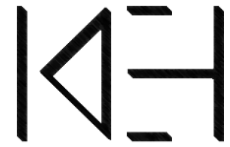


Water Supply Alternatives Analysis



Date: November 4, 2016

To: Jared Bouchard, Channel Islands Beach Community Services District

From: Frank Dodge, KEH & Associates

Reviewed By: Ryan Gallagher, PE, KEH & Associates

Subject: Channel Islands Beach Community Services District (CIBCSD) Water Supply Alternatives Analysis – Evaluation Criteria and Initial Screening

1. Background

Channel Islands Beach Community Services District (District) has identified that the current state of water supply to their customers is a concern. During the 9-20-16 District Board Meeting, the District's General Manager, Jared Bouchard, delivered two presentations which are attached as **Appendix A**. The presentations address the current state of the District's water and wastewater systems including background information, challenges and goals.

2. Survey

Immediately following the water presentation, a 57-question survey was administered to the five Board members to gauge their knowledge, opinion, and place a value of importance on multiple topics pertaining to water supply. All questions can be grouped into one of eight categories; a General category and the following seven evaluation criteria:

- Independence
- Cost
- Water Quality
- Reliability
- Leader/Leadership
- Innovation
- Implementation

A detailed breakdown of all survey responses by Board members are provided as **Appendix B**. For each of the seven evaluation criteria, multiple lead-in questions were used in preparation to asking the Board to explicitly assign a numerical value of importance for the seven category. The following statements reflect the Board's position related to key water supply issues:



- The “current water shortage” will last a minimum of 10 or more years, and three of five members believe the water shortage may be the new normal (Question 5). In addition, the reliability of Calleguas Municipal Water District (CMWD) and United Water Conservation District (UWCD) as water sources is understood to get worse in the future (Question 31).
- Having complete control over District water supply destiny is critical and customers may be willing to pay higher rates in order to achieve that control (Questions 9 and 10).
- It does **not** matter how District rates compare to other local agencies as long as they meet the key goals of the District (Question 15).
- The partnership with PHWA is **not** providing a good value for the District (Question 7) and having shared control over the PHWA has been an issue for the District (Question 37). The Board would consider a solution that eliminates the PHWA (Question 59).
- The PHWA should have a plan that outlines the cost of future rehabilitation (Question 21).
- The Board unanimously agrees on the following:
 - Current water quality needs to be improved (Question 24)
 - The recent reduction in water quality is an issue for customers (Question 25)
 - It is a problem that rates reflect a higher water quality than what is delivered (Question 26)
 - The District should strive to deliver water that is consistent with imported water quality (Question 28)
 - Imported water quality is worth higher rates (Question 29)
- The District should be a leader in developing a water supply plan that provides regional benefit (Question 38) and the Board supports investing District staff time and money to serve as a leader in this effort (Question 39).
- The Board believes it is acceptable to be the first regional/industry-wide agency to implement a new technology (Question 47) and is interested in evaluating multiple new technologies (Question 51).
- Recycled water should be used for irrigation demands, even if it is not cost effective, because it is the right thing to do (Question 53).
- A water supply plan should be developed within the next 12-18 months (Question 57) and the corresponding water supply program should be fully implemented within the next 10 years (Question 58).

The Board member responses to the importance of the seven evaluation criteria are displayed in **Table 1**. These “survey scores” were used to generate evaluation criteria weights to be applied in evaluating and ranking alternatives.



TABLE 1
EVALUATION CRITERIA SURVEY RESULTS TABLE

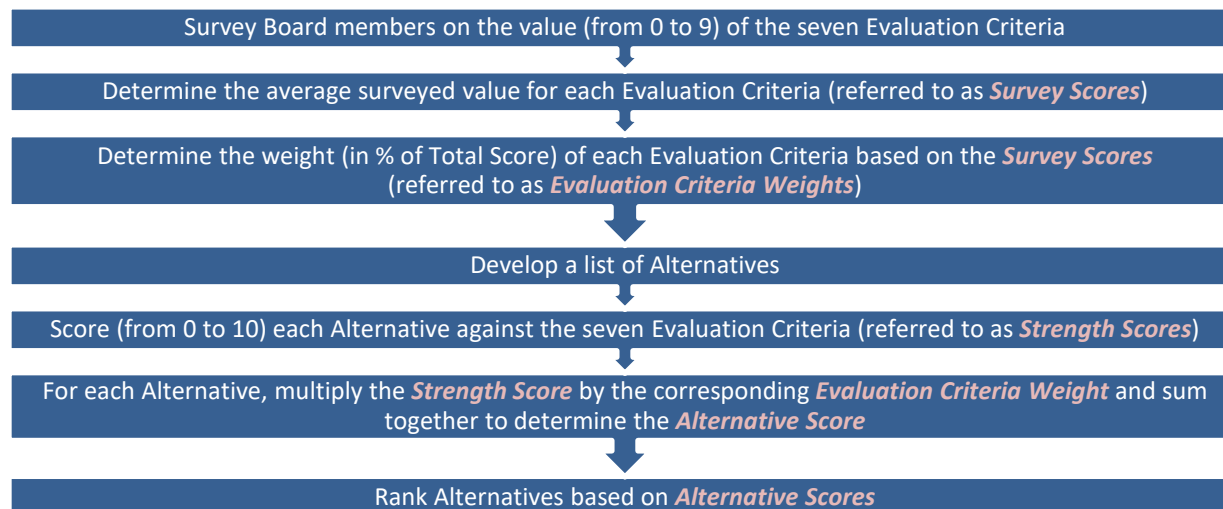
		Score							
		Independence	Cost	Water Quality	Reliability	Leader/ Leadership	Innovation	Implement- ation	Average
Name	R.V. "Jim" Estomo	9	9	8	9	9	6	9	8.4
	Keith Moore	8	9	9	6	9	8	8	8.1
	Marcia Marcus	7	7	7	8	7	8	7	7.3
	Susie Koesterer	9	7	9	9	8	9	9	8.6
	Ellen Spiegel	5	5	9	9	9	5	9	7.3
Average		7.6	7.4	8.4	8.2	8.4	7.2	8.4	7.9

Note: Minimum score possible was 0 and maximum score was 9.

3. Initial Screening

A list of viable alternatives was developed and the strengths were scored against the evaluation criteria by the District General Manager with the assistance of KEH. These “strength scores” have been multiplied against the evaluation criteria weights to provide a total score for the alternative, which allows for all alternatives to be explicitly ranked against each other. This process is summarized in **Figure 1**.

FIGURE 1
PROCESS OF RANKING ALTERNATIVES

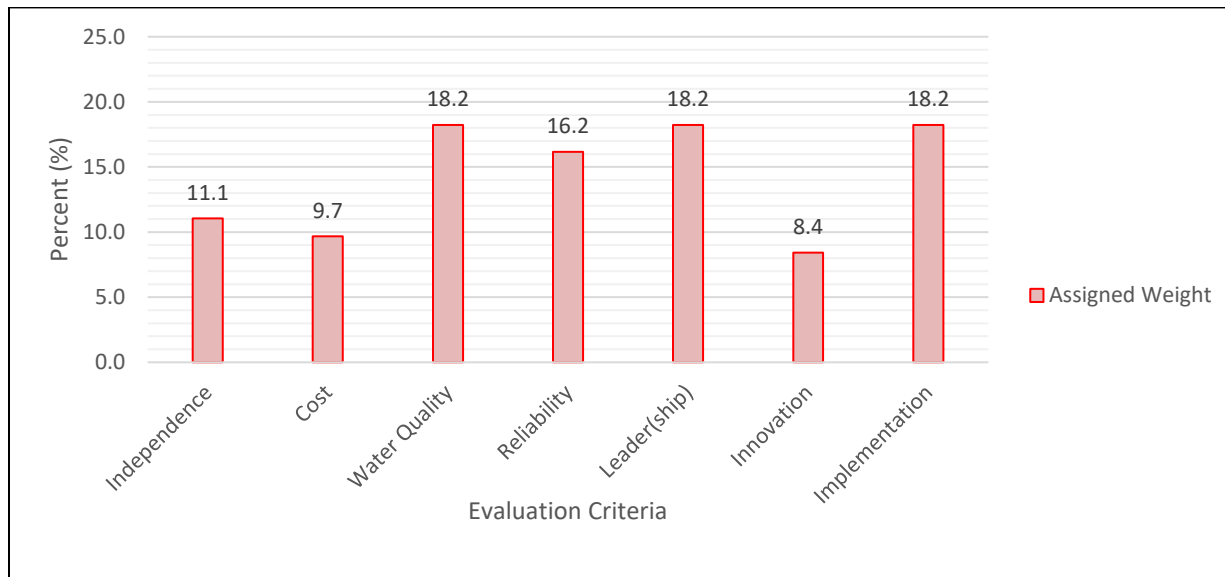


Due to the relatively small difference between the survey scores for each evaluation criteria, an equation was applied to each score in order to drive a larger difference between the evaluation criteria weights.

The worksheets used to analyze the alternatives is included in **Appendix C**, and the development of the weights from the survey scores are shown on the sheet titled *Criteria Weighting* in the attachment. The evaluation criteria weights are displayed in **Figure 2**.



FIGURE 2
EVALUATION CRITERIA WEIGHTS



Note: All evaluation criteria weights total to 100%.

The following are the five top-ranked alternatives based on the process described above:

1. Brackish Water Desalination at District Yard
2. Direct Potable Reuse – PHWA, District Lead
3. Brackish Water Desalination at Oxnard BS#1 Desalter, (increase recovery on existing units) – Independent District Project
4. Buy Ventura/Casitas SWP Allocation, Deliver Through El Rio Spreading Grounds and Pump Out
5. Direct Potable Reuse – District Only

Attachments:

Appendix A – Water and Wastewater Presentations

Appendix B – Detailed Survey Results

Appendix C – Initial Screening Support Documentation

APPENDIX A
Water and Wastewater
Presentations

CHANNEL ISLANDS BEACH COMMUNITY SERVICES DISTRICT

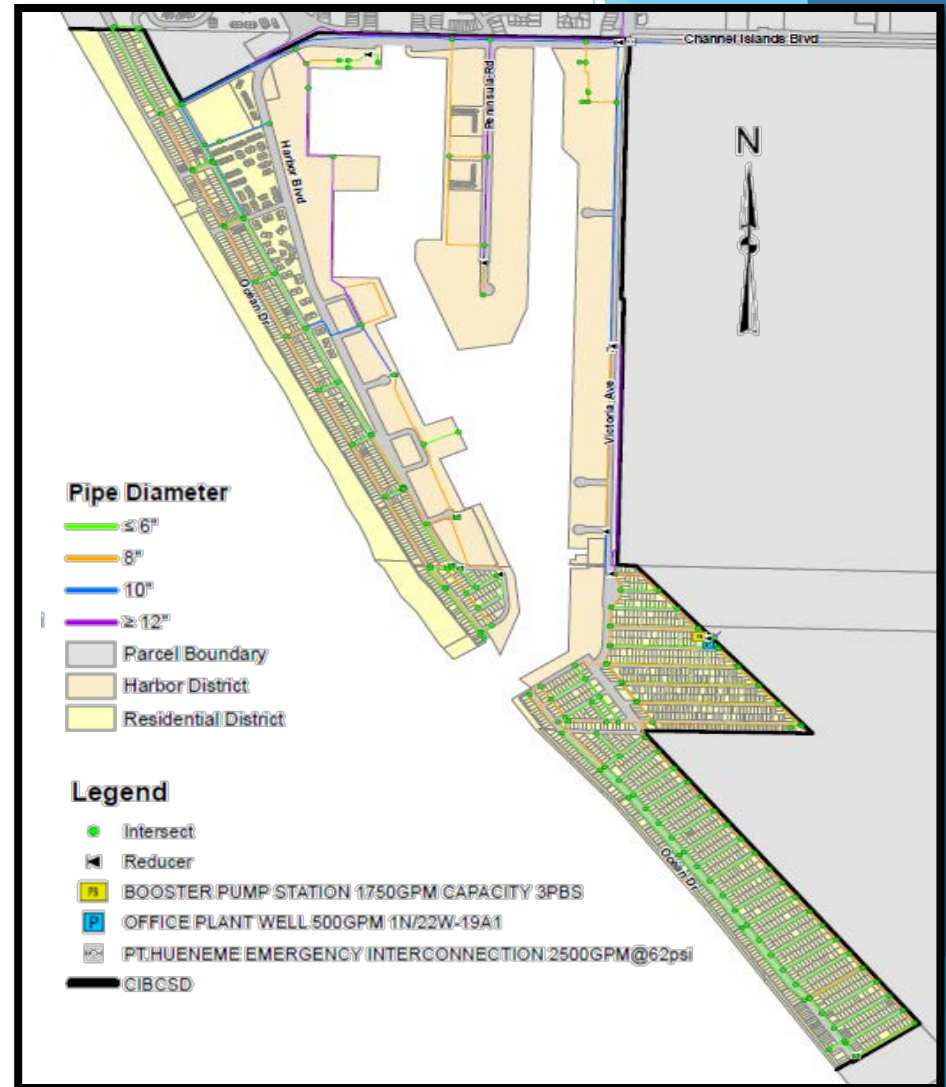
Water Workshop
September 2016

Overview

- ▶ Water Infrastructure and Background
- ▶ Recent Accomplishments
- ▶ Challenges and Needs
- ▶ Goals or Values
- ▶ Next Steps

Water Infrastructure and Background

- ▶ Water supplied by Port Hueneme Water Agency (PHWA)
 - PHWA formed in 1994
 - Water Sales Agreement signed in 1996 (40 year term - ends in 2036). 18-month notice required for early termination (section 4)
 - Oxnard/Hueneme Water Supply Agreement
 - Groundwater allocation
 - Calleguas Municipal Water District allocation: contractually required to deliver up to 460 AFY
- ▶ Agreement with Channel Islands Harbor
- ▶ Emergency (fire flow) connections with Oxnard and Port Hueneme

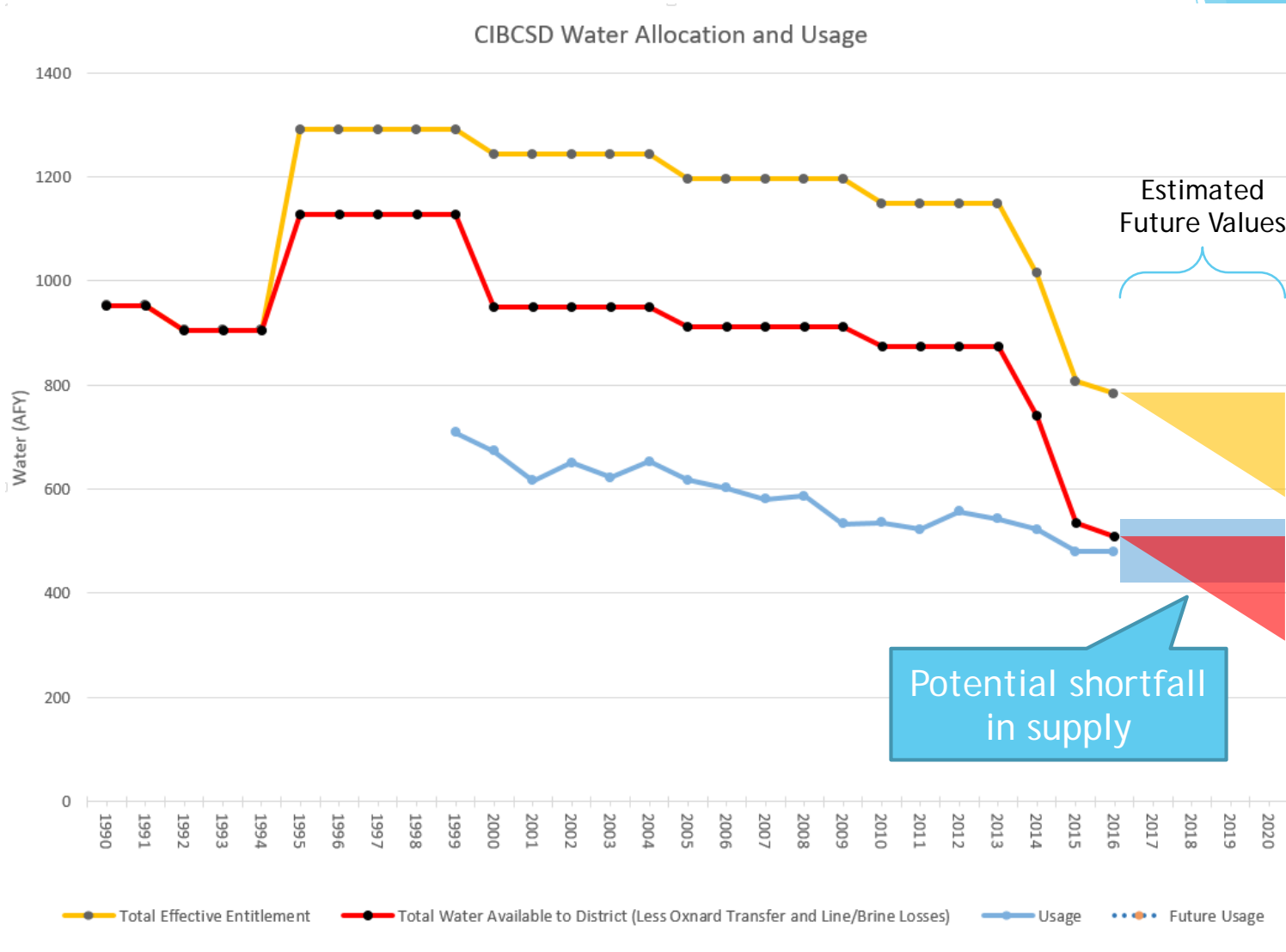


Water Infrastructure and Background

- ▶ Water Infrastructure Model and Analysis completed in 2010
- ▶ Brackish Water Reclamation Demonstration Facility built in 1999
 - 2010 replace Electro-dialysis Reversal with Nanofiltration
- ▶ District-owned Cross-base pipeline
 - 1996 Construction, 7,000 ft of 18"
- ▶ 1,854 metered connections
- ▶ 18.5 miles of pipeline
- ▶ Range 2-inch to 12-inch
- ▶ ACP, PVC, 1960 & 1988



Water Supply and Demand



Recent Accomplishments

- ▶ 1988 installed 8,660' PVC pipe for increased customer demand and Fire flow
- ▶ Routine Maintenance
- ▶ Master Metered Casa Serena, CIYC
- ▶ District Engineer established



Challenges and Needs

Water Supply

- ▶ Groundwater reductions - Emergency Ordinance E (April 11, 2014)
- ▶ PHWA Issues
 - ▶ Facility nearing 20 years old; significant investment required
 - ▶ Not operational due to water quality issues (Fe & Mn)
 - ▶ Operations by City of Port Hueneme
- ▶ Harbor concerns and expansion - need standards and infrastructure assessment
- ▶ Maintaining Water Quality - Current Total Dissolved Solids is higher
- ▶ No long term strategy for maintaining water supply and quality
- ▶ No local control
- ▶ Regional Project Issues (GREAT Program)

Others

- ▶ Greater rate of conservation → Higher fixed cost per unit
- ▶ Staff limitations
- ▶ Liability - mains that are routed through private property

Goals and Values for Water Supply

- ▶ Independence/Control
- ▶ Cost
- ▶ Water Quality
- ▶ Reliability
- ▶ Leader
- ▶ Innovation
- ▶ Implementation

Potential Solutions

1. Seawater desalination
 - a) Combined project (District Lead)
 - b) Combined project (District buy-in)
 - c) Independent project (various delivery methods)
2. Brackish water desalination @ District Yard
3. Brackish water desalination via GREAT and BS#1/BS#6
 - a) District only
 - b) Combined with PHWA partners
4. Join with City of Oxnard
5. Upgrade the PHWA
6. Water Conservation
7. Recycled water for irrigation
8. Recycled water for IPR
 - a) District only
 - b) Join with Oxnard
 - c) Join with PHWA
9. Recycled water for DPR
 - a) District only
 - b) Join with Oxnard
 - c) Join with PHWA
 - d) Join with Ventura
10. New wells for blending
11. 100% CMWD

Next Steps

- ▶ Step 1 - Q4 2016
 - ▶ Distill the discussion on Goals and Values into evaluation criteria (assign weights)
 - ▶ Apply the evaluation criteria to the Potential Solutions
- ▶ Step 2 - Q1 2017
 - ▶ Prepare presentation on Top 5 and overview of process
- ▶ Step 3 - Q2 2017
 - ▶ Shortlist to Top 3 during Workshop #2
 - ▶ Board to provide direction to further evaluation of Top 3

CHANNEL ISLANDS BEACH COMMUNITY SERVICES DISTRICT

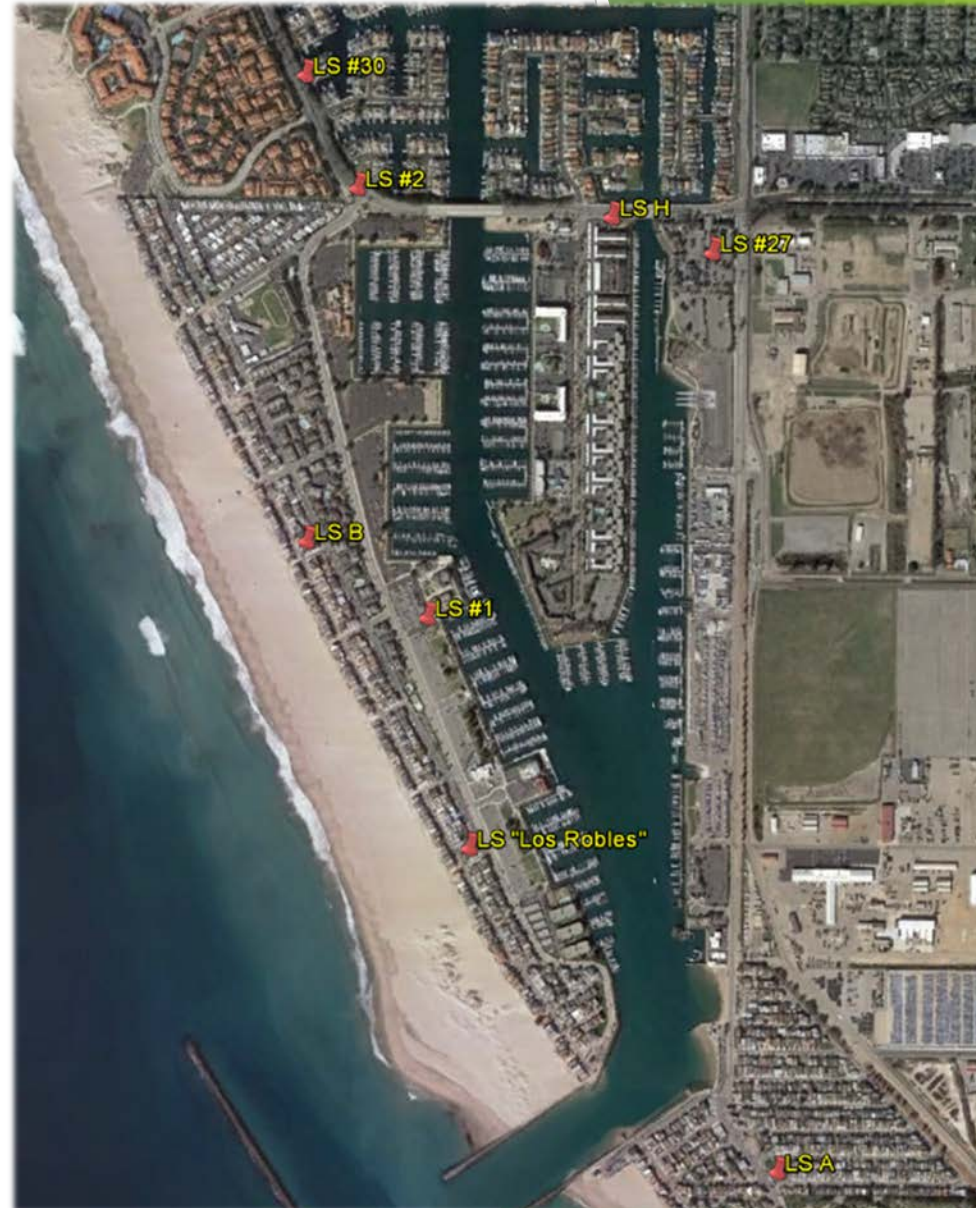
Wastewater Workshop
September 2016

Overview

- ▶ Wastewater Infrastructure and Background
- ▶ Recent Accomplishments
- ▶ Challenges and Needs
- ▶ Goals or Values
- ▶ Next Steps

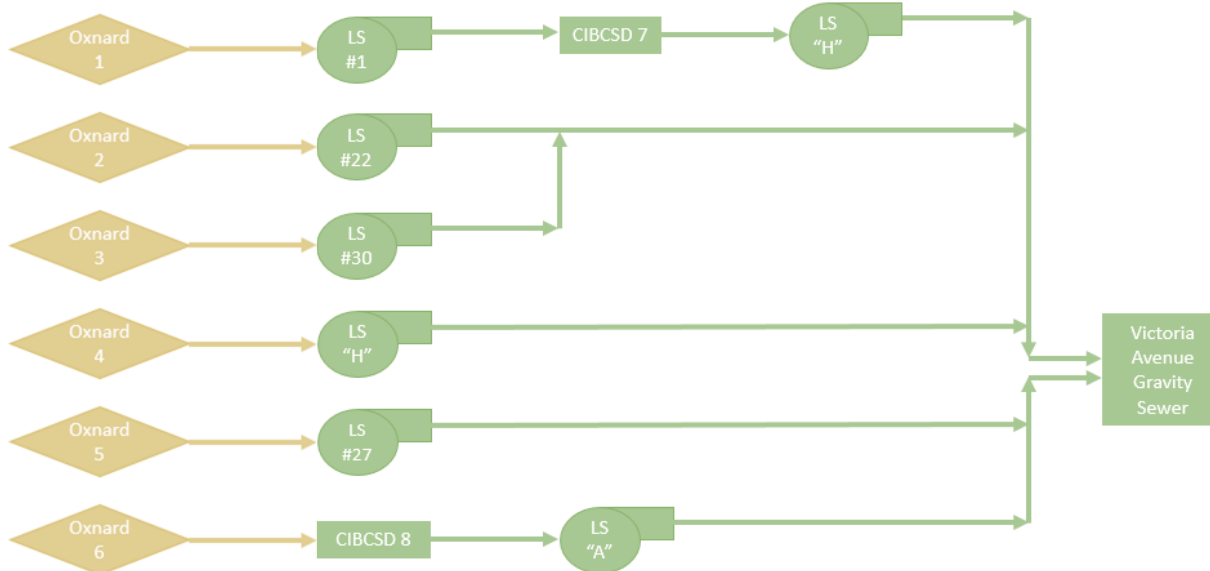
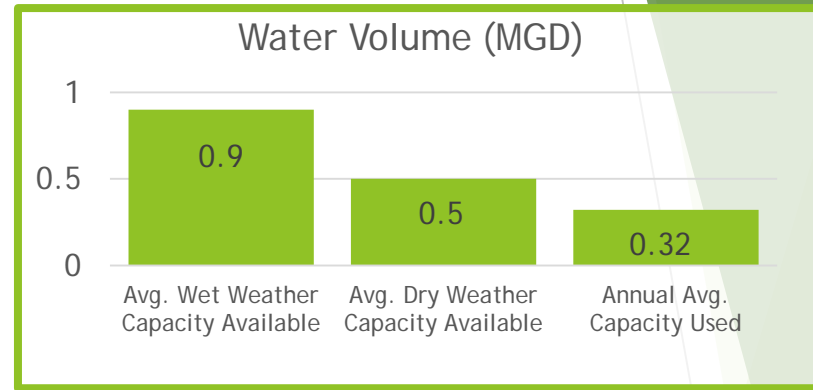
Wastewater Infrastructure and Background

- ▶ 2,200 sewage connections
- ▶ 28,000 ft of wastewater collection pipelines
- ▶ 4 Lift Stations, 3 Pump Stations



Wastewater Infrastructure and Background

- ▶ Apx 735 City of Oxnard water customers
- ▶ Stipulated amount of Sewage Revenue remitted to District from City of Oxnard for conveyance and collection
- ▶ Agreement for all sewage to deliver to Oxnard Wastewater Treatment Plant



Recent Accomplishments

- ▶ 2016 Rate Study completed
 - ▶ 2016-17 CIP Budget
 - ▶ Water and Sewer rates formally adopted Aug. 9, 2016
- ▶ Force Main CIPP Project of 11,088 feet completed in 2015
- ▶ All Pump and Lift Stations wet well relined over past four years
 - ▶ 100% video of system



Challenges and Needs

- ▶ Aging Infrastructure
 - ▶ Addressing Infiltration and Inflow issues in the District
 - ▶ Lift Station electrical
- ▶ Coordination with City of Oxnard (field coordination, operations and management)
- ▶ Shared Cost in Oxnard Wastewater Treatment Plant Improvements Unknown
- ▶ Cost of Service
- ▶ Infrastructure Impacts from Harbor Development
- ▶ Community Communication

Goals and Values

- ▶ Independence
- ▶ Maintain Regulatory Compliance
- ▶ Responsible Re-investment to Avoid Failure or Dramatic Future Rate Increases
- ▶ Regular Collaboration with Partners

Next Steps

- ▶ District Staff currently implementing a condition assessment of Pipe and Lift Stations
- ▶ Develop Plan to replace all failing or aging pipelines
 - ▶ Include annual expenditure, based on completion in 5-10 years
 - ▶ Identify opportunities to package projects or solicit bids that reduces overall program cost
- ▶ Wastewater Agreement negotiation with Oxnard

APPENDIX B

Detailed Survey Results

Session 1 - Question 2

CIBCSD Board Survey, 9-20-16

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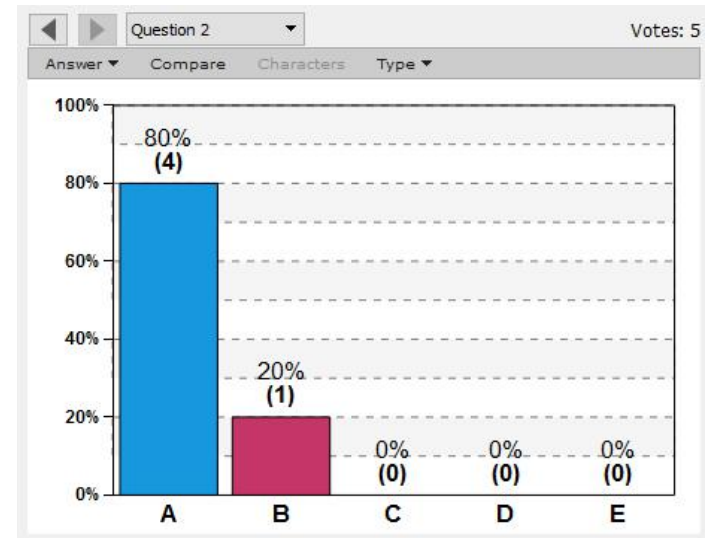
Multiple Choice

Water Survey Questions.pptx - PowerPoint

How important of an issue is water supply to you?

- A. Very important
- B. Important
- C. Average importance
- D. Not very important
- E. Unimportant

SLIDE 3 OF 66



Name	Response
#90CD510C	B
#9189C2DA	A
#918A001B	A
#918A0813	A
#918DA8B4	A

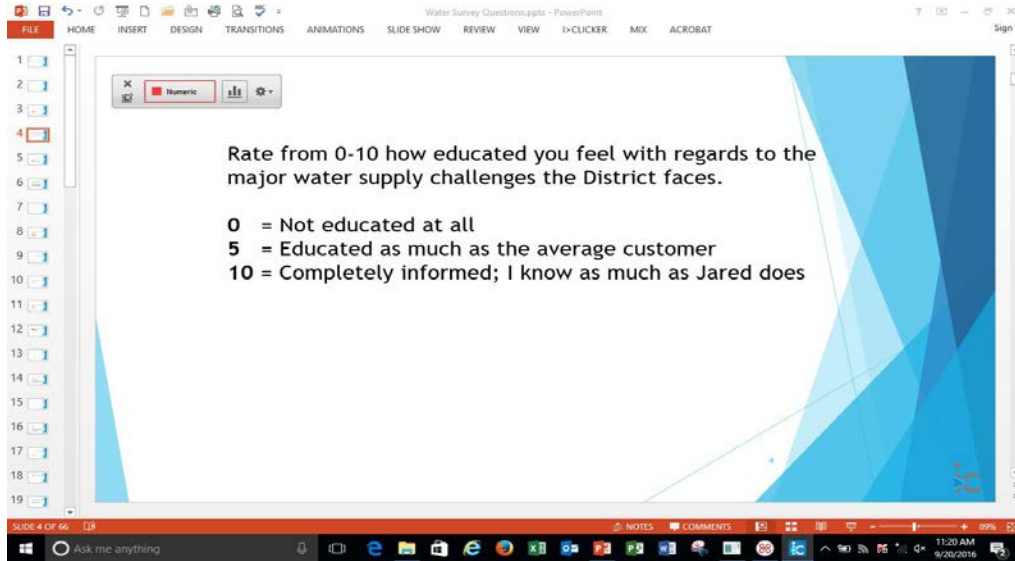
R.V. "Jim" Estomo
 Keith Moore
 Marcia Marcus
 Susie Koesterer
 Ellen Spiegel

Session 1 - Question 4

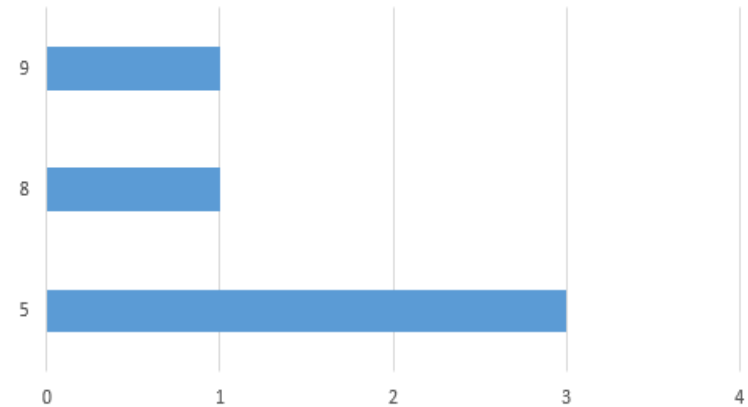
CIBCSD Board Survey, 9-20-16

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Numeric



of Responses



Name	Response
#90CD510C	8
#9189C2DA	9
#918A001B	5
#918A0813	5
#918DA8B4	5

R.V. "Jim" Estomo
 Keith Moore
 Marcia Marcus
 Susie Koesterer
 Ellen Spiegel

Some Board Members were not aware that they were allowed to select other values than just the 0, 5, and 9 shown in the question. This was cleared up so the rest of the value questions are answered correctly.

avg = 6.4

Session 1 - Question 5

CIBCS Board Survey, 9-20-16

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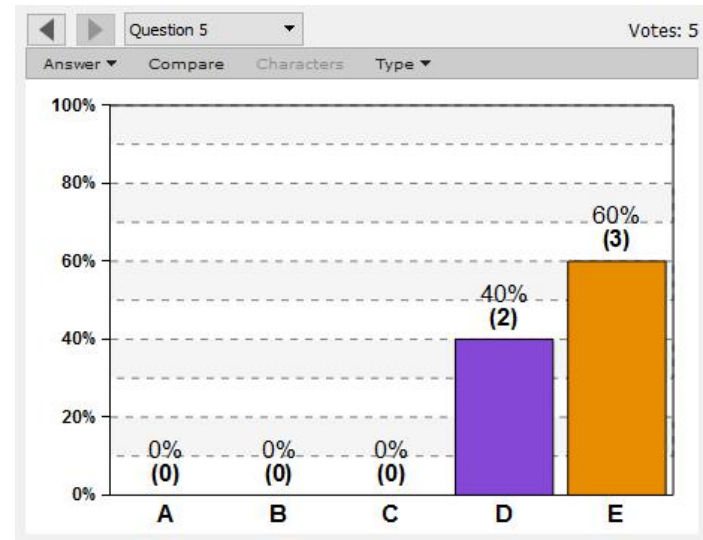
Multiple Choice

Water Survey Questions.pptx - PowerPoint

How much longer will the "current water shortage" last?

- A. We do not have a water shortage
- B. It will end after el Nino next year
- C. 3-5 years
- D. 10-15 years
- E. We will forever be in a water shortage

SLIDE 5 OF 66



Name	Response
#90CD510C	E
#9189C2DA	E
#918A001B	E
#918A0813	D
#918DA8B4	D

R.V. "Jim" Estomo
 Keith Moore
 Marcia Marcus
 Susie Koesterer
 Ellen Spiegel

Session 1 - Question 6

CIBCS Board Survey, 9-20-16

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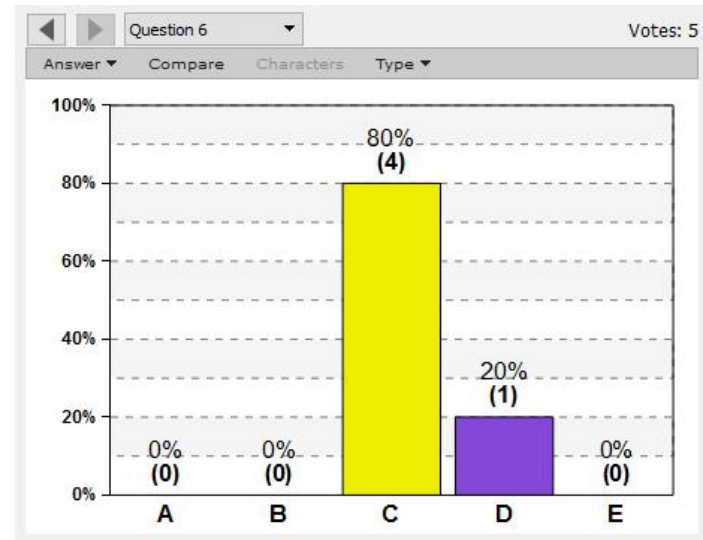
Multiple Choice

Water Survey Questions.pptx - PowerPoint

How do you feel water supply, as a District issue, will change in the next 20 years for Ventura County?

- A. Get better because water will become more available
- B. Get better because regional leaders will take action
- C. Get better because we will do something
- D. Get worse because we will do nothing
- E. Get worse because there is no solution

SLIDE 6 OF 66



Name	Response
#90CD510C	C
#9189C2DA	D
#918A001B	C
#918A0813	C
#918DA8B4	C

R.V. "Jim" Estomo
 Keith Moore
 Marcia Marcus
 Susie Koesterer
 Ellen Spiegel

Session 1 - Question 7

CIBCS Board Survey, 9-20-16

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Multiple Choice

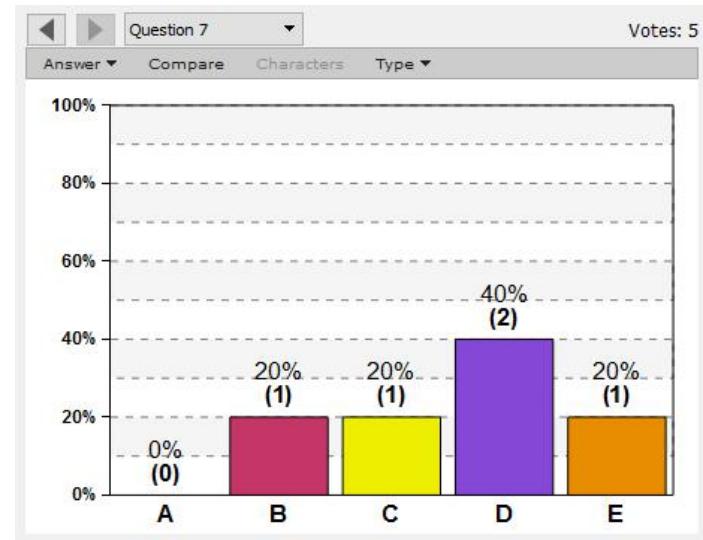
Water Survey Questions.pptx - PowerPoint

Respond to the following statement:

The PHWA arrangement has been successful in meeting the needs of the District.

- A. Strongly agree
- B. Somewhat agree
- C. Neutral
- D. Somewhat disagree
- E. Strongly disagree

SLIDE 8 OF 66



Name	Response
#90CD510C	D
#9189C2DA	B
#918A001B	D
#918A0813	C
#918DA8B4	E

R.V. "Jim" Estomo
 Keith Moore
 Marcia Marcus
 Susie Koesterer
 Ellen Spiegel

Session 1 - Question 8

CIBCS Board Survey, 9-20-16

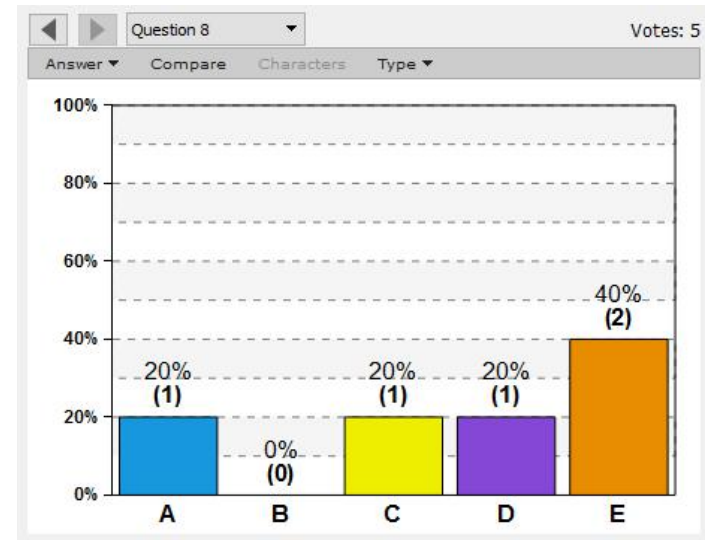
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Multiple Choice

Respond to the following statement:

If the District were to receive water supplied by Oxnard and dissolve the PHWA, the reason for the District to exist is weakened/lessened.

- A. Strongly agree
- B. Somewhat agree
- C. Neutral
- D. Somewhat disagree
- E. Strongly disagree



Name	Response
#90CD510C	E
#9189C2DA	E
#918A001B	D
#918A0813	A
#918DA8B4	C

R.V. "Jim" Estomo
 Keith Moore
 Marcia Marcus
 Susie Koesterer
 Ellen Spiegel

The data from this question is flawed. The Board Members misunderstood the question, which was revealed in a discussion afterwards. Concluding the discussion, the members expressed general agreement that they would agree with the statement.

The reason for the District to exist IS weakened/lessened if Oxnard were to receive Oxnard water and dissolve the PHWA.

Session 1 - Question 9

CIBCS Board Survey, 9-20-16

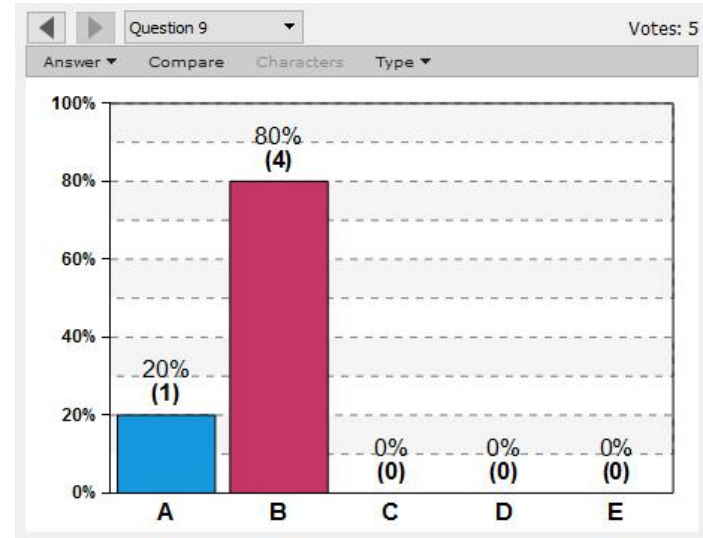
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Multiple Choice

Respond to the following statement:

Having complete control over our water supply destiny is critical.

- A. Strongly agree
- B. Somewhat agree
- C. Neutral
- D. Somewhat disagree
- E. Strongly disagree



Name	Response
#90CD510C	A
#9189C2DA	B
#918A001B	B
#918A0813	B
#918DA8B4	B

R.V. "Jim" Estomo
 Keith Moore
 Marcia Marcus
 Susie Koesterer
 Ellen Spiegel

Session 1 - Question 10

CIBCS Board Survey, 9-20-16

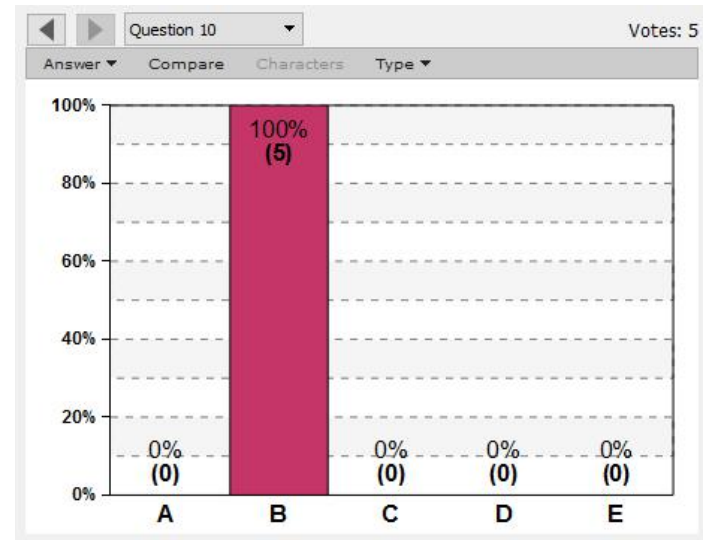
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Multiple Choice

Respond to the following statement:

I would accept higher rates if it meant our District had full control over our water supply.

- A. Strongly agree
- B. Somewhat agree
- C. Neutral
- D. Somewhat disagree
- E. Strongly disagree



Name	Response
#90CD510C	B
#9189C2DA	B
#918A001B	B
#918A0813	B
#918DA8B4	B

R.V. "Jim" Estomo
 Keith Moore
 Marcia Marcus
 Susie Koesterer
 Ellen Spiegel

Session 1 - Question 12

CIBCSO Board Survey, 9-20-16

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Numerical

Water Survey Questions.pptx - PowerPoint

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Multiple Choice

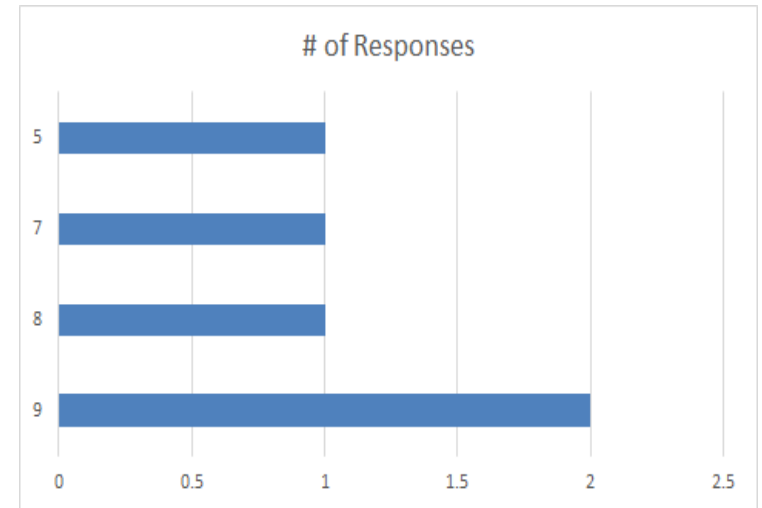
As it pertains to District water supply alternatives, how would you rate (from 0-10) the importance of **INDEPENDENCE** as a screening criteria?

0 = Completely unimportant
5 = Average importance
10 = Most important

SLIDE 12 OF 66

Ask me anything

11:32 AM 9/20/2016



Name	Response
#90CD510C	9
#9189C2DA	8
#918A001B	7
#918A0813	9
#918DA8B4	5

R.V. "Jim" Estomo
Keith Moore
Marcia Marcus
Susie Koesterer
Ellen Spiegel

avg = 7.6

Session 1 - Question 13

CIBCSD Board Survey, 9-20-16

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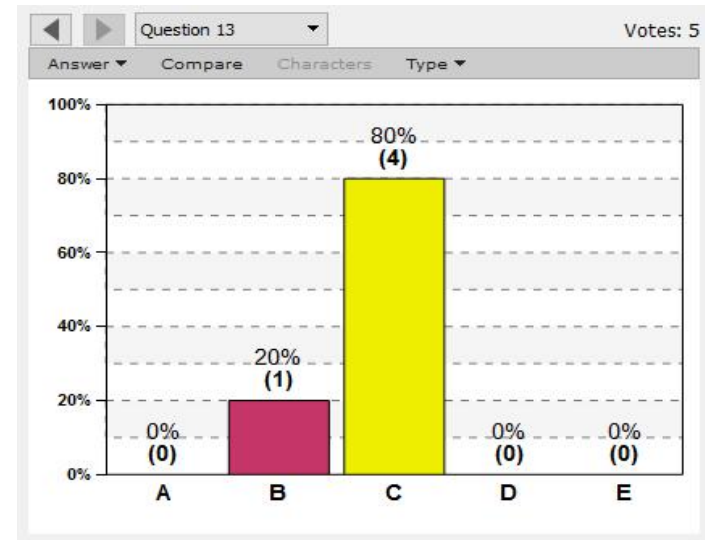
Multiple Choice

Water Survey Questions.pptx - PowerPoint

What do you think of the new (to-be-implemented) CIBCSD water rates?

- A. Too high, we need to lower the rates
- B. High, but fair
- C. Right where they need to be
- D. Low, and we need to keep them that way
- E. Low, but I expect they will go up once we figure out how to address water supply issues

SLIDE 14 OF 19



Name	Response
#90CD510C	C
#9189C2DA	C
#918A001B	B
#918A0813	C
#918DA8B4	C

R.V. "Jim" Estomo
 Keith Moore
 Marcia Marcus
 Susie Koesterer
 Ellen Spiegel

Session 1 - Question 14

CIBCS Board Survey, 9-20-16

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Multiple Choice

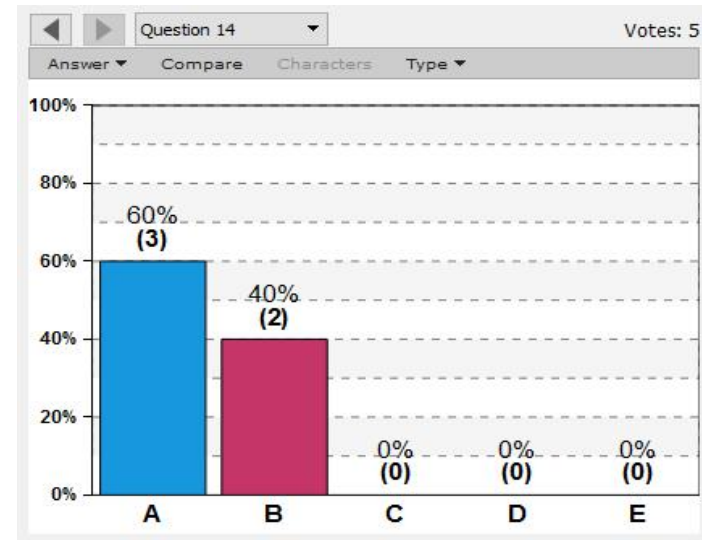
Water Survey Questions.pptx - PowerPoint

Are you familiar with the rates of other districts?

A. Yes
B. No

SLIDE 15 OF 19

11:36 AM 9/20/2016



Name	Response
#90CD510C	A
#9189C2DA	B
#918A001B	B
#918A0813	A
#918DA8B4	A

R.V. "Jim" Estomo
Keith Moore
Marcia Marcus
Susie Koesterer
Ellen Spiegel

Session 1 - Question 15

CIBCSD Board Survey, 9-20-16

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Multiple Choice

Water Survey Questions.pptx - PowerPoint

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Multiple Choice

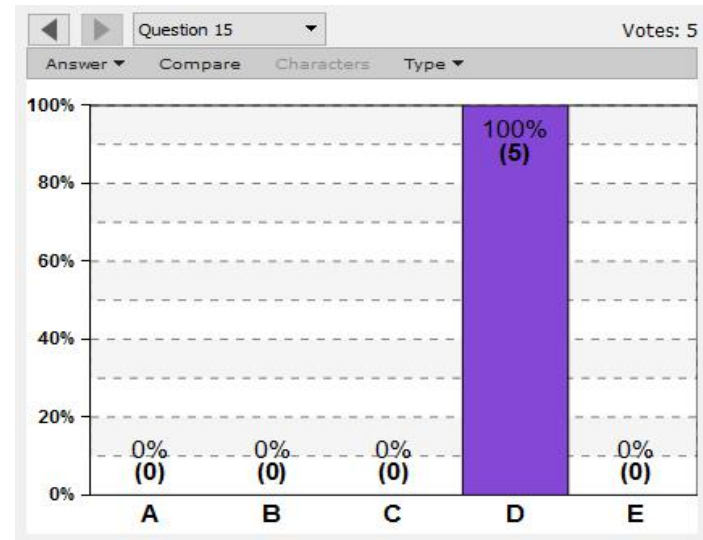
Is it important how our rates rank with regards to other local agencies?

A. Yes, and I believe we should not be the most expensive
B. Yes, and I believe we should be the lowest
C. Yes, and I believe we should be in the middle
D. No, and I believe they do not matter as long as they meet our key goals as a District

SLIDE 16 OF 66

Ask me anything

11:37 AM 9/20/2016



Name	Response
#90CD510C	D
#9189C2DA	D
#918A001B	D
#918A0813	D
#918DA8B4	D

R.V. "Jim" Estomo
Keith Moore
Marcia Marcus
Susie Koesterer
Ellen Spiegel

Session 1 - Question 16

CIBCSO Board Survey, 9-20-16

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Multiple Choice

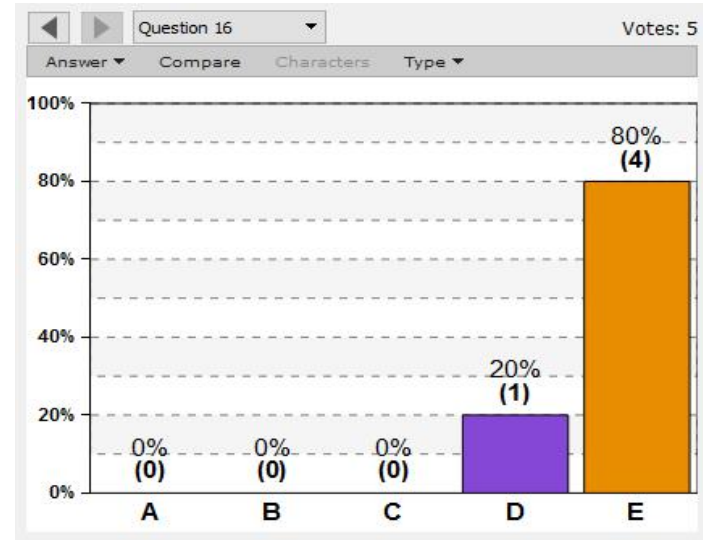
Water Survey Questions.pptx - PowerPoint

Respond to the following statement:

Costs associated with our partnership with PHWA are a major component of our rates, and I believe we are getting a good value.

- A. Strongly agree
- B. Somewhat agree
- C. Neutral
- D. Somewhat disagree
- E. Strongly disagree

SLIDE 17 OF 66



Name	Response
#90CD510C	E
#9189C2DA	E
#918A001B	E
#918A0813	D
#918DA8B4	E

R.V. "Jim" Estomo
 Keith Moore
 Marcia Marcus
 Susie Koesterer
 Ellen Spiegel

Session 1 - Question 17

CIBCSO Board Survey, 9-20-16

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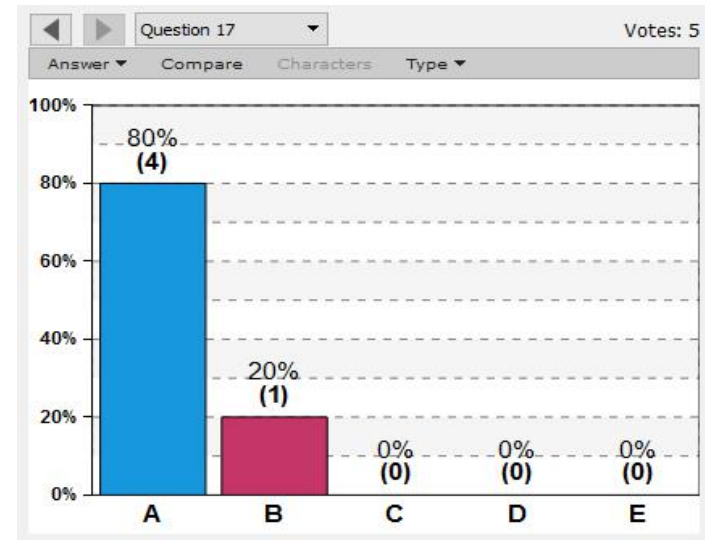
Multiple Choice

Water Survey Questions.pptx - PowerPoint

Do you believe the District customers would be willing to pay more for higher quality water (i.e. imported water equivalent)?

- A. Yes
- B. No

Slide 18 of 20



Name	Response
#90CD510C	A
#9189C2DA	A
#918A001B	A
#918A0813	A
#918DA8B4	B

R.V. "Jim" Estomo
 Keith Moore
 Marcia Marcus
 Susie Koesterer
 Ellen Spiegel

Session 1 - Question 18

CIBCSO Board Survey, 9-20-16

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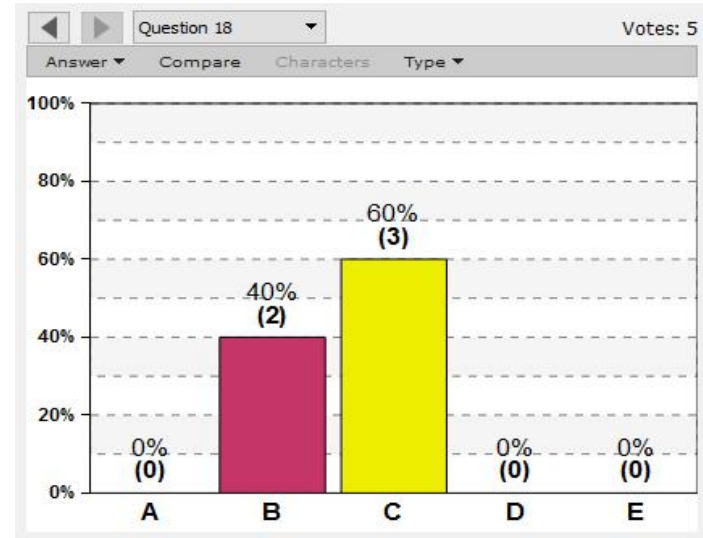
Multiple Choice

Water Survey Questions.pptx - PowerPoint

Do you believe the District customers would be willing to pay more for independence from the City of Oxnard?

- A. No, they would not pay more for independence
- B. Yes, they would pay slightly more
- C. Yes, they would pay moderately more
- D. Yes, they would pay significantly more

SLIDE 19 OF 66



Name	Response
#90CD510C	B
#9189C2DA	C
#918A001B	B
#918A0813	C
#918DA8B4	C

R.V. "Jim" Estomo
 Keith Moore
 Marcia Marcus
 Susie Koesterer
 Ellen Spiegel

Session 1 - Question 19

CIBCSO Board Survey, 9-20-16

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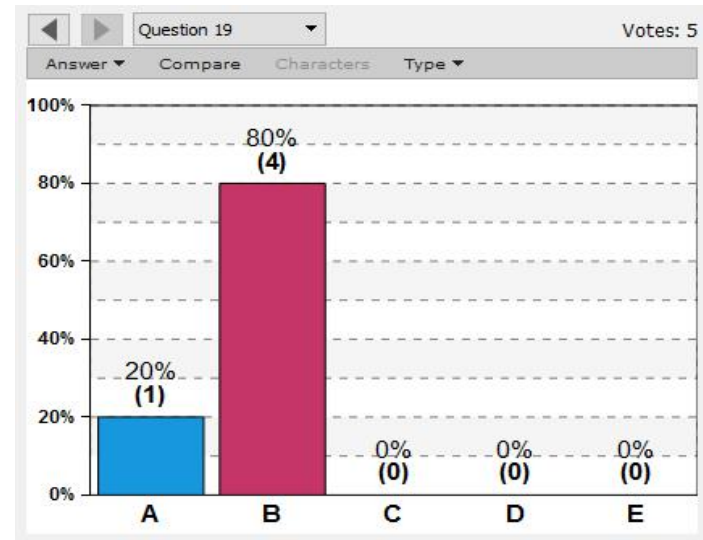
Multiple Choice

Water Survey Questions.pptx - PowerPoint

Do you believe that there is a water supply solution that will not result in increased rates?

A. Yes
B. No

SLIDE 20 OF 66



Name	Response
#90CD510C	B
#9189C2DA	A
#918A001B	B
#918A0813	B
#918DA8B4	B

R.V. "Jim" Estomo
Keith Moore
Marcia Marcus
Susie Koesterer
Ellen Spiegel

Session 1 - Question 20

CIBCSO Board Survey, 9-20-16

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Multiple Choice

Water Survey Questions.pptx - PowerPoint

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Multiple Choice

Staying with the status quo is an option, but the PHWA facility is nearly 20 years old.

Select the option that best represents your position on this.

A. I do expect that the rehabilitation of this facility will increase our rates

B. I do **NOT** expect that the rehabilitation of this facility will increase our rates

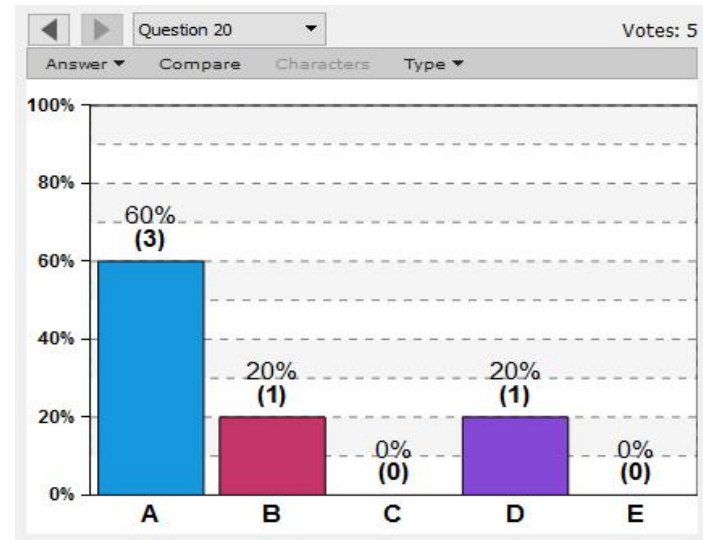
C. No rehabilitation is needed

D. I do not know because no analysis has been done

SLIDE 21 OF 66

Ask me anything

11:42 AM 9/20/2016



Name	Response
#90CD510C	A
#9189C2DA	B
#918A001B	A
#918A0813	A
#918DA8B4	D

R.V. "Jim" Estomo
Keith Moore
Marcia Marcus
Susie Koesterer
Ellen Spiegel

Session 1 - Question 21

CIBCSO Board Survey, 9-20-16

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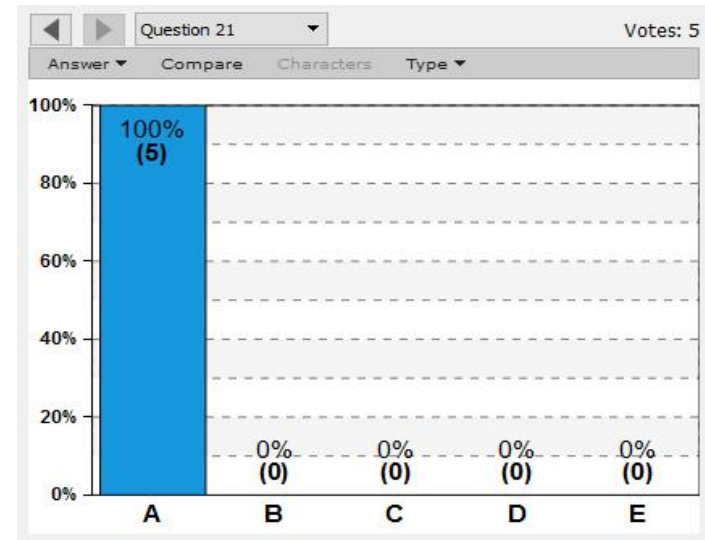
Multiple Choice

Water Survey Questions.pptx - PowerPoint

Should PHWA have a plan that outlines the cost of future rehabilitation?

A. Yes
B. No

SLIDE 22 OF 66



Name	Response
#90CD510C	A
#9189C2DA	A
#918A001B	A
#918A0813	A
#918DA8B4	A

R.V. "Jim" Estomo
Keith Moore
Marcia Marcus
Susie Koesterer
Ellen Spiegel

Session 1 - Question 22

CIBCS Board Survey, 9-20-16

Generated: 09/20/2016 13:34:55

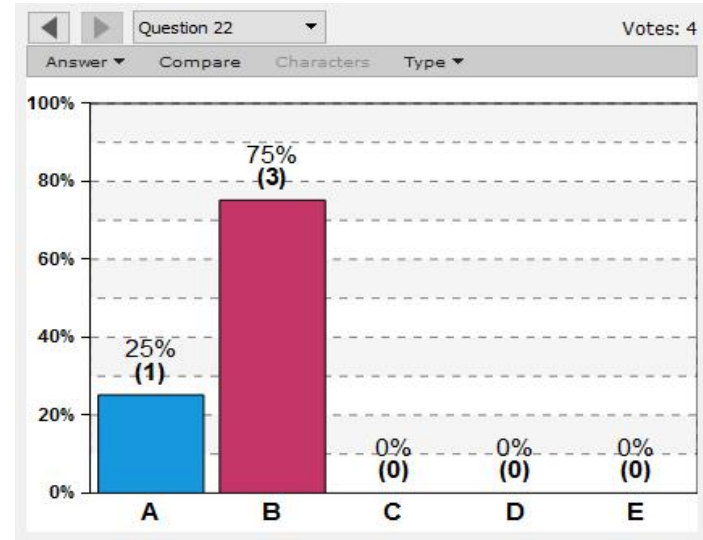
Multiple Choice

Water Survey Questions.pptx - PowerPoint

Would you accept lower rates if it meant that the City of Oxnard supplied and handled water for the District?

A. Yes
B. No

SLIDE 23 OF 66



Marcia had issues submitting her answer to this question.

Name	Response
#90CD510C	A
#9189C2DA	B
#918A001B	(NR)
#918A0813	B
#918DA8B4	B

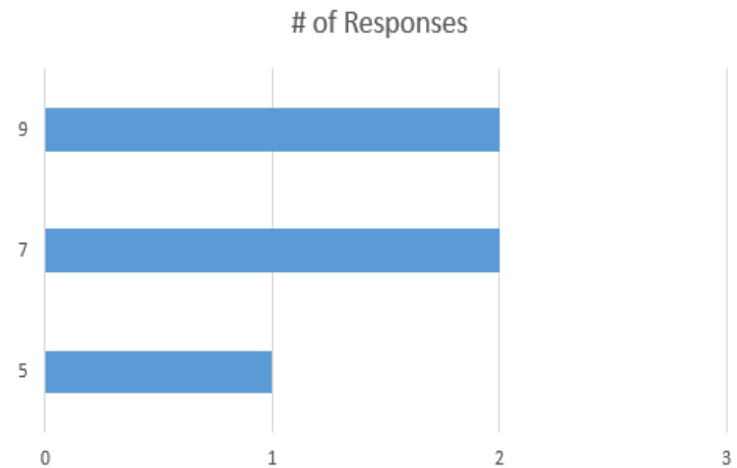
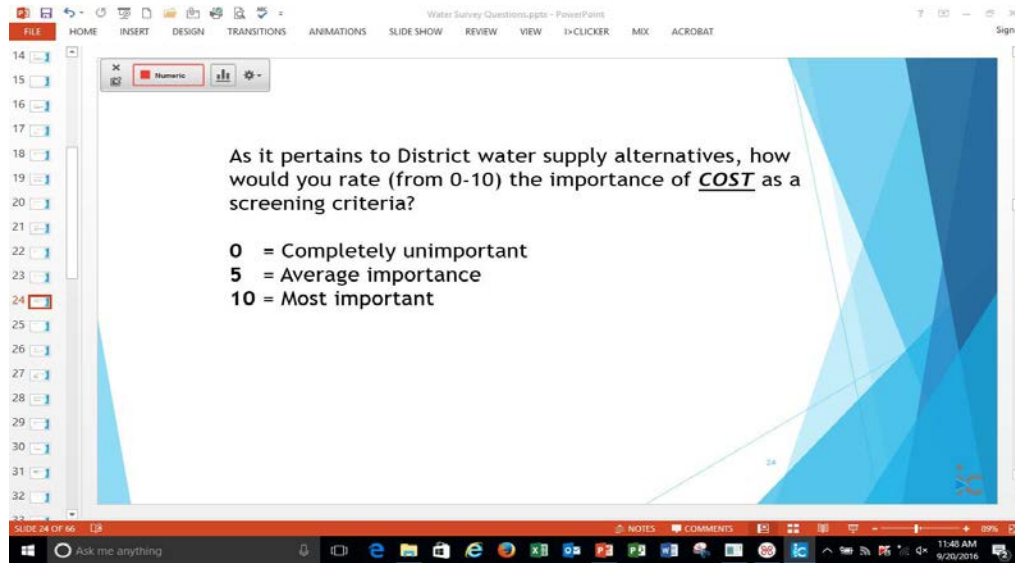
R.V. "Jim" Estomo
Keith Moore
Marcia Marcus
Susie Koesterer
Ellen Spiegel

Session 1 - Question 23

CIBCSD Board Survey, 9-20-16

Generated: 09/20/2016 13:34:55

Numeric



Name	Response	
#90CD510C	9	R.V. "Jim" Estomo
#9189C2DA	9	Keith Moore
#918A001B	7	Marcia Marcus
#918A0813	7	Susie Koesterer
#918DA8B4	5	Ellen Spiegel

avg = 7.4

Session 1 - Question 24

CIBCSD Board Survey, 9-20-16

Generated: 09/20/2016 13:34:55

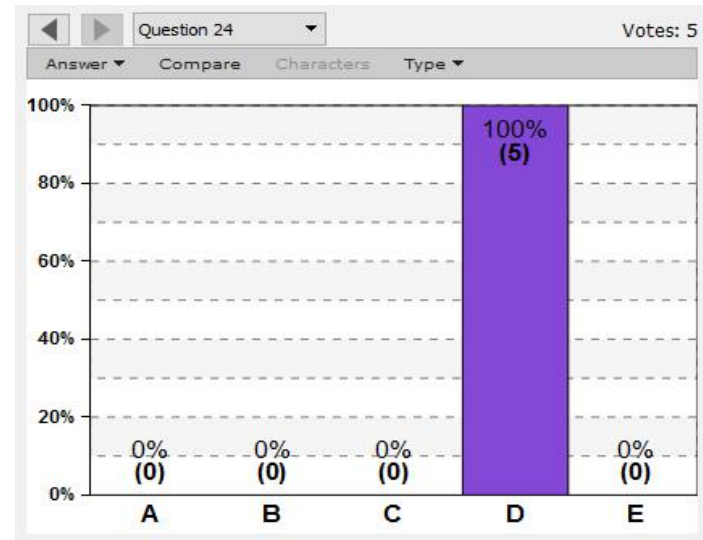
Multiple Choice

Water Survey Questions.pptx - PowerPoint

How happy are you with the current water quality being supplied to the District?

- A. The quality is adequate
- B. Lesser quality would be acceptable if the rates were lowered
- C. Water quality is not a major concern for our customers
- D. The water quality needs to be better

SLIDE 26 OF 33



Name	Response
#90CD510C	D
#9189C2DA	D
#918A001B	D
#918A0813	D
#918DA8B4	D

R.V. "Jim" Estomo
 Keith Moore
 Marcia Marcus
 Susie Koesterer
 Ellen Spiegel

Session 1 - Question 25

CIBCSD Board Survey, 9-20-16

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Multiple Choice

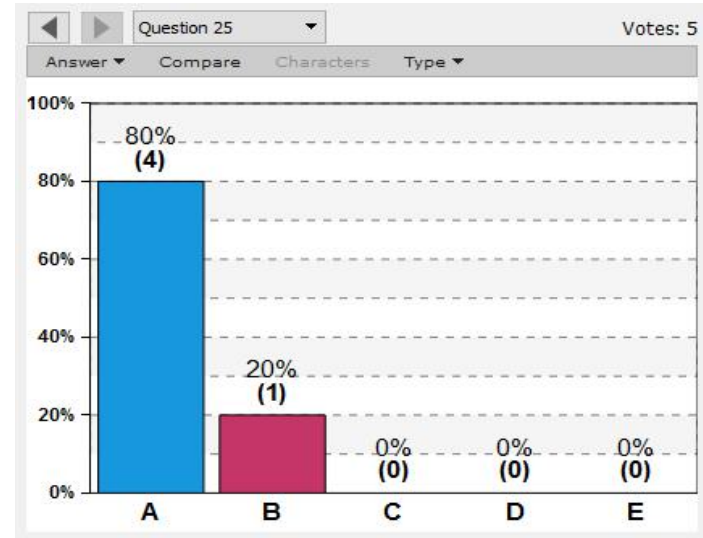
Water Survey Questions.pptx - PowerPoint

Respond to the following statement:

Our recent reduction in water quality has been an issue for our customers.

- A. Strongly agree
- B. Somewhat agree
- C. Neutral
- D. Somewhat disagree
- E. Strongly disagree

SLIDE 27 OF 66



Name	Response
#90CD510C	B
#9189C2DA	A
#918A001B	A
#918A0813	A
#918DA8B4	A

R.V. "Jim" Estomo
 Keith Moore
 Marcia Marcus
 Susie Koesterer
 Ellen Spiegel

Session 1 - Question 26

CIBCS Board Survey, 9-20-16

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Multiple Choice

Water Survey Questions.pptx - PowerPoint

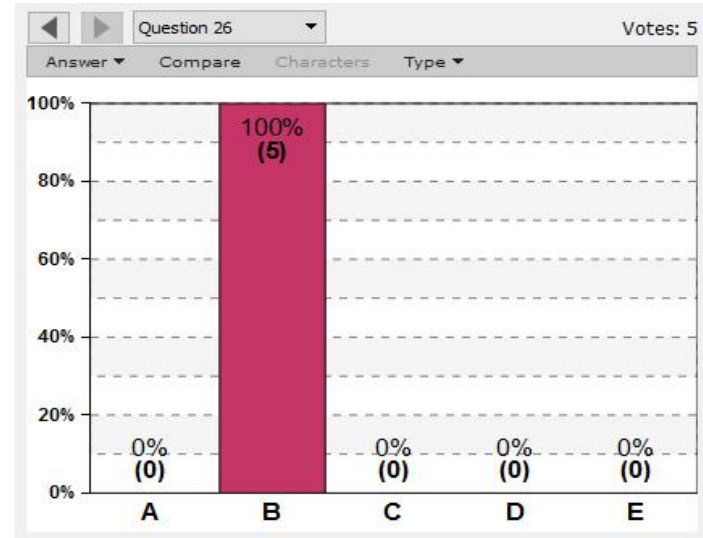
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Multiple Choice

In your opinion does the District's rates reflect a higher quality of water than what is being delivered? Is this a problem?

- A. The rates correctly reflect the water quality delivered
- B. The rates reflect a higher water quality than what is delivered; this is a problem
- C. The rates reflect a higher water quality than what is delivered; this is NOT a problem

SLIDE 26 OF 66



Name	Response
#90CD510C	B
#9189C2DA	B
#918A001B	B
#918A0813	B
#918DA8B4	B

R.V. "Jim" Estomo
 Keith Moore
 Marcia Marcus
 Susie Koesterer
 Ellen Spiegel

Session 1 - Question 28

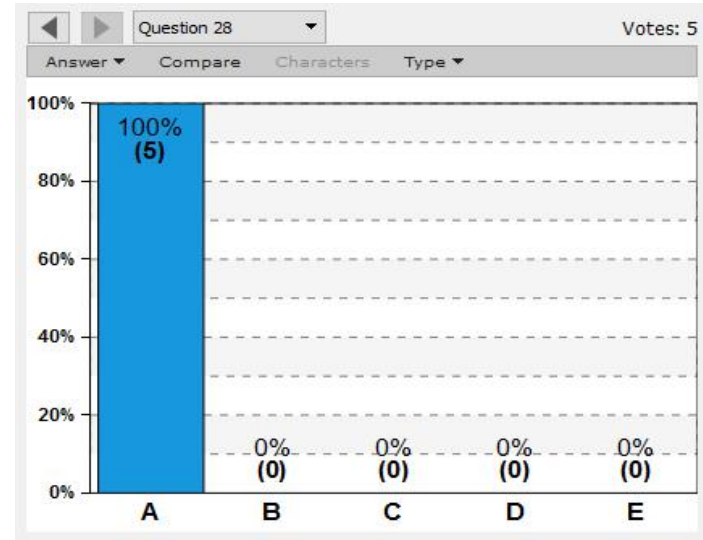
CIBCS Board Survey, 9-20-16

Generated: 09/20/2016 13:34:55

Multiple Choice

Should the District have an established and clear goal of delivering water quality which is consistent with imported water quality?

A. Yes
B. No



Name	Response
#90CD510C	A
#9189C2DA	A
#918A001B	A
#918A0813	A
#918DA8B4	A

R.V. "Jim" Estomo
Keith Moore
Marcia Marcus
Susie Koesterer
Ellen Spiegel

Session 1 - Question 29

CIBCSD Board Survey, 9-20-16

Generated: 09/20/2016 13:34:55

Multiple Choice

Water Survey Questions.pptx - PowerPoint

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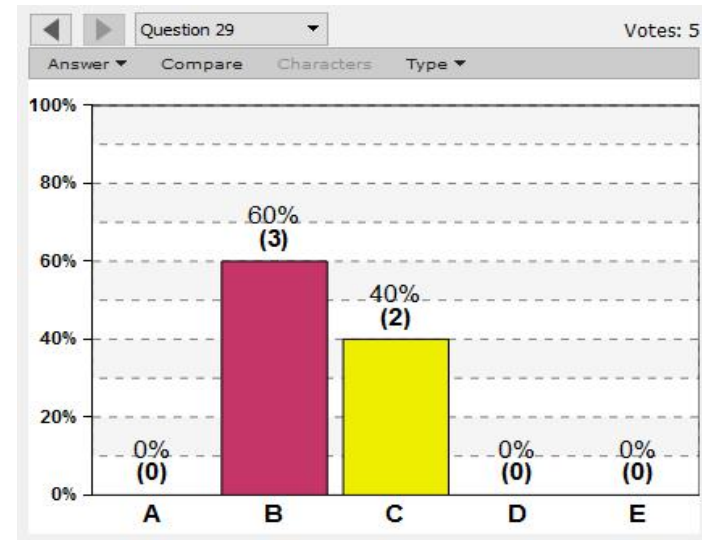
In your opinion, how much more is imported water quality worth?

A. It is worth significantly higher rates
B. It is worth moderately higher rates
C. It is worth slightly higher rates
D. It is not worth higher rates

SLIDE 30 OF 44

Ask me anything

11:53 AM 9/20/2016



Name	Response
#90CD510C	C
#9189C2DA	C
#918A001B	B
#918A0813	B
#918DA8B4	B

R.V. "Jim" Estomo
Keith Moore
Marcia Marcus
Susie Koesterer
Ellen Spiegel

Session 1 - Question 30

CIBCSD Board Survey, 9-20-16

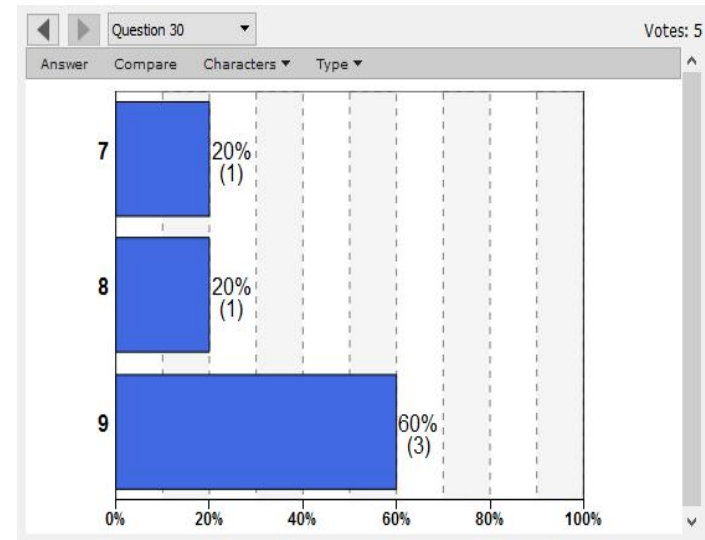
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Numeric

Water Survey Questions.pptx - PowerPoint

As it pertains to District water supply alternatives, how would you rate (from 0-10) the importance of WATER QUALITY as a screening criteria?

0 = Completely unimportant
5 = Average importance
10 = Most important



Name	Response
#90CD510C	8
#9189C2DA	9
#918A001B	7
#918A0813	9
#918DA8B4	9

R.V. "Jim" Estomo
Keith Moore
Marcia Marcus
Susie Koesterer
Ellen Spiegel

avg = 8.4

Session 1 - Question 31

CIBCS Board Survey, 9-20-16

Generated: 09/20/2016 13:34:55

Multiple Choice

Water Survey Questions.pptx - PowerPoint

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Multiple Choice

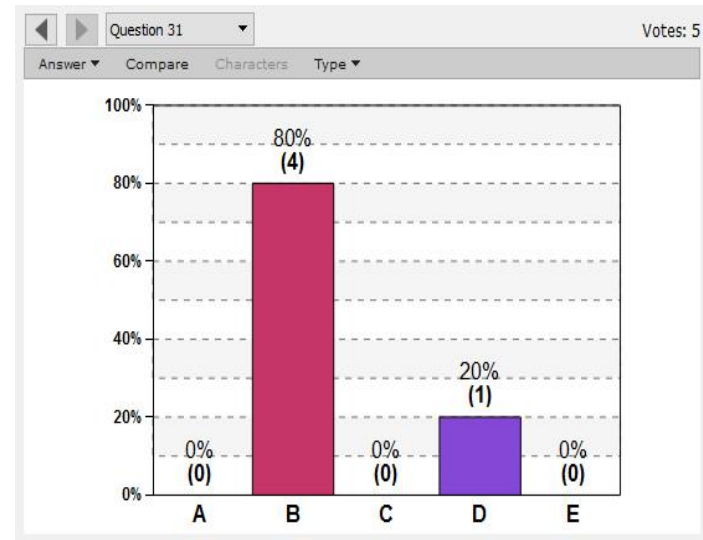
PHWA receives water from Calleguas Municipal Water District (CMWD) and United Water Conservation District (UWCD). In your opinion, rate the reliability of these supply sources:

A. These are reliable sources, and they will continue to be so
 B. These are reliable sources, but they will get worse
 C. These are NOT reliable sources, but they will get better
 D. These are NOT reliable sources, and they will get worse

SLIDE 33 OF 66

Ask me anything

11:55 AM 9/20/2016



Name	Response
#90CD510C	B
#9189C2DA	D
#918A001B	B
#918A0813	B
#918DA8B4	B

R.V. "Jim" Estomo
 Keith Moore
 Marcia Marcus
 Susie Koesterer
 Ellen Spiegel

Session 1 - Question 32

CIBCS Board Survey, 9-20-16

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Multiple Choice

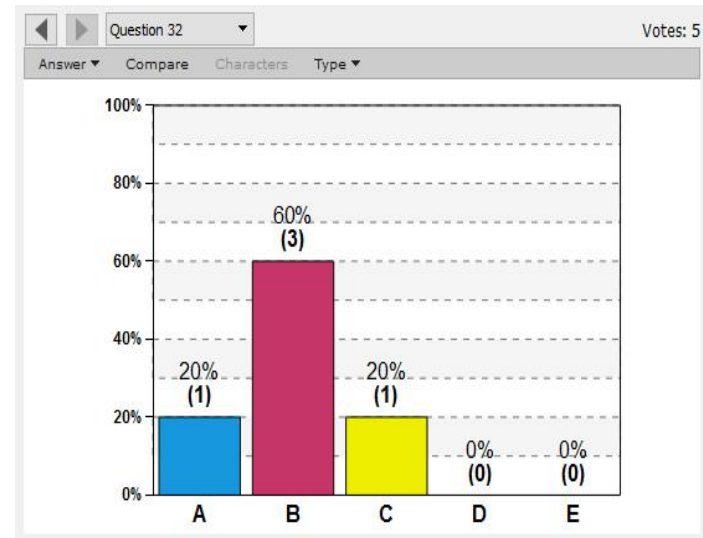
Water Survey Questions.pptx - PowerPoint

Respond to the following statement:

We need a water supply that gets us off groundwater.

- A. Strongly agree
- B. Somewhat agree
- C. Neutral
- D. Somewhat disagree
- E. Strongly disagree

SLIDE 34 OF 66



Name	Response
#90CD510C	C
#9189C2DA	B
#918A001B	B
#918A0813	A
#918DA8B4	B

R.V. "Jim" Estomo
 Keith Moore
 Marcia Marcus
 Susie Koesterer
 Ellen Spiegel

Session 1 - Question 33

CIBCS Board Survey, 9-20-16

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Multiple Choice

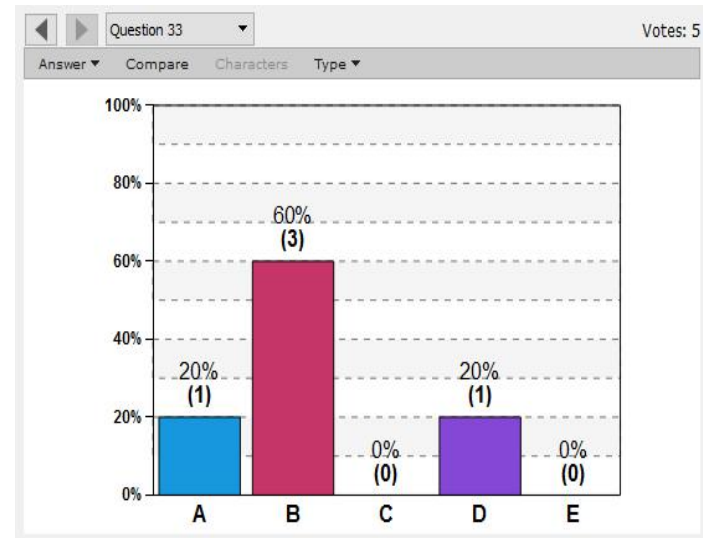
Water Survey Questions.pptx - PowerPoint

Respond to the following statement:

We need a plan that gets us off the reliance on imported water.

- A. Strongly agree
- B. Somewhat agree
- C. Neutral
- D. Somewhat disagree
- E. Strongly disagree

SLIDE 35 OF 66



Name	Response
#90CD510C	B
#9189C2DA	B
#918A001B	D
#918A0813	A
#918DA8B4	B

R.V. "Jim" Estomo
 Keith Moore
 Marcia Marcus
 Susie Koesterer
 Ellen Spiegel

Session 1 - Question 34

CIBCSO Board Survey, 9-20-16

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Multiple Choice

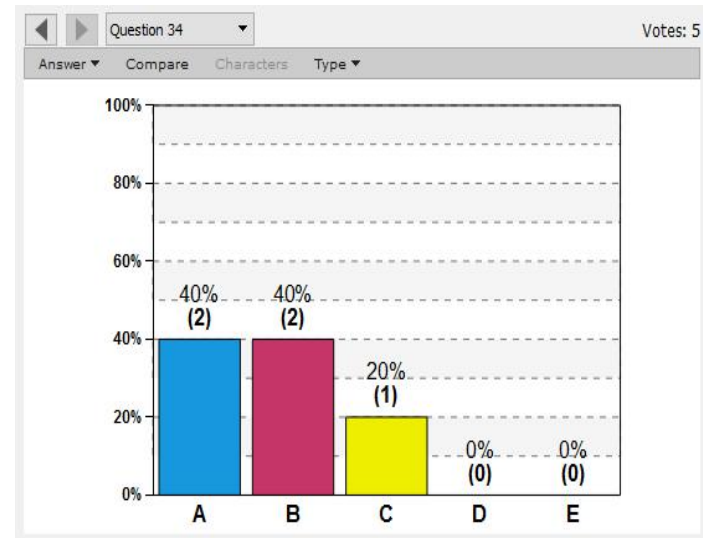
Water Survey Questions.pptx - PowerPoint

Respond to the following statement:

Imported water costs will continue to rise, and will eventually outpace the cost of desalinated water and other high cost alternatives.

- A. Strongly agree
- B. Somewhat agree
- C. Neutral
- D. Somewhat disagree
- E. Strongly disagree

SLIDE 36 OF 66



Name	Response
#90CD510C	B
#9189C2DA	A
#918A001B	C
#918A0813	A
#918DA8B4	B

R.V. "Jim" Estomo
 Keith Moore
 Marcia Marcus
 Susie Koesterer
 Ellen Spiegel

Session 1 - Question 35

CIBCS Board Survey, 9-20-16

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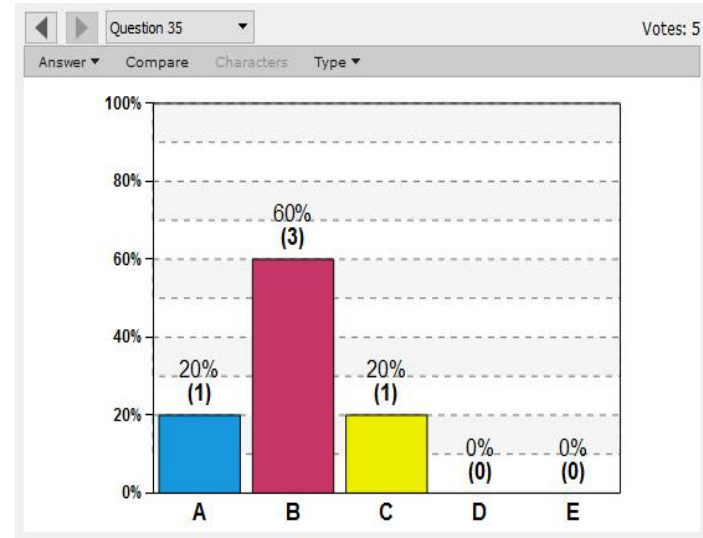
Multiple Choice

Water Survey Questions.pptx - PowerPoint

How much more do you believe having a reliable water supply is worth?

- A. It is worth significantly higher rates
- B. It is worth moderately higher rates
- C. It is worth slightly higher rates
- D. It is not worth higher rates

SLIDE 37 OF 44



Name	Response
#90CD510C	B
#9189C2DA	C
#918A001B	A
#918A0813	B
#918DA8B4	B

R.V. "Jim" Estomo
 Keith Moore
 Marcia Marcus
 Susie Koesterer
 Ellen Spiegel

Session 1 - Question 36

CIBCS Board Survey, 9-20-16

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Numeric

Water Survey Questions.pptx - PowerPoint

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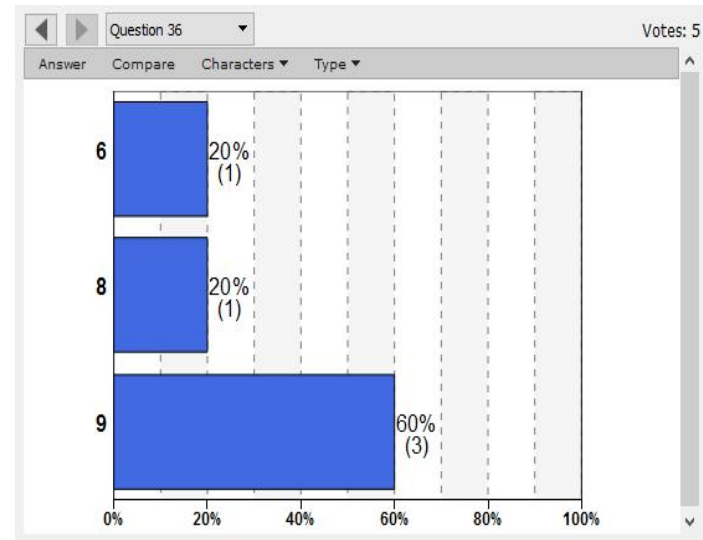
As it pertains to District water supply alternatives, how would you rate (from 0-10) the importance of **RELIABILITY** as a screening criteria?

0 = Completely unimportant
5 = Average importance
10 = Most important

SLIDE 36 OF 44

Ask me anything

11:59 AM 9/20/2016



Name	Response
#90CD510C	9
#9189C2DA	6
#918A001B	8
#918A0813	9
#918DA8B4	9

R.V. "Jim" Estomo
Keith Moore
Marcia Marcus
Susie Koesterer
Ellen Spiegel

avg = 8.2

Session 1 - Question 37

CIBCS Board Survey, 9-20-16

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Multiple Choice

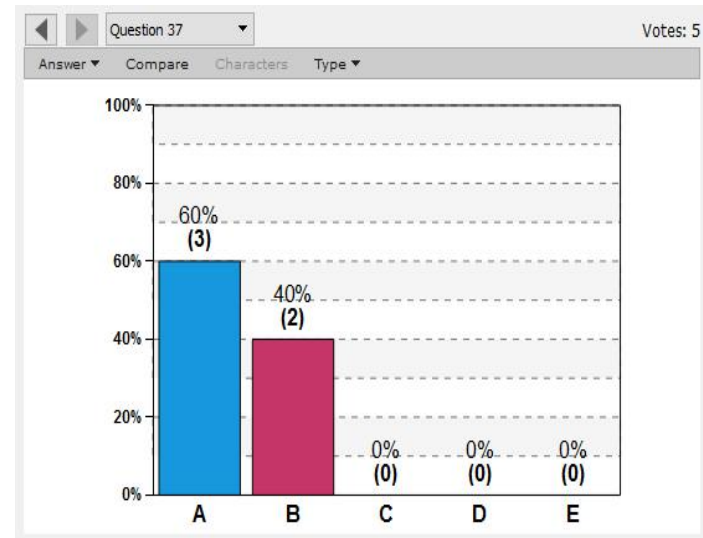
Water Survey Questions.pptx - PowerPoint

Respond to the following statement:

Having shared control over PHWA has been an issue for the District.

- A. Strongly agree
- B. Somewhat agree
- C. Neutral
- D. Somewhat disagree
- E. Strongly disagree

SLIDE 40 OF 66



Name	Response
#90CD510C	A
#9189C2DA	B
#918A001B	A
#918A0813	B
#918DA8B4	A

R.V. "Jim" Estomo
 Keith Moore
 Marcia Marcus
 Susie Koesterer
 Ellen Spiegel

Session 1 - Question 38

CIBCS Board Survey, 9-20-16

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Multiple Choice

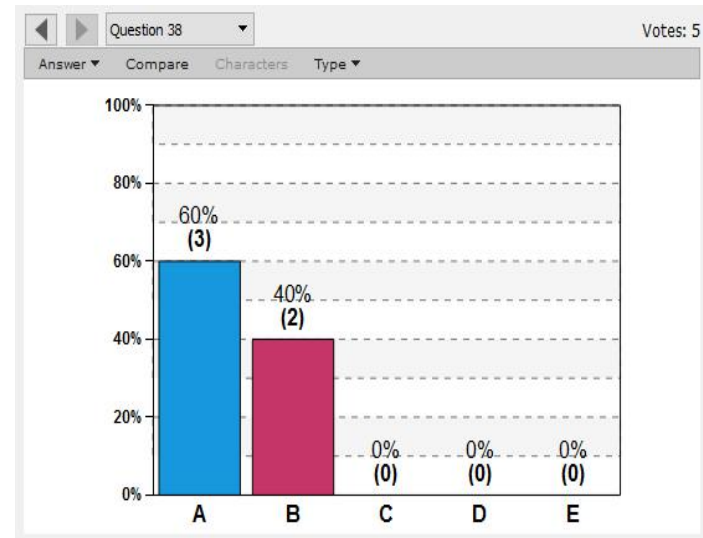
Water Survey Questions.pptx - PowerPoint

Respond to the following statement:

The District should be a leader in developing a water supply plan that solves the District's issue but also has a regional benefit.

- A. Strongly agree
- B. Somewhat agree
- C. Neutral
- D. Somewhat disagree
- E. Strongly disagree

SLIDE 41 OF 66



Name	Response
#90CD510C	A
#9189C2DA	B
#918A001B	A
#918A0813	A
#918DA8B4	B

R.V. "Jim" Estomo
 Keith Moore
 Marcia Marcus
 Susie Koesterer
 Ellen Spiegel

Session 1 - Question 39

CIBCS Board Survey, 9-20-16

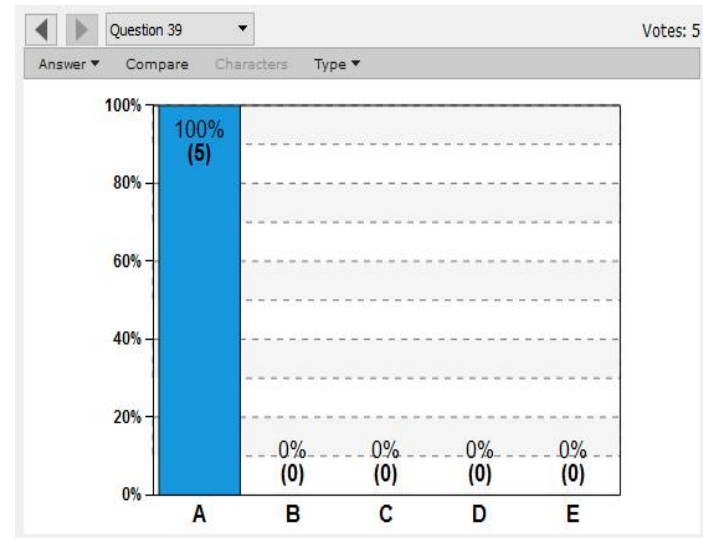
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Multiple Choice

Respond to the following statement:

Are you comfortable with the District investing staff time and money to serve as a leader?

A. Yes
B. No



Name	Response
#90CD510C	A
#9189C2DA	A
#918A001B	A
#918A0813	A
#918DA8B4	A

R.V. "Jim" Estomo
Keith Moore
Marcia Marcus
Susie Koesterer
Ellen Spiegel

Session 1 - Question 40

CIBCSD Board Survey, 9-20-16

Generated: 09/20/2016 13:34:55

Multiple Choice

Water Survey Questions.pptx - PowerPoint

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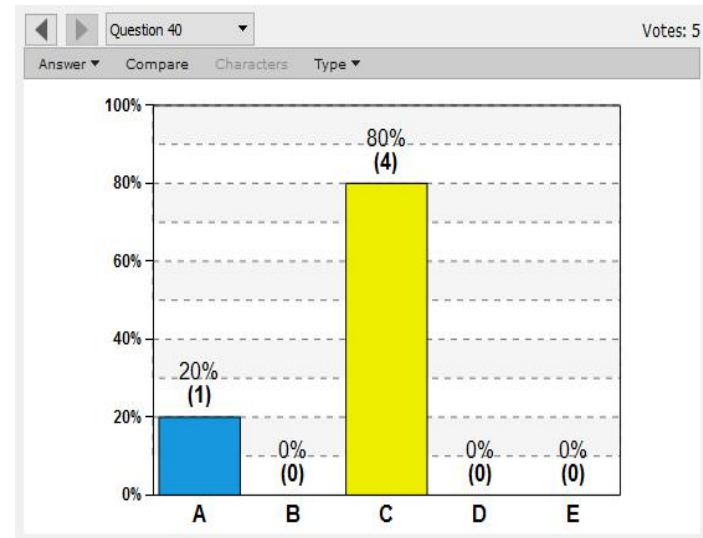
Select the best option:

- A. Any plan we pursue should include regional partners
- B. Any plan we pursue, we should pursue it on our own
- C. Whether on our own or with partners, we should be the lead
- D. This issue is not important to me

SLIDE 43 OF 66

Ask me anything

12:03 PM 9/20/2016



Name	Response
#90CD510C	C
#9189C2DA	C
#918A001B	C
#918A0813	C
#918DA8B4	A

R.V. "Jim" Estomo
Keith Moore
Marcia Marcus
Susie Koesterer
Ellen Spiegel

Session 1 - Question 41

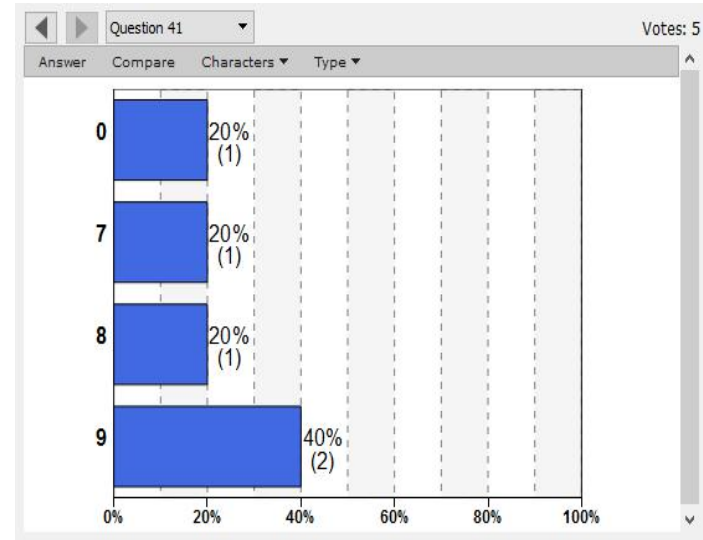
CIBCSD Board Survey, 9-20-16

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Numeric

Rate (from 0-10) how strongly would you support the District developing a water supply (or treatment system) that can become a source for neighboring districts.

0 = Absolutely oppose
 3 = Somewhat oppose
 5 = Neutral
 8 = Somewhat in favor
 10 = Absolutely in favor



Name	Response
#90CD510C	9
#9189C2DA	0.
#918A001B	8
#918A0813	9
#918DA8B4	7

R.V. "Jim" Estomo
 Keith Moore
 Marcia Marcus
 Susie Koesterer
 Ellen Spiegel

Keith does not believe we should spend capital on a water solution that will be given to or shared with another agency, especially with no capital contribution.

avg = 6.6

Session 1 - Question 42

CIBCS Board Survey, 9-20-16

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Multiple Choice

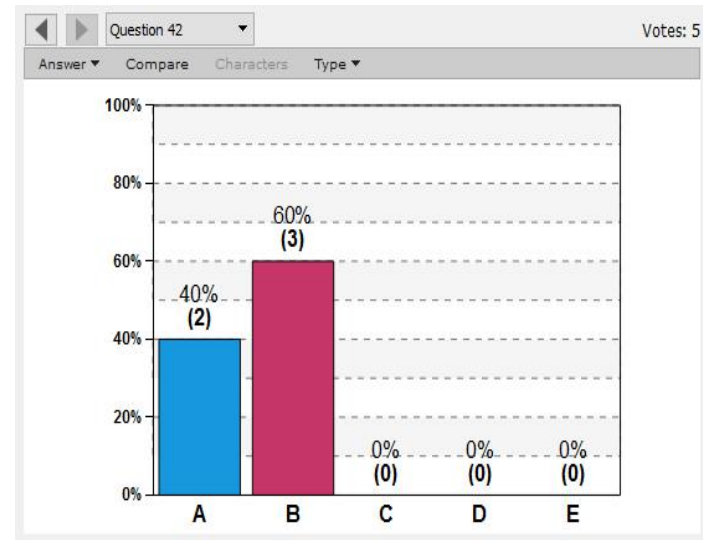
Water Survey Questions.pptx - PowerPoint

Multiple Choice

There are Agencies that I believe we should not be partnering with.

A. True
B. False

SLIDE 45 OF 66



Name	Response
#90CD510C	B
#9189C2DA	B
#918A001B	A
#918A0813	B
#918DA8B4	A

R.V. "Jim" Estomo
Keith Moore
Marcia Marcus
Susie Koesterer
Ellen Spiegel

There were no particular agencies named, just that they do not want to partner with an agency that is currently "in trouble" either financially, legally, or otherwise.

Session 1 - Question 43

CIBCS Board Survey, 9-20-16

Generated: 09/20/2016 13:34:55

Numeric

Water Survey Questions.pptx - PowerPoint

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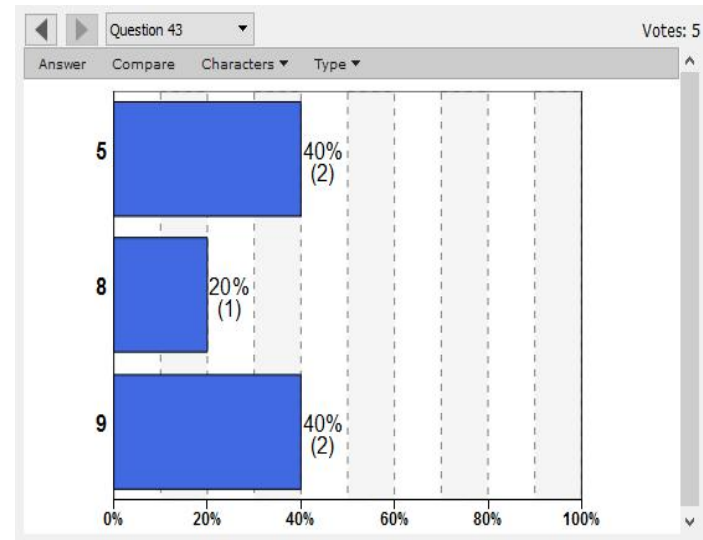
Rate (from 0-10) how familiar you are with public-private partnerships.

0 = Never heard of the term
5 = Somewhat familiar
10 = I know enough to advise on the development of one

SLIDE 46 OF 66

Ask me anything

12:09 PM 9/20/2016



Name	Response
#90CD510C	9
#9189C2DA	8
#918A001B	9
#918A0813	5
#918DA8B4	5

R.V. "Jim" Estomo
Keith Moore
Marcia Marcus
Susie Koesterer
Ellen Spiegel

Session 1 - Question 44

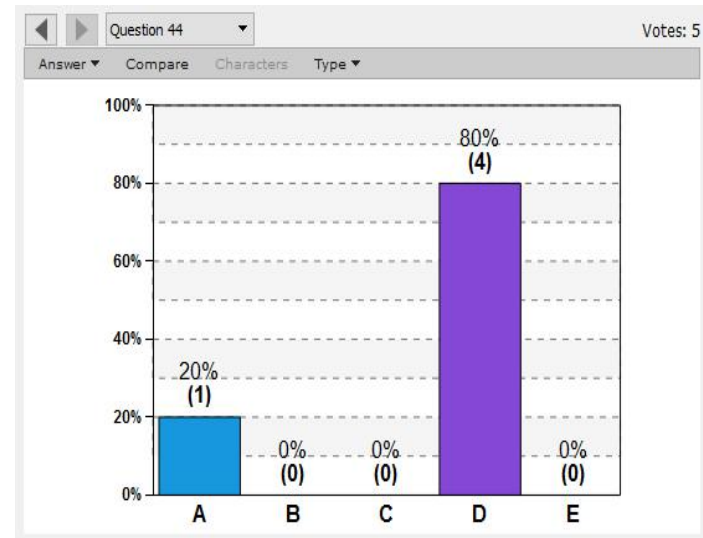
CIBCSD Board Survey, 9-20-16

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Multiple Choice

Select the option that best matches your opinion regarding P3.

- A. I am in favor
- B. I am **NOT** in favor
- C. I have no opinion
- D. I would need more information in order to form an opinion



Name	Response	
#90CD510C	A	R.V. "Jim" Estomo
#9189C2DA	D	Keith Moore
#918A001B	D	Marcia Marcus
#918A0813	D	Susie Koesterer
#918DA8B4	D	Ellen Spiegel

Session 1 - Question 45

CIBCS Board Survey, 9-20-16

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Numeric

Water Survey Questions.pptx - PowerPoint

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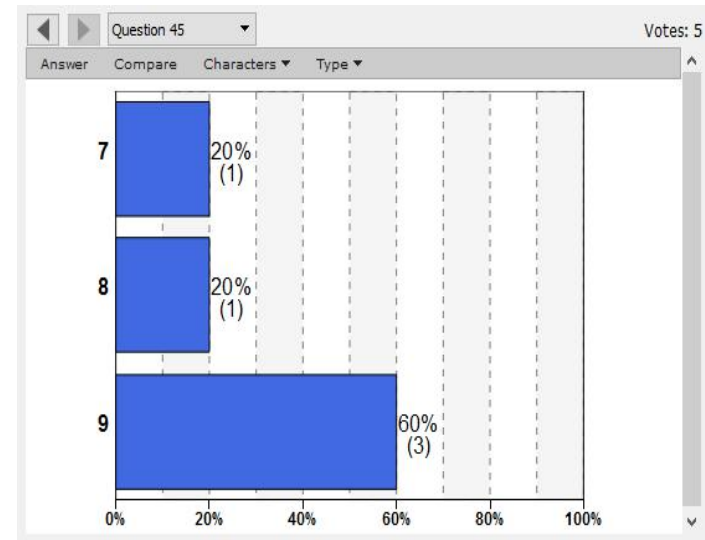
As it pertains to District water supply alternatives, how would you rate (from 0-10) the importance of **LEADERSHIP** as a screening criteria?

0 = Completely unimportant
5 = Average importance
10 = Most important

SLIDE 48 OF 66

Ask me anything

12:10 PM 9/20/2016



Name	Response	
#90CD510C	9	R.V. "Jim" Estomo
#9189C2DA	9	Keith Moore
#918A001B	7	Marcia Marcus
#918A0813	8	Susie Koesterer
#918DA8B4	9	Ellen Spiegel

avg = 8.4

Session 1 - Question 46

CIBCS Board Survey, 9-20-16

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Multiple Choice

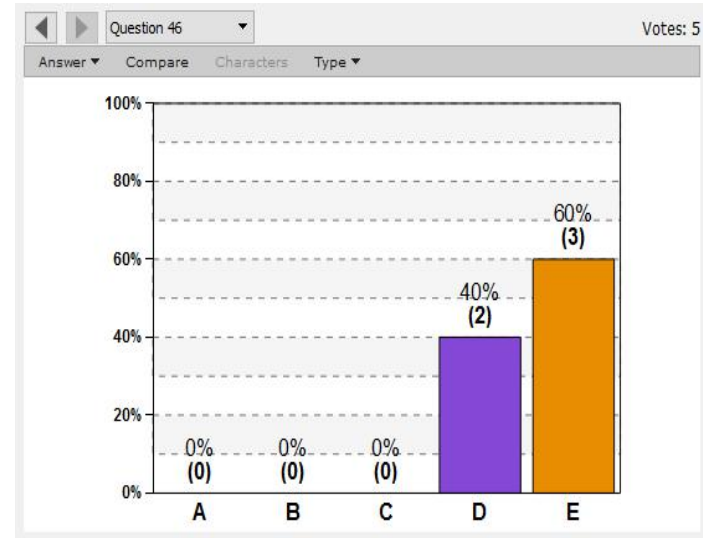
Water Survey Questions.pptx - PowerPoint

Respond to the following statement:

We should be focused only on options that modify or improve our existing PHWA system.

- A. Strongly agree
- B. Somewhat agree
- C. Neutral
- D. Somewhat disagree
- E. Strongly disagree

SLIDE 50 OF 66



Name	Response
#90CD510C	E
#9189C2DA	E
#918A001B	D
#918A0813	E
#918DA8B4	D

R.V. "Jim" Estomo
 Keith Moore
 Marcia Marcus
 Susie Koesterer
 Ellen Spiegel

Session 1 - Question 47

CIBCSO Board Survey, 9-20-16

Generated: 09/20/2016 13:34:55

Multiple Choice

Water Survey Questions.pptx - PowerPoint

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Multiple Choice

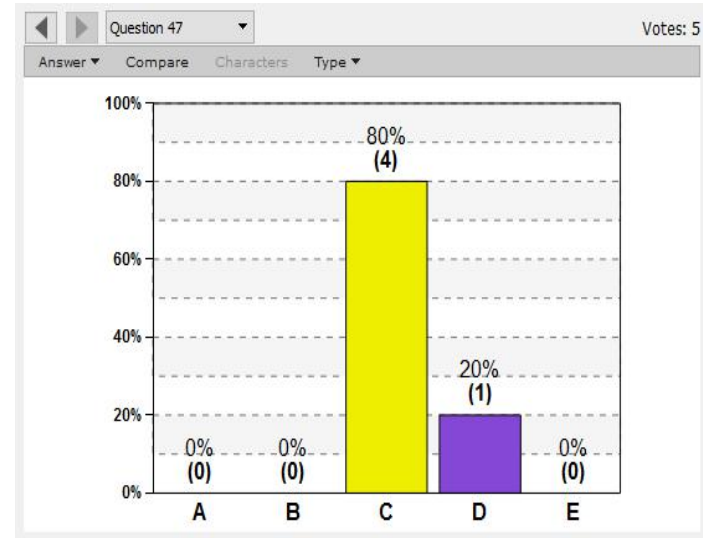
Select the best option that reflects your position:

- A. Any alternative we pursue should be well within industry standards
- B. Alternatives can be new, but there needs to be at least 1 or 2 proven examples
- C. I am okay with being the first, if there is a financial incentive
- D. Being first is worth a premium as it provides industry and regional benefits

SLIDE 51 OF 66

Ask me anything

12:12 PM 9/20/2016



Name	Response
#90CD510C	C
#9189C2DA	C
#918A001B	D
#918A0813	C
#918DA8B4	C

R.V. "Jim" Estomo
Keith Moore
Marcia Marcus
Susie Koesterer
Ellen Spiegel

Session 1 - Question 48

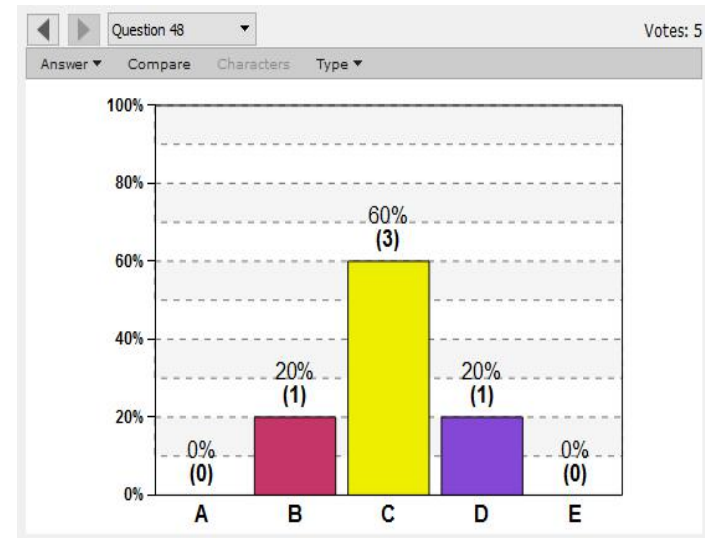
CIBCS Board Survey, 9-20-16

Generated: 09/20/2016 13:34:55

Multiple Choice

Rate your favorability of Seawater Desalination.

- A. No opinion
- B. I am open to the concept, but I have concerns
- C. I am very interested in the concept, and I would like to learn more
- D. I am not interested in the is alternative at all



Name	Response
#90CD510C	D
#9189C2DA	C
#918A001B	C
#918A0813	C
#918DA8B4	B

R.V. "Jim" Estomo
 Keith Moore
 Marcia Marcus
 Susie Koesterer
 Ellen Spiegel

Session 1 - Question 49

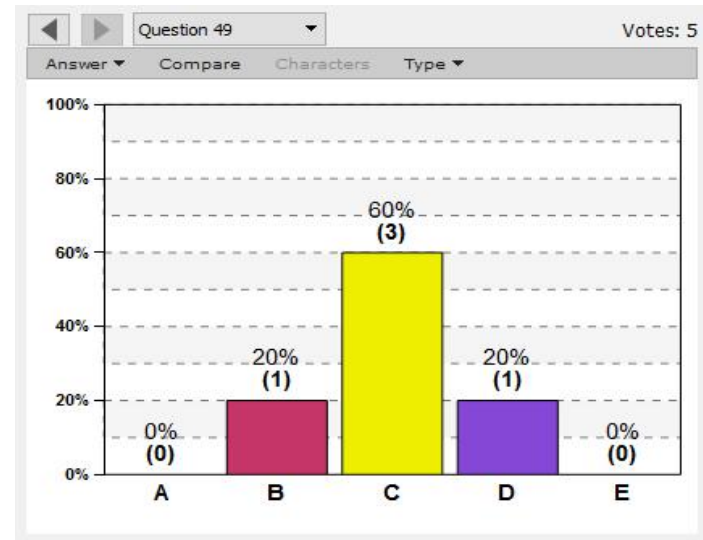
CIBCSD Board Survey, 9-20-16

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Multiple Choice

Pick your preference of these alternatives:

- A. Seawater Desalination, independent
- B. Seawater Desalination, with partners, **NOT** as the leader
- C. Seawater Desalination, with partners, as the leader
- D. I still would never support a Seawater Desalination alternative



Name	Response
#90CD510C	D
#9189C2DA	B
#918A001B	C
#918A0813	C
#918DA8B4	C

R.V. "Jim" Estomo
 Keith Moore
 Marcia Marcus
 Susie Koesterer
 Ellen Spiegel

Session 1 - Question 50

CIBCS Board Survey, 9-20-16

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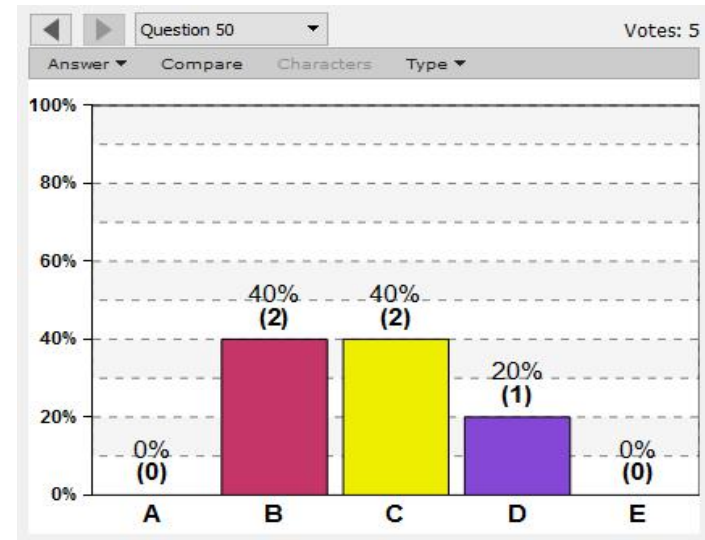
Multiple Choice

Water Survey Questions.pptx - PowerPoint

Rate your opinion on direct potable reuse.

- A. No opinion
- B. I am open to the concept, but I have concerns
- C. I am very interested in the concept, and I would like to learn more
- D. I am not interested in this alternative at all

SLIDE 54 OF 66



Name	Response
#90CD510C	B
#9189C2DA	D
#918A001B	C
#918A0813	C
#918DA8B4	B

R.V. "Jim" Estomo
 Keith Moore
 Marcia Marcus
 Susie Koesterer
 Ellen Spiegel

The individual with the "D" selection expressed concerns that this alternative creates a "one failure and you are delivering highly contaminated water that can kill someone" situation.

Session 1 - Question 51

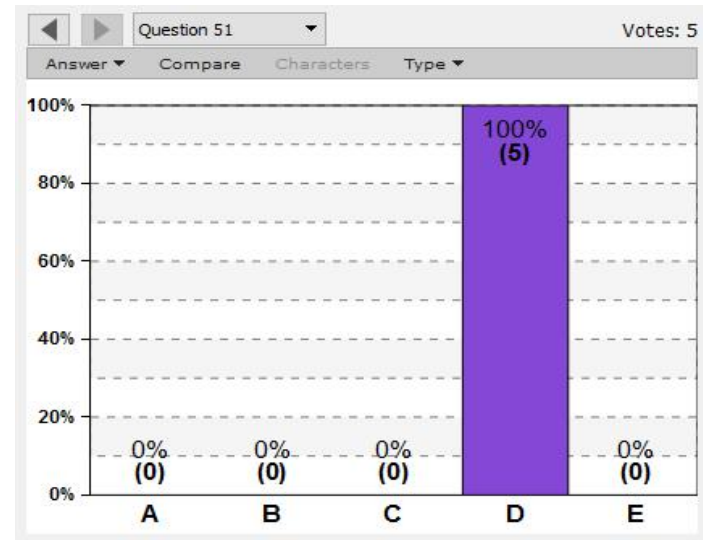
CIBCSD Board Survey, 9-20-16

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Multiple Choice

Technology A has just been invented. There is a pilot test that looks promising. The developing company has made promises to deliver a project at what appears to be a reasonable cost, but they have never done it before and will require the District to provide some wrap-around services (i.e. siting, piping, etc.). Which of the following best reflects your position?

- A. I am not interested in being the first installation.
- B. It is interesting, but spending time/money pursuing these cutting edge alternatives keeps us from focusing on more proven technologies.
- C. Completing our due diligence to investigate the claims and work towards a deal is worth the time/money (\$5-20k).
- D. We need to evaluate multiple new technologies if we are going to consider one. An analysis of multiple new technologies should be conducted.



Name	Response
#90CD510C	D
#9189C2DA	D
#918A001B	D
#918A0813	D
#918DA8B4	D

R.V. "Jim" Estomo
 Keith Moore
 Marcia Marcus
 Susie Koesterer
 Ellen Spiegel

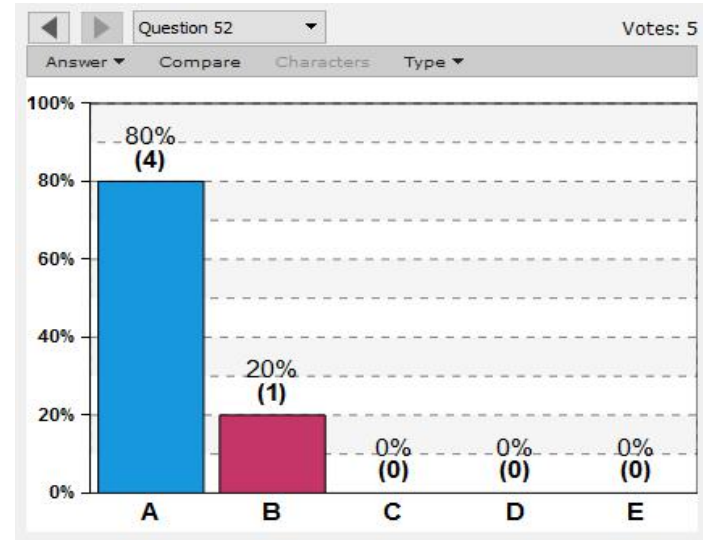
The members want to look at new technologies. If 2-3 technologies are identified, perform due diligence on those 2-3 alternatives.

Session 1 - Question 52

CIBCS D Board Survey, 9-20-16

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Multiple Choice



Name	Response
#90CD510C	A
#9189C2DA	A
#918A001B	A
#918A0813	A
#918DA8B4	B

R.V. "Jim" Estomo
 Keith Moore
 Marcia Marcus
 Susie Koesterer
 Ellen Spiegel

Session 1 - Question 53

CIBCSD Board Survey, 9-20-16

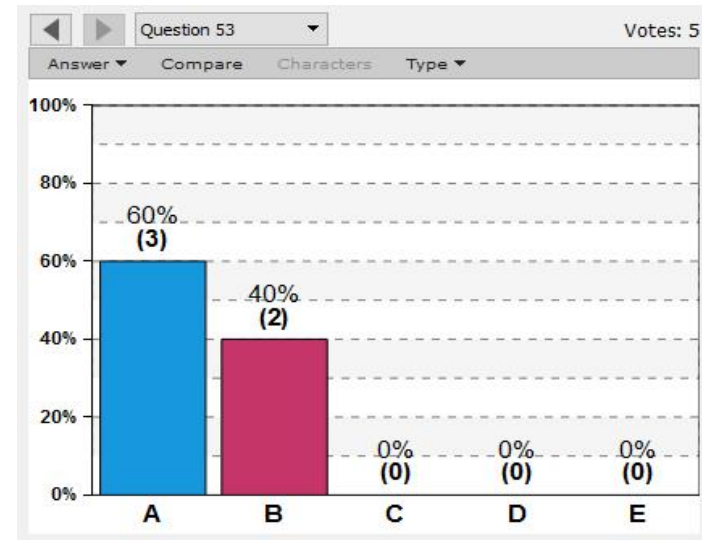
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Multiple Choice

Respond to the following statement:

We should use recycled water for irrigation demands, even if it is not cost effective, but because it is the right thing to do.

- A. Strongly agree
- B. Somewhat agree
- C. Neutral
- D. Somewhat disagree
- E. Strongly disagree



Name	Response
#90CD510C	A
#9189C2DA	A
#918A001B	A
#918A0813	B
#918DA8B4	B

R.V. "Jim" Estomo
 Keith Moore
 Marcia Marcus
 Susie Koesterer
 Ellen Spiegel

Session 1 - Question 54

CIBCSO Board Survey, 9-20-16

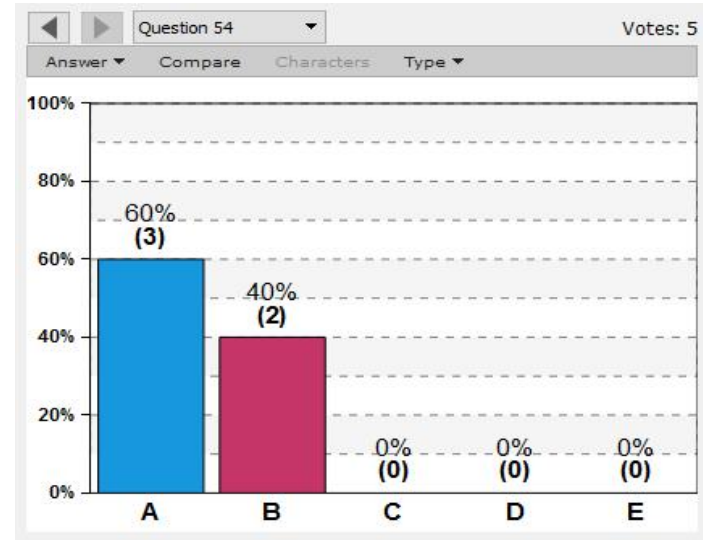
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Multiple Choice

Respond to the following statement:

If an alternative improves WATER QUALITY and RELIABILITY, but is INNOVATIVE and increases COSTS, that is acceptable and I would be in favor.

- A. Strongly agree
- B. Somewhat agree
- C. Neutral
- D. Somewhat disagree
- E. Strongly disagree



Name	Response
#90CD510C	B
#9189C2DA	A
#918A001B	A
#918A0813	A
#918DA8B4	B

R.V. "Jim" Estomo
 Keith Moore
 Marcia Marcus
 Susie Koesterer
 Ellen Spiegel

Session 1 - Question 55

CIBCS Board Survey, 9-20-16

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Water Survey Questions.pptx - PowerPoint

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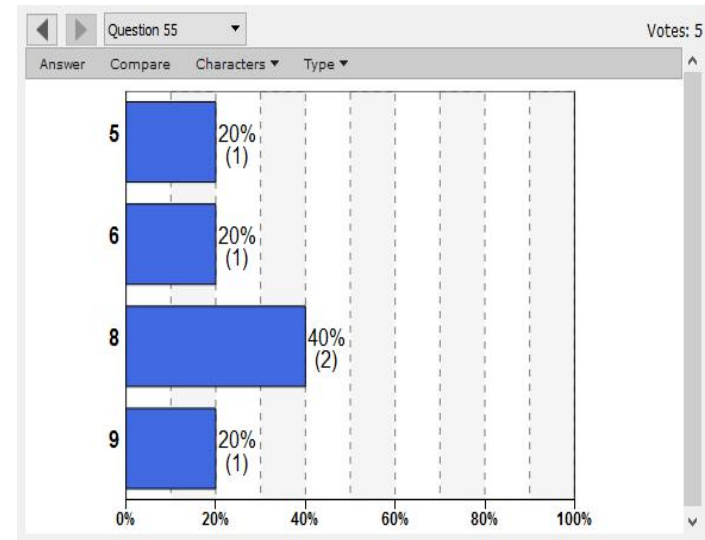
As it pertains to District water supply alternatives, how would you rate (from 0-10) the importance of **INNOVATION** as a screening criteria?

0 = Completely unimportant
5 = Average importance
10 = Most important

SLIDE 59 OF 66

Ask me anything

12:27 PM 9/20/2016



Name	Response
#90CD510C	6
#9189C2DA	8
#918A001B	8
#918A0813	9
#918DA8B4	5

R.V. "Jim" Estomo
Keith Moore
Marcia Marcus
Susie Koesterer
Ellen Spiegel

avg = 7.2

Session 1 - Question 56

CIBCSD Board Survey, 9-20-16

Generated: 09/20/2016 13:34:55

Multiple Choice

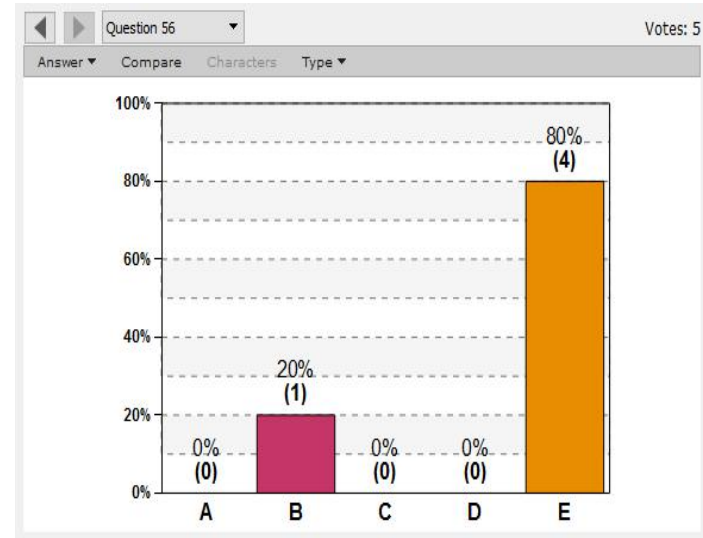
Water Survey Questions.pptx - PowerPoint

Respond to the following statement:

No new plan should be put in place until the existing PHWA agreement has expired in the year 2036.

- A. Strongly agree
- B. Somewhat agree
- C. Neutral
- D. Somewhat disagree
- E. Strongly disagree

SLIDE 61 OF 66



Name	Response
#90CD510C	E
#9189C2DA	E
#918A001B	E
#918A0813	E
#918DA8B4	B

R.V. "Jim" Estomo
 Keith Moore
 Marcia Marcus
 Susie Koesterer
 Ellen Spiegel

Session 1 - Question 57

CIBCS Board Survey, 9-20-16

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Multiple Choice

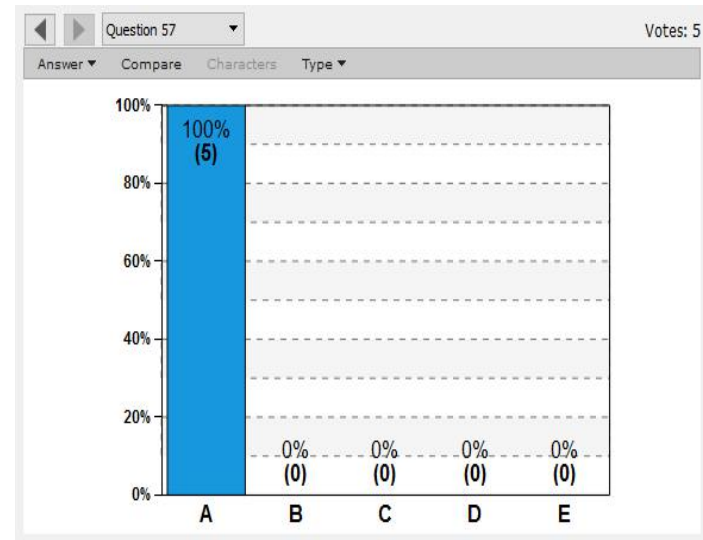
Water Survey Questions.pptx - PowerPoint

Respond to the following statement:

Water supply is a critical issue and a plan needs to be developed within the next 12-18 months.

- A. Strongly agree
- B. Somewhat agree
- C. Neutral
- D. Somewhat disagree
- E. Strongly disagree

SLIDE 62 OF 66



Name	Response
#90CD510C	A
#9189C2DA	A
#918A001B	A
#918A0813	A
#918DA8B4	A

R.V. "Jim" Estomo
 Keith Moore
 Marcia Marcus
 Susie Koesterer
 Ellen Spiegel

Session 1 - Question 58

CIBCS Board Survey, 9-20-16

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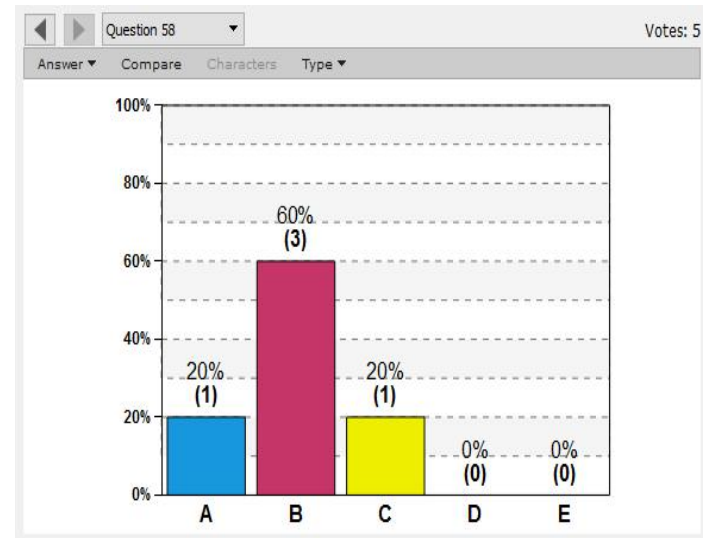
Multiple Choice

Water Survey Questions.pptx - PowerPoint

How long should a new water supply program take?

- A. 1-2 years
- B. 2-5 years
- C. 5-10 years
- D. 10+ years

SLIDE 63 OF 66



Name	Response
#90CD510C	C
#9189C2DA	B
#918A001B	B
#918A0813	A
#918DA8B4	B

R.V. "Jim" Estomo
 Keith Moore
 Marcia Marcus
 Susie Koesterer
 Ellen Spiegel

Session 1 - Question 59

CIBCS D Board Survey, 9-20-16

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Multiple Choice

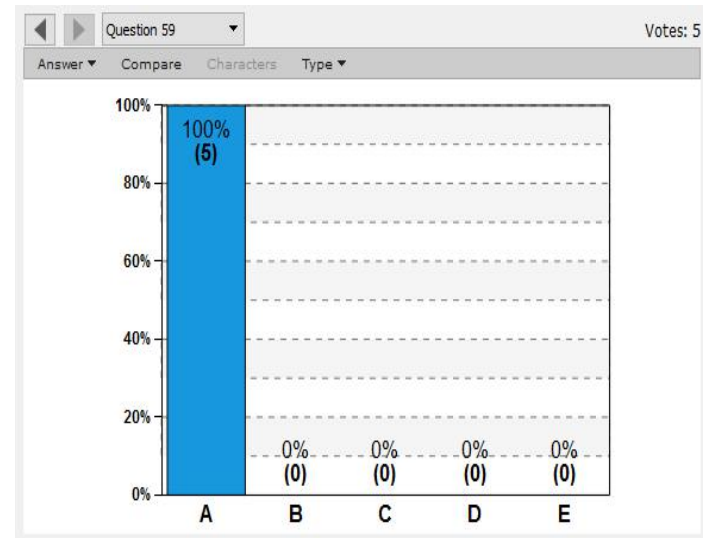
Water Survey Questions.pptx - PowerPoint

Are you willing to implement a solution that eliminates PHWA?

A. Yes
B. No

SLIDE 64 OF 66

12:29 PM 9/20/2016



Name	Response
#90CD510C	A
#9189C2DA	A
#918A001B	A
#918A0813	A
#918DA8B4	A

R.V. "Jim" Estomo
Keith Moore
Marcia Marcus
Susie Koesterer
Ellen Spiegel

Session 1 - Question 60

CIBCSD Board Survey, 9-20-16

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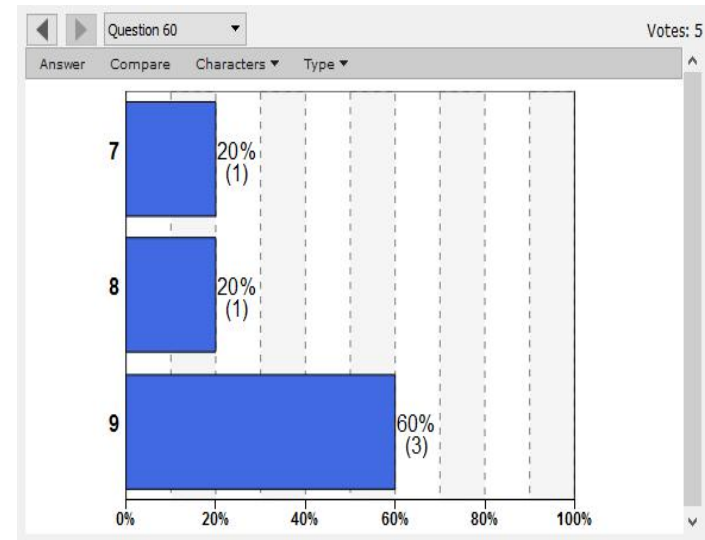
Numeric

Water Survey Questions.pptx - PowerPoint

As it pertains to District water supply alternatives, how would you rate (from 0-10) the importance of **IMPLEMENTATION** as a screening criteria?

0 = Completely unimportant
5 = Average importance
10 = Most important

SLIDE 65 OF 66



Name	Response
#90CD510C	9
#9189C2DA	8
#918A001B	7
#918A0813	9
#918DA8B4	9

R.V. "Jim" Estomo
Keith Moore
Marcia Marcus
Susie Koesterer
Ellen Spiegel

avg = 8.4

Session 1 - Question 61

CIBCSD Board Survey, 9-20-16

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Short Answer

Water Survey Questions.pptx - PowerPoint

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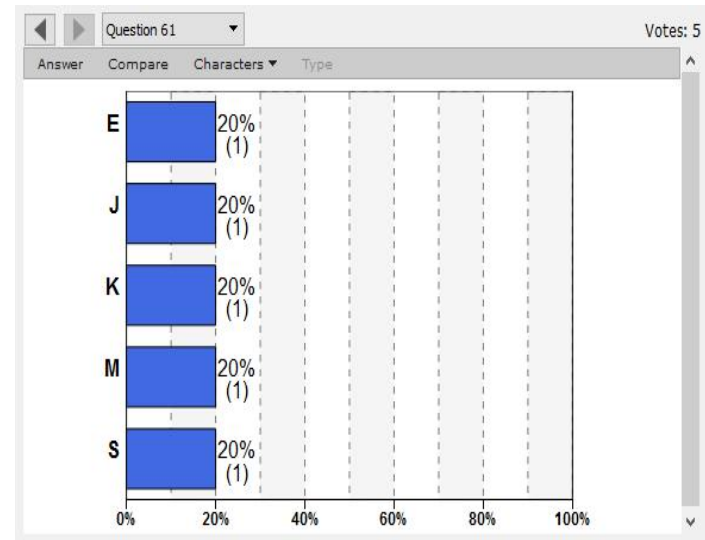
Enter your first and last name initials.

Instructions:
Press **A**
Press the **Up Arrow** until you find the initial letter of your first name
Press the **Right Arrow** once to lock in the first letter
Press **A**
Press the **Up Arrow** until you find the initial letter of your last name
Press **Send**

SLIDE 66 OF 66 128

ASK ME ANYTHING

12:32 PM 9/20/2016



Name	Response
#90CD510C	J
#9189C2DA	K
#918A001B	M
#918A0813	S
#918DA8B4	E

R.V. "Jim" Estomo
Keith Moore
Marcia Marcus
Susie Koesterer
Ellen Spiegel

APPENDIX C
Detailed Screening Support
Documentation

INDEPENDENCE

Alt #	Alternatives	Score	Notes
1	Seawater Desalination, Independent Project	10	
2	Seawater Desalination, Regional Solution w/ District Lead	7	
3	Seawater Desalination, Regional Solution w/ District Buy-in	5	
4	Brackish Water Desalination at District Yard	10	
5	Brackish Water Desal. at Oxnard BS#1 Desalter, increase recovery on existing units - independent	8	less partners than 2
6	Brackish Water Desal. at Oxnard BS#1 Desalter, increase recovery on existing units w/ PHWA partne	6	
7	Brackish Water Desalination at Oxnard BS#1, relocate PHWA equipment	6	
8	Brackish Water Desalination at Oxnard BS#1, expand system (as PHWA)	6	
9	Join with the City of Oxnard	0	fox canyon/delta
10	100% CMWD	0	imported water/delta
11	Blend CMWD/UWCD @ Cross Base Pipeline, District only	7.5	
12	Blend CMWD/UWCD @ Cross Base Pipeline, all PHWA	6	
13	Recycled water for District Irrigation, reduce demand	1	minimal impact
14	Recycled water for Port Hueneme or Navy Base, transfer supply to District	2	provide a little more groundwater allocation
15	Water Conservation program	1	
16	DPR - join Ventura	8	
17	DPR - join with Oxnard	8	
18	DPR - District only	9	
19	DPR - PHWA	7	
20	DPR - PHWA, District lead	7.2	
21	Innovative Technology/Approach - create water supply elsewhere, and transfer to District	7	
22	Innovative Technology/Approach - Blue Dolphin	6	
23	Innovative Technology/Approach - Navy Seawater Desal	5.5	
24	Innovative Technology/Alternative - Zero Liquid Discharge @ PHWA	6.5	
25	District optimizing PHWA at own cost	4	
26	PHWA Optimization with Current Structure	4	
27	Buy Ventura/Casitas SWP Allocation, deliver thru El Rio Spreading Grounds & pump out	7	
28	Energy Production and Desal Combo System	10	
29	Staying with PHWA	4	

COST

Alt #	Alternatives	Score	Notes
1	Seawater Desalination, Independent Project	0	Assume slant well to avoid intake and sewer to avoid discharge, 0.5 MGD facility at \$7M
2	Seawater Desalination, Regional Solution w/ District Lead	1	Assume regional 20 MGD regional project, new intake/outfall. Use existing conveyance. \$8M
3	Seawater Desalination, Regional Solution w/ District Buy-in	2	Assume 1 MGD purchased, \$10M
4	Brackish Water Desalination at District Yard	3	Assume new well at \$1M and 0.5 MGD Desalter at \$500k and 100,000 storage at \$200k. Total \$
5	Brackish Water Desal. at Oxnard BS#1 Desalter, increase recovery on existing units - independent	6	\$500k for third stage on one unit, \$500k for new piping, and \$200k for misc, \$1.2M
6	Brackish Water Desal. at Oxnard BS#1 Desalter, increase recovery on existing units w/ PHWA part	6	Same cost as independent but get rid of existing fixed costs.Previous x 3 = \$4M
7	Brackish Water Desalination at Oxnard BS#1, relocate PHWA equipment	6	Potential savings to previous alternative
8	Brackish Water Desalination at Oxnard BS#1, expand system (as PHWA)	5	\$2.5M for new 2.5 MGD skid
9	Join with the City of Oxnard	8	\$500k, add meters to existing conditions, or convert cross base pipeline
10	100% CMWD	6.5	\$500k for connecting pipeline to cross base
11	Blend CMWD/UWCD @ Cross Base Pipeline, District only	3	\$750k new blending station
12	Blend CMWD/UWCD @ Cross Base Pipeline, all PHWA	3	\$1M new blending station
13	Recycled water for District Irrigation, reduce demand	0	\$500k for new blending station and \$1M for new well
14	Recycled water for Port Hueneme or Navy Base, transfer supply to District	0	\$3M for new pipeline
15	Water Conservation program	7.5	\$1M for new pipelines
16	DPR - join Ventura	1	\$250k
17	DPR - join with Oxnard	4	\$15M for pipeline
18	DPR - District only	1	Unknown
19	DPR - PHWA	4	\$250k for tank, \$250k for AWPf pipe, \$500 for blending station, \$250k for monitoring, \$1.5M
20	DPR - PHWA, District lead	4	Same cost as independent but get rid of existing fixed costs.Previous x 3 = \$5M
21	Innovative Technology/Approach - create water supply elsewhere, and transfer to Distri	1	Same cost as independent but get rid of existing fixed costs.Previous x 3 = \$5M
22	Innovative Technology/Approach - Blue Dolphin	0	Unknown
23	Innovative Technology/Approach - Navy Seawater Desal	1	Unknown
24	Innovative Technology/Alternative - Zero Liquid Discharge @ PHWA	2	Unknown
25	District optimizing PHWA at own cost	8	Unknown
26	PHWA Optimization with Current Structure	8	\$750k
27	Buy Ventura/Casitas SWP Allocation, deliver thru El Rio Spreading Grounds & pump out	6.5	
28	Energy Production and Desal Combo System	0	
29	Staying with PHWA	9	

WATER QUALITY

Alt #	Alternatives	Score	Notes
1	Seawater Desalination, Independent Project	10	
2	Seawater Desalination, Regional Solution w/ District Lead	10	
3	Seawater Desalination, Regional Solution w/ District Buy-in	10	
4	Brackish Water Desalination at District Yard	10	
5	Brackish Water Desal. at Oxnard BS#1 Desalter, increase recovery on existing units - independent	8	assuming agreement with Oxnard is to produce Calleguas-equivalent water quality
6	Brackish Water Desal. at Oxnard BS#1 Desalter, increase recovery on existing units w/ PHWA part	8	assuming agreement with Oxnard is to produce Calleguas-equivalent water quality
7	Brackish Water Desalination at Oxnard BS#1, relocate PHWA equipment	8	assuming agreement with Oxnard is to produce Calleguas-equivalent water quality
8	Brackish Water Desalination at Oxnard BS#1, expand system (as PHWA)	8	assuming agreement with Oxnard is to produce Calleguas-equivalent water quality
9	Join with the City of Oxnard	5	
10	100% CMWD	10	
11	Blend CMWD/UWCD @ Cross Base Pipeline, District only	7	
12	Blend CMWD/UWCD @ Cross Base Pipeline, all PHWA	7	
13	Recycled water for District Irrigation, reduce demand	0	
14	Recycled water for Port Hueneme or Navy Base, transfer supply to District	0	
15	Water Conservation program	0	
16	DPR - join Ventura	9	
17	DPR - join with Oxnard	9	
18	DPR - District only	9	
19	DPR - PHWA	9	
20	DPR - PHWA, District lead	9	
21	Innovative Technology/Approach - create water supply elsewhere, and transfer to District	10	
22	Innovative Technology/Approach - Blue Dolphin	10	
23	Innovative Technology/Approach - Navy Seawater Desal	10	
24	Innovative Technology/Alternative - Zero Liquid Discharge @ PHWA	10	
25	District optimizing PHWA at own cost	10	
26	PHWA Optimization with Current Structure	10	
27	Buy Ventura/Casitas SWP Allocation, deliver thru El Rio Spreading Grounds & pump out	10	
28	Energy Production and Desal Combo System	10	
29	Staying with PHWA	10	

RELIABILITY

Alt #	Alternatives	Score	Notes
1	Seawater Desalination, Independent Project	10	
2	Seawater Desalination, Regional Solution w/ District Lead	10	
3	Seawater Desalination, Regional Solution w/ District Buy-in	10	
4	Brackish Water Desalination at District Yard	10	
5	Brackish Water Desal. at Oxnard BS#1 Desalter, increase recovery on existing units - independent	9	
6	Brackish Water Desal. at Oxnard BS#1 Desalter, increase recovery on existing units w/ PHWA part	9	
7	Brackish Water Desalination at Oxnard BS#1, relocate PHWA equipment	9	
8	Brackish Water Desalination at Oxnard BS#1, expand system (as PHWA)	9	
9	Join with the City of Oxnard	9	
10	100% CMWD	5	
11	Blend CMWD/UWCD @ Cross Base Pipeline, District only	7	
12	Blend CMWD/UWCD @ Cross Base Pipeline, all PHWA	7	
13	Recycled water for District Irrigation, reduce demand	1	
14	Recycled water for Port Hueneme or Navy Base, transfer supply to District	2	
15	Water Conservation program	5	
16	DPR - join Ventura	10	
17	DPR - join with Oxnard	10	
18	DPR - District only	10	
19	DPR - PHWA	10	
20	DPR - PHWA, District lead	10	
21	Innovative Technology/Approach - create water supply elsewhere, and transfer to District	5	
22	Innovative Technology/Approach - Blue Dolphin	10	
23	Innovative Technology/Approach - Navy Seawater Desal	10	
24	Innovative Technology/Alternative - Zero Liquid Discharge @ PHWA	5	
25	District optimizing PHWA at own cost	5	
26	PHWA Optimization with Current Structure	3	
27	Buy Ventura/Casitas SWP Allocation, deliver thru El Rio Spreading Grounds & pump out	4	
28	Energy Production and Desal Combo System	10	
29	Staying with PHWA	3	

LEADER/LEADERSHIP

Alt #	Alternatives	Score	Notes
1	Seawater Desalination, Independent Project	10	
2	Seawater Desalination, Regional Solution w/ District Lead	10	
3	Seawater Desalination, Regional Solution w/ District Buy-in	2.5	
4	Brackish Water Desalination at District Yard	10	
5	Brackish Water Desal. at Oxnard BS#1 Desalter, increase recovery on existing units - independent	10	
6	Brackish Water Desal. at Oxnard BS#1 Desalter, increase recovery on existing units w/ PHWA part	4	
7	Brackish Water Desalination at Oxnard BS#1, relocate PHWA equipment	4	
8	Brackish Water Desalination at Oxnard BS#1, expand system (as PHWA)	4	
9	Join with the City of Oxnard	0	
10	100% CMWD	0	
11	Blend CMWD/UWCD @ Cross Base Pipeline, District only	10	
12	Blend CMWD/UWCD @ Cross Base Pipeline, all PHWA	4	
13	Recycled water for District Irrigation, reduce demand	10	
14	Recycled water for Port Hueneme or Navy Base, transfer supply to District	10	
15	Water Conservation program	10	
16	DPR - join Ventura	2	
17	DPR - join with Oxnard	2	
18	DPR - District only	10	
19	DPR - PHWA	4	
20	DPR - PHWA, District lead	10	
21	Innovative Technology/Approach - create water supply elsewhere, and transfer to District	10	
22	Innovative Technology/Approach - Blue Dolphin	4	
23	Innovative Technology/Approach - Navy Seawater Desal	2.5	
24	Innovative Technology/Alternative - Zero Liquid Discharge @ PHWA	4	
25	District optimizing PHWA at own cost	5	
26	PHWA Optimization with Current Structure	4	
27	Buy Ventura/Casitas SWP Allocation, deliver thru El Rio Spreading Grounds & pump out	10	
28	Energy Production and Desal Combo System	10	
29	Staying with PHWA	4	

INNOVATION

Alt #	Alternatives	Score	Notes
1	Seawater Desalination, Independent Project	8	
2	Seawater Desalination, Regional Solution w/ District Lead	8	
3	Seawater Desalination, Regional Solution w/ District Buy-in	8	
4	Brackish Water Desalination at District Yard	8	
5	Brackish Water Desal. at Oxnard BS#1 Desalter, increase recovery on existing units - independent	6	
6	Brackish Water Desal. at Oxnard BS#1 Desalter, increase recovery on existing units w/ PHWA part	6	
7	Brackish Water Desalination at Oxnard BS#1, relocate PHWA equipment	6	
8	Brackish Water Desalination at Oxnard BS#1, expand system (as PHWA)	6	
9	Join with the City of Oxnard	0	
10	100% CMWD	0	
11	Blend CMWD/UWCD @ Cross Base Pipeline, District only	2	
12	Blend CMWD/UWCD @ Cross Base Pipeline, all PHWA	2	
13	Recycled water for District Irrigation, reduce demand	5	
14	Recycled water for Port Hueneme or Navy Base, transfer supply to District	5	
15	Water Conservation program	5	
16	DPR - join Ventura	10	
17	DPR - join with Oxnard	10	
18	DPR - District only	10	
19	DPR - PHWA	10	
20	DPR - PHWA, District lead	10	
21	Innovative Technology/Approach - create water supply elsewhere, and transfer to District	10	
22	Innovative Technology/Approach - Blue Dolphin	9	
23	Innovative Technology/Approach - Navy Seawater Desal	8	
24	Innovative Technology/Alternative - Zero Liquid Discharge @ PHWA	10	
25	District optimizing PHWA at own cost	7	
26	PHWA Optimization with Current Structure	7	
27	Buy Ventura/Casitas SWP Allocation, deliver thru El Rio Spreading Grounds & pump out	5	
28	Energy Production and Desal Combo System	10	
29	Staying with PHWA	0	

IMPLEMENTATION

Alt #	Alternatives	Score	Notes
1	Seawater Desalination, Independent Project	0	
2	Seawater Desalination, Regional Solution w/ District Lead	2	
3	Seawater Desalination, Regional Solution w/ District Buy-in	2	
4	Brackish Water Desalination at District Yard	6	
5	Brackish Water Desal. at Oxnard BS#1 Desalter, increase recovery on existing units - independent	8	
6	Brackish Water Desal. at Oxnard BS#1 Desalter, increase recovery on existing units w/ PHWA part	8	
7	Brackish Water Desalination at Oxnard BS#1, relocate PHWA equipment	7	
8	Brackish Water Desalination at Oxnard BS#1, expand system (as PHWA)	6	
9	Join with the City of Oxnard	5	
10	100% CMWD	5	
11	Blend CMWD/UWCD @ Cross Base Pipeline, District only	5	
12	Blend CMWD/UWCD @ Cross Base Pipeline, all PHWA	5	
13	Recycled water for District Irrigation, reduce demand	6.5	
14	Recycled water for Port Hueneme or Navy Base, transfer supply to District	6.5	
15	Water Conservation program	9	
16	DPR - join Ventura	3	
17	DPR - join with Oxnard	5	
18	DPR - District only	2.5	
19	DPR - PHWA	5	
20	DPR - PHWA, District lead	6	
21	Innovative Technology/Approach - create water supply elsewhere, and transfer to Distri	0	
22	Innovative Technology/Approach - Blue Dolphin	2	
23	Innovative Technology/Approach - Navy Seawater Desal	2	
24	Innovative Technology/Alternative - Zero Liquid Discharge @ PHWA	5.5	
25	District optimizing PHWA at own cost	8.5	
26	PHWA Optimization with Current Structure	8	
27	Buy Ventura/Casitas SWP Allocation, deliver thru El Rio Spreading Grounds & pump out	7.5	
28	Energy Production and Desal Combo System	0	
29	Staying with PHWA	10	

CRITERIA WEIGHTING

Criteria	Independence	Cost	Water Quality	Reliability	Leader(ship)	Innovation	Implementation	Total
Survey Score	7.6	7.4	8.4	8.2	8.4	7.2	8.4	
Recalculated Score (^5)	25355	22190	41821	37074	41821	19349	41821	229432
Assigned Weight	11.1	9.7	18.2	16.2	18.2	8.4	18.2	100

COMPILATION OF SCORES FOR ALTERNATIVES

Alt #	Alternatives	Scores						
		Independence	Cost	Water Quality	Reliability	Leader (ship)	Innovation	Implementation
1	Seawater Desalination, Independent Project	10	0	10	10	10	8	0
2	Seawater Desalination, Regional Solution w/ District Lead	7	1	10	10	10	8	2
3	Seawater Desalination, Regional Solution w/ District Buy-in	5	2	10	10	2.5	8	2
4	Brackish Water Desalination at District Yard	10	3	10	10	10	8	6
5	Brackish Water Desal. at Oxnard BS#1 Desalter, increase recovery on existing units - independent	8	6	8	9	10	6	8
6	Brackish Water Desal. at Oxnard BS#1 Desalter, increase recovery on existing units w/ PHWA partn	6	6	8	9	4	6	8
7	Brackish Water Desalination at Oxnard BS#1, relocate PHWA equipment	6	6	8	9	4	6	7
8	Brackish Water Desalination at Oxnard BS#1, expand system (as PHWA)	6	5	8	9	4	6	6
9	Join with the City of Oxnard	0	8	5	9	0	0	5
10	100% CMWD	0	6.5	10	5	0	0	5
11	Blend CMWD/UWCD @ Cross Base Pipeline, District only	7.5	3	7	7	10	2	5
12	Blend CMWD/UWCD @ Cross Base Pipeline, all PHWA	6	3	7	7	4	2	5
13	Recycled water for District Irrigation, reduce demand	1	0	0	1	10	5	6.5
14	Recycled water for Port Hueneme or Navy Base, transfer supply to District	2	0	0	2	10	5	6.5
15	Water Conservation program	1	7.5	0	5	10	5	9
16	DPR - join Ventura	8	1	9	10	2	10	3
17	DPR - join with Oxnard	8	4	9	10	2	10	5
18	DPR - District only	9	1	9	10	10	10	2.5
19	DPR - PHWA	7	4	9	10	4	10	5
20	DPR - PHWA, District lead	7.2	4	9	10	10	10	6
21	Innovative Technology/Approach - create water supply elsewhere, and transfer to District	7	1	10	5	10	10	0
22	Innovative Technology/Approach - Blue Dolphin	6	0	10	10	4	9	2
23	Innovative Technology/Approach - Navy Seawater Desal	5.5	1	10	10	2.5	8	2
24	Innovative Technology/Alternative - Zero Liquid Discharge @ PHWA	6.5	2	10	5	4	10	5.5
25	District optimizing PHWA at own cost	4	8	10	5	5	7	8.5
26	PHWA Optimization with Current Structure	4	8	10	3	4	7	8
27	Buy Ventura/Casitas SWP Allocation, deliver thru El Rio Spreading Grounds & pump out	7	6.5	10	4	10	5	7.5
28	Energy Production and Desal Combo System	10	0	10	10	10	10	0
29	Staying with PHWA	4	9	10	3	4	0	10

ALTERNATIVES ANALYSIS SUMMARY

Alt #	Alternatives	Weighted Score							
		Independence	Cost	Water	Reliability	Leader (ship)	Innovation	Implementation	Total
1	Seawater Desalination, Independent Project	111	0	182	162	182	67	0	704
2	Seawater Desalination, Regional Solution w/ District Lead	77	10	182	162	182	67	36	717
3	Seawater Desalination, Regional Solution w/ District Buy-in	55	19	182	162	46	67	36	568
4	Brackish Water Desalination at District Yard	111	29	182	162	182	67	109	843
5	Brackish Water Desal. at Oxnard BS#1 Desalter, increase recovery on existing units - independent	88	58	146	145	182	51	146	816
6	Brackish Water Desal. at Oxnard BS#1 Desalter, increase recovery on existing units w/ PHWA partners	66	58	146	145	73	51	146	685
7	Brackish Water Desalination at Oxnard BS#1, relocate PHWA equipment	66	58	146	145	73	51	128	667
8	Brackish Water Desalination at Oxnard BS#1, expand system (as PHWA)	66	48	146	145	73	51	109	639
9	Join with the City of Oxnard	0	77	91	145	0	0	91	405
10	100% CMWD	0	63	182	81	0	0	91	417
11	Blend CMWD/UWCD @ Cross Base Pipeline, District only	83	29	128	113	182	17	91	643
12	Blend CMWD/UWCD @ Cross Base Pipeline, all PHWA	66	29	128	113	73	17	91	517
13	Recycled water for District Irrigation, reduce demand	11	0	0	16	182	42	118	370
14	Recycled water for Port Hueneme or Navy Base, transfer supply to District	22	0	0	32	182	42	118	397
15	Water Conservation program	11	73	0	81	182	42	164	553
16	DPR - join Ventura	88	10	164	162	36	84	55	599
17	DPR - join with Oxnard	88	39	164	162	36	84	91	665
18	DPR - District only	99	10	164	162	182	84	46	747
19	DPR - PHWA	77	39	164	162	73	84	91	690
20	DPR - PHWA, District lead	80	39	164	162	182	84	109	820
21	Innovative Technology/Approach - create water supply elsewhere, and transfer to District	77	10	182	81	182	84	0	617
22	Innovative Technology/Approach - Blue Dolphin	66	0	182	162	73	76	36	595
23	Innovative Technology/Approach - Navy Seawater Desal	61	10	182	162	46	67	36	564
24	Innovative Technology/Alternative - Zero Liquid Discharge @ PHWA	72	19	182	81	73	84	100	612
25	District optimizing PHWA at own cost	44	77	182	81	91	59	155	690
26	PHWA Optimization with Current Structure	44	77	182	48	73	59	146	630
27	Buy Ventura/Casitas SWP Allocation, deliver thru El Rio Spreading Grounds & pump out	77	63	182	65	182	42	137	748
28	Energy Production and Desal Combo System	111	0	182	162	182	84	0	721
29	Staying with PHWA	44	87	182	48	73	0	182	617

TOP-RANKED ALTERNATIVES
Brackish Water Desalination at District Yard
DPR - PHWA, District lead
Brackish Water Desal. at Oxnard BS#1 Desalter, increase recovery on existing units - independent
Buy Ventura/Casitas SWP Allocation, deliver thru El Rio Spreading Grounds & pump out
DPR - District only