

GOVERNMENT OF THE DISTRICT OF COLUMBIA
Department of Energy and Environment



MEMORANDUM

TO: Anthony J. Hood,
Chairman, DC Zoning Commission

FROM: Jay Wilson, DDOE
Green Building Program Analyst

DATE: May 31, 2016

SUBJECT: [Z.C. CASE NO.](#) 16-06 Jamal's Lavriv Water, LLC (1900 Half Street SW) – Capitol Gateway Overlay District Review @ Square 666, Lot 15)

The District Department of the Environment (DDOE) reviews planned unit development applications for environmental issues that the applicant should be aware of during early stages of planning, as well as to identify opportunities for increasing environmental and urban sustainability benefits during development.

DDOE does not have comments to the applicant's height or setback requests. Rather, the comments contained herein address issues that the applicant should be made aware of in the early stages of design and entitlement. The items mentioned below are by no means comprehensive, but are a summary of specific items related to the site in question and some common issues that come up with many development projects. DDOE is always interested in meeting with developers and construction companies early in the development process in order to identify opportunities and to help avoid future regulatory problems.

The objective of this report is to respond to concerns raised by the applicant regarding the level of commitment to sustainability and LEED certification, the design and configuration of the riverfront walk, and both a regulatory and climate adaptation related to the floodplain application for design review for case number 16-06, Jamal's Lazriv Water, LLC, also known as 1900 Half Street, NW.

DOEE has met with the applicant several times over the last year including interdisciplinary meetings September and November of 2015, and March 2016. In addition, DOEE staff met with the applicant twice in recent months to specifically discuss the project's relationship to the Anacostia River and 100 year floodplain. While some progress has been made, some areas of concern related to their design do remain, as outlined below.

- Energy efficiency – By adopting the 2012 International Energy Conservation Code, the District has strong standards in place for energy efficiency. The LEED checklist indicates that this project forecasts energy efficiency below the minimum standard required by code. While some strategies could have minimal construction cost impacts, it would also decrease utility cost for residents and lessees of the commercial space. Many energy conservation measures including additional insulation, LED lighting and controls, high efficiency mechanical systems, and air sealing have a return on investment within five years and can be financed with no up-front cost through the DC PACE program (see below). In addition, DOEE and DC Water have been exploring opportunities to create a district thermal energy system using waste water heat recovery for all of the developments at Buzzard Point. This project could design their mechanical systems to take advantage of that system or connect to it at a future point in time, significantly increasing the energy efficiency of the building. **Given market conditions and the District's goal of net zero energy properties by 2032, it is strongly encouraged that the project team revisit their energy model, commitment to increased energy efficiency, and opportunities to incorporate next generation technology.**

- Solar electricity – Per the District's Sustainable DC Plan, one critical goal is to increase the use of renewable energy to make up 50% of the District's energy use. As this is a major priority of the administration, legislation is in place (2011) which created the Renewable Portfolio Standard (RPS) and requires a solar carve out of 2.5% or 191 MW by 2023. For the business and development community, the ramification of this legislature is that the District has the best financials for solar energy in the country. A power purchase agreement (PPA) may be executed for leased solar panels and zero up front cost. Also, for owner financed solar panels (which can be financed by DC PACE, the typical return on investment is between two and five years. Through the District's Community Solar program, the energy generated can be net-metered and the residents or commercial tenants can "subscribe" into the system providing mutual benefit for both the property owner and residents. **It is strongly encouraged that the project incorporate solar panels that would generate a minimum of 1% of the buildings' total energy use.**

- Stormwater Management – The submission to the Zoning Commission did not include stormwater management, or sediment and erosion control plans. Due to the proximity and relationship of this building to the shoreline, this site is extremely environmentally sensitive. Careful attention needs to be paid to not only the design of the site but also all construction practices. Plans should be submitted for review as soon as possible and include the following information:

- conceptual BMPs (greenroof, rainwater harvesting, bioretention systems, permeable pavement, etc.);
- stormwater calculations including estimated regulated volume for the site;
- conceptual phasing of construction;
- construction methods used for work along the shoreline;
- materials and equipment barges;
- limitation of heavy duty equipment along the shoreline;
- access points for material removal and construction materials
- innovative demolition and construction practices that prevent sediment and materials from entering the Anacostia River

Given that this parcel is not located in a combined-sewer overflow area, all stormwater is directed to directly outfall into the river. Given that this parcel is in an area of extreme risk from flooding due to climate change and storm surge, it is strongly encouraged that all efforts to capture and retain stormwater on site be explored and maximized for the site, public rights of way and surrounding streets. **Capturing a higher storm level, as required in the AWDZ, will benefit the developer's application as ensuring its' commitment to the environment and providing a needed relief from stormwater runoff from a currently highly industrialized area. Hence, DDOE's Watershed Protection Division (WPD) recommends the project capture a 1.7" rain storm event.**

- Floodplain management & Shore design - The 1900 Half St project site is within a Special Flood Hazard Area (SFHA) or 100-year floodplain in accordance with the effective Flood Insurance Rate Map, dated September 27, 2010. In addition to the regulations that govern development within the 100 year floodplain, storm surges and climate change pose additional risks to this site. Specific guidance on these issues is provided below with recommendations for compliance and enhanced risk mitigation.
 - Compliance with the District's floodplain regulations (20 DCMR Chapter 31, Flood Hazard Rules, and flood provisions in 12 DCMR, DC Construction Codes) is required. Specifically, residential structures must comply with 20 DCMR 3105.2 (Within SFHA, the lowest floor (including basement) of any new construction of, or substantial improvement to, residential structures shall be at least one and one-half feet (1-1/2 feet) above the base flood elevation and shall be verified by an Elevation Certificate).
 - Regarding the underground parking garage, please refer to DCRA Construction Codes Administrative Bulletin CC2016-02 (<http://dcra.dc.gov/node/1160070>), published May 6, 2016. This bulletin states that no construction or substantial improvement of a building within the SFHA with residential occupancies that proposes an underground garage be granted without a code modification
 - Storm surge poses an addition flood risk to many low lying and waterfront areas of the District. The National Oceanic and Atmospheric Administration (NOAA) of the National Weather Service (NWS) has modeled and predicted that this site

could experience flooding of as much as 3 to 6 feet in depth if a significant hurricane, like Hurricane Sandy, were to hit the District (see [NOAA Storm Surge Map](#)).

- Numerous climate change studies confirm the exacerbating effects this phenomenon will have on flood risk, now and in the future. This is due to the climate change induced trends of increasing storm intensity (higher rainfall volume occurring over a shorter duration) concurrent with rising sea levels. DOEE has done initial research to project these risks and the research portion of the study is available on our [website](#). With these considerations in mind, a draft DC Climate Adaptation Plan will be released for public comment early this summer.
- DOEE strongly supports the goal and outcome of the District's Anacostia Riverwalk Trail that consistently incorporates Living Shoreline designs (see [Buzzard Point Vision Framework and Implementation Plan](#)). "Living shorelines" are shoreline protection projects that utilize non-structural stabilization practices to control shore erosion by trapping sediment, filtering pollution, and providing important aquatic and terrestrial habitat. Techniques may include the use of constructed wetlands, fiber coir logs, sills, groins, breakwaters, or other natural components in combination with plants, sand, stone, and other structural and organic materials. In relation to the design submitted, many elements, including the fill for the cantilever walk, do not meet our current definition of a Living Shoreline.
- Final renderings submitted do not incorporate proposed change to residential unit elevations and consolidations. Sheet 47 shows residential units along water beginning at an elevation of 14 feet. The applicant has indicated that placing these residential units at 14 feet would eliminate one level of flats, combining units from Ground Floor and Floor P1 units along the water. The renderings and other drawings do not reflect this adjustment (cover, sheets 26-34). Additionally, Sheet 32 rendering gives incorrect impression of space and setback from shoreline and room for riverwalk, especially at southeast corner of building. Residential units along the river side of the building at the first floor remain at higher risk than in other areas of the building due to the possibility of flooding and difficulty for evacuation in the case of an emergency and are generally discouraged.
- Under the Homeowners Flood Insurance Affordability Act (HFIAA) of 2014 and the Biggert-Waters Flood Insurance Reform Act of 2012, FEMA is required to increase base flood insurance rates every year and add a surcharge to many individual policies until actuarial rates are achieved. For more information please refer to the [floods.org website](#).

As a result of the above factors, DOEE recommends that the project team take the following actions.

- **Redesign of the project site to accommodate the riverwalk trail without proposed fills or construction of a bulkhead. This could be accomplished by aligning the trail out over the water or through a portion of the existing building footprint, either case allowing more room for living shoreline implementation.**
 - **Develop a list of measures to be taken to prevent loss of life and property at this site in the event of a flood. This should include evacuation and emergency management plans, and relocation or reprogramming of residential units away from the most flood prone and high risk areas, including the loft units on the first floor of the building along the river, among other strategies.**
 - **Take measures that would account for and provide greater resiliency to the increased flood risks resulting from climate change. This would include automatic flood gates at parking garage and loading dock entrances, locating all vents away from the river side of the property or significantly above the base flood elevation, capturing rainwater and runoff from roofs and streets, locating main exits at higher elevations, waterproofing footings and underground garages and/or providing sump pumps to remove water, and limiting the use of carpet and gypsum wall board in any first floor spaces.**
- Finance – Financial tools like the DC Property Assessed Clean Energy (DC PACE) program can pay for increases in construction cost for on-site generation, any strategies that increase efficiency above the baseline code requirements, or stormwater management strategies that garner return on investment through the District’s Stormwater Retention Credit Trading program. This financing does not increase debt on the property and is repaid over time as a special assessment on the property tax. **DOEE recommends that the applicant investigate opportunities to take advantage of financial tools that would allow increased commitment to sustainability.**

Well integrated designs prioritize green building goals in order to hit the LEED Gold target. This is not an unrealistic target for a project of this size in an urban setting. **DOEE would ask that this project reconsider opportunities to increase its commitment to sustainability and to achieve a minimum of LEED Gold certification.** Increased energy efficiency, and integrate on-site renewable energy, would achieve LEED credits, help the District meet our sustainability goals and ensure that the project is economically competitive into the future. Incorporating on-site renewable energy and buying green power, increasing efficiency, commissioning, increasing ventilation and indoor environmental quality, or limiting parking could be considered in order to guarantee the additional credits. DOEE is glad to be a technical resource as the project continues forward. In