



# TOWN OF APPLE VALLEY

## TOWN COUNCIL STAFF REPORT

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**To:** Honorable Mayor and Town Council **Date:** September 25, 2012

**From:** Brad Miller / Town Engineer **Item No:** 17

**Subject:** FLOOD CONTROL/ MASTER PLAN OF DRAINAGE UPDATE

**T.M. Approval:** \_\_\_\_\_ **Budgeted Item:**  Yes  No  N/A

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### RECOMMENDED ACTION:

Receive and file report.

### SUMMARY:

At the August 14, 2012 Town Council meeting, Council requested a progress report on our efforts to reduce the threat of flooding throughout Apple Valley, and to provide a status report on the proposed Master Plan of Drainage Update. This request was in response to a Public Comment inquiry from Mr. Carl Coleman.

### Flood Mitigation Update

The first group of attached documents demonstrates areas of significant progress in our efforts to mitigate and manage flooding in Apple Valley. Document number 1 is a narrative that accompanied a power point presentation given before the May 10, 2011 meeting of the San Bernardino County Flood Control District, Zone 4 Budget Advisory Committee. This document summarizes our re-assessment of flood control needs in Apple Valley after the severe storms of January, February, and December of 2010. This document assigns a priority ranking of the projects in Apple Valley, and requested that Zone 4 assist in funding construction of the propose Yucca Loma Road Regional Storm Drain Facility, and begin working on a proposed Regional Retention/ Detention Basin located near the intersection of Tussing Ranch Road and Juniper/ Mohawk Road.

In response to the Town presentation before the May 10, 2011 Zone 4 Advisory Committee, the Committee unanimously approved the funding of the proposed Yucca Loma Road Regional Storm Drain Facility. Document number 2 is a staff report that brought before Council the Cooperative Funding Agreement between the Town of Apple Valley and San Bernardino County Flood Control for the funding of this project. This project will be getting under construction as soon as the Yucca Loma Bridge Project commences.

The Zone 4 Advisory Committee also approved the inclusion of the proposed Tussing Ranch-Juniper Basin Project, and funding is programmed to begin preliminary engineering and environmental studies for this future project. Document number 3 is a page from the recent Zone 4 Budget that indicates the Tussing Ranch- Juniper Basin is now on the list of Flood Control Zone 4 projects in Apple Valley.

In March of 2011, just three months after the devastating storm of December, 2010, staff brought before Town Council a proposed Dry Well Construction Project that was unprecedented in size and scope. This was the largest and most aggressive dry well installation project the Town had undertaken since incorporation, and was largely the result of what we learned during the storms of 2010. The severe storms of 2010 allowed Town staff to observe and learn where flooding as the result of standing water were most extreme and dangerous, and thus identify the most beneficial locations for dry well installations. Document number 4 is a copy of the March 8, 2011 Council agenda item that awarded nearly half a million dollars in contract for the installation of dry wells at various locations throughout town.

In summary, the flood mitigation effort is ongoing as staff applies what we learned during the storms of 2010 to enhance the performance of our drainage systems and Town maintained facilities and roadways. Wherever appropriate, enhancements are included in our Capital Improvement Program Projects to improve drainage management and minimize the chance of flood related threats to public safety, damage to public infrastructure, and flood related damage to improved private property.

### **Master Plan of Drainage Update**

The second group of attached documents relate to the Master Plan of Drainage Update Project that has been in progress for several years. To provide background, document number 5 is a letter dated June 28, 2006 requesting Mr. Pat Mead, then Director of Public Works for San Bernardino County, to consider and support the Town of Apple Valley's request for an update to our existing Master Plan of Drainage. The purpose for the update was to revise the existing document to incorporate new and developing Low Impact Development, (LID), methodologies into the recommendations of the study. These new methodologies are recognized as being highly effective in the High Desert environment, and superior to conventional storm drain methods. In addition, they are consistent with and are supported by the evolving National Pollutant Discharge Elimination System, (NPDES), and related water quality regulations. In parallel with the effectiveness of these LID methodologies and their application for flood management, LID methodologies maximize the capture of storm water runoff for ground water re-charge, and are thus beneficial to the preservation and maintenance of the underground aquifer.

Document number 6 is a Council Agenda Report dated May of 2010 presenting a Cooperative Funding Agreement between the Town of Apple Valley and San Bernardino County. The report explains the goals of the new Master Plan of Drainage update, and the importance of having the updated study as a guide for future development here in Apple Valley. The County pledged to fund a 50/50 match share, up to \$350,000 for a Master Plan Update, providing the updated study complies with County Flood Control guidelines and 100 year storm capacity criteria. The Master Plan of Drainage Update process was initially delayed for several years as the County was in the

process of updating their County Hydrology Manual. Meanwhile, the Town of Apple Valley was improving and revising our Standard Development Code requirements and Conditions of Approval to include the application of LID methodologies for all new projects. During this same time period, new California Building Code revisions further reinforced the application of Low Impact Development methods, and enhanced the protection of new structures from flood hazard. Unfortunately, during this same period the Town experienced a significant decline in development activity, and it is our Drainage Impact Fee revenue that would be used to match the pledged county funding for the Master Plan of Drainage Update. Our Drainage Impact Fee Fund reserves are declining. Fund reserves were particularly hard hit by our efforts to improve and mitigate flooding throughout Town after 2010. It has become increasingly apparent that the existing Master Plan of Drainage already provides accurate calculations for storm runoff that can be anticipated throughout Town. In addition the storm drain alignment recommendations contained in the current study are very useful in identifying where the flow paths actually exist in the field. The existing study remains a very useful tool, providing the raw data needed to locate and size proposed facilities. That coupled with our new Development Code and our current Conditions of Approval, the need and benefit of creating an updated version of our existing Master Plan of Drainage does not today justify the cost.

At this time, and after consultation with our Town Manager, the Engineering Department is recommending that the Master Plan of Drainage Update Project be postponed, and recommend we focus our remaining Drainage Impact Fee Fund Reserves on actual “brick and mortar” improvements that will contribute to the mitigation of our most critical flooding problems.

### **Proposal for an Integrated Watershed Management Plan, Altec Engineering**

Lastly, there was a component of the Council request that focused on a proposal from Mr. Coleman’s firm, Altec Engineering, to begin work on creating a regional Integrated Watershed Management Plan. This proposed integrated Watershed Management Plan would include elements that are far beyond the scope of our Master Plan of Drainage, and flood hazard management. The proposed regional plan would include the coordination of all agencies and activities that relate to the hydrologic cycle in the High Desert Watershed and beyond. In addition to flood control and flood related activities, this proposal includes coordination of activities that are currently within the regulating authority of the Mojave Water Agency, (MWA), and the Lahontan Regional Water Quality Control Board, and would address issues such as underground aquifer management, water quality, water purveyor/ water consumer issues, and underground aquifer recharge.

After reviewing the proposal, and after a consultation with the Town Manager and Mr. Coleman, it was determined that while the Town would likely be interested in cooperating with a multitude of other regulating agencies in such a broad and mutually beneficial endeavor, our role is in fact a minor part. The Town’s primary goal is to protect our community from flood hazard, and while our application of LID methodologies do benefit the groundwater basin, and they do ensure that groundwater quality is protected, the Town recognizes that the Mojave Water Agency is perhaps the most likely lead for a regional Integrated Watershed Management Plan effort to coordinate all aspects of the watershed. Supporting this perspective is document number 7 which is a recent

copy of the Mojave Messenger Newsletter. Within this Newsletter is an article about the existing Integrated Regional Water Management Plan, (IRWMP), which is currently in place at the Mojave Water Agency. Perhaps the further evolution and development of this MWA plan would be the preferred course of action.

Mr. Coleman understood after our consultation that the proposed Integrated Watershed Management Plan by Altec Engineering would not be eligible for the pledged 50/50 match funding from San Bernardino County Flood Control.

**Apple Valley Flood Control Strategy Update  
May 10, 2011**

**DRAINAGE ISSUES THROUGHOUT THE TOWN OF APPLE VALLEY**

**Background:**

In late December of 2010 a series of significant storms passed through the Southern California region. The News media referred to these storms as an "Atmospheric River", creating a longitudinal flow of moisture-laden clouds that streamed over Southern California for several weeks. Rainfall intensities in Apple Valley were some of the most extreme that Town staff has ever experienced, and residents throughout the Town reported that the roadways and yards within their neighborhoods were flooded. Unlike the rains of January and February of 2010, this most recent series of rainfall events caused much more widespread flooding over the entire Town. According to rainfall data provided by the San Bernardino County Department of Water Resources, the rainfall totals recorded in December of 2010 are some of the heaviest on record, and the total for the 2010 calendar year is near 20-inches of rainfall in certain areas of Apple Valley. The rain events of December were very unusual in that these storms distributed intense, long duration rainfall episodes uniformly over the entire region. The rainfall amounts equated to receiving more than the average annual rainfall in a matter of days, if not hours. This continuous moderate-to-heavy rainfall, uniformly occurring over the entire area, resulted in saturated surface soils. These storms, and the resulting conditions, set the stage for widespread flooding in low lying areas.

**Identifying critical need areas:**

The staff presentation this morning includes photographs of dozens of roadways and homes that were inundated by the rain storms that passed through our area during December of last year. Some of the most heavily impacted neighborhoods include segments of Mohawk Road, Tamiani Road, Lone Eagle Road, Minnetonka Road and Geronimo Road, all lying along a natural flow path that originates in the foothills south of Apple Valley. Much of the flooding that resulted from this series of recent storms occurred in locations that, in the past, had only suffered minor nuisance flooding. Some of the unexpected locations that experienced extreme flooding for the first time during this event included homes along Outer Highway 18, between Flathead Road and Navajo Road, and on Quapaw Road, north of Ottawa Road. Many of the homes in these areas experienced as much as 2-feet of flood water actually entering homes, causing extensive interior damage. This flooding was the continuation of the storm flows originating in the southern foothills, winding a pathway north toward the Apple Valley Dry Lake.

On Tuesday and Wednesday, December 21 and 22, of 2010, the heaviest of the series of storms occurred. Town Municipal Services crews and Engineering Division staff were in the field throughout the entire week, trying to ensure that the public roadways were properly signed to warn motorists of possible flooding and, in extreme cases, actually closed roadways due to flooding. The Engineering Division staff was able to observe the unusual flooding and create a valuable data base of locations that are of greatest flood risk.

In response to the recent rain events, staff has made several reports to Town Council regarding the flooding, and has conducted meetings and field interviews with hundreds of affected residents to learn as much as possible about the events of December. As a result, staff has established a priority list of potential improvement locations and is considering multiple strategies that could reduce flooding in the future. The criteria developed for establishing priority is consistent with FEMA guidelines, and is based on (1) Protecting Public Safety, (2) Protecting Public Infrastructure, (3) Protecting Developed Private Property.

**Prioritization of resources:**

Considering the limited resources available to the Town for the purpose of improving flood conditions in our community, staff has been re-evaluating our current and future projects. The purpose for this re-evaluation is to ensure that Apple Valley and San Bernardino County Flood Control Zone 4 resources are being logically applied to their highest and best use. Projects must be prioritized to achieve the maximum benefit to the general public in the three primary priority areas outlined above.

This prioritization effort includes working with the San Bernardino County Flood Control District to develop a new "Watershed Management Plan" that will provide uniform and consistent guidelines for future land development. The Watershed Management Plan will help identify locations where regional storm water retention facilities may be constructed in the future to help reduce the severity of flooding within our existing neighborhoods. Staff has conducted several meetings with San Bernardino County Flood Control staff to evaluate potential Detention/ Retention basin sites.

**Recommendation:**

Based upon the foregoing, staff recommends that the following three projects be considered as the top priority for consideration by San Bernardino County Flood Control, Zone 4.

**Project Priority No. 1: The Yucca Loma Road Drain.** This Project is one of only two Existing Regional Storm Drain Facilities that appear on the current Apple Valley Master Plan of Drainage, (with the Desert Knolls Wash being the other). This project meets all three of the top priority criteria, and is a critical element of the proposed Yucca Loma Bridge Project. During the December storm the improvements and infrastructure along Yucca Loma Road suffered extensive damage. Repairs to Yucca Loma Road were the most costly, and the damage posed the greatest potential risk to public safety of any location in Town. In addition, the design of this proposed project is complete, and all approvals and permits have been acquired that will enable this project to begin construction later this year or in early 2012.

**Project Priority No. 2: The Tussing Ranch Road/ Juniper Road Retention/Detention Basin.** This regional facility also appears in the current Apple Valley Master Plan of Drainage, and when constructed will have a significant impact on the flooding conditions that inundated the largest number of homes in Apple Valley. This project meets all three of the top priority criteria, and is a critical element in addressing the flood waters that originate in the foothills south of Apple Valley. This basin will capture, retain and infiltrate storm water runoff that currently flows north approximately following the Juniper/ Mohawk Road alignment, ultimately flooding hundreds of residential properties and public roadways along its natural pathway to the Apple Valley Dry Lake.

**Project Priority No. 3: The Desert Knolls Wash, Phase Two.** This Regional Storm Drain Facility is also indicated on the current Apple Valley Master Plan of Drainage, and meets two of the three top priority criteria. Public Safety and Public Infrastructure are both improved by the extension of the Desert Knolls Wash upstream by improving the existing roadway crossings at Quantico Road and at Kasota Road. However, it should be noted that neither of these two crossing sustained costly damage during the December event. The proposed Phase 3 of Desert Knolls Wash is not included as it only meets one of the priority criteria, the potential hazard to public infrastructure, (a sewer mainline).

Staff's further recommendation is to request that San Bernardino County Flood Control, Zone 4 consider this priority ranking during the May 10, 2011 Budget Meeting, and authorize the re-direction of \$4.8 million in construction funding currently allocated for the Desert Knolls Wash, Phase 2 and 3, over to the **Yucca Loma Road Drain**. Staff further requests that the balance of available construction funding be directed toward the development of the **Tussing Ranch Road/ Juniper Road Retention/Detention Basin**. Since the construction of the Desert Knolls wash Phase 2 Project has been conditioned by the Lahontan Regional Water Quality Control Board to only be allowed after the completion of Desert Knolls Wash, Phase 3, staff feels that the cost/ benefit ratio of the two combined phases is not justified by the degree of improvement to Public Safety

and Public Infrastructure. Staff recommends that the Desert Knolls Wash Phase 2 be shelved until a later date.

### **Overall benefits**

The suggested shift in strategy would provide a number of benefits, including, but not limited to, (i) allowing construction of the Yucca Loma Road Drain to commence almost immediately, and financially assist in advancing the multi-jurisdiction Regional Transportation Corridor that involves the Town of Apple Valley, County of San Bernardino, and Victorville; (ii) shift Flood Control design efforts currently being directed to the Desert Knolls wash over to the Tussing Ranch/ Juniper Basin, and advance a project that has the greatest potential flood hazard mitigation benefit for the largest number of Apple Valley residents; (iii) Terminate the current and long-standing stalemate with the Lahontan Regional Water Quality Control Board, and allow San Bernardino County Flood Control to turn their efforts toward a project that falls perfectly into their area of expertise, the design of improvements, and managing flood hazard for residents of our region; and, (v) allowing Flood Control staff to focus its limited resources on the projects in Apple Valley that have the highest level of potential benefit for the most number of residents.

Submitted for your consideration.

Brad Miller, PE  
Town Engineer



**TOWN OF  
APPLE VALLEY, CALIFORNIA**

**AGENDA MATTER**

**Subject Item:**

**COOPERATIVE AGREEMENT WITH COUNTY OF SAN BERNARDINO FOR FUNDING THE DESIGN AND CONSTRUCTION OF THE YUCCA LOMA ROAD REGIONAL STORM DRAIN FACILITY**

**Summary Statement:**

The Town of Apple Valley has received a Cooperative Agreement from the County of San Bernardino Department of Public Works regarding financial participation by San Bernardino County Flood Control, Zone 4, for the design and construction of the proposed Yucca Loma Road Regional Storm Drain Facility. At its regularly scheduled semi- annual meeting of May 10, 2011, The Zone 4 Advisory Committee unanimously approved a request for Zone 4 to fund the design and construction of the new Regional Storm Drain Facility that is being proposed as part of the joint Town of Apple Valley/ San Bernardino County/ Victorville Yucca Loma Bridge Corridor Transportation Project. The attached Cooperative Agreement has been prepared by San Bernardino County Flood Control for Town Council consideration, and will provide up to \$3.4 million in Zone 4 funding for the Yucca Loma Road Storm Drain Regional Facility.

**Recommended Action:**

That the Town Council approve and adopt the attached agreement with the County of San Bernardino for Design and Construction of the proposed Yucca Loma Road Regional Storm Drain Facility and authorize its execution by the Mayor, Town Manager, Town Attorney and Town Clerk.

**Proposed by: Engineering Division Item Number\_\_\_\_\_**

Council Meeting Date: 11/8/2011

SAN BERNARDINO COUNTY FLOOD CONTROL DISTRICT  
 PRELIMINARY BUDGET STUDY FY 2012/2013  
 10 - YEAR CONSTRUCTION FUNDING PROGRAM  
 ZONE 4

PROJECT	Projected 11/12	Budget Yr 1 12/13	Budget Yr 2 13/14	Budget Yr 3 14/15	Budget Yr 4 15/16	Budget Yr 5 16/17	Budget Yr 6 17/18	Budget Yr 7 18/19	Budget Yr 8 19/20	Budget Yr 9 20/21	Budget Yr 10 21/22	TOTAL
AVAILABLE REVENUE (1)	\$ 36,340,689	\$ 31,006,817	\$ 5,337,300	\$ 5,390,300	\$ 5,496,300	\$ 5,604,400	\$ 5,715,000	\$ 5,827,300	\$ 5,999,200	\$ 6,176,200	\$ 6,358,400	\$ 119,251,906
Add: Revenue	-	-	-	395,500	2,280,743	2,558,254	3,427,987	4,024,888	4,390,254	4,773,054	2,630,320	24,481,000
Less: Expenditures	-	-	-	-	-	-	-	-	-	-	-	-
General Engineering	943,100	838,100	846,000	854,000	871,000	888,000	915,000	942,000	970,000	999,000	1,029,000	10,095,200
Loan to Zone 1	3,500,000	5,900,000	-	-	-	-	-	-	-	-	-	9,400,000
Planning & Engineering	-	100,000	103,000	106,000	109,000	112,000	115,000	118,000	122,000	126,000	130,000	1,141,000
Maintenance	1,000,700	1,000,700	1,031,000	1,062,000	1,094,000	1,127,000	1,161,000	1,196,000	1,232,000	1,269,000	1,307,000	12,480,400
Watershed Management	210,000	140,000	144,000	148,000	152,000	157,000	162,000	167,000	172,000	177,000	182,000	1,811,000
Projected Total Expenditures (2)	\$ 5,653,800	\$ 7,978,800	\$ 2,124,000	\$ 2,170,000	\$ 2,226,000	\$ 2,284,000	\$ 2,353,000	\$ 2,423,000	\$ 2,496,000	\$ 2,571,000	\$ 2,648,000	\$ 34,927,600
AVAILABLE DISTRICT CONSTRUCTION FUNDS (3) = (1) - (2)	\$ 30,686,889	\$ 23,028,017	\$ 3,213,300	\$ 3,615,800	\$ 5,551,043	\$ 5,878,654	\$ 6,789,987	\$ 7,429,188	\$ 7,893,454	\$ 8,378,254	\$ 8,340,720	\$ 84,324,306
DISTRICT FUNDED PROJECTS												
Yucca Loma Drainage (\$3.4 million)	3,400,000	-	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	3,400,000
Line E-01 (Victorville MPO)	-	890,000	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	890,000
Mt. View Acres (\$7.5 million)	500,000	7,600,000	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	8,100,000
Sheepcreek (\$2.7 million)	150,000	2,700,000	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	2,850,000
Mojave River I-15 Levee, Phase II (\$1.7 million)	150,672	1,800,000	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	1,950,672
Amethyst Basin (\$7.9 million)	250,000	8,500,000	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	8,750,000
Desert Knolls Wash (Lewis Center), Phase 3 (\$6.75-8.49 million)	30,000	838,017	3,213,300	3,615,800	1,860,135	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	9,557,252
Hesperia Detention Basin #1 (\$13 million)	200,000	500,000	-	-	3,690,900	5,878,700	5,033,450	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	15,303,050
Kitchen Dean Wash (\$4 million)	-	-	-	-	-	-	1,756,500	2,243,500	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	4,000,000
Ranchero Basin (\$23 million)	1,000	-	-	-	-	-	5,185,700	7,893,500	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	***** FUNDING COMPLETE *****	27,799,200
Tussing Ranch-Jumber Basin	-	-	150,000	-	-	-	-	-	-	-	-	150,000
Desert Knolls Wash, Phase 2 & 4 (\$18-19.3 million)	50,000	50,000	-	-	-	-	-	-	-	-	-	100,000
Hesperia Basin #2	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL PROPOSED FUNDS FOR PROJECTS (4)	\$ 1,331,672	\$ 23,028,017	\$ 3,213,300	\$ 3,615,800	\$ 5,551,035	\$ 5,878,700	\$ 6,789,950	\$ 7,429,200	\$ 7,893,500	\$ 8,378,300	\$ 6,340,700	\$ 100,000
CARRYOVER	\$ 29,355,217	-	-	-	-	-	-	-	-	-	-	-
FUTURE PROJECTS (3) - (4) = (5)	-	-	-	-	-	-	-	-	-	-	-	-

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TOWN OF  
APPLE VALLEY, CALIFORNIA

AGENDA MATTER

**Subject Item:**

**AWARD CONTRACT FOR THE 2010-2011 DRYWELL PROJECT**

**Summary Statement:**

On March 1, 2011, the Town received and opened bids for the subject contract. This project includes providing necessary labor, equipment and materials for the construction of 16 drywells at various locations within the Town. (see attached list)

The bid results are as follows:

<u>Contractor</u>	<u>Total Bid Price</u>
<b>Pyramid Building and Engineering Inc.</b>	<b>\$444,881.00</b>
Sully Miller	\$448,995.00
4 Con	\$466,825.00
Pacific Construction	\$467,550.00
Apple Valley Construction	\$515,191.00

Staff is satisfied that Pyramid Building Engineering Inc., is a responsible contractor for this work. The funding for this project is listed in the Town's Capital Improvement Project budget for this fiscal year with a budget of \$400,000. However, because of recent, significant storms, staff increased the scope of work for this project by increasing the number of drywells. It is recommended that additional drainage impact fee funds be allocated to this project.

**Recommended Action:**

1. That the Town Council amend the current fiscal year's budget for this project, raising the budget from \$400,000 to \$489,369.
2. Award a contract for \$489,369 (\$444,881 + \$44,881, 10% contingency) to Pyramid Building and Engineering Inc., subject to "Approval as to Form" by the Town Attorney and "Approval as to Content" by the Town Manager.

**Proposed by:**            **Engineering Division** \_\_\_\_\_ **Item Number** \_\_\_\_\_

**T. M. Approval:**        \_\_\_\_\_ **Budgeted Item**  **Yes**  **No**  **N/A**

Council Meeting Date: 3/08/11



# Town of Apple Valley

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14955 Dale Evans Parkway • Apple Valley, California 92307

June 28, 2006

San Bernardino County Department of Public Works  
Attn: Patrick Mead  
825 East Third Street  
San Bernardino, CA 92415-0835

RE: Apple Valley Dry Lake Master Plan of Drainage

Dear Mr. Mead:

As was discussed at the last County Flood Control District's Budget meeting, the Town is revisiting the Master Plan of Drainage for the Apple Valley Dry Lake Drainage Basin. As you are aware, neither the Town of Apple Valley nor the County has adopted the Master Plan of Drainage prepared by Williamson & Schmid. The recommendations presented in this study are economically unrealistic. As a result, The Town of Apple Valley is not requiring the dedication of right-of-way for regional master plan facilities.

Per our last discussion earlier this month the Town is planning to commission a new study to provide long term solutions or a new Master Plan of Drainage for this basin. We request that the District consider sharing the cost of a new study for this basin. We request that this item be discussed at the next budget meeting on July 13, 2006. With the information we have with the current study we anticipate the new study will cost around \$300,000. We request that the District share the cost at a 50% ratio with the Town and that the Town be the lead agency for the study.

Should you have any questions or need further clarification do not hesitate to contact our office at 760-240-7000 ext. 7011

Sincerely,

Brad Miller, P.E.  
Town Engineer  
Town of Apple Valley

Cc Bruce Williams, Town Manager  
Ken Henderson, Director of Economic Development

TOWN OF  
APPLE VALLEY, CALIFORNIA

AGENDA MATTER

**Subject Item:**

**Approve and Authorize an Agreement with San Bernardino County Department of Public Works for development of a new Master Plan of Drainage, (Watershed Management Plan), for the Apple Valley Area.**

**Summary Statement:**

The development of a new Master Plan of Drainage is becoming a critical path issue for Apple Valley. The current Master Plan of Drainage presents solutions to drainage that are applications of conventional storm drain methods and technology. Unfortunately, the construction of conventional storm water conveyance systems do not take maximum advantage of ground water re-charge opportunities, and can result in very large regional facilities (500'-wide concrete trapezoidal channels) that are cost prohibitive. New and developing methodologies, including what has come to be known as Low Impact Development (LID), integrate the use of detention/ retention basins and groundwater re-charge facilities that are designed to capture and infiltrate storm runoff where it occurs. The LID approach offers more desert-appropriate and environmentally sensitive sub-regional solutions that can be incrementally constructed as development occurs. It is intended that the new Master Plan of Drainage will incorporate these elements and evolve into a broader Watershed Management Plan, evaluating and applying alternative LID storm water mitigation methods that include multiple sub-regional detention and infiltration facilities that may be constructed by developers, and integrating them with strategically placed public regional facilities.

Continued page 2

**Recommended Action:**

That the Town Council approve the Master Plan of Drainage Agreement with San Bernardino County, subject to approval as to form by the Town Attorney and as to content by the Town Manager, and authorize the Mayor to execute said Agreement.

**Proposed by:** Engineering Division **Item Number** \_\_\_\_\_

**T. M. Approval:** \_\_\_\_\_ **Budgeted Item**  Yes  No  N/A

Council Meeting Date: 5/25/10

**Approve the proposed Master Plan of Drainage Agreement between the Town of Apple Valley and San Bernardino County.**

**Page 2**

It is hoped that such a system, when completed as part of a basin-wide master plan, will provide the designated level of flood protection that is required for development of the areas surrounding, and tributary to, the Apple Valley Dry Lake, as well as providing methods for improving ground water recharge, and enhancing flood hazard protection throughout the Town of Apple Valley. The application of LID methodologies is consistent with current National Pollutant Discharge Elimination System (NPDES) goals, and will enhance water quality protection for all drainage areas within Apple Valley. Until such a watershed-wide master plan is developed, it remains very difficult for staff to anticipate future improvements and properly condition developments for future regional facilities.

At the May 4, 2010 Zone 4 Advisory Committee Fiscal Year 2010-2011 Budget Hearing Meeting, the County of San Bernardino pledged to provide half of the estimated cost of developing a new Apple Valley Master Plan of Drainage, up to a maximum amount as defined in the attached Agreement. Prior to beginning work on the new Master Plan of Drainage, a new San Bernardino County Hydrology Manual Update for the High Desert Region was needed, and it is anticipated that this updated Manual will be completed within the next few months. The attached Agreement is for the development of the New Apple Valley Master Plan of Drainage and will allow work to commence as soon as the New Hydrology Manual is complete.

In order to authorize the proposed Agreement, the Town Council should approve and adopt the recommended form motion.

Attachments

Agreement for Development of a New Apple Valley Master Plan of Drainage.

Brad Miller

From: Mojave Water Agency [ggolike@mojavewater.org]  
Sent: Wednesday, September 05, 2012 3:50 PM  
To: Brad Miller  
Subject: News from Mojave Water Agency

To view as created [Click here](#)



**In This Issue**

- [Water Inventory Announced](#)
- [Updated IRWMP](#)
- [GeoCaching with MWA](#)
- [Turn in Applications](#)

**Events**

**Phelan Phamily Phun Day**

**"Gold Rush!"**

Saturday,  
September 8  
9:00 a.m. start time

For more information:  
Contact the Phelan  
Chamber at 760-868-  
3291.

**Lewis Center Festival of the Arts**

Saturday,  
September 15  
10:00 a.m. - 3:00 p.m.

Lewis Center for  
Educational Research  
Mojave River Campus  
17500 Mana Rd

**Countywide Water Inventory Announced at 2012 San Bernardino County Conference**

The 6th Annual San Bernardino County Water Conference was held on August 10 and MWA has been participating in this event since year one. While the sponsorship and networking opportunities are important, the primary goal of the conference is to collaborate, cooperate, and prepare to inform the public on what water agencies are doing to ensure a stable and sustainable supply for future generations.

Through several years of cooperation between MWA and other water agencies county-wide, a comprehensive water supply inventory like none previously available was unveiled to the approximately 500 participants at this year's conference. This information will help agencies throughout San Bernardino County to coordinate on, invest in, and implement long-term water supply solutions that benefit the region as a whole - not just in separate, often disparate parts.

With a large and diverse service area of over 4,900 square miles, the MWA is poised to benefit greatly from the information contained in the inventory. This can be seen through the perspective of the new Countywide Vision which says, "We have the opportunity to improve our region's self-reliance, meeting the needs of our own population... enhancing water management... and conserving natural resources - all leading to a healthy population with a high quality of life". The inventory is an example of how working together across political boundaries is a critical step in sound water management.

Apple Valley, CA

For more information:  
Contact Cheryl @  
760-946-5414 ext. 202

### ABC's of Water

"Preserving Our Desert  
Environment Preserves Our  
Desert Water Supply"

Tuesday,  
September 25  
5:30 - 7:00 p.m.

MWA Boardroom  
13846 Conference Center  
Dr  
Apple Valley, CA

RSVP by September 24  
to 760-946-7001 or  
[ggolike@mojavewater.org](mailto:ggolike@mojavewater.org)

For more information:  
Click to view [flier](#).

### Open House Juniper Riviera County Water District

Saturday,  
September 29  
11:00 a.m. - 2:00 p.m.

25715 Santa Rosa Rd  
Apple Valley, CA  
(Hwy. 18 east to  
Milpas, turn right and  
proceed up hill)

For more information:  
Call 760-247-9818.

### High Desert Opportunity

Thursday,  
October 18  
8:00 a.m. - 3:00 p.m.

San Bernardino County  
Fairgrounds  
Victorville, CA

See [link](#) for more  
information.

## Updated IRWMP Will Lead to High Desert Water Project Priorities of Regional Benefit

Significant stakeholder involvement and regional water management are the primary reasons that an **Integrated Regional Water Management Plan (IRWMP)** is such a great tool for sound, regional water management planning. When MWA and our partners worked together to complete the 2004 IRWMP, it identified critical projects and management actions that would lead to region-wide water supply and quality benefits. Through local collaborative fiscal planning, extensive grant application to acquire funding support at the state and federal levels, and cross-jurisdictional cooperation, the MWA has implemented those priority projects that are now helping to preserve and sustain our local water supply.



Now that the 2004 plan is near the end of its life, it's time to revisit water management priorities in an open and transparent way by including affected stakeholders and water users of all types. Through our Technical Advisory Committee, or TAC, the public forum already exists to provide transparency and public access to this process of developing project and program priorities, and how they will be ultimately carried out in the region.

Beginning at the October TAC meeting, the process of updating and developing the new IRWMP will be underway. Water agencies, resource agencies, property owners, and individuals all participate in this important process. The programs and projects have not yet been identified and stakeholder input will be the driver behind their development. Representatives from areas in the High Desert have long-term goals to store, conserve, and/or deliver water to their residents and businesses - the IRWMP is designed to help them do just that. For more information on IRWMPs log onto the Department of Water Resources website at <http://www.water.ca.gov/irwm> or to see the 2004 IRWMP, check out our website at <http://www.mojavewater.org/planning.html>.

## GeoCaching with MWA -- Find BeWaterWise Out in the Desert



Geocaching is a free outdoor scavenger hunt where participants use maps, GPS, and their smart phones to try and locate hidden containers called geocaches. MWA typically uses mapping, GIS, GPS, and other scientific methods in our everyday water management activities to better understand the water conditions of the High Desert. Now we are using these tools as an additional outreach activity to better educate the public on water awareness and conservation - and to have a little fun!

Geocachers like to share their outdoor experiences with each other online and even compete to have "first finds" or get to containers that are in areas that are not easily accessible. The geocaches themselves contain items, and the MWA geocache will help whoever finds it to better