



State of California – Natural Resources Agency  
DEPARTMENT OF FISH AND WILDLIFE  
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**GAVIN NEWSOM, Governor**  
**CHARLTON H. BONHAM, Director**



March 12, 2024

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**SUBJECT: ARMORLITE LOFTS (PROJECT); NOTICE OF PREPARATION (NOP) OF A DRAFT ENVIRONMENTAL IMPACT REPORT (DEIR); SCH #2024020372; SAN DIEGO COUNTY, CA**

Dear Sean del Solar:

The California Department of Fish and Wildlife (CDFW) has reviewed the above-referenced NOP for the Project pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines.<sup>1</sup>

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, CDFW appreciates the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

**CDFW ROLE**

CDFW is California's **Trustee Agency** for fish and wildlife resources and holds those resources in trust by statute for all the people of the State. (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a).) CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (*Id.*, § 1802.). Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

CDFW is also submitting comments as a **Responsible Agency** under CEQA. (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381.) CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code. As proposed, for example, the Project may be subject to CDFW's lake and streambed alteration regulatory authority. (Fish & G. Code, § 1600 et seq.) Likewise, to the extent implementation of the Project as proposed may result in "take" as defined by State law of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), the project proponent may seek related take authorization as provided by the Fish and Game Code.

CDFW also administers the Natural Community Conservation Planning (NCCP) program, a California regional habitat conservation planning program. The City of San Marcos has prepared a draft Multiple Habitat Conservation Program (MHCP) Subarea Plan but does not yet have a signed MHCP implementing agreement.

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<sup>1</sup> CEQA is codified in the California Public Resources Code in section 21000 et seq. The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

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PROJECT DESCRIPTION SUMMARY

**Proponent:** City of San Marcos (City)

**Objective:** The objective of the Project is to develop 2.44 acres to build 165 residential apartments; approximately 5,600 square feet of commercial use space, parking, shared indoor space; and both private and shared outdoor spaces. The Project will also involve grading, potential use of blasting and/or a rock crusher, construction of retaining walls, and landscaping.

**Location:** The Project site is located at 225 North Las Posas Road in the City. The site is located on the north side of Armorlite Drive generally between North Las Posas Road to the west and Bingham Drive to the east. Primary access to the Project site will be through an unsignalized driveway on Armorlite Drive.

**Biological Setting:** According to the Initial Study, the majority of the Project site contains disturbed Diegan coastal sage scrub, which can provide nesting and foraging habitat for special status species such as the coastal California gnatcatcher (*Polioptila californica californica*; CDFW Species of Special Concern (SSC), Federal Endangered Species Act (ESA) listed-threatened). The Project site is within designated critical habitat for San Diego fairy shrimp (*Branchinecta sandiegonensis*; ESA listed-endangered); however, the Initial Study states that no aquatic resources are present on site. The Project will impact all vegetation on site. According to the NOP, the Project will be required to mitigate for impacts to sensitive habitats consistent with the ratios identified in the County of San Diego MHCP and the City’s Draft Subarea Plan. The NOP states that this topic will be further analyzed in the EIR.

COMMENTS AND RECOMMENDATIONS

CDFW offers the comments and recommendations below to assist the City in adequately identifying and/or mitigating the Project’s significant, or potentially significant, direct and indirect impacts on fish and wildlife (biological) resources.

Specific Comments

- 1) Surveys. Per the Initial Study, focused surveys were completed for coastal California gnatcatcher, rare plants, and aquatic resources, and results for all of these surveys were negative. However, details of these surveys were not provided in the Initial Study. The DEIR should include information about survey methodology, time of year, and details of results. Without this information, CDFW cannot determine whether assuming absence of sensitive species is biologically appropriate. CDFW recommends coordination with the United States Fish and Wildlife Service regarding coastal California gnatcatcher survey protocols.

General Comments

- 1) Disclosure. The DEIR should provide an adequate, complete, and detailed disclosure about the effect which a proposed project is likely to have on the environment (Pub. Resources Code, § 20161; CEQA Guidelines, § 15151). Adequate disclosure is necessary so CDFW may provide comments on the adequacy of proposed avoidance, minimization, or mitigation measures, as well as to assess the significance of the specific impact relative to plant and wildlife species impacted (e.g., current range, distribution, population trends, and connectivity).
- 2) Mitigation Measures. Public agencies have a duty under CEQA to prevent significant, avoidable damage to the environment by requiring changes in a project through the use of feasible alternatives or mitigation measures [CEQA Guidelines, §§ 15002(a)(3), 15021]. Pursuant to CEQA Guidelines section 15126.4, an environmental document “shall describe feasible measures which could mitigate for impacts below a significant

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level under CEQA.” Specifically, the DEIR should describe how the Project will mitigate for impacts to coastal sage scrub habitat.

- a. Level of Detail. Mitigation measures must be feasible, effective, implemented, and fully enforceable/imposed by the lead agency through permit conditions, agreements, or other legally binding instruments (Pub. Resources Code, § 21081.6(b); CEQA Guidelines, § 15126.4). A public agency “shall provide the measures that are fully enforceable through permit conditions, agreements, or other measures” (Pub. Resources Code, § 21081.6). The DEIR should provide mitigation measures that are specific and detailed (i.e., responsible party, timing, specific actions, location) in order for a mitigation measure to be fully enforceable and implemented successfully via a mitigation monitoring and/or reporting program (Pub. Resources Code, § 21081.6; CEQA Guidelines, § 15097).
  - b. Disclosure of Impacts. If a proposed mitigation measure would cause one or more significant effects, in addition to impacts caused by the proposed Project, the DEIR should include a discussion of the effects of proposed mitigation measures [CEQA Guidelines, § 15126.4(a)(1)]. In that regard, the DEIR should provide an adequate, complete, and detailed disclosure about the Project’s proposed mitigation measure(s). Adequate disclosure is necessary so CDFW may assess the potential impacts of proposed mitigation measures.
- 3) Biological Baseline Assessment. An adequate biological resources assessment should provide a complete assessment and impact analysis of the flora and fauna within and adjacent to the Project site and where the Project may result in ground disturbance. The assessment and analysis should place emphasis on identifying endangered, threatened, rare, and sensitive species; regionally and locally unique species; and sensitive habitats. An impact analysis will aid in determining the Project’s potential direct, indirect, and cumulative biological impacts, as well as specific mitigation or avoidance measures necessary to offset those impacts. CDFW also considers impacts to SSC a significant direct and cumulative adverse effect without implementing appropriate avoidance and/or mitigation measures. The DEIR should include the following information:
- a. Information on the regional setting that is critical to an assessment of environmental impacts, with special emphasis on resources that are rare or unique to the region [CEQA Guidelines, § 15125(c)]. The DEIR should include measures to fully avoid and otherwise protect Sensitive Natural Communities. CDFW considers Sensitive Natural Communities as threatened habitats having both regional and local significance. Natural communities, alliances, and associations with a State-wide rarity ranking of S1, S2, and S3 should be considered sensitive and declining at the local and regional level. These ranks can be obtained by visiting the [Vegetation Classification and Mapping Program - Natural Communities](#) webpage (CDFW 2022c);
  - b. A thorough, recent, floristic-based assessment of special status plants and natural communities following CDFW’s [Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities](#) (CDFW 2018). Botanical field surveys should be comprehensive over the entire Project site, including areas that will be directly or indirectly impacted by the Project. Adjoining properties should also be surveyed where direct or indirect Project effects could occur, such as those from fuel modification, herbicide application, invasive species, and altered hydrology. Botanical field surveys should be conducted in the field at the times of year when plants will be both evident and identifiable. Usually, this is during flowering or fruiting. Botanical field survey visits should be spaced throughout the growing season to accurately determine what plants exist in the Project site. This usually involves multiple visits to the Project site (e.g., in early, mid, and late-season) to capture the floristic diversity at a level necessary to determine if special status plants are present;
  - c. Floristic alliance- and/or association-based mapping and vegetation impact assessments conducted in the Project site and within adjacent areas. The [Manual](#)

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[of California Vegetation](#) (MCV), second edition, should also be used to inform this mapping and assessment. Adjoining habitat areas should be included in this assessment where the Project's construction and activities could lead to direct or indirect impacts off site;

- d. A complete and recent assessment of the biological resources associated with each habitat type in the Project site and within adjacent areas. CDFW's [California Natural Diversity Database](#) should be accessed to obtain current information on any previously reported sensitive species and habitat (CDFW 2022d). An assessment should include a minimum nine-quadrangle search of the CNDDDB to determine a list of species potentially present in the Project site. A nine-quadrangle search should be provided in the Project's CEQA document for adequate disclosure of the Project's potential impact on biological resources. Please see [CNDDDB Data Use Guidelines – Why do I need to do this?](#) for additional information (CDFW 2011);
  - e. A lack of records in the CNDDDB does not mean that rare, threatened, or endangered plants and wildlife do not occur. Field verification for the presence or absence of sensitive species is necessary to provide a complete biological assessment for adequate CEQA review [CEQA Guidelines, § 15003(i)];
  - f. A complete, recent, assessment of endangered, rare, or threatened species and other sensitive species within the Project site and adjacent areas, including SSC and California Fully Protected Species (Fish & G. Code, §§ 3511, 4700, 5050, and 5515). Species to be addressed should include all those which meet the CEQA definition of endangered, rare, or threatened species (CEQA Guidelines, § 15380). Seasonal variations in use of the Project site should also be addressed such as wintering, roosting, nesting, and foraging habitat. Focused species-specific surveys, conducted at the appropriate time of year and time of day when the sensitive species are active or otherwise identifiable, may be required if suitable habitat is present. See CDFW's [Survey and Monitoring Protocols and Guidelines](#) for established survey protocol (CDFW 2022e). Acceptable species-specific survey procedures may be developed in consultation with CDFW and USFWS; and,
  - g. A recent wildlife and rare plant survey. CDFW generally considers biological field assessments for wildlife to be valid for a one-year period, and assessments for rare plants may be considered valid for a period of up to three years. Some aspects of the proposed Project may warrant periodic updated surveys for certain sensitive taxa, particularly if Project implementation build out could occur over a protracted time frame or in phases.
- 4) Direct and Indirect Impacts on Biological Resources. The DEIR should provide a thorough discussion of direct and indirect impacts expected to adversely affect biological resources with specific measures to offset such impacts. The DEIR should address the following:
- a. A discussion regarding Project-related indirect impacts on biological resources, including resources in nearby public lands, open space, adjacent natural habitats, riparian ecosystems, and any designated and/or proposed or existing reserve lands [e.g., preserve lands associated with a Natural Community Conservation Plan (Fish & G. Code, § 2800 et. seq.)]. Impacts on, and maintenance of, wildlife corridor/movement areas, including access to undisturbed habitats in areas adjacent to the Project, should be fully analyzed and discussed in the DEIR;
  - b. A discussion of both the short-term and long-term effects of the Project on species population distribution and concentration, as well as alterations of the ecosystem supporting those species impacted [CEQA Guidelines, § 15126.2(a)];
  - c. A discussion of potential adverse impacts from lighting, noise, temporary and permanent human activity, and exotic species, and identification of any mitigation measures;

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- d. A discussion of post-Project fate of drainage patterns, surface flows, and soil erosion and/or sedimentation in streams and water bodies. The discussion should also address the potential water extraction activities and the potential resulting impacts on habitat (if any) supported by the groundwater. Measures to mitigate such impacts should be included; and
  - e. An analysis of impacts from proposed changes to land use designations and zoning, and existing land use designation and zoning located nearby or adjacent to natural areas that may inadvertently contribute to wildlife-human interactions. A discussion of possible conflicts and mitigation measures to reduce these conflicts should be included in the DEIR.
- 5) Project Description and Alternatives. To enable adequate review and comment on the proposed Project from the standpoint of the protection of fish, wildlife, and plants, CDFW recommends the following information be included in the DEIR:
- a. A complete discussion of the purpose and need for, and description of the proposed Project;
  - b. Pursuant to CEQA Guidelines section 15126.6(a), an environmental document “shall describe a reasonable range of potentially feasible alternatives to the Project, or to the location of the Project, which would feasibly attain most of the basic objectives of the Project but would avoid or substantially lessen any of the significant effects of the Project.” CEQA Guidelines section 15126.6(f)(2) states if the lead agency concludes that no feasible alternative locations exist, it must disclose the reasons for this conclusion; and,
  - c. A range of feasible alternatives to the Project location to avoid or otherwise minimize direct and indirect impacts on sensitive biological resources and wildlife movement areas. CDFW recommends the City select Project designs and alternatives that would avoid or otherwise minimize direct and indirect impacts on biological resources. CDFW also recommends the City consider establishing appropriate setbacks from sensitive and special status biological resources. Setbacks should not be impacted by ground disturbance or hydrological changes from any future Project-related construction, activities, maintenance, and development. As a general rule, CDFW recommends reducing or clustering a development footprint to retain unobstructed spaces for vegetation and wildlife and provide connections for wildlife between properties and minimize obstacles to open space.
- Project alternatives should be thoroughly evaluated, even if an alternative would impede, to some degree, the attainment of the Project objectives or would be more costly (CEQA Guidelines, § 15126.6). The DEIR “shall” include sufficient information about each alternative to allow meaningful evaluation, public participation, analysis, and comparison with the proposed Project (CEQA Guidelines, § 15126.6).
- d. Where the Project may impact aquatic and riparian resources, CDFW recommends the City select Project designs and alternatives that would fully avoid impacts to such resources. CDFW also recommends an alternative that would not impede, alter, or otherwise modify existing surface flow, watercourse and meander, and water-dependent ecosystems and natural communities. Project designs should consider elevated crossings to avoid channelizing or narrowing of watercourses. Any modifications to a river, creek, or stream may cause or magnify upstream bank erosion, channel incision, and drop in water level and cause the watercourse to alter its course of flow.
- 6) Cumulative Impact. Cumulative impacts on biological resources can result from collectively significant projects. The Project, when considered collectively with prior, concurrent, and probable future projects, may have a significant cumulative effect on biological resources. The Project may have a potential to substantially reduce the number or restrict the range of endangered, rare, or threatened species. Species that

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may be impacted by the Project include, but is not limited to, the biological resources described in this letter.

Accordingly, CDFW recommends the DEIR evaluate the Project's potential cumulative impacts on biological resources. The Project may have a "significant effect on the environment" if the possible effects of the Project are individually limited but cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects [Pub. Resources Code, § 21083(b)]. The City's conclusions regarding the significance of the Project's cumulative impact should be justified and supported by evidence to make those conclusions. Specifically, if the City concludes that the Project would not result in cumulative impacts on biological resources, the City "shall identify facts and analysis supporting the City's conclusion that the cumulative impact is less than significant" [CEQA Guidelines section § 15130(a)(2)].

When using a threshold of significance, the DEIR should briefly explain how compliance with the threshold means that the Project's impacts are less than significant. A threshold of significance is an identifiable quantitative, qualitative, or performance level of a particular environmental effect [CEQA Guidelines, § 15064.7]. Compliance with the threshold does not relieve the City's obligation to consider substantial evidence indicating that the Project's environmental effects may still be significant [CEQA Guidelines, § 15064(b)(2)]. Alternatively, if the City concludes that the Project might contribute to a significant cumulative impact, but the contribution will be rendered less than cumulatively considerable through implementation of mitigation measures, the DEIR should briefly explain how the contribution has been rendered by the City to be less than cumulatively considerable. The City "shall identify facts and analysis supporting the City's conclusion that the contribution will be rendered less than cumulatively considerable" [CEQA Guidelines section, § 15130(a)(3)].

- 7) Data. CEQA requires that information developed in environmental impact reports be incorporated into a database which may be used to make subsequent or supplemental environmental determinations [Pub. Resources Code, § 21003, subd. (e)]. Accordingly, please report any special status species and sensitive natural communities detected by completing and submitting [CNDDB Field Survey Forms](#) (CDFW 2022f). To submit information on special status native plant populations and sensitive natural communities, the [Combined Rapid Assessment and Relevé Form](#) should be completed and submitted to CDFW's Vegetation Classification and Mapping Program (CDFW 2022g). The City should ensure data collected for the preparation of the DEIR be properly submitted, with all data fields applicable filled out.
- 8) Compensatory Mitigation. The DEIR should include compensatory mitigation measures for the Project's significant direct and indirect impacts to sensitive and special status plants, animals, and habitats. Mitigation measures should emphasize avoidance and minimization of Project-related impacts. For unavoidable impacts, on-site habitat restoration or enhancement should be discussed in detail. If on-site mitigation is not feasible or would not be biologically viable and therefore inadequate to mitigate the loss of biological functions and values, off-site mitigation through habitat creation and/or acquisition and preservation in perpetuity should be addressed. Areas proposed as mitigation lands should be protected in perpetuity with a conservation easement and financial assurance and dedicated to a qualified entity for long-term management and monitoring. Under Government Code, section 65967, the Lead Agency must exercise due diligence in reviewing the qualifications of a governmental entity, special district, or nonprofit organization to effectively manage and steward land, water, or natural resources on mitigation lands it approves.
- 9) Long-term Management of Mitigation Lands. For proposed preservation and/or restoration, the DEIR should include measures to protect the targeted habitat values from direct and indirect negative impacts in perpetuity. The objective should be to offset Project-induced qualitative and quantitative losses of wildlife habitat values. Issues that should be addressed include (but are not limited to) restrictions on access, proposed land dedications, monitoring and management programs, control of illegal dumping,

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water pollution, and increased human intrusion. An appropriate endowment should be set aside to provide for long-term management of mitigation lands.

- 10) Wildlife Friendly Fencing. Fencing could obstruct wildlife movement and result in wildlife injury or mortality due to impalement and entanglement (e.g., chain link fencing). If the Project would include temporary and/or permanent fencing, prior to preparation of the DEIR, CDFW recommends the City provide wildlife friendly fencing designs. Fencing designs should be disclosed and evaluated in the DEIR for potential impacts on biological resources and wildlife movement. The DEIR should discuss how fencing proposed for the Project would minimize impacts on biological resources, specifically wildlife movement. CDFW supports the use of wildlife-friendly fencing. Wildlife-friendly fencing should be used and strategically placed in areas of high biological resource value in order to protect biological resources, habitat, and wildlife movement. CDFW recommends [A Landowner's Guide to Wildlife Friendly Fences](#) for information wildlife-friendly fences (MFWP 2012).
- 11) Use of Native Plants and Trees. CDFW recommends the City require the Project Applicant to provide a native plant palette for the Project. The Project's landscaping plan should be disclosed and evaluated in the DEIR for potential impacts on biological resources such as natural communities adjacent to the Project site (e.g., introducing non-native, invasive species). CDFW strongly recommends avoiding non-native, invasive species for landscaping and restoration, particularly any species listed as 'Moderate' or 'High' by the [California Invasive Plant Council](#) (Cal-IPC 2022). CDFW supports the use of native species found in naturally occurring plant communities within or adjacent to the Project site. In addition, CDFW supports planting species of trees, such as oaks (*Quercus* genus), and understory vegetation (e.g., ground cover, subshrubs, and shrubs) that create habitat and provide a food source for birds. CDFW recommends retaining any standing, dead, or dying tree (snags) where possible because snags provide perching and nesting habitat for birds and raptors. Finally, CDFW supports planting species of vegetation with high insect and pollinator value.
- 12) Translocation/Salvage of Plants and Animal Species. Translocation and transplantation is the process of removing plants and wildlife from one location and permanently moving it to a new location. CDFW generally does not support the use of translocation or transplantation as the primary mitigation strategy for unavoidable impacts to endangered, rare, or threatened plants and animals. Studies have shown that these efforts are experimental and the outcome unreliable. CDFW has found that permanent preservation and management of habitat capable of supporting these species is often a more effective long-term strategy for conserving plants and animals and their habitats.
- 13) Wetland Resources. CDFW, as described in Fish and Game Code section 703(a), is guided by the Fish and Game Commission's (Commission) policies. The [Wetlands Resources](#) policy the Commission "...seek[s] to provide for the protection, preservation, restoration, enhancement, and expansion of wetland habitat in California" (CFGC 2020). Further, it is the policy of the Fish and Game Commission to strongly discourage development in or conversion of wetlands. It opposes, consistent with its legal authority, any development or conversion that would result in a reduction of wetland acreage or wetland habitat values. To that end, the Commission opposes wetland development proposals unless, at a minimum, project mitigation assures there will be 'no net loss' of either wetland habitat values or acreage. The Commission strongly prefers mitigation which would achieve expansion of wetland acreage and enhancement of wetland habitat values."
  - a. The Wetlands Resources policy provides a framework for maintaining wetland resources and establishes mitigation guidance. CDFW encourages avoidance of wetland resources as a primary mitigation measure and discourages the development or type conversion of wetlands to uplands. CDFW encourages activities that would avoid the reduction of wetland acreage, function, or habitat values. Once avoidance and minimization measures have been exhausted, a project should include mitigation measures to assure a "no net loss" of either wetland habitat values, or acreage, for unavoidable impacts to wetland resources. Conversions include, but are not limited to, conversion to subsurface drains,

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placement of fill or building of structures within the wetland, and channelization or removal of materials from the streambed. All wetlands and watercourses, whether ephemeral, intermittent, or perennial, should be retained and provided with substantial setbacks, which preserve the riparian and aquatic values and functions benefiting local and transient wildlife populations. CDFW recommends mitigation measures to compensate for unavoidable impacts be included in the DEIR and these measures should compensate for the loss of function and value.

- b. The Fish and Game Commission's Water policy guides CDFW on the quantity and quality of the waters of this State that should be apportioned and maintained respectively so as to produce and sustain maximum numbers of fish and wildlife; to provide maximum protection and enhancement of fish and wildlife and their habitat; encourage and support programs to maintain or restore a high quality of the waters of this State; prevent the degradation thereof caused by pollution and contamination; and, endeavor to keep as much water as possible open and accessible to the public for the use and enjoyment of fish and wildlife. CDFW recommends avoidance of water practices and structures that use excessive amounts of water, and minimization of impacts that negatively affect water quality, to the extent feasible (Fish & G. Code, § 5650).

14) Lake and Streambed Alteration. CDFW has regulatory authority over activities in streams that will divert or obstruct the natural flow, or change the bed, channel, or bank (which may include associated riparian resources) of any river, stream, or lake or use material from a river, stream, or lake. For any such activities, the Project applicant (or "entity") must provide written notification to CDFW pursuant to section 1600 et seq. of the Fish and Game Code. Based on this notification and other information, CDFW determines whether a Lake and Streambed Alteration Agreement (LSAA) with the applicant is required prior to conducting the proposed activities. CDFW's issuance of a LSAA for a project that is subject to CEQA will require CEQA compliance actions by CDFW as a Responsible Agency. CDFW recommends that the City assess whether notification is appropriate. A Notification package for a LSAA may be obtained by accessing CDFW's web site at <http://www.wildlife.ca.gov/Conservation/LSA>.

15) CESA. CDFW considers adverse impacts to a species protected by CESA to be significant without mitigation under CEQA. As to CESA, take of any endangered, threatened, candidate species, or CESA-listed plant species that results from the Project is prohibited, except as authorized by state law (Fish & G. Code §§ 2080, 2085; Cal. Code Regs., tit. 14, §786.9). Consequently, if the Project or any Project-related activity will result in take of a species designated as endangered or threatened, or a candidate for listing under CESA, CDFW recommends that the Project proponent seek appropriate take authorization under CESA prior to implementing the Project. Appropriate authorization from CDFW may include an Incidental Take Permit (ITP) or a consistency determination in certain circumstances, among other options [Fish & G. Code, §§ 2080.1, 2081, subds. (b) and (c)]. Early consultation is encouraged, as significant modification to a Project and mitigation measures may be required to obtain a CESA Permit. Revisions to the Fish and Game Code, effective January 1998, may require that CDFW issue a separate CEQA document for the issuance of an ITP unless the Project CEQA document addresses all Project impacts to CESA-listed species and specifies a mitigation monitoring and reporting program that will meet the requirements of an ITP. For these reasons, biological mitigation monitoring and reporting proposals should be of sufficient detail and resolution to satisfy the requirements of a CESA ITP.

## ENVIRONMENTAL DATA

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations. (Pub. Resources Code, § 21003, subd. (e).) Accordingly, please report any special status species and natural communities detected during Project surveys to the California Natural Diversity Database (CNDDDB). The CNDDDB field survey form can be found at the following link: [http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/CNDDDB\\_FieldSurveyForm.pdf](http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/CNDDDB_FieldSurveyForm.pdf). The completed form can be mailed electronically to CNDDDB at the following email address:

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[CNDDDB@wildlife.ca.gov](mailto:CNDDDB@wildlife.ca.gov). The types of information reported to CNDDDB can be found at the following link: [http://www.dfg.ca.gov/biogeodata/cnddb/plants\\_and\\_animals.asp](http://www.dfg.ca.gov/biogeodata/cnddb/plants_and_animals.asp).

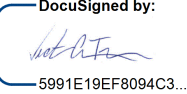
**FILING FEES**

The Project, as proposed, would have an impact on fish and/or wildlife, and assessment of filing fees is necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the fee is required in order for the underlying project approval to be operative, vested, and final. (Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089.)

**CONCLUSION**

CDFW appreciates the opportunity to comment on the NOP to assist the City in identifying and mitigating Project impacts on biological resources.

Questions regarding this letter or further coordination should be directed to Brigid Moran at [Brigid.Moran@wildlife.ca.gov](mailto:Brigid.Moran@wildlife.ca.gov) or (858) 354-3527.

Sincerely,  
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Victoria Tang  
Environmental Program Manager  
South Coast Region

ec: California Department of Fish and Wildlife  
Jennifer Turner – [Jennifer.Turner@wildlife.ca.gov](mailto:Jennifer.Turner@wildlife.ca.gov)  
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Jonathan Snyder – [Jonathan\\_d\\_Snyder@fws.gov](mailto:Jonathan_d_Snyder@fws.gov)

**REFERENCES**

California Environmental Quality Act (CEQA). California Public Resources Code in section 21000 et seq. The “CEQA Guidelines” are found in Title 14 of the California Code of Regulations, commencing with section 15000.  
California Office of Planning and Research. 2009 or current version. CEQA: California Environmental Quality Act. Statutes and Guidelines, § 21081.6 and CEQA Guidelines, § 15097, §15126.4(2).

## California Department of Transportation

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PM 11.2  
Armorlite Lofts  
NOP/SCH#2024020372

Mr. Sean del Solar  
Senior Planner  
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Dear Mr. del Solar:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the Notice of Preparation for the Armorlite Lofts located near State Route 78 (SR-78). The mission of Caltrans is to provide a safe and reliable transportation network that serves all people and respects the environment. The Local Development Review (LDR) Program reviews land use projects and plans to ensure consistency with our mission and state planning priorities.

Safety is one of Caltrans' strategic goals. Caltrans strives to make the year 2050 the first year without a single death or serious injury on California's roads. We are striving for more equitable outcomes for the transportation network's diverse users. To achieve these ambitious goals, we will pursue meaningful collaboration with our partners. We encourage the implementation of new technologies, innovations, and best practices that will enhance the safety on the transportation network. These pursuits are both ambitious and urgent, and their accomplishment involves a focused departure from the status quo as we continue to institutionalize safety in all our work.

Caltrans is committed to prioritizing projects that are equitable and provide meaningful benefits to historically underserved communities, to ultimately improve transportation accessibility and quality of life for people in the communities we serve.

We look forward to working with the City of San Marcos in areas where the City and Caltrans have joint jurisdiction to improve the transportation network and connections between various modes of travel, with the goal of improving the experience of those who use the transportation system.

Caltrans has the following comments:

### **Traffic Impact Study**

- A Vehicle Miles of Travel (VMT) based Traffic Impact Study (TIS) should be provided for this project. Please use the Governor's Office of Planning and Research Guidance to identify VMT related impacts.<sup>1</sup>
- The TIS may also need to identify the proposed project's near-term and long-term safety or operational issues, on or adjacent any existing or proposed State facilities.
- Per section, XVII "Transportation" a VMT and a Local Transportation Analysis (LTA) will be prepared for this project. Please submit to Caltrans for review when it is available.

### **Complete Streets and Mobility Network**

Caltrans views all transportation improvements as opportunities to improve safety, access, and mobility for all travelers in California and recognizes bicycle, pedestrian and transit modes as integral elements of the transportation network. Caltrans supports improved transit accommodation through the provision of Park and Ride facilities, improved bicycle and pedestrian access and safety improvements, signal prioritization for transit, bus on shoulders, ramp improvements, or other enhancements that promotes a complete and integrated transportation network. Early coordination with Caltrans, in locations that may affect both Caltrans and the City of San Marcos, is encouraged.

To reduce greenhouse gas emissions and achieve California's Climate Change target, Caltrans is implementing Complete Streets and Climate Change policies into State Highway Operations and Protection Program (SHOPP) projects to meet multi-modal mobility needs. Caltrans looks forward to working with the City to evaluate potential Complete Streets projects.

Bicycle, pedestrian, and public transit access during construction is important. Mitigation to maintain bicycle, pedestrian, and public transit access during construction is in accordance with Caltrans' goals and policies.

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<sup>1</sup> California Governor's Office of Planning and Research (OPR) 2018. "Technical Advisory on Evaluating Transportation Impacts in CEQA." [https://opr.ca.gov/docs/20190122-743\\_Technical\\_Advisory.pdf](https://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf)

"Provide a safe and reliable transportation network that serves all people and respects the environment"

## **Land Use and Smart Growth**

Caltrans recognizes there is a strong link between transportation and land use. Development can have a significant impact on traffic and congestion on State transportation facilities. In particular, the pattern of land use can affect both local vehicle miles traveled and the number of trips. Caltrans supports collaboration with local agencies to work towards a safe, functional, interconnected, multi-modal transportation network integrated through applicable “smart growth” type land use planning and policies.

The City should continue to coordinate with Caltrans to implement necessary improvements at intersections and interchanges where the agencies have joint jurisdiction.

## **Environmental**

Caltrans welcomes the opportunity to be a Responsible Agency under the California Environmental Quality Act (CEQA), as we have some discretionary authority of a portion of the project that is in Caltrans' Right-of-Way (R/W) through the form of an encroachment permit process.

An encroachment permit will be required for any work within the Caltrans' R/W prior to construction. As part of the encroachment permit process, the applicant must provide approved final environmental documents for this project, corresponding technical studies, and necessary regulatory and resource agency permits. Specifically, CEQA determination or exemption. The supporting documents must address all environmental impacts within the Caltrans' R/W and address any impacts from avoidance and/or mitigation measures.

We recommend that this project specifically identifies and assesses potential impacts caused by the project or impacts from mitigation efforts that occur within Caltrans' R/W that includes impacts to the natural environment, infrastructure including but not limited to highways, roadways, structures, intelligent transportation systems elements, on-ramps and off-ramps, and appurtenant features including but not limited to fencing, lighting, signage, drainage, guardrail, slopes and landscaping. Caltrans is interested in any additional mitigation measures identified for the project's draft Environmental Document.

Should future projects based upon the changes enacted from the General Plan have elements and/or mitigation measures that affect Caltrans' R/W, Caltrans would welcome the opportunity to be a Responsible Agency under the CEQA.

## **Sustainability**

Caltrans recommends collaboration between our agency and the City of San Marcos on the proposed transportation related topics including adaptation strategies to help improve the City's resilience to potential climate change impacts and strategies to reduce vehicle miles traveled (VMT), and off-road and on-road greenhouse gas (GHG) emissions.

Caltrans recognizes that transportation is a leading contributor to GHG emissions in the region and is dedicated to reducing and mitigating transportation related emissions. We recommend collaborating with Caltrans on the following measures such as increasing the use of zero emission vehicles, installing electric vehicle (EV) charging stations, identifying right-of-way areas to be used for carbon sequestration, and complete streets.

The existing climate hazards discussed in this document will have an impact of the transportation system. We recommend working with Caltrans on determining the preventative strategies the Caltrans can take to keep roadways operational and ensure their longevity against climate stressors such as increased temperatures, changes in precipitation patterns, wildfire, and flooding. Caltrans recognizes the central role that transportation planning plays in safety and ensuring that when these natural hazards do occur, citizens have a reliable evacuation route.

## **Broadband**

Caltrans recognizes that teleworking and remote learning lessen the impacts of traffic on our roadways and surrounding communities. This reduces the amount of VMT and decreases the amount GHG emissions and other pollutants. The availability of affordable and reliable, high-speed broadband is a key component in supporting travel demand management and reaching the state's transportation and climate action goals.

## **Right-of-Way**

- Per Business and Profession Code 8771, perpetuation of survey monuments by a licensed land surveyor is required, if they are being destroyed by any construction.
- Any work performed within Caltrans' R/W will require discretionary review and approval by Caltrans and an encroachment permit will be required for any work within the Caltrans' R/W prior to construction.

Additional information regarding encroachment permits may be obtained by contacting the Caltrans Permits Office at (619) 688-6158 or emailing

Mr. Sean del Solar, Senior Planner  
March 12, 2024  
Page 5

[D11.Permits@dot.ca.gov](mailto:D11.Permits@dot.ca.gov) or by visiting the website at <https://dot.ca.gov/programs/traffic-operations/ep>. Early coordination with Caltrans is strongly advised for all encroachment permits.

If you have any questions or concerns, please contact Shannon Aston, LDR Coordinator, at (619) 992-0628 or by e-mail sent to [shannon.aston@dot.ca.gov](mailto:shannon.aston@dot.ca.gov).

Sincerely,

*Kimberly D. Dodson*

KIMBERLY D. DODSON, G.I.S.P.  
Acting Branch Chief  
Local Development Review



# San Diego County Archaeological Society, Inc.

Environmental Review Committee

15 February 2024

CITY OF SAN MARCOS  
DEVELOPMENT SERVICES

FEB 20 2024

RECEIVED

To: Mr. Sean del Solar, Senior Planner  
Planning Division  
City of San Marcos  
1 Civic Center Drive  
San Marcos, California 92069

Subject: Notice of Preparation of a Draft Environmental Impact Report  
Armorlite Lofts  
SP23-0001, GPA23-0002, R23-0001, SDP23-0003, CUP23-0002

Dear Mr. del Solar:

Thank you for the Notice of Preparation for the subject project, which was received by this Society earlier this month.

We are pleased to note the inclusion of cultural resources in the list of subject areas to be addressed in the DEIR and look forward to reviewing it during the upcoming public comment period. To that end, please include us in notification of the public review of the DEIR and ensure availability of a copy of the cultural resources technical report(s) that has been edited for public distribution.

SDCAS appreciates being included in the environmental review process for this project.

Sincerely,

A handwritten signature in dark ink, appearing to read "James W. Royle, Jr.", written in a cursive style.

James W. Royle, Jr., Chairperson  
Environmental Review Committee

cc: SDCAS President  
File

**From:** Ingrid Stichter <[istichter@vwd.org](mailto:istichter@vwd.org)>  
**Sent:** Monday, February 12, 2024 9:49 AM  
**To:** Sean del Solar <[SdelSolar@san-marcos.net](mailto:SdelSolar@san-marcos.net)>  
**Subject:** armorlite lofts water sewer study

Sean,  
Please see the attached water sewer study in response to your NOP.  
Ingrid

**Ingrid Stichter**  
**Engineering Tech III**  
**Vallecitos Water District**  
**(760) 744-0460 x 233**  
[istichter@vwd.org](mailto:istichter@vwd.org)

# **VALLECITOS WATER DISTRICT**

## ***ARMORLITE LOFTS WATER AND SEWER STUDY***

*WORK ORDER # 280223*

### **FINAL TECHNICAL MEMORANDUM**

December 12, 2023

Prepared By: Elizabeth Lopez, Senior Engineer, and Ingrid Stichter, Engineering Technician III

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#### **INTRODUCTION**

The proposed project Armorlite Lofts is a 165-unit multi-family residential development with 4,500 square feet of commercial space (5 suites) on 2.44-acres, located on Armorlite Drive east of Las Posas Road (APN 219-162-26).

The Project is located within Vallecitos Water District's (VWD) boundaries for water and wastewater service. The property does not need to annex, both water and wastewater services can be provided by VWD.

All new projects undergo evaluation by VWD to determine if the current water and sewer infrastructure is sufficient to accommodate the proposed water demands and sewage generation.

This study projects water demand and sewage generation increases due to the project densification. It analyzes the following aspects of VWD's infrastructure and makes recommendations for capital improvements for impacts that are created due to the land use change:

- Water distribution system, including the need to upsize pipelines, install new pipelines, or install flow control facilities.
- Water storage, including the need for additional storage and the adequacy of existing storage tanks and reservoirs to serve the proposed development.
- Water pump stations, including the need to install new pump stations or upsize existing pump stations to serve the proposed development.
- Wastewater collection system, including the need to upsize pipelines and manholes, or the need to install new pipelines and manholes.
- Wastewater lift stations, including the need to install new lift stations or upsize existing lift stations to serve the proposed development.
- Wastewater land outfall, including the need to construct a parallel land outfall to serve this and other proposed developments.

- Wastewater treatment facilities, including the need for obtaining additional capacity at the Encina Water Pollution Control Facility (EWPCF) or for expanding the Meadowlark Water Reclamation Facility (MRF).
- Existing VWD water and/or sewer facilities not being utilized for proposed development will need to be abandoned per VWD Standards and Specifications. Asbestos cement pipe shall be properly removed and legally disposed of by the Developer.

## WATER SYSTEM ANALYSIS

The proposed 2.44-acre Project lies completely within VWD's 855 Pressure Zone. Figures 1 and 2 show the development's location in relation to pressure zone boundaries, identify pipelines within the vicinity of the development, and identify storage reservoirs that supply the development area.

### *Water Demand Projections*

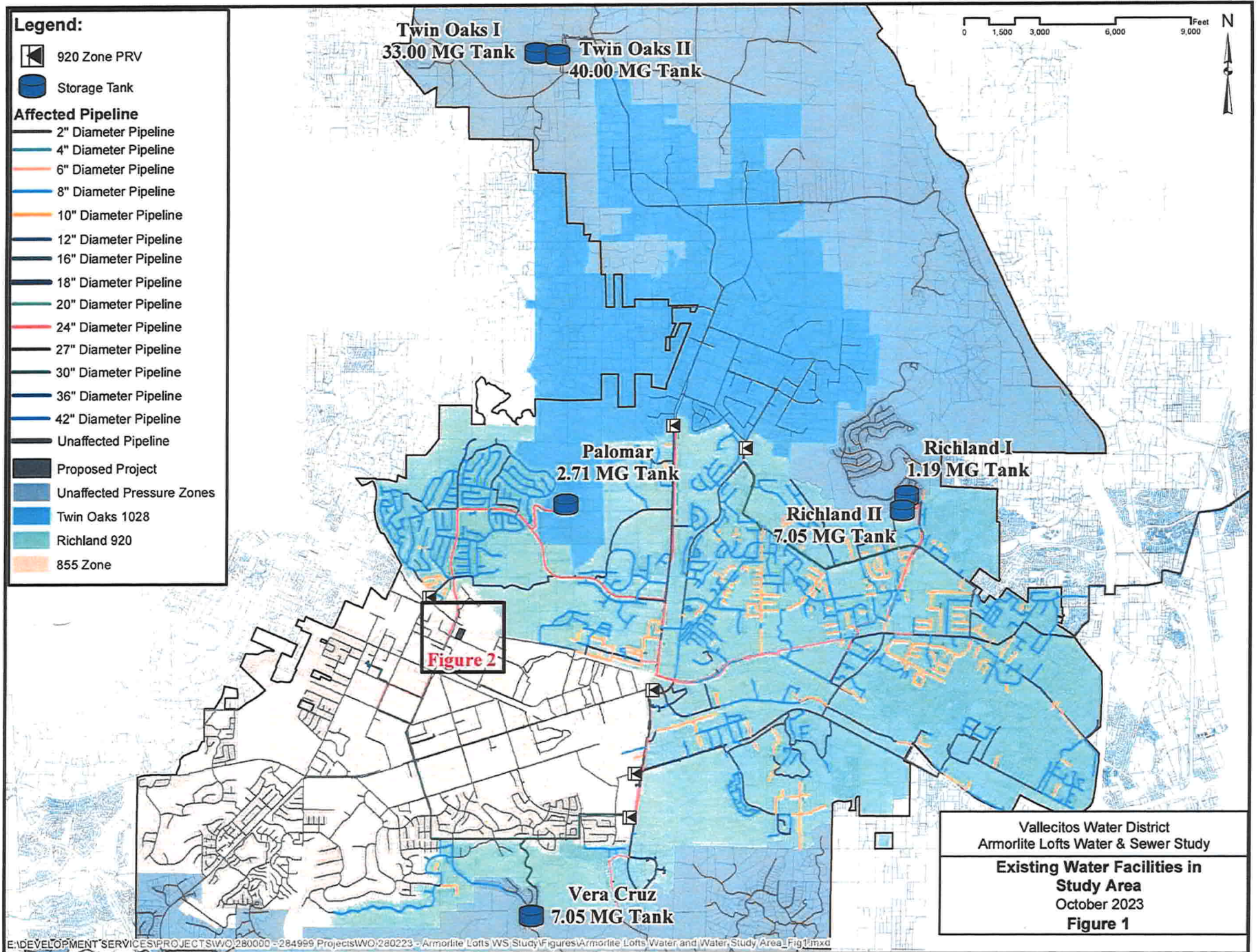
The City of San Marcos' approved land use designation for the proposed Project is Public/Institutional (PI). The 2018 Master Plan based its ultimate water demand planning on Open Space. Table 1 provides the average water demand generated both under the density planned for the 2018 Master Plan and for the proposed Project. The table shows that the Project will increase the projected average water demand from the 2018 Master Plan land use by **36,172** gallons per day.

**Table 1 – Project Estimated Water Demands for Armorlite Lofts Mixed-Use**

| Land Use Type                           | Area<br>(acres) | Residential<br>Units | Duty Factor<br>(gpd/du) | Duty Factor<br>(gpd/ac) | Water Demand<br>(gpd) |
|-----------------------------------------|-----------------|----------------------|-------------------------|-------------------------|-----------------------|
| <b>2018 Master Plan Land Use Demand</b> |                 |                      |                         |                         |                       |
| Open Space                              | 2.44            |                      |                         | 200                     | 488                   |
| <b>Total</b>                            | <b>2.44</b>     |                      |                         |                         | <b>488</b>            |
| <b>Proposed Project Demand</b>          |                 |                      |                         |                         |                       |
| Residential/Mixed Use (68 du/ac)*       | 2.44            | 165                  | 200                     |                         | 33,000                |
| Commercial/Mixed use                    | 2.44            |                      |                         | 1,500                   | 3,660                 |
| <b>Total</b>                            | <b>2.44</b>     |                      |                         |                         | <b>36,660</b>         |
| <b>Water Demand Increase</b>            |                 |                      |                         |                         | <b>36,172</b>         |

\* VWD's Master Plan does not have a unit water demand for density of 68 du/ac. The demand for this density was determined by converting VWD's highest density residential land use category (Residential 40-50 du/acre) from dwelling units per acre to gallons per day per unit:

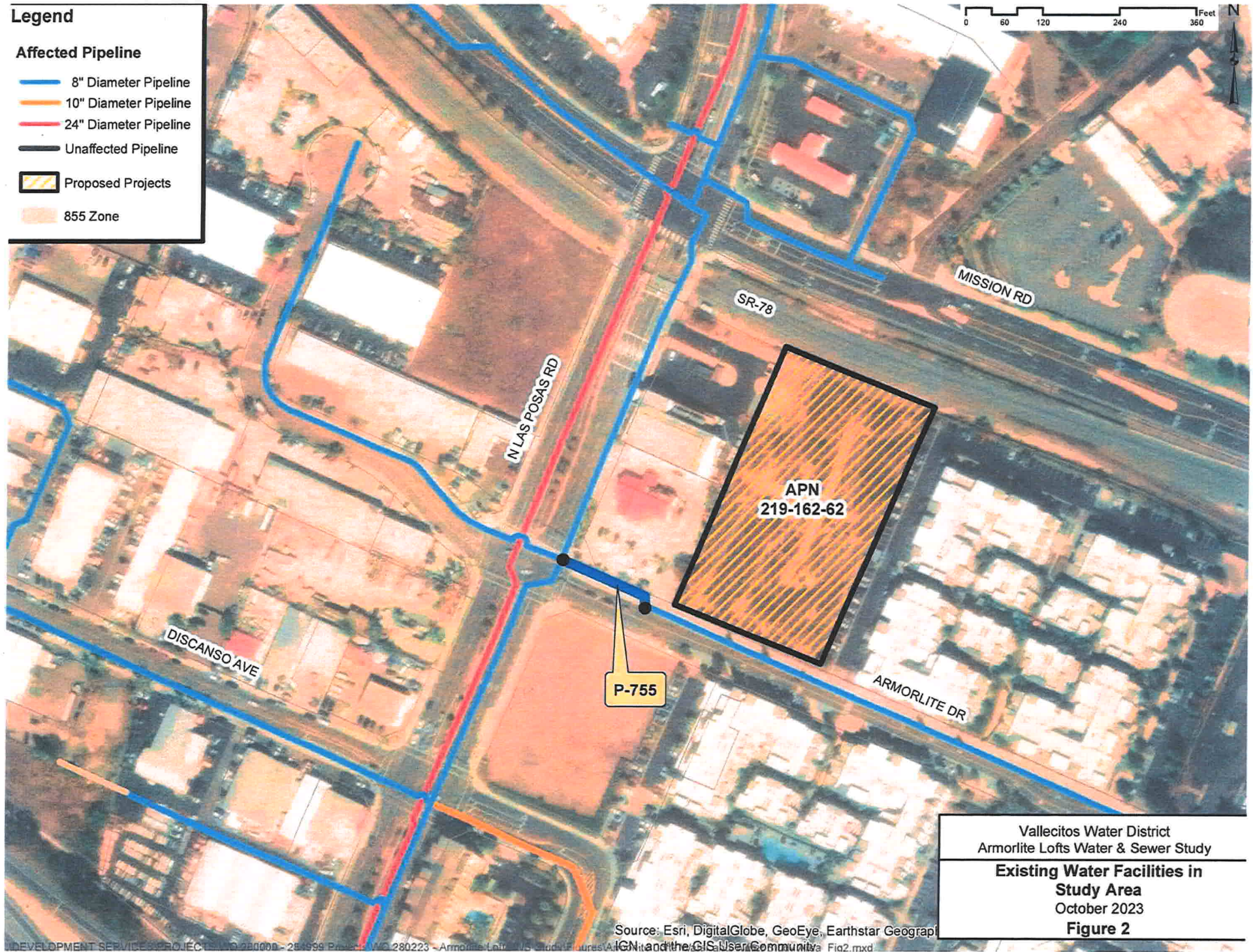
- $\frac{9,000 \text{ gpd/ac}}{45 \text{ du/ac}} = 200 \text{ gpd/du}$



# Legend

## Affected Pipeline

- 8" Diameter Pipeline
- 10" Diameter Pipeline
- 24" Diameter Pipeline
- Unaffected Pipeline
- Proposed Projects
- 855 Zone



Vallecitos Water District  
Armorlite Lofts Water & Sewer Study

**Existing Water Facilities in  
Study Area**

October 2023

**Figure 2**

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics,  
IGN and the GIS User Community

### ***Water Distribution System Analysis***

The 2018 Master Plan water system distribution and pressure criteria are as follows:

#### ***Water Distribution Infrastructure Criteria***

The water service pressure criteria to be met by this development are as follows:

- Minimum allowable pressure at peak hour demand: 40 psi
- Minimum allowable pressure at max day plus fire demand: 20 psi
- Maximum allowable pressure: 150 psi

The City of San Marcos Fire Marshall has set the required fire demand at 2,000 gpm for the Project.

To avoid excessive velocity and headloss within the distribution system, the following pipeline design criteria was also utilized:

- Maximum allowable velocity: 7 feet per second
- Maximum allowable headloss gradient: 15 feet per 1,000 feet
- Hazen-Williams C-factor: 130

#### ***Water Model Scenarios***

The following scenarios were modeled to identify system impacts that may be created by the proposed water demands, and to recommend any improvements required to provide service to the Project:

- Average Day Demand with existing demands at the Project site
- Average Day Demand with the proposed Project
- Maximum Day Demand with existing demands at the Project site
- Maximum Day Demand with the proposed Project
- Peak Hour Demand with existing demands at the Project site
- Peak Hour Demand with the proposed Project
- Maximum Day Demand plus Fire Flow with existing demands at the Project site
- Maximum Day Demand plus Fire Flow with the proposed Project

Per the 2018 Master Plan, maximum day demands for this project are 300% those of average day demands, and peak hour demands are 620% those of average day demands.

#### ***Water Model Results***

Modeling focused on the infrastructure in the direct vicinity of the Project. The model found that the Project did not create any distribution system deficiencies under average day demand.

System deficiencies did appear under maximum day plus fire flow demand conditions. Table 2 presents a summary of the modeling results for this analysis including proposed pipeline upsizing to meet fire flow requirements. Residual Pressure: 118.6 psi / Static Pressure: 124.4 psi.

**Table 2 – Potable Water Pipeline Results under Maximum Day Demand plus Fire Flow Conditions**

| Pipe ID Number | Length (ft) | Existing Pipe Diameter (in) | Velocity under Average Day Demand (ft/s) | Velocity under Maximum Day + Fire Flow (ft/s) | Upsized Pipe Diameter (in) | Velocity under Maximum Day + Fire Flow w/ Upsized Pipe (ft/s) |
|----------------|-------------|-----------------------------|------------------------------------------|-----------------------------------------------|----------------------------|---------------------------------------------------------------|
| P-755          | 223         | 8                           | 0.19                                     | 8.79                                          | 10                         | 6.04                                                          |

- Approximately **223** feet of **8**-inch diameter water main in Armorlite Drive must be upsized to **10**-inch diameter main. (Pipe Segment P-755)

### ***Water Storage Analysis***

The 2018 Master Plan outlines VWD's potable water storage reservoirs for each pressure zone as follows:

1.5 times ADD (operational storage) + 3.0 times ADD (emergency storage) + fire flow demand = 4.5 times ADD + fire flow demand

OR

5.0 times ADD, whichever is greater.

The Project is located entirely within the VWD 855 pressure zone. Water storage for this zone is located within the 920 zone and 1028 Twin Oaks pressure zones, as shown in Figure 1. Table 3 shows the required storage in the 855, 920, and 1028 Twin Oaks pressure zones for existing and ultimate build-out (Master Plan) conditions relative to the existing storage provided within each zone.

**Table 3 – Existing Reservoir Storage Capacity and Requirements**

| Pressure Zone  | Existing ADD (MGD) | Existing Storage Requirement (MG) | Ultimate ADD (MGD) | Ultimate Storage Requirement (MG) | Existing Storage Available (MG) |
|----------------|--------------------|-----------------------------------|--------------------|-----------------------------------|---------------------------------|
| 855            | 3.74               | 50.05                             | 6.79               | 101.25                            | 0                               |
| 920            | 5.61               |                                   | 10.40              |                                   | 18                              |
| 1028 Twin Oaks | 0.66               |                                   | 3.06               |                                   | 73                              |
| <b>Totals</b>  | <b>10.01</b>       | <b>50.05</b>                      | <b>20.25</b>       | <b>101.25</b>                     | <b>91</b>                       |

The Project will increase the projected average water demand by approximately **36,172** gallons per day as shown in Table 1.

The amount of additional reservoir storage required is 500% of the development's average day demand or:

$$36,172 \text{ gallons} * 500\% = 180,860 \text{ gallons}$$

The analysis finds that water storage capacity is currently available to serve the Project's increased storage requirements. Master Plan projects address and accommodate the ultimate build-out storage deficiency and Water Capital Facility Fees paid by this project will be used for the increase in storage necessitated by the Project's demand calculated above.

### ***Water Pump Station Analysis***

Since the proposed Project is located in a pressure zone that is not served by pumping, there are no impacts to existing or proposed pump stations by this Project.

## WASTEWATER SYSTEM ANALYSIS

The proposed 2.44-acre Project lies completely within VWD sewer shed 22C. Figures 3 through 5 show the development's location in relation to sewer shed boundaries, identify wastewater infrastructure within the vicinity of the development, and identify the downstream collection infrastructure that will be impacted by the development.

### *Wastewater Flow Projections*

The City of San Marcos approved land use designation for the proposed Project is Public/Institutional (PI). The 2018 Master Plan based its ultimate wastewater generation planning on Open Space. Table 4 provides the average wastewater flow generated both under the density planned for the 2018 Master Plan and with the proposed Project. The table shows that the Project will increase the projected average wastewater generation from the 2018 Master Plan land use by **32,628** gallons per day.

**Table 4 – Project Estimated Wastewater Flows for Armorlite Lofts Mixed-Use**

| Land Use Type                          | Area<br>(acres) | Residential<br>Units | Duty Factor<br>(gpd/du) | Duty Factor<br>(gpd/ac) | Wastewater<br>Flow (gpd) |
|----------------------------------------|-----------------|----------------------|-------------------------|-------------------------|--------------------------|
| <b>2018 Master Plan Land Use Flows</b> |                 |                      |                         |                         |                          |
| Open Space                             | <b>2.44</b>     |                      |                         | 0                       | 0                        |
| <b>Total</b>                           | <b>2.44</b>     |                      |                         |                         | <b>0</b>                 |
| <b>Proposed Project Demand</b>         |                 |                      |                         |                         |                          |
| Residential/Mixed Use (68 du/ac*)      | 2.44            | 165                  | 180                     |                         | 29,700                   |
| Commercial/Mixed use                   | 2.44            |                      |                         | 1,200                   | 2,928                    |
| <b>Total</b>                           | <b>2.44</b>     |                      |                         |                         | <b>32,628</b>            |
| <b>Sewer Generation Increase</b>       |                 |                      |                         |                         | <b>32,628</b>            |

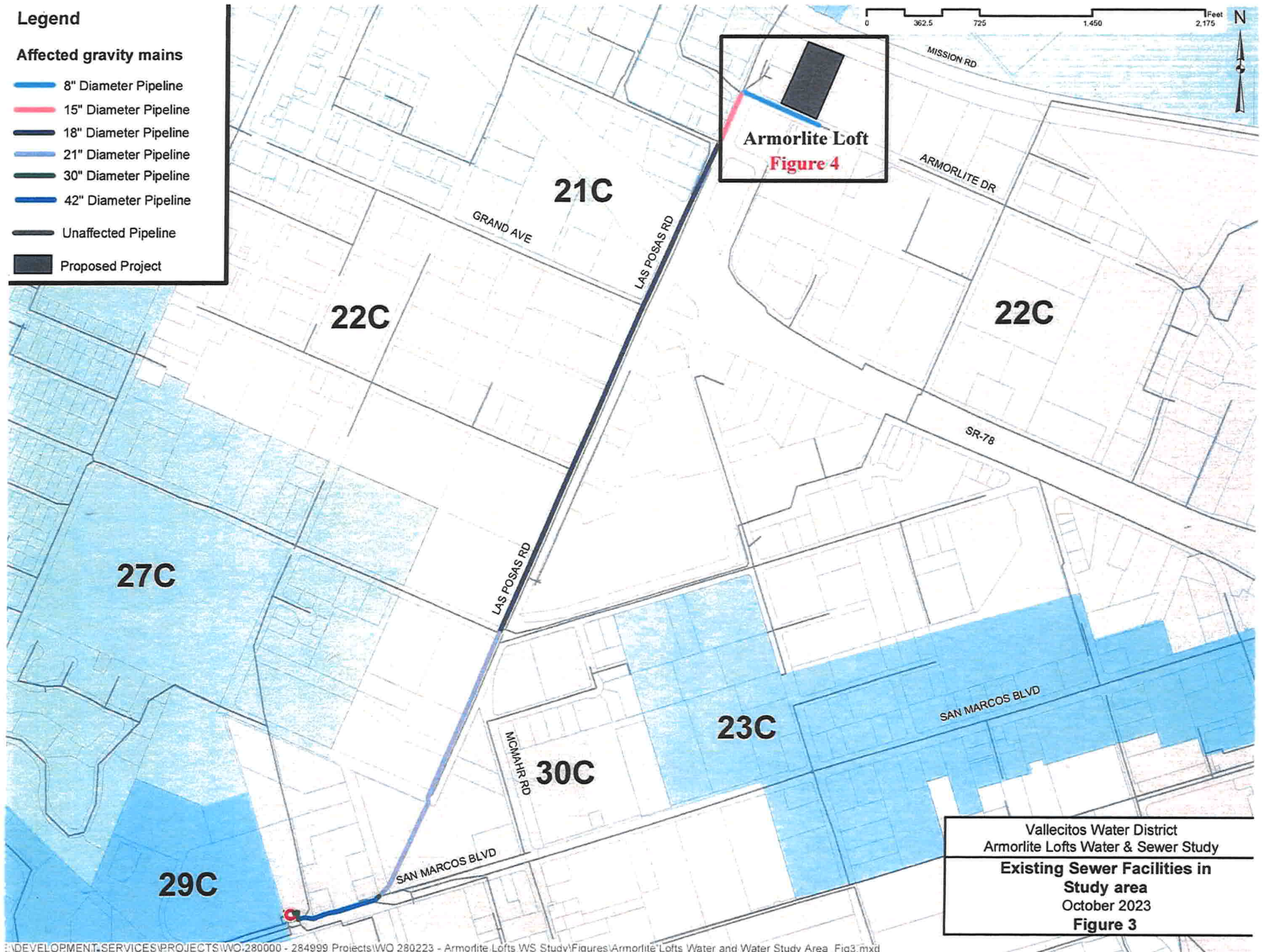
\* VWD's Master Plan does not have a unit wastewater demand for density of 68 du/ac. The demand for this density was determined by converting VWD's highest density residential land use category (Residential 40-50 du/acre) from dwelling units per acre to gallons per day per unit:

- $$\frac{8,100 \text{ gpd/ac}}{45 \text{ du/ac}} = 180 \text{ gpd/du}$$

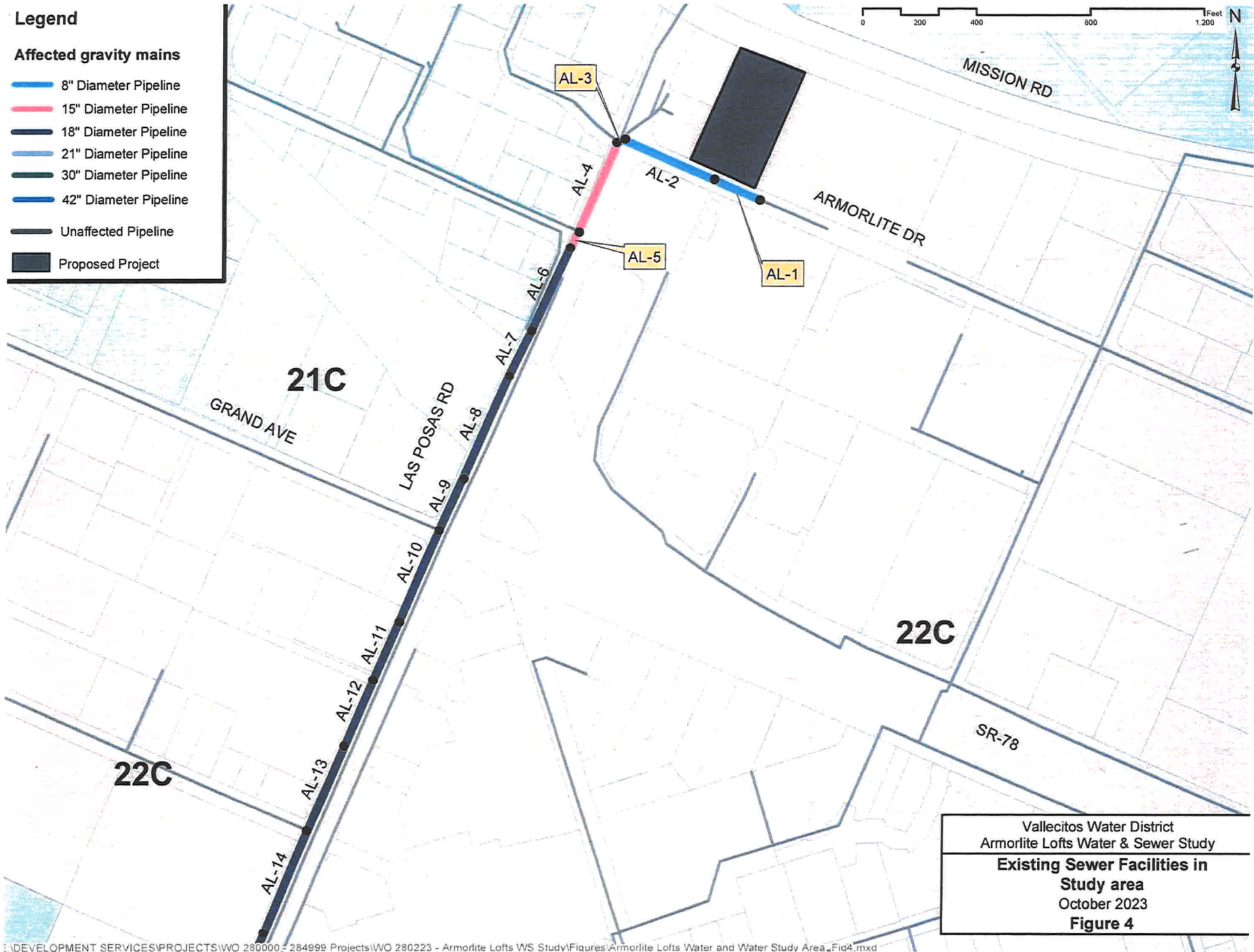
## Legend

### Affected gravity mains

- 8" Diameter Pipeline
- 15" Diameter Pipeline
- 18" Diameter Pipeline
- 21" Diameter Pipeline
- 30" Diameter Pipeline
- 42" Diameter Pipeline
- Unaffected Pipeline
- Proposed Project



Vallecitos Water District  
Armorlite Lofts Water & Sewer Study  
Existing Sewer Facilities in  
Study area  
October 2023  
Figure 3

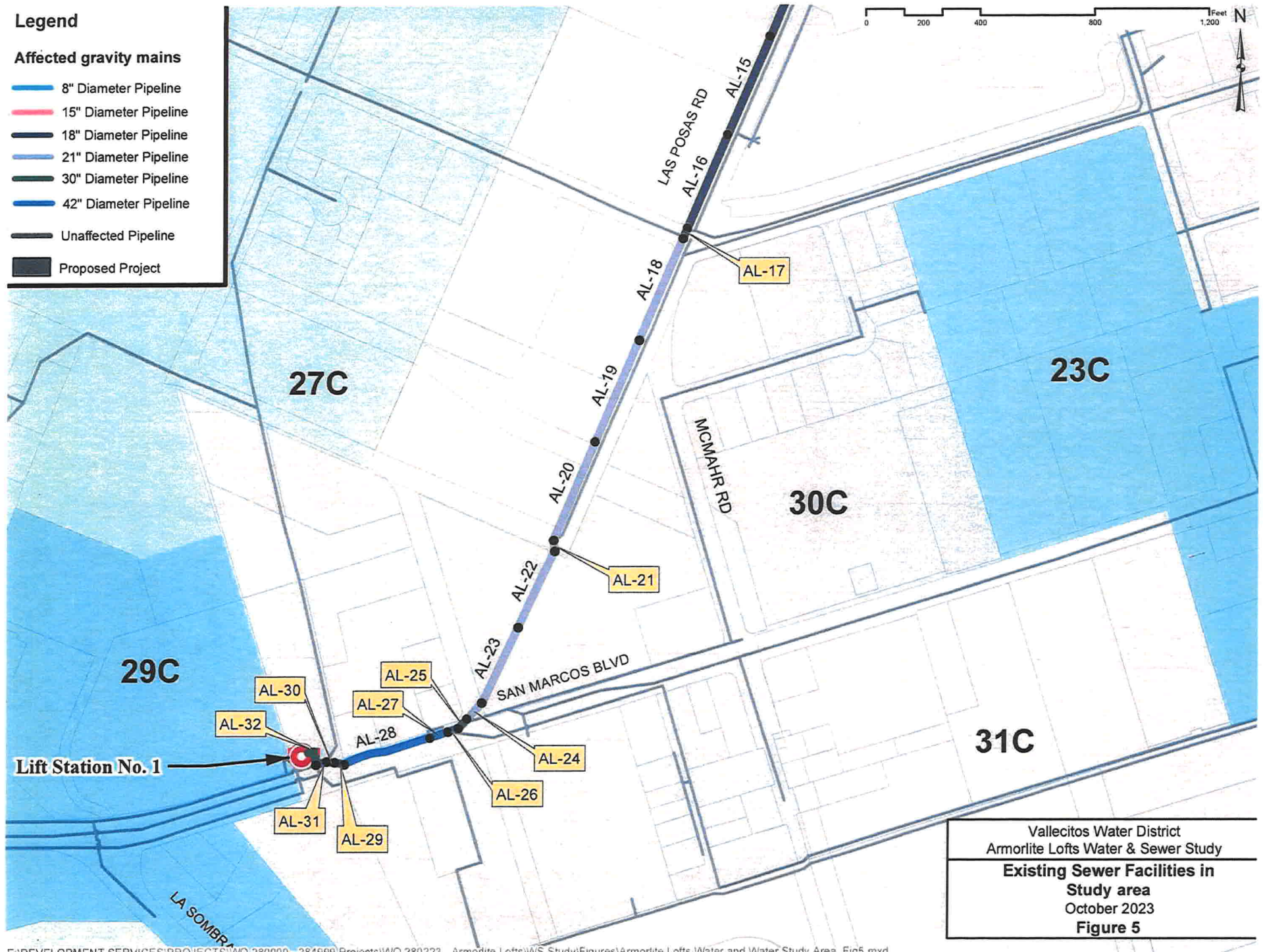


Vallecitos Water District  
Armorlite Lofts Water & Sewer Study  
**Existing Sewer Facilities in  
Study area**  
October 2023  
**Figure 4**

## Legend

### Affected gravity mains

- 8" Diameter Pipeline
- 15" Diameter Pipeline
- 18" Diameter Pipeline
- 21" Diameter Pipeline
- 30" Diameter Pipeline
- 42" Diameter Pipeline
- Unaffected Pipeline
- Proposed Project



Vallecitos Water District  
Armorlite Lofts Water & Sewer Study  
Existing Sewer Facilities in  
Study area  
October 2023  
Figure 5

### ***Wastewater Collection System Analysis***

The 2018 Master Plan outlines VWD's wastewater system design criteria which are as follows:

#### ***Wastewater Collection Infrastructure Criteria***

The wastewater pipeline criteria to be met both within and downstream of the development are as follows:

- Pipes 12 inches in diameter and smaller:  $\frac{1}{2}$  full maximum at peak flow
- Pipes over 12 inches in diameter:  $\frac{3}{4}$  full maximum at peak flow
- Minimum velocity: 2 feet per second
- Maximum velocity: 10 feet per second
- Manning's n for gravity pipes: .013
- Hazen-Williams C-factor for force mains/siphons: 120
- Slope for pipes 8 inches in diameter and smaller: 0.4% minimum
- Slope for pipes over 8 inches in diameter: to be determined by VWD

When flow depth in gravity pipes exceeds maximum levels as stated above, a pipe upsize will be specified.

#### ***Wastewater Model Scenarios***

The following scenarios were modeled to identify system impacts that may be created by the proposed sewer generation, and to recommend any improvements required to provide service to the Project:

- Average Dry Weather Flow with existing flows at the Project site
- Average Dry Weather Flow with the proposed Project
- Peak Dry Weather Flow with existing flows at the Project site
- Peak Dry Weather Flow with the proposed Project
- Peak Wet Weather Flow with existing flows at the Project site
- Peak Wet Weather Flow with the proposed Project

The peak dry weather curve is:

$$\text{Peak Dry Weather Factor} = 2.16 \times (\text{Average Dry Weather Flow Rate})^{-0.1618}$$

The wet weather peak curve is:

$$\text{Peak Wet Weather Factor} = 2.78 \times (\text{Average Dry Weather Flow Rate})^{-0.087}$$

### Wastewater Model Results

Modeling focused not only on the sewer collection infrastructure in the direct vicinity of the Project, but also on all downstream infrastructure from the development to Lift Station No. 1 on San Marcos Boulevard that would be impacted by the proposed Project flows (see Figures 3 - 5).

Table 5 presents a summary of the modeling results from this analysis. The modeling results showed no deficiencies have been identified under the 2018 Master Plan land use density. The modeling results also showed the proposed Project resulted in new deficiencies under peak wet weather flows during ultimate build-out conditions.

- Approximately **539** feet of **8**-inch diameter sewer main in Armorlite Drive must be upsized to **10**-inch diameter main. (Pipe Segments AL-1 through AL-3)

**Armorlite Lofts Table 5 - Wastewater Model Results and Recommended Gravity Main Improvements**

|                |             |               |       | Wastewater Flows with Existing Density |                              |                           |                                          | Wastewater Flows with Proposed Density |                              |                           |                                          |
|----------------|-------------|---------------|-------|----------------------------------------|------------------------------|---------------------------|------------------------------------------|----------------------------------------|------------------------------|---------------------------|------------------------------------------|
| Pipe ID Number | Length (ft) | Diameter (in) | Slope | Peak Wet Weather Flow (gpm)            | PWWF Depth-to-Diameter Ratio | Replacement Diameter (in) | Replacement PWWF Depth-to-Diameter Ratio | Peak Wet Weather Flow (gpm)            | PWWF Depth-to-Diameter Ratio | Replacement Diameter (in) | Replacement PWWF Depth-to-Diameter Ratio |
| AL-1           | 173         | 8             | 0.001 | 22                                     | 0.25                         |                           |                                          | 109                                    | 0.58                         | 10                        | 0.37                                     |
| AL-2           | 356         | 8             | 0.004 | 99                                     | 0.37                         |                           |                                          | 186                                    | 0.53                         | 10                        | 0.38                                     |
| AL-3           | 10          | 8             | 0.12  | 112                                    | 0.17                         |                           |                                          | 199                                    | 0.22                         | 10                        | 0.17                                     |
| AL-4           | 342         | 15            | 0.017 | 1,600                                  | 0.46                         |                           |                                          | 1,687                                  | 0.47                         |                           |                                          |
| AL-5           | 25          | 15            | 0.01  | 1,613                                  | 0.54                         |                           |                                          | 1,700                                  | 0.56                         |                           |                                          |
| AL-6           | 325         | 18            | 0.011 | 1,623                                  | 0.40                         |                           |                                          | 1,710                                  | 0.41                         |                           |                                          |
| AL-7           | 180         | 18            | 0.007 | 2,173                                  | 0.53                         |                           |                                          | 2,260                                  | 0.55                         |                           |                                          |
| AL-8           | 389         | 18            | 0.008 | 2,176                                  | 0.51                         |                           |                                          | 2,263                                  | 0.53                         |                           |                                          |
| AL-9           | 204         | 18            | 0.005 | 2,178                                  | 0.59                         |                           |                                          | 2,265                                  | 0.61                         |                           |                                          |
| AL-10          | 281         | 18            | 0.006 | 2,239                                  | 0.57                         |                           |                                          | 2,326                                  | 0.58                         |                           |                                          |
| AL-11          | 280         | 18            | 0.004 | 2,241                                  | 0.65                         |                           |                                          | 2,328                                  | 0.67                         |                           |                                          |
| AL-12          | 226         | 18            | 0.003 | 2,243                                  | 0.73                         |                           |                                          | 2,330                                  | 0.75                         |                           |                                          |
| AL-13          | 363         | 18            | 0.004 | 2,249                                  | 0.65                         |                           |                                          | 2,336                                  | 0.67                         |                           |                                          |
| AL-14          | 381         | 18            | 0.008 | 2,251                                  | 0.52                         |                           |                                          | 2,338                                  | 0.54                         |                           |                                          |
| AL-15          | 380         | 18            | 0.008 | 2,259                                  | 0.53                         |                           |                                          | 2,346                                  | 0.54                         |                           |                                          |
| AL-16          | 357         | 18            | 0.008 | 2,261                                  | 0.53                         |                           |                                          | 2,348                                  | 0.54                         |                           |                                          |
| AL-17          | 23          | 18            | 0.008 | 2,909                                  | 0.62                         |                           |                                          | 2,996                                  | 0.63                         |                           |                                          |
| AL-18          | 385         | 21            | 0.005 | 3,419                                  | 0.61                         |                           |                                          | 3,506                                  | 0.62                         |                           |                                          |
| AL-19          | 312         | 21            | 0.003 | 3,424                                  | 0.73                         |                           |                                          | 3,511                                  | 0.75                         |                           |                                          |
| AL-20          | 380         | 21            | 0.005 | 3,427                                  | 0.61                         |                           |                                          | 3,514                                  | 0.62                         |                           |                                          |

PROPOSED DENSITY: **87** GPM

**Armorlite Lofts Table 5 (cont'd) - Wastewater Model Results and Recommended Gravity Main Improvements**

|                |             |               |       | Wastewater Flows with Existing Density |                              |                           |                                          | Wastewater Flows with Proposed Density |                              |                           |                                          |
|----------------|-------------|---------------|-------|----------------------------------------|------------------------------|---------------------------|------------------------------------------|----------------------------------------|------------------------------|---------------------------|------------------------------------------|
| Pipe ID Number | Length (ft) | Diameter (in) | Slope | Peak Wet Weather Flow (gpm)            | PWWF Depth-to-Diameter Ratio | Replacement Diameter (in) | Replacement PWWF Depth-to-Diameter Ratio | Peak Wet Weather Flow (gpm)            | PWWF Depth-to-Diameter Ratio | Replacement Diameter (in) | Replacement PWWF Depth-to-Diameter Ratio |
| AL-21          | 33          | 21            | 0.018 | 3,701                                  | 0.44                         |                           |                                          | 3,788                                  | 0.44                         |                           |                                          |
| AL-22          | 297         | 21            | 0.005 | 3,703                                  | 0.64                         |                           |                                          | 3,790                                  | 0.65                         |                           |                                          |
| AL-23          | 295         | 21            | 0.006 | 3,705                                  | 0.61                         |                           |                                          | 3,792                                  | 0.61                         |                           |                                          |
| AL-24          | 112         | 21            | 0.014 | 3,710                                  | 0.47                         |                           |                                          | 3,797                                  | 0.48                         |                           |                                          |
| AL-25          | 15          | 30            | 0.023 | 4,204                                  | 0.27                         |                           |                                          | 4,291                                  | 0.27                         |                           |                                          |
| AL-26          | 38          | 42            | 0.018 | 4,205                                  | 0.18                         |                           |                                          | 4,292                                  | 0.19                         |                           |                                          |
| AL-27          | 100         | 42            | 0.018 | 13,928                                 | 0.33                         |                           |                                          | 14,015                                 | 0.33                         |                           |                                          |
| AL-28          | 347         | 42            | 0.018 | 13,935                                 | 0.33                         |                           |                                          | 14,022                                 | 0.33                         |                           |                                          |
| AL-29          | 18          | 42            | 0.018 | 13,937                                 | 0.33                         |                           |                                          | 14,024                                 | 0.33                         |                           |                                          |
| AL-30          | 10          | 42            | 0.02  | 13,939                                 | 0.32                         |                           |                                          | 14,026                                 | 0.32                         |                           |                                          |
| AL-31          | 10          | 42            | 0.012 | 14,130                                 | 0.37                         |                           |                                          | 14,217                                 | 0.37                         |                           |                                          |
| AL-32          | 73          | 42            | 0.004 | 14,699                                 | 0.51                         |                           |                                          | 14,786                                 | 0.52                         |                           |                                          |

PROPOSED DENSITY: **87** GPM

### ***Wastewater Lift Station Analysis***

Lift stations are sized for peak wet weather flow with manufacturer's recommended cycling times for pumping equipment. Since the proposed Project is not located in a sewer shed that is served by a lift station, there are no lift station upgrade requirements for this project.

### ***Parallel Land Outfall Analysis***

VWD's existing land outfall is shown in Figure 6. The outfall is approximately 8 miles in length and consists of 4 gravity pipeline sections and 3 siphon sections varying in diameter from 20 inches to 54 inches. VWD maintains the entire pipeline from Lift Station No. 1 to the Encina Water Pollution Control Facility (EWPCF). From Lift Station No. 1 to El Camino Real, VWD is the sole user of this pipeline. From El Camino Real to the EWPCF, the ownership capacity is as shown in Table 6 below:

**Table 6 – Land Outfall Capacity Ownership by Agency**

| Agency        | Ownership Percentage | Capacity (MGD) |
|---------------|----------------------|----------------|
| Carlsbad      | 23.98%               | 5.00           |
| Vista         | 17.99%               | 3.75           |
| VWD           | 58.03%               | 12.10          |
| <b>Totals</b> | <b>100.00%</b>       | <b>20.85</b>   |

The Meadowlark Water Reclamation Facility (MRF) has a capacity of 5.0 MGD with a peak wet weather capacity of 8.0 MGD. Therefore, VWD has a combined peak wet weather wastewater collection capacity of 20.10 MGD (12.10 MGD + 8.0 MGD).

VWD's 2014 average daily wastewater flow through the land outfall was 7.5 MGD. This corresponds to a peak wet weather flow of 17.5 MGD, which falls within VWD's combined peak wet weather collection capacity.

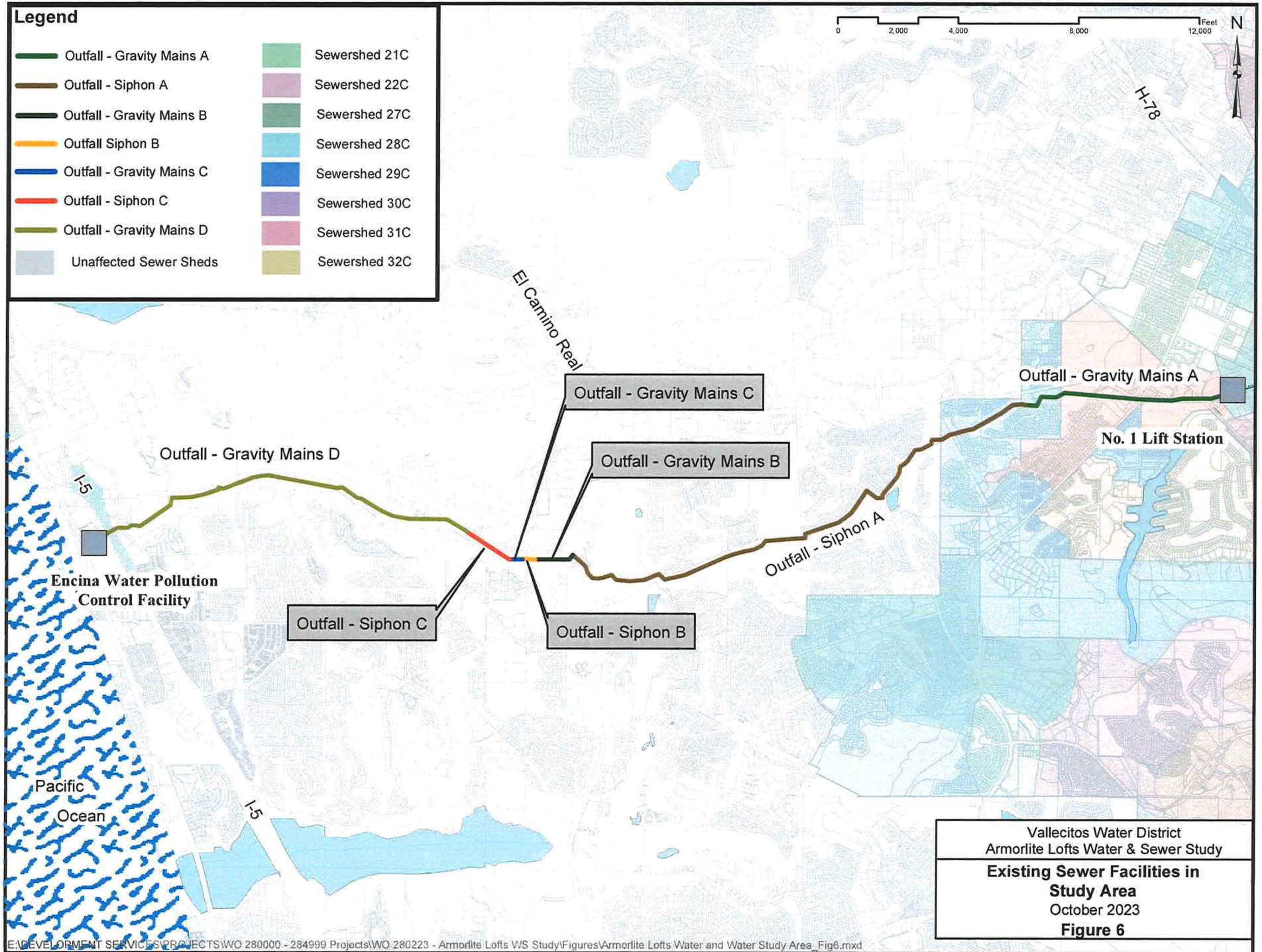
The 2018 Master Plan estimated that, under approved land uses, VWD has an ultimate build-out average dry weather flow of 14.4 MGD. This corresponds to a peak wet weather flow of 31.7 MGD, which exceeds VWD's combined peak wet weather collection capacity. To accommodate additional wastewater flows from planned development, the 2018 Master Plan recommended conveyance of peak flows to the EWPCF through a parallel land outfall.

The Project proposes to generate **32,628** gallons per day of additional average wastewater flow that was not accounted for in the Land Outfall's capacity studied in the 2018 Master Plan.

The analysis finds that outfall capacity is currently available to serve the Project's proposed wastewater generation. Wastewater Capital Facility Fees paid by this Project will be used toward design and construction of a parallel land outfall to be sized to accommodate ultimate build-out wastewater flows.

## Legend

|                           |               |
|---------------------------|---------------|
| Outfall - Gravity Mains A | Sewershed 21C |
| Outfall - Siphon A        | Sewershed 22C |
| Outfall - Gravity Mains B | Sewershed 27C |
| Outfall Siphon B          | Sewershed 28C |
| Outfall - Gravity Mains C | Sewershed 29C |
| Outfall - Siphon C        | Sewershed 30C |
| Outfall - Gravity Mains D | Sewershed 31C |
| Unaffected Sewer Sheds    | Sewershed 32C |



Vallecitos Water District  
Armorlite Lofts Water & Sewer Study

**Existing Sewer Facilities in  
Study Area**

October 2023

**Figure 6**

### ***Wastewater Treatment Facility Analysis***

VWD utilizes two wastewater treatment facilities to treat wastewater collected within its sewer service area.

- The Meadowlark Reclamation Facility (MRF) has liquids treatment capacity of up to 5.0 MGD with a peak wet weather capacity of 8.0 MGD. MRF does not have solids treatment capacity, and therefore all solids are treated at the Encina Water Pollution Control Facility (EWPCF).
- The EWPCF is located in the City of Carlsbad. This is a regional facility with treatment capacity of up to 40.51 MGD. VWD's current ownership capacity is noted below.

#### ***Solids Treatment Capacity***

VWD currently owns 10.47 MGD of solids treatment capacity at EWPCF. VWD's 2014 average daily wastewater flow was 7.5 MGD. Therefore, the analysis finds that adequate solids treatment capacity exists at this time to serve the Project.

The ultimate average wastewater flow identified in the 2018 Master Plan is 14.4 MGD, resulting in a projected solids treatment capacity deficiency of 3.93 MGD. Wastewater Capital Facility Fees paid by this Project will be used towards the deficiency to accommodate the solid treatment capacity wastewater flow.

#### ***Liquids Treatment Capacity***

VWD currently owns 7.67 MGD of liquids treatment capacity at the EWPCF in addition to the liquid's treatment capacity of 5.0 MGD at MRF for a total of 12.67 MGD of liquids treatment capacity. VWD's 2014 average daily wastewater flow was 7.5 MGD. Therefore, the analysis finds that adequate liquids treatment capacity exists at this time to serve the Project.

The ultimate average wastewater flow identified in the 2018 Master Plan is 14.4 MGD, resulting in a projected liquids treatment capacity deficiency of 1.73 MGD. Wastewater Capital Facility Fees paid by this Project will be used towards the deficiency to accommodate the ultimate average wastewater flow.

#### ***Ocean Disposal Capacity***

VWD currently owns 10.47 MGD of ocean disposal capacity at the EWPCF. VWD's 2014 average daily wastewater flow was 7.5 MGD. Therefore, the analysis finds that adequate ocean disposal capacity exists at this time to serve the Project.

The ultimate average wastewater flow identified in the 2018 Master Plan is 14.4 MGD, resulting in an ocean disposal deficiency of 3.93 MGD. Wastewater Capital Facility Fees paid by this Project will be used towards the deficiency to accommodate the ocean disposal wastewater flow.

The District has determined that adequate wastewater treatment and disposal capacity exists for the proposed Project at this time subject to the qualifications referenced in the Conclusions.

## CONCLUSION

The proposed Project is expected to increase average daily water demands by **36,172** gallons per day and wastewater flows by **32,628** gallons per day over the ultimate flows projected in the 2018 Master Plan.

The study concludes the proposed Project will result in the following impacts:

- An increase of **36,172** gallons per day in water demand for proposed project.
- An increase of **180,860** gallons of potable water storage requirement.
- An increase of **32,628** gallons per day in solids handling, liquids handling and ocean disposal capacity requirements at Encina Water Pollution Control Facility.
- An increase of **32,628** gallons per day in the parallel land outfall's capacity requirement.

The following are required for providing service to the proposed Project:

- Payment of all applicable Water and Wastewater Capital Facility Fees in affect at the time service is committed in accordance with District rules and regulations.
- Construction and Board acceptance of all water and sewer facilities prior to service.
- Construction and acceptance of all on-site water and sewer facilities prior to service being provided including but not limited to the following:
  - Approximately **223** feet of **8-inch** diameter water main in Armorlite Drive must be upsized to **10-inch** diameter main. (Pipe Segment P-755)
  - Approximately **539** feet of **8-inch** diameter sewer main in Armorlite Drive must be upsized to **10-inch** diameter main. (Pipe Segments AL-1 through AL-3)

The District currently has water and sewer capacity available to serve the Project as proposed. However, the ability to provide water and sewer service in the future depends upon ultimate build-out of the Project and could change depending upon the timing of the build-out, as well as build-outs of other development projects, continued reliable water supplies from the San Diego County Water Authority, the District's treatment capacity at the EWPCF and other factors affecting growth in the District which may change over time.

This Study is based on the current adopted land use utilized in VWD's 2018 Master Plan. The study addresses the incremental facility impacts of this Project only and does not include or consider any additional projects within VWD's service area that have deviated from adopted Master Plan land uses. Any land use changes upstream and/or downstream of the Study area may necessitate a revision of any onsite and offsite studies. VWD shall determine if and when revisions to the Study are necessary. Costs for revising this Study shall be borne by the Developer. The results of this study are not the accepted conditions for the development, final conditions shall be part of the construction agreement process or issued separately by the District.