

## Draft Source Water and Watershed Protection Desired Outcomes

### Suggestions to Help Protect Water Quality

*Compiled from Stakeholder Meetings Jan 2017 to Jan 2018*

Item	Ideas/ Actions
Physically Protect Wellheads and SWPAs	<ul style="list-style-type: none"> <li>• Include SWPAs in the development/redevelopment review</li> <li>• Have increased setbacks from wellheads to improve protection</li> <li>• Require plugging of old wells</li> <li>• Require oversight for Irrigation wells on construction and locations mapped</li> <li>• Map and consider ALL wells (monitoring, domestic, irrigation, public) have standards for each</li> <li>• Digitally accessible well and SWPA locations for planners and decision makers</li> <li>• Reduce public hazardous waste by providing public restrooms</li> <li>• Emergency and accident communications: Improve spill and corrective actions notifications to PWSs</li> <li>• Coordination with Remediation District regarding PCE</li> <li>• Include Verdi and E. Truckee Canyon commercial development in pretreatment program</li> <li>• Develop LUST ID and Reduction Plan for SWPAs</li> <li>• Collect monitoring well data for nitrate in and near WHPAs</li> <li>• Require abandonment of unused wells or septic systems per standard as a condition of real property transfer in service area, provided water and wastewater service readily available.</li> <li>• Develop a Monitoring Well Management and Reduction Plan with cooperation of CTMRD in/near WHPAs to reduce groundwater contamination hazard. Minimize visibility of wells (hide locations better).</li> <li>• Monitoring wells at gas stations: address problem-- get filled up with gas by provider</li> <li>• Gas stations, alarms are turned off, while new tanks and pipes leak</li> <li>• Have PWSs extend wellheads by 4 ft in floodplains per regulation</li> <li>• Enforce prohibits on Class V injection wells</li> <li>• Floor drains: Prohibit new floor drains; Close existing</li> <li>• Improve monitoring and replacement for old heating oil tanks that are likely to leak.</li> <li>• Groundwater study of shallow aquifer</li> </ul>
Physically Protect the Watershed	<ul style="list-style-type: none"> <li>• Fuels management in watershed</li> <li>• Buffers along the Truckee River</li> <li>• Implement BMPs and improved land use practices to improve runoff to TR</li> <li>• Partner outside of ROWs to improve BMP effectiveness</li> <li>• Continue Tributary Assessments and Load Estimates</li> <li>• Review development codes regarding LID and provide guidance</li> <li>• Improve standards for new and retrofit storm water controls</li> <li>• Must consider spills and overfills and WQ for River and SWPAs</li> <li>• Develop stormwater conveyance map</li> <li>• Map high volume storm drains to the TR</li> </ul>

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Garner political and social will for plan implementation	<ul style="list-style-type: none"> <li>• Demonstrate benefits of Plan</li> <li>• Develop Plan talking points such as: purpose and goals for water quality; Coordinate with Small Business Development Center on WHP message; and have a strong financial / economic argument</li> <li>• Plan recognition – name, logo,</li> <li>• Consistency with existing plan goals and strategies such as Comprehensive Regional Water Management Plan and TMWA WHPP</li> <li>• Stakeholders represent and communicate with their Board/Agency</li> <li>• Reduce Non-Point Source Pollution for TMWRF Pollutant Credit.</li> </ul>
Ensure plan implementation	<ul style="list-style-type: none"> <li>• Fund a coordinator</li> <li>• appoint a champion who can facilitate from within each agency/municipality</li> <li>• Develop broad funding needs</li> <li>• Complimentary / collaborative funding</li> <li>• develop a table of funding resources, strategies &amp; mechanisms</li> <li>• Long-term regional mapping on-line viewer support</li> <li>• Bring data bases up to date and maintain digital databases</li> </ul>
Prioritization Tools	<ul style="list-style-type: none"> <li>• Develop/map areas with potential for future growth to focus efforts</li> <li>• Relate to PWS: E. Truckee Canyon (has industrial development, septic systems, confined aquifer), areas of Washoe Valley, Verdi, Cold Springs.</li> <li>• Mapping to help with expansion of sanitary sewer services or septic to sewer conversions.</li> </ul>
Education	<ul style="list-style-type: none"> <li>• Designers need to be more knowledgeable regarding state and WHD regs for wells and water systems</li> <li>• Septic system proper maintenance</li> <li>• Well owners on: maintenance, plugging and abandonment</li> <li>• Household, commercial, industrial waste proper disposal such as Automotive fluids</li> <li>• Land Use Practices and SWPAs such as Design and maintenance of Parks, Golf Courses</li> <li>• Training for development review staff regarding water protection</li> <li>• Education/Defense of regulations against septic systems on small lots to decision makers</li> <li>• Business owners in SWPAs for groundwater protection BMPs</li> <li>• Heating oil tank owners: maintenance, replacement, repair</li> </ul>
Other	<ul style="list-style-type: none"> <li>• Revise the regional protocols for parcels as they are bought and sold for better tracking</li> </ul>

## Example Project Title

Overview	
<b>Site #</b>	Alpha numeric to be listed on Flex Viewer
<b>Priority #</b>	Priority # developed under Part C of this form
<b>Site Location Description</b>	City, location i.e. City of Reno, Alum Creek Crossing under McCarran Bridge
<b>Lat/Long</b>	39°30'16"N 119°51'31"W
<b>Primary Contact</b>	Name and contact information,

PART A: General Description	
<b>Groundwater Basin, #</b>	i.e. Truckee Meadows (087)
<b>Tributary Name; HUC 12 Name, #</b>	i.e. Peavine Creek-Truckee River 160501020506      South side
<b>Source Water Protection Area</b>	SWPA Identifier
<b>Problem Statement and Causes of Pollution</b> <sup>(a, c)</sup>	<ul style="list-style-type: none"> <li>• <i>EPA Element a: Identify sources that need to be controlled and the extent of the sources</i></li> <li>• <i>EPA Element c: Describe the NPS management measures needed to achieve load reductions and the critical areas.</i></li> <li>• a succinct description of the water quality problem addressed by the project</li> </ul>
<b>Project Summary</b>	A brief description of the project. State the water quality problem to be addressed by the project; the project goals and objectives; an overview of the project, and activities/methods proposed to address the problem.
<b>Reference Plan Implementation or Priority</b>	<ul style="list-style-type: none"> <li>• Reference the documents or programs that pointed to this project</li> </ul>

## Example Project Title

<b>PART B: Project Details</b>	
<b>Project Goals and Tasks</b>	<ul style="list-style-type: none"> <li>Define the overall goal(s) of the project</li> <li>Describe the methods used to complete the tasks;</li> <li>List deliverables produced at task completion;</li> <li></li> </ul>
<b>Estimated Existing Loads and Sources <sup>(a)</sup>:</b>	<ul style="list-style-type: none"> <li><i>EPA Element a: Include an estimate of the significant point and nonpoint sources in addition to the natural background levels that make up the pollutant loads causing the problems in the watershed</i></li> <li>Include explanation of loads: continuous, storm events; seasonal;</li> <li>Include how pollutant loads were estimated</li> </ul>
<b>Milestones <sup>(g)</sup>, Schedule <sup>(f)</sup> and Cost Estimate <sup>(d)</sup></b>	<ul style="list-style-type: none"> <li><i>EPA Element d: Estimate the technical and financial assistance needed, with costs</i></li> <li><i>EPA Element f: Schedule implementing the measures</i></li> <li><i>EPA Element g: Description of interim measurable milestones for determining if the actions are being implemented</i></li> </ul>
<b>Pollutant Load Reductions Anticipated <sup>(b)</sup></b>	<ul style="list-style-type: none"> <li><i>EPA Element b: Estimate load reductions expected from action</i></li> <li>Include Indicators and targets</li> <li>Include how pollutant load reduction estimates were calculated<sup>1</sup></li> </ul>
<b>Project Lead <sup>(f)</sup> and Partners</b>	Agency, Department, Program Include Contact Information
<b>Monitoring and Evaluation with Criteria to measure progress toward meeting watershed goals <sup>(h)</sup></b>	<ul style="list-style-type: none"> <li><i>EPA Element i: Monitoring component to evaluate the effectiveness of the implementation efforts over time</i></li> <li><i>EPA Element h: A set of criteria used to determine if load reductions are being achieved</i></li> </ul>
<b>Information and Education <sup>(e)</sup></b>	<ul style="list-style-type: none"> <li><i>EPA Element e: Information and education component</i></li> </ul>
<b>Technical and Financial Assistance needed <sup>(d)</sup></b>	<ul style="list-style-type: none"> <li><i>EPA Element d: Estimate the technical and financial assistance needed, with costs, match</i></li> </ul>

<b>PART C: Prioritization Criteria and Ranking</b>	
<b>Criteria 1</b>	Rank and explanation
<b>Criteria 2</b>	Rank and explanation
<b>Criteria 3</b>	Rank and explanation etc.

**Attach location and project maps and photos**

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## Examples of Key Existing Implementation Plan - Review by RCI 2/15/2017

Name of Plan	Related Components
Reimagine Reno – The City of Reno Master Plan (Draft) July 2017 (on-going)	<p>IMP-7.1b (PRIORITY). Continue efforts to update and maintain a list of major drainageways that should be prioritized for improvements that address stormwater runoff, promote natural infiltration of runoff, reduce erosion, prevent sedimentation, and/or reduce expenditure of public funds. As part of these efforts, leverage updates to the Watershed Management and Protection Plan and Source Water Protection Plan.</p> <p>IMP-7.1d. Review and update as needed mitigation requirements for stormwater runoff and other non-point sources of water pollution within the environs of the Truckee River and its tributaries.</p> <p>IMP-7.1h (PRIORITY). Work with TMWA to update the City’s development review process, zoning code, and Master Plan Land Use Map to prevent the location of development or uses that could potentially contaminate groundwater resources within identified wellhead/source water protection areas (WHPAs/SWPAs).</p> <p>IMP-7.1i. Work with TMWA, residents, businesses and other property owners to raise awareness of identified wellhead protection areas and discourage practices or activities within these areas that could contaminate groundwater or otherwise threaten the quality of water drawn from TMWA’s wells and other public water system wells.</p> <p>IMP-7.1j. Encourage site design features, such as low-impact development techniques, that minimize impermeable surfaces, support treatment of stormwater runoff, and/or facilitate groundwater infiltration except within wellhead protection areas.</p>
2016– 2035 Comprehensive Regional Water Management Plan	<p>9.4.B Support the update of the Watershed Management Plan such that it can be used to support applications to NDEP for 319(h) grants to help fund future watershed projects.</p> <p>9.5.C Continue the analysis and development of non-structural measures to improve Truckee River water quality, enable increased TMWRF discharges to the Truckee River, and ensure the future sustainability of the river.</p> <p>9.6.A Continue working with TMRPA staff to strengthen appropriate linkages between the Regional Plan and the Regional Water Plan.</p> <p>9.9.1.A Support the efforts of the CTMRD and others to remediate solvent and/or fuel sites in the Planning Area.</p> <p>9.9.2.A Continue development of WHPPs for systems not covered by approved plans.</p> <p>9.9.2.B Participate in the State of Nevada’s ISWPP and support the concurrent update and development of the Truckee River Watershed Management and Protection Plan.</p>
TMWA 2016-2035 Water Resources Plan	<p>2.2 Sustainability of Source Water Supplies - Surface Water Contamination, Recommendation: Continue to: (1) implement its source water protection strategies in cooperation with local entities; (2) maintain, as a minimum, the ability to meet daily indoor water use with its wells; and (3), for river outages lasting up to 7 days during the summer, maintain the ability to meet average daily water demands using its wells, treated water storage, and enhanced conservation measures.</p> <p>2.3 Sustainability of Source Water Supplies - Groundwater Contamination, Recommendation: Continue to: (1) provide safe drinking water in all areas affected by PCE and septic effluent; (2) investigate the impact to groundwater from PCE and septic effluent; (3) work closely with local jurisdictions to find resources and strategies to convert residences</p> <p>2016-2035 Water Resource Plan Abstract and businesses on septic to sewer; and (4) utilize aquifer recharge as a potential strategy to keep contaminated water away from production wells.</p>
TMWA Wellhead Protection Program (WHPP)	<p>1. Zoning Ordinances: Zoning ordinances are typically comprehensive land-use requirements designed to direct the development of an area, where certain land uses may be restricted or regulated in WHPAs. The support of Washoe County, City of Reno and City of Sparks are critical to the long-term success of the Wellhead Protection Program. The ultimate objective is to have the WHPP included in development master plans and to have ordinances or other acceptable controls that address land use issues (zoning) in specified WHPAs. Zoning ordinances should be established to direct the development of the wellhead protection areas, to minimize incompatible land use.</p> <p>2. Subdivision Ordinances: Subdivision ordinances are applied to land that is divided into four or more sub-units for sale or development. This tool may be used for WHPAs in which ongoing development is a potential or current source of contamination, or in areas where there is inadequate well recharge. Future development projects should be evaluated by Washoe County, Reno and Sparks to ensure compatibility with the WHPP.</p> <p>3. Site Plan Review: Regulations</p>

	<p>requiring developers to submit, for approval, plans for development occurring within a given area, can ensure compliance with regulations or other requirements made within a WHPA.</p> <p>4. Design Standards: Design standards are typically regulations that apply to the design and construction of buildings or structures. This tool can be used to ensure that new buildings or structures placed within a WHPA are designed to minimize the potential for contaminant releases.</p> <p>5. Operating Standards: Operating standards are regulations that apply to ongoing land-use activities, put in place to promote safety or environmental protection. Such standards can minimize the threat to the WHPA from ongoing activities such as the application of agricultural pesticides or the storage of hazardous substances.</p> <p>6. Source Prohibitions: Source prohibitions are regulations that prohibit the presence or use of chemicals or hazardous activities within a given area. Local governments have used restrictions on the storage or handling or large quantities of hazardous material within a WHPA to reduce the threat of contamination.</p> <p>7. Purchase of Property or Development Rights: This tool may be used to ensure complete control of land uses in or surrounding a WHPA. This method may be preferred if regulatory restrictions on land use are not politically feasible, and the land purchase is affordable.</p> <p>8. Public Education: Section 8.0 of this report addresses Public Education. Public education often consists of brochures, pamphlets, or seminars designed to present wellhead issues and protection efforts to the public in an understandable fashion..</p> <p>9. Groundwater Monitoring: Groundwater monitoring generally consists of sinking a series of wells and developing an ongoing water quality testing program. However, through the CTMRD, data from hundreds of monitoring wells throughout the area is already available. A water quality testing program could consist of the review of data, as it is generated through other efforts. This tool allows the WHPP Team to monitor the quality of the ground water supply or the movement of contaminant plumes.</p> <p>10. Household Hazardous Waste Collection: Residential hazardous waste management programs can reduce the quantity of household hazardous waste being disposed of improperly. These programs have been used in localities where disposal of wastes in municipal landfills potentially threatens groundwater.</p> <p>11. Visual Inspection. Visually inspect the wellhead protection areas for surface spills at least every six months.</p> <p>12. Integration of the WHPP into the Washoe County 208 Water Quality Management Plan. Non-point source contamination is an important factor in the plan.</p> <p>13. Coordination with the Truckee Meadows Interlocal Stormwater Committee and the Washoe County Watershed Protection Planning Group. These groups have developed great programs that address issues that are similar to those of the WHPP. They have also developed effective public education programs.</p>
<p>One Truckee River Plan (OTR) 2016</p>	<p>1.1 Educate users of the Truckee River on issues impacting water quality.</p> <p>1.2 Promote and participate in local Source Water Protection planning efforts which serve to protect drinking water sources in Nevada’s communities.</p> <p>1.3 Use mapping to identify river sections where increased vegetation diversity, structure and restoration can address multiple challenges and opportunities.</p> <p>1.4 Create an approved vegetative species list to increase biodiversity and shading on lands along the Truckee River.</p> <p>1.5 Develop and implement a coordinated vegetation management plan along the river corridor.</p> <p>1.6 Encourage collaboration and education among agencies, particularly the Federal Water Master and Truckee Meadows Water Authority, to better understand Truckee River flows as dictated by the Truckee River Operating Agreement in order to optimize restoration projects and opportunities.</p> <p>1.7 Develop list of key ‘indicator’ species, both aquatic and terrestrial, to monitor and measure.</p> <p>1.8 Seek opportunities for strategic land acquisition to improve wildlife connectivity and integrity.</p> <p>1.9 Support existing officially designated wildlife corridors.</p> <p>1.10 Incorporate key elements of the Flood Project in the One Truckee River Plan to preserve and expand the river corridor.</p> <p>1.11 Coordinate design and execution of the One Truckee River Management Plan with the Truckee River Flood Management Authority.</p> <p>1.12 Identify upstream opportunities for restoration projects which will have downstream impacts.</p> <p>1.13 Support opportunities and potential funding for utilizing existing public lands or acquiring new properties that benefit river function, flood attenuation and open space along the Truckee River corridor.</p> <p>1.14 Identify historic and existing river boundaries to help identify acquisition opportunities in undeveloped areas to support goals of ecosystem health.</p>



