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ARLEEN P. TAYLOR
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July 23, 2014

#1 BOS

Mayor Eric Garcetti
Room No. 305
City Hall
Attn: Mandy Morales

City Council
Room No. 395
City Hall


Subject: WATER INTEGRATED RESOURCES PLAN – ANNUAL PROGRESS REPORT
TRANSITION TO ONE WATER LA 2040

As recommended in the accompanying report of the Director of the Bureau of Sanitation, which this Board has adopted, the Board of Public Works hereby transmits for your approval and consideration the Water Integrated Resources Plan (IRP) Annual Progress Report.

FISCAL IMPACT

Total estimated capital cost for the IRP Go Projects is \$663 million based on 2006-07 estimates (approximately \$715 million today). The Bureau of Sanitation is responsible for developing a Wastewater Capital Improvement Program (WCIP) which includes replacement, rehabilitation, and expansion of the City's wastewater treatment and collection facilities. The Bureau of Sanitation is also responsible for developing a CIP for the watershed protection program which includes compliance with stormwater and urban runoff regulations. Therefore, funding for IRP wastewater and watershed projects is available through the Capital Improvement Programs (CIP) fund. Funding for IRP recycled water projects is the responsibility of the Department of Water and Power and its associated CIP. However, due to new programs and new information since the adoption of the IRP, the City has been able to defer some of the recommended projects and has saved approximately \$545 million in construction costs within the 2020 IRP time frame. More information on these deferred projects can be found in the attached document as well as in the IRP 5-Year Review document adopted by the Board of Public Works on October 31, 2012.

Respectfully submitted,

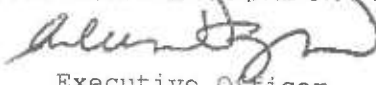

Arleen P. Taylor, Executive Officer
Board of Public Works

APT:mp

DEPARTMENT OF PUBLIC WORKS

BUREAU OF SANITATION
BOARD REPORT NO. 1
July 23, 2014

CD: ALL

ADOPTED BY THE BOARD
PUBLIC WORKS OF THE CITY
of Los Angeles California
AND REFERRED TO THE MAYOR
JUL 23 2014
AND REFERRED TO THE CITY COUNCIL

Executive Officer

WATER INTEGRATED RESOURCES PLAN (IRP) - ANNUAL PROGRESS REPORT
TRANSITION TO ONE WATER LA 2040

RECOMMENDATION

Receive and consider the Water Integrated Resources Plan (IRP) Annual Progress Report (Transmittal No. 1) and transmit to the Mayor and City Council for their consideration.

TRANSMITTALS

1. Water Integrated Resources Plan (IRP) Annual Progress Report

DISCUSSION

Background

The City's Water Integrated Resources Plan (IRP) is a unique approach of technical integration and community involvement to guide policy decisions and water resources facilities planning. As part of the IRP development, an Environmental Impact Report (EIR) was prepared identifying the recommended alternatives for implementing the City's wastewater, runoff, and recycled water programs through the year 2020. On November 14, 2006, the City Council unanimously adopted the IRP recommendations and implementation strategy and certified the final EIR. The attached IRP Progress Report is in response to the Council's instruction to report annually on the progress in achieving the recommendations.

Current Compliance Status

The Bureau of Sanitation in partnership with the Department of Water and Power (LADWP) has been working collaboratively along with other City departments and Bureaus on coordinating and implementing the various IRP recommendations. In 2012, the City completed the Water IRP 5-Year document which provided progress of implementation from 2006 to 2011, ideas and suggestions for continued implementation of projects and policy directions through 2020, and guidance for the approach in developing post-2020 IRP.

BUREAU OF SANITATION

BOARD REPORT NO. 1

July 23, 2014

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As part of the IRP implementation phase, the City has worked on keeping IRP stakeholders engaged through stakeholder meetings, the most recent of which was held on June 13, 2013. Through these meetings, the City has provided updates on the IRP implementation and has obtained valuable input from stakeholders on IRP related issues. In addition, the Board of Water and Power and the Board of Public Works have held four public joint meetings to review the IRP progress and provide directions on policy issues. The most recent of these joint meetings was held on October 29, 2012. Since the adoption of the IRP by the Board of Public Works and the Council in November 2006, the City has undertaken a number of initiatives which fulfill the IRP goals, including the Green Streets and Green Alleys Committee, the approval of a Low Impact Development Ordinance and others.

The transmitted report contains the status on the implementation progress for the projects and policies contained in the IRP implementation strategy.

Additionally, given that the Water IRP planning window is coming to a close in 2020, it is now time to begin the process of planning beyond 2020. The City will achieve this through the development of a *One Water L.A. 2040 Plan* which will build on the success of the Water IRP and embrace even broader integration to effectively capture, conserve and reuse our limited water supply.

The development of the One Water L.A. 2040 Plan is already underway and expected to be completed within the next three years. Building on the great results accomplished through the Water IRP, the One Water L.A. Plan will play a vital role in ensuring a reliable water supply for Angelinos, and improve our communities and environment in the process.

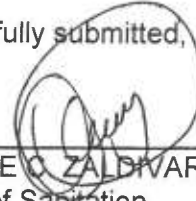
STATEMENT OF FUNDING

Total estimated capital cost for IRP Go Projects is \$663M based on 2006-07 estimates (approximately \$715M today). The Bureau of Sanitation (BOS) is responsible for developing a Wastewater Capital Improvement Program (WCIP) which includes replacement, rehabilitation, and expansion of the City's wastewater treatment and collection facilities. BOS is also responsible for developing a CIP for the watershed protection program which includes compliance with stormwater and urban runoff regulations. Therefore, funding for IRP wastewater and watershed projects is available through the Capital Improvement Programs (CIP) fund. Funding for IRP recycled water projects is the responsibility of the Department of Water and Power and its associated CIP. However, due to new programs and new information since the adoption of the IRP, the City has been able to defer some of the recommended projects and has saved approximately \$545 million in construction costs within the 2020 IRP time frame. More information on these deferred projects can be found in the attached document as well as in the IRP 5-Year Review document adopted by the Board of Public Works on October 31, 2012.

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BOARD REPORT NO. 1
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Respectfully submitted,

A handwritten signature in black ink, appearing to read "Enrique O. Zaldívar", is written over a horizontal line.

ENRIQUE O. ZALDÍVAR, Director
Bureau of Sanitation

Prepared by:
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TRANSMITTAL 1

BUREAU OF SANITATION

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April 9, 2014

The Honorable City Council
City of Los Angeles
Room 395, City Hall
Los Angeles, CA 90012

Honorable Councilmembers:

RE: Council File No. 09-3066 (Old Council File 06-2430) Water Integrated Resources Plan (IRP) – Annual Progress Report

This report provides an update on the status of the implementation of the City's Water Integrated Resources Plan (IRP) projects and policies (through the fourth quarter of 2013) per the direction of the City Council on November 14, 2006.

RECOMMENDATION:

Receive and file

BACKGROUND

The City's Water Integrated Resources Plan (IRP), at the time of development, represented a unique approach of technical integration and community involvement to guide policy decisions and water resources facilities planning. As part of the IRP development, an Environmental Impact Report (EIR) was prepared identifying the recommended alternatives for implementing the City's wastewater, runoff, and recycled water programs for 2020. On November 14, 2006, the City Council unanimously adopted the IRP recommendations and implementation strategy and certified the final EIR. This report is in response to the Council's instruction to report annually on the progress in achieving the recommendations.

IMPLEMENTATION STATUS

The City's Department of Public Works (DPW) in partnership with the Department of Water and Power (LADWP) has been working collaboratively along with other City departments on coordinating and implementing the various IRP recommendations. In 2012, the City completed the Water IRP 5-Year document which provided progress of implementation from 2006 to 2011, ideas and suggestions for continued implementation of projects and policy directions through 2020, and guidance for the approach in developing post-2020 IRP.

As part of the IRP implementation phase, the City has worked on keeping IRP stakeholders engaged through stakeholder meetings, the most recent of which was held on June 13, 2013.



Through these meetings, the City has provided updates on the IRP implementation and has obtained valuable input from stakeholders on IRP related issues. In addition, the Board of Water and Power and the Board of Public Works have held four public joint meetings to review the IRP progress and provide directions on policy issues. The most recent of these joint meetings was held on October 29, 2012. Since the adoption of the IRP by the Board of Public Works and the Council in November 2006, the City has undertaken a number of initiatives which fulfill the IRP goals, including the Green Streets and Green Alleys Committee, the approval of a Low Impact Development Ordinance and others. The following is the status on the implementation progress for the projects and policies contained in the IRP implementation strategy:

Go-Projects for Implementation:

1. Construct wastewater storage facilities at Donald C. Tillman Water Reclamation Plant (DCT WRP)

There is a shortage of wastewater conveyance capacity (sewers) in the western and central portion of the Valley, as well as shortage of treatment capacity at Tillman during wet weather conditions. Adding up to 60 million gallons of storage will be necessary to provide the needed wet weather wastewater storage and operational storage. (Estimated construction cost: \$120 million)

Status: The study team has decided to move forward with the construction of open lined basin structures in lieu of the construction of an entire third phase of plant expansion. The estimated cost for this option was \$25M. The project consists of two open concrete lined basins capable of holding a total of 15.2 million-gallons. The basins were constructed in the location where aeration tanks, final sedimentation tanks and associated channels were to be located. The 20% of design work was completed by BOE Staff. Brutoco was awarded the \$8,695,000 contract on June 30, 2010. Notice To Proceed was released on Aug 2, 2010. The project was completed in February 2012. The storage basins are available for use in future storm events. The final cost for the project totaled \$9,962,738.

2. Construct wastewater storage at Los Angeles Glendale Water Reclamation Plant (LAG)

LAG provides recycled water to DWP and Glendale for reuse. The volume of recycled water that can be delivered to customers is limited by the daily variation of flows at the plant. With the construction of up to a 5 million gallon wastewater storage facility, wastewater flows receiving treatment will be more constant, allowing operations to be more efficient while increasing our ability to provide consistent recycled water flows to customers. (Estimated construction cost: \$17 million)

Status: A study to identify potential recycled water production and opportunities at LAG and other City treatment plants is currently under development. Based on recommendations from this study options on how to provide constant flow to LAG and verify the need for a storage tank will be further evaluated.

3. Construct recycled water storage at Los Angeles Glendale Water Reclamation Plant (LAG)

The use of recycled water from LAG is dependent on the seasonal and daily demands for the water, which can fluctuate during the day and during the rainy season. Therefore, providing up to 5 million gallons of recycled water storage will allow LAG to deliver recycled

water to customers at times when wastewater flows are low (i.e., during the night.) (Estimated construction cost: \$8 million)

Status: The initial project was to provide up to a 5 million gallon underground recycled water storage facility at LAG, but the L.A. Sanitation (LASAN) has since determined that there is no available space at LAG to site the storage facility. LADWP is conducting a study to determine a replacement location for the recycled water storage facility, and initial results have identified a location in Forest Lawn Memorial Park Hollywood Hills that can accommodate up to a 3 million gallon storage tank. LADWP also has plans to include up to an additional 3 million gallons of recycled water storage in two separate recycled water infrastructure projects sourced by LAG to service some of the proposed water recycling customers.

4. Construct solids handling and truck loading facility at the Hyperion Treatment Plant (HTP)

Hyperion processes biosolids removed from wastewater generated from throughout the City. A new solids handling and truck loading facility will provide more efficient operations and will also meet future solids handling production. (Estimated construction cost: \$89 million)

Status: The need and/or current scope of this project may alter based on the City's ultimate plan for biosolids reuse. With the ongoing success of the biosolids deep well injection at Terminal Island, this project is on hold.

5. Construct Glendale-Burbank Interceptor Sewer (GBIS)

GBIS is necessary to provide relief and additional capacity in the near future to prevent overflows and spills. GBIS would include construction and operation of approximately 5 ¾ miles of 8-foot-diameter interceptor sewer and associated structures, including diversion and drop structures, maintenance hole structures, and air treatment facilities (if needed). The specific GBIS alignment would begin at the Pecan Grove shaft site, would travel beneath Zoo Drive, then head beneath the northern-most hillside in Griffith Park to reach the Travel Town Shaft Site. It would extend under Forest Lawn Drive to the Barham Shaft Site. GBIS would then be tunneled northwest beneath the Los Angeles River along Pass Avenue, head northward beneath Pass Avenue to Riverside Drive then turn westward beneath Riverside Drive to the western terminus. (Estimated cost: \$ 325.3 million)

Status: The City of Burbank filed a lawsuit against the EIR in October 2007. The Court found that the EIR was valid but that six (6) specific areas with regard to mitigating the impacts of the GBIS alignment needed further study. These areas are: settlement, traffic, traffic mitigation, noise (from potential traffic congestion), cultural/historic impact and cumulative impacts (related to Los Angeles, Department of Water and Power, [LADWP] projects). September 1, 2010, Sanitation and City Attorney's Office Staff presented the Board Report, Second Addendum and associated transmittals to the Board of Public Works for the re-approval of the GBIS portion of the IRP EIR. The Board adopted and recommended that the City Council agreed with the recommendations in the report with respect to re-approval of GBIS. On Nov. 9 2010, City Council certified and adopted the Final EIR Second Addendum.

6. Construct North East Interceptor Sewer (NEIS) Phase II

NEIS II would relieve the section of the North Outfall Sewer (NOS) south of LAG and convey additional wastewater from GBIS to provide additional capacity in the near future to prevent overflows and spills. The proposed NEIS II would include construction and operation of

approximately 5 ½ miles of 8-foot-diameter interceptor sewer and associated structures, including diversion and drop structures, maintenance hole structures, and air treatment facilities (if needed). NEIS II extends from the existing NEIS constructed in 2005 (Phase I) at the Division Street Shaft site. It would cross under State Route 2, the Los Angeles River, and Interstate 5 on the way to the Griffith Park Shaft site. It would then extend from the Crystal Springs (Picnic Grounds) shaft site, travel westward beneath Griffith Park Drive, then go north beneath the golf courses to its terminus at Pecan Grove. (Estimated cost: \$402.3 million)

Status: This project is in the design stage with an estimated design completion in 2014. Construction is estimated to begin in 2015.

Go if Triggered Projects:

These projects have been evaluated as site-specific in the EIR. If triggered, these projects will be included in the WCIP as part of the annual budget process. The Implementation Strategy committee continues to monitor the triggers.

Status of the main triggers:

1. Flows: The actual Hyperion Service Area (HSA), which includes DCT, LAG, and HTP, has an average flow of 342 MGD (Jan-September 2013). The HSA design capacity is 550 mgd. Therefore, expansion at DCT is not necessary at this time.

Year	Actual HSA Flows (MGD)	HSA Capacity (MGD)	Remaining HSA Capacity (MGD)
2002	403	550	147 (27%)
2003	417	550	133 (24%)
2004	412	550	138 (25%)
2005	420	550	130 (24%)
2006	400	550	150 (27%)
2007	383	550	167 (30%)
2008	384	550	166 (30%)
2009	355	550	195 (35%)
2010	354	550	196 (36%)
2011	348	550	202 (37%)
2012	341	550	209 (38%)
2013	335	550	215 (39%)

*January – September 2013
MGD – million gallons per day

2. Population: Based on the 2008 SCAG population projections, the need to expand would occur sometime after year 2025.
3. Regulations: This trigger will be dependent on the approval of the Copper Site Specific Study (Copper Study) by the State Water Resources Control Board (SWRCB), EPA and

Office of Administrative Law (OAL) before being incorporated into the permits for DCT and LAG. In 1998, the Regional Board issued more stringent permit limits for copper to the Los Angeles River. The City filed an appeal to the SWRCB and requested that implementation and enforcement of the new permits be held in abeyance pending settlement negotiations with the Office of the Attorney General of California and the Regional Board. In anticipation of the expiration of the copper interim limits, the Copper Study was conducted, completed and submitted to the Regional Board in June 2008. In March 2010, all parties negotiated a settlement agreement which revised the permit and changed the deadline for compliance with the State Implementation Plan California Toxics Rule for both DCT and LAG plants to January 2011. The Copper Study was then adopted by the Regional Board in May 2010 and SWRCB in 2011. Currently, both DCT and LAG plants are meeting their final copper effluent limits. If the Copper study is approved by EPA and OAL, its results would enable LASAN to utilize the study results as the new copper limits in future NPDES permits. The WER study was incorporated directly into the TMDL via an amended TMDL adopted by the Regional Board in May 2010. After approval by the State Board (April 2011) and OAL (July 2011), the TMDL amendment became effective upon USEPA approval on November 3, 2011. The Amended TMDL incorporated the WER into the wasteload allocations for the three POTWs addressed in the study (DCT, LAG, and Burbank).

Go if-Triggered Project Updates:

1. **Upgrades at DCT WRP to Advanced Treatment (current capacity):** Tillman currently provides tertiary-treated recycled water for irrigation at nearby parks, schools and cemeteries and environmental benefits to Lake Balboa, the Wildlife Lake at Sepulveda Basin, and the Los Angeles River. If triggered by regulations and/or a decision to reuse Tillman recycled water for groundwater replenishment, advanced treatment may be necessary in order to meet all applicable requirements. This will require coordination between Public Works and DWP.

Status: Although this trigger has not been reached, the City has made a decision to use DCTWRP recycled water for groundwater replenishment. Under the proposed project, an Advanced Water Purification Facility (AWPF) would be constructed within DCTWRP. The AWPF would treat DCTWRP effluent using microfiltration, reverse osmosis, and advanced oxidation. AWPF purified recycled water would be conveyed to the Hansen and Pacoima spreading grounds. Based on the availability of the spreading grounds and DCTWRP influent flows, the project would recharge the San Fernando Groundwater Basin with up to 30,000 AFY of purified recycled water.

2. **Expansion of DCT WRP to 100 mgd with advanced treatment:** If triggered by an increase in population, regulations, and/or a decision to replenish groundwater basins, then Tillman could be expanded to 100 mgd with advanced treatment. This would require coordination between Public Works and DWP.

Status: DCT has the ability to receive up to 80-million gallons of wastewater daily, however the average daily flow (2008 – present) is approximately 33 MGD. Due to the reduced influent flow to the plant, expansion at DCT is not necessary at this time.

Although expansion of DCTWRP to 100mgd is not necessary at this time, the City has made a decision to use DCTWRP recycled water for groundwater replenishment. Under the proposed project, an Advanced Water Purification Facility (AWPF) would be constructed within DCTWRP. The AWPF would treat DCTWRP effluent using microfiltration, reverse osmosis, and advanced oxidation. AWPF purified recycled water would be conveyed to the Hansen and Pacoima spreading grounds. Based on the availability of the spreading grounds and DCTWRP influent flows, the project would recharge the San Fernando Groundwater Basin with up to 30,000 AFY of purified recycled water

3. **Upgrades of LAG to advanced treatment (current capacity):** LAG currently provides 13.2 mgd tertiary-treated recycled water for irrigation and environmental benefits to the Los Angeles River. If triggered by regulations, downstream sewer capacity, and/or management's decision to reuse, then advanced treatment at current capacity could be required. This would be subject to a partnership between Public Works and City of Glendale.

Status: A study to identify potential recycled water production and opportunities at LAG and other City treatment plants is currently under development. Based on recommendations from this study, the Recycled Water team will evaluate the need and determine, if necessary, the options to upgrade LAG to advanced treatment.

4. **Design/construction of secondary clarifiers at the Hyperion Treatment Plant to provide operational performance at 450 mgd:** The existing 36 secondary clarifiers at Hyperion are performing below their rated capacity of 450 mgd. Staff is currently investigating ways to optimize the existing secondary clarifiers to get them operating up to 450 mgd. If these options prove to be unsuccessful, then new secondary clarifiers will be needed to provide operational performance at 450 mgd.
 - Estimated cost would be \$27M.

Status: LASAN and BOE have initiated a secondary treatment system optimization program which began with injecting polymer into the secondary clarifiers. It is anticipated that optimizing the secondary treatment system will delay the need for additional clarifiers.

5. **Design/construction of up to 12 digesters at HTP:** If triggered by increased biosolids production in the service area, additional digesters will be required at Hyperion.
 - Based on 2008 projections, expansion would occur some time after 2025.
 - Estimated total capital cost of \$303 million.

Status: The existing digesters currently have adequate capacity. The completion of the Primary Solids Thickening Centrifuge Project has provided more digestion capacity and as such has delayed the need for additional digesters. Construction for the Centrifuge Project was completed in October of 2012.

6. **Design/construction of Valley Spring Lane Interceptor Sewer:** To provide additional sewer conveyance capacity between the Donald C. Tillman Water Reclamation Plant and the Valley Spring Lane/Forman Avenue Diversion structure, this project will be required.
 - Estimated completion: 2030; capital cost of \$598 M

Status: The Valley Spring Line Interceptor Sewer (VSLIS) planning study has been completed. The study defines the configuration parameters and basis for the pre-design

report that will provide hydraulic relief up to year 2090. Based on current projections, this project is not needed until after 2050.

Go-Policy Directions:

Go Policy Directions provide direction to City departments and staff on immediate activities and actions to increase and improve recycled water, water conservation, and runoff management. The timing of these actions may be dependent on staff and funding availability. Several meetings have been held and committees formed between different departments including Building and Safety, Planning, Public Works, General Services, Recreation and Parks, Transportation, and Water and Power. Discussions are ongoing and actions are underway to achieve these policy goals.

1. Direct DWP and Public Works to work together to **maximize use of recycled water** for non-potable uses in the Terminal Island Treatment Plant service area, West side, and LAG services areas. DWP to conduct additional Tier 1 and 2 customer analysis to verify the potential demands and feasibility. Develop a long-range marketing strategy for recycled water that includes a plan for recruiting (and keeping) new customers.

Status: The Recycled Water Master Planning (RWMP) documents, completed in 2012, identified potential new non-potable customers and projects to expand the recycled water infrastructure, along with implementing groundwater replenishment to displace imported water. In addition, the RWMP documents indicated how the City can maximize recycled water use into the future. The recycled water infrastructure was also evaluated so that the system is reliable. The RWMP effort has identified potential recycled water customers citywide. Further development and evaluation of these customers along with possible project options are being conducted to assess their feasibility.

To date, LADWP has installed a total of 55 miles of purple pipe in the four service areas. The purple pipe is serving 148 customers sites. These customers have used recycled water for irrigation and industrial uses in the last 5-years. LADWP's newest major customers connected to the recycled water purple pipe system are the Los Angeles Zoo parking lot, the Balboa Sports Complex and Anthony C. Beilensen Park (Lake Balboa Recreation area) within the Sepulveda Basin, the Rio de Los Angeles Park (Taylor Yard Park,) and Westchester and Van Nuys Golf Courses, all of which now utilize recycled water for irrigation.

In the area surrounding LAX, LADWP is conserving potable water supplies by irrigating several miles of medians and streetscape with recycled water on major streets like Imperial Highway, Sepulveda Boulevard, Westchester Parkway, 88th Street and Will Rogers Street. Phase 1 of the Playa Vista development, the first planned community in Los Angeles, is also now served with recycled water for landscaping irrigation.

Currently under construction is the Harbor Water Recycling Project. The project consists of the expansion of 40,000 ft of 30-inch diameter (and smaller) purple pipe. To date all 40,000 feet of pipeline has been installed; only remaining is the construction of four pipe jacking locations. This project is expected to deliver approximately 9,300 AFY of recycled water to various users in the Harbor.

When resources are available, planning and design for other recycled water projects will continue.

2. Direct Building and Safety and DWP to evaluate and develop ordinances to require installation where feasible of **dual plumbing** for new multi-family, commercial and industrial developments, schools and government properties in the vicinity of existing or planned recycled water distribution systems in coordination with LA River Revitalization Master Plan. Proximity and demand will be considered when determining feasibility. The dual plumbing will consist of separate plumbing and piping systems, one for potable water and the second for recycled water for non potable uses such as irrigation and industrial use.

Status: The City conducted preliminary research of dual plumbing ordinances that currently exist in other cities. Preliminary research indicated that retrofitting existing buildings with dual plumbing may be cost prohibitive in many cases. Although installations in new facilities could be more cost effective, the payback period depends on how quickly the customer can be connected to the recycled water system after the dual plumbing is installed.

Any requirement to install dual plumbing would be subject to eligibility criteria, such as proximity to the purple pipe system, users' individual water demands, and ability to comply with all onsite construction and inspection requirements set by the Department of Public Health. Such criteria are difficult to define without a clear picture of where and when purple pipes will reach a particular area.

It should be noted that the installation of dual plumbed systems is currently allowed on a voluntary basis in the City. LADWP continues to identify potential areas for recycled water use and methods for evaluating potential developments.

The development of ordinances to require the installation of dual plumbing in commercial buildings to allow toilet flushing with recycled water was put on hold pending the completion of the *Recycled Water Master Planning Documents*. The framework for an implementation strategy to expand the recycled water system is laid out in the RWMP documents. However, funding mechanisms will dictate the timing and sequence for the construction of additional non-potable reuse projects (purple pipes) in different areas of the City. The timeframe for developing any potential dual plumbing ordinance will be determined once the implementation strategy and funding mechanism for the purple pipe expansion is better known.

Graywater use for irrigation is permitted in the City provided system installation and use is pursuant to the 2010 California Plumbing Code. DBS has issued an *Information Bulletin (P/PC 2008 - 012)* to inform the public of graywater regulations. In coordination with DBS, the LASAN has created a one-page graywater informational publication to further educate the public on the uses and benefits of graywater, and can be found on the IRP website at www.lacitysan.org/irp.

3. Direct Public Works and DWP to coordinate where feasible the design/construction of recycled water distribution piping (**purple pipe**) with other major public works projects, including street widening, and LA River Revitalization Master Plan project areas. Also coordinate with other agencies, including MTA and Caltrans on major transportation projects.

Status: The LADWP is coordinating with other City and external agencies which include LASAN, BOE, BSS and Caltrans to identify opportunities where purple pipe can be installed in an efficient manner as these public works projects are constructed.

LADWP is collaborating extensively with BOE to incorporate purple pipe installation in street-widening and bridge retrofit projects as they enter the construction phase. Purple-pipe installations are made on project-specific basis.

LADWP has partnered with other City agencies on many occasions to include purple pipe in the construction of City infrastructure where it was feasible. In particular, three bridge projects have included purple pipe in their construction.

- 1) Glenoaks Bridge widening project – purple pipe was included in the bridge for service to Hansen Dam Golf Course
- 2) Spring St. Bridge widening project – purple pipe was included in the construction plan set of the bridge to cross the LA River for service to the downtown area
- 3) Taylor Yard Bikeway/Pedestrian Bridge project – purple pipe is being included in the design of the bridge to cross the LA River for service to Elysian Park
- 4) Sun Valley Watershed Upper Storm Drain System and Recycled Water Line Phase 1 project – an agreement with the Los Angeles County Flood Control District (LACFCD) was fully executed on October 8, 2013 to include purple pipe in LACFCD's storm drain project. This agreement will allow LACFCD to install 16,500 feet of purple pipe from Rory M. Shaw Wetlands Park to LADWP's existing recycled water pipeline.

In the future, LADWP plans to continue coordination with other agencies to integrate purple pipe in the construction of City infrastructure where it is feasible. LADWP is working with LA County Flood Control District (LACFCD) to install 16,500 feet of pipe along with LACFCD's storm drain project in Sun Valley.

Additionally, the LADWP has worked with BSS to retrofit 12 street-sweepers to accept recycled water for street-sweeping with plans to retrofit more trucks as needed. The LADWP has installed 12 fill-stations throughout the City for these trucks to utilize recycled water in their operations.

4. Direct DWP to develop a stakeholders' participatory water reuse planning study to explore the feasibility of implementing **groundwater replenishment** with advanced treated recycled water.

Status: The City studied the concept of a Groundwater Replenishment Project as part of the Recycled Water Master Planning process. The Groundwater Replenishment Master Planning Report was completed in 2012 as a collaboration between LADWP and LASAN, with significant input from community stakeholders. As part of the City's key stakeholder engagement strategies during the planning process, a Recycled Water Advisory Group (RWAG) was assembled in 2009 to solicit input from stakeholders throughout the development of the RWMP process and GWR Project. This group is composed of approximately 60 stakeholders representing diverse interests and demographics throughout the City. Since December 2009, ten workshops have been held, with additional workshops

to be scheduled for the future. Additional stakeholder engagement efforts have included Recycled Water Forums for the general public conducted in the spring of 2011, presentations to Neighborhood Councils and other community groups, and briefings for elected officials. The City is currently pursuing the implementation of the GWR project to replenish up to 30,000 acre-feet per year of highly purified recycled water at existing spreading basins and new injection wells in the San Fernando Valley to supplement drinking supplies. The environmental analysis was launched in September 2013 and outreach efforts will continue to involve the general public in the process.

5. Direct DWP and Public Works to **continue to provide water** from Tillman to Lake Balboa, Wildlife Lake, and the Japanese Garden at Sepulveda Basin, and the LA River to meet baseline needs for habitat (i.e., approximately 27 mgd through flow-through lakes).

Status: Tertiary treated effluent will continue to be provided from the Donald C. Tillman Reclamation Plant to Lake Balboa, Wildlife Lake, and the Japanese Garden at Sepulveda Basin, and the LA River to meet baseline needs for habitat.

6. Direct DWP to continue conservation efforts, including programs to reduce outdoor usage, including using **smart irrigation devices** on City properties, schools and large developments (those with 50 or more dwelling units or 50,000 gross square feet or larger), and to increase incentives to residential properties.

Status: Many water conservation efforts are currently under way. The California Friendly Landscape Incentive Program currently pays customers up to \$2.00 per square foot of turf removed and replaced with California-friendly, low water using plants, mulch, or permeable hardscapes and drip irrigation. The program is estimated to save 1,010 AFY of potable water over the next 10 years. Past participants in this program have included the Veterans Affairs Greater Los Angeles Healthcare System, private and public golf courses, and single-family homeowners. Since the program began, over 850 customers have participated and transformed over 6.7 million square feet of turf to California Friendly landscape.

Since 2008, LADWP has been implementing an internal program to retrofit outdoor landscaping at department-owned facilities to California-friendly and native plantings with efficient irrigation systems. Additionally, a joint effort between the Department of Recreation and Parks (RAP) and LADWP is targeting public parks through the City Park Irrigation Efficiency Program. City parks with inefficient irrigation systems, leaks, and runoff problems are identified and upgraded with water efficient distribution systems and sprinkler heads, installation of smart irrigation controllers, and planting of California - friendly landscaping. Since the program began in 2007, 18 parks have been completed and four new weather stations have been installed, saving approximately 400 acre-feet of water per year. An additional benefit of this program is the educational, trade training, and employment opportunity given to the youth of Los Angeles.

7. Direct DWP to work with Building and Safety in continued conservation efforts, including evaluating and considering new water conservation technologies, including **no-flush urinal** technology.

Status: The Water Efficiency Requirements Ordinance is in effect mandating the use of high efficiency plumbing fixtures. No flush urinals (zero water urinals) are International Association of Plumbing and Mechanical Officials (IAPMO) approved and currently permitted

for use by the Department of Building and Safety. Additionally, LADWP customers can receive a rebate for installation of both zero and ultra-low water urinals. In recent years many venues have upgraded to no-flush urinals including the L.A. Convention Center and the Hollywood Bowl.

Also, LADWP continues to encourage the installation of sub-meters, as deemed necessary, in order to separately monitor indoor and outdoor water use by individual customers. Beginning January 2011, new irrigated landscapes of 5,000 square feet or more were required to have separate water meters or sub-meters as part of the new 2010 California Green Building Standards Code. There are no rebates for sub-meters at this time.

8. Direct DWP to continue conservation efforts, including working with Building and Safety to evaluate and develop a policy that requires developers to implement **individual water meters for all new apartment buildings**.

Status: LADWP is working with MWD, Industry, DBS, City Planning (DCP), and Sustainable Code Officials to evaluate existing plumbing codes to ensure that individual water meters in new apartment buildings is feasible and produces a reduction of water and energy use. At the state level, there has been proposed legislation that would have required Department of Housing and Community Development to adopt building standards requiring the installation of individual water meters or submeters in newly constructed multi-unit residential buildings. However, these bills have not been adopted during the last two legislative sessions. Locally, LADWP is evaluating various apartment buildings in Los Angeles that have installed individual water meters as pilot programs.

LADWP and the Housing Department have established an outreach committee with apartment owners and renters organizations to identify obstacles to submetering existing properties and potential solutions. The committee has reviewed ordinances put forth by other cities, all which refer to new construction.

As noted in Go Policy #7, LADWP continues to encourage the installation of submeters, as deemed necessary, in order to separately monitor indoor and outdoor water use by individual customers. Beginning January 2011, new irrigated landscapes of 5,000 square feet or more were required to have separate water meters or submeters as part of the new 2010 California Green Building Standards Code.

9. Direct DWP to continue conservation awareness efforts, including increasing **education programs** on the benefits of using climate-appropriate plants with an emphasis on **California friendly plants for landscaping** or landscaped areas developed in coordination with LA River Revitalization Master Plan (LARRMP), and to develop a program of incentives for implementation.

Status: Upon approval of the revised Water Conservation Ordinance in August 2008 requiring customers to eliminate wasteful water uses, LADWP began a comprehensive public outreach program to communicate these new requirements to customers. These efforts were complemented by a conservation awareness campaign by MWD. The LADWP Water Conservation Response Unit, began traversing the City neighborhoods to educate the public on how to conserve on outdoor water use.

LADWP also began a California Friendly Landscape Incentive Program in June 2009 that encourages customers to remove their grass and plant California Friendly plants, mulch, or permeable hardscapes by paying up to \$2.00 per square foot of turf removed. In 2013, LADWP launched a new water conservation and outreach campaign to remind customers about the Water Conservation Ordinance and proper water days, and to promote the new landscape incentive program. This campaign included traditional media advertising that included television, radio, newspaper, bus tails, movie screens, and online ads; and also included social media using Twitter, Facebook, and YouTube.

LADWP continues to sponsor water conservation landscaping workshops with MWD. The workshops explained the historical background of our water sources and provided LADWP customers with educational materials on effective ways to reduce their outdoor water use, which included soil and site analysis methods, alternatives for permeable hardscape, instructions on how to install drip irrigation, and plant selection criteria for use of California friendly plants. Instructors also promoted residential rebate programs such as turf replacement, and offered water saving tips to utilize both indoors and outdoors. Participants were also given take home materials and resources to assist them in choosing an affordable and low maintenance water conserving landscape.

In addition, the BSS, through the Green Streets Committee (GSC) has identified a number of low water use, drought tolerant turf substitutes for parkways and medians, which has become part of the City's standard plans. In a joint effort between LADWP and BSS, informational brochures and booklets have been developed and are distributed to customers.

10. Direct Planning Department to consider the development of a City Directive to require the use of **California friendly plants in all City projects** where feasible and not in conflict with other facilities usage.

Status: DCP does not regulate public (city) properties, and therefore cannot provide information on public facilities. However, staff is pursuing a new Supplemental Use District, the Los Angeles River Improvement Overlay (LA RIO), which would affect private properties within a fixed distance from the Los Angeles River. This overlay will likely include a requirement that properties provide native plants for a minimum percentage of landscape area. The LA RIO is still under development.

The new Irrigation Guidelines, which were enacted to comply with the State of California's Model Landscape Ordinance, establish a water allowance. All new projects that include landscaping will be subjected to this water allowance, which encourages the use of a less water intensive plant palette, including numerous native plants.

Since 2008, LADWP has been implementing an internal program to retrofit outdoor landscaping at department-owned facilities to California friendly and native plantings with efficient irrigation systems. Additionally, a joint effort between the Department of Recreation and Parks (RAP) and LADWP is targeting public parks through the City Park Irrigation Efficiency Program. City parks with inefficient irrigation systems, leaks, and runoff problems are identified and upgraded with water efficient distribution systems and sprinkler heads, installation of smart irrigation controllers, and planting of California friendly landscaping. Since the program began in 2007, 18 parks have been completed and four new weather stations have been installed.

11. Direct Public Works to review SUSMP (Standard Urban Stormwater Management Plan) requirements to determine ways to require where feasible **on-site infiltration** and/or treat/reuse, rather than treat and discharge, including in-lieu fees for projects where infiltration is infeasible (e.g., similar programs developed by City of Santa Monica).

Status: COMPLETED - In November 2008, the Board of Public Works approved the SUSMP Infiltration Requirements & Guidelines that provides guidance on determining the appropriate type of volume-reduction BMP in the priority order of infiltration, bio-filtration, stormwater capture and use, mechanical/hydrodynamic units, or combination of the above.

Additionally, the Low Impact Development (LID) ordinance, approved by Council and effective in May 2012, requires 100% of the runoff generated from a 85th percentile (3/4-inch) storm to be managed on site in the priority order of infiltration, evapotranspiration, capture and use, and/or treatment by a highremoval-efficiency bio-filtration/ bio-treatment system. It applies to all development and redevelopment projects that require a building permit to create, add, or replace an impervious area of 500 square feet or more.

12. (a) Direct Building and Safety to evaluate and modify applicable codes to encourage all feasible Best Management Practices (BMPs) for maximizing on-site capture and retention and/or **infiltration** of stormwater instead of discharge to the street and storm drain, including **porous pavement**. (This is currently handled through variances).

Status: In January 2008, Building and Safety published an Information Bulletin (Doc. No. P/BC 2008-118) regarding Guidelines for Storm Water Infiltration. This document specifies that infiltration structures approved by both, the Department of Building and Safety, Grading Division and by L.A. Sanitation's Watershed Protection Division will be considered as an approved drainage facility in compliance with Los Angeles Building Code (LABC) sections 7013.9 and 7013.10.

Additionally, the City has numerous projects that have been either planned, under construction, or completed which apply BMPs such as infiltration, bio-filtration, stormwater capture and use, mechanical/hydrodynamic units, or a combination of these.

12. (b) Direct Public Works and Department of Planning to evaluate the possibility of requiring **porous pavements in all new public facilities** in coordination with LA River Revitalization Master Plan and large developments greater than 1 acre. Program feasibility must consider site slope, soil conditions, terrain and proximity to other improvements.

Status: LASAN prepared the "Green Infrastructures Program Status Report: CF 05-0752 Alternative Street Surfacing Materials, Green Streets, and CF 08-0102 Green Alleys" on behalf of the Green Streets Committee. The report was approved by the BPW in July 2010 and provides a summary of the progress of various city departments in implementing environmentally friendly street-surfacing materials and other "green" elements, such as porous pavement.

13. Direct Department of Planning to evaluate ordinances that would need to be changed to **reduce the area on private properties that can be paved** with non-permeable pavement (i.e., change/support landscape ordinance and encourage the use of permeable pavement).

Status: An ordinance was adopted in September 2007 allowing access driveways to be paved with permeable material. This ordinance also limits the area in single-family front yards that can be paved with non-permeable material to 50%. This limitation was previously in place for multi-family front yards.

Also, the Low Impact Development Ordinance addresses permeability on new and redevelopment.

14. Direct Public Works LASAN-WPD and BSS to evaluate and implement **integration of porous pavements into the sidewalks and parkways** where feasible. For example, conduct pilot program in East Valley, taking into consideration soil conditions and Proposition O project criteria, as well as along the future LA River Revitalization Master Plan.

Status: In early 2011 DPW implemented, under Prop O, the LA Zoo Parking Lot: Demonstration on Environmental Sustainability project which includes porous pavement BMPs. The project encompasses the entire 33-acre parking area and the implementation of BMPs for the 10-acre main parking area. Enhancements to mitigate stormwater runoff include various types of permeable pavement, grassy swales, native trees and other vegetation. There are also newly-installed educational signs along the promenade to inform L.A. Zoo visitors about the parking lot's sustainable features.

The Green Streets Committee's "Green Infrastructures Program Status Report: CF 05-0752 Alternative Street Surfacing Materials, Green Streets, and CF 08-0102 Green Alleys" provides a summary of the progress of various city departments in implementing environmentally friendly street-surfacing materials and other "green" elements, such as porous pavement.

LASAN-WPD, as a member of the Green Streets Committee, is implementing infiltrating stormwater in the public right-of-way by utilizing "green elements" such as porous pavement, planters, and infiltration swales in sidewalks and parkways where feasible.

15. Direct Public Works, DWP and Department of Recreation and Parks to prepare a concept report and determine the feasibility of developing a **powerline easement demonstration project** (for greening, public access, stormwater management, and groundwater replenishment).

Status: COMPLETED - The La Cienega/Fairfax Powerline Easement Demonstration Project, funded by Proposition O and State Proposition 50, was replaced by the Westside Park Rainwater Irrigation Project. This project is sited in the same LADWP powerline easement and was completed in November 2010. The project installed a flow diversion facility, a stormwater lift station, a subsurface rainwater irrigation system and a dry creek with a perforated pipe for collecting and returning excess irrigation water to the existing storm drain. Additionally, there are recreational elements such as park benches, exercise equipment, and playground structures.

Additionally, the Whitnall Highway Power Line Easement Project will construct sedimentation and infiltration basins along Whitnall Highway in Sun Valley to capture and infiltrate stormwater runoff from the surrounding residential areas. This project will contribute

to recharge the San Fernando Groundwater Basin, improve downstream surface water and groundwater quality in the City of Los Angeles, as well as reduce local flooding. The design phase of the project will take place from 2014-2015 and construction is expected to begin in 2017.

16. Direct Public Works and DWP to work with LAUSD to determine the feasibility of developing projects for both **new schools and for retrofitted schools**, as well as **government/city-owned facilities with stormwater management BMPs**. [Provide wet weather runoff storage (cisterns) to beneficially use wet weather runoff for irrigation. Also, schools and government properties to reduce paving and landscape and add infiltration basins to allow percolation of wet weather runoff into the ground where feasible.] As appropriate, integrate with LAUSD's new schools development program.

Status: The City and LAUSD mutually agreed to abandon the project to divert and treat off-site water on the campus of Fremont High School in South L.A. It was determined it would not be feasible to meet LAUSD's environmental and health-based standards. LASAN-WPD will provide staff consulting expertise to LAUSD on BMPs to treat on-site runoff and meet SUSMP requirements.

17. Direct Public Works, General Services, and Recreation and Parks to **identify sites that can provide onsite percolation** of wet weather runoff in surplus properties, vacant lots, parks/open space, abandoned alleys in East Valley and along the LA River in the East Valley where feasible. Program feasibility should consider slope and soil conditions.

Status: The Elmer Avenue Paseo Project represents the second phase of the Elmer Avenue Neighborhood Retrofit Project located at the southern end of the Elmer Avenue project. The total project budget is \$675,806 with \$129,000 of the funding coming from the City's Prop O bond measure. The majority of the project's funding (\$546,806) is coming from Federal, State, and regional funding sources. Construction for this project was completed in September 2013. This project will address the runoff that drains to the Paseo from approximately 20 acres of land providing additional water quality, groundwater recharge, and community enhancement opportunities. It includes installation of sustainable solutions that serve multiple benefits within the project site such as swales, permeable materials, drought tolerant plantings, and educational signage.

The project is a demonstration project that serves as a template for future neighborhood retrofits throughout the L.A. region.

18. Direct Public Works and General Services and the Department of Transportation (DOT) to **maximize unpaved open space** in City-owned properties and parking medians through **using all feasible BMPs** and by removing all unnecessary pavements.

Status: This continues to be an area of focus and discussion in the Green Streets and Green Alleys Subcommittee. DPW has compiled a list of City-owned parking lot sites located in the East Valley. DPW will work with DOT to determine a suitable site for the construction of a stormwater infiltration/BMP demonstration project.

19. Direct Public Works LASAN-WPD and BSS to **include all feasible BMPs** in the construction or reconstruction of **highway medians** under its jurisdiction.

Status: The stormwater NPDES permit requires street projects greater than 10,000 sq. ft. to incorporate BMPs. All street projects are subject to SUSMP requirements.

Additionally, the Woodman Avenue Multi-Beneficial Stormwater Capture and Median Retrofit Project will enhance the aesthetics of the 3,500 foot long asphalt median bordering the west side of Woodman Avenue from Lanark Street to Saticoy Street. The project proposes to install 99 new street trees and approximately 27,000 square feet of native and drought tolerant landscape, a five foot wide walking path, access ramps, and to provide improvements to the existing bus stops along the medians. Additionally, the project will reclaim the urban forest, provide pedestrian improvements and passive recreation while helping to recharge the groundwater basin, improve water quality, and alleviate local flooding. The new design will allow for the capture of surface runoff that currently flows into the Los Angeles River and eventually into the ocean. The runoff will now be directed through pre-treatment devices and into a naturalized vegetated swale for infiltration. The project also includes an educational stakeholder component in order to promote environmental stewardship. This project is a collaboration between the City of Los Angeles Department of Water and Power, L.A. Sanitation, Bureau of Street Services, The River Project, with the support of the Office of Councilman Tony Cardenas, the Panorama City Neighborhood Council, local organization, and area residents. The project construction is scheduled to be completed by early 2014.

20. Direct Public Works to coordinate with the Million Trees LA team on identifying **potential locations of tree plantings** that would **provide stormwater benefit**, with consideration of slope and soil conditions.

Status: In partnership with Million Trees LA, Tree People is helping Recreation and Parks plant 300,000 trees on Recreation and Parks properties citywide. The Million Trees LA team is working towards preparing a science-based tree canopy analysis to identify priority areas using satellite imagery and recommend the right kinds of trees that will give the greatest ecological and societal benefits.

21. In the context of developing TMDL implementation plans, direct Public Works to consider **diversion of dry weather runoff** from Ballona Creek to constructed wetlands, wastewater system, or urban runoff plant for **treatment and/or beneficial use**. Coordinate with the Department of Recreation and Parks. Coordinate and evaluate the impact with the LA River Master Plan.

Status: The Ballona Creek Water Quality Improvement and Beneficial Use Project proposes to retrofit an existing out-of-service, city-owned primary wastewater treatment facility to divert, capture, and treat dry-weather flow from Ballona Creek to meet Total Maximum Daily Load (TMDL) requirements for bacteria, metals, and toxic pollutants. The facility, located by the bank of Ballona Creek in the City of Culver City and known as the North Outfall Treatment Facility (NOTF), was originally designed to prevent overflows of untreated sewage from the North Outfall Sewer into Ballona Creek. Upgrades to the City's sewer system eliminated the need for the NOTF. The proposed retrofit includes rehabilitating existing components/systems (screening and debris capture, sedimentation tank, air scrubbing, disinfection, and effluent conduit), and installing a mobile pump station, necessary piping, and instrumentation and control systems. Dry-weather flow that is pumped to the facility will undergo sedimentation, chlorination, and dechlorination before being discharged back to the creek. The flow will include runoff from Council Districts 4, 5, 8, 9, 10,

11, and 13. The project will improve water quality in lower Ballona Creek, the Estuary, and Santa Monica Bay, which are designated for recreational and other beneficial uses.

Additionally, the Penmar Water Quality Improvement Phase I project is currently in post construction. Dry weather runoff will be diverted to a sanitary sewer for treatment. Wet weather runoff will be diverted to an underground storage tank and then discharged to a sanitary sewer. The project consists of a diversion structure, pump station, and a detention/storage tank. Phase II of the project consists of installing a disinfection system for the purpose of reusing collected stormwater for irrigation. Phase II is currently in design.

22. In the context of developing TMDL implementation plans, direct Public Works to consider **diversion of dry weather runoff** from inland creeks and storm drains that are tributary to the Los Angeles River **to wastewater system or constructed wetlands or** treatment/retention/infiltration basins with consideration for slope and topography.

Status: The main TMDL standard that may trigger the need for diversion or treatment of low flows into Los Angeles River is the Bacteria TMDL which is in the process of final approval by EPA. The City of Los Angeles and other stakeholders are developing a monitoring plan to determine the sources of bacterial discharges into the Los Angeles River. At this time, there is no requirement or need to consider diversion of dry weather runoff from Los Angeles river tributaries or storm drains to wastewater system or constructed wetlands or treatment/retention/ infiltration basins. However, projects such Los Angeles Downtown Low Flow diversion and South Los Angeles Wetlands Park will contribute towards compliance with the bacteria TMDL.

The South Los Angeles Wetlands Park transformed an existing rail maintenance yard into constructed wetlands with surrounding walking trails, riparian vegetation and other passive recreation elements. The wetland is designed to capture and treat stormwater and urban runoff from a 540-acre drainage area. The project was completed in late 2011.

23. Direct the Department of Planning to consider opportunities to **incorporate IRP policy decisions in the General Plan, Community Plan, and Specific Plan** updates or revisions, and in the future LA River Revitalization Master Plan and Opportunity Areas.

Status: The Department of City Planning is currently developing the new Cornfield Arroyo Seco Specific Plan and updating the Warner Center Specific Plan both of which will include new standards that support IRP policies. The Department's new Supplemental Use District - the Los Angeles River Improvement Overlay -- which is currently under development includes numerous standards and guidelines that encourage the increase of stormwater infiltration and reduced exterior water use. The Department is also currently updating 6 of its community plans which will include the following goals and policies:

Goal: An adequate and reliable wastewater collection and treatment system that supports existing and planned development.

Policies: 1) Require that wastewater flows be minimized in existing and future developments through stricter water conservation measures (e.g. xeriscaping landscaping and installation of low-flow toilet requirements), recycling efforts and other features that reduce on-site wastewater output; 2) Promote the use of recycled water in new Industrial developments; and 3) Promote advanced waste reduction and diversion methods for all wastewater and solid waste treatment, including the establishment of methane recovery facilities and the

implementation of waste-to-energy projects where characteristics meet criteria for effective energy generation.

Goal: Provision of a storm drainage system that reduces the flow of stormwater to the stormdrain system and protects water quality by employing watershed-based approaches that balance environmental, economic and engineering considerations.

Policies: 1) Maximize the capture and reuse of stormwater; 2) Encourage the incorporation of bio-retention facilities and use of permeable materials for the paving of sidewalks, driveways, and parking areas when feasible; and 3) Increase opportunities for stormwater infiltration and groundwater recharge.

24. Direct Department of Recreation and Parks to coordinate with Public Works on including stormwater management **BMPs in all new parks**.

Status: New park facilities and redevelopment of existing facilities are required to include Standard Urban Stormwater Mitigation Plan (SUSMP) requirements as part of the overall project development. Numerous on-going park projects have incorporated the required SUSMP improvements.

25. Direct General Services in coordination with Planning and Public Works to evaluate feasibility of all City properties identified as **surplus for potential development of multiple-benefit projects** to improve stormwater management, water quality and groundwater recharge.

Status: The goal is to determine if these properties can be used for stormwater retention and/or treatment projects before they are offered for public sale. GSD should notify DPW of these properties before they are released for sale. DPW would then investigate to check if a Regional Stormwater Mitigation project could be developed at the site. A potential approach would be to create a joint regional group to discuss potential code changes and evaluate the feasibility of a moratorium for the sale of surplus properties.

Completed in mid-2013, the Ed P. Reyes River Greenway constructed a stormwater greenway with a stream ecosystem through the corridor on Humboldt Street with a pedestrian path connecting Ave. 18 and Ave. 19. A storm drain that once discharged untreated runoff to the river will now deliver dry-weather and some wet-weather runoff to new landscaping where natural processes will help remove pollution. The bioremediation elements include a detention basin, a sediment forebay, and a graded swale/open channel surrounded by a vegetated basin that can detain about 50,000 cubic feet of runoff. These elements will use the power of sunlight and organisms in the soil and plant roots to remove pollutants in stormwater runoff. This project will also help reduce flooding downstream by infiltrating, evaporating, and using the treated runoff to irrigate the new vegetation.

Acronyms:

DPW – Department of Public Works
TITP – Terminal Island Treatment Plant
HTP – Hyperion Treatment Plant
LARRMP – LA River Revitalization Master Plan
RIO – River Improvements Overlay
LASAN – L.A. Sanitation or Bureau of Sanitation
HTP – Hyperion Treatment Plant
LADWP – Department of Water and Power
DCTWRP – Donald C. Tillman Water Reclamation Plant

LADBS – Department of Building and Safety
DCP – Department of City Planning
GSD – General Services Department
RAP – Department of Recreation and Parks
WPD – Watershed Protection Division
DOT – Department of Transportation
BSS – Bureau of Street Services
LAMC – Los Angeles Municipal Code
BMPs – Best Management Practices

L.A. Sanitation, in collaboration with LADWP and other departments, has made tremendous progress on implementing the various policies and projects contained in the IRP implementation strategy. The Water IRP has represented the City's One Water vision since its early development in 1999 and throughout its adoption and implementation. It laid the foundation for City departments to work together and plan the future of the City's wastewater, stormwater, and recycled water systems. Given that the Water IRP planning window is coming to a close in 2020, it is now time to begin the process of planning beyond 2020. The City will achieve this through the development of a *One Water L.A. 2040 Plan* which will build on the success of the Water IRP and embrace even broader integration to effectively capture, conserve and reuse our limited water supply.

The development of the One Water L.A. 2040 Plan is already underway and expected to be completed within the next three years. Building on the great results accomplished through the Water IRP, the One Water L.A. Plan will play a vital role in ensuring a reliable water supply for Angelinos, and improve our communities and environment in the process.

Sincerely,

Enrique C. Zaldivar, Director
Bureau of Sanitation

AHH:AP:DW:lm

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