

Appendix L4

Sewer System Evaluation

DEXTER WILSON ENGINEERING, INC.

WATER • WASTEWATER • RECYCLED WATER
CONSULTING ENGINEERS

SEWER SYSTEM EVALUATION FOR SUNBOW II, PHASE 3

September 23, 2020

**SEWER SYSTEM EVALUATION
FOR
SUNBOW II, PHASE 3**

September 23, 2020



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Job No. 509-116

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September 23, 2020

509-116

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9707 Waples Street
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Attention: Chuck Cater, Vice President

Subject: Sunbow II, Phase 3 Sewer System Evaluation

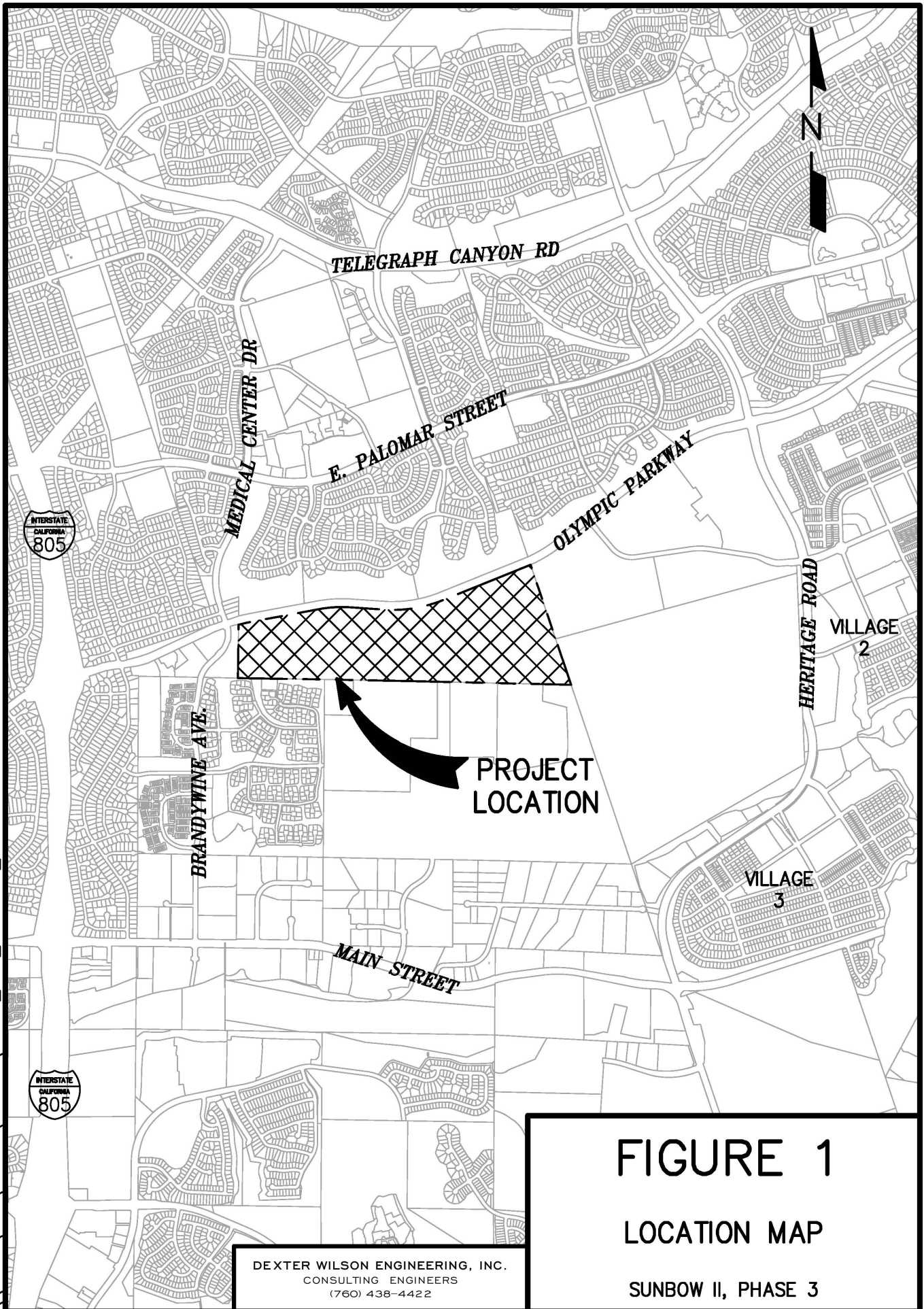
Background

The proposed Sunbow II, Phase 3 project is located in the Sunbow master planned community and is the only planning area that hasn't already been developed. Sunbow II, Phase 3 has been planned as an approximately 64-acre industrial park, but a Specific Planning Area (SPA) Plan Amendment is being proposed to change the land use plan to multi-family residential. Two points of access off Olympic Parkway are proposed in the same locations designated in the 1998 Sunbow SPA Plan. A more detailed project description is provided in Appendix A. All sewer flows from the project will be conveyed to the Poggi Canyon Interceptor Sewer located in Olympic Parkway adjacent to the project. Figure 1 provides a location map for the project.

Purpose

The purpose of this letter-report is to provide an evaluation of the effect that this current proposed SPA Amendment will have on the local and regional sewer system. This letter-report is a supporting document to the SPA Plan Amendment being processed for the project.

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Land Use Summary

Table 1 summarizes the previously approved development in Sunbow II, Phase 3 along with the new development currently being proposed.

TABLE 1 SUNBOW II, PHASE 3 SPA AMENDMENT		
Land Use	Originally Approved	Currently Proposed
MF Residential Units	---	718 units
Community Purpose Facility	---	0.9 ac
Industrial	54.6 acres ¹	---

¹ Per Poggi Canyon Basin Development Impact Fee (DIF) Study (PMC, 2009).

Sewer Generation Factors

Since the time of the 2009 Poggi Canyon Basin Development Impact Fee (DIF) Study, the City of Chula Vista has adopted updated sewer generation factors to estimate flows from various land uses. Table 2 summarizes the sewer generation factor that was utilized in the preparation of this study.

TABLE 2 SEWER GENERATION FACTOR	
Land Use	Generation Factor
MF Residential Units	182 gpd/unit
Community Purpose Facility	1,313 gpd/ac

Comparison to DIF Report

To evaluate the impact that the proposed land use changes will have on the sewer collection system, an estimate of projected sewage flows and comparison to previous studies is necessary. The 2009 Poggi Canyon Basin DIF Study prepared by PMC provided the projected sewer flows when the project was initially approved. Table 3 provides a comparison between projected sewer flows from the Poggi DIF study and based on the current land use plan with updated sewer generation factors, per the proposed SPA Amendment. As shown, a total decrease of approximately 20 EDUs is estimated for the current SPA Amendment Plan.

TABLE 3 SUNBOW II, PHASE 3 SEWER FLOW SUMMARY				
Land Use	Acres	Building Units	Generation Factor	Average Flow (gpd)
2009 Poggi Canyon Basin DIF Sewer Flow				
Industrial	54.6 ¹	---	2,500 gpd/ac	136,500
Current Proposed Sewer Flow				
MF Residential Units	---	718	182 gpd/unit	130,676
Community Purpose	0.9	---	1,313 gpd/ac	1,182
Subtotal				131,858
Increased Sewer Flow				(4,642)
Increased Sewer EDUs²				(20)

¹ From 2009 Poggi Basin DIF Study.

² Based on 230 gpd/EDU.

Onsite Sewer System

The proposed onsite sewer system for the Sunbow II, Phase 3 project consists of gravity sewer lines that will convey flow to the Poggi Canyon Interceptor in Olympic Parkway. Based on the average flow presented in Table 3 and a peak factor of 2.33 from the City Subdivision Manual, the projected peak flow for the project is 0.31 mgd. An 8-inch gravity sewer line with a minimum slope of 1.0 percent is adequate to convey this total project flow. It is anticipated that an 8-inch public sewer line will be constructed onsite to convey flows to the point of connection with the Poggi Canyon Interceptor. Private sewer lines will be connected to this 8-inch public sewer line and extended to the proposed building sewer laterals. Figure 2 provides the proposed onsite sewer system layout.

Poggi Canyon Interceptor

The available capacity in the Poggi Canyon Interceptor was evaluated in the April 2009 Poggi Canyon Basin Gravity Sewer Development Impact Fee Update prepared by PMC. Available capacity in the interceptor has been updated several times in recent years by proposed developments within the Poggi Canyon Basin. All previous studies have been based on industrial land use for Sunbow II, Phase 3. Since the projected flows from the site based on the current land use plan are reduced from the industrial alternative, no new improvements to the Poggi Interceptor are required as a result of the proposed land use change for Sunbow II, Phase 3.

Since there are planned improvements to the proposed Poggi Canyon Interceptor prior to full buildout of development, it is necessary to establish the development thresholds at which these improvements will be required. The improvements to critical sections of the Poggi Canyon Interceptor will be funded from the Development Impact Fee that has been collected from all units that convey flow to the Poggi Canyon Interceptor. The City of Chula Vista will perform flow metering of critical reaches of the Poggi Canyon Interceptor to assist in determining the timing of the work to upsize these critical pipe segments.

Chuck Cater
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Conclusion

The Sunbow II, Phase 3 project can receive sewer service by constructing onsite 8-inch gravity sewer lines and connecting to the Poggi Canyon Interceptor in Olympic Parkway. The project flows from the project are slightly lower than were projected in previous Poggi Canyon Basin Studies and, therefore, the proposed project amendment does not require any new improvements to the Poggi Canyon Interceptor or accelerate any previously identified improvements. Based on flow monitoring by the City of Chula Vista, the timing for replacement of the critical reaches will be determined and implemented by the City of Chula Vista. The Sunbow II, Phase 3 project will fund their fair share of Poggi Canyon Interceptor improvements through the payment of the Poggi Development Impact Fee.

If you have any questions or require additional information, please let us know.

Dexter Wilson Engineering, Inc.

Stephen M. Nielsen, P.E.

SMN:ps

FIGURE 2

PROPOSED SEWER SYSTEM

SUNBOW II, PHASE 3

APPENDIX A

LAND USE PROJECT DESCRIPTION

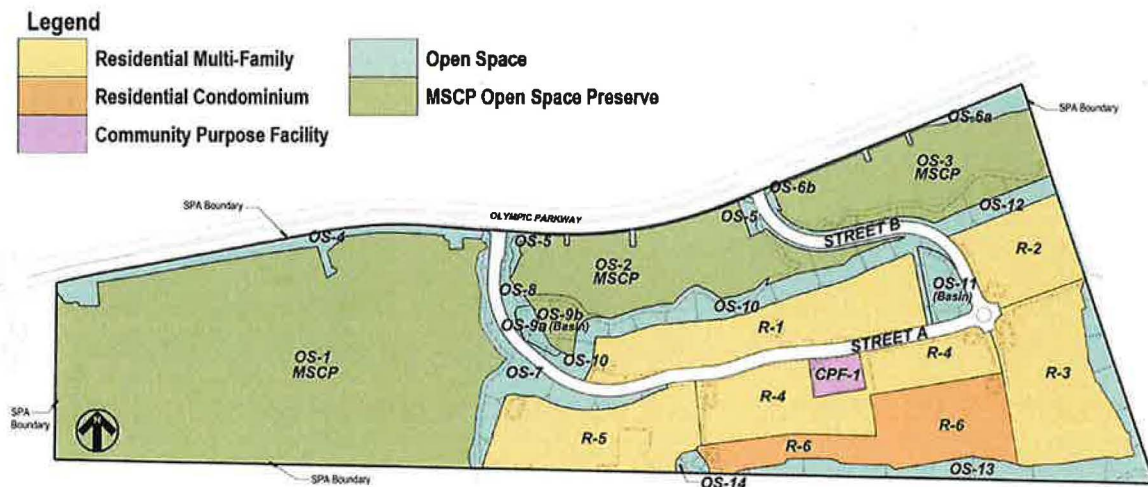
**Sunbow II, Phase 3
Project Description
Revised 9/17/2020**

Sunbow II, Phase 3 Sectional Planning Area (SPA) Plan Amendment encompasses approximately 135.7¹ acres (Project Area) that includes a 67.5 development area comprised of 44.2 acres of residential, a 0.9-acre Community Purpose Facility (CPF) site, 5.9 acres of public streets and 16.5 manufactured slopes/basins/wetland resource and associated buffer area. Approximately 4.3 acres of conserved Poggi Canyon Easement areas, a 0.3 acre wetland avoidance area and 63.6² acres of adjacent MSCP Preserve area are also within the Project Area.

The Proposed Project's residential land use includes four unique multi-family attached residential product types with 15 unique floor plans, ranging in square footage from approximately 1,100 to 2,050 square feet in two- and three-story units. Each home includes a two-car garage and two to four bedrooms.

The Proposed Project includes a Chula Vista General Plan Amendment, Sunbow General Development Plan Amendment, Sunbow II SPA Plan Amendment, a rezone, and a Tentative Map. The Proposed Project also includes a Chula Vista MSCP Boundary Adjustment to implement minor adjustments to the development limits and the adjacent MSCP Preserve areas that would result in a 0.09-acre increase to MSCP Preserve Area and an MSCP Minor Amendment to address off-site grading adjacent to the southwestern boundary of the development area.

Sunbow II, Phase 3 Site Utilization Plan (revised)



¹ Acreages are rounded to the nearest 1/10th acre and may vary slightly from calculated total.

² The Proposed MSCP area includes approximately 1.31 acres of "Mapping Correction Area" and approximately 1.12 acres of MSCP Allowable Use (Basin – Future Facility).

Sunbow II, Phase 3 Site Utilization Table

Sunbow II, Phase 3	Land Use District	Acres ³	Units	Density
Multi-Family Residential				
R-1	RM	8.5	131	15.4
R-2	RM	4.6	73	15.8
R-3	RM	8.1	108	13.3
R-4	RM	8.2	118	14.4
R-5	RM	7.1	104	14.7
R-6	RC	7.6	184	24.1
Subtotal Residential		44.2	718	16.3
Other				
Community Purpose Facility	CPF	0.9		
MSCP Preserve Conserved Open Space (OS-1,2, 3 and OS-9b)	OSP	63.6		
Poggi Creek Easement Conserved Area (OS-4, 5, 6a and 6b)	OS	4.3		
Manufactured Slopes/Basins (OS-7, 8, 9a 10 -13)	OS	16.5		
Wetland Avoidance Area (OS-14)	OS	0.3		
Public Streets	Circulation	5.9		
Subtotal Other		91.5		
TOTAL		135.7	718	16.3

³ Acreages rounded to nearest 1/10th acre and may vary slightly from the calculated total.

Sunbow II, Phase 3 Surrounding Land Uses

