Appendix J Water Supply Report

June 2022

Water Supply and Demand Analysis Norwalk Entertainment District – Civic Center Specific Plan Project

for Primestor

Prepared for:

Primestor
Contact: Ryan Aubry
10000 Washington Boulevard, Suite 300
Culver City, California 90232

Project Number:
PRIM-01.0

Prepared by:

PlaceWorks
Dina El Chammas, P.E. Senior Engineer
3 MacArthur Place, Suite 1100
Santa Ana, CA 92707

PLACEWORKS

Tables **Page**

Figures **Page**

1. Introduction

1.1 INTRODUCTION

This water supply and demand analysis has been prepared for Primestor to calculate the water demand for the Norwalk Entertainment District - Civic Center Specific Plan project ("proposed project"). Although this project does not meet the criterion that requires preparation of a Water Supply Assessment[1], this analysis is provided to ensure that the water demand of the proposed project can be met by the water purveyor. The proposed project consists of a mixed-use development with residential and commercial uses and landscaping.

The analysis assesses the adequacy of water supplies to meet the proposed project's water demand in addition to future water demands of the Golden State Water Company - Norwalk (GSWC Norwalk) service area. The analysis documents whether the GSWC public water system's total projected water supplies available during normal, single dry, and multiple dry water years over a 20-year period will meet the proposed project's projected water demand as well as future service area demands.

1.2 SITE LOCATION AND PROJECT DESCRIPTION

The project site consists of approximately 13.2 acres located at the southeast corner of the intersection of Imperial Highway and Norwalk Boulevard in the City of Norwalk (see Figure 1, *Local Vicinity*). The project site is bordered by Imperial Highway to the north, Avenida Manuel Salinas to the east, the Los Angeles County Superior Court–Southeast District building and a surface parking lot to the south, and Norwalk Boulevard to the west (see Figure 2, *Aerial View*).

As shown in Figure 2, *Aerial View*, the project site is currently developed with an approximately 39,000 square foot Norwalk City Hall building, a 4.3-acre City Hall Lawn, a portion of an accessory building associated with the County Superior Court property (the County Accessory Building), a surface parking lot, and a three-level parking structure. The project site includes a monument sign and a fountain with surrounding landscaping in the northwest corner of the project site, landscaping around City Hall, and a total of 73 trees scattered throughout the surface parking lot. The City Hall Lawn is mainly grass with mature trees and walking paths.

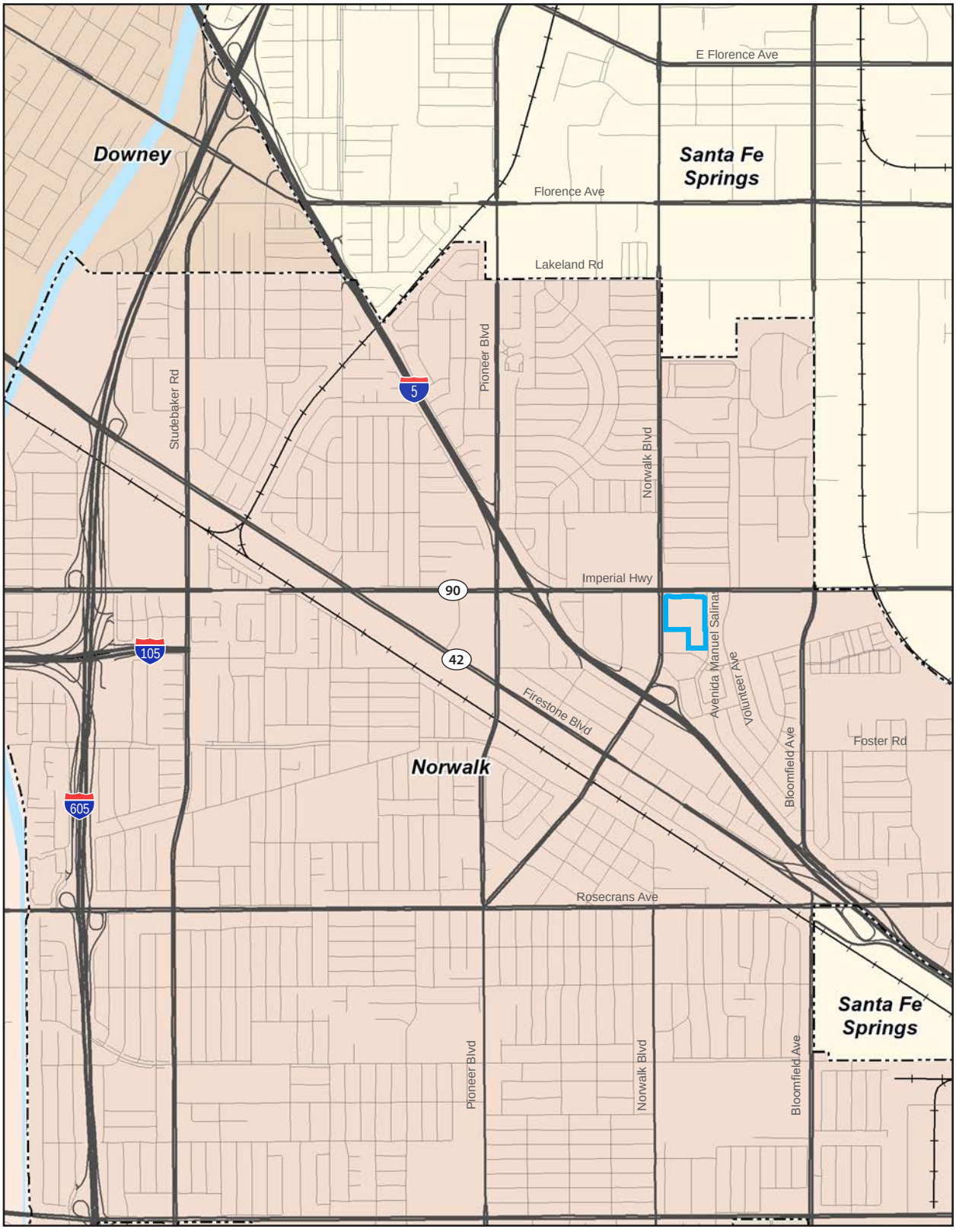
[1] Mixed-used projects consisting of commercial and residential uses that require a Water Supply Assessment pursuant to Senate Bill 610 include:
(1) A proposed residential development of more than 500 dwelling units.
(2) A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.
(3) A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.
(4) A mixed-use project that includes one or more of the projects specified above.
(5) A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500-dwelling unit project.
The proposed project does not fall under any of these categories.

The proposed project includes the buildout of the Norwalk Entertainment District – Civic Center Specific Plan with a mixed-use development, including residential and commercial land uses and landscaping. New development would occur only on the portion of the site that includes the City Hall Lawn and surface parking lot. The existing Norwalk City Hall building and the portion of the County accessory building within the project site boundary would remain with no proposed changes. The existing parking structure located on the south side of the project site would also remain and up to two additional levels could be added as needed to accommodate future parking demand within the civic center/entertainment district area. See Figure 3, *Conceptual* Site Plan, for the proposed conceptual site plan.

The proposed project would allow for the development of up to 350 multi-family residential units. The dwelling units would average 1,000 square feet and range from studio to three-bedroom units. Residential uses would include amenities such as a lobby and open space reserved for residents and their guests. The proposed project includes 110,000 square feet (SF) of commercial uses. For purposes of this water supply and demand analysis, it is assumed that the project's 110,000 square feet of commercial would consist of 35,000 SF of restaurants, 35,000 SF of retail, and 40,000 SF of supermarket use. It is estimated that the proposed project would generate approximately 441 jobs (PlaceWorks 2022). The proposed project could include up to 128,700 square feet (approximately 2.96 acres) of open space and/or landscaped areas and may include two pools. The open space and/or landscaped areas would include lawn and hardscape gathering spaces, and may include kiosks, vendor carts, pavilions, booths, outdoor furniture, water features or other similar elements.

Construction would occur in one phase over approximately 23 months and is anticipated to begin in 2023. The proposed project is within the existing service area of GSWC Norwalk.

Figure 1 - Local Vicinity



Project Boundary

City Boundary

0 2,000

Scale (Feet)

Source: ESRI, 2022

This page intentionally left blank.

Figure 2 - Aerial View

Project Boundary

0 360
Scale (Feet)

Source: Nearmap, 2022

This page intentionally left blank.

Figure 3 - Conceptual Site Plan

Project Boundary

0 160
Scale (Feet)

Source: Jerde, 2022

This page intentionally left blank.

2. Water Supply and Demand Analysis

2.1 WATER PURVEYOR

GSWC is a public utility company that supplies water to more than one million people in over 80 communities throughout California. The service area for GSWC Norwalk is in the south-central part of Los Angeles County and includes most of the City of Norwalk, along with parts of Santa Fe Springs, La Mirada, Downey, and a small unincorporated part of Los Angeles County. GSWC Norwalk customers are primarily residential with some commercial and industrial connections. The population of GSWC Norwalk's service has seen very little growth in recent years and is expected to grow by 0.25 percent cumulatively through 2045 (GSWC 2021).

Service area potable water supplies have long relied on local groundwater resources and imported water and have been augmented over time to adapt to changing conditions and to provide a diverse and flexible water supply portfolio. GSWC Norwalk potable water supply portfolio contains the following rights and contracts:

- Central Basin adjudicated groundwater
- Purchased water through the Central Basin Municipal Water District (CBMWD)
- Emergency connections with neighboring agencies.

The Central Basin Adjudication has a total extraction limit of 217,367 acre-feet per year (afy) which is divided among all the parties subject to the adjudication. GSWC has eight service areas that partially or wholly overlie the Central Basin and seven service areas that are subject to the Central Basin Adjudication. GSWC Norwalk's service area is 100 percent contained within the Central Basin boundary and is subject to the terms of the adjudication. GSWC has a total Allowed Pumping Allocation (APA)[2] of 16,439 afy for all seven service areas subject to the Central Basin Adjudication. In any year, GSWC may allocate portions of its APA among its entities with access to the supply. Within the Central Basin, GSWC also has additional sources of supply which include leased water supplies that result from APA purchased from other entities and carryover water supplies derived from unused APA or leased water supplies that remain unused in the years of purchase. GSWC Norwalk owns and operates five wells with a combined capacity of 5,200 gallons per minute (gpm) which pump local groundwater from the Central Basin. GSWC Norwalk has direct access to GSWC's APA and captures a portion of GSWC's APA, leased water, and carryover water in its annual groundwater extractions. This groundwater is blended with water purchased from the CBMWD. All purchased water is already treated to potable standards and the GSWC Norwalk system does not include any treatment facilities besides at wellheads (GSWC 2021).

[2] The Central Basin Adjudication judgment limits the pumping that each entity subject to the adjudication may extract from the Central Basin. This limit is referred to as the "Allowed Pumping Allocation".

CBMWD is a wholesale water agency that purchases potable water supplies from the Metropolitan Water District of Southern California (MWD) and recycled water supplies from Los Angeles County Sanitation Districts (LACSD) to distribute both within and outside the CBMWD service area. CBMWD is an MWD "member agency" and relies entirely on MWD's water supplies to provide water service to its customers. CBMWD's service area covers a large area that includes numerous GSWC service areas. GSWC obtains water from CBMWD for use in several of their service areas including GSWC Norwalk (GSWC 2021).

The GSWC Norwalk service area maintains emergency interties with neighboring agencies with a combined capacity of over 3,500 gpm. GSWC Norwalk has four emergency interconnections to allow sharing of supplies during short term emergencies or during planned shutdowns of primary supply sources. These interconnections are with the Cities of Santa Fe Springs and Norwalk, the Suburban Water Company, and Liberty Utilities. These interconnections are for emergencies only and are not used in normal operations.

While recycled water is used within the GSWC Norwalk service area for non-potable uses, the recycled water distribution system is not owned or operated by GSWC. CBMWD, acting as the recycled water wholesaler, is the lead agency in implementing the recycled water plan and distribution network. The uses for recycled water include irrigation of schools, golf courses, parks, nurseries, and greenbelts, as well as industrial use at local companies for carpet dyeing and concrete mixing. A small portion of this recycled water is used within the boundaries of the GSWC Norwalk service area.

Many of the GSWC Norwalk water supplies are available to serve several neighboring GSWC service areas.[3] The sources of supply for the GSWC Norwalk service area vary each year depending upon the management actions of GSWC to meet the needs of their service areas in the Central Basin. Similarly, the water purchased from CBMWD may be managed and moved depending upon the needs in a particular GSWC service area. GSWC Norwalk coordinates its water supply management primarily with CBMWD that derives its supply from MWD's water asset portfolio.

The 2020 Urban Water Management Plan (UWMP) states that GSWC Norwalk's total demand for the year 2020 was 4,261 acre-feet (AF). The projected total water demand in the year 2045 for a normal year is 4,374 AF. It is required that every urban water supplier assess the reliability to provide water service to its customers under normal, single dry, and multiple dry years. As discussed in GSWC Norwalk's 2020 UWMP, GSWC Norwalk is capable of meeting the water demands of its customers in normal, single dry, and multiple dry years between 2020 and 2045 (GSWC 2021).

2.2 WATER DEMAND ANALYSIS

This section includes a discussion of the overall existing and projected demands for the GSWC Norwalk service area in addition to the existing and projected water demands for the proposed project.

[3] Neighboring service areas include GSWC's Florence-Graham, Hollydale, Willowbrook, Artesia, Bell-Bell Gardens, Culver City, and Southwest service areas.

2.2.1 Golden State Water Company Norwalk Demands

The source of water for the proposed project would be existing water supplies provided by GSWC Norwalk to its customers. Based on GSWC Norwalk's 2020 UWMP, the current and projected water demands for normal years by customer class are presented in Table 1. GSWC Norwalk's total 2020 demand was 4,261 AF. The projected 2045 water demand is 4,374 AF (GSWC 2021).

Table 1 – Current and Projected Potable Water Demands for GSWC Norwalk (afy)

Use Type	2020	2025	2030	2035	2040	2045
Single Family	2,481	2,370	2,371	2,373	2,374	2,375
Multi-Family	562	581	582	582	582	583
Commercial/Institutional	954	1,101	1,101	1,102	1,102	1,103
Industrial	10	14	14	14	14	14
Landscape	62	67	67	67	67	67
Other	0	0	0	0	0	0
Water Loss	192	232	232	232	232	232
Total	4,261	4,365	4,367	4,369	4,371	4,374

Source: GSWC Norwalk Service Area 2020 UWMP, 2021.

2.2.2 Project Water Demands

The proposed project would allow for the development of up to 350 multi-family residential units and up to 110,000 SF of commercial uses, which for purposes of this water supply and demand analysis is assumed to consist of 35,000 SF of restaurants, 35,000 SF of retail, and 40,000 SF of supermarket use. The proposed project would also include up to 128,700 square feet (approximately 2.96 acres) of open space and/or landscaped areas and may include two pools. The proposed development would connect to GSWC Norwalk's water system.

As shown in Figure 2, *Aerial View*, the project site is currently developed with the approximately 39,000 square foot Norwalk City Hall building, 4.3-acres of City Hall Lawn, a portion of an accessory building associated with the County Superior Court property, a surface parking lot, and a three-level parking structure. The project site includes a total of 160 trees. The landscaped medians in the surface parking lot include 73 trees and some shrubs. The City Hall Lawn is mainly grass with mature trees, walking paths, and a fountain in the northwest corner of the lawn.

Under the proposed project, the City Hall Lawn and the surface parking lot would be replaced with the new development described above (up to 350 residential units, 110,000 square feet of commercial uses and open space and/or landscaped areas). For a conservative analysis, the fountain in the northwest corner of the lawn is assumed to remain. The existing Norwalk City Hall building, and the portion of the County accessory building would remain with no proposed changes. The existing parking structure located on the south side of the project site would remain and up to two additional levels could be added as needed to accommodate future parking demand within the larger civic center/entertainment district area (see Figure 3, *Conceptual Site Plan)*.

2.2.2.1 EXISTING WATER DEMAND

The existing outdoor water demand for the City Hall Lawn and landscaped medians in the surface parking lot that will be replaced by the proposed project development is calculated using the Estimated Total Water Use (ETWU) methodology, as described in the 2015 Model Water Efficient Landscape Ordinance Guidebook (DWR 2015). The following equation is used for the ETWU:

$$ETWU = \frac{ETo\ x\ Plant\ Factor\ x\ Landscaped\ Area\ SF\ x\ 0.62}{Irrigation\ Efficiency}$$

A reference evapotranspiration (Eto) of 47.8 inches is used as specified in the 2020 UWMP (GSWC 2021). Excluding the fountain and surrounding landscaped area (a portion of which is anticipated to remain in place with the proposed project), City Hall Lawn is estimated to consist of 4.1 acres or 178,569 SF. The landscaped area of the surface parking lot contains 73 trees, 17 of which are in square tree wells that are about 10 feet by 10 feet. Another eight trees are within circular tree wells that are approximately 20 square feet. The remainder of the trees are within medians that total approximately 12,000 square feet and include some shrubs. The total landscaped area for the surface parking lot totals approximately 13,860 SF.

The grass area in City Hall Lawn is assumed to have overhead spray irrigation with an irrigation efficiency of 75 percent. The areas with trees and shrubs within the surface parking lot are assumed to have drip irrigation with an irrigation efficiency of 81 percent. The plant factor for trees and shrubs is assumed to be 0.3 and the plant factor for grass is assumed to be 0.8 (DWR 2015). Therefore, the total existing outdoor water demand for the areas replaced by the proposed development is approximately 14,818 gallons per day (gpd) (see Appendix A).

2.2.2.2 PROPOSED WATER DEMAND

For proposed indoor water demand, LACSD's wastewater generation rates are used (LACSD 2022). The wastewater generation is conservatively assumed to be 90 percent of the indoor water demand. Therefore, a factor of 110 percent is used to estimate the indoor water demand. As shown in Table 2, the proposed project would generate a net increase of 99,100 gpd of wastewater or 109,010 gpd of indoor water demand.

Table 2 – Proposed Wastewater Generation

Land Use	Buildout	Wastewater Generation Rates (gpd per unit)	Generated Wastewater (gpd)
Multifamily Home	350 DU	156	54,600
Restaurants	35,000 SF	1	35,000
Retail	35,000 SF	0.1	3,500
Supermarket	40,000 SF	0.15	6,000
		Total	99,100

Source: LACSD 2022b.
DU= dwelling units; SF = square feet; gpd = gallons per day.

Project areas requiring irrigation could include up to 128,700 square feet of open space and/or landscaped areas, and two new pools. Since a landscaping plan for the proposed project has not been prepared yet, it is conservatively assumed for purpose of this analysis that all the open space and landscaped areas would include spray irrigated turf. This is a conservative assumption since much of the open space would be hardscape, structures such as kiosks and pavilions, and/or drought-tolerant landscaping requiring minimal irrigation.[4] The Maximum Applied Water Allowance (MAWA) was calculated using an annual precipitation of 12.8 inches per the 2020 UWMP (GSWC 2021).[5] The MAWA for the irrigated area is 4,387 gpd (see Appendix A). Since the City's Model Water Efficient Landscape Ordinance does not allow outdoor water use that exceeds the MAWA, proposed outdoor water demand is assumed to be 4,387 gpd.

The pools are each assumed to be 50 feet long, 20 feet wide, and 7.5 feet deep. The average pool water evaporation rate is about a quarter of an inch of water per day (American Leak Detection 2022). Assuming two pools, the outdoor water use needed to account for pool water evaporation is approximately 312 gpd (see Appendix A).

As shown in Table 3, the net increase in water demand is 98,891 gpd or 111 afy. The analysis was performed using very conservative water demand factors and the actual water usage by the project is likely to be much less than the calculated amount with current and future water conservation measures and compliance with the CalGreen building code.

Table 3 – Projected Water Demand

	Water Demand (gpd)
Existing outdoor water demand related to areas that would be replaced by the proposed project	(14,818)
Outdoor water demand for new landscaping	4,387
Outdoor water demand for new pools	312
Indoor water demand for proposed buildings	109,010
Total	98,891

gpd = gallons per day.

2.3 WATER SUPPLY AND DEMAND ANALYSIS

This section identifies the sources of water supplied by GSWC Norwalk and evaluates the water supplies that would be used by GSWC Norwalk to serve the proposed project and the remainder of the service area during normal, single dry, and multiple dry years through the year 2045.

[4] There is a potential for a water feature and/or a splash pad in the open space and/or landscaped area. Since a very conservative approach is being used to calculate irrigation demand, supplementing spray irrigated turf with a water feature and/or splash pad would not increase water demand.

[5] The DWR's State Model Landscaping Ordinance (MWELO), which is adopted by the City's ordinance, includes the method to calculate the MAWA. For projects that need to abide by the requirements of MWELO, the total annual applied water for irrigation shall be less than or equal to the MAWA.

GSWC has numerous water assets that are available to serve the GSWC Norwalk service area. The water assets consist of adjudicated groundwater supplies, leased or purchased groundwater supplies, and arrangements with CBMWD for treated water supplies and recycled water supplies. GSWC Norwalk also maintains emergency connections with neighboring agencies, though such connections would not be utilized for normal operations.

Every urban water supplier is required to assess the reliability to provide water service to its customers under normal, dry, and multiple dry water years. As shown in Table 4, GSWC Norwalk will be able to meet demands with projected supplies from 2025 to 2045 during normal years, single dry years, and multiple dry years (GSWC 2021). As previously noted, many of the GSWC Norwalk water supplies are available to serve several neighboring GSWC service areas. The sources of supply for the GSWC Norwalk service area vary each year depending upon the management actions of GSWC to meet the needs of their service areas in the Central Basin. Table 4 shows the portion of GSWC's overall water supply pool that is allocated to specifically meet its Norwalk service area demands and residual supplies are not shown in the table. As shown in Table 4, the amount of water available increases during single dry and multiple dry years since GSWC allocates more supply from its overall water supply pool to meet rising demands.

Table 4 – GSWC Norwalk - Normal, Single Dry, and Multiple Dry Year Supply and Demand (afy)

	2025	2030	2035	2040	2045
Normal Year					
Supply Totals	4,365	4,367	4,369	4,371	4,374
Demand Totals	4,365	4,367	4,369	4,371	4,374
Surplus	0	0	0	0	0
Single Dry Year					
Supply Totals	4,801	4,804	4,806	4,808	4,811
Demand Totals	4,801	4,804	4,806	4,808	4,811
Surplus	0	0	0	0	0
Multiple Dry Year					
Year 1					
Supply Totals	4,801	4,804	4,806	4,808	4,811
Demand Totals	4,801	4,804	4,806	4,808	4,811
Surplus	0	0	0	0	0
Year 2					
Supply Totals	4,802	4,804	4,807	4,809	4,811
Demand Totals	4,802	4,804	4,807	4,809	4,811
Surplus	0	0	0	0	0
Year 3					
Supply Totals	4,802	4,805	4,808	4,810	4,811
Demand Totals	4,802	4,805	4,808	4,810	4,811
Surplus	0	0	0	0	0
Year 4					
Supply Totals	4,803	4,805	4,808	4,810	4,811
Demand Totals	4,803	4,805	4,808	4,810	4,811
Surplus	0	0	0	0	0
Year 5					
Supply Totals	4,803	4,806	4,808	4,810	4,811

Table 4 – GSWC Norwalk - Normal, Single Dry, and Multiple Dry Year Supply and Demand (afy)

	2025	2030	2035	2040	2045
Demand Totals	4,803	4,805	4,808	4,810	4,811
Surplus	0	0	0	0	0

Source: GSWC Norwalk, 2021. 2020 UWMP

Table 4 shows that the water demand would increase from 4,365 afy in 2025 to 4,375 afy in 2045 under normal conditions and would increase from 4,803 afy to 4,811 afy under multiple dry year conditions. Water demand for multiple dry year conditions increase due to the additional outdoor water demand needed in drought conditions. However, the water demand shown in Table 4 does not include any water conservation measures that would be triggered in times of drought per GSWC's Water Shortage Contingency Plan and is therefore very conservative. As shown in Table 4, even in multiple dry years, the water supply will be sufficient to meet demand.

The proposed water demand for the proposed project is provided in Sections 2.2.2.2 and is estimated to be a net increase of 111 afy. However, to evaluate water supply vs. demand within the GSWC Norwalk's service area, the proposed water demand for this project should be included with the water demand for current and anticipated future development within GSWC Norwalk's service boundaries.

Groundwater allocations vary each year depending upon the management actions of GSWC to meet the needs of their service areas in the Central Basin. Similarly, the water purchased from CBMWD may be managed and moved depending upon the needs in a particular GSWC service area. A total of 23,639 afy, as shown in Table 5, is available for use by GSWC Norwalk and the neighboring GSWC service areas. GSWC Norwalk has the capability of obtaining additional water supplies from GSWC's pool of 23,639 afy if the need arises. This water pool is available during normal, single dry, and multiple dry years. Therefore, GSWC Norwalk could increase its water supply each year beyond what is shown in Table 4, if needed, and the proposed project's water demand of 98,891 gpd or 111 afy can be accommodated.

Table 5 – Water Supply Sources for GSWC (AFY)

Water Source	2025	2030	2035	2040	2045
Existing Supplies					
Groundwater	16,439	16,439	16,439	16,439	16,439
Groundwater Other[1]	5,000	5,000	5,000	5,000	5,000
Imported Water	2,000	2,000	2,000	2,000	2,000
Recycled Water	200	200	200	200	200
Total	23,639	23,639	23,639	23,639	23,639

Notes:

[1] Typically this will consist of leased groundwater from other users with surplus supply but also regularly consists of carryover supplies from the previous year, dry year excess pumping allowed under current basin management, and imported supplies.

Source: GSWC Norwalk, 2021. 2020 UWMP.

Additionally, the projected population and employment in the 2020 UWMP is based on the current estimated population in the Norwalk service area and projected growth from the Southern California Association of Governments (SCAG). The SCAG population projection data for the City of Norwalk was combined with the service area boundary to create a service area specific population growth rate (GSWC 2021). As shown in Table

6, the proposed project's population and employment contributions are within SCAG projections for the City. Since the projected demands in the 2020 UWMP are based on SCAG projections, then the proposed project's water demand is within these projections.

Table 6 **– Proposed Project's Population Contribution**

	Current (2020)	Future (2045)	Proposed Project	Current + Project	Remaining to Future (2045)
City of Norwalk					
Population	102,773	107,000	1,264	104,037	2,963
Employees	26,044	28,100	441	26,485	1,615

Notes:
Sources: Census 2020; SCAG 2020, PlaceWorks 2022.

2.4 WATER SHORTAGE CONTINGENCY PLAN

The Water Shortage Contingency Plan (WSCP) addresses the requirements in Water Code Section 10632 of the Urban Water Management Planning Act. The WSCP is incorporated into the 2020 UWMP and used by GSWC to respond to water shortage contingencies for the Norwalk service area as they may arise. The WSCP consists of the following required elements:

- An analysis of water supply reliability
- Procedures for conducting an annual water supply and demand assessment
- Six standard water shortage levels corresponding to progressive ranges of up to 10, 20, 30, 40, and 50 percent shortages and greater than 50 percent shortage
- Shortage response actions that align with the defined shortage levels
- Communication protocols and procedures
- Customer compliance, enforcement, appeal, and exemption procedures
- A description of legal authorities
- A description of financial consequences
- Monitoring and reporting requirements
- Reevaluation and improvement procedures (GSWC 2021)

2.5 DEMAND MANAGEMENT MEASURES

GSWC has developed and implemented Demand Management Measures (DMMs) in the GSWC Norwalk service area. DMMs are designed to strengthen water resiliency in the face of future droughts and improve the water service reliability and help meet state and regional water conservation goals. GSWC implemented the following DMMs:

- Water waste prevention ordinances
- Metering
- Conservation pricing
- Public education and outreach
- Programs to assess and manage distribution system losses
- Water conservation program coordination and staffing support.

GSWC coordinates its DMMs for GSWC Norwalk as part of a regional effort which covers its Central Basin East Customer Service Area, including portions of Artesia, Cerritos, Downey, Hawaiian Gardens, La Mirada, Lakewood, Long Beach, Norwalk, Santa Fe Springs, and adjacent county territory.

2.6 SUMMARY

This report was prepared to assess the water demand and supply conditions with implementation of the proposed project. According to GSWC Norwalk's 2020 UWMP, GSWC Norwalk has adequate supplies to serve 100% of its customers during normal, dry year, and multiple dry year demand through 2045 with projected population increases and accompanying increases in water demand.

As shown in Section 2.2.2.2, the proposed project would result in a net increase water demand of 111 afy. GSWC supplies are available to serve several neighboring GSWC service areas, including the Norwalk service are, and GSWC manages and moves its water supplies depending upon the needs in a particular GSWC service area. GSWC has a total supply pool of 23,639 afy available for use by GSWC Norwalk and the neighboring GSWC service areas and GSWC Norwalk has the capability of obtaining additional water supplies from GSWC's pool if the need arises. Additionally, the proposed project's population and employment contributions are within SCAG projections for the City. Since the projected demands in the 2020 UWMP are based on SCAG projections, then the proposed project's water demand is within these projections. Therefore, there would be sufficient water supplies to serve the proposed project.

In conclusion, GSWC Norwalk will have sufficient water supplies available through the year 2045 to meet all projected water demands associated with its existing and future customers, including the proposed project. In the event of a water shortage, implementation of GSWC Norwalk's Water Shortage Contingency Plan and

demand management measures would ensure that sufficient water supplies were available to serve its customers, including the project and existing and future users.

3. References

American Leak Detection. March 20, 2022 (accessed). How Much Water Evaporates from a Pool Each Day? https://www.americanleakdetection.com/diy-leak-tests/how-much-water-evaporates-from-a-pool-each-day-/.

California Department of Finance (DOF). May 2022. E-4 Population Estimates for Cities, Counties, and the State, 2021-2022 with 2020 Census Benchmark. https://dof.ca.gov/forecasting/demographics/estimates/e-4-population-estimates-for-cities-counties-and-the-state-2021-2022-with-2020-census-benchmark/.

California Department of Water Resources (DWR). 2015. Model Water Efficient Landscape Ordinance Guidebook Appendix C. https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Water-Use-And-Efficiency/Urban-Water-Use-Efficiency/MWELO-Files/MWELO-Guidebook/C--Landscape-Irrigation-Water-Budget-Overview.pdf.

California Air Pollution Control Officers Association (CAPCOA). 2016. California Emissions Estimator Model Appendix D Default Data Tables. http://www.aqmd.gov/docs/default-source/caleemod/05_appendix-d2016-3-2.pdf?sfvrsn=4.

Golden State Water Company (GSWC). July 15, 2021. Norwalk Service Area 2020 Urban Water Management Plan. https://wuedata.water.ca.gov/public/uwmp_attachments/6124677360/Norwalk%20Final%202020%20UWMP_2021-07-01.pdf.

Los Angeles County Sanitation Districts (LACSD). 2022. County Sanitation District No. 18 Service Charge Report for Fiscal Year 2021-2022. https://www.lacsd.org/home/showpublisheddocument/3074/637643636726630000.

PlaceWorks, 2022. Norwalk Entertainment District – Civic Center Specific Plan Project Draft Environmental Impact Report, Section 5.12, Population and Housing.

Southern California Association of Governments (SCAG). 2020, September 3. Demographics and Growth Forecast. Technical Report. https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocal_demographics-and-growth-forecast.pdf?1606001579.

US Census Bureau. 2020. Decennial Census.

Appendix A Water Demand Budget Sheet

Outdoor Water Demand for Non-Residential Use - Existing Conditions

Irrigation Efficiency Default Value for overhead 0.75 and drip 0.81.

Plant Water Use Type	Plant Factor
Very Low	0 - 0.1
Low	0.2 - 0.3
Medium	0.4 - 0.6
High	0.7 - 1.0
SLA	1.0

Hydrozone	Select System From the Dropdown List click on cell below	Plant Water Use Type (s) (low, medium, high)	Plant Factor (PF)	Hydrozone Area (HA) (ft^2) Without SLA	Irrigation Efficiency (IE)	(PF x HA (ft^2))/IE
Zone 1	**Overhead Spray**	**High**	0.80	178,569	0.75	**190,474**
Zone 2	**Drip**	**Low**	0.30	13,860	0.81	**5,133**
Zone 3						
Zone 4						
Zone 5						
Zone 6						
Zone 7						
Zone 8						
Zone 9						
Zone 10						
Zone 11						
Zone 12						
Zone 13						
Zone 14						
Zone 15						
Zone 16						
Zone 17						
Zone 18						
Zone 19						
Zone 20						
Zone 21						
Zone 22						
Zone 23						
Zone 24						
Zone 25						
Zone 26						
Zone 27						
Zone 28						
Zone 29						
Zone 30						
Zone 31						
Zone 32						
Zone 33						
Zone 34						
Zone 35						
						195,607
		SLA		0		**0**
			Sum	192,429		

ETWU =	**5,408,532**	**Gallons**
	723,018	**Cubic Feet**
	7,230.18	**HCF**
	16.60	**Acre-feet**
	5.41	**Millions of Gallons**

Outdoor Water Demand for Non-Residential Use - Proposed Conditions

Instructions

Cells with pale blue background are for entering data

Results show in cells with tan background

Messages and warnings are displayed in cells with yellow backgroun

1) Select city by clicking on blue cell and

choosing a city from the drop down menu ETo →

appears in the tan cell below the name of the city →

2) Enter square footage of overhead spray ~~irrigated landscape area~~ →

3) Enter square footage of drip irrigated landscape area →

4) Enter square footage of Special Landscape Area (SLA) →

5) MAWA results appear in the tan cells →

6) If you are considering effective precipitation (Eppt), enter total annual precipitation. →

7) Eppt →

8) For comparison, MAWA without effective precipitation is displayed below

MAWA without Eppt (Gallons)

1,716,368.94

Maximum Applied Water Allowance Calculations for New and Rehabilitated Non-Residential Landscapes

Enter value in Pale Blue Cells

Tan Cells Show Results

Messages and Warnings

	Norwalk	Name of City
Click on the blue cell on right to Pick City Name		
ET_o of City from Appendix A	**47.80**	**ET_o** (inches/year)
	128,700	Overhead Landscape Area (ft^2)
		Drip Landscape Area (ft^2)
	0	SLA (ft^2)
Total Landscape Area	**128,700**	
Results:		
(ET_o) x (0.62) x [(0.45 x LA) + (1.0 - 0.45) X SLA)]	-	Gallons
	-	Cubic Feet
	-	HCF
	-	Acre-feet
	-	Millions of Gallons
MAWA calculation incorporating Effective Precipitation (Optional)		
Precipitation (Optional)		
ET_o of City from Appendix A	**48**	ET_o (inches/year)
Total Landscape Area	**128,700**	LA (ft^2)
Special Landscape Area	**0**	SLA (ft^2)
	12.8	Total annual precipitiation (inches/year)
Enter Effective Precipitation	**3.20**	Eppt (in/yr)(25% of total annual precipitation)
Results:		
MAWA = $[(ET_o$ - Eppt) x (0.62)] x [(0.45 x LA) + ((1.0 - 0.45) x SLA)]	**1,601,350**	Gallons
	214,070.04	Cubic Feet
	2,140.70	HCF
	4.91	Acre-feet
	1.60	Millions of Gallons

Pool Water Use

Pool Size				
Length	50			
Width	20			
Depth	7.5			
Volume	7500	cubic feet		
	56,104	gallons		
	0.17	acre-feet		
Evaporation for two pools		0.25	in/day	
		0.021	ft/day	
		42	cf/day	
		312	gal/day	
		113,766	gal/yr	
		0.35	afy	325851.4 af/gal

Appendices

This page intentionally left blank.