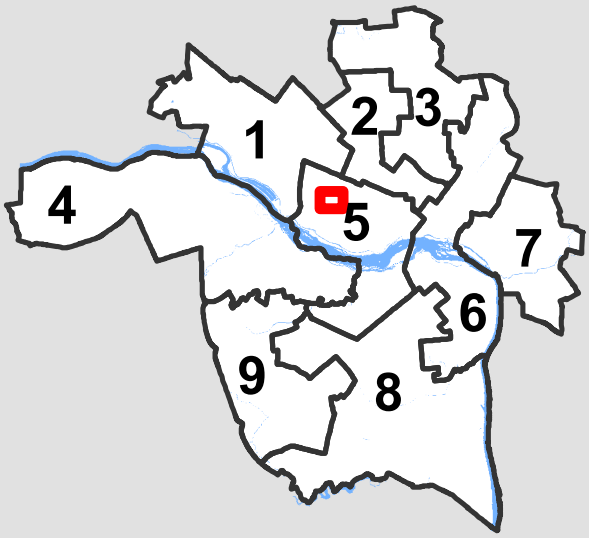
City of Richmond
Department of Planning & Development Review

Location, Character, and Extent

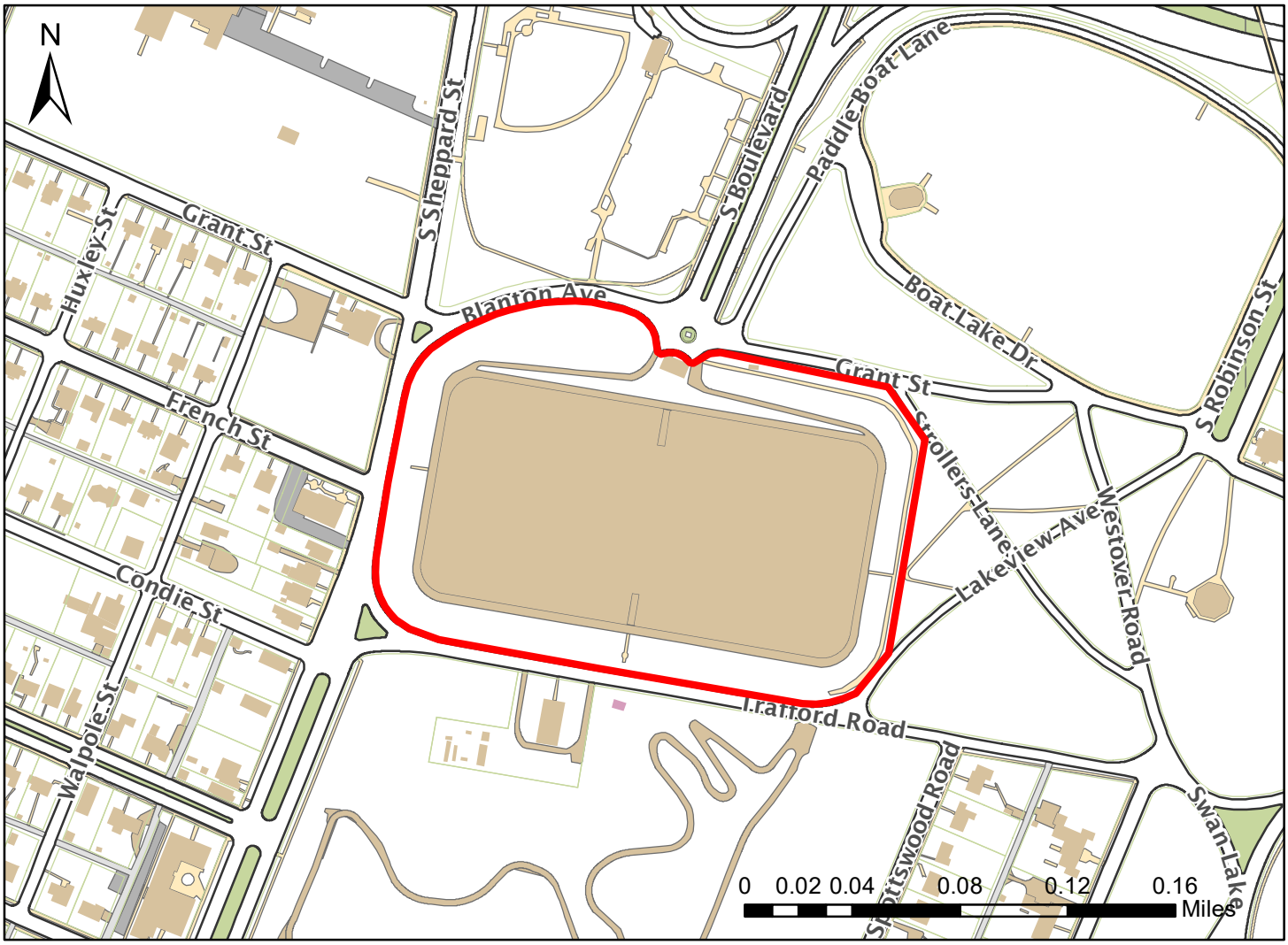
LOCATION: 600 S. Arthur Ashe Boulevard

COUNCIL DISTRICT: 5

PROPOSAL: Conceptual review of roof replacements for tanks, from concrete to aluminum.



For questions, please contact Josh Son at 646-3741 or joshua.son@richmondgov.com



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

- [X] Addition/Alteration to Existing Structure
- [ ] New Construction
- [ ] Streetscape
- [ ] Site Amenity
- [ ] Encroachment
- [ ] Master Plan
- [ ] Sign
- [ ] Other

Review Type

- [X] Conceptual
- [ ] Final

Project Name: Byrd Park Tanks - Roof Replacement

Project Address: 600 S Arthur Ashe Boulevard, Richmond, VA 23220

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

The project is to replace the tanks existing roofs. The existing concrete roofs are nearing the end of their useful life. The new roofs are proposed to be aluminum geodesic structures.

Applicant Information

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

Name: Steve Morgan Email: Stephen.Morgan@richmondgov.com

City Agency: Department of Public Utilities Phone: (804) 646-8522

Address: 400 Jefferson Davis Highway, Richmond, VA 23224

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
BYRD PARK TANK ROOF REPLACEMENT

Project Description – Conceptual Review

February 14, 2019

The existing Byrd Park Reservoir is located at the southern end of the Arthur Ashe Boulevard in Byrd Park. This water storage reservoir is familiar to many residents because of the 20-foot high earthen berm that forms the reservoir walls and is a little over 8 acres in size.

The Byrd Park Reservoir was built in 1876 and was provided with a prestressed concrete roof in the early 1970s that fully enclosed the open-air reservoir to form two 25 million gallon tanks. The existing concrete tank roof is reaching the end of its useful life and is being scheduled to be replaced by two new aluminum roofs.

The Department of Public Utilities plans to upgrade this water storage facility with the following improvements in addition to the tank roof replacement:

- Replacing existing tank outlet gates
- Upgrading tank overflow piping systems
- Replacing existing tank inlet and outlet valves
- Constructing new City Zone 2 North Transmission Main around the tanks for improved system reliability and redundancy
- Providing tank security system enhancements
- Providing tank ventilation system improvements
- Providing new tank mixing systems for water quality enhancement
- Constructing a new electrical and control building
- Providing other water storage facility upgrades and improvements.

In order to provide adequate roof drainage, the proposed new aluminum tank roofs will have a slightly higher level at their center than the existing concrete roofs. The new roofs will only be slightly more visible than the existing roofs because of the height of the existing earthen berms that surround the tanks. It is planned that the old concrete stairs on the east and west side of the tanks be removed to improve park user safety levels. The existing concrete stair on the south side of the tanks will be replaced by a new upgraded concrete stair to allow the operator safer access to the tanks.

The tanks will be provided with new overflow systems that need free discharge vents at grade level at the tank earth berms. It is proposed that each overflow vent be provided with small structural security enclosure that is recessed into the earthen berms to minimize park user impacts. These overflow vent structures will have architectural cast stone exterior walls that are similar to the Columbus Pumping Station Electrical Building that is located on the northwest corner of the existing tank earth berm.

The two northern access drives from Arthur Ashe Boulevard and the fencing system around the top of the tank earthen berms will not be significantly altered by this project. It is planned that two existing northern access drives from Arthur Ashe Boulevard will be used for removal of the existing concrete roofs and construction of the two new aluminum roofs and for making other water storage tank upgrades and improvements. The use of these existing tank access drives, for construction traffic, will limit project impacts on park users. The existing cobblestone pavers at the Arthur Ashe Boulevard entrances will be

removed during construction and then replaced when the project access work to the tanks has been completed.

The proposed tank valve replacements and piping system improvements on the east side of the Trafford Pumping Station will be routed through the park to minimize overall impacts, but it is expected that some existing tree removals will be needed. It is planned that some new trees will be provided at better locations within the park.

The estimated construction costs for the tank roof replacement project is $40,500,000. The City of Richmond, Department of Public Utilities will finance this project from their Capital Budget. The City is planning to initiate construction on this project in the fall of 2019.

BYRD PARK TANK ROOF REPLACEMENT

PROJECT SUMMARY:

The City of Richmond is replacing the roofs on the 50 million gallon finished water storage facility located at the southern end of the Arthur Ashe Boulevard in Byrd Park.

The Byrd Park Reservoir was built in 1876 and was provided with a prestressed concrete roof in the early 1970s to fully enclose the open-air reservoir to form two basins. The existing concrete tank roof is reaching the end of its useful life and is being replaced by two new aluminum roofs. The existing and proposed tank roofs are shown below.

Existing Concrete Roof

Proposed Aluminum Roofs

WHAT'S HAPPENING NOW:

Preliminary conceptual design for the replacement of the tank roof is underway. Also underway is preliminary design of the valve, piping and other facility improvements related to the replacement of the tank roofs and other facility improvements.

PROJECT SCHEDULE:

Tank Utility Valves and Piping:
April 2019 through December 2019

West Tank Roof Replacement:
January 2020 through December 2020

East Tank Roof Replacement:
January 2021 through December 2021

Site Restoration and Final Landscaping:
January 2022 through June 2022

Mayor Levar M. Stoney

CITY OF RICHMOND
DEPARTMENT OF PUBLIC UTILITIES

Byrd Park Tank Roof Replacement – FAQ

Frequently Asked Questions

What is the purpose of the project?
The Byrd Park Tank concrete roofs are about 46 years old and are reaching the end of their useful life. The rehabilitation of the existing tank roof is not considered cost effective and therefore the tank roofs will be replaced by new aluminum roofs. The tank roof replacement and other facility improvements are being implemented so that the City continues to provide high-quality water and distribution of water to customers.

How will tank roof removal and new roof construction impact my water service?
The two tank roofs will be replaced one at a time with one tank being maintained operational at all times. With this sequence of construction, we do not anticipate any water service disruptions.

Will this work impact access to the Byrd Park area?
The construction project will be within a fenced area and public access to the construction site will not be allowed due to safety considerations. A walkway will be maintained around the reservoir and full use and access to the park will remain unchanged during construction, except during short, localized disruptions.

Will this work impact traffic in the area?
The work is adjacent to public roads and some short-term lane closures will be needed. Lane closures will be scheduled for minimum disruption during peak traffic hours.

Will this work impact on-street parking?
During construction, on-street parking on Police Memorial Way will be restricted on the south side during short periods. Lane closures and restricted parking may span over multiple days. Depending on weather and construction progress, on-street parking may also be limited over the weekend. Signs will be posted 2 days before the work starts. Remaining streets should remain unaffected.

Will school bus traffic be affected?
The work will not affect school bus traffic or existing school bus routes.

When will this work be performed?
The City of Richmond's Department of Public Utilities anticipates that the work will mainly be performed between the hours of 8:00 a.m. to 5:00 p.m., Monday through Friday. Some isolated construction tasks may need to be performed after-hours or on weekends when water demands are reduced.

How long will it take?
Existing tank roof replacement is expected to take about 24 months and about 6 months will be needed for final site restoration and landscaping.

What environmental permits are needed?
Environmental permits required are Erosion Control and Sedimentation Permit and Stormwater Permit.

Will the tank be drained?
Each tank will be drained prior to the start of tank roof removal. Drain water will be treated, dechlorinated, and discharged to Boat Lake through the existing tank drain system.

Will the site be fenced?
The site will be fenced with the existing tank fencing and temporary fencing for facility security and safety.

IF YOU HAVE QUESTIONS, CONCERNS OR COMMENTS ABOUT THE PROJECT, PLEASE CONTACT:
Steve Morgan
Project Manager
Department of Public Utilities
Technical Services Division
804-646-8522
Stephen.Morgan@richmondgov.com

Mayor Levar M. Stoney

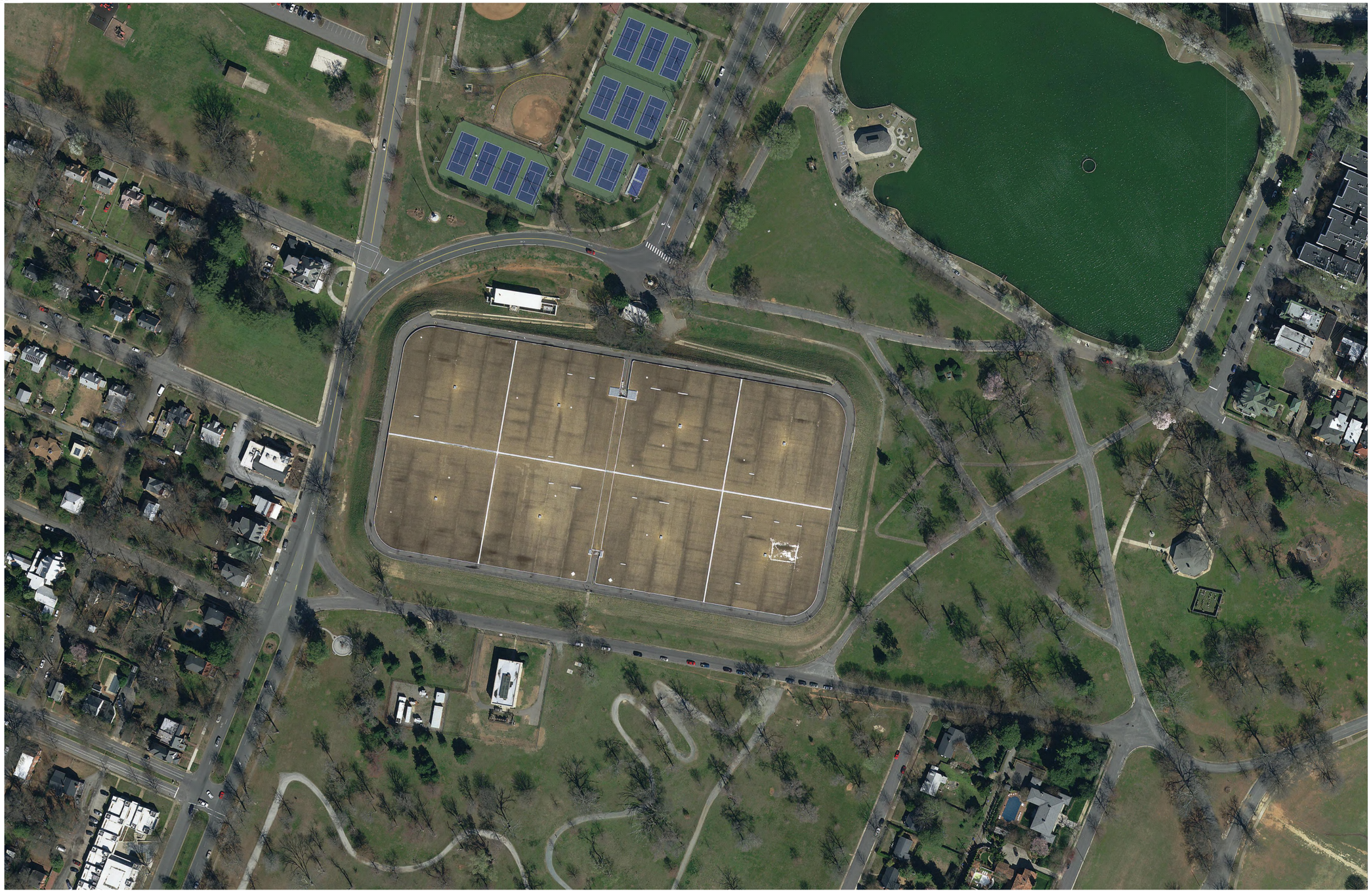
CITY OF RICHMOND
DEPARTMENT OF PUBLIC UTILITIES

MEDIA CONTACT:
Angela D. Fountain
Public Information Manager II
Department of Public Utilities
Communications Division
804-646-7323
Angela.Fountain@richmondgov.com

Update 01/04/2019

Byrd Park Water Storage Tanks Roof Replacement
Area Plan

CITY OF RICHMOND
DEPARTMENT OF
PUBLIC UTILITIES



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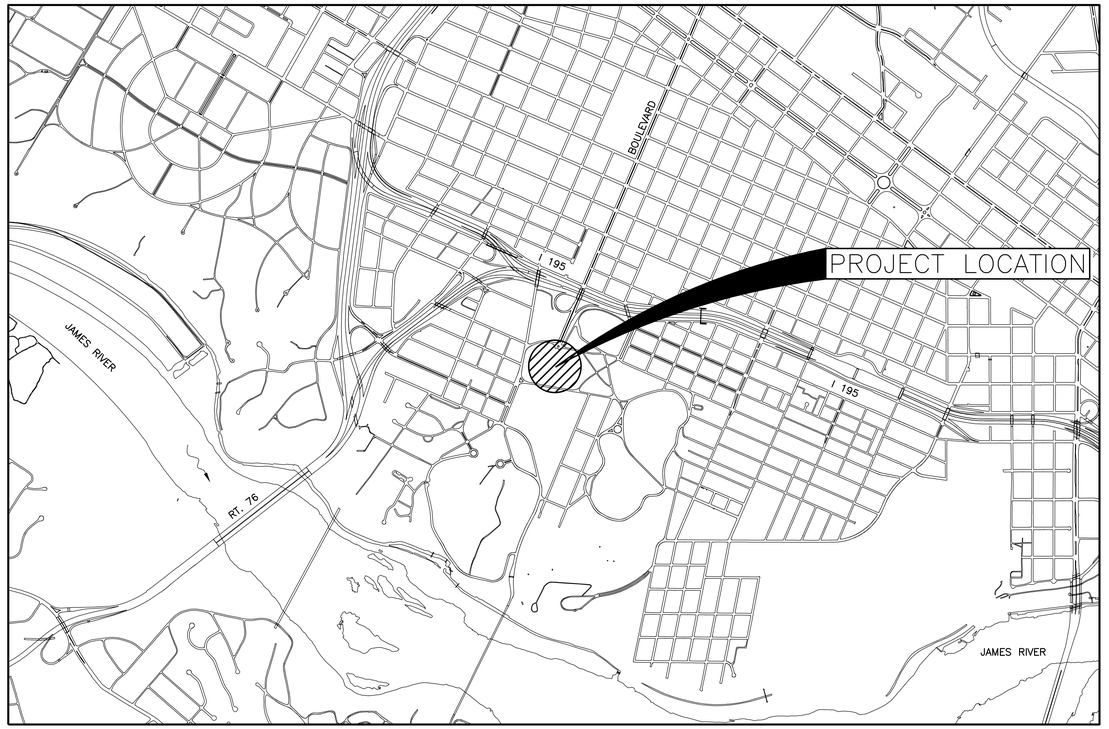
CITY OF RICHMOND, VIRGINIA
DEPARTMENT OF PUBLIC UTILITIES

BYRD PARK WATER STORAGE TANKS
ROOF REPLACEMENT PROJECT
CONCEPTUAL DRAWINGS



VICINITY MAP
SCALE: 1" = 1200'

DRAWING INDEX

SHEET NUMBER	DRAWING NUMBER	DESCRIPTION
1	--	COVER
2	P1	AREA PLAN
3	P2	EXISTING UPPER PLAN
4	P3	EXISTING LOWER PLAN
5	P4	EXISTING TANK SECTION
6	P5	PROPOSED UPPER PLAN
7	P6	PROPOSED LOWER PLAN
8	P7	PROPOSED SECTIONS
9	P8	PROPOSED SOUTHWEST AERIAL VIEW
10	P9	PROPOSED STREET VIEWS
11	P10	PROPOSED STREET VIEWS
12	P11	NORTH JUNCTION WELL PLAN AND SECTION
13	P12	SOUTH JUNCTION WELL PLAN AND SECTION
14	P13	TANK OVERFLOW SECTION AND PROFILE
15	P14	TANK SECTIONS
16	P15	JUNCTION WELL SLUICE GATE DIAGRAMS
17	P16	BYRD PARK TANK SUPPLY SYSTEM
18	P17	ZONE 1N SUPPLY SYSTEM

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9020 STONY POINT PARKWAY, SUITE 475
RICHMOND, VIRGINIA 23235

JANUARY 2019

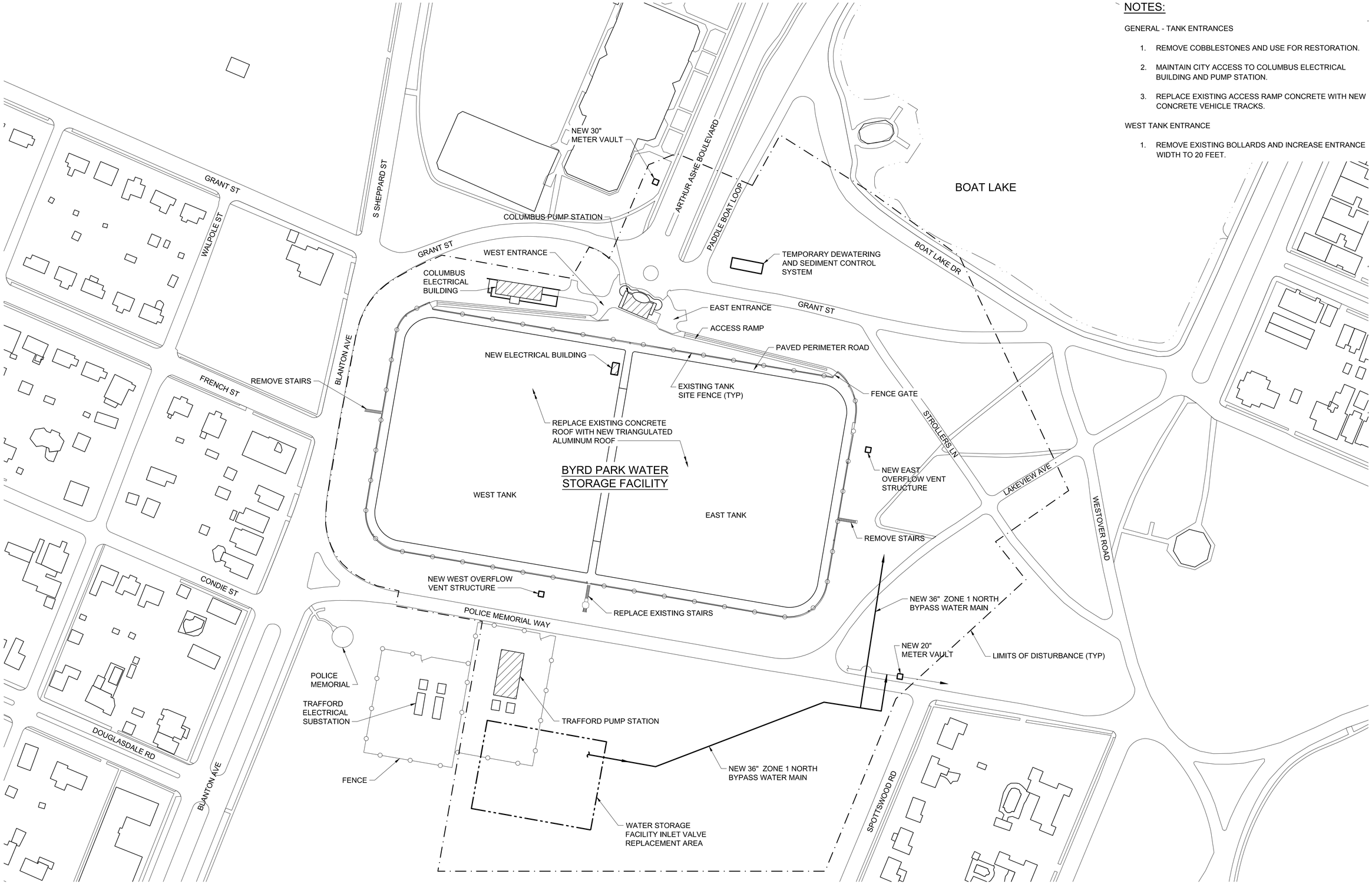
NOTES:

GENERAL - TANK ENTRANCES

1. REMOVE COBBLESTONES AND USE FOR RESTORATION.
2. MAINTAIN CITY ACCESS TO COLUMBUS ELECTRICAL BUILDING AND PUMP STATION.
3. REPLACE EXISTING ACCESS RAMP CONCRETE WITH NEW CONCRETE VEHICLE TRACKS.

WEST TANK ENTRANCE

1. REMOVE EXISTING BOLLARDS AND INCREASE ENTRANCE WIDTH TO 20 FEET.



AREA PLAN

SCALE: 1" = 80'

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CITY OF RICHMOND, VIRGINIA
DEPARTMENT OF PUBLIC UTILITIES
BYRD PARK TANK ROOF REPLACEMENT
JANUARY 2019

ARTHUR ASHE BOULEVARD
GRANT STREET
30" STORM SEWER
STORM MANHOLE (TYP)
COLUMBUS PUMPING STATION
GRANT STREET
1/P4
COLUMBUS PUMPING STATION ELECTRICAL BUILDING
DIRT PATH
GATE
STORM SEWER (TYP)
15'-6"±
GATE
ROOF LOW POINT EL 251±
ROOF LOW POINT EL 251±
ROOF LOW POINT EL 251±
ROOF LOW POINT EL 251±
NORTH TANK OUTLET WELL AND TANK ACCESS
PRESTRESSED CONCRETE ROOF
PRESTRESSED CONCRETE ROOF
BLANTON AVENUE
STAIRS
ROOF JOINT EL 253.38
BYRD PARK WEST TANK
ROOF SLOPE 1" IN 8' (TYP)
2/P14
2/P14
BYRD PARK EAST TANK
STAIRS
SIDEWALK
ROOF SLOPE 1" IN 8' (TYP)
ROOF CONSTRUCTION JOINT (TYP)
16'-3"±
FENCE WITH CONCRETE CURB CURB TOP EL 247.76±
SOUTH TANK OUTLET WELL AND TANK ACCESS
TOE OF INTERIOR SLOPE (TYP)
ROOF LOW POINT EL 251±
ROOF LOW POINT EL 251±
ROOF LOW POINT EL 251±
ROOF LOW POINT EL 251±
18'-0"±
STAIRS
1/P4
LAKEVIEW AVENUE
POLICE MEMORIAL WAY

EXISTING UPPER PLAN

SCALE: 1" = 40'

CITY OF RICHMOND, VIRGINIA
DEPARTMENT OF PUBLIC UTILITIES
BYRD PARK TANK ROOF REPLACEMENT
JANUARY 2019

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ARTHUR ASHE BOULEVARD
GRANT STREET
GRANT STREET
1/P4
COLUMBUS PUMPING STATION
COLUMBUS PUMPING STATION ELECTRICAL BUILDING
DIRT PATH
852'-7"
6'-7"
GATE
404'-4"
28'-0"
404'-4"
GATE
9'-4"
10'-4"
30" OUTLET PIPES
15'-0"
EL 219.15
6'-6"
6'-6"
EL 220.00
EL 222.34
EL 219.15
EL 220.00
NORTH OUTLET WELL
BLANTON AVENUE
BYRD PARK WEST TANK
2/P14
2/P14
BYRD PARK EAST TANK
409'-8"
429'-5"
SIDEWALK
FENCE WITH CONCRETE CURB CURB TOP EL 247.76±
PROPOSED TEMPORARY WEST ACCESS RAMP FOR ROOF DEMOLITION
CONCRETE COLUMN (TYP)
TOP OF INTERIOR SLOPE GRANITE BLOCK CURB EL 247.76± (TYP)
PROPOSED TEMPORARY EAST ACCESS RAMP FOR ROOF DEMOLITION
SOUTH OUTLET WELL
EL 221.11
TOE OF INTERIOR SLOPE (TYP)
EL 220.80
EL 220.48
EL 221.11
30" AND 36" OUTLET PIPES
9'-5"
LAKEVIEW AVENUE
STAIRS
1/P4
POLICE MEMORIAL WAY

EXISTING LOWER PLAN

SCALE: 1" = 40'

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CITY OF RICHMOND, VIRGINIA
DEPARTMENT OF PUBLIC UTILITIES
BYRD PARK TANK ROOF REPLACEMENT
JANUARY 2019

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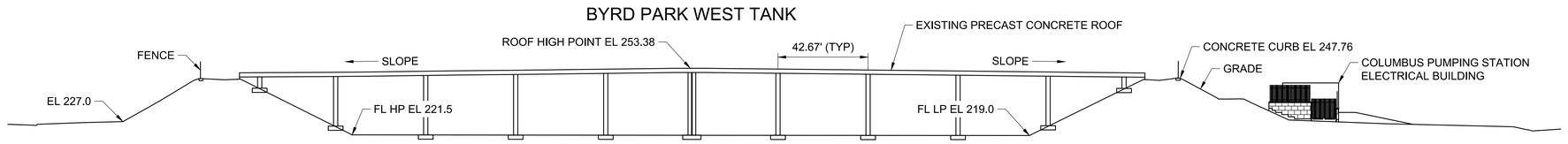

SECTION 1/P2, P3
EXISTING TANK SECTION

SCALE: 1" = 30'

CONNECT TO EXISTING 30" WATER MAIN
ARTHUR ASHE BOULEVARD
GRANT STREET
NEW 30" WATER MAIN
NEW MANHOLE CONNECTION TO 30" STORM SEWER
36" OVERFLOW DRAIN
30" STORM SEWER
STORM MANHOLE (TYP)
COLUMBUS PUMPING STATION
GRANT STREET
1/P7
COLUMBUS PUMPING STATION ELECTRICAL BUILDING
NEW 24" WATER MAIN
DIRT PATH
YARD INLET/ EMERGENCY OVERFLOW
NEW MANHOLE (TYP)
GATE
STORM SEWER (TYP)
GATE
24'-2"±
NEW EXHAUST FAN (22,000 CFM) TYP
LOW POINT EL 251.76
NEW ELECTRICAL BUILDING
LOW POINT EL 251.76
NEW 10'x8' ROOF ACCESS
NEW 10'x8' ROOF ACCESS
NEW TRIANGULATED ALUMINUM FLAT ROOF
NORTH OUTLET WELL NEW CONCRETE SLAB WITH 60"x60" ACCESS (SEE DWG P11)
NEW TRIANGULATED ALUMINUM FLAT ROOF
NEW 30" OVERFLOW
SLOPE 1" IN 12"
SLOPE 1" IN 8"
SLOPE 1" IN 12"
NEW 30" OVERFLOW DRAIN
NEW OVERFLOW WEIR BOX WEIR EL 246.75 MAX. EL 247.50
NEW OVERFLOW VENT STRUCTURE
NEW ROOF VENT
BYRD PARK WEST TANK
BYRD PARK EAST TANK
2/P7
3/P14
HIGH POINT EL 249.85
3/P14
2/P7
SLOPE 1" IN 12"
SLOPE 1" IN 12"
SLOPE 1" IN 12"
SLOPE 1" IN 12"
LOW POINT EL 251.76
HIGH POINT EL 268.60
NEW CONCRETE PAVING
LOW POINT EL 251.76
NEW 36" OVERFLOW DRAIN
SIDEWALK
SLOPE 1" IN 12"
SLOPE 1" IN 8"
SLOPE 1" IN 12"
23'-9"±
FENCE WITH CONCRETE CURB CURB TOP EL 247.76±
NEW 48"x48" ROOF ACCESS
SOUTH OUTLET WELL NEW CONCRETE SLAB WITH 60"x60" ACCESS (SEE DWG P12)
NEW OVERFLOW WEIR BOX WEIR EL 246.75 MAX. EL 247.50
TOE OF INTERIOR SLOPE (TYP)
NEW 48"x48" ROOF ACCESS
LOW POINT EL 251.76
LOW POINT EL 251.76
BLANTON AVENUE
LAKEVIEW AVENUE
NEW 30" OVERFLOW (SEE DWG P13)
NEW ASPHALT PAVING
NEW 36" OVERFLOW DRAIN
STAIRS
26'-0"±
NEW 36" WATER MAIN (SEE DWG P1)
NEW OVERFLOW VENT STRUCTURE
1/P7
NEW 36" OVERFLOW DRAIN (SEE DWG P13)
NEW YARD INLET/ EMERGENCY OVERFLOW
POLICE MEMORIAL WAY

PROPOSED UPPER PLAN

SCALE: 1" = 40'

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CITY OF RICHMOND, VIRGINIA
DEPARTMENT OF PUBLIC UTILITIES
BYRD PARK TANK ROOF REPLACEMENT
JANUARY 2019

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ARTHUR ASHE BOULEVARD
GRANT STREET
GRANT STREET
COLUMBUS PUMPING STATION
1/P7
COLUMBUS PUMPING STATION ELECTRICAL BUILDING
DIRT PATH
GATE
GATE
30" OUTLET PIPES
NEW ELECTRICAL BUILDING
NEW SST COLUMN (TYP)
ROOF ACCESS OPENING ABOVE (TYP)
NORTH OUTLET WELL
BLANTON AVENUE
2/P7
(12 SPACES @ 34'-2") 410'-0"
BYRD PARK WEST TANK
3/P14
3/P14
BYRD PARK EAST TANK
2/P7
SIDEWALK
FENCE WITH CONCRETE CURB
CURB TOP EL 247.76±
SOUTH OUTLET WELL
TOE OF INTERIOR SLOPE (TYP)
TOP OF INTERIOR SLOPE EL 244.50 (TYP)
30" AND 36" OUTLET PIPES
LAKEVIEW AVENUE
STAIRS
1/P7
(12 SPACES @ 33'-9") 405'-0"
28'-0"
(12 SPACES @ 33'-9") 405'-0"
POLICE MEMORIAL WAY

PROPOSED LOWER PLAN

SCALE: 1" = 40'

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CITY OF RICHMOND, VIRGINIA
DEPARTMENT OF PUBLIC UTILITIES
BYRD PARK TANK ROOF REPLACEMENT
JANUARY 2019

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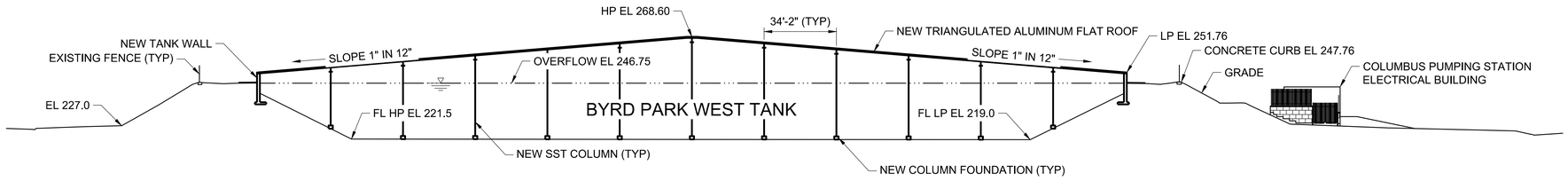
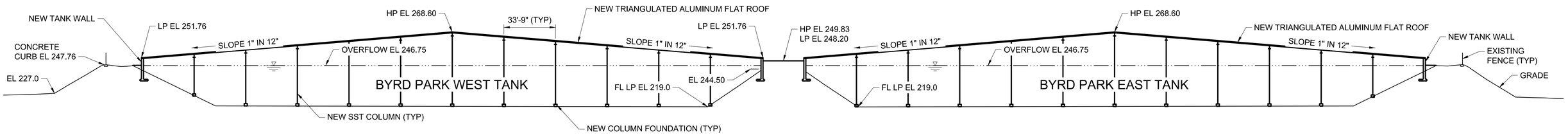


SECTION 1/P5, P6
PROPOSED WEST TANK
SCALE: 1" = 30'



SECTION 2/P5, P6
PROPOSED WEST AND EAST TANK
SCALE: 1" = 30'

PROPOSED TANK SECTIONS

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DEPARTMENT OF PUBLIC UTILITIES
BYRD PARK TANK ROOF REPLACEMENT
JANUARY 2019

PROPOSED SOUTHWEST AERIAL VIEW

SCALE: NO SCALE

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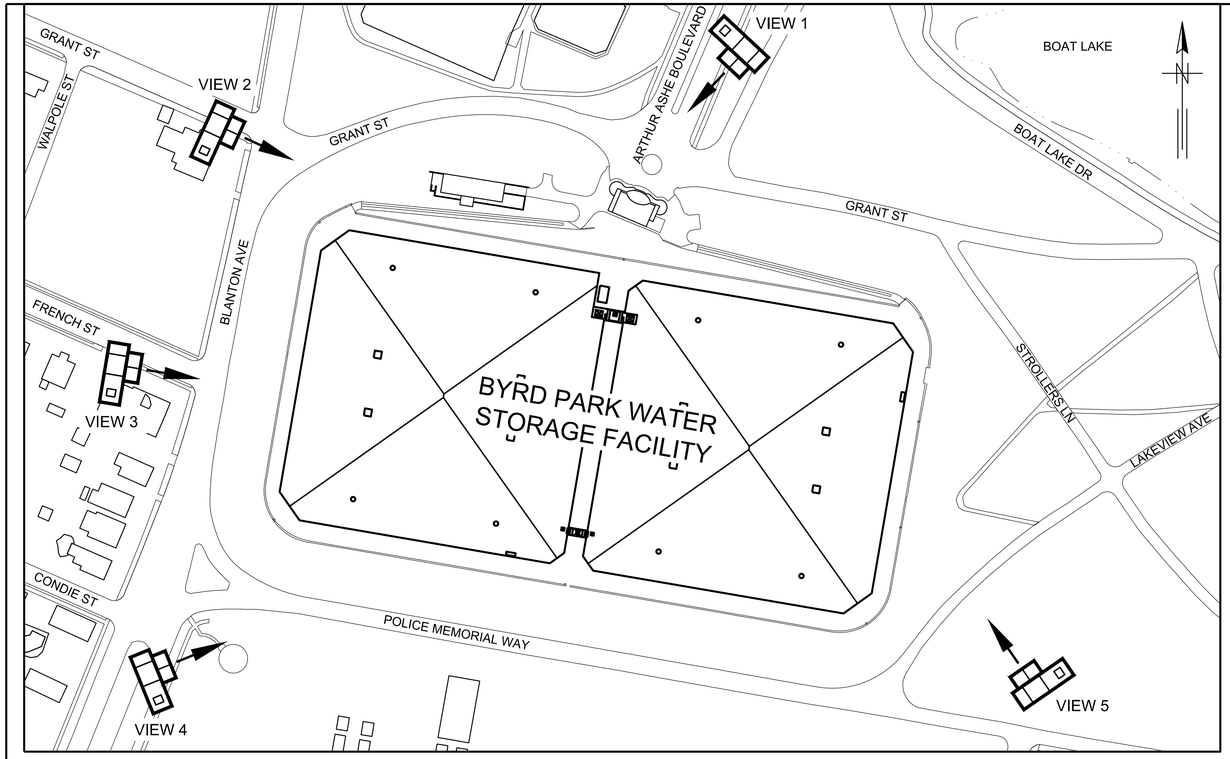
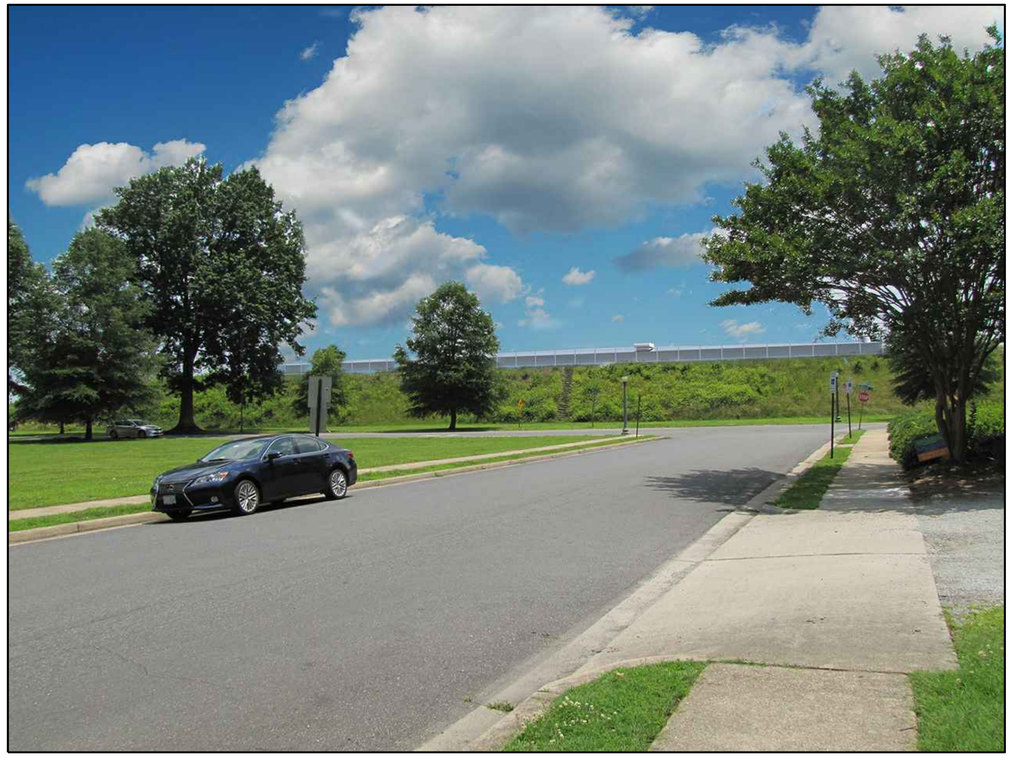
CITY OF RICHMOND, VIRGINIA
DEPARTMENT OF PUBLIC UTILITIES
BYRD PARK TANK ROOF REPLACEMENT
JANUARY 2019



KEY MAP
SCALE: NOT TO SCALE

PROPOSED STREET VIEW 1
SCALE: NO SCALE

PROPOSED STREET VIEW 2
SCALE: NO SCALE



PROPOSED STREET VIEW 3
SCALE: NO SCALE

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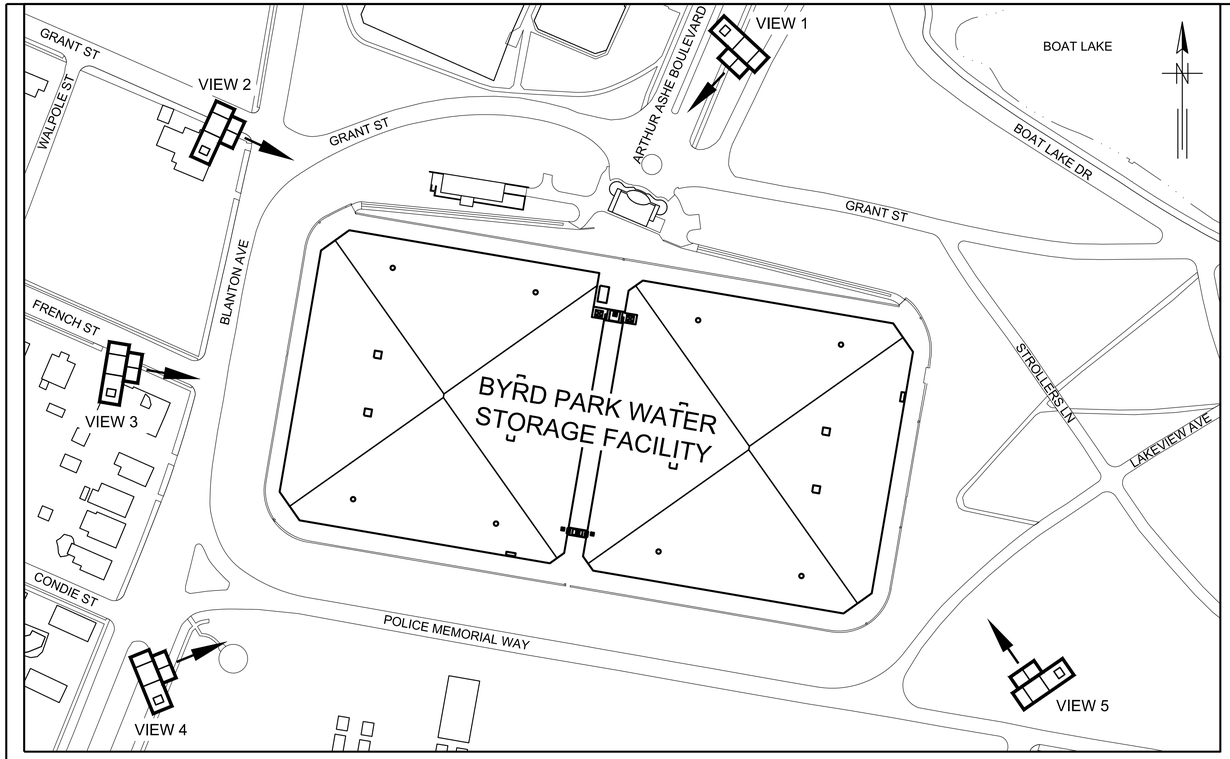
CITY OF RICHMOND, VIRGINIA
DEPARTMENT OF PUBLIC UTILITIES
BYRD PARK TANK ROOF REPLACEMENT
JANUARY 2019



KEY MAP

SCALE: NOT TO SCALE

PROPOSED STREET VIEW 4

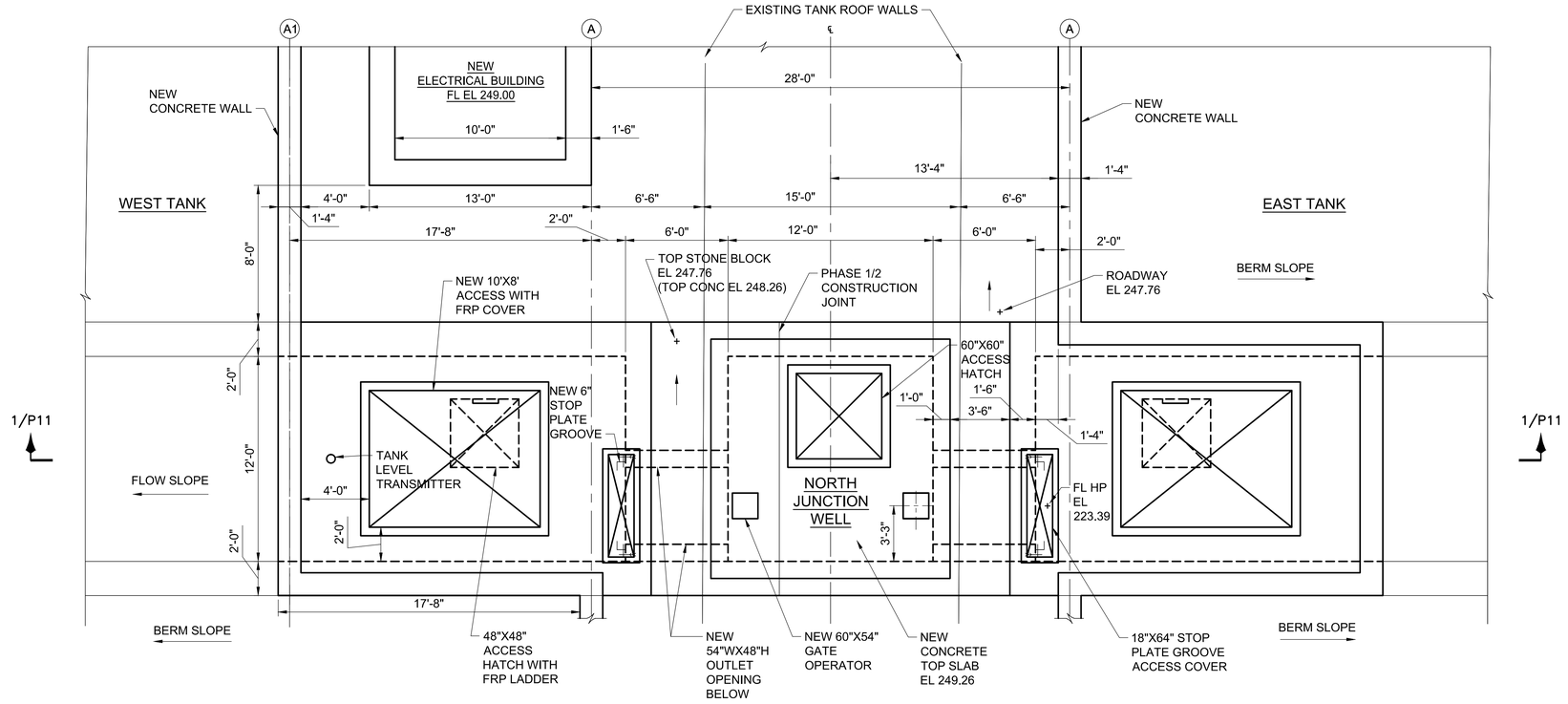
SCALE: NO SCALE

PROPOSED STREET VIEW 5

SCALE: NO SCALE

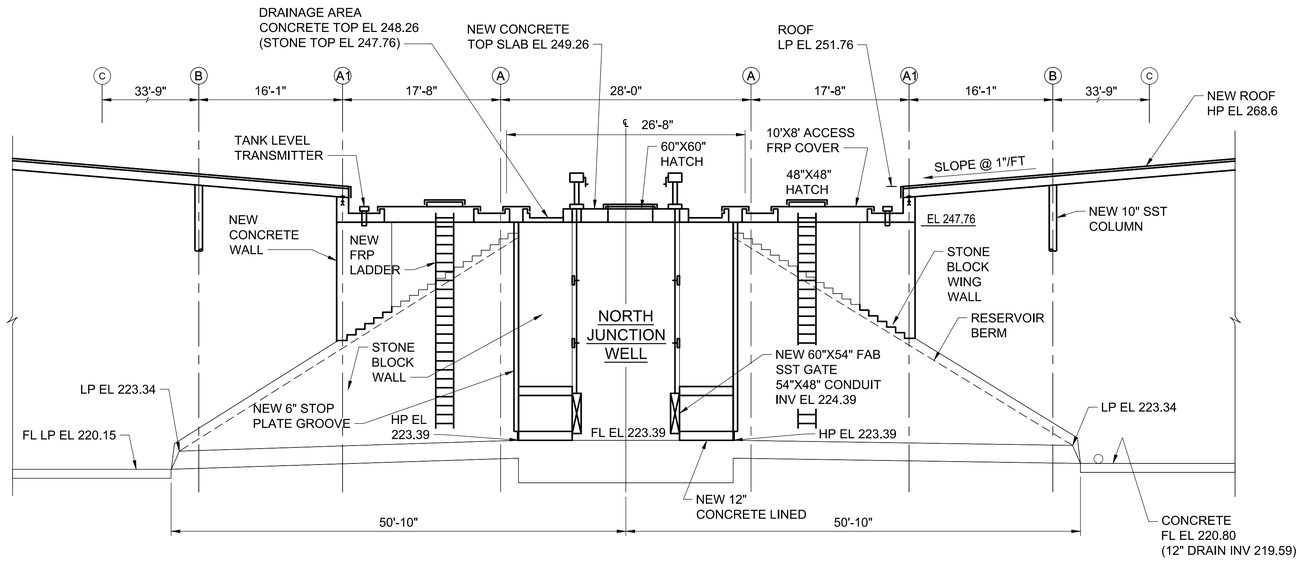
GREELEY AND HANSEN

CITY OF RICHMOND, VIRGINIA
DEPARTMENT OF PUBLIC UTILITIES
BYRD PARK TANK ROOF REPLACEMENT
JANUARY 2019



NORTH JUNCTION WELL - TOP PLAN (PHASE 2)

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

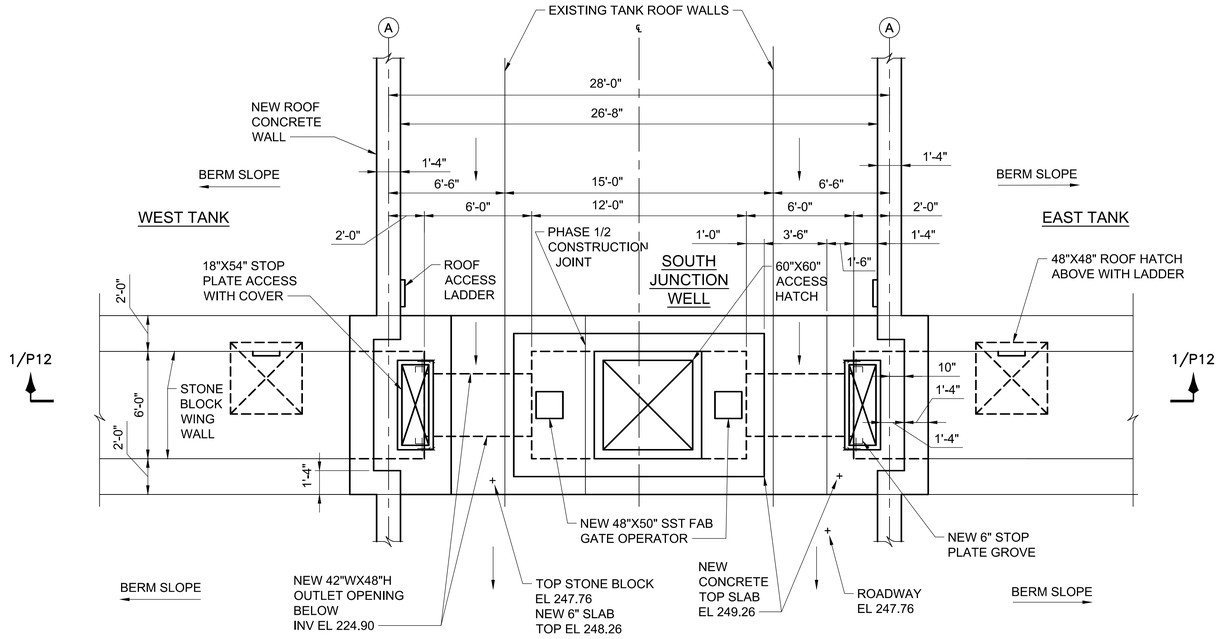


SECTION 1/P11
NORTH JUNCTION WELL (PHASE 2)

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

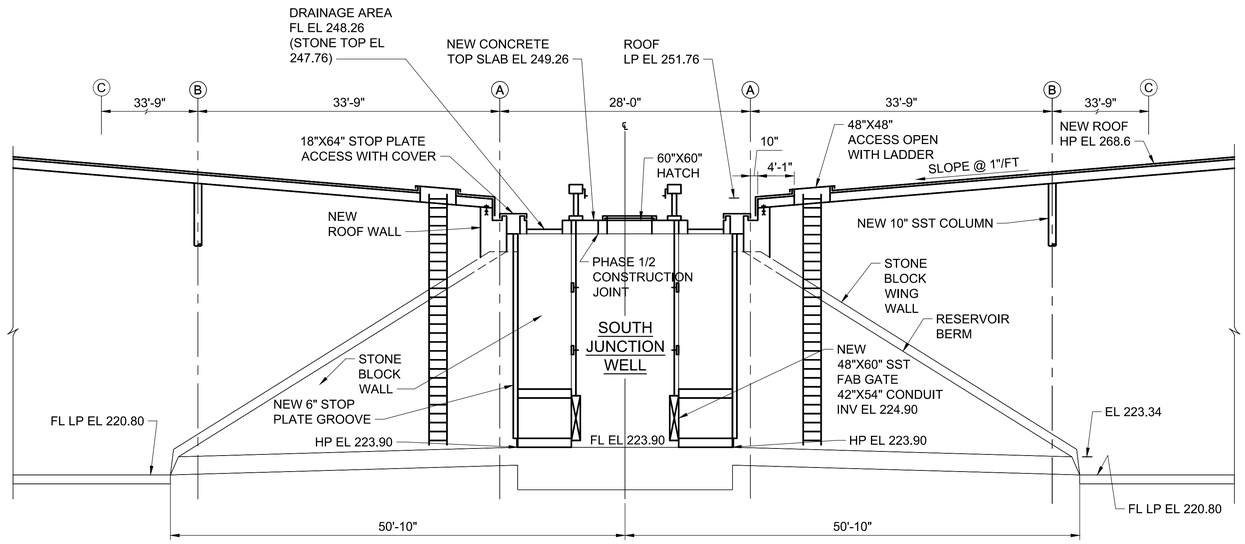
GREELEY AND HANSEN

CITY OF RICHMOND, VIRGINIA
DEPARTMENT OF PUBLIC UTILITIES
BYRD PARK TANK ROOF REPLACEMENT
JANUARY 2019



SOUTH JUNCTION WELL - TOP PLAN (PHASE 2)

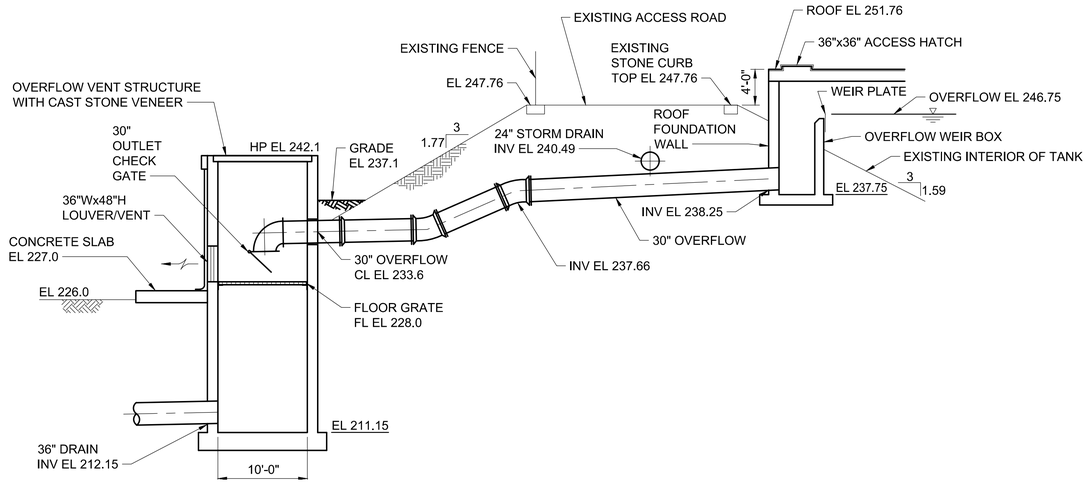
SCALE: 1/4" = 1'-0"



SECTION 1/P12
SOUTH JUNCTION WELL (PHASE 2)

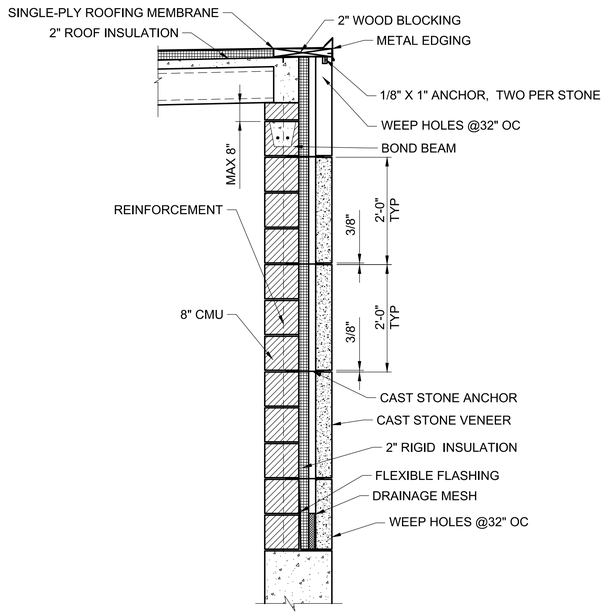
SCALE: 1/8" = 1'-0"

GREELEY AND HANSEN



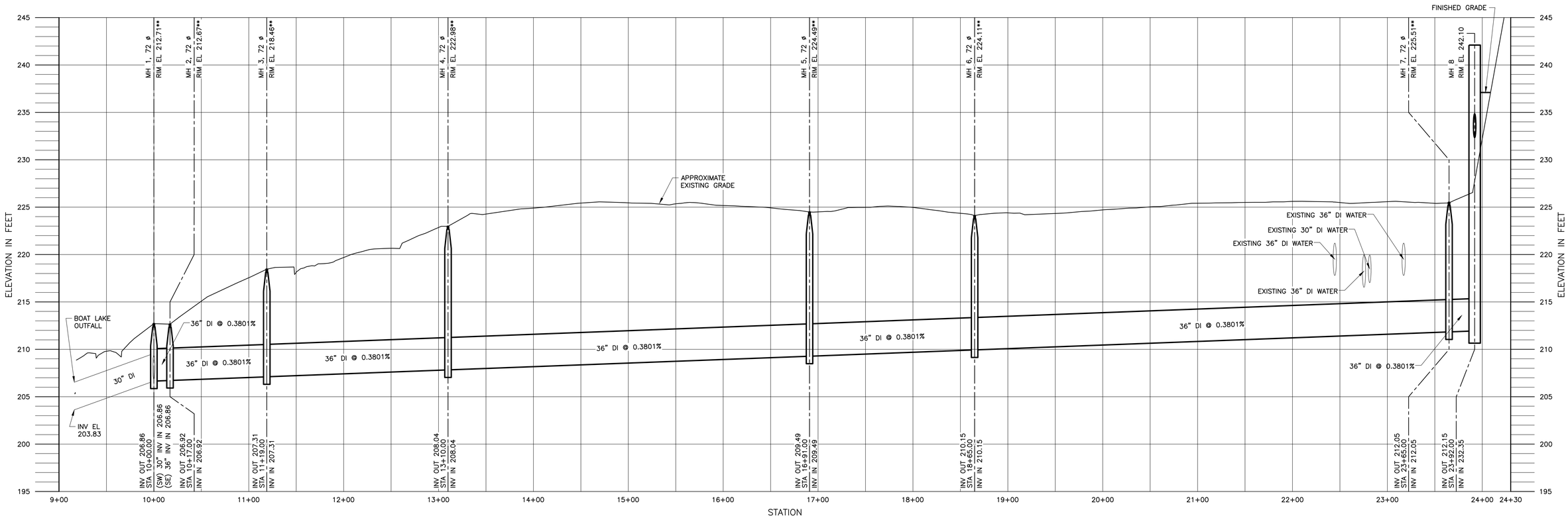
SECTION - OVERFLOW AND OVERFLOW WEIR BOX

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



WALL SECTION - CAST STONE VENEER

SCALE: NOT TO SCALE



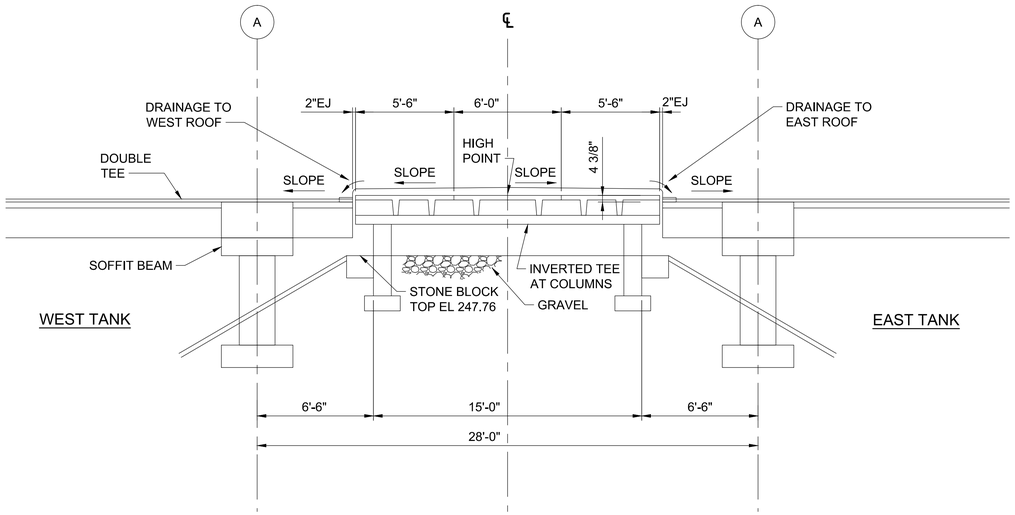
OVERFLOW PROFILE

SCALE: 1" = 50' HORIZONTAL
1" = 5' VERTICAL

TANK OVERFLOW - SECTION AND PROFILE

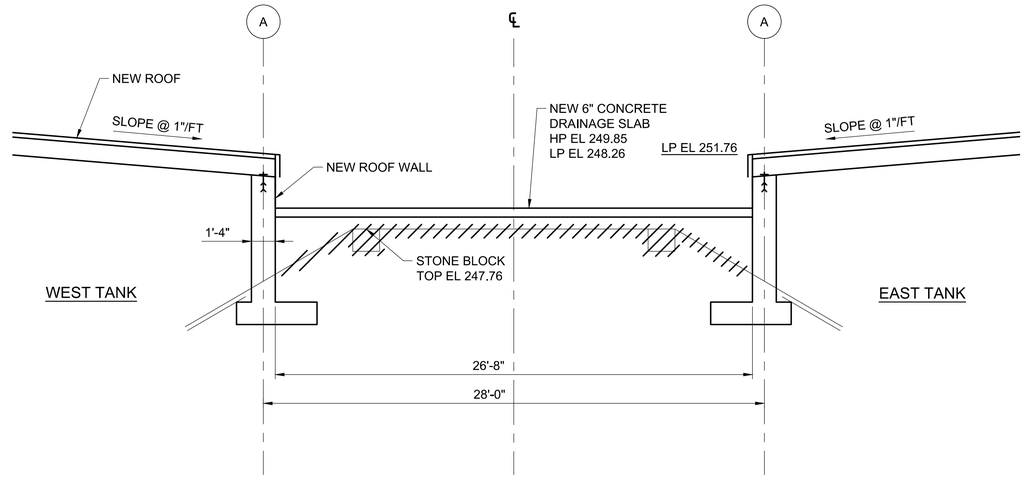
CITY OF RICHMOND, VIRGINIA
DEPARTMENT OF PUBLIC UTILITIES
BYRD PARK TANK ROOF REPLACEMENT
JANUARY 2019

GREELEY AND HANSEN



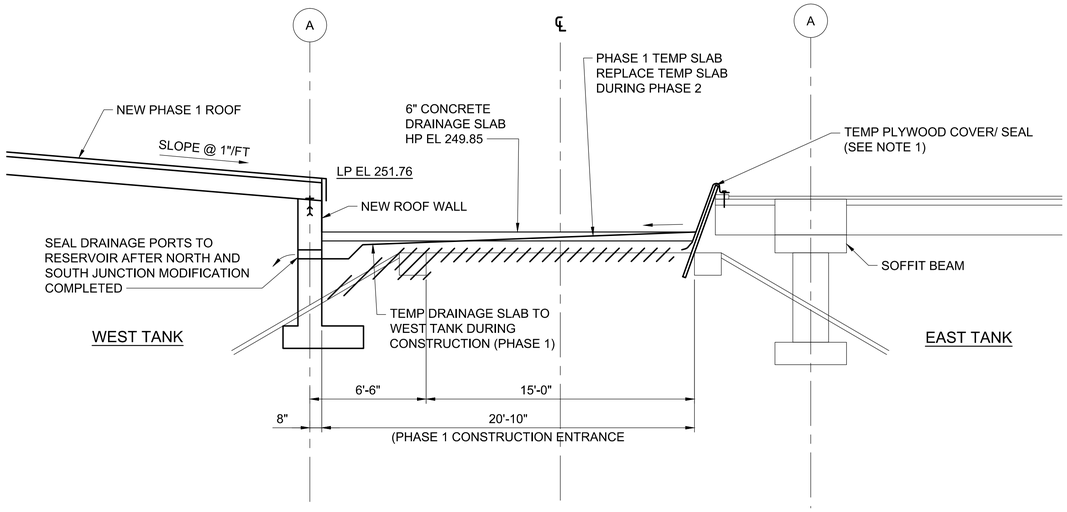
SECTION 2/P2, P3 - EXISTING

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



SECTION 3/P5, P6 - PHASE 2 (FINAL)

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



PHASE 1 SECTION (INTERMEDIATE)

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

NOTES:

1. TEMPORARY PLYWOOD COVER AND SEAL INSTALLED BETWEEN EAST AND WEST TANKS PRIOR TO STARTING WEST TANK DEMOLITION.

TANK SECTIONS

GREELEY AND HANSEN

CITY OF RICHMOND, VIRGINIA
DEPARTMENT OF PUBLIC UTILITIES
BYRD PARK TANK ROOF REPLACEMENT
JANUARY 2019

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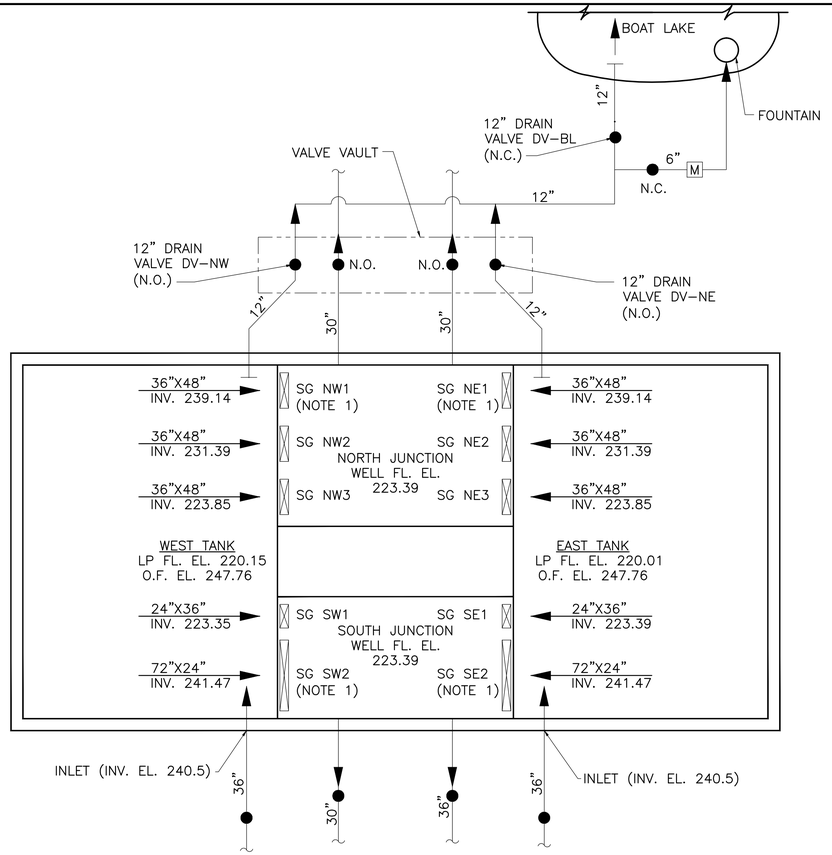
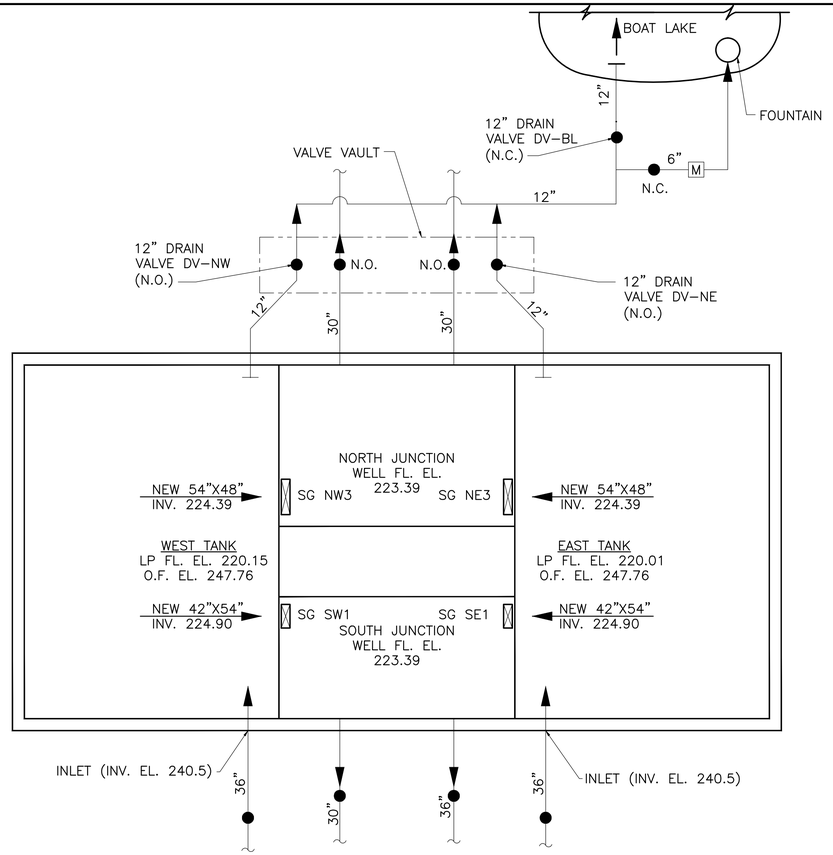
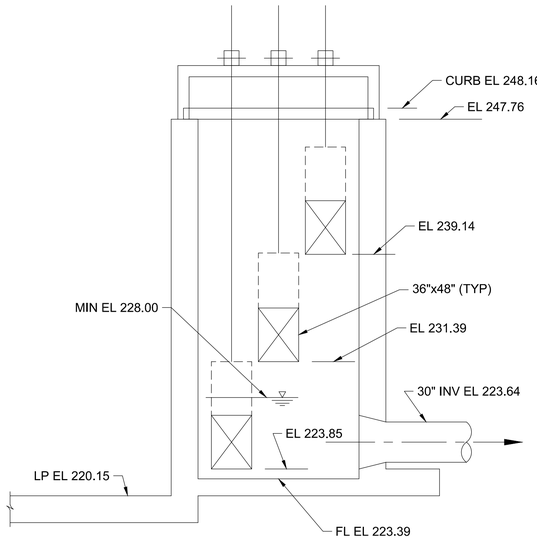


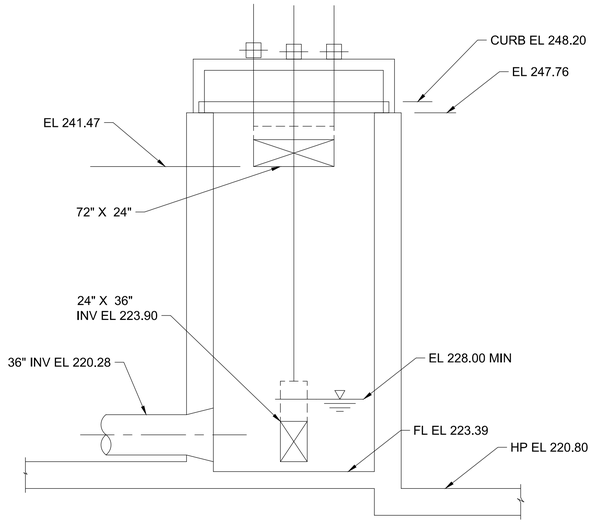
EXISTING SLUICE GATE DIAGRAM



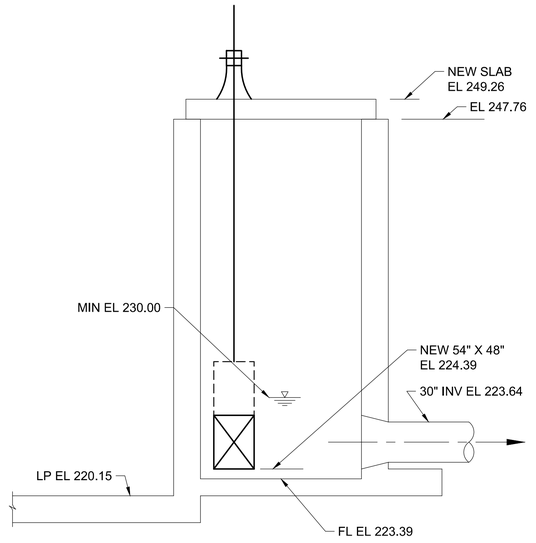
PROPOSED SLUICE GATE DIAGRAM



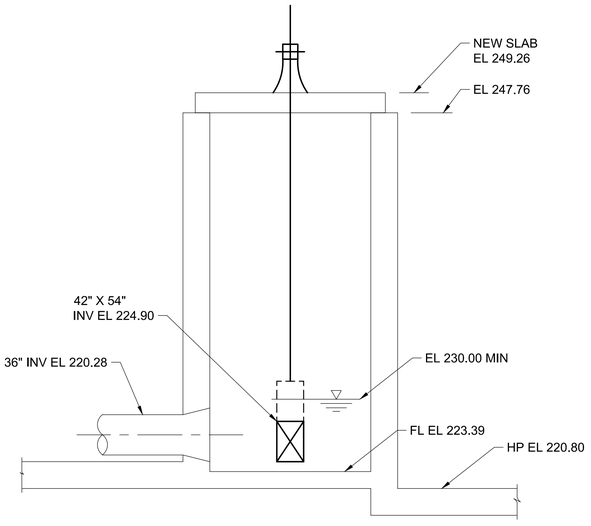
NORTH JUNCTION WELL SECTION



SOUTH JUNCTION WELL SECTION



NORTH JUNCTION WELL SECTION



SOUTH JUNCTION WELL SECTION

JUNCTION WELL SLUICE GATE DIAGRAMS

SCALE: NO SCALE

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DEPARTMENT OF PUBLIC UTILITIES
BYRD PARK TANK ROOF REPLACEMENT
JANUARY 2019

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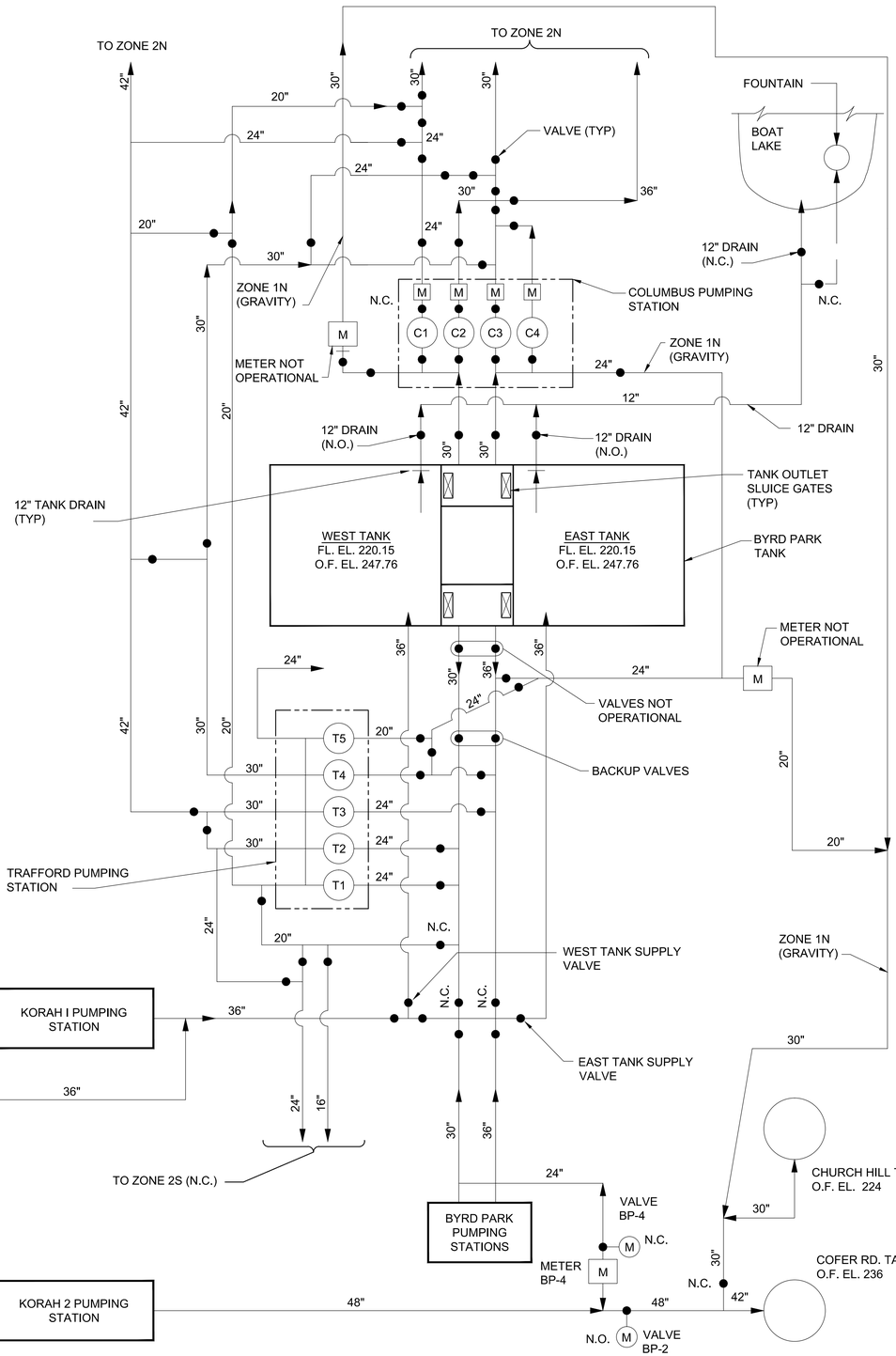
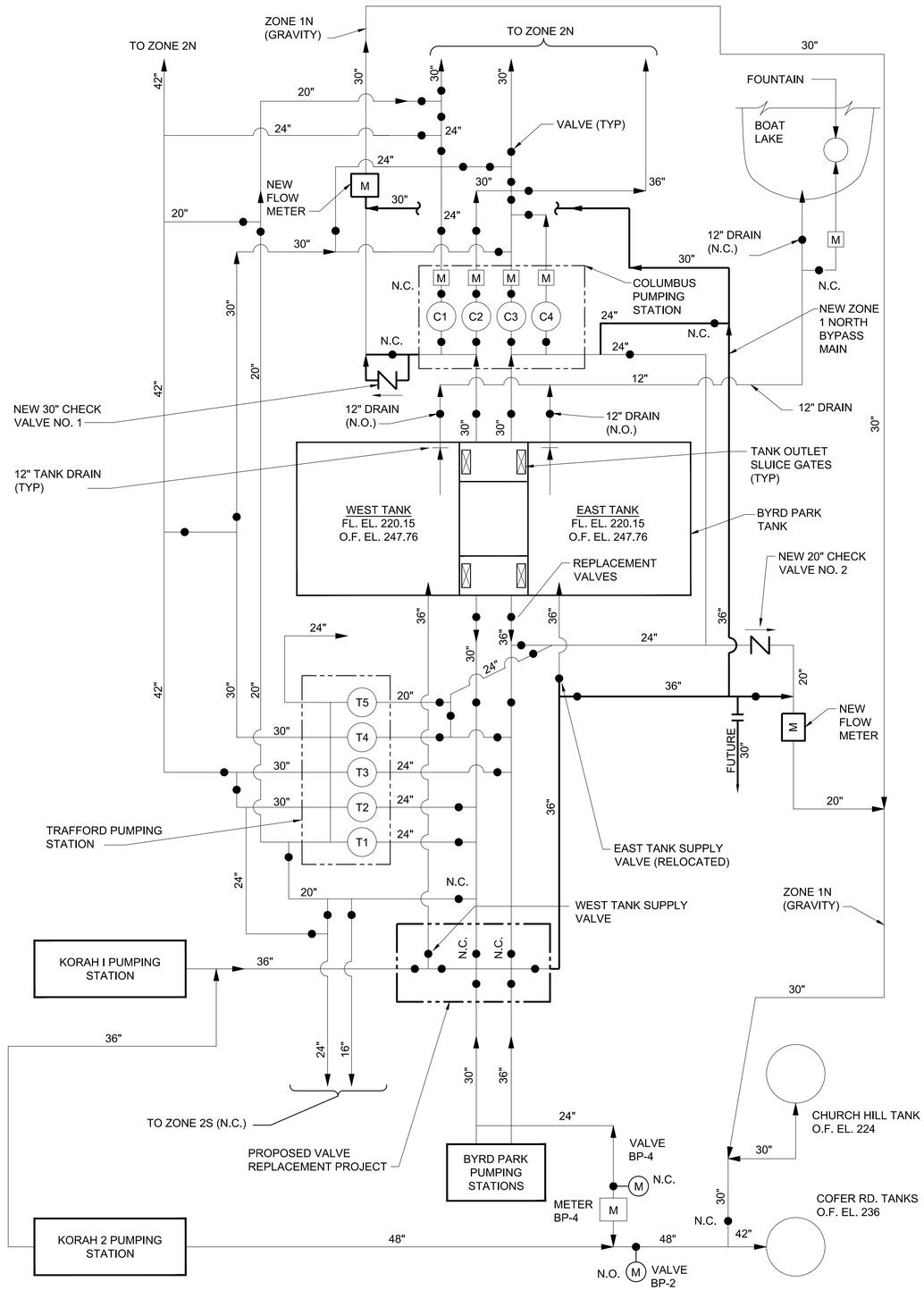


EXISTING PIPING DIAGRAM



PROPOSED PIPING DIAGRAM

BYRD PARK ZONE 1N SUPPLY SYSTEM

SCALE: NO SCALE

CITY OF RICHMOND, VIRGINIA
DEPARTMENT OF PUBLIC UTILITIES
BYRD PARK TANK ROOF REPLACEMENT
JANUARY 2019

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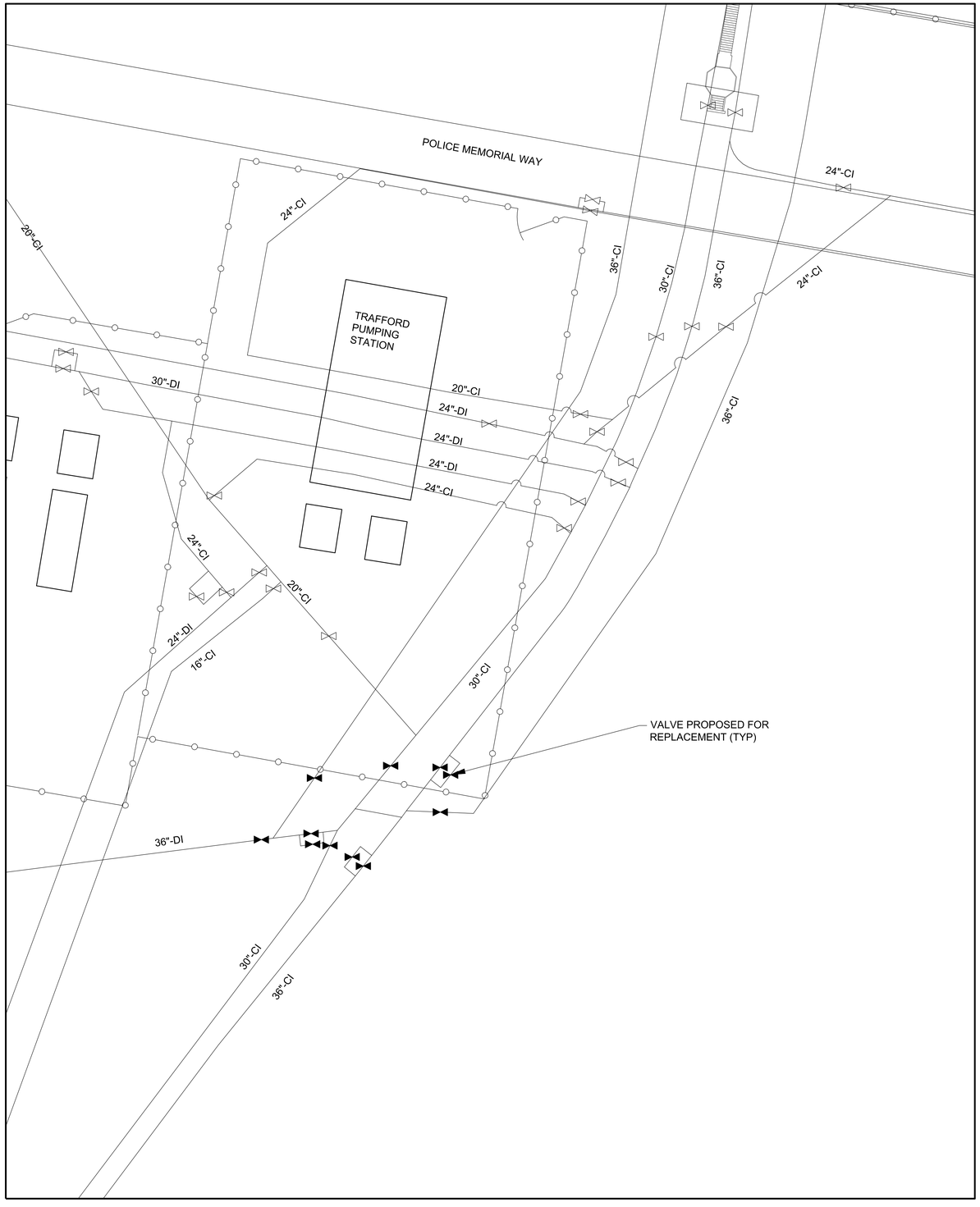
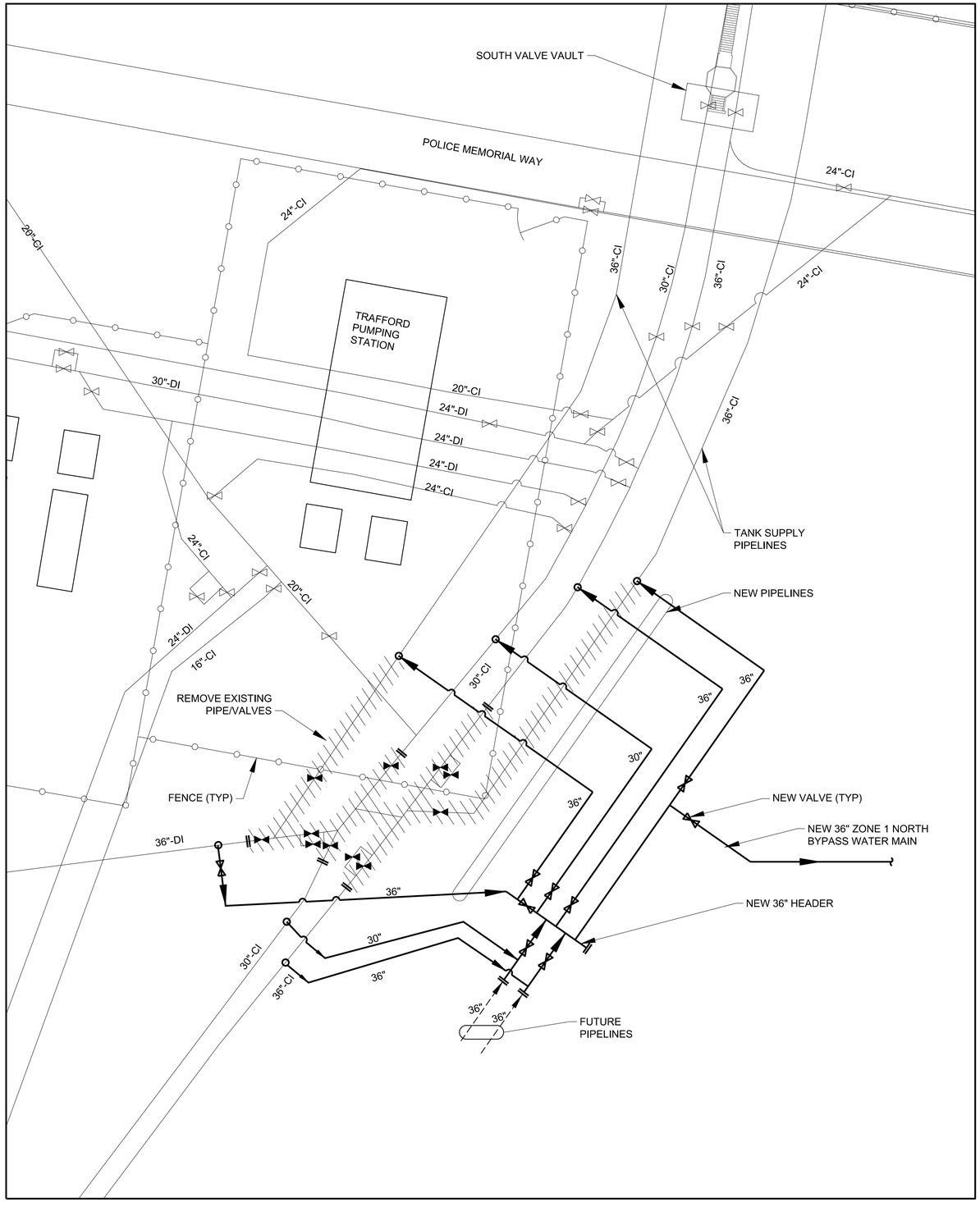


EXISTING PIPING DIAGRAM



PROPOSED PIPING DIAGRAM

BYRD PARK TANK SUPPLY SYSTEM

SCALE: NO SCALE

GREELEY AND HANSEN

CITY OF RICHMOND, VIRGINIA
DEPARTMENT OF PUBLIC UTILITIES
BYRD PARK TANK ROOF REPLACEMENT
JANUARY 2019

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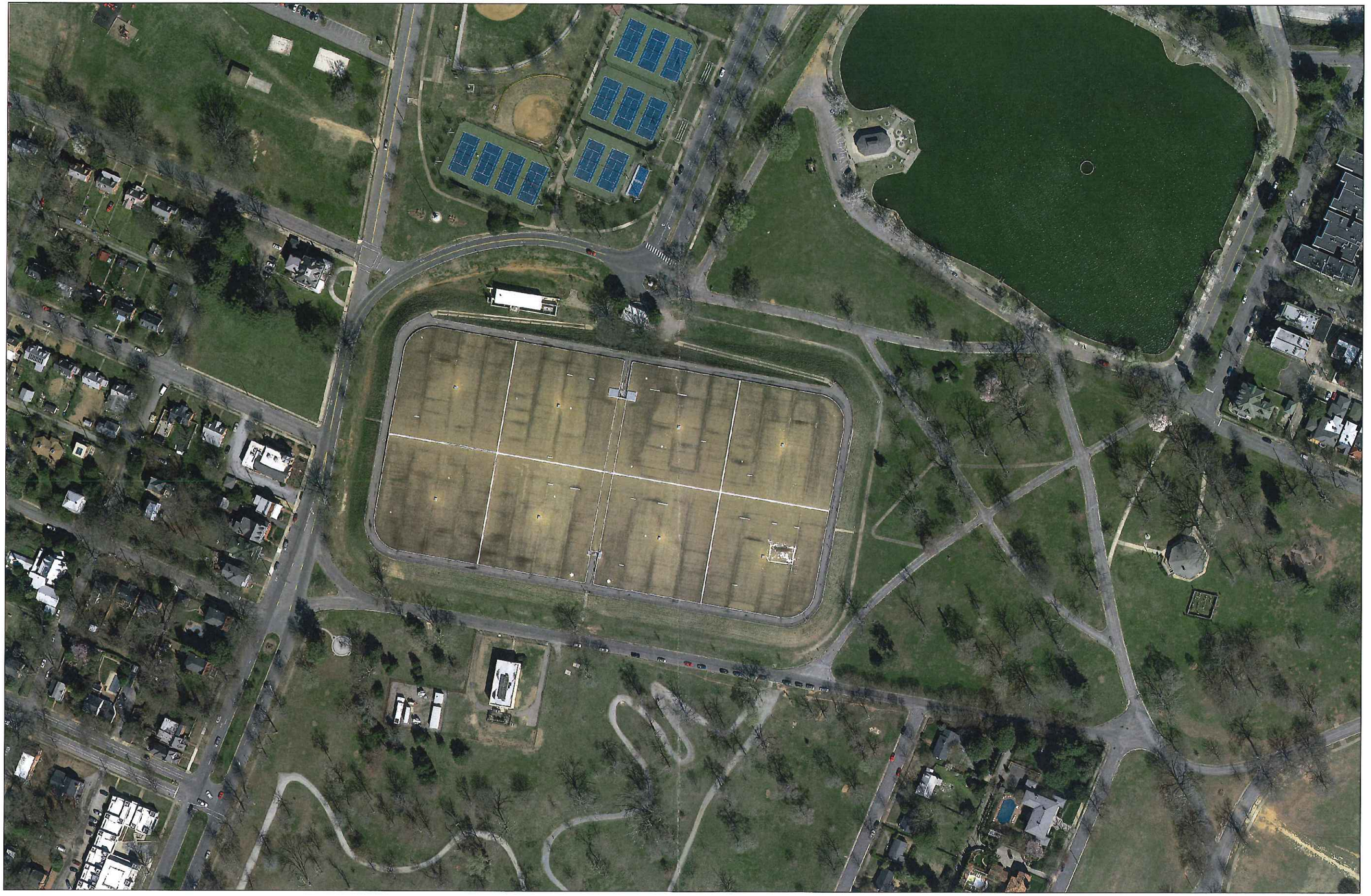
Byrd Park Water Storage Tanks Roof Replacement
Area Plan

CITY OF RICHMOND
DEPARTMENT OF
PUBLIC UTILITIES



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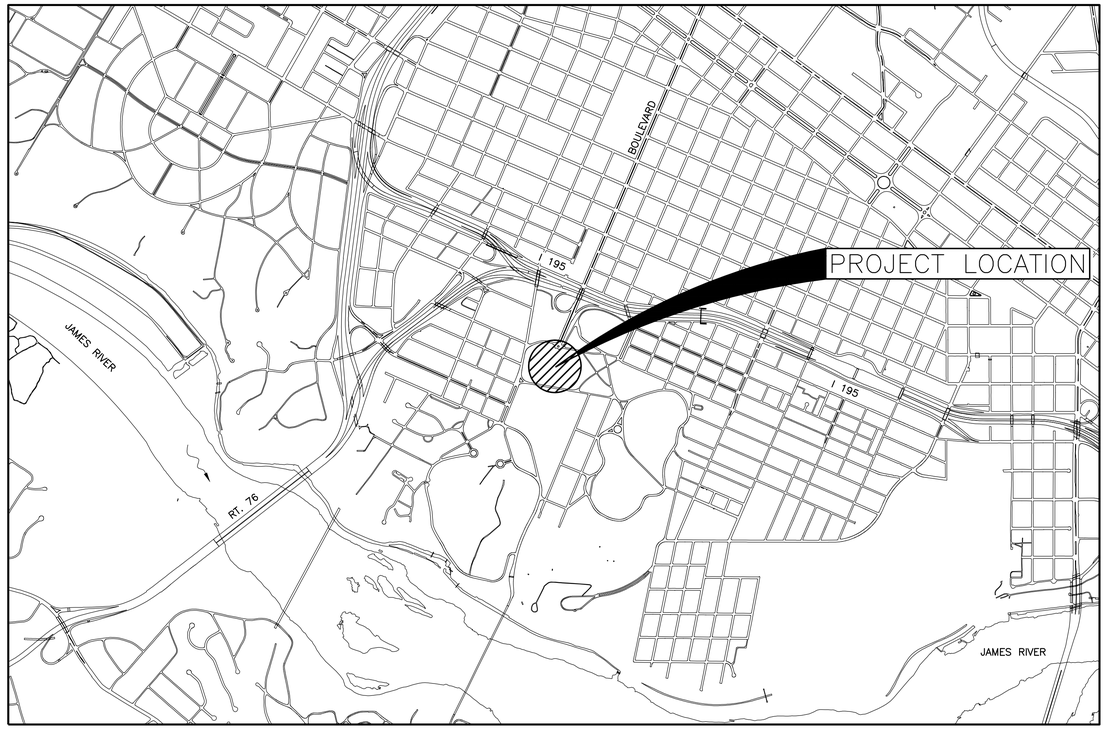
CITY OF RICHMOND, VIRGINIA
DEPARTMENT OF PUBLIC UTILITIES

BYRD PARK WATER STORAGE TANKS
ROOF REPLACEMENT PROJECT
CONCEPTUAL DRAWINGS



VICINITY MAP
SCALE: 1" = 1200'

DRAWING INDEX

SHEET NUMBER	DRAWING NUMBER	DESCRIPTION
1	--	COVER
2	P1	AREA PLAN
3	P2	EXISTING UPPER PLAN
4	P3	EXISTING LOWER PLAN
5	P4	EXISTING TANK SECTION
6	P5	PROPOSED UPPER PLAN
7	P6	PROPOSED LOWER PLAN
8	P7	PROPOSED SECTIONS
9	P8	PROPOSED SOUTHWEST AERIAL VIEW
10	P9	PROPOSED STREET VIEWS
11	P10	PROPOSED STREET VIEWS
12	P11	NORTH JUNCTION WELL PLAN AND SECTION
13	P12	SOUTH JUNCTION WELL PLAN AND SECTION
14	P13	TANK OVERFLOW SECTION AND PROFILE
15	P14	TANK SECTIONS
16	P15	JUNCTION WELL SLUICE GATE DIAGRAMS
17	P16	BYRD PARK TANK SUPPLY SYSTEM
18	P17	ZONE 1N SUPPLY SYSTEM

GREELEY AND HANSEN
9020 STONY POINT PARKWAY, SUITE 475
RICHMOND, VIRGINIA 23235

JANUARY 2019

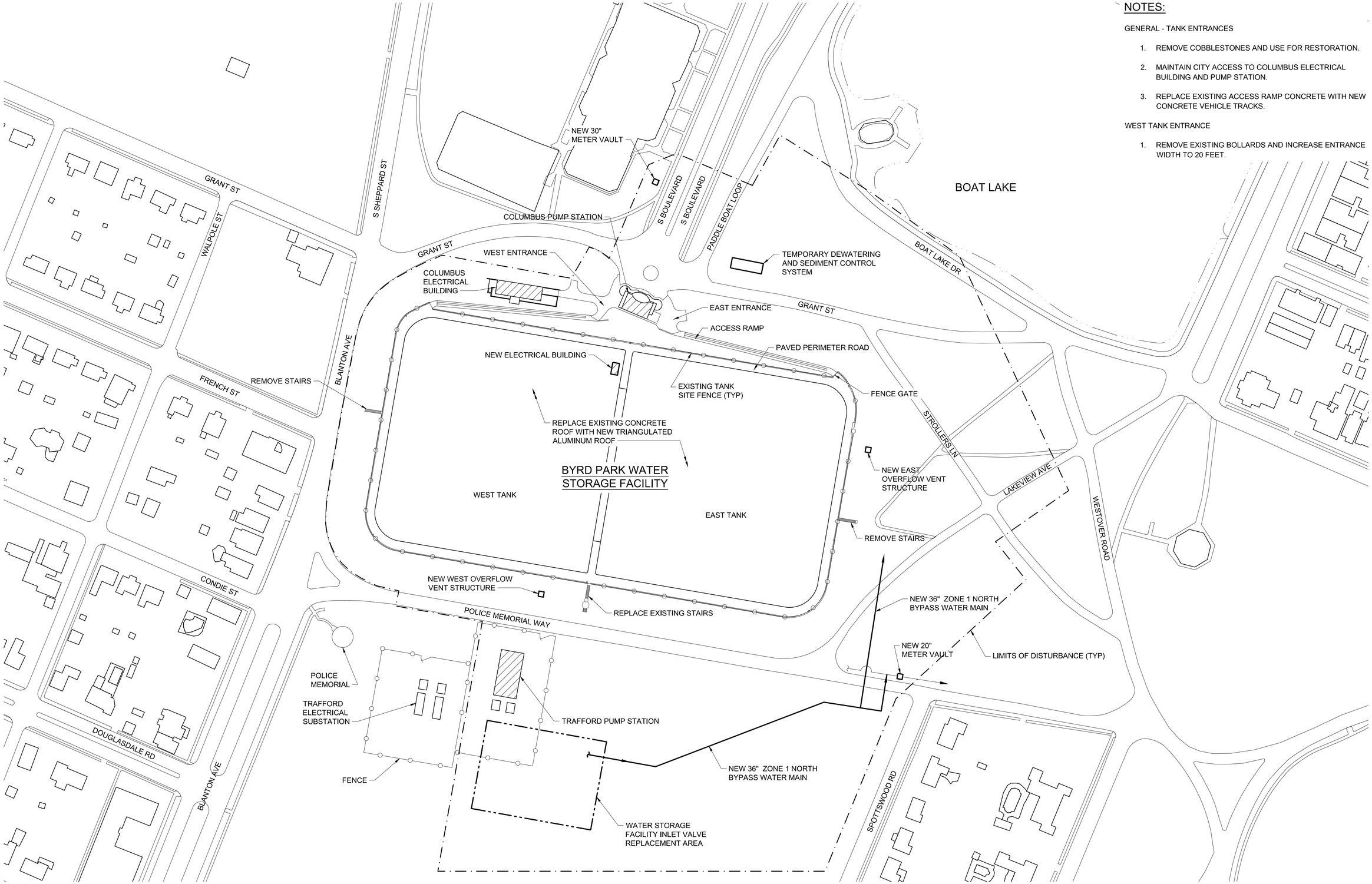
NOTES:

GENERAL - TANK ENTRANCES

1. REMOVE COBBLESTONES AND USE FOR RESTORATION.
2. MAINTAIN CITY ACCESS TO COLUMBUS ELECTRICAL BUILDING AND PUMP STATION.
3. REPLACE EXISTING ACCESS RAMP CONCRETE WITH NEW CONCRETE VEHICLE TRACKS.

WEST TANK ENTRANCE

1. REMOVE EXISTING BOLLARDS AND INCREASE ENTRANCE WIDTH TO 20 FEET.



AREA PLAN

SCALE: 1" = 80'

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CITY OF RICHMOND, VIRGINIA
DEPARTMENT OF PUBLIC UTILITIES
BYRD PARK TANK ROOF REPLACEMENT
JANUARY 2019

SOUTH BOULEVARD
GRANT STREET
30" STORM SEWER
STORM MANHOLE (TYP)
COLUMBUS PUMPING STATION
GRANT STREET
1/P4
COLUMBUS PUMPING STATION ELECTRICAL BUILDING
DIRT PATH
GATE
STORM SEWER (TYP)
15'-6"±
GATE
ROOF LOW POINT EL 251±
ROOF LOW POINT EL 251±
ROOF LOW POINT EL 251±
ROOF LOW POINT EL 251±
NORTH TANK OUTLET WELL AND TANK ACCESS
PRESTRESSED CONCRETE ROOF
PRESTRESSED CONCRETE ROOF
BLANTON AVENUE
STAIRS
ROOF JOINT EL 253.38
BYRD PARK WEST TANK
ROOF SLOPE 1" IN 8' (TYP)
2/P14
2/P14
BYRD PARK EAST TANK
STAIRS
SIDEWALK
ROOF SLOPE 1" IN 8' (TYP)
ROOF CONSTRUCTION JOINT (TYP)
16'-3"±
FENCE WITH CONCRETE CURB CURB TOP EL 247.76±
SOUTH TANK OUTLET WELL AND TANK ACCESS
TOE OF INTERIOR SLOPE (TYP)
ROOF LOW POINT EL 251±
ROOF LOW POINT EL 251±
ROOF LOW POINT EL 251±
ROOF LOW POINT EL 251±
18'-0"±
STAIRS
1/P4
LAKEVIEW AVENUE
POLICE MEMORIAL WAY

EXISTING UPPER PLAN

SCALE: 1" = 40'

CITY OF RICHMOND, VIRGINIA
DEPARTMENT OF PUBLIC UTILITIES
BYRD PARK TANK ROOF REPLACEMENT
JANUARY 2019

GREELEY AND HANSEN

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SOUTH BOULEVARD
GRANT STREET
GRANT STREET
COLUMBUS PUMPING STATION
1/P4
COLUMBUS PUMPING STATION
ELECTRICAL BUILDING
DIRT PATH
852'-7"
6'-7"
GATE
404'-4"
28'-0"
404'-4"
GATE
9'-4"
10'-4"
30" OUTLET PIPES
15'-0"
EL 219.15
6'-6"
6'-6"
EL 220.00
EL 222.34
EL 219.15
EL 220.00
NORTH OUTLET WELL
BLANTON AVENUE
BYRD PARK
WEST TANK
2/P14
2/P14
BYRD PARK
EAST TANK
409'-8"
429'-5"
SIDEWALK
PROPOSED TEMPORARY
WEST ACCESS RAMP
FOR ROOF DEMOLITION
CONCRETE COLUMN (TYP)
TOP OF INTERIOR SLOPE GRANITE
BLOCK CURB EL 247.76± (TYP)
PROPOSED TEMPORARY
EAST ACCESS RAMP FOR
ROOF DEMOLITION
FENCE WITH CONCRETE CURB
CURB TOP EL 247.76±
SOUTH OUTLET WELL
EL 221.11
TOE OF INTERIOR
SLOPE (TYP)
EL 220.80
EL 220.48
EL 221.11
30" AND 36" OUTLET PIPES
9'-5"
LAKEVIEW AVENUE
STAIRS
1/P4
POLICE MEMORIAL WAY

EXISTING LOWER PLAN

SCALE: 1" = 40'

GREELEY AND HANSEN

CITY OF RICHMOND, VIRGINIA
DEPARTMENT OF PUBLIC UTILITIES
BYRD PARK TANK ROOF REPLACEMENT
JANUARY 2019

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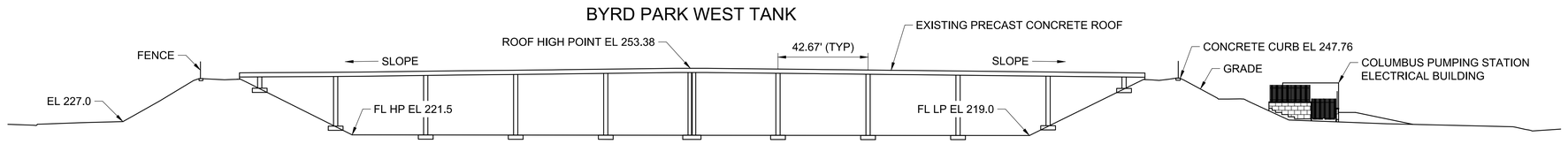

SECTION 1/P2, P3
EXISTING TANK SECTION

SCALE: 1" = 30'

CONNECT TO EXISTING 30" WATER MAIN
SOUTH BOULEVARD
GRANT STREET
NEW 30" WATER MAIN
NEW MANHOLE CONNECTION TO 30" STORM SEWER
36" OVERFLOW DRAIN
30" STORM SEWER
STORM MANHOLE (TYP)
COLUMBUS PUMPING STATION
GRANT STREET
1/P7
COLUMBUS PUMPING STATION ELECTRICAL BUILDING
NEW 24" WATER MAIN
DIRT PATH
GATE
STORM SEWER (TYP)
GATE
YARD INLET/ EMERGENCY OVERFLOW
NEW MANHOLE (TYP)
24'-2"±
LOW POINT EL 251.76
NEW EXHAUST FAN (22,000 CFM) TYP
NEW ELECTRICAL BUILDING
NEW 10'x8' ROOF ACCESS
NEW TRIANGULATED ALUMINUM FLAT ROOF
NORTH OUTLET WELL NEW CONCRETE SLAB WITH 60"x60" ACCESS (SEE DWG P11)
NEW 30" OVERFLOW
NEW 30" OVERFLOW DRAIN
NEW OVERFLOW WEIR BOX WEIR EL 246.75 MAX. EL 247.50
NEW OVERFLOW VENT STRUCTURE
SLOPE 1" IN 12"
SLOPE 1" IN 8"
NEW ROOF VENT
BYRD PARK WEST TANK
BYRD PARK EAST TANK
HIGH POINT EL 249.85
HIGH POINT EL 268.60
NEW CONCRETE PAVING
LOW POINT EL 251.76
BLANTON AVENUE
2/P7
3/P14
FENCE WITH CONCRETE CURB CURB TOP EL 247.76±
NEW 48"x48" ROOF ACCESS
SOUTH OUTLET WELL NEW CONCRETE SLAB WITH 60"x60" ACCESS (SEE DWG P12)
NEW OVERFLOW WEIR BOX WEIR EL 246.75 MAX. EL 247.50
TOE OF INTERIOR SLOPE (TYP)
23'-9"±
NEW 36" OVERFLOW DRAIN
SIDEWALK
NEW 30" OVERFLOW (SEE DWG P13)
NEW ASPHALT PAVING
NEW 36" OVERFLOW DRAIN
STAIRS
26'-0"±
1/P7
NEW OVERFLOW VENT STRUCTURE
NEW YARD INLET/ EMERGENCY OVERFLOW
NEW 36" OVERFLOW DRAIN (SEE DWG P13)
LAKEVIEW AVENUE
NEW 36" WATER MAIN (SEE DWG P1)
POLICE MEMORIAL WAY

PROPOSED UPPER PLAN

SCALE: 1" = 40'

GREELEY AND HANSEN

CITY OF RICHMOND, VIRGINIA
DEPARTMENT OF PUBLIC UTILITIES
BYRD PARK TANK ROOF REPLACEMENT
JANUARY 2019

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SOUTH BOULEVARD

GRANT STREET

COLUMBUS PUMPING STATION

GRANT STREET

1/P7

COLUMBUS PUMPING STATION
ELECTRICAL BUILDING

DIRT PATH

GATE

GATE

30" OUTLET PIPES

NEW ELECTRICAL BUILDING

NEW SST COLUMN (TYP)

ROOF ACCESS OPENING ABOVE (TYP)

NORTH OUTLET WELL

BLANTON AVENUE

2/P7

(12 SPACES @ 34'-2") 410'-0"

BYRD PARK
WEST TANK

3/P14

3/P14

BYRD PARK
EAST TANK

2/P7

SIDEWALK

FENCE WITH CONCRETE CURB
CURB TOP EL 247.76±

SOUTH OUTLET WELL

TOE OF INTERIOR
SLOPE (TYP)

TOP OF INTERIOR
SLOPE EL 244.50 (TYP)

30" AND 36" OUTLET PIPES

LAKEVIEW AVENUE

STAIRS

1/P7

(12 SPACES @ 33'-9") 405'-0"

28'-0"

(12 SPACES @ 33'-9") 405'-0"

POLICE MEMORIAL WAY

PROPOSED LOWER PLAN

SCALE: 1" = 40'

GREELEY AND HANSEN

CITY OF RICHMOND, VIRGINIA
DEPARTMENT OF PUBLIC UTILITIES
BYRD PARK TANK ROOF REPLACEMENT
JANUARY 2019

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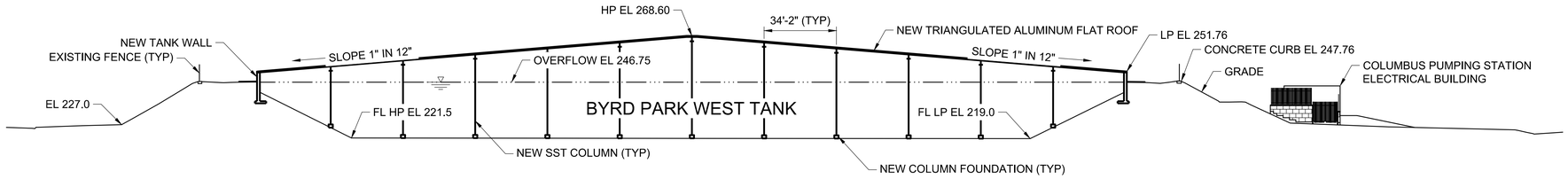
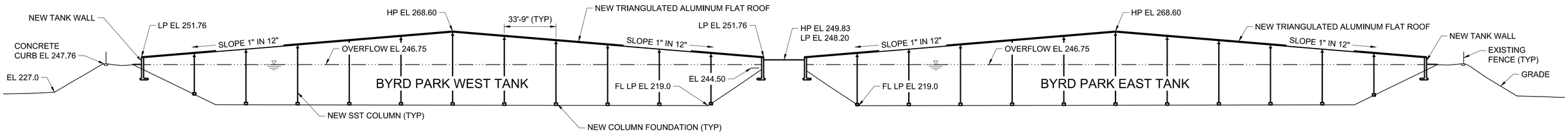


SECTION 1/P5, P6
PROPOSED WEST TANK
SCALE: 1" = 30'



SECTION 2/P5, P6
PROPOSED WEST AND EAST TANK
SCALE: 1" = 30'

PROPOSED TANK SECTIONS

GREELEY AND HANSEN

CITY OF RICHMOND, VIRGINIA
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BYRD PARK TANK ROOF REPLACEMENT
JANUARY 2019

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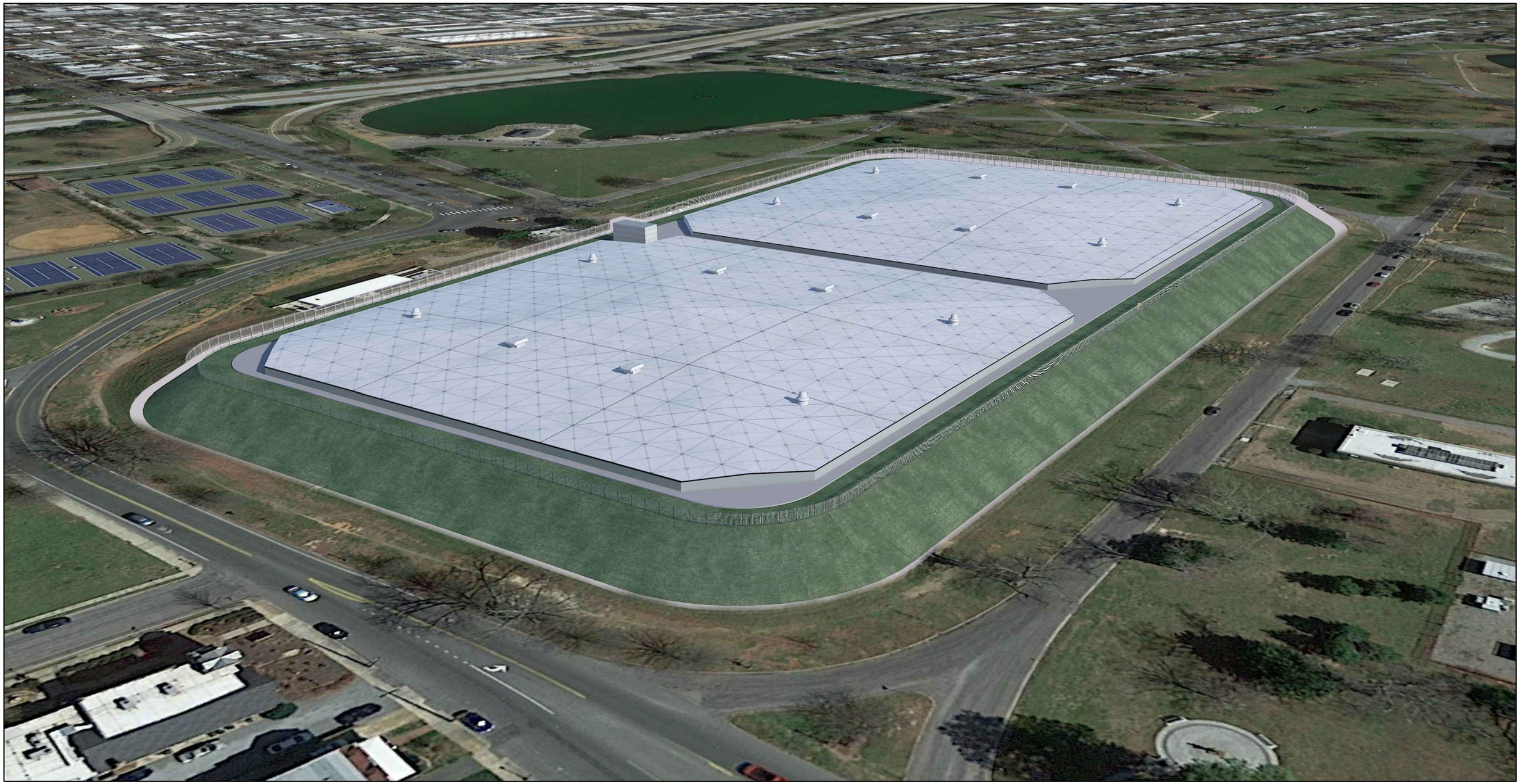
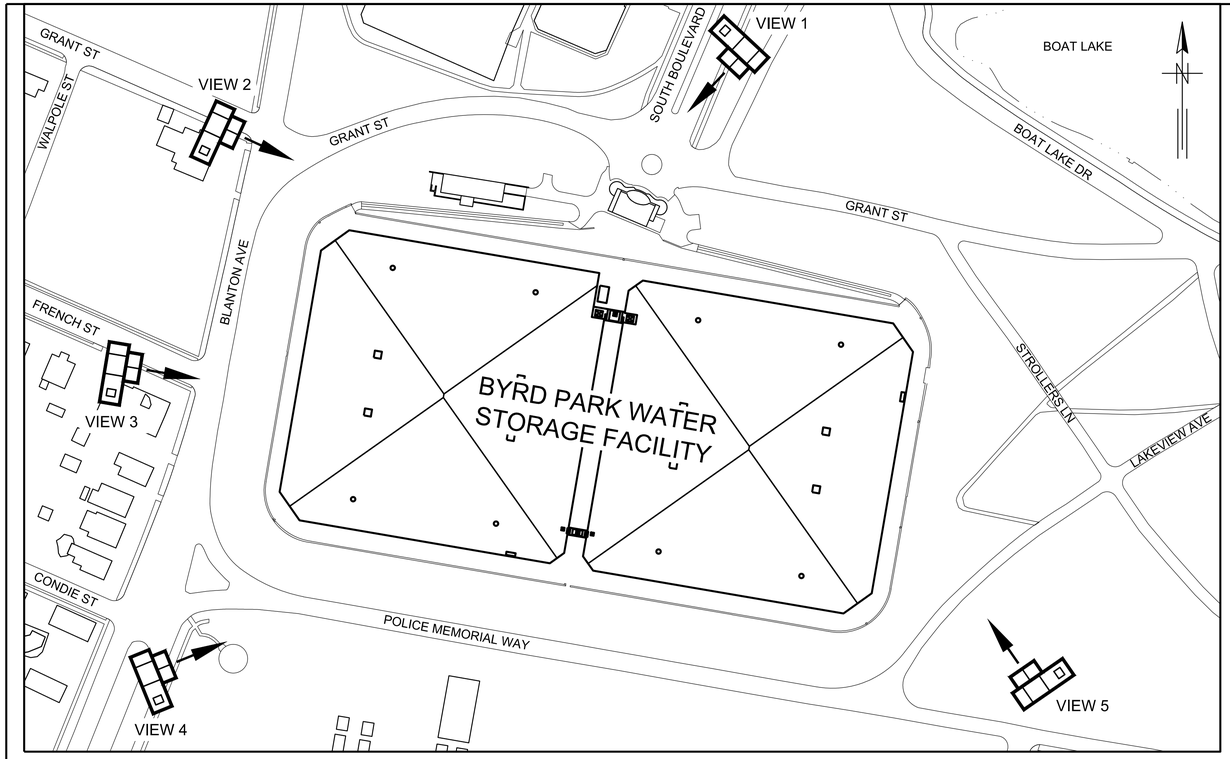


PROPOSED SOUTHWEST AERIAL VIEW

SCALE: NO SCALE

GREELEY AND HANSEN

CITY OF RICHMOND, VIRGINIA
DEPARTMENT OF PUBLIC UTILITIES
BYRD PARK TANK ROOF REPLACEMENT
JANUARY 2019



KEY MAP

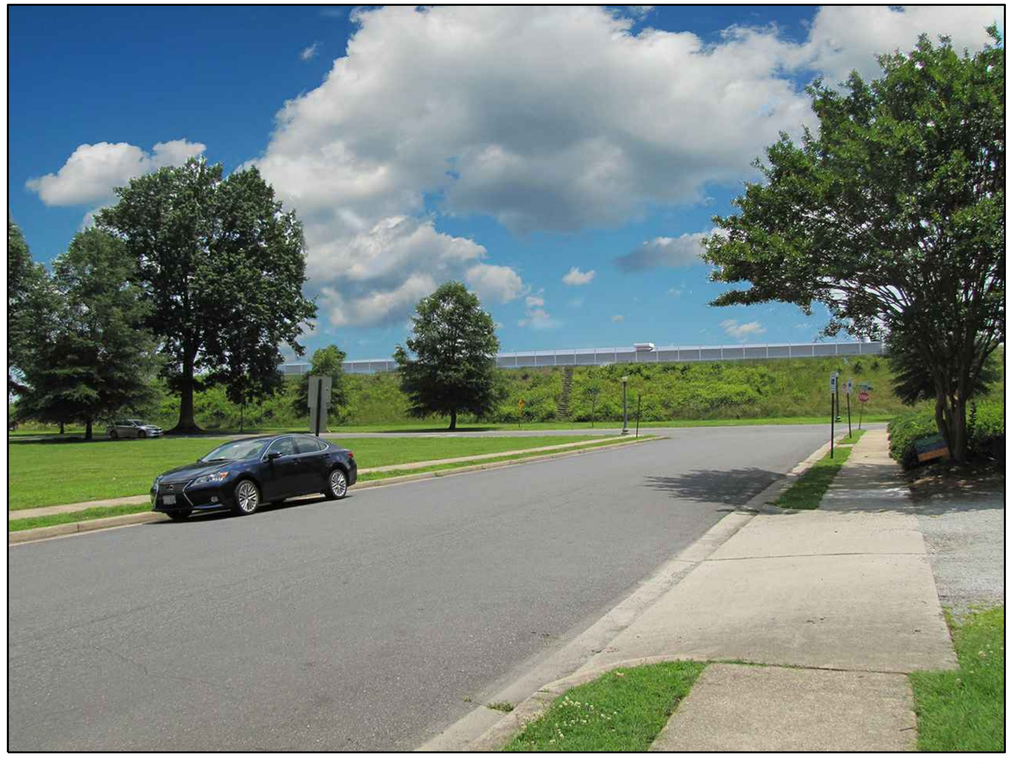
SCALE: NOT TO SCALE

PROPOSED STREET VIEW 1

SCALE: NO SCALE

PROPOSED STREET VIEW 2

SCALE: NO SCALE

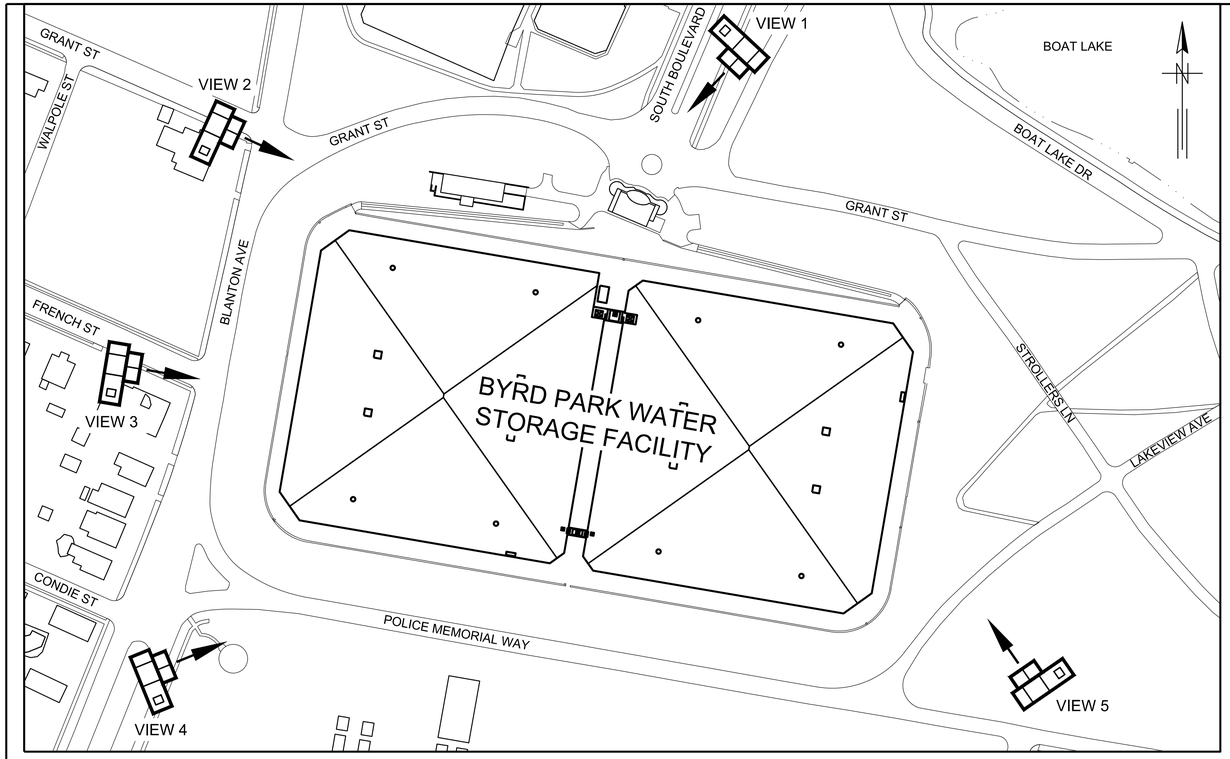


PROPOSED STREET VIEW 3

SCALE: NO SCALE

CITY OF RICHMOND, VIRGINIA
DEPARTMENT OF PUBLIC UTILITIES
BYRD PARK TANK ROOF REPLACEMENT
JANUARY 2019

GREELEY AND HANSEN



KEY MAP

SCALE: NOT TO SCALE

PROPOSED STREET VIEW 4

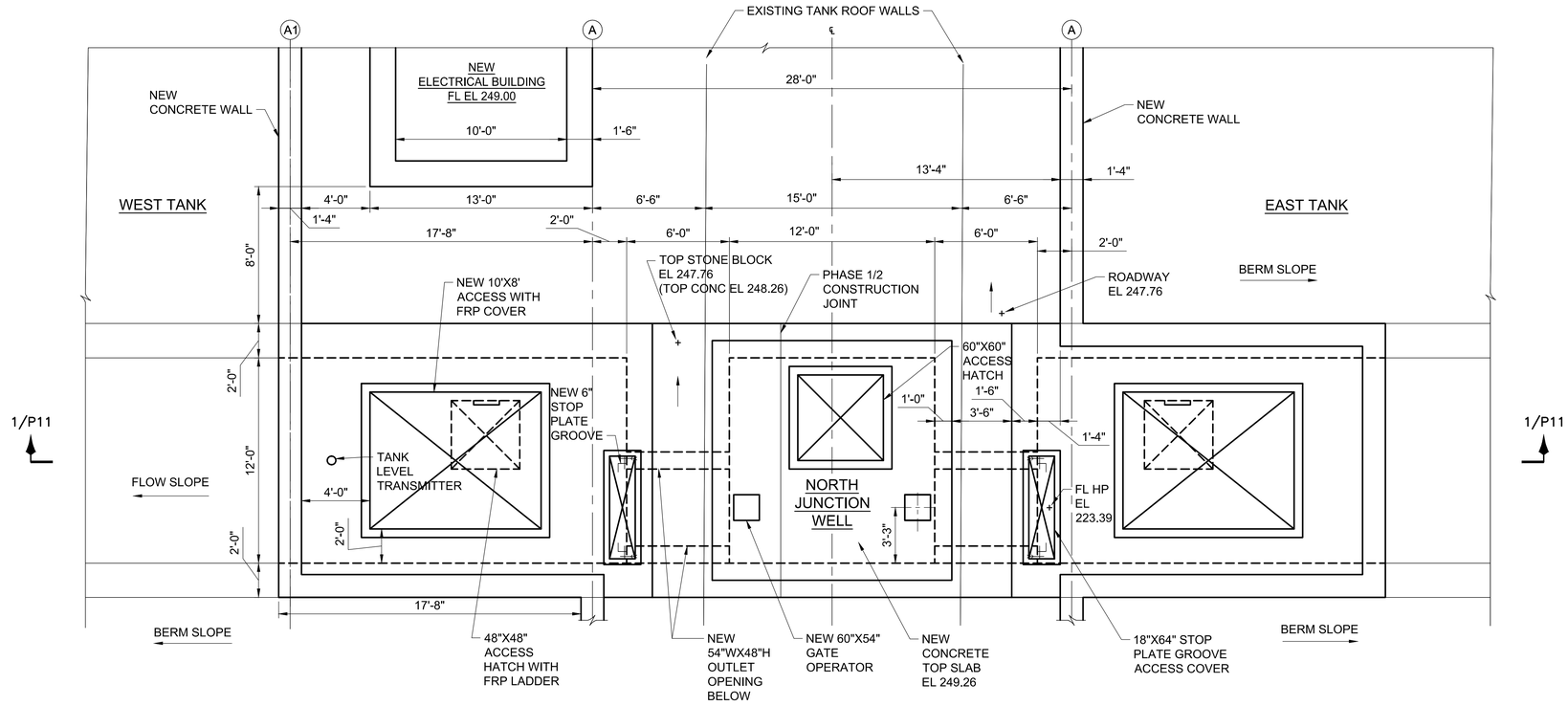
SCALE: NO SCALE

PROPOSED STREET VIEW 5

SCALE: NO SCALE

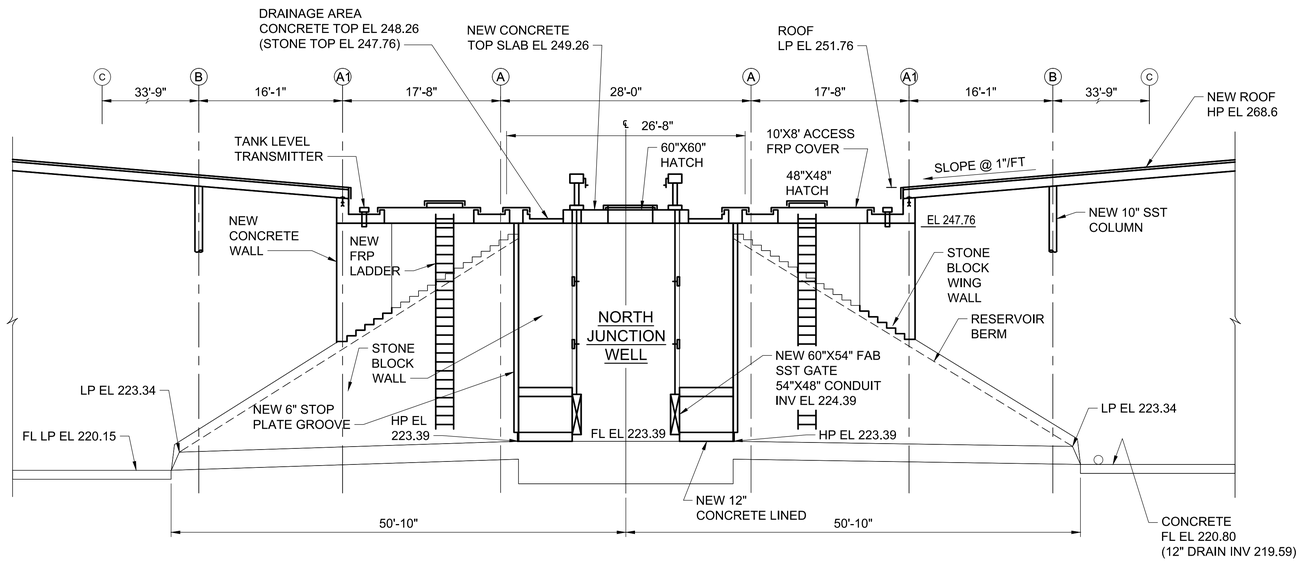
GREELEY AND HANSEN

CITY OF RICHMOND, VIRGINIA
DEPARTMENT OF PUBLIC UTILITIES
BYRD PARK TANK ROOF REPLACEMENT
JANUARY 2019



NORTH JUNCTION WELL - TOP PLAN (PHASE 2)

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

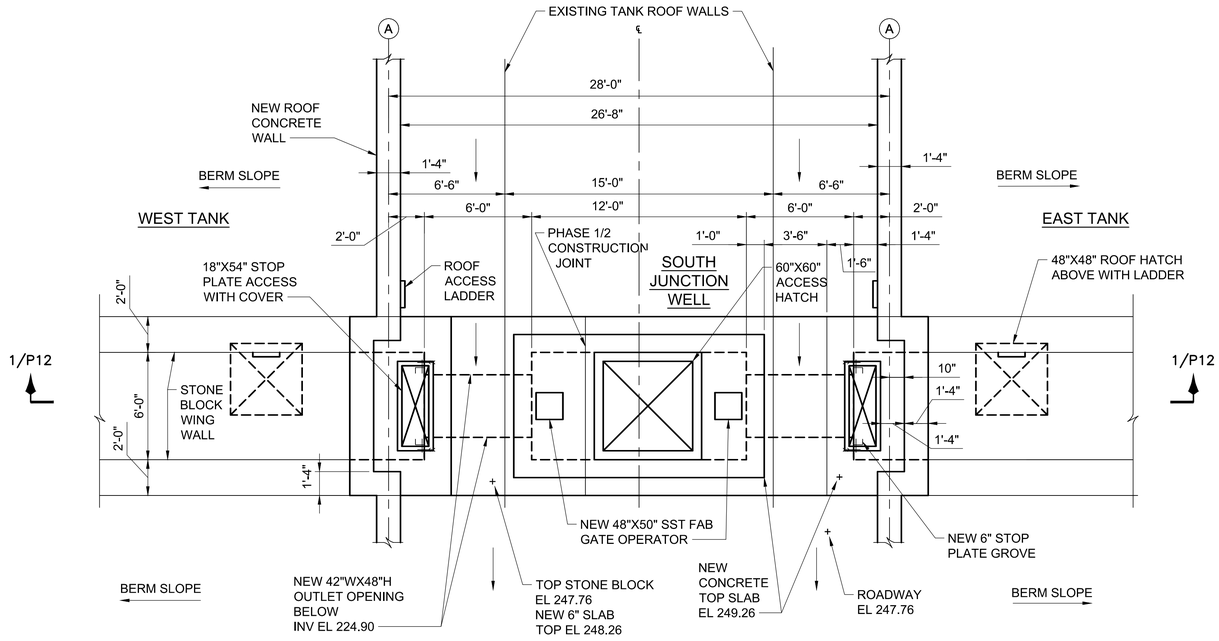


SECTION 1/P11
NORTH JUNCTION WELL (PHASE 2)

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

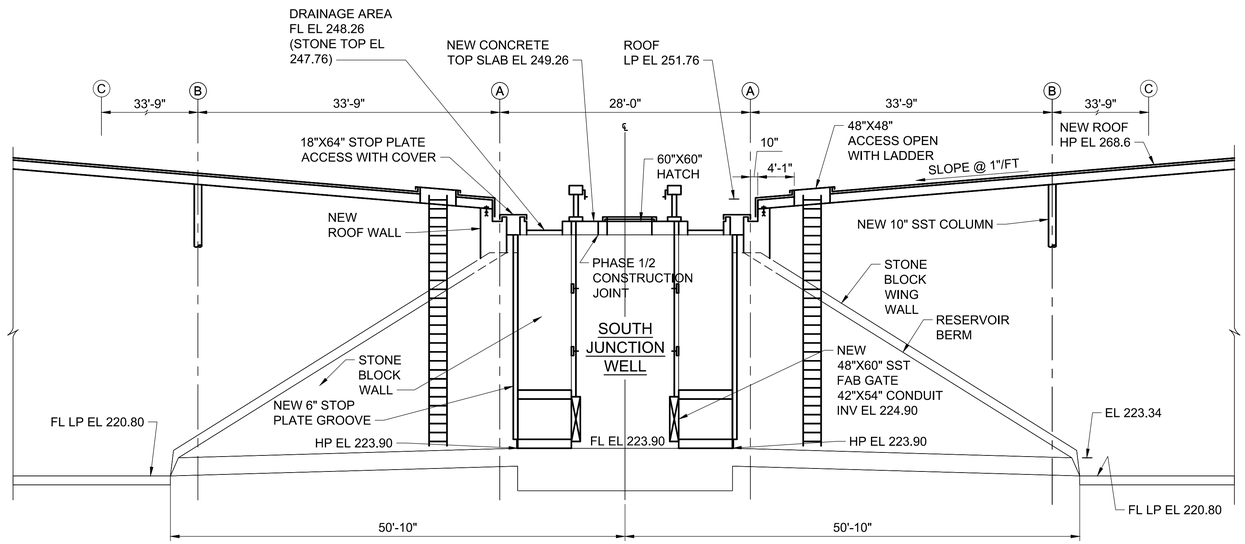
GREELEY AND HANSEN

CITY OF RICHMOND, VIRGINIA
DEPARTMENT OF PUBLIC UTILITIES
BYRD PARK TANK ROOF REPLACEMENT
JANUARY 2019



SOUTH JUNCTION WELL - TOP PLAN (PHASE 2)

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

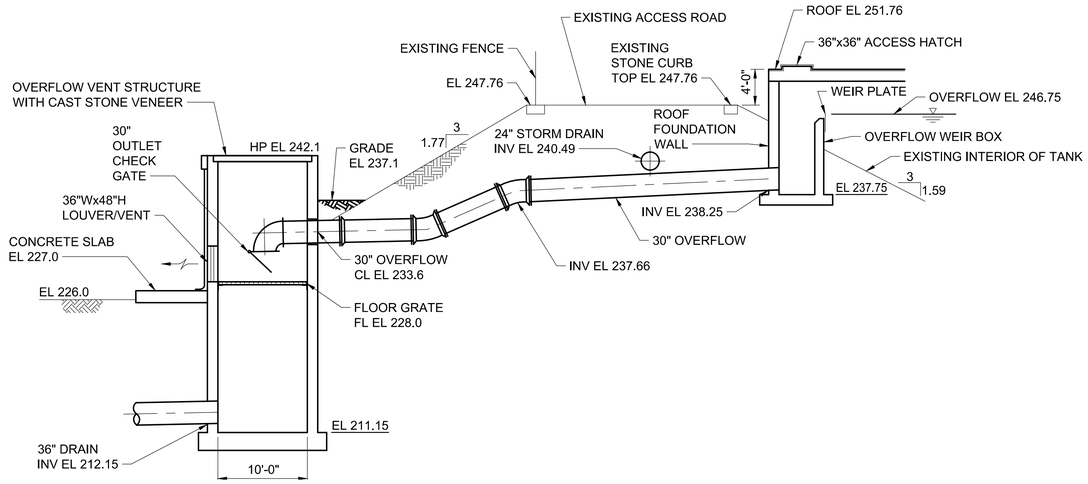


SECTION 1/P12
SOUTH JUNCTION WELL (PHASE 2)

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

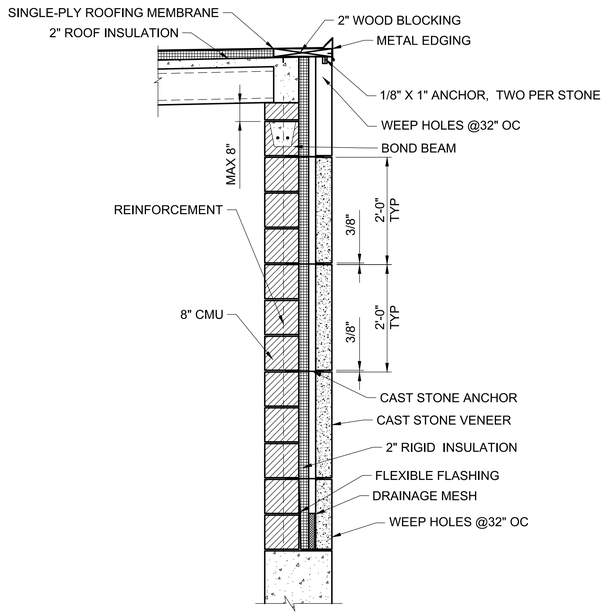
GREELEY AND HANSEN

CITY OF RICHMOND, VIRGINIA
DEPARTMENT OF PUBLIC UTILITIES
BYRD PARK TANK ROOF REPLACEMENT
JANUARY 2019



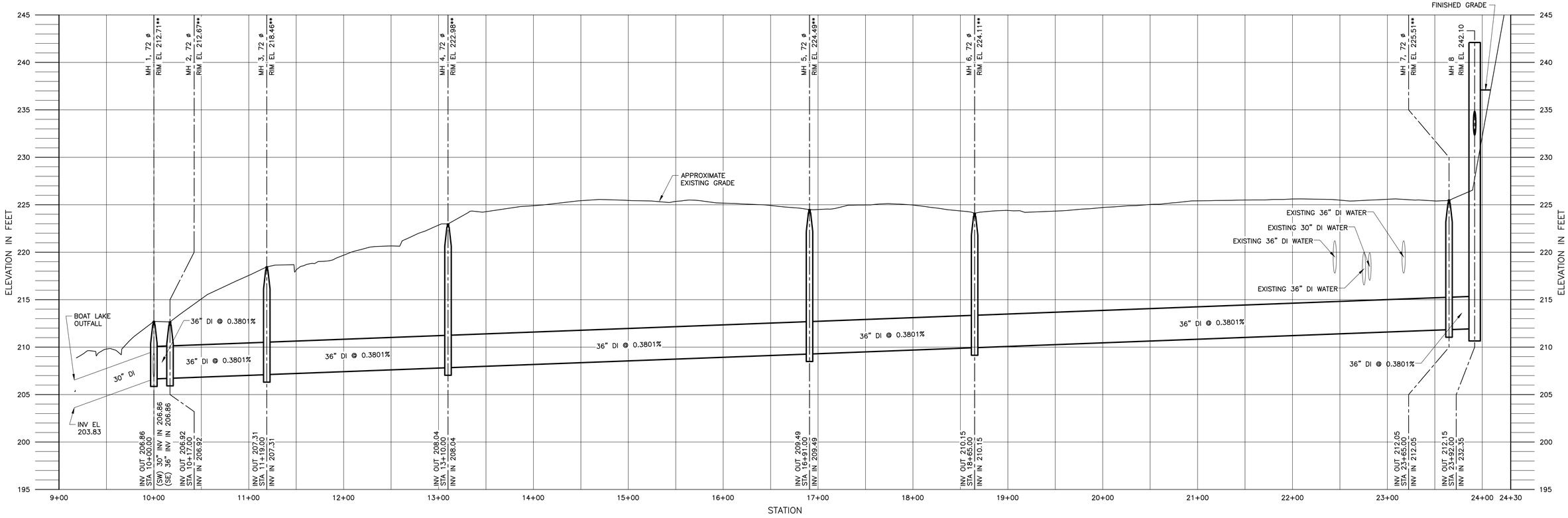
SECTION - OVERFLOW AND OVERFLOW WEIR BOX

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



WALL SECTION - CAST STONE VENEER

SCALE: NOT TO SCALE



OVERFLOW PROFILE

SCALE: 1" = 50' HORIZONTAL
1" = 5' VERTICAL

TANK OVERFLOW - SECTION AND PROFILE

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CITY OF RICHMOND, VIRGINIA
DEPARTMENT OF PUBLIC UTILITIES
BYRD PARK TANK ROOF REPLACEMENT
JANUARY 2019

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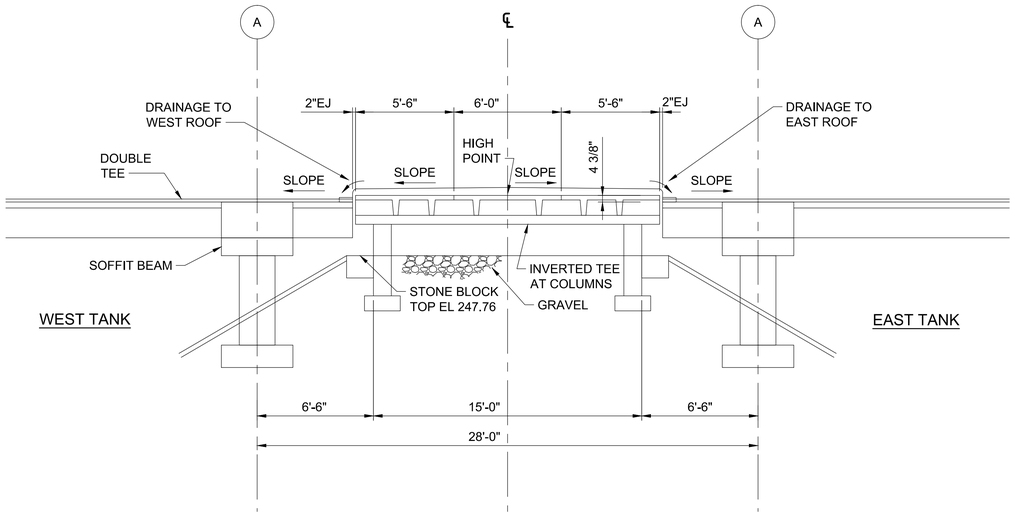
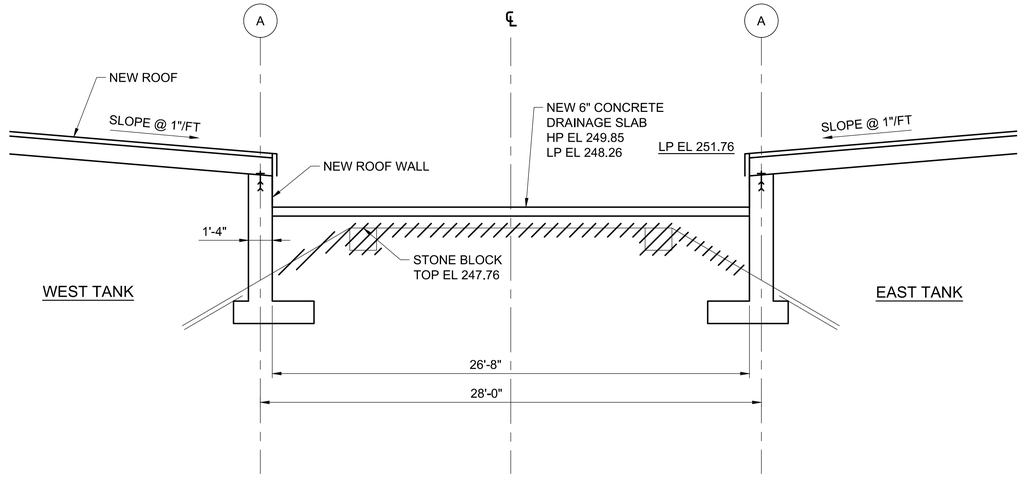


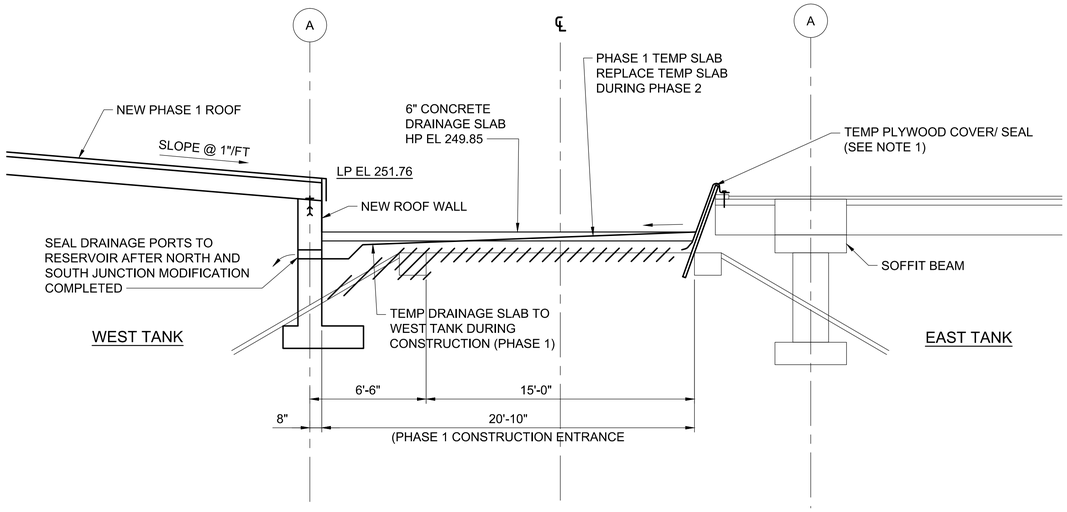
SECTION 2/P2, P3 - EXISTING

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



SECTION 3/P5, P6 - PHASE 2 (FINAL)

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



PHASE 1 SECTION (INTERMEDIATE)

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

NOTES:

1. TEMPORARY PLYWOOD COVER AND SEAL INSTALLED BETWEEN EAST AND WEST TANKS PRIOR TO STARTING WEST TANK DEMOLITION.

TANK SECTIONS

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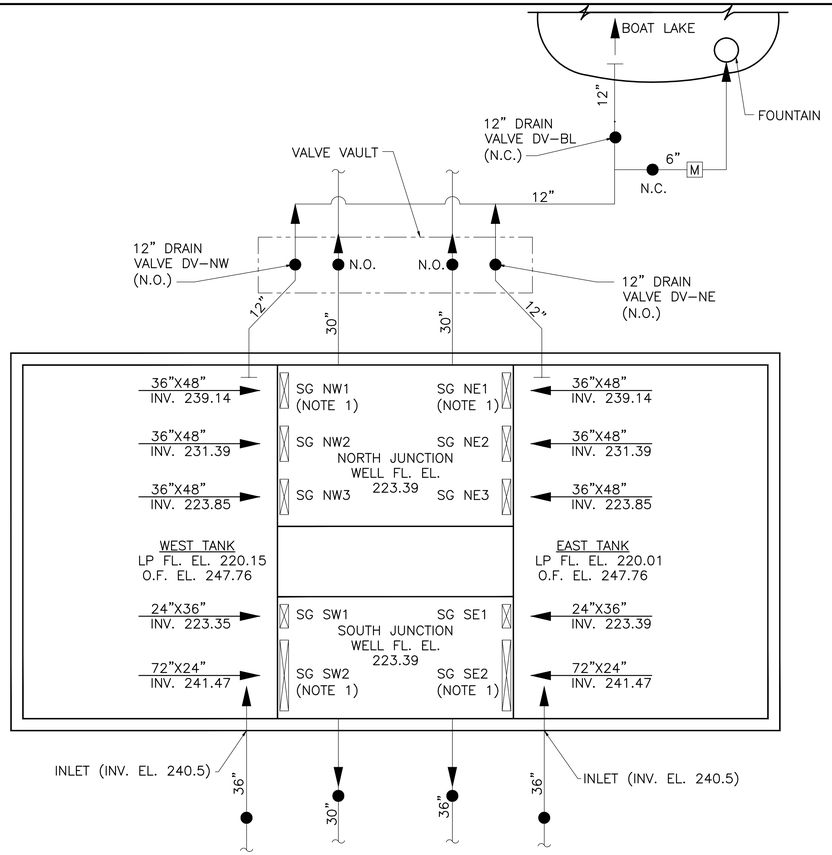
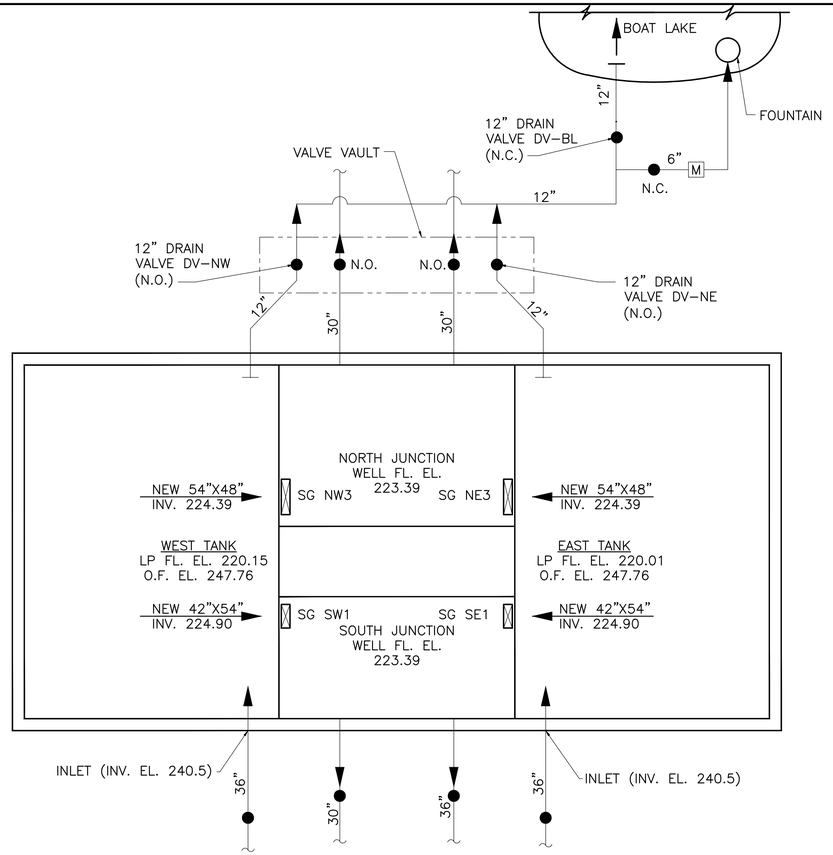
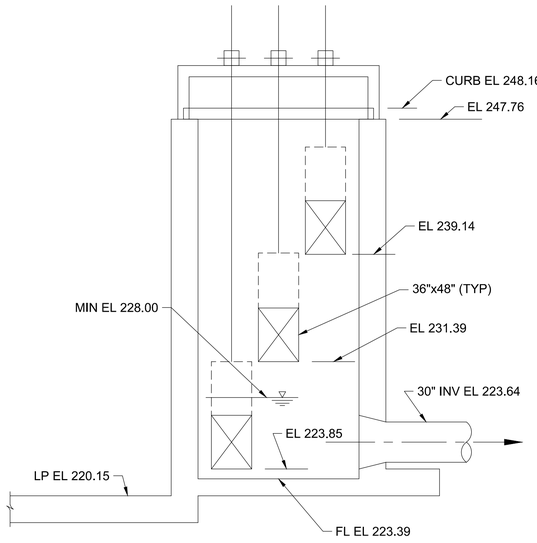
DEPARTMENT OF PUBLIC UTILITIES
BYRD PARK TANK ROOF REPLACEMENT
JANUARY 2019



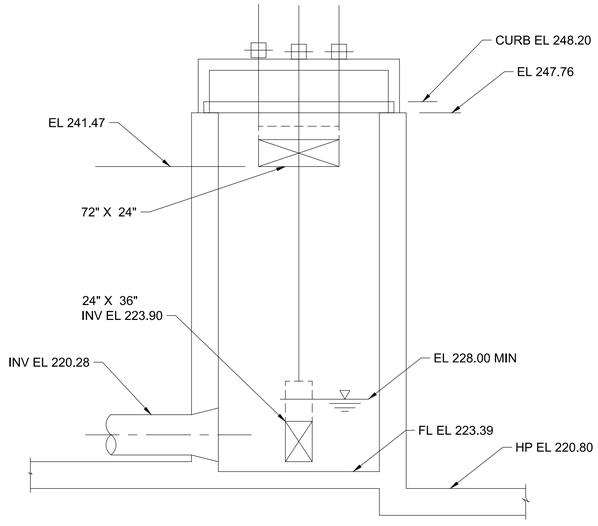
EXISTING SLUICE GATE DIAGRAM



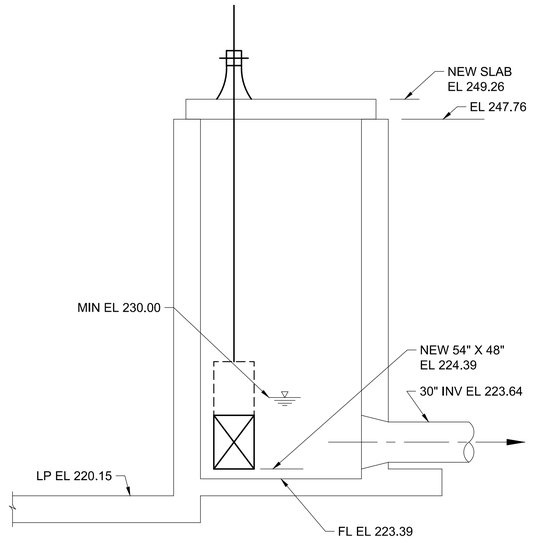
PROPOSED SLUICE GATE DIAGRAM



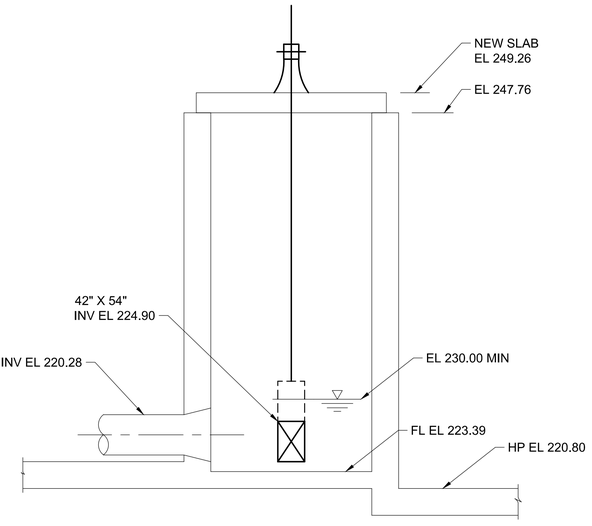
NORTH JUNCTION WELL SECTION



SOUTH JUNCTION WELL SECTION



NORTH JUNCTION WELL SECTION



SOUTH JUNCTION WELL SECTION

JUNCTION WELL SLUICE GATE DIAGRAMS

SCALE: NO SCALE

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CITY OF RICHMOND, VIRGINIA
DEPARTMENT OF PUBLIC UTILITIES
BYRD PARK TANK ROOF REPLACEMENT
JANUARY 2019

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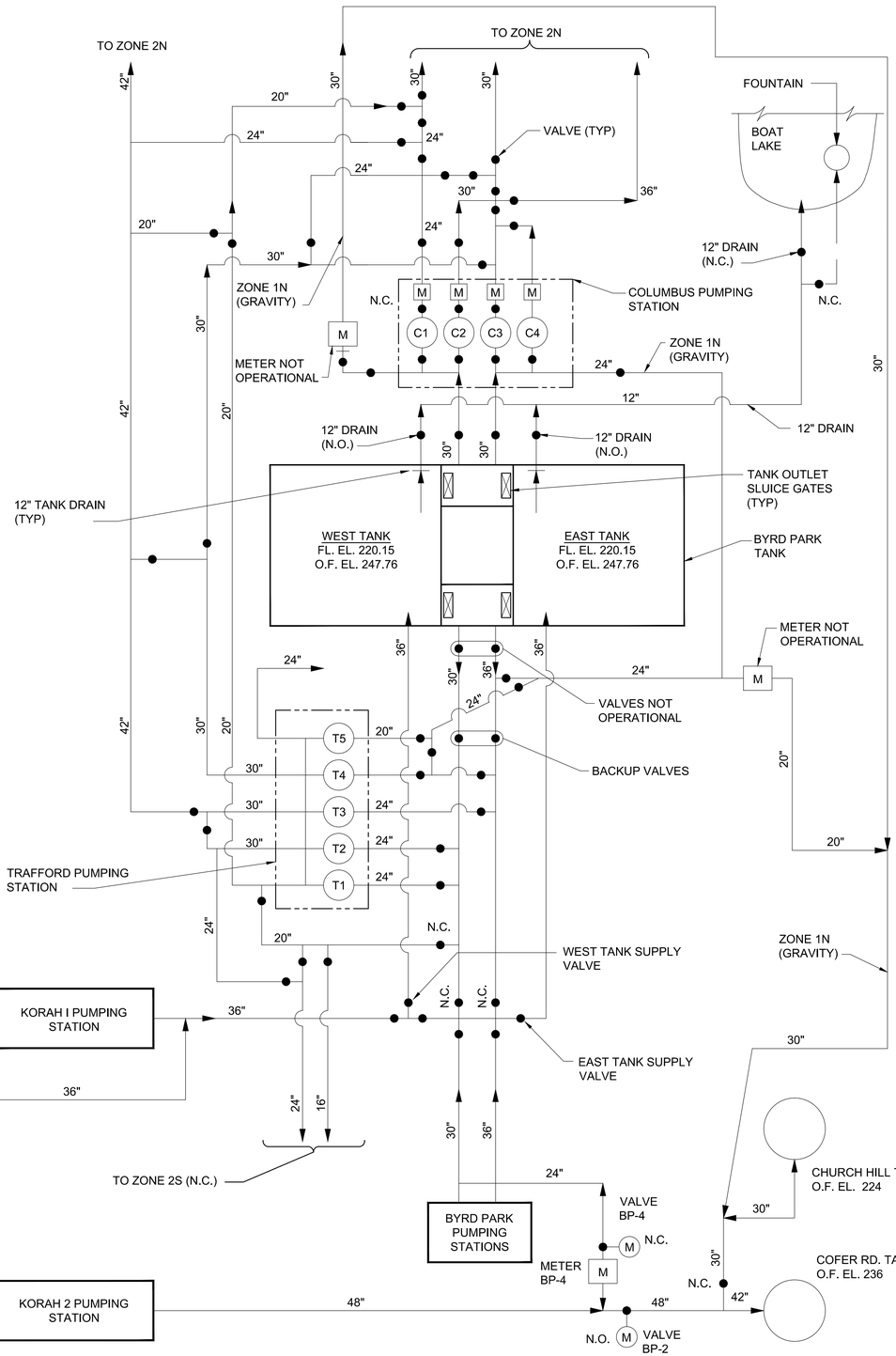
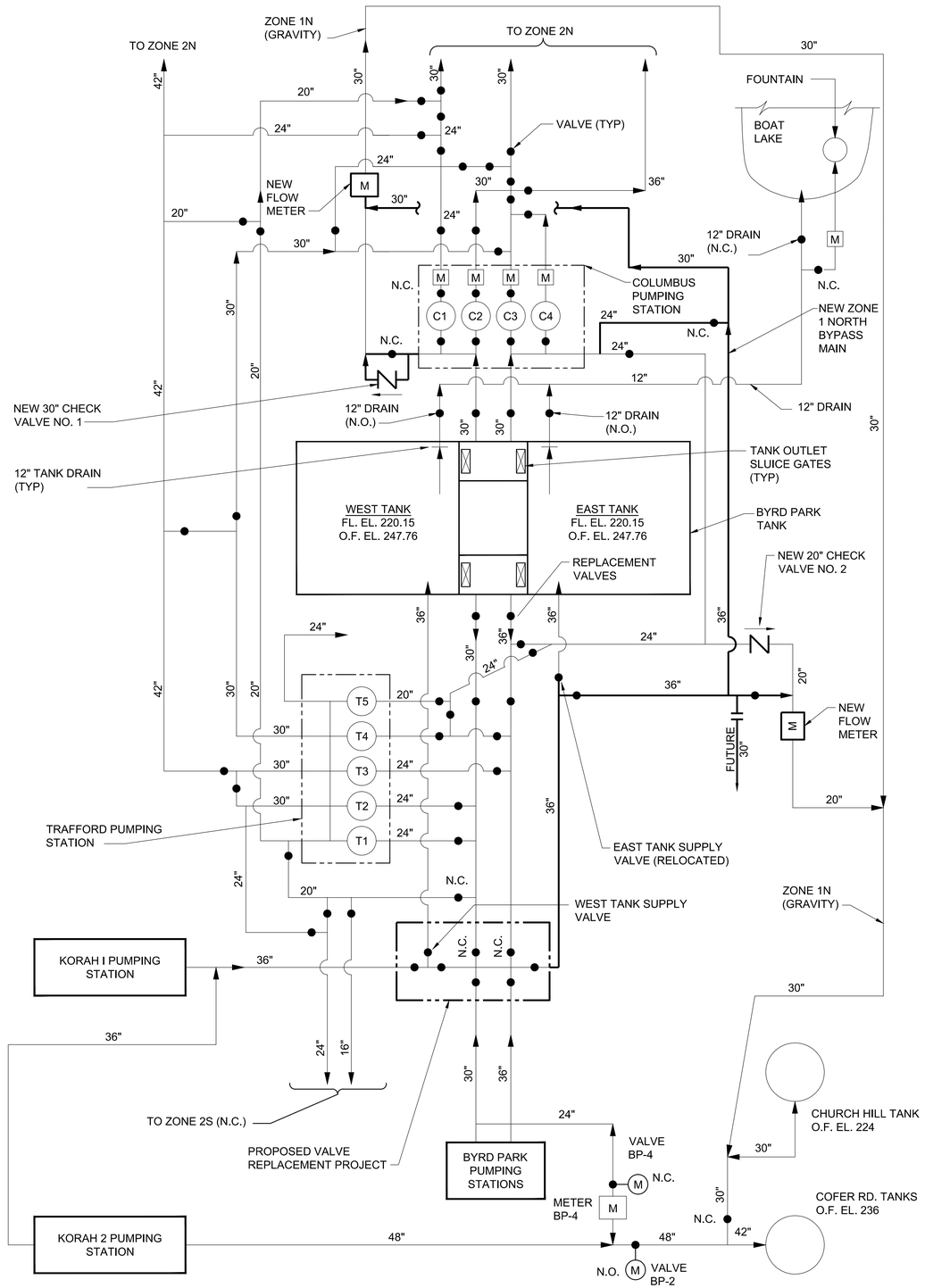


EXISTING PIPING DIAGRAM



PROPOSED PIPING DIAGRAM

BYRD PARK ZONE 1N SUPPLY SYSTEM

SCALE: NO SCALE

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DEPARTMENT OF PUBLIC UTILITIES
BYRD PARK TANK ROOF REPLACEMENT
JANUARY 2019

GREELEY AND HANSEN

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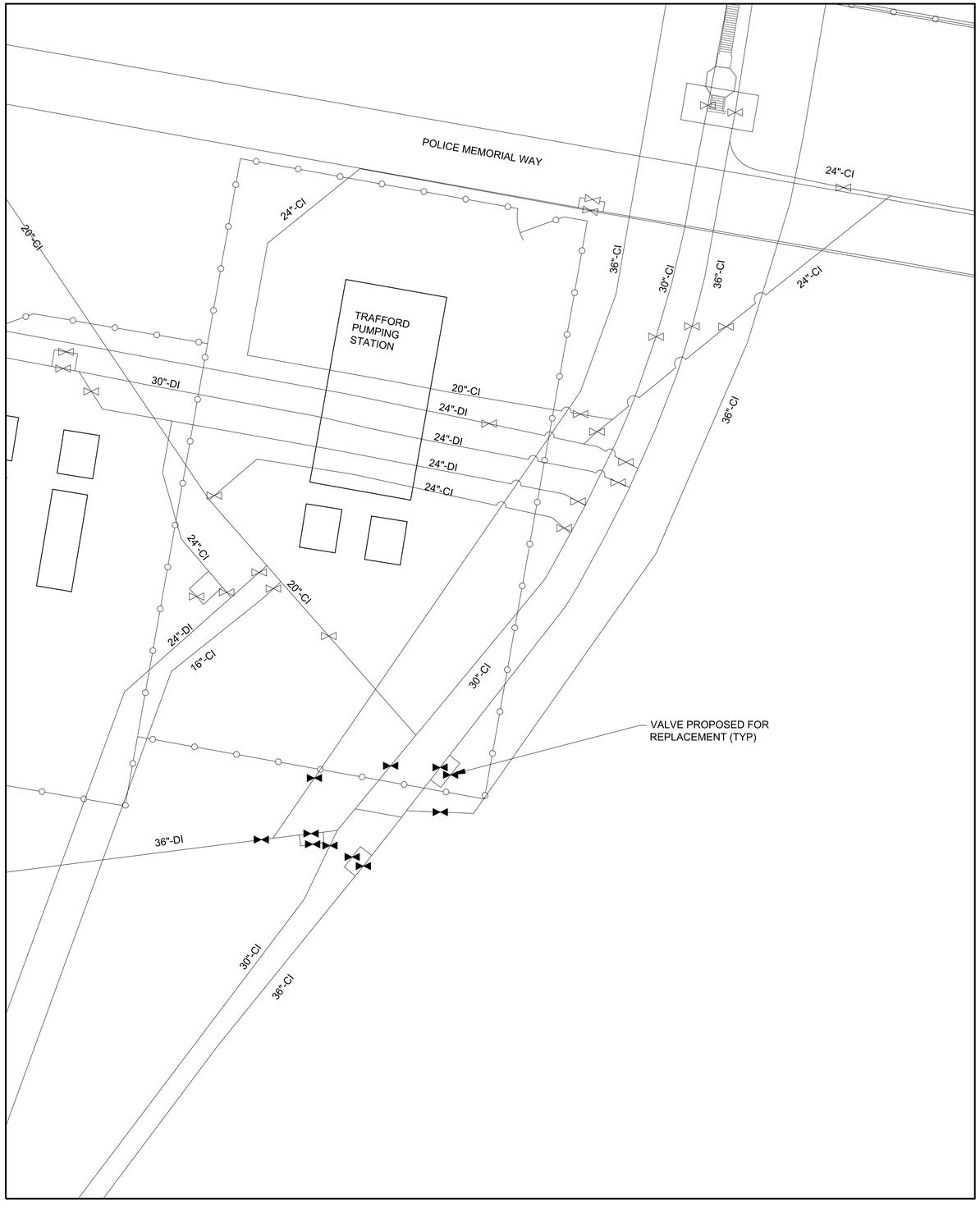
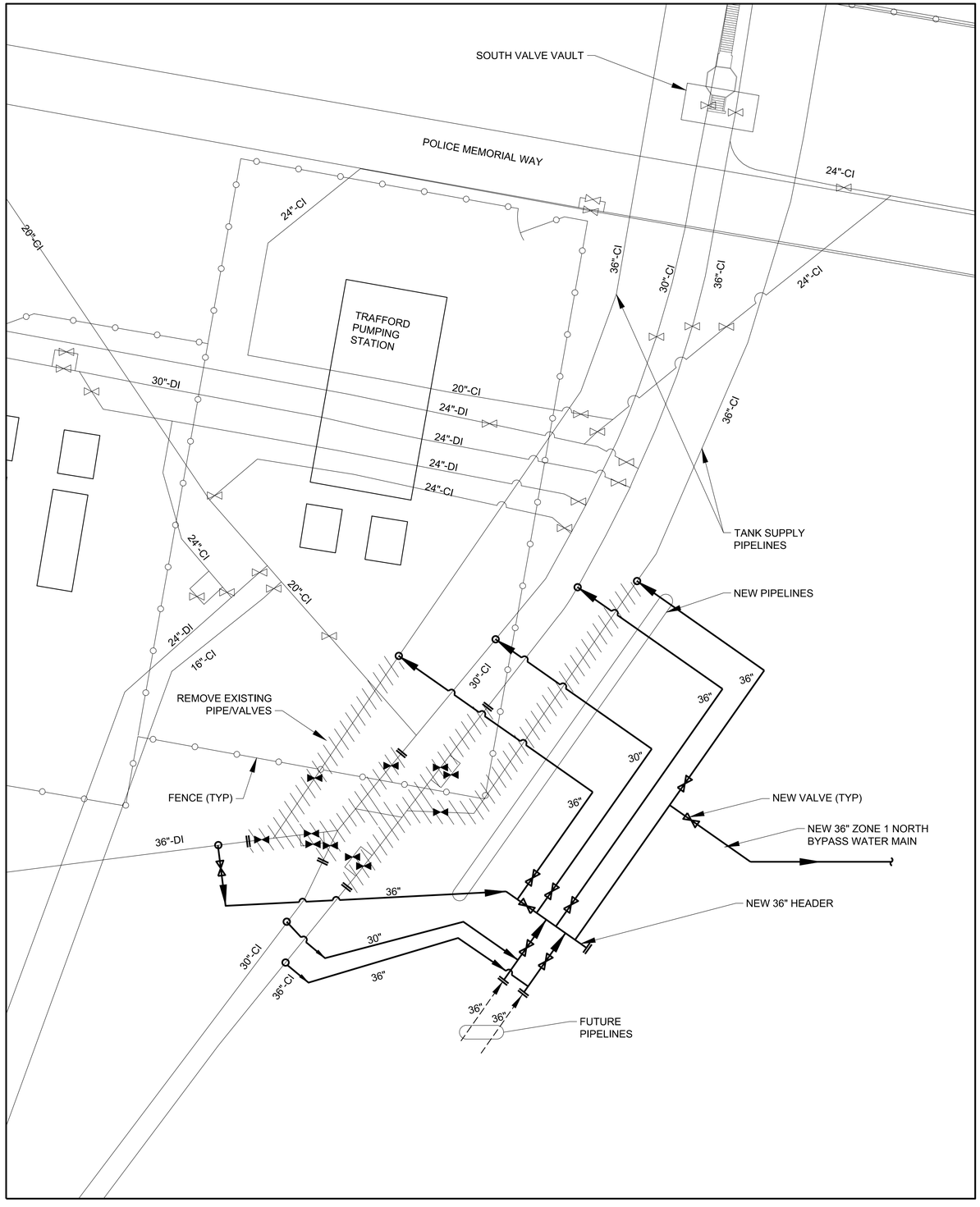


EXISTING PIPING DIAGRAM



PROPOSED PIPING DIAGRAM

BYRD PARK TANK SUPPLY SYSTEM

SCALE: NO SCALE

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BYRD PARK TANK ROOF REPLACEMENT
JANUARY 2019

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BYRD PARK TANK ROOF REPLACEMENT

PROJECT SUMMARY:

The City of Richmond is replacing the roofs on the 50 million gallon finished water storage facility located at the southern end of the Boulevard in Byrd Park.

The Byrd Park Reservoir was built in 1876 and was provided with a prestressed concrete roof in the early 1970s to fully enclose the open-air reservoir to form two basins. The existing concrete tank roof is reaching the end of its useful life and is being replaced by two new aluminum roofs. The existing and proposed tank roofs are shown below.

Existing Concrete Roof

Proposed Aluminum Roofs

WHAT'S HAPPENING NOW:

Preliminary conceptual design for the replacement of the tank roof is underway. Also underway is preliminary design of the valve, piping and other facility improvements related to the replacement of the tank roofs and other facility improvements.

PROJECT SCHEDULE:

Tank Utility Valves and Piping:
April 2019 through December 2019

West Tank Roof Replacement:
January 2020 through December 2020

East Tank Roof Replacement:
January 2021 through December 2021

Site Restoration and Final Landscaping:
January 2022 through June 2022

Mayor Levar M. Stoney

CITY OF RICHMOND
DEPARTMENT OF PUBLIC UTILITIES

Frequently Asked Questions

Byrd Park Tank Roof Replacement – FAQ

What is the purpose of the project?
The Byrd Park Tank concrete roofs are about 46 years old and are reaching the end of their useful life. The rehabilitation of the existing tank roof is not considered cost effective and therefore the tank roofs will be replaced by new aluminum roofs. The tank roof replacement and other facility improvements are being implemented so that the City continues to provide high-quality water and distribution of water to customers.

How will tank roof removal and new roof construction impact my water service?
The two tank roofs will be replaced one at a time with one tank being maintained operational at all times. With this sequence of construction, we do not anticipate any water service disruptions.

Will this work impact access to the Byrd Park area?
The construction project will be within a fenced area and public access to the construction site will not be allowed due to safety considerations. A walkway will be maintained around the reservoir and full use and access to the park will remain unchanged during construction, except during short, localized disruptions.

Will this work impact traffic in the area?
The work is adjacent to public roads and some short-term lane closures will be needed. Lane closures will be scheduled for minimum disruption during peak traffic hours.

Will this work impact on-street parking?
During construction, on-street parking on Police Memorial Way will be restricted on the south side during short periods. Lane closures and restricted parking may span over multiple days. Depending on weather and construction progress, on-street parking may also be limited over the weekend. Signs will be posted 2 days before the work starts. Remaining streets should remain unaffected.

Will school bus traffic be affected?
The work will not affect school bus traffic or existing school bus routes.

When will this work be performed?
The City of Richmond's Department of Public Utilities anticipates that the work will mainly be performed between the hours of 8:00 a.m. to 5:00 p.m., Monday through Friday. Some isolated construction tasks may need to be performed after-hours or on weekends when water demands are reduced.

How long will it take?
Existing tank roof replacement is expected to take about 24 months and about 6 months will be needed for final site restoration and landscaping.

What environmental permits are needed?
Environmental permits required are Erosion Control and Sedimentation Permit and Stormwater Permit.

Will the tank be drained?
Each tank will be drained prior to the start of tank roof removal. Drain water will be treated, dechlorinated, and discharged to Boat Lake through the existing tank drain system.

Will the site be fenced?
The site will be fenced with the existing tank fencing and temporary fencing for facility security and safety.

IF YOU HAVE QUESTIONS, CONCERNS OR COMMENTS ABOUT THE PROJECT, PLEASE CONTACT:
Steve Morgan
Project Manager
Department of Public Utilities
Technical Services Division
804-646-8522
Stephen.Morgan@richmondgov.com

Mayor Levar M. Stoney

CITY OF RICHMOND
DEPARTMENT OF PUBLIC UTILITIES

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Update 01/04/2019