



Application for URBAN DESIGN COMMITTEE Review

Department of Planning and Development Review
Planning & Preservation Division
900 E. Broad Street, Room 510
Richmond, Virginia 23219
(804) 646-6335

<http://www.richmondgov.com/CommitteeUrbanDesign>

Application Type

- Addition/Alteration to Existing Structure
 New Construction
 Streetscape
 Site Amenity

- Encroachment
 Master Plan
 Sign
 Other

Review Type

- Conceptual
 Final

Project Name: _____

Project Address: _____

Brief Project Description (this is not a replacement for the required detailed narrative) : _____

Applicant Information

(on all applications other than encroachments, a City agency representative must be the applicant)

Name: _____ Email: _____

City Agency: _____ Phone: _____

Address: _____

Main Contact (if different from Applicant): _____

Company: _____ Phone: _____

Email: _____

Submittal Deadlines

All applications and support materials must be filed no later than 21 days prior to the scheduled meeting of the Urban Design Committee (UDC). Please see the schedule on page 3 as actual deadlines are adjusted due to City holidays. **Late or incomplete submissions will be deferred to the next meeting.**

Filing

Applications can be mailed or delivered to the attention of "Urban Design Committee" at the address listed at the top of this page. **It is important that the applicant discuss the proposal with appropriate City agencies, Zoning Administration staff, and area civic associations and residents prior to filing the application with the UDC.**

UDC Background

The UDC is a ten member committee created by City Council in 1968 whose purpose is to advise the City Planning Commission on the design of projects on City property or right-of-way. The UDC provides advice of an aesthetic nature in connection with the performance of the duties of the Commission under Sections 17.05, 17.06 and 17.07 of the City Charter. The UDC also advises the Department of Public Works in regards to private encroachments in the public right-of-way.

City of Richmond, Virginia
Department Of Public Utilities
Wastewater Treatment Plant
Project Description for Special Order No. 14 and No.15 Projects
Wet Weather Disinfection Facility and Screen and Grit Facility
October 30, 2015

The City of Richmond's wastewater collection system consists of a combined sewer system and a separated sewer system. The combined sewer system conveys both sanitary sewage and stormwater runoff to the WWTP. In the occurrence of a peak storm event, the combined system discharges flow into the James River at previously constructed combined sewer overflow (CSO) control structures. The Phase II CSO Control improvements were constructed to connect multiple CSO control structures, to convey additional wet weather flow to the WWTP, and to reduce overflows in the more sensitive free flow sections of the James River. Richmond's combined sewer system includes storage facilities intended to control the discharge of CSO. The current WWTP VPDES Permit requires the operators to increase the flow through the WWTP to 75 MGD during rainfall events until CSO conditions cease to exist and the storage facilities are emptied.

In March 2005 the State Water Control Board issued the City a Special Order for Phase III CSO Controls which were identified in the City's LTCP Re-Evaluation from 2002. The Special Order required the City to implement Special Order Requirement No. 14, UV disinfection of primary effluent, and the screenings and grit facility portion of Special Order Requirement No. 15. The wastewater plan will be required to increase the wet weather flow through the WWTP up to 140 MGD during rainfall events while CSO conditions exist. When CSO conditions no longer exist, the operators will then be required to pump 75 MGD through the WWTP until the storage facilities are emptied.

The Phase III CSO Control improvements, including those required under Special Order Requirement No. 14 and No. 15, serve to further increase the volume of CSO captured, conveyed to the WWTP site, and disinfected prior to discharge to the James River.

The Special Order No. 14 project, Wet Weather Disinfection Facility, will include the following equipment being installed in existing buildings, structures or tanks at the wastewater treatment plant: Main Pump Station Venturi Flow Meter, electrical upgrades, pumps in the Primary Sludge Pumping Station, gates at the Settled Sewage Control Structure, improvements to the Primary Effluent Storage Tank (PEST), and additional UV units in the UV Building.

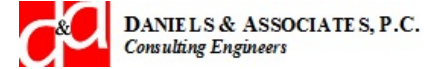
The Special Order No. 15 project, Screen and Grit Facilities, will include the equipment in a new building: screening, grit removal, truck loading, and odor control. Equipment being installed in existing buildings, structures or tanks includes: replacement screens and gates and electrical upgrades. The existing temporary construction managers office and the City's collection personnel building will be relocated on the plant site. At the end of construction the existing Screen and Grit Facilities will be demolished and a parking area constructed.



CITY OF RICHMOND



GREELEY AND HANSEN



Department of Public Utilities Wastewater Treatment Plant CSO Program Plan

Urban Design Committee
December 2015 Meeting

Rosemary Green, City of Richmond
Robert Stone, City of Richmond
George Guhse, Greeley and Hansen



Agenda

- CSO Program Plan
- Wastewater Treatment Plant
- Special Order No. 14
- Special Order No. 15
- Program Funding and Cost
- Schedule



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CSO Program Plan



CSO Program Plan

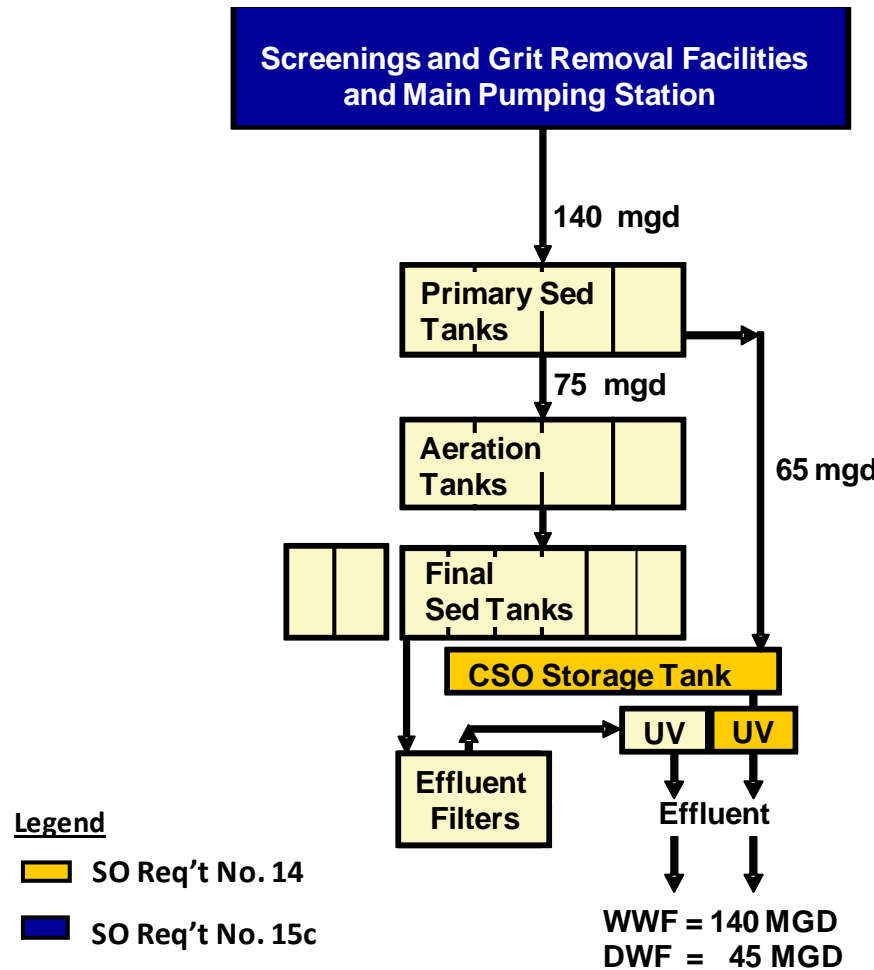
- March 2005 SWCB Issued the City a Special Order for Phase III CSO Controls which were identified in the City's LTCP Re-Evaluation from 2002
- Goal of the Special Order was to increase capacity for CSO Wet Weather Flow Treatment Capacity at the Wastewater Treatment Plant

Chesapeake Bay Watershed and VA DEQ



- **Special Order Requirement 14 – Wet Weather Disinfection Facility**
 - Increase plant flow to 140 MGD wwf and provide primary treatment 140 MGD
 - Continue to provide full treatment to 75 MGD
 - Provide UV Disinfection of 65 MGD
- **Special Order Requirement 15 – Screenings and Grit Removal Facility**
 - Provide screening and grit removal facilities for 140 MGD WWF to the primary tanks

Special Order No. 14 and 15 Flow Path





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Wastewater Treatment Plant

Existing Plant Overview



RICHMOND-PETERSBURG TURNPIKE ROUTE I-95



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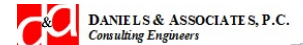
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Special Order No. 14 Additional Equipment in Existing Facilities

Special Order No. 14 – Additional Equipment in Existing Facilities



RICHMOND-PETERSBURG TURNPIKE ROUTE I-95



Additional Equipment in Existing Facilities



- Venturi Meter in Main Pumping Station
- Switchgear Building Electrical Equipment
- Primary Sludge Pumps at Primary Sludge Pumping Station
- Weir Gates at Settled Sewage Control Structure
- Structural Modifications and Gates at Pest
- Additional UV Units in UV Disinfection Facility

Venturi Meter





Switchgear Building



Primary Sludge Pumping Station, Sludge Pumps



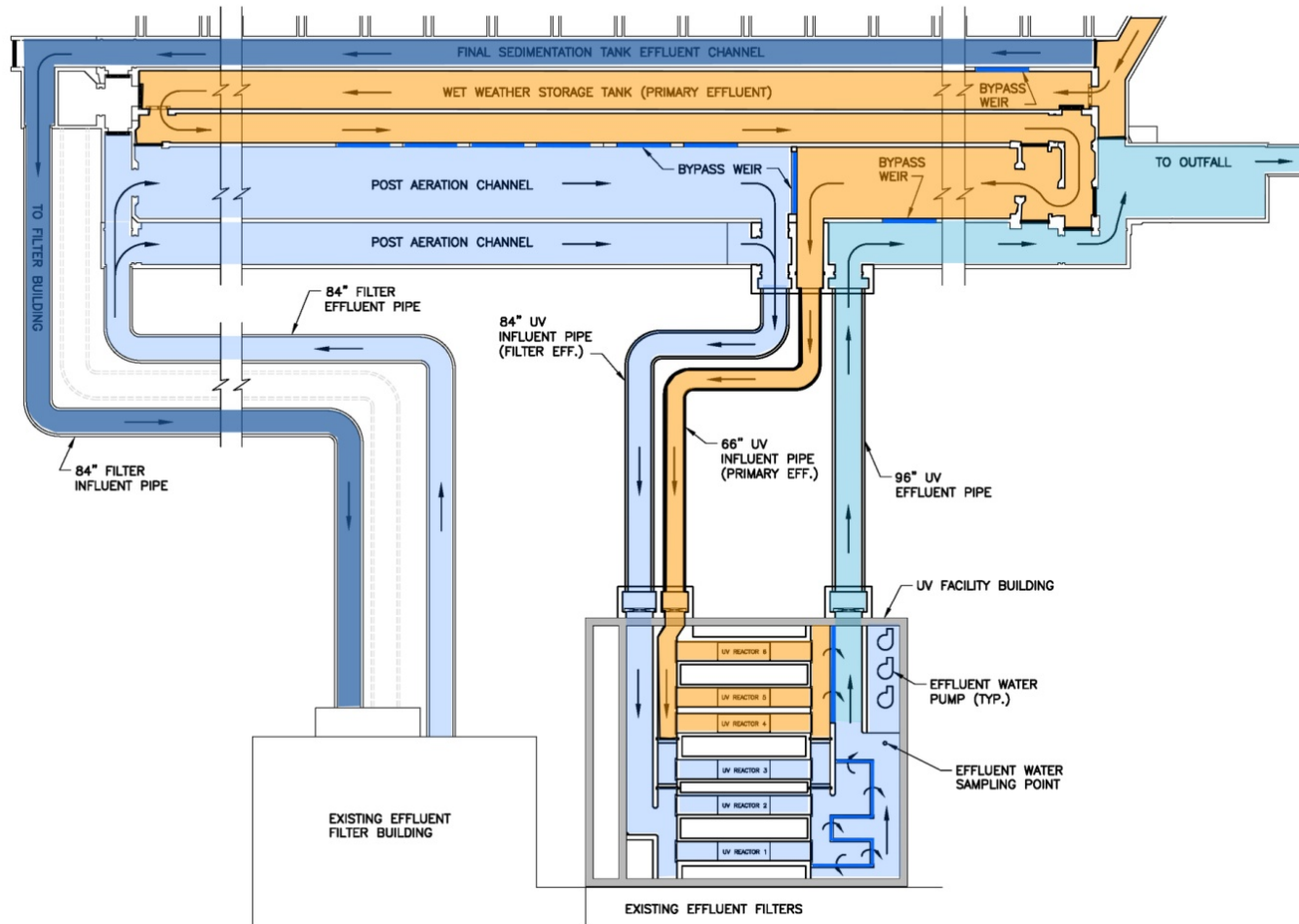
Settled Sewage Control Structure



PEST



PEST Flow Path to UV Building

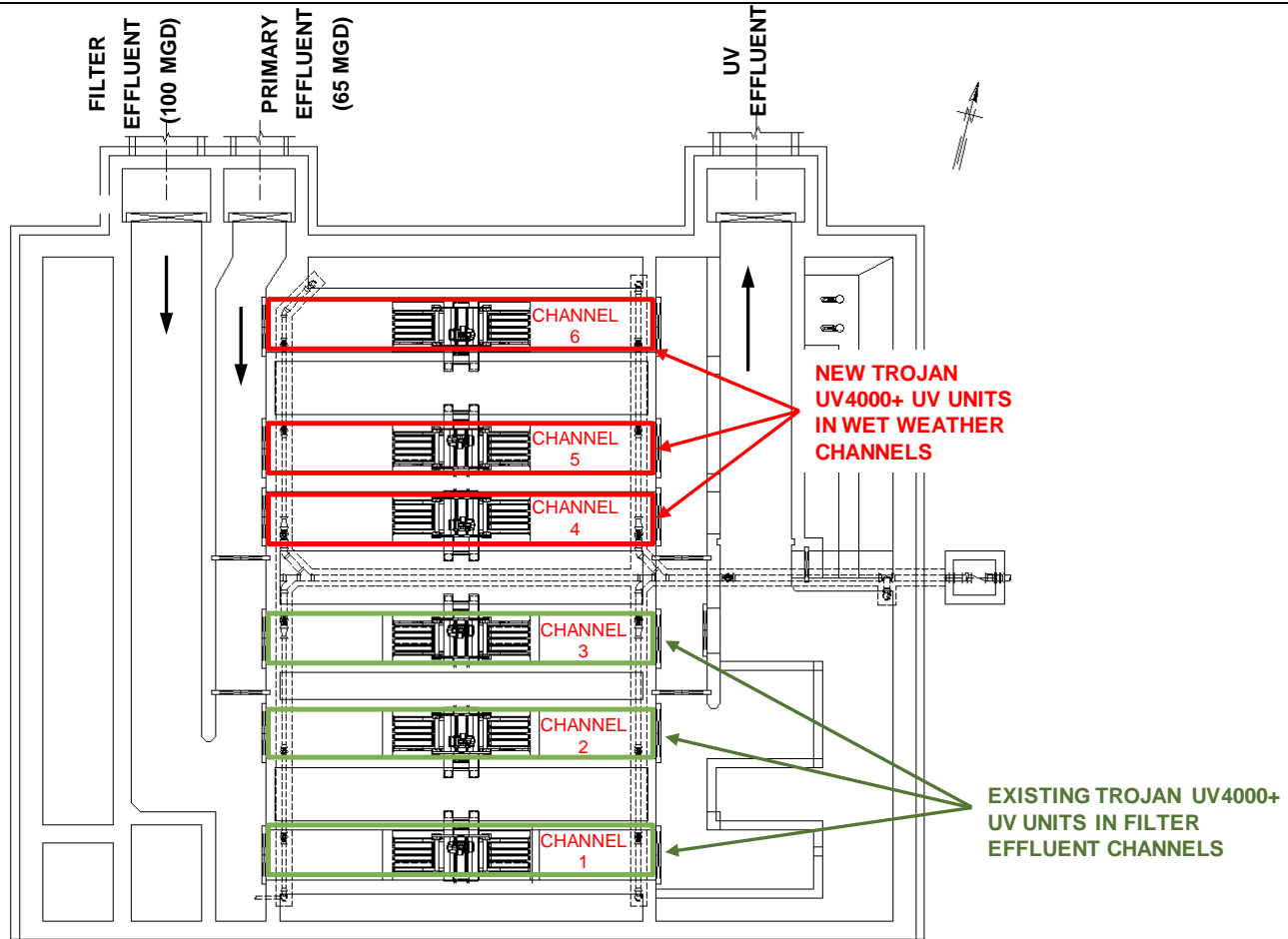


UV Disinfection Facility, Additional UV Units





Additional UV Equipment



PLAN EL 13'-0"
SCALE 3/16" = 1'-0"

UV Equipment





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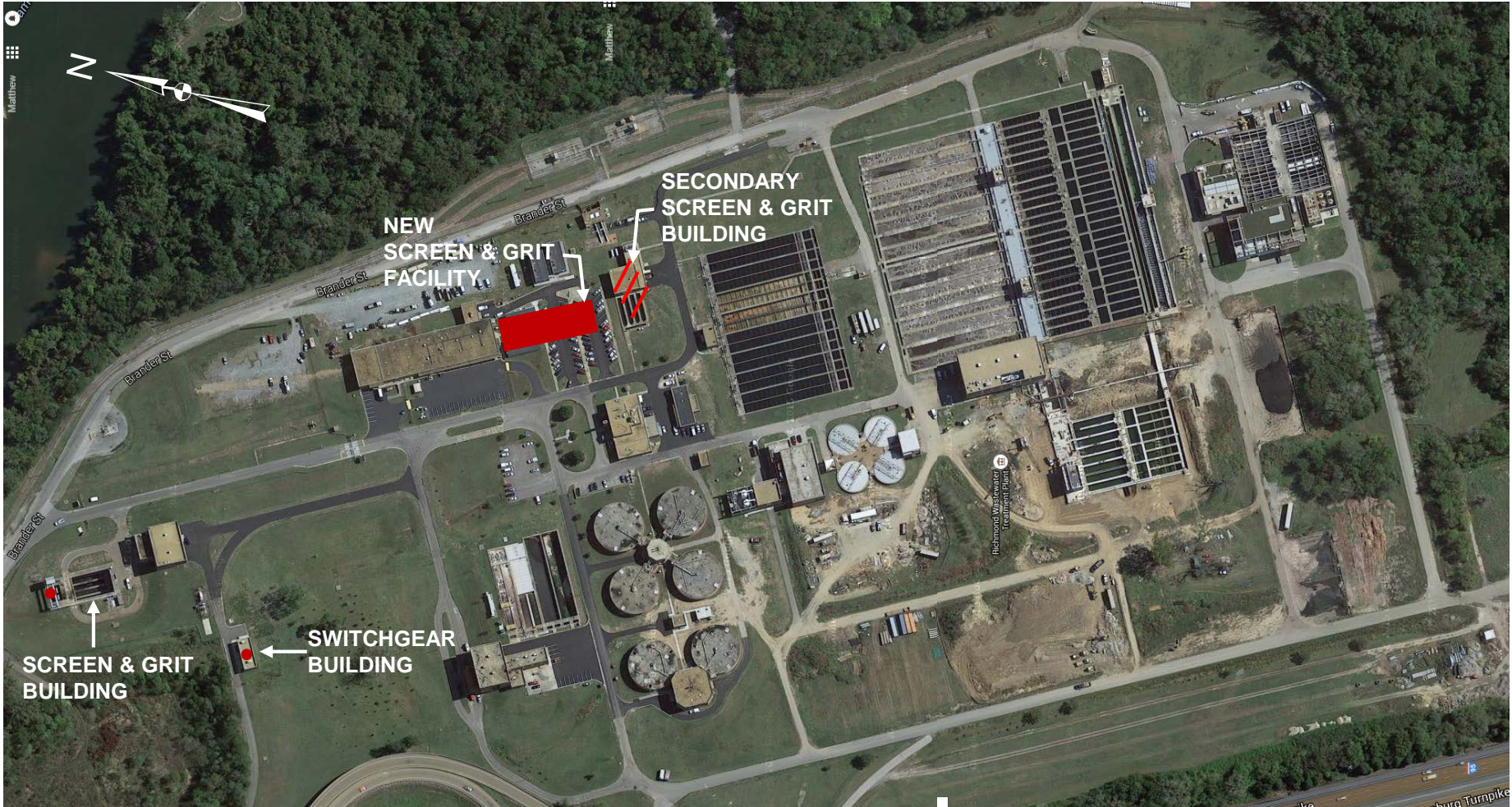
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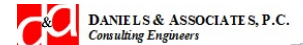
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Special Order No. 15 New Facilities

Special Order No. 15 New Facilities



RICHMOND-PETERSBURG TURNPIKE ROUTE I-95





New Facilities

- **New Screen and Grit Facility**
 - Located on Existing Parking Lot
 - Requires Moving of CM Trailer and Office Building
 - New Screens with Truck Loading Bay
 - New Grit Removal Equipment with Truck Loading Bay
 - Odor Control Units

- **Demolition of Existing Screen and Grit Facility and conversion to parking**

Screen and Grit Facility, Existing View from NE



NE View of New Screenings and Grit Removal Facility



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Google earth

Screen and Grit Facility, Existing Parking Lot from SW

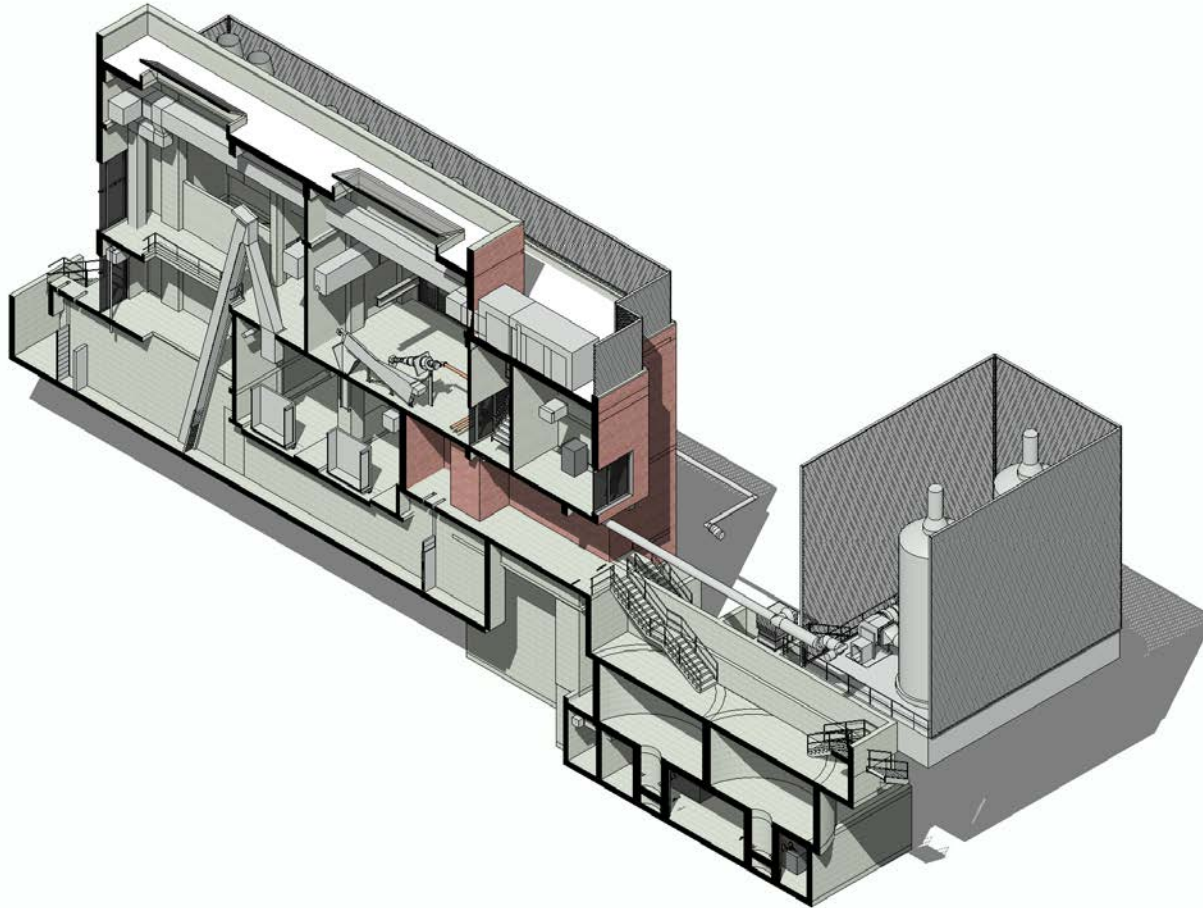


SW View of New Screenings and Grit Removal Facility





SW Sectional View



Screen and Grit Facility to be Demolished for Parking





New Site of Office Building





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Special Order No. 15

Additions to Existing Facilities



Additions to Existing Facilities

- Upgrade Screens and Gates at Existing Screen and Grit Facility
- Switchgear Building Additional Electrical Equipment

Existing Screen and Grit Facility Upgrade





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Program Funding and Cost



Program Funding

- CSO Program Grant
- City Utility Funding



Estimated Construction Cost

- Special Order No. 14, Wet Weather Disinfection Facility - \$10.6 million
- Special Order No. 15, Screenings and Grit Removal Facility - \$23.0 million



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Program Schedule



Program Schedule

- Special Order No. 14, Wet Weather Disinfection Facility UV Disinfection Facility
 - Currently Under Design
 - Design Complete by 12/15
 - Bid and Award by 6/16
 - Construction Complete by 6/18



Program Schedule

- **Special Order No. 15, Screenings and Grit Removal Facility**
 - Currently Under Design
 - Design Complete by 9/2016
 - Bid and Award by 12/2016
 - Construction Complete by 12/2018



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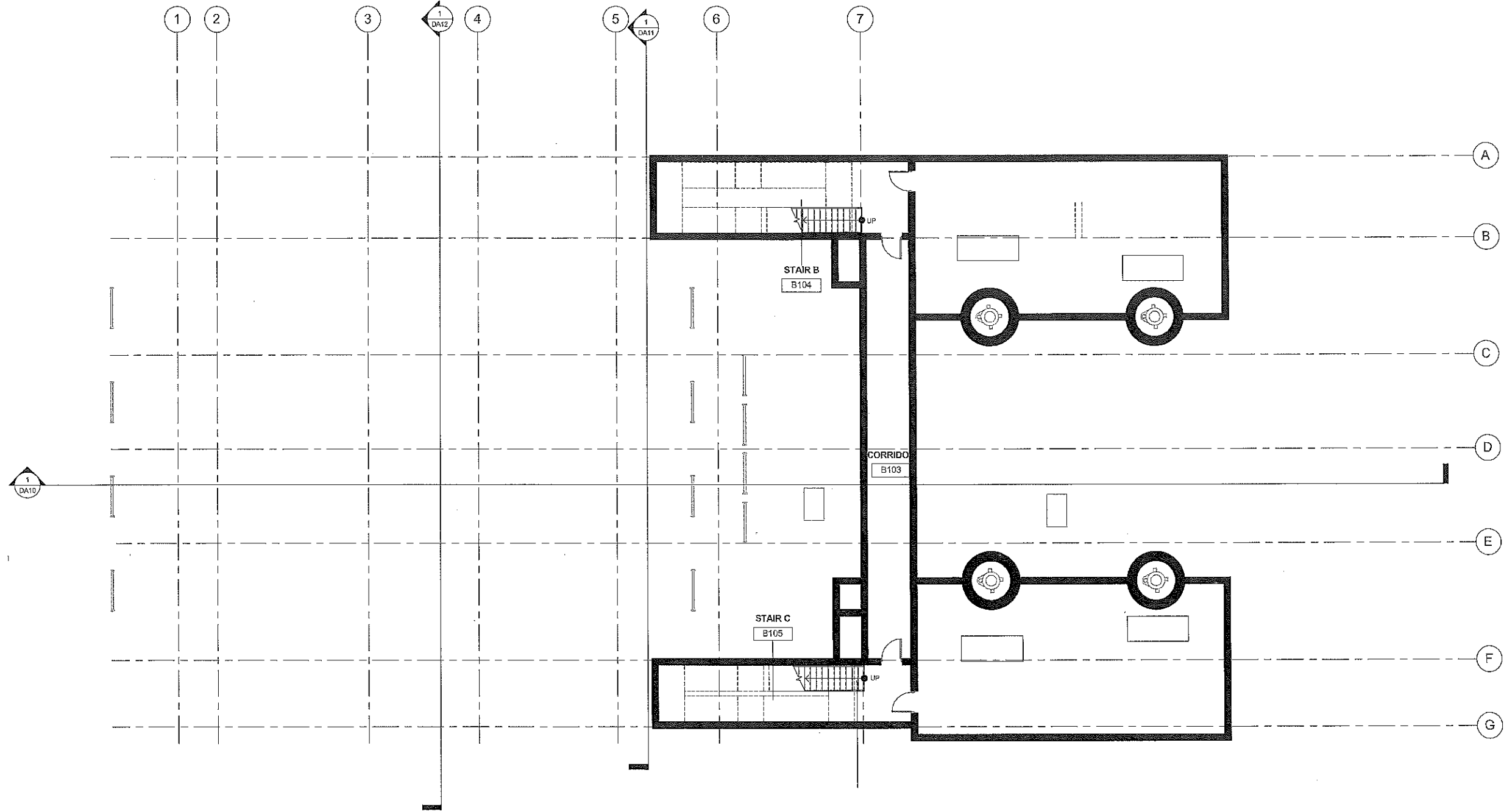
Department of Public Utilities Wastewater Treatment Plant CSO Program Plan

Questions?

Urban Design Committee
December 2015 Meeting

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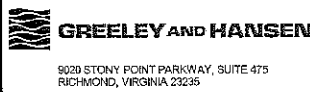
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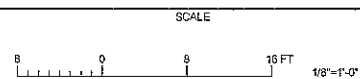
ARCHITECT FLOOR PLAN - LOWER LEVEL

100 S WACKER DRIVE, CHICAGO, IL 60606



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CHECKED	SHS		

NO.	DATE	APPD.	DESCRIPTION



CITY OF RICHMOND, VIRGINIA
 DEPARTMENT OF PUBLIC UTILITIES
 CSO CONTROL PROGRAM SPECIAL
 ORDER 15 WWTP SCREENINGS
 AND GRIT REMOVAL FACILITIES



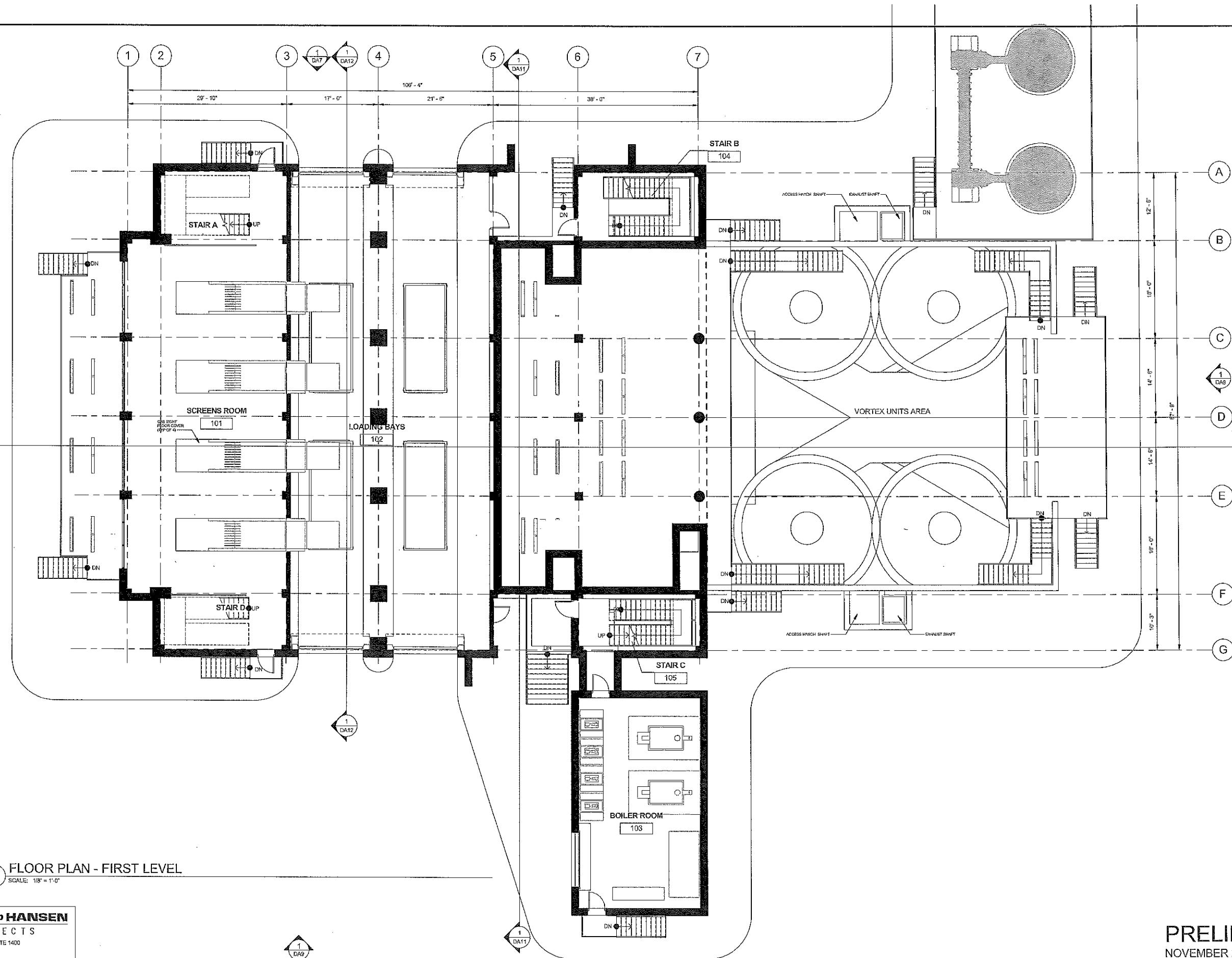
SCREENINGS AND GRIT REMOVAL FACILITY
 ARCHITECTURAL
 LOWER FLOOR PLAN

PRELIMINARY 30%
 NOVEMBER 2015

PROJECT NO.:	0217E.KB
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SHEET:	OF ##
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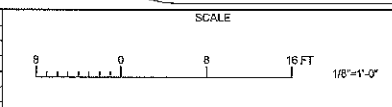
1 FLOOR PLAN - FIRST LEVEL
SCALE: 1/8" = 1'-0"

GREELEY AND HANSEN
ARCHITECTS
100 S WACKER DR. SUITE 1400
CHICAGO, IL 60606

GREELEY AND HANSEN
8020 STONY POINT PARKWAY, SUITE 475
RICHMOND, VIRGINIA 23235

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CITY OF RICHMOND, VIRGINIA
DEPARTMENT OF PUBLIC UTILITIES
CSO CONTROL PROGRAM SPECIAL
ORDER 15 WWTP SCREENINGS
AND GRIT REMOVAL FACILITIES

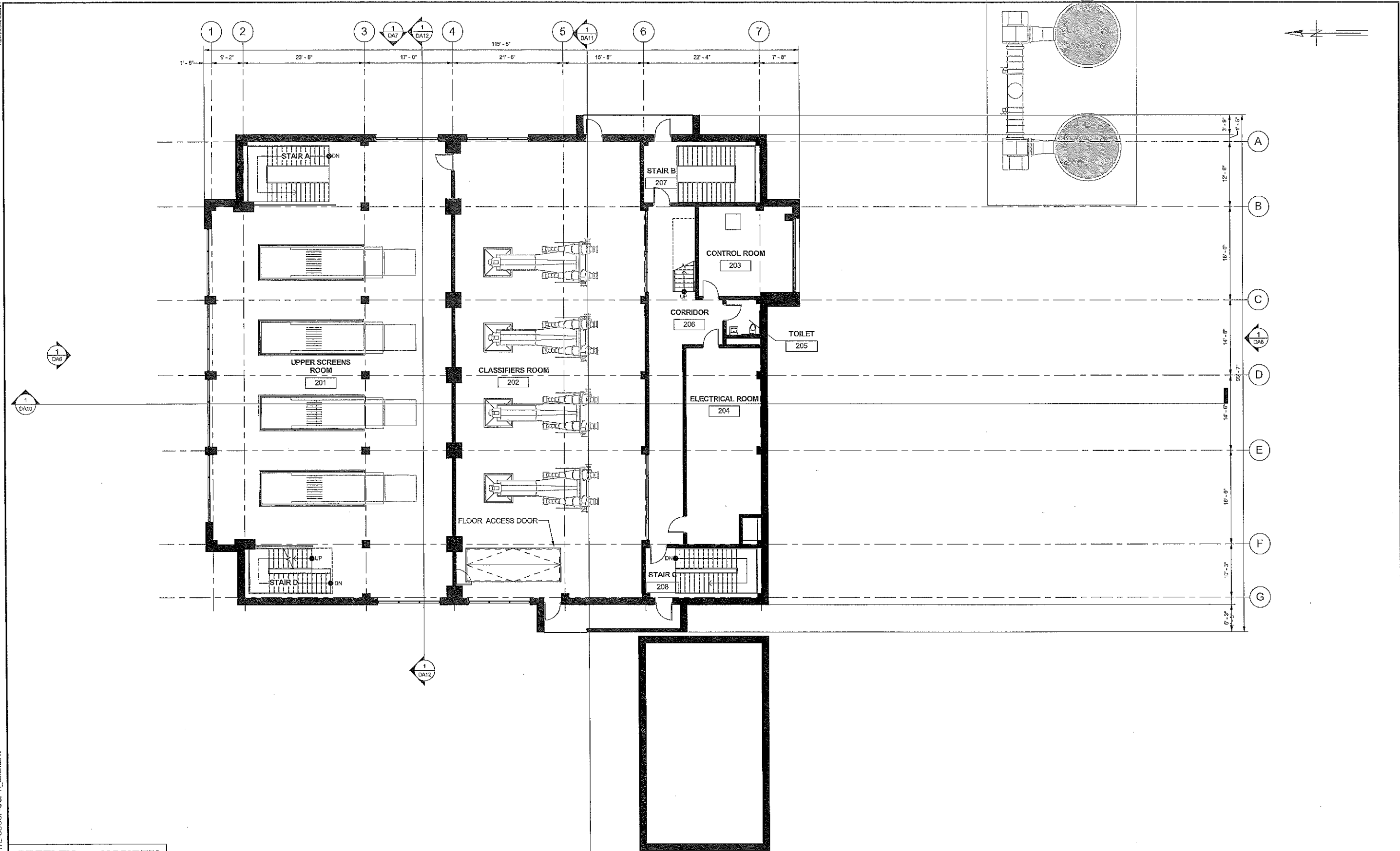


SCREENINGS AND GRIT REMOVAL FACILITY
ARCHITECTURAL
FIRST FLOOR PLAN

PRELIMINARY 30%
NOVEMBER 2015

PROJECT NO:	0217E.K8
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ARCH FLOOR PLAN - UPPER LEVEL

100 SW 4th Street, Suite 100
Chicago, IL 60608

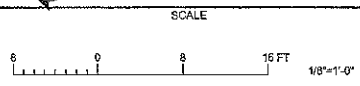
GREELEY AND HANSEN

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RICHMOND, VIRGINIA 23235

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DEPARTMENT OF PUBLIC UTILITIES
CSO CONTROL PROGRAM SPECIAL
ORDER 15 WWTP SCREENINGS
AND GRIT REMOVAL FACILITIES



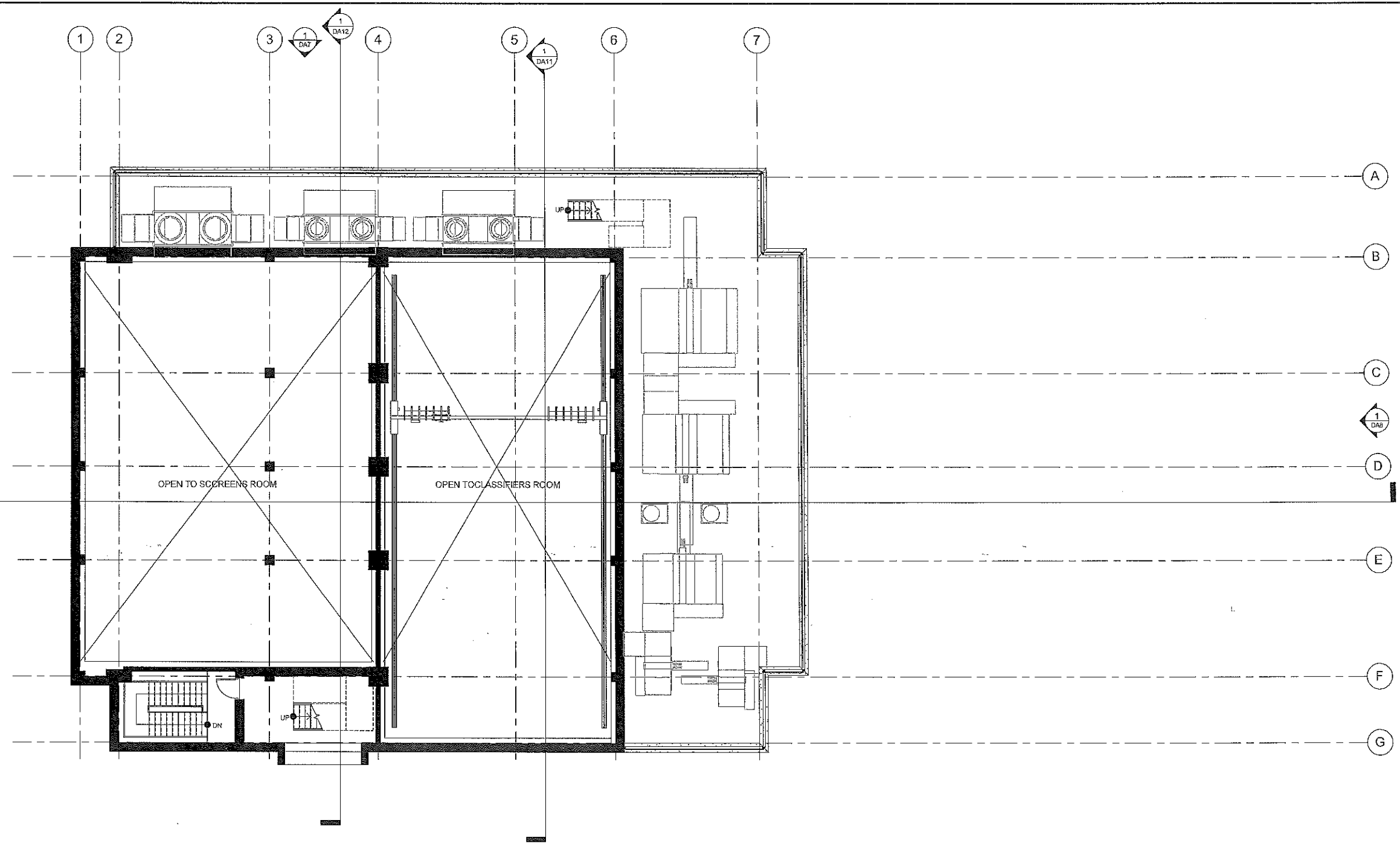
SCREENINGS AND GRIT REMOVAL FACILITY
ARCHITECTURAL
SECOND FLOOR PLAN

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NOVEMBER 2015

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1 DA10 LOW ROOF PLAN
SCALE: 1/8" = 1'-0"

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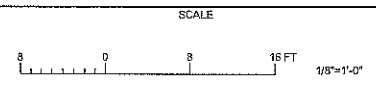
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ARCHITECTS
100 S WACKER DR, SUITE 1400
CHICAGO, IL 60605

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9020 STONY POINT PARKWAY, SUITE 475
RICHMOND, VIRGINIA 23235

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DEPARTMENT OF PUBLIC UTILITIES
CSO CONTROL PROGRAM SPECIAL
ORDER 15 WWTP SCREENINGS
AND GRIT REMOVAL FACILITIES



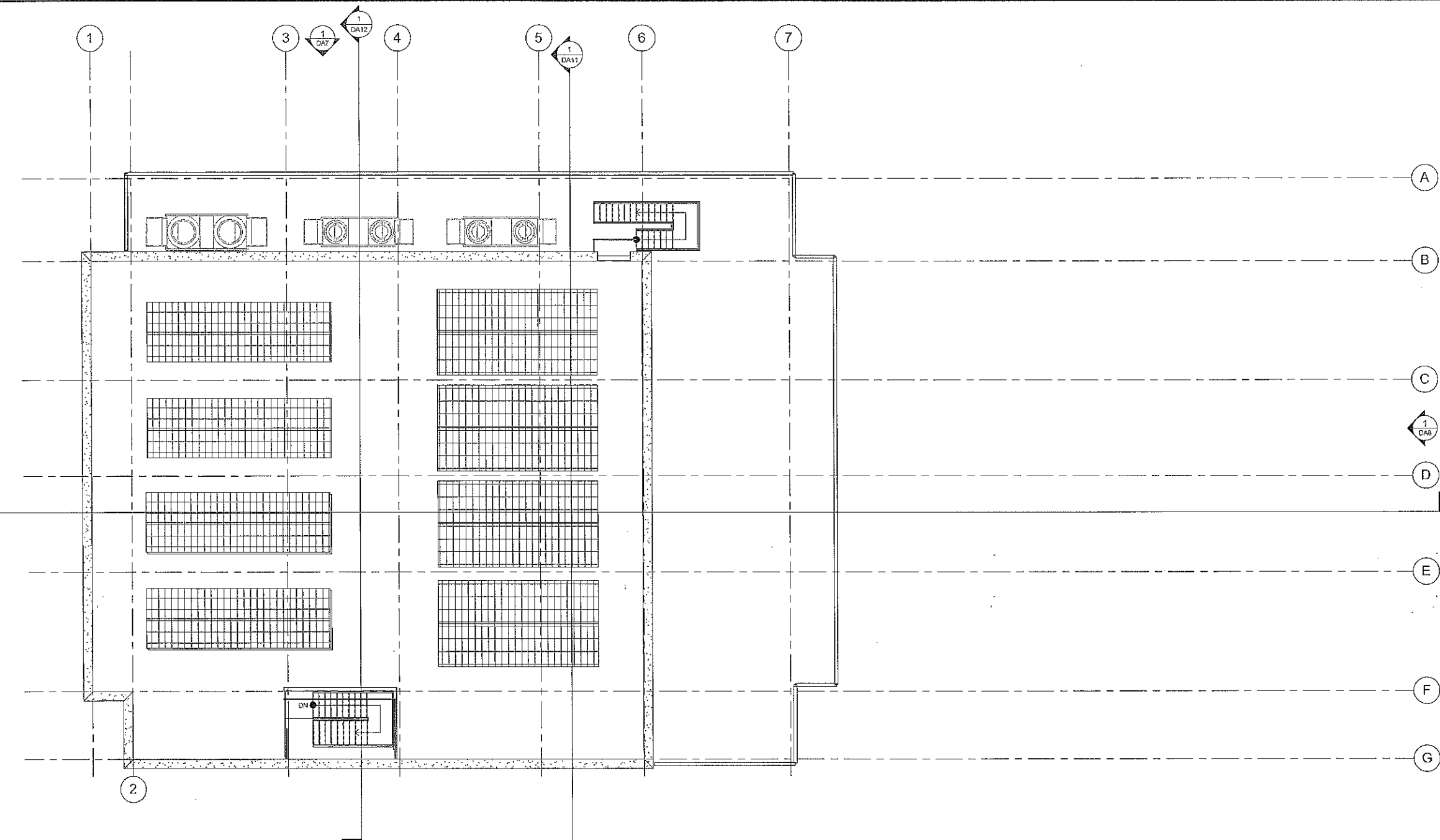
SCREENINGS AND GRIT REMOVAL FACILITY
ARCHITECTURAL
LOW ROOF FLOOR PLAN

PRELIMINARY 30%
NOVEMBER 2015

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SHEET	OF ##
DATE	OCTOBER 2015
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1 HIGH ROOF PLAN
 DA10 SCALE: 1/8" = 1'-0"

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 NOVEMBER 2015

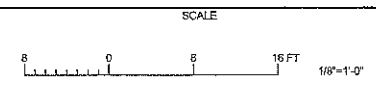
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 9020 STONY POINT PARKWAY, SUITE 475
 RICHMOND, VIRGINIA 23235

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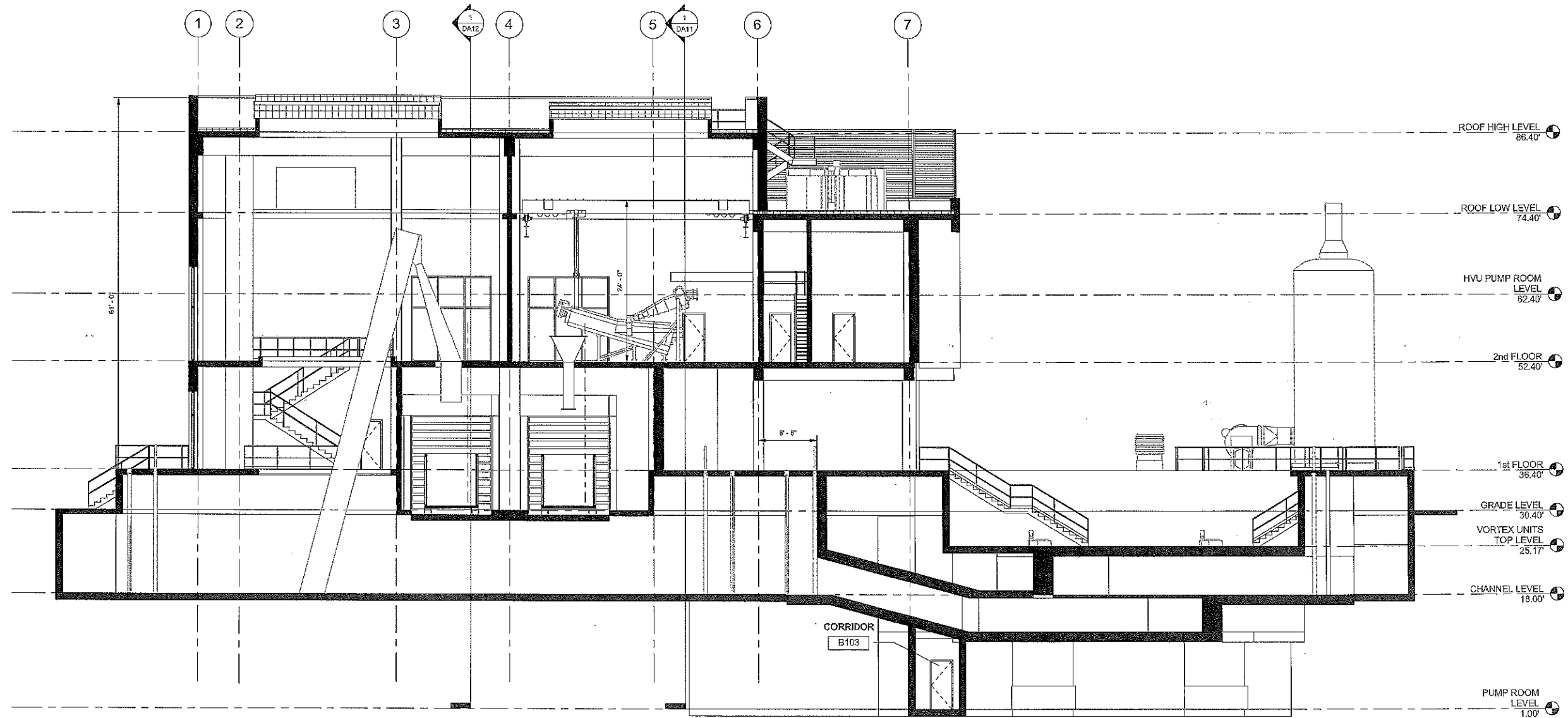


CITY OF RICHMOND, VIRGINIA
 DEPARTMENT OF PUBLIC UTILITIES
 CSO CONTROL PROGRAM SPECIAL
 ORDER 15 WWTP SCREENINGS
 AND GRIT REMOVAL FACILITIES



SCREENINGS AND GRIT REMOVAL FACILITY
 ARCHITECTURAL
 HIGH ROOF FLOOR PLAN

PROJECT NO.:	0217E.K6
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DATE	OCTOBER 2015
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1 BUILDING SECTION
SCALE: 1/8" = 1'-0"

PRELIMINARY 30%
NOVEMBER 2015

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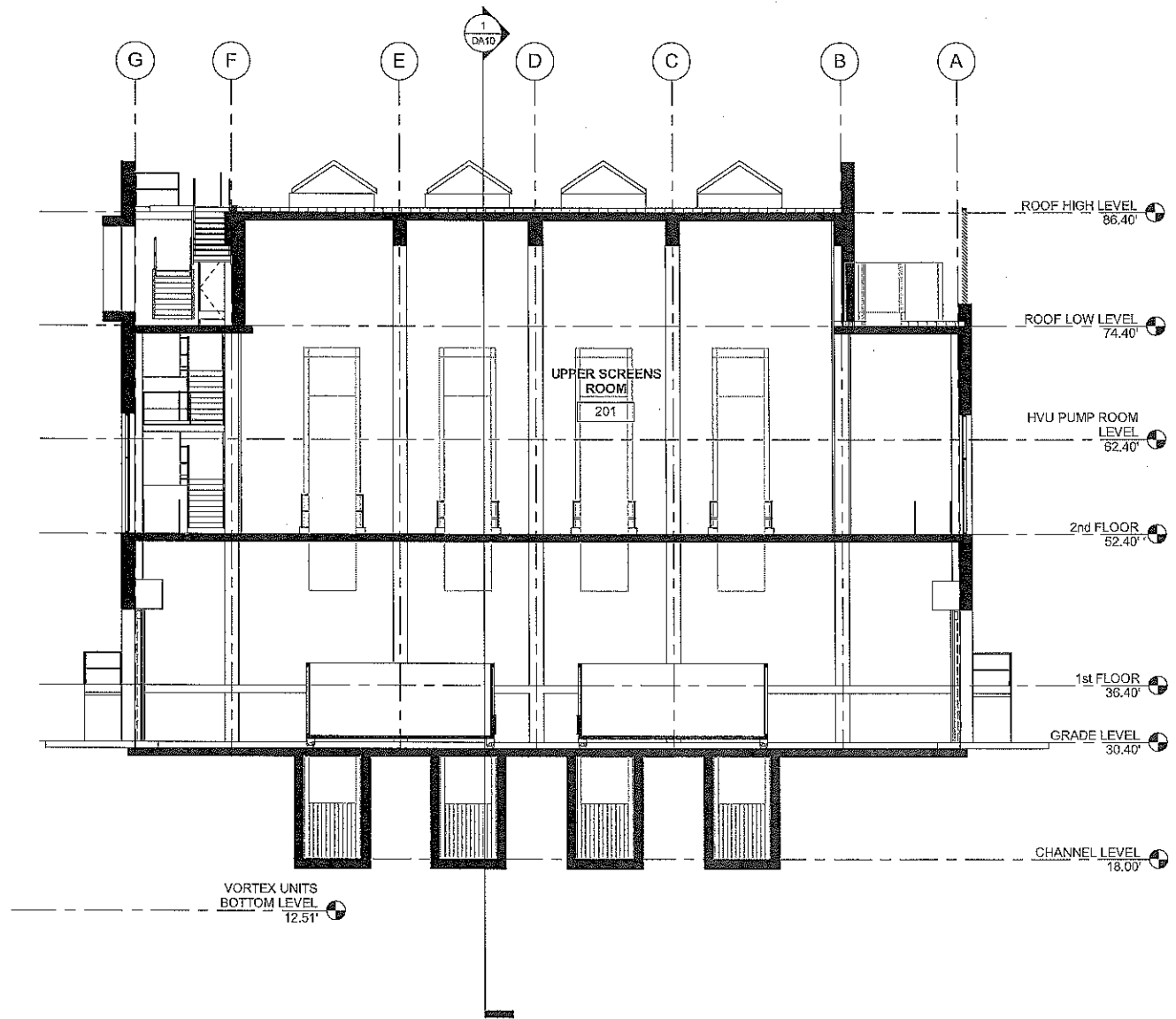
SCALE

CITY OF RICHMOND, VIRGINIA
DEPARTMENT OF PUBLIC UTILITIES
CSO CONTROL PROGRAM SPECIAL
ORDER 15 WWTP SCREENINGS
AND GRIT REMOVAL FACILITIES



SCREENINGS AND GRIT REMOVAL FACILITY
ARCHITECTURAL
BUILDING SECTIONS - SHEET 1

PROJECT NO.:	0217E.KS
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DATE	OCTOBER 2015
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1 BUILDING SECTION
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PRELIMINARY 30%
 NOVEMBER 2015

<p>GREELEY and HANSEN 9020 STONY POINT PARKWAY, SUITE 475 RICHMOND, VIRGINIA 23235</p>	DESIGNED SHS	APPROVED	<table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>APPD</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	NO.	DATE	APPD	DESCRIPTION													<p>SCALE</p>	<p>CITY OF RICHMOND, VIRGINIA DEPARTMENT OF PUBLIC UTILITIES CSO CONTROL PROGRAM SPECIAL ORDER 15 WWTP SCREENINGS AND GRIT REMOVAL FACILITIES</p>	<p>SCREENINGS AND GRIT REMOVAL FACILITY ARCHITECTURAL</p> <p>BUILDING SECTIONS - SHEET 3</p>	PROJECT NO.: 0217E.K6
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