

Los Angeles Regional Water Quality Control Board

January 6, 2017

Mr. Mitchell G. Lansdell
City Manager
1700 W. 162nd St., Room 112
Gardena, CA 90247

RESPONSE TO THE CITY OF GARDENA'S NOVEMBER 21, 2016 LETTER AND MODIFICATION TO THE BASELINE MONITORING DIRECTIVE TO THE CITY OF GARDENA PURSUANT TO THE MONITORING AND REPORTING PROGRAM IN ATTACHMENT E (LOS ANGELES COUNTY MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) PERMIT - NPDES PERMIT NO. CAS004001; ORDER NO. R4-2012-0175)

Dear Mr. Lansdell:

In your letter dated November 21, 2016, you raised several questions and concerns regarding the Los Angeles Regional Water Quality Control Board's (Los Angeles Water Board or Board) rescission of conditional approval of the City of Gardena's (City's) Integrated Monitoring Program (IMP). Please see our responses to your letter in **Enclosure 1**.

In consideration of your letter and our phone call on December 19, 2016, the Board has agreed to revise the City of Gardena's baseline monitoring requirements as previously specified in our October 20, 2016 letter. The baseline monitoring program and modifications in response to the City's requests are provided in **Enclosure 2** and **Enclosure 3**. In summary, the Board has made the following modifications:

- As per the City's request, Mass Emission Station S28 shall be used as the City's receiving water monitoring station for the freshwater portion of Dominguez Channel.
- Monitoring location R1, located at the uppermost end of the Dominguez Channel Estuary, shall be used by the City only as a TMDL monitoring station for Dominguez Channel Estuary, where the City shall monitor sediment and fish tissue as per the Dominguez Channel and Greater Harbor Waters Toxic Pollutants TMDL (Harbor Toxics TMDL).
- Monitoring of pollutants in water and total suspended solids that is required to determine compliance with the Harbor Toxics TMDL shall be conducted at the designated outfall monitoring stations, i.e., ID # FS3 and FS4.
- Corresponding changes to the list of constituents that shall be monitored and the sampling frequencies at each of the monitoring sites S28, R1, FS3 and FS4.
- Regarding the City's non-storm water outfall monitoring program, the City shall screen all non-storm water outfalls and, as requested, take grab samples from a manhole immediately upstream of outfalls where there is flow observed in the manhole. At the time of screening, the City shall also note if the flap-gate at the outfall is open or closed. If open, the City shall estimate and record the approximate flow rate of the non-storm

water discharge and, if closed, the City shall record whether there is evidence of recent non-storm water discharge at the outfall (e.g., water/oil staining, algae growth, debris).

All other monitoring and directives as per the Board's October 20, 2016 letter remain the same.

If you have any questions, please contact Ms. Erum Razzak of the Storm Water Permitting Unit by electronic mail at Erum.Razzak@waterboards.ca.gov or by phone at (213) 620-2095. Alternatively, you may also contact Mr. Ivar Ridgeway, Chief of the Storm Water Permitting Unit, by electronic mail at Ivar.Ridgeway@waterboards.ca.gov or by phone at (213) 620-2150.

Sincerely,



Samuel Unger, P.E.
Executive Officer

cc: John Felix, City of Gardena
Ray Tahir, TECS Environmental, Inc.

Enclosures: Enclosure 1 – Response to Letter
Enclosure 2 – Modified Monitoring Requirements
Enclosure 3 – Modified Map of Monitoring Locations

Enclosure 1 - Los Angeles Water Board Response to November 21, 2016 Letter from the City of Gardena

Comment No.	Gardena's Comment	Los Angeles Water Board Response
1	<p>The City, in good faith, negotiated the terms of the IMP with your staff (Renee Purdy). We believed we had complied with your requests. It is our intention to conduct all monitoring that you have requested regardless of whether or not the results of that testing can be used for compliance purposes. We removed references to the City's legal challenge of several provisions of the MS4 Permit, including monitoring-related requirements. The City has agreed to evaluate water quality samples against RWLs and Action Levels taken from outfalls and receiving waters. The City has taken the position that it is only required to comply with outfall discharges measured against WQBELs, which are the same as total maximum daily load (TMDL) waste load allocations. It is not required to also comply with receiving water limitations (RWLs) in the Dominguez Channel. As explained below, the MS4 Permit allows compliance to be determined at the outfall. The City has also agreed previously to measure outfall discharges against Action Levels, but, again, not for compliance purposes. Under the Compliance Determination Section of the MS4 Permit (VI.E.2) there is no mention of Action Levels.</p>	<p>The Board appreciates the City's effort to prepare its final IMP to meet permit requirements. As stated in the Board's letter dated October 20, 2016, the final IMP still had deficiencies that resulted in the need to rescind the Executive Officer's conditional approval issued on January 22, 2016.</p> <p>While compliance with WQBELs set forth in Part VI.E and attachments L - R of the permit can be demonstrated at the outfall, the monitoring and reporting requirements set forth in Attachment E also require receiving water monitoring. Receiving water monitoring in conjunction with other data and information is used by the Los Angeles Water Board to determine compliance with the Receiving Water Limitation provisions of the permit. Compliance will be determined by Los Angeles Water Board based on an evaluation of monitoring data against receiving water limitations and WQBELs as per Parts V.A, VI.E.2.d.i.(1)-(3), VI.E.2.e.i.(1)-(3), or VI.E.3.e of the permit.</p> <p>With regards to action levels, Part III.A.4.c of the LA County MS4 Permit states the following: <i>"To evaluate monitoring data, the Permittee shall either use applicable interim or final water quality-based effluent limitations for the pollutant or, if there are no applicable interim or final water quality-based effluent limitations for the pollutant, use applicable action levels provided in Attachment G. Based on non-storm water outfall-based monitoring as implemented through the MRP, if monitoring data show exceedances of applicable water quality-based effluent limitations or action levels, the Permittee shall take further</i></p>

Comment No.	Gardena's Comment	Los Angeles Water Board Response
		<p><i>action to determine whether the discharge is causing or contributing to exceedances of receiving water limitations in Part V."</i></p> <p>Additionally, municipal action levels are derived from a nationwide database of monitoring data for pollutants in storm water. Attachment G of the LA County MS4 Permit states the following: <i>"Under this Order, the Municipal Action Levels (MALs) shall be utilized by Permittees to identify subwatersheds discharging pollutants at levels in excess of the MALs. Within those subwatersheds where pollutant levels in the discharge are in excess of the MALs, Permittees shall implement controls and measures necessary to reduce the discharge of pollutants."</i></p> <p>Hence, non-storm water action levels and municipal action levels act as triggers and observed exceedances are used differently than observed exceedances of a WQBEL or RWL.</p>
<p>2</p>	<p>The rescission letter indicated that the City would need to perform fish tissue and sediment monitoring in the estuary. You may recall that we could not, as an individual City, agree to performing these tasks. However, the City did offer to pay for a share of monitoring costs (which, by the way, appears to be an "optional study" according to the Dominguez Channel Harbor Toxics TMDL staff report) that the Dominguez Channel EWMP group had committed to in its Coordinated Integrated Monitoring Program (CIMP). According to the DC-EWMP group lead (the City of Los Angeles), Gardena would only be allowed to participate in the fish tissue/sediment study if it agreed to join the DC-EWMP group, a group that the City has elected not to join.</p> <p>In any case, any of the results from the DC-EWMP group's</p>	<p>The City is required to conduct fish tissue and sediment monitoring in the Dominguez Channel Estuary as it is a responsible party in the Harbor Toxics TMDL. See the Harbor Toxics TMDL, Attachment A to Resolution R11-008, on page 24 where it states that, <i>"[t]he Dominguez Channel responsible parties are each individually responsible for conducting water, sediment, and fish tissue monitoring."</i></p> <p>The geographic location of the Dominguez Channel Estuary outside of the City's jurisdiction is immaterial since the City's storm drain BI0074 discharges into the Dominguez Channel Estuary after comingling with discharges from other neighboring permittees and other City storm drains discharge to the Dominguez Channel</p>

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	<p>study would be applied to the City. Moreover, subsequent to that conversation with Ms. Purdy, the City learned that the estuary (the unlined portion below Vermont) is not located within the City of Gardena as Regional Board staff believed. It is actually located in the City of Los Angeles, as shown in the Google map below. The City's eastern boundary is Vermont Avenue. According to the 303(d) list for Dominguez Channel, the estuary is located "below" Vermont Avenue. This would seem to make it unnecessary to conduct studies or sample for any purpose in the estuary.</p>	<p>upstream of the estuary and, therefore, may impact receiving water quality, including pollutant levels in sediment and fish tissue, in the estuary. Attachment E Part II.E.1 of the permit states that, "[r]eceiving water monitoring shall be performed at... TMDL receiving water compliance points... and additional receiving water locations representative of the impacts from MS4 discharges."</p>
<p>3</p>	<p>Contrary to what was agreed upon earlier, the rescission letter specifies that the City must conduct monitoring in the receiving water for compliance purposes, in addition to outfall monitoring. To be clear, the City has opted for compliance at the outfall – not in the receiving water which is an MS4 Permit option, in accordance with Part VI.E.2.d.i.1 and Part VI.E.2.e.i.1. Therefore, there is no reason to conduct monitoring in the receiving water in addition to the outfall for compliance purposes and, as mentioned above, there appears to be no need to add a monitoring location in the Dominguez Channel estuary, since the City does not drain to it. Further, there should be no need to add another in-stream sampling location in the lined portion of the Dominguez Channel, above Vermont Avenue. As staff is aware, S-28 is the County's mass emission station, which Regional Board staff believes is located in Torrance. It is not. It is located in Gardena as the Google Map below illustrates.</p> <p>Nevertheless, the City added a receiving water monitoring location, near the County's mass emission station, S-28, (located in the lined portion of the channel above Vermont), despite the fact that this does not seem</p>	<p>See response to Comments #1 and 2.</p> <p>As requested, the City may use the location coinciding with the S-28 mass emission station to conduct receiving water monitoring in Dominguez Channel. No water column monitoring in the receiving water at R1 will be required. However, the City is required to monitor sediment and fish tissue at R1 (located at the uppermost end of the Dominguez Channel Estuary) as required by the Harbor Toxics TMDL. The City is required to conduct monitoring of pollutants in the water column and suspended sediment as required by the Harbor Toxics TMDL at the designated storm water outfall monitoring stations (i.e., FS3/FS4) discharging to Dominguez Channel and Dominguez Channel Estuary.</p>

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	<p>necessary (see map attachment #1, Receiving Water Monitoring Locations). S-28 is the location of the County's auto-sampler used to collect samples during storm events. The Regional Board has denied the City's previous request to allow the use of monitoring data taken from S-28, probably because it believed it to be located in Torrance. The City asks the Regional Board to re-consider that request but, in the meantime, the City will grab stormwater samples from the overpass just a few feet west of S-28.</p>	
<p>4</p>	<p>The rescission letter mentions that the City has not proposed water column testing in the estuary. The City understands that this task is also being performed by DC-EWMP permittees. The City, therefore, sees no purpose or benefit to conduct separate water column testing in the channel and, as mentioned, the estuary is not located within the City of Gardena– it is within the City of Los Angeles. Nevertheless, should the Regional Board insist that the City conduct water column sampling in the estuary, it shall do so.</p>	<p>See response to Comment #3.</p>
<p>5</p>	<p>The rescission letter adds the condition of requiring the City to provide drainage areas maps. The City does not have such maps at this time showing the drainage areas to the two (2) water quality segments (reaches) for the Dominguez Channel (above and below Vermont Avenue). It should be mentioned, once again, that the City does not drain directly to the estuary – only to the unlined portion of the channel, above Vermont Avenue. The rescission letter mentions that if a map is not available the City can provide a schedule for completing it. The City intends to prepare a map showing the drainage area for the unlined portion of the channel above Vermont Avenue, using Los Angeles County's GIS Data Portal, which is based on previously-developed Los Angeles County Flood Control maps. The</p>	<p>See response to Comment #2.</p> <p>For clarification, the Board's October 20, 2016 letter contained no additional conditions per se. Rather, the letter contained directives to monitor according to the requirements of the permit and its monitoring and reporting program (Attachment E). Enclosure 1 of the Board's October 20, 2016 letter was simply a summarization of the conditions of the Executive Officer's approval that were not met and other deficiencies for the City's reference.</p> <p>Although the October 20, 2016 letter did not direct the City to provide any drainage maps, the City's proposed schedule to submit drainage maps to the Board by the end</p>

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	<p>City hopes to have this GIS map completed by the end of January of next year.</p>	<p>of January 2017 is acceptable.</p>
<p>6</p>	<p>The rescission letter is critical of the City's IMP for not specifying how significant non-stormwater discharges will be determined. The City is not sure what "significant" means as it relates to stormwater, since there is no definition of it. The example, cited in your letter, of using a garden hose flowing at 10 gallons per minute was suggested as a criterion. However, it would be difficult to visually determine flow volume at this rate. In the interest of simplicity, the City proposes to take samples from a manhole upstream of an outfall, which appears to be flowing (without specifically referring to a flow rate) and, where there is sufficient flow visualized from the manhole, do grab a sample. If this approach is not sufficient, perhaps Regional Board staff can offer suggestions. It is important to note that several of the City's outfalls, such as the one located near S-28, on the north side of the channel, is equipped with a flap-gate that minimizes the discharge of non-stormwater to the point of "no flow." In other words, it probably will be unlikely that the City will be able to collect non-stormwater samples from several of its outfalls.</p>	<p>As per the teleconference on December 19, 2016, the City's proposal to take grab samples from a manhole immediately upstream of outfalls when there is flow observed in the manhole is acceptable. If there is no non-storm water discharge seen at the outfall at the time of non-storm water outfall screening, the City can simply record it as "no flow". During the non-storm water discharge outfall screening events, the City shall also record if the flap-gate at the outfall is open or closed. If the flap gate is open, the City shall record the approximate flow rate of the non-storm water discharge. If the flap gate is closed, the City shall record if there is evidence of recent non-storm water discharge (e.g., water/oil staining, algae growth, debris).</p>
<p>7</p>	<p>The rescission letter requires, as a condition of approval, an explanation of how outfall monitoring points were chosen. The City drains into 11 outfalls. The City chose three (3) of them as being representative, as shown on Attachment #2. At the northeastern corner of the City is field screening point #3. It includes runoff from residential areas to the west and an industrial area to the east of it. Just below it is field screening point #2. It receives runoff also mostly from a residential area with some input from the City's industrial area. The outfalls below field screening point #2 are more residential and less industrial. Thus,</p>	<p>The rescission letter does not direct the City to provide justification for the selection of the field screening points; rather, it lists the lack of sufficient justification as a condition of approval in the January 22, 2016 letter that was not met.</p> <p>Note that the Board agreed with the City's proposed storm water monitoring at field screening points #3 and 4 and specified those locations as the City's storm water outfall monitoring locations in the monitoring directive.</p>

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	<p>field screening points #2 and #3 provide a mix of residential and industrial uses, while the other outfalls below them are residential and are, therefore, not as representative. Field screening points #2 and #3 include runoff from areas that drain into the lined portion of the Dominguez Channel above Vermont Avenue. Most of the City's outfalls drain into this reach. Field screening point 1 captures runoff mostly from residential areas and some from industrial and commercial areas, providing a better mix of land use input. This field screening point is also above the only outfall that flows to the estuary (unlined portion of the channel) below Vermont Avenue. The City believes they are very representative. However, if the Regional Board disagrees, the City would welcome its explanation and asks that it select screening points it feels are more appropriate. It should be noted that the City intends to collect samples from the three (3) field screening points during each qualifying storm event.</p>	
<p>8</p>	<p>Issues such a[s] typos and others referenced in the Summary of the Board's review have been corrected under the previous iteration but will be reviewed again.</p>	<p>Comment noted. However, it is not necessary to address these since the City's monitoring requirements have been set forth in the Board's monitoring directives pursuant to Attachment E of the permit.</p>

Los Angeles Regional Water Quality Control Board

Enclosure 2 – **Revised** Monitoring Requirements

City of Gardena

Enclosure 2 contains monitoring locations and monitoring requirements specified in Attachment E of the LA County MS4 Permit, including receiving water monitoring during wet and dry weather, stormwater outfall based monitoring, non-stormwater outfall based screening and monitoring, and aquatic toxicity monitoring. Enclosure 2 also identifies TMDL compliance monitoring that the City is required to conduct per Attachment E and Attachment N Part E (Dominguez Channel and Greater Harbor Waters Toxic Pollutants TMDL) of the LA County MS4 Permit. Furthermore, Attachment E Part VI.C–D, Part VIII.B, and Part IX.G of the LA County MS4 Permit require monitoring for 303(d) listed pollutants. Because the City of Gardena discharges to a 303(d) listed waterbody (Dominguez Channel and the Dominguez Channel Estuary), it must monitor these pollutants.

Table 1. City of Gardena Required Monitoring Locations¹

Station/Site ID	Description	Waterbody	Latitude	Longitude	Details
FS3	Stormwater - Outfall / TMDL - <u>Outfall</u>	Dominguez Channel	33.901836	-118.324964	S. Normandie Ave
FS4	Stormwater - Outfall / TMDL - <u>Outfall</u>	Dominguez Channel	33.872029	-118.298876	Western & Artesia Blvd
<u>S28</u>	<u>Receiving Water -</u> <u>Mass Emission</u> <u>Station</u>	<u>Dominguez Channel</u>	<u>33.8729</u>	<u>-118.3114</u>	<u>Artesia Blvd &</u> <u>Dominguez</u> <u>Channel</u>
R1	Receiving Water + TMDL	Dominguez Channel /Dominguez Channel Estuary	33.871472	-118.290794	Vermont Ave.

¹ All of the monitoring locations in Table 1 (above) and Enclosure 3 (Map of Monitoring Locations) were selected consistent with criteria in Attachment E, Parts VI – IX of the LA County MS4 Permit. Some of the locations in Table 1 (FS3, ~~and FS4,~~ and S28) were also proposed by the City of Gardena in their final IMP submitted to the Los Angeles Water Board on April 21, 2016.

Table 2. City of Gardena Monitoring Requirements

Constituent	Annual Frequency (number wet events/number dry events)			
	Dominguez Channel Watershed ²			
	Receiving Water ³ and TMDL ⁴	TMDL ⁵	Stormwater ⁶	Non-Stormwater ⁷
	S28R1	R1	FS3/FS4	
Pollutants identified in Attachment E Table E-2 of the LA County MS4 Permit	1/13/2 ⁸		3/0 ⁹	0/4 ¹⁰
Aquatic Toxicity ¹¹	2/1 ¹²		13	14
Total Suspended Solids (TSS)	3/2		3/0	0/4
Suspended Sediment Concentration (SSC)¹⁵	3/2		3/0	
Flow	3/2		3/0	0/4
Hardness	3/2		3/0	0/4
pH	3/2		3/0	0/4
Dissolved Oxygen	3/2		3/0	0/4
Temperature	3/2		3/0	0/4
Specific/Electrical Conductivity	3/2		3/0	0/4
<i>E. coli</i>	3/2		3/0	0/4

² In addition to Attachment N Part E.2.a.ii, samples of non-stormwater collected from outfalls (sites FS3 and FS4) during flow conditions less than the 90th percentile of annual flow rates must demonstrate that the acute and chronic hardness dependent water quality criteria (for copper, lead, and zinc) provided in the California Toxics Rule (CTR) are achieved (see Attachment N Part E.3.a.ii, footnote 6 of the LA County MS4 Permit).

³ Monitoring shall occur as per Attachment E Part VI.B-C of the LA County MS4 Permit. Dry weather monitoring ~~will occur~~ shall be conducted in July, the historically driest month.

~~⁴ Monitoring for the Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters Toxic Pollutants TMDL for Dominguez Channel and Dominguez Channel Estuary will occur at monitoring site R1.~~

⁵ Monitoring for the Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters Toxic Pollutants TMDL for Dominguez Channel and Dominguez Channel Estuary shall be conducted at sites FS3 and FS4 for pollutants in the water column and in bulk sediment and at site R1 for pollutants in fish tissue and bed sediment.

⁶ Monitoring and sampling shall occur as per Attachment E Part VIII.B-C of the LA County MS4 Permit.

⁷ Sampling shall occur as per Attachment E Part IX.H of the LA County MS4 Permit.

⁸ Wet weather receiving water Table E-2 constituents monitoring requirements per Attachment E Part VI.C.1.e and dry weather receiving water Table E-2 constituents monitoring requirements per Attachment E Part VI.D.1.d of the LA County MS4 Permit.

⁹ Other parameters in Table E-2 identified as exceeding the lowest applicable water quality objective in the nearest downstream receiving water monitoring station per Part VI.C.1.e (Attachment E Part VIII.B.1.d) of the LA County MS4 Permit.

¹⁰ Other parameters in Table E-2 identified as exceeding the lowest applicable water quality objective in the nearest downstream receiving water monitoring station per Part VI.D.1.d (Attachment E Part IX.G.1.e) of the LA County MS4 Permit.

¹¹ Aquatic toxicity shall be monitored in accordance with Part XII of Attachment E, and as detailed in the Los Angeles Regional Board August 7, 2015, Memorandum titled "Clarification Regarding Follow-up Monitoring Requirements in Response to Observed Toxicity in Receiving Waters Pursuant to the Monitoring & Reporting Program (Attachment E) of the Los Angeles County MS4 Permit (Order No. R4-2012-0175)".

¹² Minimum wet weather receiving water monitoring requirements per Attachment E Part VI.C.1.d.vi, and minimum dry weather receiving water monitoring requirements per Attachment E Part VI.D.1.c.vi of the LA County MS4 Permit.

¹³ Minimum storm water outfall based monitoring requirements per Attachment E Part VIII.B.1.c.vi of the LA County MS4 Permit.

¹⁴ If the discharge exhibits aquatic toxicity, then a TIE shall be conducted per Attachment E Part IX.G.1.d- of the LA County MS4 Permit.

~~¹⁵ Pursuant to Attachment E, Part III.G.1 of the LA County MS4 Permit, Suspended Sediment Concentration (SSC) shall be analyzed per American Society for Testing and Materials (ASTM) Standard Test Method D-3977-97.~~

Constituent	Annual Frequency (number wet events/number dry events)			
	Dominguez Channel Watershed ²			
	Receiving Water ³ and TMDL ⁴	TMDL ⁵	Stormwater ⁶	Non-Stormwater ⁷
	S28R1	R1	FS3/FS4	
Copper, total recoverable	3/2		32/0 ¹⁶	0/41 ¹⁷
Lead, total recoverable	3/2		32/0 ¹⁸	0/41 ¹⁹
Zinc, total recoverable	3/2		32/0 ²⁰	0/41 ²¹
Cadmium, total recoverable			2/0 ²²	0/1 ²³
PCBs ²⁴	3/2		32/0 ²⁵	0/4
Total PAHs ²⁶	3/2		32/0 ²⁷	0/4
Total DDTs ²⁸	3/2		32/0 ²⁹	0/4
Chlordane ³⁰	2/1		2/0 ³¹	
Dieldrin	2/1		2/0 ³²	
Toxaphene			2/0	
Ammonia	3/2		3/0	0/4
Benzo[a] Pyrene (3,4-Benzopyrene -7-d)	3/2		32/0 ³³	0/4
Benzo[a] Anthracene	3/2		32/0 ³⁴	0/4
Chrysene (C1-C4)	3/2		32/0 ³⁵	0/4
Phenanthrene	3/2		32/0 ³⁶	0/4
Pyrene	3/2		32/0 ³⁷	0/4

¹⁶ Analyzed in the water column and suspended sediment.

¹⁷ Analyzed at FS3 and FS4 in the water column and suspended sediment.

¹⁸ Analyzed in the water column and suspended sediment.

¹⁹ Analyzed at FS3 and FS4 in the water column and suspended sediment.

²⁰ Analyzed in the water column and suspended sediment.

²¹ Analyzed at FS3 and FS4 in the water column and suspended sediment.

²² Analyzed in the water column and suspended sediment.

²³ Analyzed at FS3 and FS4 in the water column and suspended sediment.

²⁴ High Resolution (EPA 1668); monitoring for PCBs in sediment or water should be reported as the summation of aroclors and a minimum of 40 (and preferably at least 50) congeners. See Table C8 in the state's Surface Water Ambient Monitoring Program's Quality Assurance Program Plan (page 72 of Appendix C).

²⁵ Analyzed in the water column and suspended sediment.

²⁶ Total PAHs include but are not limited to: acenaphthene, anthracene, biphenyl, naphthalene, 2,6-dimethylnaphthalene, fluorene, 1-methylnaphthalene, 2-methylnaphthalene, 1-methylphenanthrene, phenanthrene, benzo(a)anthracene, benzo(a)pyrene, benzo(e)pyrene, chrysene, dibenz(a,h)anthracene, fluoranthene, perylene, and pyrene.

²⁷ Analyzed in the water column and suspended sediment.

²⁸ High Resolution (EPA 1699); DDT is defined as the sum of 2,4'-DDD, 2,4'-DDE, 2,4'-DDT, 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT. DDTs include DDT, DDE, DDD, and Total-DDT.

²⁹ Analyzed in the water column and suspended sediment.

³⁰ Chlordane is defined as cis-Chlordane (alpha-Chlordane), trans-Chlordane (gamma-Chlordane), oxychlordane, cis-nonachlor, and trans-nonachlor.

³¹ Analyzed in the water column and suspended sediment.

³² Analyzed in the water column and suspended sediment.

³³ Analyzed in the water column and suspended sediment.

³⁴ Analyzed in the water column and suspended sediment.

³⁵ Analyzed in the water column and suspended sediment.

³⁶ Analyzed in the water column and suspended sediment.

³⁷ Analyzed in the water column and suspended sediment.

Constituent	Annual Frequency (number wet events/number dry events)			
	Dominguez Channel Watershed ²			
	Receiving Water ³ and TMDL ⁴	TMDL ⁵	Stormwater ⁶	Non- Stormwater ⁷
	S28R1	R1	FS3/FS4	
Municipal Action Levels (MALs) ³⁸			3/0	
Non-Stormwater Action Levels (ALs) ³⁹				0/4
Sediment Monitoring	-⁴⁰	-⁴¹		
Fish Tissue Monitoring	-⁴²	-⁴³		

³⁸ Municipal action level monitoring pursuant to Attachment G Part VIII of the LA County MS4 Permit. The following constituents shall be analyzed: pH, TSS, COD, TKN, nitrate + nitrite as N, total phosphorus, total Cd, total Cr, total Cu, total Pb, total Ni, total Zn, total Hg. For those constituents that are also required to be sampled per the Harbor Toxics TMDL, the two wet weather events used to meet TMDL monitoring requirements may be used to fulfill two of the three MAL sampling events.

³⁹ Non-stormwater action level monitoring pursuant to Attachment G Part III of the LA County MS4 Permit. The following constituents shall be analyzed: pH, hardness, E. coli, total recoverable cyanide, total recoverable copper, total recoverable lead, total recoverable mercury, and total recoverable selenium. For those constituents that are also required to be sampled per the Harbor Toxics TMDL, the one dry weather event used to meet the TMDL monitoring requirement may be used to fulfill one of the four sampling events for each of the non-stormwater outfall/field screening points, FS3 and FS4.

⁴⁰ ~~Refer to Table 3. Sediment and Fish Tissue Monitoring Requirements.~~

⁴¹ ~~Refer to Table 3. Sediment and Fish Tissue Monitoring Requirements.~~

⁴² ~~Ibid.~~

⁴³ ~~Refer to Table 3. Sediment and Fish Tissue Monitoring Requirements.~~

Table 3. Sediment and Fish Tissue Monitoring Requirements⁴⁴

Parameter	Frequency
Sediment Monitoring ⁴⁵	
Copper	Once every 2 years
Lead	
Mercury	
Zinc	
Cadmium	
PAHs, total ⁴⁶	
Chlordane ⁴⁷	
DDD_s, total Dieldrin	
DDE, total	
DDT _s , total ⁴⁸	
PCBs, total ⁴⁹	
Total Organic Carbon (TOC)	
Grain Size	
Sediment Toxicity	
Benthic Community	
Fish Tissue ⁵⁰	
Chlordane	Once every 2 years
Dieldrin	
Toxaphene	
DDT	
PCBs ⁵¹	

⁴⁴ Sediment and fish tissue monitoring requirements pursuant to Attachment N, Part E of the LA County MS4 Permit.

⁴⁵ Pursuant to Attachment N, Part E.4.d.iv of the LA County MS4 Permit, samples shall be collected in accordance with SWAMP protocols and for analysis of general sediment quality constituents and the full chemical suite as specified in the State Water Board's Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1 Sediment Quality (SQO).

⁴⁶ Total PAHs include but are not limited to: acenaphthene, anthracene, biphenyl, naphthalene, 2,6-dimethylnaphthalene, fluorene, 1-methylnaphthalene, 2-methylnaphthalene, 1-methylphenanthrene, phenanthrene, benzo(a)anthracene, benzo(a)pyrene, benzo(e)pyrene, chrysene, dibenz(a,h)anthracene, fluoranthene, perylene, and pyrene.

⁴⁷ Chlordane is defined as cis-Chlordane (alpha-Chlordane), trans-Chlordane (gamma-Chlordane), oxychlordane, cis-nonachlor, and trans-nonachlor.

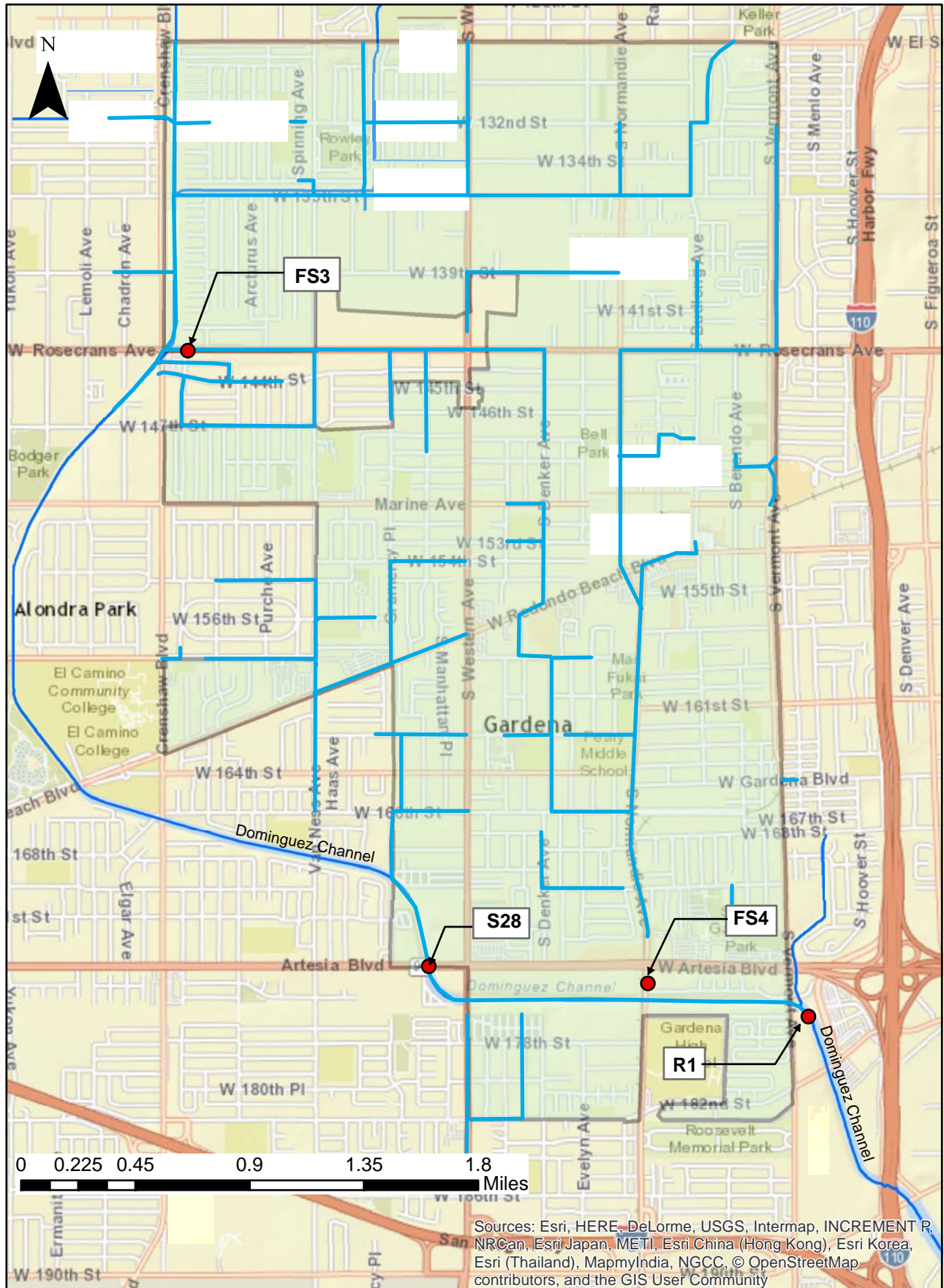
⁴⁸ DDT is defined as the sum of 2,4'-DDD, 2,4'-DDE, 2,4'-DDT, 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT.

⁴⁹ High Resolution (EPA 1668); monitoring for PCBs in sediment or water should be reported as the summation of aroclors and a minimum of 40 (and preferably at least 50) congeners. See Table C8 in the state's Surface Water Ambient Monitoring Program's Quality Assurance Program Plan (page 72 of Appendix C). See footnote 22.

⁵⁰ The target species in the Dominguez Channel Estuary shall be selected based on residency, local abundance and fish size at the time of field collection. Tissues analyzed shall be based on the most common preparation for the selected fish species. The City shall provide justification for its selection of the target fish species and method of tissue preparation when reporting the results of the tissue sampling.

⁵¹ Total PCBs are defined as the sum of Congeners. See footnote 15.

Enclosure 3 - Modified Map of Monitoring Locations



Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

Figure 1. City of Gardena Monitoring Stations