DEPARTMENT OF ECOLOGY
State of Washington

Department of Ecology
JUL 30 2015
Water Resources Program

DROUGHT RELIEF GRANT APPLICATION

Ecology Use Only

Application Number						
D2015	0	0	-	C	R	O

Date Rec'd 7/27/2015

The information provided in this application will be used to determine general eligibility for funding from the Drought Relief Program, and the priority or ranking of the proposal amongst other competing proposals.

Separate application must be made for any needed emergency drought authorization. Before final approval of grant funding, the applicant must submit copies of all required permits and other authorizations needed for the proposal to Ecology for our review.

1. **Applicant Name(Public Body):** City of Moxee			
Address: 255 W. Seattle Ave., PO Box 249	City: Moxee	State: WA	Zip: 98936
(a) Authority (State Law): Code City			
(b) Date Organized: 1921			

2. **Contact Person:** Byron Adams		Title: City Supervisor	
Address: 255 W. Seattle Ave., PO Box 249	City: Moxee	State: WA	Zip: 98936
Email: byronadams@co.yakima.wa.us	Phone #: 509-575-8851		

3. PROJECT(S) DESCRIPTION

Provide a description of the proposed project(s) and a detailed scope of work. Attach additional sheet(s) if necessary. Attach a map (U.S.G.S. Quad or comparable) showing the geographic location of the proposed project(s).

The City of Moxee provides potable water to a municipal population of 3,784, consisting of 1,055 residential, 18 industrial, 27 commercial, and 24 government customers. In order to meet system demands, the City employs three (3) ground water wells, with a total current combined supply capacity of 1,858 gallons per minute (GPM), or 2,675,520 gallons per day (gal/day).

Two of the City's three wells, Well No. 1 and Well No. 2, are experiencing significantly reduced pumping capacity due to declining aquifer pressure and water levels as a result of current drought conditions and increased irrigation well pumping within the area. The original capacity of each well was 650 GPM, but is now only about 400 GPM. This substantial drop in pumping capacity greatly reduces the City's ability to provide sufficient water supply to its customers. System reliability is also in jeopardy as a loss of any of the system's wells due to pump failure will severely impact the City's ability to meet peak day demands.

To correct these deficiencies the City proposes to make the following improvements to Well No. 1 and Well No. 2 to recuperate its pre-drought source well supply capacity and improve system reliability:

1. Remove existing pump, piping, valves, fittings, and electrical equipment as required; and

2. Install new pump, piping, valves, fittings, variable frequency drives (VFD), electrical equipment and controls.

These improvements will allow the City to return its well pumping capacity to its original pre-drought condition to serve current system demands and will improve system control to reliably supply water to its customers under current aquifer conditions.

4. DESCRIPTION OF NEED

Describe what would occur without the benefit of the proposed project(s), including: the nature of the actual hardship, both short-term and long-term impacts, the expected loss of normal water supply by percentage, and the estimated potential financial losses. Explain why these circumstances constitute a water supply emergency resulting from natural-caused drought conditions, rather than a pre-existing condition during a normal water year.

As mentioned in the Project Description, continued decline in well capacity as a result of the current drought conditions significantly reduces the City's ability to meet system demands, putting additional strain on system equipment and decreasing overall system reliability.

The City will not be able to meet peak day demands if more than one pump failure occurs, and additional stress will be placed on remaining sources to meet system demands (i.e. continuous, 24-hour pumping). As described previously both Well No. 1 and Well No. 2 are only producing about 60% of their normal water supply capacity due to declining aquifer pressure and static water level.

The City's Well No. 1 is artesian and supplies water to the system with an above-ground booster pump. The typical shut-in pressure of Well No. 1 is between 20 and 24 psi and normally drops about 10 psi under summer demand conditions. Recently, as a result of current drought conditions, Well No. 1 pressure has dropped to about 5 psi when the pump is not running, which is approximately 70% lower than previous year values. When the booster pump is running there is no inlet pressure and the pump capacity is severely reduced. Loss of this source well pump is eminent as pressures continue to drop. If suction pressure is lost and the pump loses prime it may not be able to be restarted again and the City will lose the source completely.

Static water levels in Well No. 2 have also dropped significantly, resulting in reduced pump capacity. The Well No. 1 static water levels are approximately 30% lower than previous year values.

Declining aquifer pressure and static water levels are the direct impact of significant additional irrigation pumping that is occurring in the surrounding area to relieve drought conditions and supply agricultural demands. As a result, Moxee's municipal water supply is being impacted and substantial improvement to its well pumping equipment is needed to account for these changing conditions.

5. EXPECTED OUTCOME(S)

Describe how the projects would reduce or avoid harm or hardships and any measures planned to assure the capability and reliability of the proposed project(s) to provide an emergency water supply to the applicant.

The proposed project will replace Well No. 1 pumping equipment with a submersible well pump and motor and modify and lower the Well No. 2 pump to account for the current static water levels. These improvements are necessary for the City of Moxee to maintain system capacity and reliability.

6. WATER SHORTAGE RESPONSE ACTIONS ALREADY TAKEN

Describe the measures taken by the applicant to plan for or mitigate the effects of drought (e.g., conservation, irrigation efficiency measures, leakage, elimination of non-essential uses).

The City of Moxee has taken measures to reduce drought impacts beyond the scope of this project by promoting water use efficiency, repairing/replacing leaking pipes, and by having tiered utility rates. Average daily demand per ERU has declined approximately 25% in the last five years, though total system demand has increased by approximately 3%.

7. WATER RIGHTS

(a) Describe whether you have or will be submitting an application for an emergency drought authorization and or have other pending water right applications

N/A

(b) List the applicant's legal water rights to divert or withdraw water for use on land within the applicant's legal boundaries, and attach copies.

The City of Moxee currently maintains water rights from the State of Washington for the appropriation of ground water at each of its wells.

Total instantaneous authorization for Well No. 1 and Well No. 2 is equal to 1,650 GPM (including claimed amounts) as shown in the attached Table 1 - Existing Water Rights Status.

8. INTERGOVERNMENTAL COORDINATION

Provide a summary of how the applicant has and/or will consult with affected agencies and/or Indian Tribes prior to and during implementation of the proposed project(s). Include a list of the affected agencies and Indian Tribes and a summary of impacts/approvals if known. (Attach an additional sheet if necessary.)

N/A

9. PROJECT(S) SCHEDULE/DURATION

(a) When do you expect to have all the required permitting, approvals, and funding?

Matching funds are available immediately. No additional permits or approvals are anticipated to be needed at this time.

(b) Approximately how long will the proposed project(s) take to complete?

Approximately 4-5 months.

(c) Expected project(s) schedule, including start date, completion date, and significant intermediary steps:

Phase 1 of the project (Well No. 1) began July 13, 2015 and is anticipated to be complete in September 2015. Phase 2 (Well No. 2) will begin in August 2015 and is anticipated to be complete by December 31, 2015.

10. PROJECT COMPONENTS

Check appropriate box or boxes and complete estimated cost for proposed activities under this grant.

(a) ☐ Engineering design and report	$ _____	
(b) ☒ Project(s) plans and specifications	$ 31,000	
(c) ☐ Purchase of land, rights-of-way, easements	$ _____	
(d) ☒ Construction	$ 200,000	
(e) ☒ Construction engineering	$ 35,000	
(f) ☐ Education and outreach	$ _____	
(g) Other _____	$ _____	

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11. FUND SOURCES	Estimated total project cost		Estimated eligible project cost	
(a) Total estimated project(s) cost	100 %	$ 266,000	100 %	$ 266,000
(b) Total estimated eligible project(s) cost	%	$	%	$
(c) Ecology grant share	50 %	$ 133,000	50 %	$ 133,000
(d) Match fund source(s): (specify)	%	$	%	$
(e) City Reserves	50 %	$ 133,000	50 %	$ 133,000
(f)	%	$	%	$
(g)	%	$	%	$

☐ Applicant may be exempt under WAC 173-167-040(3) from the fund match requirement

12. CERTIFICATION

I certify to the best of my knowledge that the information in this application is true, complete, and correct and that I am legally authorized to sign and submit this information on behalf of the applicant.

Greg LaBree
PRINT NAME

Greg LaBree
SIGNATURE

Mayor
TITLE

7-23-15
DATE

13. Send original, including attached sheets, maps, copies of water rights, and other supporting documents, to:

Department of Ecology
Water Resources Program
PO Box 47600
Olympia, WA 98504-7600
ATTN: Rebecca Inman

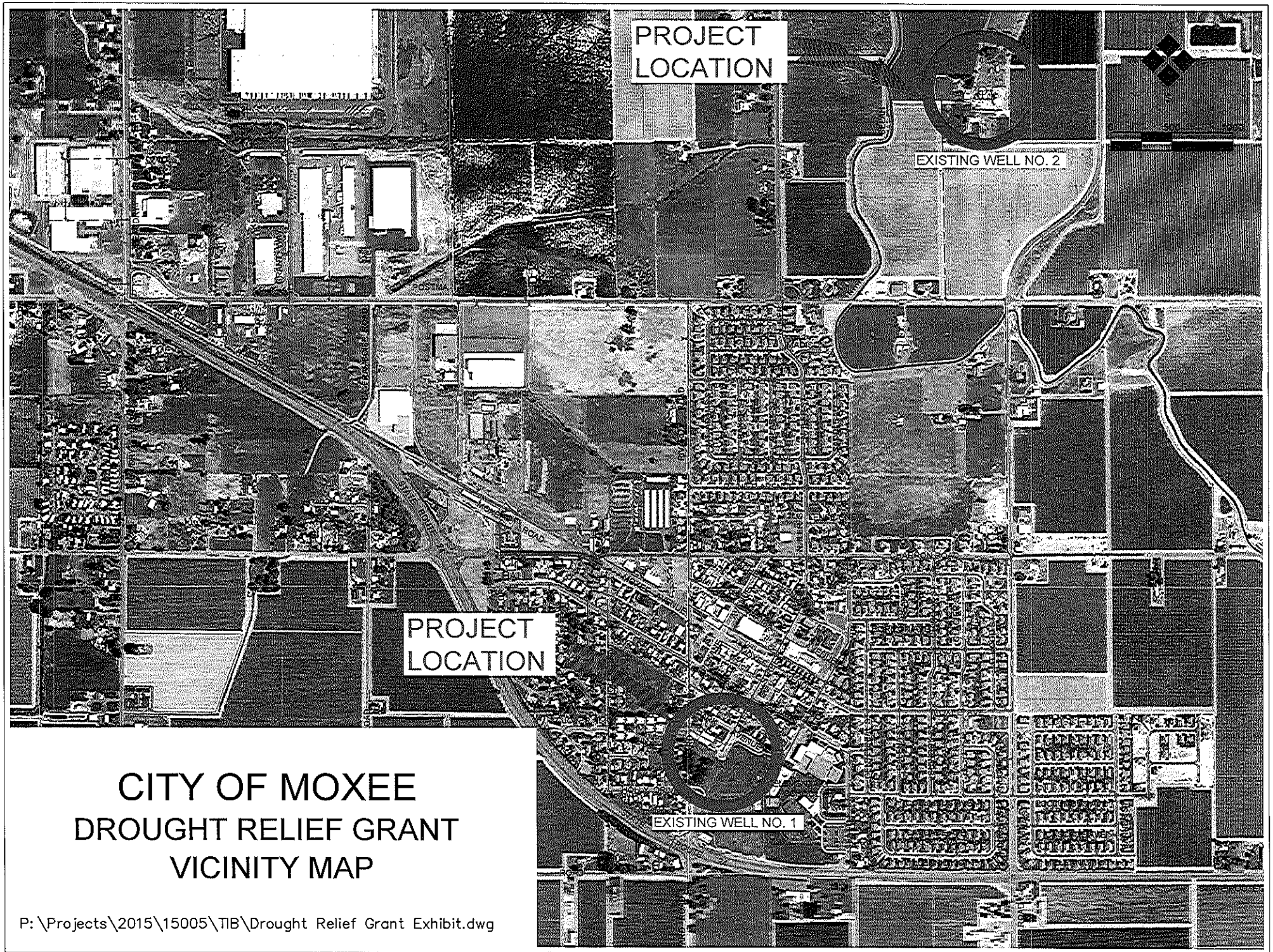
TABLE 1 EXISTING WATER RIGHT(S) STATUS

Permit Certificate or Claim #	Name of Rightholder or Claimant	Priority Date	Source Name/No.	Primary or Supplemental	Existing Water Rights		Existing Water Use From Sources (Year 2007)		Existing Water Right Status Excess (Deficiency)	
					Maximum Instantaneous Flow Rate (Qi) (gpm)	Maximum Annual Volume (Qa) (acre-feet)	Maximum Instantaneous Flow Rate (Qi) (gpm)[b]	Maximum Annual Volume (Qa) (acre-feet)	Maximum Instantaneous Flow Rate (Qi) (gpm)	Maximum Annual Volume (Qa) (acre-feet)
Permits/Certificates										
1. 499-D	Moxee	Jan 1942	Well #1, S01	Primary	150	84				
2. 297-A	Moxee	Sept 1947	Well #1, S01	Primary	300	149				
3. G4-27813C[a]	Moxee	Jan 1982	Well #2, S02	Alternate Primary	650	233 186				
4.										
5.										
Claims										
1. 8092	Moxee	Jan 1942	Well #1; S01	Primary	1,000	1,600				
2. 3301	Moxee	1911	Well #3; S03	Primary	558	900				
TOTAL					2,208	2,686	464	390.0	1,744	2,296

Intertie Name – Identifier	Name of Purveyor Providing Water	Existing Limits on Intertie Water Use		Existing Consumption Through Intertie		Existing Intertie Supply Status Excess (Deficiency)	
		Maximum Instantaneous Flow Rate (Qi) (gpm)	Maximum Annual Volume (Qa) (acre-feet)	Maximum Instantaneous Flow Rate (Qi) (gpm)	Maximum Annual Volume (Qa) (acre-feet)	Maximum Instantaneous Flow Rate (Qi) (gpm)	Maximum Annual Volume (Qa) (acre-feet)
1.							
TOTAL							

Pending Water Right Application	Name on Permit	Date Submitted	Primary or Supplemental	Pending Water Rights	
				Maximum Instantaneous Flow Rate (Qi) REQUESTED	Maximum Annual Volume (Qa) REQUESTED
1.					

[a] Authorized as an alternate point of withdrawal for continuous municipal supply purposes, less any water withdrawn under Certificate No. 499-D and 297-A.
[b] The total instantaneous flow rate for each of Moxee's source wells is based on the calculated maximum day demand.



CITY OF MOXEE
DROUGHT RELIEF GRANT
VICINITY MAP

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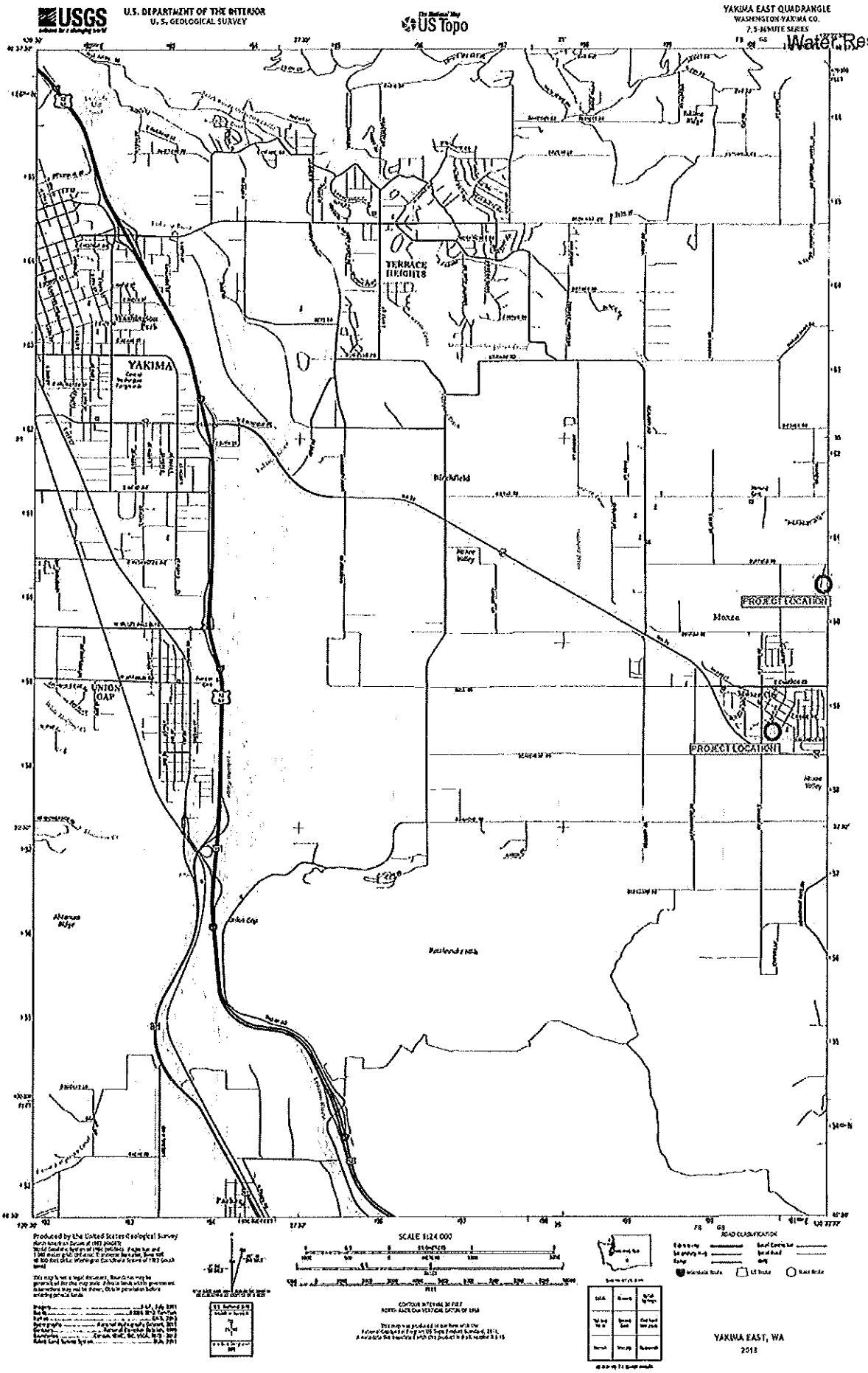

City of Moxee

TRANSMITTAL

Date: July 24, 2015

To: Rebecca Inman
Water Resources Program
Department of Ecology
P.O. Box 47600
Olympia, WA 98504-7600

From: Byron Adams
City Supervisor
City of Moxee

Subject: Drought Relief Grant Application

Rebecca,

Please find attached the Department of Ecology Drought Relief Grant Application.

If you have any questions or need additional information please contact me at 509-575-8851

Sincerely,

Byron Adams