## Method Summary



	Well Casing Interior	Gravel Pack	Gravel Pack – Formation Interface	Geologic Formation
Brushing	$\sqrt{\sqrt{\sqrt{1}}}$			
Swabbing/Pumping		$\sqrt{\sqrt{1}}$	$\checkmark$	
Jetting		$\sqrt{\sqrt{1}}$		
RotoScrub	$\sqrt{\sqrt{\sqrt{\sqrt{1}}}}$	$\sqrt{\sqrt{1}}$	$\checkmark$	
BoreBlast	$\sqrt{\sqrt{\sqrt{\sqrt{1}}}}$	$\sqrt{\sqrt{1}}$	$\sqrt{\sqrt{1}}$	
AquaFreed	$\sqrt{\sqrt{\sqrt{1}}}$	$\sqrt{\sqrt{\sqrt{1}}}$	$\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{$	$\sqrt{\sqrt{1}}$
Sonar Jet	$\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{$	$\sqrt{\sqrt{1}}$	$\checkmark$	-
Chemicals	$\sqrt{\sqrt{\sqrt{1}}}$	$\sqrt{\sqrt{\sqrt{1}}}$	$\sqrt{\sqrt{\sqrt{\sqrt{1}}}}$	$\sqrt{\sqrt{\sqrt{1}}}$

√ Marginally Effective

# Effective Rehabilitation Programs



- Can involve multiple, different strategies
- Must achieve effective deposit removal
- Must be custom tailored, based upon cause of problem, well construction details, and type of formation
- Must have penetration into the surrounding formation
- Must have good agitation



# Water Well Rehabilitation: the Good, the Bad, and the Ugly



#### For more information contact:

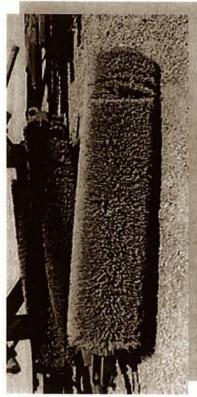
Tony Morgan, PG, CHG Senior Hydrogeologist Layne GeoSciences Group Layne Christensen Company Fontana, CA 909-390-2833 tmorgan@laynechristensen.com

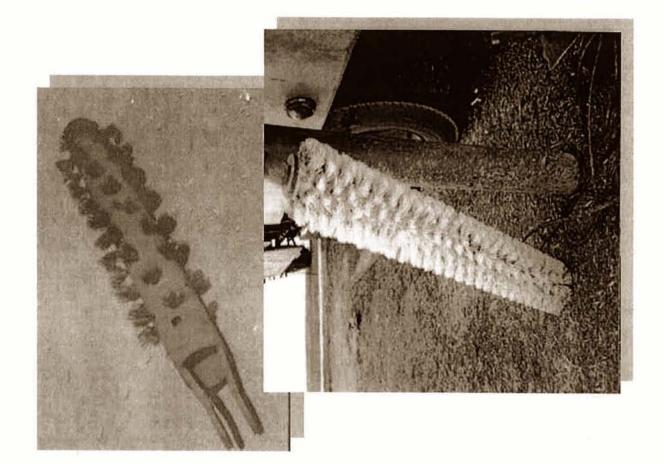






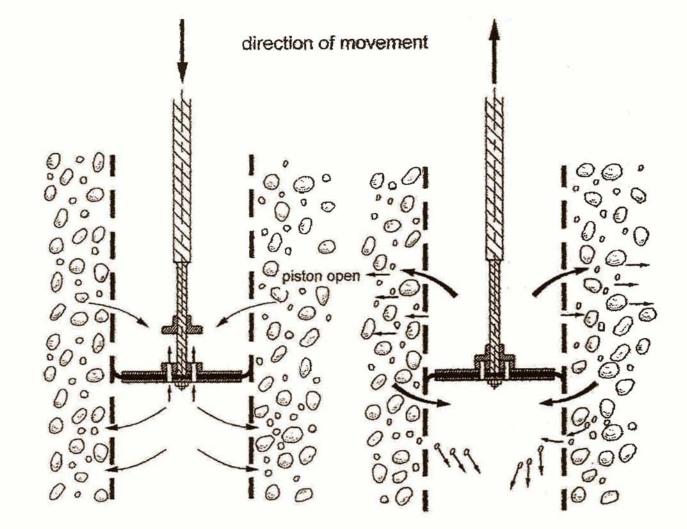




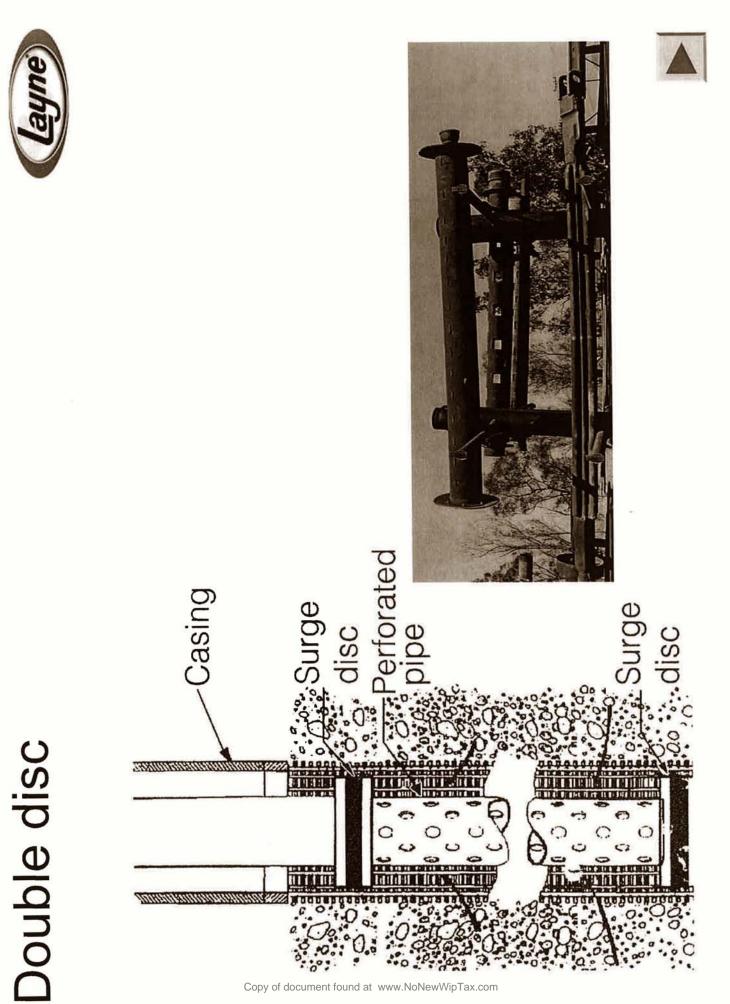


### Single disc surging / surge block



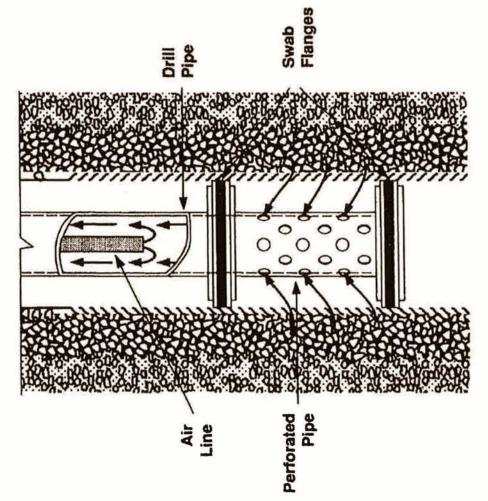








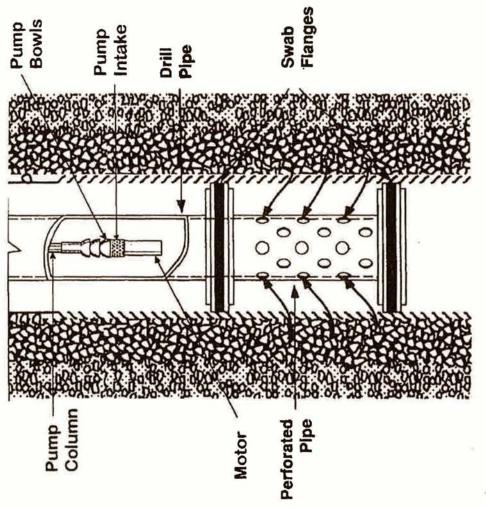






# Double disc pumping

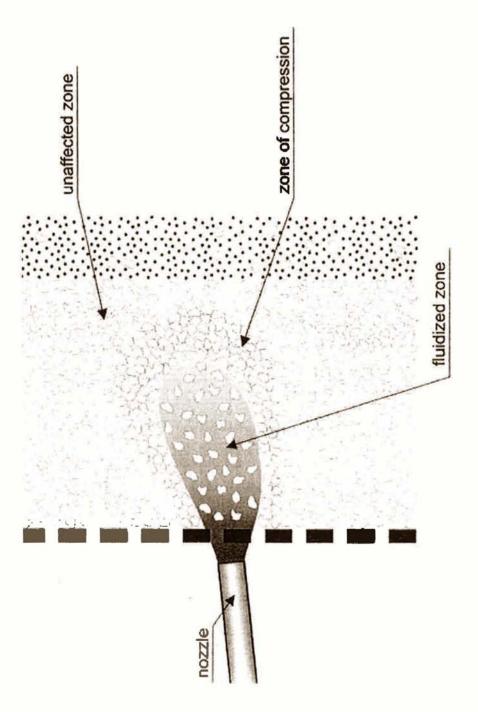




Submersible Pump Swabbing Tool







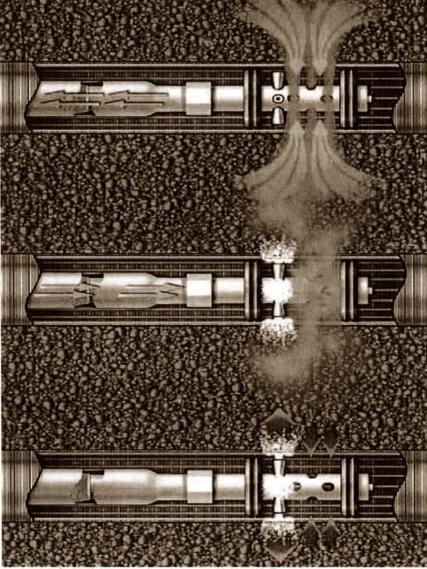
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Jetting









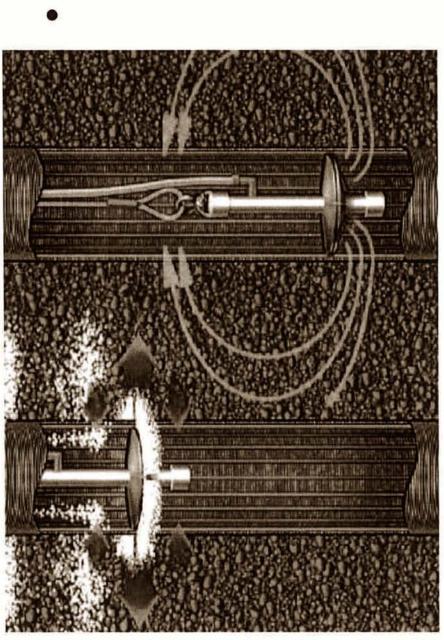
- Percussive
- energy Surging energy Fluid displacement Agitation of chemistry











Small discharge orifice to direct energy into perforations



# Sonar Jet



- Vibratory explosive using expansive gas
- Effective for casing interior and short distance into gravel pack
- Size of charge based on well diameter and submergence of water
- Often used as a pre-treatment
- Reduces chemical demand
- Removes scale from screen or casing



# RotoScrub

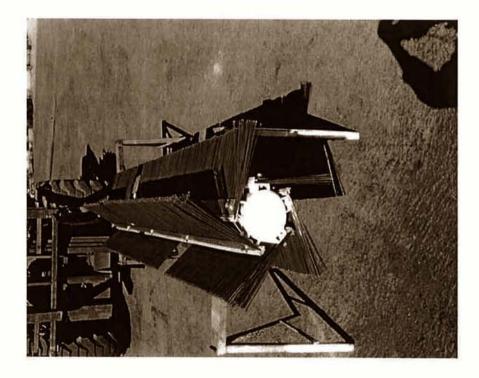


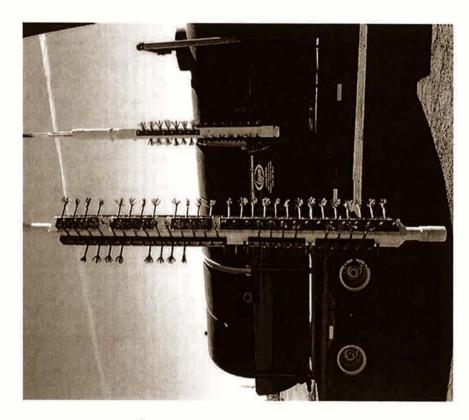
- Rotational movement by hydraulic power tongs
- Bottle-type brush
- Low carbon bristles for tough material
- Stainless steel bristles for softer material and very low ph applications
- Nylon for wire wrap wells









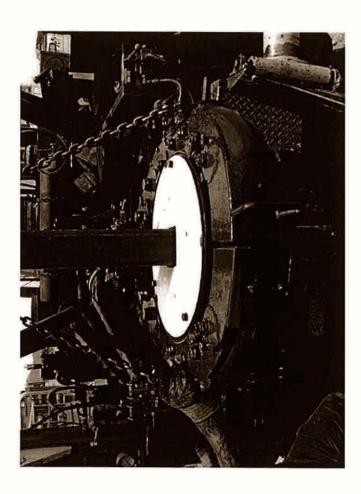


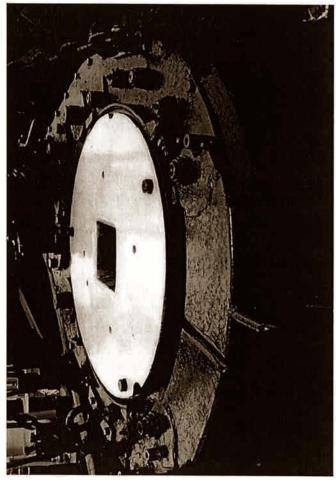
Copy of document found at www.NoNewWipTax.com

RotoScrub



RotoScrub

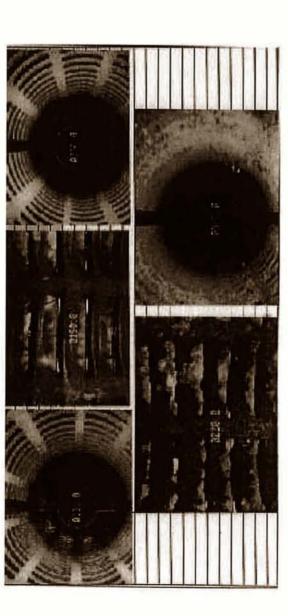




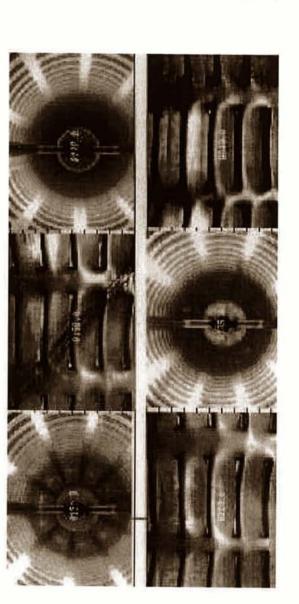








# Pre-RotoScrub



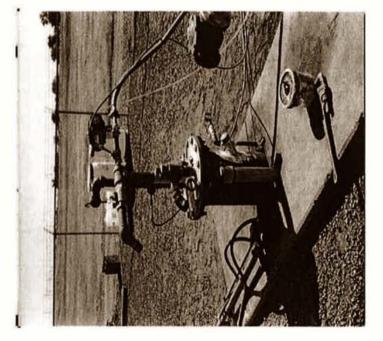
# Post-RotoScrub













# Aqua Freed



- Injection of liquid carbon dioxide (CO2)
- CO2 penetrates gravel pack and geologic formation
- Change from liquid to gaseous phase causes rapid expansion (500x)
- Light carbonic acid formation
- Freezing
- Reduces surface tension
- Documented evidence of geologic formation treatment



# Chlorination (Shock)



- Limited value as a chemical oxidizing agent to remove material – 80% of material is inorganic
- Effective at oxidizing organic material to get slime dispersion
- Not very effective at restoring specific capacity



# Acidization



#### More corrosive

- Hydrochloric (muriatic)
  - #1 choice
  - Can corrode steel casings limit this by using inhibitors
  - Dissolves iron and manganese deposits
- Sulfamic
  - Widely used
  - Dissolves calcium carbonate and magnesium carbonate
  - Almost no ability to dissolve iron and maganese
- Hydroxyacetic (glycollic) & Citric
  - Too mild to dissolve hard mineral deposits
- Phosphoric
  - Reacts too slow for most rehabilitation efforts

Less corrosive

#### Less dissolution

More dissolution



# **Formulated Chemistry**



- Phosphorus-based treatments
  - good for well development (dispersal of clays)
  - "food source" for microbes
- Disinfectants
  - Sodium hypochlorite
  - Calcium hypochlorite (50% less effective than sodium hypochlorite)
  - Chlorine gas
  - Chlorine dioxide
  - Sodium hydroxide (lye)







- Dispersants
- Penetrants
- Surfactants
- Corrosion Protection



TO: BOARD OF DIRECTORS

FROM: BRUCE BUEL

DATE: MAY 4, 2007

#### COMMITTEE REPORTS

**AGENDA ITEM** 

G

MAY 9, 2007

#### ITEM

Receive Minutes from the April 30, 2007, Parks Committee and the Minutes from the April 18 and May 2, 2007, Finance, Audit, and Personnel Committee

#### BACKGROUND

Attached is the set of draft minutes from the April 30, 2007, Parks Committee and the draft minutes from the April 18 and May 2, 2007, Finance, Audit, and Personnel Committee. Members of the Committees or Staff can respond to questions and receive comments from the Board regarding the meetings or the draft minutes.

#### RECOMMENDATION

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

#### ATTACHMENTS

- 1. April 18, 2007 Finance Audit & Personnel Committee Meeting
- 2. April 30, 2007 Parks Committee Meeting
- 3 May 2, 2007 Finance, Audit & Personnel Committee Meeting

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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 Web site address www.ncsd.ca.gov

#### MINUTES OF THE 4/18/07 MEETING OF THE

#### FINANCE, AUDIT AND PERSONNEL COMMITTEE

#### 1. CALL TO ORDER, ROLL CALL AND FLAG SALUTE

Chairman Vierheilig called the Special Meeting to order at 9:00 a.m. in the NCSD Board Chambers. Both Chairman Vierheilig and Director Trotter were in attendance along with staff members Bruce Buel and Lisa Bognuda. Members of the public included Bill Nelson, Mike Winn and Jim Harrison.

#### 2. CONSIDER EMPLOYEE COST OF LIVING ADJUSTMENT (COLA)

Staff reviewed the Revised Staff Report dated April 17, 2007. Pursuant to Resolution 2006-1000, the Board of Directors approved the use of the Consumer Price Index-Urban Wage Earners and Clerical Workers (Average of annual increases for the Los Angeles-Riverside-Orange County and San Francisco-Oakland-San Jose) for all future Cost of Living Adjustments (COLA). The computation for the FY 2007-2008 budget was made following the example presented by the Bureau of Labor and Statistics and was determined to be 3.53%. Upon motion of Director Trotter and seconded by Director Vierheilig, the Committee unanimously approved the recommendation of 3.53% COLA for the FY 2007-2008.

#### 3. REVISIONS TO THE PERSONNEL POLICIES AND PROCEDURES MANUAL

Staff reviewed the proposed revisions to the Personnel Policies and Procedures Manual. The Staff report for this agenda item was prepared prior to the April 11, 2007, regular Board Meeting. At that meeting the Board of Directors made changes to the job descriptions for the Utility Superintendent and the Inspector/Preventative Maintenance Supervisor. These changes will be included in the revisions to be presented to the Board of Directors at the April 25, 2007 Board Meeting. Director Vierheilig asked for minor modifications to Policy 5020. The Committee unanimously approved forwarding the recommendations, with corrections, to the Board of Directors.

#### 4. DRAFT BUDGET FOR FISCAL YEAR 2007-2008 AND RECRUITMENT BASED ON RECOMMENDATIONS FROM CLASSIFICATION STUDY

Staff reviewed the draft budget for Fiscal Year 2007-2008 with the Committee (with the exception of personnel which was reviewed separately below). The following is a summary of changes and comments made by the Committee:

- ✓ Fund #120-Town Water- The funded replacement should be increased from \$92,000 to an amount that would cause the Fund to be in a neutral financial position.
- ✓ Fund #130-Town Sewer-The funded replacement will be kept at \$351,000 due to adequate reserves.

#### MINUTES OF THE 4/18/07 MEETING OF THE FINANCE, AUDIT AND PERSONNEL COMMITTEE

#### 4. DRAFT BUDGET FOR FISCAL YEAR 2007-2008 AND RECRUITMENT BASED ON RECOMMENDATIONS FROM CLASSIFICATION STUDY (continued)

- ✓ A footnote will be added to Pages 32-35 regarding the potential merger of the Town Water and Black Lake Water systems and the potential for modifications to the budget based on the merger plan during the fiscal year.
- A footnote will be added to Pages 32-35 regarding the potential merger of the Town Water and Black Lake Water systems and the potential for modifications to the budget based on the approved merger plan.
- ✓ Fund #150 Black Lake Sewer will need to borrow funds at some point in the fiscal year until new rates are in effect. The Committee is recommending Fund #150 initiate a loan from Fund #130 – Town Sewer. This item will be presented to the Board of Directors for consideration when the time comes. The budget will be modified to reflect interest expense in Fund #150 and interest income in Fund #130.
- ✓ Fund #300 Solid Waste-Staff recommended and the Committee concurred that the budgeted Franchise Fee Revenue be reduced to \$88,000 to reflect a potential reduction in the Franchise Fee from 10% to 7.3%.
- ✓ Fund #820 Funded Replacement Black Lake Water budget is projected to be lowered from \$903,000 to \$200,000 to reflect the potential merger of the two water systems.
- ✓ Fund #830 Funded Replacement Black Lake Sewer will need to borrow funds to fund the pond liner replacement. The Committee is recommending Fund #830 initiate a loan from Fund #810 – Funded Replacement Town Sewer until the new rates are in effect. This item will be presented to the Board of Directors for consideration when the time comes. The budget will be modified to reflect interest expense in Fund #830 and interest income in Fund #810.
- ✓ Staff recommended adding \$50,000 to the Supplemental Water Project costs to hire a lobbyist.
- ✓ The Committee asked for minor cosmetic changes to the budget.

Mr. Bill Nelson of Black Lake commented throughout the discussions.

The Committee unanimously agreed on the above recommendations and asked Staff to make the changes to the draft budget.

The Committee reviewed the revisions to the Personnel Policies and Procedures Manual as Agenda Item #2. As part of the budgeting process, the Committee was asked to review the proposed organizational structure and determine which positions will be funded and at what point in the fiscal year the positions will be filled.

The following is a summary of changes and comments made by the Committee:

- ✓ The Committee recommends recruiting for a Utility Superintendent at Salary Range #47.
- ✓ The Committee recommends recruiting for an Inspector/Maintenance Supervisor at Salary Range #42.
- ✓ The Committee recommends recruiting for a part-time Secretary/Clerk to report to duty three months after the Utility Superintendent reports to work.
- The Committee recommends the postponement of hiring of one additional Utility Worker and one additional Maintenance/Customer Service Worker until July 1, 2008 (next fiscal Year).

#### MINUTES OF THE 4/18/07 MEETING OF THE FINANCE, AUDIT AND PERSONNEL COMMITTEE

#### 4. DRAFT BUDGET FOR FISCAL YEAR 2007-2008 AND RECRUITMENT BASED ON RECOMMENDATIONS FROM CLASSIFICATION STUDY (continued)

- ✓ The Committee recommends maintaining the current Utility Supervisor and Utility Field Foreman positions until the Utility Superintendent reports to work.
- ✓ The Committee recommends the District maintain the current Organizational Chart until the Utility Superintendent reports to work after which time the new proposed Organizational Chart will become effective.
- The Committee recommends the proposed Organizational Chart be modified to move the Assistant Administrator beneath the General Manager.
- ✓ The Committee recommends the Board of Directors reconsider the recruitments of the Utility Supervisor and the Inspector/Preventative Maintenance Supervisor at Salary Range #42 and not Salary Range #46.

#### 5. SET NEXT MEETING

No date was set for the next meeting.



#### NIPOMO COMMUNITY SERVICES DISTRICT

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

#### MINUTES OF THE 4/30/07 MEETING OF THE

#### PARKS COMMITTEE

#### 1. CALL TO ORDER, ROLL CALL AND FLAG SALUTE

Chairman Winn called the Special Meeting to order at 1:00pm in the NCSD Board Chambers. Both Chairman Winn and Director Harrison were in attendance along with General Manager Bruce Buel, Assistant to the General Manager Faith Watkins, and five members of the public. Chairman Winn described the purpose and format of the meeting. There was no public comment on this item.

#### 2. DISCUSS ACTIVATION AND PARK DEVELOPMENT STATUS

Bruce Buel indicated that no plans had been received from Cal Poly and summarized the draft MOU and the draft Funding Analysis Request for Proposal (RFP) for an engineer to craft one or more funding zones, as set forth in the meeting packet. Committee discussion followed on the MOU with both Committee Members suggesting edits. Jim Tefft and Kathy Kubiak also suggested edits and asked about the intent of the MOU. Jim Harrison moved that the Committee recommend that the Board approve the MOU in concept, as edited, and forward the MOU to the County for consideration. Mike Winn seconded the motion, which passed unanimously. Committee discussion followed on the draft RFP with both Committee Members suggesting edits. Jim Tefft and Peg Miller commented on the draft RFP. Jim Harrison moved that the Committee recommend that the Committee recommend that the Board authorize distribution of the RFP as edited. Mike Winn seconded the motion, which passed unanimously.

#### 3. EDIT DRAFT PARKS SURVEY QUESTIONNAIRE

Bruce Buel summarized the draft questionnaire set forth in the meeting packet, summarized the feedback to date from various reviewers, and requested committee feedback. Jim Tefft asked about the intended use of the survey results and suggested that the consultant provide notice to the community prior to initiating the calls. Significant committee discussion followed in regards to edits to the questionnaire with a consensus amongst the Committee that the questionnaire, as edited, was ready for the consultant to initiate calling after notice was provided to the Community.

#### 4. DISCUSS OPTIONS FOR RECEIVING ADVISORY INPUT ON PARKS ISSUES

Bruce Buel summarized the options identified by staff for encouraging citizen input on Parks issues. Mike Winn and Jim Harrison commented on the advantages and disadvantages of the identified options. Mike Winn indicated that he favored the concept of creating a new Citizens Advisory Sub-Committee supported by the members of the Parks Committee instead of staff. Mike Winn further suggested that each Board Member appoint one member of the sub-committee from within the District and that the five sub-committee members in turn appoint two additional members who reside in the

#### MINUTES OF THE 4/30/07 MEETING OF THE

#### PARKS COMMITTEE Page 2 of 2

District's Sphere of Influence. Mike Winn also recommended that the Board set minimum qualifications for selection of all seven sub-committee members and volunteered to draft a proposed set of minimum criteria. Jim Harrison indicated that he could support all of Mike Winn's suggestions. Following additional Committee discussion, Mike Winn moved to recommend that the Board initiate the process to form the Sub-Committee as described above. Jim Harrison seconded the motion, which passed unanimously. There was no public input.

#### 5. SET MEETING DATE(S) FOR SUBSEQUENT MEETINGS

The Committee agreed to meet again at 1 pm on Monday 6/25/07. There was no public comment.

#### 6. ADJOURNMENT

Chairman Winn thanked the public for participating and adjourned the meeting at 2:37 p.m.

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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 Web site address www.ncsd.ca.gov

#### MINUTES OF THE 5/02/07 MEETING OF THE

#### FINANCE, AUDIT AND PERSONNEL COMMITTEE

#### 1. CALL TO ORDER, ROLL CALL AND FLAG SALUTE

Chairman Vierheilig called the Special Meeting to order at 9:00 a.m. in the NCSD Board Chambers. Both Chairman Vierheilig and Director Trotter were in attendance along with staff members Bruce Buel and Lisa Bognuda. Members of the public included Mike Winn and Jim Harrison.

#### 2. CONSIDER OPTIONS FOR RECRUITING DISTRICT ENGINEER

Staff stated that it had processed two unsuccessful rounds of recruiting for the District Engineer. Staff believes that the advertised salary range is not sufficient to attract and retain a qualified candidate. Staff presented a salary survey prepared by CCWA as well as an excerpt from the Koff & Associates Salary Survey adopted by the Board of Directors in December 2006.

The Committee discussed the option of hiring a college graduate without an engineering license (Engineer-In-Training).

Staff presented options to the Committee:

- 1. Consider increasing the Salary Range for District Engineer
- 2. Consider recruiting a Project Manager in lieu of a District Engineer

The Committee agreed to recruit for a District Engineer at Salary Range #67-#68. Upon motion of Director Trotter and seconded by Director Vierheilig, the Committee unanimously agreed to forward the recommendation to the Board of Directors.

#### 3. SET NEXT MEETING

No date was set for the next meeting.

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