DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY
Egg Shaped Digester Facility
Washington, D.C.



APPLICATION TO THE

DISTRICT OF COLUMBIA
ZONING COMMISSION

FOR A

CONSOLIDATED PLANNED UNIT DEVELOPMENT

June 14, 2004

RECEIVED
D.C. OFFICE OF ZONING
2004 JUN 15 PM 12:17

ZONING COMMISSION
District of Columbia
Case 04-19
Exhibit 5

ZONING COMMISSION
District of Columbia
CASE NO.04-19
EXHIBIT NO.5

STATEMENT IN SUPPORT OF APPLICATION BY THE DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

FOR A PLANNED UNIT DEVELOPMENT AT 5000 OVERLOOK AVENUE, S.W.

June 14, 2004

RECEIVED
D C OFFICE OF ZONING
2004 JUN 15 PM 12: 17

I. BACKGROUND AND OVERVIEW

This is a Statement in support of the application of the District of Columbia Water and Sewer Authority ("WASA" or the "Authority") to the District of Columbia Zoning Commission for approval of a consolidated Planned Unit Development ("PUD") WASA seeks approval to construct biosolids reduction and stabilization facilities known as the Egg-Shaped Digesters Facility (the "Digesters" or "Digesters Facility") at the Blue Plains Advanced Wastewater Treatment Plant ("Blue Plains" or "the Plant").

Blue Plains is in the southernmost part of the District of Columbia, situated generally between the Anacostia Freeway and the Potomac River The Plant is located approximately two and one-half miles southeast of Reagan National Airport and just over five miles south of the U S Capitol This location is in Ward 8 and within the boundaries of Advisory Neighborhood Commission ("ANC") 8B and has a street address of 5000 Overlook Avenue, S.W.

The proposed development is a state-of-the-art biosolids treatment facility Anaerobic digesters shaped in the form of large eggs will use microbial action, heat and mixing to process and reduce the volume of biosolids that are produced by wastewater treatment operations. This process, also known as "sludge digestion," significantly reduces pathogens in the final product, greatly reduces odors by conducting the digestion process in sealed vessels and greatly reduces transportation costs due to much smaller volumes of end product

As is discussed later in this Statement, the principal issue to be resolved in this application is the height of various structural elements in the Digesters Facility in comparison with the maximum permitted height of 90 feet in the C-M-3 District plus 18.5 feet for roof structure/mechanical elements.[1] The related issue is the applicant's request to utilize a measuring point along the long Anacostia Freeway (I-295) frontage of

[1] The digesters must have a certain shape and dimensions in order to function optimally, so that reducing the dimensions of the components is not a realistic alternative

Blue Plains, which is situated on a large unsubdivided parcel of land fronting on the Freeway with only a short distance of frontage on Overlook Avenue, S W The Applicant, as set forth later, also requests approval for an additional five percent (5%) of structure height in excess of the normal maximums, pursuant to 11 DCMR 2405 3

Additional Federal Review. The U S Commission of Fine Arts ("CFA") has informed the Applicant that it has authority to review the design of the proposed new facility under the Shipstead-Luce Act, which mandates CFA review for projects adjacent to federal interests -- in this case nearby federal parkland and the Woodrow Wilson Bridge

The PUD process offers the advantage of a coordinated and comprehensive public review of this unique project as well as greater certainty as WASA embarks upon the final engineering phase of this multi-million public project

II. THE APPLICANT

The Applicant, the District of Columbia Water and Sewer Authority, is an independent authority of the District of Columbia government. It has a separate legal existence within the District of Columbia government [2] The Authority began operations on October 1, 1996 and was created to finance, operate and provide essential retail water distribution and wastewater conveyance and treatment services[3] to approximately 570,000 people in the District of Columbia WASA also provides wholesale wastewater conveyance and treatment services to approximately 1 6 million people in major suburban areas of this region. The Blue Plains service area includes the District of Columbia (retail water and wastewater treatment service), parts of Fairfax and Loudoun Counties, the Town of Vienna in Virginia, parts of Prince George's and Montgomery Counties in Maryland, Washington-Dulles International Airport, and various agencies of the U S. Government (wholesale wastewater conveyance and treatment service).

An eleven-member Board of Directors governs the Authority The six District of Columbia members are appointed by the Mayor and confirmed by the City Council; two members are appointed from Prince George's County, Maryland on the recommendation of the Prince Georges County Executive, two members are appointed from Montgomery County, Maryland on the recommendation of the Montgomery County Executive, and one member is appointed from Fairfax County, Virginia on the recommendation of the Fairfax County Board of Supervisors Each member has an alternate who is selected in the same manner WASA's General Manager is the chief administrative officer of the Authority and is responsible for all operations [4]

---

[2] DC Code Ann § 34–220 02(a) (2001)

[3] DC Code Ann § 34-2201 01 (3) (2001)

[4] For details regarding the functions performed at Blue Plains and summary historical background information on wastewater treatment and water distribution in the District of Columbia, see *Exhibit A*

III. THE SITE AND THE SURROUNDING AREA

The plant is located on a large parcel of land having approximately 159 acres of area It is improved with numerous buildings, as well as equipment, tanks and machinery utilized in the wastewater treatment process. Buildings and structures at Blue Plains house a broad range of unique uses that are common to wastewater utilities The addition of the Egg-Shaped Digesters Facility is appropriate for this location and is a use that is compatible with the remainder of the Blue Plains treatment campus as well as surrounding uses

The land uses surrounding Blue Plains are public uses, including D C Village, the U.S Naval Research Laboratory, the Potomac Job Corps Center, the D. C. Police Academy and Fire Testing Facility and the Architect of the Capitol's tree nursery The nearest residential neighborhood, approximately one-half mile distant, is Belleview, located to the east of the Anacostia Freeway and the Police Academy grounds. Other neighborhoods still farther to the east include Congress Heights and Washington Highlands

The residential neighborhoods to the east of the Anacostia Freeway are predominantly zoned R-2 (single family, semi-detached homes) and R-5-A (townhouses and garden apartments). Small areas zoned C-1 and C-2-A provide locations for neighborhood shopping and offices on major streets [5]

The federal properties devoted to federal public uses are unzoned, e.g., the Naval Research Laboratory, Bolling Air Force Base and Oxon Run Park. The Department of Labor's Potomac Job Corps Center and D.C. Village are zoned C-M-1

IV. THE PROJECT

A. The Need for the Proposed Egg-Shaped Digesters Facility

The proposed Egg-Shaped Digesters Facility will add state-of-the-art biosolids treatment technology to current solids processing operations, as part of the Authority's continuing mission to modernize and improve the efficiency of operations at the Blue Plains Advanced Wastewater Treatment Plant

Egg-shaped anaerobic digesters have been used at wastewater treatment plants in Europe for over 30 years and have become much more common in the United States in

---

[5] See the *Aerial Photograph* of Blue Plains and the surrounding area in *Exhibit B* which depicts the PUD Site as well as some key functional structures and areas, such as the Central Operations Building, Solids Processing Building, and Sedimentation Tanks Also see the more detailed aerial photograph of the Digesters site in *Exhibit C*, and the *Zoning Map* attached as *Exhibit D*, which includes building footprints on Blue Plains and the surrounding areas

the past decade There are at least twenty-nine (29) installations throughout the United States The closest is in Baltimore, Maryland Several hundred similar installations operate thousands of egg-shaped digesters worldwide

The proposed Egg-Shaped Digesters are large, sealed, vessels that use microbial action, heat and internal blending mechanisms (mixers) to reduce the amount of biosolids produced at Blue Plains. Plant operations currently produce approximately 1,300 wet tons of biosolids every day Operation of the Egg-Shaped Digester Facility will reduce the amount of biosolids produced by Plant operations to approximately 650 wet tons per day

Numerous efficiencies and public benefits will result from the use of egg-shaped digesters, including

- ⇨ Greater biosolids treatment capacity using the same amount of land compared to conventional type digesters,
- ⇨ Reduced odor emissions at Blue Plains and at land application sites;
- ⇨ Reduced volume of biosolids produced,
- ⇨ Reduced truck traffic (1 2 million miles annually) as a consequence of reduced volume of biosolids requiring transport;
- ⇨ Production of recyclable end product, and
- ⇨ Production of digester gas that can be used for power generation of enough electricity to power approximately 10,000 homes

It is anticipated that the operation of the anaerobic egg- shaped digesters will save the Authority, its wholesale customers and retail rate payers approximately $16 million annually in operating and maintenance costs.

B. The Proposed Development Plan

The ***Egg-Shaped Digesters*** will be built on the site of a now-demolished outdoor sludge composting facility in the south central section of the Blue Plains site.[6] The proposed new Digesters Facility will be located to the east of the existing Solids Processing Building and approximately 900 feet west of the Anacostia Freeway (Interstate 295). The land area to be occupied by the proposed new facility (the "PUD Site") measures approximately 800 feet by 600 feet (approximately 480,000 square feet

[6] See the Site Plan in *Exhibit E and the Architectural Plans in Exhibit K*

or 11 acres).[7] The 11-acre PUD Site clearly meets the minimum area requirement of 15,000 square feet for a PUD in the C-M-3 District

Eight Digesters are proposed to meet WASA's treatment capacity needs Egg-shaped digesters are tall and tapered containers for mixing, heating and processing thickened sludge. The egg shape is a most efficient shape for mixing and processing the thickened sludge Each Digester is approximately 95 feet wide at its widest point and has a volume of 4 5 million gallons Basement space will be used for piping, electrical and mechanical equipment, control rooms, storage and other operations [8]

Atop each Digester will be a ***Gas Dome Structure*** to support mechanical equipment and to provide access to the interior of the Digesters for maintenance and inspection

Three or four ***Access Towers*** provide vertical access from the ground to the walkways Four ***Silos*** for digested biosolids will be constructed to the west of the Digesters The issue of compliance with height limits for the foregoing structural elements is addressed in the following section, "Zoning and Requested Flexibility Under the PUD "

The proposed development includes several other structures that are all allowed as a matter-of-right in the C-M-3 District, i e , as to use, height and bulk, as described below The applicant requests that the Zoning Commission allow these auxiliary buildings to proceed as a matter of right while acknowledging their locations and existence in the PUD site plan. Applicant notes that the U.S Commission of Fine Arts ("CFA") has jurisdiction over the exterior design of the structures Preliminary meetings with CFA staff have been quite positive regarding the proposed design The additional facilities are described in the following paragraphs

The Digester Gas Building will be faced with the same brick that is found on some of the art deco buildings at Blue Plains and in other portions of the new Digesters Facility The metal panels that will be used to face portions of the building will compliment those used on the egg-shaped digester The Digester Gas Building will be a handsome and compatible addition to the Blue Plains facility.

A new ***Digester Control Building*** and two electrical equipment buildings will be located along the centerline of the digester complex over an underground service tunnel Each of these buildings will be one story in height and have a floor area of 4,600 square feet The Digester Control Building will serve as a welcome area for visitors and provide control and assembly space for plant staff

---

[7] A metes and bounds drawing of the PUD Site is found in *Exhibit F*

[8] See the photographs, drawings and plans in *Exhibits G to J*

Two ***Gas Holders*** will be located to the south of the Digesters and will rise approximately sixty (60) feet above finished grade The Gas Holders are required to maintain adequate levels of gas pressure in the Digesters. Up to three enclosed ***Waste Gas Flares*** will be located south of the Digester Gas Building

Finally, space has been reserved at the southwest corner of the site for a future ***Power Generation Facility*** that may provide for beneficial use of the gas generated as a byproduct of the digester process This will be a one-story building with compatible architectural treatment

The site plan for the new Digesters Facility also includes new service roadways to provide access to the facility for staff and visitors and to provide for operating, maintenance and repair functions Areas bordering the site will be landscaped with trees, shrubs and a variety of other vegetation in order to provide relief from the industrial structures and to provide some shielding from surrounding vantage points As the trees mature the visual impact of the bases of the egg-shaped digesters and the gas storage silos will be softened The trees will also provide shade for staff and visitors [9]

V. ZONING AND REQUESTED FLEXIBILITY UNDER THE PUD

Existing Zoning. The entire Blue Plains Advanced Wastewater Treatment Plant is zoned C-M-3 The C-M ("Commercial-Manufacturing") zones are industrial zones designed to provide " sites for heavy commercial and light manufacturing activities employing large numbers of people and requiring some heavy machinery under controls that would minimize any adverse effect on other nearby, more restrictive districts " (11 DCMR 800 1) C-M-3 allows a maximum height of 90 feet and a maximum Floor Area Ratio ("FAR") of 6 0 No increase in height or FAR is allowed with a planned unit development The proposed FAR in this PUD project is well below the 6 0 FAR maximum, because the Digesters create very little floor area, and the auxiliary buildings are small. However, maximum height is an issue, as discussed later

In the early 1970's the Blue Plains site was rezoned from C-M-2 (60-foot height limit, 4 0 FAR) to C-M-3 primarily to accommodate the Solids Processing Building This building is still in operation and a portion of the building has a height of 90 feet Also approved at the time were smokestacks with a height of 110 feet

The District of Columbia owns the property upon which the plant is located Accordingly, pursuant to the Zoning Regulations at 11 DCMR § 106.5, Blue Plains as a whole, i e , a District of Columbia public facility in existence as of May 23, 1990, is not subject to zoning (§ 106 5(a)), but under § 106.5(b), "...any change or expansion in the use of land or buildings or any new construction or additions to buildings shall be subject to zoning."

---

[9] See the Landscape Plan attached as *Exhibit M*

Height of Structures. The height issue to be resolved in this PUD is simply that several of the component elements of the Digesters Facility exceed the normal 90-foot maximum height allowed in the C-M-3 District. The Applicant requests that the height issue can be resolved by the use of a measuring point on the Anacostia Freeway (I-295), which abuts Blue Plains, in conjunction with the minor height flexibility requested in this application under § 2405 3. See further discussion below, but first refer to the elevation diagram in *Exhibit F,* which depicts these elements (except the Access Towers) in elevation with heights shown Also shown is the elevation of the proposed measuring point for height

The Digester Eggs are 145 feet in height, including the 44-foot section that is underground.[10] Thus, their height above finished grade is 101 feet. The eight Digester Eggs are the principal structures and must be within the 90-foot height limit.

Three elements together constitute the vertical and horizontal access system, as well as mechanical equipment The Access Towers are combined elevator and stair towers that reach a height of 118 feet including elevator headspace. The Elevated Walkways are 101 feet above grade and provide horizontal access between the Access Towers and the Gas Dome structures atop each Digester The height of the Gas Domes is 107 feet above grade For zoning purposes, this integrated system for vertical access and rooftop mechanical equipment is eligible for the additional 18 feet 6 inches of height accorded to roof structures/mechanical equipment pursuant to the Zoning Regulations at § 400 7(c) Thus, the maximum height for these structural elements is 108 feet, 6 inches – the 90-foot height for the principal buildings or structures, plus 18 feet 6 inches [11]

The elevation diagram also shows the elevation of the proposed measuring point on the Anacostia Freeway, which abuts Blue Plains along most of its eastern boundary That measuring point is at Elevation 17 6, which is 6 6 feet higher than the Elevation 11 at the proposed Digesters site Taking into account the roof structure elements of the Digester Facility and the measuring point, the following chart depicts the heights of components and compliance with zoning height limitations

Structure	Height (Ft.) Above Finished Grade	Height Per Measuring Point	Zoning Compliance
Egg Digesters	101	94 4	Exceeds 90' by 4 4'
Elevated Walkways	101	94 4	Within 108 5'

[10] The lower portions of each Digester will be buried 44 feet below grade However, the high water table and the need to connect pipes, etc to adjacent treatment facilities without an excessive difference in elevation dictate that 44 feet is the maximum feasible depth to which the lower portion of the digesters can be buried WASA did conduct a study of the cost of sinking the digesters an additional four feet, but at $11 million, the cost was deemed excessive And the four feet of difference would not have resolved the zoning height issue

[11] See the several photographs and illustrations in *Exhibit F*, showing the access towers, elevated walkways and gas domes as being one integrated system eligible for the 18 feet 6 inches allowed for roof structures

Gas Domes	107	100.4	Within 108 5'
Access Towers	118	111 4	Over 108 5' by 2.9'
Other Structures	60 or less	Varies	Within 90'

Thus, utilizing the proposed measuring point at an elevation 6 6 feet higher than finished grade at the Digesters site, some elements of the Digesters comply with the two height limits, and some do not In order to achieve compliance with allowed heights in the Zoning Regulations, the Applicant requests that the Zoning Commission exercise its authority under § 2405 3 to grant an additional five percent (5%) in height This action would adjust the 90-foot height limit to be 4 5 feet, thereby making the Digesters at 94 4 feet in compliance with the height limit. The 108.5-foot height limit would be adjusted to 113 925 feet, thereby bringing the Access (Elevator) Towers at 111 4 feet into compliance

The standard in § 2405.3 for approval of the additional five percent of height is that "the increase is essential to the successful functioning of the project and consistent with the purposes and evaluation standards of this chapter." The Applicant has documented in this statement that technological reasons determining the dimensions and shape of the Digesters dictate their height, and that sinking the Digesters farther into the ground is either impossible or prohibitively expensive The Applicant further is of the opinion that this minor deviation in the height of two structural elements is within the justification of the public benefits of this proposed PUD, as set forth in Section IV, "Public Benefits of the PUD."

Measuring Point. As required by the Zoning Regulations (§ 199), building height is measured from the level of the curb opposite the middle of the front of the building to the highest point of the roof or parapet In the case of this proposed PUD, the Applicant requests flexibility from the Zoning Commission to utilize a specific curbside measuring point along the Blue Plains facility's long frontage on the Anacostia Freeway (Interstate 295). See the metes and bounds drawing in *Exhibit F* depicting the location of the proposed measuring point on the Freeway. This drawing, which will be used to establish an A & T Lot, shows that the lot has ample street frontage on the Anacostia Freeway as a means of clearly establishing this street as the measuring point.

The elevation at the proposed measuring point on I-295 is 17.6 feet above sea level At the digester site itself, the elevation is 11 feet above sea level – a difference of 6.6 feet As demonstrated above, this proposed measuring point, plus the requested five percent flexibility, has the result of bringing all elements of the Digesters project within the two applicable height limits under C-M-3 zoning (main structure and roof structure)

The definition of "Building, Height of" in the Zoning Regulations in § 199 includes this statement. "Where a building is removed from all lot lines by a distance equal to the proposed height above grade, the height of the building must be measured from the natural grade at the middle of the front of the building to the highest point of the roof or parapet " If Blue Plains were to remain a single, large parcel of land, this provision would apparently be applicable. However, the Applicant has included a metes

and bounds description of the PUD Site as part of this application and will submit the metes and bounds description to the D C. Department of Tax and Revenue for creation of an Assessment and Taxation Lot ("A & T Lot") The Digesters structures will be set back from all of those lot lines by a distance less than the maximum height of the structures and is thus not required to measure from the natural grade in front of the building or structure The use of an A & T Lot for development on an interior parcel within a larger institutional property follows the recent example of the New Hospital at the St. Elizabeths campus (Zoning Commission Case No. 02-45) In this case, however, the boundaries of the A & T Lot are extended due east to establish frontage on the Anacostia Freeway

Lot of Record. Related to the above discussion, the Applicant is also seeking flexibility from the requirement of § 3202 3 that each principal structure be located on a separate lot of record Such flexibility appears to be allowed in nonresidential zones by § 2517, which provides matter-of-right standards for multiple buildings on a single lot As indicated previously, Blue Plains consists of parcels of land that have not been subdivided for many years All of the various structures at Blue Plains comprise a single facility and the various components share parking facilities and private access roads. To try to unscramble the arrangements for the purpose of creating single buildings on single lots that meet all of the various street frontage setbacks, parking and other zoning requirements would be impractical and would serve no useful purpose Flexibility is therefore requested to allow the proposed project to exist within the present campus-like environment of the Blue Plains plant

Height Act of 1910. In 1910 the U S. Congress passed "An Act to Regulate the Height of Buildings in the District of Columbia." 36 Stat 452, as amended, D C Official Code §§ 6-601 01 to 6-601.09 (2001). (the "Height Act") The Height Act establishes a maximum building height of 130 feet with the exception of a designated area along Pennsylvania Avenue where a 160-foot height is allowed The allowed 130-foot height applies only to "Business Streets," in that "Residence Streets" are subject to more restrictive limits.

The Zoning Regulations require in § 2510 1 that "In addition to any controls established in this title [zoning], all buildings or other structures shall comply with the Act to Regulate the Height of Buildings in the District of Columbia ." In practical effect, the more restrictive between the Height Act and the Zoning Regulations governs the height of buildings and structures

The consistent interpretation has been that Business Streets are those that are abutted by commercial, commercial-manufacturing and mixed-use zones that include a commercial component In the case of Blue Plains, the Anacostia Freeway is clearly a Business Street because the zoning on both frontages is C-M-3 Thus, the height limit is the width of the right-of-way plus 20 feet with a maximum limit of 130 feet. The width of the Freeway is more than 110 feet and therefore the maximum height of 130 feet is allowed

Even using a measuring point at natural grade at the Digesters Facility site, no structural element exceeds 118 feet And, because the Anacostia Freeway is at a higher elevation than the Digesters Facility site, there is additional leeway for compliance with the Height Act Therefore, the project complies with the Height Act's limit of 130 feet In this instance, the height allowed in zoning height is more restrictive than that allowed under the Height Act

IV. PUBLIC BENEFITS OF THE PROPOSED PLANNED UNIT DEVELOPMENT

Section 2403 of the Zoning Regulations sets forth the standards for evaluating and approving a PUD application, generally in three categories The PUD must exhibit public benefits and project amenities for review by the Zoning Commission (§ 2403 9), must have an acceptable level of impacts on the surrounding neighborhood and on public services (§ 2403 3) and must be found to be "not inconsistent" with the *Comprehensive Plan for the National Capitol* (the "Comprehensive Plan") and other public policies The Applicant believes that the proposed PUD complies with the standards for approval of a PUD, as set forth below

1. Major Public Interest Project. The proposed Egg-shaped Digesters Facility is a major initiative by the Authority to improve wastewater treatment at Blue Plains, the largest advanced wastewater treatment plant in the world This project will add a "state-of-the-art" bio solids management technology to the current advanced processing operations Public benefits that will result from advanced anaerobic treatment are numerous and substantial, including.

- ⇨ Greater treatment capacity than conventional digesters while using the same amount of land,
- ⇨ Elimination of approximately one half of the volume of biosolids produced,
- ⇨ Reduced odor emissions at Blue Plains and at rural land application sites,
- ⇨ Reduction in truck traffic (1 2 million annually) because of reduced volumes,
- ⇨ Production of a recyclable end product,
- ⇨ Production of digester gas that can be used for power generation, and
- ⇨ Operations and maintenance annual savings to WASA and its regional wholesale customer and local retail customers of approximately $16 million.

The proposed anaerobic digesters facility will enable the Authority to provide the city and the region with advanced wastewater treatment and other services on an economical basis

2. Consistency with the Comprehensive Plan. The proposed PUD project is fully consistent with policies in several elements of the Comprehensive Plan, as summarized below

A. Public Facilities Element. The Comprehensive Plan includes an element devoted to Public Facilities (10 DCMR 6). Section 600.3 states

Expansion of sewage treatment capacity and construction of related stormwater management projects are essential components of the public facilities program for the next two (2) decades High priority must be given to a solution to the District's solid waste and disposal needs Regardless of which approach is selected, major Capital investments are anticipated

The new Digesters Facility will improve biosolids treatment capacity at Blue Plains while saving space for wastewater or stormwater treatment on-site and is directly in furtherance of this element of the Plan

The Egg-Shaped Digesters Facility is an essential part of WASA's Biosolids Management Program This program, which was developed with local and regional collaboration, focuses on end use options (including recycling) for the biosolids generated at the Plant.[12]

B. Environmental Element. Section 404 (Solid Waste Management) of the Environmental Element includes the following policies that strongly support approval of the Digesters Facility and this PUD.

404 2(a) Develop and implement a reliable program of solid waste and sludge management that is cost-effective, environmentally sound, and fully coordinated with all responsible and jurisdictions and regulatory bodies

404 2(c) Encourage the recovery and recycling of solid waste and sewage sludge materials, for both the public and private sectors, through appropriate regulatory, management and marketing strategies

404.2(d) promote the development of cost-effective and environmentally sound techniques to extract energy from wastes, including sludge

---

[12] WASA's biosolids management program was developed using a "decision science" methodology that achieved consensus among several institutional stakeholders and was conducted over several months The stakeholder group established a vision, mission and goals, developed criteria for success, analyzed information and ultimately suggested a solution that met WASA's approval The stakeholder group consisted of representatives from the District of Columbia, Prince Georges County, Maryland, Montgomery County, Maryland, Fairfax County, Virginia, the Washington Suburban Sanitary Commission, the United States Environmental Protection Agency; the State of Maryland Department of Environment, and the Metropolitan Washington Council of Governments Fifteen options for biosolids processing, reuse and management were evaluated The highest ranked option called for 100% biosolids digestion and continued recycling through land application The final plan calls for improvements to existing solids-processing operations at the Plant (not the subject of this application), construction of the Eggs Shaped Digesters Facility (the subject of this application), and improvements to existing sludge thickening, dewatering and scum handling systems (not the subject of this application) at the Plant

C. ***Land Use Element.*** The Land Use Element in Chapter 11 of the Comprehensive Plan includes the "Generalized Land Use Map," which indicates the adopted policies for future development throughout the city The Blue Plains facility is designated as a "Local Public Facility " Clearly, the advanced wastewater treatment facilities proposed in this PUD are local public facilities and are part of the larger Blue Plains facility

3. Superior Architectural Design.

The Digesters Facility presents a unique architectural design challenge that has been met with a proposed design that is superior CFA staff members have been strongly supportive of the architectural treatment that is being proposed.

Elevated connecting walkways and their supporting members are defining elements of the egg-shaped digesters Supporting members for the elevated walkways have been designed in a fashion similar to the cast iron and wrought iron bridges that were developed by the eminent designers Calvert Vaux and Jacob Wrey Mould. Vaux and Mould were responsible for many elegant bridge designs in the mid-to late 19th Century and are the designers for a series of bridges in New York's Central Park The design of the elevated walkways finds inspiration from visual themes that are familiar to and associated with the Nation's Capitol.

The cladding for the digester eggs is "wrapped" around the form of the eggs, thereby maintaining the integrity of the inner form The cladding panels will be aluminum or steel-colored near the top of the eggs and a soft yellow color as the cladding progresses toward the base. The addition of cladding of a different color not only adds interest but tends to break the monolithic appearance of the eggs and reduce their mass somewhat Lighting will provide refined nighttime definition to the facility

The use of steel or aluminum and brick as primary materials is in keeping with the industrial nature of the Digesters Facility and the industrial character of Blue Plains While the bulk and prominence of the egg-shaped digester and their supporting structures are not amenable to disguise, the proposed treatment of the Digesters and support structures is a more refined solution than typically seen in this type of installation

The use of a similar brick to that used in the older buildings at Blue Plains (the Wastewater Pumping Station, the Chemical Building and the Heat Exchanger Building, for example) for the Digester Gas Building and the access towers is appropriate since it provides for visual continuity and picks up on the simplified art deco style of these structures. The design treatment could be called the "Washington" solution since it is composed of forms similar in scale and proportion to those commonly found in the national capital and while still an industrial complex exhibits a refinement of style and restrained use of materials that is common to the city's architectural monuments

4. No Adverse Effects on Surrounding Area. Subsection 2403 3 of the PUD evaluation standards states·

The impact of the project on the surrounding area and on the operation of city services and facilities shall not be found to be unacceptable, but shall instead be found to be either favorable, capable of being mitigated, or acceptable given the quality of public benefits in the project

The PUD project will have entirely favorable effects on the surrounding area and on the Authority's services and facilities by enhancing the effectiveness of this critical public facility, for reasons cited previously: greater treatment capacity on the available land area, reduced volume of biosolids, reduced odor emissions and odor effects on nearby facilities and neighborhoods; reduced truck traffic and resulting air pollution, production of a recyclable end product, production of digester gas for power generation; and annual operating and maintenance savings Addition of the Digesters Facility at Blue Plains will in fact lessen the impacts of operations on the community

As to potential visual effects, the views of the proposed egg-shaped digesters will be softened by the large distances from the relevant vantage points over the Potomac River, by the low elevation of the site, and on the landward side by trees that provide screening and large land areas devoted to public, generally institutional uses Moreover, the Authority believes that the architect has created an exterior design treatment of superior quality that will make the Digesters pleasing and interesting for the public to observe. Accessory structures will fit well within the design character of other structures at Blue Plains.

VII. COMMUNITY COMMENT

Over the course of the past year and more, representatives of the Authority have presented the plans for the digester facility to each of the Advisory Neighborhood Commissions in Ward 8 WASA has also shared the plans with the staff members of the Commission of Fine Arts, the National Capital Planning Commission, the Office of Planning, and various other private and public entities. To date the plans have not encountered any opposition and indeed, have been praised regarding the design and the multiple public benefits that the project will deliver to the city and region The Applicant will, of course, return to ANC 8B, in which Blue Plains is located, for an additional meeting or meetings in order to secure a formal position of the ANC for the public hearing

VIII. CONCLUSION

The proposed PUD meets the standards of Chapter 24 of the Zoning Regulations The PUD plan provides for major public benefits and amenities, is not inconsistent with the Comprehensive Plan, and will result in no adverse effects on surrounding properties or on public facilities. Moreover, construction of the proposed new Digesters Facility will advance important local and regional responsibilities of the District of Columbia. Accordingly, the Applicant requests that the Zoning Commission schedule a public hearing to consider approval of the proposed PUD

Respectfully submitted,
ARNOLD & PORTER

Cynthia A. Giordano

Nathan W. Gross, AICP

Attachments

Exhibit A – On following pages
Exhibits B to M in attached set of plans

1195453

Exhibit A

Historical Background on Water Distribution and Wastewater Treatment in the District of Columbia

Historical Background - Water Supply The District of Columbia's public water service system began when the first water pipes were buried in 1809 along Pennsylvania Avenue from 9th to 14th Streets, N W. The Washington Aqueduct Division (Aqueduct) of the United States Army Corps of Engineers was established in 1852 and awarded the mission of producing drinking water for the District and parts of Virginia That mission continues today.

The Corps of Engineers operates the Washington Aqueduct, two water treatment plants, raw water conduits, reservoirs, pumping stations, and treated water transmission lines The Aqueduct's original facilities were constructed from 1853 to 1864 Between 1901 and 1905 the McMillan Water Treatment Plant was constructed Between 1925 and 1928 the Dalecarlia Water Treatment Plant was constructed. Substantial improvements, additions, renovation and rehabilitation have occurred since that time.

Aqueduct facilities supply treated drinking water to the distribution systems of the WASA, Arlington County, the City of Falls Church, other parts of northern Virginia, and the federal government WASA is responsible for management of the treated drinking water distribution system that serves the District and other small governmental customers outside the District The Authority's water storage and distribution system has nearly 1,300 miles of water distribution pipes, five pumping stations, five reservoirs, four elevated water storage tanks and 8,700 fire hydrants

Historical Background – Wastewater Treatment. Wastewater drainage of the central part of the District of Columbia was first accomplished through use of the Washington City Canal, which was completed in 1815. This canal ran through the tidal flats and marshes from the Potomac River near the foot of 17th Street SW, along present day Constitution Avenue, then through Canal Street to the Anacostia River at the foot of New Jersey Avenue [1] The District of Columbia's public sewerage system dates its origins from 1819 when culverts were constructed to drain run-off and ground water from public streets In 1822, the Washington Canal was filled in and replaced with the "Old B Street Sewer" (now Constitution Avenue).[2]

---

[1] Samuel A. Greeley, Frank A Marston & Gustav J Requardt, Board of Engineers, REPORT TO DISTRICT OF COLUMBIA DEPARTMENT OF SANITARY ENGINEERING ON IMPROVEMENTS TO SEWERAGE SYSTEM (February 28, 1957)

[2] Id

RECEIVED
D C OFFICE OF ZONING
2021 JUN 15 PM 12 17

In 1859 when the public water supply system was introduced, the need for adequate drainage increased rapidly. During and after the Civil War the canal was the "source of much objection because of odors and poor drainage" [3] However, it was not until the post-Civil War period following epidemics of smallpox, typhoid and malaria, that a major construction program (1871 – 1874) resulted in what could be termed a "public sewer system". Eighty miles of sewers were constructed but soon proved inadequate

In 1890, a presidentially-appointed Board of Sanitary Engineers recommended extensive changes to the city's sewer system.[4] Recommendations included selection of a discharge point farther downstream from the city center so that the discharge would not re-enter the city's groundwater or pollute the city's water supply system The discharge point that was selected by the Board of Engineers was an area known as Blue Plains, the southernmost point in the District of Columbia Eventually, the city's wastewater and storm water was conveyed to Blue Plains and, as was the practice of the time, discharged with only minimal treatment to the Potomac River.

In 1933, a successor Board of Engineers recommended construction of a wastewater treatment plant at the Blue Plains location The proposed configuration of the new plant included sludge digestion tanks, a sludge dewatering process, and facilities to handle the gas produced from the sludge digestion process.

Operations at the Blue Plains Wastewater Treatment Plant began in 1938. At that time, the treatment works served a population of 650,000 people The original Plant was constructed at a cost of approximately $8,000,000 [5] Less than 100 million gallons per day were discharged into the Potomac River when the Plant opened. The fundamental features of the original plant serve as the basis for current operations

By the mid-1950's the population of the District of Columbia had grown to more than 800,000. The Federal establishment had grown significantly and the suburbs were rapidly expanding By 1959, Blue Plains had been expanded to a capacity of 240 million gallons per day and secondary treatment facilities were added[6]

By the mid-1960's the Potomac River's water quality had deteriorated to such a degree that President Lyndon Johnson declared the river a "national disgrace". Congress

---

[3] Id

[4] Samuel M Gray, Rudolf Hering and Frederick P Stearns served on this Board

[5] Id 98-125

[6] Secondary treatment adds processes that supplement primary treatment operations These added processes remove additional biodegradable organic matter and suspended solids from the wastewater also disinfection treatment is employed before the effluent is discharged Source Wastewater Engineering Treatment and Reuse, Metcalf & EDDY, Inc , (revised by George Tchobanoglous, Franklyn L Burton H David Stensel, McGraw Hill, Higher Education 4th ed 2003) at 11

passed the Water Quality Act of 1965 in order to "enhance the quality and value of our water resources and to establish a national policy for the prevention, control and abatement of water pollution "[7] In 1966, Congress passed the Clean Water Restoration Act of 1966, which authorized grants to state planning agencies to assist the development of comprehensive pollution control and abatement plans.[8] These laws signaled the national effort to clean up the country's water resources, which continues today.

The Federal Water Pollution Control Act amendments of 1972 and regulations promulgated by the newly created (1970) Environmental Protection Agency eventually spurred the construction of new treatment facilities, local legislation to reduce sources of pollution, and development of new technology in the wastewater treatment industry

Between 1970 and the mid-1980's, Blue Plains expanded its capacity to 300 million gallons per day and introduced new treatment technology (tertiary treatment and advanced treatment) and greatly improved the quality of water discharged into the Potomac River.[9] In 1997, the treatment capacity of Blue Plains was increased to 370 million gallons per day A year later, 1998, the Potomac River was designated an American Heritage River Today, the award-winning[10] Blue Plains Advanced Wastewater Treatment Plant is the largest advanced wastewater treatment facility in the world

WASA's wastewater system contains approximately 1,800 miles of sanitary and combined sewer lines, 22 flow metering stations, nine off-site wastewater pumping stations and 16 stormwater pumping stations

The Blue Plains plant treats:

- all of the wastewater generated in the District of Columbia;
- approximately 90% of the wastewater generated in Montgomery County, Maryland,
- approximately 50% of the wastewater generated in Prince Georges County, Maryland, and
- approximately 15% of the wastewater generated in Fairfax County, Virginia.

---

[7] Water Quality Act of 1965, Pub L No 89-234 79 Stat.498.

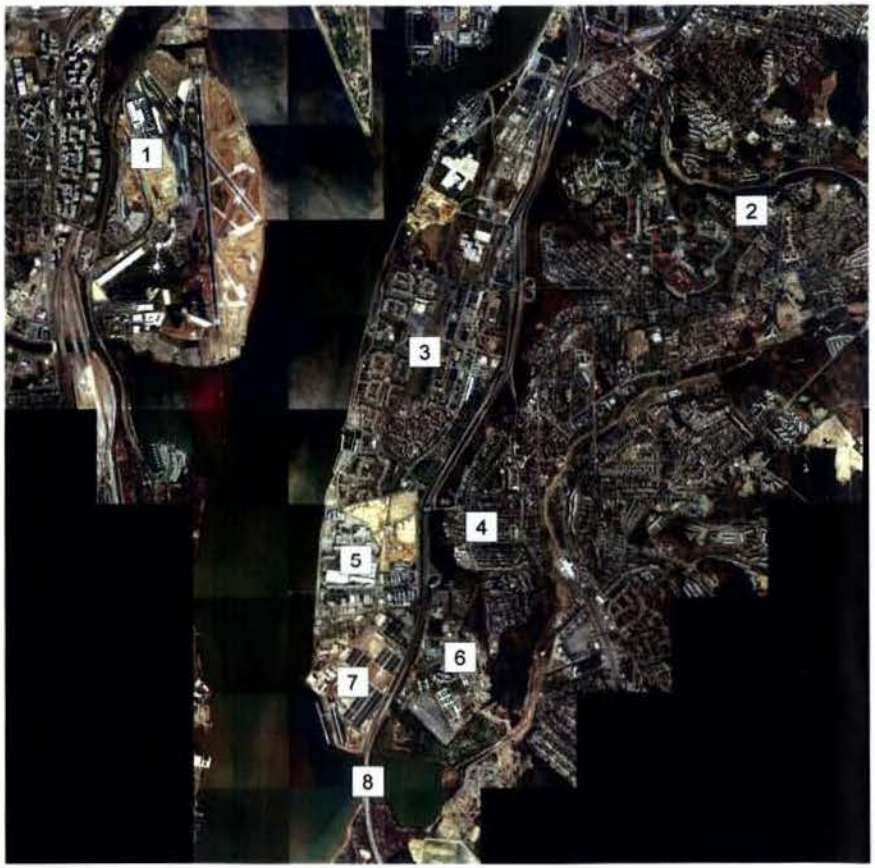
[8] The Clean Water Restoration Act of 1966, Pub L No 89-753 80 Stat 1246

[9] Tertiary treatment processes remove the suspended solids that remain after secondary treatment usually by passing the wastewater over granular filtration media or by employing some other screening system Tertiary treatment at Blue Plains also includes processes that remove nutrients (nitrogen) from the wastewater Advanced treatment removes both dissolved and suspended solids from the wastewater

[10] Since 1998, the Authority has annually received the Association of Metropolitan Sewerage Agencies' Gold or Silver Award for plant performance, and has met all of its permit and other regulatory requirements for wastewater

Footnote continued on next page

Since 1996, WASA has expended approximately Three Hundred Seventy Two Million Dollars ($372,000,000) to improve and expand treatment capacity and processes at Blue Plains The Authority's current 10-year Capital Improvement Program includes additional Capital infrastructure investments of $1 6 billion in the water delivery and wastewater treatment systems. More than $900 million will be applied to improvements at Blue Plains. At least $220 million of the investments planned for Blue Plains involve the design and construction the new Egg-Shaped Digesters Facility that is the subject of this PUD application

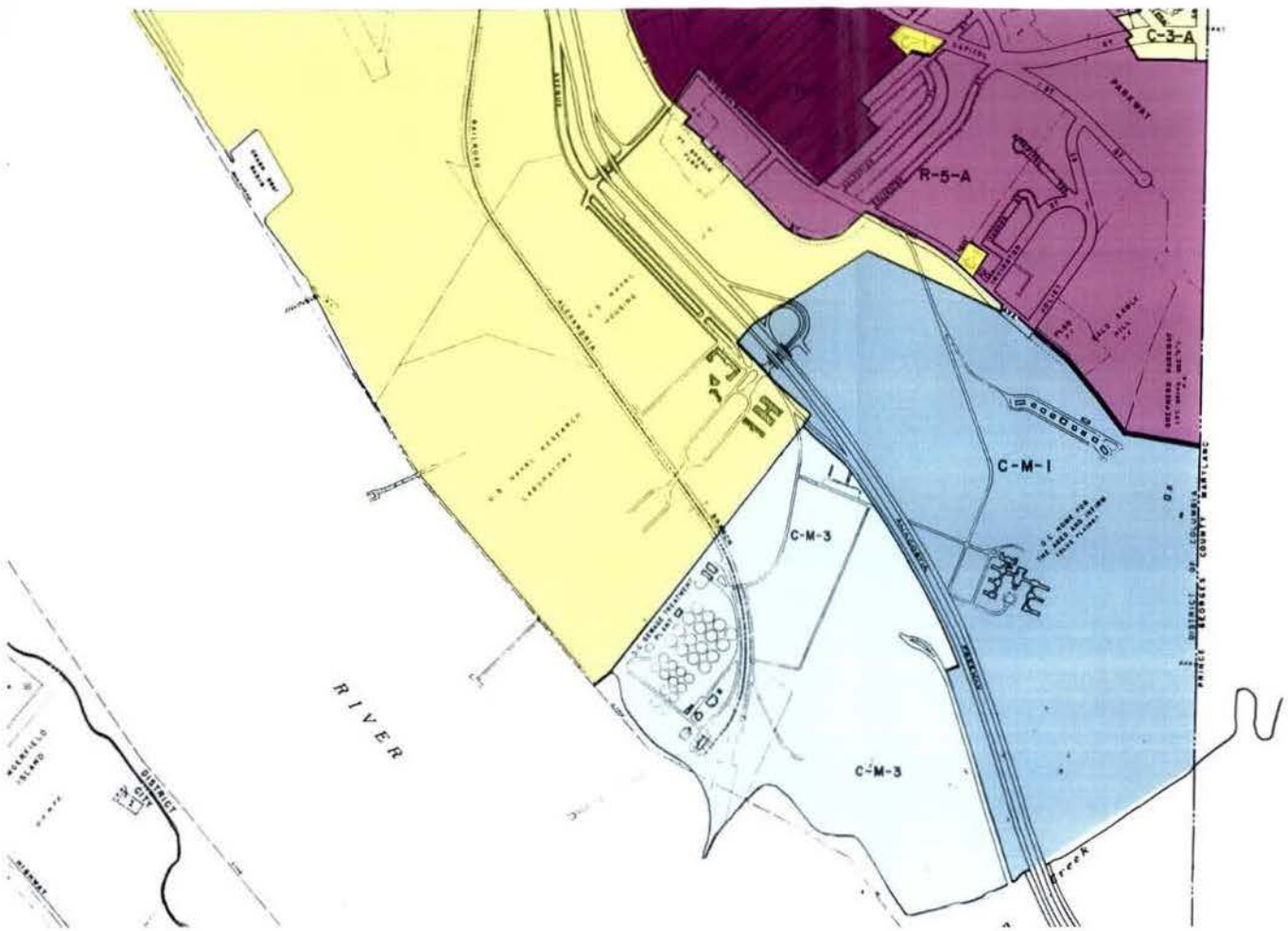


LEGEND:

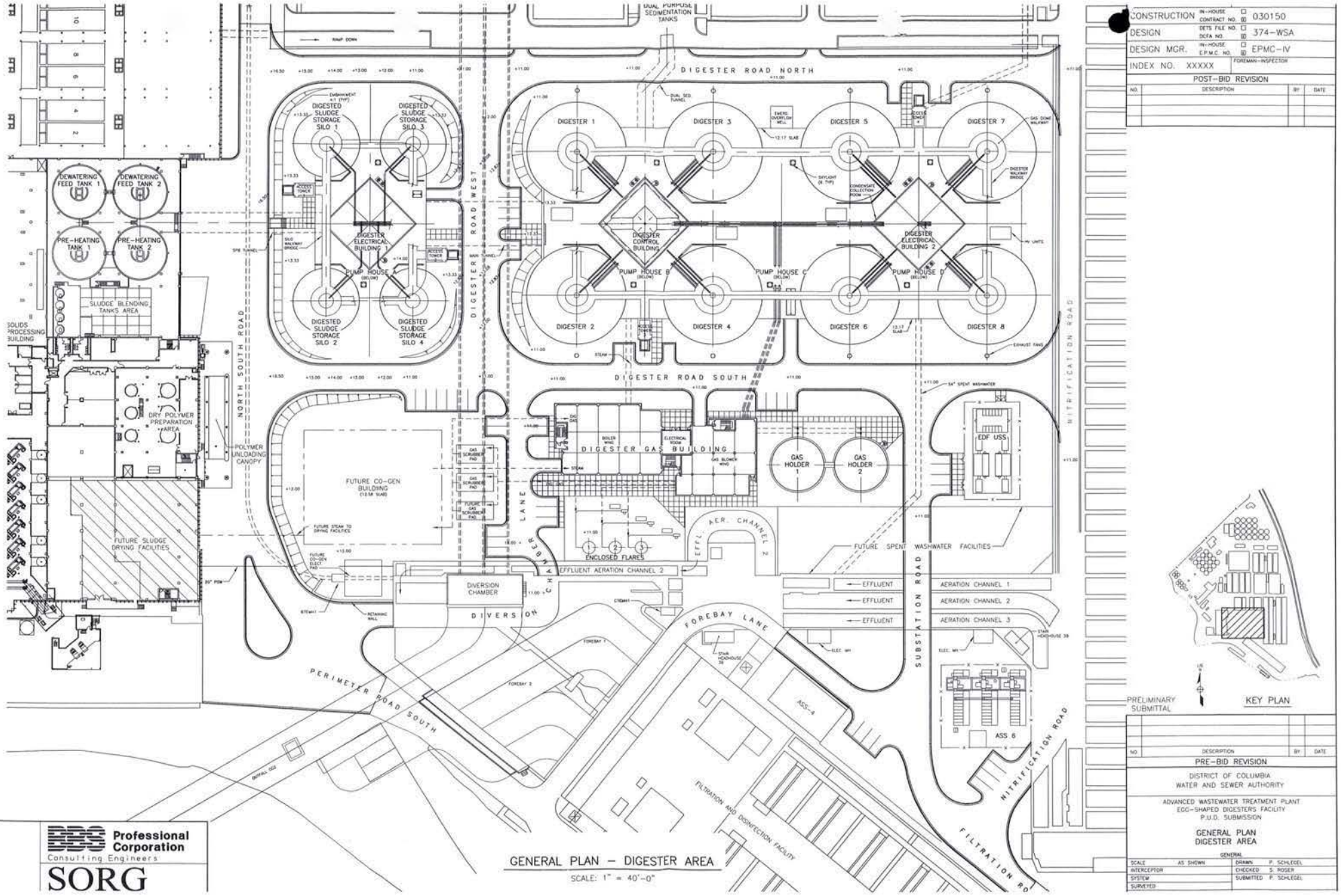
1. Ronald Reagan National Airport
2. St. Elizabeth's Hospital
3. Bolling Air Force Base
4. Fort Greble Park
5. Naval Research Lab
6. DC Village
7. Blue Plains Advanced Wastewater Treatment Plant
8. Interstate 295

N


N


C-3-A
R-5-A
C-M-1
C-M-3
C-M-3
RIVER
DISTRICT

SITE PLAN
EXHIBIT E



GENERAL PLAN – DIGESTER AREA

SCALE: 1" = 40'-0"

KEY PLAN

CONSTRUCTION	IN-HOUSE CONTRACT NO. ☐	☒ 030150
DESIGN	DETS FILE NO. ☐ DCFA NO.	☒ 374-WSA
DESIGN MGR.	IN-HOUSE E.P.M.C. NO. ☐	☒ EPMC-IV
INDEX NO. XXXXX	FOREMAN-INSPECTOR	

POST-BID REVISION

NO.	DESCRIPTION	BY	DATE

PRELIMINARY SUBMITTAL

NO.	DESCRIPTION	BY	DATE

PRE-BID REVISION

DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY

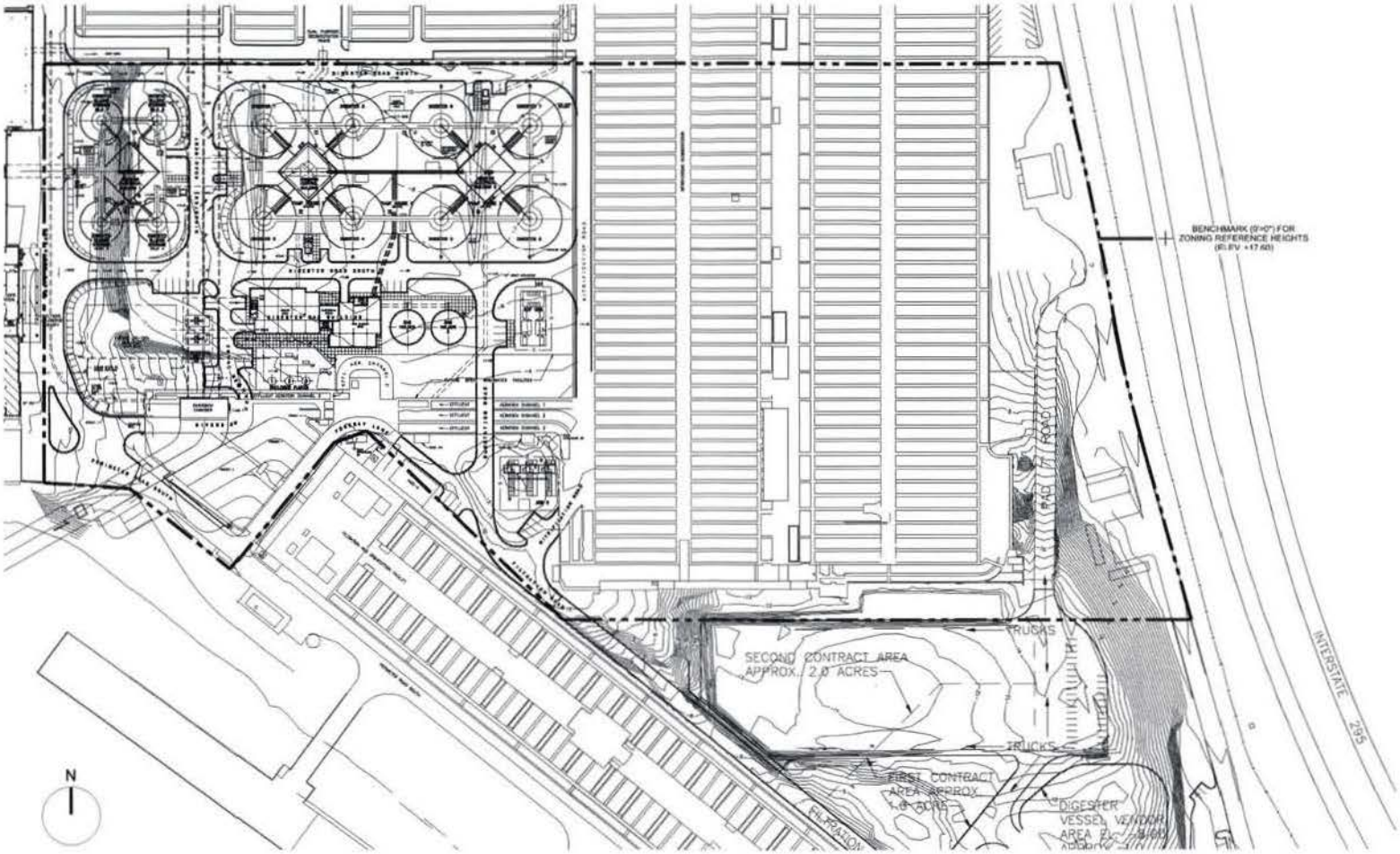
ADVANCED WASTEWATER TREATMENT PLANT
EGG-SHAPED DIGESTERS FACILITY
P.U.D. SUBMISSION

GENERAL PLAN
DIGESTER AREA

GENERAL

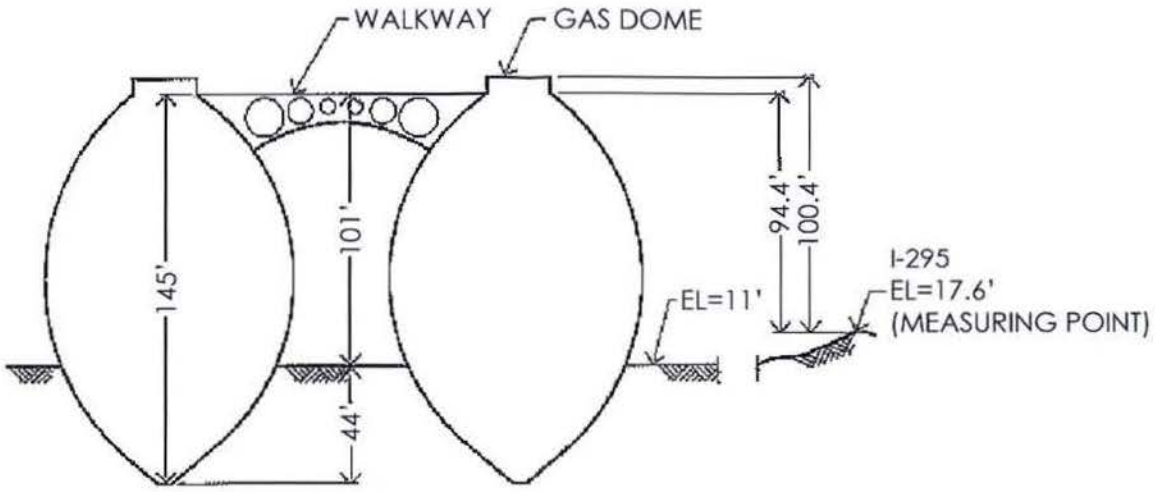
SCALE	AS SHOWN	DRAWN	P. SCHLEGEL
INTERCEPTOR		CHECKED	S. ROSER
SYSTEM		SUBMITTED	P. SCHLEGEL
SURVEYED			

BBS Professional Corporation
Consulting Engineers
SORG


BENCHMARK (0'-0") FOR
ZONING REFERENCE HEIGHTS
(ELEV. +17.60)
SECOND CONTRACT AREA
APPROX. 2.0 ACRES
TRUCKS
TRUCKS
FIRST CONTRACT
AREA APPROX.
1.8 ACRES
DIGESTER
VESSEL VENDOR
AREA
INTERSTATE 295
N

EGG SHAPED DIGESTER FACILITY

Washington, DC



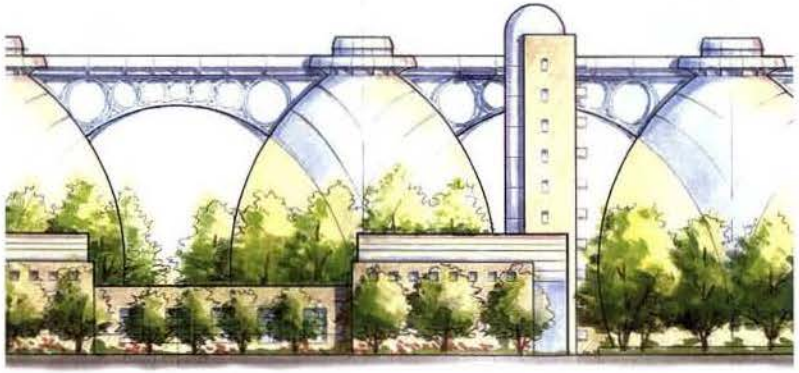


ILLUSTRATION OF COMPLIANCE WITH HEIGHT LIMIT:
90'-0" for Digesters, 108'-6" for Roof Structures*

Structure	Height Above Finished Grade (ft)	Height Per Measuring Point (ft)	Zoning Compliance
Egg Digesters	101	94.4	Exceeds 90' by 4.4'
Elevator Towers	118	111.4	Exceeds 108.5' by 2.9'
Gas Domes	107	100.4	Within 108.5'
Elevated Walkways	101	94.4	Within 108.5'
Other Structures	60 or less	N.A.	Within 90'

* The elevator towers provide access to walkways which connect the gas domes on top of the digesters to each other. The gas domes are where mechanical equipment is housed. See illustration at left.

Under § 2405.3, an additional 5% over the height restriction is granted for PUDs. The Egg Digesters are allowed to exceed the 90' height limit by 4.5', and the Roof Structures* are allowed to exceed the 108.5' height limit by 5.425'.

EGG SHAPED DIGESTER FACILITY

Washington, DC

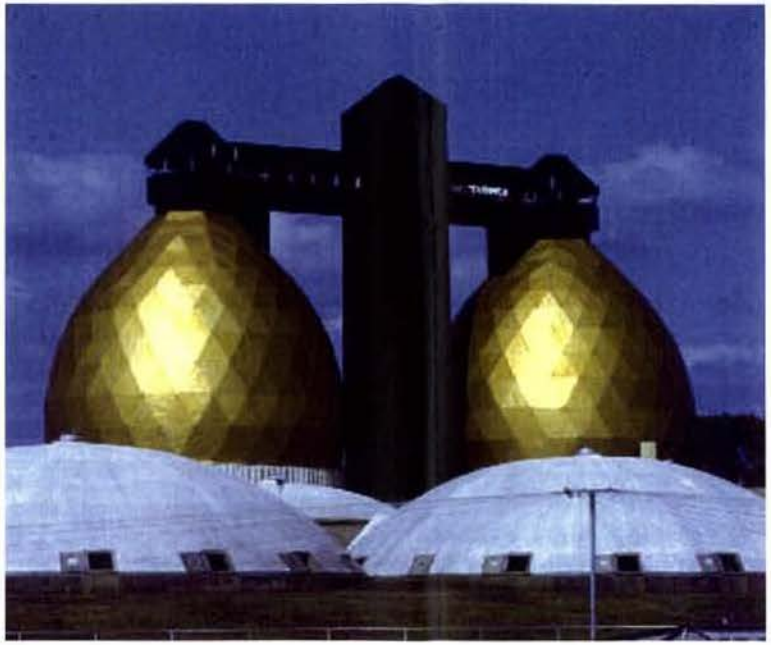




Aerial photographs of the Blue Plains Facility with a model of the Egg Shaped Digesters inserted. Note that the Anacostia Freeway abuts the facility along its eastern boundary. Note also that the pictures show an earlier scheme of the digesters.

EGG SHAPED DIGESTER FACILITY

Washington, DC



Photograph of Egg Shaped Digesters in Baltimore showing a service walkway connecting the gas domes on top of the digester vessels and the elevator tower with a machine room on top.



Photograph of proposed Egg Shaped Digesters at Blue Plains showing interconnected walkways between gas domes atop the digester vessels.



Photo 1



Photo 2



Photo 3



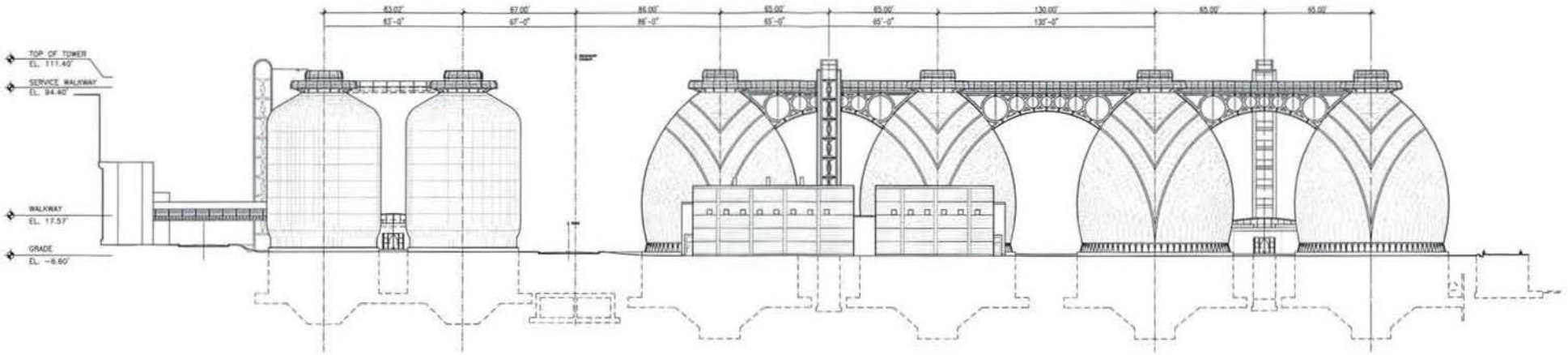
Photo 4

ARCHITECTURAL DRAWINGS
EXHIBIT L

CONSTRUCTION	IN-HOUSE CONTRACT NO. ☐	030150
DESIGN	DETS FILE NO. ☐ DCFA NO. ☒	374-WSA
DESIGN MGR.	IN-HOUSE E.P.M.C. NO. ☐	EPMC-IV
INDEX NO. XXXXX	FOREMAN-INSPECTOR	

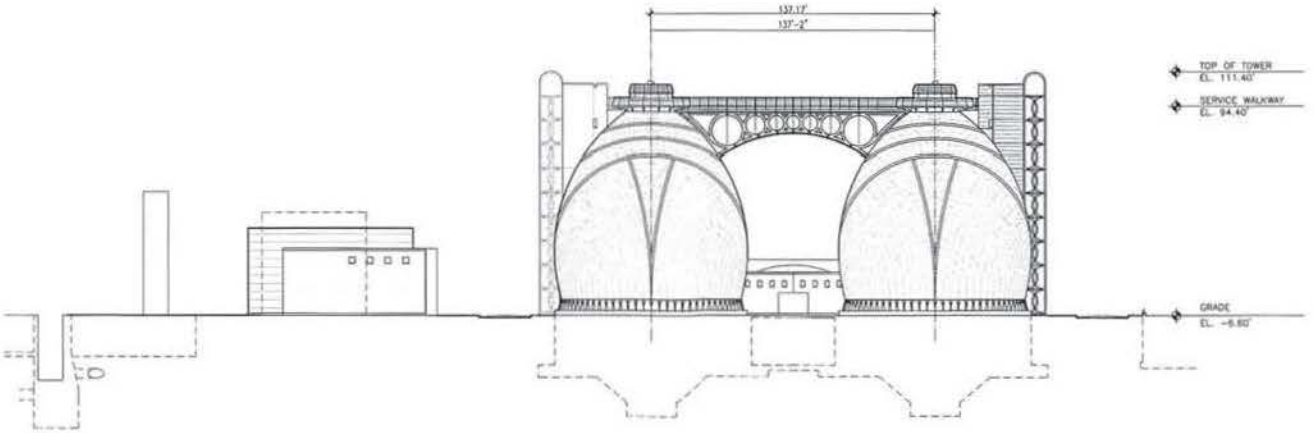
POST-BID REVISION

NO	DESCRIPTION	BY	DATE



EGG DIGESTER FACILITY SOUTH ELEVATION

SCALE: 1"=30'-0"



EGG DIGESTER FACILITY EAST ELEVATION

SCALE: 1"=30'-0"

BBS Professional Corporation
Consulting Engineers
SORG

PRELIMINARY SUBMITTAL

NO	DESCRIPTION	BY	DATE
	PRE-BID REVISION		

DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY

ADVANCED WASTEWATER TREATMENT PLANT
EGG-SHAPED DIGESTERS FACILITY
P.U.D. SUBMISSION

DIGESTER
ELEVATION 1

ARCHITECTURAL

SCALE	AS SHOWN	DRAWN	T. HANKS
INTERCEPTOR		CHECKED	R. ROBINSON
SYSTEM		SUBMITTED	
SURVEYED			KK

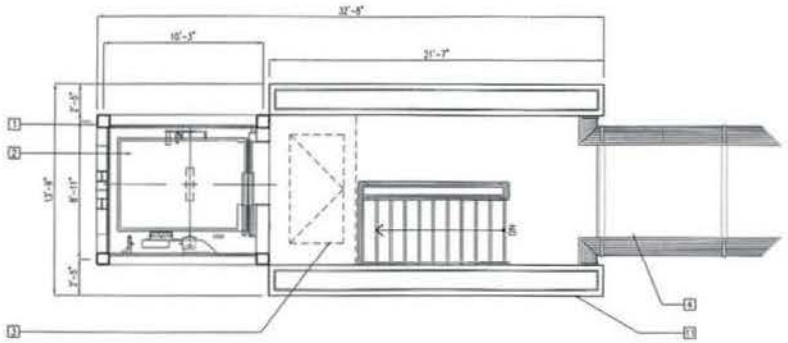
CONSTRUCTION	IN-HOUSE CONTRACT NO. ☐ ☒	030150
DESIGN	DETS FILE NO. ☐ DCFA NO. ☒	374-WSA
DESIGN MGR.	IN-HOUSE E.P.M.C. NO. ☐ ☒	EPMC-IV
INDEX NO. XXXXX	FOREMAN-INSPECTOR	

POST-BID REVISION

NO.	DESCRIPTION	BY	DATE

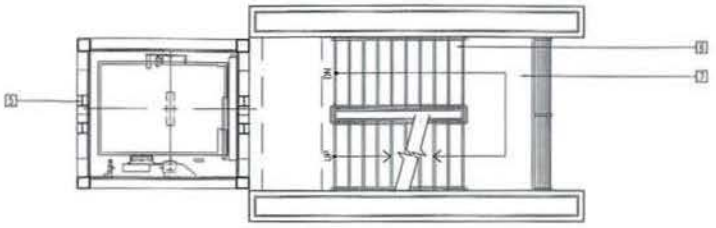
KEYED NOTES:

1. STEEL TUBE STRUCTURE
2. 4000 LB SERVICE ELEVATOR (6'-0" X 8'-4")
3. ELEVATOR MACHINE ACCESS ABOVE
4. CONNECTING BRIDGE TO EDF SERVICE WALKWAY
5. ROLLED STEEL CROSS BRACING
6. NON-SKID PULTRUDED FIBERGLASS TREADS
7. NON-SKID PULTRUDED FIBERGLASS DECK (TYPICAL)
8. FIRE RATED DOOR
9. SECURITY DOOR
10. EDGE OF EDF PLATFORM
11. CONCRETE STRUCTURE WITH BRICK VENEER



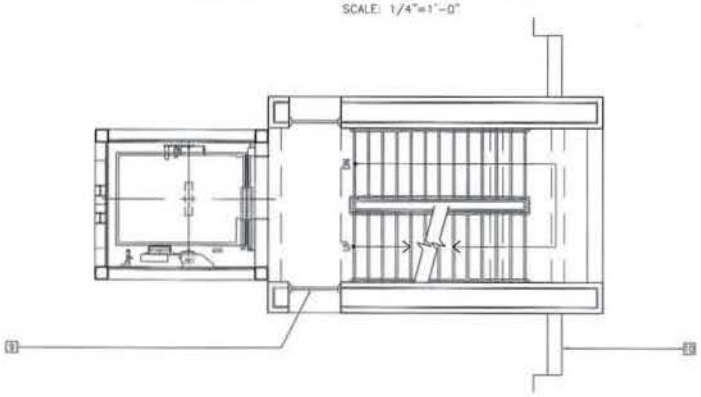
ACCESS TOWER PLAN–SERVICE WALKWAY LEVEL

SCALE: 1/4"=1'-0"



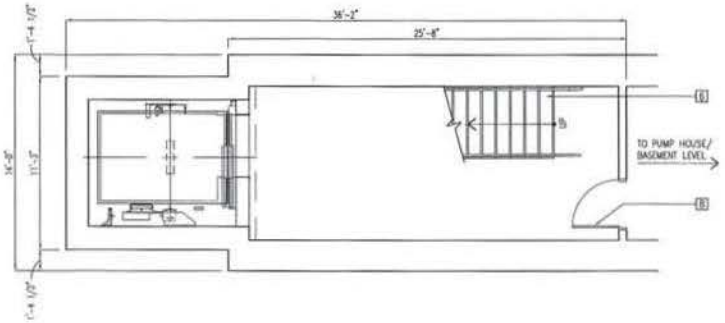
ACCESS TOWER PLAN–MID-LEVEL LANDING

SCALE: 1/4"=1'-0"



ACCESS TOWER PLAN–GRADE LEVEL

SCALE: 1/4"=1'-0"



ACCESS TOWER PLAN–TUNNEL LEVEL

SCALE: 1/4"=1'-0"

PRELIMINARY SUBMITTAL

NO.	DESCRIPTION	BY	DATE

PRE-BID REVISION

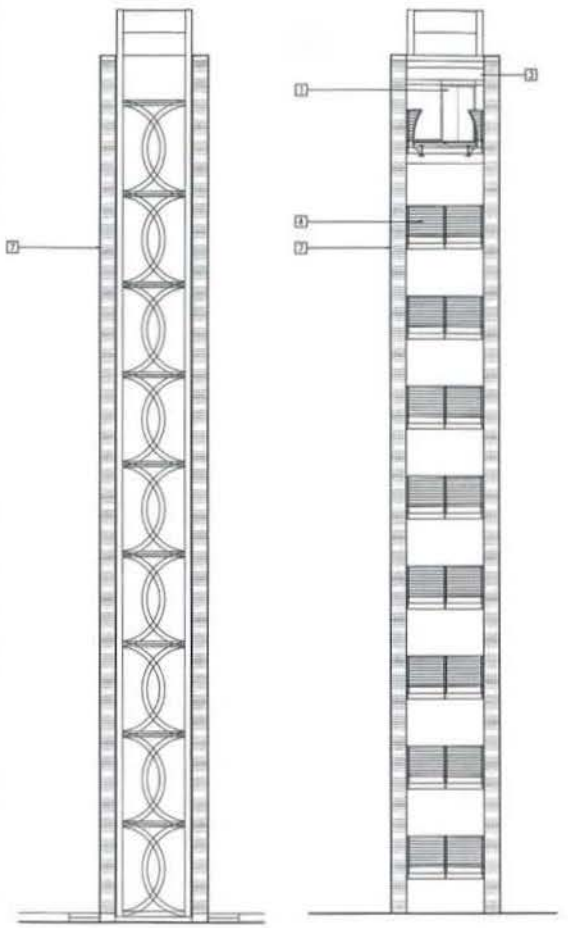
DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY

ADVANCED WASTEWATER TREATMENT PLANT
EGG-SHAPED DIGESTERS FACILITY
P.U.O. SUBMISSION

ACCESS TOWER PLANS

SCALE	AS SHOWN	DRAWN	TH
INTERCEPTOR		CHECKED	RR
SYSTEM		SUBMITTED	XX
SURVEYED			

EBS Professional Corporation
Consulting Engineers
SORG

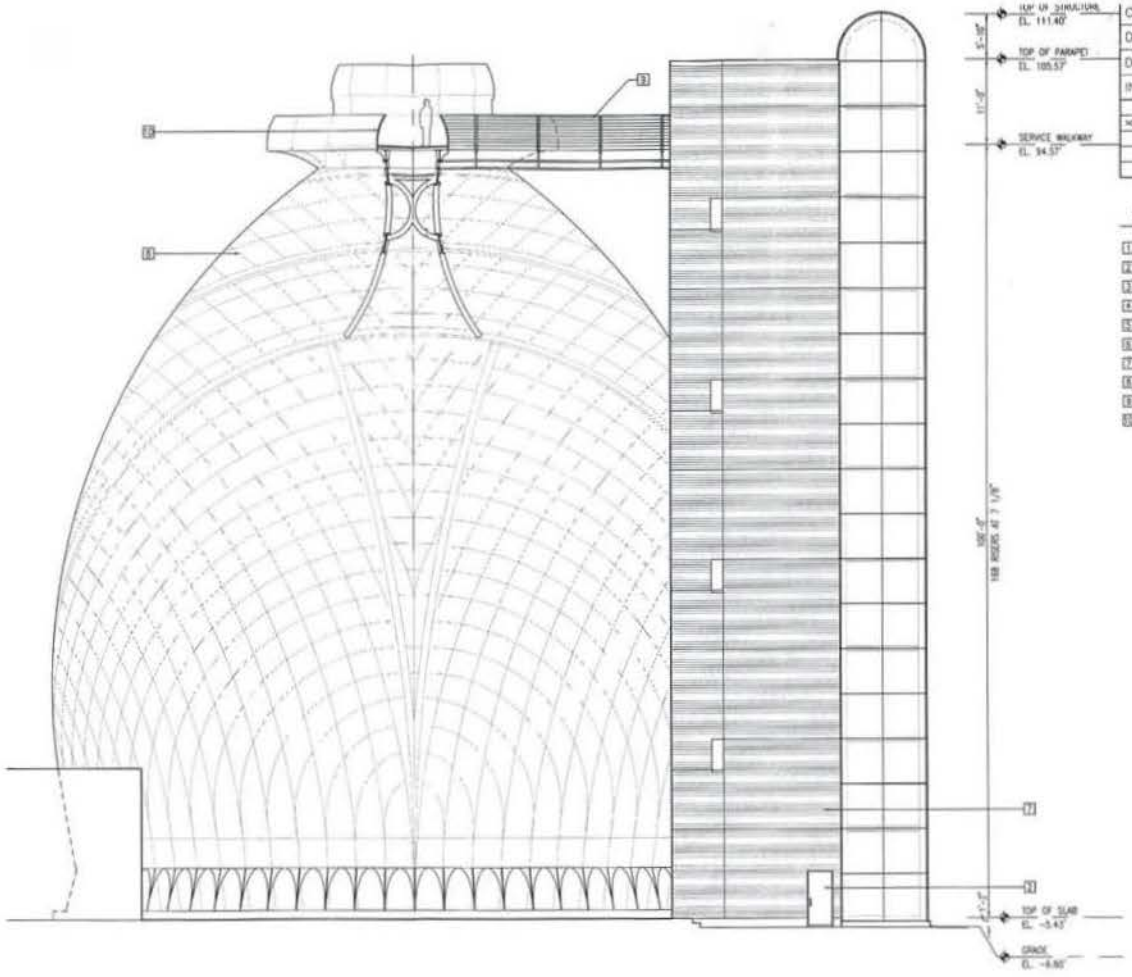


ACCESS TOWER ELEVATION 1

SCALE: 1/8"=1'-0"

ACCESS TOWER ELEVATION 2

SCALE: 1/8"=1'-0"



EGG DIGESTER ELEVATION

SCALE: 1/8"=1'-0"

CONSTRUCTION	IN-HOUSE CONTRACT NO. ☐ ☒ 030150
DESIGN	DEPT'S FILE NO. ☐ DCFA NO. ☒ 374-WSA
DESIGN MGR.	IN-HOUSE E.P.M.C. NO. ☐ ☒ EPMC-IV
INDEX NO. XXXXX	FOREMAN-INSPECTOR

POST-BID REVISION

NO.	DESCRIPTION	BY	DATE

KEYED NOTES:

1. ELEVATOR ACCESS
2. SECURITY DOOR
3. ELEVATOR MACHINE ACCESS
4. STAINLESS STEEL MESH
5. STEEL STRUCTURE
6. CONCRETE
7. CONCRETE STRUCTURE WITH BRICK VENEER
8. METAL PANEL CLADDING
9. CONNECTING BRIDGE TO EDF SERVICE WALKWAY
10. EDF SERVICE WALKWAY

PRELIMINARY SUBMITTAL

NO.	DESCRIPTION	BY	DATE

PRE-BID REVISION

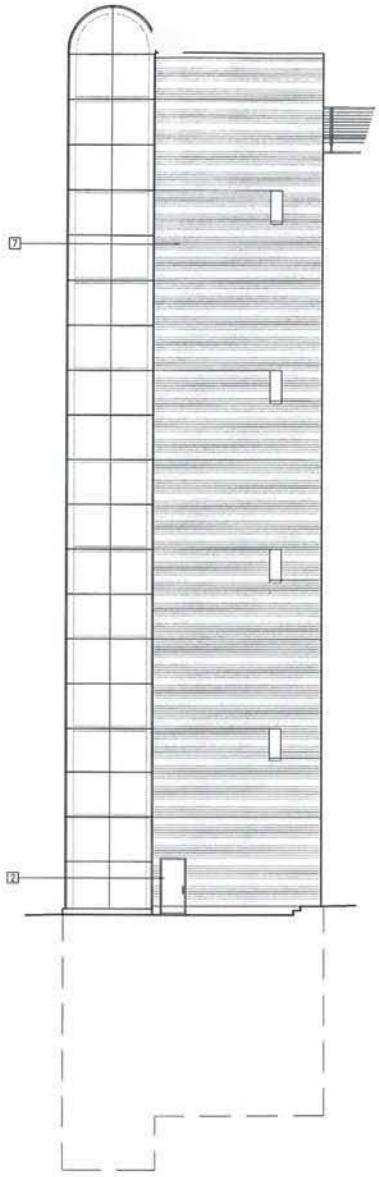
DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY

ADVANCED WASTEWATER TREATMENT PLANT
EGG-SHAPED DIGESTERS FACILITY
P.U.D. SUBMISSION

ACCESS TOWER ELEVATIONS

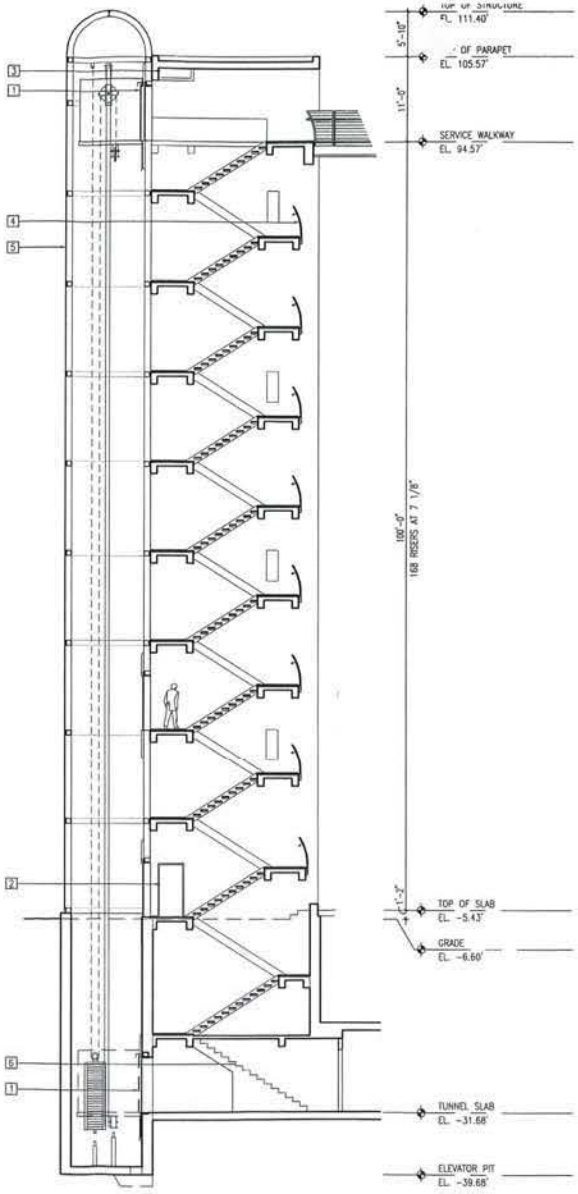
SCALE AS SHOWN	DRAWN TH
INTERCEPTOR	CHECKED RM
SYSTEM	SUBMITTED XX
SURVEYED	

BBS Professional Corporation
Consulting Engineers
SORG



ACCESS TOWER ELEVATION 3

SCALE: 1/8"=1'-0"



ACCESS TOWER SECTION

SCALE: 1/8"=1'-0"

CONSTRUCTION	IN-HOUSE CONTRACT NO. ☐ ☒	030150	
DESIGN	DETS FILE NO. ☐ DCFA NO. ☒	374-WSA	
DESIGN MGR.	IN-HOUSE E.P.M.C. NO. ☐ ☒	EPMC-IV	
INDEX NO. XXXXX	FOREMAN-INSPECTOR		

POST-BID REVISION

NO.	DESCRIPTION	BY	DATE

KEYED NOTES:

1. ELEVATOR ACCESS
2. SECURITY DOOR
3. ELEVATOR MACHINE ACCESS
4. STAINLESS STEEL MESH
5. STEEL STRUCTURE
6. CONCRETE
7. CONCRETE STRUCTURE WITH BRICK VENEER

PRELIMINARY SUBMITTAL

NO.	DESCRIPTION	BY	DATE

PRE-BID REVISION

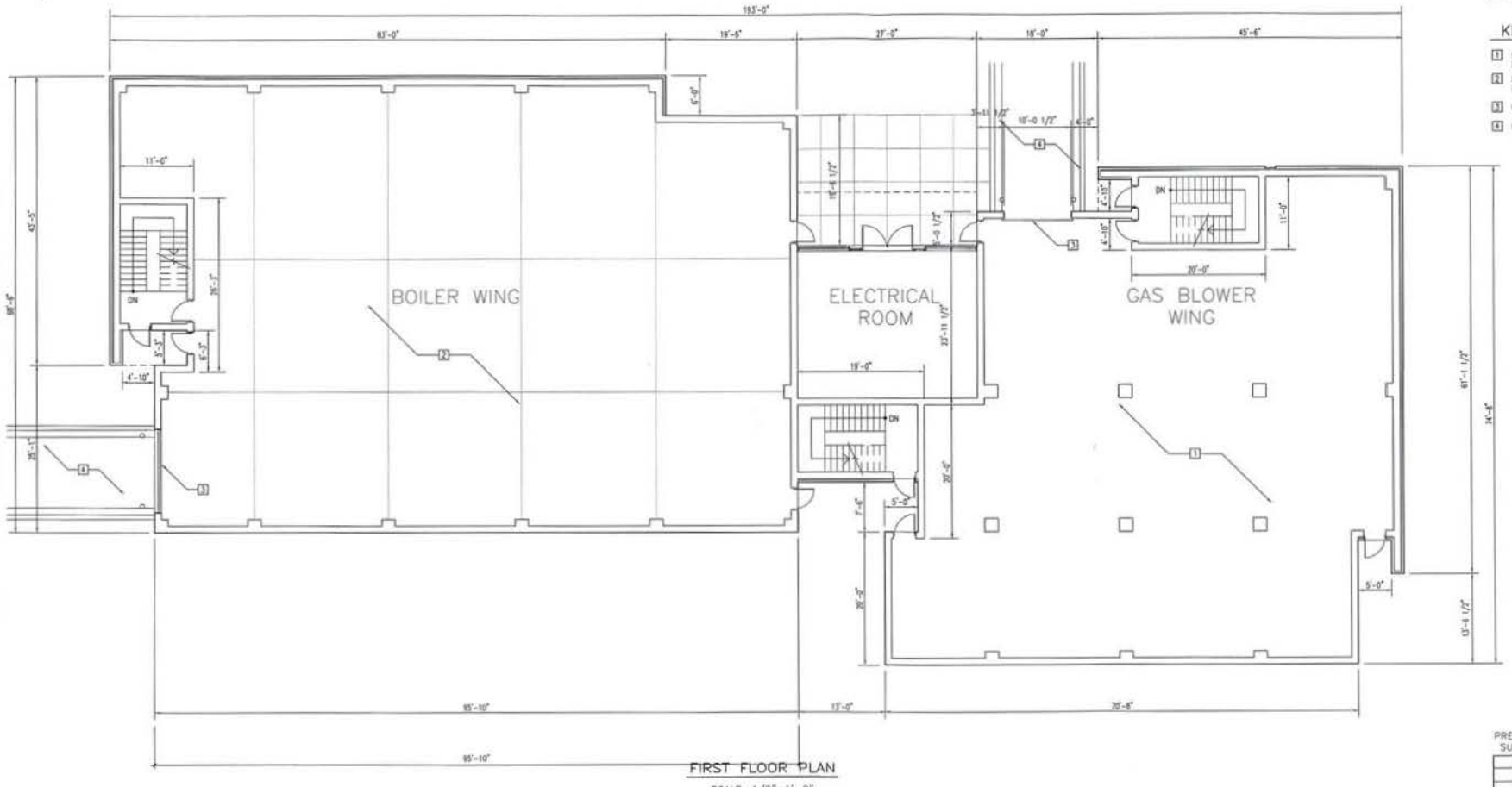
DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY

ADVANCED WASTEWATER TREATMENT PLANT
EGG-SHAPED DIGESTERS FACILITY
P.U.D. SUBMISSION

ACCESS TOWER-TYPE 2-ELEVATIONS

SCALE	AS SHOWN	DRAWN	TH
INTERCEPTOR		CHECKED	RB
SYSTEM		SUBMITTED	XX
SURVEYED			

DBS Professional Corporation
Consulting Engineers
SORG



FIRST FLOOR PLAN

SCALE: 1/8"=1'-0"

CONSTRUCTION	IN-HOUSE CONTRACT NO. ☐	☒ 030150
DESIGN	DETS FILE NO. ☐ DCFA NO. ☒	374-WSA
DESIGN MGR.	IN-HOUSE E.P.M.C. NO. ☐	☒ EPMC-IV
INDEX NO. XXXXX	FOREMAN-INSPECTOR	

POST-BID REVISION

NO.	DESCRIPTION	BY	DATE

KEYED NOTES

1. REFER TO PLUMBING DRAWINGS FOR GAS EQUIPMENT AND PIPING LAYOUT
2. REFER TO MECHANICAL DRAWINGS FOR BOILER EQUIPMENT LAYOUT
3. OVERHEAD COILING DOOR
4. DRIVEWAY TO LOADING DOCK

PRELIMINARY SUBMITTAL

NO.	DESCRIPTION	BY	DATE

PRE-BID REVISION

DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY

ADVANCED WASTEWATER TREATMENT PLANT
EGG-SHAPED DIGESTERS FACILITY
P.U.D. SUBMISSION

DIGESTER GAS BLDG - PLAN

SCALE AS SHOWN	DRAWN TH
INTERCEPTOR	CHECKED RR
SYSTEM	SUBMITTED XX
SURVEYED	

BBS Professional Corporation
Consulting Engineers
SORG

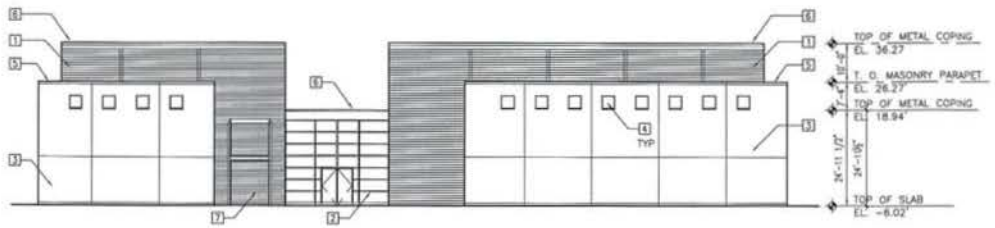
CONSTRUCTION	IN-HOUSE CONTRACT NO. ☐	☒ 030150
DESIGN	DCTS FILE NO. ☐ DCFA NO.	☒ 374-WSA
DESIGN MGR.	IN-HOUSE E.P.M.C. NO. ☐	☒ EPMC-IV
INDEX NO. XXXXX	FOREMAN-INSPECTOR	

POST-BID REVISION

NO.	DESCRIPTION	BY	DATE

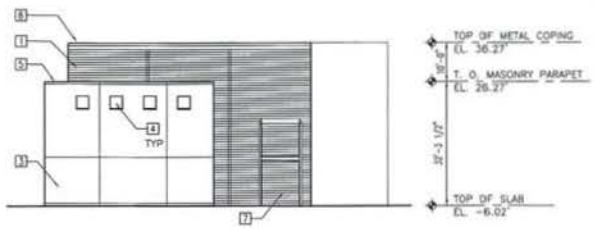
KEYED NOTES:

1. METAL PANEL SYSTEM
2. WINDOW WALL SYSTEM
3. MASONRY VENEER
4. FIXED ALUMINUM WINDOWS
5. MASONRY COPING
6. METAL COPING
7. OVERHEAD COILING DOOR W/ LOUVER ABOVE



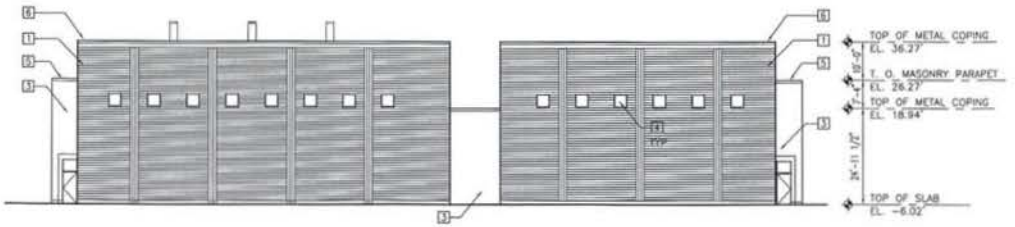
BUILDING ELEVATION

(NORTH FACADE)
SCALE: 1/16"=1'-0"



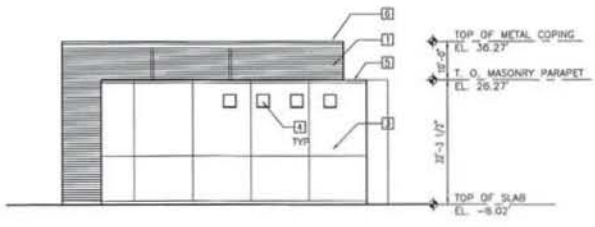
BUILDING ELEVATION

(EAST FACADE)
SCALE: 1/16"=1'-0"



BUILDING ELEVATION

(SOUTH FACADE)
SCALE: 1/16"=1'-0"



BUILDING ELEVATION

(WEST FACADE)
SCALE: 1/16"=1'-0"

PRELIMINARY SUBMITTAL

NO.	DESCRIPTION	BY	DATE

PRE-BID REVISION

DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY

ADVANCED WASTEWATER TREATMENT PLANT
EGG-SHAPED DIGESTERS FACILITY
P.U.D. SUBMISSION

DIGESTER GAS BLDG – ELEVATIONS

SCALE	AS SHOWN	DRAWN	TH
INTERCEPTOR		CHECKED	RH
SYSTEM		SUBMITTED	KK
SURVEYED			

BBS Professional Corporation
Consulting Engineers
SORG

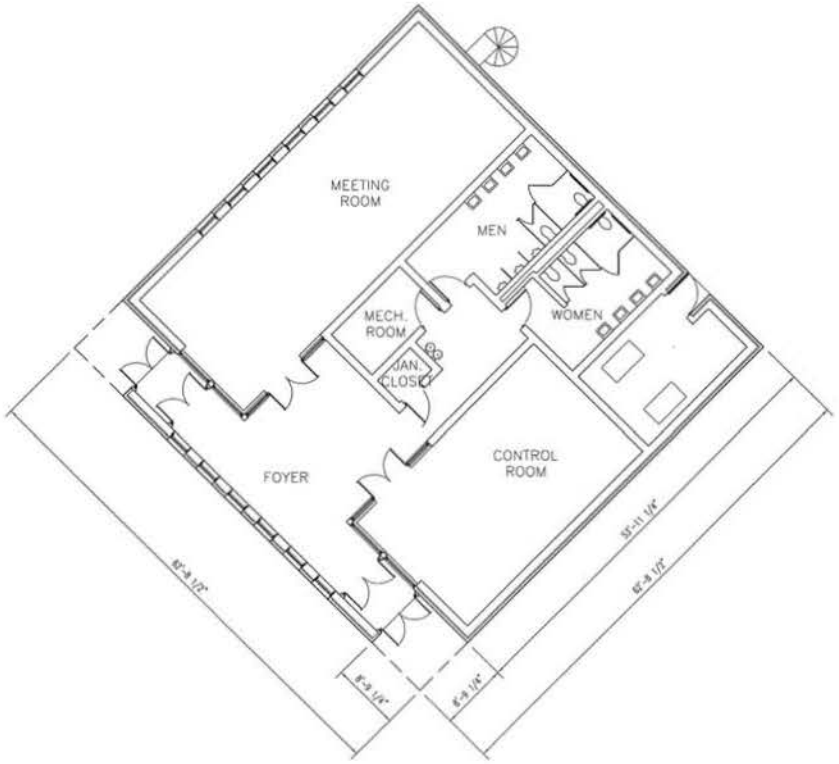
CONSTRUCTION	IN-HOUSE CONTRACT NO. ☐ ☒	030150
DESIGN	DETS FILE NO. ☐ DCFA NO. ☒	374-WSA
DESIGN MGR.	IN-HOUSE E.P.M.C. NO. ☐ ☒	EPMC-IV
INDEX NO. XXXXX	FOREMAN-INSPECTOR	

POST-BID REVISION

NO.	DESCRIPTION	BY	DATE

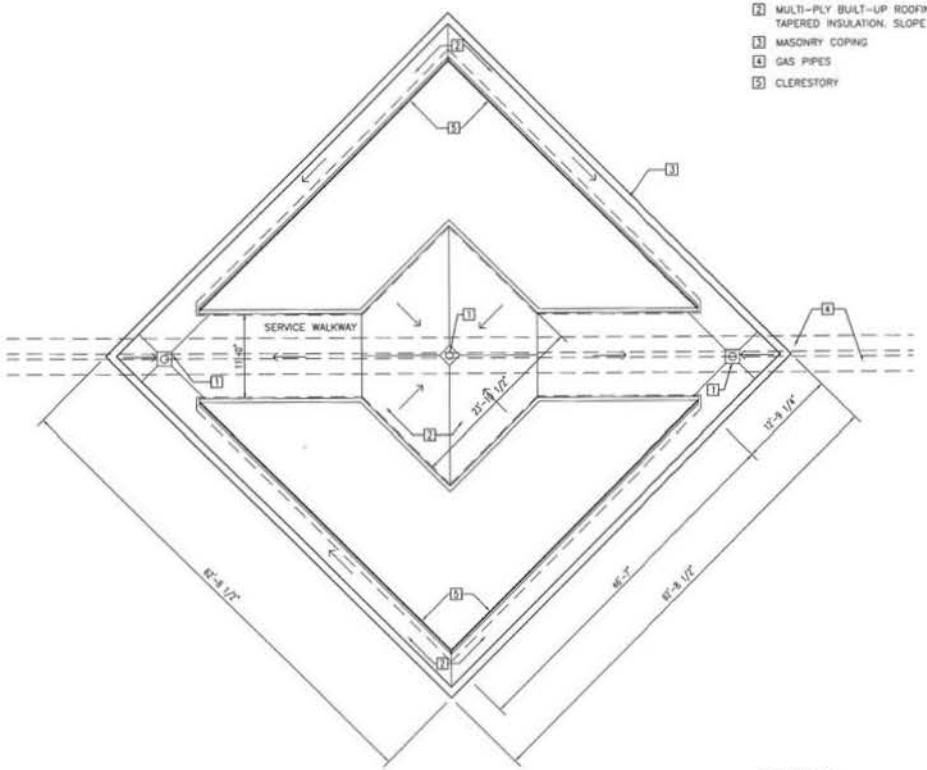
KEYED NOTES

1. ROOF DRAIN
2. MULTI-PLY BUILT-UP ROOFING SYSTEM ON TAPERED INSULATION. SLOPE INSUL. 1/4" PER 12"
3. MASONRY COPING
4. GAS PIPES
5. CLERESTORY



CONTROL BUILDING FLOOR PLAN

SCALE: 1/8"=1'-0"



CONTROL BUILDING ROOF PLAN

SCALE: 1/8"=1'-0"

PRELIMINARY SUBMITTAL

NO.	DESCRIPTION	BY	DATE

PRE-BID REVISION

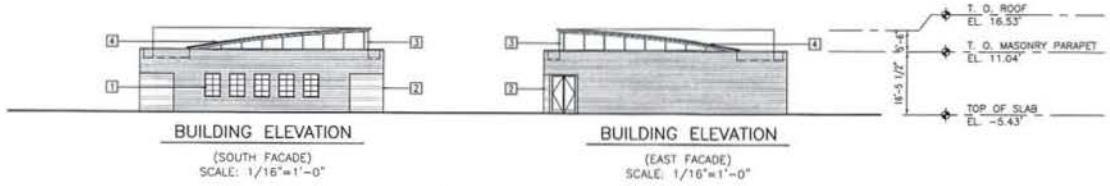
DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY

ADVANCED WASTEWATER TREATMENT PLANT
EGG-SHAPED DIGESTERS FACILITY
P.U.D. SUBMISSION

CONTROL BUILDING - PLAN

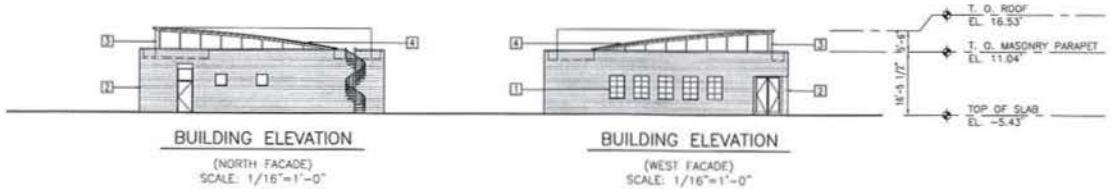
SCALE	AS SHOWN	DRAWN	TH
INTERCEPTOR		CHECKED	RB
SYSTEM		SUBMITTED	XX
SURVEYED			

BBS Professional Corporation
Consulting Engineers
SORG



BUILDING ELEVATION
(SOUTH FACADE)
SCALE: 1/16"=1'-0"

BUILDING ELEVATION
(EAST FACADE)
SCALE: 1/16"=1'-0"



BUILDING ELEVATION
(NORTH FACADE)
SCALE: 1/16"=1'-0"

BUILDING ELEVATION
(WEST FACADE)
SCALE: 1/16"=1'-0"

DESIGN	DETS FILE NO. ☐ DCFA NO. ☒	374-WSA
DESIGN MGR.	IN-HOUSE ☐ E.P.M.C. NO. ☒	EPMC-IV
INDEX NO. XXXXX	FOREMAN-INSPECTOR	

POST-BID REVISION

NO.	DESCRIPTION	BY	DATE

KEYED NOTES:

1. FIXED ALUMINUM WINDOW
2. MASONRY VENEER
3. CLERESTORY WINDOW
4. METAL PANEL ROOF

PRELIMINARY SUBMITTAL

NO.	DESCRIPTION	BY	DATE

PRE-BID REVISION

DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY

ADVANCED WASTEWATER TREATMENT PLANT
EGG-SHAPED DIGESTERS FACILITY
P.U.D. SUBMISSION

CONTROL BLDG - ELEVATIONS

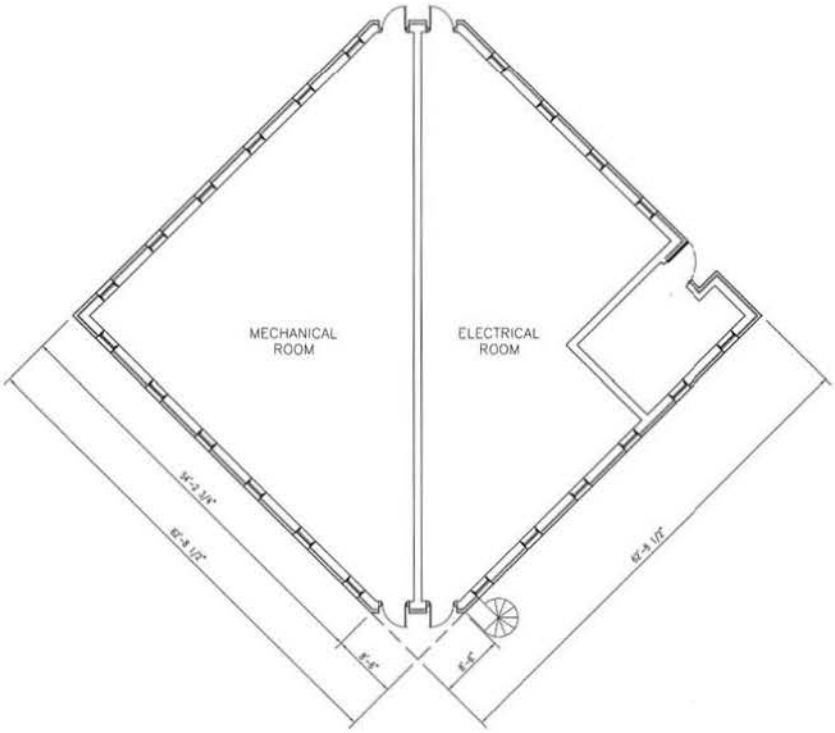
SCALE	AS SHOWN	DRAWN	TH
INTERCEPTOR		CHECKED	RR
SYSTEM		SUBMITTED	XX
SURVEYED			
DATE	04/30/04	RECOMMENDED	

BBS Professional Corporation
Consulting Engineers
SORG ARCHITECTS

CONSTRUCTION	IN-HOUSE ☐ CONTRACT NO. ☒	030150
DESIGN	DETS FILE NO. ☐ DCFA NO. ☒	374-WSA
DESIGN MGR.	IN-HOUSE ☐ E.P.M.C. NO. ☒	EPMC-IV
INDEX NO. XXXXX	FOREMAN-INSPECTOR	

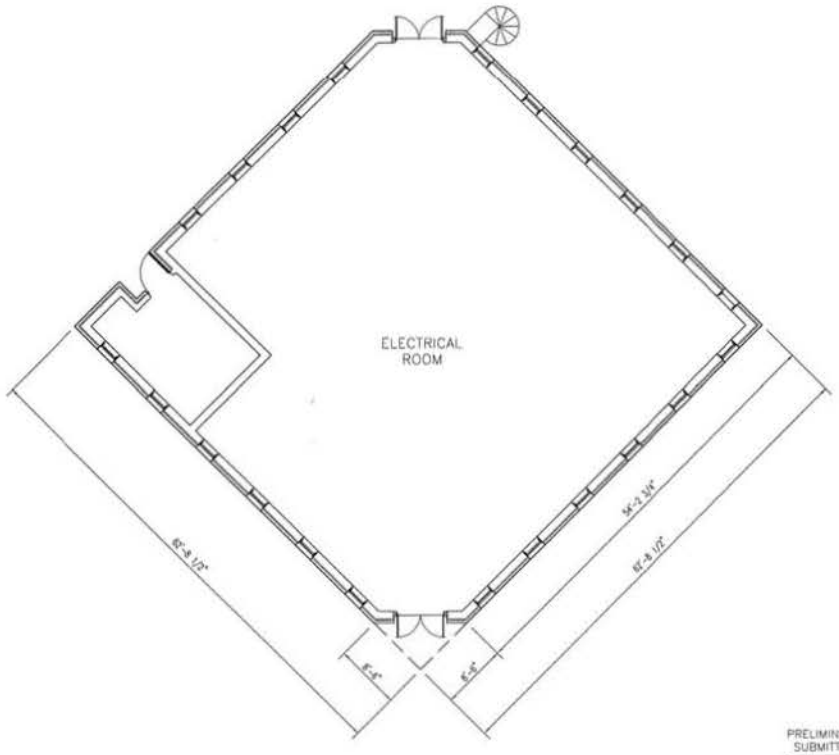
POST-BID REVISION

NO.	DESCRIPTION	BY	DATE



ELECTRICAL BUILDING 1 FLOOR PLAN

SCALE: 1/8"=1'-0"



ELECTRICAL BUILDING 2 FLOOR PLAN

SCALE: 1/8"=1'-0"

PRELIMINARY SUBMITTAL

NO.	DESCRIPTION	BY	DATE

PRE-BID REVISION

DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY

ADVANCED WASTEWATER TREATMENT PLANT
EGG-SHAPED DIGESTERS FACILITY
P.U.D. SUBMISSION

ELECTRICAL BUILDINGS - PLANS

SCALE	AS SHOWN	DRAWN	TH
INTERCEPTOR		CHECKED	RB
SYSTEM		SUBMITTED	XX
SURVEYED			

BBS Professional Corporation
Consulting Engineers
SORG

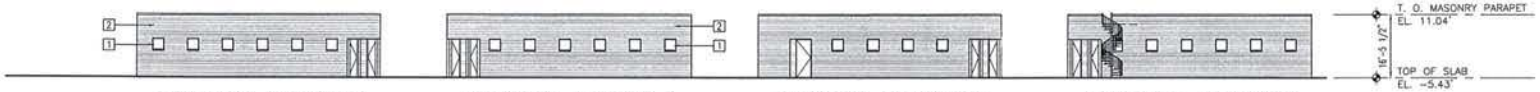
CONSTRUCTION	IN-HOUSE CONTRACT NO. ☐	030150
DESIGN	DETS FILE NO. ☐ DCFA NO. ☒	374-WSA
DESIGN MGR.	IN-HOUSE ☐ E.P.M.C. NO. ☒	EPMC-IV
INDEX NO. XXXXX	FOREMAN-INSPECTOR	

POST-BID REVISION

NO.	DESCRIPTION	BY	DATE

KEYED NOTES:

1. FIXED ALUMINUM WINDOW
2. MASONRY VENEER

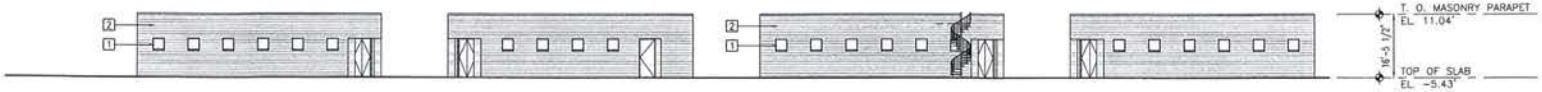


ELECTRICAL BUILDING 1
(SOUTH FACADE)
SCALE: 1/16"=1'-0"

ELECTRICAL BUILDING 1
(WEST FACADE)
SCALE: 1/16"=1'-0"

ELECTRICAL BUILDING 1
(NORTH FACADE)
SCALE: 1/16"=1'-0"

ELECTRICAL BUILDING 1
(EAST FACADE)
SCALE: 1/16"=1'-0"



ELECTRICAL BUILDING 2
(SOUTH FACADE)
SCALE: 1/16"=1'-0"

ELECTRICAL BUILDING 2
(WEST FACADE)
SCALE: 1/16"=1'-0"

ELECTRICAL BUILDING 2
(NORTH FACADE)
SCALE: 1/16"=1'-0"

ELECTRICAL BUILDING 2
(EAST FACADE)
SCALE: 1/16"=1'-0"

BBS Professional Corporation
Consulting Engineers
SORG

PRELIMINARY SUBMITTAL

NO.	DESCRIPTION	BY	DATE

PRE-BID REVISION

DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY

ADVANCED WASTEWATER TREATMENT PLANT
EGG-SHAPED DIGESTERS FACILITY
P.U.D. SUBMISSION

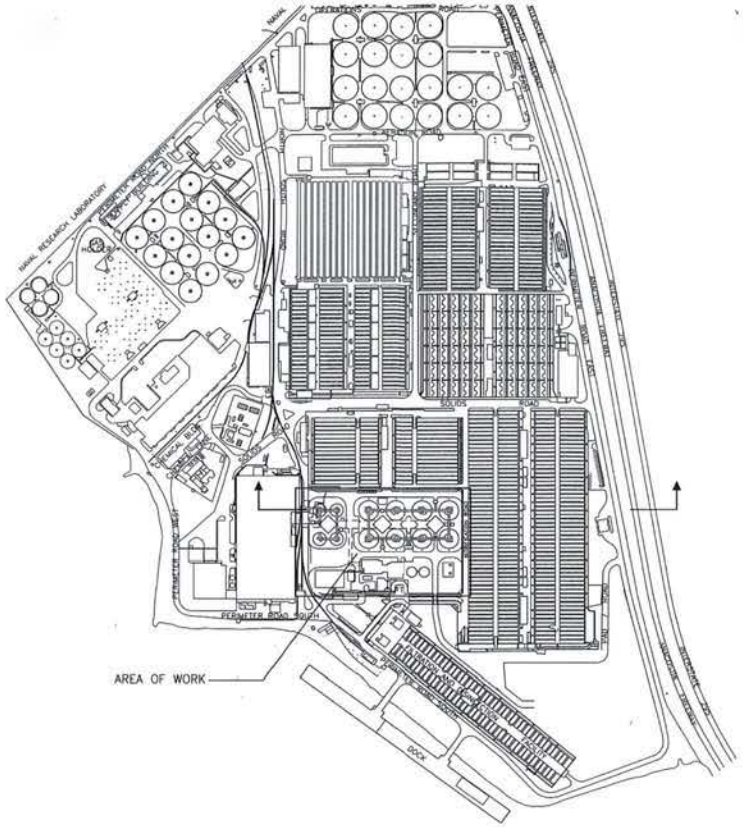
ELECTRICAL BLDGS - ELEVATIONS

SCALE	AS SHOWN	DRAWN	TH
INTERCEPTOR		CHECKED	RR
SYSTEM		SUBMITTED	xx
SURVEYED			

CONSTRUCTION	IN-HOUSE ☐ CONTRACT NO. ☒	030150
DESIGN	DETS FILE NO. ☐ DCFA NO. ☒	374-WSA
DESIGN MGR.	IN-HOUSE ☐ E.P.M.C. NO. ☒	EPMC-IV
INDEX NO. XXXXX	FOREMAN-INSPECTOR	

POST-BID REVISION

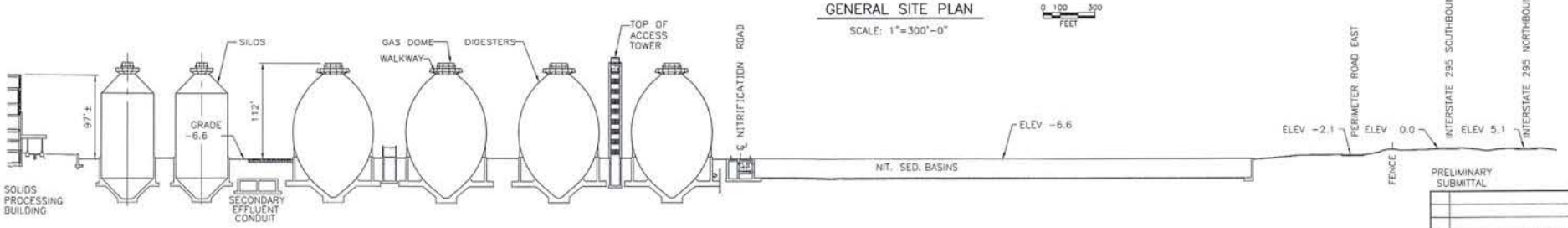
NO.	DESCRIPTION	BY	DATE



GENERAL SITE PLAN

SCALE: 1"=300'-0"

0 100 300 FEET



GENERAL SITE SECTION

SCALE: 1"=60'-0"

0 20 60 FEET

PRELIMINARY SUBMITTAL

NO.	DESCRIPTION	BY	DATE

PRE-BID REVISION

DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY

ADVANCED WASTEWATER TREATMENT PLANT
EGG-SHAPED DIGESTERS FACILITY
P.U.D. SUBMISSION

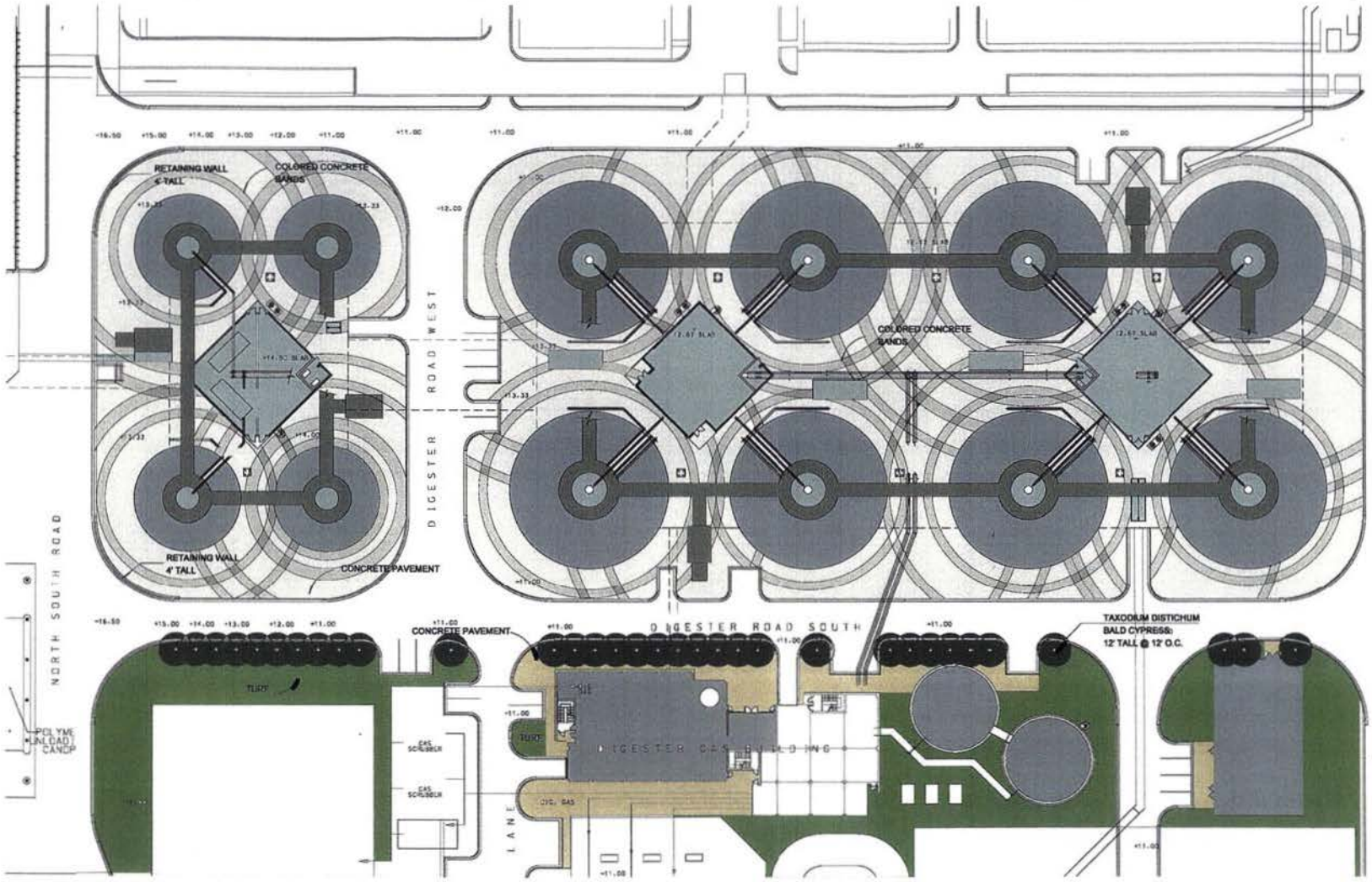
SITE PLAN AND SECTION

PERMITTING

SCALE	AS SHOWN	DRAWN	P. SCHLEGEL
INTERCEPTOR		CHECKED	K
SYSTEM		SUBMITTED	K
SURVEYED			

Professional Corporation
Consulting Engineers
SORG

LANDSCAPE PLAN
EXHIBIT M



JOB XXXXX	SHEET OF XXX
CONSTRUCTION — IN-HOUSE CONTRACT NO.	030150
DESIGN — DETS FILE NO. / DCRA NO.	374-WSA
DESIGN MGR — IN-HOUSE S.P.N.C. NO.	EPMC-IV
INDEX NO. XXXXX	FOREMAN-INSPECTOR

POST-BID REVISION

NO.	DESCRIPTION	BY	DATE

INTERMEDIATE SUBMITTAL

NO.	DESCRIPTION	BY	DATE
			04.30.04

PRE-BID REVISION
DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY

ADVANCED WASTEWATER TREATMENT PLANT
EGG-SHAPED DIGESTERS FACILITY
P.U.D. SUBMISSION

SCALE 1"=30'	AS SHOWN	DRAWN	
INTERCEPTOR		CHECKED	
SYSTEM		SUBMITTED	
SURVEYED			
UPDATE:	DUE XX/XX/XX	RECOMMENDED	
CADD FILE			

BBS Professional Corporation
Consulting Engineers
SORG
ARCHITECTS