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Existing Conditions Memorandum

Hilltop Specific Plan

Richmond, CA

8/12/2022

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1 Opportunity and Constraint Takeaways

There is existing sanitary sewer, storm drain, and water pipeline infrastructure throughout the plan area. In general, new development may be constrained by the location of existing pipelines, and any new crossings that might be necessary. Any major grading or regrading of the plan area may also have impacts on existing utilities which should be protected or relocated if necessary.

There appears to be existing storm drain and sanitary sewer easements throughout the plan area. Any change in land use will need to consider existing easements and pipeline infrastructure.

Development standards may have changed since the plan area was originally developed. Therefore, new development in the plan area may be required to bring the various existing utilities up to current standards. This could require upsizing some of the existing infrastructure on-site and in some cases off-site to meet future demands.

1.1 SANITARY SEWER SYSTEM

A West County Wastewater (WCW) force main brings wastewater flows originating from an existing Sanitary Sewer Pump Station to the north into the plan area. This Pump Station and force main seem to service several local residential neighborhoods and may not be able to be interrupted (or may not be able to be interrupted for an extended period) due to impacts from new development.

There are few existing sanitary sewer pipes in the northeast of the plan area. Future development in this area is likely to require extension and potentially upsizing of the existing sanitary sewer mains.

There is an opportunity to utilize some or all of the existing sanitary sewer infrastructure, provided that it meets capacity and current design standards (if applicable).

Capacity information is pending a general capacity analysis of the plan area by WCW's flow modeling consultant, Carollo.

1.2 STORM DRAIN SYSTEM

Storm drainage will need to be verified to determine whether existing infrastructure (both on-site and downstream off-site) has sufficient hydraulic capacity and meets current design standards (if applicable).

If the site is regraded, existing flow patterns and catchment areas may change. This could change the amount of runoff captured or treated by the existing stormwater infrastructure.

There is an opportunity to utilize some or all of the existing storm drain infrastructure, provided that it meets capacity and current design standards (if applicable). Additionally, redevelopment of the plan area will require conformance with section C.3 of the Contra Costa County Municipal Regional Permit. Contra Costa County C.3 Guidelines specify requirements for on-site stormwater treatment which generally include maximizing pervious areas and treating runoff using bioretention. Redeveloping the site may also bring opportunities to reduce existing environmental impacts with trash capture, or by a change to lower trash-generating land uses.

Capacity information is for the plan area is pending an NCE review of storm drain data.

1.3 WATER SYSTEM

Water service to the plan area is supplied by East Bay Municipal Utility District (EBMUD). There are at least 4 water mains entering the plan area. The Road 24 Reservoir tank is a 5-million gallon tank operated by EBMUD and located within the plan area; however, it does not directly serve the plan area.

Water mains are present throughout the plan area, so there is an opportunity to utilize some or all of the existing water system infrastructure, provided that it meets the capacity of the proposed land uses (if applicable).

Capacity information for the plan area is pending information from EBMUD.

2 Introduction

This technical memorandum on existing wet utility infrastructure has been prepared in support of the Richmond Hilltop Specific Plan and Addendum Project. The Hilltop plan area is approximately 143 acres and consists of Hilltop Mall and by a larger contiguous area to the east. The site is located within the Hilltop Priority Development Area (PDA) and situated south of Richmond Parkway, between San Pablo Avenue and Interstate 80 (I-80), in Richmond, California.

The plan area is generally bounded by Hilltop Lake, Hilltop Lake Park, and the Richmond Parkway to the north. Hilltop Drive and San Pablo Avenue mark the western boundary. To the east, the plan area is bound by Blume Drive and I-80. These parcels represent an approximately 143-acre plan area ("plan area") within the PDA.

Hilltop Mall makes up the majority of the plan area with approximately 77 acres and 1.1 million square feet of indoor retail. The mall was built in 1976 as a regional commercial designation and includes a Wal-Mart and various retailers. Major tenants, such as Macy's, Sears, and JC Penney, have since closed.

The sections that follow provide information on existing facilities including the storm drain, sanitary sewer, and water systems within the plan area. This technical memorandum is limited to the existing utility infrastructure (storm drain, sanitary sewer, and water) within the public right-of-way.

3 Sanitary Sewer System

3.1 GENERAL INFORMATION

West County Wastewater (WCW), formerly West Contra Costa Sanitary District provides wastewater collection and treatment services in the City of Richmond, including the plan area. WCW pipeline infrastructure consists of 249 miles of gravity pipelines, 17 lift stations, and 6 miles of pressure force mains. West County Wastewater serves a population of approximately 100,000 with 34,000 residences and 900 commercial and industrial businesses. Wastewater is treated at the Water Quality and Resource Recovery Plant, which has a 12.5 MGD capacity, average dry weather flow. The area served by the organization is approximately 16.9 square miles.

3.2 EXISTING CONDITIONS

The existing sanitary sewer infrastructure within and adjacent to the plan area is shown on Figure 1. As shown, flow is generally from east to west, and it appears all wastewater generated in the plan area is conveyed west to a gravity trunk line on Hillview Drive, which proceeds north along Hilltop Drive.

A pump station called "Lakeside Lift Station" is located northeast of the plan area and services several local residential neighborhoods to the north of the plan area. The pump station and force main lifts wastewater from a local low point northeast of the plan area up to an existing sewer manhole (SSMH) near the north side of the existing Hilltop Mall. The force main travels from the pump station south to Hilltop Mall Road where it follows the road west. At the main driveway that previously serviced Sears, the force main bends south to a manhole at the north end of the existing mall. From that point, the wastewater flows by gravity along with the rest of the system toward Hillview Drive.

With the exception of the 8-inch force main, all wastewater conveyed in the system originates in the plan area.

Wastewater in the plan area is collected in PVC pipe, ductile iron pipe (DIP), and vitrified clay pipe (VCP). Sanitary sewer pipes range from 8-inch diameter up to 21-inch diameter.

Information about the existing sanitary sewer system is determined from system maps provided by West County Wastewater dated 2008.

3.3 CAPACITY

West County Wastewater uses flow management consultant Carollo Engineers to model system flows and evaluate system capacity. Flow additions above 20 EDUs (equivalent dwelling units) are considered significant enough to require flow

modelling from Carollo Engineers. Assuming 270 gpd/1EDU, 20 EDUs x 270 gpd/1EDU = 5,400 gpd.

According to Armondo Hodge, the most recent Master Plan dated 2014 did not reveal anything concerning in the plan area, or that the area is near capacity.

[A general capacity analysis of the plan area by Carollo is pending].

Upon selection of specific plan alternatives complete with structure types, hours of operation, average daily occupancy, peak occupancy, square footage of each structure type, etc.; Carollo Engineers will evaluate the flow for the plan area.

4 Storm Drain System

4.1 GENERAL INFORMATION

The storm drain system in the City of Richmond is owned and managed by the City and consists of approximately 94 miles of underground storm drain pipelines, 6 miles of open ditches, and 7 storm drain lift stations which collect, convey, and eventually discharge runoff into the San Francisco Bay.

4.2 EXISTING CONDITIONS

The existing storm drain infrastructure within and adjacent to the plan area is shown on Figure 2. The plan area has two main watersheds which both drain to Garrity Creek and Hilltop Lake, both located to the north of the plan area. North of the plan area, Garrity Creek is conveyed by a 4'x7'x1700' long box culvert. A Gross Solid Removal Device is located near the outfall of the box culvert and collects trash and sediments from the east half of the mall area.

Runoff is diverted to drain inlets and then to storm drain pipelines throughout the plan area. As shown, runoff captured in the west of the plan area is conveyed via storm drain pipelines to the northwest, and then from Hillview Drive and Hilltop Drive to Hilltop Lake. Runoff captured in the east portion of the plan area is conveyed via storm drain pipelines to the north and then into Garrity Creek downstream of the box culvert, which flows into Hilltop Lake. From Hilltop Lake, Garrity Creek conveys runoff from the plan area to the San Francisco Bay.

Runoff generated in the plan area is typically collected in drainage inlets and catch basins and are conveyed in existing reinforced concrete storm drain pipes (RCP). Storm drain pipes range from 12-inch diameter up to 54-inch diameter. Inventories of the various storm drain conveyances and collection devices are included in Tables 1 and 2 respectively.

Table 1. Storm Drain Conveyance Inventory

Type/Diameter (inches)	Length (ft)
4'X7' Box Culvert	1,686
8" pipe	20
12" pipe	1,065
15" pipe	1,834
18" pipe	2,473
21" pipe	914
24" pipe	4,000
30" pipe	1,173
33" pipe	276

Type/Diameter (inches)	Length (ft)
36" pipe	1,616
42" pipe	178
48" pipe	1,459
54" pipe	838
Total	**17,532**

Source: City of Richmond; 7/27/2022.

Table 2. Storm Drain Collection Inventory

Collection Device	Count
Catch Basin	1
Curb Inlet	96
Drop Inlet	20
Total	**117**

Source: City of Richmond; 7/27/2022.

Existing storm drain system information was prepared from GIS data collected as part of the City's Storm Drain Master Plan Update dated March 2021 by NCE.

4.3 STORM DRAIN DESIGN STANDARDS FOR PLANNING

Provision C.3 of the Municipal Regional Permit requires that the site designs for new developments and redevelopments minimize the area of new roofs and paving. Pervious surfaces should be used instead of paving where feasible, so that runoff can infiltrate into the underlying soil. The remaining runoff from impervious areas must be captured and treated using bioretention methods. In some developments, particularly near natural creeks, the rates and durations of site runoff must also be controlled through detention or retention of flows.

4.4 CAPACITY

[Pending NCE review of storm drain data]

5 Water System

5.1 GENERAL INFORMATION

Water service to the plan area is supplied by East Bay Municipal Utility District (EBMUD). About 90% of EBMUD's water supply originates from Mokelumne River flows captured in Pardee Reservoir, which is located in the foothills of the Sierra Nevada. The other 10% originates from protected watersheds located in the East Bay. From Pardee Reservoir, the water is transported across the Central Valley via approximately 90 miles of aqueducts to water treatment plants and storage reservoirs located east of the San Francisco Bay before being delivered to the East Bay region through local distribution networks.

EBMUD operates six water treatment plants that can filter and process 495 million gallons per day (mgd). The water treatment plants are Upper San Leandro in Oakland, San Pablo in Kensington, Sobrante in El Sobrante, and plants located in and named for Orinda, Lafayette, and Walnut Creek. The Sobrante Water Treatment Plant is the nearest treatment plant to the plan area, and has a maximum capacity of 60 mgd.

This assessment of the existing water supply infrastructure was derived from as-built information obtained from EBMUD, as well as the EBMUD 2020 Urban Water Management Plan. Water pressures and fire flows for the plan area will be requested of EBMUD. Static water pressure tests and flow tests are not included in the scope of this infrastructure assessment, and none will be performed to confirm capacity information.

5.2 EXISTING CONDITIONS

The EBMUD water distribution system within the plan area includes transmission and distribution mains, and service lines; and is shown on Figure 3.

EBMUD's water transmission infrastructure includes a 16-inch mortar lined and coated steel (MLCS) pipeline that crosses Interstate 80 at Hilltop Drive and approaches the plan area from the southeast, an 8-inch asbestos concrete pipe that enters the plan area at Shane Drive to the south, an 8-inch asbestos concrete pipe that enters the plan area on Hillview Drive to the northwest, and a 12-inch MLCS pipe that enters the plan area at Blume Drive to the northeast.

The Road 24 Reservoir tank is a 5-million gallon concrete tank located near the northwest corner of Hilltop Drive and Blume Drive. A 24-inch MLCS pipeline from the tank crosses Hilltop Drive and leaves the plan area to the south along Alta Mira Drive.

Most water pipelines around the plan area were constructed in 1975. The pipelines in the plan area consist of asbestos cement pipe, mortar lined and coated steel

pipe, and polyvinyl chloride (PVC) pipe. Diameter typically ranges from 6” to 16” with the exception of the 24” Road 24 Reservoir Line, which does not directly connect with the rest of the system in the plan area.

5.3 CAPACITY

[Pending information from EBMUD Planning Department]

Appendix A

Existing Conditions Exhibits

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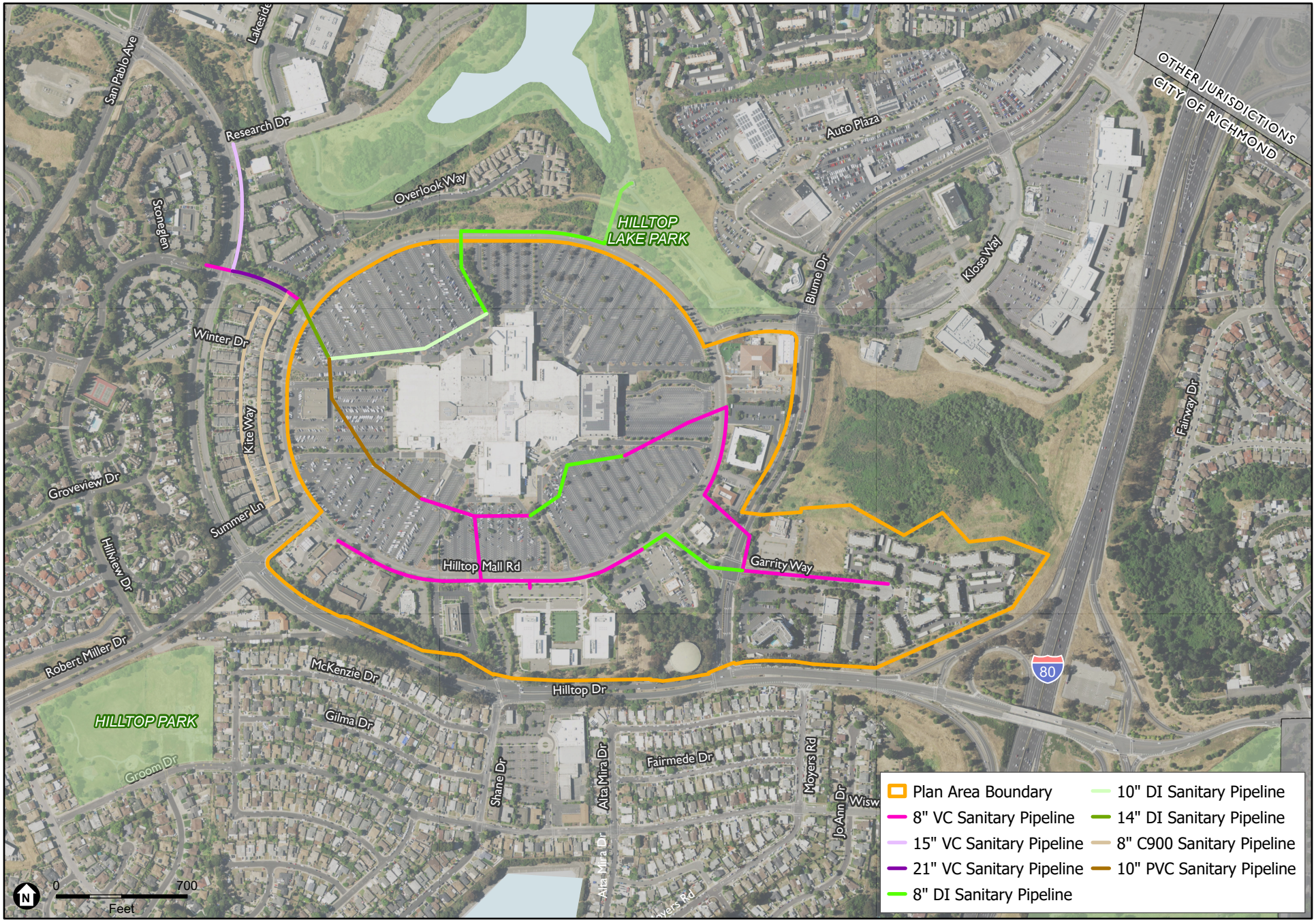
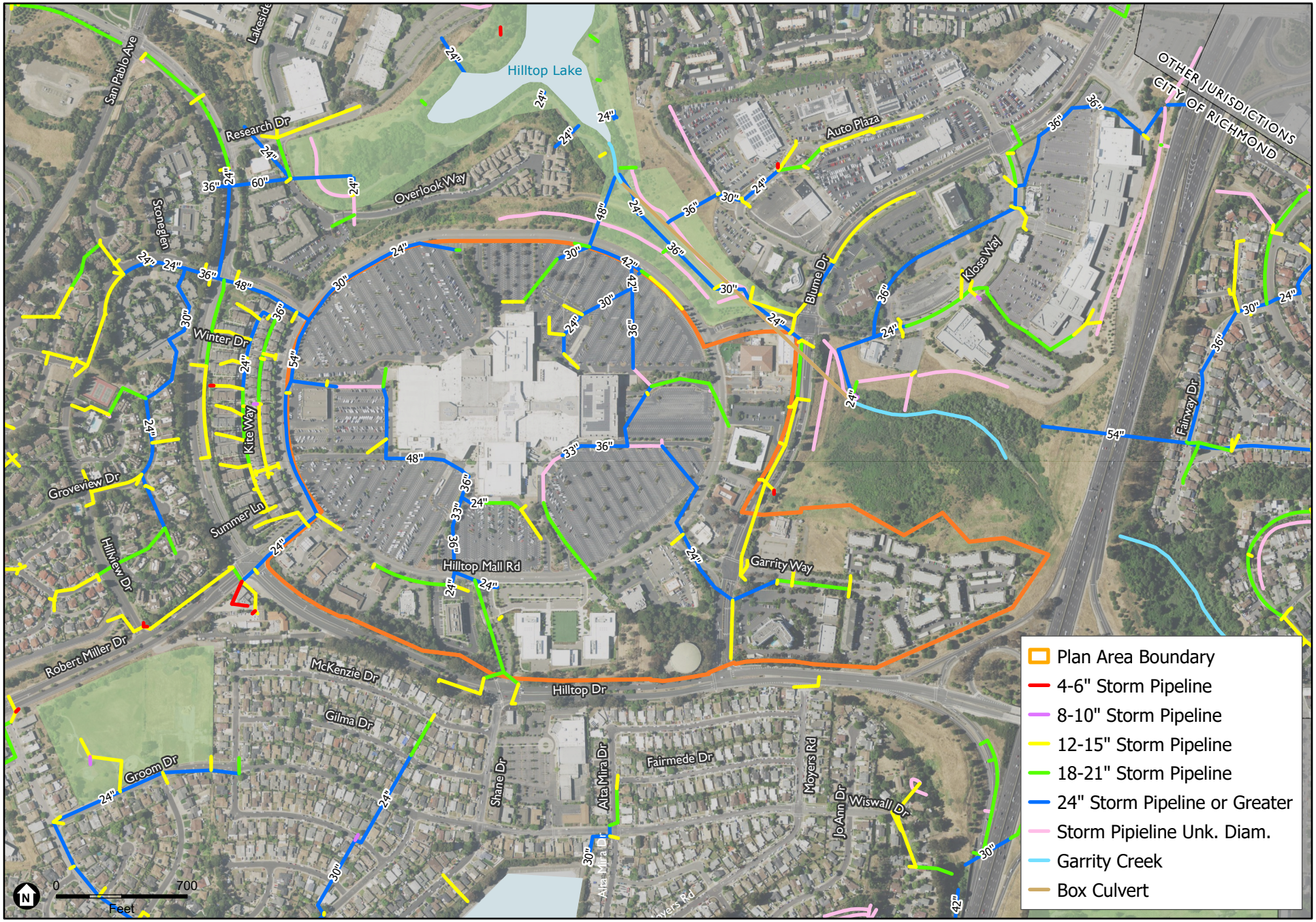


SOURCE: City of Richmond, 2022; ESA, 2022; West County Wastewater, 2022; Prepared by NCE 6/9/2022

HILLTOP HORIZON

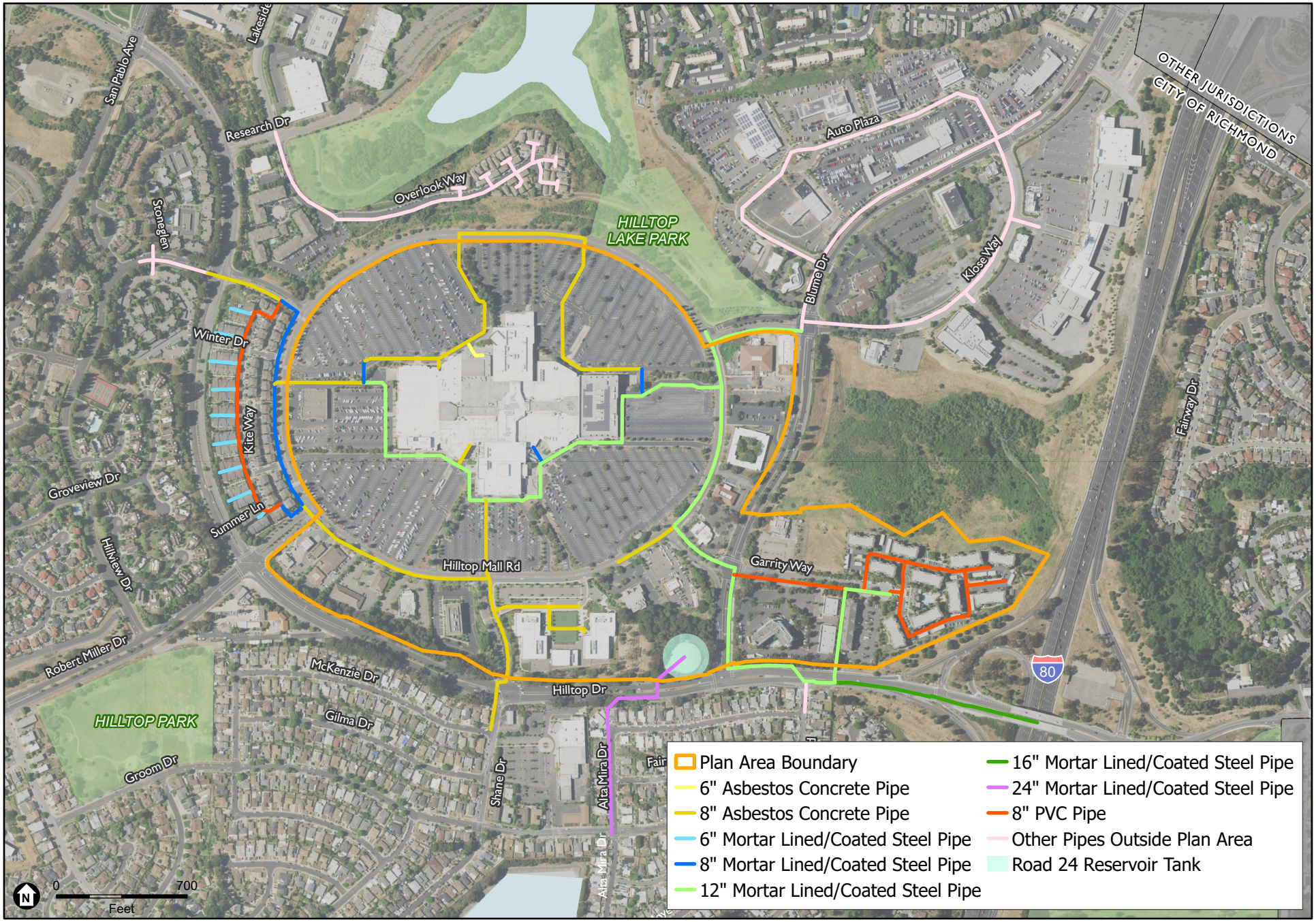
Hilltop Specific Plan - Sanitary Sewer Exhibit



SOURCE: City of Richmond, 2022; ESA, 2022; Prepared by NCE 6/9/2022

HILLTOP HORIZON

Hilltop Specific Plan - Storm Drain Exhibit



SOURCE: City of Richmond, 2022; ESA, 2022; Prepared by NCE 6/9/2022

HILLTOP HORIZON

Hilltop Specific Plan - Water System Exhibit