TO: BOARD OF DIRECTORS

FROM: BRUCE BUEL BSB

DATE: OCT. 20, 2006

AGENDA ITEM
E-9
OCT. 25, 2006

SUPPLEMENTAL WATER OPTIONS

ITEM

Receive staff review of supplemental water supply projects and set workshop to receive presentation on desalination technology.

BACKGROUND

The Board on October 11, 2006 directed staff to make a presentation at this Board meeting on alternatives to the NCSD-Santa Maria Waterline Intertie Project regarding development of supplemental water for Nipomo. Attached are excerpts from the 2001 Kennedy/Jenks "Evaluation of Water Supply Alternatives", which describe the primary options and their respective costs and yields at that time (a copy of the full report is available at the office). Although the cost estimates are clearly outdated and research has eliminated Hard Rock Drilling as a viable option, the report does provide information on the relative 2001 cost effectiveness of some of the options. It should be noted that desalination technology has advanced significantly since 2001 and Boyle Engineering has offered to provide a free presentation to the Community on January 17, 2007 to review these new desalination technologies. It should also be noted that the Section III Technical Memorandum from Cannon's Water and Sewer Master Plan update should be available for Board review by the end of January 2007.

As detailed in the attachment, Kennedy/Jenks evaluated seven alternatives (Alternatives 2 through 8) other than the Waterline Intertie Project (Alternative 1). Kennedy/Jenks recommended and the Board agreed to further explore Alternative 8 – Conservation, Alternative 4 – Desalination, Alternative 3&6 – Recycled Water Exchange with Agricultural Users, and Alternative 7 – Hard Rock Drilling. NCSD attempted to develop a hard rock well in 2004 and abandoned this project after substantial effort and cost.

Following are comments on each of the remaining recommended Alternatives:

ALTERNATIVE 8 – WATER CONSERVATION: Staff supports the development and implementation of a Water Conservation Program as part of any supplemental water program. Staff is working out the details of NCSD's Program with the Conservation Committee and expects to bring a formal proposal to the Board in early 2007. Staff agrees with Kennedy Jenks that the District should join CUWCC.

ALTERNATIVE 4 – DESALINATION: Cannon has been tasked with evaluating the current feasibility of this option in the Water and Sewer Master Plan. In addition, staff recommends that the Board schedule the Boyle presentation to get independent information on the technology.

ALTERNATIVE 3&6 – RECYCLED WATER EXCHANGE WITH AGRICULTURAL USERS: Boyle will provide the Board with an analysis of the cost of upgrading quality of the treated wastewater at the Southland WWTF as part of their Southland WWTF Master Plan due this December. In Addition, Cannon will identify up-gradient locations for Groundwater Recharge and comment on the cost effectiveness of recharging portions of the Mesa with treated wastewater as part of its Water and Sewer Master Plan.

It is interesting to note that Kennedy/Jenks evaluated an ALTERNATIVE 1A – TURNOUT and commented that such an option would be less costly than the NCSD-City of Santa Maria Waterline Intertie Project but less reliable than the Intertie and infeasible because of referenda limitations. Staff has confirmed that the City of Santa Maria is not willing to sell CCWA water to NCSD on the North Side of the Santa Maria River, since the City's Master Plan is predicated on delivering a blend of ground water and CCWA water. It may be possible to negotiate a sale of water from other CCWA participants who have surplus supply available for purchase, but any such purchase would require the approval of CCWA and likely a new vote of NCSD's voters. It may also be possible to buy surplus water in wet years from one or more of the project participants for groundwater recharge (see Alternative 3&6 above), although legal research would be needed to determine if a new referendum would be required if water was used for recharge instead of consumption.

Two additional sources have arisen since the publication of the Kennedy/Jenks Report – South SLO County Sanitary District's Desalination Project and SLO County's Nacimiento Water Project. The SSCSD's Desalination project is in a very early stage and they have yet to initiate a detailed engineering study and the potential location of the facility is substantially further from Nipomo than the Conoco-Phillips refinery. The Southern terminus of the Nacimiento Project is the Airport, the cost of the water to the Airport is about $2,400 per acre foot, and there is no provision for transport of water to the South County.

Boyle Engineering has indicated that they would be able to develop current cost allowances for any or all of the above described projects. District Legal Counsel could render opinions on the legal issues upon Board request.

RECOMMENDATION

Staff recommends that your Honorable Board receive the presentation, ask questions, and determine if it wants more engineering and/or legal research on any of the options and/or issues. Staff further recommends that the Board agree to receive Boyle's presentation on Desalination and schedule a workshop meeting to hear the presentation on January 17, 2007.

ATTACHMENTS

EXCERPTS FROM 2001 KENNEDY/JENKS EVALUATION OF ALTERNATIVES

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Section 6: Detailed Evaluation of Selected Alternatives

With a conservative projected water demand of 5,890 AF/yr and a current supply of 2,340 AF/yr, as described in Section 3, a net deficit of up to 3,550 AF/yr is anticipated for NCSD at build-out. In order to meet future water demands, groundwater pumping must continue at existing rates, and additional sources of 3,550 AF/yr must be identified. The potential water sources to address this estimated deficit were discussed in Section 4 and have been summarized in the matrix presented in Table 6-1. Based on this qualitative screening level evaluation of the potential water sources, the following alternatives are recommended for more detailed evaluation and cost development.

1. Intertie with the City of Santa Maria
2. Groundwater at Tosco
3. Groundwater Exchange with Agricultural Users
4. Desalination at Tosco
5. Oil field produced water from the Price Canyon Oil Field
6. Recycled Water from SSLOCSD
7. Hard rock drilling
8. Water conservation

This section provides a more detailed evaluation of the recommended alternatives. Because Alternatives 2, 3, 4, 5, and 6 are all dependent upon the ability to substitute non-potable water in applications currently using potable water, they are discussed together. Because significant lead time may be required to develop the selected alternatives, a proposed implementation schedule is also presented.

The recommended alternatives were confirmed by NCSD staff as being the most viable for further evaluation. For each of these alternatives, the following characteristics are described:

- Water Quality
- Required Infrastructure
- Reliability
- Required Agreements/Institutional Issues
- Permitting/California Environmental Quality Act (CEQA)
- Costs/Funding
- Schedule

TABLE 6-1
DETAILED EVALUATION SUMMARY

Alternative	AF Available per year	Annualized Cost per AF (over 20 yrs)[1]	Proposed Implementation Schedule	Comments
1. Intertie with Santa Maria	2,000 - 3,000	$1,700	Commence negotiations within 1 - 3 months	
1A. Turnout	2,000 - 3,000	$1,239	Commence negotiations within 1 - 3 months	Less reliable than turnout, plus has referenda implications
2. Groundwater at Tosco	1,290 - 1,370	$182 [2]	Initiate conversation with Tosco within 3 - 6 months	This option would require acquisition or lease of water rights
3. Groundwater Exchange with Agricultural Users	500 - 1,000[3]	$169[2]	Initiate discussions with potential agricultural users within 3 - 6 months	This option would require acquisition or lease of water rights
4. Desalination at Tosco	360	$2,161[4]	Revisit this option annually and review technology changes	This option is always available but may require 3 - 4 years to implement fully.
5. Oil-field produced Water from Price Canyon	700 - 800	$3,970 - $4,520[4]	Conduct initial discussion within 3 - 6 months with Stocker Resources and Tosco to further test the viability of this option and to identify use of the pipeline	Cost of this project to NCSD depends highly on the value of the project to Stocker Resources
6. Recycled Water from SSLOCSD	1,200[5]	$2,080[4]	Initiate discussions with SSLOCSD within 3 - 6 months	
7. Water Conservation	500 - 1,000[6]	$11[4]	Obtain membership to CUWCC and Initiate review of water conservation program within 3 - 6 months	
8. Hard Rock Drilling	500 - 1,000	$1,024	Revisit this option annually and review	This option may be subject to litigation for water rights issues

[1] Costs do not include property or easement acquisition.
[2] Includes cost of the new potable water source only. The cost of providing an alternative water source to the owner of the groundwater rights is shown under items 4, 5, and 6.
[3] 1,000 AF/yr assumed. More may be available.
[4] Includes cost of the new alternative water source only. The cost of the potable water supply is shown under items 2 and 3.
[5] As much as 3,000 AF/yr of recycled water is available, as long as sufficient agricultural exchange can be identified to use it. 1,000 AF/yr was assumed for this evaluation.
[6] Assuming that 10% - 20% water savings can be achieved by conservation
[7] Includes one-time cost for Water Conservation Plan. Implementation of rebates and other programs is at additional cost.

Costs are summarized in the discussion of individual alternatives. Detailed cost information is provided in Appendix A. All costs are presented in 2001 dollars and are amortized over a 20-year period.

6.1 Intertie with the City of Santa Maria

The City of Santa Maria has indicated that they may be able to provide 2,000 to 3,000 AF/yr of permanent water supply to NCSD through an intertie. The City of Santa Maria receives water from groundwater and SWP water.

During discussions with NCSD staff, purchase of SWP turnback supply through Santa Maria and delivered through an intertie was identified as an option. If the water is purchased by the City, this option appears feasible and straightforward. Capacity for the City's entitlement is available in the Coastal Aqueduct. The following discussion focuses on constructing an intertie with the City of Santa Maria that would allow NCSD to receive water from the City's usual supplies of groundwater and SWP water.

Alternatively, NCSD could negotiate an agreement with the City to use 2,000 to 3,000 AF/yr of the City's water supply which could be delivered through a new turnout. This option would enable NCSD to obtain a water supply without an intertie or the complexities associated with obtaining SWP water that are discussed in Section 4. However, the issues associated with the ordinances and referenda discussed in 4.2.2 should be reviewed by the NCSD's legal counsel.

6.1.1 Water Quality

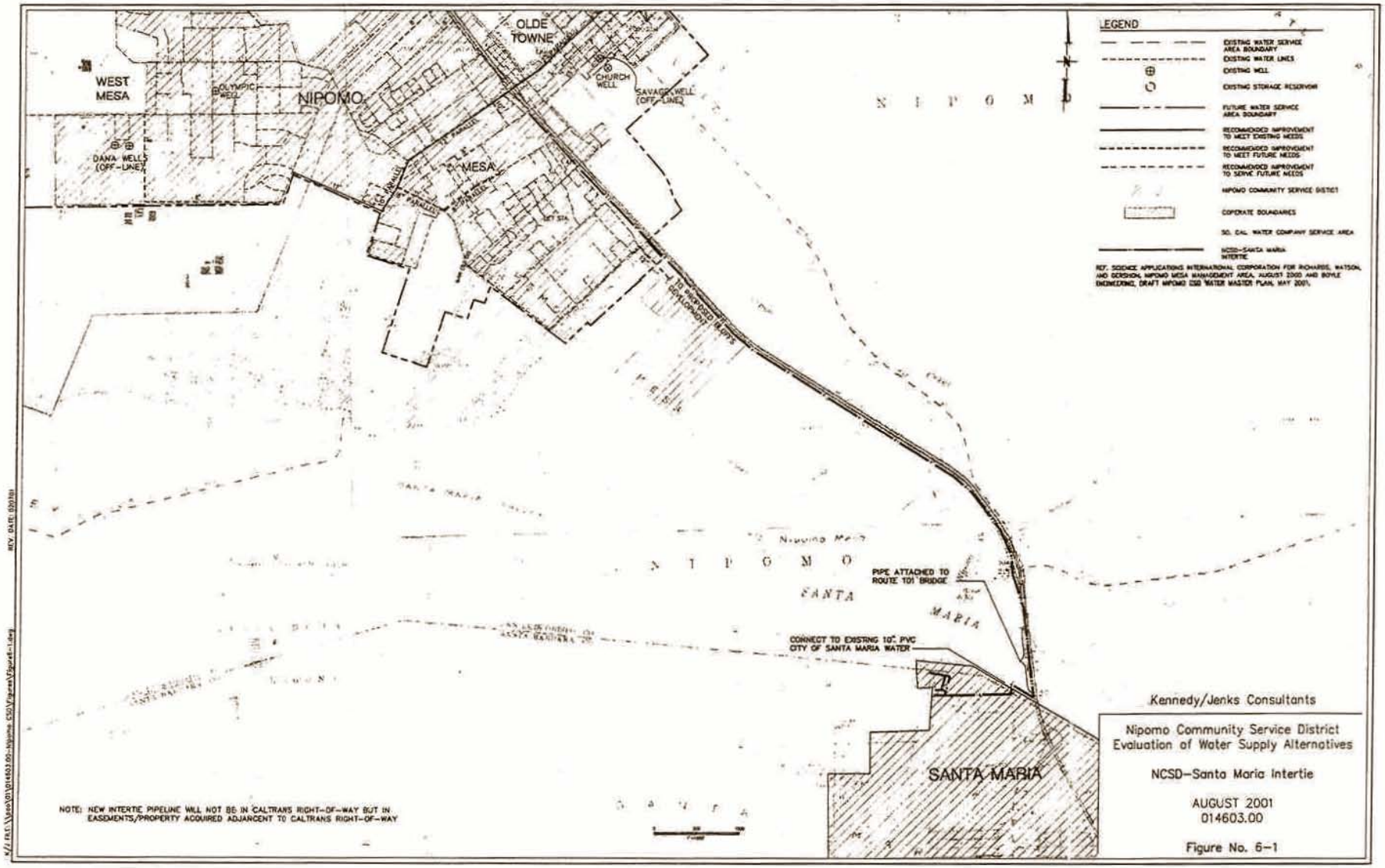
Water received through an intertie with the City could be a variable blend of its water supplies. Because the City's groundwater appears to have higher mineralization than NCSD's groundwater, a blend which meets the water quality objectives of the Water Quality Control Plan for the Central Coastal Basin (Basin Plan)[10] would be desirable so that groundwater quality is not degraded. The Basin Plan objective for TDS in the Santa Maria Basin is 1,000 mg/L, while it is 710 mg/L in the Lower Nipomo Basin. Sulfate, boron, and sodium objectives are also lower in the Lower Nipomo Basin.

If a turnout is constructed and SWP water is received, there does not appear to be any significant water quality issues.

6.1.2 Required Infrastructure

An intertie with the City of Santa Maria would require construction of a pipeline and booster pump station to transport the water into NCSD's distribution system. The 8- to 12-inch pipeline would connect to the City's distribution at its northern end on the southern side of the Santa Maria River near Highway 101, as shown in Figure 6-1. A 2,000 gpm booster station would also be required. The City is currently working with Caltrans to design a new bridge over the Santa Maria River for Highway 101. The City has indicated that they intend to incorporate a pipeline over the river into the design, regardless of whether NCSD decides to pursue this option.

10 California Regional Water Quality Control Board (Region 3), "Water Quality Control Plan for the Central Coastal Basin."



Construction of the bridge is anticipated to start in 2002.The pipeline would connect with the City's 10-inch PVC line in Preisker Lane. The pipeline would then run along the south side of the Santa Maria River and cross the River attached to the new Highway 101 bridge. The pipeline would follow the Highway 101 alignment northward to Nipomo, where it would connect with the existing NCSD distribution system. As a result of Caltrans' policy that restricts longitudinal placement of pipelines in the Caltrans right-of-way, easements and/or property would have to be obtaining for the placement of the intertie pipeline. Highway 101 follows a relatively flat course between Santa Maria and Nipomo; however, due to the friction losses over that distance of piping, a booster station would probably be necessary.

For the turnout option, a new turnout to the SWP pipeline would be necessary, along with a pipeline to connect the turnout to the NCSD distribution system.

6.1.3 Reliability

Because the City of Santa Maria obtains water from a variety of sources, it is anticipated that the reliability of its water supply is relatively high. However, in Water Year 2001, with SWP deliveries anticipated to be 39 percent of entitlement for all contractors, the City of Santa Maria has had to obtain additional water supply from the City of Santa Barbara, Yuba County, and the Western Canal Water District in Butte County. During these conditions, the reliability of the water supply delivered to NCSD is likely to be significantly lower than the City's water supply.

If the turnout option only is used, reliability would decrease as NCSD would only have access to the SWP portion of the City's water supply. However, the overall reliability would be largely dependent on the conditions negotiated with the City. Because NCSD and the City are in the same groundwater basin, it may be possible to exchange SWP water for pumping groundwater. With the uncertainty of the outcome of the current groundwater litigation, groundwater exchange within the basin may not be a viable or desirable option.

6.1.4 Required Agreements/Institutional Issues

An intertie with the City of Santa Maria would be largely dependent upon the success of contract negotiations between NCSD and the City. Additionally, it may be necessary to obtain easements for the connecting pipeline and property for a booster pump station. Negotiations would require the involvement of NCSD staff and legal counsel, as well as Board approval.

Similarly, for the turnout option, an agreement would be necessary between NCSD and the City. Additionally, it may be necessary to obtain easements for the turnout and connecting pipeline. Negotiations would require the involvement of NCSD staff and legal counsel, as well as Board approval. CCWA approval would also be necessary.

6.1.5 Permitting/CEQA

Permits would be required for construction of the pipeline and booster station. These permits would likely include encroachment permits from Caltrans and the County for pipeline and booster station construction.

Construction of the pipeline and booster station would require preparation of environmental impact analysis documentation in accordance with CEQA. If construction is to remain largely within existing roadways, then it is likely that a Mitigated Negative Declaration would be adequate. CEQA and permitting requirements for the turnout option would be similar.

NCSD may also consider preparing a Program Environmental Impact Report (EIR) for its entire water supply program. The CEQA documents for individual components could then tier off the Program EIR. This approach would probably be the most efficient and in accordance with the requirements of CEQA.

6.1.6 Costs/Funding

The City has indicated that commodity costs would be $1,000 to $1,200 per AF, with additional capital costs for the necessary modifications to their system of approximately $2,000/AF. NCSD would be responsible for constructing a connection pipeline and booster pump station. With the costs amortized over a 20-year period, the cost comes to approximately $1,700/AF to receive water from an intertie with Santa Maria, with a turnout these costs would be approximately $1,249/AF. These costs do not include any necessary land acquisition or easements. Table 6-2 presents the costs associated with this alternative.

TABLE 6-2
COSTS FOR INTERTIE WITH SANTA MARIA

Type of Cost	Cost	Entity Responsible for Paying Cost
Commodity Cost	$1,200	NCSD
Capital Costs - Intertie		
Pipeline	$3,200,000	NCSD
Booster Station	$500,000	NCSD
Upfront Costs[1]	$4,000,000	NCSD
O&M Costs - Intertie		
Pipeline	$63,400/yr	NCSD
Booster Station	$50,000/yr	NCSD
Capital Costs - Turnout		
Pipeline	$120,000	NCSD
Turnout	$500,000	NCSD
O&M Costs - Turnout		
Pipeline	$20,000/yr	NCSD
Turnout	$20,000/yr	NCSD

Note: All costs are in 2001 dollars.
[1] Per the City of Santa Maria. Cost to be paid by NCSD. Improvements to be made by the City.

This alternative is not likely to involve any state or federal funding opportunities. The capital cost of the infrastructure would have to be borne by connection fees. O&M costs would be covered by water rate charges. However, because the turnout must be oversized, NCSD may also receive some future reimbursement if others were to use the turnout.

6.1.7 Schedule

It is recommended that negotiations with the City be given a high priority and be initiated within the next 1-3 months. Assuming there are no unforeseen complications, negotiations with the City of Santa Maria could be completed within six months. Six months would be required for the acquisition of easements and property. Permitting, design, construction, and startup of the pipeline and booster station would take approximately another 2 years.

6.2 Non-Potable Water Source Alternatives

In order for the desalination at Tosco, oil field produced water, and recycled water from SSLOCSD alternatives to accrue benefits to NCSD, the use of these non-potable water sources must allow a potable water source to be transferred to NCSD. There are two potential potable sources available: the Tosco Refinery and agricultural users. Both have the potential to use a non-potable source of water, such as desalinated blowdown water, oil field produced water, or recycled water, in exchange for the right to use their existing potable source.

The three available non-potable water sources could be phased and the two sources of water exchange implemented as demand requires. The individual potable and non-potable water sources are discussed below.

6.2.1 Groundwater at Tosco

The Tosco Refinery currently pumps 800-850 gpm (1,290 – 1,370 AF/yr) of groundwater for cooling water. If another source of cooling water is made available to the Refinery, then a commensurate quantity of groundwater could be transferred to NCSD for potable purposes.

6.2.1.1 Water Quality

The groundwater currently pumped meets all drinking water standards except for TDS, which exceeds the MCL. The most cost effective method for addressing elevated TDS levels is to blend the high-TDS groundwater with lower TDS groundwater from elsewhere in NCSD's system. Alternatively, wellhead treatment could be implemented before it could be used for potable purposes.

6.2.1.2 Required Infrastructure

In order to transfer a portion of Tosco's groundwater supply to NCSD, it would be necessary to construct a wellhead treatment facility to disinfect and potentially to reduce TDS levels and a connection to the NCSD distribution system. A new well may be necessary as well, unless arrangements can be made with Tosco to use water from its well.

Well

The Tosco Refinery currently pumps 800-850 gpm using a single well. If Tosco uses non-potable water for its steam boilers, this well may become available to NCSD for lease or purchase. Alternatively, if the well is not available for NCSD, it would be necessary to acquire land for and construct a new well.

Wellhead Treatment

The steam boilers that Tosco uses require an extremely low level of hardness, which is achieved using a combination of filtration, softening, and RO. For potable use, the water does not need to meet the same hardness requirements and this level of treatment would be unnecessary. In lieu of wellhead treatment, it is recommended that the higher TDS groundwater from this source be blended with lower TDS groundwater from elsewhere. However, wellhead treatment for disinfection would need to be provided.

Connection to NCSD Distribution System

Using groundwater from Tosco would require a connection to the existing NCSD distribution system. The refinery is within 1.75 miles of the NCSD Eureka well and therefore the NCSD water distribution system at Willow Road and Highway 1. The new well would have to be connected to the distribution system through a pipeline. With an estimated flow of 850 gpm, the pipeline would need to be approximately 12-inches in diameter.

6.2.1.3 Reliability

Groundwater from Tosco would be a reliable water source. Tosco has not observed a groundwater level decline in their well and it is suspected that the area it is pumping from an area hydrologically separate from the area where the pumping depression has been observed.

This alternative is dependent upon continued operation of the Santa Maria Refinery and Tosco's willingness to use non-potable water in lieu of the groundwater supply. For this to occur, the non-potable supply must be reliable and the water quality must consistently meet Tosco's process requirements.

6.2.1.4 Required Agreements/Institutional Issues

Using Tosco's groundwater would require an agreement with Tosco. Depending upon the exact nature of the alternative pursued, this agreement may involve:

- Purchase or lease of water rights or a water exchange.
- Purchase or lease of well.
- Non-potable water purchase or exchange by Tosco.

Property purchase or easements may also be required for the construction of a well, wellhead treatment facility, and connection to the NCSD distribution system. It would be essential for the arrangement to provide a financial benefit to Tosco.

6.2.1.5 Permitting/CEQA

Required permits include encroachment permits. A Mitigated Negative Declaration would likely be necessary to meet the requirements of CEQA.

6.2.1.6 Costs/Funding

In order to successfully implement a new groundwater source near the Tosco Refinery, it would be necessary to construct a well, wellhead treatment, and connection to the NCSD system. Costs for land acquisition are not included for any of the required infrastructure. All of these facilities would also have O&M costs. The total cost would be approximately $182 AF to pump, treat, and delivery groundwater from Tosco. Table 6-3 presents the costs associated with this alternative. However, there are additional costs associated with supplying non-potable water to Tosco, as discussed in detail below. Desalinated blowdown water would cost approximately $2,161/AF, treated oil field produced water $4,520/AF, and recycled water from SSLOCSD approximately $755/AF, resulting in a total cost between $937 and $5,639/AF. However, not all of this cost would necessarily be borne by NCSD.

TABLE 6-3
COSTS FOR GROUNDWATER AT TOSCO

Type of Cost	Cost	Entity Responsible for Paying Cost
Commodity Cost	$0	NA
Capital Costs		
Well[1]	$300,000	NCSD
Wellhead Treatment	$125,000	NCSD
Connection to NCSD System	$1,100,000	NCSD
O&M Costs		
Well	$50,000/yr	NCSD
Wellhead Treatment	$18,000/yr	NCSD
Connection to NCSD System	$22,000/yr	NCSD

Note: All costs are in 2001 dollars. Costs for replacing Tosco's groundwater with non-potable water from other sources are described in Tables 6-5, 6-6, and 6-7.
[1]It may be possible to use, purchase, or lease the existing well at Tosco.

If the Tosco Refinery were using non-potable water in lieu of groundwater, there may be the potential for the use, purchase, or lease of the existing Tosco well and water treatment facilities reducing the costs of this alternative. There may also be the possibility to modify the treatment facility to treat both the oil field produced water and the groundwater.

6.2.1.7 Schedule

Due to the complexity of the agreements required for this alternative and its dependence upon developing an acceptable supply of non-potable water, negotiations may take up to 2 years. Permitting, design, construction, and startup of the new well and wellhead treatment facility are likely to require an additional 1 to 2 years to complete.

6.2.2 Groundwater Exchange with Agricultural Users

There are currently a number of agricultural irrigators in the Nipomo area. It would be possible to provide non-potable water to the agricultural users in lieu of the agricultural users pumping groundwater. DWR has estimated that in 2000, the total agricultural applied water demand for the Nipomo Mesa area is 1,800 AF/yr, with no decline anticipated through the year 2020. All of

the agricultural applied water demands in the area are met through groundwater extraction. Irrigated crops grown in the Arroyo Grande-Nipomo area include grain, corn, alfalfa, pasture, tomatoes, citrus and subtropical fruits, wine grapes, as well as other field and truck crops.[11]

Specific agricultural users have not been identified at this time. This analysis assumes that NCSD could successfully exchange between 500 and 1,000 AF/yr of agricultural groundwater.

Alternatively, NCSD could consider leasing or purchasing the water rights owned by agricultural users, essentially paying them to put the land out of production. While this option would eliminate the need to provide an alternative source of irrigation water to the farmers, it has regional economic and public relations consequences that present additional challenges.

6.2.2.1 Water Quality

Agricultural exchange would allow NCSD to extract more groundwater from the subbasin. Since NCSD could pump the additional groundwater from their existing wells, it is anticipated that the groundwater available would be similar in quality to that currently pumped by NCSD.

6.2.2.2 Required Infrastructure

No new infrastructure would be necessary in order to transfer groundwater from agricultural users to NCSD, as the groundwater does not need to actually be pumped at the agricultural user's property. Instead the agricultural users' water rights would allow NCSD to increase pumping at existing wells within the same subbasin. However, this may require modifications to existing wells and/or pipelines. New infrastructure would be required to provide the agricultural users with an alternative source of water. This is discussed in Section 6.2.5.

6.2.2.3 Reliability

Groundwater exchange with agricultural users would be a reliable water source. It would, however, be dependent on NCSD's ability to continue to provide a reliable source of non-potable water for the agricultural users.

6.2.2.4 Required Agreements/Institutional Issues

Groundwater exchange would require agreements with the agricultural users. Depending upon the exact nature of the alternative pursued, each individual agreement may require:

- Purchase or lease of water rights or a water exchange.
- Non-potable water purchase or exchange by agricultural users.

The required agreements for this alternative are more complicated than those for Tosco, because it will likely be necessary to make arrangements with several agricultural water users, rather than a single entity. The agreement would need to provide financial benefit to the agricultural users.

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11 DWR, 2000.

6.2.2.5 Permitting/CEQA

Required permits include encroachment permits. A Mitigated Negative Declaration would likely be necessary to meet the requirements of CEQA.

6.2.2.6 Costs/Funding

In order to successfully obtain a groundwater source from agricultural users, it may be necessary to increase the capacity of wells and/or pipelines within the existing NCSD system. Costs for land acquisition are not included for any of the required infrastructure. All of these facilities would also have slightly increased O&M costs. The total cost would be approximately $169/AF to pump, treat, and delivery groundwater obtained via exchange with agricultural users. Table 6-4 presents the costs associated with this alternative. However, there are additional costs associated with supplying non-potable water to the agricultural users, as discussed in detail below. Desalinated blowdown water would cost approximately $2,161/AF and recycled water from SSLOCSD approximately $755/AF, resulting in a total cost between $924 and $2,330/AF. However, not all of this cost would necessarily be borne by NCSD.

TABLE 6-4
COSTS FOR GROUNDWATER EXCHANGE WITH AGRICULTURAL USERS

Type of Cost	Cost	Entity Responsible for Paying Cost
Commodity Cost	$0	NA
Capital Costs		
Well Modifications	$500,000	NCSD
Pipeline Modifications	$500,000	NCSD
O&M Costs		
Increased Well Use	$60,000/yr	NCSD
Increased Pipeline Use	$15,000/yr	NCSD

Note: All costs are in 2001 dollars. Costs for replacing the agricultural users' groundwater with non-potable water from other sources are described in Table 6-7.

6.2.2.7 Schedule

Due to the complexity of the agreements required for this alternative, negotiations may take up to 2 years. It is recommended that agreements with Tosco be pursued first, and as more non-potable water becomes available, agricultural exchange be investigated.

6.2.3 Desalination at Tosco

The Tosco Refinery currently discharges approximately 300 gpm (484 AF/yr) of blowdown water and other wastewaters to an existing outfall. This blowdown water could be desalinated and reused by Tosco, reducing the quantity of groundwater required by the refinery. For desalination of industrial blowdown water, approximately 75 percent recovery after treatment can be achieved. Under this assumption, approximately 360 AF/yr would be available for reuse. Sea water desalination is discussed in Section 4.5.

6.2.3.1 Water Quality

Blowdown water has high levels of TDS, as well as corrosion control chemicals used in the cooling towers. Blowdown water requires treatment before reuse, often using one or more of the methods described in Section 5, before it can be used for applications such as cooling water.

6.2.3.2 Required Infrastructure

In order to desalinate blowdown water, it would be necessary to construct a treatment facility. Waste discharge facilities already exist.

Treatment Facility

Blowdown water requires similar treatment practices to those for brackish water and seawater. Brackish water has less of the same undesirable constituents, such as TDS, than seawater. Any of the treatment methods described in Section 5 are potential treatment methods.

The most common method currently used for desalination is RO, with pre-treatment to protect the RO membranes. In general, there has been a worldwide shift from thermal processes, such as MSF and MVC, to membrane processes such as RO for desalination. RO uses less energy than the thermal treatment processes, which makes it more cost effective to operate and is especially important when future electricity prices are uncertain.

Waste Discharge Facilities

Tosco has indicated that there is no capacity in their ocean outfall for additional brines. By treating and reusing approximately 484 AF/yr of blowdown water, some brine line capacity would be gained. The capacity would be adequate to accommodate the waste from the blowdown water treatment. Treatment waste requiring discharge is estimated to be approximately 120 AF/yr.

6.2.3.3 Reliability

Treatment of blowdown would provide a reliable source of non-potable water, as long as the Tosco Refinery continues to operate. The only reliability concerns would be tied to the operation of the treatment facilities.

6.2.3.4 Required Agreements/Institutional Issues

Desalination at Tosco would require an agreement with Tosco. Depending upon the exact nature of the alternative pursued, this agreement may require:

- An easement for construction of a treatment facility.
- Use of the brine discharge line.
- Use of Tosco's blowdown water.

This agreement could be relatively simple, since there are only two parties involved, NCSD and Tosco, although it would be essential for the deal to provide a financial benefit to Tosco.

6.2.3.5 Permitting/CEQA

Required permits include encroachment permits. A Mitigated Negative Declaration or EIR would likely be necessary to meet the requirements of CEQA.

6.2.3.6 Costs/Funding

In order to successfully implement a desalination alternative, it would be necessary to construct a treatment facility. Costs for land acquisition are not included for any of the required infrastructure. The treatment facility would also have O&M costs. The total cost per acre-foot to treat blowdown water would be $2,161/AF. Table 6-5 presents the costs associated with this alternative.

TABLE 6-5
COSTS FOR DESALINATION AT TOSCO

Type of Cost	Cost	Entity Responsible for Paying Cost
Commodity Cost	$0	NA
Capital Costs		
Treatment Facility[1]	$4,000,000	NCSD
O&M Costs		
Treatment Facility	$400,000/yr	NCSD

Note: All costs are in 2001 dollars.
[1]It may be possible to use, purchase, or lease the existing Tosco treatment facility.

State and federal funding may be available for desalination and reuse projects. It would also be possible to finance the project through connection fees, with O&M costs covered by water rates.

6.2.3.7 Schedule

Negotiations may take up to one year. Permitting, design, construction, and startup are likely to require an additional 3 to 4 years to complete.

6.2.4 Oil Field Produced Water from Price Canyon

Stocker Oil has indicated that they produce approximately 20,000 – 25,000 barrels per day (940 – 1,200 AF/yr) of water as a by-product of their oil extraction operations. Because of waste streams generated during the treatment processes, it is estimated that the amount of treated water that is available is approximately 700 – 800 AF/yr.

Although the treatment process can treat the water to potable quality, because of the poor initial water quality and the organic constituents, it may be more appropriate for treated oil field produced water to be used at the Tosco Refinery for process water or for irrigation to offset groundwater demand. Pilot studies that Kennedy/Jenks has been associated with have

indicated that even with RO treatment, some organic compounds, such as napthalene, 2-butanone, and ethylbenzene, can be detected in the RO effluent.

Stocker Resources has indicated a willingness to enter into discussions with NCSD regarding the feasibility of treating and delivering oil field produced water to NCSD or the Tosco Refinery to offset groundwater use.

6.2.4.1 Water Quality

Oil field produced water is generally of poor water quality and unsuitable for direct use without treatment. Oil field produced water from Price Canyon has TDS of 1,500 to 2,500 mg/L, hardness from 160 to 330 mg/L, total alkalinity from 500 to 600 mg/L, silica from 200 to 250 mg/L, boron around 10 mg/L, TOC greater than 100 mg/L, and petroleum-related organic constituents. Oil field produced water is often of temperatures in excess of 150°F. Detailed water quality information and treatment goals for oil field produced water from Price Canyon are provided in Appendix B. Treatment is necessary before the water may be used for industrial or any other purpose. The proposed treatment technologies are described under Required Infrastructure below.

6.2.4.2 Required Infrastructure

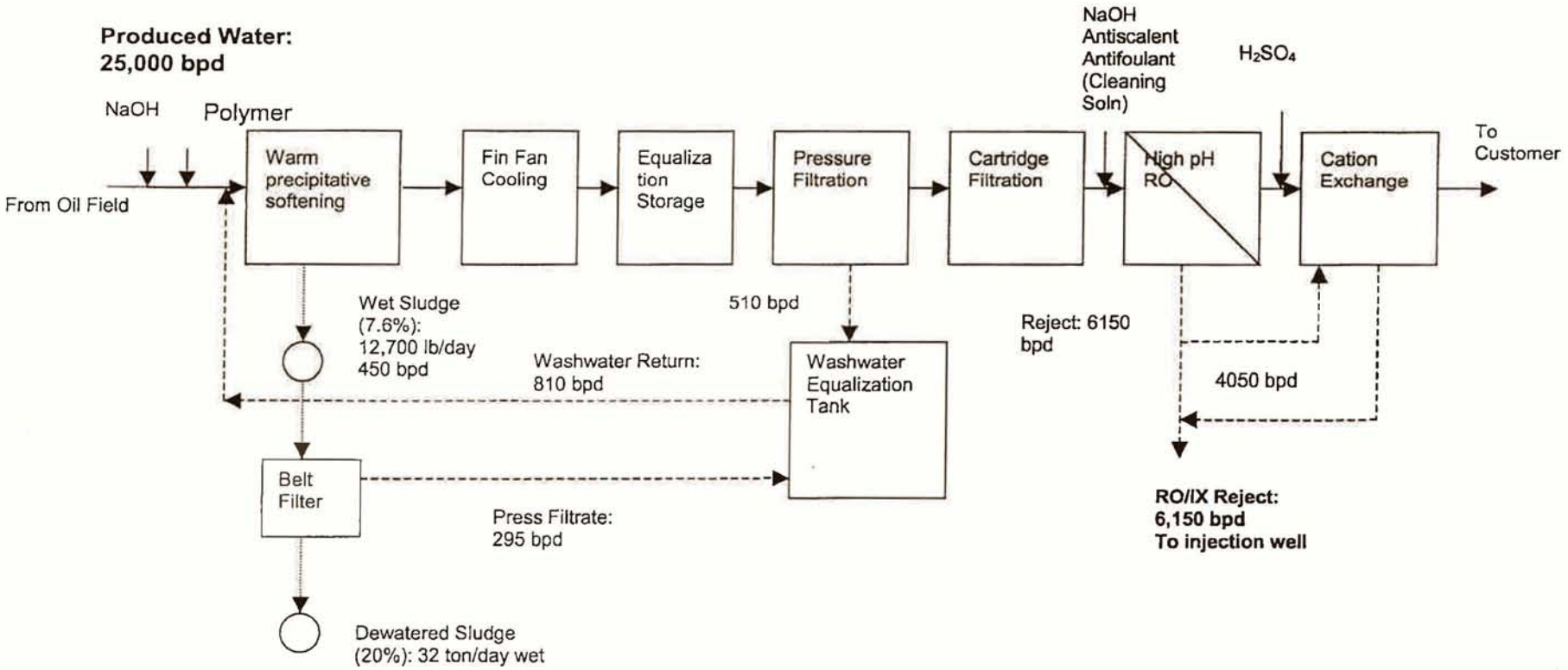
The use of oil field produced water would require construction of a treatment facility and a pipeline connecting the Price Canyon Oil Field and the Tosco Refinery. Additionally, conveyance and disposal must be provided for any wastestreams associated with the treatment processes.

Treatment Facilities and Waste Disposal

Tosco currently pumps groundwater and treats it with filtration, softening and RO before using it in its 450-lb steam boilers. For oil field produced water to be used in Tosco's steam boilers, in lieu of groundwater, the following treatment process is recommended:

- Warm softening process using a DensaDeg clarifier to reduce hardness to below 60 mg/L and silica concentration to approximately 20 mg/L.
- Fin Fan system to cool the effluent from warm softening process (160°F) to approximately 110°F to facilitate RO treatment.
- Cartridge filter to pretreat RO influent.
- RO to remove hardness to below 1 mg/L, silica to below 1 mg/L, alkalinity to around 80 mg/L as $CaCO_3$ and boron to below 2 mg/L.
- Ion exchange process to remove ammonia to less than 0.5 mg/L.

This process is summarized in Figure 6-2. The process train would generate both solid and liquid wastes. Solids would be dewatered and trucked off-site. Liquid wastes would be recycled to the head of the treatment train or discharged through the outfall. Approximately 360 AF/yr of outfall capacity would be made available through the desalination alternative discussed



Kennedy/Jenks Consultants

Nipomo Community Services District
Draft Evaluation of Water Supply Alternatives

Schematic for Oil Field Produced Water Treatment Process

July 2001
K/J 014603.00

Figure 6-2

previously. Costs for construction, operation, and maintenance of waste disposal facilities are included in the costs provided below.

Pipeline Between Stocker Resources Oil Field and Tosco Refinery

There is an existing out-of-service 8-inch diameter pipeline from the Stocker Resources Price Canyon Oil Field to the Tosco/Santa Maria refinery. The pipeline was last internally inspected in 1995 and Tosco indicated that the pipeline may not be appropriate for crude oil conveyance.

As of April 2001, Stocker Resources has indicated that, due to current market factors, they are considering bringing the oil pipeline back into service. If this occurs, the pipeline will not be available for produced water conveyance. To obtain easements and construct a new pipeline would make the project economically infeasible. Stocker Resources plans to make a decision regarding the pipeline during the summer 2001. The remainder of this discussion assumes that the pipeline is indeed available for water transmission. Tosco is also exploring the feasibility of putting fiber optic cable in the portion of pipeline between Arroyo Grande and Pismo Beach, which does not necessarily preclude its use for water transfer as well.

In order to convert the existing 8-inch steel oil pipeline into a water line, the pipe would need to be rehabilitated. Several potentially viable technologies for this conversion are discussed below.

- Sliplining: A new pipe is inserted into an existing line by pulling or pushing continuous or short-length pipes. The annulus between existing pipe and liner pipe is generally grouted, to provide additional strength and support. Available materials include fiberglass, polyethylene (HDPE), Polyvinyl Chloride (PVC), Polyethylene (extruded), Polybutylene (extruded), and Polypropylene (extruded).

  Specifically, CSR Pipeline Systems offers U-liner, an HDPE pipe liner. It is continuously extruded, deformed into its patented "U" shape, and then coiled onto reels for delivery to the project site. A typical U-Liner™ crew installs an average of 500-1,000 feet of U-Liner™ per day. Installation includes cleaning the host pipe, inserting and processing U-Liner™ and restoring services.

- Cured-In-Place Pipe (CIPP): A flexible lining is inserted into a host pipe. The lining is inserted via existing manholes or other access and, depending on the system selected, is installed using water inversion, air inversion, or winched insertion. The resin is then cured.

- Fold and Form Pipe: Flexible deformed pipes are inserted into an existing line by pulling a continuous length of pipe between access points. The inserted folded or deformed pipe is heated, pressurized, and expanded or rerounded in the pipe to form a tight fit with the existing pipe. The systems can essentially be considered as variants to the conventional continuous sliplining technique. Typically, the materials used are deformed HDPE or folded PVC.

6.2.4.3 Reliability

Since oil field produced water is a by-product of oil production, its availability is largely dependent upon the production of oil. The economics of oil production are very different from

those of drinking water supplies, and as oil prices rise or drop, oil fields go into and out of production depending on the costs of production. While the oil field produced water supply can most likely be considered as long-term, as it is estimated that this oil field will be in production for 20 years or longer, it is not a permanent supply.

6.2.4.4 Required Agreements/Institutional Issues

This alternative is dependent on the involvement of NCSD, Stocker Resources, and Tosco. Stocker Resources would provide and treat the oil field produced water. Tosco would use the oil field produced water in lieu of the groundwater it is currently pumping and treating for boiler water use. The groundwater would then be available for NCSD's use.

The oil field produced water alternative would require agreements between Stocker Resources and Tosco, as well as involvement from NCSD. The ability to come to the necessary agreements would be entirely dependent upon the ability to negotiate an agreement with financial benefits to Stocker Resources for treating and providing the oil field water and to Tosco for using treated oil field produced water in lieu of groundwater.

Additional lease, purchase, easements, or other agreements with Tosco would be required in order to use or acquire any of their existing facilities, such as their treatment facilities, or for use of their existing property.

6.2.4.5 Permitting/CEQA

Required permits include encroachment permits. Due to the numerous components and complexity of the project, it is likely that an EIR would be necessary to meet the requirements of CEQA.

6.2.4.6 Costs/Funding

The economics of the oil production are such that Stocker Resources may be able to provide the treated water for low or no cost. An initial estimate given at the project kick-off meeting indicated a cost of $450/AF. This cost does not include the cost of conveyance to the Tosco Refinery.

Based on the treatment process described above, the cost for treating the oil field produced water (both capital and O&M costs) would be approximately $4,320/AF. These costs are dependent upon the costs of both chemical and electricity. Detailed information on the various cost scenarios is provided in Appendix B. The capital and O&M costs for the pipeline would result in an additional $200/AF, for a total cost for delivery to the Tosco Refinery of $4,520 to $3,970 per AF. These costs include pipeline rehabilitation only and do not account for any fiber optic use.

The key issue for this alternative is how the costs are distributed among the various parties. If the benefit of having an alternative disposal method for its produced water is more than $4,520/AF to Stocker Resources, then they would be willing to sell the water for a low cost -- considerably less than it costs them to treat and deliver it. Furthermore, this alternative is only appealing to Tosco if it can purchase the water for less than its current pumping and treatment cost.

Finally, there may be the potential for the use, purchase, or lease of the existing Tosco water treatment facilities to Stocker Resources in order to treat the oil field produced water. The treatment train would need to be modified; however, the softening and RO facilities would likely be largely reusable. The availability of the facility and the costs of modifying it are unknown. O&M costs would likely be similar to those discussed above.

Unfortunately, the complexity and the large number of outstanding unknowns, including electricity costs, disposition of the pipeline between Price Canyon Oil Fields and the Tosco Refinery, and the willingness of Tosco to use oil field produced water, leave the cost of this alternative difficult to estimate. Table 6-6 presents the costs associated with this alternative.

TABLE 6-6
COSTS FOR OIL FIELD PRODUCED WATER

Type of Cost	Cost	Entity Responsible for Paying Cost
Commodity Cost	$450[1]	Tosco
Capital Costs		
Treatment Facility	$8,775,000	Stocker?
Pipeline Rehabilitation	$2,112,000	Stocker?
O&M Costs		
Treatment Facility	$2,985,000/yr	Stocker?
Pipeline Operation	$42,240/yr	Stocker?

Note: All costs are in 2001 dollars.
[1]Cost that Stocker may charge water user. Cost to Tosco must be less than current water source to be viable.

Funding may be available from state and federal sources because this project involves water reuse. It would also be possible to finance the project through connection fees, with O&M costs covered by water rates.

6.2.4.7 Schedule

Due to the complexity of the agreements required for this alternative, negotiations may take up to 2 years. Permitting, design, construction, and startup are likely to require an additional 3 to 5 years to complete. In order to test the viability of this alternative, it is suggested that discussions with Stocker Resources and Tosco be initiated within the next 3 to 6 months.

6.2.5 Recycled Water from SSLOCSD

One of the potential sources of recycled water close to the NCSD service area is the SSLOCSD Water Reclamation Facility in Oceano, which is located approximately 1.5 miles northwest of the Tosco Refinery. The SSLOCSD facility currently treats approximately 3,136 AF/yr of wastewater to the secondary level; to prevent siltation in the outfall diffusers, 886 AF/yr must be discharged, leaving approximately 2,250 AF/yr available for treatment to tertiary standards and reuse.[12] It is estimated that NCSD would need 1,200 AF/yr to offset potable water use, although

[12] John L. Wallace & Associates, 2001.

more may be available from SSLOCSD depending upon the progress of other water recycling projects in the area.

6.2.5.1 Water Quality

One of the main issues associated with the SSLOCSD recycled water source is the high TDS levels of the effluent, ranging from 1,000 – 1,200 mg/L. In order to use recycled water from SSLOCSD for agricultural irrigation, the water would have to be blended with lower TDS water, such as the treated oil field produced or blowdown water. Alternatively, effluent TDS could be reduced by constructing an additional treatment facility for TDS removal. In order to use the recycled water at the Tosco Refinery, desalination would be required.

Both the sodium absorption ratio (SAR) and electroconductivity (EC) are acceptable for irrigations purposes. The chloride levels are a bit high (300 mg/l) for some applications.

6.2.5.2 Required Infrastructure

In order to use recycled water from SSLOCSD, it would be necessary to construct a connection to the non-potable water users. If the desalination at Tosco and oil field produced water alternatives are undertaken first, then a transmission pipeline can be constructed between the SSLOCSD facility and the non-potable pipelines at the Tosco Refinery. This would allow any of the three non-potable sources to be used at the Refinery and allow blending of recycled water with the other non-potable sources to lower TDS. This blended water could be delivered to agricultural users, as discussed previously.

The SSLOCSD facility would also need to be upgraded to add tertiary treatment capacity for the quantity of recycled water to be purchased by NCSD. These upgrades would be handled by SSLOCSD, but the cost would eventually be borne by NCSD, either through an up-front cost or commodity cost.

6.2.5.3 Reliability

Recycled water is a very reliable non-potable water supply. Due to the high TDS levels in the recycled water effluent, however, this alternative would also be dependent upon the availability of a lower TDS water for blending.

6.2.5.4 Required Agreements/Institutional Issues

Using recycled water from SSLOCSD would require an agreement with SSLOCSD. This agreement could be relatively simple, since there are only two parties involved. NCSD would arrange to purchase the recycled water and deliver it to the Tosco Refinery or agricultural users.

6.2.5.5 Permitting/CEQA

Required permits include encroachment permits. A permit from the RWQCB would also be necessary for the reuse.

It is likely that a Mitigated Negative Declaration would be sufficient to meet the requirements of CEQA.

6.2.5.6 Costs/Funding

In order to use recycled water from the SSLOCSD reclamation facilityNCSD would need to construct a pipeline connecting the facility to its other non-potable water facilities. NCSD would also need to purchase the recycled water from SSLOCSD.

SSLOCSD has estimated a cost of $3,119/AF for delivering recycled water to the SSLOCSD area including Nipomo area golf courses. In developing the costs for this alternative, the costs in the SSLOCSD report were considered; however, the costs for this alternative are lower for several reasons. The SSLOCSD report assumes that 595 AF/yr of recycled water will be used; this alternative assumes the use of 1,200 AF/yr, with the accompanying economies of scale. Also, less pipeline is proposed as part of this alternative than is considered in the SSLOCSD report.

A total cost of $2,080/AF is estimated. In lieu of a commodity cost for the purchase of recycled water from SSLOCSD, the cost of the upgrades to the reclamation plant have been included in this cost. Table 6-7 presents the costs associated with this alternative.

TABLE 6-7
COSTS FOR RECYCLED WATER FROM SSLOCSD

Type of Cost	Cost	Entity Responsible for Paying Cost
Commodity Cost	$0[1]	NA
Capital Costs		
Treatment Facility	$14,000,000	NCSD
Pipeline to Agricultural Users	$1,200,000	NCSD
Pipeline to Tosco Refinery	$960,000	NCSD
O&M Costs		
Treatment Facility	$700,000/yr	NCSD
Pipeline Operation (Ag)	$150,000/yr	NCSD
Pipeline Operation (Refinery)	$120,000/yr	NCSD

Note: All costs are in 2001 dollars.
[1] SSLOCSD will likely charge either NCSD, Tosco, or the agricultural users for recycled water. This cost is not known at this time. Instead, the cost of improvements to the SSLOCSD plant were included in the capital costs.

State and federal funding may be available for desalination and reuse projects. It would also be possible to finance the project through a combination of bonds and connection fees, with O&M costs covered by water rates.

6.2.5.7 Schedule

Negotiations for this alternative should be relatively straightforward and take approximately 6 months. Permitting, design, construction, and startup are likely to require an additional 1 to 2 years to complete.

6.3 Hard Rock Drilling

As described in Section 4.8, Samda Inc believes that it can provide up to 500 - 1,000 AF/yr from hard rock drilling. Samda Inc. approaches water supply development in the same way that it has approached oil field development. Hard rock water supplies are acknowledged to be high-risk ventures where considerable capital investments must be made to develop the supply. Samda Inc. assumes the risk in the development of the project and then sells the water to the agency at a cost that is consistent with supplies in the local area. Typically, Samda Inc. enters into 20-year contracts for delivery of water. After 20 years, the facilities would be turned over to NCSD. If NCSD is willing to pay for some of the project facilities up front, then the length of the contract could be less.

Samda Inc. approaches their project developing in three phases. The upper range for the Phase 1 investigation, yield analysis, and test bore drilling is estimated to cost $250,000 depending on the number of test bores that are drilled. Samda Inc. has indicated that up to 50 percent of the cost of this Phase 1 project could be shared with NCSD.

6.3.1 Water Quality

The quality of the water coming from the hard rock to the east of Nipomo is uncertain. There has been little study done of the area. More detailed evaluation of the water quality would come as a result of completing Phase 1.

6.3.2 Required Infrastructure

6.3.2.1 Treatment

Samda would bear the cost of constructing a treatment system, if necessary. If significant treatment is required, it would likely be reflected in the cost of the delivered water. The level of treatment would be determined after completing Phase 1 and would determine the attractiveness of the hard rock water as a potable water supply.

6.3.2.2 Pipeline

Samda would deliver the water to the NCSD distribution system. If NCSD is willing to accept more up-front capital cost, NCSD could extend the distribution pipeline closer to the well site.

6.3.3 Reliability

Samda Inc. evaluates water supply for the long-term reliability of the supply. They perform a yield analysis and do not mine aquifers beyond the expected recharge rate. During the pump testing that occurs in Phase 2, Samda Inc. staff observes nearby springs and wells to evaluate impact.

6.3.4 Required Agreements/Institutional Issues

In order for NCSD to proceed, it would require NCSD to enter into an agreement with Samda Inc. to proceed with the Phase 1 evaluation of hard rock drilling in the Nipomo area. The

institutional issues associated with this alternative are relatively straightforward. To begin the hard rock drilling exploration process, NCSD would have to negotiate and approve a contract with Samda Inc., and oversee the work.

One of the concerns that has been raised is the water rights issues associated with hard rock drilling. Samda Inc. indicates that they drill for new water that does not infringe on any existing rights. The goal of hard rock drilling is to intercept fractures that may be going to the ocean. As a result, Samda Inc. does not file for appropriative water rights.

6.3.5 Permitting/CEQA

Samda Inc. is responsible for all permitting associated with the Phase 1 exploration. NCSD would, however, be responsible for the preparation of any CEQA documentation required for the construction of infrastructure.

6.3.6 Costs/Funding

Samda Inc. has estimated a cost of up to $250,000 for a Phase 1 study of which Samda could pay up to 50 percent. NCSD would therefore be responsible for approximately $125,000. Commodity costs afterwards would be approximately $1,000/AF of delivered water for a total cost of $1,024/AF. Samda Inc. has indicated that these costs are negotiable and will depend on the costs of other locally available water.

This alternative is not likely to involve any state or federal funding opportunities. The capital cost of the infrastructure would have to be borne by bonds and/or connection fees. O&M costs would be covered by water rate charges.

6.3.7 Schedule

After negotiation of the contract with Samda, exploration could start immediately. Design, permitting, construction, and startup of the necessary infrastructure would take approximately 2 years. This option is always available and should be reevaluated annually.

6.4 Water Conservation

NCSD established a water conservation program several years ago and adopted a water conservation ordinance. It would be prudent for NCSD to review its conservation program and consider ways of further reducing its demand.

Since 1994, the California Urban Water Conservation Council (CUWCC) and its 160 member agencies have identified and quantified effective water conservation best management practices (BMPs). In order for NCSD to take best advantage of recent developments in water conservation, NCSD should consider becoming a member in CUWCC and participating in activities that could reduce demand. The fourteen BMPs that CUWCC has identified are:

- Residential Indoor and Outdoor Water Use Surveys: Trained staff visits homes and solicit information on current water use practices. Recommendations are made for

water-saving improvements in those practices. It is intended to cover both indoor and outdoor water usage.

- Residential Plumbing Fixture Retrofits: Similar to the ultra-low-flow toilet program discussed below, incentives can be provided to replace showerheads with water-saving models. Many water districts provide a free new showerhead in exchange for the old one.

- Distribution System Water Audits, Leak Detection, and Repair: Unlike most conservation activities, which are highly dependent upon voluntary participation by customers, this BMP is one that NCSD can implement on its own. By identifying leaks and replacing and repairing piping where necessary, NCSD can minimize water loss in the system and reduce unaccounted for water.

- Metering with Commodity Rates: NCSD's current pricing structure encourages conservation by charging more for water used beyond the first 20 hundred cubic feet (HCF) per month. The rate schedule could be modified to further encourage conservation by lowering the threshold from 20 HCF or by increasing the costs of water further at 5 or 10 HCF intervals.

- Large Landscape Water Audits and Incentives: Similar to residential surveys described above, existing water use practices are examined and recommendations are made for changes that would reduce water consumption. The focus is on large landscaped areas.

- High-Efficiency Clothes Washers: Washing machines have become the single largest user of water in homes today. A high-efficiency clothes washer can save up to 20 gallons of water per load, a savings of approximately 50 percent. Numerous affordable high-efficiency machines are available on the market for residential and commercial use. High-efficiency washers tend to be more expensive than their less efficient equivalents, so some water districts offer a rebate of approximately $100 to $200 to customers who purchase them. Similar programs could be effective for dishwashers.

- Public information: NCSD could produce a brochure with water conservation tips for homes and businesses. This brochure could be included as a "bill stuffer" or made available at local public libraries, city hall, and post offices.

- School Education: Outreach in elementary, junior high, and high schools can be effective in conveying the importance of water conservation. The District could provide speakers and educational materials for local elementary, junior high, and high schools to emphasize the importance of water conservation. The Water Education Foundation, specifically Judy Wheatley at (916) 444-6420, is a good source of information on school programs. DWR's Office of Water Education also has some educational materials available for grades K-9. They focus on water conservation and understanding the hydrologic cycle. These materials are free to educators.

- Commercial, Industrial, and Institutional Audits and Incentives: Similar to residential surveys, the goal is to assess current water use practices and make recommendations

for water-saving changes. For larger commercial, industrial, and institutional customers, this could include a full water efficiency study.

- Wholesale Water Agency Assistance: This BMP involves assistance from a water wholesaler, which is not applicable to NCSD's situation.

- Conservation Pricing: Conservation pricing goes beyond metering with commodity rates to make conservation more financially attractive to the customer.

- Water Conservation Coordinator: The designation of a water conservation coordinator can be very beneficial in implementing an effective water conservation program. For NCSD, it would probably be appropriate to choose an individual with current operational responsibilities to oversee and coordinate planned water conservation activities.

- Water Waste Prohibitions: Many cities and counties have laws that prohibit the wasteful use of water.

- Ultra-low flush toilets: Numerous Southern California water agencies have established programs whereby the agencies subsidize the installation of low flow toilets. These programs typically take the form of rebates from the water agency where the customers are paid between $50 and $100 for each low-flow toilet installed in their home or a free ultra-low-flow toilet giveaway.

Membership in CUWCC could provide NCSD with resources to implement those BMPs that are likely to be the most cost-effective. It has been estimated that water conservation can realize 10 to 20 percent savings of water at a cost that is often less than other water supply alternatives.

6.4.1 Water Quality

Water conservation would not have any water quality implications. It would simply allow available water to be used more efficiently.

6.4.2 Required Infrastructure

The system water audit may identify areas where pipeline replacement or repair is necessary to reduce water loss in the system. None of the other BMPs would require infrastructure modifications; however, they may require staffing changes.

6.4.3 Reliability

Water conservation is largely dependent upon voluntary actions by water customers. While NCSD can make information available and develop a favorable climate for water conservation compliance, there is no guarantee that the public will participate. In this sense, the quantity of water conserved is somewhat uncertain and unreliable. However, experience indicates that these programs can be very effective when properly implemented.

6.4.4 Required Agreements/Institutional Issues

No agreements with external entities would be necessary to implement a water conservation program. Institutional issues include modifying the duties of an existing staff member and/or hiring a new staff member to serve as water conservation coordinator.

6.4.5 Permitting/CEQA

No permits or CEQA documentation would be required for implementing a water conservation program.

6.4.6 Costs/Funding

The costs of implementing a water conservation program vary depending on the types of activities to be conducted and whether a part- or full-time staff person will be necessary to effectively implement the program. It is recommended that a separate Water Conservation Plan be prepared (at a cost of approximately $25,000) that examines NCSD water conservation needs more closely.

CUWCC's "BMP Costs and Savings Study" was prepared in order to evaluate the cost effectiveness of urban water conservation BMPs. The report compiles data from studies done all over the U.S. The data relevant to a potential NCSD water conservation program are summarized below:

- High efficiency washing machines use less electricity and water. It is estimated that approximately 98 gallons per week is saved by the use of high efficiency machines rather than standard washing machines. The cost to NCSD for such a program would include staff time to develop a rebate program, rebate costs, administration, and marketing costs. The high-efficiency models are typically $400 more than comparable conventional washers. The rebates offered by various water purveyors throughout California are presented in Table 6-8.

- Low flow showerheads use less water than conventional showerheads. It is estimated that low flow showerheads save between 5.2 and 5.8 gpd per showerhead. The cost to NCSD for such a program includes staff time to develop the program, retrofit kits ($2) or new showerheads ($10-15), administration and marketing costs.

- Ultra-low-flow toilets use less than 1.6 gallons per flush. Water savings through the program vary widely, but are typically considered to be at least 15 gallons per capita per day (gpcd). Programs could be structured using rebate incentives or direct installation. The cost to NCSD for such a program includes staff time to develop the program, rebate or toilet purchase costs, administration, and marketing costs. Rebates typically range from $35 to $75, with retail purchase of an ultra-low-flow toilet around $100-$150.

TABLE 6-8
TYPICAL WASHING MACHINE REBATE PROGRAMS

Purveyor	Rebate Amount
Los Angeles Department of Water and Power	$150
Santa Clara Valley Water District	$175
City of Davis	$150

Funding may be available from state and federal sources for implementation of water conservation programs. It would also be possible to finance the project through a combination of bonds and water rates.

6.4.7 Schedule

Membership in CUWCC to obtain the most recent information regarding water conservation and review of NCSD's current water conservation program is also a high priority and should be initiated within the next 3 to 6 months. Depending on the complexity of the program, it should take approximately 6 months to 1 year to prepare a program. Implementation would occur on an ongoing basis.

TO: BOARD OF DIRECTORS

FROM: BRUCE BUEL

DATE: OCT. 20, 2006

AGENDA ITEM F

OCT. 25, 2006

MANAGER'S REPORT

ITEM

Standing report to your Honorable Board
Period covered by this report October 6, 2006 through October 20, 2006

DISTRICT BUSINESS

Administrative

Koff and Associates should complete the Draft Salary Survey by October 25, 2006 and staff will distribute copies to the Board when it becomes available.

Staff is recruiting for both the District Engineer and the Utility Field Foreman positions. The filing period for the Engineer closes on January 5, 2007 and for the Foreman on October 27, 2006.

Assistant Administrator will provide an oral update on Financial Matter under Agenda Item C.

Safety Program

No injury reports during the period – Staff has initiated implementation of the Safety Program reviewed by your Honorable Board at the September 27, 2006 Meeting. See attached memo.

Project Activity

See attached Projects Update.

Field Activity

Utility Supervisor Dan Migliazzo will provide an oral update under Agenda Item C.

Conservation Program Activities

Conservation Specialist Madonna Dunbar will provide an oral update under Agenda Item C

RECOMMENDATION

Staff seeks direction and input from your Honorable Board.

ATTACHMENTS

- Memo Regarding Safety Program
- Projects Update
- Water Conservation Summary

NIPOMO COMMUNITY SERVICES DISTRICT

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www.nipomocsd.com

MEMORANDUM – Manager's Report

TO: BRUCE BUEL, GENERAL MANAGER

FROM: MADONNA DUNBAR, SAFETY OFFICER

DATE: OCTOBER 20, 2006

RE: SAFETY PROGRAM ACTIVITIES – September / October 2006

PROGRAM ACTIVITIES:

1) Staff conducted the monthly employee Safety Training meeting on 10/5/06 with all staff in attendance. The topics covered this month were "Fire Safety" and "Holiday Fire Safety".

2) Staff presented the Initial Safety program to Board of Directors on 9/27/06, received comments and updated as advised. Staff is preparing to implement as time allows.

3) Oct 11-13; Staff attended the SDRMA Safety/Claims Education Day seminars. Seminar was very useful, included extensive information on SDRMA's Target Safety online training modules.

4) Staff conducted an orientation session for the Target Safety online water/wastewater industry safety training program. Each year, 4 different NCSD employees (3 field / 1 admin) will be participating in the training modules. Participation in the online training program (as part of the new safety program) will improve the education component the District's current employee safety program - and yield a saving on SDRMA insurance for the District.

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MEMORANDUM

TO: HONORABLE BOARD

FROM: BRUCE BUEL BSB

DATE: OCTOBER 20, 2006

RE: PROJECTS UPDATE – 9/20/06 to 10/18/06

Following is a narrative describing the status and progress on projects that office and field staff has worked on from 9/20/06 through 10/18/06. Additionally, this Update includes a section on Projects Completed, a section on Environmental Review Task Orders issued; a section on Small Construction Work Orders issued, a section on new water allocations approved, a section on parks related activities, and a section on the Waterline Intertie Project fiscal activity.

I. PROJECTS UPDATE

NCSD Water Intertie Project –

- This project is in environmental review with the Draft EIR circulated on May 24, 2006. As of the August 16, 2006 deadline for submission of comments, sixteen comments had been received.
- The Board on October 11, 2006 heard an update from Boyle Engineering on the preliminary findings from the Project Pre-Design Study and approved funding for the hydraulic study being prepared by the City of Santa Maria.
- Boyle Engineering is scheduled to submit its Draft Pre-Design Report to the District on November 1, 2006, to present the Draft Report to the Design Committee on November 6, 2006, and present the Draft Report to the Board on November 8, 2006. The Board is scheduled to consider the Report on November 22, 2006 and to determine if the Project Description in the Draft EIR should change and if a revised Draft EIR should be re-circulated before the Board considers certification of the Final EIR.

- The Water Project Design & Construction Standing Committee held a Special Meeting on Wednesday September 20, 2006 at the NCSD Office to discuss water quality issues, to receive an update on the Pre-Design Study progress, and to discuss the process for responding to comments. The Committee has set its next meeting for 2 pm on Monday November 6, 2006.
- Staff has submitted the energy rebate pre-application to PG&E authorized by the Board on August 9, 2006.
- The agreement amendment with Doug Wood and Associates for preparing the additional research to respond to the comments on the Draft EIR has been executed.
- Staff has circulated a Request for Statement of Qualifications for Construction Management services to eleven local firms to determine the interest and availability of these firms to provide Construction Management Services. Five firms responded and each responding firm has been pre-qualified to submit a proposal for the Project Construction Management. Staff is still preparing the RFP for these services.
- Staff and Director Winn held the second meeting with Rick Sweet and Bruce Nybo of the City of Santa Maria and with Boyle Engineering on October 2, 2006 to discuss the City's Water System Hydraulics.
- Staff has secured all required right of entry agreements with property owners to allow Boyle Engineers to perform their Pre-Design Testing.
- Staff submitted the un-audited Fy05-06 Financials to the I-Bank Staff in Sacramento on July 17, 2006 regarding the draft Loan Pre-Application developed by staff. Staff has now submitted all the required documentation to the I-Bank so that the I-Bank can determine NCSD's eligibility to submit a full Loan Application in November.
- Staff is revising the Strategic Plan Outline and the Critical Path Network to adjust for the additional research authorized by the Board on September 13, 2006 and will republish both documents in November following the Board's determination regarding recirculation of the Draft EIR.

Southland WWTF Upgrade Project –

- Phase I of this project is complete (responding to the RWQCB's Notice of Violation). Phase II is in process (considering logical upgrades to the WWTF and to the adjacent collection system).
- The Board on July 26, 2006 the Board authorized the President to execute the agreement for the Phase II work.

- Boyle is proceeding with their Phase II Scope of Work and expects to complete all tasks by the end of November.
- Staff has completed its effort to remove sludge from the bottom of pond 4.
- Staff is attempting to facilitate the digestion of sludge in ponds 1, 2 and 3 with surface aeration. The "Sludge Judging" at Southland substantial progress as a result of the surface aeration. In addition, the discharge results from Southland are far superior to the water quality results that NCSD observed during this time in 2005.

Southland Shop Upgrades –

- This Project is at the Environmental Review stage with Douglas Wood and Associates preparing the Initial Study (IS) and Draft Mitigated Negative Declaration (MND).
- The Board on July 26, 2006 Board selected the "Preferred Project" for environmental review of enlarging the shop and reorganizing the site.
- Staff expects to circulate a Notice of Availability of the IS/MND in November, to respond to comments in December, and to conduct the Environmental Determination Hearing in January.
- Garing Taylor and Associates has completed the site improvement plan for incorporation into the IS/MND.

Hetrick Road Waterline Upgrade –

- Boyle Engineers has completed the preliminary design and presented the preliminary design to the Board at its April 26, 2006, Board Meeting. The Board determined that this project qualified for a mitigated negative declaration at its October 11, 2006 Board Meeting and staff has filed the Notice of Determination with the County Recorder.
- Staff advertised for bids in September and opened bids on October 17, 2006. Staff will present the bids to the Board at the October 25, 2006 Board Meeting.
- Staff has also circulated a Request for Statement of Qualifications for Construction Management Services (CM) to eleven local firms. Five firms responded to the RSOQ and each SOQ was responsive. Staff then circulated a Request for Quotes specific to the Hetrick Project. The Board on August 9, 2006 selected Ground Up Design and Construction Management to perform the construction management. Ground Up has executed the District's Standard Agreement and is preparing to do this work.

- Staff has requested that Boyle Engineering submit a proposal to provide Engineering Services During Construction. Staff expects to present this proposal to the Board on October 25, 2006
- Staff has worked with District Legal Counsel and Linda Beck of MHA to develop the front end bid documents for this project and as a model for subsequent projects. Staff advertised for bids on September 17, 18 and 23, 2006 with a bid opening set for October 17, 2006. The Board is scheduled to award the bid at your October 25, 2006 Board Meeting.

Blacklake Pump Station Upgrade –

- This project is in the concept design phase with the consultant expected to produce a draft concept design report for upgrades to the pumps and the distribution system by the end of August. Staff expects to present the plans to the Board on October 25, 2006 and bid the project so that it is completed during the winter when water demand is at its lowest.
- The Board on May 10, 2006 approved an amendment to the design services agreement with Boyle Engineers to authorize additional engineering analysis. Staff has executed a task order with Boyle for the approved additional engineering.
- Staff has completed the intertie between the Town System and the Blacklake System so that the District can take the Blacklake Pump Station off-line when it comes time for the upgrade.

Frontage Road Relocation/Tefft Cooridor Design Standards –

- The County is the lead agency on this project, which is in its concept phase with no defined timeline for completion.
- Staff attended the September 6, 2006 SCAC Meeting to observe the SCAC review of the West Tefft Corridor Design Standards. The SLO County Planning Commission will review a final version of these standards at its October 19, 2006 Meeting.
- King Ventures and Shapiro have proposed to realign Frontage from Hill Street to Grande Street as part of their respective development proposals. EDA on behalf of the two parties submitted a draft set of plans and profiles to County Public Works last fall. The County and Caltrans have reviewed these initial plans and responded with redlines, but additional discussions are necessary to determine the exact alignment and to deal with reconfiguration of the Southbound off-ramp and drainage.

- Staff has also met with a representative of EDA regarding the proposed extension of Mary South from West Tefft Street to Hill Street and the reconfiguration of Hill Street from the new intersection of Mary down to the realigned segment of Frontage.
- Staff met with Dale Ramey of County Public Works on August 17, 2006 to discuss the County's timing and design concepts. Mr. Ramey indicated that he expected that the extension of Mary to Hill would be completed by spring 2008.

Telemetry and Control (SCADA)–

- The Telemetry and Control System is functioning with all water storage reservoirs, ten wells, 12 lift stations, both WWTFs, the Blacklake Blower Building, and the Blacklake Connection connected. The Board on May 10, 2006 accepted the system and authorized staff to close out the development agreement with the contractor.
- Staff still needs to integrate additional facilities and start using the data capabilities of the software to gather data. Staff met with Juan Anderson of Cannon and Associates on October 20, 2006 to discuss implementing these upgrades.

Geographic Information System (Geo-Viewer)

- The GIS System is functioning with data attributes available for most layers in most of the District's Service Area.
- Staff is still adding data and attempting to rectify features to the actual geography.

Basin Groundwater Monitoring-

- Staff has fully executed the agreement with the consultant (SAIC) and conducted a kick off meeting with Bob Beeby on August 1, 2006. Bob Beeby has submitted his request for data and staff is assembling the requested data.
- Staff expects that this program will extend for multiple years and will involve interaction with the other basin stakeholders.
- Staff has secured the monitoring program being implemented by the Woodlands and has met with Woodland's Engineer to discuss their ongoing groundwater monitoring and production.
- Director Trotter and General Manager Buel met with SAIC on September 29, 2006 to preview the development of the Groundwater Management Plan.
- Bob Beeby of SAIC has called for the first meeting of the NMMA Technical Group.
- Bob Beeby has published a Draft Memorandum regarding Groundwater Storage in the NMMA and is scheduled to publish another Draft Memorandum on October 23, 2006.

Preventative Maintenance and Staffing Review -

- This project has just started with staff assembling all systems and facilities.
- Staff has reviewed various computer software systems capable of tracking and reporting on maintenance management and has focused on two competing systems that appear to be promising.
- The Master Plan Update RFP approved by the Board on July 26, 2006 Board includes work elements regarding Preventative Maintenance Management.

Woodgreen Lift Station Access Upgrade –

- This project is in the concept phase with significant input from the homeowners group. Staff has placed this project on hold until the District Engineer reports.

Water Tank Security –

- The FY06-07 Budget includes funds to install video camera systems at the Tank Farm and the Standpipe Tank to address security issues.

Blacklake Salts –

- This project involves limiting the discharge from regenerative water softener units within the Blacklake development. Staff expects to develop education material to share with the property owners late this year or early in 2007.
- Staff understands that the Blacklake Homeowner's Association has promulgated amendments to its Master CCRs prohibiting the installation of new regenerative water softeners and encouraging conversion of existing units to the canister format.
- Staff with substantial assistance from District Legal Counsel prepared a response to the Pacific Water Quality Association.
- Staff has reviewed a new Anti-Scaling Technology being marketed by Five Cities Water and believes that this system could be used to soften interior water use without the discharge of salts involved in regenerative water softeners.

Relocation of NCSD Mains in/through County Drainage Structures -

- SLO County recently agreed to upgrade six Nipomo Drainage Structures over the next three fiscal years. Staff has discussed the opportunity to coordinate with County Public Works as they plan each upgrade.
- As currently planned, SLO County would work on the Mallagh Culvert and the Burton Culvert; the Sea & Burton Culvert and the Haystack Culvert; and the Thompson Avenue and the Tefft & Avocado Culvert in FY 06-07.

- The Board has approved funding for the Mallagh Culvert and the Burton Culvert in the District's FY06-07 Budget.
- Staff has advised Supervisor Achadjian of NCSD's willingness to cooperate with the County in implementing these upgrades.
- Staff met with Dale Ramey of County Public Works to discuss the County's timing and design concepts for the six projects proposed this fiscal year. Staff has also retained Boyle Engineering to develop cost estimates for each reach.

SSO Overflows General Waste Discharge Requirements –

- Staff researched the G-WDRs proposed by the SWRCB; discussed their potential impact on NCSD internally and with SWRCB staff; and presented staff conclusions at the Board's April 26, 2006 Board Meeting.
- The SWRCB at its May 2, 2006 Meeting did amend and then adopt the G-WDR. Staff presented the revised G-WDR at the June 14, 2005 District Board Meeting.
- The Board on September 13, 2006 designated the District's Water Conservation/Compliance Specialist as our Designated Party. Staff submitted the District's enrollment application prior to the State's October 2, 2006 deadline.

AB885 –

- Staff is tracking the status of the SWRCB's Septic System Management Program Guidelines and will report once the revised guidelines are available for public comment.

Water and Sewer Master Plan Update-

- The Board approved a Request for Proposal for engineering firms to update our Water and Sewer Master Plan at its July 26, 2006 Board Meeting. Staff then circulated the RFP on July 27, 2006 with a submittal deadline of August 22, 2006. Three firms – Boyle, Cannon, and Penfield Smith submitted proposals and staff interviewed all three firms on September 6, 2006. The Board on September 13, 2006 awarded this assignment to Cannon and Associates.
- Staff conducted the Kick Off meeting with Cannon on September 19, 2006 and has gathered information so that Cannon can proceed. Staff has also held several meetings with Cannon to discuss Master Plan Issues. Cannon is scheduled to submit Draft Versions of Task Group 1 Demand Projections, Task Group 5 Hazard and Security and Task Group 6 Regulations in November.

FY06-07 Projects -

- The adopted FY06-07 Budget includes funds for a valve exercizing and hydrant flushing program and staff is preparing to implement this program.
- Staff has also completed the upgrades to the Gardenia Lift Station and is preparing to upgrade the Hazel Lift Station.
- Staff requested quotes from contractors for renovation of four of the percolation ponds at the Southland Wastewater Treatment Facility. Only one firm (Fred Asmussen) responded and staff issued a Work Order to Asmussen for this work.
- Staff is monitoring the efforts of OCSD/Grover Beach/Arroyo Grande to evaluate the feasibility of a Desalination Plant at their Waste Water Treatment Facility. The Tri-Agency Group has retained the Wallace Group to prepare a Feasibility Study evaluating the cost effectiveness of desalting water at their WWTF for development of a future water supply. Staff expects to hold talks with Conoco-Phillips this summer to determine Conoco-Phillips willingness to participate in a feasibility study of using excess heat at their refinery as the primary energy source for desalination of brackish supply water. Staff has also been tracking developments in both the technology and funding for desalination.

Willow Road Extension Referral From County –

SLO County Public Works has requested NCSD feedback regarding the rough draft plans for the extension/realignment of Willow Road from Pomeroy to Thompson and the interconnection of Willow Road at the proposed US 101 overpass to North Frontage Road. Staff has retained Boyle Engineering to assist in this response. Staff has meting with Dale Ramey of County Public Works Department on August 17, 2006 to discuss interaction between the County and NCSD as the project proceeds.

Pomeroy Road Widening Referral From County –

SLO County Public Works has requested NCSD feedback regarding their project to widen Pomeroy Road from Live Oak Ridge Road to Aden Way in the summer of 2007. Staff has retained Boyle Engineering to assist in this response and to develop specifications for resetting NCSD's water system valve canisters following County completion of their Widening Project.

II. PROJECTS COMPLETED

Staff has completed the Standard Specifications, the Fairways Street Light Painting, the Southland Pond 4 sludge removal and SP Maintenance has initiated street sweeping.

III. ENVIRONMENTAL REVIEWS PROCESSED

In addition to the Hetrick Project IS/MND reported earlier, staff has issued a Task Order with Douglas Wood and Associates for Environmental Review of the Southland Shop for $4,800. Mr. Wood's quote was lower than Padre and Associates and the Morro Group.

IV. SMALL CONSTRUCTION PROJECT WORK ORDERS ISSUED

Staff issued a Work Order on September 5, 2006 to Fred Asmussen for reconfiguration of the percolation ponds at the Southland WWTF. In addition, staff issued a work order for up to $2,000 on September 14, 2006 to Valley Septic for jetting the gravity sewer line on Division and $6,000 to Valley Septic for jetting the collection system upgradient from the Palms Lift Station.

V. CHANGES TO WATER ALLOCATION

No new Intent to Serve Letters have been issued since the past projects update. Attached is a Water Allocation Accounting Summary which shows the aggregate allocation committed this water year is at 14.5% whereas 8.3% of the water year has passed. In addition, your Honorable Board is considering the issuance of an Intent to Serve Letter for the 38 unit subdivision and Blume and Grande.

VI. PARKS ACTIVITIES

Staff provided support to the Parks Committee for its October 16, 2006 Meeting (See Minutes attached to Agenda Item G-1).

VII. WIP FISCAL ACTIVITY

Attached is a WIP Fiscal Activity Report for September 2006.

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NIPOMO COMMUNITY SERVICES DISTRICT
WATERLINE INTERTIE PROJECT
MONTHLY REPORT TO THE BOARD OF DIRECTORS
SEPTEMBER 2006

	REVENUES FY 2006-2007 (1)	MONTH OF SEPTEMBER	FISCAL YEAR 7/1/2006 TO 6/30/2007
	Supplemental Water Capacity Fees Collected	48,725.00	60,281.00
	Interest Income (monthly & quarterly posting)	18,359.01	32,391.27
	Revenue Subtotal	67,084.01	92,672.27
	EXPENDITURES FY 2006-2007 (2)		
	CONSULTANTS		
1590-A1	Feasibility Study (Cannon)	0.00	0.00
1590-A2	EIR Preparation (Wood & Assoc)	2,571.64	9,629.42
1590-A3	Estimate/Preliminary Schedule (Cannon)	0.00	0.00
1590-A4	Proposed Routes/Facilities (Cannon)	0.00	0.00
1590-A5	Prop 50 Grant Applicatin (Cannon)	0.00	0.00
1590-A6	Project Support (Cannon)	0.00	0.00
	LEGAL		
1590-B1	Shipsey & Seitz	4,527.75	9,725.50
1590-B2	McDonough, Holland & Allen	0.00	5,023.72
1590-B3	Richards, Watson & Gershon	4,376.87	8,465.87
	LAND ACQUISITION		
1590-C1	Tarvin & Associates	0.00	880.00
	FINANCIAL		
1590-D1	Reed Group	0.00	0.00
	ENGINEERING		
1590-E1	Preliminary Engineering Design (Boyle)	49,910.42	89,386.67
	SALARY AND BENEFITS (3)		
1590-Z1	Wages-Capitalized	4,192.30	15,500.00
1590-Z2	Payroll Taxes-Capitalized	60.79	248.19
1590-Z3	Retirement-Capitalized	1,207.03	4,475.53
1590-Z4	Medical-Capitalized	178.82	1,609.50
1590-Z5	Dental/Vision-Capitalized	22.67	22.67
1590-Z6	Workers Compensation-Capitalized	38.07	156.75
	Expenditure Subtotal	67,086.36	145,123.82
	Net Revenues less Expenditures	(2.35)	(52,451.55)
	Beginning Fund Balance as of July 1, 2006		2,421,250.05
	Ending Fund Balance as of September 30, 2006		2,368,798.50

(1) See attached "Supplemental Water Fees Collected" Schedule for more detail.

(2) See attached "Supplemental Water Cost Summary" for more detail.

(3) Salary and Benefits of Project Manager are allocated among NCSD projects and capitalized as part of the cost of the project.

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NIPOMO COMMUNITY SERVICES DISTRICT
SUPPLEMENTAL WATER FEES COLLECTED

PROJECT	DEVELOPER	SUMMARY	DATE PAID	WATER SUPPLY PORTION	PIPELINE PORTION	SUPPLEMENTAL TOTAL
2513	COOL	7 RESIDENTIAL MINUS CREDIT FOR 1 EXISTING	6/23/05	59,406.00	7,320.00	66,726.00
2513	COOL	1 FOUR INCH FIRE SYSTEM	6/23/05	37,125.23	4,588.52	41,713.75
2514	NEWDOLL	7 RESIDENTIAL MINUS CREDIT FOR 1 EXISTING PLUS 1 IRRIGATION	6/23/05	69,307.00	8,540.00	77,847.00
2619	ALLSHOUSE	22 RESIDENTIAL MINUS 4 EXISTING PLUS 1 IRRIGATION	6/30/05	188,119.00	23,180.00	211,299.00
2619	ALLSHOUSE	1 TWO INCH FIRE SYSTEM	6/30/05	11,870.37	1,467.13	13,337.50
2513	COOL	REFUND 1 FOUR INCH FIRE SYSTEM	8/29/05	(37,125.23)	(4,588.52)	(41,713.75)
2619	ALLSHOUSE	REFUND 1 TWO INCH FIRE SYSTEM	8/29/05	(11,870.37)	(1,467.13)	(13,337.50)
		FISCAL YEAR 2004-2005	**SUBTOTAL**	**316,832.00**	**39,040.00**	**355,872.00**

PROJECT	DEVELOPER	SUMMARY	DATE PAID	WATER SUPPLY PORTION	PIPELINE PORTION	SUPPLEMENTAL TOTAL
090-095-011 to 090-095-014	DANMARK	4 RESIDENTIAL MINUS CREDIT FOR 1 EXISTING	8/4/05	29,703.00	3,660.00	33,363.00
2561	VISTA COLINA	8 RESIDENTIAL MINUS CREDIT FOR 1 EXISTING PLUS 1 IRRIGATION	11/7/05	79,208.00	9,760.00	88,968.00
090-381-006	DENNERLEIN	1 RESIDENTIAL SERVICE 182 EAST CHESTNUT	1/25/06	9,901.00	1,220.00	11,121.00
091-327-075	PRUIT	2 ONE INCH METERS	2/1/06	19,802.00	2,440.00	22,242.00
091-327-075	PRUIT	1 FOUR INCH FIRE SYSTEM	2/1/06	37,125.23	4,588.52	41,713.75
091-322-046	HARDESTY	1 ONE INCH METER	3/20/06	9,901.00	1,220.00	11,121.00
090-251-021	BLUME	1 ONE INCH METER	4/19/06	9,901.00	1,220.00	11,121.00
2565	PUHEK	5 RESIDENTIAL PLUS 1 IRRIGATION	5/9/06	59,406.00	7,320.00	66,726.00
CO 04-0606	MVIII	5 RESIDENTIAL	5/18/06	49,505.00	6,100.00	55,605.00
2499	NESTER	18 RESIDENTIAL	6/9/06	178,218.00	21,960.00	200,178.00
		FISCAL YEAR 2005-2006	**SUBTOTAL**	**482,670.23**	**59,488.52**	**542,158.75**

PROJECT	DEVELOPER	SUMMARY	DATE PAID	WATER SUPPLY PORTION	PIPELINE PORTION	SUPPLEMENTAL TOTAL
090-091-017	SCOGGINS	2 RESIDENTIAL MINUS CREDIT FOR 1 EXISTING-325 N THOMPSON	7/18/06	10,288.00	1,268.00	11,556.00
2595	BAUR	6 RESIDENTIAL MINUS CREDIT FOR 2 EXISTING	10/11/06	41,152.00	5,072.00	46,224.00
091-327-075	PRUIT	FINAL FEES PAID-BALANCE DUE TO FEE INCREASE 7/1/06	10/11/06	2,226.00	275.00	2,501.00
		FISCAL YEAR 2006-2007	**SUBTOTAL**	**53,666.00**	**6,615.00**	**60,281.00**

GRAND TOTAL	853,168.23	105,143.52	958,311.75

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NIPOMO COMMUNITY SERVICES DISTRICT
SUPPLEMENTAL WATER COST SUMMARY

A/C #	DESCRIPTION	7/1/2004 TO 6/30/2005	7/1/2005 TO 6/30/2006	7/1/2006 TO 6/30/2007	GRAND TOTAL
1645	Reservation Fee-City of Santa Maria	37,500.00	0.00	0.00	37,500.00
1590-A1	Feasibility Study (Cannon)	25,887.29	0.00	0.00	25,887.29
1590-A2	EIR Preparation (Wood & Assoc)	29,037.48	87,100.23	9,629.42	125,767.13
1590-A3	Est/Preliminary Schedule (Cannon)	3,706.19	2,602.75	0.00	6,308.94
1590-A4	Proposed Routes/Facilities (Cannon)	5,050.07	520.00	0.00	5,570.07
1590-A5	Prop 50 Grant Application (Cannon)	2,757.00	6,210.00	0.00	8,967.00
1590-A6	Project Support (Cannon)	0.00	11,797.44	0.00	11,797.44
1590-B1	Shipsey & Seitz	0.00	23,095.55	9,725.50	32,821.05
1590-B2	McDonough, Holland & Allen	0.00	34,177.28	5,023.72	39,201.00
1590-B3	Richard, Watson & Gershon	0.00	9,472.38	8,465.87	17,938.25
1590-C1	Tavrin Appraisal	0.00	0.00	880.00	880.00
1590-D1	Reed Group	0.00	2,809.85	0.00	2,809.85
1590-E1	Preliminary Engineering Design (Boyle)	0.00	6,470.33	89,386.67	95,857.00
1590-Z1	Wages-Capitalized	0.00	29,076.92	15,500.00	44,576.92
1590-Z2	Payroll Taxes-Capitalized	0.00	587.22	248.19	835.41
1590-Z3	Retirement-Capitalized	0.00	8,418.08	4,475.53	12,893.61
1590-Z4	Medical-Capitalized	0.00	2,861.36	1,609.50	4,470.86
1590-z5	Dental/Vision-Capitalized	0.00	0.00	22.67	22.67
1590-Z6	Workers Compensation-Capitalized	0.00	260.35	156.75	417.10
		103,938.03	225,459.74	145,123.82	474,521.59

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Nipomo Community Services District
Water Allocation Accounting Summary

Water Year 2006-2007

	Dwelling units per category						Water allotment (acre-feet)						Notes:
	SFR > 10	SFR 4.5 - 1	SFR <	SEC	MF	Low I	SFR/DUP	SEC	MF	Low I	Total	Tally	
Project							32.5	5	10.2	3.3		51	Low I (low income) pulls from SFR/DUP and MF, proportional to their allotment.
APN 092-083-009/010 - PHASED (year 3 of 4)					11		0.0	0.0	(2.0)	0.0	(2.0)	49.0	Board approved 5/25/5
APN 092-130-043, GRANDE-PHASE (year 2 of 3)					11	4	0.0	0.0	(2.0)	(0.7)	(2.7)	46.3	BOD approved 10/26/05
APN 092-130-044 ROOSEVELT apts. Phased 2/4					11	4	0.0	0.0	(2.0)	(0.7)	(2.7)	43.6	BOD Proposed 5/10/06
							0.0	0.0	0.0	0.0	0.0	43.6	
							0.0	0.0	0.0	0.0	0.0	43.6	
							0.0	0.0	0.0	0.0	0.0	43.6	
							0.0	0.0	0.0	0.0	0.0	43.6	
							0.0	0.0	0.0	0.0	0.0	43.6	
							0.0	0.0	0.0	0.0	0.0	43.6	
Totals	0	0	0	0	33	8	0.0	0.0	(5.9)	(1.4)	(7.4)		

Abbreviations defined:

- SFR = single family residence
- SEC = secondary dwelling (a.k.a. Granny Unit)
- DUP = Duplex
- MF = multi-family development (e.g. mutiple dwelling units sharing a common roof)
- Low I = Low income housing in accordance with County housing definition.

Phasing Limit Check (Max 50% of annual allocation or 25.5 AF)
Phased allocation = 7.4

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NIPOMO COMMUNITY SERVICES DISTRICT

148 SOUTH WILSON STREET
POST OFFICE BOX 326
NIPOMO, CA 93444 - 0326
(805) 929-1133 FAX (805) 929-1932
www.nipomocsd.com

MEMORANDUM – Manager's Report

TO: BRUCE BUEL, GENERAL MANAGER

FROM: MADONNA DUNBAR, CONSERVATION/COMPLIANCE SPECIALIST

DATE: OCTOBER 20, 2006

RE: CONSERVATION PROGRAM ACTIVITIES – September / October 2006

PROGRAM ACTIVITIES:

1) Saturday, September 30: Nipomo Creek Day event; 33 community volunteers cleared 40 yards of litter and illegally dumped trash from creek and streets. Extensive media coverage noted. Staff is working with SLO County of Public Works, and Environmental Health to monitor dumping and develop strategies to reduce incidents.

2) Staff has been working with APCD on the Rainwater Harvesting Demonstration area. Project has completed the stages of bio-swale construction and soil amendments with organic composts and mulches. Next phase is planting and irrigation redesign. Project expected completion is late November, 2006.

3) Staff initiated high water use outreach letter program / protocol linked with monthly billing. (see attached)

4) Staff received water use billing analysis from Reed Group, and limited record of annual water use from Rural water and Golden State water Company. (See attached). Staff is continuing to research conservation target goal analysis.

5) Staff is preparing a NCSD New Customer Welcome Packet, to be mailed to all new accounts. Packet will contain information about District services, customer billing, water conservation and recycling / household hazardous waste.

6) Saturday, October 14, Nipomo October Festival; staff conducted public education / outreach at the festival, providing information on water conservation, water quality protection and fielded general questions from the public. NCSD also sponsored special event recycling, staff provided logistical support for waste management.

7) Continued expansion of education publications / NCSD website.

8) On-going cross training in general front office procedures.

PROFESSIONAL DEVELOPMENT / TRAINING:

9/2/06 - Staff attended the "SLO County Conservation Element for the General Plan" Workshop presented by SLO County Long Term Planning Division on October 5, 2006.

Staff attended SDRMA safety program training – noted in safety report.

KEY MEETINGS:

9/28/06 – Met with Nipomo High School's Progressive Club. Gave a short presentation on NCSD Conservation program, upcoming volunteer events group discussion of Progressive Club/ Nipomo High School (high water use, recycling) environmental issues.

10/10/06 – Creek Day de-briefing: County-wide event; results were very successful.

UPCOMING EVENTS AND ACTIVITIES:

NIPOMO STORM DRAIN MARKING EVENT – SAT. OCT. 21, 2006 (9 AM-12 NOON)

COMPOSTING / GREENWASTE WORKSHOP # 2 – SAT. OCT 28, 2006 (9 AM-12 NOON)

Nipomo Area Water Providers Annual Usage

From Department of Health Services Annual Water Usage (fiscal year) reporting records

YEAR	# METERS	WATER PUMPED MILLION GALLONS	WATER PURCHASED	TOTAL MILLION GALLONS	TOTAL AFY	PRODUCTION AFY PER ACCT
GOLDEN STATE WATER COMPANY						
2004	1467	496.19	0.58	496.77	1524.53	**1.04**
2005		435.64	0.15	435.79	1337.39	**0.91**
RURAL WATER						
2004	850	250.6		250.6	767.2	**0.9**
2005	902	250		250	767.2	**0.85**
NIPOMO COMMUNITY SERVICES DISTRICT						
2003-04	3691				2828	**0.77**
2004-05	3763	851.9			2606.73	**0.69**
2005-06	3968	895.2			2747.29	**0.69**

From Department of Water Resources (calendar year) annual reporting

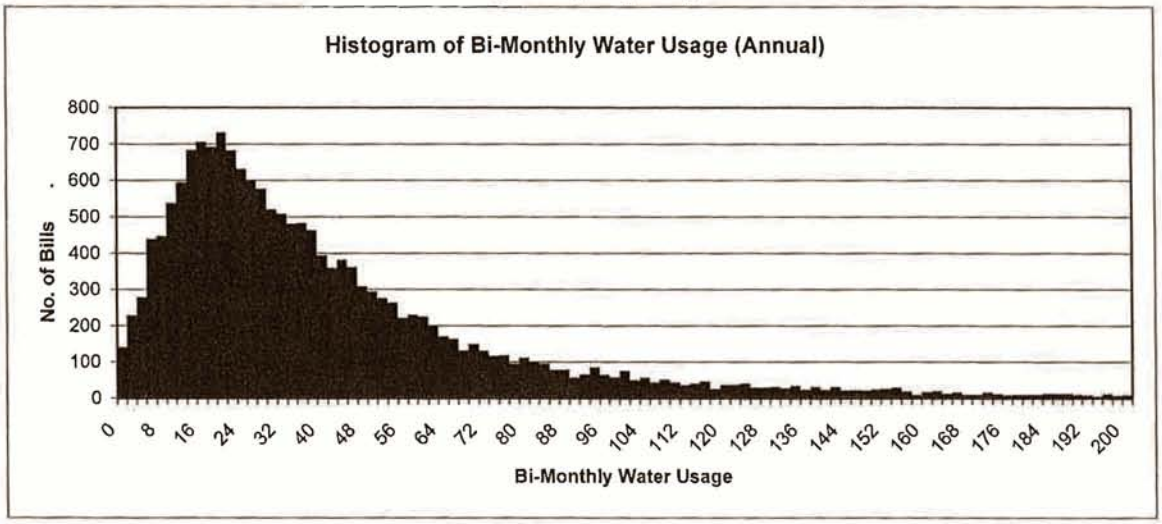
GOLDEN STATE WATER COMPANY					
2004	1468	663,359	CCF	1522.86	**1.03**
2005	1481			1336.94	**0.9**
RURAL WATER					
2004				DATA NOT AVAILABLE	
2005					
NIPOMO COMMUNITY SERVICES DISTRICT					
2003	3509			2633.33	**0.75**
2004	3751			2907.83	**0.77**
2005	3879			2794.98	**0.72**

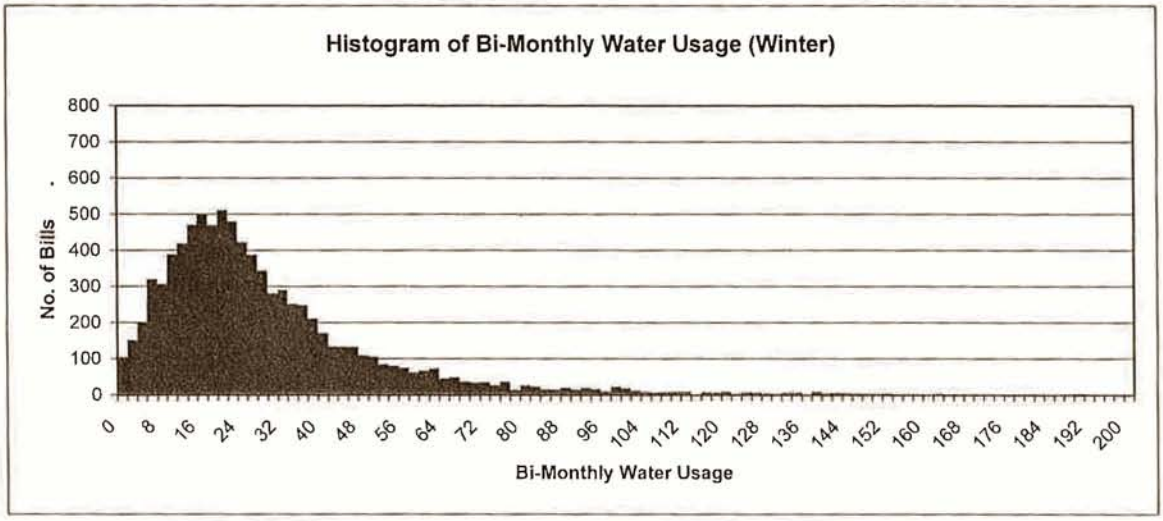
NIPOMO COMMUNITY SERVICES DISTRICT
Water Use Statistics

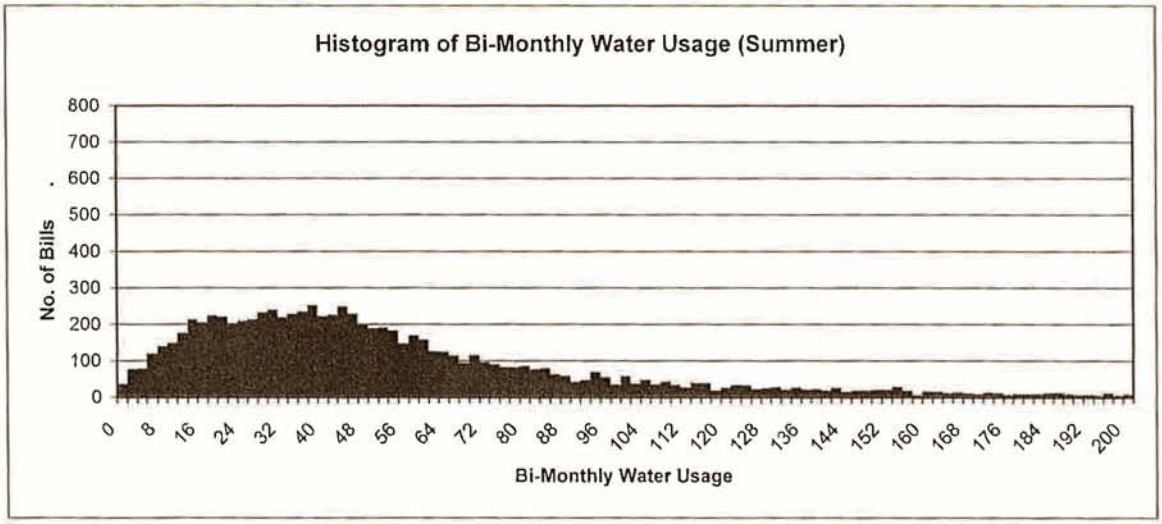
	Annual Total	Winter (Dec-May)	Summer (Jun-Nov)
No. of Customers (in data sample)	2,942	2,942	2,942
No. of Bi-Monthly Bills	17,232	8,598	8,634
Total Water Usage	773,952	261,471	512,481
Median Usage	31	23	44
Mean Usage	45	30	59
75th Percentile	54	36	72
90th Percentile	93	58	99
Maximum	1,520	1,173	1,520
Standard Deviation	49	30	59
Mean + 1 Std. Dev.	94	60	118
Usage > Mean + 1 Std. Dev. *	103,480	31,149	60,999
% Usage > Mean + 1 Std. Dev.	13%	12%	12%
No. of Bills > Mean + 1 Std. Dev.	1,667	786	912
No. of Cust. w/ at least 1 Bill > Mn + 1 SD	728	504	476
% of Cust. w/ at least 1 Bill > Mn + 1 SD	25%	17%	16%

* Includes only the usage in excess of the mean + 1 std. dev., not all water used by those bills that include usage in excess of this amount.

NIPOMO COMMUNITY SERVICES DISTRICT
Water Use Historgrams (Frequency Distributions)







Circle of Friends

SLO COUNTY

Hundreds of San Luis Obispo County Creek Day 2006 volunteers picked up enough trash to overflow 10 full-sized Dumpsters during the September event.

This was the first year local communities and organizations coordinated the cleanup effort on the same day. It was made possible through the collaborative partnership of Land Conservancy of San Luis Obispo County, Central Coast Salmon Enhancement, Morro Bay National Estuary Program, Groundwater Guardians, Templeton Community Services District, Nipomo Community Services District and Atascadero Mutual Water Company.

Fast-food containers, plastic bottles, bicycle parts, campaign signs, construction debris and clothing were among the litter removed from county creeks, parks and roads by about 450 volunteers.

Residents can continue their efforts by reporting illegally dumped trash to the county Department of Environmental Health at 781-5544.

Below are examples of what community organizers and volunteers found:

• **Arroyo Grande and Pismo Beach**: The Central Coast Salmon Enhancement rallied 75 volunteers to remove six Dumpsters of trash from creeks in these cities in addition to two Dumpsters of recyclables.

• **Atascadero**: Volunteers organized by the Atascadero Mutual Water Company collected 10 yards of trash, recycled three yards of recyclables and four yards of scrap metals. They also removed 50 tires. The 165 volunteers recovered and recycled 10 yards of organic yard waste materials from a pile of illegally dumped debris.

• **Nipomo**: More than 30 volunteers were coordinated by the Nipomo Community Services District. They targeted 15 locations and cleaned up more than 40 cubic yards of trash dumped in Nipomo Creek, Nipomo Olde Towne and Black Lake Canyon. Volunteers recovered a 5-foot-tall stuffed Bugs Bunny.

• **San Luis Obispo**: Nearly three tons of trash and 200 pounds of recyclables were removed by about 85 volunteers. The total trash removed, in tons, from more than 20 sites during this year's event marks one of the most successful creek days ever hosted by the Land Conservancy of San Luis Obispo County, agency organizers announced.

• **Santa Margarita**: Coordinated and planned by the Citizens of Santa Margarita, 40 volunteers removed trash to fill nearly half a Dumpster. The effort aimed to help prevent floods in the coming rainy season.

• **Templeton**: The 74 volunteers collected 2.17 tons of trash from local streets, creeks and the Salinas Riverbed. Household trash, plastic foam cups, a computer, a television and a recliner chair were among the items removed. Templeton Community Services District announced a 40 percent increase of volunteer participation this year.

COURTESY PHOTO

In San Luis Obispo, the Department of Parks and Recreation and the Land Conservancy of SLO County partnered to remove nearly three tons of trash from local creeks. From left are city Rangers Kris Roudebush, Liz Marut, Bijan Riley and Dan Dixson.

* 2.33 TONS OF TRASH

"Stick It to Storm Drain Pollution"

When the rains arrive, storm water runoff from residences, streets, parking lots and sidewalks carry pollutants such as sediment, oil, chemicals and trash into the Nipomo storm sewers, which then empty into the creeks and eventually the Santa Maria river and the ocean. By raising awareness of the storm drains and their link in our environment, we can help make our community a cleaner, healthier place to live.

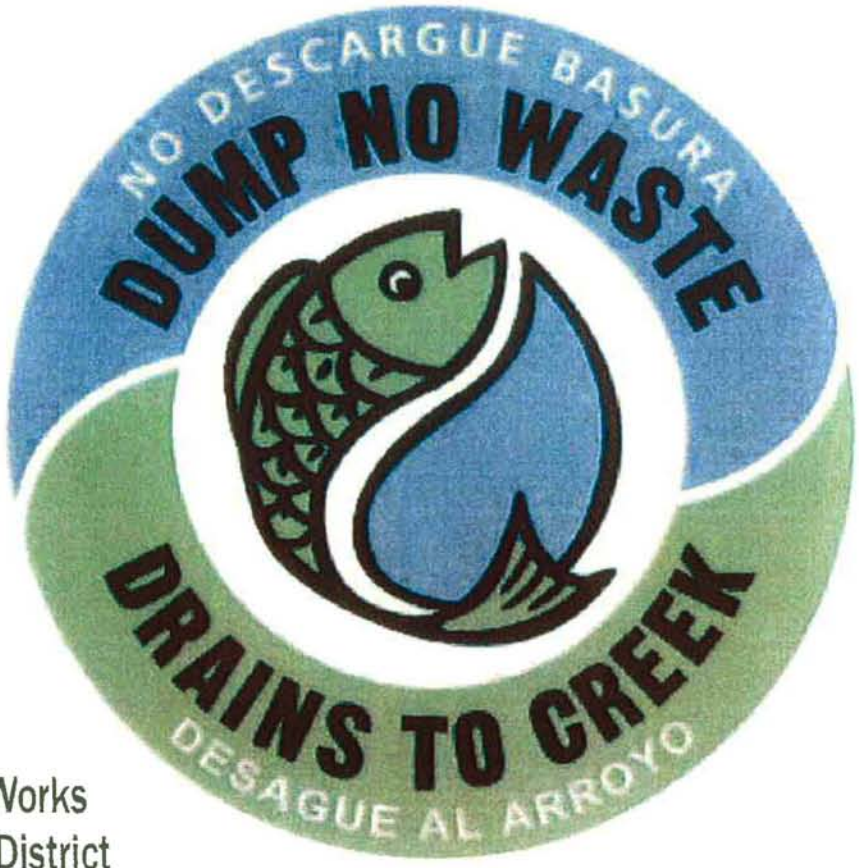
Volunteer to label the Olde Towne Storm Drains !

Nipomo Storm Drain Marking Event
Saturday, October 21, 2006

9 am - 12 noon

meet at the NCSD office
148 S. Wilson Street
Nipomo, CA 93444

More info: 929-1133
mdunbar@nipomocsd.com



sponsored by:
County of San Luis Obispo Public Works
and Nipomo Community Services District

NIPOMO COMMUNITY SERVICES DISTRICT

148 SOUTH WILSON STREET
POST OFFICE BOX 326
NIPOMO, CA 93444 - 0326
(805) 929-1133 FAX (805) 929-1932
www.nipomocsd.com

Dear <Property Owner>:

Recent water meter reads and billing records indicate very high water use associated with your account. The service address of < address > used <units> units during the past two month period.

Our field staff has conducted a re-read of the meter, the read is correct on the number of units used. The field staff also monitored the meter's leak detection flow meter, and no leak was found.

During the summer, more than 50% of the water bill can be attributed to landscape irrigation. This summer's high temperatures created a large demand for water, which may be reflected in the current billing. Other factors that may contribute include over-watering the landscape, or irrigation system problems, such as line breaks, broken sprinkler heads, poor fittings, or missing emitters – all of which allow large volumes of water to be used until corrected.

NCSD does not conduct on-property leak detection services; however, we do offer free information on indoor and outdoor water conservation methods and technology. Simply contact the NCSD office at 929-1133 to speak with one of our staff. We look forward to being of assistance to you in your water conservation efforts.

Sincerely,

Madonna Dunbar
NCSD Conservation Specialist

TO: BOARD OF DIRECTORS

FROM: BRUCE BUEL BB

DATE: OCT. 20, 2006

AGENDA ITEM
G-1
OCT. 25, 2006

COMMITTEE REPORTS

ITEM

Receive Minutes from October 16, 2006, Parks Committee Meeting (adopt draft minutes).

BACKGROUND

Attached is a set of draft minutes from the 10/16/06 Parks Committee Meeting. Chairman Trotter, Director Wirsing, or staff can respond to questions and receive comments from the Board regarding the meeting or the draft minutes.

RECOMMENDATION

It is recommended that your Honorable Board edit the draft minutes as appropriate and, adopt a final set of minutes.

ATTACHMENTS

1. Draft Minutes

T:\BOARD MATTERS\BOARD MEETINGS\BOARD LETTER\BOARD LETTER 2006\COMMITTEE REPORTS 061025.DOC

NIPOMO COMMUNITY SERVICES DISTRICT

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Web site address www.nipomocsd.com

MINUTES OF THE 10/16/06 MEETING OF THE

PARKS COMMITTEE

1. CALL TO ORDER, ROLL CALL AND FLAG SALUTE

Chairman Trotter called the Special Meeting to order at 2pm in the NCSD Board Chambers. Both Chairman Trotter and Director Wirsing were in attendance along with General Manager Bruce Buel, and four members of the public. Chairman Trotter described the purpose and format of the meeting. There was no public comment on this item.

2. DISCUSS OLDE TOWNE POCKET PARK AND TEFFT STREET MEDIAN PROJECT

Bruce Buel referenced the attached flow chart and summarized recent activity regarding the proposed park. Significant committee discussion followed on the process to activate parks authority and available funding mechanisms. Harry Walls requested a detailed description of how an assessment district could be formed. Cliff Trotter and Judith Wirsing objected the term "Pocket Park" and requested that the property be described as a neighborhood park. Jim Harrison asked how the assessment engineer calculated the respective assessments for properties within the assessment district boundary. Judith Wirsing moved to forward a request to the Board that the Board authorize negotiation of a Memorandum of Understanding with the County regarding development and operation of the proposed park and authorize development of cost estimates for construction and operations. Cliff Trotter seconded the motion, which passed unanimously. Bruce Buel indicated that this item would likely be heard by the Board on November 8, 2006.

3. REVIEW STAFF PROPOSED PROCESS TO ACTIVATE PARKS POWERS

Bruce Buel described each of the 15 steps that staff identified in the attached listing. Committee discussion followed on costs and timing. There was no public comment.

4. DISCUSS THE FEASIBILITY OF CONDUCTING PARKS SURVEY

Chairman Trotter asked staff to summarize the process for conducting a new survey. Bruce Buel indicated that he would recommend using a consultant to actually conduct the survey but Committee feedback was needed on the questions to be asked. Harry Walls and Bonnie Eisner agreed to work with Cliff Trotter and staff to develop the questions. Cliff Trotter moved to recommend that the Board authorize conducting a new survey. Judith Wirsing seconded the motion which passed unanimously.

5. REVIEW OAK TREE CONSERVATION EASEMENT PROGRAM PROPOSAL

Bruce Buel summarized the proposal sent to Nipomo Non-Profit Agencies by the County of San Luis Obispo regarding an Oak Tree Conservation Program. Significant committee discussion followed on the program with the consensus that the District should support the concept but not get involved in implementation. The Committee requested that staff write to the County indicating the District's support of the concept.

6. SET MEETING DATE(S) FOR SUBSEQUENT MEETINGS

The Committee agreed to meet again at 2 pm on Monday 11/20/06. Bonnie Eisner indicated that she would be out of town but encouraged the Committee to proceed.

7. ADJOURNMENT

Chairman Trotter thanked the public for participating and adjourned the meeting at 2:43 p.m.

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DRAFT NCSD PARKS POWERS ACTIVATION PROCESS

1. Define Project with Stakeholders (OTNA and Property Owners)
   A. Pocket Park
   B. Streetscape Improvements

2. Estimate Construction and Maintenance Costs for County and NCSD

3. Enter into MOU with County re:
   A. Property Transfer
   B. Construction Costs Paid by County
   C. Construction Costs Paid by NCSD/Stakeholders
   D. Process for NCSD to form Assessment District
   E. CEQA Compliance
   F. LAFCO Costs

4. Obtain Solid engineer's estimate of NCSD Costs

5. Establish Zone of Benefit Boundary

6. Negotiate Stakeholders Agreement re Allocation of Property Taxes & Assessments

7. Submit Application to LAFCO conditioned upon CEQA Compliance & Successful Proposition 218 Vote

8. Publish Draft Engineer's Assessment Report

9. Complete CEQA Determination
   A. Land Transfer
   B. Improvements
   C. Activating Power

10. Secure LAFCO Approval

11. Conduct Funding Election

12. Transfer Property

13. Construct Improvements

14. Implement Collection of Funding

15. Operate and Maintain