

M E M O R A N D U M

April 8, 1975

To: John Hodgson

From: Dan Glantz *DG*

Subject: Kittitas Municipal STP Efficiency Study

The study was made on January 13, 1975. The weather was overcast and cold, temperature of 31°F was at freezing. At least a foot of snow was on the ground in the plant area. The operator, Orville Wollard, was off with the flu. Bill Pross, City Superintendent, showed me around the area.

Housekeeping was not impressive. The lab was poorly kept and whatever was visible through the snow, did not compliment the operation. The chlorinator was not functioning. The secondary clarifier has been down for sometime and is being bypassed. The study covered only 3 hours as it was incorporated with a one day trip from Olympia to Yakima, but it was sufficient to indicate poor performance.

Heavy storm water infiltration contributed to a weak sewage. Percentage reduction in all parameters ranged from fair to poor. Coliform counts were high. The attached survey sheet supports these conclusions.

DG:ee
Attachment

STP Survey Report Form

Efficiency Study

City Kittitas Plant Type SECONDARY Pop. Served 800 Design 1500 pop.
 Receiving Water Wilson Creek Perennial X Intermittent _____
 Date 1/13/75 Survey Period 1300-1600 Survey Personnel Dan Glantz
 Comp. Sampling Frequency 1/2 hour Sampling Alequot 1000 MIL
 Weather Conditions (24 hr) Overcast^{31°}-snowy Are facilities provided for complete by-
 pass of raw sewage? _____ Yes X No/Frequency of bypass _____
 Reason for bypass _____ Is bypass chlorinated? _____ Yes _____ No _____
 Was DOE Notified? _____ Discharge - Intermittent _____ Continuous _____

Plant Operation

Total flow 125,000 GPD How measured Estimate (Recorder broken)
 Maximum flow _____ Time of Max. _____
 Minimum flow _____ Time of Min. _____
 Pre Cl₂ 0 #/day Post Cl₂ 0 #/day

Field Results

Influent

Effluent

Determinations	Influent				Effluent			
	Max.	Min.	Mean	Median	Max.	Min.	Mean	Median
Temp °C	9°	8°		9°	8°	8°		8°
pH (Units)	6.5	6.4		6.4	7.2	7.1		7.1
Conductivity (µmhos/cm ²)	600	550		550	600	575		575
Settleable Solids (mls/l)	.5	.5	.5	.5	.1	.1	.1	.1

Laboratory Results on Composites

Laboratory No.	Influent	Effluent	% Reduction
	<u>75-0162</u>	<u>75-0163</u>	
5-Day BOD ppm	<u>< 80</u>	<u>22</u>	<u>73%</u>
COD ppm	<u>54</u>	<u>38</u>	<u>30%</u>
T.S. ppm	<u>334</u>	<u>317</u>	<u>5%</u>
T.N.V.S. ppm	<u>197</u>	<u>195</u>	<u>1%</u>
T.S.S. ppm	<u>43</u>	<u>16</u>	<u>63%</u>
N.V.S.S. ppm			
pH (Units)	<u>7.5</u>	<u>8.0</u>	
Conductivity (µmhos/cm ²)	<u>500</u>	<u>500</u>	
Turbidity (JTU's)	<u>15</u>	<u>11</u>	

Laboratory Bacteriological Results

Lab No.	Sampling Time	(1)		Cl ₂ Residual
		Total Coliform	Colonies/100 ml (MF) Fecal Coliform	
75-0164	1400	> 4000	> 4000	
75-0165	1500	> 4000	> 4000	
75-0166	1600	> 4000	> 4000	

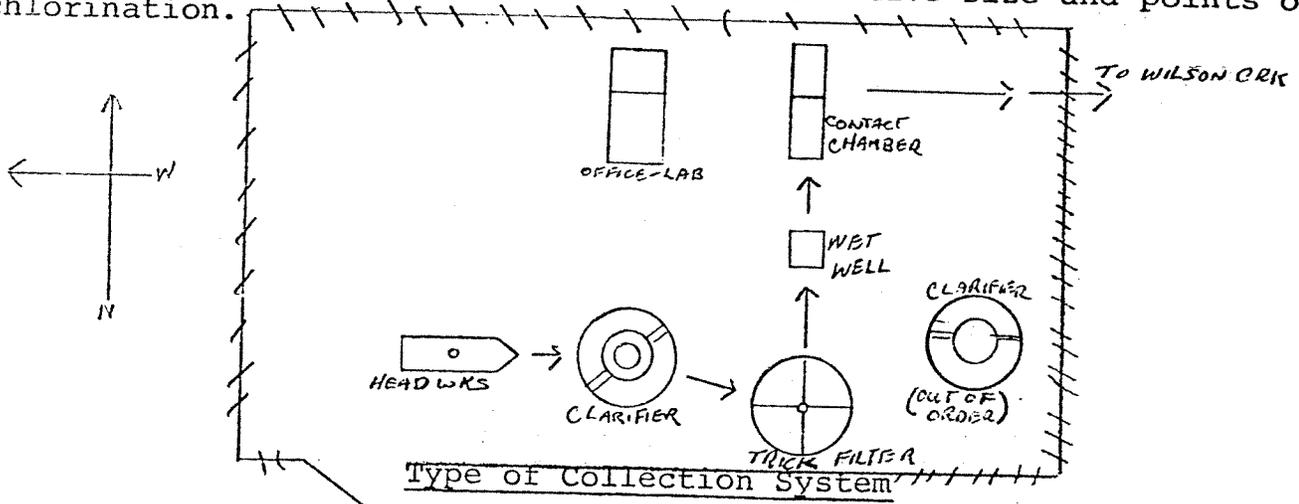
z (1) Problem with media- not reliable

Additional Laboratory Results

NO ₃ -N ppm -	.07
NO ₂ -N ppm -	.01
NH ₃ -N ppm -	4.7
T. Kjeldahl-N ppm -	6.1
O-PO ₄ -P ppm -	1.30
T-PO ₄ -P ppm -	3.0

Operator's Name Bill Pross, Supt. Phone No. 509-925-1465
Orville Wollard, Operator

Furnish a flow diagram with sequence and relative size and points of chlorination.



Type of Collection System

Combined Separate Both

Estimate flow contributed by surface or ground water (infiltration)

_____ MGD

Plant Loading Information

Annual average daily flow rate (mgd)

Peak flow rate (mgd)

Dry _____

Dry _____

Wet _____

Wet _____

COMMENTS: _____

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

WATER QUALITY LABORATORY

ORIGINAL TO:
 P. Lee
 COPIES TO:
 D. GLANTZ

 LAB FILES

DATA SUMMARY

Source KITTITAS MUNIC. STP

Collected By D. GLANTZ

Date Collected 1-13-75

Goal, Pro./Obj. _____

Log Number:	75-0162	163	164	165	166						STORET
Station:	INF	664	1400	1500	1600						
pH	7.5	8.0									00403
Turbidity (JTU)	15.	11.									00070
Conductivity (umhos/cm)@25°C	500.	500.									00095
COD	54	38									00340
BOD (5 day)	<80	22 *									00310
Total Coliform (Col./100ml)	-	-	>1600	>1600	>1600						31504
Fecal Coliform (Col./100ml)	-	-	>4000	>4000	>4000						31616
NO3-N (Filtered)		.07									00620
NO2-N (Filtered)		.01									00615
NH3-N (Unfiltered)		4.7									00610
T. Kjeldahl-N (Unfiltered)		6.1									00625
O-PO4-P (Filtered)		1.30									00671
Total Phos.-P (Unfiltered)		3.00									00665
Total Solids	334	317									00500
Total Non Vol. Solids	197	195									
Total Suspended Solids	43	16									00530
Total Sus. Non Vol. Solids	ND	ND									

Note: All results are in PPM unless otherwise specified. ND is "None Detected"
 Convert those marked with a * to PPB (PPM X 10³) prior to entry into STORET

Summary By Stephen D. Roll Date 1-27-75

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
WASTE DISCHARGE PERMIT

PE 01577
PSC 10/10/77
PWS 10/15/77

State of Washington
Olympia, Washington 98504

In compliance with the provisions of
Chapter 90.48 RCW as amended
and

The Federal Water Pollution Control Act Amendments of 1972,
Public Law 92-500

Town of Kittitas
207 Main Street
Kittitas, WA 98934

Plant Location: Within the SE $\frac{1}{4}$ of the NW $\frac{1}{4}$ of Section 11, T. 17 N., R. 19 E.W.M., in Kittitas County Receiving Water: Cooke Creek
Discharge Location: Same as plant location

Waterway Segment No. 18-39-06

is authorized to discharge in accordance with the special and general conditions which follow.


Russell K. Taylor, Regional Manager
Department of Ecology

SPECIAL CONDITIONS

S1. FINAL EFFLUENT LIMITATIONS

Beginning on the date of issuance and lasting through the expiration date of this permit, the permittee is authorized to discharge subject to meeting the limitations for secondary treatment as set forth below:

The monthly average quantity of effluent discharged shall not exceed 0.28 MGD.

EFFLUENT LIMITATIONS

<u>Parameter</u>	<u>Monthly Average</u>	<u>Weekly Average</u>
Biochemical oxygen demand (5 day)*	30 Mg/l; 24 lbs/day	45 Mg/l; 36 lbs/day
Suspended solids*	75 Mg/l; 175 lbs/day	113 Mg/l; 264 lbs/day
Fecal coliform bacteria	200/100 Ml	400/100 Ml
pH	not outside the range 6.5 to 8.5	

*The arithmetic mean of the values for effluent collected in a period of 30 consecutive days shall not exceed 15 percent of the arithmetic mean of the values for influent samples collected at approximately the same times during the same period (85 percent removal).

The monthly and weekly averages for BOD and Suspended Solids are based on the arithmetic mean of the sample taken. The averages for fecal coliform are based on the geometric mean of the samples taken.

S2. MONITORING AND REPORTING

a. Testing Schedule

Beginning on the date of issuance of this permit and lasting through the expiration date of this permit, the permittee shall monitor the discharge according to the following schedule:

NOTE: Sample type is grab unless otherwise noted.
 Effluent samples only apply during time of discharges.
 Daily refers to normal work week.

<u>Parameter</u>	<u>Sample Point</u>	<u>Sample Frequency</u>	<u>Sample Type</u>
Temperature	raw sewage	daily	
pH	raw sewage	weekly	
	final effluent	weekly	
Flow	influent and effluent	daily	

<u>Parameter</u>	<u>Sample Point</u>	<u>Sample Frequency</u>	<u>Sample Type</u>
DO	raw sewage	weekly	
	final effluent	weekly	
BOD	raw sewage	2/month	8 hr. composite
	final effluent	2/month	8 hr. composite
Settleable Solids	raw sewage	weekly	
	final effluent	weekly	
Suspended Solids	raw sewage	2/month	8 hr. composite
	final effluent	2/month	8 hr. composite
Lagoon Depth	each cell	weekly	
Fecal Coliform	final effluent	2/month	

b. Reporting

A monthly report recording each required analysis shall be submitted no later than the 15th day of the following month. The monthly reporting form (ECY 040-2-33) will be supplied to the permittee by the Department. Submittal of this form will satisfy both state and federal reporting requirements.

The monitoring reports shall be sent to Central Regional Office, Department of Ecology, 2802 Main Street, Union Gap, Washington 98903.

If the permittee monitors any pollutant any more frequently than required by the permit, he shall record and report such results.

c. Records Retention

The permittee shall retain for a minimum of three (3) years all records of monitoring activities and results, including all reports of recordings from continuous monitoring instrumentation. This period of retention shall be extended during the course of any unresolved litigation regarding the discharge of pollutants by the permittee or when requested by the Director.

d. Recording of Results

The permittee shall record each measurement or sample taken pursuant to the requirements of this permit for the following information: (1) the date, exact place, and time of sampling; (2) the dates the analyses were performed; (3) who performed the analyses; (4) the analytical techniques or methods used; and (5) the results of all analyses.

e. Representative Sampling

Samples and measurements taken to meet the requirements of this condition shall be representative of the volume and nature of the monitored discharge.

f. Test Procedures

All sampling and analytical methods used to meet the monitoring requirements specified in this permit shall, unless approved otherwise in writing by the Department, conform to:

American Public Health Association, Standard Methods for the Examination of Water and Wastewater, latest edition, or Guidelines Establishing Test Procedures for the Analysis of Pollutants, contained in 40 CFR part 136, as published in the Federal Register, December 1, 1976.

S3. OPERATION AND MAINTENANCE

- a. The permittee shall provide an adequate operating staff which is qualified to carry out the operation, maintenance, and testing activities required to insure compliance with the conditions of this permit. An operator certified for a Class I plant by the State of Washington shall be in responsible charge of the day-to-day operation of the wastewater treatment plant.
- b. Maintenance records shall be maintained on all major electrical and mechanical components of the treatment plant and pumping stations. Such records clearly specify the frequency and type of maintenance recommended by the manufacturer and shall show the frequency and type of maintenance performed. These maintenance records shall be available for inspection at all times.
- c. Digested sludge and other solid waste associated with the permittee's operation shall be utilized or disposed of in a manner to prevent it, or run-off there-from, from entering state ground or surface waters, causing nuisance conditions, and/or from creating health hazards.

S4. OTHER REQUIREMENTS

- a. The Department issues waste discharge permits to industries discharging wastewater to municipal sewerage systems in accordance with RCW 90.48 as amended. The Department, by use of these permits, requires each industrial user of the permittee's sewerage system to provide pretreatment in accordance with guidelines promulgated pursuant to Section 307 of the 1972 Federal Water Pollution Control Act.

The permittee shall assist the Department in monitoring and enforcing the pretreatment requirements as specified in the aforementioned Department permits.

- b. The permittee shall require any industrial user of the municipal sewage system to make payment for the waste treatment services as required by Section 204 (b) of the 1972 Federal Water Pollution Control Act.
- c. Prior to construction or modifying any wastewater control facilities, detailed plans shall be approved in writing by the Department.

GENERAL CONDITIONS

- G1. All discharges and activities authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant more frequently than or at a level in excess of that identified and authorized by this permit shall constitute a violation of the terms and conditions of this permit.
- G2. Whenever a facility expansion is anticipated which will result in a new or increased discharge, or which will cause any of the conditions of this permit to be exceeded, a new application must be submitted together with the necessary reports and engineering plans for the proposed changes. No change shall be made until plans have been approved and a new permit or permit modification has been issued.
- G3. The diversion or bypass of any discharge from the treatment works by the permittee is prohibited, except (a) where unavoidable to prevent loss of life or severe property damage, or (b) where excessive storm drainage or runoff would damage any facilities necessary for compliance with the terms and conditions of this permit. The permittee shall immediately notify the Department of each such diversion or bypass in accordance with the procedure specified in Condition G4.
- G4. In the event the permittee is unable to comply with any of the conditions of this permit because of a breakdown of equipment or facilities, an accident caused by human error or negligence, or any other cause, such as an act of nature, the permittee shall:
 - a. Immediately take action to stop, contain, and clean-up the unauthorized discharges and correct the problem.
 - b. Immediately notify the Department by telephone so that an investigation can be made to evaluate the impact and the corrective actions taken and determine additional action that must be taken.
 - c. Submit a detailed written report to the Department describing the breakdown, the actual quantity and quality of resulting waste discharges, corrective action taken, steps taken to prevent a recurrence, and any other pertinent information.

Compliance with these requirements does not relieve the permittee from responsibility to maintain continuous compliance with the conditions of this permit or the resulting liability for failure to comply.

- G5. The permittee shall at all times maintain in good working order and efficiently operate all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit.
- G6. After notice and opportunity for a hearing, this permit may be modified, suspended or revoked in whole or in part during its term for cause including but not limited to the following:
 - a. Violation of any terms or conditions of this permit;

- b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts;
 - c. A change in the condition of the receiving waters or any other condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.
- G7. The permittee shall, at all reasonable times, allow authorized representatives of the Department:
- a. To enter upon the permittee's premises for the purpose of inspecting and investigating conditions relating to the pollution of, or possible pollution of, any of the waters of the state, or for the purpose of investigating compliance with any of the terms of this permit;
 - b. To have access to and copy any records required to be kept under the terms and conditions of this permit;
 - c. To inspect any monitoring equipment or monitoring method required by this permit; or,
 - d. To sample any discharge of pollutants.
- G8. If a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307 (a) of the Federal Act for a toxic pollutant which is present in the discharge authorized herein and such standard or prohibition is more stringent than any limitation upon such pollutant in this permit, this permit shall be revised or modified in accordance with the toxic effluent standard or prohibition and the permittee shall be so notified. Section 307(a) requires that the Administrator of the Environmental Protection Agency shall promulgate effluent standards (or prohibition) for toxic pollutants which he has listed as such.
- G9. Nothing in this permit shall be construed as excusing the permittee from compliance with any applicable Federal, State, or local statutes, ordinances or regulations.

DEPARTMENT OF ECOLOGY

IN THE MATTER OF THE COMPLIANCE BY)
TOWN OF KITTITAS)
with Chapter 90.48 RCW and the)
Rules and Regulations of the)
Department of Ecology)

ORDER
Docket No. DE 77-347
First Amendment

To: The Honorable Robert C. Patrick
Mayor, Town of Kittitas
P. O. Box 719
Kittitas, Washington 98934

Order, Docket No. DE 77-347 dated June 29, 1977 is hereby rescinded and the following substituted:

Condition S1 of NPDES Waste Discharge Permit No. WA-002125-3 and PL 92-500 require achievement of Secondary or Best Practical Treatment not later than June 30, 1977.

The permittee has submitted documentation to establish that it cannot, despite all reasonable best efforts, achieve the discharge limitations by July 1, 1977. The compliance schedule contained in the permit notwithstanding, this Department, in the exercise of its prosecutorial discretion, will not take action against the permittee under Chapter 90.48 RCW with respect to the permittee's failure to achieve the limitations on and after July 1, 1977, until the date specified herein for the achievement of the limitations, provided that the permittee complies with all of the conditions contained herein.

RCW 90.48.120 reads in part: Whenever the department deems immediate action is necessary to accomplish the purpose of Chapter 90.48 RCW, it may issue such order or directive as appropriate under the circumstances.

In view of the foregoing, and in accordance with the provisions of RCW 90.48.120(2):

IT IS ORDERED that the schedule of construction be complied with as follows:

- a. Submit Step II, Plans and Specifications, Phase II, sewage treatment plant and outfall, with the Step III, Phase II application.
- b. Apply for Step III, Construction, Phase II sewage treatment plant and outfall, made within 30 days of permit availability.

The following effluent limits will be complied with until best practical treatment facilities are completed:

INTERIM EFFLUENT LIMITATIONS

The monthly average quantity of effluent discharged shall not exceed 0.8 MGD.

<u>Parameter</u>	<u>Monthly Average</u>	<u>Weekly Average</u>
Biochemical Oxygen Demand (5 day)	156 mg/l, 91 lbs/day	234 mg/l, 137 lbs/day
Suspended Solids	156 mg/l, 91 lbs/day	234 mg/l, 137 lbs/day
Fecal Coliform Bacteria	1000/100 ml	1500/100 ml
pH	not outside the range 6.5 to 8.5	

The monthly and weekly averages for BOD and Suspended Solids are based on the arithmetic mean of the samples taken. The averages for fecal coliform are based on the geometric mean of the samples taken.

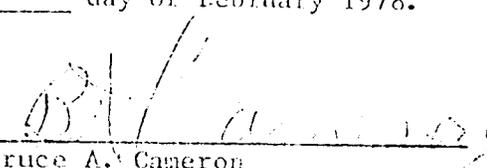
INTERIM MONITORING AND REPORTING REQUIREMENTS

<u>Parameter</u>	<u>Sample Point</u>	<u>Sample Frequency</u>	<u>Sample Type</u>
Temperature	raw sewage	daily	grab
pH	raw sewage	daily	grab
	final effluent	daily	grab
Flow	influent	daily	
	or effluent		
Chlorine Residual	final effluent	daily	grab
DO	raw sewage	daily	grab
	final effluent	daily	grab
BOD	raw sewage	weekly	8 hr. composite
	final effluent	weekly	8 hr. composite
Settleable Solids	raw sewage	daily	grab
	final effluent	daily	grab

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Town of Kittitas
Docket No. DE 77-347

Suspended Solids	raw sewage	weekly	8 hr. composite
	final effluent	weekly	8 hr. composite
Fecal Coliform	final effluent	weekly	grab

DATED at Olympia, Washington, this _____ day of February 1978.



Bruce A. Cameron
Assistant Director
Department of Ecology
State of Washington



STATE OF
WASHINGTON

Dixie Lee Roy
Governor

DEPARTMENT OF ECOLOGY

Olympia, Washington 98501

200-1-12-01

22 FEB 1973

CERTIFIED MAIL

The Honorable Robert C. Patrick
Mayor, Town of Kittitas
P. O. Box 719
Kittitas, Washington 98934

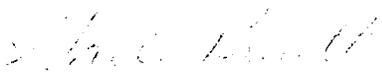
Dear Mayor Patrick:

Enclosed is Order, Docket No. DE 77-347. All correspondence relating to this docket should be directed to the enforcement officer. If you have any questions concerning the content of the docket, please call Harold Porath, Yakima, Washington, telephone 575-2490.

A form entitled "Acknowledgement of Service" is also enclosed. Please sign the original of this form and return it to this office.

This order is issued under the provisions of RCW 90.48.120. Any person feeling aggrieved by the same may obtain review thereof by application, within thirty (30) days of receipt of this Order, to the Washington Pollution Control Hearings Board under the provisions of Chapter 43.21B RCW, and the rules and regulations adopted thereunder.

Very truly yours,


Lloyd K. Taylor
Enforcement Officer

LKT:lh

Enclosures

DEPARTMENT OF ECOLOGY

IN THE MATTER OF THE COMPLIANCE BY)
TOWN OF KITTITAS)
with Chapter 90.48 RCW and the)
Rules and Regulations of the)
Department of Ecology)

ORDER
Docket No. DE 77-347

To: The Honorable Robert C. Patrick
Mayor, Town of Kittitas
P. O. Box 719
Kittitas, Washington 98934

Condition S1 of NPDES Waste Discharge Permit No. WA-002125-3 and
PL 92-500 require achievement of Secondary or Best Practical Treatment not
later than June 30, 1977.

The permittee has submitted documentation to establish that it cannot,
despite all reasonable best efforts, achieve the discharge limitations by
July 1, 1977. The compliance schedule is as follows:



The following effluent limits will be complied with until best practical treatment facilities are completed:

INTERIM EFFLUENT LIMITATIONS

The monthly average quantity of effluent discharged shall not exceed 0.8 MGD.

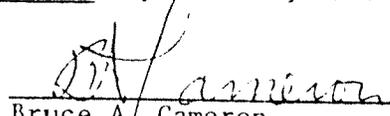
<u>Parameter</u>	<u>Monthly Average</u>	<u>Weekly Average</u>
Biochemical Oxygen Demand (5 day)	156 mg/l, 91 lbs/day	234 mg/l, 137 lbs/day
Suspended Solids	156 mg/l, 91 lbs/day	234 mg/l, 137 lbs/day
Fecal Coliform Bacteria	1000/100 ml	1500/100 ml
pH	not outside the range 6.5 to 8.5	

The monthly and weekly averages for BOD and Suspended Solids are based on the arithmetic mean of the samples taken. The averages for fecal coliform are based on the geometric mean of the samples taken.

INTERIM MONITORING AND REPORTING REQUIREMENTS

<u>Parameter</u>	<u>Sample Point</u>	<u>Sample Frequency</u>	<u>Sample Type</u>
Temperature	raw sewage	daily	grab
pH	raw sewage	daily	grab
	final effluent	daily	grab
Flow	influent	daily	
	or effluent		
Chlorine Residual	final effluent	daily	grab
DO	raw sewage	daily	grab
	final effluent	daily	grab
BOD	raw sewage	weekly	8 hr. composite
	final effluent	weekly	8 hr. composite
Settleable Solids	raw sewage	daily	grab
	final effluent	daily	grab
Suspended Solids	raw sewage	weekly	8 hr. composite
	final effluent	weekly	8 hr. composite
Fecal Coliform	final effluent	weekly	grab

DATED at Olympia, Washington, this 29th day of June, 1977.


 Bruce A. Cameron
 Assistant Director
 Department of Public Health



STATE OF
WASHINGTON

Dixy Lee Ray
Governor

DEPARTMENT OF ECOLOGY

2802 Main Street, Union Gap, Washington 98903 509/575-2800

'29 JUN 1977

The Honorable Robert C. Patrick
Mayor, Twon of Kittitas
P. O. Box 719
Kittitas, Washington 98934

Gentlemen:

With this letter I am sending you a revised NPDES Waste Discharge Permit, an Order relating to the permit, and a form entitled "Acknowledgement of Service". These documents do not greatly change conditions of your previous permit.

Effluent limitations have been changed in the new permit to reflect effluent characteristics of your upgraded sewage treatment facilities when constructed. The life of the new permit is five years. And the regulatory Order, containing a new compliance schedule, becomes a supplement to the permit.

Please sign the original of the Acknowledgement of Service form and return it in the prestamped envelope to Lloyd K. Taylor, Department of Ecology, Olympia, 98504. The other documents are for your file. I would encourage you to forward a copy of the revised permit and Order to your engineering consultant.

To further explain this permit revision, I point out to you that technical requirements of federal law 92-500 require that you reach a specified level of waste treatment by June 30, 1977, even though practical matters may prevent that. There has been much talk at the national level of relaxing such absolute requirements, but that has not happened yet.

The federal agency, EPA, has taken the position that your waste discharge permit, to be extended past the June 30 date, must mandate the higher level of waste treatment and effluent limitations immediately and regardless of the stage of development of your new facilities. Accordingly, your revised permit now states that you will achieve the higher treatment beginning July 1; but that is modified by the accompanying Order from the State Department of Ecology which sets out a more realistic compliance schedule for achieving that treatment.

Your old (existing) NPDES permit will expire on June 30, and the new permit will take over immediately.

These documents bring you into technical compliance with the federal laws and regulations. I anticipate that we will be reviewing and revising your permit in the future as more accurate information on your final discharge quality

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Kittitas

becomes available. If you have any questions on any of these matters, please give me a call at 575-2490, Yakima.

Sincerely,


Harold Porath
District Engineer

Legal Note: The permit and Order are issued under provisions of RCW 90.48. Any person feeling aggrieved by either may obtain review thereof by application within thirty days of receipt, to the Washington Pollution Control Hearings Board, 5 S. Sound Center, Olympia, WA 98504, under the provisions of RCW 43.21B, and the rules and regulations adopted thereunder.

HP:ep

Enclosures

cc: Lyman Nielson, EPA
Lloyd Taylor, Olympia