New Public Water Systems Transient Non-Community Public Water System (TNC PWS)

To aid you in submitting a complete application to the Bureau of Safe Drinking Water (BSDW), here is a brief summary of the information and data requirements that comprise the public water system permitting process. Please keep in mind that this summary, while reasonably complete, may not necessarily enumerate every requirement contained in NAC 445A, "Public Water Systems Design, Construction, Operation and Maintenance". You are encouraged to review this and other regulations to personally ascertain applicable sections.

The process of securing a permit to operate a transient non-community public water system in Nevada is three fold:

- 1. Design and construction of facilities and components of the water system must be in accordance with State requirements, detailed in NAC 445A "Public Water Systems Design, Construction, Operation and Maintenance".
- 2. Water quality must conform to drinking water standards, per NAC 445A "Public Water Systems Water Quality".
- 3. The water system owner must submit the following plans:
 - a) cross-connection control (backflow) per NAC 445A.67185
 - b) emergency per NAC 445A.66665
 - c) operation and maintenance per NAC445A.6667.

Any existing water system components of an un-permitted water system are not "grandfathered" or exempted from design and construction regulations. A Nevada professional engineer must provide BSDW with plans and specifications of sufficient detail to determine whether or not any "as-built" facilities are adequate. This also applies to well construction, should the well already be fitted with a pump and discharge piping.

Information related to the policies and procedures of the water system, as well as budgetary and financial plans, must also be submitted for review and approval prior to permitting.

Among additional information required is the following:

<u>Design Report</u>

- a) Provide a design report that describes the proposed water system, the basis of design, criteria for supply and demand, etc.
- b) Provide a network hydraulic analysis of the water system, which serves to size water system components and ensures that performance standards are met.

Source Water

- a) Provide evidence of water rights of acceptable amount and character.
- b) Provide a well log of any existing wells intended for use to verify the presence or absence of a sanitary seal and to depict casing information. Note that existing facilities are not "grandfathered".
- c) Provide well construction details, drawn as part of the plans, including wellhead piping and equipping details (venting, well-to-waste, valves, piping, sampling tap, access tube, air relief, etc.). Verify that well casing is at least 18 inches above grade or not subject to flooding.

d) Maintain well separation criteria from sources of pollution or contamination. Provide detail suitable for inclusion in the "Source Water Assessment Program".

<u>Storage</u>

Provide plans and specifications for any new storage tank that address the requirements of NAC 445A.67065 through 445A.67095 inclusive. Provide calculations used to size tank overflow. Provide lockable access hatch and cage, hand rails, correct sized screening on vents, angled flapper or air gap on discharge and overflow lines, silt stop, sampling tap, staff gauge, 30-inch man ways, NSF approved coating, etc. Specify VOC and total coliform sampling per NAC. Specify telemetry system and controls to monitor, alarm, and regulate storage.

Specify additional design criteria for any new tank:

- a) seismic zone
- b) snow loading
- c) wind loading and exposure
- d) soils report

After conceptual approval of any storage facilities by BSDW, please provide this office with professionally engineered calculations for the tank structure and foundation when they become available after bid award.

Water Treatment

Are provisions for chlorination proposed? If so, provide design information. An emergency eyewash station would be required, per OSHA. Propose appropriate treatment for any constituents that don't meet State Drinking Water Standards. Submit plans and specifications.

Pump Station

Provide a design of any pumping facilities/pump house, which complies with NAC 445A.66965 through NAC 445A.6706 inclusive. Provide details of pumping facilities/pump house in plan and profile, which depict components, dimensions, and placement. Provide architectural and structural details of pump house per NAC 445A.66985. Provide an electrical plan. Provide a slab reinforcing detail.

Distribution System

Provide required isolation valves. Provide plan and profile of water lines. Provide for air releases as required. Maintain required water line/sewer line separations, including those for laterals. Provide a separation standard detail. Specify angle fittings to accomplish pipe bends, rather than bending the pipe beyond the manufacturer's approved bending radius. Provide standard details of corp stops and curb stops or meter stops on the service lines. Include backflow prevention, as appropriate. Be sure to isolate process, fire and irrigation water from potable water. The distribution system is to be looped, if possible.

Disinfection and Testing

Specify disinfection of distribution lines per AWWA Standard C-651 and pressure testing per AWWA Standard C-605.

<u>Water Quality</u>

Data will need to be provided from the source. Required water quality sampling data are summarized as follows: Secondary Drinking Water Standards, Nitrate, Nitrite, Nitrate + Nitrite, Total Coliform and Fecal Coliform/E. Coli. Water quality samples may be composited by a certified laboratory.

Water Well Location

Plot on a map all potential sources of pollution or contamination within 150 feet of the well.

A copy of "REGULATIONS FOR PUBLIC WATER SYSTEMS" NAC 445A.450 TO 445A.6731 may be downloaded from <u>http://www.leg.state.nv.us/NAC/NAC-445A.html</u>.

Please call Jim Balderson at 775-687-9517 for additional information.

Attachments: Application for Approval of a Water Project Potential Contamination Sources State Certified Methodologies



G WATEI

APPLICATION FOR APPROVAL OF WATER PROJECT

Return to: Bureau of Safe Drinking Water, <u>Carson City Location</u> 901 South Stewart Street, Suite 4001, Carson City, NV 89701, Phone: 775-687-9521, Fax: 775-687-5699

Section 1 (Please confirm Public Water System (PWS) number with the appr		
PWS Name:	PWS Phone #:	
PWS Number:	PWS Fax #:	
PWS Address:	PWS Emergency Phone #:	
	PWS Email:	
Section 2		
PWS Contact Name:	PWS Contact Phone #:	
PWS Contact Email:	PWS Contact Fax #:	
PWS Contact Address:	PWS Contact Emergency Phone(s) #:	
Section 3		
Submitting Engineer Name:	Engineer Phone #:	
Engineer Email:	Engineer Fax #:	
Engineer Firm and Address:	Engineer Emergency Phone(s) #:	
Section 4	~	
Date of application submittal:	County in which the water system is located:	
Section 5	system is located.	
Are two copies of wet stamped plans and specifications submit	ted with this application? Yes No	
Section 6		
Is the appropriate review fee attached?	Yes No	
(fee schedule located at https://ndep.nv.gov/uploads/water-drin	king-forms-docs/Fee_Schedule_7-1-19.pdf)	
Section 7		
Project Name:		
Section 8		
Brief Description and Purpose		
of the Project:		
Section 9		
Is this project part of a proposed subdivision? No Yes,	V. (D. II).	
if yes, submit the subdivision project to the NDEP, Bureau of	water Pollution	
Section 10		
Estimated Construction Begin Date:		
Section 11		
Estimated Construction Completion Date:		

Section 12				
Complete the following with assistance from the public water system.				
Public Water System Type:		NC TINC		
PWS Ownership Type:	Public Priv		wner Federal GID Oth	ner:
Section 13 (Contact the appropriate PWS) Population Served:	S for this information) # of Service Co	onnections	# of Metered Connections:	
Topulation Served.		Jinections.		
Section 13 Are any of the above parameters	abanging due to this n	roigat?	No	
If yes, describe the changes:			110	
in jes, deserree the changes.				
	<u> </u>			
Section 14 Provide a <u>flow diagram</u> from so	urce through treatment	to the distribution s	ystem. Is it attached? Yes	
riovide a <u>now diagram</u> nom so	lice through treatment	to the distribution sy		
Section 15				
EXISTING PUBLIC WATER Is the proposed project an expans		on aviating water av	stam?	
Is the proposed project an expansion of the proposed project to re-activ		6	stem? Yes No	
Is this project for a water system			$\square Yes \square No$	
	Ç .			
Section 16	CHECK ALL THAT A	APPLY TO THIS I	<u>PROJECT.</u>	
	NAC 445A sections for	r specific regulator	y requirements regarding public wa	ater
			and meet the minimum requirement	
	N	AC 445A.		
	Public '	Water Systems		
Water Quality		(NAC 445A.	54026)	
(NAC 445A.450 to .492)			ommunity or Non-transient Water Sys	stem
Surface Water Treatment			<u>591 to .5926</u>)	
(<u>NAC 445A.495 to .540</u>)			perate Privately Owned Systems	
Groundwater Treatment		(<u>NAC 445A.595 to .614</u>)		
(<u>NAC 445A.54022 to .540</u>		Certification of Operators		
PER-Groundwater Treatm	ent	(<u>NAC 445A.617 to .652</u>)		
<u>]</u>	Design, Construction,	Operation & Main	<u>tenance</u>	
Emergency Response Plan	(See Sections 30-34)			
(<u>NAC 445A.66665</u>)		Pumping Face	cilities (See Sections 17-19, 23)	
O & M Manual (See Section	s 30-34)	(<u>NAC 445A.</u>	<u>66965 to .6706</u>)	
(<u>NAC 445A.6667</u>)		_ •	ctures (See Section 17-19, 21)	
Existing & New Systems-			<u>67065 to .67095</u>)	
(See Sections 17-19, 24 for Exis			System (See Section 17-19, 22)	
(<u>NAC 445A.6672 to .6675</u>			<u>67105 to .67145</u>)	
Treatment Facilities (See See (NAC 445A.6676 to .6681			of Lines (See Section 17-19, 22)	
Disinfection (See Sections 17			<u>6715 to .6718</u>) ection Control Plan (See Sections 30-34)	
(NAC 445A.66825 to .6685		(<u>NAC 445A.</u>		
Water Wells (See Sections 17	-19, 20)		ections and Backflow (See Sections 30-34	4)
(NAC 445A.66855 to .6693	<u>3</u>)		<u>67185 to .67255</u>)	
Springs (See Sections 17-19)			ng (See Section 29)	
(<u>NAC 445A.66935 to .669</u>	<u>6</u>)	(<u>NAC 445A</u>	<u>.67275 to .6731</u>)	

NEW PROJECT INFORMATION ONLY

Include only information related to the new project below. Do not provide existing water system information unless it is pertinent to the new project. Leave sections that do not apply to the new project blank (or type "N/A"). IF THE BOXES ARE NOT APPROPRIATELY FILLED OUT, APPLICATION WILL BE SENT BACK.

Section 17 Source Type: Groundwater well Yes Surface Water Intake Yes Purchased Water Yes Source(s) master metered? Yes	Groundwater SpringYesNoSpring UDIYesNoSystem has water rights?YesNo
Section 18 Source Location: Meets flood plain requirements? Are all sources of potential pollution identified? Are there any sources of contamination within 15	□Yes □No □Yes □No 0 feet? □Yes □No
Section 19 Source Water Quality: Meets all NAC requirements? Requires treatment to meet requirements?	Yes No Yes No
Section 20 Well Characteristics:	
Casing Depth (ft.):	Pump Type:
Casing Diameter (in):	Max. Production (gpm):
Sanitary Seal Depth (ft):	Source Design Capacity (gpm):
Emergency Power Provided? Yes No	Average Daily Demand (gpm):
Describe Emergency Power:	Emergency Source Capacity (gpm):
Section 21	
Storage Characteristics:	
Storage tank type and material:	
Tank capacity (gallons):	
Storage tank coating material:	
Section 22	• •
Transmission/Distribution System Charact	<u>eristics:</u>
Approved pipe material type:	
Distribution main size(s):	
Linear feet of pipe:	
Distribution system pressure range(s):	
Number of pressure zones:	
Fire Flow: Provide documentation of fire flow r	equirements from the appropriate fire authority.
1. For Carson City, Clark County, and Was	shoe County contact the local fire authority.
2. For all other counties, contact the State I	Fire Marshal's office or the local fire authority that as an interlocal
agreement with the State Fire Marshal.	-
Hydrant (gpm) =	Sprinkler System (gpm) =
_	

Can the new main be sampled for coliform bacteria after disinfection every 1200 feet per AWWA Standard C651 requirements?

 \Box Yes \Box No If no, explain:

Section 23

Booster Pump Stations:

Pump Type:	# of pumps:
Max. Production (gpm):	Source Design Capacity (gpm):
Describe Emergency Power:	

Section 24

Treatment:		
Contaminant(s) that require treatment:		
Treating Groundwater Treating Surface Water		
Unit Processes & Associated Chemical Addition:		
Flow Rate (gpd):	Flow Rate (gpm):	
Design Capacity (gpd):		
A schematic of the treatment system is required. Is it attached? Yes		
Describe the Process Flow from source to treatment to distribution:		

Section 25

Chlorination for system residual only:

Type of disinfectant used:	
NSF approved chemicals used? Yes No	
Does the system use continuous automatic disinfection?	
Where are the disinfection systems located?	
Where are the chemicals stored?	

Section 26

SCADA/Telemetry:

Does the public water system utilize SCADA/Telemetry? Yes	No
Which facilities are part of the SCADA/Telemetry system?	

Section 27

Inter-Tie:	
Name of other system:	Anticipated date of inter-tie:
Reason for inter-tie (check all that apply): Normal Operation	ations Intermittent Seasonal Emergency
Other, explain:	
Flow is: one-way; Discuss direction and % of flow:	
two-way; Discuss direction and % of flow:	
Is the inter-tie part of a regional water system?	No If Yes, explain:

Section 28

Consolidation:

Name of other system:	Anticipated date of consolidation:
Supplier of water:	

Section 29

Water Hauling:

A water hauling plan is required. Is it attached? Yes
Is this for an existing water hauler? Yes No
If yes, please provide water hauler permit number(s):
Public water system hauling from:
Public water system hauling to:

NEW PUBLIC WATER SYSTEMS
(An overview of the requirements to becoming a public water system can be found at http://ndep.nv.gov/bsdw/nws.htm)
Section 30 Is the proposed project a new public water system?
If Yes, check type: Community Non-Transient Non-Community Transient Non-Community
Is this project to permit a privately owned community (residential) system?
Section 31 New Community Publicly Owned Public Water System must also submit the following: Plan to Permit a Public Water System** Plan for Restoration of Services in Emergency (draft version acceptable) Cross-Connection Control Plan (draft version acceptable) Manual of Operations and Maintenance (draft version acceptable)
Section 32 New Community Privately Owned Public Water System must also submit the following: Plan to Permit a Public Water System** Plan to Permit a Privately Owned Public Water System** Plan for Restoration of Services in Emergency (draft version acceptable) Cross-Connection Control Plan (draft version acceptable) Manual of Operations and Maintenance (draft version acceptable)
Section 33 New Non-Transient Non-Community Public Water System must also submit the following: Plan to Permit a Public Water System** Plan for Restoration of Services in Emergency (draft version acceptable) Cross-Connection Control Plan (draft version acceptable) Manual of Operations and Maintenance (draft version acceptable) Section 34

<u>New Transient Non-Community Public Water System must also submit the following:</u>

Plan for Restoration of Services in Emergency (draft version acceptable)

Cross-Connection Control Plan (draft version acceptable)

Manual of Operations and Maintenance (draft version acceptable)

** "Plan to Permit" forms are located at <u>http://ndep.nv.gov/bsdw/epr-docs.htm</u>.

Section 35

<u>Program to Assess Vulnerability of Source Water to Potential Contamination,</u> NAC 445<u>A.6668, (Optional):</u>

Was a completed vulnerability assessment submitted for all sources?	□Yes □No
Does the document contain sufficient information to issue monitoring waivers?	Yes No
Are all of the potential contaminant sources within 3000 feet of the well/spring lo	ocated on a 1:24,000 U.S.G.S. Quad
Map (7.5-minute map)? Yes No	

POTENTIAL CONTAMINATION SOURCES (* Denotes GPS location required)

	Agricultural	Contaminant Category	Risk Ranking Category		Medical/Educational	Contaminant Category	Risk Ranking Category
1	Animal burial areas	C, D	High	28	Educational institutions (labs, lawns, &	B, C	Moderate
2 *	Animal feedlots	B, C, D	High, in Zone A; otherwise moderate		chemical storage areas)		
3	Chemical application (e.g. pesticides, fungicides, & fertilizers)	С, В	High	29	Medical institutions (medical dental, vet offices)	D, E	Low
4 *	Chemical mixing & storage areas (including rural airports)	A, B, C	High	30 *	Research laboratories	A, B, C, D, E	High
5	Irrigated fields Irrigation ditches	B C	Moderate High		Storage		
6 7 *	Manure spreading & pits Unsealed irrigation wells	A, C A, B, C, D	Moderate High	31 * 32 * 33	Aboveground storage tanks Underground storage tanks Public storage	A, B A A	High High Low
8 *	Industrial Chemical manufacturers,	A, B, C	High	34 *	Radioactive materials storage	E	High
9 * 10 *	Warehousing/distribution activitiesElectroplaters & fabricatorsElectricalproducts&	C C	High High	35 * 36	Municipal waste Dumps and landfills (historical/active) Municipal incinerators	A, B, C, D, E B, C, D	High Moderate
11 * 12 *	manufacturing Machine & metalworking shops Manufacturing sites	A A, B, C	High High	37 * 38 *	Recycling & reduction facilities Scrap & junkyards	С А, С	High High
13 *	Petroleum products production, Storage & distribution centers	A	High	39 * 40 *	Septage Lagoons, wastewater treatment plants, injection wells Sewer Transfer Stations	A, B, C, D A, B, C, D	High High
	Commercial				Miscellaneous	.,_,_,_,_	g.
14 *	Dry cleaning establishments	А	High	41 *	Airports	А	High
15 *	Furniture & wood stripper &	A	High	42 *	Asphalt plants	A	High
10	Refinishers	Π	riigii	43	Boat yards	Â	High
16 *	Jewelry & Metal plating	С	High	43	Cemeteries	D	Moderate
17	Laundromats	c	Low	44 45	Construction areas	A	Moderate
18 *		A	High	45 46 *		A, D	High
19 *	Paint shops	C			Dry wells		0
19	Photography establishments & Printers	C	High	47 * 48	Fuel storage systems Golf courses, parks & nurseries (chemical application)	А В, С	High High
	Automotive			49	Mining (surface & underground)	A, C	High
20 *	Auto repair shops	A, C	High	50	Pipelines (oil, gas, coal slurry)	А	High
21	Car washes	A, C, D	Moderate	51 *	Railroad tracks, yards & maintenance	A, B, C, D	High
22 *	Gas stations	A, C	High	52	Surface water impoundments,	D	High
23	Road deicing operations: storage &	С	Moderate		streams/ditches		-
24 *	Application areas (e.g. road salt) Road maintenance depots	A, C	High	53 * 54 * 55 *	Stormwater drains & retention basins Unplugged abandoned well Well: operating	A, B, C, D, E A, B, C, D A, B, C, D	High High High→Low
	Residential			56	Other – please specify	· ·, _, · , · , -	
25	Household hazardous products	A, B, C	Moderate				
26	Private wells	A, B, C, D	Moderate				
27	Septic systems, cesspools	B, C, D	High, if Zone A; otherwise moderate				
_							
Con	taminant Categories:	A = V.C).C.				
	5	B = S.C					
		C = I.O	.C.				
			CROBIOL		C A I		
				-001			

= MICROBIOLOGICAL E = RADIONUCLIDES

July 26, 2000

SECONDARY DRINKING WATER STANDARDS NAC 445A.455						
		Contaminant	Method	MCL (mg/L) parts per million		
(1)	1002	ALUMINUM	200.7, 200.8, 200.9, 3111D, 3113B, 3120B	0.2		
(2)	1017	CHLORIDE	300.0, 4110B, 4500-Cl ⁻ B/D, D4327-97, D512-89B	400.0		
(3)	1905	COLOR	2120B	15.0 (color units)		
(4)	1022	COPPER	200.7, 200.8, 200.9, 3111B, 3113B, 3120B, D1688-95A/C	1.0		
(5)	1025	FLUORIDE	300.0, 4110B, 380-75WE, D4327-97, D1179-93B, 29-71W, 4500-F ⁻ B/C/D/E	2.0		
(6)	1089	FOAMING AGENTS (MBAS)	5540C	0.5		
(7)	1028	IRON	200.7, 200.9, 3111B, 3113B, 3120B	0.6		
(8)	1031	MAGNESIUM	200.7, 3111B, 3120B D511-93 A/B, 3500-Mg B/E	150.0		
(9)	1032	MANGANESE	200.7, 200.8, 200.9, 3111B, 3113B, 3120B	0.1		
(10)	1920	ODOR	2150B	3.0 (TON)		
(11)	1925	рН	150.1, 150.2, 4500-H ⁺ -B, D1293- 95	6.5 – 8.5		
(12)	1050	SILVER	200.7, 200.8, 200.9, 3111B, 3113B, 3120B, I-3720-85	0.10		
(13)	1055	SULFATE	300.0, 375.2, D4327-97, 4110B, D516-90, 4500-SO4 ²⁻ C/E/F	500.0		
(14)	1930	TOTAL DISSOLVED SOLIDS (TDS)	2540C	1,000.00		
(15)	1095	ZINC	200.7, 200.8, 3111B, 3120B	5.0		

REGULATED INORGANIC CHEMICALS (IOCs) 40 CFR 141.62 (b)								
PHASE II								
Contaminant	Method	MCL (mg/L) parts per million	MCL (µg/L) parts per billion					
(7) 1040 NITRATE	300.0, 353.2, 4110B, 601, B-1011, 4500-NO ₃ ⁻ D/E/F, D3867-90A/B, D4327-97	10 (as N)						
(8) 1041 NITRITE	300.0, 353.2, D4327-97, D3867-90A/B, 4110B, 4500-NO ₃ ⁻ /E/F, B-1011, 4500-NO ₂ ⁻ B	1 (as N)						
(9) 1038 TOTAL NITRATE + NITRITE	See above	10 (as N)						