

I. INTRODUCTION

A. BACKGROUND

The North Vineyard Station Specific Plan (NVSSP) area, which encompasses approximately 1,596 acres, is located in South Sacramento County (Figure 1). The NVSSP was approved by the Sacramento County Board of Supervisors in the fall of 1998. In developing the NVSSP, the Sacramento County Water Resources Division (now the Sacramento County Department of Water Resources [SCDWR]) obtained the services of Mr. Doug Hamilton to prepare a hydrologic and hydraulic analysis of the Elder Creek and Gerber Creek drainage system. Mr. Hamilton utilized the UNET modeling program to perform his analysis. UNET is a one-dimensional unsteady flow model that can be used to estimate flows and stages in a complex network of open channels, floodplains, and detention storage areas. UNET also accounts for changes in floodplain detention and storage as the water level increases and decreases. A discussion of hydrologic/hydraulic modeling programs commonly used for drainage/flood control analyses, is presented in Appendix A.

The results of Mr. Hamilton's analysis of the Elder Creek and Gerber Creek drainage system are presented in the report entitled, "Elder and Gerber Creeks Technical Appendix: UNET Analysis," dated January 1997. Mr. Hamilton's work provided the basis for comprehensive drainage planning for the Elder Creek and Gerber Creek basins.

As part of the NVSSP planning process, MacKay & Soms Civil Engineers, Inc. (MacKay & Soms) prepared a Drainage Master Plan (DMP), dated January 30, 1998. A Preferred Drainage Plan was identified in the NVSSP DMP. A Capital Improvement Program (CIP) and Financing Strategy were also developed as part of the NVSSP. The CIP and Financing Strategy identified cost estimates for the infrastructure and potential funding sources to serve the NVSSP area. Costs associated with drainage were based upon the Preferred Drainage Plan formulated by MacKay & Soms.

In the interest of moving forward with development within the NVSSP area, a meeting was held with SCDWR to discuss the strategy and scope for an NVSSP Drainage Phasing Study. Subsequently, Borcalli & Associates, Inc., on behalf of Lennar Communities, Inc. and US Home Corporation, evaluated drainage facilities required to accommodate development of Phase A1 of the NVSSP consistent with the original objectives of the DMP and SCDWR's criteria. The results of this evaluation are presented in a report entitled, "Technical Memorandum No. 1, North Vineyard Specific Plan, Drainage Phasing Study," dated April 19, 2000. From the results of the evaluation, Lennar Communities and US Home Corporation, in consultation with the SCDWR, determined it was not financially feasible to construct features of the Preferred Drainage Plan to accommodate development of Phase A1.

In the interest of developing a financially feasible plan for phasing development within the NVSSP area, Borcalli & Associates, on behalf of Lennar Communities and US Home Corporation, evaluated phasing alternatives. The results of the evaluation are presented in the report entitled, "North Vineyard Station Specific Plan, Drainage Master Plan, Phasing Concept," dated April 10, 2001. The phasing concept developed by Borcalli & Associates, which included pumping from newly constructed detention basins into unimproved channels on an interim basis, appeared to offer a feasible means of phasing development that would be financially feasible and provide the level of flood protection and mitigation of impacts consistent with Sacramento County's objectives, policies, and standards. The phasing concept outlined in the above-referenced report, would allow deferring the construction of improved drainage channels until sufficient development occurred to generate revenues required to fund the drainage facilities. Since interim pumping of storm drainage was not a component of the Preferred Drainage Plan for the NVSSP area, the concept of interim pumping of storm drainage to phase development was presented to the Sacramento County Board of Supervisors for consideration.

In July 2001, the Board of Supervisors advised SCDWR that interim pumping could be considered in phasing development within the NVSSP area, however, more detailed information was needed before a decision could be made to accept the proposed concept.

During the preparation of this report, Borcalli & Associates merged with Wood Rodgers, Inc. Accordingly, this report was prepared by Wood Rodgers, Inc.

B. PURPOSE

Although not a part of the original NVSSP DMP document, the policy prohibiting storm drainage pumping within the NVSSP area was introduced by the Sacramento County Board of Supervisors upon adoption of the NVSSP. It was for this provision that Borcalli & Associates prepared the Phasing Concept mentioned in the Introduction. Upon review of the concept by SCDWR, and expressed willingness of the Sacramento County Board of Supervisors to consider pumping of storm drainage on an interim basis, Wood Rodgers was requested to update the DMP and develop a drainage plan to support phasing development within the NVSSP area. Accordingly, the purpose of this update is to develop the information necessary for the Board of Supervisors to make a decision on phasing the construction of storm drainage facilities to accommodate development within the NVSSP area. In developing a phasing plan for storm drainage facilities, it was essential from the county's standpoint to complete construction of the Preferred Drainage Plan facilities as early as possible.