



CLIMATE ACTION PLAN CONSISTENCY CHECKLIST INTRODUCTION

In December 2015, the City adopted a Climate Action Plan (CAP) that outlines the actions that City will undertake to achieve its proportional share of State greenhouse gas (GHG) emission reductions. The purpose of the Climate Action Plan Consistency Checklist (Checklist) is to, in conjunction with the CAP, provide a streamlined review process for proposed new development projects that are subject to discretionary review and trigger environmental review pursuant to the California Environmental Quality Act (CEQA).¹

Analysis of GHG emissions and potential climate change impacts from new development is required under CEQA. The CAP is a plan for the reduction of GHG emissions in accordance with CEQA Guidelines Section 15183.5. Pursuant to CEQA Guidelines Sections 15064(h)(3), 15130(d), and 15183(b), a project's incremental contribution to a cumulative GHG emissions effect may be determined not to be cumulatively considerable if it complies with the requirements of the CAP.

This Checklist is part of the CAP and contains measures that are required to be implemented on a project-by-project basis to ensure that the specified emissions targets identified in the CAP are achieved. Implementation of these measures would ensure that new development is consistent with the CAP's assumptions for relevant CAP strategies toward achieving the identified GHG reduction targets. Projects that are consistent with the CAP as determined through the use of this Checklist may rely on the CAP for the cumulative impacts analysis of GHG emissions. Projects that are not consistent with the CAP must prepare a comprehensive project-specific analysis of GHG emissions, including quantification of existing and projected GHG emissions and incorporation of the measures in this Checklist to the extent feasible. Cumulative GHG impacts would be significant for any project that is not consistent with the CAP.

The Checklist may be updated to incorporate new GHG reduction techniques or to comply with later amendments to the CAP or local, State, or federal law.

¹ Certain projects seeking ministerial approval may be required to complete the Checklist. For example, projects in a Community Plan Implementation Overlay Zone may be required to use the Checklist to qualify for ministerial level review. See Supplemental Development Regulations in the project's community plan to determine applicability.

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CAP CONSISTENCY CHECKLIST SUBMITTAL APPLICATION

- ❖ The Checklist is required only for projects subject to CEQA review.²
- ❖ If required, the Checklist must be included in the project submittal package. Application submittal procedures can be found in [Chapter 11: Land Development Procedures](#) of the City's Municipal Code.
- ❖ The requirements in the Checklist will be included in the project's conditions of approval.
- ❖ The applicant must provide an explanation of how the proposed project will implement the requirements described herein to the satisfaction of the Planning Department.

Application Information

Contact Information

Project No./Name: _____

Property Address: _____

Applicant Name/Co.: _____

Contact Phone: _____ Contact Email: _____

Was a consultant retained to complete this checklist? ☐ Yes ☐ No If Yes, complete the following

Consultant Name: _____ Contact Phone: _____

Company Name: _____ Contact Email: _____

Project Information

1. What is the size of the project (acres)? _____

2. Identify all applicable proposed land uses:

☐ Residential (indicate # of single-family units): _____

☐ Residential (indicate # of multi-family units): _____

☐ Commercial (total square footage): _____

☐ Industrial (total square footage): _____

☐ Other (describe): _____

3. Is the project or a portion of the project located in a Transit Priority Area? ☐ Yes ☐ No

4. Provide a brief description of the project proposed: _____

² Certain projects seeking ministerial approval may be required to complete the Checklist. For example, projects in a Community Plan Implementation Overlay Zone may be required to use the Checklist to qualify for ministerial level review. See Supplemental Development Regulations in the project's community plan to determine applicability.



CAP CONSISTENCY CHECKLIST QUESTIONS

Step 1: Land Use Consistency

The first step in determining CAP consistency for discretionary development projects is to assess the project's consistency with the growth projections used in the development of the CAP. This section allows the City to determine a project's consistency with the land use assumptions used in the CAP.

Step 1: Land Use Consistency		
Checklist Item (Check the appropriate box and provide explanation and supporting documentation for your answer)	Yes	No
A. Is the proposed project consistent with the existing General Plan and Community Plan land use and zoning designations? ³ <u>OR</u>		
B. If the proposed project is not consistent with the existing land use plan and zoning designations, and includes a land use plan and/or zoning designation amendment, would the proposed amendment result in an increased density within a Transit Priority Area (TPA) ⁴ and implement CAP Strategy 3 actions, as determined in Step 3 to the satisfaction of the Development Services Department? <u>OR</u>	<input type="checkbox"/>	<input type="checkbox"/>
C. If the proposed project is not consistent with the existing land use plan and zoning designations, does the project include a land use plan and/or zoning designation amendment that would result in an equivalent or less GHG-intensive project when compared to the existing designations?		

If **"Yes,"** proceed to Step 2 of the Checklist. For question B above, complete Step 3. For question C above, provide estimated project emissions under both existing and proposed designation(s) for comparison. Compare the maximum buildout of the existing designation and the maximum buildout of the proposed designation.

If **"No,"** in accordance with the City's Significance Determination Thresholds, the project's GHG impact is significant. The project must nonetheless incorporate each of the measures identified in Step 2 to mitigate cumulative GHG emissions impacts unless the decision maker finds that a measure is infeasible in accordance with CEQA Guidelines Section 15091. Proceed and complete Step 2 of the Checklist.

³ This question may also be answered in the affirmative if the project is consistent with SANDAG Series 12 growth projections, which were used to determine the CAP projections, as determined by the Planning Department.

⁴ This category applies to all projects that answered in the affirmative to question 3 on the previous page: Is the project or a portion of the project located in a transit priority area.

Step 2: CAP Strategies Consistency

The second step of the CAP consistency review is to review and evaluate a project's consistency with the applicable strategies and actions of the CAP. Step 2 only applies to development projects that involve permits that would require a certificate of occupancy from the Building Official or projects comprised of one and two family dwellings or townhouses as defined in the California Residential Code and their accessory structures.⁵ All other development projects that would not require a certificate of occupancy from the Building Official shall implement Best Management Practices for construction activities as set forth in the [Greenbook](#) (for public projects).

Step 2: CAP Strategies Consistency			
Checklist Item (Check the appropriate box and provide explanation for your answer)	Yes	No	N/A
Strategy 1: Energy & Water Efficient Buildings			
<p>1. <i>Cool/Green Roofs.</i></p> <ul style="list-style-type: none"> • Would the project include roofing materials with a minimum 3-year aged solar reflection and thermal emittance or solar reflection index equal to or greater than the values specified in the voluntary measures under California Green Building Standards Code (Attachment A)?; <u>OR</u> • Would the project roof construction have a thermal mass over the roof membrane, including areas of vegetated (green) roofs, weighing at least 25 pounds per square foot as specified in the voluntary measures under California Green Building Standards Code?; <u>OR</u> • Would the project include a combination of the above two options? <p>Check "N/A" only if the project does not include a roof component.</p> <div style="border: 1px solid black; height: 150px; width: 550px; margin-top: 10px;"></div>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

⁵ Actions that are not subject to Step 2 would include, for example: 1) discretionary map actions that do not propose specific development, 2) permits allowing wireless communication facilities, 3) special events permits, 4) use permits or other permits that do not result in the expansion or enlargement of a building (e.g., decks, garages, etc.), and 5) non-building infrastructure projects such as roads and pipelines. Because such actions would not result in new occupancy buildings from which GHG emissions reductions could be achieved, the items contained in Step 2 would not be applicable.

2. *Plumbing fixtures and fittings*

With respect to plumbing fixtures or fittings provided as part of the project, would those low-flow fixtures/appliances be consistent with each of the following:

Residential buildings:

- Kitchen faucets: maximum flow rate not to exceed 1.5 gallons per minute at 60 psi;
- Standard dishwashers: 4.25 gallons per cycle;
- Compact dishwashers: 3.5 gallons per cycle; and
- Clothes washers: water factor of 6 gallons per cubic feet of drum capacity?

Nonresidential buildings:

- Plumbing fixtures and fittings that do not exceed the maximum flow rate specified in [Table A5.303.2.3.1 \(voluntary measures\) of the California Green Building Standards Code](#) (See Attachment A); and
- Appliances and fixtures for commercial applications that meet the provisions of [Section A5.303.3 \(voluntary measures\) of the California Green Building Standards Code](#) (See Attachment A)?

Check "N/A" only if the project does not include any plumbing fixtures or fittings.

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Strategy 3: Bicycling, Walking, Transit & Land Use

3. Electric Vehicle Charging

- Multiple-family projects of 17 dwelling units or less: Would 3% of the total parking spaces required, or a minimum of one space, whichever is greater, be provided with a listed cabinet, box or enclosure connected to a conduit linking the parking spaces with the electrical service, in a manner approved by the building and safety official, to allow for the future installation of electric vehicle supply equipment to provide electric vehicle charging stations at such time as it is needed for use by residents?
- Multiple-family projects of more than 17 dwelling units: Of the total required listed cabinets, boxes or enclosures, would 50% have the necessary electric vehicle supply equipment installed to provide active electric vehicle charging stations ready for use by residents?
- Non-residential projects: Of the total required listed cabinets, boxes or enclosures, would 50% have the necessary electric vehicle supply equipment installed to provide active electric vehicle charging stations ready for use?

Check "N/A" only if the project is a single-family project or would not require the provision of listed cabinets, boxes, or enclosures connected to a conduit linking the parking spaces with electrical service, e.g., projects requiring fewer than 10 parking spaces.



Strategy 3: Bicycling, Walking, Transit & Land Use

(Complete this section if project includes non-residential or mixed uses)

4. Bicycle Parking Spaces

Would the project provide more short- and long-term bicycle parking spaces than required in the City's Municipal Code ([Chapter 14, Article 2, Division 5](#))?⁶

Check "N/A" only if the project is a residential project.



⁶ Non-portable bicycle corrals within 600 feet of project frontage can be counted towards the project's bicycle parking requirements.

5. *Shower facilities*

If the project includes nonresidential development that would accommodate over 10 tenant occupants (employees), would the project include changing/shower facilities in accordance with the voluntary measures under the [California Green Building Standards Code](#) as shown in the table below?

Number of Tenant Occupants (Employees)	Shower/Changing Facilities Required	Two-Tier (12" X 15" X 72") Personal Effects Lockers Required
0-10	0	0
11-50	1 shower stall	2
51-100	1 shower stall	3
101-200	1 shower stall	4
Over 200	1 shower stall plus 1 additional shower stall for each 200 additional tenant-occupants	1 two-tier locker plus 1 two-tier locker for each 50 additional tenant-occupants

Check "N/A" only if the project is a residential project, or if it does not include nonresidential development that would accommodate over 10 tenant occupants (employees).

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6. *Designated Parking Spaces*

If the project includes a nonresidential use in a TPA, would the project provide designated parking for a combination of low-emitting, fuel-efficient, and carpool/vanpool vehicles in accordance with the following table?

Number of Required Parking Spaces	Number of Designated Parking Spaces
0-9	0
10-25	2
26-50	4
51-75	6
76-100	9
101-150	11
151-200	18
201 and over	At least 10% of total

This measure does not cover electric vehicles. See Question 4 for electric vehicle parking requirements.

Note: Vehicles bearing Clean Air Vehicle stickers from expired HOV lane programs may be considered eligible for designated parking spaces. The required designated parking spaces are to be provided within the overall minimum parking requirement, not in addition to it.

Check "N/A" only if the project is a residential project, or if it does not include nonresidential use in a TPA.

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7. *Transportation Demand Management Program*

If the project would accommodate over 50 tenant-occupants (employees), would it include a transportation demand management program that would be applicable to existing tenants and future tenants that includes:

At least one of the following components:

- Parking cash out program
- Parking management plan that includes charging employees market-rate for single-occupancy vehicle parking and providing reserved, discounted, or free spaces for registered carpools or vanpools
- Unbundled parking whereby parking spaces would be leased or sold separately from the rental or purchase fees for the development for the life of the development

And at least three of the following components:

- Commitment to maintaining an employer network in the SANDAG iCommute program and promoting its RideMatcher service to tenants/employees
- On-site carsharing vehicle(s) or bikesharing
- Flexible or alternative work hours
- Telework program
- Transit, carpool, and vanpool subsidies
- Pre-tax deduction for transit or vanpool fares and bicycle commute costs
- Access to services that reduce the need to drive, such as cafes, commercial stores, banks, post offices, restaurants, gyms, or childcare, either onsite or within 1,320 feet (1/4 mile) of the structure/use?

Check "N/A" only if the project is a residential project or if it would not accommodate over 50 tenant-occupants (employees).



Step 3: Project CAP Conformance Evaluation (if applicable)

The third step of the CAP consistency review **only applies if Step 1 is answered in the affirmative under option B.** The purpose of this step is to determine whether a project that is located in a TPA but that includes a land use plan and/or zoning designation amendment is nevertheless consistent with the assumptions in the CAP because it would implement CAP Strategy 3 actions. In general, a project that would result in a reduction in density inside a TPA would not be consistent with Strategy 3. The following questions must each be answered in the affirmative and fully explained.

1. Would the proposed project implement the General Plan's City of Villages strategy in an identified Transit Priority Area (TPA) that will result in an increase in the capacity for transit-supportive residential and/or employment densities?

Considerations for this question:

- Does the proposed land use and zoning designation associated with the project provide capacity for transit-supportive residential densities within the TPA?
- Is the project site suitable to accommodate mixed-use village development, as defined in the General Plan, within the TPA?
- Does the land use and zoning associated with the project increase the capacity for transit-supportive employment intensities within the TPA?

2. Would the proposed project implement the General Plan's Mobility Element in Transit Priority Areas to increase the use of transit?

Considerations for this question:

- Does the proposed project support/incorporate identified transit routes and stops/stations?
- Does the project include transit priority measures?

3. Would the proposed project implement pedestrian improvements in Transit Priority Areas to increase walking opportunities?

Considerations for this question:

- Does the proposed project circulation system provide multiple and direct pedestrian connections and accessibility to local activity centers (such as transit stations, schools, shopping centers, and libraries)?
- Does the proposed project urban design include features for walkability to promote a transit supportive environment?

4. Would the proposed project implement the City of San Diego's Bicycle Master Plan to increase bicycling opportunities?

Considerations for this question:

- Does the proposed project circulation system include bicycle improvements consistent with the Bicycle Master Plan?
- Does the overall project circulation system provide a balanced, multimodal, "complete streets" approach to accommodate mobility needs of all users?

5. Would the proposed project incorporate implementation mechanisms that support Transit Oriented Development?

Considerations for this question:

- Does the proposed project include new or expanded urban public spaces such as plazas, pocket parks, or urban greens in the TPA?
- Does the land use and zoning associated with the proposed project increase the potential for jobs within the TPA?
- Do the zoning/implementing regulations associated with the proposed project support the efficient use of parking through mechanisms such as: shared parking, parking districts, unbundled parking, reduced parking, paid or time-limited parking, etc.?

6. Would the proposed project implement the Urban Forest Management Plan to increase urban tree canopy coverage?

Considerations for this question:

- Does the proposed project provide at least three different species for the primary, secondary and accent trees in order to accommodate varying parkway widths?
- Does the proposed project include policies or strategies for preserving existing trees?
- Does the proposed project incorporate tree planting that will contribute to the City's 20% urban canopy tree coverage goal?



CLIMATE ACTION PLAN CONSISTENCY CHECKLIST ATTACHMENT A

This attachment provides performance standards for applicable Climate Action Plan (CAP) Consistency Checklist measures.

Table 1 Roof Design Values for Question 1: Cool/Green Roofs supporting Strategy 1: Energy & Water Efficient Buildings of the Climate Action Plan				
Land Use Type	Roof Slope	Minimum 3-Year Aged Solar Reflectance	Thermal Emittance	Solar Reflective Index
Low-Rise Residential	≤ 2:12	0.55	0.75	64
	> 2:12	0.20	0.75	16
High-Rise Residential Buildings, Hotels and Motels	≤ 2:12	0.55	0.75	64
	> 2:12	0.20	0.75	16
Non-Residential	≤ 2:12	0.55	0.75	64
	> 2:12	0.20	0.75	16
<p>Source: Adapted from the California Green Building Standards Code (CALGreen) Tier 1 residential and non-residential voluntary measures shown in Tables A4.106.5.1 and A5.106.11.2.2, respectively. Roof installation and verification shall occur in accordance with the CALGreen Code.</p> <p>CALGreen does not include recommended values for low-rise residential buildings with roof slopes of ≤ 2:12 for San Diego's climate zones (7 and 10). Therefore, the values for climate zone 15 that covers Imperial County are adapted here.</p> <p>Solar Reflectance Index (SRI) equal to or greater than the values specified in this table may be used as an alternative to compliance with the aged solar reflectance values and thermal emittance.</p>				

Table 2 Fixture Flow Rates for Non-Residential Buildings related to Question 2: Plumbing Fixtures and Fittings supporting Strategy 1: Energy & Water Efficient Buildings of the Climate Action Plan

Fixture Type	Maximum Flow Rate
Showerheads	1.8 gpm @ 80 psi
Lavatory Faucets	0.35 gpm @60 psi
Kitchen Faucets	1.6 gpm @ 60 psi
Wash Fountains	1.6 [rim space(in.)/20 gpm @ 60 psi]
Metering Faucets	0.18 gallons/cycle
Metering Faucets for Wash Fountains	0.18 [rim space(in.)/20 gpm @ 60 psi]
Gravity Tank-type Water Closets	1.12 gallons/flush
Flushometer Tank Water Closets	1.12 gallons/flush
Flushometer Valve Water Closets	1.12 gallons/flush
Electromechanical Hydraulic Water Closets	1.12 gallons/flush
Urinals	0.5 gallons/flush

Source: Adapted from the [California Green Building Standards Code](#) (CALGreen) Tier 1 non-residential voluntary measures shown in Tables A5.303.2.3.1 and A5.106.11.2.2, respectively. See the [California Plumbing Code](#) for definitions of each fixture type.

Where complying faucets are unavailable, aerators rated at 0.35 gpm or other means may be used to achieve reduction.

Acronyms:

gpm = gallons per minute

psi = pounds per square inch (unit of pressure)

in. = inch

Table 3 Standards for Appliances and Fixtures for Commercial Application related to Question 2: Plumbing Fixtures and Fittings supporting Strategy 1: Energy & Water Efficient Buildings of the Climate Action Plan

Appliance/Fixture Type	Standard	
Clothes Washers	Maximum Water Factor (WF) that will reduce the use of water by 10 percent below the California Energy Commissions' WF standards for commercial clothes washers located in Title 20 of the <i>California Code of Regulations</i> .	
Conveyor-type Dishwashers	0.70 maximum gallons per rack (2.6 L) (High-Temperature)	0.62 maximum gallons per rack (4.4 L) (Chemical)
Door-type Dishwashers	0.95 maximum gallons per rack (3.6 L) (High-Temperature)	1.16 maximum gallons per rack (2.6 L) (Chemical)
Undercounter-type Dishwashers	0.90 maximum gallons per rack (3.4 L) (High-Temperature)	0.98 maximum gallons per rack (3.7 L) (Chemical)
Combination Ovens	Consume no more than 10 gallons per hour (38 L/h) in the full operational mode.	
Commercial Pre-rinse Spray Valves (manufactured on or after January 1, 2006)	Function at equal to or less than 1.6 gallons per minute (0.10 L/s) at 60 psi (414 kPa) and <ul style="list-style-type: none"> • Be capable of cleaning 60 plates in an average time of not more than 30 seconds per plate. • Be equipped with an integral automatic shutoff. • Operate at static pressure of at least 30 psi (207 kPa) when designed for a flow rate of 1.3 gallons per minute (0.08 L/s) or less. 	

Source: Adapted from the [California Green Building Standards Code](#) (CALGreen) Tier 1 non-residential voluntary measures shown in Section A5.303.3. See the [California Plumbing Code](#) for definitions of each appliance/fixture type.

Acronyms:

L = liter

L/h = liters per hour

L/s = liters per second

psi = pounds per square inch (unit of pressure)

kPa = kilopascal (unit of pressure)

Source Control BMP Checklist for PDPs		Form I-4B	
Source Control BMPs			
All development projects must implement source control BMPs where applicable and feasible. See Chapter 4 and Appendix E of the BMP Design Manual (Part 1 of the Storm Water Standards) for information to implement source control BMPs shown in this checklist.			
Answer each category below pursuant to the following.			
<ul style="list-style-type: none"> • "Yes" means the project will implement the source control BMP as described in Chapter 4 and/or Appendix E of the BMP Design Manual. Discussion / justification is not required. • "No" means the BMP is applicable to the project but it is not feasible to implement. Discussion / justification must be provided. • "N/A" means the BMP is not applicable at the project site because the project does not include the feature that is addressed by the BMP (e.g., the project has no outdoor materials storage areas). Discussion / justification may be provided. 			
Source Control Requirement		Applied?	
4.2.1 Prevention of Illicit Discharges into the MS4	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Discussion / justification if 4.2.1 not implemented:			
4.2.2 Storm Drain Stenciling or Signage	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Discussion / justification if 4.2.2 not implemented:			
4.2.3 Protect Outdoor Materials Storage Areas from Rainfall, Run-On, Runoff, and Wind Dispersal	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Discussion / justification if 4.2.3 not implemented:			
4.2.4 Protect Materials Stored in Outdoor Work Areas from Rainfall, Run-On, Runoff, and Wind Dispersal	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Discussion / justification if 4.2.4 not implemented:			
4.2.5 Protect Trash Storage Areas from Rainfall, Run-On, Runoff, and Wind Dispersal	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Discussion / justification if 4.2.5 not implemented:			

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Source Control Requirement	Applied?		
4.2.6 Additional BMPs Based on Potential Sources of Runoff Pollutants (must answer for each source listed below)			
On-site storm drain inlets	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Interior floor drains and elevator shaft sump pumps	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Interior parking garages	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Need for future indoor & structural pest control	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Landscape/Outdoor Pesticide Use	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Pools, spas, ponds, decorative fountains, and other water features	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Food service	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Refuse areas	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Industrial processes	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Outdoor storage of equipment or materials	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Vehicle/Equipment Repair and Maintenance	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Fuel Dispensing Areas	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Loading Docks	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Fire Sprinkler Test Water	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Miscellaneous Drain or Wash Water	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Plazas, sidewalks, and parking lots	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
SC-6A: Large Trash Generating Facilities	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
SC-6B: Animal Facilities	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
SC-6C: Plant Nurseries and Garden Centers	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
SC-6D: Automotive Facilities	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<p>Discussion / justification if 4.2.6 not implemented. Clearly identify which sources of runoff pollutants are discussed. Justification must be provided for <u>all</u> "No" answers shown above.</p>			

Site Design BMP Checklist for PDPs		Form I-5B	
Site Design BMPs			
<p>All development projects must implement site design BMPs where applicable and feasible. See Chapter 4 and Appendix E of the BMP Design Manual (Part 1 of Storm Water Standards) for information to implement site design BMPs shown in this checklist.</p> <p>Answer each category below pursuant to the following.</p> <ul style="list-style-type: none"> • "Yes" means the project will implement the site design BMP as described in Chapter 4 and/or Appendix E of the BMP Design Manual. Discussion / justification is not required. • "No" means the BMP is applicable to the project but it is not feasible to implement. Discussion / justification must be provided. • "N/A" means the BMP is not applicable at the project site because the project does not include the feature that is addressed by the BMP (e.g., the project site has no existing natural areas to conserve). Discussion / justification may be provided. <p>A site map with implemented site design BMPs must be included at the end of this checklist.</p>			
Site Design Requirement		Applied?	
4.3.1 Maintain Natural Drainage Pathways and Hydrologic Features		<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
Discussion / justification if 4.3.1 not implemented:			
1-1 Are existing natural drainage pathways and hydrologic features mapped on the site map?		<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
1-2 Are trees implemented? If yes, are they shown on the site map?		<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
1-3 Implemented trees meet the design criteria in 4.3.1 Fact Sheet (e.g. soil volume, maximum credit, etc.)?		<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
1-4 Is tree credit volume calculated using Appendix B.2.2.1 and SD-1 Fact Sheet in Appendix E?		<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
4.3.2 Have natural areas, soils and vegetation been conserved?		<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A
Discussion / justification if 4.3.2 not implemented:			

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Site Design Requirement	Applied?		
4.3.3 Minimize Impervious Area	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Discussion / justification if 4.3.3 not implemented:			
4.3.4 Minimize Soil Compaction	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Discussion / justification if 4.3.4 not implemented:			
4.3.5 Impervious Area Dispersion	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Discussion / justification if 4.3.5 not implemented:			
5-1 Is the pervious area receiving runoff from impervious area identified on the site map?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
5-2 Does the pervious area satisfy the design criteria in 4.3.5 Fact Sheet in Appendix E (e.g. maximum slope, minimum length, etc.)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
5-3 Is impervious area dispersion credit volume calculated using Appendix B.2.1.1 and 4.3.5 Fact Sheet in Appendix E?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A

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Site Design Requirement	Applied?		
4.3.6 Runoff Collection	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Discussion / justification if 4.3.6 not implemented:			
6a-1 Are green roofs implemented in accordance with design criteria in 4.3.6A Fact Sheet? If yes, are they shown on the site map?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
6a-2 Is the green roof credit volume calculated using Appendix B.2.1.2 and 4.3.6A Fact Sheet in Appendix E?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
6b-1 Are permeable pavements implemented in accordance with design criteria in 4.3.6B Fact Sheet? If yes, are they shown on the site map?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
6b-2 Is the permeable pavement credit volume calculated using Appendix B.2.1.3 and 4.3.6B Fact Sheet in Appendix E?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
4.3.7 Landscaping with Native or Drought Tolerant Species	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Discussion / justification if 4.3.7 not implemented:			
4.3.8 Harvest and Use Precipitation	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Discussion / justification if 4.3.8 not implemented:			
8-1 Are rain barrels implemented in accordance with design criteria in 4.3.8 Fact Sheet? If yes, are they shown on the site map?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
8-2 Is the rain barrel credit volume calculated using Appendix B.2.2.2 and 4.3.8 Fact Sheet in Appendix E?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A

Insert Site Map with all site design BMPs identified:

HYDROLOGY/DRAINAGE STUDY

FOR

EPB RESIDENCE REMODEL
PTS# 640358

City of San Diego

Applicant/Developer:

Andy Darragh
2275 Via Aprilia
Del Mar, CA 92111

Prepared By:

Snipes-Dye associates
civil engineers and land surveyors

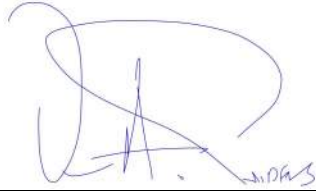
8348 Center Drive, Suite G
La Mesa, CA 91942-2910
(619) 697-9234, Fax (619) 460-2033
DM0432

Dated: January 6, 2020

DECLARATION OF RESPONSIBLE CHARGE

I, HEREBY DECLARE THAT I AM THE CIVIL ENGINEER OF WORK FOR THIS PROJECT, THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGN OF THE PROJECT AS DEFINED IN SECTION 6703 OF THE BUSINESS AND PROFESSIONS CODE, AND THAT THE DESIGN IS CONSISTENT WITH CURRENT STANDARDS.

I UNDERSTAND THAT THE CHECK OF PROJECT DRAWINGS AND SPECIFICATIONS BY THE CITY OF SAN DIEGO IS CONFINED TO A REVIEW ONLY AND DOES NOT RELIEVE ME, AS ENGINEER OF WORK, OF MY RESPONSIBILITY FOR PROJECT DESIGN.



WILLIAM A SNIPES
R.C.E. 50477
EXP. 06-30-21

3/13/2020

DATE

HYDROLOGY/DRAINAGE STUDY
FOR
EPB Residence Remodel

INTRODUCTION: The project proposes to remodel the existing residence at 2275 Via Aprilia, Del Mar, CA, generally described as Assessor's Parcel Number 301-083-01. The project includes revisions to the layout and landscape of the surrounding property. The pre-development and post-development conditions are generally very similar, and are described in the following sections.

PRE-CONSTRUCTION CONDITIONS: The existing site gently slopes from the general northeast to the general southwest, and is comprised of a single-family residence on a corner lot at the intersection of Via Aprilia and Via Borgia in Del Mar, CA. The site is divided into two sub-basins, described as "Basin A" and "Basin B" as shown on the Pre-Development Drainage Exhibit. Basin A is approximately 5,615 square feet and comprises the existing residence, rear yard, and side yards. The site drainage sheet-flows in a southwesterly direction from an elevation of 37 to an elevation of 27. The runoff coefficient of the pre-development Basin A is 0.50. Basin B consists of the existing adjacent streets and right-of-way, and consists of approximately 3,415 square feet. Basin B also sheet-flows in a general southwest direction from an elevation of 38 to an elevation of 27. The runoff coefficient of the pre-development Basin B is 0.80. The two basins confluence at the southwest corner of the site along Via Borgia. The calculated peak discharge for the pre-development site in the 100-year storm is approximately 0.29 cubic feet per second (cfs). See the attached calculations.

Summary Table 1:

PRE-DEVELOPMENT 100-YEAR DISCHARGE			
	AREA (ACRE)	TIME OF CONCENTRATION (MIN.)	DISCHARGE (CFS)
BASIN A	0.13	8.06	0.15
BASIN B	0.08	3.74	0.14
TOTAL	0.21	--	0.29

POST-CONSTRUCTION CONDITIONS: The proposed improvements consist of remodeling the existing residence and yard. The proposed post-development condition introduces little change to the drainage basins described in the pre-development condition. The main difference from the pre-development condition to the post-development condition is an increase in impervious area in the form of rooftops and concrete patio areas. Basin A consists of the proposed residence, rear yard, and side yard. It sheet flows in a general southwesterly direction from an elevation of 37 to an elevation of 27. The post-development runoff coefficient is 0.71 over the 5,045 square foot Basin A. Basin B consists of the existing adjacent streets and right-of-way in the post-development condition.

It consists of approximately 3,985 square feet. Basin B sheet-flows in a general southwest direction from an elevation of 38 to an elevation of 27. The runoff coefficient of the post-development Basin B is 0.72. The two basins confluence at the southwest corner of the site along Via Borgia. The total peak discharge from post-development site in the 100-year storm is 0.34 cfs. See the attached calculations.

Summary Table 2:

POST-DEVELOPMENT 100-YEAR DISCHARGE			
	AREA (ACRE)	TIME OF CONCENTRATION (MIN.)	DISCHARGE (CFS)
BASIN A	0.12	5.24	0.19
BASIN B	0.09	4.74	0.15
TOTAL	0.21	--	0.34

The following table combines the pre-development and post-development 100-year discharge results. It also compares the runoff factor used in the discharge calculations for each basin in both conditions.

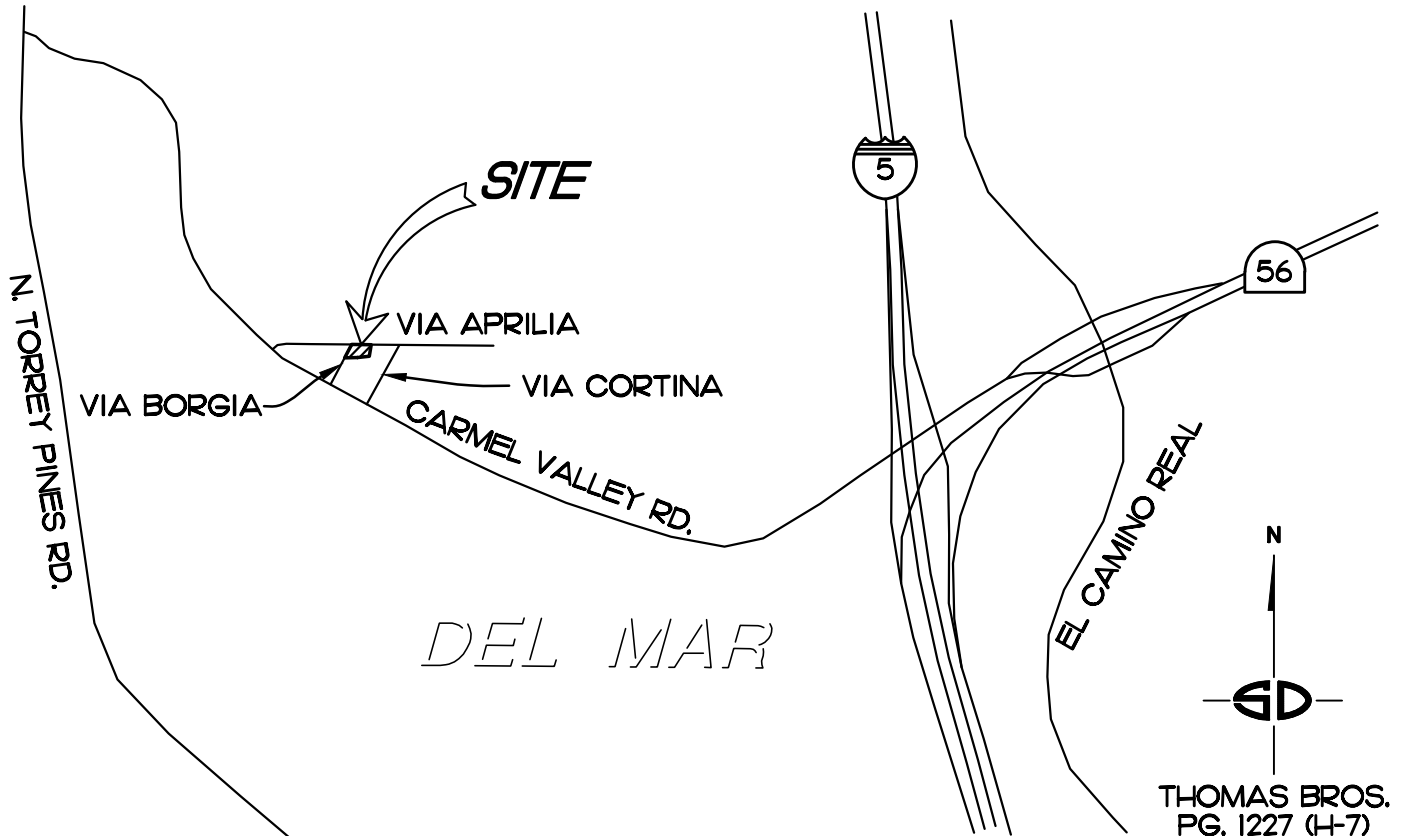
Summary Table 3:

100-YEAR DISCHARGE								
	PRE-DEVELOPMENT				POST-DEVELOPMENT			
	RUNOFF FACTOR	AREA (ACRE)	DISCHARGE (CFS)	VELOCITY (FPS)	RUNOFF FACTOR	AREA (ACRE)	DISCHARGE (CFS)	VELOCITY (FPS)
BASIN A	0.50	0.13	0.15	0.98	0.71	0.12	0.19	2.53
BASIN B	0.80	0.08	0.14	2.86	0.72	0.09	0.15	2.79
TOTAL	--	0.21	0.29	--	--	0.21	0.34	--

It should be noted that the proposed project does not discharge runoff directly into the Los Peñasquitos Lagoon, a navigable water, and is therefore not required to obtain approval from the Regional Water Quality Control Board under Federal Clean Water Act (CWA) section 401. There are no dredged or fill materials being discharged into the navigable waters of the United States and is not subject to CWA section 404 as a result.

CONCLUSION:

The proposed development will cause an increase in the 100-year peak discharge of 0.05 cfs. This increase is considered negligible for the overall Los Peñasquitos watershed. The site is not located in a 100-year flood hazard area or within the influence of flooding as a result of the failure of a levee or dam. Therefore, the proposed development will not expose people or structures to a significant risk of loss, injury, or death. In conclusion, the increase in the peak discharge will not cause significant impacts to downstream drainage facilities, streams, rivers, and/or adjacent properties.



VICINITY MAP
NO SCALE

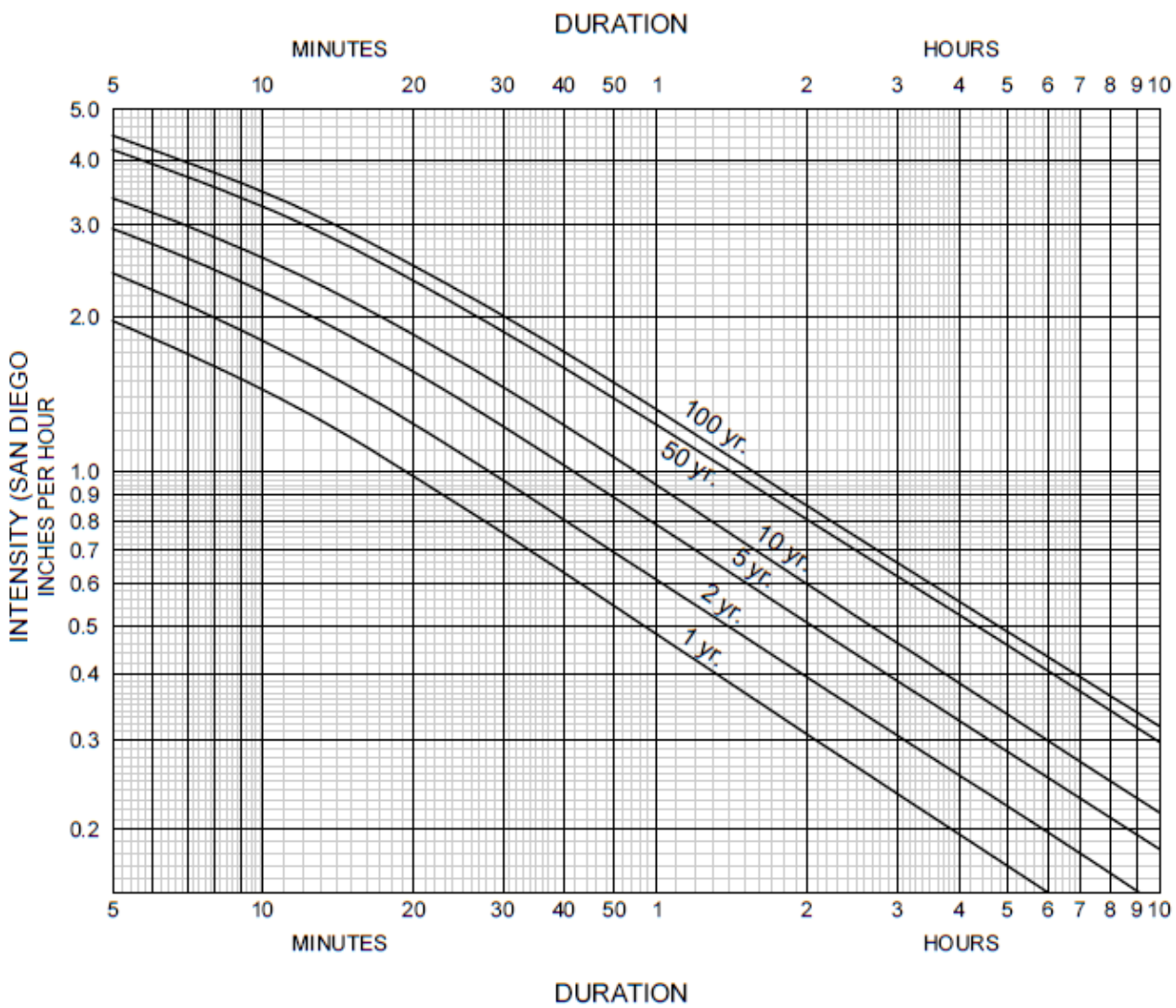


Figure A-1. Intensity-Duration-Frequency Design Chart

County of San Diego Hydrology Manual

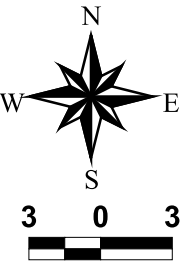
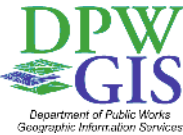


Rainfall Isopluvials

100 Year Rainfall Event - 6 Hours

2.3

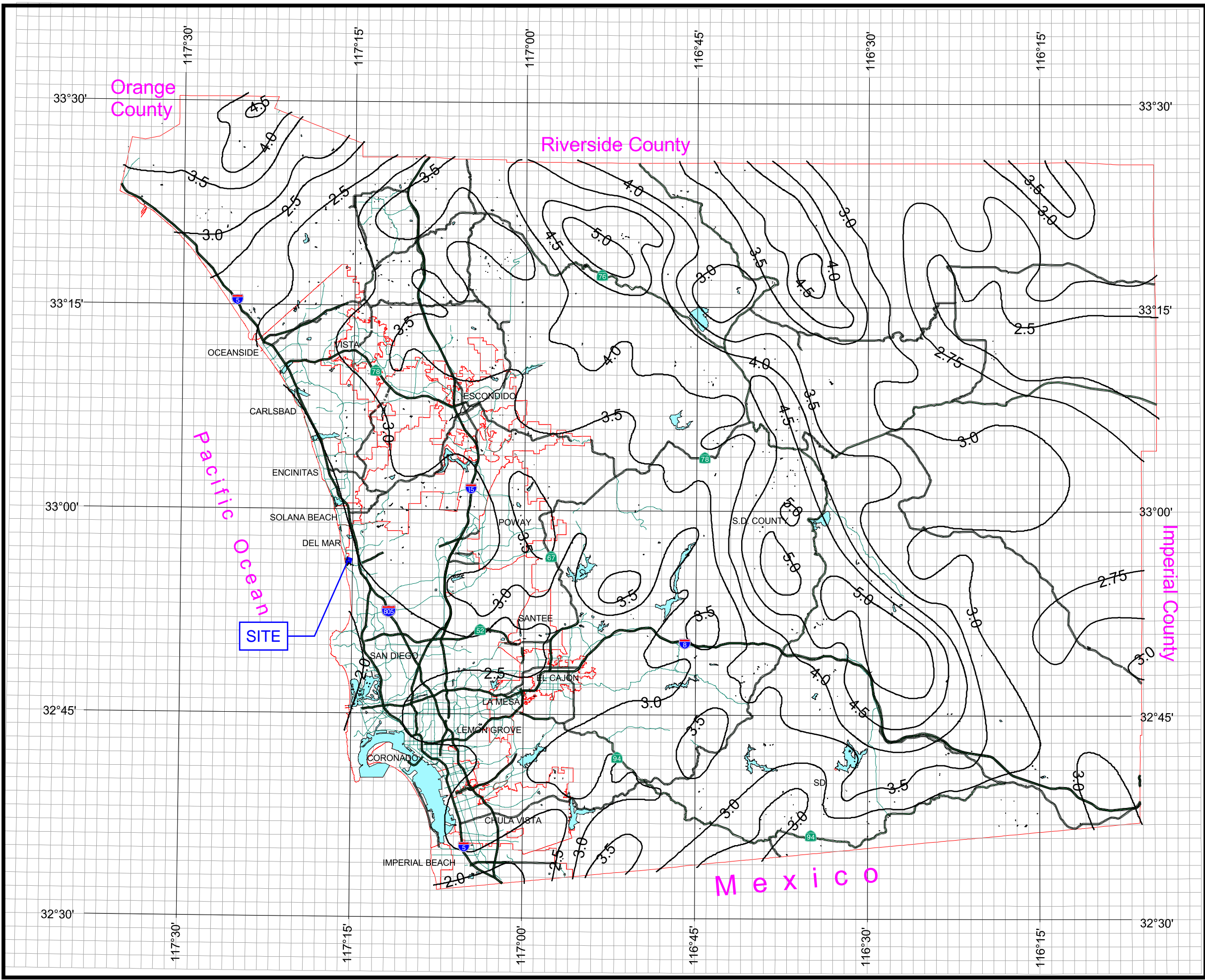
Isopluvial (inches)



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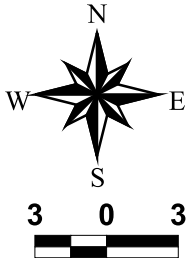
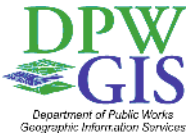
County of San Diego Hydrology Manual



Rainfall Isophuvials

100 Year Rainfall Event - 24 Hours

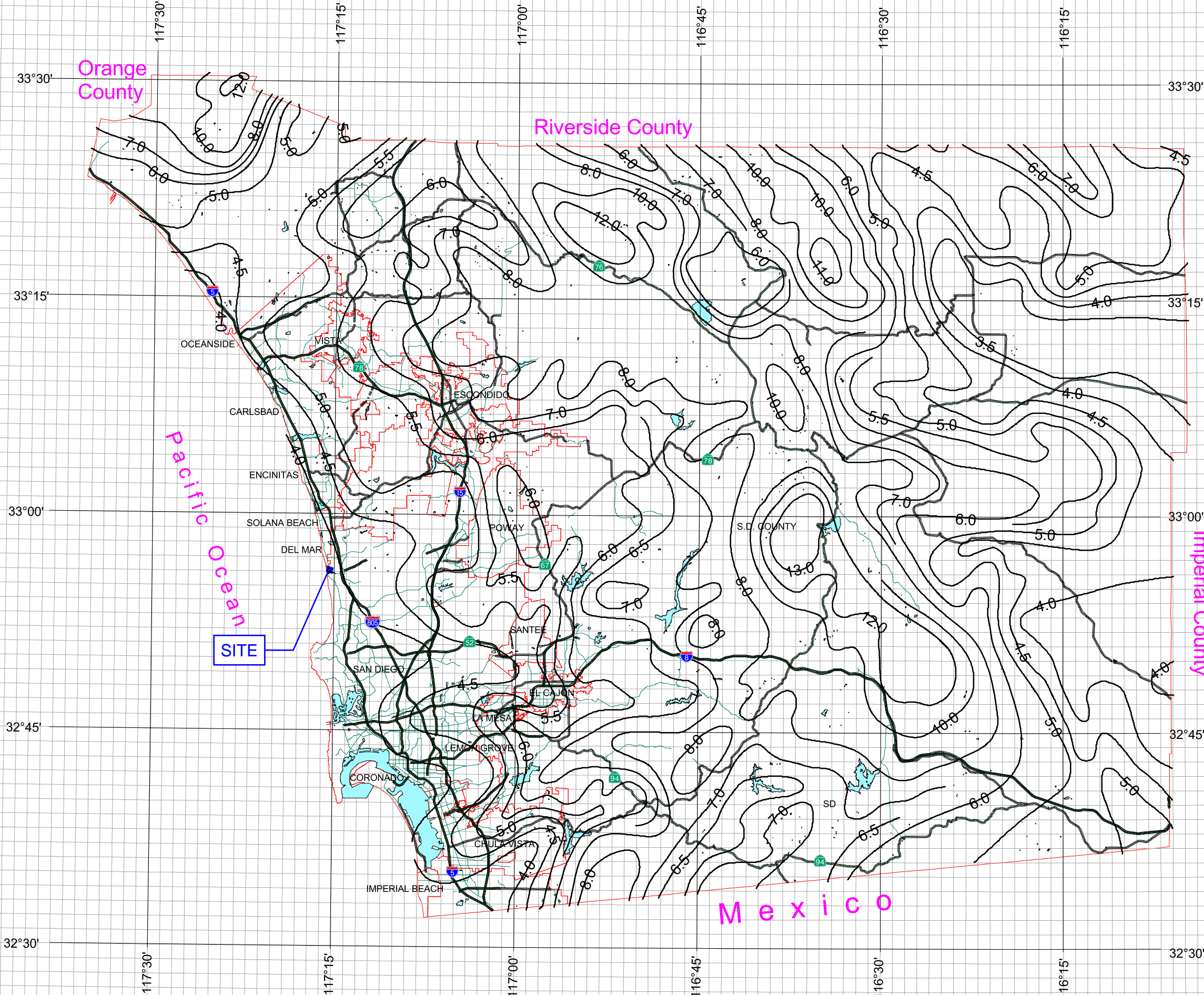
3.8 Isopluvial (inches)



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APPENDIX A: RATIONAL METHOD AND MODIFIED RATIONAL METHOD

Table A-1. Runoff Coefficients for Rational Method

Land Use	Runoff Coefficient (C) Soil Type ⁽¹⁾
Residential:	
Single Family (Assumed 50% Imperviousness)	0.55
Multi-Units	0.70
Mobile Homes	0.65
Rural (lots greater than ½ acre)	0.45
Commercial ⁽²⁾	
80% Impervious	0.85
Industrial ⁽²⁾	
90% Impervious	0.95

Note:

⁽¹⁾ Type D soil to be used for all areas.

⁽²⁾ Where actual conditions deviate significantly from the tabulated imperviousness values of 80% or 90%, the values given for coefficient C, may be revised by multiplying 80% or 90% by the ratio of actual imperviousness to the tabulated imperviousness. However, in case shall the final coefficient be less than 0.50. For example: Consider commercial property on D soil.

Actual imperviousness = 60%

Tabulated imperviousness (For Single-Family) = 50%

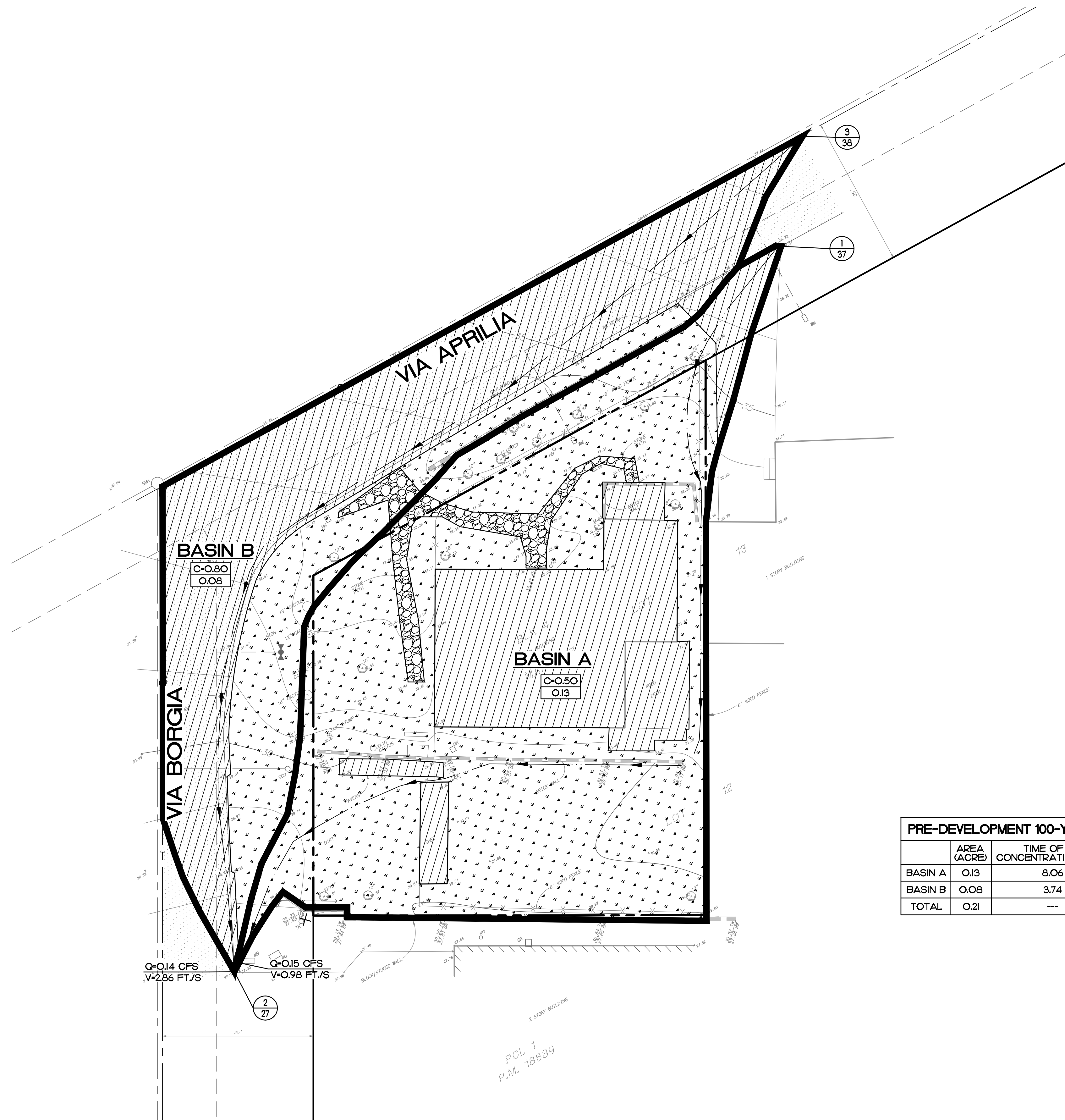
Revised C = $(60/50) \times 0.55$ = 0.66

The values in Table A-1 are typical for urban areas. However, if the basin contains rural or agricultural land use, parks, golf courses, or other types of nonurban land use that are expected to be permanent, the appropriate value should be selected based upon the soil and cover and approved by the City.

Runoff Factor - EPB Residence Remodel

Basin	Pre-A	Pre-B	Post-A	Post-B
Impervious Area (SF)	1,565	2,475	3,235	2,600
Total Basin Area (SF)	5,615	3,415	5,045	3,985
Actual imperviousness (AI) = Imp. Area/Total Area	28%	72%	64%	65%
Tabulated imperviousness =	50%	50%	50%	50%
For Single-Unit: Revised C = $(AI/50) \times 0.55$, 0.50 Minimum 0.95 Maximum For Rural: C = 0.45	0.31	0.80	0.71	0.72
Use	0.50	0.80	0.71	0.72

DRAINAGE EXHIBITS



PRE-DEVELOPMENT 100-YEAR DISCHARGE			
	AREA (ACRE)	TIME OF CONCENTRATION (MIN.)	DISCHARGE (CFS)
BASIN A	0.13	8.06	0.15
BASIN B	0.08	3.74	0.14
TOTAL	0.21	---	0.29

LEGEND

DRAINAGE BASIN BOUNDARY _____

IMPERVIOUS SURFACE _____

GRASS SURFACE _____

ROCK SURFACE _____

FLOW PATH _____

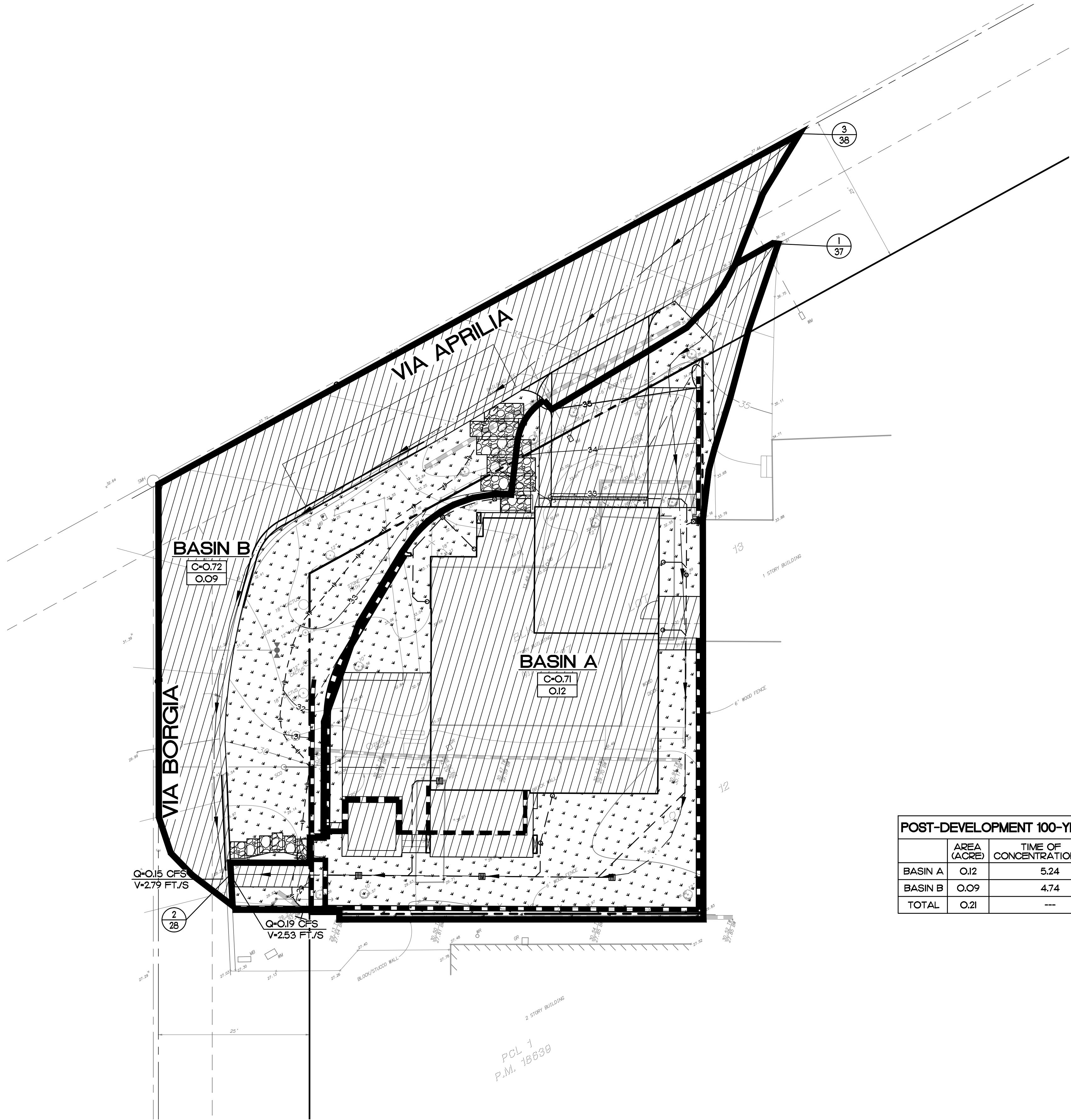
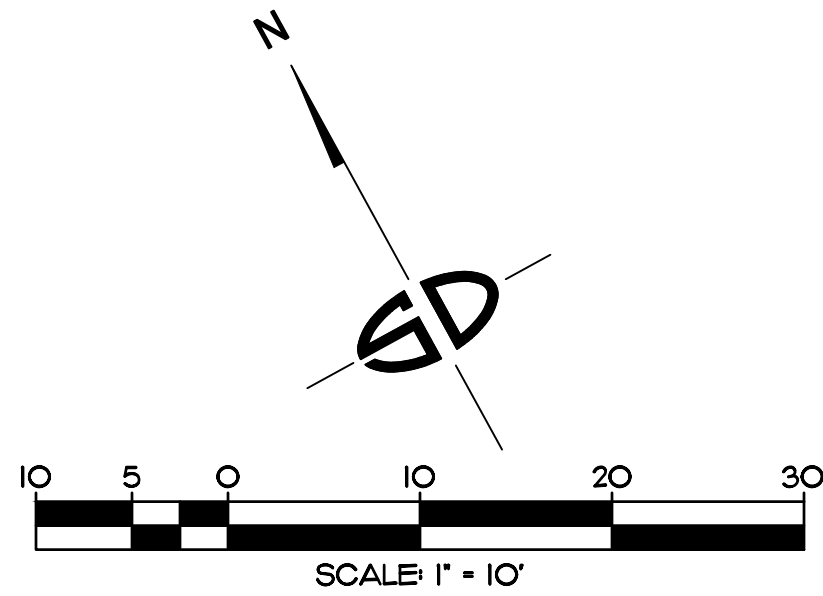
STUDY NODE W/ ELEVATION _____

RUNOFF COEFFICIENT "C" _____
SUB-BASIN AREA (ACRE)

$\frac{1}{37}$

$\frac{C=0.50}{0.13}$

PRE-DEVELOPMENT DRAINAGE EXHIBIT



POST-DEVELOPMENT 100-YEAR DISCHARGE			
	AREA (ACRE)	TIME OF CONCENTRATION (MIN)	DISCHARGE (CFS)
BASIN A	0.12	5.24	0.19
BASIN B	0.09	4.74	0.15
TOTAL	0.21	---	0.34

LEGEND

DRAINAGE BASIN BOUNDARY ———

IMPERVIOUS SURFACE ———

GRASS SURFACE ———

ROCK SURFACE ———

FLOW PATH ———→

STUDY NODE W/ ELEVATION ———

RUNOFF COEFFICIENT "C"
SUB-BASIN AREA (ACRE)

1
37
C=0.50
A=0.13

POST-DEVELOPMENT
DRAINAGE EXHIBIT

JOB NO. DMD0432 (A-B)	SNIPES-DYE ASSOCIATES	8348 CENTER DRIVE, SUITE G, LA MESA, CA 91942-2910 (619) 697-9234, FAX (619) 460-2033	DESIGNER TPS DRAWN BMW CHECKED WAS DATE 11/01/19	BY	NO	DATE	REVISION	DESCRIPTION	NO	DATE	REVISION	DESCRIPTION	BY	NO	DATE	SHEET TITLE JOB NAME POST-DEVELOPMENT DRAINAGE EXHIBIT VIA APRILIA / DARRAGH RESIDENCE COASTAL DEVELOPMENT PERMIT	G

PRE-DEVELOPMENT DRAINAGE CALCULATIONS

THE PEAK 100-YEAR DISCHARGES (Q)

BASIN B: Q_{100}

COMBINED RUNOFF COEFFICIENT (C):

Land Use	Coefficient (C)	Tributary Area
SINGLE-FAMILY RESIDENTIAL	0.80	0.08 AC

City of San Diego Drainage Design Manual - January 2017 Edition
Table A-1: Runoff Coefficient for Rational Method. (See Enclosed Calculations)

C= Runoff Factor

= 0.80

RAINFALL INTENSITY (I):

ΔE = Change in elevation along the Effective Slope

= 10.67 Feet

D= Water Course Distance

= 166 Feet

S= Slope = ($\Delta E/D$) X 100%

= 6.43 %

T_c = Time of Concentration

$T_c = [1.8(1.1-C)(D^{1/2})]/[S^{1/3}] =$

= 3.74 Minutes

Urban Areas Overland Time of Flow Curves Pg. A-8

City of San Diego- Drainage Design Manual 2017

Intensity = Intensity-Duration-Frequency Curves Pg. A-4

= 2.30 Inches/Hour

City of San Diego- Drainage Design Manual 2017

PEAK DISCHARGES (Q):

A = Area of the basin

= 0.08 Acres

$Q = CIA$

= 0.14 ft^3/sec

THE PEAK 100-YEAR DISCHARGES (Q)

BASIN A: Q_{100}

COMBINED RUNOFF COEFFICIENT (C):

Land Use	Coefficient (C)	Tributary Area
SINGLE-FAMILY RESIDENTIAL	0.50	0.13 AC

City of San Diego Drainage Design Manual - January 2017 Edition
Table A-1: Runoff Coefficient for Rational Method. (See Enclosed Calculations)

C= Runoff Factor

= 0.50

RAINFALL INTENSITY (I):

ΔE = Change in elevation along the Effective Slope

= 9.88 Feet

D= Water Course Distance

= 176 Feet

S= Slope = ($\Delta E/D$) X 100%

= 5.61 %

T_c = Time of Concentration

$T_c = [1.8(1.1-C)(D^{1/2})]/[S^{1/3}] =$

= 8.06 Minutes

Urban Areas Overland Time of Flow Curves Pg. A-8

City of San Diego- Drainage Design Manual 2017

Intensity = Intensity-Duration-Frequency Curves Pg. A-4

= 2.30 Inches/Hour

City of San Diego- Drainage Design Manual 2017

PEAK DISCHARGES (Q):

A = Area of the basin

= 0.13 Acres

$Q = CIA$

= 0.15 ft^3/sec

POST-DEVELOPMENT DRAINAGE CALCULATIONS

THE PEAK 100-YEAR DISCHARGES (Q)

BASIN A: Q_{100}

COMBINED RUNOFF COEFFICIENT (C):

Land Use	Coefficient (C)	Tributary Area
SINGLE-FAMILY RESIDENTIAL	0.71	0.12 AC

City of San Diego Drainage Design Manual - January 2017 Edition
Table A-1: Runoff Coefficient for Rational Method. (See Enclosed Calculations)

C= Runoff Factor

= 0.71

RAINFALL INTENSITY (I):

ΔE = Change in elevation along the Effective Slope

= 9.88 Feet

D= Water Course Distance

= 176 Feet

S= Slope = ($\Delta E/D$) X 100%

= 5.61 %

T_c = Time of Concentration

$T_c = [1.8(1.1-C)(D^{1/2})]/[S^{1/3}] =$

= 5.24 Minutes

Urban Areas Overland Time of Flow Curves Pg. A-8

City of San Diego- Drainage Design Manual 2017

Intensity = Intensity-Duration-Frequency Curves Pg. A-4

= 2.30 Inches/Hour

City of San Diego- Drainage Design Manual 2017

PEAK DISCHARGES (Q):

A = Area of the basin

= 0.12 Acres

$Q = CIA$

= 0.19 ft^3/sec

THE PEAK 100-YEAR DISCHARGES (Q)

BASIN B: Q_{100}

COMBINED RUNOFF COEFFICIENT (C):

Land Use	Coefficient (C)	Tributary Area
SINGLE-FAMILY RESIDENTIAL	0.72	0.09 AC

City of San Diego Drainage Design Manual - January 2017 Edition
Table A-1: Runoff Coefficient for Rational Method. (See Enclosed Calculations)

C= Runoff Factor

= 0.72

RAINFALL INTENSITY (I):

ΔE = Change in elevation along the Effective Slope

= 10.67 Feet

D= Water Course Distance

= 166 Feet

S= Slope = ($\Delta E/D$) X 100%

= 6.43 %

T_c = Time of Concentration

$T_c = [1.8(1.1-C)(D^{1/2})]/[S^{1/3}] =$

= 4.74 Minutes

Urban Areas Overland Time of Flow Curves Pg. A-8

City of San Diego- Drainage Design Manual 2017

Intensity = Intensity-Duration-Frequency Curves Pg. A-4

= 2.30 Inches/Hour

City of San Diego- Drainage Design Manual 2017

PEAK DISCHARGES (Q):

A = Area of the basin

= 0.09 Acres

$Q = CIA$

= 0.15 ft^3/sec