Blue Diamond, Nevada
Consulting Hydrogeologist
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Presented by:

Wellhead Protection Planning for Panhandle Valley
Approach for Parhump is Different

Rather than do 40 WHPPs, it makes Parhump has 40 Public

RV Parks, Markets
Bars, Restaurants, Lodges, Eating

Do not consistently serve the same people

Transient Non-Community - 23

Churches, Senior Centers, RV Parks

Serve the same people but not year round

Non-Transient Non-Community - 3

Utilities and Mobile Home Parks

Serve the same people year round

Community Systems - 14

WHY?

For Parhump, the WHPP Will
Utility with a few sources.

Most WHPPs are for a single

Entire Community

more sense to do 1 that covers the

Water Supply Systems

Entire Valley.
Seven Required Elements in Developing a Wellhead Protection Program

SUMMARY OF STATE OF NEVADA WELLHEAD PROTECTION PROGRAM GUIDANCE

Core Requirements
- Define Wellhead Areas
- Define Wellhead Teams
- Form Wellhead Teams
- Source and Implement
- Inventory
- Identification, map, manage, and protect
- Minimum well sizes
- Demonstrate implementation for information
- Prepare summary report
- Prepare and disseminate public education materials
- Prepare and disseminate public outreach materials

Other Supports
- New Well Sites
- Inventory and map sources, threats,
- Define jurisdictional authorities
- Source and implement structures
- Source and implement structures
- Source and implement structures
Monitor - Evaluate - Modify

Long-term Implementation

Evaluate new well proposals
Define new operations
Evaluate risks

Select Management Options

Select management strategies
Guide WHP development
Cooperative recharge area management
Water supply protection

Define Goals

RPC, SNCC, Clark County
System Operators, NYE Co., Town Board

Define Jurisdictional Authorities

Element 1 - Form Wellhead Protection Team
Element 2 - Delinate WHPAS and Recharge Areas

WHPAS
Recharge areas
Agutre system contributing to supplies

Prepare maps

Thresolds selected
Rationale for methods selected

Prepare summary

Hydrologic evaluation for springs
EPA model runs for water supply wells

Apply methods

Select methods criteria & thresholds

Delinate WHPAS
Core Requirements
Preparation, display, and distribute
Map recharge areas
WHPAS
Thresholds, and rationale for
Outline methods, criteria,
and degree of compartment
Analyize and evaluate
Pump test data
Reference/Information Review
Element 2 – Delineate WHPAs and Recharge Areas

What is a **Wellhead Protection Area**?

What is a **Groundwater Vulnerability Assessment**?

What is a **Capture Zone**?

What about **Springs**?

How is the **Recharge Area** defined?
What is a Vulnerability Assessment?
What is a Capture Zone?
Areas of secondary recharge flow.

No recharge from subsurface distribution of spring mountains based on elevation/recharge.

Recharge from precipitation is distributed and considered as agricultural fields, seeps, and...
Area for each well and spring contamination within the wellhead protection identifies and surveys potential sources of Contaminant Source Inventory

For Each Potential Source

Document and schedule updates Map at 1:24,000 with capture zone Assign relative risk Survey with GPS

Responsible
Schedule update and assign designations Map of master plan and land use Existing and potential source map Tableau and summarize sources Field survey Records review Core requirements

Element 3 – Inventory Contaminant Sources
A water supply well must be at least 100 feet from any source of contamination. New locations for selecting new locations for supply wells should be avoided when selecting new locations for supply wells. Many common activities use compounds that can result in potential threats to water supply sources.
should be avoided.

Potential contaminant sources, these types of

In selecting new locations for water

contaminant, associated with that class of

water supply source, and the risk

of sources, their distance to the

the basis of the number and types

Relative risk rankings are made on

mapped.

sources, the sites are surveyed and

If sources are located in or near

sources in the table on the far

any of the potential contaminant

The Contaminant Survey Identifies

Potential Contaminant Sources

<table>
<thead>
<tr>
<th>Class</th>
<th>Source</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
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A = Possible
B = Likely
C = Certain
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<tr>
<th>Core Requirements</th>
<th>Management Strategies</th>
<th>Contractant Source</th>
<th>Element 4</th>
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<td>Select and Implement</td>
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<th>Initial Election</th>
<th>Sustainable Planning</th>
<th>Management Options</th>
<th>Strongly Encouraged</th>
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<tr>
<th>Non Industrial Zoning for WHPA 16</th>
<th>Implement for WHPA Protection</th>
<th>and Non-Regulation Strategies</th>
<th>Develop and Document a Fall Protection Plan</th>
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<td>Supply Source</td>
<td>Develop a new well as a public water supply if necessary. Include and what steps must be taken to ensure the required contingency plan is addressed.</td>
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### Core Requirements

- Detailed schedule for well use
- Document rationale for selection
- Map new well sites and their WHPs

**Siting Considerations**

**Element 5 - Plan Siting of New Wells**

- Do not draw from multiple aquifers if possible
- Avoid water table aquifers if possible
- Modify contamination plan
- Add all new wells to the WHP
- Propose new wells: WHPs should be defined for all new wells must be more than 100 ft from any source of contamination.
Get the signs up
Presentations at Town Board Meetings
Business fyers
Customer mailings

Suggested activities:

Core Requirements

Propose activities
Implementation schedule
Develop school program

Element 7 - Public Participation

Utilities
Citizens Advisory Councils
Town Board

Elem. Jr. High Schools

For Wellhead Protection

Are here to help us
the guys from the State