

TO: BOARD OF DIRECTORS
FROM: BRUCE BUEL *BB*
DATE: OCTOBER 5, 2007

**AGENDA ITEM
E-2
OCT. 10, 2007**

RECEIVE DRAFT EMERGENCY WATER SHORTAGE REGULATIONS

ITEM

Receive draft Emergency Water Shortage Regulations, edit draft and create standing committee to develop revisions [RECEIVE PRESENTATION AND PROVIDE POLICY GUIDANCE].

BACKGROUND

NCSD's current Emergency Water Shortage Ordinance (attached) was adopted in 1992. The Urban Water Management Plan 2005 Update recommended that this Ordinance be re-written since its well production trigger points did not serve to protect the ground water basin and it had very little enforcement. Also in 2005, the state re-wrote the District's enabling legislation to substantially augment the enforcement powers of Community Services Districts. Additionally, NCSD hired SAIC to evaluate the NMMA Groundwater Basin and SAIC has been able to develop data that provide options besides well production to serve as triggers for various levels of conservation measures to address a range of water shortage situations. Finally, the Stipulated Judgment for the NMMA executed by the District and the other purveyors in settlement of the Santa Maria Groundwater Adjudication charges the NMMA Technical Group with devising criteria for declaring a range of water shortage situations and developing conservation measures to address those situations.

In 2006, your Honorable Board assigned the Ad Hoc Water Conservation Committee to work with staff and District Legal Counsel to develop a draft Emergency Water Shortage Ordinance for Board consideration. The Ad Hoc Committee has consulted with SAIC to propose trigger points related to various levels of water shortage situations and with District Legal Counsel to develop a range of conservation measures to achieve demand reductions appropriate for each of those situations. Attached is the Committee's rough draft set of Emergency Water Shortage Regulations for Board review (It should be noted that the ordinance adopting the regulations will be added once closure is reached on the provisions of the regulations).

The attached rough draft set of regulations, proposes four stages of conservation, four trigger points related to the severity of the water supply emergency, and four conservation programs designed to achieve the desired demand reduction. The rough draft currently uses the change in NMMA groundwater storage above sea level from the previous year as the trigger point. As drafted, the Board would annually review the April 1st NMMA groundwater storage calculation and use that calculation to determine if there is a water shortage emergency and if so, determine the stage of conservation needed to address that emergency. Each stage is accompanied by a progressively more restrictive set of water conservation measures.

Attached is an October 3, 2007 memo from SAIC evaluating the current set of triggers against the historic record of changes in NMMA groundwater storage since 1975 (omitting five years for which data was not available). Of the available 27 years, the current triggers points would result in 9 years in which no demand management was required, 1 year of Stage 1 demand management, 2 years of Stage 2 demand management, 1 year of Stage 3 management, and 14 years of Stage 4 demand management. Although this pattern is more protective of groundwater management than the rainfall based trigger system proposed, staff believes that

the preponderance of Stage 4 demand management appears unnecessary and would be disruptive. Staff believes that additional triggers components such as minimum and maximum levels of groundwater in storage should be evaluated to develop a trigger system that protects the groundwater resource while achieving a credible program.

In regards to the Water Conservation Measures by stage, the Board should note that staff does not currently have the data or the programs to implement any of the stages. Substantial effort would be needed to develop the data and the programs. As an example, it would be necessary to determine the size of every residential parcel in order to determine the appropriate ration for each parcel for stages 2, 3, and 4.

District Legal Counsel is scheduled to summarize the draft regulation and the members of the Ad Hoc Committee are available to answer questions regarding the development of the draft program.

Staff believes that NCSD should adopt a revised set of regulations prior to receiving the April 1, 2008 Water Storage Calculation. Since the regulations must be adopted as an Ordinance requiring two readings, the Ordinance should be introduced no later than February 2008.

RECOMMENDATION

Staff recommends that your Honorable Board:

- Receive the presentation
- Discuss the draft set of regulations;
- Provide Policy Guidance on the Trigger Points and Water Conservation Measures;
- Create a Standing Committee to research changes to the Trigger Points and Water Conservation Measures
- Direct the Committee to report back to the Board no later than December 12, 2007.

ATTACHMENTS

- 1992 Regulations
- Draft Water Supply Emergency Regulations
- SAIC Memo on Triggers

Chapter 3.24 WATER CONSERVATION AND EMERGENCY WATER SHORTAGE REGULATIONS

3.24.010 Definitions.

"Applicant" means person who requests water from the district.

"Customer" means person receiving water from the district distribution system.

"District" means Nipomo Community Services District.

"HFC" means hundred cubic feet.

(Ord. 92-65 1, 1992)

3.24.020 Prohibition of certain uses.

A. No customer shall waste water.

As used herein the term "waste water" means:

1. Use of potable water to irrigate grass, lawns, groundcover, shrubbery, crops, vegetation and trees between the hours of nine a.m. and six p.m. or in such a manner as to result in run-off for more than five minutes;
2. Use of potable water to wash sidewalks, walkways, driveways, parking lots, open ground or other hard surface areas by direct application;
3. Allow potable water to escape from breaks within the customers plumbing system for more than four hours after the customer is notified or discovers the break;
4. Use of potable water for sewer system maintenance or fire protection training without prior approval by the district. (Ord. 92-65 2, 1992)

3.24.030 Water conservation stages.

A. Stage I: Voluntary Conservation. Customers of the Nipomo Community Services District are requested to voluntarily limit the amount of water used from May 15th to October 15th of each year to that amount absolutely necessary for health and business. A fifteen percent reduction in water use is requested.

B. Stage II: Mandatory Conservation. In addition to prohibitions and resolutions previously listed:

1. All outdoor irrigation of vegetation shall occur only between the hours of six p.m. and nine a.m. on designated days and must utilize hand held hoses, drip irrigation or permanently installed automatic sprinkler systems;
2. The washing of automobiles, trucks, trailers, boats and other types of mobile equipment not occurring upon the immediate premises of commercial car washes and commercial service stations and not in the immediate interest of the public health, safety and welfare shall be prohibited;
3. Use of water from fire hydrants shall be limited to fire suppression and/or other activities immediately necessary to maintaining health, safety and welfare of the citizens within the boundaries of the Nipomo Community Services District. *

C. Stage III: Mandatory Conservation. In addition to prohibitions and restrictions previously listed:

1. Use of potable water to irrigate grass, lawns, groundcover, shrubbery, crops, vegetation, trees, etc., shall be prohibited;
2. Quantity of water used shall not exceed seventy-five gallons per day per person. (Ord. 92-65 3, 1992)

3.24.040 Stage implementation.

The water department and manager shall monitor the supply and demand on a weekly basis during drought conditions and recommend to the board of directors the extent of the conservation required through implementation and/or termination of a particular conservation stage as outlined in Exhibit A, set out at the end of this section, in order for the district to continue to supply adequate water to the

customers. Thereafter the board of directors may order that the appropriate phase of water conservation be implemented and/or terminated in accordance with the applicable section of this chapter.

Exhibit A
Policy for Implementing the
Emergency Conservation Plan

Section 1.

The water department and general manager shall determine that conditions warrant implementation and/or termination of the plan and present the findings to the board of directors. The triggering events for each stage shall be as follows:

Stage I. Voluntary Conservation.

Voluntary conservation shall be requested annually on May 15th.

Requirements for Termination.

Stage I

Will be rescinded on October 15th or at any time that prevailing conditions indicate a more restrictive stage is necessary.

Stage II. Mandatory Conservation.

Mandatory (Stage II) conservation shall be required when pumpage is in excess of 1.5 mgd for four consecutive days or pumpage in excess of 1.9 mgd for one day.

Upon termination of Stage II, Stage I becomes operative.

Stage III. Mandatory Conservation.

Mandatory (Stage III) conservation shall be required when pumpage is in excess of 1.9 mgd for four consecutive days; or 2.1 mgd for one day; or continually falling reservoir levels which do not refill above fifty percent overnight.

Stage III shall be terminated when all of the conditions listed as triggering events have ceased to exist for a period of five consecutive days.

Upon termination of Stage III, Stage II becomes operative.

(Ord. 92-65 4, 1992)

3.24.050 Water-saving devices.

A. All customers are encouraged to install and use the following water conservation devices:

1. Low flush toilets 1.6 gallons per flush or less;
2. Low flow shower heads 2.0 gallons per minute or less;
3. Drip irrigation.

B. No person, corporation or association shall be given relief on appeal unless the customer has installed all water-saving devices which are feasible. (Ord. 92-65 5, 1992)

3.24.060 Violation and enforcement.

A. First Violation. A copy of the notice will be left with someone at the establishment, or left in a conspicuous place, at the time of the violation observance.

B. Second Violation. A copy of the violation notice will be sent to the address of the violator by certified mail, return receipt requested, with a letter explaining the gravity of the situation and the penalties for future violations.

C. Third Violation. A one gallon per minute flow restriction will be installed at the violators meter and left in place for seventy-two hours. Installation and removal charges of thirty dollars will be assessed to the account of the violator.

D. Fourth Violation. The water meter will be removed from the premises of the violator. The meter will be reinstalled after the payment of a fifty-dollar reconnection charge. (Ord. 92-65 6, 1992)

Nipomo Community Services District Draft Ordinance
Chapter 3.24
Emergency Water Shortage Regulations

3.24.010 Purpose

It is the purpose and intent of this Chapter to provide rules, regulations and procedures by which the Board of Directors can restrict water use upon a determination that there exists, or there is a threat of, a water shortage that affects the District's ability to supply its customers with potable water. The rules, regulations and procedures of this Chapter are in addition to water conservation measures that are adopted by the Board of Directors to avoid water shortage conditions and or conservation measures adopted by the County of San Luis Obispo in response to certification of Severity Level III, as referenced in Finding No. ____.

3.24.020 Findings

- A. The District has been pumping from the underlying groundwater basin since 1965. The District's wells currently extract approximately 3,000 plus acre feet per year and supply approximately 4,000 connections. The District's boundaries are within the Nipomo Mesa Water Conservation Area (NMWCA) as referenced in San Luis Obispo County Ordinance 3090.
- B. The District's current water supply is solely groundwater extracted primarily from the NMWCA. A small proportion of District's water is pumped from groundwater in the Nipomo Valley.
- C. The primary source of recharge of the NMWCA is deep percolation of rainwater, with contributions from agricultural and urban return flows, and sub-surface inflows within the Santa Maria Basin. The dependence on deep percolation as the major source of recharge makes the groundwater supply within the NMWCA vulnerable during prolonged periods of low rainfall.
- D. Since July 1997 the Santa Maria Groundwater Basin has been the subject of ongoing litigation between nearly 800 hundred parties, including the DISTRICT, with competitive claims to pump groundwater. (Superior Court of the State of California, County of Santa Clara, Case No. 770214).
- E. As part of the Groundwater Adjudication referenced in Finding D, above, a majority of parties, including the District, Coneco-Phillips, the Woodlands Mutual Water Company, Golden State Water Company and Rural Water

Company have entered into a Stipulation, imposing a physical solution to establish a legal and practical means of assuring the Nipomo Mesa Management Area's (NMMA) longterm sustainability (herein "Stipulation"). The NMMA's boundaries are consistent with the boundaries referred to herein as the NMWCA. The Stipulation contemplates the formation of a NMMA Technical Group to develop a monitoring program for the NMWCA. Additionally, the NMMA Technical Group will develop, for Court approval, criteria for declaring Potentially Severe Water Shortage Conditions and Severe Water Shortage Conditions.

- F. In November, 2004, the County Board of Supervisors received a Resource Capacity Study ("RCS") prepared by the San Luis Obispo County Planning Department for the NMWCA. The RCS reached the same conclusions as other groundwater reports that pumping from the NMWCA exceeds safe yield and recommended a Severity Level III be adopted pursuant to the County's Resource Management System.
- G. On August 22, 2007, Science Applications International Corporation ("SAIC"), issued Technical Memorandum regarding Groundwater in Storage Above Sea Level for the Nipomo Mesa Management Area as of Spring, 2007. That Memorandum summarizes the decline in groundwater storage in the NMWCA from Spring 2000 through Spring of 2007. The Technical Memorandum concluded that between 2000 and Spring, 2007, the groundwater in storage declined by 15,000 AF with a 14,000 AF decline between Spring, 2006, and Spring, 2007.
- H. On June 26, 2007, the County, at the recommendation of the Planning Commission, certified a Severity Level III for water resources of the NMWCA pursuant to the County's Resource Management System. Under the County system, Level III indicates an "Unavoidable Resource Deficiency," defined as follows: "This is the most critical level of concern. Level III occurs when the capacity (maximum safe yield) of a resource has been met or exceeded. At Level III there is a deficiency of sufficient magnitude that drastic actions may be needed to protect public health and safety".
- I. The San Luis Obispo County Public Works Department (PWD) measures groundwater surface elevations in monitoring wells located within the NMWCA in the spring and fall of each year (DPW Reports).
- J. The District retains Science Applications International Corporation (SAIC). SAIC using the DPW reports and other data has developed a method of calculating groundwater in storage above sea level within the NMWCA.
- K. SAIC Reports have been presented to the District Board of Directors with the most recent report dated August 28, 2007. Using groundwater in

storage above sea level within the NMWCA to establish trigger points for imposing emergency water shortage regulations - - -

- L. This Chapter is adopted to conserve a public water supply for the protection of the health, welfare and safety of the residents of the Nipomo Community Services District.

3.24.025 Authority

(NEEDS TO BE COMPLETED)

3.24.030 Definitions

AF means acre feet of water

CCF means 100 cubic feet of water

Customer means owner

GWS means groundwater in storage above sea level.

Irrigation Use means and includes all uses other than residential use and commercial use and includes water supplied to parks, recreational facilities such as golf courses, landscaping, and water supplied to schools to irrigate turf.

Multi-family Residential means a building(s) or portion thereof designed and used as residence for two or more families living independently of each other under a common roof. Such uses shall include but are not limited to: duplexes, triplexes, apartments, planned unit developments, condominiums and townhouses. Such use does not include secondary units.

Non-Residential Use means all uses other than residential uses, that receive District water.

Owner means one who has title to the property being served, or is legally authorized to represent the title owner.

Reset Value means when GWS equals or exceeds 95,000 AF.

Single Family Residence or sf means a stand alone building not connected to another dwelling, and designed for residential occupancy by one family regardless of zoning of the property. A single family residence may, or may not, have a secondary unit.

3.24.030 Santa Maria Groundwater Adjudication

With reference to the adjudication of the Santa Maria Groundwater Basin and the formation of the NMMA Technical Group, the following are incorporated, into the most appropriate stage referenced in Section 3.24.040 by reference:

- A. The Court approved criteria for declaring a Potentially Severe Water Shortage Condition and Severe Water Shortage Condition.
- B. The conservation measures recommended by the NMMA Technical Group to address Potentially Severe Water Shortage Conditions.
- C. Water conservation programs approved by the Court for Severe Water Shortage Conditions.

3.24.040 Trigger Points

Water Shortage Conservation Stages I – IV shall be triggered by the following conditions when the GWS is at or below the reset value:

Stage I Conservation – Weather Watch

Trigger Condition: **1,500 AF** decline in GWS from the previous year

Stage II Conservation – Water Warning

Trigger Condition: **3,000 AF** decline in GWS from the previous year

Stage III Conservation – Water Emergency

Trigger Condition: **6,000 AF** decline in GWS from the previous year

Stage IV Conservation – Extreme Water Emergency

Trigger Condition: **10,000 AF** decline in GWS from the previous year

3.24.050 Stage Implementation

The General Manager shall monitor the groundwater in storage above sea level and demand for water and shall report in writing to the Board, on or before June 1 of each year, the appropriate water conservation stage, if any, referenced in Sections 3.24.040, above. The Board shall, no later than four weeks after receipt of such report, consider the General Manager's report at a public hearing. Notice of the time and place of the public hearing shall be published one time at least seven days prior to the date of the hearing in a newspaper of general circulation published within the District. If the Board concurs that any such events have occurred, it shall immediately consider adopting a resolution implementing the appropriate program, pursuant to Section 3.24.060.

3.24.060 Water Shortage Conservation Stages.

A. Stage I Conservation – Water Watch.

1. Upon a determination by the Board of Directors, that a Stage I condition exists, then the following prohibitions shall be considered by the Board of Directors:
 - (a) All outdoor irrigation of vegetation shall occur only after 8 p.m. and before 7 a.m.
 - (b) The use of potable water to wash sidewalks, walkways, driveways, parking lots, open ground and other hard-surface areas by direct application shall be prohibited.
 - (c) The use of non-drinking-water fountains, except for those using recirculated water, shall be prohibited.
 - (d) Use of water which results in any flooding or run-off in gutters or streets shall be prohibited. **(may be the same as (b), above)**
2. In addition to those measures stated above, the Board of Directors by resolution and/or ordinance may adopt additional water conservation measures.
3. The General Manager shall provide notice to all District customers regarding the Board of Directors declaration of water watch condition and activation of Stage I Water Conservation Program. Such notice shall be mailed within fourteen (14) days of the Board's action.

B. Stage II Conservation – Water Warning.

1. Upon a determination by the Board of Directors, that the a Stage II condition exists, then one or more of the following prohibitions shall be considered and adopted by the Board of Directors, with the goal of achieving a **ten percent (10%)** reduction in water consumption:
 - (a) The water conservation measures referenced in Stage I.
 - (b) Limiting water deliveries to residential uses as follows:
 1. 31ccf of water bi-monthly or 378 gallons per day per multi-family residential unit.

2. 27 ccf of water bi-monthly or 329 gallons per day per single family residential unit on lots <4500 sf .
 3. 36 ccf of water bi-monthly or 442 gallons per day per single family residential unit on lots 4.5 – 10 K sf.
 4. 64 ccf of water bi-monthly or 787 gallons per day on single family residential lots >10K sf.
- (c) Non-residential uses shall be limited to ninety percent (90%) of their water consumption for the same billing cycle during the Basel Year.
 - (d) A surcharge of **two hundred percent (200%)** will be levied on all water use in excess of the maximum water use allotment referenced in subparagraphs (b) and (c), above and shall be assessed to the account of the customer.
 - (e) Use of water from fire hydrants shall be limited to fire suppression and/or other activities immediately necessary to maintain health, safety and welfare of residents within the boundaries of the Nipomo Community Services District.
 - (f) The use of District potable water for dust control and compaction for construction projects shall be prohibited.
 - (g) The washing of automobiles, trucks, trailers, boats and other types of mobile equipment not occurring upon the immediate premises of a commercial car wash and/or commercial service station that use recirculated water shall be prohibited.
 - (h) Restaurants may not serve water to their customers except upon specific request.
 - (i) The use of potable water to irrigate grass, lawns, ground cover, shrubbery, crops, vegetation, ornamental trees, etc., shall be limited to Saturdays, Mondays and Wednesdays for even numbered addresses and Sundays, Tuesdays and Thursdays for odd numbered addresses, or as otherwise established by resolution of the Board of Directors.
 - (j) Water main flushing shall only occur in emergency situations as declared by the District Manager.

(k) Applications for Intent to Serve Letters shall be received and placed on a waiting list, but further processing shall be suspended.

2. The General Manager is authorized and directed to pursue a vigorous public information program about water supply conditions and the need to reduce water consumption by such means deemed appropriate by the General Manager.
3. The District will meet with other water purveyors, public school districts, park agencies, and golf courses, that use water sources other than District supplied water, to seek voluntary reduction in irrigation of decorative landscape and reduce irrigation of turf and play areas.
4. In addition to those measures stated in above, the Board of Directors, by resolution and/or ordinance, may adopt additional water conservation measures on an urgency basis.

C. Stage III Conservation – Water Emergency.

1. In addition to the water conservation measures established in Stage I and Stage II above, upon a determination of the Board of Directors, that Stage III conditions exist, then one or more of the following prohibitions shall be considered and adopted by the Board of Directors, with a goal of achieving a **thirty-five percent (35%)** reduction in water consumption:

(a) Limiting water deliveries for residential uses as follows:

1. 22 ccf of water bi-monthly or 273 gallons per day per multi-family residential unit.
2. 19 ccf of water bi-monthly or 238 gallons per day per single family residential units <4500sf.
3. 26 ccf of water bi-monthly or 319 gallons per day per single family residential units 4.5 – 10K sf.
4. 46 ccf of water bi-monthly or 569 gallons per day per single family residential units >10k sf.

(b) Non-Residential Uses shall be limited to **sixty-five percent (65%)** of their water consumption for the same billing cycle during the Base Year.

(c) A surcharge of **four hundred percent (400%)** will be levied on all water use in excess of the maximum water use

allotment reflected in subparagraphs (a) and (b) above, and shall be assessed to the account of the customer.

- (d) All swimming pools shall be covered when not in use.
- (e) The use of potable water to irrigate grass, lawns, ground cover, shrubbery, crops, vegetation, ornamental trees, etc., shall be prohibited; and all irrigation meters within the District shall be locked.
- (f) District Intent-To-Serve Letters shall be suspended. However the expiration period shall be extended commensurate with the time of suspension.

- 2. In addition to those measures stated above, the Board of Directors, by resolution and/or ordinance, may adopt additional water conservation measures on an urgency basis.

D. Stage IV Conservation – Extreme Water Emergency

- 1. In addition to the water conservation measures established in Stages I, II, and III above, upon a determination of the Board of Directors that Stage IV conditions exist then, one or more of the following prohibition measures shall be considered and adopted by the Board of Directors, with the goal of achieving a **fifty percent (50%)** reduction in water consumption:
 - (a) Limiting water deliveries for residential uses as follows:
 - 1. 17 ccf per of water bi-monthly or 210 gallons per day per multi-family residential unit.
 - 2. 15 ccf of water bi-monthly or 183 gallons per day per single family residential unit <4500 sf lot.
 - 3. 20 ccf of water bi-monthly or 246 gallons per day per single family residential unit 4.5-10K sf lot.
 - 4. 36 ccf of water bi-monthly or 437 gallons per day per single family residential unit >10K sf lot.
 - (b) Non-Residential Uses shall be limited to **fifty per cent (50%)** of the water consumption for the same billing cycle during the Base Year.
 - (c) A surcharge of **five hundred percent (500%)** will be levied on all water use in excess of the maximum water use allotment reflected in subparagraph a and b, above and shall be assessed to the account of the customer.

- (d) The setting of new water meters shall be prohibited and Will-Serve Letters shall be suspended.
2. In addition to those measures stated above, the Board of Directors, by resolution and/or ordinance, may adopt additional water conservation measures on an urgency basis.

3.24.070 Termination of Stages

The Board of Directors may terminate water conservation stages based upon a finding that the groundwater storage above sea level within the NMWCA is at or above ninety-five thousand acre feet (95,000 AF) or reduce the water conservation stage to a lower level by Resolution based on findings that the groundwater in storage is capable of providing sufficient water at a reduced stage to meet the demands and requirements of the District's water customers.

3.24.080 Enforcement

- A. In addition to the water surcharges referenced in Section 3.24.060, the following apply to persons violating the water allotment provisions of this Chapter commencing with Stage III:
 1. First Violation. A Notice of Violation shall be mailed to the customer by first class mail, return receipt requested, and posted by door hanger on the affected property.
 2. Second Violation. A Notice of Violation shall be sent to the customer by certified mail, return receipt requested and by door hanger, with an explanation of the gravity of the situation and the penalties for future violations. A delinquent bill, including the appropriate surcharge, shall be increased by a penalty of ten percent (10%).
 3. Third Violation. A one-gallon per minute flow restrictor will be installed at the violator's meter and left in place until such time as the customer has entered into a written water conservation plan to reduce consumption consistent with the water allotment adopted by the District and payment of all delinquencies, surcharges and penalties owing.
 4. Fourth Violation. Water service will be discontinued and the water meter will be removed from the premises of the violator. The District will send notice via certified mail at least forty-eight (48) hours prior to discontinuance of service and will attempt to contact

an adult person at the premises by telephone or personal contact at least twenty-four (24) hours prior to discontinuance of service.

The meter will be reinstalled, on conditions set by the District and after the payment of District reconnection charges and the payment of all other charges, surcharges and penalties owing.

B. Violation of Conservation Measures Other Than Water Allotment.

1. First Violation. A Notice of Violation shall be mailed to the customer by first class mail, return receipt requested, and posted by door hanger on the affected property.
2. Successive Violations. The second violation and each and every violation thereafter shall be subject to the provisions of Section 3.24.070 C, below.

C. Violations Unlawful.

1. It is unlawful for any person to violate any provision or fail to comply with any of the requirements of this Chapter. A violation of any of the provisions or failure to comply with any of the requirements shall constitute a misdemeanor punishable by a fine not exceeding one thousand dollars (\$1,000) or by imprisonment in the County Jail for a period not exceeding six (6) months, or by both such fine and imprisonment.
2. Notwithstanding subparagraph 1, above, any misdemeanor violation or failure to comply may in the discretion of District Legal Counsel, be initially charged and subsequently prosecuted as an infraction. Each and every infraction or violation is punishable by a fine not exceeding one hundred dollars (\$100) for the first violation; a fine not exceeding two hundred dollars (\$200) for the second violation of this Chapter within one year; and a fine not exceeding five hundred dollars (\$500) for the third violation of this Chapter within one year.
3. Each person shall be guilty of a separate offense for each and every day during any portion of which any violation of this Chapter is committed, continued, or permitted by such person and shall be punishable accordingly.

D. Enforcement Officer.

1. The General Manager, or designee, shall be the Code Enforcement Officer primarily charged with enforcement of this Chapter.
2. For new construction, the General Manager has the authority to establish monthly Base Year water consumption for Non-Residential Use.

E. Collections.

1. Charges, surcharges and penalties authorized by this Chapter shall constitute a lien on the property, and the District Manager is authorized to record a certificate declaring the amount of the charges, surcharges and penalties due pursuant to Government Code § 61115(c).
2. Any such lien referenced in subparagraph D, may order that the charges, surcharges and penalties be collected on the tax roll in the same manner as property taxes pursuant to the procedures of Government Code §61115(b).

F. Remedies Cumulative

The remedies available to the District to enforce this Chapter are cumulative and may be pursued consecutively by the District. The District's use of any one of the remedies and/or legal actions prescribed herein shall not bar the use of any other remedies provided in this Chapter, or other District ordinances or by law for the purpose of enforcing the provisions hereof.

3.24.090 Appeals

- A. The General Manager may, in his/her discretion, grant exceptions to the water allotments referenced in Section 3.24.060, if he/she finds based on a certification by a licensed physician or other health care provider that the water allotment restrictions would cause undue hardship or emergency medical conditions.
- B. The terms of any exception shall be set forth in writing, the original to be kept on file with the District and a copy to be furnished to the applicant. All exceptions granted shall be reported to the Board of Directors at a regularly scheduled meeting.
- C. An applicant for an exception may appeal the General Manager's decision to the Board of Directors. A request for appeal must be submitted to the District in writing not more than ten (10) days after the General Manager's

decision. The Board of Directors shall consider the appeal within thirty (30) days of receipt of the request for appeal.

3.24.100 Severability

If any section, subsection, sentence, clause or phrase of this Chapter is for any reason held to be unconstitutional, ineffective or in any manner in conflict with the laws of the United States, or the State of California, such decision shall not affect the validity of the remaining portions of this Chapter. The Board of the District hereby declares that it would have adopted this Chapter and each section, subsection, sentence, clause and phrase thereof, irrespective of the fact that any one or more sections, subsection, sentence, clause or phrase be declared unconstitutional, ineffective, or in any manner in conflict with the laws of the United States or the State of California.



1 TO: Bruce Buel
2 FROM: Drew Beckwith (SAIC)
3 RE: Evaluation of groundwater in storage for triggering conservation stages
4 DATE: October 3, 2007

5 **INTRODUCTION**

6 Nipomo Community Services District (NCSD) requested SAIC to review the Draft
7 Ordinance Chapter 3.24 - Emergency Water Shortage Regulations, and (1) evaluate the
8 methodology used to determine the Water Shortage Conservation Stages, and (2) propose an
9 alternative methodology to trigger the Water Shortage Conservation Stages. NCSD
10 subsequently requested SAIC apply the proposed alternative methodology to annual estimates
11 of historic groundwater in storage from 1975 to 2007, and evaluate the alternative metric for
12 triggering conservation stages.

13 **RESULTS**

14 The water shortage conservation stages based on estimates of annual groundwater in
15 storage (GWS) were evaluated for the period of 1975 to 2007 (Figure 1). GWS as a triggering
16 metric provides a heightened level of conservation as compared to the rainfall triggering metric
17 previously evaluated (Figure 2, [Figure 1 of TM dated August 28, 2007]). During the historic
18 periods of 1976 - 1980 and 1987 - 1996, a substantial reduction in the GWS above sea level
19 occurred. The hypothetical implementation of water shortage conservation stages based on
20 GWS would have likely garnered some amount of the observed reduction in water supply to
21 Nipomo Mesa. During these historic periods, the GWS depleted at rates in excess of 10,000
22 acre-feet per year (AFY), with the minimum GWS occurring within two years of the onset of
23 depletion. The recovery from these historic lows in groundwater occurred over time scales on
24 the order of five years. Notable is the asymmetry of the change in GWS, where historic
25 reductions occurred quickly and recovery from the historic low occurred slowly. Moreover,
26 during those times, the duration of the historic low level of GWS above sea level was not
27 predictable, and lasted from one year to six years. From these observations, aggressive water
28 shortage conservation stages are warranted at the first signs of rapid reductions in the water
29 supply to Nipomo Mesa.

30 **UPDATED GROUNDWATER IN STORAGE ESTIMATES**

31 The annual estimates of GWS from 1975 to 2007 are presented in Table 1. Estimates of
32 GWS presented herein exclude all production wells. Two production wells (Eureka and Omiya)
33 were mistakenly included in earlier estimates of GWS for years 1975, 1980, and 1995, as
34 presented in SAIC TM Alternative Methodology to Determine the Water Conservation Shortage
35 Stages, dated August 28, 2007. The minimal impact of excluding these production wells in the

m:\ncsd (9100 9228)\activities\general consultation - 9100\activities\tm water shortage ordinance\updates on progress\2007-10-03\2007-10-03 annual gws tm.docx

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T

To: Bruce Buel
Re: Annual GWS
Date: October 3, 2007
Page: 2 of 2

1 total estimate of GWS ranges from 2,000 to 4,000 acre-feet. For the years 1984 and 1997, limited
2 measurements of groundwater elevation were available, precluding a reliable measure of GWS.

3 **METHODOLOGY**

4 The amount of GWS under the Nipomo Mesa Management Area (NMMA) was computed
5 by multiplying the saturated volume above sea level with the aerially weighted specific yield
6 (DWR, 2002), excluding bedrock (Figure 11: Base of Potential Water-Bearing Sediments,
7 presented in the report, Water Resources of the Arroyo Grande - Nipomo Mesa Area [DWR
8 2002]). The amount of GWS under the NMMA was constrained to the boundary determined in
9 Phase III of the trial.

D

10 *Groundwater Surface Elevation Measurements*

11 Groundwater surface elevation data was obtained from the San Luis Obispo County
12 Department of Public Works (SLO DPW), NCSO, USGS, and Woodlands. For the years 1975 to
13 1999, all reliable groundwater surface elevation data were used to estimate GWS. For the years
14 2000 to 2007, only groundwater surface elevation data from wells in the proposed hydrologic
15 monitoring program were used to estimate GWS. The groundwater surface elevation data was
16 reviewed in combination with well completion reports and historical hydrographic records in
17 order to exclude measurements that do not accurately represent static water levels within the
18 principal production aquifer.

R

A

19 *Groundwater Surface Interpolation*

20 The individual groundwater surface measurements from each year were interpolated to a
21 groundwater surface elevation field using the inverse distance weighting method. The inverse
22 distance weighting method calculates values of a surface elevation field by using adjacent
23 groundwater surface elevation measurements. In places where a groundwater well has a large
24 areal influence, a small change in groundwater elevation can produce a proportionally large
25 change in the estimate of GWS.

F

26 **REFERENCES**

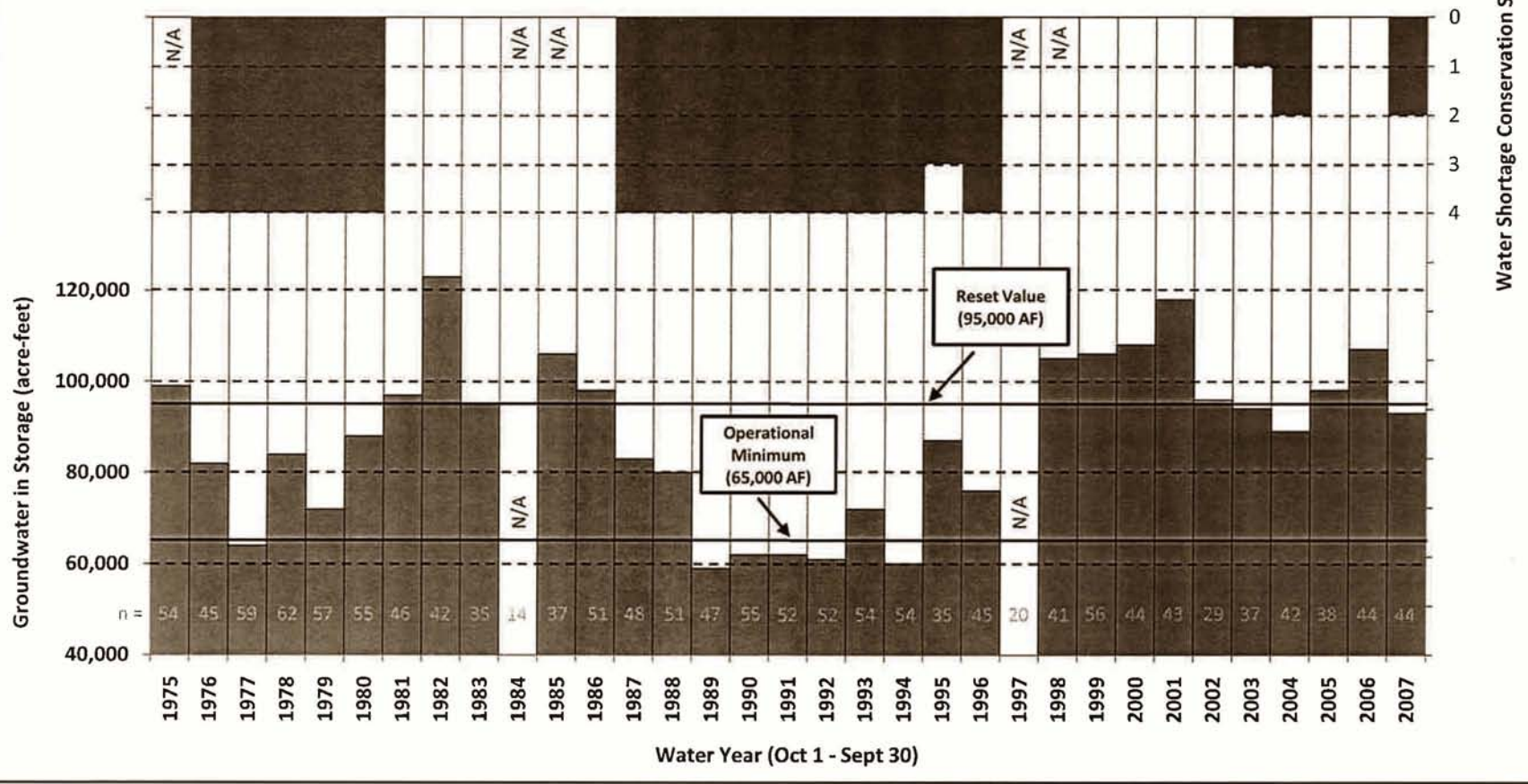
27 Department of Water Resources (DWR). 2002. Water Resources of the Arroyo Grande -
28 Nipomo Mesa Area, Southern District Report.

T

Water Shortage Conservation Stages based on Estimates of Annual Groundwater in Storage 1975 - 2007

Stage	Change in GWS Criteria	Years	Conservation Goal
1	Below reset value, GWS change \geq 1500 AF from PY	1	
2	Below reset value, GWS change \geq 3000 AF from PY	2	10%
3	Below reset value, GWS change \geq 6000 AF from PY	1	35%
4	Below reset value, GWS change \geq 10,000 AF from PY	14	50%

Notes: N/A = not applicable; n = number of wells used for gws estimate; PY = prior year



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Figure 1

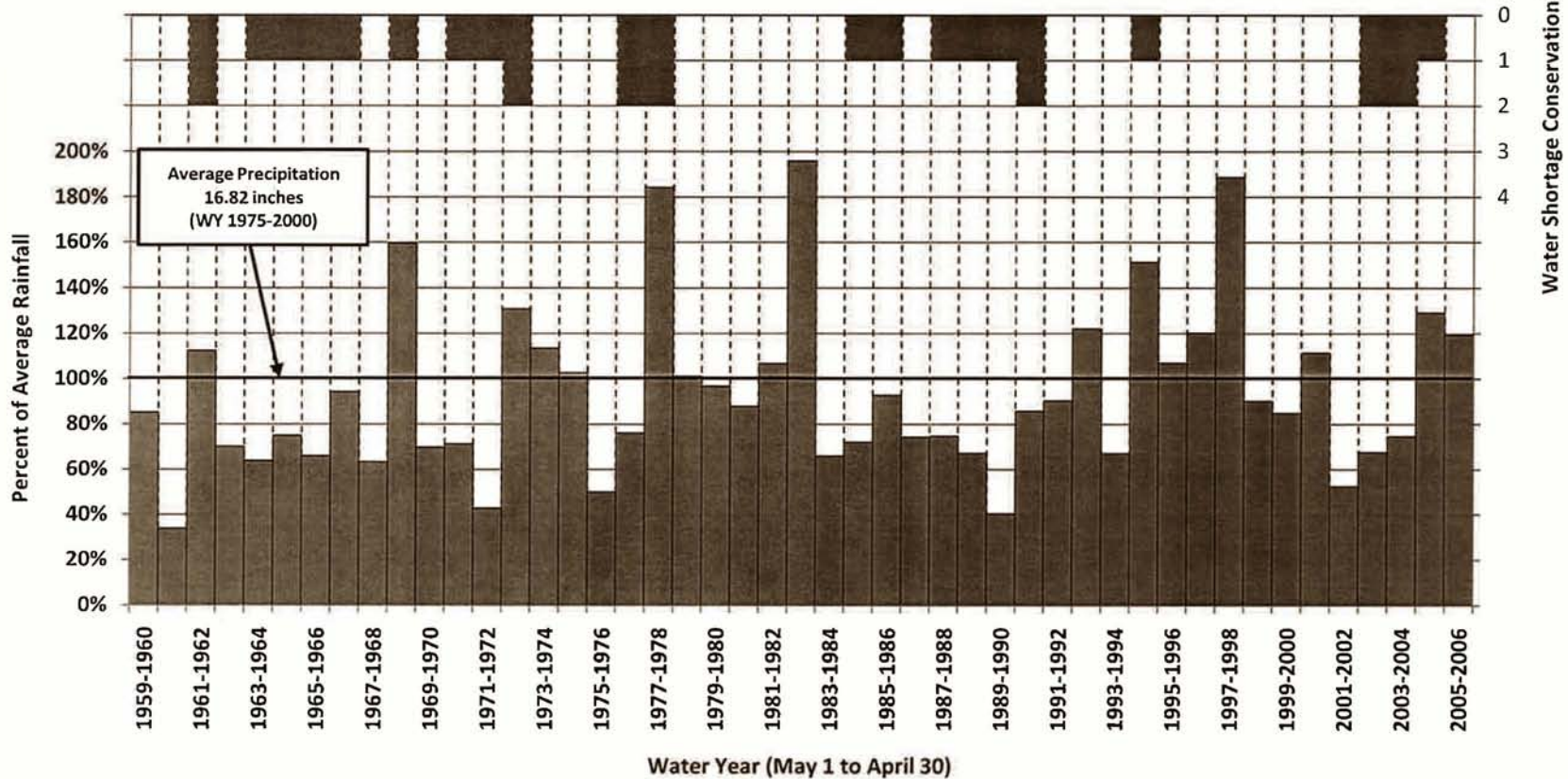
SAIC WRE

Created 10/02/2007

**Water Shortage Conservation Stages based on
CDF Nipomo Rain Gauge Record 1960 - 2006**

Stage	Rainfall Criteria	Years	Conservation Goal
1	PY < 80 %	14	
2	NLY < 60% and PY < 80% or PY < 60%	7	10%
3	PY < 60% and NLY < 60%	0	35%
4	PY < 50% and NLY < 50%	0	50%

Note: PY = Prior Year, NLY = Next to Last Year, % = Percent of Average Rainfall



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Figure 2
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Table 1. Annual Rainfall, Pumping, and Groundwater in Storage, 1975 – 2007

DATE	Annual Rainfall (ft) ^{(1),(2)}	Annual Pumping (acre-feet) ⁽³⁾	GWS (acre-feet)	N (# of wells used)
Spring 1975	1.44	4420	99,000	54
Spring 1976	0.71	4610	82,000	45
Spring 1977	1.26	5040	64,000	59
Spring 1978	2.39	4640	84,000	62
Spring 1979	1.42	5110	72,000	57
Spring 1980	1.39	5280	88,000	55
Spring 1981	1.20	5500	97,000	46
Spring 1982	1.50	5680	123,000	42
Spring 1983	2.77	5630	95,000	35
Spring 1984	0.91	6330	N/A	14
Spring 1985	1.01	6420	106,000	37
Spring 1986	1.30	7200	98,000	51
Spring 1987	1.05	7680	83,000	48
Spring 1988	1.06	7860	80,000	51
Spring 1989	0.95	8180	59,000	47
Spring 1990	0.63	9230	62,000	55
Spring 1991	1.14	8560	62,000	52
Spring 1992	1.26	8530	61,000	52
Spring 1993	1.73	8430	72,000	54
Spring 1994	0.98	8540	60,000	54
Spring 1995	2.19	8230	87,000	35
Spring 1996	1.38	8770	76,000	45
Spring 1997	1.69	8990	N/A	20
Spring 1998	2.82	9380	105,000	41
Spring 1999	1.09	10230	106,000	56
Spring 2000	1.21	10530	108,000	44
Spring 2001	1.57	-	118,000	43
Spring 2002	0.74	-	96,000	29
Spring 2003	0.95	-	94,000	37
Spring 2004	1.05	-	89,000	42
Spring 2005	1.85	-	98,000	38
Spring 2006	1.74	-	107,000	44
Spring 2007	0.58	-	93,000	44

⁽¹⁾ Rainfall data in water year, attained from SLO County: Nipomo CDF #151.1 Gage

⁽²⁾ WY 1975-2000 average annual rainfall = 1.40 ft

⁽³⁾ Data from Phase III trial exhibit: hydrologic inventory