, applicant's attorney, spoke in support of the application.

Dr. Laura Green, environmental consultant for the applicant, spoke in support of the application.

Mike Cote, applicant, spoke in support of the application.

Mindy Lyle, President, Cameron Station Civic Association, spoke against the application.

Joe Bennett, Cameron Station Civic Association, spoke against the application.

Mike Waite, resident, Cameron Station, spoke against the application.

Matthew Natale, resident, Cameron Station, spoke against the application.

Arthur Impastato, Cameron Station Civic Association, spoke against the application.

Jordan Berliner, resident, Cameron Station, spoke against the application.

Maria Velez de Berliner, resident, Cameron Station, spoke against the application.

Jim Butler, resident, discussed need for strict enforcement for industrial uses in the city.

Penny Waite, Cameron Station Civic Association, spoke against the application.

Robert KaFalesus, resident, Cameron Station, spoke against the application.

Glenn Donnellan, resident, Cameron Station, spoke against the application.

Kathleen Burns, President, Brookville-Seminary Valley Civic Association, discussed need for strong level of scrutiny for industrial uses in the city.

Katy Cannady, resident, spoke against the application.

Leigh Strope, property owner, Summer's Grove, spoke against the application.

Janet Bowden, Virginia Paving employee, spoke in support of the application.

Ali Taheri, Virginia Paving employee, spoke in support of the application.

Van Van Fleet, resident, spoke against the application.

Julie Crenshaw, resident, spoke against the application.

Annabelle Fisher, resident, spoke against the application.

Ashley Profaizer, resident, Cameron Station, spoke against the application.

John Pecic, President, Summer's Grove Civic Association, spoke in support of the application, with all proposed conditions, and a noise barrier wall.

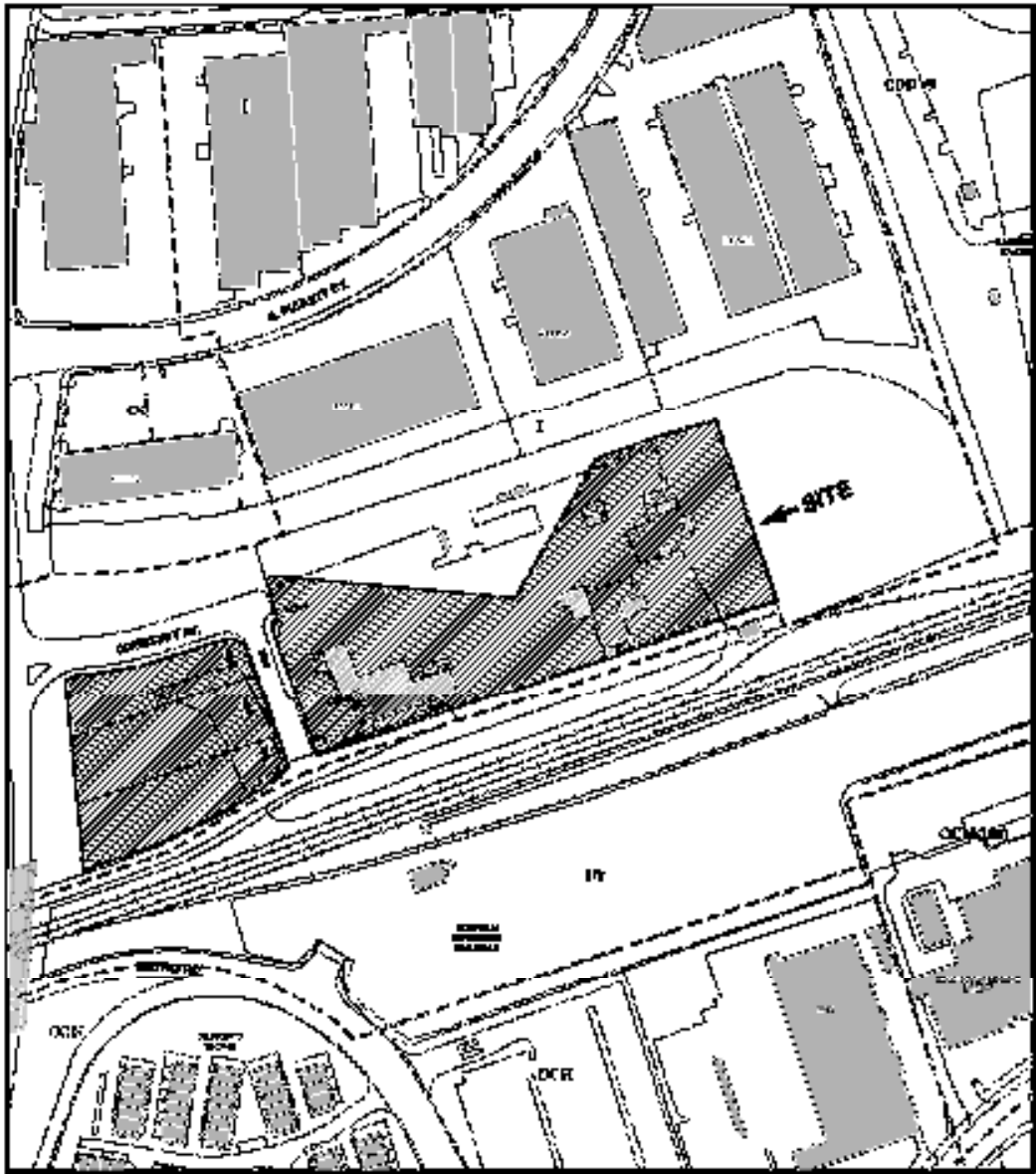
Pat Miller, Potomac West Business Association, spoke in support of the application.

Poul Hertel, resident, discussed that the application is not a Mirant case, but that an additional test may better reveal proposed impacts.

Andres Domeylio, Eisenhower Partnership, spoke in support of the application.

Mark Schwartz, Cameron Station Civic Association, spoke against the application.

Geoffrey Goodale, resident, recommended deferral of the application.



I. EXECUTIVE SUMMARY

This very difficult case involves the co-existence of a long standing industrial use with nearby residential homes. Neighbors have had sincere and understandable concerns about the effects of the nearby asphalt plant on the quality of their lives, and have complained about noise, dust, odors and other negative impacts.

The case has also presented challenging environmental questions and the City has worked to analyze each of the plant's alleged impacts carefully, to identify potential improvements to the asphalt plant to make it a better neighbor, and to search for a way to reconcile the opposing views. The dialogue among the staff, consultants, the applicant and the community has been constructive and productive. Staff has been working with the applicant, community and consultants for almost two years. Most recently, the applicant has been meeting on a regular basis with neighbors throughout the summer.

SUP Application Issues

The specific request before Council is to amend the asphalt plant's 1960 SUP condition, which now effectively prohibits nighttime truck traffic and therefore nighttime road paving. The plant seeks to operate at night from April 1 to November 1, and only for state or local government contracts that require nighttime work, and will not operate overnight during the winter months (specific condition language is set forth below). In addition, the applicant seeks an increase in stack height to 20 meters, which is one of the investments the applicant is willing to make to improve air quality.

In assessing whether the plant's request for nighttime hours is supportable, staff considered the following issues and made the following conclusions, each of which is discussed in detail in this report:

- The amendment presents an opportunity for dramatically enhanced environmental protection which the city does not have the power to require without the amendment;
- There are no violations of local, state or federal environmental regulations in the operation of the plant (except that the facility is not in compliance with their existing SUP condition related to construction of stormwater basins);
- Even though there are no actual violations of environmental regulations, there are potential improvements the plant could make in its operations that would benefit the environment;
- Nighttime paving on the roads of congested Northern Virginia benefits the City and the broader community generally;
- The existence of the plant, with or without night-time vehicular traffic, as well as other industrial uses located in Alexandria's western and southwestern corner, present land use questions. Although industrial and residential uses can coexist the broader question about the future of industrial uses in the West End will be considered in the context of the West Eisenhower Avenue Small Area Plan study, not the proposed amendment to Virginia Paving's SUP; and

- The plant will remain in operation at its existing location, although without nighttime vehicular traffic, if the amendment is denied. However, none of the proposed environmental controls would necessarily be implemented if the proposed amendment is denied.

Options for City Council

Thus, Council has the following options:

1. If Council **approves the request for amended condition language**, the plant will continue to operate, but it will do so with the new, extensive, modern, environmental controls that staff has enumerated in this report. The new SUP conditions, when implemented, will reduce impacts, place production caps, improve operational practices and result in significant new pollution control equipment at this facility. The new SUP conditions will also allow some nighttime vehicular traffic to and from the plant, thus facilitating night time paving for government contracts and thereby limiting traffic impacts to the larger citizenry.
2. If Council **denies the SUP request**, the plant will continue to operate with the existing SUP conditions from the original 1960 permit. Accordingly, trucks would be prohibited from entering or leaving the plant after dark, in inclement weather, or on Sundays or holidays. It is important to remember that under the 1960 permit, the plant is allowed to *operate* during nighttime hours if it does not involve trucks coming or going; permitted nighttime work includes heating and mixing. In addition, by concentrating road paving work during daytime hours, the work would require lane closures and other traffic interruptions that impact a wide range of citizens. The additional environmental benefits conferred by the more stringent and more modern conditions which afford the City a greater opportunity to regulate the plant and address concerns of area residents would not be achieved. In the absence of a new SUP, there will be no production caps except 1,500,00 tons as stipulated in the State Operating Permit, and there are not guarantees that additional pollution control equipment and practices will be installed and/or implemented.

VA Paving Related Improvements

Staff has approached the community's concerns with a serious, concerted and coordinated interdepartmental effort. Drawing on the resources of the departments of Transportation and Environmental Services, Planning and Zoning, Code Enforcement, and Recreation, Parks and Cultural Activities, as well as the assistance of consulting experts, staff sought to identify the source of each of the problems neighbors have cited and to assess methods of addressing each problem. The conditions listed in this report are designed to address the community's issues. They far exceed existing governmental requirements and will make the plant a state of the art operation, second to none in the region. The applicant is agreeable to the conditions.

The enhanced SUP conditions will:

- restrict the hours during which the plant may operate in the future (not just the hours for vehicular traffic as limited in the current permit)
- require state of the art air quality enhancements and best management practices that will address air emissions and odors (not addressed in the current permit)

- require a significant commitment and investment by Virginia Paving over the next several years to implement the improvements (not capable of being required of the plant by the City under any existing permit or regulatory scheme)
- require regular testing and monitoring of operations to assure compliance(beyond what is required by the state regulatory agency)
- require best management practices for stormwater management (a greater requirement than the current requirement of settling basins in the current permit)
- require stream bank improvements and buffer enhancements to Backlick Run (not required under the current permit)
- restrict operations that contribute to noise during times when residents will be most affected (not required under the current permit)
- provide additional screening and buffering to make the operation less visible from adjoining residential areas (not required under the current permit)
- provide for an on-site manager who will serve as a liaison with the nearby residential communities (not required under the current permit), and
- establish a community outreach mechanism to provide residents a forum in which to voice concerns, questions, and suggestions regarding the operations of the plant (not required under the current permit).

The conditions require that all environmental improvements be phased in over the next two years, except for the replacement of the locomotive, which is to be done in four years. They will cost the applicant approximately two million dollars. The city is committed to enforcing these conditions, with monetary penalties and potential revocation of the SUP if the applicant fails to adhere to them.

Staff Recommendation

After a comprehensive analysis of the various impacts associated with the asphalt plant, staff finds that the plant will be a much better neighbor under an amended SUP than under the existing SUP. Therefore, staff supports the proposed amendment, subject to the conditions of this report.

II. BACKGROUND

Authority for an asphalt plant at 5601 Courtney Avenue began on April 12, 1960, when City Council approved SUP#398 for its operation (see attached SUP#398). The plant has been operating at that location continuously since that time, and continues to be authorized to operate under the conditions of the original permit. Newton Asphalt operated the plant until 2001, at which time Virginia Paving, a subsidiary of Lane Construction Co., acquired it.

SUP Condition

The 1960 SUP has few conditions, and there are no conditions that limit the operation of the plant or set hours of operation for the plant. One condition was included in the original 1960 permit as a matter of traffic safety (as the Van Dorn Interstate interchange wasn't constructed) by the Director of Traffic, and is stated as follows:

That no operation of this plant requiring exit or entrance of vehicles be permitted after hours of darkness or during inclement weather or on Sundays or holidays.

The condition limits the plant operation with respect to vehicular traffic to and from the plant, primarily as to the trucks that transport the asphalt that is milled from the road surface to the plant to be recycled and those that take the newly manufactured asphalt from the plant for application to the roadway being repaved. According to the applicant, the plant has historically operated at night because its contracts with government agencies require paving at night on certain arterial roads to limit interruption to commuters. Although this condition was imposed on the plant back in 1960, the City has no record of any complaints regarding violation of the condition since the plant has been in operation and prior to the submission of this application.

SUP Amendment Request

The applicant's proposal would permit the entry and exit of vehicles during the nighttime and weekend hours when supplying asphalt materials to government projects, i.e., for the Virginia Department of Transportation and the City of Alexandria that require night work. According to the applicant, if its trucks block lanes of traffic on certain main arteries during daylight hours, its crews can be arrested. As much as 60% of its contract work for the City is done at night. Approximately 20% of its overall work is required to be done at night by VDOT and/or the City. As a result, the applicant needs the ability to have trucks pick-up and deliver asphalt outside of daytime hours for those government projects that require it during the high volume paving season, which occurs between April 1 and November 1. Specifically, the applicant requests the following hours of operation, including for truck traffic:

November 2 through March 31: 5:00 a.m. to 7:00 p.m. daily

April 1 through November 1: 24 hours a day Monday through Thursday,
12:00 midnight. to 7:00 p.m. Friday and Saturday; and, 7:00
p.m. to 12:00 midnight on Sunday. *(The later hours are
requested only for government contracts that require
nighttime and weekend work.)*

Community Outreach

Over the last two years, staff has discussed this case at length with citizens and consultants, responded to numerous emails and phone calls, written letters and memoranda, and attended a number of community meetings (*see attached chronology*). Most recently, staff has held or participated in the following community outreach:

- May 10, 2006—Staff held small focus meeting with community leaders.
- May 15, 2006—Staff held facilitated, community-wide meeting.
- May 2006—information and documents regarding Virginia Paving application, including audio from community meeting, posted on City’s web site. All of the presentations from the meeting, including from staff, the applicant, outside experts and community members, and responses to questions, were posted. The air modeling analyses were also posted.
- August 7, 2006—staff attended a community open house arranged by the applicant.
- August 8, 2006—staff meets with Cameron Station Civic Association leaders.
- August 17, 2006 – staff and the City’s consultants, along with VA Paving consultants met with representative of the community to address specific technical issues identified by the community to its consultant.
- September 18, 2006—Staff held facilitated, community-wide meeting. Meeting audio posted on website.

Site Description

The subject property is five lots of record with frontage on both Courtney Avenue and South Van Dorn Street, and occupies an area of approximately 10 acres. The site is developed with the Virginia Asphalt Plant and the U. S. Filter oil recycling facility, which leases space from Virginia Paving. Access to the property is from Courtney Avenue.

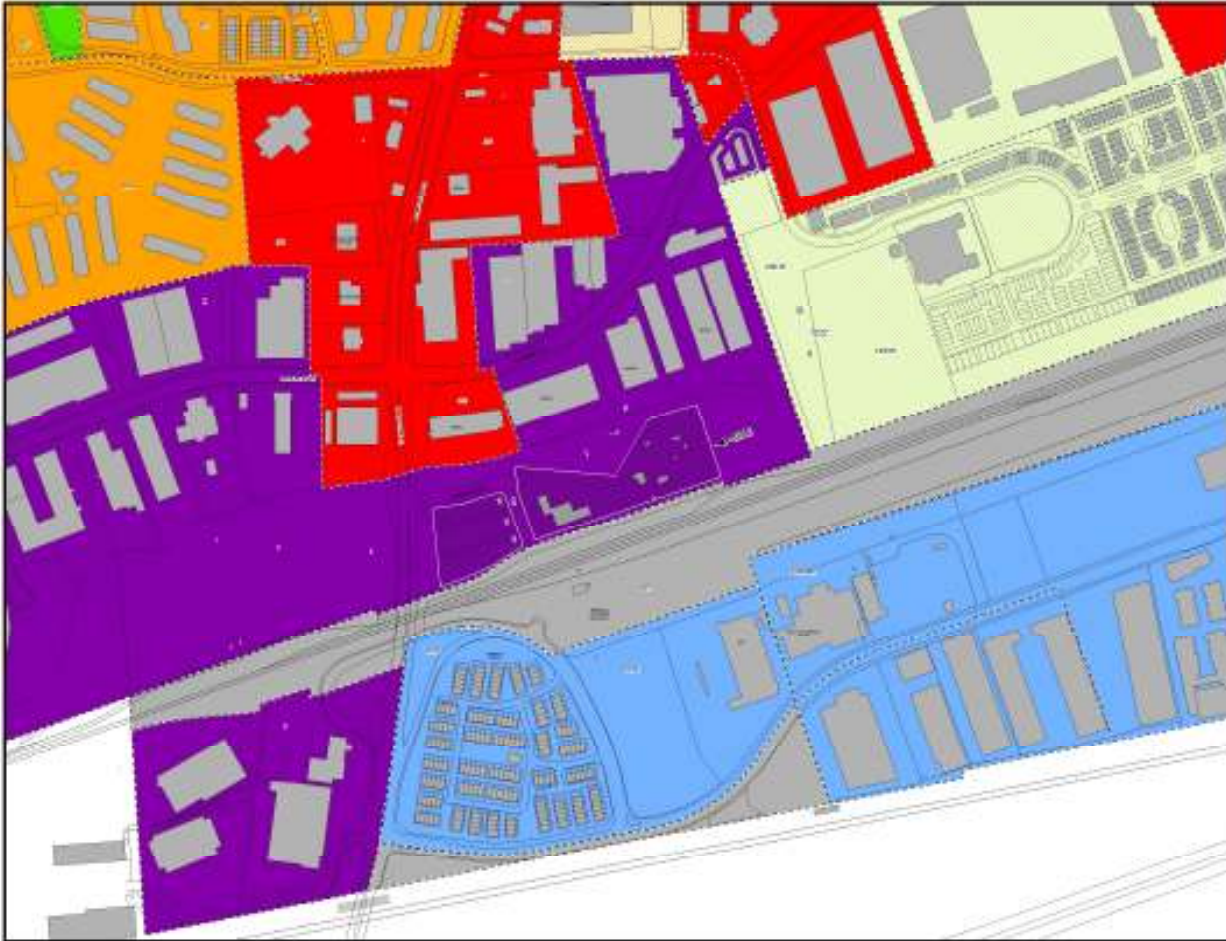


The surrounding area is occupied by a mix of uses, including industrial, commercial and residential development. There are several industrial facilities in the immediate area. Immediately to the north, along Pickett Street, are industrial warehouse and commercial uses.

To the south is the Norfolk Southern railroad facility, the City Waste-to-Energy plant, a United Parcel Service shipping facility, the Police Firing Range, and the Metrorail tracks. To the west is Vulcan Materials Company, a concrete facility, and other warehouse, industrial uses. There are also residential uses in the immediate vicinity, including the Cameron Station development to the east, with a park and school, and Summer’s Grove townhouse development to the south. Both Cameron Station and Summer’s Grove were developed in the last ten years.

Zoning and Master Plan

The property is located in the I/Industrial zone. Section 4-1203(A) of the Zoning Ordinance allows an asphalt plant in the I zone with a special use permit. The use is also consistent with the Landmark/Van Dorn Small Area Plan chapter of the Master Plan, which identifies the property for industrial use and zoning.



City Council Action in June 2005 and June 2006

This application was submitted on March 29, 2005, and Council acted on June 27, 2005, to allow very limited nighttime work under the SUP, including vehicles coming and going from the site, so that Virginia Paving could work on existing government contracts that required nighttime work. The scope of government projects requiring night time work was amended by City Council on June 9, 2006. This temporary solution was essential to provide sufficient time to address citizen’s concerns through a detailed environmental review and testing and a full and fair assessment of the plant.

III. DISCUSSION

In the last three years, with the near completion of Cameron Station as a residential neighborhood, there have been an increasing number of complaints from Cameron Station residents regarding:

- air quality
- odors
- smoke and soot

In response to these complaints, the City staff investigated potential sources of the problems in the immediate area. In researching the SUP for Virginia Paving, staff determined that the plant was not complying with the SUP condition regarding nighttime truck traffic. In its investigations of the Virginia Paving site, staff observed other, non-SUP violations on the property, and notified the applicant in a letter dated October 26, 2004 (see attached letter). At a meeting with staff on November 22, 2004, the Virginia Paving Company agreed to a comprehensive review of its operations to assess its environmental impacts and compliance. As discussed in the memo to City Council on June 27, 2005, the specific issues which have been a part of the investigation include:

- air emissions, including odors
- noise
- storm water management
- asphalt spillage
- maintenance
- building and fire code violations
- Resource Protection Area (RPA) buffer
- underground storage tanks
- storage and disposal of oil and hazardous materials

While the above issues pertain to industrial uses generally, and are regulated in large part by the Commonwealth, Virginia Paving's SUP non-compliance gave the City the opportunity to comprehensively review and improve the facility, with the potential of bringing it to a higher level than required by its State permits. To have sufficient data to respond accurately and fully to citizen concerns and to have a basis for crafting SUP environmental conditions, extensive environmental testing and analysis was required. Staff requested the following information from the applicant to conduct its analysis of environmental issues:

- Report of Immediate Environmental Concerns and Short Term Work Plan (*submitted February 4, 2005*)
- Environmental Baseline Survey (*submitted March 16, 2005*)
- Environmental Long Term Work Plan (*submitted March 30, 2005*)
- Emissions and Air Dispersion Modeling Study and Public Health Evaluation (December 7, 2005)
- Memoranda on Formaldehyde and Fugitive Dioxin (August 28, 2006)
- Memoranda on Low Wind Speed (September 13, 2006)

More detailed information on the contents of these plans was requested and received by staff since the original submission.

Asphalt Plant Operations

The applicant has been the operator of the plant at this location since 2001. There are approximately 150 employees during the paving season, between April 1 and November 30. There are 25 full-time employees present throughout the year.

Hot mix asphalt is produced by heating and mixing liquid asphalt with various aggregates such as rocks, sand, and crushed recycled asphalt pavement (RAP). The facility maintains on-site aggregate storage piles and a lime storage

silos, and operates aggregate handling equipment such as a RAP crusher, front end loaders, conveyors and trucks. Most aggregate is delivered to the facility by rail cars, while some aggregate (including RAP) is delivered by trucks. The facility operates two hot oil heaters for liquid asphalt, and two drum dryer mixers (Plants No. 1 and 2) for producing hot mix asphalt. The final product is conveyed to asphalt storage silos for temporary storage prior to shipping off-site via trucks. The facility operates at various daytime and nighttime hours.



According to the applicant, there are 20 trucks in its fleet, and 20 trucks operated by independent companies that haul asphalt from its plant. When trucks arrive to the site to pick up asphalt, they are sprayed with a material that prevents asphalt from sticking in the beds. Maintenance of trucks in the fleet takes place on premises in the six-bay repair garage.

Staff reviewed the September 8, 2005 traffic analysis prepared for the Virginia Paving Company. The analysis concluded that if nighttime operation is prohibited, the vehicle delay at the intersection of Van Dorn Street and Courtney Avenue will increase slightly, and the over delay on affected roadways during paving operations will also increase. Furthermore, the study found that the hours of operation have no impact on safety. Staff concurs with these conclusions.

Operations at the plant include off-loading of aggregate material from railcars. Off-loading typically occurs during the morning, after 7:30 a.m.

Virginia Paving's Current Regulatory Status

Virginia Department of Environmental Quality (VDEQ) is the primary environmental regulatory agency governing the operations at the Virginia Paving plant. Virginia Paving currently operates under an operating permit from VDEQ. The facility's current air quality permit was issued to VIRGINIA Paving by VDEQ on February 17, 2005.

The current VDEQ permit allows an annual production of 1.5 million tons of asphalt and based on the total potential to emit, the facility is permitted as a minor source of air pollution. As such, the facility is not required by VDEQ to perform dispersion modeling analyses or extensive source testing. However, the facility performed limited stack testing of its drum dryer mixers to modify their operating permit from

VDEQ. The results from those stack tests were used to establish the emission limits listed in Table 1 for the asphalt plant.

TABLE 1
Summary of Current Emission Limits
Virginia Paving Company, Alexandria, Virginia

Emission Source	Pollution Control	Emission Limits		
		Pollutant	Short Term	Annual
Asphalt Plant No. 1	Baghouse	PM-10	0.04 gr/dscf	17.3 tons/yr
		NO ₂	0.021 lb/ton	16.1 tons/yr
		CO	0.13 lb/ton	76.9 tons/yr
		VOC	0.0028 lb/ton	2.0 tons/yr
		SO ₂	n/a	43.6 tons/yr
		Formaldehyde	n/a	2.3 tons/yr
		Quinone	n/a	1.2 tons/yr
		PAH	n/a	0.7 tons/yr
Asphalt Plant No. 2	Baghouse	PM-10	0.04 gr/dscf	(total for both asphalt plants)
		NO ₂	0.023 lb/ton	
		CO	0.012 lb/ton	
		VOC	0.0021 lb/ton	
Hot Oil Heater	None	PM-10	n/a	0.8 tons/yr
		NO ₂	n/a	5.8 tons/yr
		CO	n/a	0.6 tons/yr
Hot Oil Heater	None	SO ₂	n/a	8.7 tons/yr
RAP Crusher	Wet Suppression	PM-10	none	none
Lime Silo	Baghouse	PM-10	none	none
Fugitive Dust	Various	PM-10	none	none

The proposed SUP conditions cap annual production to 1.2 million tons/year, 20% less than the production allowed under the VDEQ permit. Furthermore, the production will be limited to 900,000 tons/year (approximately the same amount produced by the applicant in 2005 and 40% less than the production allowed under the VDEQ permit) until all proposed emission controls are installed and in operation. Virginia Paving also performed dispersion modeling analyses to demonstrate that proposed operations at the plant do not result violations of National Ambient Air Quality Standards. This analysis was extensively reviewed by City Staff and its consultants, as well as by David Sullivan, the review consultant retained on behalf of the Cameron Station community. Additionally, the City hired consultants to conduct an independent dispersion modeling analysis. The team hired by the City is the same as it has used for its technical analysis of the Mirant Power Plant. The conclusions made by the City's consultants were similar to analysis provided by Virginia Paving, and confirmed by the community's consultant, which was that Virginia Paving's operations are in compliance with NAAQS.

The Virginia Paving facility consists of two drum dryer mixer Plants No. 1 and 2, as well as two hot oil heaters, both oil-fired. The asphalt plants and the larger of the two hot oil heaters are allowed to use recycled fuel oil (RFO) that meets EPA and VDEQ regulations, i.e., regulations that specify maximum limits of certain contaminants found in RFO such as PCBs, halogens and heavy metals. The smaller hot oil heater serves as a backup to the larger heater and exclusively burns No. 2 distillate oil. No. 2 distillate oil is also used as a backup fuel for RFO. All these units are sources of criteria pollutants resulting from fuel combustion, i.e., NO_x, CO, VOC, SO₂ and PM-10. Additionally, fuel combustion results in small amounts of hazardous air pollutant emissions. Both drum dryer mixers also generate PM-10 emissions from the handling of aggregate and are controlled by baghouse.

All aggregate storage and handling activities at the facility are sources of particulate matter (PM-10) emissions. PM-10 emissions from storage piles are generated due to wind erosion and storage pile maintenance activities. Aggregate handling emissions are generated due to front-end loaders, material load-in and load-out operations, and conveyors. Additional PM-10 emissions result from truck traffic and other vehicles traveling on dusty surfaces. These fugitive PM-10 sources are required to be controlled by water suppression, chemical suppression, asphalt application or an equivalent control method. PM-10 emissions from the lime storage silo are generated during silo filling operations and are controlled by baghouse.

The facility maintains twenty one (21) storage tanks ranging in size from 500 gallons to 20,000 gallons for storing recycled oil, distillate oil, motor oil, liquid asphalt, TACK, etc. All tanks are above ground and are small sources of VOC emissions.

A summary of all current operational limitations on the plant is provided in Table 1A. As proposed by this SUP, a series of operational limitations will be imposed on Virginia Paving that are more restrictive than those listed in this table.

TABLE 1A
Summary of Current Operational Limits
Virginia Paving Company, Alexandria, Virginia

Emission Source	Operational Limits		
	Production Limit	Fuel	Pollution Control
Asphalt Plant No. 1	600 tons/hr 1,150,000 tons/yr	Recycled Oil No. 2 Oil Backup	Baghouse No other control
Asphalt Plant No. 2	400 tons/hr 350,000 tons/yr	Recycled Oil No. 2 Oil Backup	Baghouse No other control
Hot Oil Heater	5.64 MMBtu/hr	Recycled Oil 200,000 gal/yr	None
Hot Oil Heater	2.50 MMBtu/hr	No. 2 Oil 25,000 gal/yr	None
Lime Silo	25 tons/hr 6,000 tons/yr	N/A	Baghouse
Fugitive Dust	None	N/A	Various (e.g., wet suppression)
Recycled Oil	Sulfur 0.5 wt% Arsenic 5 ppm Cadmium 2 ppm Chromium 10 ppm	Lead 100 ppm Halogens 1,000 ppm (as chlorine) PCB 49 ppm Flash Point 100 °F (minimum)	
No. 2 Oil	Sulfur 0.5 wt%		

Historical complaints and staff actions

The current Cameron Station residential development used to be an army base, and historically (prior to 2003), there were very few complaints regarding operations on the adjacent industrial facilities. Occasional odor complaints were traced to either the “Classified document incinerator” at the Cameron Station, or the Virginia Paving facility.

As more phases of the Cameron Station residential development were built and residents moved in, the frequency and number of complaints increased. As a result of these complaints, in 2003, the staff investigated these complaints and various state and City permits for the adjacent industrial facilities. In its investigation, the staff discovered a City-issued Special Use Permit (SUP) for the asphalt plant, dated 1960. Based on its review and investigation, the staff also discovered that the existing operations at the Plant may not be in compliance with all SUP conditions (1960), specifically the use of trucks after hours of darkness and a condition regarding onsite Stormwater Management. The staff viewed this as an opportunity to require Virginia Paving to install best management practices and controls to minimize impacts on the residential neighborhood, far beyond the specific terms in the 1960 SUP that were in question. This resulted in a multi-departmental inspection of the facility in coordination with the City Attorney’s office. A detailed letter was sent to the facility requiring a baseline study and plan of action. In response to the City’s letter, Virginia Paving submitted a new SUP application for its facility.

Summary of Air Monitoring Data in the vicinity of VA Paving Plant

Ambient Air Monitoring

The City of Alexandria operated a monitoring site at Cameron Station on 4900 Duke Street, approximately one mile to the northeast of the Virginia Paving facility. The monitoring site measured particulate matter (PM10 and TSP) concentrations in the ambient air from 1990 to 1996. In addition, the samples were analyzed for lead, cadmium and mercury. This monitoring station was a community ambient air monitoring station installed to address community’s concerns regarding impacts from emissions from industrial facilities in Eisenhower Valley. The City staff reviewed air monitoring data to ensure that the residents were not exposed to pollution levels that exceed National Ambient Air Quality Standards. Table 2 provides a summary of the monitoring period and the concentrations measured at this monitoring site.

TABLE 2
Highest Monitored Concentrations ($\mu\text{g}/\text{m}^3$)
4900 Duke Street, Alexandria, Virginia

Pollutant	Averaging Period	1991	1992	1993	1994	1995	1996	NAAQS
TSP	24-Hour	97	83	101	96	107	63	150
	Annual	43	36	39	n/a	39	n/a	75
PM-10	24-Hour	64	55	62	57	53	59	150
	Annual	28	n/a	23	n/a	n/a	n/a	50
Lead	Quarter	0.06	0.01	0.01	n/a	0.01	n/a	1.5
Cadmium	24-Hour	0	0	0	0	0	0	none
Mercury	24-Hour	0	0	0	0	0	0	none

Additionally, in response to the community's concerns, the City staff also conducted limited particulate matter monitoring during August 2004 at Armistead Boothe Park and Ben Brenmann Park. Several samples were also analyzed for metals content. Because of limited sampling days, sampling was suspended on days when wet weather was expected. The sampling was also not conducted when northerly winds were expected. The daily TSP concentrations were found to range from 22 to 100 $\mu\text{g}/\text{m}^3$, with an average of 58 $\mu\text{g}/\text{m}^3$. The daily PM-10 concentrations were found to range from 18 to 71 $\mu\text{g}/\text{m}^3$, with an average of 45 $\mu\text{g}/\text{m}^3$. **These concentrations are well below the National Ambient Air Quality Standard (NAAQS) of 150 $\mu\text{g}/\text{m}^3$.**

The metals analysis showed that the largest constituents of particulate matter samples are sodium, sulfur, calcium, iron, potassium, aluminum and magnesium, and range from 1 to 17 $\mu\text{g}/\text{m}^3$. Lead was found to be in the order of 0.01 $\mu\text{g}/\text{m}^3$, i.e., similar to the Duke Street monitor, while many heavy metals were found to be below detection limits, e.g., arsenic, beryllium and cadmium.



Because the historical Duke Street monitor and the limited August 2004 monitoring were not targeted specifically to measure concentrations from the Virginia Paving facility and in order to provide the community a continued assurance about the particulate levels in the ambient air in the community, the City planned a new monitoring program and installed a new monitor at Boothe Park near Tucker School to measure particulate matter concentrations.

The location of the new monitoring site(s) was

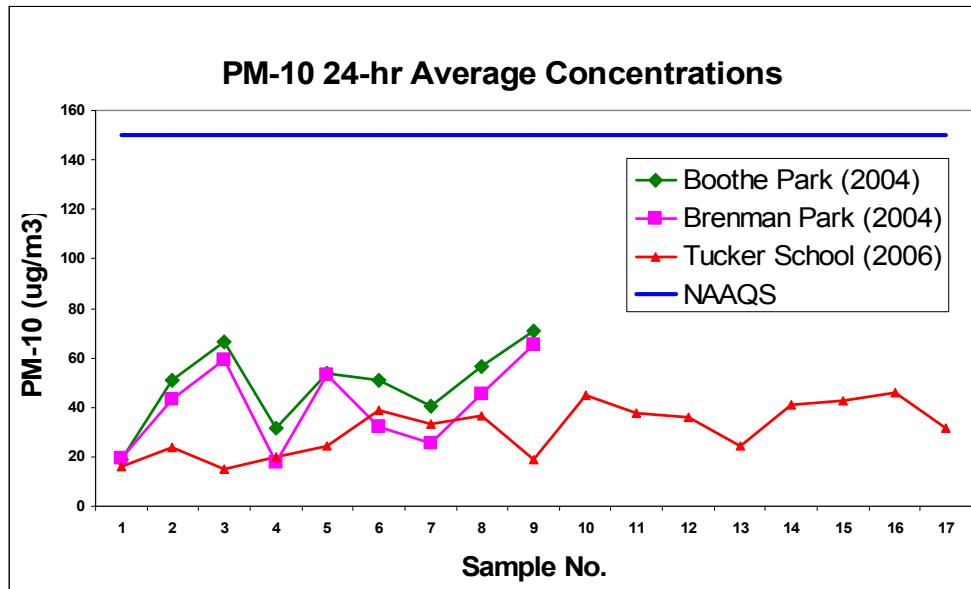
determined based on several factors, including both the locations identified by dispersion modeling to have high impacts from the Virginia Paving facility and locations of concern such as schools, residences, and population centers, and extensive consultations with the community and its environmental consultant. The selected location is closer to the Virginia Paving facility and has been set up as a permanent monitoring site. The aerial picture shows the locations of the new and the historical PM10 monitors. The layout of the present-day Cameron Station is shown superimposed on the Cameron Station Army Base for reference purposes.

Table 2A is a summary of the PM-10 monitoring results. The table lists the measured concentrations from all monitors in this study. The listed values are 24-hour average PM-10 concentrations and can be directly compared to the EPA-specified National Ambient Air Quality Standard (NAAQS) of 150 $\mu\text{g}/\text{m}^3$. A chart of the PM-10 concentrations is provided in Table 2A.

TABLE 2A
PM-10 Monitoring Results

Sample No.	Measured 24-Hour Average PM-10 Concentrations ($\mu\text{g}/\text{m}^3$) at Cameron Station					
	Boothe Park August 2004 Limited monitoring		Brenman Park August 2004 Limited monitoring		Boothe Park near Samuel Tucker School (New Long term Monitor)	
1	8/6/2004	18.9	8/6/2004	19.4	6/4/2006	15.8
2	8/9/2004	51.2	8/9/2004	43.0	6/7/2006	23.8
3	8/10/2004	66.5	8/10/2004	59.4	6/10/2006	14.8
4	8/11/2004	31.3	8/11/2004	17.9	6/13/2006	20.2
5	8/16/2004	53.9	8/16/2004	53.0	6/16/2006	24.1
6	8/17/2004	50.7	8/17/2004	31.9	6/19/2006	38.9
7	8/18/2004	40.4	8/18/2004	25.7	6/22/2006	33.3
8	8/23/2004	56.4	8/23/2004	45.4	7/1/2006	36.3

9	8/24/2004	70.8	8/24/2004	65.2	7/7/2006	18.9
10					7/10/2006	45.0
11					7/16/2006	37.7
12					7/19/2006	35.9
13					7/22/2006	24.3
14					7/28/2006	41.0
15					7/31/2006	42.6
16					8/3/2006	46.2
17					8/15/2006	31.5



As can be seen from both the long term historical measurements at the Duke Street monitor as well as more recent measurements at Cameron Station, **the ambient concentrations of PM-10 do not exceed the NAAQS**. Furthermore, the Cameron Station study concluded that even though human activity (industrial facilities, transportation sources, etc.) may have contributed to the measured concentrations, no direct link could be established with any single source.

Other nearby Sources of Air Pollution

In order to develop a relative perspective, the City analyzed emissions of other major sources of air pollution within the City of Alexandria. This included the two largest stationary sources within the City, namely, Mirant’s Potomac River Generating Station (PRGS) and Covanta Waste-to-Energy (WTE) facility.

In addition, we evaluated transportation related emissions from the sections of roadways (both highways and local roads) surrounding the Virginia Paving facility, i.e., Eisenhower Avenue, Duke Street, Van Dorn Street and I-495 Beltway. Table 3 provides a summary of this emissions analysis.

Table 3 shows that the potential emissions from the Virginia Paving facility are small compared to other sources of air pollution within the City of Alexandria. However, it must be noted that all emissions from Virginia Paving are released from low level sources, i.e., ground level releases or short stacks, as compared to Mirant PRGS and Covanta WTE facility. Also, Virginia Paving emissions are localized, i.e., they are released from a relatively small area as compared to the roadway emissions which are spread out over a large area. To assess the potential and extent of localized impacts, both the City and the Virginia Paving

facility performed dispersion modeling analyses of its emissions. The modeling analysis is discussed below.

TABLE 3
Emissions Comparison for Air Pollution Sources
City of Alexandria, Virginia

Pollutant	Mirant PRGS*	Covanta WTE	VA Paving	Transportation Sources	
				On-Road Vehicles	Road Dust
PM-10	606	106	18	11	18
NO _x	5,750	830	22	484	n/a
CO	257	146	78	3,434	n/a
VOC	36	9	16	191	n/a
SO ₂	15,139	206	52	15	n/a

* Actual emissions for PRGS from 2003.

As evident from Table 3, there are a variety of air emission sources around Cameron Station, Virginia Paving being one among them. Transportation sources and other industrial facilities in the City are a larger source of air pollution when compared to emissions from Virginia Paving.

Dispersion Modeling Analysis

The Virginia Paving facility is a minor source of air pollution under EPA and VDEQ regulations. As such, it is not required to perform a dispersion modeling analysis of its emissions. However, based on concerns raised by the residents living in the facility's neighborhood, the City requested Virginia Paving to perform a dispersion modeling analysis to assess its compliance with the NAAQS. At the same time, the City began discussion with Virginia Paving regarding its Special Use Permit (SUP) in order to establish best management practices (BMPs), to control emissions and mitigate air quality impacts from the facility. Based on those discussions, Virginia Paving modeled a future configuration of the facility reflecting these BMPs, emission reductions and changes to source parameters.

In addition to the modeling performed by Virginia Paving, the City performed modeling analyses of both the current configuration (baseline scenario) and the future configuration (SUP scenario) (See Appendices). The City's analyses were performed independently from the Virginia Paving analysis, i.e., the calculation of potential emissions, source parameter definitions, and all model inputs were developed independently by the City based on our understanding of the facility's operations and conservative assumptions.

In addition to modeling criteria pollutants, the City also evaluated hazardous air pollutant (HAP) emissions because several of the units at the facility are allowed to burn recycled oil. The City estimated potential emissions of several HAPs, (including VOCs of concern) based on worst-case assumptions and calculated the ambient impacts of these HAPs. Virginia Paving also modeled two of the HAPs in their analysis. Table 4 provides a summary of the modeling results for criteria and hazardous air pollutants from both analyses.

A comparison of the City’s baseline and SUP scenarios in Table 4 shows that the ambient impacts from the Virginia Paving facility will improve considerably if all conditions of the proposed SUP are met. While the baseline scenario shows several exceedances of the NAAQS, the City’s SUP scenario only shows exceedances of two standards, i.e., PM-2.5 (annual) and SO₂ (3-hour) standards. Both of these exceedances are about 7% above the standards and are reflective of the conservative nature of the analysis. The modeled exceedances were shown to occur at or very close to the facility’s boundaries and within a short distance (100 to 200 meters) beyond the boundaries, the impacts are shown to comply with NAAQS. Given that this was a conservative analysis and that the modeled exceedances are within the uncertainty of the model, the City is comfortable that the proposed SUP will result in compliance with the NAAQS.

It should be noted that, with some exceptions, the results of the City’s and Virginia Paving’s SUP scenarios are closely similar, i.e., within about 20% of each other. While Virginia Paving’s analysis shows compliance with the SO₂ (3-hour) standard it shows an exceedance of the PM-2.5 (24-hour) standard. It also shows a modeled exceedance of the PM-2.5 (annual) standard similar to the City’s analysis. The exceedances of the NAAQS shown in Virginia Paving’s analysis were also found to occur at or near the facility boundaries, and only extended a short distance beyond the boundaries.

The modeling analyses of the HAP emissions show compliance with the Virginia DEQ’s Significant Ambient Air Concentration (SAAC) guidelines for all pollutants. Detailed modeling reports for both the City’s and Virginia Paving’s analyses are provided in the appendices.

TABLE 4
Results of Dispersion Modeling Analysis
Virginia Paving Company, Alexandria, Virginia

Pollutant	Averaging Period	Monitored Background Concentration (µg/m ³)	City’s Baseline Scenario (µg/m ³)	City’s SUP Scenario (µg/m ³)	VA Paving’s SUP Scenario (µg/m ³)	NAAQS or SAAC (µg/m ³)
CRITERIA POLLUTANTS*						
PM-10	24-Hour	43	346	124	102	150
	Annual	19	35	30	25	50
PM-2.5	24-Hour	35	125	58	68	65
	Annual	13	18	16	16	15
NOx	Annual	45	74	63	54	100
CO	1-Hour	4,580	7,467	5,817	5,202	40,000
	8-Hour	3,206	4,820	3,887	3,668	10,000
SO ₂	3-Hour	238	2,508	1,392	534	1,300
	24-Hour	60	648	326	194	365
	Annual	16	58	56	54	80
Lead	Quarter	0.013	0.040	0.030	0.015	1.5

Pollutant	Averaging Period	Monitored Background Concentration (µg/m ³)	City's Baseline Scenario (µg/m ³)	City's SUP Scenario (µg/m ³)	VA Paving's SUP Scenario (µg/m ³)	NAAQS or SAAC (µg/m ³)
HAZARDOUS AIR POLLUTANTS						
Lead	1-Hour	n/a	n/a	0.1	n/a	7.5
	Annual	n/a	n/a	0.007	n/a	0.3
Formaldehyde	1-Hour	n/a	n/a	22.6	14.6	62.5
	Annual	n/a	n/a	1.7	0.21	2.4
Acrolein	1-Hour	n/a	n/a	0.2	n/a	17.3
	Annual	n/a	n/a	0.02	n/a	0.46
1,3 Butadiene	1-Hour	n/a	n/a	0.09	n/a	1,100
	Annual	n/a	n/a	0.004	n/a	44
Benzene	1-Hour	n/a	n/a	2.9	n/a	1,600
	Annual	n/a	n/a	0.2	n/a	64
Acetaldehyde	1-Hour	n/a	n/a	9.3	n/a	6,750
	Annual	n/a	n/a	0.7	n/a	360
Quinone	1-Hour	n/a	n/a	9.1	0.73	22
	Annual	n/a	n/a	0.7	0.01	0.8

* Criteria pollutant impacts include monitored background concentrations. Results in **bold** indicate modeled exceedances of the NAAQS.

Odor

The liquid asphalt and the final asphalt product are sources of odorous emissions. The City has occasionally received complaints from the Cameron Station residents about the odors from the industrial area south of the rail road tracks. With the exception of asphalt odors, the source(s) of these odors have not been definitively established because of their infrequency and short duration. As a part of the SUP, the City will require Virginia Paving to mitigate odorous emissions from the facility. Specifically, Virginia Paving will be required to install (1) Blue Smoke Control system (a six-stage filtration system) at the asphalt load-out area capable of achieving 99% control efficiency, and (2) vent condensers and steel wool filters to control asphalt storage tank emissions. With the installation and routine maintenance of these control measures, the City expects the odorous emissions from the Virginia Paving facility to be significantly reduced.

Noise and Lights

The City has received complaints from residents near the Virginia Paving facility regarding noise emanating from the facility's operations, especially during night time. All of these complaints have been in the recent past. Historically, however, there were no complaints prior to 2000-01. In order to address residents' complaints, the City has proposed several measures in the facility's SUP that are designed to reduce or eliminate noise pollution and to maintain compliance with the City of Alexandria's Noise Control Code, Title 11, Chapter 5, which sets the maximum permissible noise level as measured at the property

line. The measures in the proposed SUP will prohibit certain operations during night time (such as the RAP crusher, unloading of rail cars, etc.), limit asphalt production operations at night, reduce or eliminate tailgate banging, engine brakes and backup alarms from the trucks, and install signs requiring plant personnel to limit noise-generating activities. Virginia Paving will also be required to establish a 24-hour “Hotline” number for noise complaints and resolve all complaints received at this number. In addition, two years after the approval of the proposed SUP, the City will evaluate the need for further measures based on the level of noise mitigation achieved by the above measures. One of the reasons for this provision was to have the ability to evaluate impacts on the new residential units that are currently being built, but are not yet occupied.

The proposed SUP also requires Virginia Paving to reduce light pollution during night time operations. Any lights that are not essential for plant operations will be required to be turned off. Any lights that are necessary to facilitate operations will be required to be directed downward so as to minimize glare on adjacent properties.

Stormwater

The facility’s current SUP, issued by the City of Alexandria in 1960, requires on-site settling basins to prevent discharges of silt, asphalt, etc. into the Back Lick Run stream that runs along the north and east boundaries of the facility. In the past, the facility had provided settling ponds for this purpose. However, over the years, the ponds were filled with aggregate and RAP due to limited availability of space. As a part of this proposed SUP, the City is requiring Virginia Paving to develop a Stormwater Management Plan that includes building a Stormwater Management Facility (SWMF), to treat storm or contact water and storm water prior to its discharge into Back Lick Run. The City will prescribe the requirements for the SWMF and the plan for the SWMF will be require City approval. Virginia Paving will be required to establish a maintenance contract for the SWMF and follow standard operation and maintenance procedures.

In addition to the SWMF, Virginia Paving will be required to pull back its current asphalt pile away from Back Lick Run and stabilize the stream bank. Furthermore, Virginia Paving will be required to install a vegetative buffer along the West Park. Following these requirements, Virginia Paving has prepared a Concept Plan for stormwater management, shown in Figure 2, which has been approved. A plot plan, currently under review by the City staff, has been submitted that incorporates these stormwater improvements. The SUP condition requires that these improvements be installed by Dec. 31, 2006.

Landscaping and Open Space

In addition to showing the stormwater management plan, Figure 2 shows the landscaping that the City will require in the proposed SUP. The landscaping will restore the stream bank, better screen the property, and provide several additional trees. Staff also proposes a condition that the applicant work with the City on an easement to use a portion of its property along Backlick Run for a bike trail, a vital connection in the West End trail envisioned in the City’s Open Space Master Plan.

FIGURE 2

**Stormwater Management Concept Plan
 Virginia Paving Company, Alexandria, Virginia**



Land Use Issues

Planning for Industrial Uses in the West End

The subject property and surrounding area has historically been occupied by industrial uses. In addition to the asphalt plant, long time industrial uses in the area include the City's Waste-to-Energy Plant, UPS Shipping, railway operations, Police Firing Range, and Vulcan Materials. There are also recycling, storage, and trucking operations in the vicinity. The asphalt plant is located in the Landmark-Van Dorn Small Area Plan and is on land annexed from Fairfax County in 1952.

The 1974 Consolidated Master Plan for the City identified the Eisenhower Avenue West area for continued industrial uses, and encouraged the relocation of industrial uses from other parts of the City to this area. Most of the areas south of Pickett Street, including Cameron Station, were designated for industrial uses. Cameron Station at that time was a military base and compatible with the industrial uses in the area. The area where Summer's Grove is now located was vacant land, although recommended for a commercial-industrial employment area. The 1974 Master Plan indicated industry in this area because of its relative isolation from residential uses. This reflects the historical approach of zoning as a tool to separate incompatible uses. In designing a city, heavy industrial uses that have impacts such as noise, odors and traffic inherent to their operations would traditionally be separated from residential neighborhoods.

In 1986, a Small Area Plan was adopted for the Landmark-Van Dorn Area. In the Plan, the Cameron Station area was changed from Industrial to Mixed Use to reflect the desired type of redevelopment after the relocation of the military uses. The Virginia Paving land retained its industrial designation.

The Landmark/Van Dorn Small Area Plan was updated in 1992, with few changes. The industrial parcels retained the industrial designation of the 1986 plan, including Virginia Paving's property, and discouraged office development on these properties. Cameron Station was designated a Coordinated Development District, and Summer's Grove as an opportunity for high density commercial development.

Applicable Land Use Principles

The history of land use planning in this area of Alexandria reflects two traditional land use principles: (1) that industrial uses are positive and provide a balanced allocation of land for a community and (2) that industrial and residential uses should be separated physically.

Industrial and service uses in Alexandria have been reduced over time, because of the changing demographic land patterns and the high price of land. Despite their value to the employment and economic base, the City has increasingly seen its industrial uses pushed out of the eastern part of the City, especially with the development of Carlyle, Eisenhower East and Potomac Yard. Historically the City has been able to accommodate industrial uses in the western part of the City but there is little if any industrial land remaining outside the far southwestern corner of the City, including west Eisenhower Avenue and South Van Dorn Street. With the closing of the Cameron Station U.S.

Army facility and the construction of Cameron Station residential community on what had been industrial land, that trend, to allow industrial and service uses to remain and to be built in the southwestern part of the City, may need to be reexamined.

The original purpose of zoning was to separate all incompatible uses. Thus, commercial and residential areas have typically been mapped to be apart from each other, as were industrial and residential uses, and even different forms of residential, such as single family, townhouse, and apartment uses. While more recent planning and zoning trends encourage a mix of uses, to reflect and support the vitality that more historic building patterns provide, such as in Old Town, and on Mount Vernon Avenue, in Alexandria, it remains important to ensure that impacts from disparate uses are controlled.

In Alexandria, the SUP process provides one mechanism by which to review and require conditions to mitigate impacts from a potentially incompatible use. The City often uses this mechanism in the context of commercial uses, such as restaurants, near residential uses. It has also used the SUP process to address the concern about placing residential and industrial uses in close proximity. For example, there was discussion in the staff reports for both Summer's Grove and Cameron Station about the presence of industrial uses in the vicinity, and conditions were added in each case to address some of the issues of incompatibility. For Summer's Grove, the developer was required to disclose the proximity of the industrial uses to potential buyers, and include information in marketing materials about heavy industries and an incinerator in the vicinity. The development approval for Cameron Station Phases V, VI, and VII included requirements to mitigate noise levels from surrounding industrial activities through higher quality windows and building materials.

Although current residents continue to experience impacts from the industrial uses in the area and their concerns are real and justified, the area has historically been occupied by industrial uses and is one of the few areas of the city that industry continues to be permitted. Adding to the complexity, the draft Landmark-Van Dorn Area plan currently underway to the north has already stated that the city strives to retain its industrial uses, which includes the subject property. The future of industrial uses in this area will have to be studied comprehensively as part of the West Eisenhower Planning process.

Consideration on Review

According to Section 11-504 of the City's Zoning Ordinance, the City Council may approve an application for a Special Use Permit, provided all regulations and provisions of law have been complied with, if it finds that the use for which the permit is sought:

- (1) Will not adversely affect the health or safety of persons residing or working in the neighborhood of the proposed use;
- (2) Will not be detrimental to the public welfare or injurious to property or improvements in the neighborhood; and
- (3) Will substantially conform to the master plan of the city.

IV. ANALYSIS

Staff has conducted a comprehensive analysis of Virginia Paving's asphalt plant operations. Specific citizen concerns regarding emissions, odors, and other environmental issues have resulted in in-depth testing and analysis from Virginia Paving and review of various industrial facilities in the area. Beginning in October 2004, staff from several City departments began meeting with representatives of Virginia Paving, discussing and requiring significant environmental information from them, and, consistent with the opportunity presented by this SUP application, requiring the development of a short and long term action plan to address all concerns cited by neighbors.

Impacts experienced by residents in Cameron Station and Summer's Grove are real, even though they may not be definitively linked to Virginia Paving. There are many sources of air emissions, odors, and noise in the area including the Beltway, the Waste-To-Energy Plant, a crematorium located in the vicinity in Fairfax County, Vulcan Materials, the Norfolk Southern Railroad staging area, and other uses that have occupied this area for decades.

With the Virginia Paving application before the City, staff has the opportunity to fashion an extensive set of environmental conditions to update and upgrade the asphalt plant facility, and the specificity of the requirements and the extent of the investment necessary to meet them will result in a state of the art asphalt plant. If the application is approved, it will result in a plant that is a model of environmental protection and second to none in the area.

Proposed SUP Conditions

To ensure continued compliance with the pollution control measures identified in this report, the City has proposed several conditions to be included in the facility's SUP. These conditions are designed to reduce or eliminate pollution, secure control measures that are not otherwise required under Virginia DEQ regulations, and address concerns raised by the City's residents. Under the proposed SUP, Virginia Paving will be required to monitor their operations and control measures, and maintain records to document compliance. In addition, Virginia Paving will be required to apply for and obtain all necessary construction and operating permits from Virginia DEQ prior to making these upgrades.

In addition to several new monitoring, recordkeeping and reporting requirements, the proposed SUP specifies several limits that are more stringent than the facility's current State Operating Permit. Table 5 lists these limits and compares them to the current State limits.

TABLE 5
Comparison of State Limits and Proposed SUP Limits
Virginia Paving Company, Alexandria, Virginia

Parameter	State Limit	SUP Limit
Production	1,500,000 tons/year	1,200,000 tons/year*
	No daily limit	10,000 tons/day
	No day/night restriction	Only one dryer at night
Hot Oil Heater	No. 2 & recycled oil	No. 2 oil only
No. 2 Oil	0.5% sulfur	0.05% sulfur
Recycled Oil		
Sulfur	0.5%	0.5%
Arsenic	5 ppm	3 ppm
Cadmium	2 ppm	2 ppm
Chromium	10 ppm	7 ppm
Lead	100 ppm	50 ppm
Halogens	1,000 ppm	1,000 ppm
PCB	49 ppm	2 ppm
Baghouse PM	0.04 gr/dscf	0.03 gr/dscf
RAP Crusher Opacity	15%	10%

* Note that this production limit only goes into effect after installation of major control technology. Prior to the completion of such controls, production is capped at 900,000 tons per year, which is essentially holding the plant at its historical production level over the last several years.

Enforcement

Through an interdepartmental strategy, staff is committed to enforcement of the proposed conditions. Staff proposes a comprehensive enforcement strategy, with conditions that require frequent interdepartmental inspections and opportunities for review by City Council; stricter penalties for violations of significant conditions with impact on air quality, including loss of privilege for nighttime vehicular operations and a mandatory review by City Council within 30 days; and a community liaison and biannual community meetings for improved communication. These enforcement conditions go beyond the enforcement procedures outlined in the zoning ordinance. Condition #27 also allows staff to require the plant to cease operations if it finds that it is creating a public nuisance or health problem, reinforcing the existing authority of Code Enforcement to require the plant to cease operations if it finds issues threatening public safety, life or health.

Conclusion

Staff attempted to develop a series of physical and operational improvements to the plant that would allow it to less intrusively coexist with its residential neighbors. Moreover, even though the plant is currently in compliance with all State and Federal environmental regulations, the City has negotiated,

as part of the SUP process, additional restrictions on and improvements to the plant, such that it properly respects and coexists with the residential neighborhoods that have been built nearby.

With regard to trucks coming and going from the site, staff believes that the limitations to which Virginia Paving will agree in the context of the amended SUP are more restrictive than the current condition from the 1960 SUP, and the limited nighttime work will not have a negative impact on nearby residents. Essentially, since the overall production of the plant is capped, traffic should be more evenly distributed over the course of the day and evening, rather than concentrated only during daylight hours. Moreover, staff sees as significant the benefits that accrue to commuters in the region and in Alexandria from the reduced impact on peak traffic hours achieved through nighttime paving operations.

In assessing the application, staff has considered the potential impacts of its recommendation on the applicant, area residents, the City at large, and the region. These impacts include the following:

- 1) If the application is denied, the operation could continue under its current SUP#398, which prohibits exit or entrance of vehicles after hours of darkness or during inclement weather or on Sundays or holidays. There are few conditions in the SUP, with little regulation on environmental issues. The operations of the plant and resulting truck traffic would be concentrated during daytime hours, and paving jobs would require daytime lane closures or other traffic interruptions that would impact a wide range of citizens. Environmental concerns of area residents would not be addressed through negotiated conditions.
- 2) If the application is approved, the operation will be allowed to continue, and trucks coming and going will be limited to the hours specified by the applicant. Conditions requiring extensive capital improvements with extensive environmental controls would be imposed. Although allowing nighttime operations, impacts to the larger citizenry and region would be less since paving could be done outside of peak traffic hours.

On balance, staff finds that the consequences from approving the application, with its reduced traffic impact for commuters, and its extensive modernization, environmental controls and aesthetic improvements, provides greater benefits for all stakeholders, including the area residents. The improvements make this plant state of the art and one the most environmentally sensitive of its kind in the area, if not the United States. These benefits could not be obtained if the plant is simply allowed to operate under its existing SUP.

V. RECOMMENDED CONDITIONS

Staff recommends **approval** subject to compliance with all applicable codes and ordinances and the following conditions:

AIR

1. Virginia Paving Company (hereinafter, VA Paving) shall limit its hot mix asphalt production to a yearly maximum of 850,000 tons per year until all air pollution controls have been installed as scheduled in this special use permit. Thereafter, the hot mix asphalt production shall be limited to 980,000 tons per year. In addition, Virginia Paving shall limit hot mix asphalt production to 275,000 tons per year during nighttime shifts as defined in Condition No. 4 below. (T&ES) (City Council)

Discussion: The production limit VA Paving is currently subject to is the limit of 1,500,000 tons/year in the State Operating Permit. The existing SUP does not have any production limitation. A lower limit of 1,200,000 tons/year will cap potential emissions of all pollutants. Similarly, the interim limit of 900,000 tons/year will limit emissions of all pollutants.

2. Virginia Paving shall limit its hot asphalt production rate to a maximum of 1,000 tons per hour and 8,000 tons in any daily period, not to exceed 4,000 tons in any one nighttime shift. (T&ES) (City Council)

Discussion: This condition is in response to the community's concerns that the proposed SUP will enable 24 hr. a day production at this plant. The 1,000 tons/hour limit represents the combined total rated capacity for the two asphalt plants at the facility. Therefore, the limit of 10,000 tons/day limit will restrict the facility's potential production on a daily basis. This provides for potential emission cap on a short-term basis.

3. Virginia Paving shall control odors, smoke and any other air pollution from operations at the site, and prevent them from leaving the property and becoming a nuisance to neighboring properties, as determined by the Department of T&ES, in coordination with the Director of Department of Health. (T&ES) (City Council)

Discussion: This condition is similar to the standard language condition derived from City ordinance, and is designed to protect the neighboring properties from being adversely affected due to the operations at the facility by reducing all air pollutant emissions including of odors and smoke.

4. Virginia Paving shall limit its nighttime work to 110 nighttime shifts per calendar year. A record shall be maintained on site for the days/shifts on which nighttime work was conducted. Work conducted from 8 p.m. to 5 a.m. will be considered as nighttime shift. A partial shift work will be counted as one nighttime shift work for the purposes of this condition. (T&ES) (City Council)

Discussion: This condition is in response to community's concerns that the proposed SUP will enable 365 days a year of night time production at the plant. The asphalt plant production is season dependent and it is reflected in the limitation on the maximum number of nighttime shifts allowed under this condition.

5. All nighttime production at Virginia Paving shall be limited to public road, street and highway work for government customers only. Nighttime production for and servicing of non-government entities from this facility is not permitted. (T&ES) (City Council)

Discussion: This condition is in response to community's concerns that the proposed SUP will enable increase in night time production at the plant to serve non government entities.

6. For control of odors, Virginia Paving shall use low-odorous additive or, upon proposal to and approval by the Department of T&ES, another equally effective approach such that odors from Virginia Paving is in compliance with Condition No. 3 hereto. Since effectiveness of these additives is highly dependent on their usage in manufacturer's recommended quantities, Virginia Paving shall maintain records on site that demonstrates that these additives are being used as per manufacturer's recommendations. The records will include the amount of additive used, compared to production and use of asphalt cement. (T&ES) (City Council)

Discussion: This condition targets the mitigation of odor emissions from the asphalt production and transport process.

7. VA Paving shall only burn No. 2 virgin fuel oil or better in the hot oil heaters. The annual consumption of No. 2 fuel oil in the hot oil heater shall be limited to 100,000 gallons based on a rolling twelve month total. Only one of the two currently permitted hot oil heaters shall operate at any one time. VA Paving shall clearly mark this requirement on the heaters and train the operators so that they are aware of this condition. (T&ES)

Discussion: Under the current State Operating Permit, VA Paving is allowed to operate both its hot oil heaters simultaneously and can burn up to 200,000 gallons of recycled oil and up to 25,000 gallons of No. 2 oil in these heaters. The purpose of this

condition is to ensure that only clean fuel is used, reduce the annual fuel usage, and prohibit simultaneous operation of both heaters. This will result in lower emissions and impacts from the facility.

8. VA Paving shall only utilize No. 2 fuel oil or specification recycled oil as fuel for the drum dryers. The recycled oil shall meet the following specification.

Constituent	Maximum Allowed Level	Typical Level
Sulfur	0.5 % by weight	0.4 % by weight
Arsenic	3 ppm	< 2 ppm
Cadmium	2 ppm	< 2 ppm
Chromium	7 ppm	5 ppm
Lead	50 ppm	20 ppm
Total Halogens	1,000 ppm	700 ppm
PCB	2 ppm	<2 ppm
Flash Point	100 °F minimum	100 °F minimum

Further, for sulfur content, the applicant will target .40 by weight, and if specification is not achieved for a particular shipment, the applicant will meet with the supplier and take action to ensure that target can be achieved. For every shipment of recycled oil received, VA Paving shall maintain on site, for a period of five years, fuel supplier records showing concentrations of the above constituents, as well as daily and monthly consumption of the same. The records shall be provided to the City upon request. (T&ES)

Discussion: The constituent limits for recycled oil in this condition are more stringent than the Federal and State regulations and their existing state operating permit. These limits will reduce potential emissions of hazardous air pollutants from the asphalt plants.

9. Virginia Paving shall only utilize low-sulfur No. 2 distillate oil as fuel for the drum dryers on days when the Air Quality Index (AQI) value for Alexandria/Region is predicted to exceed 100 (Codes Orange and Red) for ozone and particulate matter, as identified on MWCOG’s website. Additionally, Virginia Paving shall be limited to a daily production cap of 4000 tons on days when AQI is forecast from 150 to 200 (Code Red) and shall not produce hot mix asphalt on days when AQI is forecast greater than 200 (Code Purple and Maroon.) A record shall be maintained that documents appropriate fuel usage and compliance with this requirement. (T&ES) (City Council)

Discussion: This condition is designed to require the use of cleaner fuel on the worst air quality days in the Alexandria area. On days with high Air Quality Index, the facility will not be allowed to use recycled fuel oil. This will help the region wide attempt to reduce emissions on Ozone action days.

10. The No. 2 distillate oil used as fuel by VA Paving shall be the same as is approved for use in on-road diesel vehicles. The sulfur content of this oil shall be limited to 0.05% by weight. For every shipment of No. 2 distillate oil received, VA Paving shall maintain on site, for a period of five years, fuel supplier records certifying the fuel type and sulfur content. The records shall be provided to the City upon request. (T&ES)

Discussion: The fuel approved for use in on-road diesel vehicles is the cleanest form of No. 2 oil approved by EPA. This condition ensures that the facility burns the cleanest No. 2 fuel in its hot oil heaters and drum dryers.

11. VA Paving shall install, operate, and maintain Blue Smoke Control system (six-stage filtration or ventilation to drum dryer burner: Butler-Justice, Inc.) to achieve 99% control efficiency for particulate emissions within the capture zone at the top of the silos per vendor specification. VA Paving or the vendor shall test the system to demonstrate that the system will meet its efficiency rating for captured PM-2.5 and PM-10 emissions within 90 days of startup of the system. The installation and testing for the top of the silos for Plant 1 shall be completed by December 31, 2006. For Plant 2, the fugitive emission control system shall be installed at the top of the silos by July 30, 2007. (T&ES)

Discussion: The odorous emissions from the VA Paving facility are not regulated under the current State Operating Permit. A large portion of odorous emissions from the asphalt plant are emitted as fine droplets, which are classified as particulate matter emissions, during asphalt transfer and load out operations. Under the SUP, the facility will be required to install a six-stage filtration system to capture and control these droplets, and therefore reduce odorous emissions.

12. VA Paving shall install and maintain low-NOx burners on both drum drier units. The installation of low-NOx burners shall be completed no later than October 30, 2006 for Plant 2 and no later than December 31, 2007 for Plant 1. (T&ES)

Discussion: In the hot mix asphalt industry, low-NOx burners are considered to be Best Available Control Technology (BACT). A new asphalt plant that is required to apply BACT, would generally select low-NOx burners to meet the BACT requirement. VA Paving is not a major source of air pollution under EPA and Virginia DEQ regulations and would not be required to apply BACT. However, under the proposed SUP, VA Paving will be required to install low-NOx burners to reduce NOx emissions and impacts.

13. VA Paving shall install and maintain tank vent condensers which may include steel wool filters, or other alternate control approved by the Director of T&ES, to control asphalt storage tank emissions no later than September 30, 2006. (T&ES)

Discussion: This condition targets the control of VOC and odor emissions from the asphalt storage tanks.

14. VA Paving shall install Fugitive Emissions Control Systems to capture and control fugitive emissions from the hot mix asphalt conveyors and loadouts. The systems shall be vented to the drum dryer burner or the six-stage filtration collection unit. For Plant 1, the system shall be installed no later than September 30, 2007. For Plant 2, the system shall be installed no later than June 30, 2008. Both systems shall be certified within 180 days of startup. (T&ES)

Discussion: This condition targets the mitigation of VOC, odor emissions, and other fugitive emissions from the loadout and asphalt mix conveyor system.

15. The particulate matter (TSP) emissions from the drum dryer baghouses and the lime storage silo baghouse shall not exceed 0.03 gr/dscf of exhaust gas as measured by EPA Method 5. VA Paving shall demonstrate compliance with this limit once every two years by conducting performance tests for each baghouse. Results of performance tests and compliance status report shall be submitted to the City within thirty (30) days of the completion of the tests. Visible Emissions testing (VE) shall be conducted monthly by a Certified Visible Emissions inspector with results available for review at the plant site. (T&ES)

Discussion: The limit of 0.03 gr/dscf is more stringent than the limit in the facility's current State permit for the drum dryer, thereby reducing the potential emissions of particulate matter. Also, this condition places a limit on the lime storage silo when none exists in the current State permit.

16. All on-site engines, front end loaders, trucks and other diesel equipment owned and operated by Virginia Paving shall install 90% efficient particle traps. The installation of particle traps on half (50%) of this equipment shall be completed no later than October 31, 2006, starting with the largest engines, and on the remaining equipment no later than December 31, 2006. In addition, all dump trucks owned and operated by Virginia Paving will be replaced with new trucks that will meet new 2007 Tier III EPA standard for emissions from diesel engines within three years of the approval. Virginia Paving shall replace one third of the existing trucks each year between 2007 and 2009. (T&ES)(City Council)

Discussion: VA Paving operates several mobile and non-mobile diesel fuel-burning equipments at its facility, such as diesel engines, front end loaders, and trucks. While the combined particulate matter emissions from this equipment is significant, they are not regulated under the facility's current State Operating Permit. The purpose of this condition is to control 90% of these particulate matter emissions and to reduce the associated ambient impacts.

17. VA Paving shall increase the height of the drum dryer exhaust stacks to 20 meters no later than January 31, 2007, pending approval by Virginia DEQ. (T&ES)

Discussion: As indicated by the dispersion modeling (City and VA Paving Consultants), raising the stack height will result in better dispersion of pollutant emissions and reduce impacts.

18. VA Paving shall increase the height of hot oil heater exhaust stack 6 meters no later than October 31, 2006. (T&ES)

Discussion: As indicated by the dispersion modeling (City and VA Paving Consultants), raising the stack height will result in better dispersion of pollutant emissions and reduce impacts.

19. Virginia Paving shall install and maintain a particulate matter emission control system at the Recycled Asphalt Pavement (RAP) crusher. Such system shall be installed no later than December 31, 2006, and must consist of water sprays and drop enclosures (housing at the end of the conveyer). (T&ES)

Discussion: This condition targets the control of fugitive dust (particulate matter) emissions from the RAP crusher.

20. Visible emissions from the Recycled Asphalt Pavement (RAP) crusher shall not exceed 10% opacity as measured using EPA Method 9. This condition shall apply at all times except during startup, shutdown and malfunction. The duration of each startup and each shutdown of the RAP crusher shall be limited to no more than 10 minutes. A log of each malfunction shall be maintained indicating cause of malfunction, duration of malfunction, and corrective action taken to eliminate the malfunction and avoid future malfunctions. (T&ES)

Discussion: This condition reduces the current limit of 15% opacity in the State permit down to 10% opacity. The condition also ensures that startups and shutdowns are limited in duration so that any excess opacity during these times is not unnecessarily prolonged.

21. Effective immediately, VA Paving shall spray water using a water truck on all on-site paved roadways at least twice daily. More frequent water spraying shall be conducted if necessary to effectively control fugitive dust emissions from the paved roads. All paved roads shall be wet-vacuumed at least once daily. VA Paving shall maintain a daily log of water spraying and wet-vacuumping operations, and shall make the log available to the City for review upon request. (T&ES)

Discussion: This condition targets the control of fugitive dust (particulate matter) emissions resulting from truck traffic on the paved roads within the facility.

22. VA Paving shall pave the truck access areas at the eastern end of the facility for trucks receiving product from Plant 2 no later than October 31, 2006. (T&ES)

Discussion: This condition targets the control fugitive dust (particulate matter) emissions resulting from truck traffic on the paved roads within the facility. Paved areas result in less fugitive emissions as compared to unpaved areas.

23. VA Paving shall install and maintain water sprays, and construct enclosures, as modeled, on all transfer points as identified in the modeling no later than December 31, 2006. (T&ES)

Discussion: This condition targets the control of fugitive dust (particulate matter) emissions from conveyor and other transfer points.

24. VA Paving shall incorporate into a Long Term Control Plan (LTCP) and operations manual specifying the Best Management Practices (BMPs) to be employed for control of fugitive dust sources as outlined in this Special Use Permit. The BMPs in the LTCP shall include, but not be limited to, vacuum sweeping and water flushing of paved access areas (e.g, roads, parking, etc.), paving of any unpaved access areas, wetting and/or chemical stabilization of aggregate handling and storage including RAP, and enclosures for all conveyor to conveyor transfer points. To demonstrate compliance with the BMPs, VA Paving shall maintain appropriate records including (1) frequency of vacuum sweeping, (2) frequency and quantity of water application, (3) frequency, quantity and type of chemical suppressant applied, and (4) periodic inspection of conveyor to conveyor transfer points to ensure integrity. The records as required by this condition shall be submitted to the City every six months, first submittal no later than April 30, 2007. (T&ES)

Discussion: This condition targets the control of fugitive dust (particulate matter) emissions from all aggregate handling and fugitive dust sources at the facility. The recordkeeping requirement will ensure that the facility maintains compliance with this condition.

25. VA Paving shall conduct stack tests for PM_{2.5}, PM₁₀, NO_x, SO_x, and CO emissions at the outlined schedule. The test shall be completed prior to August 31, 2007. A second test shall be conducted within two years of the first test and must be completed prior to August 31, 2009. Thereafter the tests must be conducted at a frequency of not less than once every five years. The results of the stack tests shall be submitted to the City within 90 days of the tests. (PC)

Discussion: The current State permit does not require any routine or periodic monitoring or testing of stack emissions from the facility. This condition ensures that actual emissions from the stack are measured and documented on periodic basis.

26. VA Paving shall obtain all necessary construction permit(s) and revisions to the operating permit from the Virginia Department of Environmental Quality (DEQ). (T&ES)

Discussion: Several of the above conditions require construction activities, e.g., low-NO_x burners, increasing stack heights, Blue Smoke control, etc. By including these requirements in the State permit, these conditions will also become State-enforceable.

27. In the event that the plant is found to be creating a public nuisance or a public health problem, as determined by the City of Alexandria, VA Paving shall suspend all operations until satisfactory corrections are made in accordance with further recommendation of the Director of Transportation and Environmental Services in consultation with the Director of Alexandria Health Department. (T&ES)

Discussion: This condition is carried over and similar to a condition of facility's current SUP and requires the facility to take immediate action to mitigate adverse impacts on the public, including shutting down the facility until all necessary corrections are made.

28. In the event that the National Ambient Air Quality Standards are modified or new ones are added, the City reserves the right to require Virginia Paving to perform an analysis that provides all technical data to demonstrate that the facility is not causing the exceedance of the National Ambient Air Quality standard in place at that time. In particular, since the 24-hr. standard for the PM_{2.5} NAAQS has been revised from 65

ug/m³ to 35 ug/m³ (determined as the 98th percentile of three years of valid data), although this NAAQS is not enforceable by EPA until the year 2015, the following conditions shall apply:

- 28a. The City shall continue operating the PM10 monitor at Samuel Tucker School until three years of valid data have been collected. The City shall determine the 98th percentile of these data, per the NAAQS, and then multiply that value by 75%, to impute a 98th percentile value for PM2.5.
- 28b. If the imputed value exceeds 35 ug/m³, then the City reserves the right to require VA Paving to demonstrate that the facility is not causing this imputed exceedance, pursuant to the deadlines to be set by the City, but in no circumstance to be less than 90 days from the date of notice by the City. (PC)

Discussion: *This condition insures that the facility will be required to demonstrate that it is not causing any exceedances of any new or modified National Ambient Air Quality Standards and address the newly adopted standard for PM2.5 ahead of EPAs schedule.*

WATER

- 29. VA Paving shall install a Stormwater Management Facility (SWMF) to treat stormwater runoff and contact water from its entire site no later than December 31, 2006. The stormwater management facility shall be designed and constructed to address pollutants of concern i.e. sediment and petroleum based products. The SWMF shall be located within the boundaries of the VA Paving facility. The design and location of the SWMF shall meet the satisfaction of the Department of T&ES. (T&ES)

Discussion: *This condition makes the facility responsible for treatment of stormwater runoff from its property prior to any off-site discharge. This is also a requirement from the existing SUP and a plot plan submitted by VA Paving is under review. The requirement of Stormwater Management facility must be complied regardless of the approval of this SUP.*

- 30A. VA Paving shall execute a maintenance agreement with the City for all installed stormwater Best Management Practices (BMPs). VA Paving shall secure a maintenance contract with the vendor of the installed SWMF and provide a copy of the contract to the City or the applicant shall obtain certification from the vendor that appropriate maintenance has been performed by the employees of the applicant. (T&ES)

- 30B. The stormwater BMPs required for this project shall be constructed and installed under the direct supervision of the design engineer or his designated representative. The design engineer shall make a written certification to the City that the BMP(s) are constructed and installed as designed and in accordance with the approved Plan. (T&ES)
- 30C. VA Paving shall develop or obtain an Operations and Maintenance Manual from the designer or manufacturer of the SWMF. The Manual shall include (1) an explanation of the functions and operations of each BMP and any supporting utilities, (2) catalog cuts on any mechanical or electrical equipment, (3) a schedule of routine maintenance for the BMP(s) and supporting equipment, and (4) a copy of the maintenance agreement with the City. VA Paving shall maintain the SWMF in accordance with the procedures prescribed in the Manual. The maintenance records shall be maintained at the facility for five years and shall be provided to the Department of T&ES once every year or upon request. (T&ES)

Discussion: This condition supplements the above condition requiring SWMF. The BMPs, and the associated maintenance, recordkeeping and reporting requirements, are designed to ensure continued compliance. The certification requirement ensures a professional installation of the Stormwater Treatment appurtenances. These are also the City requirements for all BMPs.

31. VA Paving shall maintain the existing Asphalt Pile that has been pulled back from the stream (Back Lick Run) and shall maintain a minimum distance of 35 feet between the pile and the top of the bank. This buffer shall be vegetated to the satisfaction of Department of Planning and Zoning, Department of Parks and Recreation, and Department of T&ES, and maintenance access shall be provided. (T&ES)

Discussion: Over the years, the facility had expanded operations such that the aggregate storage piles were located adjacent to the Backlick Run and causing degradation of the stream buffer. This condition is designed to restore a vegetated buffer between VA paving operations and Backlick Run.

32. VA Paving shall be responsible for conducting a bank stabilization project in the section of the stream that is on its property as generally depicted on the Concept Plan dated February 6, 2006. Such restoration project must be to the satisfaction of Department of T&ES. (T&ES)

Discussion: Stabilization of the stream bank reduces the amount of sediment entering and other associated impacts on the Back Lick Run.

NOISE

33. The applicant shall comply with the City of Alexandria's Noise Control Code, Title 11, Chapter 5, which sets the maximum permissible noise level as measured at the property line. (T&ES)

Discussion: This is a standard City condition and requires the facility to comply with the City ordinance regarding noise control.

34. No amplified sound, such as intercom speakers, shall be audible at the property line. (T&ES)

Discussion: To respond to citizen complaints of noise pollution, the City is requiring the facility to minimize all amplified sounds such that they are not audible at any off-site location.

35. VA Paving shall limit its night time operations to only one dryer unit, one loader, one skid steer and one mobile crane, and trucks as needed between the hours of 9 pm and 5 am. (T&ES)

Discussion: This condition aims to reduce noise pollution at night and limits the amount of equipment that can be used for night work.

36. VA Paving shall continue to work with Norfolk Southern to encourage all deliveries to be made only between the hours of 7 am and 6 pm (Monday-Friday). (T&ES)

Discussion: The delivery operation is not completely under VA Paving control and the condition encourages them to work with Norfolk Southern to provide as many day time deliveries as possible.

37. Operation of VA Paving locomotive engine, unloading of rail cars and operation of the RAP crusher shall be limited to the hours of 7 am to 6 pm (Monday-Friday), and 9 am to 6 pm on Saturdays. No unloading shall occur on Sundays, New Years Day, Memorial Day, the Fourth of July, Labor Day, Thanksgiving or Christmas. VA Paving shall maintain a log of the timing of arrival of deliveries, use of their locomotive engine, unloading operations, and RAP crusher operations. (T&ES)

Discussion: This condition is designed to prohibit certain activities at night to address citizen complaints about nighttime operations and the associated noise. The condition also prohibits certain activities on Sundays and major holidays.

38. VA Paving will not be permitted to dump on the top of the RAP (Recycled Asphalt Pavement) pile at night. When necessary to deliver RAP to site during night time operations, only the eastern storage area will be utilized. The practice of dumping at the ground level will make use of RAP stockpile as noise buffer. Access to the top of the pile will be blocked daily to eliminate access. (T&ES)

Discussion: This condition aims to further minimize noise pollution from unloading of RAP during nighttime operations.

39. All on-site trucks and equipment owned and operated by VA paving shall be equipped with ambient noise level sensing backup alarms within six months of the approval of this Special Use Permit. VA Paving shall also adjust route trucks and other equipment on its site in such a manner that minimizes the need to use back-up alarms. (T&ES)

Discussion: This condition aims to further reduce noise from the trucks at the facility.

40. VA Paving shall take active measures including use of on-site personnel to direct the unloading of milled material on the site without use of tailgate banging. The measures may include, but shall not be limited to, permanently installing signs on the property instructing truck drivers, in English and Spanish, to not bang their tailgates and to not use engine brakes. Posting of signs alone is not sufficient to be in compliance with this condition. (T&ES)

Discussion: This condition ensures that on-site personnel are aware of, responsible for, and trained in best operating procedures to minimize noise pollution from truck unloading operations.

41. VA Paving shall establish a 24 hour “Hotline” number. The number, and the name of the person responsible for this number at the plant, shall be provided to the City, and the community, and updated on a regular basis. All complaints received at this number shall be logged, followed up and responded. (T&ES)

Discussion: With this condition, the City intends to provide the public a direct line for registering complaints and ensure that the complaints are properly addressed.

42. VA Paving shall install signs on its property to limit engine idling to a maximum of five minutes. Use of engine brakes shall be prohibited while on VA Paving property and appropriate signs shall be installed to make operators aware of this requirement. (T&ES)

Discussion: This condition targets the reduction of all air pollutant emissions resulting from fuel combustion in vehicle engines and to reduce noise pollution by prohibiting the use of engine brakes while on-site.

43. VA Paving shall install noise reducing mufflers on plant air cylinder exhaust ports where possible. These shall be installed by November 30, 2006. (T&ES)

Discussion: This condition targets the mitigation of noise pollution.

44. Two years after the approval of the Special Use Permit, the Department of T&ES shall review any noise complaints and actual measurements at the nearby properties, and the frequency, duration and timing of the impacting noise, and may require reasonable additional measures, including sound barriers or requiring all privately operated trucks and equipment to be equipped with ambient noise level sensing back-up alarms, necessary to address any outstanding issues. (PC)

Discussion: With this condition, the City reserves the right to require further noise abatement measures if warranted based on actual experience over a two-year period following the implementation of the above measures.

OTHER

45. All waste products including, but not limited to, organic compounds (such as solvents), motor oil, compressor lubricant and antifreeze shall be disposed of in accordance with all local, state and federal ordinances or regulations and shall not be discharged to the sanitary or storm sewers, or onto the ground. (T&ES)

Discussion: This is standard City condition and it targets the prevention of any air, ground or water contamination resulting from the facility's usage and handling of potentially hazardous chemicals.

46. VA Paving shall comply with the City of Alexandria Best Management Practices manual for automotive related industries. A copy can be obtained by contacting the Department of T&ES, Division of Environmental Quality at 703-519-3400, ext. 166. (T&ES)

Discussion: This is a standard City condition and requires that all automotive related industries follow certain best management practices to minimize adverse impacts on public health and welfare.

47. All repairs of motor vehicles or equipment shall be conducted inside a building or structure that is approved by the Department of Planning and Zoning, except in the limited cases where the large size of the equipment is prohibitive. (T&ES)

Discussion: This conditions ensures that most vehicle and equipment are repaired in a controlled environment to prevent air, ground and water contamination.

48. At the intersections where pavement has been impacted by tack deposits from VA Paving's operations, VA Paving shall be responsible for restoration or removal of tack deposits of the impacted intersections or roadway pavement as determined and to the satisfaction of the Department of T&ES. Upon being notified by the Department of T&ES and identification of the impacted intersections, VA Paving shall make the repairs within ninety (90) days of the date of the notice. (T&ES)

Discussion: This condition ensures that any potential damage to public road by VA Paving related operations will be the responsibility of the company.

49. VA Paving shall not use the outdoor lighting of its property, which are so arranged that the illumination and glare there from is thrown upon the adjacent property occupied for residential purposes, in an amount of illumination which measures more than point twenty-five hundredths footcandles measured at any point seven feet beyond the property line of the adjacent property used for residential purposes.

Discussion: This condition is to minimize any potential impacts on the neighboring properties of the nighttime operations. This condition addresses citizen complaints and aims to reduce glare and other light pollution due to facility's operations during nighttime.

50. All lights used by VA Paving shall be shielded or directed so as to confine the area of diffusion to the property, which it is intended to illuminate.

Discussion: This condition addresses citizen complaints and aims to reduce glare and other light pollution due to facility's operations during nighttime.

51. VA Paving shall take all necessary measures to ensure that its locomotive engine is not leaking any oil. In the event that the current engine continues to leak oil, lubricants or fuels, VA Paving shall take additional measures deemed necessary to prevent oil, lubricants or fuels leaks and to eliminate any environmental impacts. VA Paving shall replace its locomotive engine no later than December 31, 2009.

Discussion: This condition addresses issues related to oil leak from the locomotive engine.

52. VA Paving shall maintain all on-site equipment, including pollution control equipment, in an optimum working condition. Any applicable maintenance records shall be kept on-site. In the event that an air pollution control equipment is not operational, the City will be notified immediately.

Discussion: This condition ensures that pollution control equipments is maintained in a manner that maintains their effectiveness.

53. VA Paving shall maintain records on site on plant mix temperature readings of asphalt mix in drum dryers on a daily basis and such records shall be available to be reviewed by the Department of T&ES to ensure stack test records submitted by VA Paving are accurate and reflect such temperature readings. These records shall be maintained for a period of five years.

Discussion: These records will support stack test data that is required to be submitted along with each stack test.

54. VA Paving shall maintain records on site describing any failures or pressure drops in the baghouses in accordance with guidelines established by VDEQ under their Air Permit and shall notify the Department of T&ES within twenty-four (24) hours of such failures or pressure drops. VA Paving shall promptly take corrective actions to repair the baghouse in question and notify the City upon completion of repairs and resumption of normal operations.

Discussion: This condition will ensure that the City is aware of any malfunctions and will allow it to undertake appropriate follow-up.

55. VA Paving shall maintain all records required by this special use permit and shall keep such records on site for at least the most recent 5 year period. All records shall be available to the City upon request.

Discussion: This condition addresses the documentation and record keeping requirements.

56. VA Paving shall copy the City on all of their correspondence with Virginia DEQ including, but not limited to, its Air and Water permits and permit applications.

Discussion: This condition requires VA Paving to keep the City informed of any regulatory actions or any equipment or operational changes are being planned by VA Paving.

57. VA Paving plant site shall be available for inspection by City staff during all hours of operation.

Discussion: This condition ensures access for inspection purposes.

ENFORCEMENT

Reporting to the City

58. VA Paving shall maintain daily production and site activity information and provide it to the City on a monthly basis. Reports must be submitted within 2 weeks of the month ending.

Discussion: This condition, by requiring maintenance and sharing of production and activity records will enable the City to utilize the information for responding to complaints and in the analysis of any PM10 data collected at the nearby monitoring station.

59. VA Paving shall provide the City a Quarterly report that provides status of all projects required by the SUP. Also the records that are required by the conditions will be submitted along with this quarterly report. After all the Capital projects are installed, the BMP reporting requirements shall be made annually.

Discussion: This condition addresses the reporting requirements. The reporting is more frequent until all proposed controls are in-place.

Review

60. The Director of Planning and Zoning shall review compliance with the conditions of the special use permit, as part of a coordinated inspection with the Department of Transportation and Environmental Services and Code Enforcement, as well as the Alexandria Health Department who shall identify any health concerns, including at Samuel Tucker Elementary School, every six months for the first two years after approval, then annually thereafter, and shall docket the matter for consideration by the Planning Commission and City Council if (a) there have been documented violations of the permit conditions which were not corrected immediately, constitute repeat violations or which create a direct and immediate adverse zoning impact on the surrounding community; (b) the director has received a request from any person to docket the permit for review as the result of a complaint that rises to the level of a serious violation of the permit conditions, (c) the director has determined that there are problems with the operation of the use and that new or revised conditions are needed. (PC)

Penalty for Violation of Specific Conditions

61. If the applicant fails to comply with installation dates set forth for Conditions #11, #12, #13, #14, #17 and #18, without prior advance notice of a reasonable basis for delay, it shall cease all operations involving the night-time exit and entrance of vehicles from the site, and within 30 days, staff will docket the case for review and potential action by City Council on the next available docket. (PC)

Community Outreach

62. The applicant shall designate an employee whose responsibility will be to assure compliance with all conditions of the Special Use Permit. The name and phone number of this employee will be provided to the Department of Planning and Zoning and to a representative(s) of the residential surrounding community. (P&Z)
63. The applicant shall establish a community relations function as part of their operation. This function shall include regularly scheduled meetings to discuss operations and to attempt to resolve any problems, conflicts or issues identified by the community related to the plant's operations. The meetings shall be held with representatives from the surrounding residential communities, and notice of such meetings will be given to these communities as well as to the Department of Planning and Zoning and Transportation and Environmental Services, and shall be held twice each year. (P&Z)

LANDSCAPING

64. Provide and implement a comprehensive landscape plan to the satisfaction of the directors of Planning and Zoning, Transportation & Environmental Services and Recreation, Parks & Cultural Activities. The applicant shall continue to work with City staff to develop a site planting strategy consistent with Concept Development Plan drawings dated 06 December, 2005. The landscape plan shall include:
 - a. Crown area coverage calculations in compliance with City of Alexandria Landscape Guidelines. Provide pre-site disturbance and post-site disturbance calculations.
 - b. An exhibit that demonstrates open space calculations. Provide pre-site disturbance and post-site disturbance calculations for on-site open space.
 - c. Detailed material, scale massing and character elevation views and sections for all proposed fences and/or walls. Indicate above/below grade conditions, and existing/proposed grade conditions, including top/bottom of wall grades.

- d. An enhanced level of detail plantings throughout the site (in addition to trees).
Plantings shall include a mixture of seasonally variable, evergreen and deciduous shrubs, ornamental and shade trees and herbaceous groundcovers that are horticulturally acclimatized to the Mid-Atlantic and Washington, DC National Capital Region.
 - e. Identification of limits of grassing operations and limits of work.
 - f. Provide additional screen plantings along Van Dorn Street.
 - g. Planting details including sections, for all site landscape conditions.
 - h. Information that fixes and describes the design, scale, dimension, massing and character of stormwater management facilities; stream buffer area plantings; slope stabilization; recreation trail reservation; stream restoration activities, retaining and/or sound walls, and any above/below grade utility structures.
 - i. Provide a phasing plan and narrative that clearly indicates a time line for implementation and completion of the landscape plan. Provide the following information:
 - 1). Coordinated work with construction of stormwater management facilities.
 - 2). Specific dates and planting seasons of phased implementation.
 - 3). Limits of work, quantities of plantings and maintenance requirements by phase.
 - 4). Details and specifications for a by-phase watering/irrigation plan to maintain proposed plantings.
 - j. Provide an agreement stating that the property owner shall maintain all items depicted and proposed in the landscape plan in a safe, healthy, thriving condition.
 - 1). Submit a maintenance plan that depicts the scope, intensity and frequency of landscape maintenance activities during planting establishment periods and normally scheduled maintenance thereafter including any on and improvements.
 - 2). Plantings that expire or are deemed in an unhealthy condition must be replaced during the next successive planting season. (RP&CA)
65. Provide notes on the Landscape Plan indicating the following:
- a. All plant specifications shall be in accordance with the current and most up-to-date

edition of the American Standard for Nursery Stock (ANSI Z60.1) as produced by the American Association of Nurserymen; Washington, DC.”

- b. “Unless more strenuous specifications are provided, all landscape related work shall be performed in accordance with the latest edition of Landscape Specification Guidelines as produced by the Landscape Contractors Association (LCA) of Maryland, District of Columbia and Virginia; Gaithersburg, Maryland.”
 - c. “Prior to commencement of landscape installation/planting operations, a pre-installation/construction meeting will be scheduled and held with the City’s Arborist and Landscape Architects to review plant installation procedures and processes.” (RP&CA)
66. Provide note on demolition, sediment and erosion control, site plan and landscape drawings that indicates:
- a. “All tree protection shall be approved in-field by the City Arborist prior to commencement of any site disturbing activities.” (RP&CA)
67. The Landscape Plan and all related phasing and maintenance materials shall be prepared and certified by a Landscape Architect certified/licensed to practice in the Commonwealth of Virginia. (RP&CA)
68. To the satisfaction of the Directors of Planning and Zoning, Transportation & Environmental Services and Recreation, Parks & Cultural Activities, demonstrate coordination with the following:
- a. City of Alexandria Open Space Master Plan
 - b. City of Alexandria Bicycle Trail Master Plan, including establishment of a connection to adjacent Fairfax County and the Van Dorn Metro Station area.
 - c. City of Alexandria Landmark/Van Dorn Small Area Planning process and study. (RP&CA)
69. Virginia Paving Company shall grant the City of Alexandria an option, for recordation in the land records of the City of Alexandria, for a public access easement for continuation of a multi-use trail on Virginia Paving property along the property line. The necessity for, specific location, construction and orientation of any such trail will be determined by the City pursuant to its normal processes and procedures, after completion of which the City may exercise its option to have Virginia Paving grant the public access easement. This option must be recorded upon approval of the amended SUP for Virginia Paving operations. *All reservations shall be depicted on a subdivision plat and approved by the City Attorney.* (RP&CA)

SITE MAINTENANCE

70. The asphalt storage pile located on Parcel B of the site plan and which faces South Van Dorn Street shall not exceed the height of the South Van Dorn Bridge. Visibility shall be minimized to the extent possible from South Van Dorn Street. (P&Z)
71. All asphalt and gravel piles shall not spill or encroach onto Backlick Run at any time. (P&Z)
72. All equipment and trucks shall be stored on the property in an orderly fashion at all times. (P&Z)
73. The applicant shall remove the parking area from the city right-of-way, or shall apply for an encroachment or vacation. (P&Z)

HOURS OF OPERATION

74. The hours of daytime operation for the asphalt plant shall be limited to 5:00 a.m. to 8:00 p.m. Monday through Saturday. In addition, when undertaking Federal, State or Local Government roadway projects during the paving season (April 1 to November 1), the facility may also operate from 8:00 p.m. to 5:00 a.m. Sunday through Friday. During nighttime hours, the applicant shall not engage in private paving. (PC)(City Council)
75. Consistency with Eisenhower West Small Area Plan (SAP) and Sunset Provision: City Council shall review this SUP, conduct a public hearing, and determine if the continued operation of this use is inconsistent with the Eisenhower West Small Area Plan (SAP) and implementing zoning amendments, anticipated for adoption in 2009, and with the ensuing and foreseeable development and redevelopment in the area. Such public hearing shall be held, and determination made, on or about three years after adoption of the SAP. In the event Council does not determine that the continued operation of the use is inconsistent with such SAP, implementing zoning and development or redevelopment, the use may continue, subject to the terms and conditions of this SUP, including a new or revised sunset date. In the event Council determines that the continued operation of the use is inconsistent with such SAP, implementing zoning and development or redevelopment, the use, and all related and tenant operations on or within the site after expiration of the current lease (which is in 2016), shall terminate at such time as the Council shall determine, which shall not be sooner than seven years after adoption of the SAP nor longer than the applicable amortization period under Zoning Ordinance Section 12-214 as demonstrated by the Applicant. Investments made subsequent to this SUP Amendment will not be included in such an amortization analysis. With the exception of removing a claim of additional vested rights, or a claim for an extension of the

- amortization period based upon additional investments made, as a result of or subsequent to this amendment to the SUP, this provision is written as a declaration of existing zoning rights on the property. Nothing contained herein is a concession from Virginia Paving that a rezoning of their property is necessary or appropriate under the SAP. (City Council)
76. The City shall establish a Virginia Paving Liaison Committee, to be appointed by the Mayor, to provide a forum for discussing and monitoring continuing impact and compliance issues arising from the operation of the plant. Members of the Committee shall include citizens and businesses residing near the Virginia Paving plant, representatives of Virginia Paving, and City staff. (City Council)
 77. Virginia Paving shall be responsible for compliance with all generally applicable SUP terms, codes and ordinances regarding noise, odor, water quality and light for any tenant operations on the property. If any tenant on the property is found by the City of Alexandria to be the cause of a violation of any applicable SUP terms, codes or ordinances regarding noise, odor, water quality and light as referenced above, Virginia Paving shall take such steps as are necessary to modify or cease the tenant's operation until such modifications are made to ensure compliance with the above-referenced SUP terms, codes or ordinances. (City Council)
 78. Virginia Paving shall reimburse the City for the reasonable and proportionate administrative costs associated with the enforcement of this SUP, not to exceed \$126,000 for each of the first two years after approval and not to exceed \$50,000 each year thereafter, including the reasonable and proportionate cost of any additional staff, equipment or consultants determined to be necessary by the City to properly enforce the terms. Such cost shall be determined by the City in consultation with Virginia Paving and billed on a quarterly basis. Each bill will include an itemization of the amount charged. This term applies specifically to the cost of enforcement of the terms set forth in the SUP and shall not operate to shift fees or costs in the event of any subsequent administrative or legal dispute between the parties. (City Council)

STAFF: Eileen Fogarty, Director, Department of Planning and Zoning;
Rich Baier, Director, Transportation and Environmental Services;
Richard Josephson, Deputy Director, Department of Planning and Zoning;
William Skrabak, Division Chief, Environmental Quality;
Aimee Vosper, Landscape Architect Supervisor;
Christopher Spera, Assistant City Attorney;
Ron Kagawa, Urban Planner/Landscape Architect;
Lalit Sharma, Program Supervisor, Environmental Quality;
Laura Durham, Open Space Coordinator;
Valerie Peterson, Urban Planner III.

Staff Note: In accordance with Section 11-506©) of the Zoning Ordinance, construction or operation shall be commenced and diligently and substantially pursued within 18 months of the date of granting of a special use permit by City Council or the special use permit shall become void.

IV. CITY DEPARTMENT COMMENTS

Legend: C - code requirement R - recommendation S - suggestion F - finding

Code Enforcement:

F-1 Staff from Code Enforcement conducted a reinspection of the facility on September 14, 2006. All fire code violations cited during previous permit inspections have been complied with and the facility's annual Fire Prevention Permit was issued. The facility is presently in compliance with C-1 through C-14 below.

C-1 The applicant shall provide an updated Spill Prevention Control and Countermeasures Plan (SPCC) to the Code Enforcement Bureau - Fire Prevention Section which includes updated contact and remediation measures.

C-2 All above ground stationary tanks used for the storage of hazardous materials shall be located and protected in accordance with the VSFPC.

C-3 Empty containers and tanks previously used for storage of hazardous materials shall be free of residue material and vapors as defined by DOT Resource and Recovery Act (RCRA) and other related state and local regulatory requirements.

C-4 Hazardous Materials in any quantity shall not be released into a sewer, storm drain, ditch, drainage canal, etc. as stipulated by the VSFPC

C-5 The Code Official shall be promptly notified of release of hazardous materials in reportable quantities under federal, state or local regulations

C-6 Individual hazardous materials containers and structures containing hazardous materials shall be conspicuously marked in accordance with the VSFPC.

C-7 Visible Hazard Identification Signs as specified by NFPA 704 shall be placed on all stationary containers and above ground storage tanks and other locations as specified by the VSFPC.

C-8 Responsible persons shall be trained to be the fire department liaison as specified by the VSFPC.

C-9 Storage and dispensing areas for hazardous materials shall be secured against unauthorized entry.

- C-10 Guard posts and other approved means shall be installed to protect storage tanks, piping, dispensing areas from vehicular damage in accordance with the VSFPC
- C-11 Secondary containment and spill control shall be installed in all rooms and structures used for storage of liquid or solid hazardous materials in accordance with the VSFPC.
- C-12 Plumbing drains in hazardous materials storage areas shall conform to approved designs as specified by the VSFPC
- C-13 Hazardous materials storage areas and structures shall be designed in accordance with the USBC and VSFPC requirements.
- C-14 Combustible waste materials shall not be allowed to accumulate within structures so as to present a fire hazard.

Health Department:

- F-1 No comments.

REPORT ATTACHMENTS AND APPENDICES

Referenced Attachments

- 1) Special Use Permit #398
- 2) Virginia Paving Chronology
- 3) October 26, 2004 letter to applicant
- 4) Results of an Emission and Air Dispersion Modeling Study
and Public Health Evaluation dated December 7, 2005
- 5) Memoranda on Formaldehyde and Fugitive Dioxin dated August 28, 2006
- 6) Memoranda on Low Wind Speed dated September 13, 2006

Appendices

- A) Cambridge Environmental Responses to December 7, 2005 report
- B) Emission Estimates for the Virginia Paving Company dated August 22, 2005
- C) Summary Results of an Emission and Air Dispersion Modeling Study dated September 30, 2006
- D) Ambient Air Quality Analysis-Proposed SUP Scenario dated March 2006
- E) March Addendum to Air Quality Report
- F) Total VOC emission estimated from Virginia Paving dated July 18, 2006