T 2 N
T 1 N

4658 4668 4660 4665 4655 4635 4657 4650 4645 4640 4630 4610

Riverdale Sch (Aban'd)

BAIN 4 CANAL

SNAKE RIVER VALLEY

Mile 795

BM 4656

BM 4666

HIGHWAY UNION

YELLOWSTONE

Cotton

BM 4637

BONNEVILLE CO
BINGHAM CO

WOODVILLE CANAL

(ABANDONED CANAL)

POINT OF DIVERSION

Mile 793

(ABAN'D CANAL)

Bennett Bridge

SHULL LATERAL

QUIGG LATERAL

SNAKE RIVER VALLEY CANAL

ALLENS BRANCH

Stanton Sch

Mitchell

CEDAR POINT CANAL

70 91 191

BRANCH

Shelley

WEST EAST

KEARNEY

BM 4629

BM 4640

4641

5 4 3 2 8 9 10 11 16 15 17 21 22 20 28 27 29

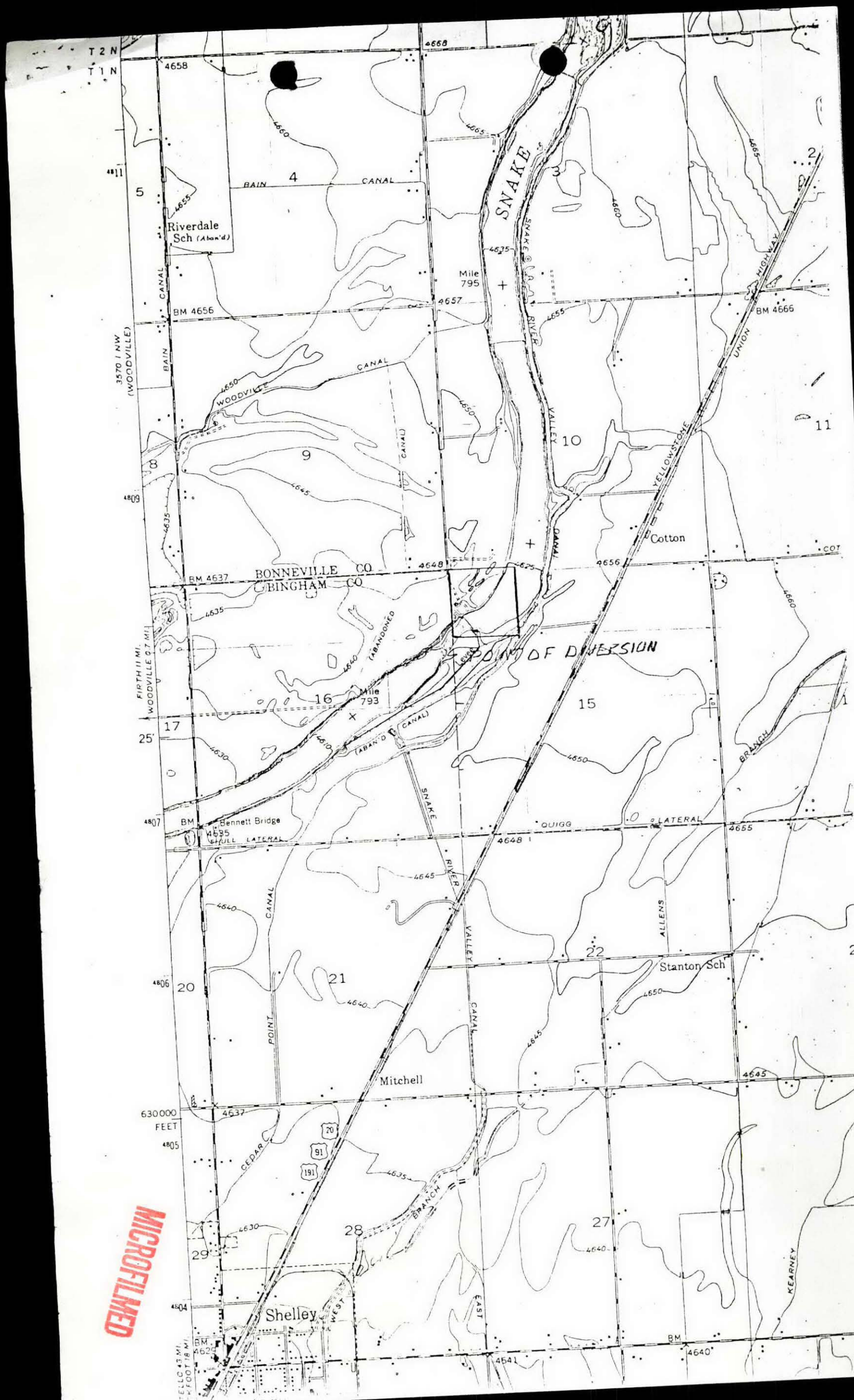
4811 4809 4807 4806 4805 4804

3570 I NW (WOODVILLE)

FIRTH 11 MI. WOODVILLE 0.7 MI.

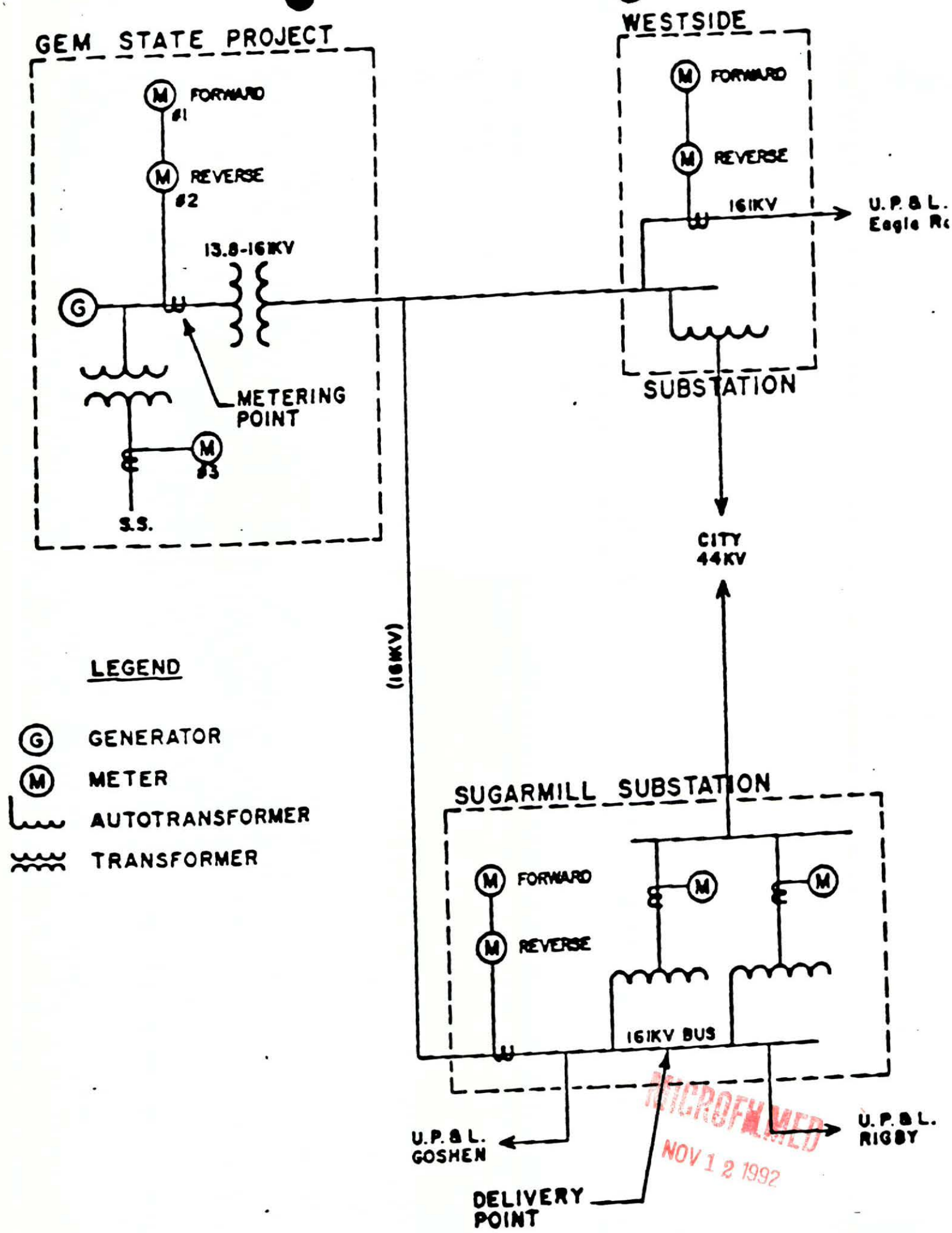
630000 FEET

MICROFILMED



MICROFILMED

EXHIBIT 1



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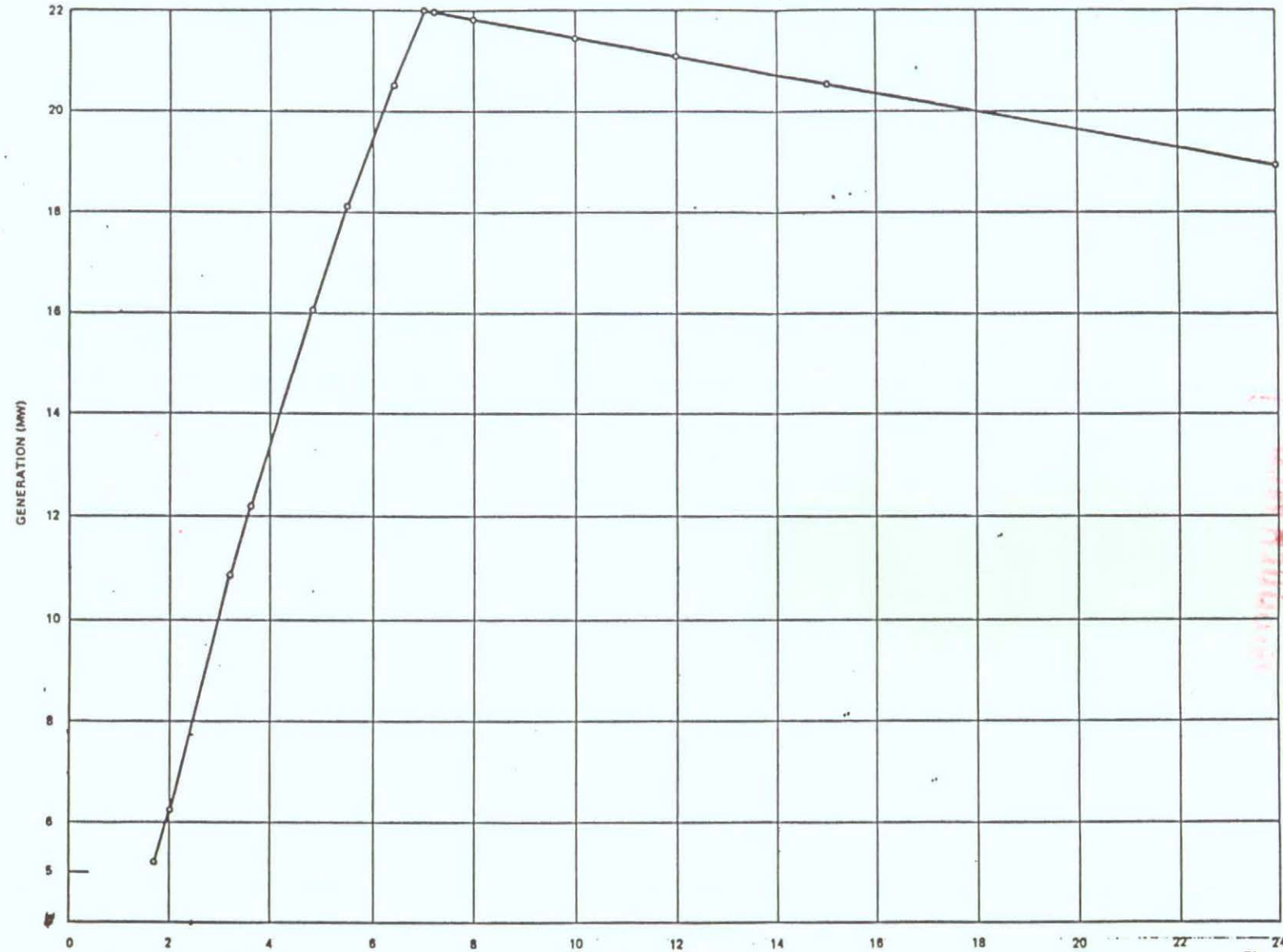


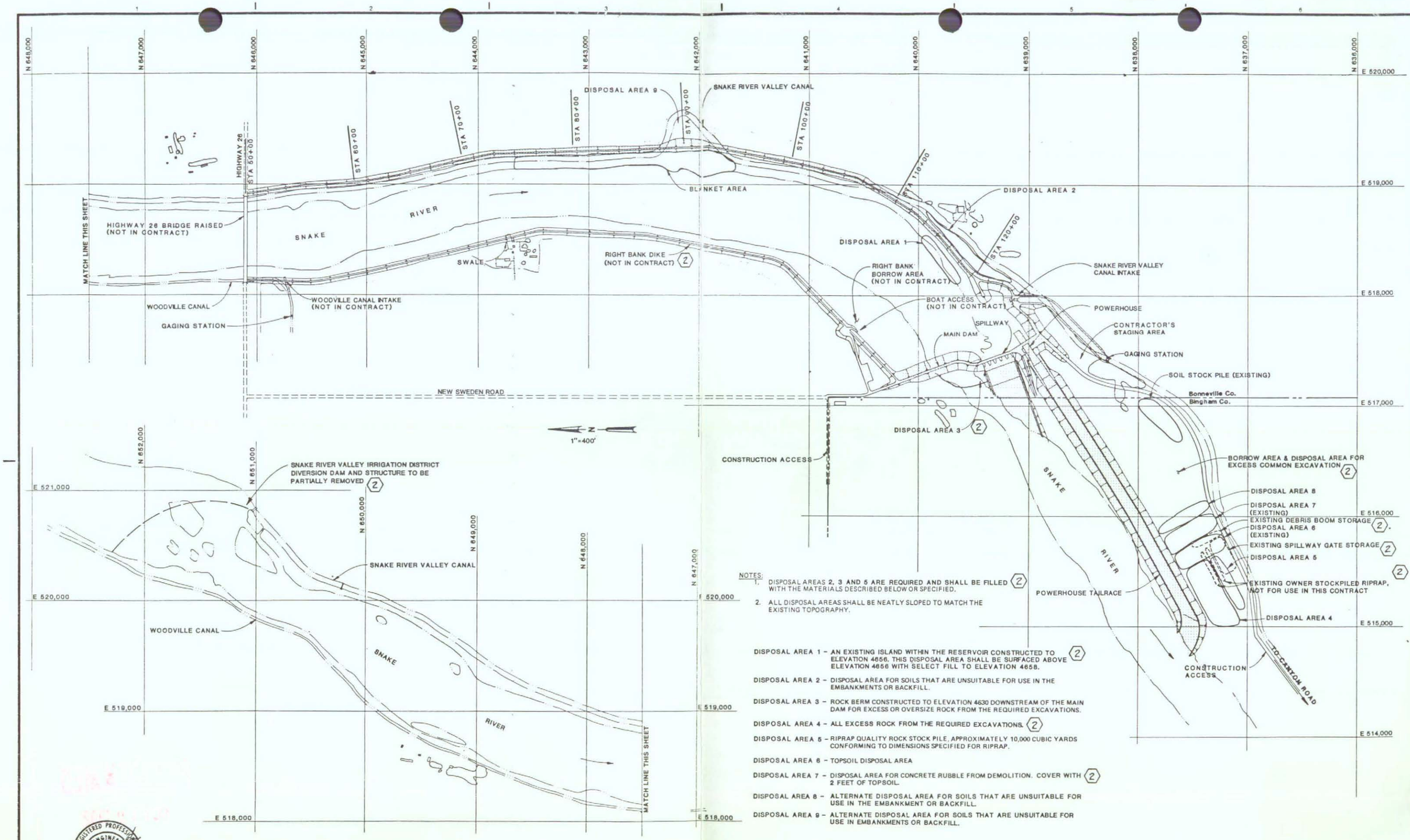
Figure 7
DISCHARGE vs. PLANT OUTPUT
GEM STATE HYDROELECTRIC PROJECT
CITY OF IDAHO FALLS, IDAHO

CH2MHILL

812261.00

NOV 2 1982

Draft



NOTES:
1. DISPOSAL AREAS 2, 3 AND 5 ARE REQUIRED AND SHALL BE FILLED 2 WITH THE MATERIALS DESCRIBED BELOW OR SPECIFIED.
2. ALL DISPOSAL AREAS SHALL BE NEATLY SLOPED TO MATCH THE EXISTING TOPOGRAPHY.

DISPOSAL AREA 1 – AN EXISTING ISLAND WITHIN THE RESERVOIR CONSTRUCTED TO ELEVATION 4656. THIS DISPOSAL AREA SHALL BE SURFACED ABOVE ELEVATION 4656 WITH SELECT FILL TO ELEVATION 4658. 2

DISPOSAL AREA 2 – DISPOSAL AREA FOR SOILS THAT ARE UNSUITABLE FOR USE IN THE EMBANKMENTS OR BACKFILL.

DISPOSAL AREA 3 – ROCK BERM CONSTRUCTED TO ELEVATION 4630 DOWNSTREAM OF THE MAIN DAM FOR EXCESS OR OVERSIZE ROCK FROM THE REQUIRED EXCAVATIONS.

DISPOSAL AREA 4 – ALL EXCESS ROCK FROM THE REQUIRED EXCAVATIONS. 2

DISPOSAL AREA 5 – RIPRAP QUALITY ROCK STOCK PILE, APPROXIMATELY 10,000 CUBIC YARDS CONFORMING TO DIMENSIONS SPECIFIED FOR RIPRAP.

DISPOSAL AREA 6 – TOPSOIL DISPOSAL AREA

DISPOSAL AREA 7 – DISPOSAL AREA FOR CONCRETE RUBBLE FROM DEMOLITION. COVER WITH 2 FEET OF TOPSOIL. 2

DISPOSAL AREA 8 – ALTERNATE DISPOSAL AREA FOR SOILS THAT ARE UNSUITABLE FOR USE IN THE EMBANKMENT OR BACKFILL.

DISPOSAL AREA 9 – ALTERNATE DISPOSAL AREA FOR SOILS THAT ARE UNSUITABLE FOR USE IN EMBANKMENTS OR BACKFILL.

REGISTERED PROFESSIONAL ENGINEER 9154 STATE OF IDAHO JAMES R. KUENZLI

CH2M HILL

DSGN J Kuenzli
DR B.W. CLEGG
CHK L Detheer
APVD L Detheer

NO.	DATE	REVISION	BY	APVD
2	6/18/86	ADDENDUM NO. 2	BWC	LH DR
1	5/21/86	MINOR REVISIONS	LH	JRK

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VERIFY SCALES

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GEM STATE HYDROELECTRIC PROJECT
CITY OF IDAHO FALLS, IDAHO

GENERAL CONTRACT

SITE MAP

SHEET G-4
DWG NO. 0-4
DATE MAY 1986
PROJ NO. 818980

NOTES:

1. ELEVATIONS SHOWN ON THE FILL ADJACENT TO THE TOP OF THE POWERHOUSE ARE FINISHED GRADE INCLUDING ASPHALT PAVEMENT AND GRAVEL BASE COURSE. PLACEMENT OF ASPHALT SURFACING AND GRAVEL BASE ARE NOT IN THIS CONTRACT. CONTRACTOR SHALL PLACE ZONE 2 FILL TO 0.8 FEET BELOW GRADES SHOWN.
2. ELEVATIONS SHOWN ON THE DIKES ARE FINISH GRADE INCLUDING GRAVEL SURFACING. PLACEMENT OF GRAVEL SURFACING IS NOT IN THIS CONTRACT. CONSTRUCT DIKES TO 0.5 FEET BELOW FINISHED GRADE SHOWN.
3. CONSTRUCT THE ACCESS ROAD FILL WITH RANDOM FILL. (2) SEE THE ACCESS ROAD PROFILE ON FIGURE 3, ADDENDUM NO. 3.

FOR WELL INSTALLATION SEE DWG SERIES 10 SH M-31

END OF GRAVITY WALL

MATCH TO EXST ACCESS ROAD

ACCESS ROAD

S 42° 42' 30" W

87.60

SEE NOTE 2

S 59° 42' 14" W 187.00'

S 42° 43' 32" W 272.58'

SEE NOTE 2

N639 016.3357
E517 806.4614

GROUND WIRES

DAM STATION
STA 0+00
N638 922.00
E517 645.00

85'

5 • 2.0%

SEE NOTE 1

POWERHOUSE & TAILRACE

℄ UNIT

TAILRACE PLAN & PROFILE

POWER POLE

TRENCH

HAUL ROAD

STA 1+47.00
639,049.87
517,564.30
CATCH BASINS SEE (60)

STA 2+82.35
639158.00
517, 490.00

N 33° 11' 46" W

SEE NOTE 1

WARPED SLOPE

FILL TO EL 4630

SEE NOTE 2

5 • 8.0%

LOG BOOM

12" PLASTIC PIPE

CONCRETE PAD FOR MONITORING WELL EL 4629.52

EXTEND & PROTECT STEEL CASED MONITORING WELL

10' WIDE BENCH ON TOP OF ROCK

CENTER 80' HIGH STEEL TOWER (NOT IN CONTRACT)

℄ 161 K.V. TRANSMISSION LINE (NOT IN CONTRACT)

RELOCATE TEMPORARY POWER POLE (COORDINATE WITH THE CITY OF IDAHO FALLS)

FILL TO EL 4630

LIMITS OF ARMOR ROCK

REMOVE AND SALVAGE EXST CHAIN LINK FENCE

℄ SPILLWAY
STA 4+24.35

284'

N 19° 47' 46" W

Z-TH

Z-TH

STA 2+48

TREMIE GROUT AND PLUG EXISTING OBSERVATION WELL BEFORE SPILLWAY EXCAVATION.

3" STEEL PIPE EL 4625.3

OVERHEAD POWER

BENCHMARK
BRASS CAP CITY OF I.F. 5+00
BASE EL 4623.87

EXTEND SPILLWAY EXCAVATION TO EL 4613

SNAKE RIVER

SCALE: 1"=40'

STA 5+66.35
N 639 425.217
E 517 393.816

RELOCATE TEMPORARY POWERPOLE (COORDINATE WITH THE CITY OF IDAHO FALLS)

POWER POLE

LIMITS OF ARMOR ROCK

SNAKE RIVER

REGISTERED PROFESSIONAL ENGINEER 3154 STATE OF IDAHO JAMES R. KUENZLI

CH2M HILL

DSGN	J Kuenzli				
DR	B.W. CLEGG				
CHK	L Deffeyes				
APVD	L Deffeyes				
NO	DATE	REVISION	BY	APVD	
(2)	7/3/86	ADDENDUM NO. 3	BWC	RLKN	
1	5/22/86	MINOR REVISIONS	ALYR	URKI	

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VERIFY SCALES

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GEM STATE HYDROELECTRIC PROJECT
CITY OF IDAHO FALLS, IDAHO

GENERAL CONTRACT

GENERAL ARRANGEMENT - POWERHOUSE AND SPILLWAY

SHEET	G-10
DWG NO.	0-10
DATE	MAY 1986
PROJ NO.	B18980

Mapped, edited, and published by the Geological Survey

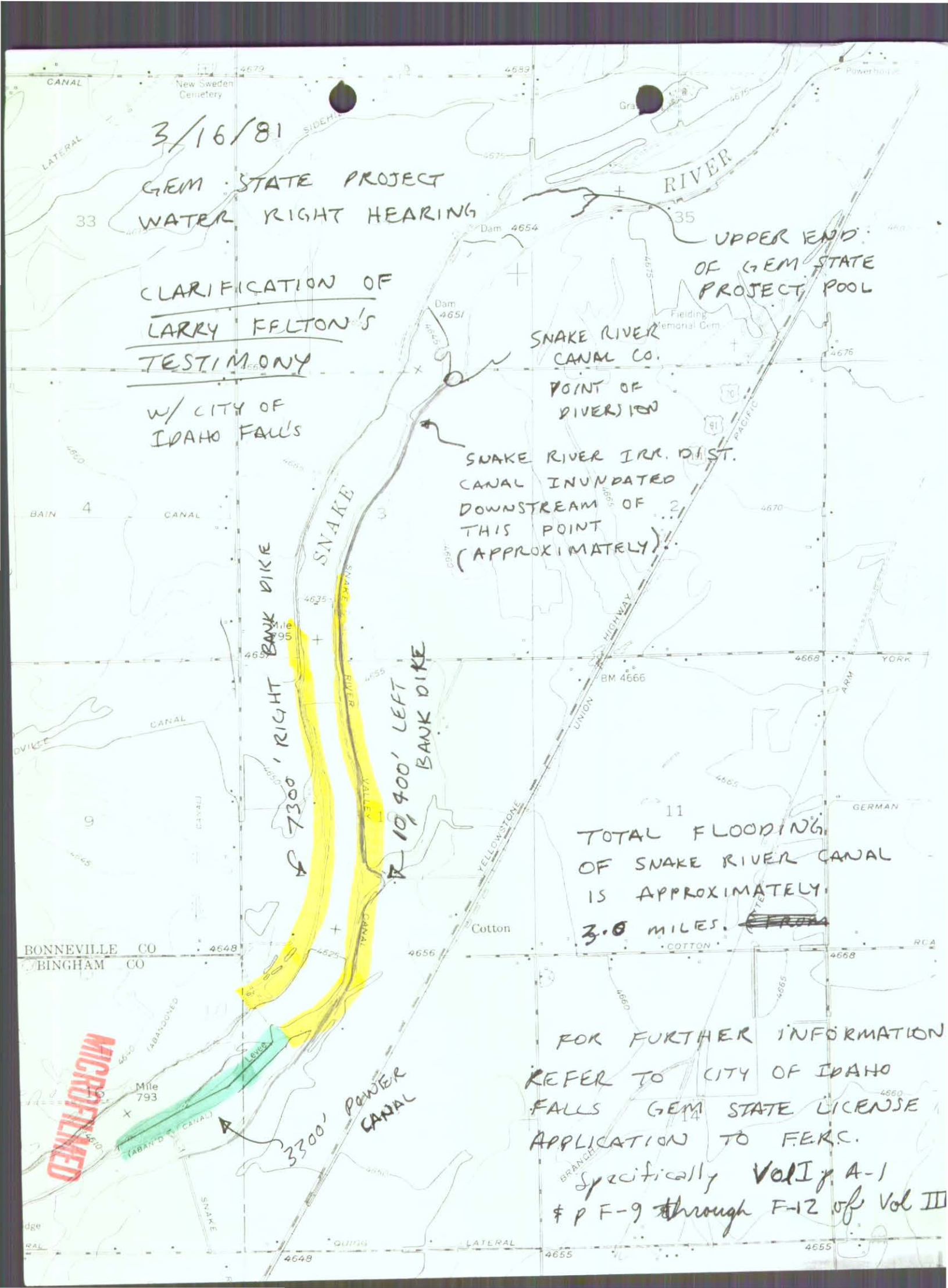
Control by USGS and NOS/NOAA

Culture and drainage by multiplex methods
from aerial photographs taken 1946
Topography by plane-table methods 1948

Polyconic projection. 1927 North American datum
10,000-foot grid based on Idaho coordinate system,
east zone

SCALE 1:24 000

CONTOUR INTERVAL 5 FEET


3/16/81
GEM STATE PROJECT
WATER RIGHT HEARING
CLARIFICATION OF
LARRY FFLTON'S
TESTIMONY
W/ CITY OF
IDAHO FALLS
UPPER END OF GEM STATE PROJECT POOL
SNAKE RIVER CANAL CO.
POINT OF DIVERSION
SNAKE RIVER IRR. DIST. CANAL INUNDATED DOWNSTREAM OF THIS POINT (APPROXIMATELY).
7300' RIGHT BANK DIKE
10,400' LEFT BANK DIKE
TOTAL FLOODING OF SNAKE RIVER CANAL IS APPROXIMATELY 3.0 MILES.
3300' POWER CANAL
FOR FURTHER INFORMATION REFER TO CITY OF IDAHO FALLS GEM STATE LICENSE APPLICATION TO F.E.R.C.
Specifically Vol I, A-1 & p F-9 through F-12 of Vol III
MICROFILMED
SNAKE RIVER
BONNEVILLE CO
BINGHAM CO
Mile 795
Mile 793
Dam 4654
Dam 4651
BM 4666
Cotton
New Sweden Cemetery
Fielding Memorial Cem.

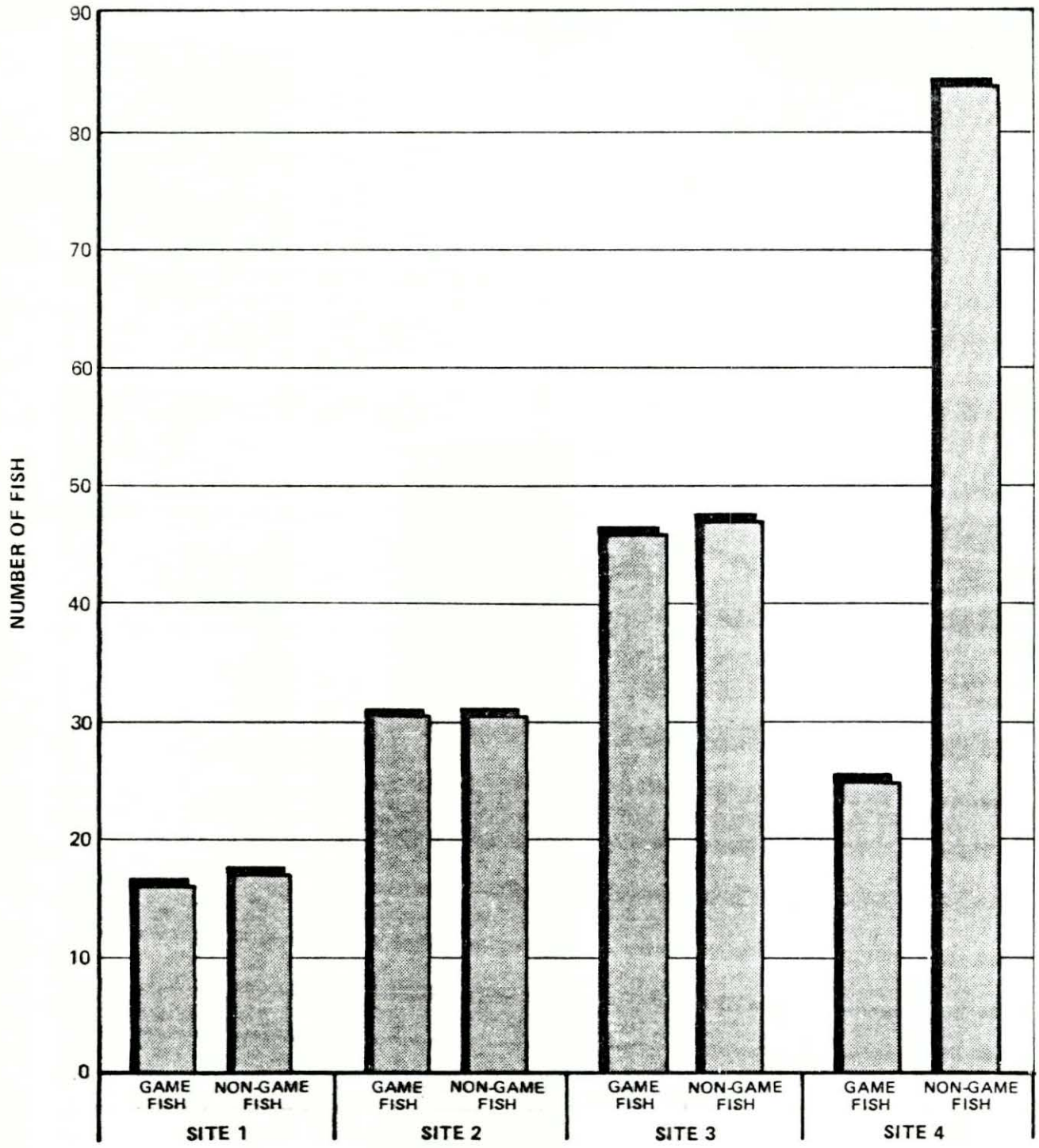


FIGURE 2

GAME AND NON-GAME FISH DISTRIBUTION AND ABUNDANCE (CAPTURED BY GILLNETTING AND ELECTROSHOCKING)

SHELLEY HYDROELECTRIC PROJECT
CITY OF IDAHO FALLS, IDAHO

CH2M HILL

B17486.B0

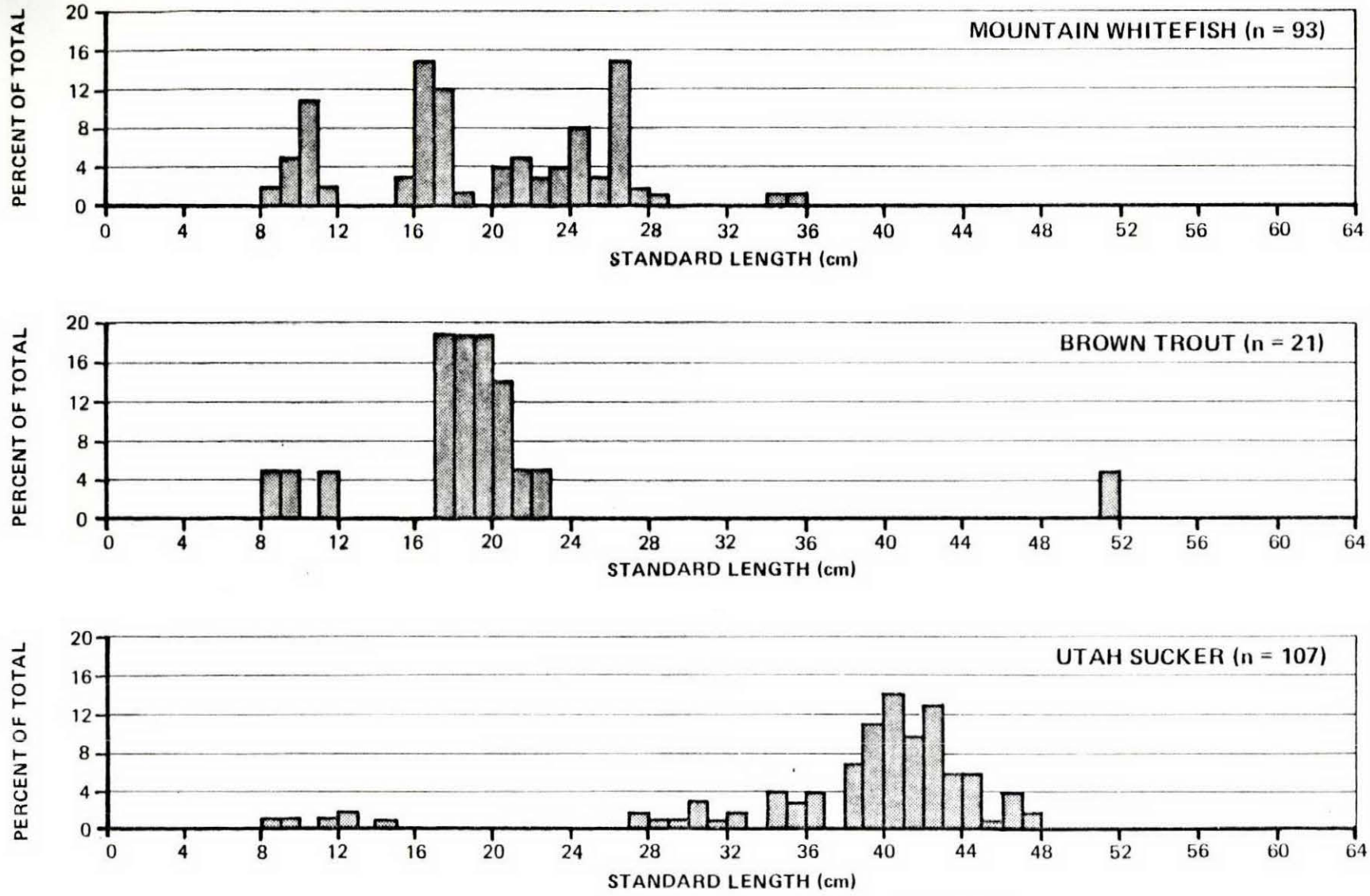


FIGURE 4

LENGTH - FREQUENCY HISTOGRAMS (1-cm INTERVALS) FOR MOUNTAIN WHITEFISH, BROWN TROUT, AND UTAH SUCKER.

SHELLEY HYDROELECTRIC PROJECT
CITY OF IDAHO FALLS, IDAHO

CH2M HILL

B17486.B0

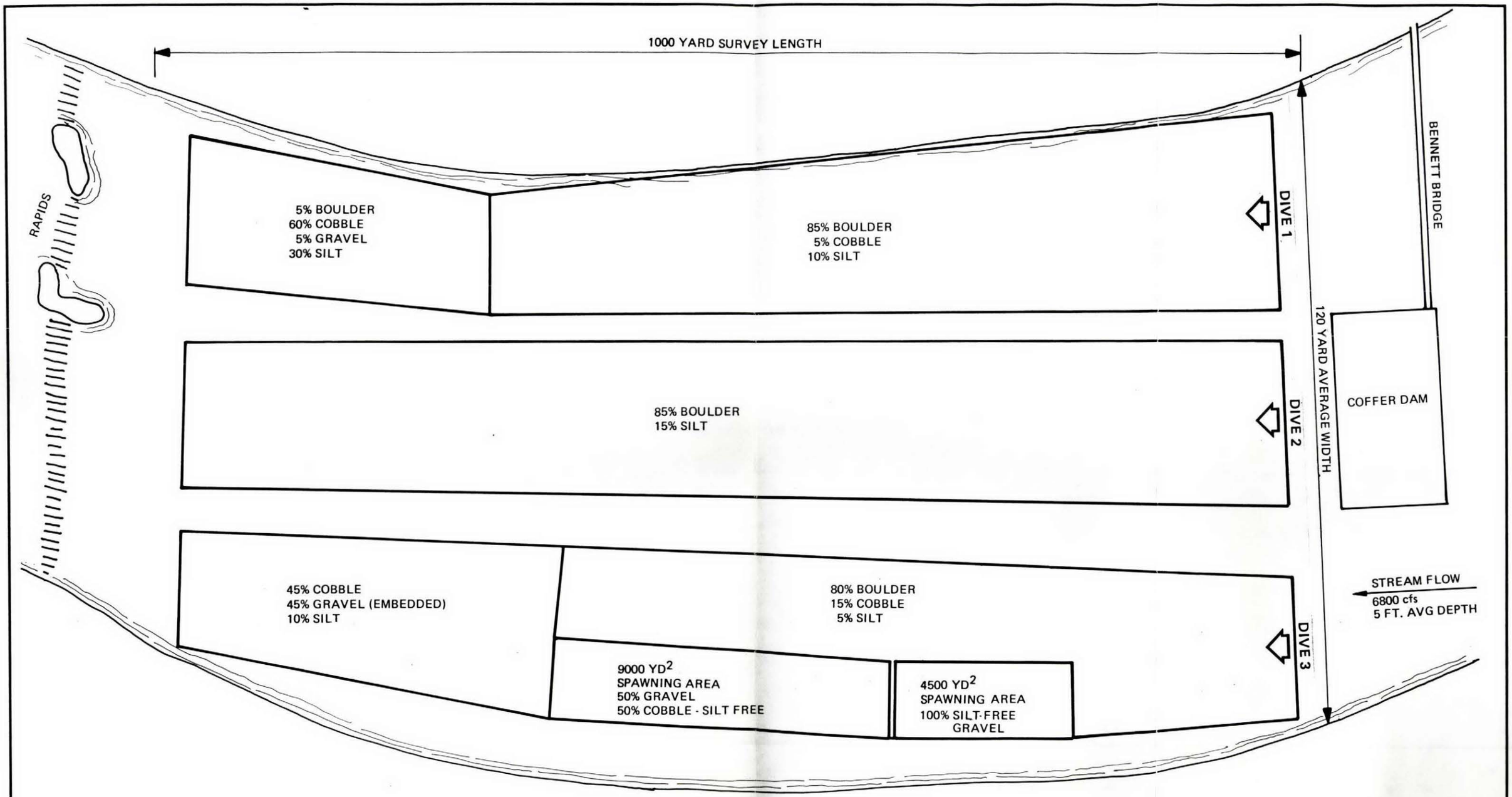


FIGURE 5
SUBSTRATE ANALYSIS RESULTS FROM SCUBA DIVES IN SAMPLE AREA 1

SHELLEY HYDROELECTRIC PROJECT
CITY OF IDAHO FALLS, IDAHO

CH2M HILL

B17486.B0

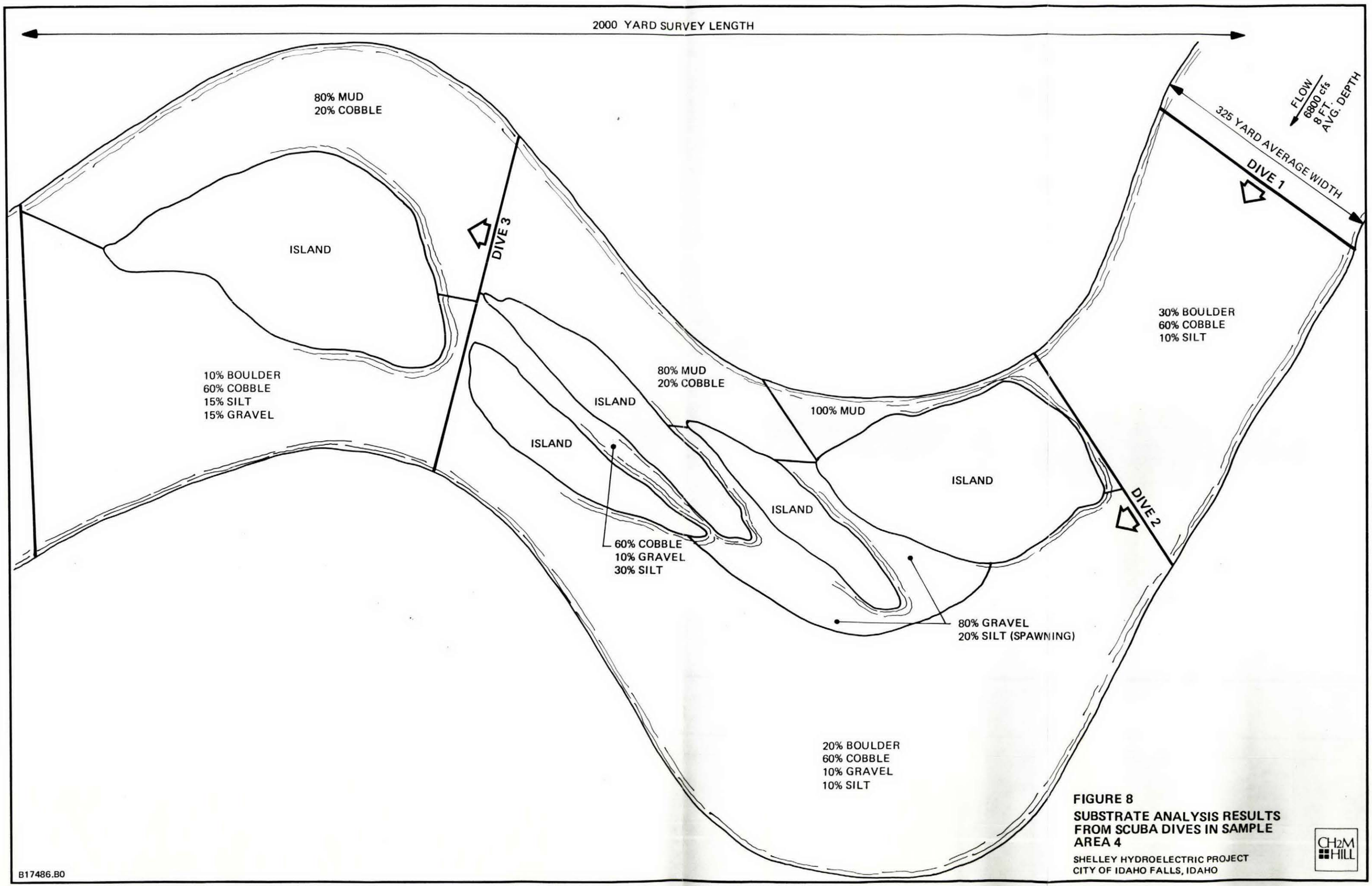


FIGURE 8
SUBSTRATE ANALYSIS RESULTS FROM SCUBA DIVES IN SAMPLE AREA 4

SHELLEY HYDROELECTRIC PROJECT
CITY OF IDAHO FALLS, IDAHO

B17486.B0

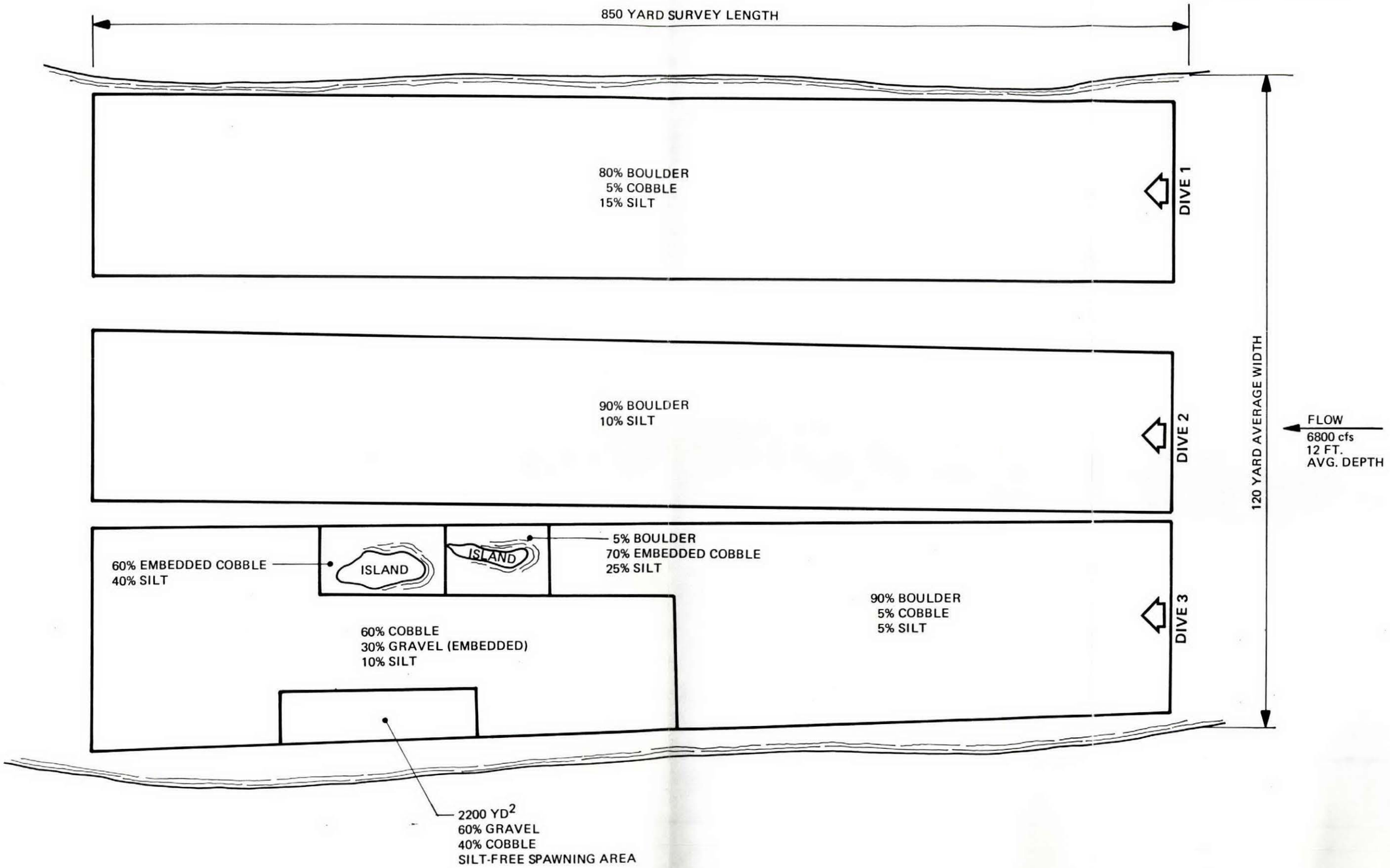


FIGURE 6

SUBSTRATE ANALYSIS RESULTS FROM SCUBA DIVES IN SAMPLE AREA 2

SHELLEY HYDROELECTRIC PROJECT
CITY OF IDAHO FALLS, IDAHO

CH2M HILL

B17486.B0

700 YARD SURVEY LENGTH

60% COBBLE
30% SAND/SILT
10% GRAVEL (EMBEDDED)

10% COBBLES
80% GRAVEL
10% SAND

ISLAND

SPAWNING/REARING/BENTHOS AREA

DIVE 1

80% COBBLE
20% SAND/SILT

ISLAND

50% COBBLE
30% SAND/SILT
20% GRAVEL (EMBEDDED)

10% BOULDER
80% SAND/SILT
10% COBBLE

ISLAND

REARING HABITAT

80% COBBLE
10% GRAVEL
10% SAND/SILT

DIVE 2

140 YARD AVERAGE WIDTH

ISLAND

ISLAND

ISLAND

(GRAVEL POCKETS
AVAILABLE FOR SPAWNING)

ISLAND

FLOW
6800 cfs
6 FT. AVG.
DEPTH

50% COBBLE
30% SAND/SILT
20% GRAVEL (EMBEDDED)

80% COBBLE
10% GRAVEL (EMBEDDED)
10% SAND/SILT

DIVE 3

B17486.B0

FIGURE 7
SUBSTRATE ANALYSIS RESULTS FROM SCUBA DIVES IN SAMPLE AREA 3
SHELLEY HYDROELECTRIC PROJECT
CITY OF IDAHO FALLS, IDAHO

CH2M HILL

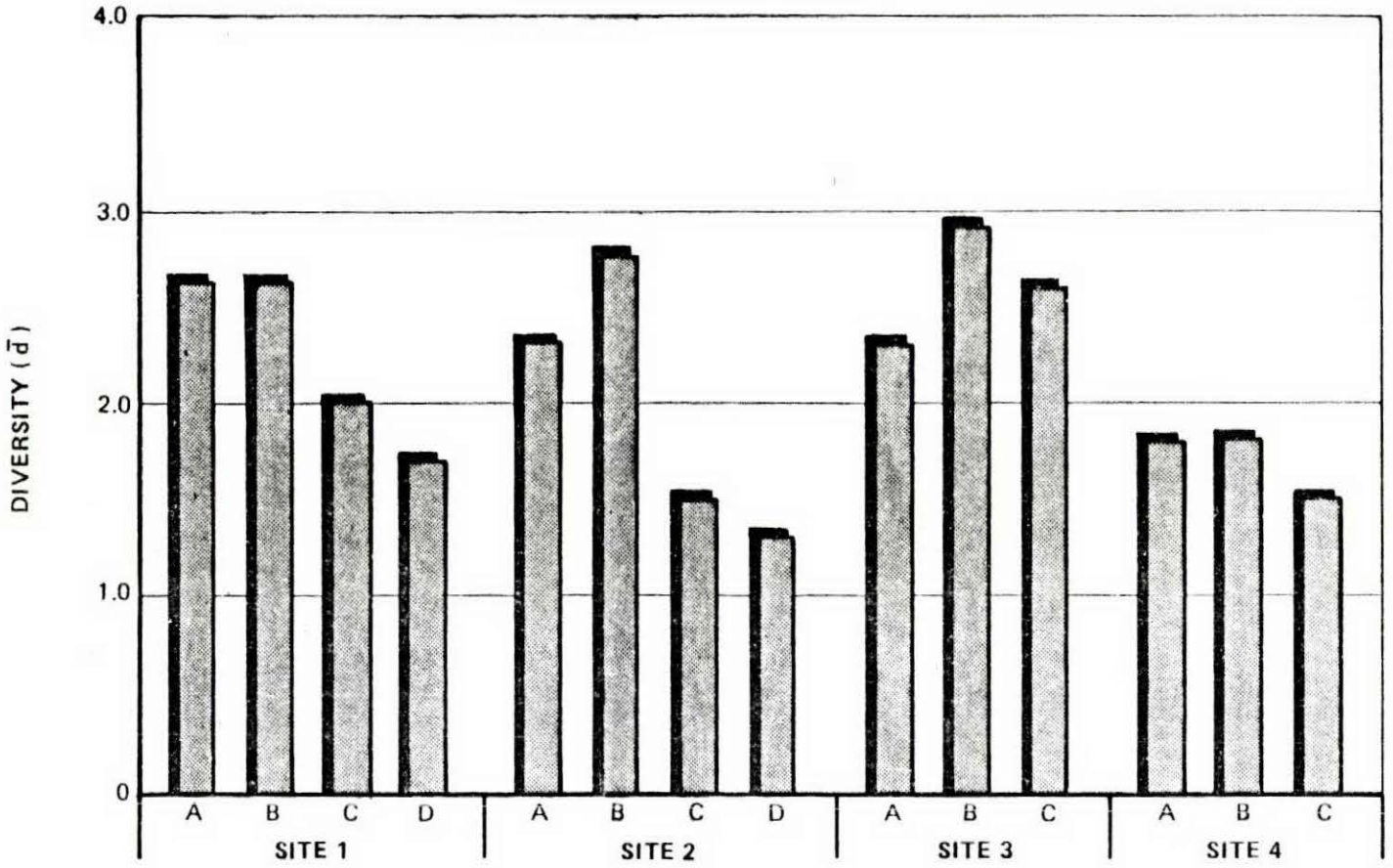


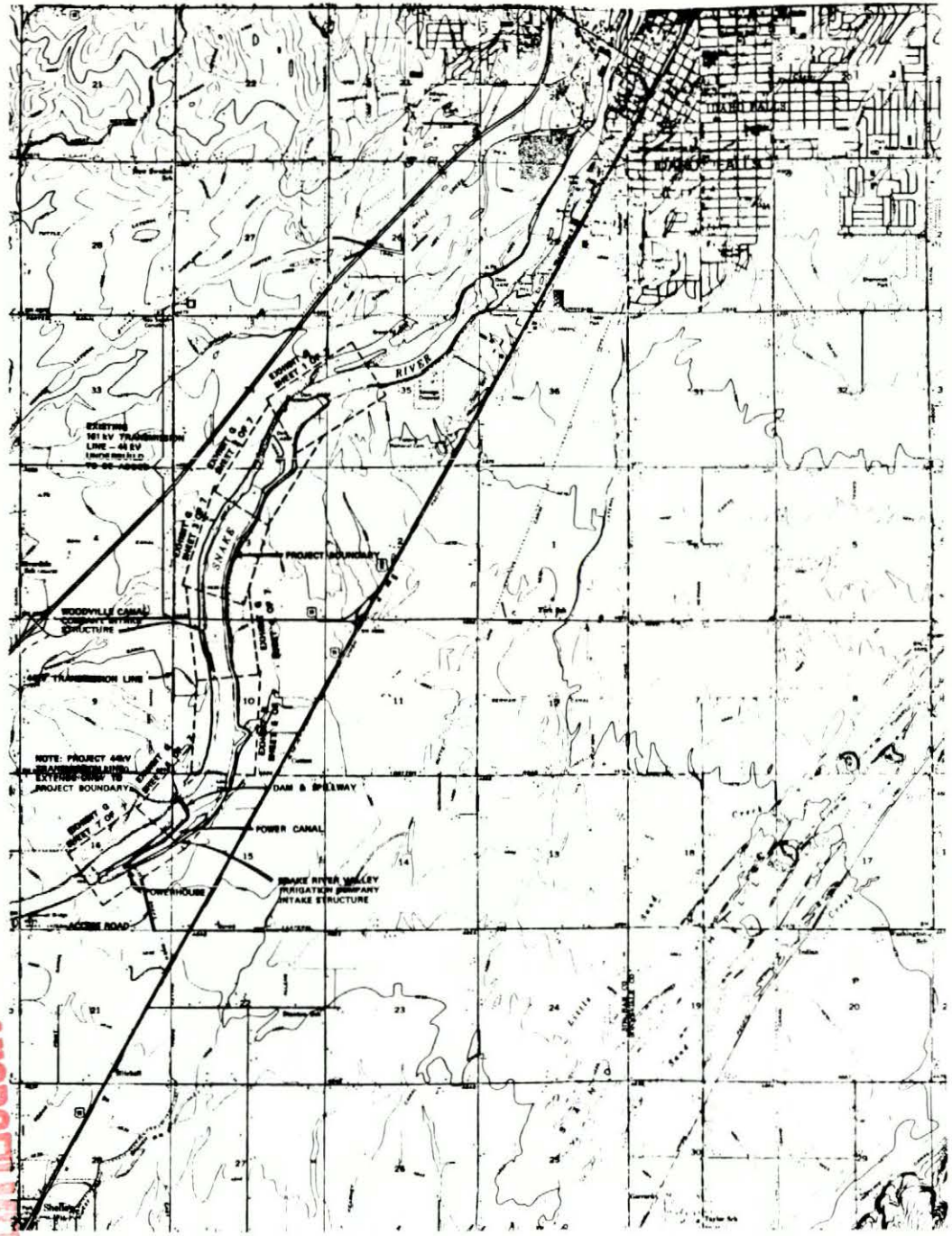
FIGURE 9

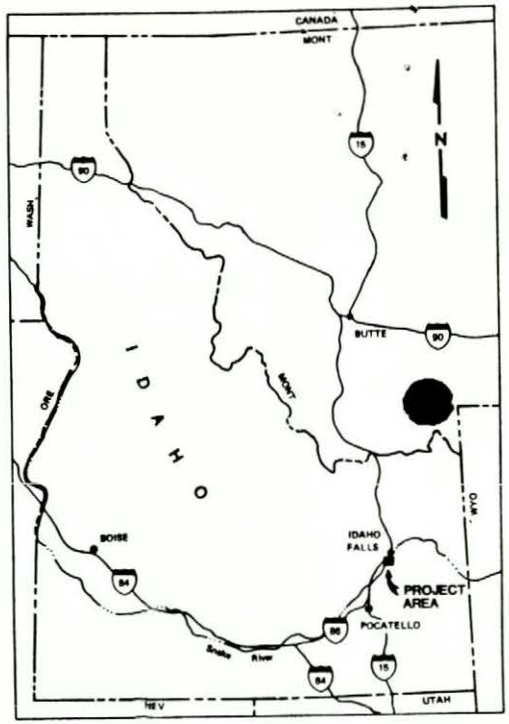
DIVERSITY INDICES ($\bar{d}$) FOR THE SNAKE RIVER NEAR IDAHO FALLS, IDAHO

SHELLEY HYDROELECTRIC PROJECT
CITY OF IDAHO FALLS, IDAHO

CH2M HILL

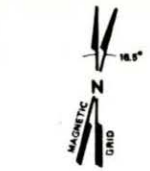
B17486.B0





KEY MAP

SCALE 0 50 100 150 200 MILES
1" = 80 MILES



VICINITY MAP

SCALE 0 2000 4000 6000 8000 FEET
1" = 2000 FEET

EXHIBIT G-1

GEM STATE HYDROELECTRIC PROJE

LOCATION MAP

CITY OF IDAHO FALLS, IDAHO

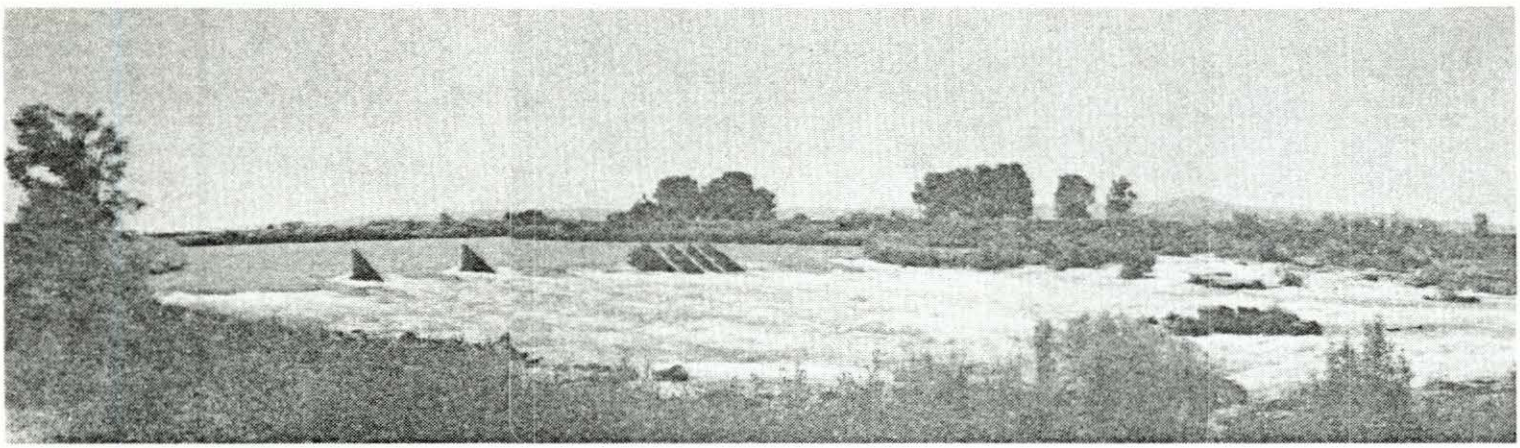
JULY 1981 SHEET 1 OF

FERC NO 2452-001

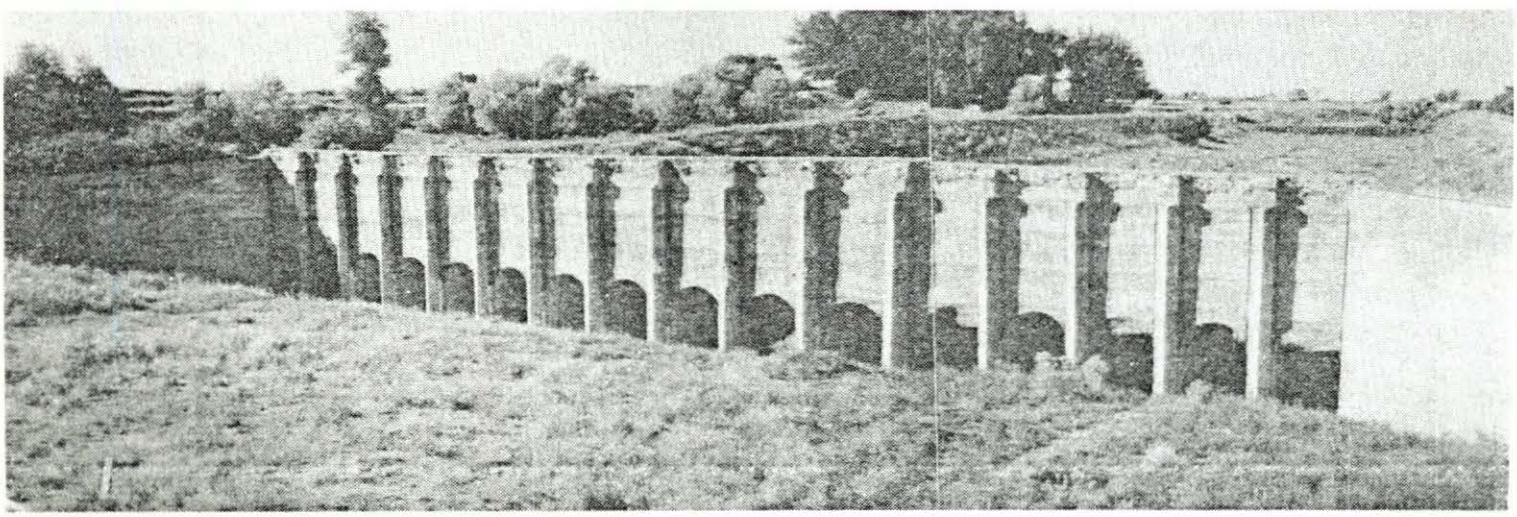
FERC NO

MICROFILMED

FIGURE 1–1
Gem State Hydroelectric Project



VIEW OF GEM STATE HYDROELECTRIC DEVELOPMENT
FROM RIGHT BANK DOWNSTREAM OF PRIOR CONSTRUCTION



VIEW OF INTAKE STRUCTURE AND DOWNSTREAM POWER
CANAL ON LEFT BANK

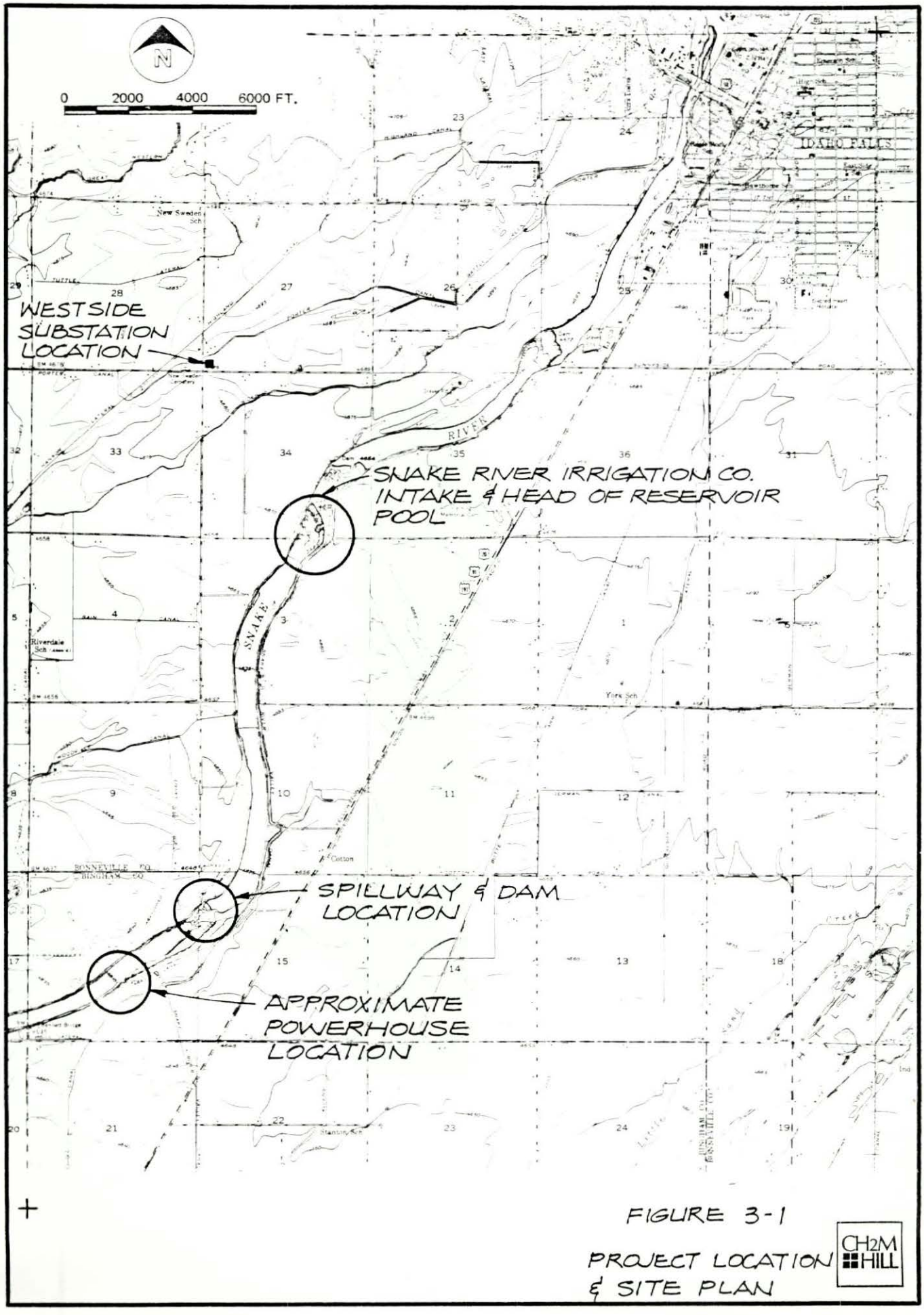


FIGURE 3-1

PROJECT LOCATION & SITE PLAN

CH2M HILL

FIGURE 4-1
SEM STATE
HYDROELECTRIC
PROJECT
FLOW DURATION CURVE

CH2M HILL

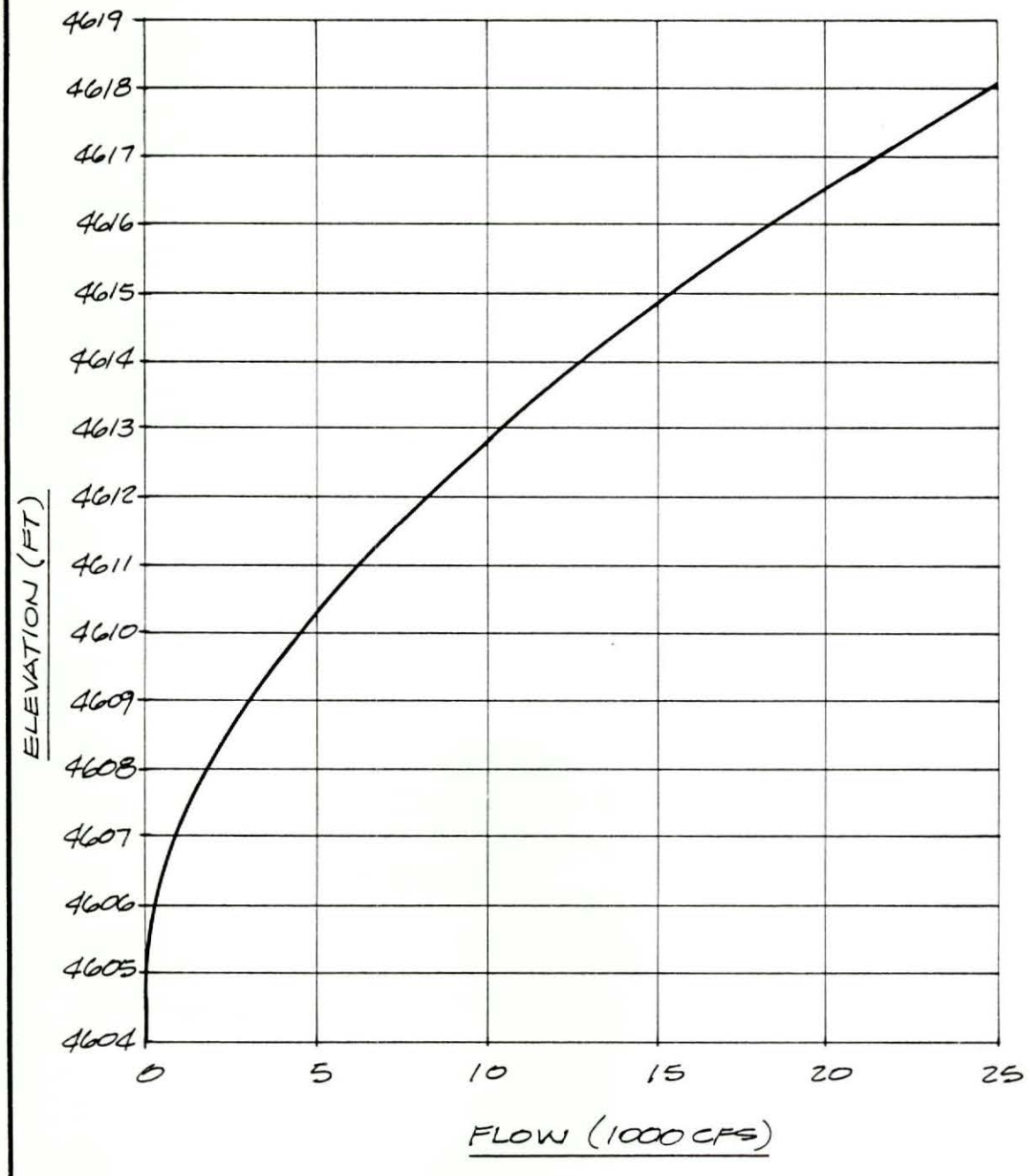


FIGURE 4-2
GEM STATE
HYDROELECTRIC
PROJECT
TAILWATER RATING CURVE

CH2M HILL

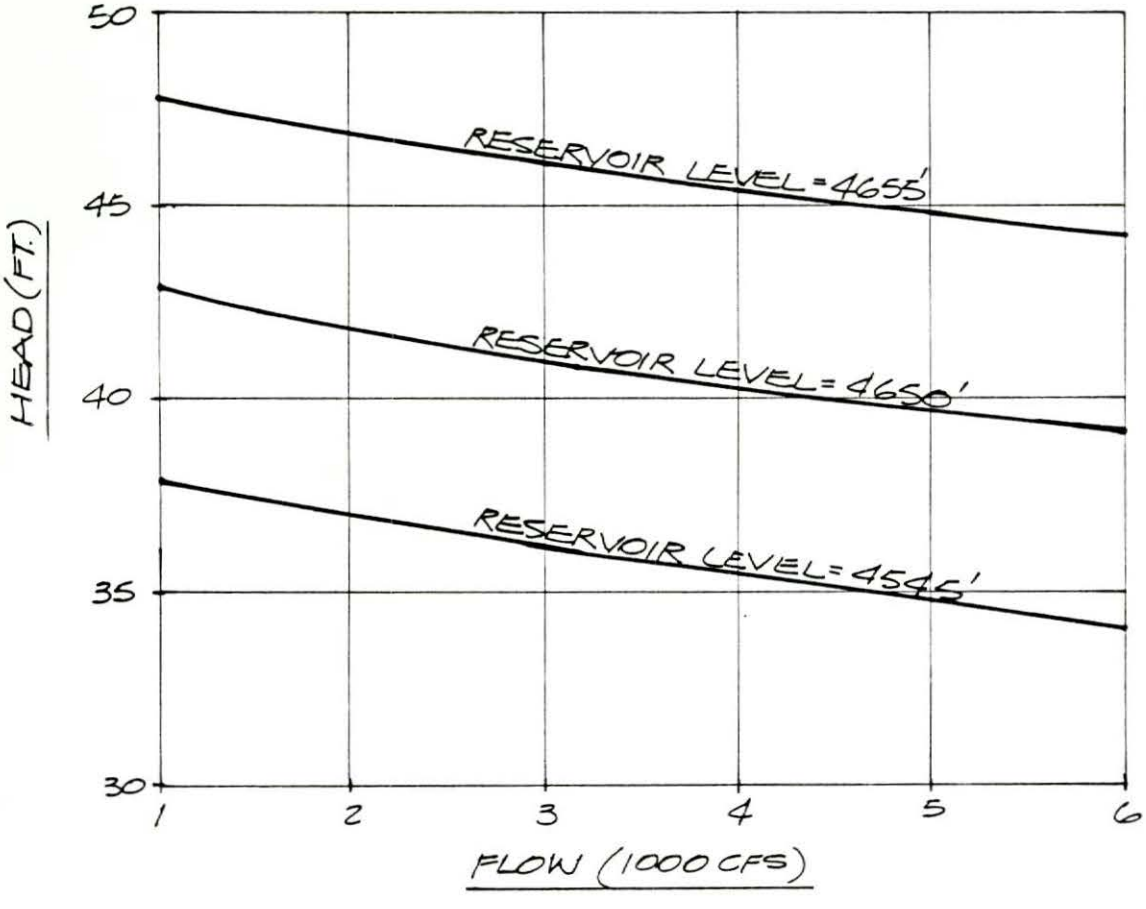


FIGURE 4-3

GEM STATE
HYDROELECTRIC
PROJECT
GROSS POWER HEAD

CH2M HILL

FIGURE 5-1
GEM STATE
HYDROELECTRIC
PROJECT
SITE PLAN
SHEET 1 OF 7

CH2M HILL

NOTE CONTROL PROVIDED BY CITY OF IDAHO FALLS

Olympus AERIAL SURVEYS INC 50 West 2950 South Salt Lake City, Utah 84115 Phone (801) 484-4351 9/32

SHEET NO. 2

N 649,500 E 520,500 N649,000 N 648,500 N 648,000 E 520,000 N 647,500 N 647,000 E 519,500 N 646,500

E 520,500 E 520,000 E 519,500

N 649,000 N 648,500

MATCH TO SHEET 2

MATCH TO SHEET 4

SNAKE RIVER

NOTE: CONTROL PROVIDED BY CITY OF IDAHO FALLS

CH2M HILL

FIGURE 5-2
GEM STATE
HYDROELECTRIC
PROJECT
SITE PLAN
SHEET 2 OF 7

SCALE 1" = 100'
100' 50' 0' 100' 200' 300'
CONTOUR INTERVAL 4' WITH 2' SUPPLEMENTARY CONTOURS
PHOTOGRAPHY DATE MAY. 12, 1977

Olympic AERIAL SURVEYS INC. 50 West 2950 South Salt Lake City, Utah 84115 Phone (801) 484-4351-9132

N 647,000 N 646,500 N 646,000 N 645,500 N 645,000 E 520,000 N 644,500 N 644,000

E 519,500 E 519,000 E 518,500 E 518,000

SNAKE RIVER

TANK

MATCH TO SHEET 3

MATCH TO SHEET 5

FIGURE 5-3
GEM STATE
HYDROELECTRIC
PROJECT
SITE PLAN
SHEET 3 OF 7

SCALE 1" = 100'

CONTOUR INTERVAL 4' WITH 2' SUPPLEMENTARY CONTOURS

PHOTOGRAPHY DATE MAY. 12, 1977

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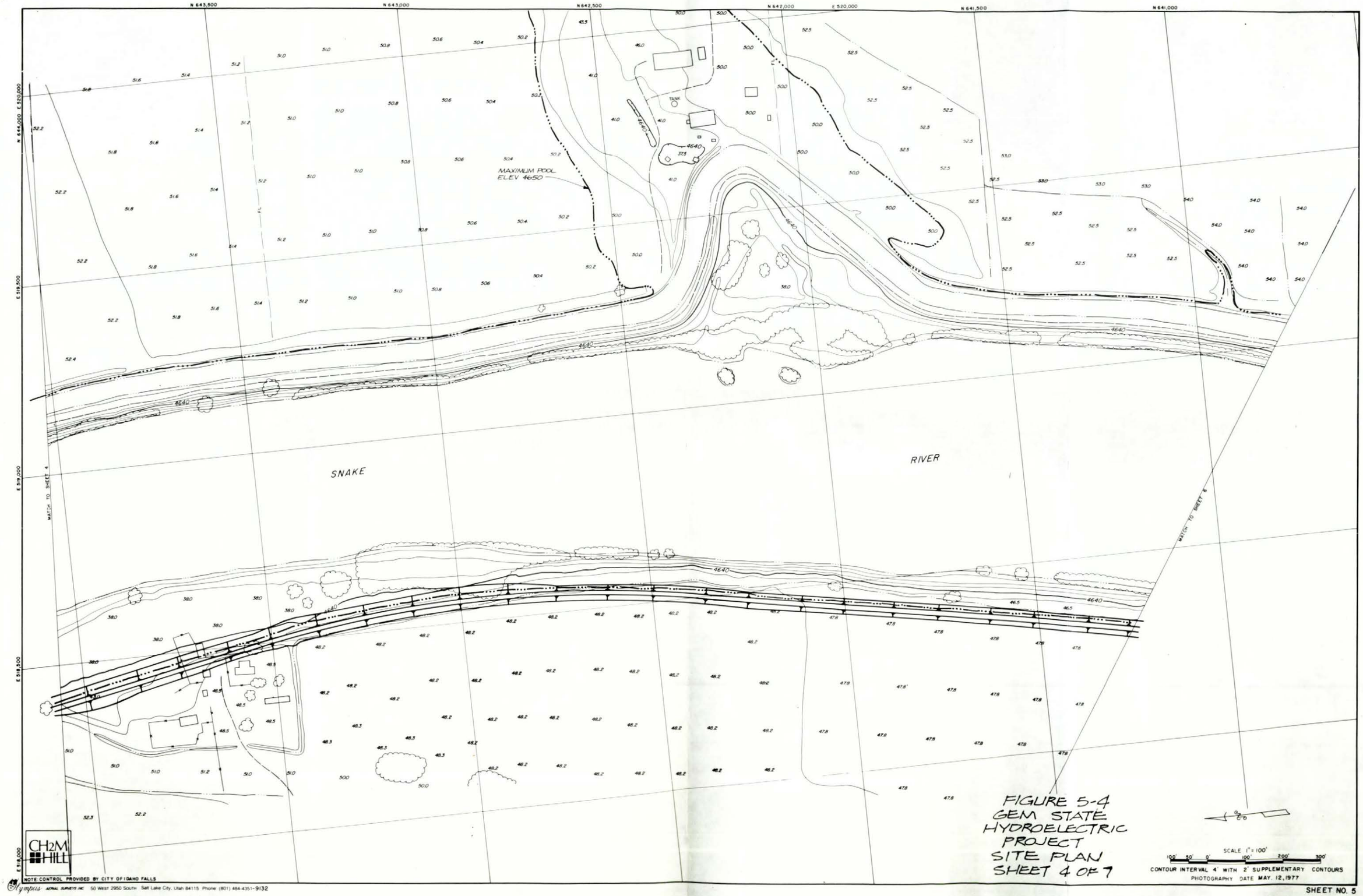
SHEET NO. 4



CH2M HILL

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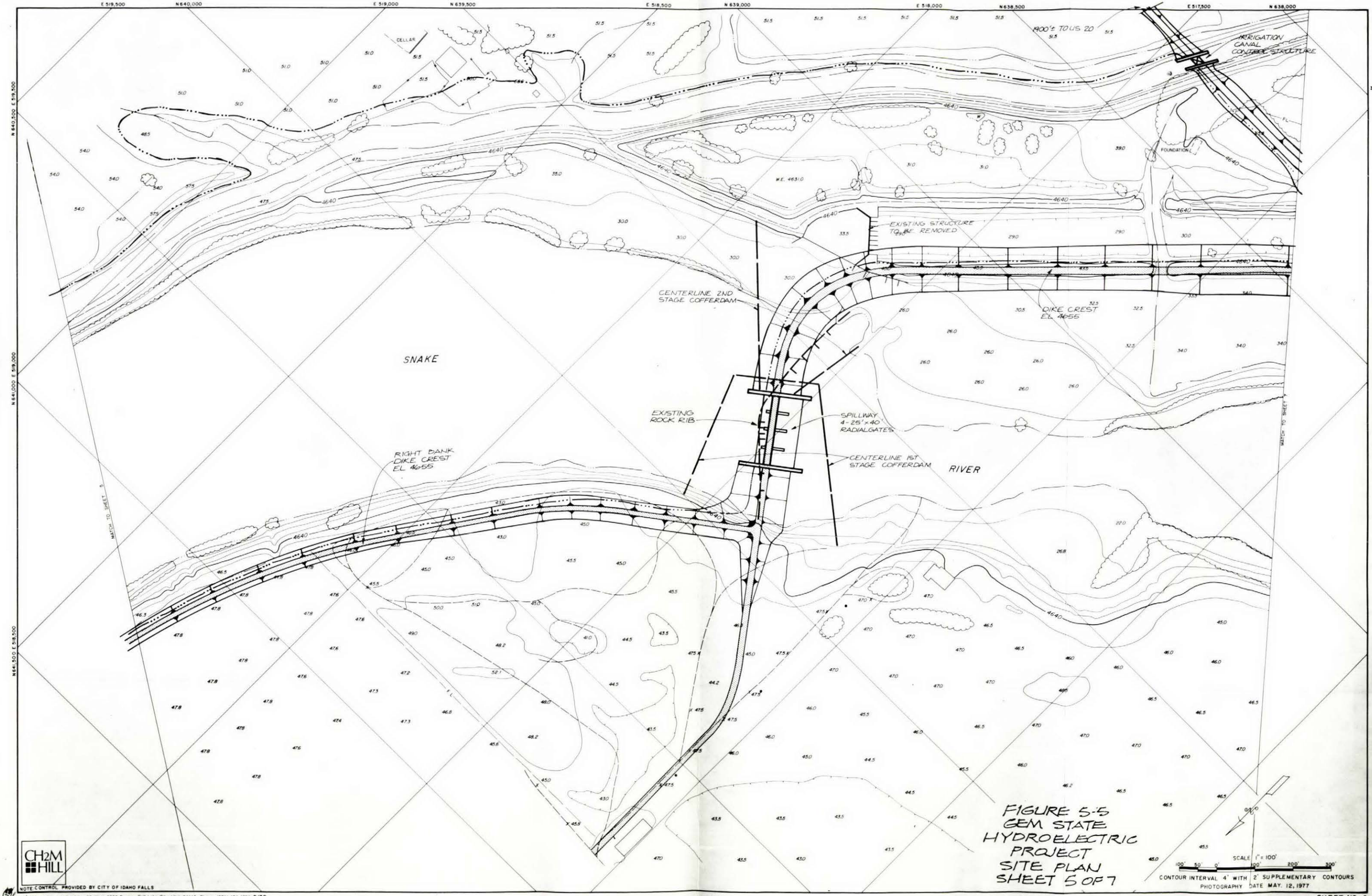
FIGURE 5-4
GEM STATE
HYDROELECTRIC
PROJECT
SITE PLAN
SHEET 4 OF 7

SCALE 1" = 100'

CONTOUR INTERVAL 4' WITH 2' SUPPLEMENTARY CONTOURS

PHOTOGRAPHY DATE MAY. 12, 1977

SHEET NO. 5



CH2M HILL

NOTE: CONTROL PROVIDED BY CITY OF IDAHO FALLS

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FIGURE 5-5
GEM STATE HYDROELECTRIC PROJECT
SITE PLAN
SHEET 5 OF 7

SHEET NO. 6

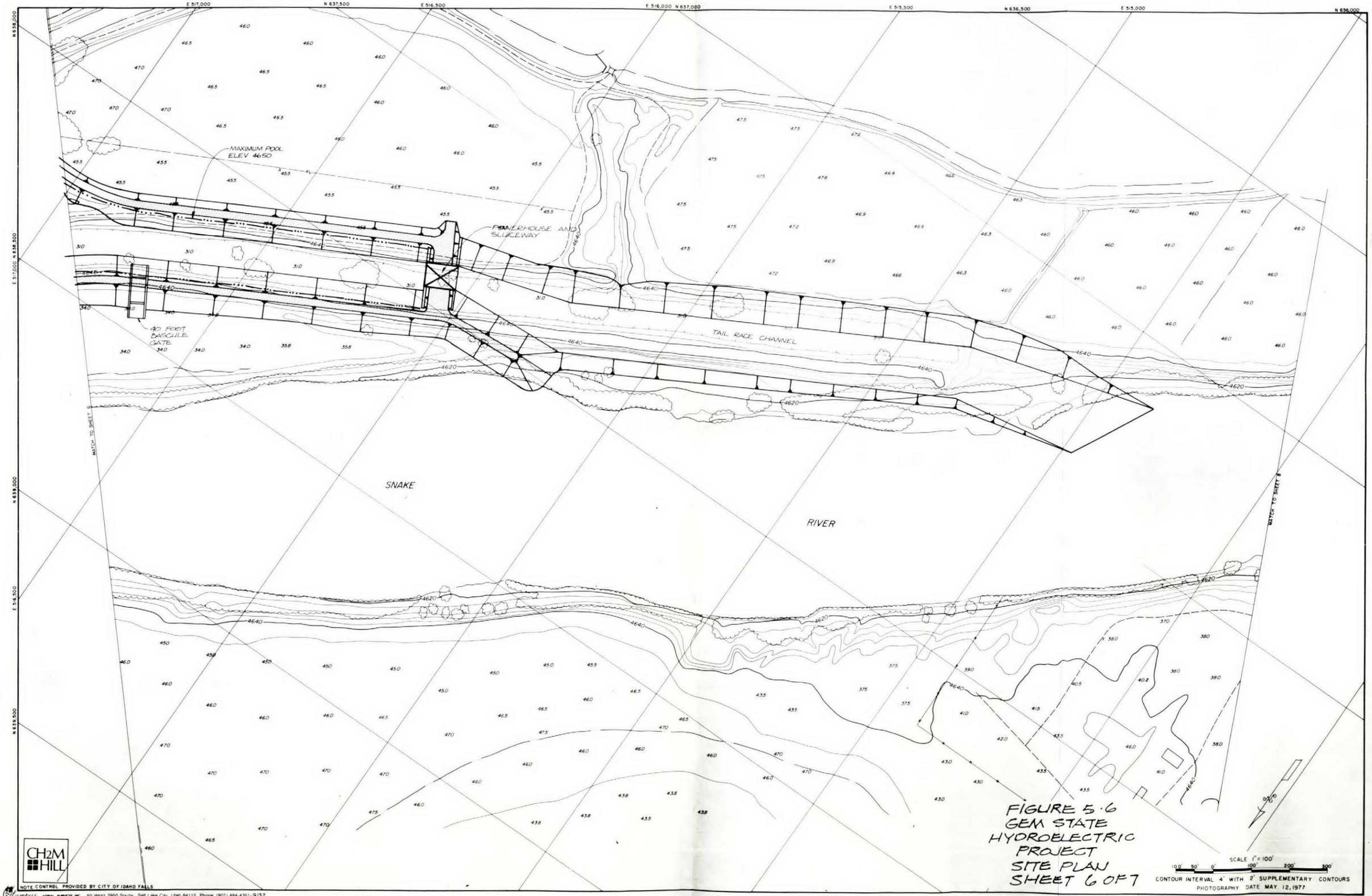
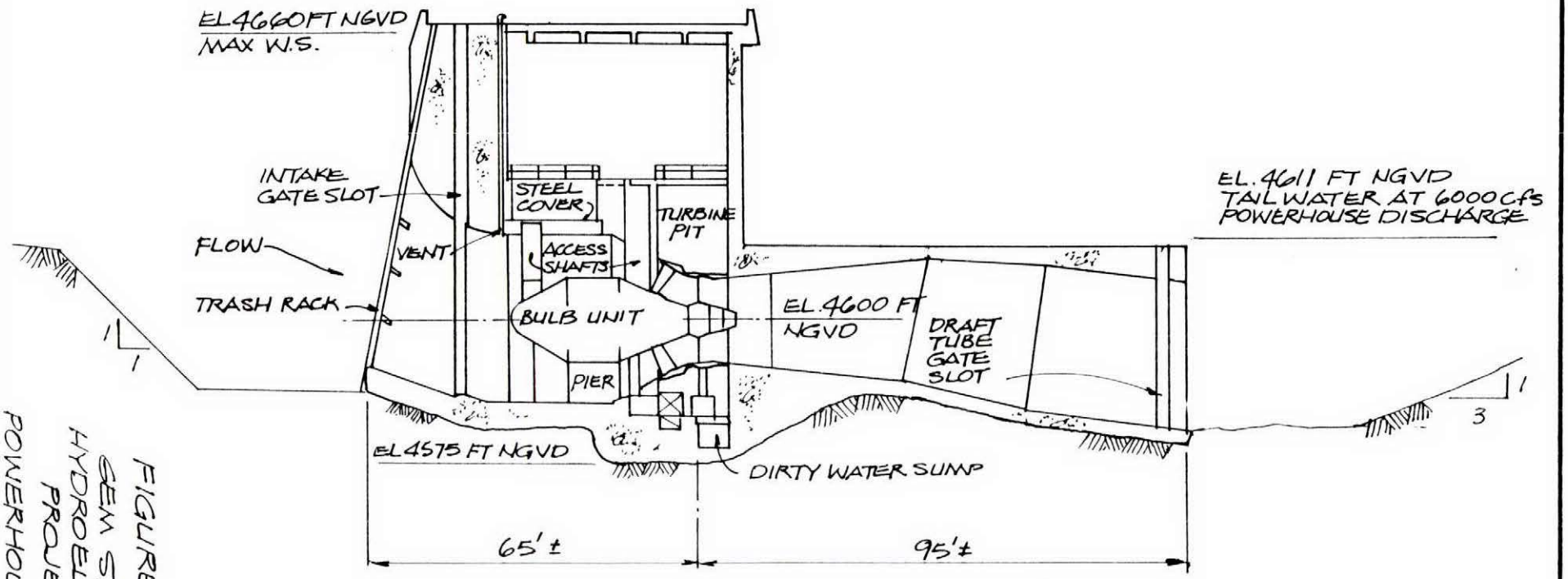


FIGURE 5·6
GEM STATE
HYDROELECTRIC
PROJECT
SITE PLAN
SHEET 6 OF 7

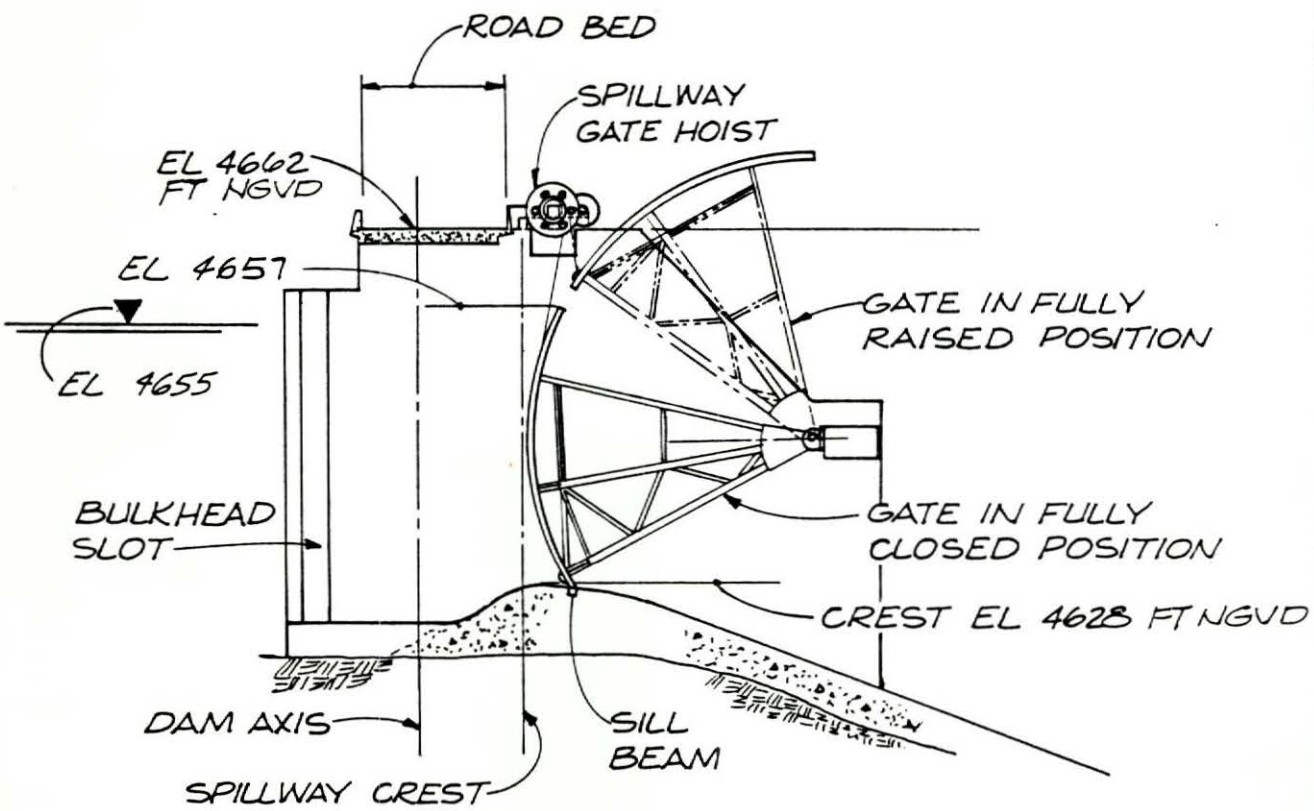
SHEET NO. 7



SECTION

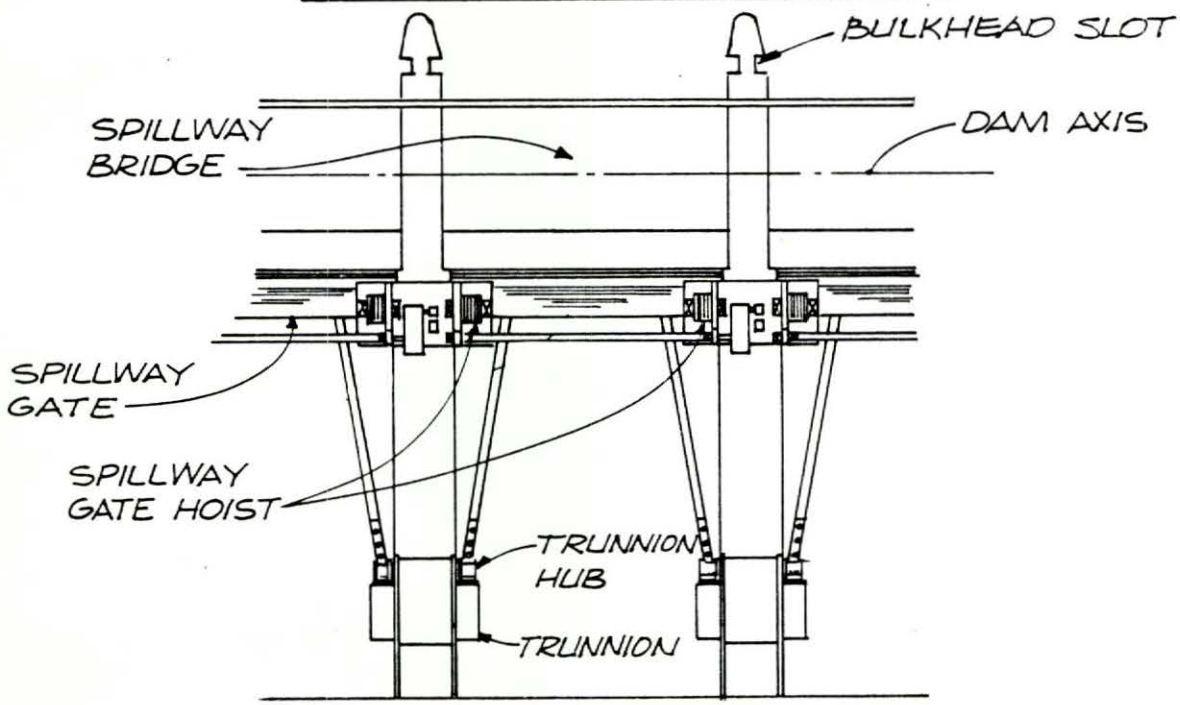
FIGURE 5-7
GEM STATE
HYDROELECTRIC
PROJECT
POWERHOUSE SECTION

CH2M HILL



SPILLWAY GATE

INTERMEDIATE PIER



PLAN

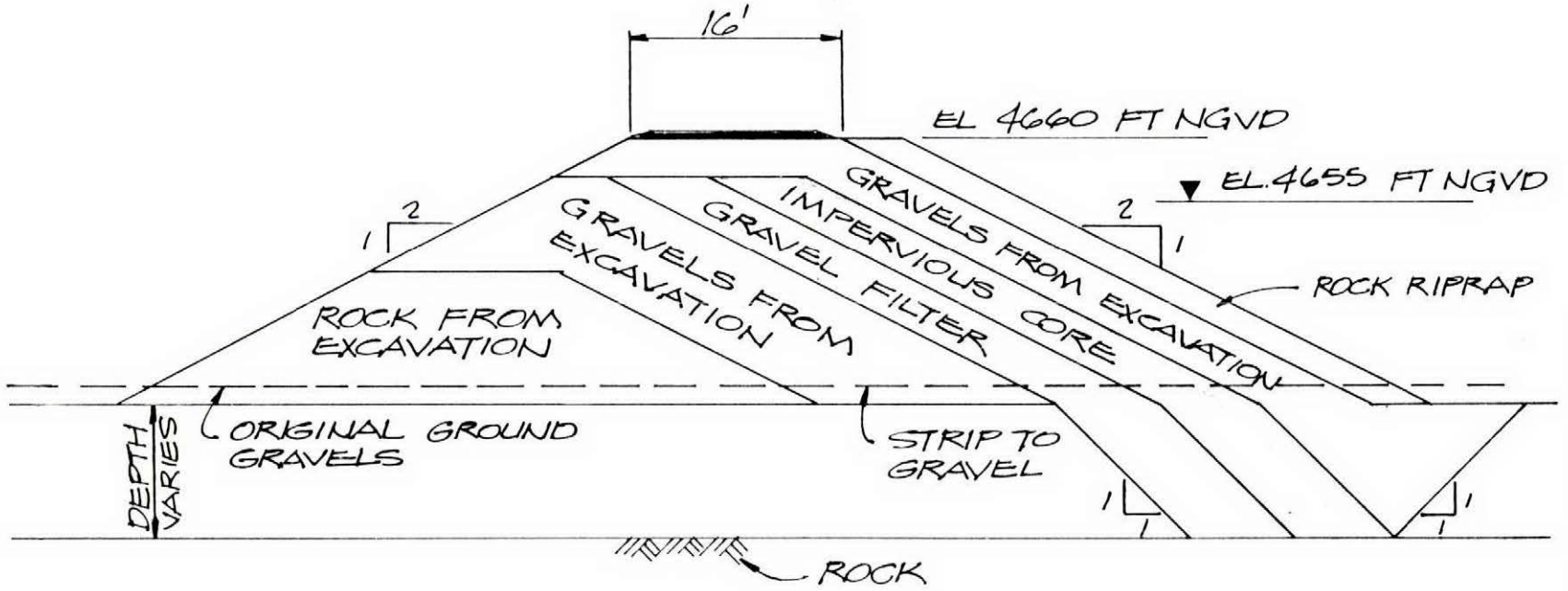
SPILLWAY

N.T.S.

FIGURE 5-8
GEM STATE HYDROELECTRIC PROJECT
SPILLWAY

CH2M HILL

HERCULENE®
DRAFTING FILM



SECTION

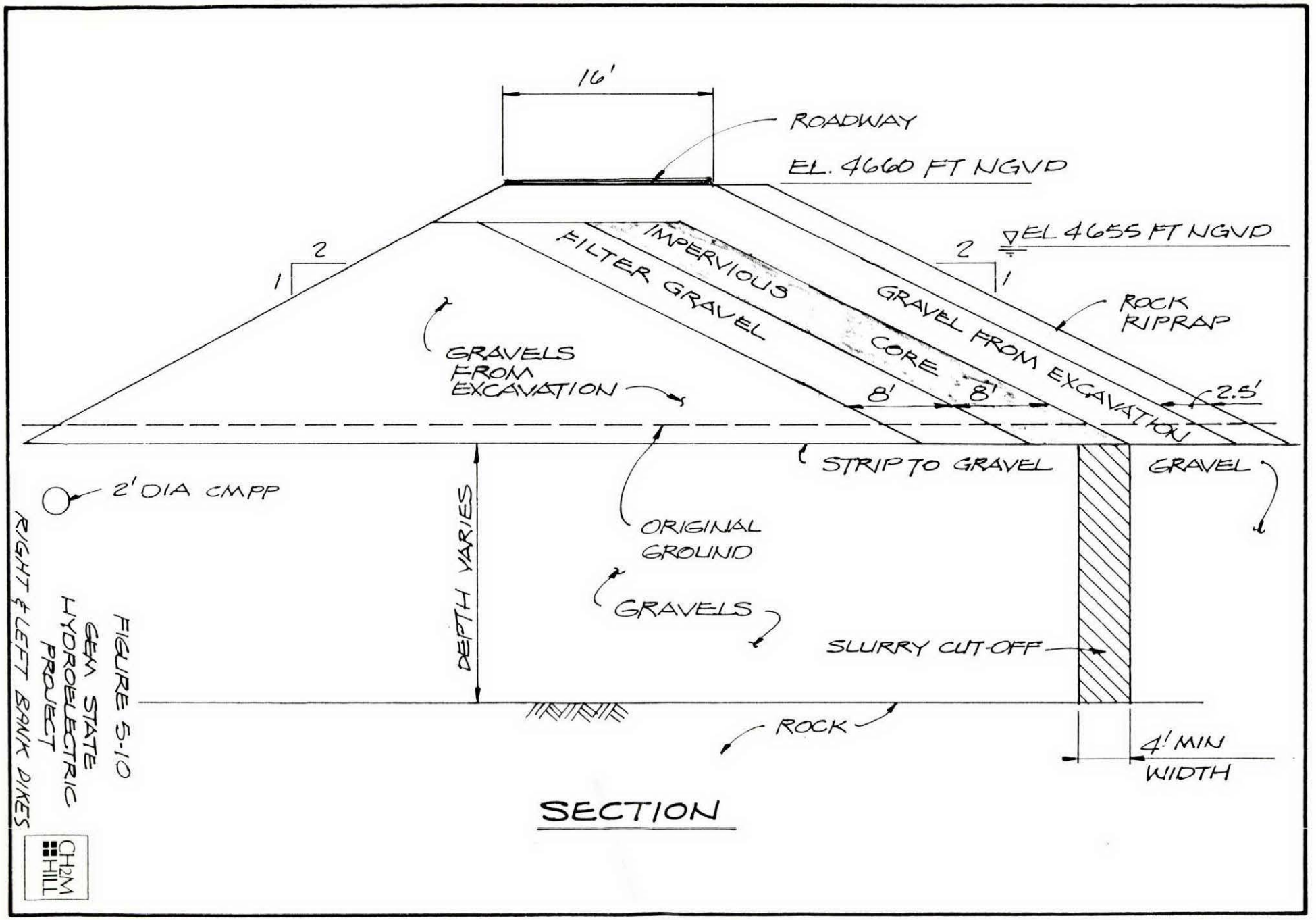
N.T.S.

FIGURE 5-9

GEM STATE HYDROELECTRIC PROJECT

RIGHT ABUTMENT TIE & POWER CANAL DAM

CH2M HILL



SECTION

FIGURE 5-10
GEM STATE HYDROELECTRIC PROJECT
RIGHT & LEFT BANK DIKES

CH2M HILL

OCT 80 | JAN 81 | APRIL 81 | JULY 81 | OCT 81 | JAN 82 | APRIL 82 | JULY 82 | OCT 82 | JAN 83 | APRIL 83 | JULY 83 | OCT 83 | JAN 84 | APRIL 84 | JULY 84

PUBLIC INFORMATION SESSION

INITIATE DESIGN FOR LICENSE & APPLICATION

BOND AUTHORIZATION ELECTION &

FILE LICENSE APPLICATION/ AMENDMENT

FERC PROCESSING

FERC LICENSE RECEIVED

PERMENANT FINANCING SECURED

INTERIM FINANCING SECURED

PREPARE TURBINE-GENERATOR CONTRACT

AWARD T/G CONTRACT (ALTERNATE 2)

AWARD TURBINE-GENERATOR CONTRACT (ALTERNATE 1)

ADVERTISE

POWERHOUSE FIRST CONCRETE (ALTERNATE 2)

POWER ON-LINE (ALTERNATE 1)

POWER ON-LINE (ALTERNATE 2)

POWERHOUSE - FIRST CONCRETE (ALTERNATE 1)

PREPARE CONTRACT PLANS & SPECIFICATIONS

AWARD CONSTRUCTION CONTRACT

BEGIN DETAIL DESIGN FOR DAMS, SPILLWAY & POWERHOUSE

SLURRY CUT OFF

RIGHT & LEFT BANK DIKE CONSTRUCTION

CONTRACTOR ACCESS & POWERHOUSE EXCAVATION

IRRIGATION CONTROL STRUCTURE

RIGHT ABUTMENT

SECOND STAGE COFFERDAM

LEFT ABUTMENT EARTH TIE

SPILLWAY CONSTRUCTION

INSTALL SPILLWAY GATES

FIRST STAGE COFFERDAM CONSTRUCTION

REAL ESTATE AQUISITION

OBTAIN ACCESS TO CONSTRUCTION SITE (DELAY EFFECTS POWER-ON-LINE)

REAL ESTATE AQUISITIONS COMPLETE

○ CRITICAL PATH CHECKPOINTS

FIGURE 5-11
GEM STATE HYDRO
DESIGN & CONSTRUCTION SCHEDULE

CH2M HILL

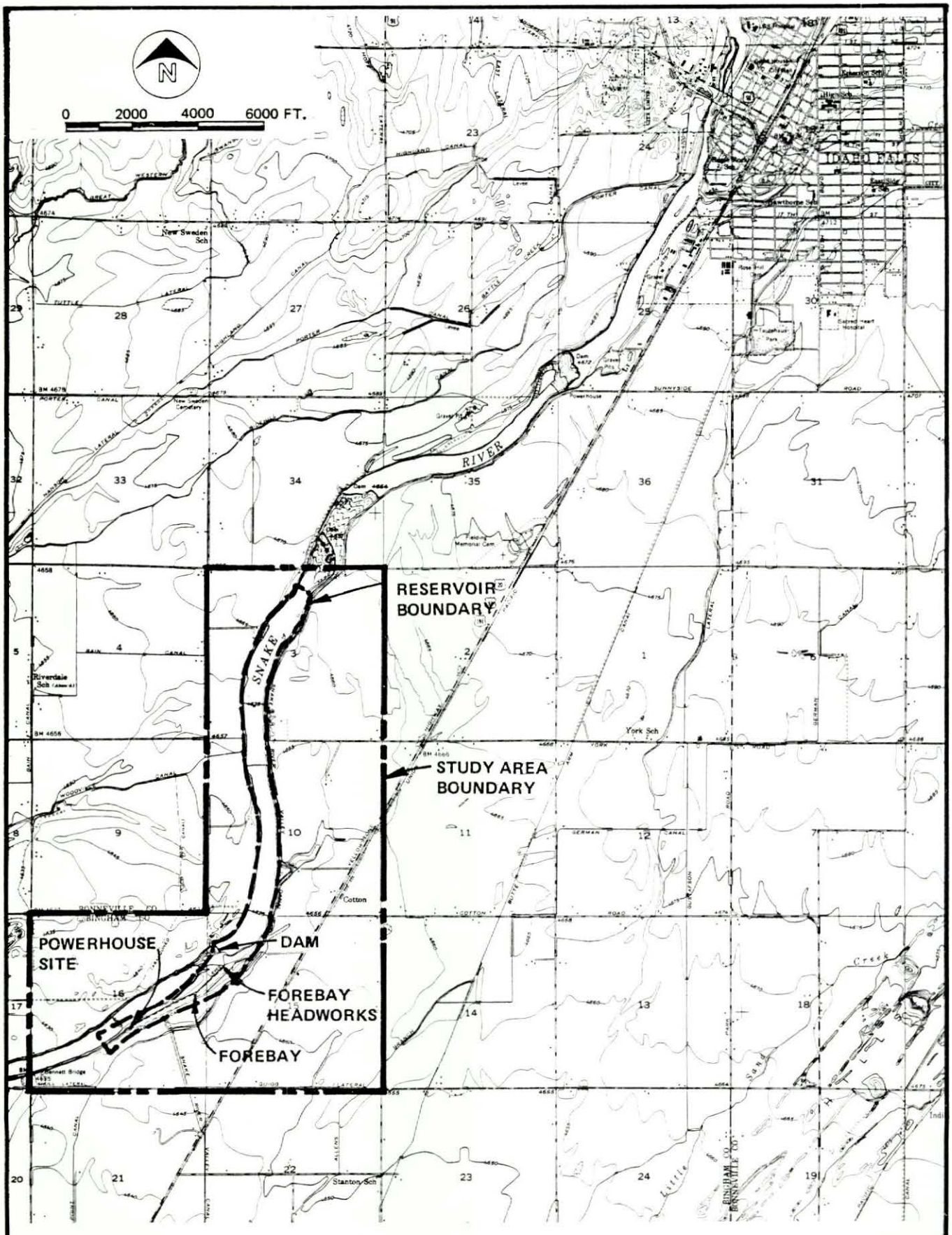
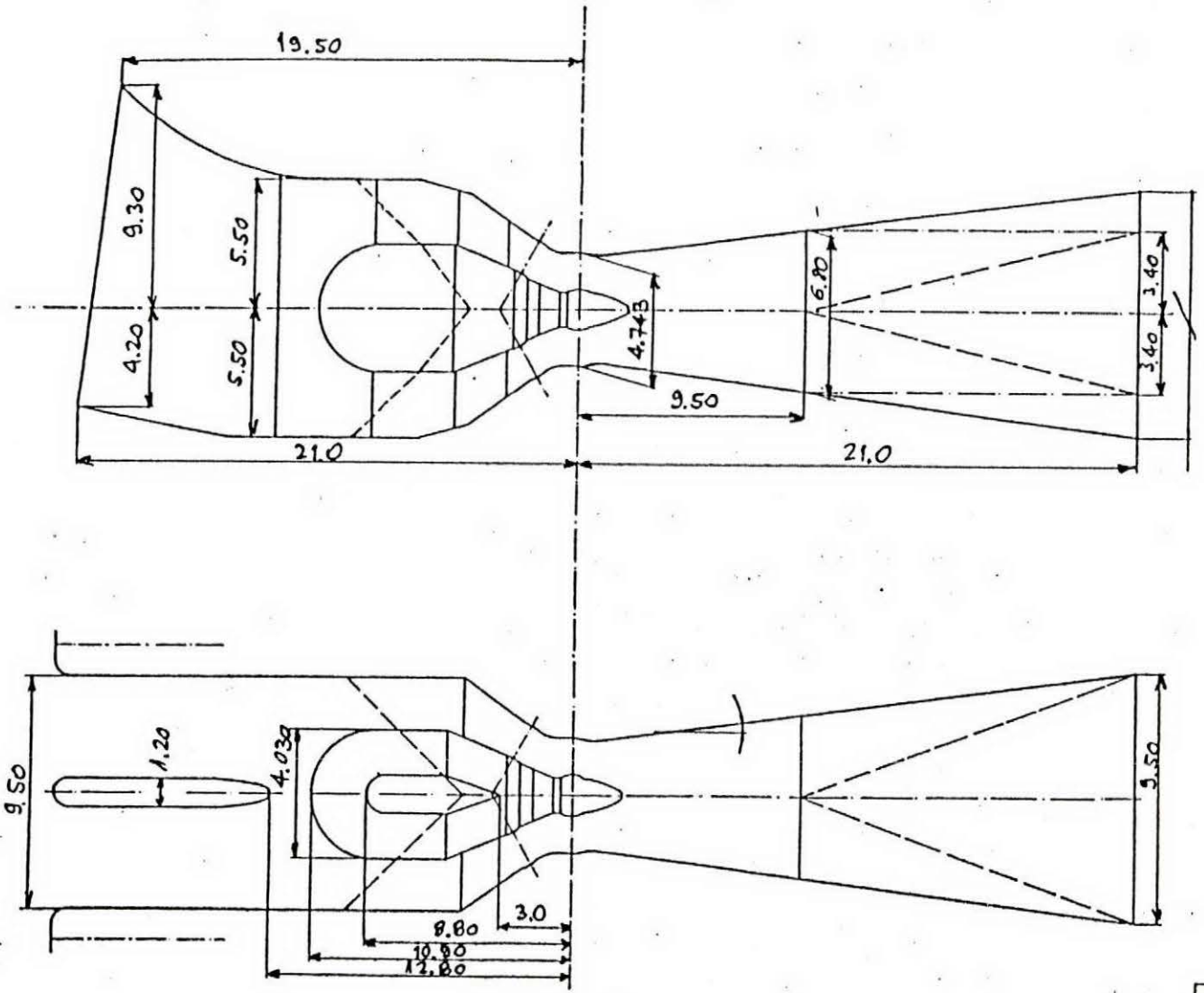


FIGURE 11-1
STUDY AREA

CH2M HILL

B12261.H0



1 Unit

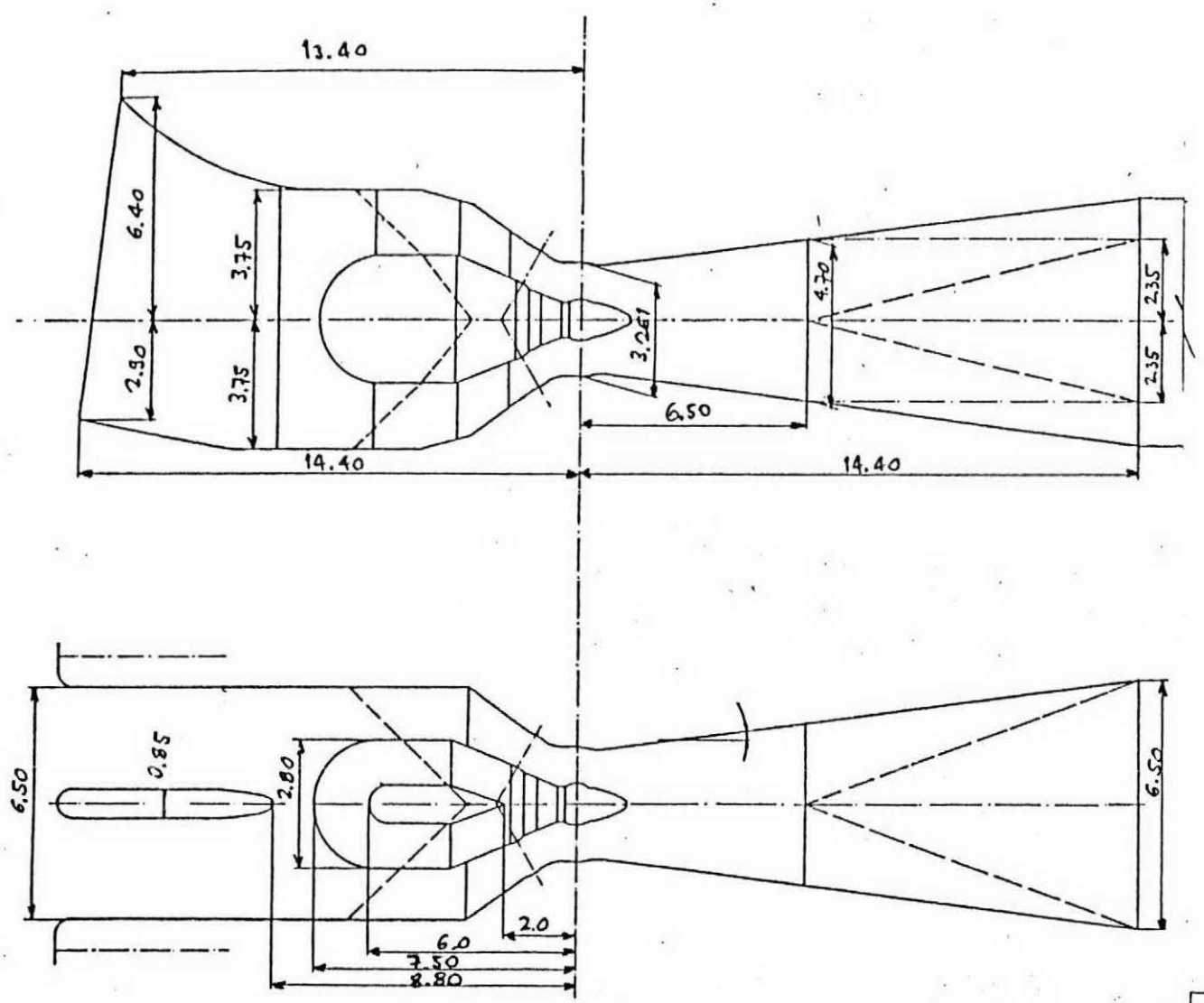
13.7 MW
9.14 m
169.9 m³/s
60 Hz

N' = 112.5 RPM
De = 4.743 m
Hs = -3.90 m

Dimensions in meters

Matière:	No. Dessin d'ensemble:	No. analog.:	
Remplacé par:	Remplace	Provient de	
Ind	Modifications	Date	Visa
a			
b			
GEM STATE PROJECT	Echelle 1	dessiné 10.7.80	
		vérifié	
		vu	
Groupe	Ateliers de Constructions Mécaniques de	# 1	

B-5



2 Units

6.85 MW
9.14 m
84.95 m³/s
60 Hz

N' = 163.6 RPM
De = 3.261 m
Hs = - 2.85

B-6

Matière:	No. Dessin d'ensemble:	No. analog.	
Remplacé par:	Remplace	Provient de	
Ind.	Modifications	Date	Visa
a			
b			
GEM STATE PROJECT	Echelle ./.	dessiné 10.7.80	
		vérifié	
		tu	
Groupe	Ateliers de Constructions Mécaniques de V...	#2	

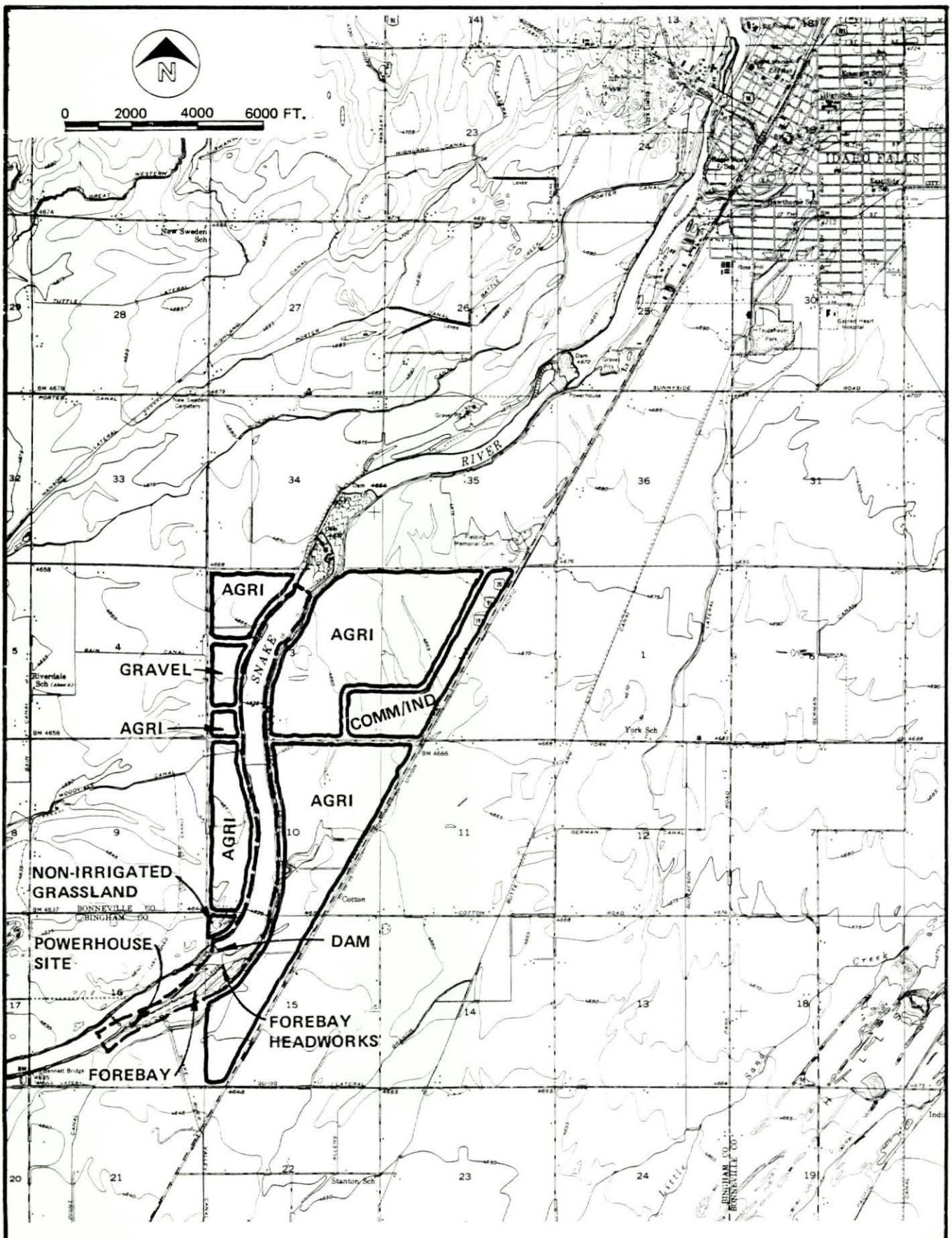


FIGURE E-1

LAND USE

CH2M HILL

B12261.H0

State of Idaho
Department of Water Resources

WATER RIGHT LICENSE

WATER RIGHT NO. 01-07018

Priority: March 17, 1978 Maximum Diversion Rate: 5000.00 CFS

This is to certify, that CITY OF IDAHO FALLS
C/O GS HARRISON
PO BOX 220
IDAHO FALLS ID 83401 has complied with the terms and conditions of the permit, issued pursuant to Application for Permit dated March 17, 1978; and has submitted Proof of Beneficial Use on June 30, 1989. An examination indicates that the works have a diversion capacity of 8000.000 cfs of water from:

SNAKE RIVER tributary to **COLUMBIA RIVER**

source, and a water right has been established as follows:

BENEFICIAL USE	PERIOD OF USE	RATE OF DIVERSION	ANNUAL VOLUME
POWER	01/01 to 12/31	5000.00 CFS	

LOCATION OF POINT(S) OF DIVERSION: NWNW , Sec. 15, Township 01N, Range 37E
BONNEVILLE County

PLACE OF USE: POWER

TWN	RGE	SEC	
01N	37E	15	NWNW

CONDITIONS/REMARKS:

1. This water right is appurtenant to the described place of use.
2. This right is subject to all prior water rights and may be forfeited by five years of non-use.
3. Modifications to or variance from this license must be made within the limits of Section 42-222, Idaho Code, or the applicable Idaho law.
4. The water right confirmed in this license for hydropower purposes shall be junior and subordinate to all rights to the use of water, other than hydropower, within the State of Idaho that are initiated later in time than the priority of this license and shall not give rise to any right or claim against any future rights to the use of water, other than hydropower, within the State of Idaho initiated later in time than the priority of this license.
5. Use of water under this water right will be regulated by the watermaster of State Water District No. 01.

NOV 12 1992

State of Idaho
Department of Water Resources

WATER RIGHT LICENSE

WATER RIGHT NO. 01-07018

CONDITIONS/REMARKS:

6. Use of water under this license shall not cause fluctuation in the flows of the Snake River which impairs the ability of prior right holders to divert their water.
7. Five (5) cfs of treated effluent from the new Anheuser-Busch malting plant is dedicated to replacement of losses to the Snake River caused by this power facility. Any loss to the Snake River resulting from conveyance and use pursuant to this license not mitigated by treated malted plant effluent shall be mitigated with other replacement water.
8. The diversion and use of water under this license is subject to review by the Director after the date of expiration of license 2952 issued by the Federal Energy Regulatory Commission. Upon appropriate findings relative to the interest of the public, the Director may cancel all or any part of the use authorized herein and may revise, delete or add conditions under which the right may be exercised.
9. Water for the project authorized by this license is also diverted pursuant to Water Right No. 01-7051.
10. This license is subject to revocation pursuant to Section 42-350, Idaho Code.
11. This power facility is known locally as the Gem State Project.

This license is issued pursuant to the provisions of Section 42-219, Idaho Code. Witness the seal and signature of the Director, affixed at Boise, this 2ND day of NOVEMBER, 1992.

Acting for R. Keith Higginson, Director

MICROFILMED
NOV 12 1992

Form 204
4/86

RECEIVED
MAY 26 1987
Department of Water Resources

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

For Office Use Only
$15 FEE Receipted by
Date 5-27-87
Receipt # 42472

REQUEST FOR EXTENSION OF TIME

Provide additional time in which to submit proof of beneficial use for a water right permit

The Idaho Department of Water Resources will consider this form as a request that the permit holder(s) be granted an additional period of time in which to complete development of a water right under the provisions of Section 42-204, Idaho Code.

Permit No. 01-7018

Name(s) of Permit Holder: City of Idaho Falls c/o G.S. Harrison

Post Office Address: P.O. Box 220, Idaho Falls, Idaho 83402-0220

Telephone No. (208)529-1430

Date Proof is Due: July 1, 1987

Describe what work has been completed toward the development of this water right: The powerhouse and spillway excavation and access road construction are complete. The spillway gates have been hauled to the project site. Currently underway is construction of the right bank dike (98% complete), left bank dike, dam, powerhouse, spillway, irrigation company diversions, and appurtenant facilities and the Highway 26 bridge deck raising. Costing $ 16,682,893.02
(This must be filled out! If no work has been completed, show "none".)

The permit holder(s) has been unable to complete the remainder of the work for the following reasons: Securing of license and permits for this project was completed in August 1986. Construction of the project began in August 1986 and should be completed by Fall of 1988. Construction must occur in sequence - certain features must be completed before others can be started. Therefore, it is not anticipated that beneficial use should be shown prior to Spring of 1989.

Permit holder(s) request an extension to July, 19 89.
(1 yr. minimum)

G S Harrison
(Signature)*
*IF OTHER THAN PERMIT HOLDER, POWER OF ATTORNEY MUST BE SUPPLIED.

FEE: $15.00

UNCONTROLLED

ACTION OF THE DEPARTMENT OF WATER RESOURCES

NOV 12 1992

IT IS HEREBY ORDERED that the above request for extension of time be APPROVED and the time within which to submit proof of beneficial use is extended to July 1, 1989 with the condition that:

Permit holder shall maintain a minimum flow of 20 cubic feet per second in the reach between the toe of the dam and the backwater reach of the Snake River.

Signed this 20th day of July, 19 87.

L. Glen Saxton
Chief, Operations Bureau

BEFORE THE DIRECTOR OF THE DEPARTMENT OF WATER RESOURCES

OF THE

STATE OF IDAHO

IN THE MATTER OF APPLICATION FOR PERMIT NO. 01-7018 IN THE NAME OF THE CITY OF IDAHO FALLS	MODIFIED MEMORANDUM DECISION AND ORDER

On March 17, 1978, the City of Idaho Falls applied to the Director of the Department of Water Resources for a permit to appropriate 5,000 cubic feet per second of water from the Snake River for the purpose of power generation. The point of diversion from the river and the place of power generation are located within the NW1/4NW1/4, Sec. 15, Twp. 1N, Rge. 37E B.M., Bonneville County.

Notice of this application was published in the Post-Register newspaper located in Idaho Falls, Idaho on March 23 and 30, 1978. No protests were received against the approval of this application. However, the director, being charged by Section 42-203 to consider whether:

1. the proposed project will adversely affect existing rights;
2. the water supply is sufficient for the purpose intended;
3. the application was made in good faith and not for the purpose of delay and speculation;
4. the applicant has the financial resources to complete the project;
5. the project is in the local public interest;

decided to hold a hearing to gather information on which to reach a decision. a fact finding hearing was held in Idaho Falls on March 16, 1982.

Present at the hearing were representatives of the City of Idaho Falls, the Snake River Valley Irrigation District, Utah Power and Light Company, the New Lava Side Canal Co., the Committee of Nine of Water District 01 and the news media.

The project proposed by the City of Idaho Falls would consist of a 40-foot high dam with a 7,000 cubic feet per second capacity of river power generation facility. A dike 7,500 feet along the right river bank would be constructed to confine the reservoir created to approximately the existing channel. The existing headworks and a portion of the canal of the Snake River Valley Irrigation District, however, would be inundated by the project.

The evidence against the approval of the application was on five

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primary concerns of the Snake River Valley Irrigation District. First, should this project be allowed since it inundates the facilities of the Snake River Valley Irrigation District when Sec. 42-205, Idaho Code states: "(2)Water cannot be appropriated for hydropower development uses within or using existing man-made irrigation facilities without the permission of the owner thereof."? Second, will the losses, evaporation and seepage, caused by the development of the project injure existing water rights? Third, is the water supply sufficient for the purpose for which it is appropriated and the descrepancy between the 7,000 cubic feet per second amount called for in the plans and the 5,000 cubic feet per second for which the application has been made? Fourth, does the city have sufficient financial resources to complete the project? Fifth, will the proposed project conflict with the local public interest by negating the opportunity for power generation by the Snake River Valley Irrigation District for the benefit of the district members and by raising the ground water level to the detriment of the residents of the Firth area?

The Director of the Department of Water Resources reached his conclusions based on the information contained in the records of the department, the testimony given at the March 16 hearing, the March 31 comments by C. E. Brockway, engineering consultant for Snake River Valley Irrigation District, the April 2 summary briefs submitted by Kent W. Foster, attorney for the City of Idaho Falls, the April 12 responsive brief by W. J. Anderson, attorney for Snake River Valley Irrigation District, and the April 12 and 15 responses from R. J. Pope and Jerry Eggleston engineers with CH2M Hill, consultants for the City of Idaho Falls.

FINDINGS OF FACT

1. A summary of water right filings relative to this project are as follows:

APPLICATION NUMBER	OWNER	PRIORITY	AMOUNT	PURPOSE
01-7018	Idaho Falls	03-17-78	5,000 cfs	power
25-7182	Idaho Falls	01-14-80	14 cfs	power
01-7051	U. P. & Light	04-09-80	3,000 cfs	power
01-7059	S. R. V. I. D.	12-12-80	1,500 cfs	power

2. Section 42-205, Idaho Code paragraph (2) and (3) became effective on April 1, 1981. Those sections are as follows:

(2) Water cannot be appropriated for hydropower development uses within or using existing man-made irrigation facilities without the permission of the owner thereof
(3) When competing applications for a permit have been filed

APPROVED

> prior to the effective date of this act for the additional use for hydropower purposes that would utilize facilities that are owned or controlled by the holder of an existing permit, license, decree or established constitutional water usage, the Director shall give preference to the application of the owner of the existing rights or his agent.

The purpose of this portion of Section 42-205 is to prevent the use of canals, pipelines, dams or other facilities that belong to other parties with no benefit to those other parties. The use of someone else's system without their permission would allow a benefit which would not have been possible without the capital expenditures made by the facilities owners.

3. The applicant does not propose to use the facilities of another person for the proposed hydropower development. A portion of the Snake River Valley Irrigation District's canal will, however, be inundated.

4. The project is a run-of-river hydropower project which will use the available water supply. The application requests a rate of flow of 5,000 cubic feet per second while the project is designed for a flow of 7,000 cubic feet per second. There are negotiations between the applicant and Utah Power and Light Company to consolidate their two projects under this application and No. 01-7051 which would then give a total amount filed upon of 8,000 cubic feet per second from the Snake River.

5. Application no. 01-7051 filed by Utah Power and Light Company for Its hydropower project is also prior to that of the Snake River Valley Irrigation District and does not propose to use the facilities of the Snake River Valley Irrigation District.

6. The surface area of the proposed reservoir will be about 80 acres larger than the surface area of the river. The length of the shoreline will not change appreciably. The best estimate of increased loss to evaporation, since the amount of phreatophytes will not increase and evapotranspiration will not change, is 270 acre feet per year; 81% of which will occur during the period of May thru October.

7. The evidence and testimony regarding the loss of water by seepage is conflicting and varies over a wide range from 1,440 acre-feet per year to 58,400 acre-feet per year. Some loss is likely but will be less than the 58,400 acre-feet per year due to the constraints of the reservoir boundaries such as the slurry trench cutoff, the sand-silt interbed and the reduced gradient due to the existing high water table conditions. The slurry trench cutoff is along about 7,500 feet of the 31,500 feet of reservoir shoreline which is about 24% of

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the shoreline length. The slurry trench cutoff will reduce the permeability of the existing natural gravels from 1×10^{-3} to 1×10^{-7} feet per minute. The impervious core in the 7,500 ft. dike would have a permeability of 1×10^{-6} feet per minute. The sandy silt interbed has a permeability of 1×10^{-6} feet per minute. A mixture of natural gravel and interbed would lose water at the rate of 1×10^{-4} feet per minute. A reasonable estimate of the seepage that would occur on the additional 80 acres inundated would be 24% of 80 acres at 1×10^{-6} feet per minute plus 76% of 80 acres at 1×10^{-4} feet per minute rate which equals 8.8 acre feet per day or 3,200 acre-feet per year. Water lost to seepage if not returned to the river immediately downstream from the dam would return to the river above American Falls reservoir.

8. The City of Idaho Falls holds water right Permit No. 25-7182 for the appropriation of waste water, which is effluent from their sewage treatment plant, for power purposes. This water originates from the city's wells and is used for municipal purposes before being discharged into the Snake River. This water has been discharged into the river for many years, beginning at the time the city was established, with increases in the amount of water occuring with an increase in the city's population.

9. The project will cost between $75 and $100 million. The applicant has been working for sometime with bond attorneys and bonding companies and anticipates holding a bond election shortly. The applicant has the authority to hold a bond election.

10. Legislation Sec. 42-205, Idaho Code has been enacted that encourages and give preference to owners of existing irrigation facilities who wish to develop hydropower projects utilizing those existing facilities.

11. The City of Firth is located about nine miles downstream. There are numerous canals that cross this area to supply water for irrigation.

CONCLUSIONS OF LAW

1. The project proposed is not located within nor does it use existing man-made irrigation facilities and, therefore, the permission of the Snake River Valley Irrigation District is not necessary for the appropriation of the water. The inundation of a portion of the Snake River Valley Irrigation District canal is not the use of the facilities of another that would give preference under Section 42-205, Idaho Code to the owner in developing a hydropower project. The city does have an obligation to construct its project in a manner that will not interfere with the delivery of water into the canal of the Snake River Valley

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Irrigation District. Further, the relative priorities of the City of Idaho Falls' application and the application of the Snake River Valley Irrigation District remain unchanged and are the date the respective applications were received.

2. The project will use whatever water is available and a combination of amount of this application with the application of Utah Power and Light Company is sufficient to satisfy the designed rate of diversion.

3. The loss of 270 acre-feet per year to the river from evaporation must be replaced from a source other than the natural flow of the river. During the six month period from May through October, 81% of the 270 acre-feet must be replaced as nearly as possible to the time the evaporation occurs. The rate of diversion necessary to supply 81% of 270 acre-feet in a six month period is 0.60 cubic feet per second. The 19% or 51 acre-feet lost to evaporation during the winter months must be replaced prior to July 1 of those years that the existing storage reservoir within Water District 01 do not fill.

4. The loss to seepage should be essentially constant throughout the year and can be viewed for regulation purposes as a constant diversion rate of 4.4 cubic feet per second. The senior downstream water rights between the project and American Falls Reservoir will not be affected by the seepage from the project if 4.4 cubic feet per second is added to the system during the time there is not sufficient natural flow to satisfy the downstream rights. The water that is lost by seepage will return to the Snake River most likely as spring flow near American Falls, therefore, there should not be an effect on other water rights by seepage losses that occur during the time there is sufficient natural flow to satisfy prior water rights.

5. The total amount of water replaced must be 5.00 cubic feet per second of water and 270 acre-feet per year during the years that storage does not fill. It can be readily seen that a rate of diversion of 5.00 cubic feet per second requires less than 30 days to satisfy the 270 acre-feet evaporated and lost to the system; therefore, the controlling parameter for distribution purposes is that 5.00 cubic feet per second of water must be supplied to the project from a source other then the natural flow of the Snake River. This source of water can be groundwater or storage water. The water appropriated by the City of Idaho Falls under Permit No. 25-7182 which is waste water from their sewage treatment plant has historically been discharged into the Snake River and must be allowed to continue to satisfy the existing water rights prior in time

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to January 14, 1980. The city does not have exclusive control over this waste water after they have lost control of it and discharged it into the river. Therefore, when it is proposed to be used for a new purpose,it must be appropriated and the new purpose must take a position according to priority with all other existing water rights. Permit No. 25-7182 cannot, therefore, be used to satisfy the 5.00 cubic feet per second of water lost to seepage and evaporation.

6. The City of Idaho Falls has the authority to hold bond elections to finance this project and, therefore, has the financial ability to complete the project.

7. The project is in the local public interest. The recent legislation encouraging owners of irrigation facilities to develop hydropower projects must be considered together with the water right priority system of first-in-time is first-in-right. In those instances where the facilities are existing then the owner of those facilities are given a preference over an outsider using those facilities. But in this instance, the applicant is not proposing to use facilities that belong to someone else, therefore, it cannot be concluded that the use of water by the applicant for a hydropower project would be more or less in the public interest than for the irrigation district to use the water for a hydropower project.

The impact on the water table in the Firth area is also the subject of conflicting evidence. The impact due to seepage will probably be undetectible when compared to the amount of irrigation water crossing the Firth area or used for irrigation on it.

ORDER

IT IS, THEREFORE, HEREBY ORDERED that Application for Permit No. 01-7018 be APPROVED subject to the following conditions:

1. The permit is subject to all prior water rights.

2. The applicant shall supply replacement water at the rate of 5.00 cubic feet per second from a source other than a new appropriation or a non-consumptive appropriation of the natural flow of the Snake River or tributaries. Prior to the diversion of water under this application, the applicant must notify and receive the approval of the Director on the replacement source of water. The Director retains jurisdiction of this permit to assure compliance with this condition.

3. This appropriation is subject to the control of the watermaster of Water District 01 (Upper Snake River).

4. This permit grants no right-of-way or easement for the use of the land of another person.

5. This permit is subject to the provisions of Section 42-205 through 42-210, Idaho Code, restricting the sale, transfer, assignment, or mortgage of this permit. Failure to comply with these provisions is cause for immediate cancellation of this permit.

6. This project shall be operated in a manner that will not conflict or interfere with the future diversion of water for irrigation or other beneficial consumption.

7. This permit does not constitute Idaho Public Utilities Commission or Federal Energy Regulatory Commission approval or licenses that may be required. Failure to obtain the necessary approvals or licenses shall be cause for cancellation of this permit.

8. Proof of construction of works and application of water to beneficial use shall be submitted to the Department of Water Resources on or before July 1, 1987.

Dated this 13 day of October, 1982.

A. KENNETH DUNN

Director

MICROFILMED

BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE

STATE OF IDAHO

IN THE MATTER OF APPLICATION FOR PERMIT NO. 01-7018 IN THE NAME OF THE CITY OF IDAHO FALLS	CERTIFICATE OF MAILING

I CERTIFY THAT on this 15th day of October, 1982, a true and correct copy of the foregoing MODIFIED MEMORANDUM DECISION AND ORDER was mailed postage prepaid to:

City of Idaho Falls
c/o G. S. Harrison
P. O. Box 220
Idaho Falls, ID 83401

W. J. Anderson
SHARP, ANDERSON, BUSH & NELSON
400 Memorial Drive
Idaho Falls, ID 83401

The Honorable Thomas Campbell
Mayor of Idaho Falls
308 C St.
Idaho Falls, ID 83401

Idaho Department of Fish & Game
Statehouse Mail
Boise, ID 83720

Idaho Department of Fish & Game
1515 Lincoln Road
Idaho Falls, ID 83401

Utah Power and Light Co.
P. O. Box 899
Salt Lake City, UT 84100

Snake River Valley Irrigation Dist.
c/o Dennis Hjelm, Keith L. Nickerson
and Gerald Hanson
Box 646
Basalt, ID 83418

Mr. Kent Foster
HOLDEN, KIDWELL, HAHN & CRAPO
P. O. Box 129
Idaho Falls, ID 83401

C. E. Brockway, P.E.
706 Sunrise Blvd North
Twin Falls, ID 83301

Raymond R. Underwood, Area Manager
J-U-B Engineers, Inc.
920 Deon Drive, Suite B
Pocatello, ID 83201

Ann Burke
Post Register
P. O. Box 1800
Idaho Falls, ID 83401

William A. Scribner
Department of Lands
Statehouse Mail
Boise, ID 83720

Martin C. Derksema
District Manager
Bonneville Power Administration
P. O. Box 2558
Idaho Falls, ID 83401

Carlos Nelson
Snake River Valley Irrigation Dist.
Route 1
Shelley, ID 83274

Jerry Eggleston
CH_2M Hill
P. O. Box 8748
Boise, ID 83707

R. J. Pope
CH_2M Hill
200 SW Market St.
12th Floor
Portland, OR 97201

Eugene Neblett
Federal Energy Regulatory Commission
333 Market St., Sixth Floor
San Francisco, CA 94105

Rita I. Fleck

RITA I. FLECK
Sr. Secretary
Idaho Department of Water Resources

MICROFILMED

BEFORE THE DIRECTOR OF THE DEPARTMENT OF WATER RESOURCES

OF THE

STATE OF IDAHO

IN THE MATTER OF APPLICATION FOR PERMIT NO. 01-7018 IN THE NAME OF THE CITY OF IDAHO FALLS	MEMORANDUM DECISION AND ORDER

On March 17, 1978, the City of Idaho Falls applied to the Director of the Department of Water Resources for a permit to appropriate 5,000 cubic feet per second of water from the Snake River for the purpose of power generation. The point of diversion from the river and the place of power generation are located within the NW1/4NW1/4, Sec. 15, Twp. 1N, Rge. 37E B.M., Bonneville County.

Notice of this application was published in the Post-Register newspaper located in Idaho Falls, Idaho on March 23 and 30, 1978. No protests were received against the approval of this application. However, the director, being charged by Section 42-203 to consider whether:

1. the proposed project will adversely affect existing rights;
2. the water supply is sufficient for the purpose intended;
3. the application was made in good faith and not for the purpose of delay and speculation;
4. the applicant has the financial resources to complete the project;
5. the project is in the local public interest;

decided to hold a hearing to gather information on which to reach a decision. a fact finding hearing was held in Idaho Falls on March 16, 1982.

Present at the hearing were representatives of the City of Idaho Falls, the Snake River Valley Irrigation District, Utah Power and Light Company, the New Lava Side Canal Co., the Committee of Nine of Water District 01 and the news media.

The project proposed by the City of Idaho Falls would consist of a 40-foot high dam with a 7,000 cubic feet per second capacity of river power generation facility. A dike 7,500 feet along the right river bank would be constructed to confine the reservoir created to approximately the existing channel. The existing headworks and a portion of the canal of the Snake River Valley Irrigation District, however, would be inundated by the project.

The evidence against the approval of the application was on five

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primary concerns of the Snake River Valley Irrigation District. First, should this project be allowed since it inundates the facilities of the Snake River Valley Irrigation District when Sec. 42-205, Idaho Code states: "(2)Water cannot be appropriated for hydropower development uses within or using existing man-made irrigation facilities without the permission of the owner thereof."? Second, will the losses, evaporation and seepage, caused by the development of the project injure existing water rights? Third, is the water supply sufficient for the purpose for which it is appropriated and the descrepancy between the 7,000 cubic feet per second amount called for in the plans and the 5,000 cubic feet per second for which the application has been made? Fourth, does the city have sufficient financial resources to complete the project? Fifth, will the proposed project conflict with the local public interest by negating the opportunity for power generation by the Snake River Valley Irrigation District for the benefit of the district members and by raising the ground water level to the detriment of the residents of the Firth area?

The Director of the Department of Water Resources reached his conclusions based on the information contained in the records of the department, the testimony given at the March 16 hearing, the March 31 comments by C. E. Brockway, engineering consultant for Snake River Valley Irrigation District, the April 2 summary briefs submitted by Kent W. Foster, attorney for the City of Idaho Falls, the April 12 responsive brief by W. J. Anderson, attorney for Snake River Valley Irrigation District, and the April 12 and 15 responses from R. J. Pope and Jerry Eggleston engineers with CH2M Hill, consultants for the City of Idaho Falls.

FINDINGS OF FACT

1. A summary of water right filings relative to this project are as follows:

APPLICATION NUMBER	OWNER	PRIORITY	AMOUNT	PURPOSE
01-7018	Idaho Falls	03-17-78	5,000 cfs	power
25-7182	Idaho Falls	01-14-80	14 cfs	power
01-7051	U. P. & Light	04-09-80	3,000 cfs	power
01-7059	S. R. V. I. D.	12-12-80	1,500 cfs	power

2. Section 42-205, Idaho Code paragraph (2) and (3) became effective on April 1, 1981. Those sections are as follows:

> (2) Water cannot be appropriated for hydropower development uses within or using existing man-made irrigation facilities without the permission of the owner thereof
> (3) When competing applications for a permit have been filed

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> prior to the effective date of this act for the additional use for hydropower purposes that would utilize facilities that are owned or controlled by the holder of an existing permit, license, decree or established constitutional water usage, the Director shall give preference to the application of the owner of the existing rights or his agent.

The purpose of this portion of Section 42-205 is to prevent the use of canals, pipelines, dams or other facilities that belong to other parties with no benefit to those other parties. The use of someone else's system without their permission would allow a benefit which would not have been possible without the capital expenditures made by the facilities owners.

3. The applicant does not propose to use the facilities of another person for the proposed hydropower development. A portion of the Snake River Valley Irrigation District's canal will, however, be inundated.

4. The project is a run-of-river hydropower project which will use the available water supply. The application requests a rate of flow of 5,000 cubic feet per second while the project is designed for a flow of 7,000 cubic feet per second. There are negotiations between the applicant and Utah Power and Light Company to consolidate their two projects under this application and No. 01-7051 which would then give a total amount filed upon of 8,000 cubic feet per second from the Snake River.

5. Application no. 01-7051 filed by Utah Power and Light Company for Its hydropower project is also prior to that of the Snake River Valley Irrigation District and does not propose to use the facilities of the Snake River Valley Irrigation District.

6. The surface area of the proposed reservoir will be about 80 acres larger than the surface area of the river. The length of the shoreline will not change appreciably. The best estimate of increased loss to evaporation, since the amount of phreatophytes will not increase and evapotranspiration will not change, is 270 acre feet per year; 81% of which will occur during the period of May thru October.

7. The evidence and testimony regarding the loss of water by seepage is conflicting and varies over a wide range from 1,440 acre-feet per year to 58,400 acre-feet per year. Some loss is likely but will be less than the 58,400 acre-feet per year due to the constraints of the reservoir boundaries such as the slurry trench cutoff, the sand-silt interbed and the reduced gradient due to the existing high water table conditions. The slurry trench cutoff is along about 7,500 feet of the 31,500 feet of reservoir shoreline which is about 24% of

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the shoreline length. The slurry trench cutoff will reduce the permeability of the existing natural gravels from 1 X 10^{-3} to 1 X 10^{-7} feet per minute. The impervious core in the 7,500 ft. dike would have a permeability of 1 X 10^{-6} feet per minute. The sandy silt interbed has a permeability of 1 X 10^{-6} feet per minute. A mixture of natural gravel and interbed would lose water at the rate of 1 X 10^{-4} feet per minute. A reasonable estimate of the seepage that would occur on the additional 80 acres inundated would be 24% of 80 acres at 1 X 10^{-6} feet per minute plus 76% of 80 acres at 1 X 10^{-4} feet per minute rate which equals 8.8 acre feet per day or 3,200 acre-feet per year. Water lost to seepage if not returned to the river immediately downstream from the dam would return to the river above American Falls reservoir.

8. The City of Idaho Falls holds water right Permit No. 25-7182 for the appropriation of waste water, which is effluent from their sewage treatment plant, for power purposes. This water originates from the city's wells and is used for municipal purposes before being discharged into the Snake River. This water has been discharged into the river for many years, beginning at the time the city was established, with increases in the amount of water occuring with an increase in the city's population.

9. The project will cost between $75 and $100 million. The applicant has been working for sometime with bond attorneys and bonding companies and anticipates holding a bond election shortly. The applicant has the authority to hold a bond election.

10. Legislation Sec. 42-205, Idaho Code has been enacted that encourages and give preference to owners of existing irrigation facilities who wish to develop hydropower projects utilizing those existing facilities.

11. The City of Firth is located about nine miles downstream. There are numerous canals that cross this area to supply water for irrigation.

CONCLUSIONS OF LAW

1. The project proposed is not located within nor does it use existing man-made irrigation facilities and, therefore, the permission of the Snake River Valley Irrigation District is not necessary for the appropriation of the water. The inundation of a portion of the Snake River Valley Irrigation District canal is not the use of the facilities of another that would give preference under Section 42-205, Idaho Code to the owner in developing a hydropower project. The city does have an obligation to construct its project in a manner that will not interfere with the delivery of water into the canal of the Snake River Valley

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Irrigation District. Further, the relative priorities of the City of Idaho Falls' application and the application of the Snake River Valley Irrigation District remain unchanged and are the date the respective applications were received.

2. The project will use whatever water is available and a combination of amount of this application with the application of Utah Power and Light Company is sufficient to satisfy the designed rate of diversion.

3. The loss of 270 acre-feet per year to the river from evaporation must be replaced from a source other than the natural flow of the river. During the six month period from May through October, 81% of the 270 acre-feet must be replaced as nearly as possible to the time the evaporation occurs. The rate of diversion necessary to supply 81% of 270 acre-feet in a six month period is 0.60 cubic feet per second. The 19% or 51 acre-feet lost to evaporation during the winter months must be replaced prior to July 1 of those years that the existing storage reservoir within Water District 01 do not fill.

4. The loss to seepage should be essentially constant throughout the year and can be viewed for regulation purposes as a constant diversion rate of 4.4 cubic feet per second. The senior downstream water rights between the project and American Falls Reservoir will not be affected by the seepage from the project if 4.4 cubic feet per second is added to the system during the time there is not sufficient natural flow to satisfy the downstream rights. The water that is lost by seepage will return to the Snake River most likely as spring flow near American Falls, therefore, there should not be an effect on other water rights by seepage losses that occur during the time there is sufficient natural flow to satisfy prior water rights.

5. The total amount of water replaced must be 5.00 cubic feet per second of water and 270 acre-feet per year during the years that storage does not fill. It can be readily seen that a rate of diversion of 5.00 cubic feet per second requires less than 30 days to satisfy the 270 acre-feet evaporated and lost to the system; therefore, the controlling parameter for distribution purposes is that 5.00 cubic feet per second of water must be supplied to the project from a source other then the natural flow of the Snake River. This source of water can be groundwater or storage water. The water appropriated by the City of Idaho Falls under Permit No. 25-7182 has historically been discharged into the Snake River and is considered a part of the river. It, therefore, must be allowed to continue to satisfy the existing water rights prior in

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time to January 14, 1980. The city does not have exclusive control over this waste water after they have lost control of it and when it is proposed to be used for a new purpose. Permit No. 25-7182 cannot be used to satisfy the 5.00 cubic feet per second of water lost to seepage and evaporation.

6. The City of Idaho Falls has the authority to hold bond elections to finance this project and, therefore, has the financial ability to complete the project.

7. The project is in the local public interest. The recent legislation encouraging owners of irrigation facilities to develop hydropower projects must be considered together with the water right priority system of first-in-time is first-in-right. In those instances where the facilities are existing then the owner of those facilities are given a preference over an outsider using those facilities. But in this instance, the applicant is not proposing to use facilities that belong to someone else, therefore, it cannot be concluded that the use of water by the applicant for a hydropower project would be more or less in the public interest than for the irrigation district to use the water for a hydropower project.

The impact on the water table in the Firth area is also the subject of conflicting evidence. The impact due to seepage will probably be undetectible when compared to the amount of irrigation water crossing the Firth area or used for irrigation on it.

ORDER

IT IS, THEREFORE, HEREBY ORDERED that Application for Permit No. 01-7018 be APPROVED subject to the following conditions:

1. The permit is subject to all prior water rights.

2. The applicant shall supply replacement water at the rate of 5.00 cubic feet per second from a source other than the Snake River or tributaries. Prior to the diversion of water under this application, the applicant must notify and receive the approval of the Director on the replacement source of water. The Director retains jurisdiction of this permit to assure compliance with this condition.

3. This appropriation is subject to the control of the watermaster of Water District 01 (Upper Snake River).

4. This permit grants no right-of-way or easement for the use of the land of another person.

5. This permit is subject to the provisions of Section 42-205 through

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42-210, Idaho Code, restricting the sale, transfer, assignment, or mortgage of this permit. Failure to comply with these provisions is cause for immediate cancellation of this permit.

6. This project shall be operated in a manner that will not conflict or interfere with the future diversion of water for irrigation or other beneficial consumption.

7. This permit does not constitute Idaho Public Utilities Commission or Federal Energy Regulatory Commission approval or licenses that may be required. Failure to obtain the necessary approvals or licenses shall be cause for cancellation of this permit.

8. Proof of construction of works and application of water to beneficial use shall be submitted to the Department of Water Resources on or before July 1, 1987.

Dated this 21 day of July, 1982.

A. KENNETH DUNN

Director

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BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE

STATE OF IDAHO

IN THE MATTER OF APPLICATION FOR PERMIT NO. 01-7018 IN THE NAME OF THE CITY OF IDAHO FALLS	CERTIFICATE OF MAILING

I HEREBY CERTIFY that on this 21st day of July, 1982, a true and correct copy of the foregoing MEMORANDUM DECISION AND ORDER was mailed postage prepaid to:

City of Idaho Falls
c/o G. S. Harrison
P. O. Box 220
Idaho Falls, ID 83401

W. J. Anderson
SHARP, ANDERSON, BUSH & NELSON
400 Memorial Drive
Idaho Falls, ID 83401

The Honorable Thomas Campbell
Mayor of Idaho Falls
308 C St.
Idaho Falls, ID 83401

Idaho Department of Fish & Game
Statehouse Mail
Boise, ID 83720

Idaho Department of Fish & Game
1515 Lincoln Road
Idaho Falls, ID 83401

Utah Power and Light Co.
P. O. Box 899
Salt Lake City, UT 84100

Snake River Valley Irrigation Dist.
c/o Dennis Hjelm, Keith L. Nickerson
and Gerald Hanson
Box 646
Basalt, ID 83418

Mr. Kent Foster
HOLDEN, KIDWELL, HAHN & CRAPO
P. O. Box 129
Idaho Falls, ID 83401

C. E. Brockway, P.E.
706 Sunrise Blvd. N.
Twin Falls, ID 83301

Raymond R. Underwood, Area Manager
J-U-B Engineers, Inc.
920 Deon Drive
Suite B
Pocatello, ID 83201

Ann Burke
Post Register
P. O. Box 1800
Idaho Falls, ID 83401

William A. Scribner
Department of Lands
Statehouse Mail
Boise, ID 83720

Martin C. Derksema
District Manager
Bonneville Power Administration
P. O. Box 2558
Idaho Falls, ID 83401

Carlos Nelson
Snake River Valley Irrigation District
Route 1
Shelley, ID 83274

Jerry Eggleston
CH_2M Hill
P. O. Box 8748
Boise, ID 83707

R. J. Pope
CH_2M Hill
200 SW Market St.
12th Floor
Portland, OR 97201

Eugene Neblett
Regional Engineer
Federal Energy Regulatory Commission
555 Battery St., Room 415
San Francisco, CA 94111

Rita I. Fleck

RITA I. FLECK
Sr. Secretary
Idaho Department of Water Resources

MAILED

Identification No. _____

Application No. 01 7018

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
APPLICATION FOR PERMIT

To Appropriate the Public Waters of the State of Idaho

(TYPE OR PRINT IN INK)

1. Name of applicant City of Idaho Falls c/o G.S. Harrison Phone: 529-1444

   post office address P.O. Box 220

2. Source of water supply Snake which is a tributary of Columbia

3. a. Location of point of diversion is N.W. ¼ of N.W. ¼ of Section 15 Township 1N

   Range 37E B.M. Bonneville County; additional points of diversion if any: _____

   _____

   _____

   b. If water is not consumed, it will be discharged into Snake River at a point in N.W. ¼

   of N.W. ¼ of Section 15 Township 1N Range 37E B.M. _____

4. Water will be used for the following purposes:

   Amount 5000 cfs (cfs or acre-feet per annum) for power generation purpose from Jan. 1 to Dec. 31 (both dates inclusive)

   Amount _____ (cfs or acre-feet per annum) for _____ purpose from _____ to _____ (both dates inclusive)

   Amount _____ (cfs or acre-feet per annum) for _____ purpose from _____ to _____ (both dates inclusive)

5. Total quantity to be appropriated:

   a. 5000 cubic feet per second and/or

   b. _____ acre feet per annum.

6. Proposed diverting works:

   a. Description of ditches, flumes, pumps, headgates, etc. Diversion is accomplished by concrete structure to provide head of approximately 20 feet.

   _____

   _____

   b. Height of storage dam N.A. feet, active reservoir capacity N.A. acre feet; total reservoir capacity N.A. acre feet, materials used in storage dam: _____

   Period of year during which storage will occur N.A. (Mo. Day) to N.A. (Mo. Day) inclusive.

   c. Proposed well diameter is N.A. inches; proposed depth of well is _____ feet.

7. a. Time required for the completion of the works and application of the water to the proposed beneficial use is 5 years.

   b. Estimated construction cost is $ 20,000,000.

8. Description of proposed uses:

   a. If water is not for irrigation: same as 3 a.

   (1) Give the place of use of water: _____ ¼ of _____ ¼ of Section _____ Township _____

   Range _____ B.M.

   (2) Amount of power to be generated: 7-8 MW hp under 20 feet of head.

   (3) List number of each kind of livestock to be watered N.A.

   _____

   (4) Name of municipality to be served N.A., or number of families to be supplied with domestic water N.A.

   (5) If water is to be used for other purposes describe: N.A.

   _____

   _____

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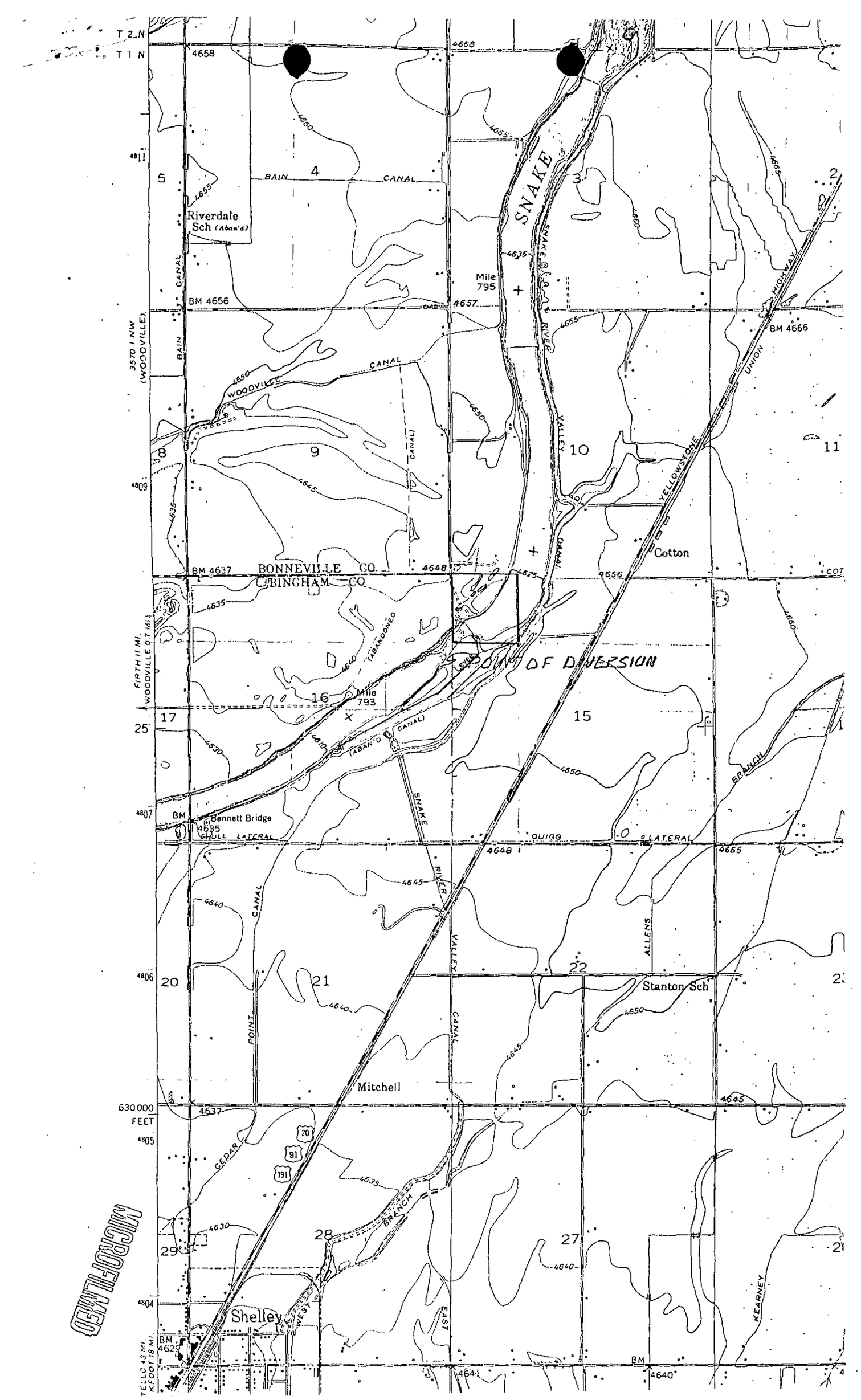
T 2 N
T 1 N
Riverdale Sch (Aban'd)
BAIN
CANAL
SNAKE
RIVER
VALLEY
Mile 795
BM 4656
BM 4666
HIGHWAY
UNION
YELLOWSTONE
WOODVILLE
CANAL
BONNEVILLE CO.
BINGHAM CO.
Cotton
ABANDONED
LOCATION OF DIVERSION
Mile 793
ABAN'D CANAL
Bennett Bridge
GULL LATERAL
QUIGG LATERAL
BRANCH
ALLENS
Stanton Sch
POINT
Mitchell
CEDAR
Shelley
WEST
EAST
KEARNEY
BM 4625
BM 4640
630000 FEET
3570 I NW (WOODVILLE)
FIFTH II MI.
WOODVILLE 0.7 MI.
TELLO 4.3 MI.
KFOOT 18 MI.
MICROFILMED

b. If water is for irrigation, indicate acreage in each subdivision in the tabulation below:

P.	RANGE	SEC.	NE¼				NW¼				SW¼				SE¼				TOTALS
			NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	

Total number of acres to be irrigated _____

c. Describe any other water rights used for the same purposes as described above _____

9. a. Who owns the property at the point of diversion _____

b. Who owns the land to be irrigated or place of use _____

c. If the property is owned by a person other than the applicant, describe the arrangement enabling the applicant to make this filing _____

10. Remarks _____

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1. Map of proposed project: show clearly the proposed point of diversion, place of use, section number, township and range number.

See attached map.

Scale: 2 inches equal 1 mile

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BE IT KNOWN that the undersigned hereby makes application for permit to appropriate the public waters of the State of Idaho as herein set forth.

Thomas Campbell
(Applicant)

11 day of

Proposed Priority 3/17/1978

Received by CW Date 3-17-78 Time 11:15A

Preliminary check by XX Fee $ 1465.00

Receipted by CW Date 3-17-78 #9883

Publication prepared by CW Date 3-17-78

Published in East Regulator

Publication dates Mar. 23 & 30-1978

Publication approved Yes Date April 4, 1978

Priority reduced to _____ Reason _____

Protests filed by: _____

Copies of protests forwarded by _____

Hearing held by _____ Date _____

Recommended for approval denial by _____

ACTION OF THE DIRECTOR, DEPARTMENT OF WATER RESOURCES

This is to certify that I have examined Application for Permit to appropriate the public waters of the State of Idaho No. 01-7018, and said application is hereby APPROVED.

1. Approval of said application is subject to the following limitations and conditions:

   a. SUBJECT TO ALL PRIOR WATER RIGHTS.

   b. Proof of construction of works and application of water to beneficial use shall be submitted on or before July 1, 19 87.

   c. Other PURSUANT TO MEMORANDUM DECISION AND ORDER

Witness my hand this 21 day of July 19 82.

A. Kenneth Dunn
Director

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Proof of Publication
The Post-Register

RECEIVED
APR 3 1978
Department of Water Resources
Eastern District Office

State of Idaho,
County of Bonneville } ss.

I, J. Robb Brady, first being duly sworn, depose and say: That I am the Principal Clerk of The Post Company, a corporation of Idaho Falls, Bonneville County, Idaho, publishers of The Post-Register, a newspaper of general circulation, published daily, except Saturday, at Idaho Falls, Idaho; said Post-Register being a consolidation of the Idaho Falls Times, established in the year 1890, The Idaho Register, established in the year 1880 and the Idaho Falls Post, established in 1903, such consolidation being made on the 1st day of November, 1931, and each of said newspapers having been published continuously and uninterruptedly, prior to consolidation, for more than seventy-eighty (78) weeks and said Post-Register having been published continuously and uninterruptedly from the date of such consolidation, up to and including the last publication of notice hereinafter referred to.

That the notice, of which a copy is hereto attached and made a part of this affidavit, was published in said Post-Register for two consecutive weeks, first publication having been made on the 23rd day of March, 19 78, last publication having been made on the 30th day of March, 19 78, and that the said notice was published in the regular and entire issue of said paper on the respective dates of publication, and that such notice was published in the newspaper and not in a supplement.

J. Robb Brady

Subscribed and sworn to before me, this 30th day of March, 19 78

Karl D. Hale
Notary Public

My commission expires April 5, 19 79

B10, 1M

NOTICE OF APPLIATION FOR WATER PERMIT

Notice is hereby given that the City of Idaho Falls, Idaho Falls, Idaho has on 3-17-78 submitted Application No. 01-7018 for a permit to appropriate 5,000 cubic feet per second of water from the Snake River tributary to Columbia River by means of dam within the NW¼NW¼, Sec. 15, T. 1N, R. 37E, B.M., Bonneville County; to be used from Jan. 1 to Dec. 31 for power generation within the NW¼NW¼, Sec. 15, T. 1N, R 37E, B.M.

If issued, this permit will be subject to all prior water rights. Protests against the granting of the permit must be filed with the Idaho Department of Water Resources, 1515 Lincoln Road, Idaho Falls, Idaho, 83401 on or before April 10, 1978.

C. STEPHEN ALLRED
Director
Publish: March 23, 30, 1978

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Form 205
7/81

Ident. No. 01-7018

RECEIVED

AUG 12 1981

Department of Water Resources

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
AFFIDAVIT FOR WATER RIGHTS TO BE USED
FOR POWER PURPOSES

Ownership of Facilities: (To be completed for hydropower projects only)

The hydropower facility to be developed pursuant to the attached Application for Permit:

(check one)

☒ Will not utilize existing man-made irrigation facilities such as a dam or a canal.

☐ Will utilize existing man-made irrigation facilities such as a dam or a canal, and permission of the owner is documented in an affidavit attached hereto.

☐ Will utilize existing man-made irrigation facilities such as a dam or a canal and the owner of the facilities is the signee of this affidavit.

Thomas Campbell
Applicant

State of Idaho)
County of Bonneville) ss.

On this 20 day of August, 1981, personally appeared before me the signer(s) of the above instrument, who duly acknowledged to me that he (she) (they) executed the same.

Helen Chandler
Notary Public residing at:

seal

320 Carol Ave. Idaho Falls

My commission expires:

Life

NOTARIAL SEAL

CITY OF IDAHO FALLS

P.O. BOX 220
IDAHO FALLS, IDAHO 83401

ELECTRIC DIVISION

(208) 529-1430

RECEIVED

AUG 13 1981

Department of Water Resources

August 12, 1981

State of Idaho
Department of Water Resources
State Office
450 W. State Street
Boise, Idaho 83720

Attention: Mr. David R. Tuthill, Jr.
Supervisor, Water Allocation Section

Gentlemen:

Please find attached a signed application for permit no. 01-7018 for the City of Idaho Falls proposed Gem State Project.

If you need any further information please contact my office.

Sincerely,

ELECTRIC LIGHT DIVISION

G. S. HARRISON
MANAGER

GSH/242/sp

Attachment as stated

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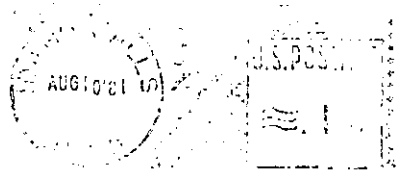
CITY OF IDAHO FALLS
P.O. BOX 220
IDAHO FALLS, IDAHO 83401

ELECTRIC LIGHT DIVISION

MICROFILMED



State of Idaho
Department of Water Resources
State Office
450 W. State Street
Boise, ID 83720

Attention: David R. Tuthill, Jr.
Supervisor, Water Allocation Section

Y 42 ✓

Identification No. _____

Application No. 01 7018

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

APPLICATION FOR PERMIT

To Appropriate the Public Waters of the State of Idaho

(TYPE OR PRINT IN INK)

1. Name of applicant City of Idaho Falls c/o G.S. Harrison Phone: 529-1444

   post office address P.O. Box 220

2. Source of water supply Snake which is a tributary of Columbia

3. a. Location of point of diversion is N.W. ¼ of N.W. ¼ of Section 15 Township 1N

   Range 37E B.M. Bonneville County; additional points of diversion if any: _____

   _____

   _____

   b. If water is not consumed, it will be discharged into Snake River at a point in N.W. ¼

   of N.W ¼ of Section 15 Township 1N Range 37E B.M. _____

4. Water will be used for the following purposes:

   Amount 5000 cfs (cfs or acre-feet per annum) for power generation purpose from _____ to _____ (both dates inclusive)

   Amount _____ (cfs or acre-feet per annum) for _____ purpose from _____ to _____ (both dates inclusive)

   Amount _____ (cfs or acre-feet per annum) for _____ purpose from _____ to _____ (both dates inclusive)

5. Total quantity to be appropriated:

   a. 5000 cubic feet per second and/or

   b. _____ acre feet per annum.

6. Proposed diverting works:

   a. Description of ditches, flumes, pumps, headgates, etc. Diversion is accomplished by concrete structure to provide head of approximately 20 feet.

   b. Height of storage dam N.A. feet, active reservoir capacity N.A. acre feet; total reservoir capacity N.A. acre feet, materials used in storage dam: _____

   Period of year during which storage will occur N.A. (Mo. Day) to N.A. (Mo. Day) inclusive.

   c. Proposed well diameter is N.A. inches; proposed depth of well is _____ feet.

7. a. Time required for the completion of the works and application of the water to the proposed beneficial use is _____ years.

   b. Estimated construction cost is $ 20,000,000.

8. Description of proposed uses:

   a. If water is not for irrigation: same as 3 a.

   (1) Give the place of use of water: _____ ¼ of _____ ¼ of Section _____ Township _____

   Range _____ B.M.

   (2) Amount of power to be generated: 7-8 MW hp under 20 feet of head.

   (3) List number of each kind of livestock to be watered N.A.

   _____

   (4) Name of municipality to be served N.A., or number of families to be supplied with domestic water N.A.

   (5) If water is to be used for other purposes describe: N.A.

   _____

   _____

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b. If water is for irrigation, indicate acreage in each subdivision in the tabulation below:

P.	RANGE	SEC.	NE¼				NW¼				SW¼				SE¼				TOTALS
			NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	

Total number of acres to be irrigated_____

c. Describe any other water rights used for the same purposes as described above_____

9. a. Who owns the property at the point of diversion_____

b. Who owns the land to be irrigated or place of use_____

c. If the property is owned by a person other than the applicant, describe the arrangement enabling the applicant to make this filing_____

10. Remarks_____

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. Map of proposed project: show clearly the proposed point of diversion, place of use, section number, township and range number.

See attached map.

Scale: 2 inches equal 1 mile

MICROFILMED

BE IT KNOWN that the undersigned hereby makes application for permit to appropriate the public waters of the State of Idaho as herein set forth.

Thomas Campbell
(Applicant)
Mayor

Received by CW Date 3-17-78 Time 11:15A

Preliminary check by XX Fee $ 1465.00

Receipted by CW Date 3-17-78 #9883

Publication prepared by CW Date 3-17-78

Published in Post Register

Publication dates Mar. 23 & 30-1978

Publication approved _____ Date _____

Priority reduced to _____ Reason _____

_____

_____

_____

Protests filed by: _____

_____

_____

Copies of protests forwarded by _____

Hearing held by _____ Date _____

Recommended for approval denial by _____

ACTION OF THE DIRECTOR, DEPARTMENT OF WATER RESOURCES

This is to certify that I have examined Application for Permit to appropriate the public waters of the State of Idaho No. _____, and said application is hereby _____.

1. Approval of said application is subject to the following limitations and conditions:

   a. SUBJECT TO ALL PRIOR WATER RIGHTS.

   b. Proof of construction of works and application of water to beneficial use shall be submitted on or before _____, 19____.

   c. Other: _____

   _____

   _____

   _____

2. Denial of said application is for the following reasons: _____

   _____

   _____

   _____

   _____

   _____

Witness my hand this _____ day of _____ 19____.

_____

Director

MICROFILMED

STATE OF IDAHO

Department of Water Resources

№ 34955

Boise, Idaho, July 27, 1984

Bust. & Nelson

D Sharp, Anderson, of Idaho Falls $150.00

One hundred fifty and no/100 DOLLARS

Ck 17211 92-41/1241

Transcript	$	
Snake R.	$	
[illegible] Int.	$	
Dist.	$	
TOTAL - - -	$ 150	—

Roberta Garrett

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UPPER PLANT located 3 miles north of Idaho Falls with diversions in Sec. 25, T. 3 N., R. 37 E., B.M.

Water Right No.	Type of Water Right or Decree Name	Decree Date, File No., & Page No. in Decree	Priority Date	Flow in cfs	Subordination Permit	Subordination License/Decree
01-02047	Permitted 12-19-1927 Licensed 2-11-1939		10-28-1927	500[1]	No	No
01-04003	Idaho Falls Decree	9-03-1980, 01-B-4, p. 3	5-03-1930	580		No
01-02049	Permitted 5-15-1936 Licensed 3-14-1939		1-14-1936	1,080[1]	No	No
01-07013	Permitted 3-05-1979 Field exam 3-17-1988		11-09-1977	2,600	For diversion to beneficial uses[2]	
01-07023	Permitted 3-16-1979 Field exam 3-17-1988		2-15-1979	1,240	For diversion to beneficial uses[2]	
Subtotal of non-subordinated water rights Total (using permitted quantities)				2,160 cfs 6,000 cfs		

The footnotes are numbered consecutively for the group of four powerplants operated by the city of Idaho Falls. Revised on June 12, 1997.

[1] See City of Idaho Falls vs Carlson, 9-03-80, File 01-B-4; the Stipulation makes no change in license 01-02047, but it reduces the subsequent licensed right 01-02049 from 1,500 cfs to 1,080 cfs.

[2] Idaho Code 42-203B(6) allows for subordination to upstream "depletionary uses." Water Appropriation Rules, July 1, 1993, Rule 10.16 (010.16) defines a subordinated water right to be subject to depletion "for a purpose other than hydropower generation" (which appears to include recharge and non-hydropower storage). This type of language, which may clarify the status of recharge and non-hydropower storage, likely will be used at license time. A recent example is the condition placed on water license 01-07051 at Idaho Fall's Gem State Project which was licensed on 11-2-92 with the condition of subordination to future rights "other than hydropower." Idaho Code 42-4201A which states subsequent recharge rights are to be secondary to prior rights would have no bearing since the prior water right noted in this text would be a limited right in itself.

CITY PLANT located in the city of Idaho Falls with diversions in Sec. 24, T. 2 N., R. 37 E., B.M.

Water Right No.	Type of Water Right or Decree Name	Decree Date, File No., & Page No. in Decree	Priority Date	Flow in cfs	Subordination Permit	Subordination License/Decree
01-00197	Rexburg Decree	12-16-1910, 01-B, p. 59	11-18-1898	(75)[3]		No
01-00040	Rexbury Decree	12-16-1910, 01-B, p. 10	4-20-1900	140[4]		No
01-00041	Rexburg Decree	12-16-1910, 01-B, p. 11	10-22-1904	48[4]		No
01-02014	Permitted 12-14-1907 Licensed 2-11-1918		12-03-1907	485[5]	No	No
01-00360	Idaho Falls Decree	9-03-1980, 01-B-4, p. 2	2-05-1915	388		No
01-00361	Idaho Falls Decree	9-03-1980, 01-B-4, p. 3	7-18-1919	394		No
01-04002	Idaho Falls Decree	9-03-1980, 01-B-4, p. 3	10-05-1923	485		No
01-07015	Permitted 3-05-1979 Field exam 3-17-1988		11-09-1977	2,600	For diversion to beneficial uses[2]	
01-07024	Permitted 3-16-1979 Field exam 3-17-1988		2-15-1979	1,460	For diversion to beneficial uses[2]	
Subtotal of non-subordinated water rights Total (using permitted quantities)				1,940 cfs 6,000 cfs		

[3] This Rexburg Decree water right in the name of G. G. Wright has not had an adjudication claim filed on it. This water right was not mentioned in the City of Idaho Falls vs Carlson Decree, 9-03-80, File 01-B-4, Findings of Fact and Conclusions of Law or the Stipulation. No transfer of ownership information or confirmation of this place of use is available. Evidently this power plant was dismantled; however, its exact location is unknown. Quantity not used in the totals.

[4] Also see City of Idaho Falls vs Carlson, 9-03-80, File 01-B-4, Findings of Fact and Conclusions of Law, p. 4.

[5] See City of Idaho Falls vs Carlson, 9-03-80, File 01-B-4; the Stipulation reduces the licensed right from 600 cfs to 485 cfs.

LOWER PLANT located 1/2 mile south of Idaho Falls with diversions in Sec. 25, T. 2 N., R. 37 E., B.M.

Water Right No.	Type of Water Right or Decree Name	Decree Date, File No., & Page No. in Decree	Priority Date	Flow in cfs	Subordination Permit License/Decree
01-00281	Woodville Decree[6]	6-29-1929, 01-K, p. 26	12-29-1905	1,500[4]	No
01-00282	Woodville Decree[6,7]	6-29-1929, 01-K, P. 26	9-07-1915	(100)	No
01-04001	Idaho Falls Decree	9-03-1980, 01-B-4, p. 3	10-05-1940	1,240	No
01-07014	Permitted 3-05-1979 Field exam 3-17-1988		11-09-1977	(5,100)[8] 4,800[9]	For diversion to beneficial uses[2]
01-07025	Permitted 3-16-1979 Field exam 3-17-1988		2-15-1979	(900)[8] (860)[10] 0[9]	For diversion to beneficial uses[2]
Subtotal of non-subordinated water rights Total (using permitted quantities) Total (using turbine capacity) Total				2,740 cfs (8,740 cfs)[8] (8,700 cfs)[10] 7,540 cfs	

[6] Listed in the name of Utah Power and Light Co.

[7] This water right was issued for the Shelley power plant located 1 1/2 miles downstream from the Lower Plant in Sec. 34, T. 2 N., R. 37 E., B.M. The water right for this site now removed could not be transferred to the City's Lower Plant because an expansion of a water right is not allowed.

[8] Permitted amount. See water right file 01-07013 for most related data.

[9] Total of new flow, 4,800 cfs recommended for new license. Add 1,500 cfs + 1,240 cfs for old plant.

[10] Maximum amount needed. City of Idaho Falls "preliminarily determined turbine flow capacities to be" 8,700 cfs. See letter of October 4, 1994, to their private attorney, Kent Foster, located in water right file 01-07025.

GEM STATE PROJECT located 4 miles south of Idaho Falls with diversions in Sec. 15, T. 1 N., R. 37 E., B.M.

Water Right No.	Type of Water Right or Decree Name	Decree Date, File No., & Page No. in Decree	Priority Date	Flow in cfs	Subordination Permit	Subordination License/Decree
01-00283	Woodville Decree[6]	6-29-1929, 01-K, p. 26	11-14-1924	(1,500)[11]	No	
01-07051	Permitted 12-18-1985 Licensed 11-2-1992[6]		4-09-1980	3,000	Yes	Yes[12]
01-07018	Permitted 7-21-1982 Licensed 11-02-1992		3-17-1978	5,000	Yes	Yes[12]
Subtotal of non-subordinated water rights				none		
Total (using permitted and turbine capacity quantities)				8,000 cfs[13]		

[11] The Decree refers to a water permit number that never was developed into a license.

[12] This water right was licensed on 11-2-92 with the condition that it is subordinate to future rights "other than hydropower."

[13] October 14, 1992, Memorandum to File 01-07051 indicates the turbine capacity found during the field examination is 8,000 cfs.

State of Idaho
DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street, Statehouse Mail, Boise, Idaho 83720-9000
Phone: (208) 327-7900 FAX: (208) 327-7866

CECIL D. ANDRUS
GOVERNOR

R. KEITH HIGGINSON
DIRECTOR

December 3, 1992

Kent Foster, Attorney at Law
P.O. Box 50130
Idaho Falls, ID 83405

RE: Gem State Hydropower Project for the City of Idaho Falls, Licenses Nos. 01-7018 & 01-7051

Dear Mr. Foster:

After we conversed, and I reread your letter dated October 23, 1992, I looked at the licenses which were issued November 2, 1992. It appears that the licenses were probably signed at the same time I was initially reviewing your letter.

I spoke with Norm Young about the concerns of your letter. We have determined that there is no need for a change in the license. I will attempt to clarify the intent of the condition.

Reasonableness is implied in condition number six, which states: "Use of water under this license shall not cause fluctuation in the flow to the Snake River which impairs the ability of prior right holders to divert their water." You requested that the word "unreasonably" be placed between the words "which" and "impair." The Department believes there are circumstances where a prior right holder must modify his diversion works to insure continued delivery of water. He should not be required to repeatedly adjust his headgate to compensate for fluctuations caused by an upstream power plant, however.

Reasonableness will be determined by looking solely at impairment to prior water rights, and not by determining what is reasonable power plant operation. For instance, if water levels fluctuate dramatically because of an internal problem with the power plant, even though the fluctuation of water may be reasonable to alleviate the power plant problem, it may impair the ability of downstream irrigators to divert their water. As a

result, the Department will not add the word "unreasonable" in the condition because its inclusion might be used at a later time to justify unreasonable fluctuations of Snake River flow below the project.

Respectfully,

Gary Spackman

GARY SPACKMAN, Manager
Water Right Permits Section

GS:js

cc: Eastern Region

State of Idaho
DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street, Statehouse Mail, Boise, Idaho 83720-9000
Phone: (208) 327-7900 FAX: (208) 327-7866

CECIL D. ANDRUS
GOVERNOR

R. KEITH HIGGINSON
DIRECTOR

November 9, 1992

CITY OF IDAHO FALLS
C/O GS HARRISON
PO BOX 220
IDAHO FALLS ID 83401

RE: WATER RIGHT NO. 01-07018

Dear Water Right Holder(s):

Enclosed herewith is a copy of the Water Right License issued on the above referenced permit.

Sincerely,

Pamela Skaggs

PAMELA SKAGGS
Water Resource Agent

PS:cz

Enclosure

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NOV 12 1992

LAW OFFICES
HOLDEN, KIDWELL, HAHN & CRAPO

IDAHO FALLS OFFICE

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KENT W. FOSTER
ROBERT E. FARNAM
WILLIAM D. FALER
STEPHEN E. MARTIN
CHARLES A. HOMER
GARY L. MEIKLE
MICHAEL D. CRAPO
GAYLE A. SORENSON, P.A.
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TELEFAX (208) 523-9518

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BOISE, IDAHO 83702

TELEPHONE (208) 343-0820
TELEFAX (208) 343-8078

BOISE OFFICE

WM. LYMAN BELNAP, P.A.
RANDALL B. REED
RONALD D. CHRISTIAN
FREDERICK J. HAHN III

ARTHUR W. HOLDEN
(1877-1967)
ROBERT B. HOLDEN
(1911-1971)
TERRY L. CRAPO
(1939-1982)
WILLIAM S. HOLDEN
(1907-1988)

October 23, 1992

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OCT 26 1992
Department of Water Resources

Gary Spackman, Manager
Water Rights Permits Section
IDAHO DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street
Statehouse Mail
Boise, Idaho 83720

RE: City of Idaho Falls, Licenses Nos.
01-7018 and 01-7051

Dear Mr. Spackman:

We have now had an opportunity to review the draft license, 01-7018 for the City of Idaho Falls, which you sent to us. We think the conditions, as you have drafted them, basically reflect our understanding of the discussions we have had over the years.

We do have one very minor request. It is that the word "unreasonably" be inserted between the words "which" and "impairs" in Condition No. 6. We suppose that a reasonableness interpretation is implied anyway, but the city electrical department has learned that this facility, in spite of the advanced technology, still, under some conditions, can experience fluctuation. It is not possible to absolutely guarantee that a fluctuation will never occur, although city officials believe they are quite rare and have caused only minor inconvenience to the Snake River Valley Irrigation District diversions. The electrical department believes it has the operation of the facility pretty well debugged and has been able to achieve a very high degree of stability in water levels in the reservoir, but is not able to insure absolute perfection under every set of conditions.

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We have also obtained copies of the final agreements between the city and Utah Power & Light which are enclosed. Although we see nothing in writing which clearly delineates responsibility to follow through with the licensing process, the city electrical department officials understood the licensing of the two rights was being done simultaneously, the proof submitted was for both licenses, and that our office was following through with both.

In any event, it appears the final licenses can both be issued. We appreciate your efforts and assistance.

Yours very truly,

Kent W. Foster

#0518.00/srs

Enclosure

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COPY

GEM STATE PROJECT

RESTATED OPERATING AGREEMENT

Between

PacifiCorp, d/b/a

Utah Power & Light Company

and

The City of Idaho Falls, Idaho

Dated August 1, 1991

Relating to the Gem State Project

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GEM STATE PROJECT

RESTATED OPERATING AGREEMENT

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Exhibit IV - Hypothetical Debt Service Schedule

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RESTATED OPERATING AGREEMENT

PacifiCorp, an Oregon corporation, doing business as Utah Power & Light Co., which is the successor in interest to Utah Power & Light Company, a Utah corporation (hereinafter collectively referred to as "UP&L") and the City of Idaho Falls, a municipal corporation of the State of Idaho ("Idaho Falls" or "City") (sometimes referred to individually as "Party" and jointly as "Parties") hereby make and enter into this Restated Operating Agreement effective the first day of October 1991.

RECITALS

A. On January 29, 1985, the Parties entered into and executed that certain Gem State Project Power Sales Contract whereby the City agreed to design, construct, finance, own, operate and maintain the Gem State Hydroelectric Project located on the Snake River in Bonneville and Bingham Counties, Idaho, and UP&L agreed to purchase Energy generated at the Project from the City for a term of 35 years commencing on the Date of Commercial Operation of the Project.

B. In the Gem State Project Power Sales Contract, the Parties have set forth and agreed upon Project participation, definitions, and their respective rights, duties, obligations and liabilities between each other with respect to financing, ownership, construction, operation, maintenance and damages to the Project.

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C. The Parties provided in the Gem State Project Power Sales Contract for the negotiation and execution of an agreement setting forth the parties' agreement regarding scheduling and delivery of Energy to UP&L from the Project, protection of Project facilities, transmission of Project Energy to the Delivery Point, metering, usage of the Parties' water rights, and other operational issues.

D. On November 1, 1987, the Parties entered into and executed that certain Operating Agreement relating to the Gem State Hydroelectric Project setting forth the Parties' agreement regarding scheduling the delivery of Energy to UP&L from the Project, protection of Project facilities, transmission of Project Energy to the Delivery Point, metering, usage of the Parties' water rights, and other operational issues, such Operating Agreement constituting the agreement described in Section 4.15 of the Gem State Project Power Sales Contract.

E. On March 1, 1991, the Parties entered into and executed that certain First Amendatory Operating Agreement, providing more flexible procedures in dealing with day-to-day operating policies relating to the Project and providing for payment by UP&L of a portion of the $4,049,126 expended as costs of the Project in excess of the funds raised through the issuance of Bonds by the City, and providing further that such costs were to be included as part of the annual Variable Cost Component under the Gem State Power Sales Contract.

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F. On August 1, 1991, the Parties entered into a Second Amendment to Operating Agreement in order to allow the City to refund the General Obligation Electric Refunding Bonds, Series 1986, in order to effect cost savings and other policy objectives in accordance with Section 6.11 of the Power Sales Contract.

G. This Restated Operating Agreement shall constitute the agreement described in Section 4.15 of the Gem State Project Power Sales Contract.

AGREEMENT

In consideration of the mutual covenants herein, the Parties agree as follows:

ARTICLE I

DEFINITIONS

Section 1.1. Definitions in Power Sales Contract. Except as provided in this Article I, all defined terms contained in the Gem State Project Power Sales Contract when used in this Restated Operating Agreement shall have the same meanings as set forth in the Gem State Project Power Sales Contract.

Section 1.2. New Definitions. As used in this Restated Operating Agreement, unless the context shall otherwise require, the following terms shall have the meanings ascribed below:

1.2.1. "Agreement" means this Restated Operating Agreement, as described in Section 4.15 of the Power Sales Contract.

NOV 12 1992

1.2.2. "Billing Month" means that period which is defined in the BPA Power Sales Contract as "Billing Month."

1.2.3. "BPA Power Sales Contract" means the Power Sales Contract, effective September 30, 1982, as amended, Contract No. DE-MS-79-81BP90447, between the City and the United States of America, Department of Energy, acting by and through the Bonneville Power Administration.

1.2.4. "Debt Service Reserve Account" means the account by that name established in the Bond Fund in Section 5.02 of Ordinance No. 1786 of the City, as amended by Ordinance No. 1828 and Ordinance No. 1830.

1.2.5. "Delivery Point" means the point or points fixed from time to time by the Parties as provided in Section 4.1.

1.2.6: "Delivered Energy" means Energy as defined in Section 4.8 of the Power Sales Contract at the generating plant less losses to the Delivery Point. Exhibit II, attached hereto, contains a sample calculation of Delivered Energy.

1.2.7: "Excess" means the amount, currently estimated at $4,049,126, which the City has and reasonably expects to contribute to the cost of the Project over funds raised through the issuance of Bonds by the City.

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1.2.8. "First Amendatory Operating Agreement" means the First Amendatory Operating Agreement dated March 1, 1991 between the Parties.

1.2.9. "Hypothetical Debt Service" means for each Fiscal Year an amount equal to the sum of (1) all hypothetical interest payable during such Fiscal Year, and (2) all hypothetical principal installments due and payable during such Fiscal Year, all as more particularly set forth in the Hypothetical Debt Service Schedule attached hereto as Exhibit IV.

1.2.10. "Idaho Falls 161 kV Transmission Line" means the 161 kV transmission line owned by the City running from the Westside Substation to the Sugarmill Substation.

1.2.11. "Operating Agreement" means the original Operating Agreement dated November 1, 1987, between the Parties.

1.2.12. "Pro Rata Energy Deliveries" means Energy deliveries in any Billing Month for which Energy is to be delivered to both the City and UP&L, in which event Energy deliveries shall be made to each Party in each hour of the month according to the pro rata percentage of Energy to which each Party is entitled in that month pursuant to the provisions of the Power Sales Contract and this Restated Operating Agreement, unless otherwise mutually agreed to by the Parties in accordance with the

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procedures set forth in Section 9.1 of the Restated Operating Agreement.

1.2.13. "Second Amendment to Operating Agreement" means the Second Amendment to Operating Agreement dated August 1, 1991, between the Parties.

1.2.14. "Variance" means the unsatisfied right to Energy by either Party occurring at the end of an Operating Year as a result of under or over delivery of Energy by the Project during the Operating Year.

1.2.15. "Westside Joint Operating Agreement" means the Agreement, dated November 15, 1984, Contract No. DE-MS79-84BP91841, among the City, UP&L and the United States of America, acting by and through the Bonneville Power Administration.

Section 1.3. Amendment of Power Sales Contract Definitions. The following definitions contained in Sections 4.4, 4.15 and 4.18 of the Gem State Project Power Sales Contract are hereby amended to read as follows:

4.4 Capital Cost Component: An amount sufficient to return to Idaho Falls each Fiscal Year an amount equal to the UP&L Percentage times (i) an amount representing the Hypothetical Debt Service for such Fiscal Year and (ii) any amounts payable under the Bond Resolution for the establishment or re-establishment of reserves, less investment earnings on funds and investments held under the Bond Resolution.

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4.15 Operating Agreement: That agreement between the Parties, as may be amended from time to time, setting forth the Parties' agreement regarding scheduling the delivery of Energy to UP&L from the Project, protection of Project facilities, transmission of Project Energy to the Delivery Point, metering, usage of the Parties' water rights and other operational issues.

4.18 Project: The Gem State Hydroelectric Project to be located on the Snake River at River mile 789.76, including all land and transmission facilities as further described in the License, including all reconstruction, replacement, extension, expansion, improvement, betterment and addition thereto undertaken in the future by Idaho Falls pursuant to the License.

ARTICLE II

RELATION TO POWER SALES CONTRACT

Section 2.1. Relations between Parties; Inconsistency with Power Sales Contract. Relations between the Parties in all matters arising out of the operation, maintenance, construction and financing of the Project, payments for Project Energy and any liability between the Parties or to others, shall be governed by and controlled by the provisions of the Power Sales Contract. In the case of

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inconsistency between the Power Sales Contract and this Agreement, the Power Sales Contract shall control, except as provided in Article I, VI and VII hereof.

ARTICLE III

DESCRIPTION OF ELECTRICAL FACILITIES AND DESIGN CONSIDERATIONS

Section 3.1. Design Drawings. Prior to commencement of construction of the Project the City supplied its Technical Memorandum to UP&L containing a description of the electrical facilities which are part of the Project, together with certain design considerations which were discussed by the City and UP&L. In addition the City prepared design drawings for the Project and incorporated the comments of UP&L with respect thereto. The City has provided UP&L with a set of "record" drawings of the protective relaying and electrical facilities of the Project.

ARTICLE IV

ENERGY DELIVERY

Section 4.1. Delivery Point. For purposes of Section 4.7 of the Power Sales Contract the Delivery Point shall be as set forth in Exhibit I hereto, as may be amended from time to time by the mutual consent of the Parties.

Section 4.2. Notices of Actual and Estimated Energy Production. The City shall deliver the following notices to UP&L from time to time.

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4.2.1. Each business day of each period during which UP&L is receiving Project Energy, City's operations personnel shall contact operations personnel at UP&L to discuss the previous day's operation and the current and next day's expected operation of the Project, unless otherwise mutually agreed to by the Parties in accordance with the procedures set forth in Section 9.1 of this Restated Operating Agreement.

4.2.2. Beginning on the first business day of the Billing Month next succeeding the Date of Commercial Operation and, unless otherwise mutually agreed to by the Parties in accordance with the procedures set forth in Section 9.1 of this Agreement, on the first business day of each succeeding Billing Month during the term of this Agreement, the City shall give verbal notice to UP&L of (i) the actual Energy produced by the Project and (ii) the amount of Energy delivered to UP&L, in the Billing Month ending immediately preceding the giving of the notice. Such verbal notice shall be followed by written notice on the fifth business day of each month.

4.2.3. Before the date of Commercial Operation, the City shall give UP&L its forecast of Energy to be produced by the Project in an Operating Year using the long-term historical water flow records. The City shall advise UP&L of expected changes such as for river operation, upstream storage and Project modifications or

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limits as soon as practicable after the City has determined that such changes will occur.

4.2.4. Beginning on the fifth business day after the end of the February Billing Month next succeeding the Date of Commercial Operation and on the fifth business day after the end of the February Billing Month in each succeeding year thereafter during the term of this Operating Agreement, the City shall give notice to UP&L of its forecast of Energy to be produced by the Project for the remainder of the Operating Year in which the notice is given and for the months of July and August of the next Operating Year. The City will also provide UP&L with updates of the Energy production forecasts for the months of March, April, May, June, July and August of each year as such updates are available.

Section 4.3 Delivery of Energy. Unless otherwise mutually agreed to by the Parties in accordance with the procedures set forth in Section 9.1 of this Agreement, deliveries of Energy to UP&L in each Operating Year shall be made in accordance with the following:

(i) All of the Energy produced by the Project in the July and August Billing Months of each Operating Year shall be delivered to UP&L in accordance with the principles set forth in Section 4.4.

(ii) If the Energy actually delivered to UP&L in the July and August Billing Months of an

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Operating Year is less than the Energy required to be delivered to UP&L in order to fulfill the UP&L Percentage for that Operating Year, the Energy deficit shall be delivered to UP&L at the end of that Operating Year in accordance with the principles set forth in Section 4.4. The determination of the Energy deficit in each Operating Year which is to be delivered to UP&L shall be made by the City beginning on the fifth business day after the February Billing month and monthly thereafter on the fifth business day of each Billing Month during the remainder of the Operating Year based upon the actual energy produced by the Project in that Operating Year as set forth in the notices delivered to UP&L in accordance with Section 4.2.2 as supplemented by the Energy forecasted to be produced by the Project during the balance of the Operating Year as set forth in the notices delivered to UP&L in accordance with Section 4.2.4.

(iii) Any Variance resulting from an over-delivery of Energy to UP&L in an Operating Year, based upon the actual Energy produced by the Project in that Operating Year, shall be deducted from the Energy to which UP&L is otherwise entitled at the end of the next succeeding Operating Year in accordance with the principles set forth in Section 4.4.

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(iv) Any Variance resulting from an under-delivery of Energy to UP&L in any Operating Year, based on the actual Energy produced by the Project in that Operating Year, shall be added to the Energy to which UP&L is otherwise entitled at the end of the next succeeding Operating Year in accordance with the principles set forth in Section 4.4.

Section 4.4. Principles Governing Delivery of Energy. Unless otherwise mutually agreed to by the Parties in accordance with the procedures set forth in Section 9.1 of this Agreement, the following principles shall apply to the delivery of Energy to UP&L:

(i) With respect to the deliveries of Energy to UP&L at the end of an Operating Year, if less than all of the estimated Energy to be produced in the March, April, May and June Billing Months is required to be delivered to UP&L, the Energy to be delivered to UP&L shall be allocated first to the June Billing Month, then to the May Billing Month, then to the April Billing Month, and then to the March Billing Month.

(ii) In any Billing Month in which the deliveries of Energy to UP&L are less than the total Energy estimated to be produced in that Billing Month, the Energy delivered shall be on the basis of Pro Rata Energy Deliveries.

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(iii) If a Variance results at the end of an Operating Year, the Variance will be settled from Project Energy at the end of the following Operating Year in accordance with the principles set forth in (i), (ii) and (iii) above, unless otherwise agreed to by the Parties.

Section 4.5. Reactive Power and Control. UP&L and the City shall cooperate in determining the joint needs for reactive power in the area which can be supplied by the Project. The City agrees to operate the Project to provide reactive control to fulfill the joint needs consistent with the BPA Power Sales Contract, the Westside Joint Operating Agreement and the operating limitations of the Project.

ARTICLE V

SCHEDULING AND MAINTENANCE

Section 5.1. Operating Status of Project. Whenever UP&L is receiving Project Energy, the City shall inform UP&L of the expected and actual operating status of the Project. The City shall advise UP&L daily of the expected hour-by-hour Project generation for the following day (on Friday or the day before a holiday, the schedule shall be for all succeeding days through the next Work Day). When UP&L is scheduled to receive the total Project generation, the City shall not restrict Project generation levels except as required by water availability, equipment limitations or Prudent Utility Practices. When UP&L and the City are sharing

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Project generation, the City shall notify UP&L dispatching personnel of any changes to planned operation schedules as soon as possible after such changes have been decided upon by the City.

Section 5.2. Information to BPA. During those periods when Project Energy is being used by the City, the City shall keep the schedulers of Bonneville Power Administration, or the entity scheduling for the area, informed as to the expected hourly generation of the Project.

Section 5.3. Rights of Ingress and Egress. The City hereby grants to UP&L reasonable rights of ingress and egress at the Project at such times as UP&L deems necessary upon reasonable notice given to Idaho Falls to read the billing metering and to perform periodic inspections on UP&L equipment.

Section 5.4. Submission of Maintenance Information to UP&L. The City shall submit to UP&L by January 1 of each year after commercial operation of the Project the following information:

a. a schedule of normal maintenance outages for the Project for the ensuing four Operating Years; and

b. any other operation and maintenance information determined by the Parties to be pertinent to the effective integration of the Project Energy into their respective systems.

Planned maintenance shall be scheduled in such manner as to minimize adverse impacts on the Parties' respective systems.

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Section 5.5. Generation Transmission or Substation Outages. The City shall report to UP&L dispatching personnel as soon as possible any generation, transmission or substation outages, scheduled or emergency, of the Project or of the Idaho Falls 161 kV Transmission Line, and shall use its best efforts to return its equipment to service as soon as possible. The City agrees to deliver UP&L's Energy to an alternate delivery point, within the capability of its system during an Operating Contingency. Each Party shall make best efforts to schedule Energy for its respective beneficial use or if the scheduled Energy cannot be used by the Party scheduling the Energy, due to an Operating Contingency, to make such Energy available to the other Party subject to the return of such Energy as agreed to by the Parties.

ARTICLE VI

USE OF IDAHO FALLS' ELECTRIC FACILITIES FOR DELIVERY OF ENERGY

Section 6.1. Project Transmission Facilities. In order to provide for delivery of Project Energy to the Delivery Point, Idaho Falls shall construct, own, operate and maintain as part of the Project a 161 kV transmission line from the Project step-up substation to the Idaho Falls 161 kV Transmission Line, at the intersection of New Sweden School and York Roads.

Section 6.2. Use of Transmission Facilities. During the term of this Agreement in exchange for the use by

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the City, without charge, of the 161 kV transmission line facilities owned by UP&L from the Sugar Mill and Westside Substations, as more particularly described in those letters dated July 15, 1980, and October 8, 1980, between the Parties, UP&L shall have the right to use, without charge, the Idaho Falls 161 kV Transmission Line either to the Sugarmill or Westside Substation for the delivery of Project generation. The Parties shall agree upon the loss factor to be used to compute the Delivered Energy to UP&L. Such loss factor may be changed from time to time based on verifiable loss studies as mutually agreed upon by the Parties.

ARTICLE VII

CALCULATION OF CAPITAL COST COMPONENT

Section 7.1. Calculation of Capital Cost Component. For the purpose of calculating the Capital Cost Component pursuant to Section 6.2 of the Power Sales Contract, the amendment herein of Section 4.4 of the Power Sales Agreement shall become effective only with respect to the budget for Hypothetical Debt Service falling due in the Fiscal Year beginning October 1, 1991, and each Fiscal Year thereafter.

ARTICLE VIII

SCHEDULING OF WATER RIGHTS

Section 8.1. Water Rights. The Director of the Idaho Department of Water Resources has issued determinations

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granting rights to appropriate Snake River water in connection with the Project, as follows:

(i) to the City, 5,000 cfs (the "City Water Rights"); and

(ii) to UP&L, 3,000 cfs (the "UP&L Water Rights").

It shall be assumed that for all purposes of the operation of the Project and the scheduling of usage of the Parties' water rights, the City Water Rights shall be utilized first and thereafter, to the extent necessary, the UP&L Water Rights shall then be utilized. As provided in Section 8.3 of the Power Sales Contract, neither Party shall be required to compensate the other for the use of any water rights supplied by the other for Project operation during the term of the Power Sales Contract.

ARTICLE IX

DEVIATIONS IN OPERATING PROCEDURES

Section 9.1. Deviations in Operating Procedures. For all purposes of Sections 1.2.12, 4.2.1, 4.2.2, 4.3 and 4.4 of this Agreement, the procedures to be followed in obtaining mutual agreement of the Parties shall consist of telephonic consultation by the representative of UP&L designated from time to time by UP&L pursuant to a certificate in substantially the form attached hereto as Exhibit III and delivered to the Manager or Chief Engineer of the Electric Division of the City, promptly confirmed in writing. In

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addition to the foregoing permitted deviations, the Parties understand and agree that from time to time the operation of the Project may deviate from that set forth in this Agreement. In the case of any other deviation in operation from that set forth in this Agreement, the Parties may mutually agree on any such operating deviation, so long as said deviation does not conflict with the provisions of the Power Sales Contract, by following the procedures set forth in the first sentence of this Section 9.1.

ARTICLE X

REPAYMENT OF EXCESS

Section 10.1. Repayment to City of the Excess. Pursuant to the provisions of Section 4.23.5 of the Power Sales Contract, the Excess shall be returned to the City pursuant to the following methodology:

10.1.1. With respect to the Excess, the unpaid principal balance and accrued interest owing as of September 30, 1991, on account of the $4,049,126 referenced in Section 9.6.1 of the First Amendatory Operating Agreement, has been included in the Hypothetical Debt Service schedule attached hereto as Exhibit IV. Such portion of the Excess shall be returned to the City in accordance with the provisions of Sections 4.4 and 6.2 of the Power Sales Contract as amended by this Agreement.

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10.1.2. When all costs of claims relating to the Project have been determined and resolved, Idaho Falls shall supply a final accounting of the total amount of the Excess to UP&L. Upon the rendering of the final accounting, reconciliation of the amount of the Excess shall be made in accordance with the principles contained in Section 6.4 of the Power Sales Contract and in this Section 10.1.2, to wit:

(i) If the total amount of the Excess is more than $4,049,126, upon notice to UP&L by the City, UP&L will pay 39% of the total amount which exceeds $4,049,126.

(ii) If the total amount of the Excess is less than $4,049,126, Line 19 of the Budget for the Fiscal Year during which the final accounting is supplied, shall be amended, consistent with the principles contained in Annex B to the First Amendatory Operating Agreement, reducing such line item and giving UP&L a credit in future months to reflect any overpayment by UP&L based on Line 19 of the Budget for that Fiscal Year before the amendment.

ARTICLE XI

MISCELLANEOUS

Section 11.1 Assignment. Neither this Agreement nor any part hereof shall be assigned by either Party without prior written consent of the other.

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Section 11.2. Term. The term of this Agreement shall commence on the date of execution hereof and shall terminate upon termination of the Power Sales Contract.

Section 11.3. Notices. Any notice, demand or request provided for this Agreement shall be in writing and shall be deemed properly served, given or made if delivered in person or sent by registered or certified mail, postage prepaid, to the persons specified below:

City of Idaho Falls
Electric Light Division
P. O. Box 50220
Idaho Falls, ID 83405-0220

and to

PacifiCorp Electric Operations
Attn: Power Supply
1 Utah Center
201 South Main, Suite 2100
Salt Lake City, UT 84140

Either Party may, at any time, by notice to the other, designate different or additional persons or different addresses for the giving of notice hereunder.

Section 11.4. Choice of Law. This Agreement shall be interpreted, governed by and construed under the laws of the State of Idaho.

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IN WITNESS WHEREOF, the Parties hereto have executed this Operating Agreement as of the date and year first above written.

CITY OF IDAHO FALLS

By _____
Thomas V. Campbell
Mayor

ATTEST:

_____
City Clerk

(SEAL)

PACIFICORP, d/b/a
UTAH POWER & LIGHT COMPANY

By: _____
Harry A. Haycock
(Name)

Executive Vice President
(Title)

ATTEST:

_____
Asst. Corporate Secretary

(SEAL)

AA064.1/DWSD

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EXHIBIT 1

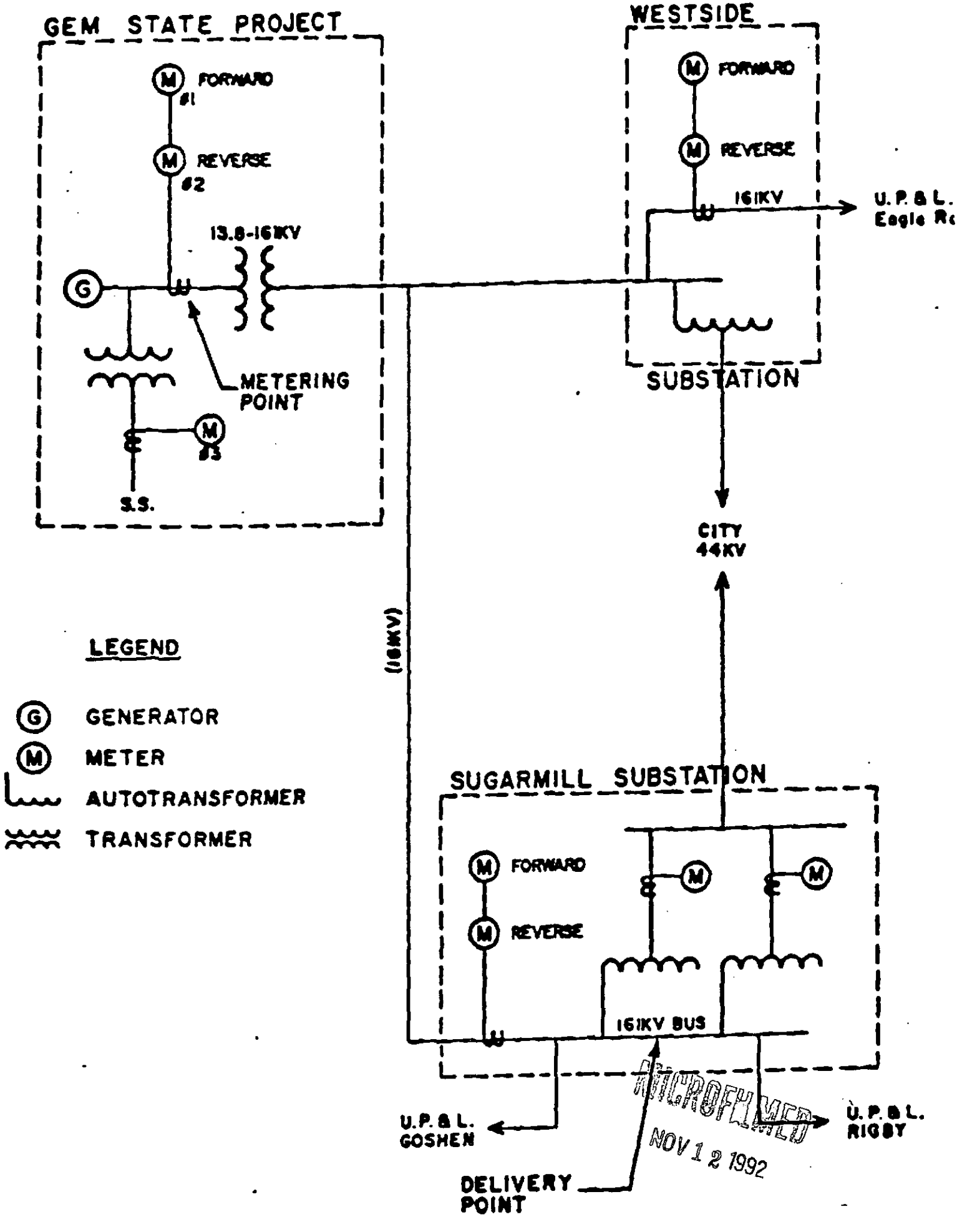

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EXHIBIT II

SAMPLE CALCULATION OF DELIVERED ENERGY

May

Meter No. 1 (forward)			
Begin Reading	15,000,000		
End Reading	30,330,446		
Difference	15,330,446		
Meter No. 2 (reverse)			
Begin Reading	5,401,000		
End Reading	5,501,000		
Difference	100,000		
Meter No. 3 (station service)			
Begin Reading	6,255,000		
End Reading	6,305,000		
Difference	50,000		
GROSS ENERGY PRODUCTION (Meter 1 - Meter 2 + Meter 3)			
15,330,446 - 100,000 + 50,000			15,280,446 kWh
ENERGY (Note 1) (Meter 1 - Meter 2)			
15,330,446 - 100,000			15,230,446 kWh
City Share	80%	(Note 2)	12,184,357 kWh
UP&L's Share	20%	(Note 2)	3,046,089 kWh
DELIVERED ENERGY (Note 3)			
UP&L's Share	3,046,089 x 0.97 (Loss Factor)		2,954,706 kWh

NOTES

Note 1 Energy as defined in Section 4.8 of the Gem State Project Power Sales Contract.

Note 2 Pro Rata Energy Deliveries to City and UP&L in accordance with Section 1.2.12 of the Restated Operating Agreement.

Note 3 Delivered Energy to UP&L in accordance with Section 1.2.6 of the Restated Operating Agreement.

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EXHIBIT III

[Letterhead of UP&L]

City of Idaho Falls
Electric Light Division
140 South Capital
Idaho Falls, Idaho 83402
Attention: Manager

Dear Sir:

Pursuant to the provisions of Section 9.1 of the Restated Operating Agreement dated as of July _____, 1991, between PacifiCorp, an Oregon corporation doing business as Utah Power & Light Co. ("UP&L") and the City of Idaho Falls, Idaho, UP&L hereby designates [Name] [Title] [Address] [Telephone Number] as its representative for purposes of the procedures described in Section 9.1 of the Restated Operating Agreement.

PACIFICORP, an Oregon Corporation
doing business as Utah Power &
Light Co.

By_____
Its_____

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City of Idaho Falls, Idaho

EXHIBIT IV

Hypothetical Debt Service Schedule
Relating to the Amended and Restated
Operating Agreement
Between the City
and
Pacificorp, DBA Utah Power & Light Company

August 21, 1991

Fiscal Year	Principal	Rate	Interest	Total Payment Requirements
1991			$420,277	$420,277
1992	$355,000	5.00%	3,773,615	4,128,615
1993	565,000	5.35%	3,749,626	4,314,626
1994	635,000	5.60%	3,716,733	4,351,733
1995	775,000	5.85%	3,676,284	4,451,284
1996	1,215,000	6.00%	3,617,165	4,832,165
1997	1,290,000	6.10%	3,541,370	4,831,370
1998	1,355,000	6.20%	3,460,020	4,815,020
1999	1,650,000	6.30%	3,366,040	5,016,040
2000	1,755,000	6.40%	3,257,905	5,012,905
2001	1,865,000	6.50%	3,141,133	5,006,133
2002	1,980,000	6.60%	3,015,180	4,995,180
2003	2,115,000	6.70%	2,878,988	4,993,988
2004	2,255,000	6.80%	2,731,465	4,986,465
2005	2,405,000	6.90%	2,571,823	4,976,823
2006	2,580,000	7.00%	2,398,550	4,978,550
2007	2,760,000	7.00%	2,211,650	4,971,650
2008	2,950,000	7.00%	2,011,800	4,961,800
2009	3,160,000	7.00%	1,797,950	4,957,950
2010	3,380,000	7.00%	1,569,050	4,949,050
2011	3,615,000	7.00%	1,324,225	4,939,225
2012	3,870,000	7.00%	1,062,250	4,932,250
2013	4,135,000	7.00%	782,075	4,917,075
2014	4,405,000	7.00%	483,175	4,888,175
2015	4,700,000	7.00%	164,500	4,864,500

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COPY

EXHIBIT B

GEM STATE PROJECT

POWER SALES CONTRACT

BETWEEN

THE CITY OF IDAHO FALLS, IDAHO

AND

UTAH POWER & LIGHT COMPANY

DATED: January 29, 1985

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GEM STATE PROJECT
POWER SALES CONTRACT

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GEM STATE PROJECT POWER SALES CONTRACT

1. PARTIES: The Parties to this contract, made this 29th day of January, 1985, are the CITY OF IDAHO FALLS, a municipal corporation of the State of Idaho ("Idaho Falls") and UTAH POWER & LIGHT COMPANY, a Utah corporation ("UP&L") (sometimes referred to individually as "Party" and jointly as "Parties").

2. RECITALS: This contract is made with reference to the following facts among others:

2.1 On April 7, 1982, the Parties entered into a letter of intent regarding the development by Idaho Falls of the Gem State Hydroelectric Project ("Project") located on the Snake River in Bingham and Bonneville Counties, Idaho pursuant to License No. 2952 ("License"), issued on December 12, 1983, to Idaho Falls by the Federal Energy Regulatory Commission ("FERC").

2.2 Pursuant to the letter of intent, and in partial consideration of the use by Idaho Falls of a portion of the land owned by UP&L which is necessary for the Project, Idaho Falls has agreed to sell Energy to UP&L as provided in this Power Sales Contract.

2.3 Pursuant to this Power Sales Contract and the License, Idaho Falls will design, construct, finance, own, operate and maintain the Project, and UP&L will purchase Energy from the Project for a term of 35 years commencing on the Date of Commercial Operation of the Project.

2.4 This Power Sales Contract supersedes the April 7, 1982

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letter of intent and all other prior agreements and negotiations between the Parties and represents the full and total agreement between the Parties.

2.5 Idaho Falls has called, held and conducted a bond election as required by law upon the proposition of Idaho Falls issuing its general obligation bonds in an amount sufficient to pay the costs of development, design and construction of the Project and the payment of interest estimated to fall due prior to the Date of Commercial Operation and the establishment of all necessary reserves required under the Bond Resolution.

3. AGREEMENT: In consideration of the mutual covenants herein, the Parties agree as follows:

4. DEFINITIONS: The following terms, whether in the singular or in the plural, when used herein and in the exhibits and initially capitalized, shall have the meanings specified:

4.1 Budget: An annual written statement prepared by Idaho Falls and delivered to UP&L pursuant to Section 6.4 hereof, showing the amount to be paid to Idaho Falls by UP&L for UP&L's purchase of Energy from Idaho Falls, generated at the Project.

4.2 Bond Resolution: All ordinances and resolutions adopted by the City Council of Idaho Falls authorizing the

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issuance of Bonds.

4.3 Bonds: The Electric Bonds issued by Idaho Falls from time to time pursuant to the Bond Resolution to pay the costs of the Project.

4.4 Capital Cost Component: An amount sufficient to return to Idaho Falls each Fiscal Year an amount equal to the UP&L Percentage times (i) an amount representing the Debt Service on the Outstanding Bonds for that Fiscal Year, and (ii) any amounts payable under the Bond Resolution for the establishment or re-establishment of reserves, less investment earnings on funds and investments held under the Bond Resolution.

4.5 Date of Commercial Operation: 12:01 a.m. on the date (i) when Idaho Falls, based on Prudent Utility Practices, determines that the Project is installed, tested and ready to deliver continuous electrical energy; and (ii) when Idaho Falls represents and warrants to UP&L that construction of the Project is in accordance with Prudent Utility Practices and with the plans and specifications and in compliance with the License, and all laws, ordinances, rules, regulations or orders applicable thereto; and (iii) when Idaho Falls and UP&L have executed the Operating Agreement.

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4.6 Debt Service: For each Fiscal Year an amount equal to the sum of (i) all interest payable during such Fiscal Year on all Outstanding Bonds plus (ii) the principal installment or installments due and payable during such Fiscal Year on Outstanding Bonds, calculated on the assumption that Bonds outstanding on the day of calculation cease to be Outstanding by reason of, but only by reason of, payment and application of any sinking fund installments required by the Bond Resolution plus (iii) annual credit enhancement fees not capitalized as part of the bond issue.

4.7 Delivery Point: The point or points mutually agreed to by the Parties in the Operating Agreement for the delivery of Energy from the Project by Idaho Falls to UP&L pursuant to the provisions of this Power Sales Contract.

4.8 Energy: Megawatt-hours (MWh) generated by the Project less Project Station use.

4.9 Fiscal Year: The annual accounting period of Idaho Falls from time to time in effect, initially a period commencing on October 1 of each calendar year and ending on the next succeeding September 30.

4.10 Idaho Falls System: All facilities now or hereafter owned and operated by Idaho Falls for generation, trans-

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mission and distribution of electrical energy, but excluding the Project.

4.11 License: The license for FERC Project No. 2952 issued by the Federal Energy Regulatory Commission on December 12, 1983, and expiring on November 30, 2033, and any amendment or modification thereof, which authorizes Idaho Falls to construct, operate and maintain the Project. The license is made a part of this Power Sales Contract.

4.12 Nameplate Capacity: The rated capacity of the machine as indicated on the nameplate by the manufacturer.

4.13 Nameplate Energy: The annual amount of Energy which is equal to the nameplate capacity of the Project in kW times 8760 hours.

4.14 Operating Year: A period commencing on July 1 and ending on the next succeeding June 30.

4.15 Operating Agreement: That agreement to be negotiated and executed between the Parties prior to the Date of Commercial Operation of the Project setting forth the Parties' agreement regarding scheduling the delivery of Energy to UP&L from the Project, protection of Project facilities, transmission of Project Energy from the West

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Side Substation to the Delivery Point, metering, usage of the Parties' water rights, and other operational issues.

4.16 Operating Contingency: An unplanned event or circumstance, a series of events or circumstances, or any restriction or condition imposed by any governmental authority which reduces the maximum generating capability of the Project or the capability of the Project transmission system.

4.17 Outstanding: As of any date of calculation, all Bonds which have been duly authenticated and delivered by the Trustee under the Bond Resolution except: (i) Bonds theretofore cancelled by the Trustee or delivered to the Trustee for cancellation; (ii) Bonds for the payment or redemption of which cash funds or investment securities (as such investment securities are defined in the Bond Resolution) have theretofore been deposited with the Trustee (whether upon or prior to the maturity or redemption date of any such Bonds), provided that, if such Bonds are to be redeemed, notice of such redemption has been duly given pursuant to the provisions of the Bond Resolution or arrangements satisfactory to the Trustee shall have been made therefor, or waiver of such notice satisfactory in form to the Trustee shall have been filed with the Trustee; and (iii) Bonds in exchange for or in lieu of which other Bonds have been authenticated or

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delivered pursuant to the provisions of the Bond Resolution.

4.18 Project: The Gem State Hydroelectric Project to be located on the Snake River at river mile 789.76, including all land and transmission facilities to the West Side substation as further described in the License, including all reconstruction, replacement, extension, expansion, improvement, betterment and addition thereto undertaken in the future by Idaho Falls pursuant to the License.

4.19 Prudent Utility Practices: "Prudent Utility Practices" shall mean any of the practices, methods and acts engaged in or approved by a significant proportion of the electrical utility industry, or any practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time, could have been expected to accomplish the desired result at the lowest reasonable cost consistent with reliability, safety and expedition, and the requirements of governmental agencies having jurisdiction. Prudent Utility Practices are not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to be a range of possible practices, methods or acts.

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4.20 Trustee: The bank, trustee or bank co-trustee, at the time serving as such under the Bond Resolution.

4.21 Uncontrollable Forces: Any cause beyond the control of the Party affected, and which, by the exercise of reasonable diligence such Party is unable to prevent or overcome, including, but not limited to, failure of facilities, except failure due to ordinary negligence, flood, earthquake, storm, lightning, fire, epidemic, war, riot, civil disturbance, labor disturbance, sabotage, and restraint by court or public authority.

4.22 UP&L Percentage: That percentage of Energy from the Project delivered by Idaho Falls to UP&L on an annual basis pursuant to Section 5.2 of this Power Sales Contract.

4.23 Variable Cost Component: An amount sufficient to return to Idaho Falls each Fiscal Year an amount equal to the UP&L Percentage times the sum of costs (other than Debt Service) incurred by Idaho Falls as a result of its ownership and operation of the Project, including, without duplication, but not limited to:

4.23.1 Governmental taxes, FERC license fees, assessments or other similar charges or payments in lieu thereof lawfully imposed; provided, however, that such monies shall not

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be payable by UP&L hereunder if they have been paid directly by UP&L to the taxing or assessing governmental entity.

4.23.2 Reasonable and necessary costs of operation and maintenance of Idaho Falls for the Project.

4.23.3 Idaho Falls' costs of capital improvements, repairs and replacements, net of salvage, to the Project which are in excess of the total of (i) moneys available therefor under the Bond Resolution, (ii) available proceeds from the sale of a series of Bonds, and (iii) proceed from any applicable insurance.

4.23.4 Costs of insurance obtained and maintained by Idaho Falls pursuant to Section 8.5 hereof.

4.23.5 All reasonable and necessary costs applicable to the Project (other than Debt Service) not otherwise included above which have been incurred, irrespective of the actual amount of Energy generated by the Project, but excluding all costs of whatever nature relating to the Idaho Falls System.

4.24 Work Day: A day which the Parties jointly observe as a regular work day.

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5. SALE OF ENERGY:

5.1 Idaho Falls shall sell to UP&L, and UP&L shall buy, at the Delivery Point, Energy from the Project as set forth in this Section 5.

5.2 The UP&L Percentage in each Operating Year shall be equal to 39% of the amount of Energy produced during the Operating Year by the Project; provided, however, Idaho Falls may reduce the UP&L Percentage in stages or at one time to not less than 25% of the amount of Energy produced during the Operating Year by the Project. This reduction shall begin on July 1 of any Operating Year upon not less than 36 months prior written irrevocable notice to UP&L, whenever Idaho Falls shall determine that such Energy is needed and will be used for distribution in the Idaho Falls System. Anything in this Section 5.2 to the contrary notwithstanding, the total amount of Energy delivered to UP&L under this Section 5.2 shall not, within the meaning of 26 C.F.R. §1.103-7(b)(5), exceed, over the entire term of the Bonds, (i) 25% of Nameplate Energy or (ii) 75% of actual Energy generated by the Project, whichever is less.

5.3 Delivery of Energy hereunder to UP&L by Idaho Falls at the Delivery Point shall be contingent upon the operation

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of the Project, and scheduled deliveries to UP&L shall be subject to reduction due to Project outages, Operating Contingencies, and Uncontrollable Forces. Should such reduction occur, Idaho Falls shall exercise due diligence to restore full operation and scheduled deliveries and to remove Operating Contingencies and Uncontrollable Forces with all reasonable dispatch and shall keep UP&L fully informed of changes and conditions as far in advance as possible.

5.4 UP&L shall be obligated to take Energy at the Delivery Point in the amounts specified in Section 5.2 for the term of this Power Sales Agreement, beginning with the Date of Commercial Operation.

6. PAYMENT FOR ENERGY:

6.1 Beginning on the Date of Commercial Operation of the Project, UP&L shall pay annual amounts to Idaho Falls for Energy in the manner provided in this Section 6.

6.2 For each Fiscal Year, the charge for Energy purchased by UP&L hereunder shall be the sum of (i) the Variable Cost Component, (ii) the Capital Cost Component, and (iii) 5% of the sum of the Capital Cost Component and the Variable

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Cost Component, as those components are determined for each Fiscal Year.

6.3 After the Date of Commercial Operation, UP&L's obligation to pay Idaho Falls for Energy hereunder shall not be affected by the operating status of the Project. Such payments shall not be subject to any reduction, whether by offset or otherwise, except as provided in Section 6.5 hereof, and shall not be conditioned upon the performance or non-performance of the Project, the remedy for non-performance being limited to mandamus, specific performance or other legal or equitable remedy. Notwithstanding the foregoing, it is not intended that UP&L by this Power Sales Contract assumes any obligation or liability as guarantor, surety or otherwise with respect to the Bonds or other securities issued by Idaho Falls for the Project or any other debts or obligations incurred by Idaho Falls for the Porject. UP&L shall have no payment obligations for the Project except as set forth herein.

6.4 Not later than 60 days prior to the commencement of each Fiscal Year, Idaho Falls shall furnish UP&L with a written Budget for the next succeeding Fiscal Year which shall set forth the amount of the Capital Cost Component payable by UP&L in the forthcoming Fiscal Year and the estimated Variable Cost Component payable by UP&L in the

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forthcoming Fiscal Year. Not later than 60 days prior to the estimated Date of Commercial Operation of the Project, Idaho Falls shall file with UP&L an interim Budget for the remaining balance of the Fiscal Year in which Date of Commercial Operation of the Project is scheduled to occur. UP&L agrees to pay the amounts due to Idaho Falls for Energy shown on the yearly Project Budget in 12 equal monthly installments. So long as any of the Bonds remain Outstanding each monthly installment shall be due and payable by UP&L at the principal corporate trust office of the Trustee or at such other place designated by Idaho Falls not later than the 15th day of each month. A final accounting of all Project transactions in each Fiscal Year shall be rendered to UP&L by Idaho Falls on or before the 90th day of the succeeding Fiscal Year. The final accounting shall specify the amount, if any, which UP&L must pay to Idaho Falls to reconcile total monthly payments with actual amounts due Idaho Falls for the purchase of Energy, which amount shall be payable to Idaho Falls no later than 30 days after the receipt of the final accounting. If the final accounting demonstrates an overpayment by UP&L, Idaho Falls shall pay the amount of such overpayment to UP&L no later than 30 days after the delivery to UP&L of the final accounting.

6.5 In the event of any dispute as to any portion of any monthly statement or final accounting, UP&L shall never-

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theless pay the full amount shown on such statement when due and shall, within 90 days from the date of such statement, give written notice of the dispute to Idaho Falls. Such notice shall identify the disputed statement, state the amount in dispute and set forth a full statement of the grounds on which such dispute is based. No adjustment shall be considered or made for disputed charges unless notice is given as aforesaid. Idaho Falls shall give consideration to such dispute and shall advise UP&L with regard to its position relative thereto within 30 days following receipt of such written notice. Upon agreement or final adjudication, as the case may be, of the correct amount, any difference between such correct amount and such full amount shall be added to or subtracted from UP&L's next monthly installment payment, together with interest on such full amount of UP&L's overpayment, if any, at the rate fixed for interest to be charged UP&L in Section 6.7 hereof.

6.6 The Parties and the Trustee on behalf of Idaho Falls, shall have the right from time to time to begin and maintain successive proceedings in law or in equity against the other Party to enforce any of the provisions of this Power Sales Contract, to the extent permitted by law, including but not limited to injunctive relief in case of the violation or threatened violation of this

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contract, or a decree concerning performance of any of the provisions of this contract, a judgment for an amount equal to all of UP&L's payments due and owing hereunder, or credits owing to UP&L by Idaho Falls hereunder, or any other remedy.

6.7 If UP&L does not pay in full any installment on or before the close of business on the last day of the month in which such installment is due, an interest charge will be made at the rate of ten per cent (10%) per annum. If such installment remains unpaid subsequent to the last day of the month in which it is due, Idaho Falls may, with the consent of the Trustee, and upon receipt of a written request from the Trustee shall, upon giving 15 days' advance written notice to UP&L, cause the delivery of Energy to UP&L from the Project to be discontinued unless, and shall refuse to resume delivery of Energy to Utah until, said delinquent installment has been paid.

6.8 If any action is brought by either Party for the enforcement of any right or remedy provided for in this contract, including, but not limited to, an action wherein it is determined that UP&L failed to make a payment due at the time of commencement of the action, the Party against which relief is granted shall pay all expenses incurred in connection therewith, including,

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without limitation, reasonable attorneys' fees, court costs and expenses.

6.9 No right or remedy herein conferred upon or reserved to either of the Parties, or to the Trustee on behalf of Idaho Falls, is exclusive of any other right or remedy, and each and every right and remedy is cumulative and in addition to any other right or remedy given hereunder, or now or hereafter legally existing. The failure of either of the Parties, or the Trustee on behalf of Idaho Falls, to insist at any time upon the strict observance or performance of any of the provisions of this contract, or to exercise any right or remedy provided for herein, shall not impair any such right or remedy nor be construed as a waiver or relinquishment thereof for the future. Receipt by Idaho Falls, the Trustee on behalf of Idaho Falls, or UP&L, of any payment required to be made pursuant to this contract with knowledge of the breach of any provisions of this contract, shall not be deemed a waiver of such breach.

6.10 The Trustee, on behalf of Idaho Falls or the holders of the Bonds, is entitled to enforce any of the rights or remedies provided for in this contract at any time, and the Trustee may proceed, either in its own name and as trustee of any express trust or otherwise, to protect and enforce its rights and those of Idaho Falls

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under this contract. Such rights and remedies as are given Idaho Falls hereunder shall also extend to the Trustee; and the Trustee and the holders of the Bonds, subject to the provisions of the Bond Resolution, shall be entitled to the benefit of all covenants and agreements in this contract contained.

6.11 Idaho Falls shall have the right to refund all or any part of the Bonds in order to effect cost savings and other policy objectives of Idaho Falls. So long as UP&L is obligated to purchase and pay for Energy pursuant to this Power Sales Contract, the Parties will negotiate in good faith any amendment to this Power Sales Contract necessary in order to accomplish such refunding; provided however, Idaho Falls must acquire UP&L's consent to any refunding which would result in an increase in the annual Capital Cost Component. A refunding issue may provide for scheduled Bond maturities occurring beyond the last maturity date of the issue that is being refunded, but not beyond the date of the termination of this Power Sales Contract, unless said refunding Bond Authorization expressly provides that UP&L's obligation to pay installments on said refunding bonds ceases on the termination date of this contract. Idaho Falls shall act prudently in issuing refunding bonds, and agrees to use its best efforts to issue such refunding bonds at the

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lowest practicable costs consistent with Idaho Falls' policy objectives sought to be achieved by the refunding.

7. DELIVERY OF ENERGY:

7.1 Idaho Falls' delivery of Energy to UP&L from the Project shall be scheduled pursuant to the Operating Agreement. The Operating Agreement shall provide that Idaho Falls shall exercise its best efforts to deliver to UP&L all of the Energy produced by the Project during the months of June, July and August. In the event that the Energy production of the Project in the months of June, July and August is less than the UP&L Percentage of Energy UP&L is obligated to purchase hereunder, Idaho Falls shall deliver the remainder of said Energy as scheduled in the Operating Agreement.

7.2 At the request of UP&L, Idaho Falls will negotiate with UP&L and Bonneville Power Administration for a summer-winter exchange for Energy from Idaho Falls' existing low-head hydro projects.

7.3 Idaho Falls shall submit to UP&L by January 1 of each year the following information:

(1) a schedule of normal maintenance outages for the Project for the ensuing four Operating Years; and

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(2) any other operation and maintenance information determined by the Parties to be pertinent to the effective integration of Project Energy into their respective systems.

7.4 Idaho Falls shall report to UP&L as soon as possible any generation or transmission outages, scheduled or emergency, at the Project and shall use best efforts to return such equipment to service as soon as possible.

7.5 Planned maintenance shall be scheduled pursuant to the Operating Agreement in such a manner as to minimize adverse impacts on the Parties' respective systems.

8. GENERAL PROVISIONS:

8.1 Idaho Falls has called, held and conducted a bond election, as required by law, upon the proposition of the issuance of its general obligation bonds in an amount sufficient to pay the costs of development, design and construction of the Project and the interest estimated to fall due prior to the Date of Commercial Operation and to establish all necessary reserves required under the Bond Resolution, and represents that it will acquire all permits, licenses, rights and privileges, structures, equipment, water rights, except UP&L's water rights, and facilities necessary to the development of the Project

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and the Parties' performance under this contract. Idaho Falls shall maintain and defend such permits, licenses and rights and privileges and shall not voluntarily permit any change therein impairing Idaho Falls' performance of its obligations hereunder.

8.2 As partial consideration of the sale to it of Energy from the Project by Idaho Falls, UP&L agrees to lease its land necessary for development and operation of the Project to Idaho Falls. The lease shall be subject to renewal on mutually agreeable terms. Said land is described on Exhibit "A" to that certain Ground Lease by and between the Parties dated the date hereof. UP&L grants Idaho Falls access to said land prior to execution of the lease for such Project purposes as Idaho Falls deems necessary. Nothing in this contract shall be construed as an abandonment, relinquishment, sale, lease or transfer of the land or facilities of either of the Parties after the term of this Power Sales Contract.

8.3 UP&L will cooperate with Idaho Falls in perfecting all water rights required for the operation of the Project. Neither Party shall be required to compensate the other for the use of any water rights supplied by the other for Project operation during the term of this Power Sales Contract. Each Party shall retain its interests in its water rights used in the operation of the Project during

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the term of this Power Sales Contract and thereafter. Nothing in this contract shall be construed as an abandonment, relinquishment, sale, lease or transfer of the water rights of either of the Parties. The Operating Agreement shall set forth the scheduling of usage of the Parties' water rights.

8.4 If by June 12, 1987, Idaho Falls has not issued and sold general obligation bonds in an amount sufficient to pay the costs of Project design and construction together with interest estimated to fall due prior to the Date of Commercial Operation and all necessary reserves required under the Bond Resolution, or if Idaho Falls determines that, using Prudent Utility Practices, it has made its best efforts to complete the development of the Project but cannot reasonably complete such development, then UP&L, upon written notice from Idaho Falls, shall have, subject to applicable law, the first right to purchase whatever interest Idaho Falls may then own in the Project, including all real property, equipment, and the assignment of all rights, permits and licenses, at a price sufficient to reimburse Idaho Falls for all expenditures theretofore made by Idaho Falls in the development of the Project. If UP&L agrees to purchase the interest of Idaho Falls in the Project, UP&L will use its best efforts to complete the development of the Project. UP&L shall exercise its right to purchase Idaho Falls'

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interest in the Project within the lesser of 18 months after receipt of notice from Idaho Falls or any limitations imposed by the License or any extension thereof. In addition, UP&L shall offer to sell to Idaho Falls 25% of the annual Energy production of the Gem State Project on a take or pay basis, beginning with the Date of Commercial Operation. If Idaho Falls agrees to purchase 25% of the annual Energy production of the Project, UP&L will make best efforts to deliver said Energy to Idaho Falls during the winter months of each Operating Year under terms similar to those set forth in Section 5 hereof, subject, however, to the receipt by UP&L of approval of all required regulatory authorities. If such regulatory approval cannot be obtained, any Energy supplied to Idaho Falls will be delivered and paid for by Idaho Falls pursuant to UP&L's FERC resale tariff then in effect; provided, however, that nothing herein contained shall be construed as affecting in any way the right of UP&L unilaterally to make application to the FERC for a change in rates, charges, classification or service or any rule, regulation or contract relating thereto under Section 205 of the Federal Power Act and pursuant to the rules and regulations of the FERC promulgated thereunder.

8.5 Beginning on the Date of Commercial Operation, Idaho Falls shall procure and thereafter maintain in effect for

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the term of this contract, in accordance with Prudent Utility Practices, adequate insurance coverage for the operation of the Project with UP&L and Idaho Falls each as a named assured and loss payee, as their respective interests may appear, to protect and insure against: (i) workmen's compensation and employer's liability (it being understood that UP&L may also self-insure in respect of such risks), (ii) public liability for bodily injury and property damage, (iii) all risks of physical damage to property or equipment, including any such damage caused by the negligence of the Project operator, and (iv) such other insurance required by Prudent Utility Practices, within reasonable limits and subject to appropriate exclusions and deductibles. In addition, UP&L may obtain insurance for its own account, the proceeds of which shall be payable directly to UP&L. Idaho Falls shall promptly deliver to UP&L certified copies of all insurance policies with respect to the Project which Idaho Falls is required to maintain, together with evidence as to the payment of all premiums then due thereon. Idaho Falls shall provide access to its records and accounts so that agents or employees of UP&L shall be able to prepare a report setting forth the pertinent information regarding the insurance obtained by Idaho Falls.

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8.6 Idaho Falls shall keep proper books of account showing the Project as a separate utility system segregated from the accounts of the Idaho Falls System, in accordance with the rules and regulations prescribed by any governmental agency authorized to prescribe such rules and in accordance with the FERC's "Uniform System of Accounts Prescribed for Public Utilities and Licensees" now in effect or as such system of accounts may be in effect from time to time, whether or not Idaho Falls is required by law to use such accounts. Idaho Falls shall submit to UP&L such supporting data with respect to all annual Budgets and yearly accounting reconciliations as are reasonably necessary to enable UP&L to effect proper accounting therefor. All books of account and accounting records of Idaho Falls shall be available for audit and utilization by a duly authorized officer or agent of UP&L at all reasonable times. Idaho Falls shall cause such books of account of the Project to be audited annually by independent public accountants experienced in electric utility accounting and of national reputation, as provided in the Bond Resolution. A copy of each such annual audit, including any recommendations of the accountants with respect thereto, shall be promptly made available by Idaho Falls to UP&L.

8.7 It is recognized that Idaho Falls must comply with the requirements of the Bond Resolution and the License, and

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all other licenses, permits and regulatory approvals necessary for the ownership, acquisition, construction and operation of the Project, and it is, therefore, agreed that this Power Sales Contract is made subject to the terms and provisions of the Bond Resolution and the License, and all other such licenses, permits and regulatory approvals.

8.8 UP&L, its officers, agents and employees, or any of them, shall not be liable for any claims, demands, costs, losses, causes of action, damages or liability of whatsoever kind or nature arising out of or resulting from Idaho Falls' ownership, acquisition, construction and operation of the Project. To the extent permitted by law, Idaho Falls shall indemnify, defend and hold harmless UP&L from any and all suits, actions, legal or administrative proceedings, claims, demands, damages, liabilities, interest, attorneys' fees, costs and expenses of whatsoever kind or nature arising out of or resulting from Idaho Falls' ownership, acquisition, construction and operation and maintenanceof the Project. Idaho Falls, its officers, agents and employees, or any of them, shall not be liable for any claims, demands, costs, losses, causes of action, damages or liability of whatsoever kind or nature arising out of or resulting from the performance by UP&L under this contract.

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8.9 Idaho Falls will construct, own, operate and maintain electrical facilities from the generator bus and step-up substation to the 44 kV bus at the West Side substation as part of the Project to deliver UP&L's and Idaho Falls' Energy to the West Side Substation. The Operating Agreement shall provide for delivery of Energy over Idaho Falls' facilities from the West Side substation to the Delivery Point. Idaho Falls will make its best efforts to arrange for use of any Bonneville Power Administration facilities which are required.

8.10 Neither this Power Sales Contract nor any part thereof shall be assigned by either Party without prior written consent of the other.

8.11 Idaho Falls, by entering into this Power Sales Contract, does not hold itself out to furnish wholesale electric or similar service to any other person or entity.

8.12 This Power Sales Contract shall be effective as of the date hereof and shall continue in effect until 35 years from the Date of Commercial Operation.

8.13 Any notice, demand or request provided for in this Power Sales Contract shall be in writing and shall be deemed

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properly served, given or made if delivered in person or sent by registered or certified mail, postage prepaid, to the persons specified below:

8.13.1 City of Idaho Falls
Electric Light Division
P. O. Box 220
Idaho Falls, Idaho 83402

and

8.13.2 Utah Power & Light Company
Attn: Corporate Secretary
P. O. Box 899
Salt Lake City, Utah 84110

Either Party may, at any time, by notice to the other, designate different or additional persons or different addresses for the giving of notice hereunder.

8.14 This Power Sales Contract shall be interpreted, governed by and construed under the laws of the State of Idaho.

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8.15 Execution of this Power Sales Contract is subject to the approval of UP&L's Board of Directors. This Power Sales Contract is subject to acceptance for filing by the Idaho Public Utilities Commission, the Utah Public Service Commission and the Wyoming Public Service Commission. The provisions of this Power Sales Contract shall not be construed to require either Party to submit itself to regulation or review by any governmental entity or agency which does not presently exercise jurisdiction over such Party.

IN WITNESS WHEREOF, the Parties hereto have executed this Power Sales Contract on the date and year herein first above written.

CITY OF IDAHO FALLS, IDAHO

Attest: Velma Chandler By: Thomas Campbell

City Cclerk (Title) Mayor (Title)

UTAH POWER & LIGHT COMPANY

Attest: Robert Gardner By: L. L. Lawson

Corporate Secretary (Title) Exec. Vice Pres. (Title)

NOV 12 1982

UTAH
STATE OF ~~IDAHO~~)
) ss:
COUNTY OF SALT LAKE)

On this 9th day of January, in the year 1985 before me Dianna Eldridge personally appeared J.L.C. Taylor known or identified to me to be the President and CEO of the corporation that executed the instrument attached hereto or the person who executed instrument on behalf of said corporation, and acknowledged to me that such corporation executed the same.

Dianna Eldridge
Notary Public
Residing in Salt Lake County, Utah

My Commission Expires:
May 14 1986

STATE OF IDAHO)
) ss:
COUNTY OF BONNEVILLE

On this 27th day of September, in the year 1985, before me Dale W. Storer personally appeared Thomas Campbell known or identified to me to be the Mayor of the City of Idaho Falls, Idaho that executed the attached instrument, and acknowledged to me that such executed the same.

Dale Storer
Notary Public for State of Idaho
Residing at Idaho Falls, Idaho
My Commission Expires: 2-23-87

(SEAL)

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MEMORANDUM

TO: File No. 01-07018 in the Name of City of Idaho Falls, and
File No. 01-07051 in the Name of Utah Power & Light Company
FROM: Gary Spackman
DATE: October 14, 1992

RE: Issuance of Licenses

Application for permit no. 01-07018 was filed by the City of Idaho Falls in March of 1978. It sought diversion of 5,000 cfs from the Snake River for power purposes. Utah Power & Light subsequently filed an application for permit in April of 1980 seeking to divert 3,000 cfs from the Snake River for power purposes at the same location as the application filed by the City of Idaho Falls. A third conflicting application for permit was filed by the Snake River Irrigation District, but is not critical to the issues that confront us today.

Utah Power & Light and the City of Idaho Falls reached an agreement regarding power sales, and lease of property. In a letter of intent dated April 7, 1992, the City and Utah Power & Light tentatively agreed to cooperate "in perfecting water rights in the amount required for the project. Neither of the parties shall be required to compensate the other for the use of any water rights supplied by the other party." The ownership of the two water right applications did not change. In February of 1991, the Department licensed water right no. 01-07051 for 3,000 cfs, naming Utah Power & Light Company as the permittee. It also stated the capacity of the hydropower facility as 5,500 cfs. The Department did not license permit no. 01-07018 at the same time. Permit 01-07018 names the City of Idaho Falls as the owner of the permit. One of the issues raised when licensing was attempted was inconsistency in ownership.

I find nothing in our files that dictates consistent ownership of the two permits. In fact, the letter of intent almost suggests that each of the parties retain ownership, at least by name, of the water rights which each had filed, respectively. Since the rights are perfected, I also wonder whether it is important, since the water right is now appurtenant to the land. This may or may not be a critical issue, since the power project was actually built by the Lessee, City of Idaho Falls. The City might argue that since it expended money for the development, it should be entitled to own the license if the lease with Utah Power & Light is ever lost.

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I spoke with Kent Foster, attorney for the City of Idaho Falls. While I suspect the City of Idaho Falls would like to have both licenses issued in their name, neither he nor I find any document that allows us to change the name on the license. I suggest that we issue a license for permit no. 01-07018, naming the City of Idaho Falls as the current owner. I also suggest that we issue an amended water right license for water right no. 01-07051, naming Utah Power & Light as the owner, and specifying the capacity of the system at 8,000 cfs. The field examination states that the capacity of the entire system is 8,000 cfs.

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LAW OFFICES
HOLDEN, KIDWELL, HAHN & CRAPO

IDAHO FALLS OFFICE

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KENT W. FOSTER
ROBERT E. FARNAM
WILLIAM D. FALER
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BOISE OFFICE

WM. LYMAN BELNAP, P.A.
RANDALL B. REED
RONALD D. CHRISTIAN

ARTHUR W. HOLDEN
(1877-1967)
ROBERT B. HOLDEN
(1911-1971)
TERRY L. CRAPO
(1939-1982)
WILLIAM S. HOLDEN
(1907-1988)

July 27, 1992

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Department of Water Resources

Gary Spackman, Manager
Water Right Permits Section
DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street
Statehouse Mail
Boise, Idaho 83720

RE: City of Idaho Falls, Permits
Nos. 01-7018 and 01-7051

Dear Gary:

We appreciate your response of June 19, 1992, regarding these matters. One of my assignments is to try to gently keep this matter moving in a positive direction. We certainly don't want to nag, but would appreciate anything you can do. If we can be of any assistance we would be happy to do so at your request.

Yours very truly,

Kent W. Foster

#0518.00/srs

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Comments:

- Condition 6 is not physically practical. Have Ron Carlson suggest the language he thinks will protect downstream diverters.

- Condition 7 - remit to combine with condition 8. Need to keep the source of make-up water generic. Really can't tie the continued use of this power plant to the continued operation of the brewery! but reference should be made to the water plant outflow as the initial source of this make-up water. Need to keep the two licenses tied together for this requirement - should we require annual reporting?

- license shows capacity @ .000 cfs. - This needs to show 8000 cfs or greater. I have not been able to establish a verified plant capacity for the field examination

- are we satisfied with the ownership? - one license to WP&L & one to the city. Is this split called for in the Contracts?

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7. Any loss to the Snake River resulting from conveyance and use pursuant to this license shall be mitigated. Five (5) cfs of treated effluent from the new Anheuser-Busch malting plant shall be dedicated to replacement of losses. Any losses in excess of five (5) cfs shall be mitigated, and if any of the five (5) cfs is not available, the entire loss shall be replaced.

8. The right holder shall document the increase of effluent discharge from the Anheuser-Busch plant once the plant is operating.

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State of Idaho
DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street, Statehouse Mail, Boise, Idaho 83720-9000
Phone: (208) 327-7900 FAX: (208) 327-7866

CECIL D. ANDRUS
GOVERNOR

R. KEITH HIGGINSON
DIRECTOR

June 19, 1992

Kent Foster, Attorney at Law
P.O. Box 50130
Idaho Falls, ID 83405

RE: City of Idaho Falls, Permits Nos. 01-7018 and 01-7051

Dear Kent:

I acknowledge receipt of your letter dated June 2, 1992, inquiring about the status of the two water rights for the Gem State Project. I remember the negotiations resulted in agreement that 5.0 cfs from the Anheiser Busch plant would be dedicated to losses caused by the power facility.

I drafted two licenses which were reviewed by administration and sent back to me for further refinement. In the interim, I became busy with other matters and did not complete the licensing. As I have indicated to you before, licensing of water uses in place sometimes takes a lesser priority. I will attempt to concentrate on licensing of these permits in the near future.

Sincerely,

Gary Spackman

GARY SPACKMAN, Manager
Water Right Permits Section

GS:js

cc: Eastern Region

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HOLDEN, KIDWELL, HAHN & CRAPO

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BOISE OFFICE

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ARTHUR W. HOLDEN
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June 2, 1992

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JUN 3 1992
Department of Water Resources

R. Keith Higginson, Director
IDAHO DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street
Statehouse Mail
Boise, Idaho 83720

RE: City of Idaho Falls -- Permits Nos. 01-7018 and 01-7051

Dear Mr. Higginson:

My file notes in this matter indicate that I met with you and Norm Young in Mackay, Idaho, on May 30, 1990, and that it was determined that sewage effluent discharge increases that had occurred since 1980 and that were anticipated to occur in the future would be considered acceptable to satisfy the replacement water requirements under the above-referenced permits. I understood that Norm Young or someone under his direction would make the first effort to draft the license condition to this effect and send it to us for review.

If it is appropriate, we would like to inquire about the status of the draft. We understand everyone has been extremely busy, and there is probably no great urgency from our standpoint. But we ought to try to move the matter in a positive direction when we can.

In the meantime, there have been developments as the Anheuser-Busch Plant has started up. We have obtained and

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enclosed up-dated information from the city on effluent discharges from the system into the river.

Please let us know if there is anyway we might be of assistance.

Yours very truly,

Kent W. Foster

#0518.00/srs

Enclosure

cc: G. S. Harrison

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City of Idaho Falls
SEWER DEPARTMENT
P.O. BOX 50220
IDAHO FALLS, IDAHO 83405
PHONE: (208) 529-1108

COPY

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June 1, 1992

Mr. Kent Foster
Holden Kidwell Hann & Crapo
P.O. Box 50130
Idaho Falls, ID. 83405

Dear Mr. Foster,

You had requested, via of telephone, information on the Wastewater Treatment Plant discharge volumes.

Since October of 1991 when Bush Agriculture Resources Incorpporated started full time operations the total amount of water entering the Snake River from the Wastewater Treatment Facilities has averaged 9.893 million gallons per day which equates to 15.304 cubic feet per second.

I hope this information will be useful to you. Please feel free to contact this office if I can be of further assistance.

Respectfully,

Don Holverson

Don Holverson
Sewer Dept. Superintendent

DH:ac

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MEMORANDUM

TO: Files Nos. 01-7018 and 01-7051
FROM: Gary Spackman Gary
DATE: November 6, 1990

RE: Term of License

Idaho Code § 42-203(b) requires that the Department establish a license term of years. It requires that the Department consider four criteria: (1) the FERC license; (2) the term of years for the power sales contract; (3) the policy of the PUC; and (4) downstream water uses.

The FERC license was issued for a term of 50 years in 1983. Power is being sold to Utah Power and Light pursuant to a 35 year contract with Utah Power and Light executed in 1985. The PUC has shortened the period of time for power sales contracts, but this particular contract was executed pursuant to PUC's old policy. Finally, there are many downstream users of the Snake River to whom this water supply will be delivered. As a result, flows in the Snake River will not be reduced significantly by upstream development.

I recommend that the Department place the following condition on the license:

> The diversion and use of water under this license is subject to review by the Director upon expiration of license 2952 issued by the Federal Energy Regulatory Commission. Upon appropriate findings relative to the interest of the public, the Director may cancel all or any part of the use authorized herein and may revise, delete or add conditions under which the right may be exercised.

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State of Idaho
DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street, Statehouse Mail, Boise, Idaho 83720 -(208) 327-7900

CECIL D. ANDRUS
GOVERNOR
R. KEITH HIGGINSON
DIRECTOR

March 2, 1990

Kent Foster, Attorney at Law
P.O. Box 50130
Idaho Falls, ID 83405

RE: City of Idaho Falls - Permits Nos. 01-7018 and 01-7051

Dear Kent:

I have reviewed the information you sent regarding discharges from the Idaho Falls sewage treatment plant. I cannot detect a trend of increasing flows from the sewage plant. Although 1989 discharge is higher than any other year, many of the other years leading up to 1989 actually show a decrease, or at least maintenance of, traditional flows. I am sorry that my proposal was not supported by the data.

Our legal staff is reviewing your letter, and a response will probably be forthcoming.

Respectfully,

Gary Spackman

GARY SPACKMAN, Manager
Water Right Permits Section

GS:js

cc. Eastern Region

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MEMORANDUM

TO: Files Nos. 01-7018 and 01-7051
FROM: Gary Spackman Gary
DATE: February 8, 1990

RE: Condition Requiring Replacement Water to the Snake River

I spoke with Kent Foster on February 2, 1990, about the condition on the above permits requiring that losses in the hydropower facility be replaced by a source other than the city's municipal discharge to the Snake River. We discussed a proposal to credit the city for any increases in the wastewater treatment discharges to the Snake River that have occurred since the filing of the hydropower application. I have also discussed this proposal with Ron Carlson.

Ron told me that he did not object to my proposal. Kent is also interested, although he does not know how much the flows from the treatment plant have increased since the hydropower application was filed.

As Kent and I discussed my proposal, he mentioned that he and the director had been corresponding about this issue. He stated that he needs to respond to a letter from Keith, dated December 12, 1989, which rejected another proposal for the use of all the wastewater treatment effluent as replacement water.

I wonder if my proposal should be discussed with Keith prior to initiating more action. I do not want to pursue a proposal that will not be viewed with favor.

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MEMORANDUM

VIA

TO: Glen Saxton and Norm Young
FROM: Gary Spackman Gary
DATE: January 22, 1990

RE: Permit to Appropriate Water No. 01-7018, City of Idaho Falls Gem State Hydropower Project

I reviewed the ~~filed~~ field examination which was prepared for permit no. 01-7018 by a certified field examiner. After my review, I informed the examiner that he had failed to address a condition of the permit which reads as follows:

> The applicant shall supply replacement water at the rate of 5.00 cubic feet per second from a source other than the Snake River or tributaries. Prior to the diversion of water under this application, the applicant must notify and receive the approval of the Director on the replacement source of water. The Director retains jurisdiction of this permit to assure compliance with this condition.

The examiner informed me that the city had not complied with the condition, and that the matter was being negotiated.

I had heard nothing else regarding compliance with the condition until receiving the attached letter from Kent Foster.

I can understand our reluctance to allow treatment plant wastewater to be used as replacement water where the wastewater has been flowing into the Snake River over a long period of time, and other water right holders have come to rely on those flows. The recapture of wastewater simply to send down the river as replacement water is a facade when that water has been traditionally released to satisfy other rights.

It seems to me that we should recognize, however, additional flows of wastewater from the treatment plant as replacement if those flows have been generated by additional wells drilled by the City of Idaho Falls since the approval of this permit. It seems immaterial to me whether the city drills a special well to divert directly into the Snake River to augment losses or whether the well is located several miles away, and is used first by the city residents, and then discharged from the wastewater treatment plant to the Snake River. In fact, it seems to me that city

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wells located farther from the banks of the Snake River may interfere less with the natural flow than requiring the city to drill a well which will probably be located near the river to avoid a long distance transmission.

I recommend that we ask the City of Idaho Falls to provide records of increased wastewater flow from the wastewater treatment plant since permit no. 01-7018 was approved. If the city can show that wastewater flows have increased by 5.0 cfs, I believe we should recognize this as replacement water.

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State of Idaho
DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street, Statehouse Mail, Boise, Idaho 83720 - (208) 327-7900

CECIL D. ANDRUS
GOVERNOR
R. KEITH HIGGINSON
DIRECTOR

December 12, 1989

Kent Foster
Holden, Kidwell, HAHN & CRAPO
P. O. Box 50130
Idaho Falls, ID 83405

RE: EXAMINATION OF DIVERSION WORKS FOR PERMIT NO. 01-7018 IN THE NAME OF THE CITY OF IDAHO FALLS AND PERMIT NO. 01-7051 IN THE NAME OF UTAH POWER AND LIGHT COMPANY

Dear Mr. Foster:

I reviewed your letter dated November 17, 1989 regarding the Gem State Hydro-Electric project owned by the City of Idaho Falls and the conditioned approval of Permit Nos. 01-7018 and 01-7051 to supply "replacement water at a rate of 5.0 cfs from a source other than a new appropriation or a non-consumptive appropriation of the natural flow of the Snake River or tributaries". The department's legal staff has also reviewed your letter.

The department concurs with your description of the law on the right of an appropriator to recapture waste water, but does not agree that the law allows for the recapture of municipal sewage effluent for the purpose of making up for water lost through evaporation and seepage from a hydropower project.

The city may recapture its sewage effluent and apply it to beneficial use for "municipal" purposes, but municipal purposes does not include hydropower use.

Section 50-323, Idaho Code, in setting forth the authority of cities to maintain domestic water systems, provides: "domestic water systems" and "domestic water" includes by way of example but not by way of limitation, a public water system providing water at any temperature for space heating or cooling, culinary, sanitary, recreational or therapeutic uses."

The authority under Section 50-325, Idaho Code, for cities to own and operate electric power plants and to provide for the distribution of electricity to the residents of the city appears to be a separate authority not intended to expand the scope of municipal water rights.

Cities receive unique treatment under Idaho water law in that they apparently have the authority to appropriate more water than is immediately needed, thus allowing for the growth of the city. See Beus

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v. City of Soda Springs, 62 Idaho 1, 107 P.2d 154 (1940); Village of Peck v. Denison, 92 Idaho 747, 450 P.2d 340 (1969). Given this unique status of municipal water rights it appears important that the scope of such rights be limited to satisfying only the water-related needs of the city's inhabitants. Extending the breadth of municipal water rights to include a use such as hydropower production goes beyond the rationale supporting the special treatment accorded municipalities under Idaho water law.

I am willing to meet with you relative to this matter as you have requested.

Sincerely,

R. KEITH HIGGINSON
Director

c: IDWR - E. Region
Phil Rassier

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NOV MEMORANDUM

TO: Norman C. Young and L. Glen Saxton

FROM: Phillip J. Rassier PJR

RE: Permits 01-7018 (City of Idaho Falls) and 01-7051 (UP&L); Kent Foster letter dated Nov. 17, 1989

DATE: December 5, 1989

At your request, I have reviewed Kent Foster's letter regarding the Gem State Hydro-Electric Project owned by the City of Idaho Falls. I concur with Kent's description of the law on the right of an appropriator to recapture waste water, but am doubtful that the law allows for the recapture of municipal sewage effluent for the purpose of making up for water lost through evaporation and seepage from a hydropower project.

It is probably correct that the city is entitled to recapture its sewage effluent and put it to additional beneficial purposes which are recognized as "municipal" uses. I, however, have been unable to find any authority recognizing hydropower as a municipal water use. Recognized municipal uses include the use of water by and for a city's inhabitants, within its geographic limits, for domestic, commercial and industrial uses and for the watering of yards, parks and golf courses.

I.C. § 50-323, in setting forth the authority of cities to maintain domestic water systems, provides: "domestic water systems" and "domestic water" "includes by way of example but not by way of limitation, a public water system providing water at any temperature for space heating or cooling, culinary, sanitary, recreational or therapeutic uses."

The authority under I.C. § 50-325 for cities to own and operate electric power plants and to provide for the distribution of electricity to the residents of the city appears to be a separate authority not intended to expand the scope of municipal water rights.

Cities receive unique treatment under Idaho water law in that they apparently have the authority to appropriate more water than is immediately needed, thus allowing for the growth of the city. See Beus v. City of Soda Springs, 62 Idaho 1, 107 P.2d 154 (1940); Village of Peck v. Denison, 92 Idaho 747, 450 P.2d 340 (1969). Given this unique status of municipal water rights it appears important that the scope of such rights be limited to satisfying only the water-related needs of the city's inhabitants. Extending the breadth of municipal water rights to include a use such as hydropower production goes beyond the rationale supporting the special treatment accorded municipalities under Idaho water law.

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R. VERN KIDWELL, OF COUNSEL

November 17, 1989

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NOV 20 1989
Department of Water Resources

Mr. Keith Higginson, Director
IDAHO DEPARTMENT OF WATER RESOURCES
1301 North Orchard
Statehouse Mail
Boise, Idaho 83720

RE: Examination of Diversion Works for Permit #01-07018
In the Name of the City of Idaho Falls, and #01-07051
In the Name of Utah Power & Light Company

Dear Mr. Higginson:

The City of Idaho Falls has recently been in the process of having the field exam completed for licensing of the above numbered rights. In connection with the issuance of Permit #01-7018, the previous director, Mr. A. Kenneth Dunn, made a determination that there would be seepage and evaporation losses from the Gem State Reservoir and included a requirement to "supply replacement water at the rate of 5.00 cubic feet per second from a source other than a new appropriation or a non-consumptive appropriation of the natural flow of the Snake River or tributaries".

The specific source of the replacement water was not determined at that time, or for that matter where and how it was to be supplied. However, Mr. Dunn was apparently very concerned about one potential source for the replacement water and gratuitously included in the Memorandum Decision and Order accompanying the approved permit that water discharged as effluent from the city's sewage treatment plant could not be used to satisfy the replacement requirement.

We disagreed with Mr. Dunn's statement and provided him with our analysis of the legal principles involved, together with some suggested alternative sources. We never received a

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response, and for a number of reasons, the city chose not to press this specific item at that time. The financial and other pressures involved in the project compelled the city to proceed with construction without further delays; Mr. Dunn, of course, became embroiled with the "Swan Falls controversy" almost immediately thereafter, and the statements in the Memorandum Decision and Order regarding use of the sewage effluent as replacement water were dicta anyway.

Now, however, it is time to resolve the matter of the replacement water. From the city's standpoint, use of the sewage effluent to satisfy the replacement requirement makes a great deal of sense. We were asked by the city to review our previous analysis of the applicable legal principles and to advise whether we felt the matter was worth pursuing. After doing so, we have again concluded that there is no legal impediment to this proposal. We therefore request your consideration and an opportunity to discuss the matter with you at your convenience.

To assist you in your consideration, we have included much of our analysis of the issue in this letter and hope that you will submit it to your legal staff for their scrutiny as well.

Without intending to misstate Mr. Dunn's thoughts expressed in the 1982 Memorandum Decision and Order, we understood his position to basically be that since the waste water from the sewage treatment plant had historically been discharged into the Snake River, the city had lost control of it and must continue the discharge to help satisfy existing water rights. We think that after reviewing applicable Idaho waste water law principles, it will be seen that this waste water is of a particular classification that never becomes legally tributary to Snake River, regardless of the length of time it may have been discharged therein.

The City of Idaho Falls pumps all water used in and through its city water system from a number of deep wells, the first of which was drilled in about 1927 and the remainder of which have been added since as needed. A certain amount of the water diverted into the city water system ends up in the city's sewage system after it has been used, laden with the various sewage pollutants. It is then brought to the city's sewage

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treatment plant and the water remaining, after treatment to make it comply with applicable standards, is discharged through a single outlet pipe into the Snake River. The average discharge appears to exceed 14 cubic feet per second.

Waste water from these wells has thus been discharged into the river ever since water was first pumped for municipal purposes. The discharge has increased incrementally with each addition to the total supply diverted.

From our research into the legal principals relating to "waste water" and "tributary water" it appears to us that while the two concepts are related, this particular matter is a "waste water" issue, and not a "tributary water" issue. All Idaho cases we have examined which hold that any given water source (whether it is a stream, spring, seepage, or whatever) is tributary to a larger stream or river, dealt only with sources of supply which, in their natural state, (emphasis added) unmolested and unassisted by man, would reach or flow into and contribute to the supply of water in the larger stream or river. We have found no case or other authority for the proposition that groundwater, pumped from deep wells, a portion of which, after it has been used for the purposes for which it was appropriated, is discharged into a river, ever, regardless of the length of time involved, becomes legally tributary to the river. Among the authorities we have examined are the following:

IDAHO SUPREME COURT CASES

Malad Valley Irrigation Co. v. Campbell, 2 Idaho 411, 18 P. 52 (1888);

Cartier v. Buck, 9 Idaho 571, 75 P. 612 (1904);

Josslyn v. Daly, 15 Idaho 137, 96 P. 568 (1908);

Jackson v. Cowan, 33 Idaho 525, 196 P. 216 (1921);

United States v. Haga, 276 Fed. 41 (D. Idaho 1921);

The Union Central Life Ins. Co. v. Albrethsen, 50 Idaho 196, 294 P. 842 (1930);

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Fairview v. Franklin Maple Creek Pioneer Irr. Co., 59 Idaho 7, 79 P.2d 531 (1938);

Ward v. Kidd, 87 Idaho 216, 392 P.2d 183 (1964); and

Martiny v. Wells, 91 Idaho 215, 419 P.2d 470 (1966).

TREATISES

Long on Irrigation, Sec. 60 at pp.106-108;

Clark, "Waters and Water Rights", Vol.I, Sec.3.2(A) and 52.3(B);

Hutchins, "Idaho Law of Water Rights", Vol.V, Idaho Law Review I, Fall 1968, p.52;

Hutchins, "Selected Problems in the Law of Water Rights in the West", United States Department of Agriculture, Miscellaneous Publication No. 418, p.371.

A typical statement from the treatises is the one contained in the last mentioned treatise listed above at page 371 under the heading "Natural Acretions to the Stream become a Part of the Stream":

> The appropriated right applies to the natural flow of the stream and its tributaries, not only at the time of making the appropriation, but as augmented by subsequent and natural causes.

Hutchins then quotes from a Montana case, Beaverhead Canal Co. v. Dillon Electric Light & Power Co., 34 Montana 135, 85 P. 888 (1906). That case holds that natural acretions or augmentations to the flow of a stream are tributary, or in other words, form a part of the stream or source of supply itself; but artificial augmentations, that is, those which occur and are maintained only as a result of the activities of men, as opposed to nature, are not tributary. Artificial augmentations would be treated as a separate source of supply and are appropriable as such. See the language of the decision

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commencing at page 881 as report in Volume 85 of the Pacific Reporter.

The water added to Snake River by the City of Idaho Falls is not a natural, but an artificial increase or contribution. It comes from a source other than Snake River or its natural tributaries and enters Snake River only through artificial means. It does not appear that the discharge from the City of Idaho Falls sewage treatment plant has or will become legally tributary to the Snake River.

As we have indicated, we believe the present issue is a "waste water" issue rather than a "tributary water" issue. It appears that the term "waste water" has been used to describe a number of types of different situations. The applicable legal rules appear to vary to some extent with the type of "waste water" involved.

Many of the treatises lump the discussion of "waste waters" under a general heading such as "Waste, Seepage and Return Waters". However, they are not all the same, as the authorities point out. Kinney says:

> Waste water may have three meanings, as follows: (1) water that is actually wasted or is not needed by the claimant thereto; (2) water which, after it has served the purpose of the lawful claimant thereto, has been permitted to run to waste or to escape; and (3) water which, from unavoidable causes, escapes from the ditches, canals or other works of the lawful claimant.

Kinney on Irrigation and water Rights, Second Ed., Vol. I, Sec. 322 at p.523.

An even better statement is contained in Hutchins, Water Rights Laws in the Nineteen Western States, Vol. II at p.568:

> Waste, seepage and return water are closely related. To some extent, their classifications overlap.

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As discussed in this topic, waters of all three classes usually originate on irrigation projects or irrigated lands as a result of the conveyance, distribution, and application of irrigation waters. Where considered separately, the following distinctions are herein made:

> Waste Waters are taken to include (1) water purposefully discharged from the project works, because of operation and necessities, (2) water leading from ditches and other works, and (3) excess water flowing from irrigated lands, either on the surface or seeping under it.
>
> Seepage Waters are waters seeping through the soil from ditches or other works and from irrigated lands and entering stream channels or appearing elsewhere on the surface.
>
> Return Waters are waters diverted for irrigation or other uses that are returned to the stream from which they were diverted, or to some other stream, or that would do so if not intercepted by some obstacle. Thus, return waters include both waste water and seepage water.

Being more specific now with respect to "waste water", we quote from another publication of Mr. Hutchins, "Selected Problems in the Law of Water Rights in the West," United States Department of Agriculture, Miscellaneous Publication No. 418, at p.362:

> Appropriations may generally be made of waste water which has been abandoned by the original appropriators, but with important qualifications. Generally, an independent

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> right to the use of abandoned or waste water can be acquired only if the water has not yet returned to the stream from which it was diverted. If such water after abandonment has reentered a portion of the stream system from which it was originally appropriated, as noted in greater detail below, it becomes a part of that water source in legal contemplation as well as physically, and from the standpoint of rights of use, it is just as much a part of the flow as is the water with which it is mingled; hence, appropriated rights which before the mingling have attached to the waters of the stream, attach with equal effect to the waste waters originally diverted from the stream and then abandon into it, so that an independent appropriation cannot then be made on the waste waters as such.

To the same effect, Kinney states:

> It often happens that the prior appropriator, in irrigating the lower portion of his land, is compelled by the lay of the land to let the water run off from his property to the lands of others, in places where it is impossible to return the water to the natural stream. And it often happens that the water flows upon lands of those who are either not appropriators from the stream or are appropriators much later than others, who in point of time are entitled to the use of the water. This water is deemed by the courts to be waste water. And the question now arises can the owners of the lands on which it runs secure a permanent right therein to its continuous use? The authorities hold that while the water so denominated as waste water, may be used after it escapes, no permanent right can be acquired to have the discharge kept

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> up, either by appropriation or a right by prescription, estoppel, or acquiescence in its use while it is escaping, and that, too, even though expensive ditches or works were constructed for the purpose of utilizing such waste water, unless some other element enters into the condition of affairs other than the mere use of the water. In other words, the original appropriators have the right, and in fact it is their duty to prevent, as far as possible, all waste of the waters which they have appropriated, in order that the others who are entitled thereto may receive the benefit thereof.
>
> When such water escapes and returns to the stream or its tributaries, it becomes a part of the water of the stream and subject to reappropriation as though it never had been diverted, and inures to the benefit of the other appropriators in the order of their appropriations . . ..
>
> The better authorities hold that a claimant to waste water acquires a temporary right only to whatever water escapes from the works or the lands of others, and which cannot find its way back to the natural stream from which it was taken; that such a use of the water does not carry with it the right to any specific quantity of water, nor the right to interfere with the water flowing in the ditches or works of others lawfully appropriating it, and the appropriators are under no obligation nor have they the right to permit any specific quantity of water to be discharged as "waste water" for his benefit.

Kinney on Irrigation and Water Rights, Second Ed., Vol. II, Sec. 661, at pp.1151-1153.

It appears to us from these and other authorities that the term "waste water" is frequently used to cover a number of

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situations. It is, for instance, used to describe a class of water which is more properly designated "return flows". If one diverts water from a stream or source of supply and applies it to a beneficial use pursuant to a valid right, but because of the circumstances of the diversion and use there is some water left over after it is used and such water returns to the same stream or source of supply, it appears that it is part of that stream or source of supply, the same if it had never been taken therefrom. It may be a waste which the right holder can legally cease or reduce, for instance, by making a more efficient use of it, but it is not a separate source of water which may be appropriated. On the other hand, if the water remaining after the right holder has completed his use would not find its way back into the original stream or other source from which it was diverted, it is a species of "waste water" which can legally be appropriated, albeit subject to the right of the holder of the paramount water right to cease or reduce the waste.

The Idaho cases appear to be in accord. The Idaho Court has established that water left over after one holding a valid right has diverted it and applied it to a beneficial use is waste water which may be subject to appropriation and use by another, subject always to the right of the first to cease wasting. Sebern v. Moore, 44 Idaho 410, 258 P. 176 (1927); Strong v. Twin Falls Canal Co., 44 Idaho 427, 258 P. 173 (1927); Crawford v. Inglin, 44 Idaho 663, 258 P. 541 (1927); Gerber v. Nampa & Meridian Irr. Dist., 16 Idaho 1, 100 P. 80 (1908); Nampa & Meridian Irr. Dist. v. Petrie, 37 Idaho 45, 233 P. 531 (1923); Colthorp v. Mountain Home Irr. Dist., 66 Idaho 173, 157 P.2d 1005 (1945); Reynolds Irr. Dist. v. Sprunt, 70 Idaho 217, 214 P.2d 880 (1950); Application of Boyer, 73 Idaho 152, 248 P.2d 540 (1952); Thompson v. Bingham, 78 Idaho 305, 302 P.2d 948 (1956); Franklin Cub River Pumping Co. v. Le Febre, 79 Idaho 107, 311 P.2d 763 (1952); Jones v. Big Lost River Irr. Dist., 93 Idaho 227, 459 P.2d 1009 (1969). To the same effect, see also, Twin Falls Canal Co. v. Damman, 277 Fed. 331 (D. Idaho 1920); and United States v. Haga, 276 Fed. 41 (D. Idaho 1921).

Further, the rule appears to be well established in Idaho that if the waste water is of the variety which, without interference, would return to the stream from which it was

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originally diverted (return flow), it is a variety of waste water that the right holder originally diverting it cannot be compelled to continue wasting, but instead of being appropriable as other waste water, it is considered still a part of the stream available only to supply the rights of other appropriators thereof, the same as if it had never left the stream. Brayer v. Baker, 31 Idaho 387, 171 P. 1135 (1918); Milner Lowlift Irr. Dist. v. Eagan, 49 Idaho 184, 286 P. 608 (1930); Application of Boyer, supra.

With respect to the city discharge from the sewage treatment plant, it appears such discharge commenced several years ago, and then underwent incremental increases, until now there is a total of some 14 or more cfs being regularly discharged into the Snake River. It does not appear that such discharges are a result of nature, but are artificial and therefore not legally tributary. We think the fact that the water has "historically been discharged into the Snake River and is considered part of the river", is probably not legally relevant. At least we have been able to find no authority for the proposition that if such water were allowed to run into the river for a long enough period of time it would become legally tributary.

It seems that if this water which has been discharged into the river from the city's sewage treatment plant were legally tributary to the river, the same as a natural spring or stream would be, the city would have no right as against other appropriators of the waters of the Snake River (including all of its other tributaries) to do anything which might result in the reduction or termination of such a tributary source. Such a rule would place all those who drill wells and install pumps to divert groundwater and to apply it to beneficial use, when any portion of that water remaining after the beneficial use, finds it way into the river, in the untenable position of being required to continue pumping and wasting for the benefit of all the right holders. It would be of course contrary to public policy and established law.

We believe that the correct designation for this water is "waste water". If the waste water were of the variety which merely returned to the stream or other source of supply from which it was diverted in the first instance (we have called this variety "return flow"), it appears that it would be

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considered a part of that stream or other source of supply the same as if it had never been diverted therefrom. It would still be subject to the right of the appropriator to cease or reduce whatever practice resulted in the return flow, but it could not be appropriated as such because it is subject to all prior rights in the stream or source of supply from which it was taken originally.

However, the discharge from the city's sewage treatment plant appears to be from an original source different and separate from the Snake River and its tributaries; i.e., groundwater. This discharge would seem to be within that class of "waste water" which can be appropriated by others, subject always to the right of the paramount right holder to cease such waste or to recapture it and put it to a beneficial use. If the discharge from the city's sewage treatment plant is waste water which the city has a right to reduce or cease wasting or to recapture and apply to another beneficial use, we wonder to what uses the city might apply the recaptured water? Applicable cases make statements such as:

> The original appropriator may at any time recapture waste water remaining on his land and apply it to a beneficial use.

Thompson v. Bingham, supra. at p.308 at the Idaho Reports;

> We conclude that surface waste and seepage water may be appropriated under the provisions of C.S., Sec. 5562, subject to the right of the owner to cease wasting it, or in good faith to change the place or manner of wasting it, or to recapture it, so long as he applies it to a beneficial use. His control is not dependent upon continuous actual possession, and in the absence of abandonment or forfeiture of his right to choose, he may assert his right, which is not affected by his once having applied it to a beneficial use.

Sebern v. Moore, supra., at p.418 of the Idaho Reports.

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Other jurisdictions appear to concur. Wyoming Hereford Ranch v. Hammond Packing Co., 33 Wyo. 14, 236 P. 764 (1925); Reynolds v. City of Roswell, 99 N.M. 84, 654 P.2d 537 (1982); Arizona Public Service Co v. Long, 773 P.2d 988 (Ariz. 1989). We quote from this most recent Arizona case:

> Sewage effluent is water that is left over after having been put to use. Regardless of whether the water used to treat sewage was originally groundwater or surface water, the water remaining after treatment is waste water . . . Waste water exists only as long as there is waste. No appropriator can compel any other appropriator to continue the waste of water which benefits the former. If the senior appropriator, through scientific and technical advances, can utilize his water so that none is wasted, no other appropriator can complain . . . The junior appropriator, using waste water "takes his chance" on continued flow . . .
>
> We therefore hold that the Cities may discontinue the discharge of sewage effluent without violating the rights of those persons or entities which have previously appropriated it. The right to appropriate effluent comes into existence only when and if that effluent flows in the geological structures described . . . Because the "producer" of the effluent is a senior appropriator, those who have appropriated the effluent gain no right to compel continued discharge . . .
>
> Thus, the Cities are free to contract for the disposition of that effluent and the utilities, having purchased the right to use the effluent, may continue to use it.

Arizona Public Service Co. v. Long, supra., at pp.996-997.

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The city's licenses and permits for the wells from which the water is diverted, a portion of which ends up discharged from the sewage treatment plant, list, as the beneficial use to which the water may be applied "municipal purposes". This seems to be a very broad classification; is it not broad enough to include replacement water for the Gem State Hydro-Electric Project?

Even if there have been constitutional appropriations of waste water from the city's sewage treatment plant since 1927 which, for whatever reason, are not subject to the right of the city to cease wasting or recapture the water and apply it to some other beneficial use, we are unaware of any specific appropriations of this water since 1971 when the mandatory permit system took effect. If we understand it correctly, it would have been impossible for any increase in the waste water discharged from the city's sewage treatment plant occurring after May 23, 1971, to have been appropriated, except through formal application, permit and license. If there are none, it appears that it would be appropriate for the city to propose use of increases in effluent discharge that have occurred since that time to be used as replacement water. Likewise, we could see no objection to use by the city at future increases in the discharge for replacement purposes. As we say, we would very much appreciate the opportunity to visit with you in some detail about the potential use of the waste water discharged from the city sewage treatment plant into the Snake River as replacement water under Rights Nos. 01-7018 and 01-7051.

We will look forward to hearing from you as soon as it is convenient.

Yours very truly,

Kent W. Foster

#0518.00/srr

cc: Dale Storer, Esq.
Mr. Steve Harrison

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1. - List of comm. members

2. - List of lease & desist orders ✓

3. - Pre-hearing order ✓

- Check out mailing of [illegible] & [illegible] - procedurally

- Run list of all applications subsequent to those currently of controversy.

8:00 A - Wed.

Call Doug -

- Paul

Form 219
6/86

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Department of Water Resources

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No. 01-07018

1. Owner: CITY OF IDAHO FALLS Phone No. 529-1430
   Current Address: P.O. BOX 220 IDAHO FALLS, IDAHO 83402
2. Accompanied by: BOYD STEWART EXAM. DATE: 19 JUNE '89
   Address: P.O. BOX 220 IDAHO FALLS, IDAHO 83402 Phone No. 529-1430
   Relationship to Permit Holder: EMPLOYEE
3. Source: SNAKE RIVER tributary to COLUMBIA RIVER

B. OVERLAP REVIEW

1. Other water rights with same place of use: 01-07051
   ☐ Copies Attached
2. Other water rights with same point of diversion: ~~01-075~~ 01-07051
   ☐ Copies Attached ☒ Copies of Field Exam's Attached

C. SYSTEM DESCRIPTION

1. **Diversion System Diagram:** Indicate all major components and distances between components. Indicate weir size/ditch size/pipe i.d. as applicable. ☒ Alternative diagram attached

SEE ATTACHED SITE MAP SHEET G-4 AND GENERAL ARRANGEMENT - POWERHOUSE AND SPILLWAY SHEET G-10 COMPLETE PLANS ARE AVAILABLE AT THE CITY OF IDAHO FALLS ELECTRIC DEPARTMENT

Scale: 1" = "NA"

2. ☒ Copy of U.S.G.S. Quadrangle Attached Showing location(s) of point(s) of diversion and place(s) of use (required).
   ☒ Aerial Photo Attached (required for irrigation of 10 acres or more).
   ☒ Photo of Diversion and System Attached (required for all but single household domestic groundwater, and stockwater.

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System Description (continued)

3. **Narrative:** Description (As operating at time of measurement. Indicate pressure, number of sprinklers, etc.)

MEASUREMENTS WERE OBSERVED ON 19 JUNE '89. THE GEM STATE POWER PLANT OPERATES WITH A CONSTANT LAKE ELEVATION OF 4655 ± 0.3. THE POWER PLANT ACCEPTS WATER UP TO 7200 - 8000 CFS. EXCESS WATER IS DIVERTED THRU THE SPILLWAY. IN FLOW CONDITIONS LESS THAN 8000 CFS A 20' STEEL PIPE DELIVERS APPROX 75 CFS THRU THE OLD CHANNEL TO PREVENT STAGNATION. AT THE TIME OF OBSERVATION THE FLOW WAS 5500 CFS.

☐ See Remarks on page 4 for continuation

4. POWER PLANT

~~Well or Diversion~~ Identification No.*	Motor Make	~~Hp~~	GENERATOR ~~Motor Serial No.~~	Pump Make	Pump Serial No. or Discharge Size
CITY OF IDAHO	HITACHI	22.6MW	152561-1	"NA"	"NA"
FALLS - GEM					
STATE PLANT					

**Code to correspond with No. on map and aerial photo*

5. **Point(s) of Diversion:**

Ident. No.	Gov't. Lot	¼	¼	¼	Sec.	Twp.	Rge.	County	Method of Determination/Remarks
					~~15~~	~~37~~			
					15	1N	37E	BONNEVILLE	LAND SURVEY

6. **Place(s) of Use:** Indicate Method of Determination

Twp.	Rge.	Sec.	NE¼				NW¼				SW¼				SE¼				Totals
			NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	NE¼	NW¼	SW¼	SE¼	
1N.	37E.	15																	'NA'

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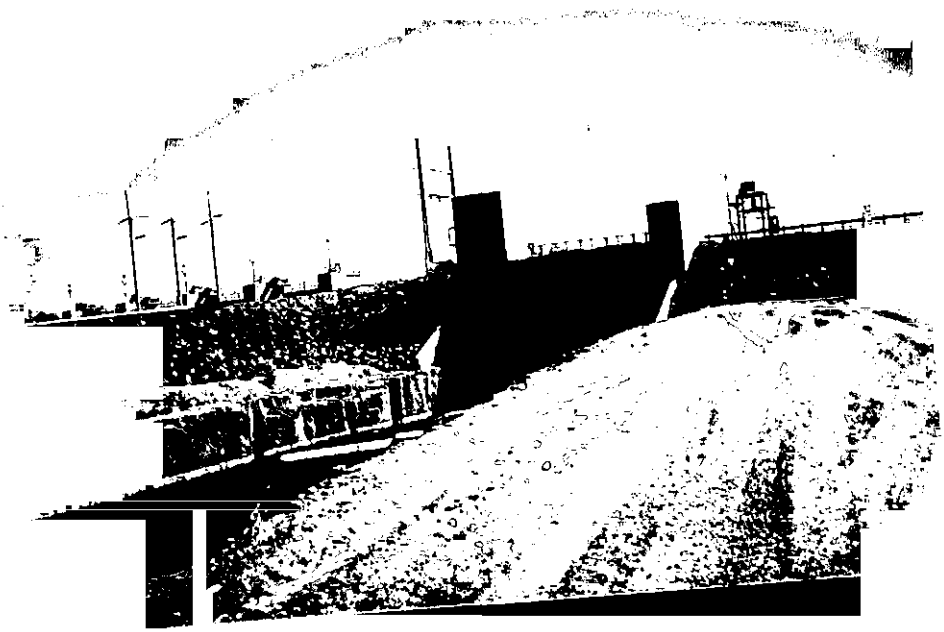
Do not use this space

POWER HOUSE FROM
LAKE ON LEFT &
SPILLWAY ON RIGHT

19 JUNE '89



POWER HOUSE 19 JUNE '69
TAILRACE

Do not use this space

D. FLOW MEASUREMENTS

☐ Additional Data Sheets Attached

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
HITACHI - KAPLAN TURBINE	"NA"	"NA"	"NA"	145281-1	24MW	1989
GENERATOR	"NA"	"NA"	"NA"	152561-1	24MW	1989

2. **Measurements:**
FLOW WAS DETERMINED BY THE POWER HOUSE METER & CHECKED AGAINST THE POWER OUTPUT AND THE SHELLEY GUAGE. 5500 CFS ON 19 JUNE '89

E. FLOW CALCULATIONS

☑ Additional Computation Sheets Attached

1. Measured Method: POWER OUTPUT = 18 MEGAWATTS FROM CH2M HILL FIGURE 7 DISCHARGE VS. PLANT OUTPUT CURVE 18 MW = 5500 CFS ±
2. Alternate Method for Checking Purposes:
AT 1:30 ON THIS DATE THE SHELLEY GUAGE READ 5490 CFS

F. PUMP EFFICIENCY DATA (Optional) "NA"

Discharge Pressure: _____ psi x 2.31 = _____ ft (1); Dynamic pumping level: _____ ft (2)
Total Head: (1) + (2) = _____ (3) ; Flow rate: _____ cfs (4)

Water HP: (3) x (4) ÷ 8.8 = _____ (5)
Meter Input KW: 3.6 x _____ KH x _____ CTR or _____ MULT x _____ PTR x _____ N/ _____ T = _____ (6)
Meter Input HP: (6) x 1.34 = _____ (7)
Panel Input KW: _____ Ave PF x _____ Ave Volts x _____ Ave Ampsx .001732 = _____ (6)
Panel Input HP: (6) x 1.34 = _____ (7) Efficiency: (5)/(7) x 100 = _____ %

G. VOLUME CALCULATIONS "NA"

1. Volume Calculations for Irrigation:

$V_{I.R.}$ = (Acres Irrigated) x (Irrigation Requirement) = _____

$V_{D.R.}$ = [Diversion Rate (cfs)] x (Days in Irrigation Season) x 1.9835 = _____

V = Smaller of $V_{I.R.}$ and $V_{D.R.}$ = _____

2. Volume Calculations for Other Uses:

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H. REMARKS AND OVERLAP REVIEW ANALYSIS

THE CORRELATION BETWEEN POWER GENERATION AND RIVER FLOW IS ACCURATE AND COMPARES CLOSELY WITH THE SHELLEY GUAGE'S. MONTHLY POWER PRODUCTION WILL BE AVAILABLE FOR REVIEW AT THE END OF 1989. THE PLANT PRODUCES 22.6 MW AT A FLOW OF 7200 CFS. FIGURE 7 RELATES UP TO 7200 CFS. BETWEEN 7200 & 8000 CFS ADDITIONAL POWER CAN BE PRODUCED FOR SHORT INTERVALS. ALL 8000 CFS ARE USED FOR THIS CONDITION. FOR FLOWS ABOVE 8000 CFS OUTPUT FALLS AS THE FLOW INCREASES. THE PLANT STILL UTILIZES APPROX. 8000 CFS BUT THE LOSS OF HEAD CAUSED BY RAISED TAILWATER DECREASES POWER OUTPUT.

I. RECOMMENDATIONS

1. Recommended Amounts

Beneficial Use	Period of Use From	Period of Use To	Rate of Diversion Q (cfs)	Annual Volume V (afa)
POWER GENERATION	JAN 1	DEC. 31	AVAILABLE FLOW TO 5000 CFS	
		Totals:		

2. Recommended Amendments

☐ Change P.D. as reflected above ☐ Add P.D. as reflected above ☐ None

☐ Change P.U. as reflected above ☐ Add P.U. as reflected above ☐ Other

J. AUTHENTICATION

Field Examiner's Name: DARYL KOFOED

Signature: Dayl Kofoed P.E.

Certification Date: JUNE 29, 1989

Field Report Preparation Date: 26 JUNE '89

REGISTERED PROFESSIONAL ENGINEER 1908 6/29/89 CONSULTANT SEAL STATE OF IDAHO W. F. RANCE BARE

89-115

K. Licensing recommendation shall be prepared by an Idaho Department of Water Resources employee on a computer printout attached hereto.

APPROVED NOV 12 1992

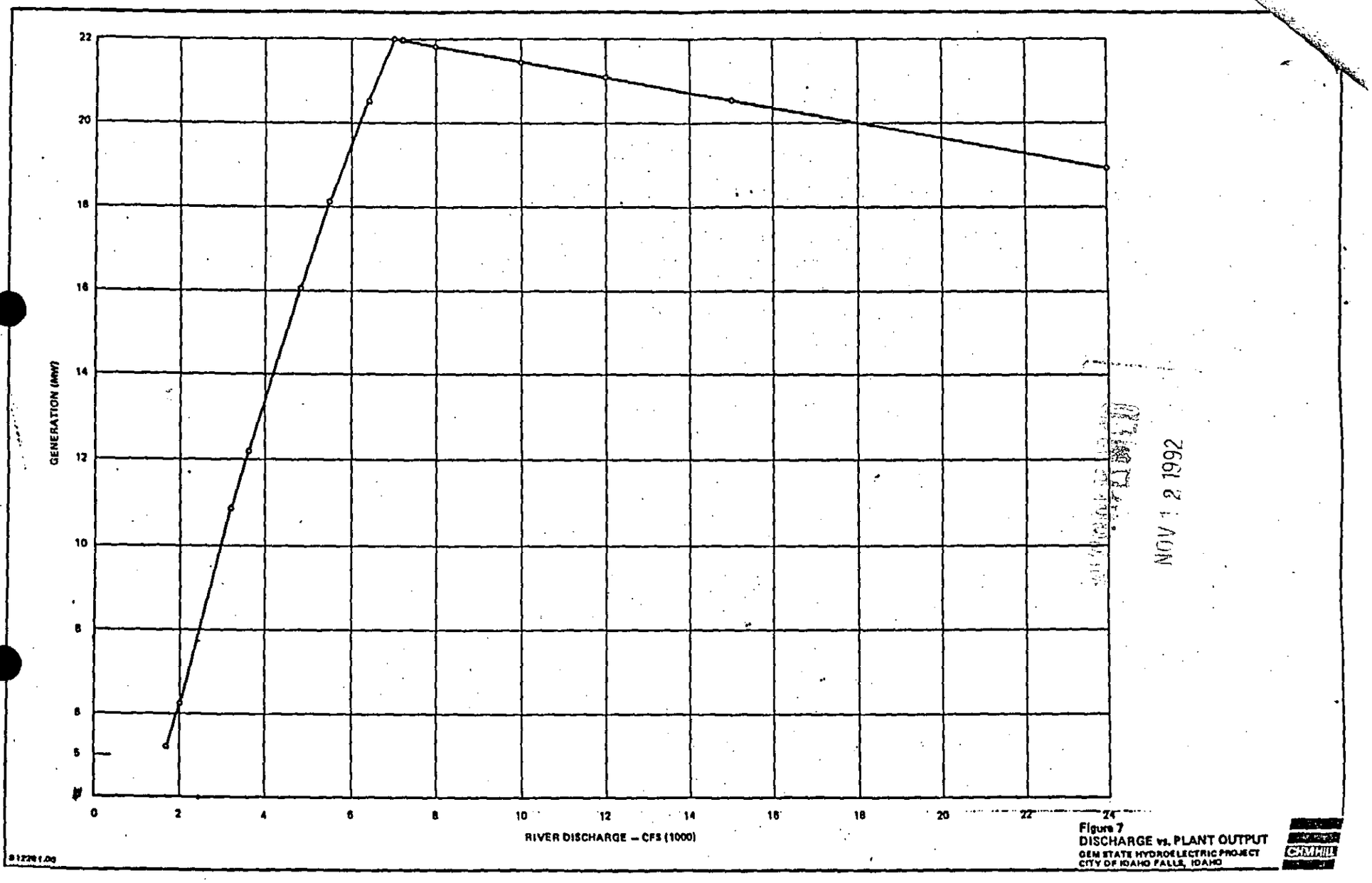


Figure 7
DISCHARGE vs. PLANT OUTPUT
GEM STATE HYDROELECTRIC PROJECT
CITY OF IDAHO FALLS, IDAHO

CH2M HILL

NOV 12 1992

Draft

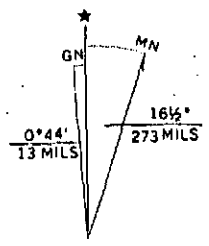
Mapped, edited, and published by the Geological Survey

Control by USGS and NOS/NOAA

Culture and drainage by multiplex methods
from aerial photographs taken 1946
Topography by plane-table methods 1948

Polyconic projection. 1927 North American datum
10,000-foot grid based on Idaho coordinate system, east zone
1000-meter Universal Transverse Mercator grid ticks, zone 12, shown in blue
To place on the predicted North American Datum 1983, move the projection lines 12 meters north and 66 meters east as shown by dashed corner ticks

Red tint indicates areas in which only landmark



UTM GRID AND 1979 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

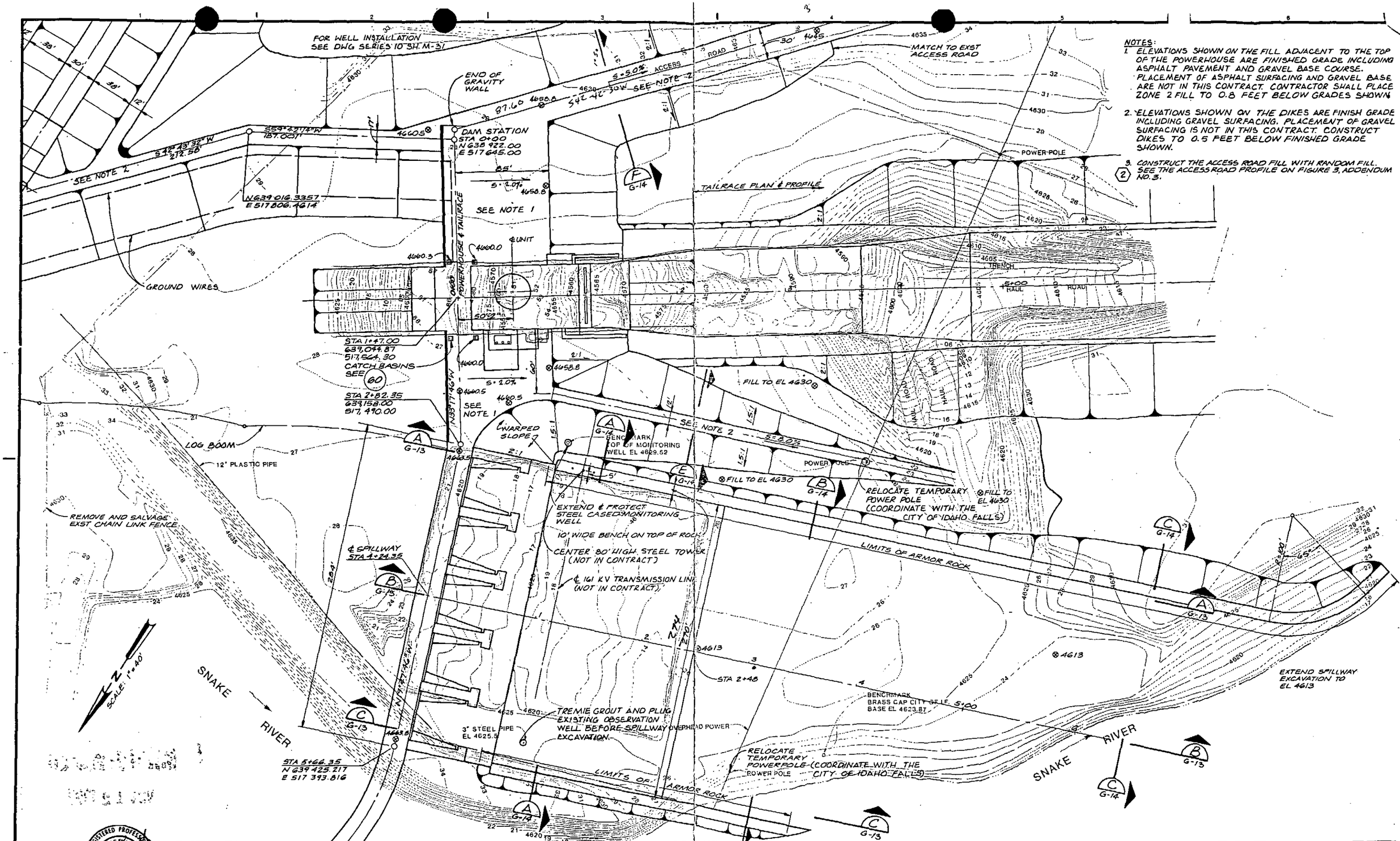
SCALE 1:24 000

1000 0 1000 2000 3000 4000 5000 6000

CONTOUR INTERVAL 5 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS

FOR SALE BY U. S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR RESTON,
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON RE



NOTES:

1. ELEVATIONS SHOWN ON THE FILL ADJACENT TO THE TOP OF THE POWERHOUSE ARE FINISHED GRADE INCLUDING ASPHALT PAVEMENT AND GRAVEL BASE COURSE. PLACEMENT OF ASPHALT SURFACING AND GRAVEL BASE ARE NOT IN THIS CONTRACT. CONTRACTOR SHALL PLACE ZONE 2 FILL TO 0.8 FEET BELOW GRADES SHOWN.
2. ELEVATIONS SHOWN ON THE DIKES ARE FINISH GRADE INCLUDING GRAVEL SURFACING. PLACEMENT OF GRAVEL SURFACING IS NOT IN THIS CONTRACT. CONSTRUCT DIKES TO 0.5 FEET BELOW FINISHED GRADE SHOWN.
3. CONSTRUCT THE ACCESS ROAD FILL WITH RANDOM FILL. SEE THE ACCESS ROAD PROFILE ON FIGURE 3, ADDENDUM NO. 3. (2)

REGISTERED PROFESSIONAL ENGINEER STATE OF IDAHO JAMES R. RUENZEL

CH2M HILL

DSGN	J. Ruenzel
DR	B.W. CLEGG
CHK	L. Deffner
APVD	L. Deffner

NO.	DATE	REVISION	BY	APVD
2	7/31/86	ADDENDUM NO. 3	BWCS	RLKN
1	5/22/86	MINOR REVISIONS	ALYR	JRKJ

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VERIFY SCALES

BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

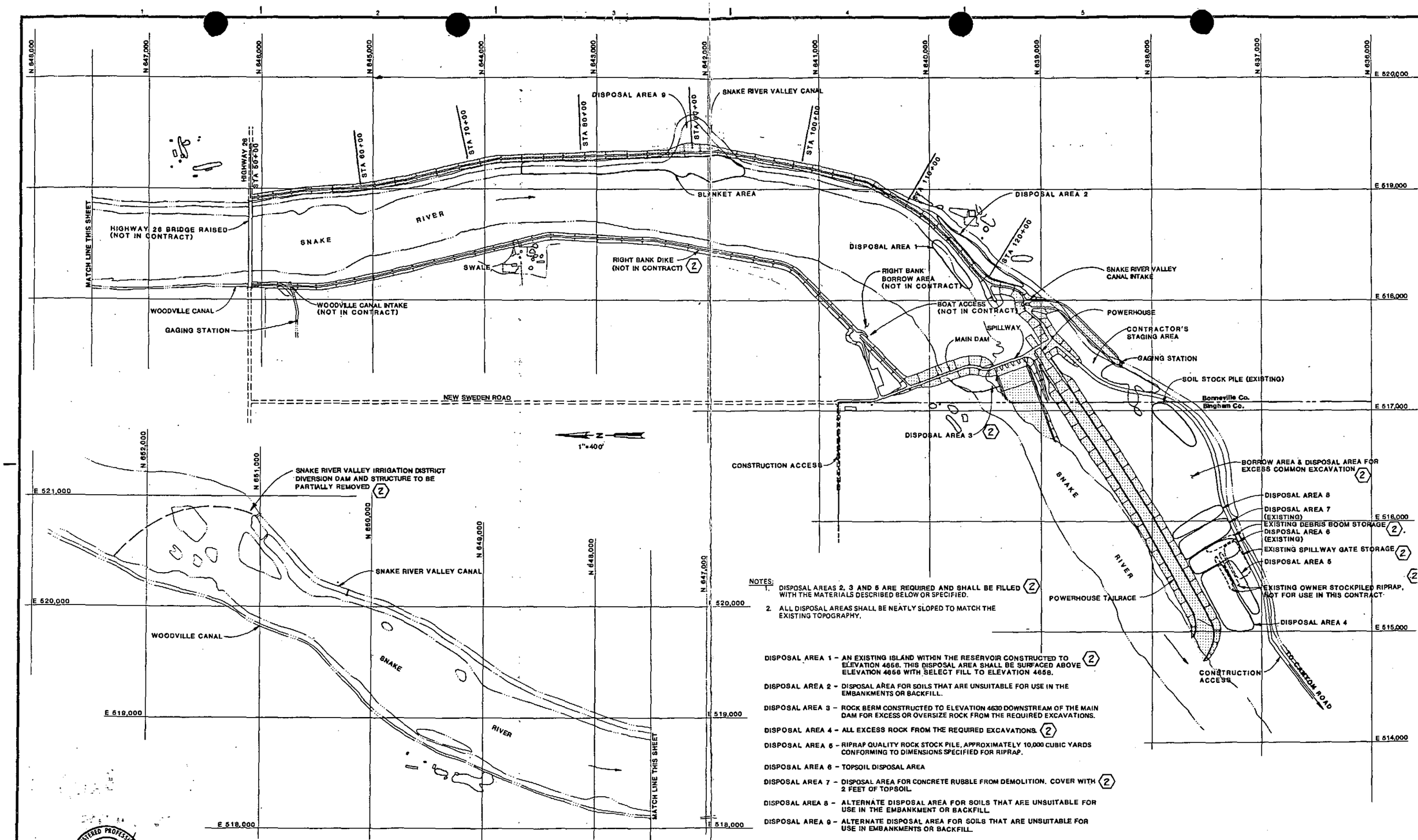
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

GEM STATE HYDROELECTRIC PROJECT
CITY OF IDAHO FALLS, IDAHO

GENERAL CONTRACT

GENERAL ARRANGEMENT - POWERHOUSE AND SPILLWAY

SHEET	G-10
DWG NO.	0-10
DATE	MAY 1986
PROJ NO.	818980



NOTES:
1. DISPOSAL AREAS 2, 3 AND 6 ARE REQUIRED AND SHALL BE FILLED (2) WITH THE MATERIALS DESCRIBED BELOW OR SPECIFIED.
2. ALL DISPOSAL AREAS SHALL BE NEATLY SLOPED TO MATCH THE EXISTING TOPOGRAPHY.

DISPOSAL AREA 1 – AN EXISTING ISLAND WITHIN THE RESERVOIR CONSTRUCTED TO ELEVATION 4656. THIS DISPOSAL AREA SHALL BE SURFACED ABOVE ELEVATION 4656 WITH SELECT FILL TO ELEVATION 4658. (2)

DISPOSAL AREA 2 – DISPOSAL AREA FOR SOILS THAT ARE UNSUITABLE FOR USE IN THE EMBANKMENTS OR BACKFILL.

DISPOSAL AREA 3 – ROCK BERM CONSTRUCTED TO ELEVATION 4630 DOWNSTREAM OF THE MAIN DAM FOR EXCESS OR OVERSIZE ROCK FROM THE REQUIRED EXCAVATIONS.

DISPOSAL AREA 4 – ALL EXCESS ROCK FROM THE REQUIRED EXCAVATIONS. (2)

DISPOSAL AREA 5 – RIPRAP QUALITY ROCK STOCK PILE, APPROXIMATELY 10,000 CUBIC YARDS CONFORMING TO DIMENSIONS SPECIFIED FOR RIPRAP.

DISPOSAL AREA 6 – TOPSOIL DISPOSAL AREA

DISPOSAL AREA 7 – DISPOSAL AREA FOR CONCRETE RUBBLE FROM DEMOLITION. COVER WITH 2 FEET OF TOPSOIL. (2)

DISPOSAL AREA 8 – ALTERNATE DISPOSAL AREA FOR SOILS THAT ARE UNSUITABLE FOR USE IN THE EMBANKMENT OR BACKFILL.

DISPOSAL AREA 9 – ALTERNATE DISPOSAL AREA FOR SOILS THAT ARE UNSUITABLE FOR USE IN EMBANKMENTS OR BACKFILL.

REGISTERED PROFESSIONAL ENGINEER STATE OF IDAHO JAMES R. KUENZLI

CH2M HILL

DSGN	J.R. Kuenzli
DR	V.B.W. CLEGG
CHK	L. Detter
APVD	L. Detter

NO.	DATE	REVISION	BY	APVD
2	6/18/86	ADDENDUM NO. 2	JRK	
1	5/21/86	MINOR REVISIONS	JRK	

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GEM STATE HYDROELECTRIC PROJECT
CITY OF IDAHO FALLS, IDAHO
GENERAL CONTRACT

SITE MAP

SHEET G-1
DWG NO. 0-1
DATE MAY 19
PROJ NO. 81898

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

City of Idaho Falls — Project No. 2842-012
Idaho

ORDER APPROVING REVISED EXHIBIT K DRAWINGS

(Issued October 19, 1989)

On October 3, 1988, the City of Idaho Falls, licensee for the Upper Power Plant Project, FERC Project No. 2842, filed revised Exhibit K drawings in response to a letter dated April 19, 1988 from the Director, Division of Project Compliance and Administration.

The Exhibit K drawings have been revised to more accurately reflect the project boundary under all operating conditions and conform to the Commission's Rules and Regulations.

Director orders:

(A) The following revised Exhibit K drawings are approved and made a part of the license:

Exhibit	FERC No.	Drawing Title
K-1	2842-77	Project Boundary-Sheet 1 of 9
K-1	2842-78	Project Boundary-Sheet 2 of 9
K-1	2842-79	Project Boundary-Sheet 3 of 9
K-1	2842-80	Project Boundary-Sheet 4 of 9
K-1	2842-81	Project Boundary-Sheet 5 of 9
K-1	2842-82	Project Boundary-Sheet 6 of 9
K-1	2842-83	Project Boundary-Sheet 7 of 9
K-1	2842-84	Project Boundary-Sheet 8 of 9
K-1	2842-85	Project Boundary-Sheet 9 of 9

(B) Exhibit K drawing numbers 2842-3 and 2842-4 are superseded and removed from the license.

(C) Within 90 days of the date of issuance of this order, the licensee shall file an original of the approved Exhibit K drawings reproduced on silver or gelatin 35mm microfilm mounted on Type D (3 1/4" x 7 3/8") aperture cards for each drawing. In addition, the licensee shall file two Diazo-type duplicate aperture cards. The original set and one duplicate set of aperture cards should be filed with the Secretary of the Commission. The remaining duplicate set of aperture cards should be filed with the Commission's Portland Regional Office. The FERC drawing numbers (2842-77 through 2842-85) shall be shown in the margin below the title block of the microfilmed drawing and also in the upper right corner of each aperture card. The top

See attachment

01-1918

lines of the aperture cards shall show the FERC Exhibit (i.e., K-1, K-2), Project Number, Drawing Title, and date of this order.

(D) This order is issued under authority delegated to the Director and is final unless appealed to the Commission under Rule 1902 within 30 days from the date of this order. Failure to file a petition appealing this order to the Commission shall constitute acceptance of this order.

J. Mark Robinson
Director, Division of Project
Compliance and Administration

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Department of Water Resources

POWER RIGHTS FOR CITY OF IDAHO FALLS
DIVERTING FROM SNAKE RIVER

- 0107066
- 0107025
- 0107024
- 0107023
- 0107015
- 0107014
- 0107013
- 0107018
- 0102047
- 0102049
- 0104001
- 0104003
- 0100360
- 0100361

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NOV 12 1992

FIELD EXAM REVIEW

TO: Files 01-7018 & 01-7051

FROM: ~~Jim Johnson~~ Gary Spackman

DATE: 8/9/89

Review of Compliance with Beneficial Use Rules & Regulations

Rule 3. Authority of Representative

___3,1. ___3,2.

Rule 4. Qualification

___4,1.

Rule 5. Examination for Beneficial Use

5,1. Field Report:

what about canal delivery? need to describe point of return

N/A 5,1,2. ✓ 5,1,3. ? 5,1,4. ___ 5,1,5. ✓ replacement 5,1,6. flows of 5 cfs -

N/A 5,1,7. N/A 5,1,8. N/A 5,1,9. Need volume 5,1,10. N/A 5,1,11.

# of kilowatts megawatts ___ 5,1,12. ✓ 5,1,13. N/A 5,1,14. ✓ 5,1,15. ___ 5,1,16.

___ 5,1,17. shows in the NW NW Sec. 15.

5,2. Field Report Acceptability:

___5,2,1. ___5,2,2. ___5,2,3. ___5,2,4.

5,3. General:

___5,3,1. ___5,3,2. ___5,3,3. ___5,3,4. ___5,3,5.

Rule 6. Water Measurement

6,1. Measurement Terminology:

___6,1,1. ___6,1,2. ___6,2. ___6,3. ___6,4.

___6,5.

Remarks:

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NOV 12 1992

Form 217
03/86

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Department of Water Resources

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JUN 30 1989
Department of Water Resources
Eastern District Office

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

For Office Use Only
Fee Received _____
Date _____
Receipt # _____
Receipt by _____
Reviewed by _____
Sent to region _____

PROOF OF BENEFICIAL USE

The Idaho Department of Water Resources will consider this form as a statement that the permit holder(s) has completed all development that will occur under this permit and that water has been applied according to the provisions of the permit for the beneficial use(s) described below. This form must be accompanied by a license examination fee or a completed field examination report prepared by a certified water right examiner who has been appointed by the department.

Permit No. 01-07018

Name(s) of Permit Holder: CITY OF IDAHO FALLS, IDAHO

Post Office Address: P.O. BOX 220

IDAHO FALLS, IDAHO 83402 Telephone No. (208) 529-1430

Source of Water: SNAKE RIVER

Extent of Use:

Domestic "NA" (number of households) Stockwater "NA" (number and type of stock)

Irrigation "NA" (acres) Other/Remark POWER GENERATION

Total rate and/or volume for which proof is submitted 5000 cfs _____ acre-feet

Show the date water was first diverted and beneficially used under this permit: 17 OCT. 1988 THEN 2 NOV. 1988

Measuring Device: Required? ___ Yes X No Fee enclosed $ NA
Installed? X Yes ___ No (See License Examination Fee Schedule)

Flow Measurement Port: Required? ___ Yes X No
Installed? X Yes ___ No

Person to contact to accompany the Department representative during the field examination:

FIELD EXAM BY PRIVATE CONSULTANT (208) 524-6175
(Name) (Telephone Number)

MOUNTAIN RIVER ENGINEERING 140 N. CORNER AVE IDAHO FALLS, IDAHO 83402
(Address)

The above information is my true statement of the extent to which the above numbered permit has been developed and I relinquish any undeveloped portion of the permit to the state of Idaho.

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6-28-89 M. L. Harrison
Date Signature of Permit Holder (and title, if appropriate)

01-7051

Mountain River, Inc.
CONSULTING ENGINEERS AND LAND SURVEYORS

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NOV 07 1989
Department of Water Resources

September 2, 1989

Gary Spackman, Manager
Water Rights Division
1301 North Orchard Street
Boise, Idaho 83720

Re: Examination of Diversion Works for Permit No. 01-07018 in the name of the City of Idaho Falls and 01-07051 in the name of Utah Power & Light Company

August 15, 1989 letter from Gary Spackman to Rance Bare

Dear Mr. Spackman:

As we discussed by phone, this letter will serve as an attachment to the referenced permits.

Item 1. Rule 5-1-4. The City of Idaho Falls owns and operates the Gem State Power Plant and associated dam and tailrace. Through agreement, Utah Power & Light purchases up to 39% of the power produced.

Item 2. Rule 5-1-5. The point of discharge is located approximately 3100 feet downstream of the powerhouse through a tailrace described as: A portion of the northwest quarter, Section 15 and the northeast quarter and southeast quarter of Section 16, Township 1 North, Range 37 East of the Boise Meridian, more particularly described as:

> Beginning at the Northwest corner of Section 15, Township 1 North, Range 37 East of the Boise Meridian; running thence S.0°35'07"W. 1006.52 feet along a straight line between said Northwest section corner and the West quarter corner of Section 15; thence S.33°17'46"E. 917.41 feet to the centerline of the Gem State Dam and the centerline of the dam axis; thence S.56°42'14"W. 132.17 feet to the powerhouse discharge; said point being the TRUE POINT OF BEGINNING of the centerline of the tailrace; thence S.56°42'14"W. 1732.83 feet; thence S.61°33'14"W. 1105.84 feet; thence N.73°26'46"W. 280 feet more or less to the left bank of the old river course; said tailrace being 50 feet each side of the described centerline.

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NOV 12 1992

140 N. CORNER AVE. • IDAHO FALLS, IDAHO 83402
PHONE (208) 524-6175

Item 3. Rule 5-1-6. The attorney for the City of Idaho Falls is Kent Foster, an attorney with the law firm Holden, Kidwell, Hahn & Crapo. Mr. Foster will address this item for the City. Please forward all correspondence concerning this item to him.

Item 4. Rule 5-1-10. The total volume for ideal power production would be 5,800,000 acre-feet per year.

3,625,000 acre-feet/year to 01-07018
2,175,000 acre-feet/year to 01-07051

Item 5. The point of diversion is in the northwest quarter of the northwest quarter of Section 15, Township 1 North, Range 37 East of the Boise Meridian; and the place of use is in the southwest quarter of the northwest quarter of Section 15, Township 1 North, Range 37 East of the Boise Meridian. This is the same as in the original application.

Item 6. The highest power production to date was during testing. The level of maximum power produced was approximately 25 MW.

Thank you for the opportunity to submit the requested information. Please advise us if you require anything additional.

Sincerely,

MOUNTAIN RIVER, INC.

Daryl Kofoed, P.E.

cc: Mark Gendron

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State of Idaho
DEPARTMENT OF WATER RESOURCES
1301 North Orchard Street, Statehouse Mail, Boise, Idaho 83720 - (208) 327-7900

CECIL D. ANDRUS
GOVERNOR
R. KEITH HIGGINSON
DIRECTOR

August 15, 1989

Wm. F. Rance Bare
Daryl Kofoed
Mountain River, Inc.
140 N. Corner Ave.
Idaho Falls, ID 83402

RE: Examination of Diversion Works for Permit No. 01-07018 in the Name of the City of Idaho Falls and 01-07051 in the Name of Utah Power and Light Company

Dear Gentlemen:

I have reviewed the field examination for permits nos. 01-07018 and 01-07051. I find the examinations to be neatly prepared and easy to read. Several deficiencies in the information required by the beneficial use examination rules and regulations have been identified, however:

1. Rule 5,1,4. requires that any inter connection of the water use being examined with other water rights or with other conveyance systems shall be described on the field report. The description must be in the form of a concise word picture and should include a schematic diagram.

2. Rule 5,1,5. requires that the location of the point of discharge back into the river must also be described. A point of discharge is not described, although I assume it is in the same location as the dam and power plant.

3. Rule 5,1,6. requires that the method of compliance with each condition of approval shall be shown on the field report. I find no reference in the field report to the conditions of approval contained in the memorandum decision of the Director for permit 01-07018, or to the conditions printed on the back page attached to permit 01-07051. In particular, the permits require a replacement of water to the river of five (5.0) cfs. The 5.0 cfs must be supplied to the project from a source other than the natural flow of the Snake River. The condition also states that the source of water can be groundwater or storage water. It cannot be wastewater from the sewage treatment plant that has historically been discharged into the Snake River. This condition must be complied with prior to approval of the field examination, and licensing.

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4. Rule 5,1,10. implies that an annual volume must be

defined in the field examination, and included as part of licensing. The total amount of volume to be licensed must be recommended.

5. The field examination describes the point of diversion and place of use as being located in Section 15, T1N, R37E, Bonneville County. The locations must be more precisely described within a 40 acre tract. The permit defines the point of diversion in the NW1/4NW1/4 of Section 15, T1N, R37E, and the place of use in the SW1/4NW1/4, Section 15, T1N, R37E. If there is a change in the place of use or point of diversion, you must recommend that the permit holders file an amendment.

6. Please obtain, if possible, a reading of the highest hydroelectric production of the power plant to date. You should be able to determine the maximum flow that has been diverted through the generators from the maximum electrical production.

Upon submittal of the information requested, the Department will act upon the permits.

Respectfully,

Gary Spackman

GARY SPACKMAN, Manager
Water Right Permits Section

GS:js

cc. Eastern Region
Rex Harrison, City of Idaho Falls

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NOV 12 1992

Mountain River, Inc.
CONSULTING ENGINEERS AND LAND SURVEYORS

RECEIVED
JUN 30 1989
Department of Water Resources
Eastern District Office

RECEIVED
JUL 24 1989
Department of Water Resources

June 30, 1989

Harold Jones
State of Idaho
Department of Water Resources
Idaho Falls, Idaho 83401

Re: Proof of Beneficial Use on Water Rights Permits Nos. 01-07018 & 01-07051

Dear Mr. Jones:

Enclosed herewith please find proof of Beneficial Use Form 217, Beneficial Use Field Report Form 219, photographs of the diversion, a copy of the U.S.G.S quadrangle map, plan layout of the diversion, and an aerial photograph.

Thank you for your consideration. Please advise if you require any additional information.

Sincerely,

MOUNTAIN RIVER, INC.
Daryl Kofoed
Daryl Kofoed, P.E.

cc: Steve Harrison

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NOV 12 1992

140 N. CORNER AVE. • IDAHO FALLS, IDAHO 83402
PHONE (208) 524-6175

WARNING

CANCELLED OR LAPSED

This permit has been officially CANCELLED or LAPSED.

Ninety days following the date of official action this file will be DESTROYED.

July 11, 1989

CITY OF IDAHO FALLS
C/O G.S. HARRISON
P.O. BOX 220
IDAHO FALLS, ID 83401

LAPSE NOTICE

RE: PERMIT NO. 01-07018

Dear Permit Holder:

You are hereby notified that under the provisions of Section 42-218A, Idaho Code, the above referenced water permit has lapsed. This office did not receive either an acceptable proof of beneficial use submittal or an acceptable request for an extension of time. You were provided the proper form in our proof due notice to you dated April 30, 1989.

Your permit cannot be reinstated unless you submit proof of beneficial use or submit an extension of time request showing reasonable cause for delay. Either the completed proof of beneficial use submittal (including the examination fee or a completed field examination report) or the extension request form together with the $15 fee must be received by this department within sixty days of the date of mailing of this lapse notice or the permit will no longer be of any force or effect.

A proof of beneficial use form and a request for extension of time form are again enclosed for your use. Please note that only one extension of time can be granted unless the project has not been completed because of lack of a necessary approval by a governmental agency or by litigation which might bring title to the water in question.

L. GLEN SAXTON
Chief, Water Allocation Bureau

Enclosures

LGS:RF

CERTIFICATION OF MAILING
I hereby certify that on 7/13 a copy/an original of this document was deposited in the United States mail, postage prepaid addressed to the individual(s) named above.

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NOV 12 1992

RECEIVED
MAY 09 1989
Department of Water Resources

01-7013 - 1015
01-7018/ 7023 - 01-7025
01-2047/2049

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION 47 FERC ¶ 61,115

Before Commissioners: Martha O. Hesse, Chairman; Charles G. Stalon, Charles A. Trabandt, Elizabeth Anne Moler and Jerry J. Langdon.

City of Idaho Falls, Idaho) Project Nos. 2842-013 and -017

ORDER DISMISSING REQUESTS FOR REHEARING AND APPROVING AMENDMENT OF LICENSE AND REVISED EXHIBIT R

(Issued April 27, 1989)

By order issued June 24, 1988, the Director, Division of Project Compliance and Administration (Director), denied the request of the City of Idaho Falls, Idaho (licensee), filed March 22, 1988, to amend its license by deleting a requirement to install shore-to-shore buoy lines from the licensee's Exhibit R (recreation use plan) drawings for Project No. 2842. 1/ Based on recommendations and a site inspection by personnel of the Commission's Portland, Oregon Regional Office (PRO), the Director rejected the licensee's proposal to install warning signs in lieu of the required buoy lines. 2/ The Director noted that the PRO's

1/ See Order Approving in Part and Modifying in Part a Revised Exhibit R, 43 FERC ¶ 62,366 (1988). The Director's order also revised the Exhibit R to require: (1) seasonal installation of the buoy lines between May 1 and September 30 each year, beginning in 1989; and (2) permanent installation of (a) warning signs at four locations upstream from the buoy lines to warn boaters of the project's three dam locations and (b) warning horns at the spillway gates to alert persons downstream from the project of sudden water releases.

2/ The license for Project No. 2842 was issued on February 8, 1979. See 6 FERC ¶ 61,120 (1979). Article 42 of the license (id. at p. 61,219) required the licensee to file for Commission approval a revised Exhibit R within one year from the date of issuance of the license. The licensee's Exhibit R, as filed on May 30, 1980, and approved November 16, 1981 (17 FERC ¶ 62,240 (1981)), included buoy lines in the project drawings.

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FEDERAL ENERGY REGULATORY COMMISSION

site inspection revealed that recreational boaters were coming dangerously close to the project's diversion structures. 3/

On July 25, 1988, the licensee timely filed an appeal of the Director's order, challenging the buoy-line requirement. On July 26, 1988, the Bonneville County, Idaho Sheriff's Department (Department) filed a request for intervention in the proceeding and a late appeal of the Director's order. By order issued October 7, 1988, the Commission granted the Department's intervention request and denied the appeals. 4/ The Commission found that the project's ungated spillways posed a hazard for recreationists and that the buoy lines would provide a needed additional measure of safety that warning signs alone could not provide. 5/

3/ Project No. 2842 is located on the Snake River in Bonneville County, Idaho, and consists of three run-of-river hydroelectric developments designated Upper Plant, City Plant, and Lower Plant. Upper Plant includes two combination concrete and earthfill dams, one 600 feet long and 23 feet high and the other 470 feet long and 33 feet high, and a reservoir with 800 gross acre-feet of capacity and 100 acres of surface area. City Plant includes a concrete dam and diversion structure 1,970 feet long and 30 feet high and a reservoir with 400 gross acre-feet of capacity and 50 acres of surface area. Lower Plant includes a concrete dam 930 feet long and 16 feet high and a reservoir with 800 acre-feet of capacity and 100 acres of surface area.

4/ See 45 FERC ¶ 61,042 (1988). Based on the Department's contentions that the buoy lines might hinder its rescue operations in the Snake River near the project, the Commission also required the licensee to file, by November 7, 1988, and after consultation with the Department, either a request to change the location of the buoy lines, with appropriately revised Exhibit R drawings, or a letter stating that no change in the buoy-line locations is needed. Id. at p. 61,139, note 21. After two extensions of time (see notices extending deadline, issued November 15, and December 27, 1988 (unpublished)), the licensee filed its supplemental Exhibit R drawings on January 23, 1989.

5/ 45 FERC ¶ 61,042, supra, at p. 61,136-140. The Commission (id. at pp. 61,136-37) also based its decision on Section 12.42 of the Commission's regulations (18 C.F.R. § 12.42 (1988)), which states that,

(continued...)

April 30, 1989

138150

CITY OF IDAHO FALLS
C/O G.S. HARRISON
P.O. BOX 220
IDAHO FALLS, ID 83401

PROOF DUE NOTICE

RE: PERMIT NO. 01-07018

Dear Permit Holder:

One of the conditions of approval of the above referenced water permit was that proof of the extent of your beneficial use must be submitted to this office on or before July 1, 1989. (See last page of your approved permit or your last approved extension request.) Enclosed is a form which when accompanied by the license examination fee or a complete field examination report prepared by a certified water right examiner may be used to submit the required proof.

If you have not fully compeleted your project, and you or a previous owner of this permit have not received a prior extension of time, you may request an extension of time if the delay is for reasonable cause as provided in Section 42-204, Idaho Code. If you have been prevented from proceeding by a governmental agency or by litigation which might bring title to the water in question, more than one extension of time can be granted. An extension of time request form is enclosed for your convenience.

Either an acceptable proof of beneficial use submittal or an acceptable request for an extension of time must be received by this department on or before the above described proof due date. If neither is received, the department will send you a lapse notice. Within sixty (60) days of the mailing of the lapse notice, the permit will no longer be of any force nor effect.

SINCERELY,

Rita Fleck
Secretary/Records Manager

Enclosures

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NOV 12 1992

LAW OFFICES
HOLDEN, KIDWELL, HAHN & CRAPO

IDAHO FIRST NATIONAL BANK BUILDING
P.O. BOX 50130
IDAHO FALLS, IDAHO 83405

TELEPHONE (208) 523-0620
TELEFAX (208) 523-9518

WILLIAM S. HOLDEN
FRED J. HAHN
KENT W. FOSTER
ROBERT E. FARNAM
WILLIAM D. FALER
STEPHEN E. MARTIN
CHARLES A. HOMER
GARY L. MEIKLE
CURT R. THOMSEN
MICHAEL D. CRAPO
JAMES D. HOLMAN
GAYLE A. SORENSON
DONALD L. HARRIS
GREGOR S. CHVISUK
RANDALL B. REED
G. LANCE NALDER
J. MICHAEL WHEILER
MARIE T. FEELEY

ARTHUR W. HOLDEN (1877-1967)
ROBERT B. HOLDEN (1911-1971)
TERRY L. CRAPO (1939-1982)

R. VERN KIDWELL, OF COUNSEL

January 19, 1989

RECEIVED
JAN 15 1990
Department of Water Resources

RECEIVED
JAN 20 1989
Department of Water Resources
Eastern District Office

Mr. Ron Carlson, Watermaster
District 01
150 Shoup Avenue
Idaho Falls, Idaho 83401

RE: Gem State Water Rights

Dear Ron:

When we visited the other day, I expressed a lingering frustration I have felt with respect to IDWR handling of the replacement requirements of Permit No. 01-7018.

The frustration remains because of statements made by Ken Dunn in the orders approving the permit that water from the city sewage treatment plant should not be considered as a possible source for the replacement water.

At the time, we went to substantial lengths to research the legal issues involved, but our efforts were never even dignified by any apparent consideration and certainly no written analysis of those issues. The city ultimately concluded not to challenge the decision further because the references to this possible source of replacement water were clearly dicta as the issue was not before the department at the time.

For whatever it is worth, I am enclosing a copy of the brief we prepared which contains much of the basic research of the potential issues. At some appropriate time, we may insist upon a proper analysis of the applicable law and we believe at least some of it is included within this brief.

The effluent from the sewage treatment plant was of course not the only alternative we had suggested at the time but the director did not, for some reason, address any of the other possibilities. To me, at least, the language of the Memorandum Decision and Order is most confusing, and was not

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clarified in any substantial way in the modified Memorandum Decision and Order. At some point in time, it will probably be helpful for us to discuss the various alternatives so that the best one can be selected. However, dismissal out of hand of the discharge from the sewage treatment plant as a possible source, will probably not be acceptable.

Yours very truly,

Kent W. Foster

#0000.00
5400g/srr

Enclosure

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JUN 13 1988

Department of Water Resources

Office of the Mayor
City Hall
IDAHO FALLS, IDAHO 83402

THOMAS CAMPBELL
MAYOR

June 2, 1988

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JUN 3 1988

Department of Water Resources
Eastern District Office

Ronald Carlson
Water District #1

Dear Mr. Carlson:

I have reviewed your letter of May 25, 1988 regarding fluctuations of the Snake River as recorded by the Shelley hydrograph. We are aware that fluctuations did occur over a several day period as you describe. The problem was the result of improper operation of spillway gates by the contractor at the Gem State site. Hopefully, this operational error has been corrected. The more recent hydrographs portray much less of a disturbance to the river than those you allude to in your letter.

As you are aware, the Gem State project is under construction and requires manual operation of the gates at this time. Automation equipment for controlling the entire project discharge is presently being fabricated but won't be operational until this fall or winter. After a period of river modeling and computer imput adjustments we hope to provide a flow to the Shelley gage area that is comparable to an unimpeded discharge.

I think we have tried to convey that concept to you and other water users at various meetings.

I am sorry that you didn't provide my staff with the courtesy of a call or expression of concern before writing your letter. I further consider your fourth paragraph to be coercive in nature because you know that future disturbances of some magnitude will occur. We do try to operate our projects responsibly even though your letter suggests that we do not. We have honestly tried to share our concerns and problems with you and other users. A review of the hydrographs during the last water year demonstrates that fluctuations because of the bulb units have been minimal.

Sincerely,

Thomas Campbell

Thomas V. Campbell
Mayor
City of Idaho Falls

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NOV 12 1992

State of Idaho
Water District 1
RONALD CARLSON
WATERMASTER
(208) 525-7172
150 Shoup Ave., Suite 15
Idaho Falls, Idaho 83402

COMMITTEE OF NINE
CHAIRMAN
Dale Rockwood
Idaho Falls
VICE CHAIRMAN
Phil Hanks
Burley
SECRETARY
Reed Murdock
Blackfoot
Clen Atchley
Ashton
Reed Oldham
Rexburg
Claude Storer
Idaho Falls
Paul Berggren
Blackfoot
Robert Reichert
Filer
Lester Saunders
Hazelton
ALTERNATES
Dave Rydalch
St. Anthony
Leonard Scheer
Rupert
ADVISORY
Murle Kunz
Victor
Wendell Johnson
Richfield
Max Van Den Berg
Burley
John Rosholt
Twin Falls
Ken Dunn
Boise
ATTORNEY
Kent Foster
Idaho Falls

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JUN 13 1988
Department of Water Resources

June 9, 1988

Honorable Mayor Thomas V. Campbell
City of Idaho Falls
P.O. Box 220
Idaho Falls, ID 83402

Dear Mayor Campbell:

The issue of flow interruption on the Snake River below Idaho Falls is important enough to warrant my addressing some apparent misunderstandings that were reflected by your letter of June 2, 1988.

My responsibility, as watermaster of the Snake River, is to properly distribute available water supplies to all those with valid water rights who desire to exercise these rights. I take this job very seriously. Between the first of April and the first of November irrigation rights normally demand all of the water available between Henry's Lake and Milner Dam. In addition, as each year progresses, increasing amounts of storage have to be released from Snake River reservoirs to supplement decreasing natural flow supplies. Implicit in the process of distributing water is the requirement for flows at every reach of the river to be predictable. Thus, I require a minimum of 24-hours notice before a canal can change the amount of water it is diverting. Storage releases are scheduled to meet the requested amounts. While it is impossible to maintain a constant discharge at any point on the river we strive to maintain short-term predictability.

Prior to the construction of the city's hydropower projects we could follow a release from Palisades all the way to Blackfoot. With the power plants in the system we find storage releases frequently "get lost" at Idaho Falls. We hope that this is a temporary problem that will have a solution once Gem State is completed and the rating for the Snake nr. Idaho Falls is established. However, random releases of water into the river make proper water

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distribution more difficult. These are changes that do not reflect any changes in inflow. For example, we have seen the flows dropping at Lorenzo and Rexburg while the gages at Shelley and Blackfoot indicate increases. These may not be in the form of major "spikes" in the flows but nevertheless, may increase our response time in making necessary compensating releases from Palisades. These types of manipulations of the river we have tried to live with. We do not expect the city's plants to have no effect on the river. We do expect, however, to see facility designs and plant operations that reflect a conscious and continuous effort to minimize downstream impacts. Frankly, I believe that these considerations have largely been after thoughts. The incident which precipitated my writing the letter to you on May 24 illustrates my conclusion. Incidentally, contrary to the representation in your letter, we had been in contact with representatives of the city the previous day and, of course, as you know I was unable to contact you. The point, however, is that the city had not made adequate provisions to avoid impacting downstream water users. While you may blame the contractor for the fluctuations, the fact is that the city is responsible and obviously did not properly convey appropriate operating constraints in contracts or otherwise.

The city appears to be operating under the continuing perception that there are no actual injuries associated with major river fluctuations, and that they only represent a temporary inconvenience. This, unfortunately, is not the case. The types of injuries range from additional canal company personnel costs to pump damage. The injuries associated with irrigation interruptions are probably the largest losses but are diverse and difficult to identify. The costs resulting from the waste of storage supplies due to river fluctuations can be quantified, as can those resulting from flooding. However, the most important injury from my point of view is the potential injury to vested water rights and associated real property values. These are the values that the watermaster is obligated to protect through available regulatory processes. This regulatory authority includes the regulation of all uses of water including hydropower production. Unlike irrigation diversions, which the watermaster can set and lock, the regulation of on-stream water uses is typically more complicated. The preferable method is to simply have the operators of on-stream facilities comply with the conditions of their water rights, making regulation a very benign process. However, when this proves unsuccessful then the most expedient legal tool available must be employed to correct the situation. I indicated in my previous letter

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what I anticipated that tool would be if the city is not able to meet the conditions of its water rights. This was not meant to be coercive at all. I simply wanted to make certain that you understood what the consequences will be if the city is unable to operate its system under the conditions which its water rights were granted. My previous letter was simply a notice that the time for excuses is past.

Very truly yours,

RONALD D. CARLSON
Watermaster

RDC:cw

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NOV 12 1992

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MAY 26 1987

CITY OF IDAHO FALLS

P.O. BOX 220
IDAHO FALLS, IDAHO 83402-0220

Department of Water Resources

ELECTRIC DIVISION

(208) 529-1430

May 22, 1987

Attn: Secretary/Records Manager
State of Idaho
Department of Water Resources
450 W State St.
Statehouse
Boise, ID 83720

Subject: Water Rights Permit No. 01-7018

Dear Sir:

As required by your letter of 4/30/87, enclosed herein is the completed request for extension of time, with payment of $15.00.

Sincerely,

ELECTRIC LIGHT DIVISION

MARK GENDRON
CHIEF ENGINEER

MG/0218m/sdt

Encl.

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NOV 12 1992

State of Idaho
DEPARTMENT OF WATER RESOURCES
STATE OFFICE, 450 W. State Street, Boise, Idaho

CECIL D. ANDRUS
Governor

A. KENNETH DUNN
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 334-4440

EXTENSION OF TIME

June 10, 1987

City of Idaho Falls
P. O. Box 220
Idaho Falls, ID 83402-0220

PERMIT NO. 01-7018

We are in receipt of the $15 extension fee for Extension(s) of Time to provide additional time in which to submit proof of beneficial use on a water right permit.

Your request for extension(s) of time is being reviewed by staff. You will be informed of our decision when review has been completed.

Enclosed is our receipt No. 42472.

Roberta Garrett
Records Supervisor

Enclosure

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NOV 12 1992

~~The Honorable W. F. Smith~~

~~Judge~~

~~District Judge~~

~~Ada County Court House~~

~~Boise, Idaho 83702~~

~~Merle J. Smith~~

4-16-83

Bob,

The Court has not yet requested the record and transcript in this case. Jan will prepare it when we reach that phase. I have suspended this file until 5-10-83 at which time I will find out more about what the Court intends to do.

DARCY

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NOV 12 1992

BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE STATE OF IDAHO

IN THE MATTER OF THE APPLICATION FOR PERMIT NO. 01-7018 IN THE NAME OF THE CITY OF IDAHO FALLS.	))))	Case No. 30087 NOTICE OF LODGING OF TRANSCRIPT

TO: All parties and their counsel.

YOU ARE HEREBY NOTIFIED, pursuant to I.R.C.P. 83(o), that the transcript of the testimony and proceedings of the March 16, 1982 hearing before the Department in this matter has been lodged with the Department in accordance with I.R.C.P. 83(k)(1).

YOU ARE FURTHER NOTIFIED, that the parties have twenty (20) days from the date of this notice in which to file any objection to the transcription;

THAT any objections to the transcript shall be made in writing to the Idaho Department of Water Resources and shall be determined thereby;

THAT upon failure of the parties to file any objection within such twenty (20) day period, the transcript shall be deemed settled;

THAT within five (5) days of the settlement of the transcript, the Department shall file with the district court to which appeal has been made the original of the transcript together with a copy of the agency record and all exhibits offered or admitted in the proceeding.

DATED this 30th day of August, 1984.

A. KENNETH DUNN
Director

MICROFILMED

IN THE DISTRICT COURT OF THE SEVENTH JUDICIAL DISTRICT OF THE STATE OF IDAHO, IN AND FOR THE COUNTY OF BONNEVILLE

RECEIVED
FEB 2[illegible] 1983
Department of Water Resources

In the matter of	
CITY OF IDAHO FALLS APPLICATION BEFORE THE IDAHO WATER RESOURCE BOARD, Apllication No. 01-7018.	CASE NO. 30087 MEMORANDUM DECISION

In March 1978, the City of Idaho Falls proposed the Gem State Hydroelectric Project and filed its application for the appropriation of a certain cubic foot flow of the Snake River for the purpose of generating electrical power through a bulb turbine. Pursuant to provisions of the Idaho Code 42-203, a notice of said application was duly published, and no protests were filed with the Department of Water Resources. The Code provided for a time limit within which a protest could be made against such an application, and if no protests were filed, the director of the Department of Water Resources could forthwith approve the application. No protest was filed, and the application was approved. The City now argues that any attempt by the Snake River Irrigation District to seek any judicial review of the application approval must fail in that no protest was filed.

A publication of notice is not just a formality, but must have as its purpose the giving of actual notice to parties affected by the intended acts of the one publishing the notice. The general law is that whatever is notice enough to excite attention of a man of ordinary prudence and prompt him to further inquiry amounts to notice of all facts which reasonable investigation would disclose. Fenton v. King Hill Irr. Dist. 186 P.2d 477 (Idaho). The notice here did not satisfy this requirement. A publication of notice may be informational as long as substantial rights are not foreclosed in later proceedings. Thus, where the Code states that any one concerned with an application must protest and clearly set forth his objections, the notice must be sufficient to allow one to know if there is a concern and to know what the objections might be.

OPEN RESOURCES

I.C. 42-203 provides that any person or corporation who has formally appeared at the hearing feeling aggrieved by the judgment of the director may seek judicial review of the approval. After the Snake River Irr. District entered a protest of sorts in October of 1981, and after certain other proceedings, the Department scheduled and held a "fact finding hearing". Among others, the Snake River Irr. District appeared at this hearing. The Court finds that the District made sufficient appearance at this hearing and is sufficiently aggrieved as alleged as to be entitled to a judicial review of the judgment of the director of the Department of Water Resources. Any judicial review shall be had in accordance with the provisions and standards set forth in Sections 67-5215,16. The Snake River District's petition is not in the language of asking for a judicial review; however, the Court will consider the relief sought to be that granted under 67-5215. The Court will delay for a time any order to have the Department transmit the record in this case. The Court contemplates that the District may make application to the Court under 67-5215(e).

DATED: January 26, 1983.

H. REYNOLD GEORGE
District Judge

cc: W.J. Anderson
Kent W. Foster

MICROFILMED

LAW OFFICES
HOLDEN, KIDWELL, HAHN & CRAPO
IDAHO FIRST NATIONAL BANK BUILDING
P. O. BOX 129
IDAHO FALLS, IDAHO 83402

TELEPHONE 523-0620
AREA CODE 208

LLIAM S. HOLDEN
R. VERN KIDWELL, P. A.
FRED J. HAHN
KENT W. FOSTER
ROBERT E. FARNAM
WILLIAM D. FALER, P. A.
STEPHEN E. MARTIN
CHARLES A. HOMER

GARY L. MEIKLE
CURT R. THOMSEN
RANDALL K. BARTON
MICHAEL D. CRAPO
JAMES D. HOLMAN
GAYLE A. SORENSON
BRUCE T. SMITH

ARTHUR W. HOLDEN (1877-1967)
ROBERT B. HOLDEN (1911-1971)
TERRY L. CRAPO (1939-1982)

1982

Department of Water Res

December 23, 1982

Kenneth Dunn
DEPARTMENT OF WATER RESOURCES
450 W. State Street
Boise, Idaho 83720

Re: In the matter of Application for Permit
No. 01-7018 in the Name of the City of Idaho Falls

Dear Mr. Dunn:

We are enclosing a copy of a Stipulation which has been filed in the above entitled matter.

Yours very truly,

Kent W. Foster

KWF:vm
518-R2
Enc.

W. J. ANDERSON
Of SHARP, ANDERSON, BUSH & NELSON
Attorneys at Law
P. O. Box 158
Idaho Falls, Idaho 83402
Telephone: (208) 522-3001

IN THE DISTRICT COURT OF THE SEVENTH JUDICIAL DISTRICT OF THE STATE OF IDAHO, IN AND FOR THE COUNTY OF BONNEVILLE

IN THE MATTER OF APPLICATION FOR PERMIT NO. 01-7018 IN THE NAME OF THE CITY OF IDAHO FALLS.	)	Case No. 30087 STIPULATION

COMES NOW, the attorney for the Snake River Valley Irrigation District, W. J. ANDERSON, of the firm of SHARP, ANDERSON, BUSH & NELSON, Idaho Falls, Idaho, and the attorney for the City of Idaho Falls, KENT FOSTER, of the firm of HOLDEN, KIDWELL, HAHN & CRAPO, of Idaho Falls, Idaho, and do stipulate and agree that the hearing set for the 23rd day of December, 1982, may be continued and rescheduled at a later date at the convenience of the parties.

DATED this 17th day of December, 1982.

W. J. Anderson
Of SHARP, ANDERSON, BUSH & NELSON
Attorneys for Snake River Valley
Irrigation District

DATED this 22 day of December, 1982.

Kent Foster
Of HOLDEN, KIDWELL, HAHN & CRAPO
Attorneys for City of Idaho Falls

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October 15, 1982

Mr. Kent Foster
HOLDEN, KIDWELL, HAHN & CRAPO
P. O. Box 129
Idaho Falls, ID 83401

Dear Kent:

Your suggestions for the clarification of the decision on the City of Idaho Falls Permit No. 01-7018 has been considered and that decision has been modified to prevent future misunderstanding.

Rather than discussing all of the possible sources of replacement water we would rather review the specific method of providing replacement water chosen by the city.

We would suggest that the replacement water could be provided by future wells from which water could be appropriated for that purpose, by obtaining storage water from the water bank, or by changing the purpose of an existing valid consumptive water right.

We hope the Modified Memorandum Decision and Order alleviates your concerns and will make a rehearing unnecessary.

Sincerely,

A. KENNETH DUNN
Director

AKD:BDF:rf

cc: Certificate of Mailing

LAW OFFICES
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ARTHUR W. HOLDEN (1877-1967)
ROBERT B. HOLDEN (1911-1971)

September 20, 1982

RECEIVED
SEP 21 1982
Department of Water Resources

State of Idaho
Department of Water Resources
State Office
450 W. State Street
Boise, Idaho 83720

Re: Application for permit no. 01-7018

Gentlemen:

Enclosed is our original Brief in Support of Petition for Rehearing in the above entitled matter. I believe a copy was mailed to you with our September 17 correspondence.

Thank you for your consideration in this matter.

Yours very truly,

Vanessa Marshall

Vanessa Marshall,
Secretary to Kent W. Foster

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RECEIVED
AUG 10 1982
Department of Water Resources
Eastern District Office

Kent W. Foster, Esq.
HOLDEN, KIDWELL, HAHN & CRAPO
P. O. Box 129
Idaho Falls, Idaho 83402
Telephone: (208) 523-0620

BEFORE THE DIRECTOR OF THE DEPARTMENT OF WATER RESOURCES

OF THE

STATE OF IDAHO

IN THE MATTER OF APPLICATION FOR PERMIT NO. 01-7018 IN THE NAME OF THE CITY OF IDAHO FALLS.	PETITION FOR RE-HEARING

COMES NOW the applicant in the above-entitled matter, City of Idaho Falls, and hereby petitions the Director for a re-hearing for the purpose of further clarification of certain portions of the Memorandum Decision and Order entered herein by the Director on July 21, 1982.

Specifically, the applicant seeks clarification of the condition listed as paragraph number 2 of the Order on page 6 of said Memorandum Decision and Order. The condition provides for replacement water to be supplied at the rate of 5 cfs "from a source other than the Snake River or tributaries." The Decision also provides that Permit No. 25-7182 cannot be used to satisfy this condition; however, other possible alternatives for providing replacement water have been suggested, and in order for the applicant to complete its planning properly, this request for clarification is hereby submitted.

In order to assist in providing a format which may result in sufficient detail in any order of clarification, we submit the following specific questions for consideration:

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1. Can the replacement water be supplied from storage water from a federal reclamation project, and if so, under what terms and conditions? It may be possible for the applicant to rent storage water from the Water District No. 1 rental pool, or even directly from irrigation entities such as those mentioned in the letter from John Rosholt to Ron Carlson, dated March 10, 1982, which forms a part of the record in this action.

2. Can the replacement water be supplied from water rights presently appurtenant to lands owned by applicant, and if so, under what terms and conditions? The applicant owns land within the boundaries of at least three irrigation districts to whom an annual assessment is paid. The water rights consist of both natural flow rights and storage rights. Preliminary discussions with certain officials of some of the irrigation districts indicated a cooperative attitude toward the use of some of such water as replacement water where it may no longer be needed for irrigation purposes upon portions of applicant's lands.

3. Can the replacement water be supplied from ground water pumped from city wells and used for other municipal purposes as well, even though the portion of the water used as replacement water is discharged into the river through the sewage treatment facility, and if so, under what terms and conditions? The applicant has drilled wells since 1971 and is likely to continue to do so in the future for the purpose of increasing, as needed, the supply of water for its normal municipal purposes. It may be possible from records kept to identify an increase in discharge from the city sewage treatment plant which corresponds with and is attributable to such increases in the total supply. It would also be possible to formally apply for a permit to appropriate such increases for the replacement purpose at the same time

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the permit is initially sought for the other municipal purposes, or, with respect to wells drilled since 1971, before other consumptive rights, such as a waste water irrigation right to the portion discharged into the river, is properly appropriated by a water user other than the City of Idaho Falls.

Petitioner does not believe that new or additional evidence is necessary, but expects to file a Brief outlining its position with respect to the questions raised by this Petition for the aid and assistance of the Director.

DATED this 10th day of August, 1982.

HOLDEN, KIDWELL, HAHN & CRAPO

By: Kent W. Foster
Kent W. Foster
A Member of the Firm

CERTIFICATE OF SERVICE

I hereby certify that I am a duly licensed attorney in the State of Idaho, resident of and with my office in Idaho Falls, Idaho; that I served a copy of the following described pleading or document on the attorneys listed below by hand delivering or by mailing, with the correct postage thereon, a true and correct copy thereof on this 10th day of August, 1982.

Document Served: PETITION FOR RE-HEARING

Attorneys Served: W. J. Anderson, Esq. (Mailed)
SHARP, ANDERSON, BUSH & NELSON
P. O. Box 158
Idaho Falls, Idaho 83402

Kent W. Foster
Kent W. Foster, of
HOLDEN, KIDWELL, HAHN & CRAPO

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RECEIVED
SEP 20 1982
Department of Water Resources

September 17, 1982

State of Idaho
Department of Water Resources
State Office
450 W. State Street
Boise, Idaho 83720

Re: Application for permit no. 01-7018

Gentlemen:

We are enclosing with this letter a brief which we have prepared in connection with the recent Motion for Rehearing which was filed herein.

If we can provide any additional information or assistance please feel free to contact us.

Very truly yours,

Kent W. Foster

Kent W. Foster

KWF:vm
Enclosure

RECEIVED
SEP 20 1982
Department of Water Resources

Kent W. Foster, Esq.
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P. O. Box 129
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BEFORE THE DIRECTOR OF THE DEPARTMENT OF WATER RESOURCES

OF THE

STATE OF IDAHO

IN THE MATTER OF APPLICATION FOR PERMIT NO. 07-7018 IN THE NAME OF THE CITY OF IDAHO FALLS.	Case No. 30087 BRIEF IN SUPPORT OF PETITION FOR RE-HEARING

This Brief is written in support of and to explain further the request of the City of Idaho Falls in its "Petition for Re-Hearing" for clarification of certain portions of the Memorandum Decision and Order of the Director, dated July 21, 1982.

Specifically, the Brief is limited to a discussion, with questions and suggestions, relative to the condition numbered 2, at page 6 of the "Memorandum Decision and Order" which provides:

> The applicant shall supply replacement water at the rate of 5.00 cubic feet per second from a source other than the Snake River or tributaries. Prior to the diversion of water under this application, the applicant must notify and receive the approval of the Director on the replacement source of water. The Director retains jurisdiction of this permit to assure conpliance with this condition.

Finding of fact number 8 at page 4 of the Decision, and Conclusion of Law number 5 at page 5, appear to be directed to the same subject matter and we have reproduced them below:

> 8. The City of Idaho Falls holds water right permit number 25-7182 for the appropriation of waste water, which is effluent from their sewage treatment plant, for power

DEPARTMENT OF WATER RESOURCES

purposes. This water originates from the City's wells and is used for municipal purposes before being discharged into the Snake River. This water has been discharged into the river for many years, beginning at the time the City was established, with increases in the amount of water occuring with an increase in the City's population.

5. The total amount of water replaced must be 5.00 cubic feet per second of water and 270 acre feet per year during the years that storage does not fill. It can be readily seen that a rate of diversion of 5.00 cubic feet per second requires less than thirty (30) days to satisfy the 270 acre feet evaporated and lost to the system; therefore, the contolling parameter for distribution purposes is that 5.00 cubic feet per second water must be supplied to the project from a source other then (sic) the natural flow of the Snake River. This source of water can be ground water or storage water. The water appropriated by the City of Idaho Falls under permit number 25-7182 has historically been discharged into the Snake River and is considered a part of the river. It, therefore, must be allowed to satisfy the existing water rights prior in time to January 14, 1980. The City does not have exclusive control over this waste water after they have lost contol of it and when it is proposed to be used for a new purpose. Permit number 25-7182 cannot be used to satisfy the 5.00 cubic feet per second of water lost to seepage and evaporation.

The City of Idaho Falls has consistently indicated it would agree to a condition imposing a reasonable requirement for replacement of water which might be lost from the river due to increased evaporation and seepage losses from its use of water under permit number 01-7018 in connection with its proposed Gem State Hydroelectric Project. The City's position in this regard was restated in its Brief dated April 2, 1982, which was submitted for the purpose of addressing matters raised at the fact finding hearing held on March 16, 1982, in Idaho Falls. While the City's Brief does not discuss the potential legal issues presented by any specific method of providing replacement water, the Brief did list some four specific posibilities of which the City was aware at that time.

Only one of the alternatives appears to have been addressed to any extent in the decision. Because of this and

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because some of the inferences which might possibly be drawn from portions of the language of the decision, we have requested clarification.

While the list was by no means intended to be exhaustive, we listed in the Brief possible alternative ways to provide replacement water as follows:

a. The City has already been granted permit number 25-7182 for 14 cfs from its waste water treatment plant for use in connection with this project. The ultimate source of the water is, of course, the City wells which provide ground water for use in homes within the City and for other municipal purposes.

b. In the letter dated March 10, 1982, from John Rosholt on behalf of American Falls Reservoir District, Twin Falls Canal Company, North Side Canal Company, Milner Low Lift Irrigation District and Hillsdale Irrigation District addressed to Mr. Ron Carlson, a copy of which we understand to be part of the record in this matter, Mr. Rosholt suggested that it may be possible to negotiate a lease of storage water with some of the companies mentioned in the letter.

c. It may be possible to lease water from the Water District Number 1. rental pool administered by the Committee of Nine.

d. The City owns land under three irrigation districts and much of the land to which water is appurtenant for irrigation is no longer irrigated. Preliminary contacts with some of the irrigation districts have indicated a willingness to cooperate in a manner which might permit use of some of this water as replacement water.

Without intending any significance thereby, we have, for ease of reference, organized the discussion of each of the alternatives under three headings. The alternative listed under subparagraph a. above, we will call "Waste Water", b. and c., "Storage Water", and d. "Irrigation District Water".

Waste Water.

The City of Idaho Falls pumps all water used in and through its City water system from some 14 deep wells. The permits and licenses for such wells indicate they have the

following Department of Water Resources identification numbers, amounts, and priority dates:

Well Number	License or Permit Number	Amount	Priority
1	G-16689/25-2095	5.2 cfs	February 25, 1927
2	G-31141/25-2142	50.2 cfs	April 18, 1963
3	"	"	"
4	"	"	"
5	"	"	"
6	"	"	"
7	"	"	"
8	"	"	"
9	G-31587/25-2143	17.1 cfs	November 22, 1963
10	"	"	"
11	35-7001	8.9 cfs	April 3, 1970
12	25-7022	7.35 cfs	January 18, 1972
13	25-7058	6.14 cfs	August 22, 1974
14	35-7841	7.35 cfs	January 25, 1979

At the present time, a certain amount of the water diverted into the City water system ends up in the City's sewage system after it has been used, laden with the various sewage pollutants. It is then brought to the City's sewage treatment plant and the water remaining, after treatment to make it comply with applicable standards, is discharged through a single outlet pipe into the Snake River. The average discharge appears to be approximately 14 cubic feet per second.

Waste water from this source has been discharged into the river ever since water was first pumped for municipal purposes. The discharge has increased incrementally with each addition to the total supply diverted. The City applied for and received permit number 25-7182 in 1980 to use this waste water "to produce power in conjunction with a proposed power plant downstream from the Sewage Treatment Plant". In his recent "Memorandum Decision and Order" entered July 21, 1982, the Director of the Department of Water Resources stated that the City, as one of the conditions to its permit number 01-7018, must supply 5.00 cubic feet per second of water to the

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river as replacement water for estimated losses due to evaporation and seepage increases anticipated to result from construction of the Gem State Hydroelectric Project. In the decision, the director concluded that "permit number 25-7182 cannot be used to satisfy the 5.00 cubic feet per second of water lost to seepage and evaporation."

Even if we concede that permit number 25-7182 which authorizes the use of this "waste water" "to produce power in conjunction with a proposed power plant downstream from the Sewage Treatment Plant" is not broad enough to include use of the "waste water" for the specific purpose of replacement, the question still remains whether any portion of this "waste water", as well as future incremental increases thereto, might properly be used for this replacement purpose. For instance, is there any portion of the "waste water" which might be classified as unappropriated by anyone except perhaps the City? If so, could the City change the nature of the use of such portion, or appropriate such portion and future incremental increases for the replacement use?

We propose to analyze what we understand to be the applicable law and to make suggestions as to what might be legally appropriate with respect to the use of any of the present flow of waste water, or future increases, for replacement purposes.

Our research into the legal principles relating to "waste water" and "tributary water" has persuaded us that while the two concepts are very much interrelated, this particular matter is a "waste water" issue, and not a "tributary water" issue.

Every case we have been able to find which holds that any given water source (whether it be a stream, spring, seepage, or

whatever) is tributary to a larger stream or river, dealt only with sources of supply which, in their natural state, (emphasis added), unmolested and unassisted by man, would reach or flow into and contribute to the supply of water in the larger stream or river. We found no case or other authority for the proposition that ground water, pumped from deep wells, a portion of which, after it has been used for the purposes for which it was appropriated, is discharged into a river, ever, regardless of the length of time involved, becomes legally tributary to the river. Included among the authorities we have reviewed, are the following Idaho Supreme Court cases and treatises:

IDAHO SUPREME COURT CASES:

Malad Valley Irrigation Co. v. Campbell, 2 Idaho 411, 18 P. 52 (1888)

Cartier v. Buck, 9 Idaho 571, 75 P. 612 (1904)

Josslyn v. Daly, 15 Idaho 137, 96 P. 568 (1908)

Jackson v. Cowan, 33 Idaho 525, 196 P. 216 (1921)

United States v. Haga, 276 Fed. 41 (D. Idaho 1921)

The Union Central Life Insurance Company v. Albrethsen, 50 Idaho 196, 294 P. 842 (1930)

Fairview v. Franklin Maple Creek Pioneer Irrigation Company, 59 Idaho 7, 79 P.2d 531 (1938)

Ward v. Kidd, 87 Idaho 216, 392 P.2d 183 (1964)

Martiny v. Wells, 91 Idaho 215, 419 P.2d 470 (1966)

TREATISES:

Long On Irrigation, §60 at pages 106 to 108

Clark, Waters and Water Rights, Volume 1, §§3.2(A) and 52.3(B)

Hutchins, Idaho Law of Water Rights, Volume 5, Idaho Law Review number 1, Fall 1968, page 52.

Hutchins, Selected Problems in the Law of Water Rights in the West, United States Department of Agriculture, Miscellaneous Publication Number 418, page 371

A typical statment from the treatises is one contained in the last mentioned treatise listed above at page 371 under the heading "Natural Accretions to the Stream Become a Part of the Stream":

> The appropriative right applies to the natural flow of the stream and its tributaries, not only at the time of making the appropriation, but as augmented by subsequent and natural causes.

Hutchins then quotes from a Montana case, Beaverhead Canal Company v. Dillon Electric Light & Power Company, 34 Montana 135, 85 P. 880 (1906). This case is the only case we have been able to find which addresses the question of increases in flow resulting from artifical means. It says that natural accretions or augmentations to the flow of a stream are tributary, or in other words form a part of the stream or source of supply itself; but artifical augmentations, that is, those which occur and are maintained only as a result of the activities of men, as approved to nature, are not tributary. Afrificial augmentations would be treated as a separate source of supply and are appropriable as such. See the language of the decision commencing at page 881 as reported in volume 85 of the Pacific Reporter.

The water added to Snake River by the City of Idaho Falls is not a natural, but an artifical increase or contribution. It comes from a source other than Snake River or its natural tributaries and enters Snake River only through artificial means. It does not appear that the discharge from the City of Idaho Falls Sewage Treatment Plant has or will become legally tributary to the Snake River.

We note parenthetically, that our analysis of this issue depends to some extent upon the assumption we understand to be

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correct; that for purposes of administration the aquifer from which the City pumps and the Snake River have always been treated as legally separate and independent sources of water supply.

We do not believe the use of the discharge from the Idaho Falls City Sewage Treatment Plant is a "tributary water" issue. It is instead a matter to be analyzed under the legal principles which have been developed to deal with "waste water".

It appears that the term "waste water" has been used to describe a number of types of different situations. It seems important to us to determine, as nearly as may be, what type of "waste water" the discharge from the City's Sewage Treatment Plant is because the applicable rules appear to vary to some extent with the type of "waste water" involved.

Many of the treatises lump the discussion of "waste waters" under a general heading such as "waste, seepage, and return waters". However, they are not all the same, as the authorities point out.

Kinney says:

> Waste water may have three meanings, as follows: (1) water that is actually wasted or is not needed by the claimant thereto; (2) water which, after it has served the purpose of the lawful claimant thereto, has been permitted to run to waste or to escape; and (3) water which, from unavoidable causes, escapes from the ditches, canals, or other works of the lawful claimant.

Kinney on Irrigation and Water Rights, 2.Ed. Vol. 1 §322 at page 523.

An even better statement is contained in Hutchins, Water Rights Laws in the Nineteen Western States, Vol. 2 at page 568:

> Waste, seepage, and return water are closely related. To some extent, their classifications overlap.
>
> As discussed in this topic, waters of all three classes usually originate on irrigation projects or

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irrigated lands as a result of the conveyance, distribution, and application of irrigation waters. Where considered separately, the following distinctions are herein made:

> Waste waters are taken to include (1) water purposely discharged from the project works, because of operation necessities, (2) water leading from ditches and other works, and (3) access water flowing from irrigated lands, either on the surface or seeping under it.
>
> Seepage waters are waters seeping through the soil from ditches or other works and from irrigated lands and entering stream channels or appearing elsewhere on the surface.
>
> Return waters are waters diverted for irrigation or other uses that are returned to the stream from which they were diverted, or to some other stream, or that would do so if not intercepted by some obstacle. Thus, return waters include both waste water and seepage water.

Being more specific now with respect to "waste water", we quote from another publication of Mr. Hutchins, "Selected Problems in the Law of Water Rights in the West," United States Department of Agriculture Miscellaneous Publication number 418, at page 362:

> Appropriations may generally be made of waste water which has been abandoned by the original appropriators, but with important qualifications. Generally, an independent right to the use of abandoned or waste water can be acquired only if the water has not yet returned to the stream from which it was diverted. If such water after abandonment has reentered a portion of the stream system from which it was originally appropriated, as noted in greater detail below, it becomes a part of that water source in legal contemplation as well as physically, and from the stand point of rights of use, it is just as much a part of the flow as is the water with which it is mingled; hence appropriative rights which before the mingling have attached to the waters of the stream, attach with equal effect to the waste waters orginally diverted from the stream and then abandoned into it, so that an independent appropriation cannot then be made on the waste waters as such.

To the same effect, Kinney states:

> It often happens that the prior appropriator, in irrigating the lower portion of his land, is compelled by the lay of the land to let the water run off from his property to the lands of others, in places where it is

> impossible to return the water to the natural stream. And it often happens that the water flows upon lands of those who are either not appropriators from the stream or are appropriators much later than others, who in point of time are entitled to the use of the water. This water is deemed by the courts to be waste water. And the question now arises, can the owners of the lands on which it runs secure a permanent right therein to its continuous use? The authorities hold that while the water so denominated as waste water, may be used after it escapes, no permanent right can be required to have the discharge kept up, either by appropriation or a right by prescription, estoppel, or acquiescence in its use while it is escaping, and that, too, even though expensive ditches or works were constructed for the purpose of utilizing such waste water, unless some other element enters into the condition of affairs other than the mere use of the water. In other words, the original appropriators have the right, and in fact it is their duty to prevent, as far as possible, all waste of the water which they have appropriated, in order that the others who are entitled thereto may receive the benefit thereof.
>
> When such water escapes and returns to the stream or its tributaries, it becomes a part of the water of the stream and subject to reappropriation as though it never had been diverted, and inures to the benefit of the other appropriators on the stream in the order of their appropriations. . . .
>
> The better authorities hold that a claimant to waste water acquires a temporary right only to whatever water escapes from the works or the lands of others, and which cannot find its way back to the natural stream from which it was taken; that such a use of the water does not carry with it the right to any specific quantity of water, nor the right to interfere with the water flowing in the ditches or works of others lawfully appropriating it, and the appropriators are under no obligation nor have they the right to permit any specific quantity of water to be discharged as "waste water" for his benefit.

Kinney on Irrigation and Water Rights, 2.Ed., Volume 2, §661, at pages 1151-1153.

It appears to us from these and other authorities that the term "waste water" is frequently used to cover a number of situations. It is, for instance, used to describe a class of water which is more properly designated "return flows". If one diverts water from a stream or source of supply and applies it to a beneficial use pursuant to a valid right, but because of the circumstances of the diversion and use there is some water

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left over after it is used and such water returns to the same stream or source of supply, it appears that it is part of that stream or source of supply, the same as if it had never been taken therefrom. It may be a waste which the right holder can legally cease or reduce, for instance by making a more efficient use of it, but it is not a separate source of water which may be appropriated. On the other hand, if the water remaining after the right holder has completed his use would not find its way back into the original stream or other source from which it was diverted, it is a species of "waste water" which can legally be appropriated, albeit subject to the right of the holder of the paramount water right to cease or reduce the waste.

The Idaho cases appear to be in accord. The Idaho court has established that water left over after one holding a valid right has diverted it and applied it to a beneficial use is waste water which may be subject to appropriation and used by another, subject always to the right of the first to cease wasting. Sebern v. Moore, 44 Idaho 410, 258 P. 176 (1927); Strong v. Twin Falls Canal Company, 44 Idaho 427, 258 P. 173 (1927); Crawford v. Inglin, 44 Idaho 663, 258 P. 541 (1927); Gerber v. Nampa and Meridian Irrigation District, 16 Idaho 1, 100 P. 80 (1908); Nampa and Meridian Irrigation District v. Petrie, 37 Idaho 45, 233 P. 531 (1923); Colthorp v. Mountain Home Irrigation District, 66 Idaho 173, 157 P.2d 1005 (1945); Reynolds Irrigation District v. Sproat, 70 Idaho 217, 214 P.2d 880 (1950); Application of Boyer, 73 Idaho 152, 248 P.2d 540 (1952); Thompson v. Bingham, 78 Idaho 305, 302 P.2d 948 (1956); Franklin Cub River Pumping Company v. LeFebre, 79 Idaho 107, 311 P.2d 763 (1952); Jones v. Big Lost River Irrigation

District, 93 Idaho 227, 459 P.2d 1009 (1969). To the same effect see also Twin Falls Canal Company v. Damman, 277 Fed. 331 (D.Idaho 1920); and United States v. Haga, 276 Fed. 41 (D.Idaho 1921).

Further, the rule appears to be well established in Idaho that if the waste water is of the variety which, without interference, would return to the stream from which it was orginally diverted (return flow), it is a variety of waste water which the right holder orginally diverting it cannot be compelled to continue wasting, but instead of being appropriable as other waste water, it is considered still a part of the stream available only to supply the rights of other appropriators thereof, the same as if it had never left the stream. Brayer v. Baker, 31 Idaho 387, 171 P. 1135 (1918); Milner Low Lift Irrigation District v. Eagan, 49 Idaho 184 286 P. 608 (1930); Application of Boyer, supra.

Coming now to an analysis of the City's discharge from the sewage treatment plant, it appears that such discharge commenced several years ago, and then underwent incremental increases, until now there is a total of some 14 cfs being regularly discharged into the Snake River. It does not appear that such discharges are a result of nature but are artificial and therefore are not legally tributary. Perhaps we do not fully understand the statement from the director's Memorandum Decision and Order contained in paragraph number 5 at page 5 that such water "has historically been discharged into the Snake River and is considered a part of the river." We have found no authority for the proposition that if such water were allowed to run into the river for a long enough period of time, it can become legally tributary.

It is difficult for us to analyze this discharge except in terms of established legal principles. It seems that if this water which has been discharged into the river from the City's sewage treatment plant were legally tributary to the river, the same as a natural spring or a stream would be, the City would have no right as against other appropriators of the waters of the Snake River (including all of its other tributaries) to do anything which might result in the reduction or termination of such tributary source. Such a rule would place all those who drill wells and install pumps to divert ground water and apply it to beneficial use, when any portion of that water remaining after the beneficial use finds its way into the river, in the untenable position of being required to continue pumping and wasting for the benefit of all of the right holders. It would of course be contrary to public policy and established law. The principles of law governing "tributary water" do not appear to be applicable here.

On the other hand, the director's decision refers to the discharge from the City's sewage treatment plant as "waste water". This designation in the decision is consistent with the identification of the source of water supply under permit number 25-7182. As we have seen from the study of various treatises and the Idaho cases, the term "waste water" has been applied to different situations. If the waste is of the variety which merely returns to the stream or other source of supply from which it was diverted in the first instance (we have called this variety "return flow"), it appears that it is considered a part of that stream or other source of supply, the same as if it never had been diverted therefrom. It is subject to the right of the appropriator to cease or reduce whatever

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practice results in the return flow, but it cannot be appropriated as such because it is subject to all prior rights in the stream or source of supply from which it was taken.

However, the discharge from the City's sewage treatment plant appears to be from an original source different and separate from the Snake River and its tributaries; i.e., ground water. This discharge would seem to be within that class of "waste water" which can be appropriated by others, subject always to the right of the paramount right holder to cease such waste or to recapture it and put it to a beneficial use.

From the time of the first discharge of sewage effluent into the river by City of Idaho Falls after about 1927 until May 23, 1971, it was possible under Idaho law to appropriate a water right under the so called "constitutional" method of appropriation, by mere diversion and application to beneficial use. We understand this method of appropriation to have been applicable to waste water sources the same as any other sources, and while the waste water appropriation is always subject to the right of the paramount right holder to cease or reduce the waste, other principles of Idaho law apply, such as the system of priorities and the requirements for perfecting such appropriation. It may therefore be theoretically correct to take the position that all appropriations of water from the Snake River downstream from the sewage discharge during the period of time from February 25, 1927, (the date of priority of the City's first well for municipal purposes) until May 23, 1971, relied to some extent upon the presence of whatever amount of waste water from the sewage treatment plant was in the river, and therefore constituted although only in some proportionate amount, an appropriation of the waste water as

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well as of the waters of the Snake River and its tributaries, even though there may be no record of such appropriations (at least of the waste water in the sense of having been specifically listed as a source in any permit license or decree). If this is so, then the City's permit, number 25-7182, would indeed be one of the latest priority rights to the use of this waste water. Such position raises some interesting questions: for instance, do all the permits and licenses issued during the period of February 25, 1927, to May 23, 1971, actually list this waste water as one of the sources? If not, maybe such permits do not therefore authorize the appropriation of such waste water and maybe such licenses are not evidence of any right to the use of such waste water. What about the effect of the June 30, 1983, deadline on filing claims on any potential "constitutional" appropriations of the waste water? Would failure to file such claim potentially result in a loss or forfeiture of any claim to the use of the waste water?

If it is true, as we understand, that the discharge from the City sewage treatment plant is waste water and that the City has the right to reduce or cease wasting such water by recapturing it instead of discharging it into the Snake River, we wonder to what uses could the City apply the recaptured water? Again, we have been unable to find any authority which clearly answers this question. The cases make statements such as:

> The original appropriator may at any time recapture waste water remaining on his land and apply it to a beneficial use.

Thompson v. Bingham, supra, at page 308 of the Idaho Reports;

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> We conclude that surface waste and seepage water may be appropriated under the provisions of C.S., sec. 5562, subject to the right of the owner to cease wasting it, or in good faith to change the place or manner of wasting it, or to recapture it, so long as he applies it to a beneficial use. His control is not dependent upon continuous actual possession, and in the absence of abandonment or forfieture of his right to choose, he may assert his right, which is not affected by his once having applied to a beneficial use.

Sebern v. Moore, supra, at page 418 of the Idaho Reports. Most of the statements from other cases and the treatises are equally broad.

The City's licenses and permits for the wells from which the water is diverted, a portion of which ends up as discharge from the sewage treatment plant, list, as the beneficial use to which the water may be applied, "municipal purposes". This also seems to be a very broad clasification, certainly broad enough to include replacement water for the Gem State Hydroelectric Project. However, it is true in a technical sense that replacement water for anticipated losses due to seepage and evaporation resulting from the Gem State Project is not one of the specific municipal purposes for which water from the City wells has been used in the past. Although we have been unable to find any definitive authority to such effect, it is possible that a court would decide that when a holder of a water right exercises his right to cease wasting that portion left over after his application to a beneficial use, the waste water recaptured must be applied only to the identical use or uses to which the water used, before the waste results, has always been applied in the past. Such a holding may be quite restrictive in many cases and we wonder whether it may not effectively proscribe efforts to reduce or eliminate the wasting of water diverted pursuant to a valid water right.

Coming back now to the matter of what rights may have been appropriated to the use of the waste water discharged from the City sewage treatment plant, the provisions of amended versions of Idaho Code, §§42-103 and 42-201 come to mind. It appears that these sections were amended in the 1971 Idaho Session Laws, Chapter 177, pages 843 and 844 and the provisions thereof became effective May 23, 1971. If we understand these amended sections correctly, it would have been impossible for any increase in the waste water discharge from the City's sewage treatment plant occuring after May 23, 1971, to have been appropriated, except through formal application, permit and license. Since none exist, it appears that it would be appropriate for the City to file an application for a permit to appropriate such increases for use as replacement water, or to the extent such would be inconsistent with the City's permit to appropriate the "waste water" (including amounts historically discharged prior to May 23, 1971, and all subsequent increases up to January 15, 1980, the date of the application for permit number 25-7182), perhaps an application for a change in the nature of the use of the appropriate portion of such waste water. In addition, we can see no objection to use by the City of future increases in the discharge for replacement purposes so long as such increases are properly appropriated for such purpose.

Storage Water.

We assume the Director's statement in condition number 2 of the Order at page 6 of the "Memorandum Decision and Order" of July 21, 1982, that replacement water must be supplied "from a source other than the Snake River or tributaries" was intended only to mean that the City could not appropriate water

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from the Snake River for replacement purposes which was already appropriated for irrigation or other consumptive uses. We do not understand this statement to be intended to preclude the City from leasing or otherwise legally acquiring storage water and using the same for replacement purposes. We base this understanding partly upon the statement in paragraph number 5 of the Conclusions of Law at page 5 of the Decision, indicating the replacement water could come from a ground water source or storage. However, the phrase "from a source other than the Snake River or tributaries" might be subject to a broader, although incorrect interpretation. Since the only available storage water of which we are aware would, in one sense, come initially from either the Snake River or one of its tributaries, we have requested that this matter be clarified so as to prevent future mistakes about the meaning.

It is our recollection that the suggestion of the use of storage water for this purpose, either from leasing, or the acquisition by the City in some manner, of storage rights, originally came from Department of Water Resources personnel.

Irrigation District Water.

If the concern over the potential source of the proposed replacement water is that the Snake River including its tributaries is already over appropriated so far as consumptive uses are concerned, then we suppose there would be no serious objection to the City's use, under an appropriate arrangement, of an existing water right, the nature of the use of which is presently consumptive. It may be possible for the City to acquire or lease adequate portions of early natural flow rights. The City certainly has no objection to compliance with applicable statutes and laws which may require a change in the

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nature of use, or to compliance with proper conditions requiring adjustments in amount to offset differences in the respective consumptive uses. These types of problems may arise with respect either to storage or natural flow rights. While we do not see them as unsolvable or even particularly difficult, we feel that the language of the decision might be modified slightly to avoid future arguments and misinterpretation.

Without intending to be presumptuous, we wonder whether in place of the phrase "from a source other than the Snake River or its tributaries" (condition number 2 of the Order at page 6, Memorandum Decision and Order dated July 21, 1982) a phrase such as "from a source other than a new appropriation or an appropriation for a nonconsumptive use of the waters of the Snake River or tributaries", might properly be substituted.

In conclusion, the City of Idaho Falls would be appreciative of further clarification of that portion of the Memorandum Decision and Order entered herein by the Director of the Department of Water Resources on July 21, 1982, dealing with the matter of replacement water to compensate for anticipated evaporation and seepage losses which might occur from the construction of the proposed Gem State Hydroelectric Project.

Respectfully submitted this 17 day of September, 1982.

HOLDEN, KIDWELL, HAHN & CRAPO

By Kent W. Foster
Kent W. Foster
A member of the firm
Attorneys for the City of
Idaho Falls

CERTIFICATE OF SERVICE

I hereby certify that I am a duly licensed attorney in the State of Idaho, resident of and with my office in Idaho Falls, Idaho; that I served a copy of the following described pleading or document on the attorneys listed below by hand delivering or by mailing, with the correct postage thereon, a true and correct copy thereof on this 17 day of September, 1982.

Document Served: BRIEF IN SUPPORT OF PETITION FOR RE-HEARING

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Department of Water Resources

September 17, 1982

COPY

State of Idaho
Department of Water Resources
State Office
450 W. State Street
Boise, Idaho 83720

Re: Application for permit no. 01-7018

Gentlemen:

We are enclosing with this letter a brief which we have prepared in connection with the recent Motion for Rehearing which was filed herein.

If we can provide any additional information or assistance please feel free to contact us.

Very truly yours,

Kent W. Foster

Kent W. Foster

KWF:vm
Enclosure

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OCT 6 1982
Department of Water Resources
Eastern District Office

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Department of Water Resources

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BEFORE THE DIRECTOR OF THE DEPARTMENT OF WATER RESOURCES

OF THE

STATE OF IDAHO

IN THE MATTER OF APPLICATION FOR PERMIT NO. 07-7018 IN THE NAME OF THE CITY OF IDAHO FALLS.	Case No. 30087 BRIEF IN SUPPORT OF PETITION FOR RE-HEARING

This Brief is written in support of and to explain further the request of the City of Idaho Falls in its "Petition for Re-Hearing" for clarification of certain portions of the Memorandum Decision and Order of the Director, dated July 21, 1982.

Specifically, the Brief is limited to a discussion, with questions and suggestions, relative to the condition numbered 2, at page 6 of the "Memorandum Decision and Order" which provides:

> The applicant shall supply replacement water at the rate of 5.00 cubic feet per second from a source other than the Snake River or tributaries. Prior to the diversion of water under this application, the applicant must notify and receive the approval of the Director on the replacement source of water. The Director retains jurisdiction of this permit to assure conpliance with this condition.

Finding of fact number 8 at page 4 of the Decision, and Conclusion of Law number 5 at page 5, appear to be directed to the same subject matter and we have reproduced them below:

> 8. The City of Idaho Falls holds water right permit number 25-7182 for the appropriation of waste water, which is effluent from their sewage treatment plant, for power

purposes. This water originates from the City's wells and is used for municipal purposes before being discharged into the Snake River. This water has been discharged into the river for many years, beginning at the time the City was established, with increases in the amount of water occuring with an increase in the City's population.

5. The total amount of water replaced must be 5.00 cubic feet per second of water and 270 acre feet per year during the years that storage does not fill. It can be readily seen that a rate of diversion of 5.00 cubic feet per second requires less than thirty (30) days to satisfy the 270 acre feet evaporated and lost to the system; therefore, the contolling parameter for distribution purposes is that 5.00 cubic feet per second water must be supplied to the project from a source other then (sic) the natural flow of the Snake River. This source of water can be ground water or storage water. The water appropriated by the City of Idaho Falls under permit number 25-7182 has historically been discharged into the Snake River and is considered a part of the river. It, therefore, must be allowed to satisfy the existing water rights prior in time to January 14, 1980. The City does not have exclusive control over this waste water after they have lost contol of it and when it is proposed to be used for a new purpose. Permit number 25-7182 cannot be used to satisfy the 5.00 cubic feet per second of water lost to seepage and evaporation.

The City of Idaho Falls has consistently indicated it would agree to a condition imposing a reasonable requirement for replacement of water which might be lost from the river due to increased evaporation and seepage losses from its use of water under permit number 01-7018 in connection with its proposed Gem State Hydroelectric Project. The City's position in this regard was restated in its Brief dated April 2, 1982, which was submitted for the purpose of addressing matters raised at the fact finding hearing held on March 16, 1982, in Idaho Falls. While the City's Brief does not discuss the potential legal issues presented by any specific method of providing replacement water, the Brief did list some four specific posibilities of which the City was aware at that time.

Only one of the alternatives appears to have been addressed to any extent in the decision. Because of this and

because some of the inferences which might possibly be drawn from portions of the language of the decision, we have requested clarification.

While the list was by no means intended to be exhaustive, we listed in the Brief possible alternative ways to provide replacement water as follows:

a. The City has already been granted permit number 25-7182 for 14 cfs from its waste water treatment plant for use in connection with this project. The ultimate source of the water is, of course, the City wells which provide ground water for use in homes within the City and for other municipal purposes.

b. In the letter dated March 10, 1982, from John Rosholt on behalf of American Falls Reservoir District, Twin Falls Canal Company, North Side Canal Company, Milner Low Lift Irrigation District and Hillsdale Irrigation District addressed to Mr. Ron Carlson, a copy of which we understand to be part of the record in this matter, Mr. Rosholt suggested that it may be possible to negotiate a lease of storage water with some of the companies mentioned in the letter.

c. It may be possible to lease water from the Water District Number 1. rental pool administered by the Committee of Nine.

d. The City owns land under three irrigation districts and much of the land to which water is appurtenant for irrigation is no longer irrigated. Preliminary contacts with some of the irrigation districts have indicated a willingness to cooperate in a manner which might permit use of some of this water as replacement water.

Without intending any significance thereby, we have, for ease of reference, organized the discussion of each of the alternatives under three headings. The alternative listed under subparagraph a. above, we will call "Waste Water", b. and c., "Storage Water", and d. "Irrigation District Water".

Waste Water.

The City of Idaho Falls pumps all water used in and through its City water system from some 14 deep wells. The permits and licenses for such wells indicate they have the

following Department of Water Resources identification numbers, amounts, and priority dates:

Well Number	License or Permit Number	Amount	Priority
1	G-16689/25-2095	5.2 cfs	February 25, 1927
2	G-31141/25-2142	50.2 cfs	April 18, 1963
3	"	"	"
4	"	"	"
5	"	"	"
6	"	"	"
7	"	"	"
8	"	"	"
9	G-31587/25-2143	17.1 cfs	November 22, 1963
10	"	"	"
11	35-7001	8.9 cfs	April 3, 1970
12	25-7022	7.35 cfs	January 18, 1972
13	25-7058	6.14 cfs	August 22, 1974
14	35-7841	7.35 cfs	January 25, 1979

At the present time, a certain amount of the water diverted into the City water system ends up in the City's sewage system after it has been used, laden with the various sewage pollutants. It is then brought to the City's sewage treatment plant and the water remaining, after treatment to make it comply with applicable standards, is discharged through a single outlet pipe into the Snake River. The average discharge appears to be approximately 14 cubic feet per second.

Waste water from this source has been discharged into the river ever since water was first pumped for municipal purposes. The discharge has increased incrementally with each addition to the total supply diverted. The City applied for and received permit number 25-7182 in 1980 to use this waste water "to produce power in conjunction with a proposed power plant downstream from the Sewage Treatment Plant". In his recent "Memorandum Decision and Order" entered July 21, 1982, the Director of the Department of Water Resources stated that the City, as one of the conditions to its permit number 01-7018, must supply 5.00 cubic feet per second of water to the

river as replacement water for estimated losses due to evaporation and seepage increases anticipated to result from construction of the Gem State Hydroelectric Project. In the decision, the director concluded that "permit number 25-7182 cannot be used to satisfy the 5.00 cubic feet per second of water lost to seepage and evaporation."

Even if we concede that permit number 25-7182 which authorizes the use of this "waste water" "to produce power in conjunction with a proposed power plant downstream from the Sewage Treatment Plant" is not broad enough to include use of the "waste water" for the specific purpose of replacement, the question still remains whether any portion of this "waste water", as well as future incremental increases thereto, might properly be used for this replacement purpose. For instance, is there any portion of the "waste water" which might be classified as unappropriated by anyone except perhaps the City? If so, could the City change the nature of the use of such portion, or appropriate such portion and future incremental increases for the replacement use?

We propose to analyze what we understand to be the applicable law and to make suggestions as to what might be legally appropriate with respect to the use of any of the present flow of waste water, or future increases, for replacement purposes.

Our research into the legal principles relating to "waste water" and "tributary water" has persuaded us that while the two concepts are very much interrelated, this particular matter is a "waste water" issue, and not a "tributary water" issue.

Every case we have been able to find which holds that any given water source (whether it be a stream, spring, seepage, or

whatever) is tributary to a larger stream or river, dealt only with sources of supply which, in their natural state, (emphasis added), unmolested and unassisted by man, would reach or flow into and contribute to the supply of water in the larger stream or river. We found no case or other authority for the proposition that ground water, pumped from deep wells, a portion of which, after it has been used for the purposes for which it was appropriated, is discharged into a river, ever, regardless of the length of time involved, becomes legally tributary to the river. Included among the authorities we have reviewed, are the following Idaho Supreme Court cases and treatises:

IDAHO SUPREME COURT CASES:

Malad Valley Irrigation Co. v. Campbell, 2 Idaho 411, 18 P. 52 (1888)

Cartier v. Buck, 9 Idaho 571, 75 P. 612 (1904)

Josslyn v. Daly, 15 Idaho 137, 96 P. 568 (1908)

Jackson v. Cowan, 33 Idaho 525, 196 P. 216 (1921)

United States v. Haga, 276 Fed. 41 (D. Idaho 1921)

The Union Central Life Insurance Company v. Albrethsen, 50 Idaho 196, 294 P. 842 (1930)

Fairview v. Franklin Maple Creek Pioneer Irrigation Company, 59 Idaho 7, 79 P.2d 531 (1938)

Ward v. Kidd, 87 Idaho 216, 392 P.2d 183 (1964)

Martiny v. Wells, 91 Idaho 215, 419 P.2d 470 (1966)

TREATISES:

Long On Irrigation, §60 at pages 106 to 108

Clark, Waters and Water Rights, Volume 1, §§3.2(A) and 52.3(B)

Hutchins, Idaho Law of Water Rights, Volume 5, Idaho Law Review number 1, Fall 1968, page 52.

Hutchins, Selected Problems in the Law of Water Rights in the West, United States Department of Agriculture, Miscellaneous Publication Number 418, page 371

A typical statment from the treatises is one contained in the last mentioned treatise listed above at page 371 under the heading "Natural Accretions to the Stream Become a Part of the Stream":

> The appropriative right applies to the natural flow of the stream and its tributaries, not only at the time of making the appropriation, but as augmented by subsequent and natural causes.

Hutchins then quotes from a Montana case, Beaverhead Canal Company v. Dillon Electric Light & Power Company, 34 Montana 135, 85 P. 880 (1906). This case is the only case we have been able to find which addresses the question of increases in flow resulting from artifical means. It says that natural accretions or augmentations to the flow of a stream are tributary, or in other words form a part of the stream or source of supply itself; but artifical augmentations, that is, those which occur and are maintained only as a result of the activities of men, as approved to nature, are not tributary. Afrificial augmentations would be treated as a separate source of supply and are appropriable as such. See the language of the decision commencing at page 881 as reported in volume 85 of the Pacific Reporter.

The water added to Snake River by the City of Idaho Falls is not a natural, but an artifical increase or contribution. It comes from a source other than Snake River or its natural tributaries and enters Snake River only through artificial means. It does not appear that the discharge from the City of Idaho Falls Sewage Treatment Plant has or will become legally tributary to the Snake River.

We note parenthetically, that our analysis of this issue depends to some extent upon the assumption we understand to be

correct; that for purposes of administration the aquifer from which the City pumps and the Snake River have always been treated as legally separate and independent sources of water supply.

We do not believe the use of the discharge from the Idaho Falls City Sewage Treatment Plant is a "tributary water" issue. It is instead a matter to be analyzed under the legal principles which have been developed to deal with "waste water".

It appears that the term "waste water" has been used to describe a number of types of different situations. It seems important to us to determine, as nearly as may be, what type of "waste water" the discharge from the City's Sewage Treatment Plant is because the applicable rules appear to vary to some extent with the type of "waste water" involved.

Many of the treatises lump the discussion of "waste waters" under a general heading such as "waste, seepage, and return waters". However, they are not all the same, as the authorities point out.

Kinney says:

> Waste water may have three meanings, as follows: (1) water that is actually wasted or is not needed by the claimant thereto; (2) water which, after it has served the purpose of the lawful claimant thereto, has been permitted to run to waste or to escape; and (3) water which, from unavoidable causes, escapes from the ditches, canals, or other works of the lawful claimant.

Kinney on Irrigation and Water Rights, 2.Ed. Vol. 1 §322 at page 523.

An even better statement is contained in Hutchins, Water Rights Laws in the Nineteen Western States, Vol. 2 at page 568:

> Waste, seepage, and return water are closely related. To some extent, their classifications overlap.
>
> As discussed in this topic, waters of all three classes usually originate on irrigation projects or

irrigated lands as a result of the conveyance, distribution, and application of irrigation waters. Where considered separately, the following distinctions are herein made:

> Waste waters are taken to include (1) water purposely discharged from the project works, because of operation necessities, (2) water leading from ditches and other works, and (3) access water flowing from irrigated lands, either on the surface or seeping under it.
>
> Seepage waters are waters seeping through the soil from ditches or other works and from irrigated lands and entering stream channels or appearing elsewhere on the surface.
>
> Return waters are waters diverted for irrigation or other uses that are returned to the stream from which they were diverted, or to some other stream, or that would do so if not intercepted by some obstacle. Thus, return waters include both waste water and seepage water.

Being more specific now with respect to "waste water", we quote from another publication of Mr. Hutchins, "Selected Problems in the Law of Water Rights in the West," United States Department of Agriculture Miscellaneous Publication number 418, at page 362:

> Appropriations may generally be made of waste water which has been abandoned by the original appropriators, but with important qualifications. Generally, an independent right to the use of abandoned or waste water can be acquired only if the water has not yet returned to the stream from which it was diverted. If such water after abandonment has reentered a portion of the stream system from which it was originally appropriated, as noted in greater detail below, it becomes a part of that water source in legal contemplation as well as physically, and from the stand point of rights of use, it is just as much a part of the flow as is the water with which it is mingled; hence appropriative rights which before the mingling have attached to the waters of the stream, attach with equal effect to the waste waters orginally diverted from the stream and then abandoned into it, so that an independent appropriation cannot then be made on the waste waters as such.

To the same effect, Kinney states:

> It often happens that the prior appropriator, in irrigating the lower portion of his land, is compelled by the lay of the land to let the water run off from his property to the lands of others, in places where it is

> impossible to return the water to the natural stream. And it often happens that the water flows upon lands of those who are either not appropriators from the stream or are appropriators much later than others, who in point of time are entitled to the use of the water. This water is deemed by the courts to be waste water. And the question now arises, can the owners of the lands on which it runs secure a permanent right therein to its continuous use? The authorities hold that while the water so denominated as waste water, may be used after it escapes, no permanent right can be required to have the discharge kept up, either by appropriation or a right by prescription, estoppel, or acquiescence in its use while it is escaping, and that, too, even though expensive ditches or works were constructed for the purpose of utilizing such waste water, unless some other element enters into the condition of affairs other than the mere use of the water. In other words, the original appropriators have the right, and in fact it is their duty to prevent, as far as possible, all waste of the water which they have appropriated, in order that the others who are entitled thereto may receive the benefit thereof.
>
> When such water escapes and returns to the stream or its tributaries, it becomes a part of the water of the stream and subject to reappropriation as though it never had been diverted, and inures to the benefit of the other appropriators on the stream in the order of their appropriations. . . .
>
> The better authorities hold that a claimant to waste water acquires a temporary right only to whatever water escapes from the works or the lands of others, and which cannot find its way back to the natural stream from which it was taken; that such a use of the water does not carry with it the right to any specific quantity of water, nor the right to interfere with the water flowing in the ditches or works of others lawfully appropriating it, and the appropriators are under no obligation nor have they the right to permit any specific quantity of water to be discharged as "waste water" for his benefit.

Kinney on Irrigation and Water Rights, 2.Ed., Volume 2, §661, at pages 1151-1153.

It appears to us from these and other authorities that the term "waste water" is frequently used to cover a number of situations. It is, for instance, used to describe a class of water which is more properly designated "return flows". If one diverts water from a stream or source of supply and applies it to a beneficial use pursuant to a valid right, but because of the circumstances of the diversion and use there is some water

left over after it is used and such water returns to the same stream or source of supply, it appears that it is part of that stream or source of supply, the same as if it had never been taken therefrom. It may be a waste which the right holder can legally cease or reduce, for instance by making a more efficient use of it, but it is not a separate source of water which may be appropriated. On the other hand, if the water remaining after the right holder has completed his use would not find its way back into the original stream or other source from which it was diverted, it is a species of "waste water" which can legally be appropriated, albeit subject to the right of the holder of the paramount water right to cease or reduce the waste.

The Idaho cases appear to be in accord. The Idaho court has established that water left over after one holding a valid right has diverted it and applied it to a beneficial use is waste water which may be subject to appropriation and used by another, subject always to the right of the first to cease wasting. Sebern v. Moore, 44 Idaho 410, 258 P. 176 (1927); Strong v. Twin Falls Canal Company, 44 Idaho 427, 258 P. 173 (1927); Crawford v. Inglin, 44 Idaho 663, 258 P. 541 (1927); Gerber v. Nampa and Meridian Irrigation District, 16 Idaho 1, 100 P. 80 (1908); Nampa and Meridian Irrigation District v. Petrie, 37 Idaho 45, 233 P. 531 (1923); Colthorp v. Mountain Home Irrigation District, 66 Idaho 173, 157 P.2d 1005 (1945); Reynolds Irrigation District v. Sproat, 70 Idaho 217, 214 P.2d 880 (1950); Application of Boyer, 73 Idaho 152, 248 P.2d 540 (1952); Thompson v. Bingham, 78 Idaho 305, 302 P.2d 948 (1956); Franklin Cub River Pumping Company v. LeFebre, 79 Idaho 107, 311 P.2d 763 (1952); Jones v. Big Lost River Irrigation

District, 93 Idaho 227, 459 P.2d 1009 (1969). To the same effect see also Twin Falls Canal Company v. Damman, 277 Fed. 331 (D.Idaho 1920); and United States v. Haga, 276 Fed. 41 (D.Idaho 1921).

Further, the rule appears to be well established in Idaho that if the waste water is of the variety which, without interference, would return to the stream from which it was orginally diverted (return flow), it is a variety of waste water which the right holder orginally diverting it cannot be compelled to continue wasting, but instead of being appropriable as other waste water, it is considered still a part of the stream available only to supply the rights of other appropriators thereof, the same as if it had never left the stream. Brayer v. Baker, 31 Idaho 387, 171 P. 1135 (1918); Milner Low Lift Irrigation District v. Eagan, 49 Idaho 184 286 P. 608 (1930); Application of Boyer, supra.

Coming now to an analysis of the City's discharge from the sewage treatment plant, it appears that such discharge commenced several years ago, and then underwent incremental increases, until now there is a total of some 14 cfs being regularly discharged into the Snake River. It does not appear that such discharges are a result of nature but are artificial and therefore are not legally tributary. Perhaps we do not fully understand the statement from the director's Memorandum Decision and Order contained in paragraph number 5 at page 5 that such water "has historically been discharged into the Snake River and is considered a part of the river." We have found no authority for the proposition that if such water were allowed to run into the river for a long enough period of time, it can become legally tributary.

It is difficult for us to analyze this discharge except in terms of established legal principles. It seems that if this water which has been discharged into the river from the City's sewage treatment plant were legally tributary to the river, the same as a natural spring or a stream would be, the City would have no right as against other appropriators of the waters of the Snake River (including all of its other tributaries) to do anything which might result in the reduction or termination of such tributary source. Such a rule would place all those who drill wells and install pumps to divert ground water and apply it to beneficial use, when any portion of that water remaining after the beneficial use finds its way into the river, in the untenable position of being required to continue pumping and wasting for the benefit of all of the right holders. It would of course be contrary to public policy and established law. The principles of law governing "tributary water" do not appear to be applicable here.

On the other hand, the director's decision refers to the discharge from the City's sewage treatment plant as "waste water". This designation in the decision is consistent with the identification of the source of water supply under permit number 25-7182. As we have seen from the study of various treatises and the Idaho cases, the term "waste water" has been applied to different situations. If the waste is of the variety which merely returns to the stream or other source of supply from which it was diverted in the first instance (we have called this variety "return flow"), it appears that it is considered a part of that stream or other source of supply, the same as if it never had been diverted therefrom. It is subject to the right of the appropriator to cease or reduce whatever

practice results in the return flow, but it cannot be appropriated as such because it is subject to all prior rights in the stream or source of supply from which it was taken.

However, the discharge from the City's sewage treatment plant appears to be from an original source different and separate from the Snake River and its tributaries; i.e., ground water. This discharge would seem to be within that class of "waste water" which can be appropriated by others, subject always to the right of the paramount right holder to cease such waste or to recapture it and put it to a beneficial use.

From the time of the first discharge of sewage effluent into the river by City of Idaho Falls after about 1927 until May 23, 1971, it was possible under Idaho law to appropriate a water right under the so called "constitutional" method of appropriation, by mere diversion and application to beneficial use. We understand this method of appropriation to have been applicable to waste water sources the same as any other sources, and while the waste water appropriation is always subject to the right of the paramount right holder to cease or reduce the waste, other principles of Idaho law apply, such as the system of priorities and the requirements for perfecting such appropriation. It may therefore be theoretically correct to take the position that all appropriations of water from the Snake River downstream from the sewage discharge during the period of time from February 25, 1927, (the date of priority of the City's first well for municipal purposes) until May 23, 1971, relied to some extent upon the presence of whatever amount of waste water from the sewage treatment plant was in the river, and therefore constituted although only in some proportionate amount, an appropriation of the waste water as

well as of the waters of the Snake River and its tributaries, even though there may be no record of such appropriations (at least of the waste water in the sense of having been specifically listed as a source in any permit license or decree). If this is so, then the City's permit, number 25-7182, would indeed be one of the latest priority rights to the use of this waste water. Such position raises some interesting questions: for instance, do all the permits and licenses issued during the period of February 25, 1927, to May 23, 1971, actually list this waste water as one of the sources? If not, maybe such permits do not therefore authorize the appropriation of such waste water and maybe such licenses are not evidence of any right to the use of such waste water. What about the effect of the June 30, 1983, deadline on filing claims on any potential "constitutional" appropriations of the waste water? Would failure to file such claim potentially result in a loss or forfeiture of any claim to the use of the waste water?

If it is true, as we understand, that the discharge from the City sewage treatment plant is waste water and that the City has the right to reduce or cease wasting such water by recapturing it instead of discharging it into the Snake River, we wonder to what uses could the City apply the recaptured water? Again, we have been unable to find any authority which clearly answers this question. The cases make statements such as:

> The original appropriator may at any time recapture waste water remaining on his land and apply it to a beneficial use.

Thompson v. Bingham, supra, at page 308 of the Idaho Reports;

> We conclude that surface waste and seepage water may be appropriated under the provisions of C.S., sec. 5562, subject to the right of the owner to cease wasting it, or in good faith to change the place or manner of wasting it, or to recapture it, so long as he applies it to a beneficial use. His control is not dependent upon continuous actual possession, and in the absence of abandonment or forfieture of his right to choose, he may assert his right, which is not affected by his once having applied to a beneficial use.

Sebern v. Moore, supra, at page 418 of the Idaho Reports. Most of the statements from other cases and the treatises are equally broad.

The City's licenses and permits for the wells from which the water is diverted, a portion of which ends up as discharge from the sewage treatment plant, list, as the beneficial use to which the water may be applied, "municipal purposes". This also seems to be a very broad clasification, certainly broad enough to include replacement water for the Gem State Hydroelectric Project. However, it is true in a technical sense that replacement water for anticipated losses due to seepage and evaporation resulting from the Gem State Project is not one of the specific municipal purposes for which water from the City wells has been used in the past. Although we have been unable to find any definitive authority to such effect, it is possible that a court would decide that when a holder of a water right exercises his right to cease wasting that portion left over after his application to a beneficial use, the waste water recaptured must be applied only to the identical use or uses to which the water used, before the waste results, has always been applied in the past. Such a holding may be quite restrictive in many cases and we wonder whether it may not effectively proscribe efforts to reduce or eliminate the wasting of water diverted pursuant to a valid water right.

Coming back now to the matter of what rights may have been appropriated to the use of the waste water discharged from the City sewage treatment plant, the provisions of amended versions of Idaho Code, §§42-103 and 42-201 come to mind. It appears that these sections were amended in the 1971 Idaho Session Laws, Chapter 177, pages 843 and 844 and the provisions thereof became effective May 23, 1971. If we understand these amended sections correctly, it would have been impossible for any increase in the waste water discharge from the City's sewage treatment plant occuring after May 23, 1971, to have been appropriated, except through formal application, permit and license. Since none exist, it appears that it would be appropriate for the City to file an application for a permit to appropriate such increases for use as replacement water, or to the extent such would be inconsistent with the City's permit to appropriate the "waste water" (including amounts historically discharged prior to May 23, 1971, and all subsequent increases up to January 15, 1980, the date of the application for permit number 25-7182), perhaps an application for a change in the nature of the use of the appropriate portion of such waste water. In addition, we can see no objection to use by the City of future increases in the discharge for replacement purposes so long as such increases are properly appropriated for such purpose.

Storage Water.

We assume the Director's statement in condition number 2 of the Order at page 6 of the "Memorandum Decision and Order" of July 21, 1982, that replacement water must be supplied "from a source other than the Snake River or tributaries" was intended only to mean that the City could not appropriate water

from the Snake River for replacement purposes which was already appropriated for irrigation or other consumptive uses. We do not understand this statement to be intended to preclude the City from leasing or otherwise legally acquiring storage water and using the same for replacement purposes. We base this understanding partly upon the statement in paragraph number 5 of the Conclusions of Law at page 5 of the Decision, indicating the replacement water could come from a ground water source or storage. However, the phrase "from a source other than the Snake River or tributaries" might be subject to a broader, although incorrect interpretation. Since the only available storage water of which we are aware would, in one sense, come initially from either the Snake River or one of its tributaries, we have requested that this matter be clarified so as to prevent future mistakes about the meaning.

It is our recollection that the suggestion of the use of storage water for this purpose, either from leasing, or the acquisition by the City in some manner, of storage rights, originally came from Department of Water Resources personnel.

Irrigation District Water.

If the concern over the potential source of the proposed replacement water is that the Snake River including its tributaries is already over appropriated so far as consumptive uses are concerned, then we suppose there would be no serious objection to the City's use, under an appropriate arrangement, of an existing water right, the nature of the use of which is presently consumptive. It may be possible for the City to acquire or lease adequate portions of early natural flow rights. The City certainly has no objection to compliance with applicable statutes and laws which may require a change in the

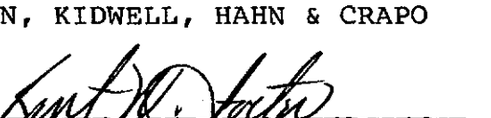
nature of use, or to compliance with proper conditions requiring adjustments in amount to offset differences in the respective consumptive uses. These types of problems may arise with respect either to storage or natural flow rights. While we do not see them as unsolvable or even particularly difficult, we feel that the language of the decision might be modified slightly to avoid future arguments and misinterpretation.

Without intending to be presumptuous, we wonder whether in place of the phrase "from a source other than the Snake River or its tributaries" (condition number 2 of the Order at page 6, Memorandum Decision and Order dated July 21, 1982) a phrase such as "from a source other than a new appropriation or an appropriation for a nonconsumptive use of the waters of the Snake River or tributaries", might properly be substituted.

In conclusion, the City of Idaho Falls would be appreciative of further clarification of that portion of the Memorandum Decision and Order entered herein by the Director of the Department of Water Resources on July 21, 1982, dealing with the matter of replacement water to compensate for anticipated evaporation and seepage losses which might occur from the construction of the proposed Gem State Hydroelectric Project.

Respectfully submitted this 17 day of September, 1982.

HOLDEN, KIDWELL, HAHN & CRAPO

By 
Kent W. Foster
A member of the firm
Attorneys for the City of
Idaho Falls

CERTIFICATE OF SERVICE

I hereby certify that I am a duly licensed attorney in the State of Idaho, resident of and with my office in Idaho Falls, Idaho; that I served a copy of the following described pleading or document on the attorneys listed below by hand delivering or by mailing, with the correct postage thereon, a true and correct copy thereof on this 17 day of September, 1982.

Document Served: BRIEF IN SUPPORT OF PETITION FOR RE-HEARING

Attorney Served: W. Joe Anderson
SHARP, ANDERSON, BUSH & NELSON
P. O. Box 158
Idaho Falls, Idaho 83402

Kent W. Foster
HOLDEN, KIDWELL, HAHN & CRAPO

State of Idaho
DEPARTMENT OF WATER RESOURCES
STATE OFFICE, 450 W. State Street, Boise, Idaho

JOHN V. EVANS
Governor

A. KENNETH DUNN
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 334-4440

July 21, 1982

RE: City of Idaho Falls
Application for Permit No. 01-7018

TO INTERESTED PARTIES:

Enclosed for your information is a copy of the Director's Memorandum Decision and Order in connection with the above-referenced application for permit.

Sincerely,

L. Glen Saxton

L. GLEN SAXTON
Chief, Operations Bureau

LGS:rf

Enclosure

MICROFILMED

DEPARTMENT OF WATER RESOURCES
STATEHOUSE
BOISE, IDAHO 83720

Eugene Neblett, Regional Engineer
Federal Energy Regulatory Commission
555 Battery St., Room 415
San Francisco, CA 94111

Department of Water Resources
JUL 29 1982

NEB 55 082602N1 07/26/82

RETURN TO SENDER
NOT DELIVERABLE AS ADDRESSED
UNABLE TO FORWARD

NELSON, ROSHOLT, ROBERTSON, TOLMAN & TUCKER
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THOMAS G. NELSON
JOHN A. ROSHOLT
J. EVAN ROBERTSON
STEVEN K. TOLMAN
JAMES C. TUCKER

SUN VALLEY-KETCHUM OFFICE
P.O. BOX 2399
SUN VALLEY, IDAHO 83353
TELEPHONE (208) 726-4491

RECEIVED
MAR 12 1982
CH2M HILL
BOISE

March 10, 1982

Mr. Ron Carlson
Department of Water Resources
Eastern District Office
1515 Lincoln Road
Idaho Falls, ID 83401

Re: Application for Permits - Power Plants - City of Idaho Falls

Dear Ron:

The American Falls Reservoir District, Twin Falls Canal Company, North Side Canal Company, Milner Low Lift and Hillsdale Irrigation Districts have both natural flow and storage water rights which pass through the reach of the Snake River that The City of Idaho Falls is presently developing and intends to develop for power purposes.

It is our understanding that the water permits will be conditioned and the City agrees to recognize all valid prior water rights. We also ask that the permit be conditioned so that the applicant makes provision for potential seepage and evaporation losses by either eliminating them or obtaining water supplies to replace the water that is lost.

My clients support the multiple use of the water source and commend the City of Idaho Falls for their initiative. It may be that in some years, negotiations can occur with lower valley companies with a lease of storage space to replace that that is lost through evaporation and seepage by reason of the existence of the power plants.

At the Committee of Nine meeting, a representative of the City indicated that the City should be given credit for the return flow from the waste water treatment plant. It would be our initial position that the prior rightholders of the Snake River are entitled to this return flow unless it is not returned and is reused for the same purpose. We feel that these flows are legally owned by the prior righthholders of river flow rights and should not be included in any calculation to credit the city for the makeup of other seepage and evaporation losses.

MICROFILMED

State of Idaho
DEPARTMENT OF WATER RESOURCES
STATE OFFICE, 450 W. State Street, Boise, Idaho

JOHN V. EVANS
Governor

A. KENNETH DUNN
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 334-4440

July 21, 1982

City of Idaho Falls
c/o G. S. Harrison
P. O. Box 220
Idaho Falls, ID 83401

Gentlemen:

Re: Application for Permit No. 01-7018

Enclosed is a copy of your approved Application for Permit No. 01-7018 along with a copy of the Memorandum Decision and Order. We direct your attention to the conditions of approval as set forth in the order.

If you do not agree with the decision of the department, you may appeal directly to the district court within thirty days of the date the decision is mailed.

Sincerely,

L. Glen Saxton

L. GLEN SAXTON
Chief, Operations Bureau

LGS:rf

Enclosures

cc: The Honorable Thomas Campbell
Mayor of Idaho Falls

MICROFILMED

State of Idaho
DEPARTMENT OF WATER RESOURCES
STATE OFFICE, 450 W. State Street, Boise, Idaho

JOHN V. EVANS
Governor

A. KENNETH DUNN
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 334-4440

July 21, 1982

RE: City of Idaho Falls
Application for Permit No. 01-7018

TO INTERESTED PARTIES:

Enclosed for your information is a copy of the Director's Memorandum Decision and Order in connection with the above-referenced application for permit.

Sincerely,

L. Glen Saxton

L. GLEN SAXTON
Chief, Operations Bureau

LGS:rf

Enclosure

MICROFILMED

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

City of Idaho Falls, Idaho) Project No. 2952-001

NOTICE OF INTENT TO PREPARE ENVIRONMENTAL IMPACT STATEMENT AND NOTICE OF SCOPING MEETING AND PUBLIC SESSION

(May 12, 1982)

The City of Idaho Falls, Idaho filed on September 11, 1981, an application for license for the Gem State Project, FERC No. 2952-001. The project would be located on the Snake River, 5.5 miles southwest of the City of Idaho Falls in the Counties of Bingham and Bonneville, Idaho.

Public notice of the filing of the application was issued by the Commission on January 26, 1982. The application has been mailed out for agency review and comment. The Commission's staff has determined that issuance of a license for the proposed hydroelectric project would constitute a major federal action significantly affecting the quality of the human environment. The staff therefore intends to prepare an environmental impact statement in accordance with the National Environmental Policy Act. Possible alternatives to the proposed action will be addressed.

Interested persons and agencies are invited to participate in a scoping meeting to discuss the environmental impacts expected from the proposed Gem State Project. The scoping meeting will be convened by the Commission's staff at 2:00 p.m., Wednesday, June 9, 1982 at the Council Chambers, 140 South Capitol Street, Electric Division Building, Idaho Falls, Idaho 83402. Interested persons are encouraged to attend the scoping session commencing at 2:00 so that they will have the opportunity to hear the comments of participating governmental agencies in addition to expressing their own views. For those persons unable to attend the scoping meeting during business hours, an additional session will be convened at the same location at 7:30 p.m. and interested persons will have an opportunity to express their views regarding significant environmental issues. The submission of prepared written statements is encouraged. Both sessions will be recorded by a stenographer.

Kenneth F. Plumb
Secretary

DC-A-24

RECEIVED
APR 22 1982
Department of Water Resources

JOHN M. SHARP
W. JOE ANDERSON
EUGENE L. BUSH
DOUGLAS R. NELSON
STEVEN A. GARDNER

LAW OFFICES
SHARP, ANDERSON, BUSH & NELSON
490 MEMORIAL DRIVE
IDAHO FALLS, IDAHO 83401

J. RICHARD SHARP
(1943-1979)
P.O. BOX 158
(208) 522-3001

April 21, 1982

Mr. A. Kenneth Dunn
Director
Department of Water Resources
Statehouse
Boise, ID 83720

Re: Application for Permit No. 01-7018
(City of Idaho Falls, Idaho)

Dear Mr. Dunn:

I am informed by your secretary that the brief which I mailed on April 12, 1982, did not reach your office. I therefore have taken photocopies of our file copy and am mailing you two copies of this brief which we have submitted.

Sincerely yours,

SHARP, ANDERSON, BUSH & NELSON

W. J. Anderson

WJA:bel
Enclosures

MICROFILMED

RECEIVED
APR 22 1982
Department of Water Resources

April 12, 1982

Mr. A. Kenneth Dunn
Director
State of Idaho
Department of Water Resources
450 W. State Street
Boise, Idaho 83720

Re: Application for Permit No. 01-7018
(City of Idaho Falls, Idaho)

Dear Mr. Dunn:

Enclosed please find the original and one copy of the responsive Memorandum Brief and Comments for Snake River Valley Irrigation District.

Thank you for your attention to this matter.

Very truly yours,

SHARP, ANDERSON, BUSH & NELSON

W. J. Anderson

WJA:bel
Enclosures

MICROFILMED

W. J. ANDERSON
Of SHARP, ANDERSON, BUSH & NELSON
Attorneys at Law
P. O. Box 158
Idaho Falls, ID 83402
Telephone: (208) 522-3001

DEPARTMENT OF WATER RESOURCES
STATE OF IDAHO

In re:	)
	) MEMORANDUM BRIEF AND
CITY OF IDAHO FALLS,	) COMMENTS OF SNAKE RIVER
Application for Permit	) IRRIGATION DISTRICT
No. 01-7018	)

THE SNAKE RIVER VALLEY IRRIGATION DISTRICT, a quasi-municipal corporation of the State of Idaho, having appeared at the hearing and being a party in interest in the above proceedings, does hereby submit comments on the legal points and information supplied which are involved in such proceedings.

1. IDAHO CODE 42-205. This section of the Idaho Code reads as follows:

> "(1) No permit shall be issued by the deartment of water resources of the State of Idaho, for the appropriation of water for power purposes, nor shall any such permit be assigned, transferred, mortgaged, sold or conveyed to any person, firm or corporation except in accordance with the provisions of this act.
> (2) Water cannot be appropriated for hydropower development uses within or using existing man-made irrigation facilities without the permission of the owner thereof.
> (3) When competing applications for a permit have been filed prior to the efective date [April 1, 1981] of this act for the additional use for hydropower purposes that would utilize facilities that are owned or controlled by the holder of an existing water permit, license, decree, or established constitutional water usage, the director shall give preference to the application of the owner of the existing rights or his agent."

Paragraph (1) of this section makes it mandatory that the provisions of that section be complied with. Paragraph (2)

states that water cannot be appropriated for hydropower development uses within or using existing man-made irrigation facilities without the permission of the owner thereof. The project of the City of Idaho Falls contemplates the removal or flooding of the present diversion works of the District and floods approxmately three miles of their canal. The City would be using the facilities of the District for their reservoir, and their reservoir would be within the facilities of the District. The District did not give permission therefor.

Subparagraph (3) provides for the preference to be given to the application of an owner of existing facilities. Both the applications were filed prior to the effective date of April 1, 1981, and again, Idaho Falls would utilize the facilities of the District for their reservoir, for their dam abutments, together with easements for access, drainage and appurtenances.

The language of the statute is quite clear, and with the removal or flooding of the present diversion works of the District, the flooding of the present canal for approximately three miles, the utilization of the bank therefor to construct the slurry trench by the City, and the use of the District's canal at one point for the abutment of the dam and a portion of the dam, together with the other uses of the District 's property for easements, accesses, etc., it is difficult to see any argument against the fact that the City intends to use and to utilize existing man-made irrigation facilities that are owned or controlled by the District.

2. IDAHO CODE 42-203.

The Code in this section provides for the information to be received by the Director in order to determine whether an application for a permit should be approved or denied.

(1) In subparagraph (1), will it reduce the quantity of water under existing water rights.

(2) During a large part of the year, the only water that is flowing past this location on the river is water that is owned by natural flow decreed rights or by storage rights. There is no other water. The District has raised the question of the loss of water through evaporation and seepage. Several witnesses addressed this point, and the testimony and information received is conflicting, however, all witnesses acknowledged that there would be some loss. The amount of the loss differed by the various witnesses. The fact that there is any loss would reduce the quantity of water under existing water rights.

The size of the proposed reservoir is 305 acres. This must be maintained at this level at all times throughout the year in order to produce the most efficient operation of the projected power plant. The increase over the present flooded area by the natural flow of the river and the use of the present canals is somewhat in dispute. The City of Idaho Falls has measured the additional acreage as 80 acres over and above what is in the natural flow. Mr. Underwood placed it at approximately 220 acres.

Mr. Eggleston, an engineer testifying for the City, estimated the increased loss by evaporation at 270 acre feet per year. Dr. Brockway, using the same premise of 80 acres additional surface, estimated that the evaporation loss would be in excess of 500 acre feet per year. If the area of the reservoir increases the surface area of the water more than the 80 acres, as expressed by Mr. Underwood, then the evaporation factor as testified by both of these witnesses would be increased accordingly.

The amount lost by seepage would also reduce the existing water rights. Mr. Pope estimated that the loss on his best conservative estimate would be less than 1440 acre feet per year, and upon the worst estimate at 4,820 acre feet per year. Interestingly, Mr. Pope places the net loss from the present irrigation canal systems for a six-month operation at a net loss of 690 acre feet. The reservoir must be maintained for twelve months a year while the canals operated only at the most six months, and then not at full capacity for part of that time. If the 690 acre feet were doubled for a twelve month figure, that net loss from the canals would nearly equal the net loss he based for the entire reservoir, which also includes all of the canal area. It does not seem reasonable that the reservoir which uses the same area the canals had plus an additional area would lose no more than the canals themselves. We submit that this reduces the credibility of Mr. Pope's testimony.

Mr. Pope points to the slurry trench as being an effective way to prevent seepage. Even if this is so, the slurry trench does not extend for the entire length of the reservoir as pointed out by Mr. Underwood. As pointed out, the slurry trench extends for 7300 feet upstream on the right bank and the balance of the 7000 feet on the right bank plus all of the left bank are unprotected by slurry trenches.

Dr. Brockway assumes the 80 acres additional area to be flooded, and states that a conservative estimate on the additional loss would be 80 cubic feet per second or a 2 foot per day seepage loss which would compute to 160 cubic feet per day or a loss over the year of 58,400 acre feet. He further comments that the loss rate would likely exceed 80 cfs and that

his figures are a conservative estimate. If he were to use the acreage to be flooded as computed by Mr. Underwood, the loss would again be magnified by reason of the increased service or flooded area which would be subject to the seepage. This is all water that would be lost to the users during the irrigation season or lost to storage during the other seasons of the year.

(2) That the water supply itself is insufficient for the purpose for which it is sought to be appropriated.

The plans projected for the City of Idaho Falls call for 7000 cfs discharge from its generating facility. The City states that it expects to get additional water from the application of Utah Power & Light Company, however, the application of Utah Power & Light Company has not been heard nor granted, and the District is prior to Utah Power & Light by reason of the statutes asserted above.

(3) Where it appears to the satisfaction of the Department that such application is not made in good faith, is made for delay or speculative purposes.

The District has not made any issue or presented any information concerning this requirement.

(4) That the applicant has not sufficient financial resources with which to complete the work therein.

The City must pass a general obligation bond issue as it projects in order to have the finances to complete and further the project. Whether this passes or not is conjectural.

(5) That it will conflict with the local public interest where the local public interest is defined as the affairs of the people in the area directly affected by the proposed use.

The people in the area directly affected by the proposed use are those in the area served by the Snake River Valley

Irrigation District. The State of Idaho has adopted legislation encouraging and allowing irrigation districts to develop hydropower generating facilities in order to help pay the cost of rehabilitation of irrigation facilities. The Snake River Valley Irrigation District desires to utilize these procedures and to thus acquire revenue to do the necessary renovation and rehabilitation. If the City of Idaho Falls prevails and this opportunity is lost to the District and to its patrons and water users, they would be directly affected in their affairs in the operation of the District and in the funding necessary for the renovation and rehabilitation.

The Firth area which is served by Snake River Valley Irrigation District, has severe ground water problems, and the installation of the project designed by the City would aggravate, magnify and intensify these problems. Dr. Brockway addresses this problem in his statement and states that construction of the reservoir would negatively impact the drainage of the adjacent lands.

3. REPLACEMENT OF WATER.

The City proposes that it may replace some of the water lost by evaporation and seepage. The amount of water to be replaced taken on Dr. Brockway's estimate of 58,400 acre feet from seepage and 500 acre feet by evaporation based upon an 80 acre additional water surface and reservoir surface, would be a very significant amount of water to replace. If the size of the reservoir increases more than the 80 acres as contended, then the amount of loss would be proportionately greater and even more difficult to replace. This would be an expense item which would go to the feasibility of the project as well as whether or not the water would be available.

The City proposes that 14 cfs which it filed upon from its waste water discharge on its sewage treatment plant could be utilized as a partial amount of the replacement. This, however, is returned to the river and once it is in the river, becomes a part of the river system and is not subject to their control. If they wish to use it, they must use it before it reaches the river upon their filing, but once it has discharged into the river, it is no longer appropriated water, but becomes part of the river flow for other users.

The City also conjectures that it may be able to rent water but this would be entirely conjectural from year to year, and unless it were proven that they would be able to rent the water in sufficient amounts to replace the loss, then their application should fail.

The City further states that on some of the lands they have acquired for other purposes they have abandoned the use of water. This, however, belongs to the districts in which the land is located, and to move the water from the district and transfer it to such use would require a substantial procedural effort.

4. EMINENT DOMAIN.

The City's brief devotes a good deal of space to the topic of eminent domain and the right to acquire land by condemnation. We do not deny that there is the right of eminent domain.

However, we do contend and submit that the mandatory provisions of section 42-205 are not concerned with eminent domain, but are concerned with the question of whether an application for appropriation of water shall be granted or denied. The City has applied for the permit to appropriate

water for hydropower purposes pursuant to the statutes set forth by the State of Idaho. They are not seeking any eminent domain or condemnation in order to acquire this right. They are following the procedures as the legislature has mandated. Therefore, they are subject in such procedures to the further mandate of the legislature as contained in section 42-405, and this procedure has nothing to do with eminent domain or condemnation.

5. CONCLUSIONS.

The District submits that the City is not entitled to its application for appropriate of the waters of the Snake River for hydropower purposes because the application contemplates development uses within or using existing man-made irrigation facilities of the District without the permission of the District, and that by reason of the competing applications where the hydropower purposes would utilize facilities that are owned or controlled by the District, that the District has the preference.

The District further submits and contends that the project as contemplated by the City of Idaho Falls would reduce the quantity of water under existing water rights and that the amount of the water supply is insufficient for the purpose for which it is sought to be appropriated. That the financial resources of the City are conjectural and that the local public interest of the people, as the affairs of the people in the area directly affected by the proposed use, would be adversely affected.

The amount of the anticipated loss of water by seepage and evaporation is subject to conflicting opinions. However, the fact that there is any loss is the important point. The Idaho Court stated in Ward v. Kidd, 87 Idaho 216:

"Defendant offered proof that the reservoir was small and of limited capacity, and therefore, would not substantially impede or diminish the flow of water available to plaintiffs. However, the plaintiffs' rights to the use of the water were valuable rights. The law cannot countenance the invasion of a right merely because it is small. The holder of such a right is entitled to its protection to the same extent as if it were of greater magnitude (emphasis added). Idaho Constitution, Art. 1 Sec. 18."

Respectfully submitted,

W. J. Anderson
Of SHARP, ANDERSON, BUSH & NELSON
Attorneys for Snake River Valley
Irrigation District

CERTIFICATE OF MAILING

I, W. J. ANDERSON, do hereby certify that on the 12th day of April, 1982, I mailed a true and correct copy of the foregoing MEMORANDUM BRIEF AND COMMENTS to:

Mr. Kent Foster
Holden, Kidwell, Hahn & Crapo
Attorneys at Law
P. O. Box 129
Idaho Falls, ID 83402

by depositing the same in the United States mail, first class postage prepaid.

W. J. Anderson

W. J. ANDERSON
Of SHARP, ANDERSON, BUSH & NELSON
Attorneys at Law
P. O. Box 158
Idaho Falls, ID 83402
Telephone: (208) 522-3001

DEPARTMENT OF WATER RESOURCES
STATE OF IDAHO

In re:	)	
	)	MEMORANDUM BRIEF AND
CITY OF IDAHO FALLS,	)	COMMENTS OF SNAKE RIVER
Application for Permit	)	IRRIGATION DISTRICT
No. 01-7018	)	

THE SNAKE RIVER VALLEY IRRIGATION DISTRICT, a quasi-municipal corporation of the State of Idaho, having appeared at the hearing and being a party in interest in the above proceedings, does hereby submit comments on the legal points and information supplied which are involved in such proceedings.

1. IDAHO CODE 42-205. This section of the Idaho Code reads as follows:

> "(1) No permit shall be issued by the deartment of water resources of the State of Idaho, for the appropriation of water for power purposes, nor shall any such permit be assigned, transferred, mortgaged, sold or conveyed to any person, firm or corporation except in accordance with the provisions of this act.
> (2) Water cannot be appropriated for hydropower development uses within or using existing man-made irrigation facilities without the permission of the owner thereof.
> (3) When competing applications for a permit have been filed prior to the efective date [April 1, 1981] of this act for the additional use for hydropower purposes that would utilize facilities that are owned or controlled by the holder of an existing water permit, license, decree, or established constitutional water usage, the director shall give preference to the application of the owner of the existing rights or his agent."

Paragraph (1) of this section makes it mandatory that the provisions of that section be complied with. Paragraph (2)

states that water cannot be appropriated for hydropower development uses within or using existing man-made irrigation facilities without the permission of the owner thereof. The project of the City of Idaho Falls contemplates the removal or flooding of the present diversion works of the District and floods approxmately three miles of their canal. The City would be using the facilities of the District for their reservoir, and their reservoir would be within the facilities of the District. The District did not give permission therefor.

Subparagraph (3) provides for the preference to be given to the application of an owner of existing facilities. Both the applications were filed prior to the effective date of April 1, 1981, and again, Idaho Falls would utilize the facilities of the District for their reservoir, for their dam abutments, together with easements for access, drainage and appurtenances.

The language of the statute is quite clear, and with the removal or flooding of the present diversion works of the District, the flooding of the present canal for approximately three miles, the utilization of the bank therefor to construct the slurry trench by the City, and the use of the District's canal at one point for the abutment of the dam and a portion of the dam, together with the other uses of the District 's property for easements, accesses, etc., it is difficult to see any argument against the fact that the City intends to use and to utilize existing man-made irrigation facilities that are owned or controlled by the District.

2. IDAHO CODE 42-203.

The Code in this section provides for the information to be received by the Director in order to determine whether an application for a permit should be approved or denied.

(1) In subparagraph (1), will it reduce the quantity of water under existing water rights.

(2) During a large part of the year, the only water that is flowing past this location on the river is water that is owned by natural flow decreed rights or by storage rights. There is no other water. The District has raised the question of the loss of water through evaporation and seepage. Several witnesses addressed this point, and the testimony and information received is conflicting, however, all witnesses acknowledged that there would be some loss. The amount of the loss differed by the various witnesses. The fact that there is any loss would reduce the quantity of water under existing water rights.

The size of the proposed reservoir is 305 acres. This must be maintained at this level at all times throughout the year in order to produce the most efficient operation of the projected power plant. The increase over the present flooded area by the natural flow of the river and the use of the present canals is somewhat in dispute. The City of Idaho Falls has measured the additional acreage as 80 acres over and above what is in the natural flow. Mr. Underwood placed it at approximately 220 acres.

Mr. Eggleston, an engineer testifying for the City, estimated the increased loss by evaporation at 270 acre feet per year. Dr. Brockway, using the same premise of 80 acres additional surface, estimated that the evaporation loss would be in excess of 500 acre feet per year. If the area of the reservoir increases the surface area of the water more than the 80 acres, as expressed by Mr. Underwood, then the evaporation factor as testified by both of these witnesses would be increased accordingly.

The amount lost by seepage would also reduce the existing water rights. Mr. Pope estimated that the loss on his best conservative estimate would be less than 1440 acre feet per year, and upon the worst estimate at 4,820 acre feet per year. Interestingly, Mr. Pope places the net loss from the present irrigation canal systems for a six-month operation at a net loss of 690 acre feet. The reservoir must be maintained for twelve months a year while the canals operated only at the most six months, and then not at full capacity for part of that time. If the 690 acre feet were doubled for a twelve month figure, that net loss from the canals would nearly equal the net loss he based for the entire reservoir, which also includes all of the canal area. It does not seem reasonable that the reservoir which uses the same area the canals had plus an additional area would lose no more than the canals themselves. We submit that this reduces the credibility of Mr. Pope's testimony.

Mr. Pope points to the slurry trench as being an effective way to prevent seepage. Even if this is so, the slurry trench does not extend for the entire length of the reservoir as pointed out by Mr. Underwood. As pointed out, the slurry trench extends for 7300 feet upstream on the right bank and the balance of the 7000 feet on the right bank plus all of the left bank are unprotected by slurry trenches.

Dr. Brockway assumes the 80 acres additional area to be flooded, and states that a conservative estimate on the additional loss would be 80 cubic feet per second or a 2 foot per day seepage loss which would compute to 160 cubic feet per day or a loss over the year of 58,400 acre feet. He further comments that the loss rate would likely exceed 80 cfs and that

his figures are a conservative estimate. If he were to use the acreage to be flooded as computed by Mr. Underwood, the loss would again be magnified by reason of the increased service or flooded area which would be subject to the seepage. This is all water that would be lost to the users during the irrigation season or lost to storage during the other seasons of the year.

(2) That the water supply itself is insufficient for the purpose for which it is sought to be appropriated.

The plans projected for the City of Idaho Falls call for 7000 cfs discharge from its generating facility. The City states that it expects to get additional water from the application of Utah Power & Light Company, however, the application of Utah Power & Light Company has not been heard nor granted, and the District is prior to Utah Power & Light by reason of the statutes asserted above.

(3) Where it appears to the satisfaction of the Department that such application is not made in good faith, is made for delay or speculative purposes.

The District has not made any issue or presented any information concerning this requirement.

(4) That the applicant has not sufficient financial resources with which to complete the work therein.

The City must pass a general obligation bond issue as it projects in order to have the finances to complete and further the project. Whether this passes or not is conjectural.

(5) That it will conflict with the local public interest where the local public interest is defined as the affairs of the people in the area directly affected by the proposed use.

The people in the area directly affected by the proposed use are those in the area served by the Snake River Valley

Irrigation District. The State of Idaho has adopted legislation encouraging and allowing irrigation districts to develop hydropower generating facilities in order to help pay the cost of rehabilitation of irrigation facilities. The Snake River Valley Irrigation District desires to utilize these procedures and to thus acquire revenue to do the necessary renovation and rehabilitation. If the City of Idaho Falls prevails and this opportunity is lost to the District and to its patrons and water users, they would be directly affected in their affairs in the operation of the District and in the funding necessary for the renovation and rehabilitation.

The Firth area which is served by Snake River Valley Irrigation District, has severe ground water problems, and the installation of the project designed by the City would aggravate, magnify and intensify these problems. Dr. Brockway addresses this problem in his statement and states that construction of the reservoir would negatively impact the drainage of the adjacent lands.

3. REPLACEMENT OF WATER.

The City proposes that it may replace some of the water lost by evaporation and seepage. The amount of water to be replaced taken on Dr. Brockway's estimate of 58,400 acre feet from seepage and 500 acre feet by evaporation based upon an 80 acre additional water surface and reservoir surface, would be a very significant amount of water to replace. If the size of the reservoir increases more than the 80 acres as contended, then the amount of loss would be proportionately greater and even more difficult to replace. This would be an expense item which would go to the feasibility of the project as well as whether or not the water would be available.

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4. EMINENT DOMAIN.

The City's brief devotes a good deal of space to the topic of eminent domain and the right to acquire land by condemnation. We do not deny that there is the right of eminent domain.

However, we do contend and submit that the mandatory provisions of section 42-205 are not concerned with eminent domain, but are concerned with the question of whether an application for appropriation of water shall be granted or denied. The City has applied for the permit to appropriate

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The District submits that the City is not entitled to its application for appropriate of the waters of the Snake River for hydropower purposes because the application contemplates development uses within or using existing man-made irrigation facilities of the District without the permission of the District, and that by reason of the competing applications where the hydropower purposes would utilize facilities that are owned or controlled by the District, that the District has the preference.

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The amount of the anticipated loss of water by seepage and evaporation is subject to conflicting opinions. However, the fact that there is any loss is the important point. The Idaho Court stated in Ward v. Kidd, 87 Idaho 216:

"Defendant offered proof that the reservoir was small and of limited capacity, and therefore, would not substantially impede or diminish the flow of water available to plaintiffs. However, the plaintiffs' rights to the use of the water were valuable rights. The law cannot countenance the invasion of a right merely because it is small. The holder of such a right is entitled to its protection to the same extent as if it were of greater magnitude (emphasis added). Idaho Constitution, Art. 1 Sec. 18."

Respectfully submitted,

W. J. Anderson
Of SHARP, ANDERSON, BUSH & NELSON
Attorneys for Snake River Valley
Irrigation District

CERTIFICATE OF MAILING

I, W. J. ANDERSON, do hereby certify that on the 12th day of April, 1982, I mailed a true and correct copy of the foregoing MEMORANDUM BRIEF AND COMMENTS to:

Mr. Kent Foster
Holden, Kidwell, Hahn & Crapo
Attorneys at Law
P. O. Box 129
Idaho Falls, ID 83402

by depositing the same in the United States mail, first class postage prepaid.

W. J. Anderson

LAW OFFICES
HOLDEN, KIDWELL, HAHN & CRAPO
P. O. BOX 129
IDAHO FALLS, IDAHO 83401

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IDAHO
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Mr. A. Kenneth Dunn
Department of Water Resources
Statehouse
Boise, Idaho 83720

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Department of Water Resources

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TELEPHONE 523-0620
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WILLIAM S. HOLDEN
R. VERN KIDWELL, P. A.
FRED J. HAHN
TERRY L. CRAPO
KENT W. FOSTER
ROBERT E. FARNAM
WILLIAM D. FALER, P. A.
STEPHEN E. MARTIN
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GARY L. MEIKLE
CURT R. THOMSEN
RANDALL K. BARTON
MICHAEL D. CRAPO
JAMES D. HOLMAN
GAYLE A. SORENSON

ARTHUR W. HOLDEN (1877-1967)
ROBERT B. HOLDEN (1911-1972)

April 20, 1982

A. Kenneth Dunn, Director
Department of Water Resources
Statehouse
Boise, Idaho 83720

Re: City of Idaho Falls - Gem State Project

Dear Mr. Dunn:

We have now received comments from Mr. Jerry Eggleston of CH2M Hill with respect to evaporation losses dealt with in Mr. Brockway's recent letter. We request that Mr. Eggleston's response be added to the record, and we believe this concludes all of the items we intended to submit.

Thank you for your kind consideration.

Yours very truly,

Kent W. Foster

Kent W. Foster

KWF:lc

Enc.

cc: G. S. Harrison, City of Idaho Falls
Jody Williams, Utah Power & Light Co.
Joe Anderson, Esq.

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Applicant

CH2M HILL
engineers
planners
economists
scientists

April 15, 1982

B12261.V0

Mr. Kent Foster
Holden, Kidwell, Hahn & Crapo
P.O. Box 129
Idaho Falls, Idaho 83401

Dear Kent:

Subject: City of Idaho Falls - Gem State Project
C. E. Brockway, P.E.
Report Dated March 30, 1982 - Evaporation Element

If I understand Mr. Brockway's report properly, he is saying that the project will result in a net loss of more than 500 acre-feet made up of evaporation loss from the exposed water surface and evapotranspiration loss from phreatophytes adjacent to the reservoir.

As indicated in our earlier report dated March 15, 1982, we compute the net increase of evaporation as approximately 270 acre-feet per year.

Mr. Brockway apparently assumes there will be an increase in phreatophyte area around the reservoir perimeter. This is the usual case, but it will probably not be true for the Gem State Project. At the present time there are trees and other phreatophytes along each bank of the river in the reservoir area. The project proposes that these be removed in the reservoir area. This will remove about 50 acres of phreatophytes. In much of this area, regrowth will be prevented because the reservoir will be contained within levees, on which growth of large vegetation will be prevented through routine maintenance. Thus, there will probably be no increase in evapotranspiration and, in fact, there may be a decrease. The reason for stating this in a "probable" manner is that FERC, in reviewing the license application, may require some mitigation for removing the trees. Should the mitigation result in more phreatophyte area than at

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present, the added losses could well be made up from rental water in short water years.

Should you have questions regarding this response, please call.

Very truly yours,

Jerry Eggleston

Jerry Eggleston

bx/O

REGISTERED PROFESSIONAL ENGINEER 1882 STATE OF IDAHO JERRY EGGLESTON

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LAW OFFICES
HOLDEN, KIDWELL, HAHN & CRAPO
P. O. BOX 129
IDAHO FALLS, IDAHO 83401

A. Kenneth Dunn, Director
Department of Water Resources
Statehouse
Boise, Idaho 83720

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Department of Water Resources

WILLIAM S. HOLDEN
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ARTHUR W. HOLDEN (1877-1967)
ROBERT B. HOLDEN (1911-1971)

April 16, 1982

Mr. A. Kenneth Dunn
Department of Water Resources
Statehouse
Boise, Idaho 83720

Re: Application for Permit No. 01-7018, City of Idaho Falls

Dear Mr. Dunn:

We have now had an opportunity to submit a copy of Dr. Brockway's comments to the experts who testified on behalf of the City at the hearing. As we understand it, it is appropriate for us to submit their responses to Dr. Brockway's comments. The first of such comments has come to us from Mr. R. J. Pope, and a copy of his letter to us is enclosed; we request that it be made part of the record in this matter.

Thank you for your continued kind attention to this matter.

Yours very truly,

Kent W. Foster

KWF:lc

Enc.

cc: Mr. G. S. Harrison, City of Idaho Falls
Ms. Jody Williams, Utah Power & Light Co.
Joe Anderson, Esq.

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Applicant

CH2M HILL

engineers
planners
economists
scientists

APR 14 1982

12 April 1982

Mr. Kent Foster
P. O. Box 129
Idaho Falls, Idaho

Dear Mr. Foster:

Subject: RE: Water Right No. 01-7018
City of Idaho Falls

The following comments are in response to the testimony submitted by Mr. C.E. Brockway, P.E., by letter dated March 30, 1982, to Mr. Ken Dunn, Director, Idaho Department of Water Resources.

With reference to the 3rd paragraph of Mr. Brockway's letter, the need for additional test borings to substantiate engineering design criteria including the depth of basalt bedrock, has been anticipated. The borings are scheduled for a start in the near future. Slurry trench construction methods are suitable for depths considerably in excess of the depth of bedrock indicated by presently available site information.

The estimated seepage loss of 2.0 ft/day is accepted as a reasonable estimate of seepage through the gravel strata under a gradient of unity (one foot loss of head for one foot of seepage travel). However, Mr. Brockway ignores the subsurface boundary conditions which will restrict the seepage flow through the gravels under steady state seepage conditions. The slurry trench cut-offs, basalt bedrock and sandy silt interbed, are restricting boundary conditions which will control the rate of seepage within the reservoir foundation area. The water loss estimates submitted by the undersigned include the effects of those boundary conditions and the seepage gradients caused by the project reservoir.

With reference to paragraph 4 and 5 of Mr. Brockway's letter, Mr. Brockway states that critical subwater conditions currently exist along the east bank of the river, that under flow

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Portland Office
200 S.W. Market Street, 12th Floor, Portland, Oregon 97201 503/224-9190 Cable: CH2M HILL

through the basalt will contribute and with the water table near the ground surface, the addition of even small inflows can cause problems in a larger area.

The water loss estimates previously reported for the project by the undersigned indicate that the rate of water loss through the rock below the slurry cut-off is less than the rate of water loss from irrigation canals which do not have the benefit of a slurry trench cut-off to prevent seepage through the gravels. The net reduction in water loss would lower water tables and benefit drainage problems.

Sincerely,

R. J. Pope

R. J. Pope
Consultant

cc: Jerry Eggleston - BOI

MICROFILMED

LAW OFFICES
SHARP, ANDERSON, BUSH & NELSON
490 MEMORIAL DRIVE
IDAHO FALLS, IDAHO 83401

JOHN M. SHARP
W. JOE ANDERSON
EUGENE L. BUSH
DOUGLAS R. NELSON
STEVEN A. GARDNER

J. RICHARD SHARP
(1943-1979)

P.O. BOX 158
(208) 522-3001

April 12, 1982

RECEIVED
APR 14 1982
Department of Water Resources

Mr. A. Kenneth Dunn
Director
State of Idaho
Department of Water Resoure
450 W. State Street
Boise, Idaho 83720

Re: Application for Permit No. 01-7018
(City of Idaho Falls, Idaho)

Dear Mr. Dunn:

Enclosed please find the original and one copy of the responsive Memorandum Brief and Comments for Snake River Valley Irrigation District.

Thank you for your attention to this matter.

Very truly yours,

SHARP, ANDERSON, BUSH & NELSON

W. J. Anderson

WJA:bel
Enclosures

MICROFILMED

4-12-82

W. J. ANDERSON
Of SHARP, ANDERSON, BUSH & NELSON
Attorneys at Law
P. O. Box 158
Idaho Falls, ID 83402
Telephone: (208) 522-3001

DEPARTMENT OF WATER RESOURCES
STATE OF IDAHO

In re:)	
)	MEMORANDUM BRIEF AND
CITY OF IDAHO FALLS,)	COMMENTS OF SNAKE RIVER
Application for Permit)	IRRIGATION DISTRICT
No. 01-7018)	

THE SNAKE RIVER VALLEY IRRIGATION DISTRICT, a quasi-municipal corporation of the State of Idaho, having appeared at the hearing and being a party in interest in the above proceedings, does hereby submit comments on the legal points and information supplied which are involved in such proceedings.

1. IDAHO CODE 42-205. This section of the Idaho Code reads as follows:

> "(1) No permit shall be issued by the deartment of water resources of the State of Idaho, for the appropriation of water for power purposes, nor shall any such permit be assigned, transferred, mortgaged, sold or conveyed to any person, firm or corporation except in accordance with the provisions of this act.
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objector

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Subparagraph (3) provides for the preference to be given to the application of an owner of existing facilities. Both the applications were filed prior to the effective date of April 1, 1981, and again, Idaho Falls would utilize the facilities of the District for their reservoir, for their dam abutments, together with easements for access, drainage and appurtenances.

The language of the statute is quite clear, and with the removal or flooding of the present diversion works of the District, the flooding of the present canal for approximately three miles, the utilization of the bank therefor to construct the slurry trench by the City, and the use of the District's canal at one point for the abutment of the dam and a portion of the dam, together with the other uses of the District 's property for easements, accesses, etc., it is difficult to see any argument against the fact that the City intends to use and to utilize existing man-made irrigation facilities that are owned or controlled by the District.

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Mr. Eggleston, an engineer testifying for the City, estimated the increased loss by evaporation at 270 acre feet per year. Dr. Brockway, using the same premise of 80 acres additional surface, estimated that the evaporation loss would be in excess of 500 acre feet per year. If the area of the reservoir increases the surface area of the water more than the 80 acres, as expressed by Mr. Underwood, then the evaporation factor as testified by both of these witnesses would be increased accordingly.

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The amount lost by seepage would also reduce the existing water rights. Mr. Pope estimated that the loss on his best conservative estimate would be less than 1440 acre feet per year, and upon the worst estimate at 4,820 acre feet per year. Interestingly, Mr. Pope places the net loss from the present irrigation canal systems for a six-month operation at a net loss of 690 acre feet. The reservoir must be maintained for twelve months a year while the canals operated only at the most six months, and then not at full capacity for part of that time. If the 690 acre feet were doubled for a twelve month figure, that net loss from the canals would nearly equal the net loss he based for the entire reservoir, which also includes all of the canal area. It does not seem reasonable that the reservoir which uses the same area the canals had plus an additional area would lose no more than the canals themselves. We submit that this reduces the credibility of Mr. Pope's testimony.

Mr. Pope points to the slurry trench as being an effective way to prevent seepage. Even if this is so, the slurry trench does not extend for the entire length of the reservoir as pointed out by Mr. Underwood. As pointed out, the slurry trench extends for 7300 feet upstream on the right bank and the balance of the 7000 feet on the right bank plus all of the left bank are unprotected by slurry trenches.

Dr. Brockway assumes the 80 acres additional area to be flooded, and states that a conservative estimate on the additional loss would be 80 cubic feet per second or a 2 foot per day seepage loss which would compute to 160 cubic feet per day or a loss over the year of 58,400 acre feet. He further comments that the loss rate would likely exceed 80 cfs and that

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his figures are a conservative estimate. If he were to use the acreage to be flooded as computed by Mr. Underwood, the loss would again be magnified by reason of the increased service or flooded area which would be subject to the seepage. This is all water that would be lost to the users during the irrigation season or lost to storage during the other seasons of the year.

(2) That the water supply itself is insufficient for the purpose for which it is sought to be appropriated.

The plans projected for the City of Idaho Falls call for 7000 cfs discharge from its generating facility. The City states that it expects to get additional water from the application of Utah Power & Light Company, however, the application of Utah Power & Light Company has not been heard nor granted, and the District is prior to Utah Power & Light by reason of the statutes asserted above.

(3) Where it appears to the satisfaction of the Department that such application is not made in good faith, is made for delay or speculative purposes.

The District has not made any issue or presented any information concerning this requirement.

(4) That the applicant has not sufficient financial resources with which to complete the work therein.

The City must pass a general obligation bond issue as it projects in order to have the finances to complete and further the project. Whether this passes or not is conjectural.

(5) That it will conflict with the local public interest where the local public interest is defined as the affairs of the people in the area directly affected by the proposed use.

The people in the area directly affected by the proposed use are those in the area served by the Snake River Valley

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The City proposes that 14 cfs which it filed upon from its waste water discharge on its sewage treatment plant could be utilized as a partial amount of the replacement. This, however, is returned to the river and once it is in the river, becomes a part of the river system and is not subject to their control. If they wish to use it, they must use it before it reaches the river upon their filing, but once it has discharged into the river, it is no longer appropriated water, but becomes part of the river flow for other users.

The City also conjectures that it may be able to rent water but this would be entirely conjectural from year to year, and unless it were proven that they would be able to rent the water in sufficient amounts to replace the loss, then their application should fail.

The City further states that on some of the lands they have acquired for other purposes they have abandoned the use of water. This, however, belongs to the districts in which the land is located, and to move the water from the district and transfer it to such use would require a substantial procedural effort.

4. EMINENT DOMAIN.

The City's brief devotes a good deal of space to the topic of eminent domain and the right to acquire land by condemnation. We do not deny that there is the right of eminent domain.

However, we do contend and submit that the mandatory provisions of section 42-205 are not concerned with eminent domain, but are concerned with the question of whether an application for appropriation of water shall be granted or denied. The City has applied for the permit to appropriate

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Irrigation District. The State of Idaho has adopted legislation encouraging and allowing irrigation districts to develop hydropower generating facilities in order to help pay the cost of rehabilitation of irrigation facilities. The Snake River Valley Irrigation District desires to utilize these procedures and to thus acquire revenue to do the necessary renovation and rehabilitation. If the City of Idaho Falls prevails and this opportunity is lost to the District and to its patrons and water users, they would be directly affected in their affairs in the operation of the District and in the funding necessary for the renovation and rehabilitation.

The Firth area which is served by Snake River Valley Irrigation District, has severe ground water problems, and the installation of the project designed by the City would aggravate, magnify and intensify these problems. Dr. Brockway addresses this problem in his statement and states that construction of the reservoir would negatively impact the drainage of the adjacent lands.

3. REPLACEMENT OF WATER.

The City proposes that it may replace some of the water lost by evaporation and seepage. The amount of water to be replaced taken on Dr. Brockway's estimate of 58,400 acre feet from seepage and 500 acre feet by evaporation based upon an 80 acre additional water surface and reservoir surface, would be a very significant amount of water to replace. If the size of the reservoir increases more than the 80 acres as contended, then the amount of loss would be proportionately greater and even more difficult to replace. This would be an expense item which would go to the feasibility of the project as well as whether or not the water would be available.

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water for hydropower purposes pursuant to the statutes set forth by the State of Idaho. They are not seeking any eminent domain or condemnation in order to acquire this right. They are following the procedures as the legislature has mandated. Therefore, they are subject in such procedures to the further mandate of the legislature as contained in section 42-405, and this procedure has nothing to do with eminent domain or condemnation.

5. CONCLUSIONS.

The District submits that the City is not entitled to its application for appropriate of the waters of the Snake River for hydropower purposes because the application contemplates development uses within or using existing man-made irrigation facilities of the District without the permission of the District, and that by reason of the competing applications where the hydropower purposes would utilize facilities that are owned or controlled by the District, that the District has the preference.

The District further submits and contends that the project as contemplated by the City of Idaho Falls would reduce the quantity of water under existing water rights and that the amount of the water supply is insufficient for the purpose for which it is sought to be appropriated. That the financial resources of the City are conjectural and that the local public interest of the people, as the affairs of the people in the area directly affected by the proposed use, would be adversely affected.

The amount of the anticipated loss of water by seepage and evaporation is subject to conflicting opinions. However, the fact that there is <u>any</u> loss is the important point. The Idaho Court stated in <u>Ward v. Kidd</u>, 87 Idaho 216:

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"Defendant offered proof that the reservoir was small and of limited capacity, and therefore, would not substantially impede or diminish the flow of water available to plaintiffs. However, the plaintiffs' rights to the use of the water were valuable rights. The law cannot countenance the invasion of a right merely because it is small. The holder of such a right is entitled to its protection to the same extent as if it were of greater magnitude (emphasis added). Idaho Constitution, Art. 1 Sec. 18."

Respectfully submitted,

W. J. Anderson
Of SHARP, ANDERSON, BUSH & NELSON
Attorneys for Snake River Valley
Irrigation District

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CERTIFICATE OF MAILING

I, W. J. ANDERSON, do hereby certify that on the 12th day of April, 1982, I mailed a true and correct copy of the foregoing MEMORANDUM BRIEF AND COMMENTS to:

Mr. Kent Foster
Holden, Kidwell, Hahn & Crapo
Attorneys at Law
P. O. Box 129
Idaho Falls, ID 83402

by depositing the same in the United States mail, first class postage prepaid.

W. J. Anderson

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MEMORANDUM

FROM: E. Carlsen DATE: August 24, 1987

TO: Permit 01-7018

On the 21st of August, 1987, representatives for the City of Idaho Falls and the Department met to review the City's efforts to comply with conditions of approval for permit 01-7018.

Present at the meeting were: Steve Harrison, Electrical Director for Idaho Falls; Kent Foster, attorney representing the City; Bob Fleenor, and myself representing the Department.

Topics discussed included: dike construction, make-up water, agreements with Utah Power and Light, and plant operation.

Mr. Harrison acknowledged the dike along the shore line of the reservoir was not constructed according to their original proposal. The use of a slurry trench cutoff was abandoned. Instead, the dike was covered with a silt blanket intended to act as an impermeable barrier. They also installed drainage pipes along the base of the dike to collect seepage water and return it to the river below the power plant. Mr. Harrison agreed to provide blueprints illustrating a cross section of the dike.

Kent Foster stated the City was examining several alternatives for providing the 5.0 cfs of make-up water required under the permit. These included: rental or purchase of storage water, filing a new application for permit, and requesting the Department reconsider its position concerning the appropriation of waste water from the City's waste treatment facility. Mr. Foster's preference, at this time, is the latter. It was suggested he prepare a letter to the director of the Department seeking further reconsideration of this matter.

It was noted that permit 01-7051 was a supplemental permit for this project even though it was issued in the name of Utah Power and Light. Mr. Harrison explained that Utah Power and Light owned land at the Gem State Site. To build the project, the City leased this property and also agreed to supply UP&L with 25% of the generated electricity. Utah Power and Light, however, was not amenable to assigning ownership of permit 01-7051 over to the City.

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On the subject of watermaster control and operation of the project, Mr. Harrison stated that a relatively constant water level in the reservoir was required for maximum operation efficiency. To accomplish this the spill gates and wicket gates on the turbines will be regulated conjunctively by computer. This is a new feature that was not integrated into the three plants already operated by the City. The City is now hoping to get the plant on line by October, 1988. This should give them several months to conduct the necessary testing prior to the 1989 irrigation season.

cc Bob Fleenor

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NOV 2 1988

July 21, 1987

City of Idaho Falls
c/o G. S. Harrison
P. O. Box 220
Idaho Falls, ID 83402-0220

Dear Mr. Harrison:

Re: Permit No. 01-7018

Enclosed is a copy of the approved request for extension of time. The time within which to submit proof of beneficial use is extended to July 1, 1989. Note that a special condition has been added to the permit with the extension approval.

If you are aggrieved by addition of this condition to your permit, you have the opportunity to request a hearing on the matter before the director within fifteen days of the date of this letter.

If you have any questions concerning this matter, please feel free to contact this office.

Sincerely,

RITA I. FLECK
Secretary/Records Manager

Enclosure

CERTIFICATION OF MAILING

I hereby certify that on 7-21-1987 a copy of the foregoing document was duly mailed, postage prepaid, addressed to the individual(s) named above.

Rita Fleck

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UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

The City of Idaho Falls, Idaho) Project No. 2952-004

ORDER AMENDING LICENSE AND SETTING A MINIMUM FLOW

(Issued June 3, 1985)

The City of Idaho Falls, Idaho, (Licensee) filed for Commission approval 1/, on December 12, 1984, a report of findings and recommendations for a minimum flow release as required by Article 46 of the license issued December 12, 1983, for the Gem State Project, FERC No. 2952. Article 46 required the Licensee to consult with the U.S. Fish and Wildlife Service (FWS) and the Idaho Department of Fish and Game (DFG) in conducting studies to determine the minimum flow release at the Gem State Project necessary to maintain aquatic habitat immediately downstream of the project dam. Article 46 also required the Licensee to file a report of findings and recommendations for a minimum flow release with the Commission.

Licensee proposes to provide a continuous, 20-cubic-foot per second (cfs) flow release from the project dam to protect and enhance aquatic resources inhabiting the 300-foot-long reach between the toe of the dam and an adjacent 4,000-foot-long backwater reach of the Snake River.

DFG and FWS state that the Licensee's proposed flow release may not be sufficient to maintain the state water quality standards for dissolved oxygen (6.0 mg/l) and water temperature (18.0° C), and thereby, prevent the degradation of aquatic habitat. Therefore to determine the effect of the flow release on water quality, DFG and FWS recommend that the Licensee conduct a 2-year water quality monitoring program. The 2-year program, commencing

1/ Authority to act on this matter is delegated to the Director, Office of Hydropower Licensing, under §375.314 of the Commission's regulations, 49 Fed. Reg. 29,369 (1984) (Eratta issued July 27, 1984) (to be codified at 18 C.F.R. §375.314). This order may be appealed to the Commission by any party within 30 days of its issuance pursuant to Rule 1902, 18 C.F.R. 385.1902 (1983). Filing an appeal and final Commission action on that appeal are prerequisites for filing an application for rehearing as provided in Section 313(a) of the Act. Filing an appeal does not operate as a stay of the effective date of this order or of any other date specified in this order, except as specifically directed by the Commission.

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NOV 12 1992

simultaneously with project operation, would enable the Licensee and resource agencies to monitor the Snake River below the dam, and to assess the impact of the recommended flow on the water quality and aquatic resources below the dam.

Licensee should monitor water quality below the dam to ensure that the proposed flow release maintains state dissolved oxygen and water temperature standards of 6.0 mg/l and 18.0°C, respectively. Maintenance of state standards would provide conditions necessary for the protection and enhancement of aquatic resources downstream. Approval of the proposed measures will not constitute a major Federal action significantly affecting the quality of the human environment.

It is ordered that:

(A) Article 46 of the license for the Gem State Project, FERC No. 2952, is superseded by the following:

Article 46. Licensee shall maintain in the reach between the toe-of-the-dam and backwater reach of the Snake River a continuous minimum flow of 20 cubic feet per second, as measured immediately downstream from the dam, or inflow to the reservoir, whichever is less, for the purpose of maintaining state water quality standards and protecting aquatic resources. This flow may be temporarily modified if required by operating emergencies beyond the control of Licensee, and for short periods upon mutual agreement between Licensee, the Idaho Department of Fish and Game, and the U.S. Fish and Wildlife Service. Further, Licensee shall, in cooperation with these resource agencies, monitor the temperature and dissolved oxygen levels in the reach between the toe-of-the-dam and the backwater reach. Licensee shall monitor these parameters for a 2-year period following commencement of project operations to determine if the minimum flow release maintains state water quality standards and aquatic habitat immediately downstream of the dam. During the monitoring period, Licensee shall file annual data reports with the Commission and consulted agencies. Within 6 months of completion of the monitoring program, Licensee shall file a report on its findings, and, for Commission approval, recommendations for changes in project structures, operations, or flow releases needed to maintain state water quality standards and to protect aquatic resources. Agency comments pertaining to changes in the project that may be needed to maintain state water quality standards and to protect aquatic resources must be included in the report.

(B) This order is final unless a petition appealing it to the Commission is filed within 30 days from the date of its issuance, as provided in Section 385.1902 of the Commission's regulations 18 CFR 385.1902 (1983).

Quentin A. Edson
Director, Office of
Hydropower Licensing

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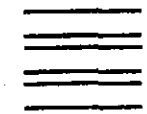
REGULATORY COMMISSION
FERC-351



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State of Idaho P-2952
Department of Water Resources
State House
Boise, Idaho 83720

FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, D.C. 20426

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, $300

STATE OF IDAHO

DEPARTMENT OF WATER RESOURCES

STATEHOUSE
BOISE, IDAHO 83720
(208) 334-4440
CERTIFIED MAIL
APRIL 30, 1987

138423

CITY OF IDAHO FALLS
C/O G.S. HARRISON
P.O. BOX 220
IDAHO FALLS, ID 83401

PROOF DUE NOTICE

RE: PERMIT NO. 01-7018

DEAR PERMIT HOLDER:

ONE OF THE CONDITIONS OF APPROVAL OF THE ABOVE REFERENCED WATER PERMIT WAS THAT PROOF OF THE EXTENT OF YOUR BENEFICIAL USE MUST BE SUBMITTED TO THIS OFFICE ON OR BEFORE JULY 1, 1987. (SEE LAST PAGE OF YOUR APPROVED PERMIT OR YOUR LAST APPROVED EXTENSION REQUEST.) ENCLOSED IS A FORM WHICH WHEN ACCOMPANIED BY THE LICENSE EXAMINATION FEE OR A COMPLETED FIELD EXAMINATION REPORT PREPARED BY A CERTIFIED WATER RIGHT EXAMINER MAY BE USED TO SUBMIT THE REQUIRED PROOF.

IF YOU HAVE NOT FULLY COMPLETED YOUR PROJECT, AND YOU OR A PREVIOUS OWNER OF THIS PERMIT HAVE NOT RECEIVED A PRIOR EXTENSION OF TIME, YOU MAY REQUEST AN EXTENSION OF TIME IF THE DELAY IS FOR REASONABLE CAUSE AS PROVIDED IN SECTION 42-204, IDAHO CODE. IF YOU HAVE BEEN PREVENTED FROM PROCEEDING BY A GOVERNMENTAL AGENCY OR BY LITIGATION WHICH MIGHT BRING TITLE TO THE WATER IN QUESTION, MORE THAN ONE EXTENSION OF TIME CAN BE GRANTED. AN EXTENSION OF TIME REQUEST FORM IS ENCLOSED FOR YOUR CONVENIENCE.

EITHER AN ACCEPTABLE PROOF OF BENEFICIAL USE SUBMITTAL OR AN ACCEPTABLE REQUEST FOR AN EXTENSION OF TIME MUST BE RECEIVED BY THIS DEPARTMENT ON OR BEFORE THE ABOVE DESCRIBED PROOF DUE DATE. IF NEITHER IS RECEIVED, THE DEPARTMENT WILL SEND YOU A LAPSE NOTICE. WITHIN SIXTY (60) DAYS OF THE MAILING OF THE LAPSE NOTICE, THE PERMIT WILL NO LONGER BE OF ANY FORCE NOR EFFECT.

SINCERELY,

RITA FLECK
SECRETARY/RECORDS MANAGER

ENCLOSURES

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NOV 12 1992

STAFF REVIEW SHEET - EXTENSION OF TIME

Permit No. 01-7018 Reviewed by [illegible] Date 6-18-1987

BASIC INFORMATION

Y Date stamp received
Y Extension received timely
(not prior to 6 month before proof due date or after reinstatement period)
Y Fee received and receipted
Y Name and signature same as permit
— Address change (indicate on coding sheet)

BASIS FOR EXTENSION REQUEST

Y Has adequate work been completed to demonstrate due diligence?
Y Has the cost incurred been adequate to demonstrate an intent to complete the project?
N/A Has the permit been involved in litigation?
a. Swan Falls _____ Dismissed from Swan Falls _____
Other _____ Identify _____
b. Is supporting documentation needed to complete the file? _____
Requested _____
c. Calculate the period of delay

Date litigation completed _____

Date litigation began - _____

Total period of delay = _____

Present proof due date + _____

NEW PROOF DUE DATE = _____

_____ Is delay by a government agency?
Is supporting documentation needed to complete the file? _____
Requested? _____

ACTION TAKEN - Recommend approval based on due diligence

Special conditions or remarks:- Note - almost 3 years were needed before the p.k. acquired all necessary permits

N/A Reinstate Date extention received _____ = _____

Proof due date _____ = - _____

No. of days late _____ = _____

Priority date _____ = + _____

ADJUSTED PRIORITY DATE _____ = _____

— Prepare coding sheet
✓ Change rolodex cardf

LAW OFFICES
HOLDEN, KIDWELL, HAHN & CRAPO
IDAHO FIRST NATIONAL BANK BUILDING
P. O. BOX 129
IDAHO FALLS, IDAHO 83401
TELEPHONE 523-0620
AREA CODE 208

WILLIAM S. HOLDEN
R. VERN KIDWELL
FRED J. HAHN
TERRY L. CRAPO
KENT W. FOSTER
ROBERT E. FARNAM
WILLIAM D. FALER
STEPHEN E. MARTIN
CHARLES A. HOMER
GARY L. MEIKLE
CURT R. THOMSEN
RANDALL K. BARTON
MICHAEL D. CRAPO
JAMES D. HOLMAN

ARTHUR W. HOLDEN (1877-1967)
ROBERT B. HOLDEN (1911-1971)

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APR 5 1982
Department of Water Resources

April 2, 1982

01-7018

Mr. Kenneth Dunn
Department of Water Resources
Statehouse
Boise, Idaho 83720

Dear Mr. Dunn:

We are enclosing with this letter our Brief which is submitted pursuant to permission granted at the hearing held on March 16, 1982 here in Idaho Falls. We believe you now have in the record essentially all relevant material. However, if anything is missing or if you desire additional information please feel free to call upon us and we will try to obtain anything that might be helpful. We recently received a copy of a memo directed to the U. S. Fish & Wildlife Service by the Bureau of Indian Affairs personnel in connection with the FERC license procedure. We are enclosing a copy of the memo with this letter for your information.

Yours very truly,

Kent W. Foster

KWF:nc

Enc.

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Applicant

File cc GSH Jeff Larry Bubnik Moody Kent Foster Gem State

MAR 30 1982

Branch of Land Services, Portland Area Office

Review of Application for License of the Gem State Hydroelectric Project (FERC 2952-001, ER 82/302)

U. S. Fish and Wildlife Service - Portland Region
Attention: Regional Director

We have reviewed the subject notice of application and although the proposed action is within the ceded area of the Shoshone-Bannock Tribes as provided in the Fort Bridger Treaty (15 Stat. 673) it does not appear the tribes' treaty rights would be adversely impacted. Therefore, we have no further comments at this time.

Acting Assistant Area Director
(Economic Development)

cc: Superintendent, Fort Hall Agency
Chairman, Fort Hall Business Council
Tribal Land Use Commission
Mr. G. S. Harrison, Electric Light Division, City of Idaho Falls

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APR 5 1982
Department of Water Resources

Kent W. Foster, Esq.
HOLDEN, KIDWELL, HAHN & CRAPO
P. O. Box 129
Idaho Falls, Idaho 83402
Telephone: (208) 523-0620

BEFORE THE DEPARTMENT OF WATER RESOURCES
OF THE STATE OF IDAHO

In the Matter of Application)
for Permit No. 01-7018 in the) BRIEF
Name of City of Idaho Falls)
)

This brief is submitted primarily for the purpose of addressing legal issues raised in connection with the above identified application of the City of Idaho Falls for a permit to appropriate 5,000 cubic feet per second of the waters of Snake River for generation of hydroelectric power at its proposed Gem State Hydroelectric Power Project site.

The factual information pertinent to this application include the application itself, and all correspondence and other documentation contained in the Department's file as well as the record of the hearing held on March 16, 1982 in Idaho Falls, Idaho. The following is a chronological list of events pertinent to this matter:

03/17/78 Application No. 01-7018 filed by City of Idaho Falls for 5,000 cfs

08/21/79 Application for FERC Preliminary Permit filed by City of Idaho Falls

07/13/79 City's application for FERC Preliminary Permit accepted for filing by FERC

01/14/80 Application of City of Idaho Falls No. 25-7182 for 14 cfs from sewage treatment for use in Gem State Hydropower Project

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03/25/80 Issuance by FERC of Preliminary Permit to City of Idaho Falls

04/09/80 Filing of application of Utah Power & Light No. 01-7051 for 3,000 cfs for UP&L's proposed project at Gem State site

04/29/80 Issuance by Idaho Department of Water Resources of Permit No. 25-7182 to City of Idaho Falls for 14 cfs from sewage treatment plant for use in Gem State Hydroelectric Project

12/12/80 Filing by Snake River Valley Irrigation District of Application No. 01-7059 for 1,500 cfs for use for power production at or near Gem State site

09/03/81 Application of City of Idaho Falls to FERC for federal license

10/16/81 Letter from W. J. Anderson on behalf of Snake River Valley Irrigation District to State of Idaho Water Resource Board

10/26/81 Director's response to Anderson letter advising of plan to hold informational hearing

01/29/82 Acceptance by FERC of City's application for federal license

02/19/82 Notice scheduling fact-finding hearing

03/16/82 Fact-finding hearing

We understood the fact-finding hearing held on March 16, 1982 to have been conducted for the purpose of permitting the Director of the Department of Water Resources to obtain information relevant to the considerations with which he is charged under Idaho Code §42-203. While the codified version of that statute does not speak in complete sentences and may be grammatically confusing, the correct interpretation appears to be that whether an application is protested or not, the Director is to consider a list of five items in connection with each application for a permit to appropriate water. We have listed each of these statutory items below and opposite each have set forth a brief comment as to what we understand the

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relevant facts to be: (Each item is prefaced with the phrase "where the proposed use is such").

(1) That it will reduce the quantity of water under existing water rights - the proposed project contemplates construction of a 40 foot earth filled dam with concrete spillway and the creation of the pond 305 acres in surface area about 4 miles long. Representatives of Snake River Valley Irrigation District have speculated that the dam and pond might possibly result in significant increased seepage and evaporation losses and thereby reduce the quantity of water under existing water rights. The City has caused these two matters to be studied thoroughly by experts. Mr. Jerry Eggleston, an engineer with CH2M Hill examined the matter of potential increased evaporation losses and concluded that increase in evaporation losses, if the proposed project is constructed over present evaporation losses, would not exceed 270 acre feet per year. The matter of potential increased seepage losses was studied by Mr. R. J. Pope, a consulting civil engineer with over 30 years of experience. Mr. Pope described the existing design of work contemplated in construction of the project to prevent seepage and concluded that increased seepage losses which would result if the project were built would not exceed 1,440 acre feet per year. The City understands that if its permit is granted, its water right to be appropriated would be subject, as is the case with most of the City's water rights for power production purposes, to future depletions resulting from upstream development for irrigation. In addition, the City would agree to a condition imposing a reasonable requirement for replacement of water which might be lost from the river due to increased evaporation and seepage losses. There are at least four specific possibilities of which the City is presently aware for replacing such water:

a. The City has already been granted Permit No. 25-7182 for 14 cfs from its waste water treatment plant for use in connection with this project. The ultimate source of the water is, of course, the City wells which provide groundwater for use in homes within the City and for other municipal purposes.

b. In the letter dated March 10, 1982 from John Rosholt on behalf of American Falls Reservoir District, Twin Falls Canal Company, Northsite Canal Company, Milner Lowlift Irrigation District and Hillsdale Irrigation District addressed to Mr. Ron Carlson, a copy of which we understand to be part of the record in this matter, Mr. Rosholt suggested that it may be

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possible to negotiate a lease of storage water with some of the companies mentioned in the letter.

c. It may be possible to lease water from the water district No. 1 rental pool administered by the committee of nine.

d. The City owns land under three irrigation districts and much of the land to which water is appurtenant for irrigation is no longer irrigated. Preliminary contacts with some of the irrigation districts have indicated a willingness to cooperate in a manner which might permit use of some of this water as replacement water.

(2) That the water supply itself is insufficient for the purpose for which it is sought to be appropriated - to our knowledge this item has never become an issue and insofar as we know there is no reason for it to be an issue. In any event, this item has received fairly extensive study and review and the results of the City's investigations on pages B-5 and B-6 of Volume 1 of the City's Application for License before the Federal Energy Regulatory Commission, dated August, 1981, a copy of which was furnished to the Director at the hearing. The City's application was for 5,000 cfs and the project design has now been modified in such a manner that 7,000 cfs would be a better amount. The City and Utah Power & Light are concluding negotiations, one result of which is that when Utah Power & Light receives a permit pursuant to its application for 5,000 cfs, the necessary portion of that will be assigned or leased to the City for use through the proposed plant.

(3) Where it appears to the satisfaction of the Department that such application is not made in good faith, is made for delay or speculative purposes - again, to our knowledge this item has not been raised as an issue and we suppose it should be obvious from the amount of effort to which the City of Idaho Falls has gone and the funds which have been committed for engineering studies and preparation of the application for the FERC license, that the application is clearly made in good faith.

(4) That the applicant has not sufficient financial resources with which to complete the work involved therein - the estimated cost of the Gem State Hydroelectric Project is in the range of $75 to a $100 million. This is a substantial undertaking and the City of Idaho Falls has been working for some time with bond attorneys and bonding companies in anticipation of the holding of a bond election. Mayor Tom V. Campbell, the mayor of Idaho Falls,

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appeared before the Director and testified to the overwhelming support for the City's earlier bulb turbine project and made it clear that in his opinion, similar support will be received for the Gem State Hydroelectric Project.

(5) That it will conflict with the local public interest, where the local public interest is defined as the affairs of the people in the area directly affected by the proposed use. - Again, we believe Mayor Campbell's testimony to have been most appropos to this item. It seems clear that the needs of the people in Idaho Falls as well as in the surrounding area for additional power are substantial and will continue to increase in the future. On the other side of the ledger, the opposition to the City's proposal appears to come almost exclusively from Snake River Valley Irrigation District, and that on the grounds that the District wishes to construct its own hydroelectric project at the same site, but on a much smaller scale. We submit that Snake River Valley Irrigation District's position is an example of local self interest than local public interest.

It appears that the legal issue raised by Snake River Valley Irrigation District in its request to the Director to refuse issuance of the permit applied for by the City centers around subparagraphs (2) and (3) of Idaho Code §42-205, which were added by the 1981 Legislature and which became effective April 1, 1981. The relevant portions of that section of the Code are as follows:

(2) Water cannot be appropriated for hydropower development uses within or using existing man-made irrigation facilities without the permission of th owner thereof.

(3) When competing applications for a permit have been filed prior to the effective date (April 1, 1981) of this act for the additional use for hydropower purposes that would utilize facilities that are owned or controlled by the holder of an existing permit, license, decree, or established constitutional water usage, the Director shall give preference to the application of the owner of the existing rights or his agent.

As we understand it, Snake River Valley Irrigation District takes the position that because the proposed Gem State Hydroelectric Project would require inundation of the diversion

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works and some 2 1/2 to 3 miles of its feeder canal, and substitution of a new structure for diversion of water from the power pool into the existing Snake River Valley Irrigation District Canal, the proposal falls within the scope of the above quoted portions of Idaho Code §42-205. We disagree. We do not believe that the City's proposed project constitutes the type of activity contemplated and sought to be addressed by the 1981 amendments to §42-205, and in any event, we do not believe the Legislature intended to abrogate the eminent domain powers of cities, which are rooted in the state constitution.

As we recall, when the legislation resulting in subparagraphs (2) and (3) of Idaho Code §42-205, was pending, the problem being addressed was that numerous nonowner individuals and entities had filed applications for permits with the Idaho Department of Water Resources as well as for permits and licenses with the Federal Energy Regulatory Commission. Such individuals and entities proposed to construct power plants within and actually utilizing such things as dams, canals, overflow structures and other facilities of canal companies and irrigation districts. While the law may have made it difficult for such individuals and entities to initiate the necessary water rights in trespass, the Legislature deemed it wisdom to make clear that such rights are not to be established without the consent of the owner of the facility, and that the owner has a preference.

We do not think the Legislature intended to cover the type of situation involved in this case, or to limit or abrogate or change the law of eminent domain. A careful reading of the words used in the cited amendments is helpful. The Legislature

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prohibited "uses within or using...facilities", and gave a preference to the owner when the competing applications proposed to "utilize facilities". The City of Idaho Falls proposes to construct its own facilities, none of which will be constructed "within" the facilities of Snake River Valley Irrigation District in the sense that a power plant would be built in the canal or on the diversion dam. The City proposes to use or utilize none of the facilities of Snake River Valley Irrigation District. What the City has proposed will result in the inundation of the present diversion facilities and some 2 1/2 to 3 miles of feeder canal of Snake River Valley Irrigation District. This will require a taking or condemnation of property in the usual or common method, not a use of that property as contemplated by the amendments to §42-205.

The words "use" (when used as a verb), and "utilize" (which is always used as a verb), may be defined as "to employ for some purpose" in an active sense. See Words & Phrases, Vol. 43A pp.251, 465. The City does not propose to employ either Snake River Valley Irrigation District's diversion works or canal for any purpose or to construct its power plant or dam within such facilities.

The expected result of the construction of the dam and dikes proposed by the City will be to inundate the mentioned facilities of Snake River Valley Irrigation District and render them unuseful to anyone. This would constitute a taking. We are confident that in the passage of the above cited amendments, the Legislature did not have in mind the abrogation of the law of eminent domain as it applies to a situation such as the one here.

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In our opinion, the City of Idaho Falls has the right and obligation to proceed under the law of eminent domain with respect to the condemnation and taking of the portion of Snake River Valley Irrigation District's canal and diversion works which will be rendered unuseful by construction of the Gem State Project. That right, in the first instance, is rooted in the Idaho State Constitution. The applicable constitutional provision is Article 1, Section 14, which provides as follows:

> The necessary use of lands for the construction of reservoirs or storage basins for the purpose of irrigation, or for rights of way for the construction of canals, ditches, flumes or pipes, to convey water to the place of use for any useful beneficial or necessary purpose, or for drainage; or for the drainage of lands, or the working thereof, by means of roads, railroads, tramways, cuts, tunnels, shafts, hoisting works, dumps, or other necessary means to their complete development, or any other use necessary to the complete development of the material resources of this state, or the preservation of the health of its inhabitants, is hereby declared to be a public use, and subject to the regulation and control of the state.
>
> Private property may be taken for public use, but not until a just compensation, to be ascertained in the manner prescribed by law, shall be paid therefore.

The Idaho Supreme Court made it clear at an early date that this section of the Constitution permits condemnation of property for power sites for generation of electrical energy. Washington Power Co. vs. Waters, 19 Idaho 595, 115 P.2d 682 (1911). We quote from pages 605 and 606 of that reported opinion:

> Our examination of this matter after two hearings in this case convinces us that it was the purpose of the framers of the Constitution in drafting Section 14, Article 1, to authorize "the necessary use of lands for the construction of reservoirs, or storage basins. . . . for any useful, beneficial or necessary purpose" for which water might be stored, whether it be for purposes of irrigation, for domestic or municipal purposes, for power purposes, or for any

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other purpose that might be useful or beneficial. If we should so construe this sentence as to limit the meaning of the words "reservoirs or storage basins" by the words "for purposes of irrigation," we would then not only be limiting the scope of meaning of the words "reservoirs or storage basins," we would also thereby limit the meaning of the words "for purposes of irrigation," and deprive the latter of any separate or independent meaning or significance of its own whatever. Lands are necessary for "the purposes of irrigation," for uses other than reservoirs or storage basins. Pumping stations are often necessary in order to get water for irrigation, and water wheels and power sites for electric power in pumping, and dams and diverting works are generally necessary along and across streams for the purpose of diverting the required volume of water into the ditch, canal or flume that is to convey the water to the place of intended use. And so it seems to us that the framers of the Constitution meant the same as if the first clause had been repeated each time, and the sentence had been constructed to read thus: The necessary use of lands for the construction of lands for the construction of reservoirs; the necessary use of lands for the construction of storage basins; the necessary use of lands for the purposes of irrigation; the necessary use of lands for rights of way for the construction of canals, etc., etc., is hereby declared to be a public use, etc.

This construction of Section 14, Article 1 is decisive of the case at bar. It is admitted by all parties that the condemnation here sought is for reservoir or storage basin purposes; in other words, the appellant seeks to enlarge the capacity of Coeur d'Alene Lake by means of a dam and bear-trap at Post Falls, and this increased reservoir or storage basin capacity is for the specific purpose of generating electricity; it is for power and lighting purposes. There is no question but that these purposes are <u>useful and beneficial.</u> The generation of electrical current by means of water power is one of the most useful, beneficial and necessary purposes known today in the business, commercial, and we may add, the home life of the state; electrical current and electrical energy is used in almost every home in our cities, towns and villages, and is employed in practically every business house and every manufacturing industry in the state; it has come to be a necessity. . . .

The Idaho Legislature has also made the matter clear.

<u>Idaho Code</u> §7-701 provides in pertinent part:

> Subject to the provisions of this chapter, the right of eminent domain may be exercised in behalf of the following public uses: . . . .

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11. Electric distribution and transmission lines for the delivery, furnishing, distribution, and transmission of electric current for power, lighting, heating or other purposes; and structures, facilities and equipment for the production, generation, and manufacture of electric current for power, lighting, heating or other purposes.

Section 7-702 provides that the estate which may be taken includes a fee simple, an easement, or the right of entry upon and occupation of lands. Section 7-703 goes on to state that the private property which may be taken includes real property, lands belonging to the federal or state government or any other municipal corporation, and specifically under subparagraph (3) "property appropriated to public use; but such property shall not be taken unless for a more necessary public use than that to which it has been already appropriated." Other types of private property are also listed.

Basically, the statutory scheme contemplates that the entity or person in charge of the public use for which the property is sought will commence the necessary proceeding. Idaho Code §7-707. That cities in Idaho have the power to sue and to be sued and exercise the right of eminent domain for appropriate purposes hardly needs a citation of authority. See Idaho Code §50-301. Specifically, the Legislature has provided in Idaho Code §50-325 that:

> Cities shall have authority; to acquire, own, maintain and operate electric power plants, purchase electric power and provide for distribution to the residents of the city, and to sell excess power subject to provisions of Section 50-327.

Idaho Code §7-704 provides:

> Before any property can be taken it must appear:
>
> 1. That the use to which it is to be applied is a use authorized by law.

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> dam, reservoir, diversion structure, or the works appurtenant or accessory thereto, in conjunction with an improvement which in the judgment of the commission is desirable and justified in the public interest for the purpose of improving or developing a waterway or waterways for the use or benefit of interstate or foreign commerce, it may acquire the same by the exercise of the right of emiment domain in the District Court of the United States for the district in which such land or other property may be located, or in the state courts. The practice and procedure in any action or proceeding for that purpose in the District Court of the United States shall conform as nearly as may be with the practice and procedure in a similar action or proceeding in the courts of the state where the property is situated; provided, that the United States District Court shall only have jurisdiction of cases when the amount claimed by the owner of the property to be condemned exceeds $3,000.00.

In conclusion, we submit that there are no factual or legal reasons, either under the five criteria listed in Idaho Code §42-203, or the Amendments to Idaho Code §42-205 which should furnish an obstacle to the grant by the Director of the permit sought by the City of Idaho Falls under Application No. 01-7018.

RESPECTFULLY SUBMITTED this 2nd day of April, 1982.

HOLDEN, KIDWELL, HAHN & CRAPO

Kent W. Foster

Kent W. Foster, Esq.

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CERTIFICATE OF SERVICE

I hereby certify that I am a duly licensed attorney in the State of Idaho, resident of and with my office in Idaho Falls, Idaho; that I served a copy of the following described pleading or document on the attorneys listed below by hand delivering or by mailing, with the correct postage thereon, a true and correct copy thereof on this 2nd day of April, 1982.

Document Served: BRIEF

Attorneys Served:

W. J. Anderson, Esq. (Hand)
SHARP, ANDERSON, & BUSH
490 Memorial Drive
Idaho Falls, Idaho 83402

Kent W. Foster
HOLDEN, KIDWELL, HAHN & CRAPO

MICROFILMED

Carlos Nielson

DEPARTMENT OF WATER RESOURCES
STATE OF IDAHO

In re:	)	
	)	STATEMENT ON BEHALF OF
CITY OF IDAHO FALLS,	)	SNAKE RIVER VALLEY
Application for Permit	)	IRRIGATION DISTRICT
No: 01-7018	)	

CARLOS NIELSON of Route 1, Shelley, Idaho, does hereby state that he is the President of the Snake River Valley Irrigation District, a quasi-municipal corporation of the State of Idaho, organized in 1907. Such district was organized as a consolidation of the Cedarpoint Canal Company and the Snake River Canal Company; that the Snake River Irrigation District has within its district approximately 22,000 acres, and has decreed water rights from the Snake River to irrigate such lands of 878 cfs. and storage rights in Jackson, Palisades and American Falls Reservoirs of 91,892 acre feet.

The diversion works of the Snake River Valley Irrigation District are located at river mile-point 792.33 on the Snake River, which is just west of the Fielding Memorial Cemetery south of Idaho Falls. The canal of the Snake River Valley Irrigation District then goes southerly in close proximity to the east bank of the Snake River for a distance of approximately 3 miles to a point where there is a diversion works to divert the water into the two main canal distribution systems of the District with the Cedarpoint Canal going to the west and the Snake River Canal going to the east with the water being

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furnished irrigating the lands in the vicinity of Shelley, Firth, Basalt and Kimball.

That I am familiar with the water rights of the Snake River between Idaho Falls and Blackfoot and with the flow of water therein and with the diversions of the Snake River Valley Irrigation District, the Woodville Canal Company, the Reservation Canal, the Blackfoot Irrigation Canal and others south of Shelley. That in the normal flow of the Snake River there is little or no water flowing south of Blackfoot. That all of the water that is flowing in the period of time subsequent to the highwater run-off in the spring is decreed or stored rights of water users diverting from the Snake River. That there is no extra water which is not owned by such water users. At many times during the irrigation season, those water users diverting water south of Shelley are required to build up their diversion works in order to get their decreed water because of the minimum flow in the river.

The City of Idaho Falls made an application for permit for the diversion of 5,000 cfs. for power generation which was filed March 17, 1978 and published March 23 and 30, 1978. Neither the application nor the publication gave any hint to any one associated with the Snake River Valley Irrigation District of the impact that Idaho Falls' plan would have upon the District. There was no information that Idaho Falls would attempt to change the diversion works of the District and flood approximately 3 miles of its canal plus other lands owned by the District and have a completely new diversion point and diversion works. At the time of the application and within the protest period as set by law, the District had no way of know-

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ing and no way of ascertaining the serious impact Idaho Falls would plan to make upon the District's system.

The present plans contemplated by Idaho Falls, as best we can understand them, would plan for a complete change of the diversion works of the District from the present location on river mile 792.33 where the existing diversion dam is located to a point where they propose to relocate the diversion works at river mile 789.56, a distance of approximately 3 miles. The canal in this area would be flooded and obliterated. The diversion works, which now presently take water from essentially the bottom of the river, would be changed to take the water from the top of the reservoir, and thus there would be a danger if the level of the reservoir could not be maintained that the District could not divert their decreed and stored water rights. Additionally, the City desires easements for drainage across the District's canal and for land the District owns upon which the City desires to erect their dike plus an easement for an access road.

These drastic changes as proposed by Idaho Falls were not apparent to the District until subsequent to a time that the District had applied for 1,500 cfs. additional flow from the river for development of a hydro-generating plant in the same vicinity as the City of Idaho wishes to develop their plant. At the time of the application for the water permit, the District had no knowledge and was not informed nor furnished any information concerning Idaho Falls' plan. It was after this filing by the District that the City divulged their plans and made known their intent to take over the canals, diversion works and property of the District.

DEPARTMENT OF WATER RESOURCES
STATE OF IDAHO

In re:	)	
	)	STATEMENT ON BEHALF OF
CITY OF IDAHO FALLS,	)	SNAKE RIVER VALLEY
Application for Permit	)	IRRIGATION DISTRICT
No: 01-7018	)	

RAYMOND R. UNDERWOOD, Area Manager, J-U-B ENGINEERS, Inc. 920 Deon Drive, Suite B, Pocatello, Idaho, on behalf of the Snake River Valley Irrigation District, client of J-U-B ENGINEERS, Inc., does hereby state that J-U-B ENGINEERS, Inc., is retained by the Snake River Valley Irrigation District to complete a feasibility study for their proposed three (3) megawatt hydroelectric project with funds for the study supplied to the Snake River Valley Irrigation District from a loan granted by the Idaho Water Resources Board. The Snake River Valley Irrigation District requested J-U-B ENGINEERS, Inc., to review the Feasibility Study and Volumes I and II of the Application for License for a Major Unconstructed Project, Gem State Hydroelectric Project, prepared by the firm of CH_2M Hill for the City of Idaho Falls.

That the Snake River Valley Irrigation District instructed J-U-B ENGINEERS, Inc., to report any features or elements of the proposed project which might affect or otherwise cause impact to the Snake River Valley Irrigation District in its operation of irrigation facilities, existing hydrologic conditions in the area, and environmental conditions. J-U-B ENGINEERS, Inc., found that although the Gem State Hydroelectric Project and the proposed Snake River Valley Irrigation District's hydroelectric project were compatible in design features, other aspects of the planned Gem State Hydroelectric Project could adversily affect the District.

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Review of the Gem State Hydroelectric Feasibility Study indicated that the proposed reservoir would have a surface area of three hundred and five (305) acres. Typical evaporation values for this area indicate that the annual loss to evaporation from the proposed reservoir would be approximately 1500 acre feet per year, in excess of present evaporation losses. This is a consumptive use of water not included in the original application for appropriation of water for hydroelectric power generation.

Dikes and slurry cut-off trenches under the dikes on the right bank would impede percolation losses into the gravel zones overlying rock for a distance of about seven thousand three hundred (7300) feet upstream from the proposed dam, but the character of the underlying rock may permit considerable leakage through joints, cracks and permeable zones presently covered by a mantle of soils only a few feet thick. Water entering into the rock joints would be lost to downstream users until this water emerged as springs or seeps, probably in the area near American Falls. The remaining seven thousand (7000) feet of reservoir on the right bank is unprotected by either dikes or slurry cut-off trenches. Soils along this area would provide a path for percolating water from the reservoir which would largely remain in bank storage owing to the low hydraulic gradiant. Recovery of this water from bank storage would occur only if the reservoir was lowered below the normal operating pool level. Assuming ten (10) percent porosity for these soils, bank storage could account for several hundred acre feet of water permanently lost to Snake River.

The left bank of the proposed reservoir is presently bounded by an existing embankment which may or may not impede water flow from the reservoir and could produce similar but greater losses to bank storage. There is also considerable potential for water from the reservoir to migrate through the

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upper gravel zones, overlying rock, and to continue to the east and around the proposed slurry cut-off trench as shown in the proposed plans.

The underlying rock may also be permeable on this bank and permit water to leak through joints, cracks and other permeable layers. These two conditions could result in the raising of the water table to the east and south of the project area.

The area in and around the City of Firth is located about six (6) miles south of the proposed project area. This area has high water table conditions during the irrigation season. Ground water commonly reaches to within four (4) feet of ground surface during the late summer months. There is concern that the proposed reservoir could aggrivate this problem by increasing ground water levels in the area of Firth.

The proposed Gem State Hydroelectric Project would create considerable impact to existing environmental conditions by inundating about two hundred and fifty (250) acres of land now used by various game and non-game animals. The proposed dam would also create a barrier to migrating cut-throat trout and other species.

Additional studies are being conducted to quantify potential reservoir losses and impact to adjacent and nearby areas. Results of these studies will be made available to the Department of Water Resources within the next few weeks.

Raymond L. Anderson

3. STATMENT ON BEHALF OF
SNAKE RIVER VALLEY IRRIGATION DISTRICT.

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RECEIVED
MAR 22 1982
Department of Water Resources

LAW OFFICES
HOLDEN, KIDWELL, HAHN & CRAPO
IDAHO FIRST NATIONAL BANK BUILDING
P. O. BOX 129
IDAHO FALLS, IDAHO 83401

TELEPHONE 523-0620
AREA CODE 208

ARTHUR W. HOLDEN (1877-1967)
ROBERT B. HOLDEN (1911-1971)

WILLIAM S. HOLDEN
R. VERN KIDWELL
FRED J. HAHN
TERRY L. CRAPO
KENT W. FOSTER
ROBERT E. FARNAM
WILLIAM D. FALER
STEPHEN E. MARTIN
CHARLES A. HOMER

GARY L. MEIKLE
CURT R. THOMSEN
RANDALL K. BARTON
MICHAEL D. CRAPO
JAMES D. HOLMAN

March 19, 1982

A. Kenneth Dunn, Director
Idaho State Dept. of Water Resources
Statehouse
Boise, Idaho 83720

Re: Gem State Project

Dear Mr. Dunn:

Enclosed is a schedule of events regarding the Gem State Project which I have received from the City of Idaho Falls.

Yours very truly,

Kent W. Foster (lc)

Kent W. Foster

lc

Enc.

Route To		Date	Initial
	Director		
	Deputy Dir.		
	Reso. Adm.		
	Reso. Analysis		
	Oper. Bureau		
	Proj. Stud. Bu.		
	Reg. Off. Bu.		
	Tech. Serv. Bu.		
	File:		

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GEM STATE PROJECT

o Advertise Turbine/Generator Specifications	March 8
o Select A-E and Underwriter	March 15
o Prepare election question and ordinance	March 15
o Select bond election Campaign Committee	March 15
o Water Right Hearing	March 16
o Begin bond election campaign	March 29
o BPA acquisition decision	May 15
o Open trubine/generator bids	May 18
o Bond Election - Primary Election Day	May 25
o Award Turbine/Generator Contract	June 15
o Interim finance by	July 15
o FERC License	January 1983

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LAW OFFICES
HOLDEN, KIDWELL, HAHN & CRAPO
P. O. BOX 129
IDAHO FALLS, IDAHO 83401

A. Kenneth Dunn, Director
Idaho State Dept. of Water Resources
Statehouse
Boise, Idaho 83720

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RECEIVED
MAR 31 1982
Department of Water Resources

C. E. BROCKWAY P. E.
ENGINEERING CONSULTANT

Groundwater Hydrology
and Hydraulic Engineering

706 Sunrise Blvd. N.
Twin Falls, Idaho 83301 733-0938

March 30, 1982

Route To		Date	Initial
	Director		
	Deputy Dir.		
	Reso. Adm.		
	Reso. Analysis		
	Oper. Bureau		
	Proj. Stud. Bu.		
	Reg. Off. Bu.		
	Tech. Serv. Bu.		

Mr. Ken Dunn, Director
Idaho Department of Water Resources
Statehouse
Boise, ID 83720

Dear Ken:

I have been asked by the Snake River Valley Irrigation District to review the reasibility report for the proposed Gem State hydropower project relative to potential impact on the groundwater and surface water systems of the area.

Additional water surface available for evaporation and associated bank phreatophytes would cause a decrease in available flow below the site during the hottest month of at least two cfs or in excess of 500 acre feet per year. This is definitely a consumptive use attributable to a "nonconsumptive" water use under a power right. It can be argued that this amount is not measurable under current discharge measurement technology, however, continued encroachment on senior appropriator water supplies by supposedly non-consumptive uses needs to be evaluated and regulated closely. In addition to the evaporation from exposed water surfaces, additional shoreline distances can encourage accelerated growth of phreatophytes and additional depletion of flows during critical months when diverters between Shelly and Blackfoot are in need of all allocated stream flows.

Leakage through the proposed slurry trench cutoff beneath the dikes will likely be low if proper construction techniques are followed. However, it may not be possible to reach the basalt in all cases. An insufficient number of test borings were made to accurately define the depth to basalt under all dikes. Seepage rates likely to occur due to increased head on the underlying strata are difficult to evaluate. There is no doubt that the net loss to the reach will be increased over current non-project rates. Assuming that seepage loss rates per wetted acre approximate current canal loss rates, the increased river reach loss would likely exceed 80 cubic feet per second. This is based on an increased wetted area of 80 acres and a conservative estimate of 2.0 ft/day seepage loss. Studies by the University of Idaho and the U. S. Bureau of Reclamation measured canal loss rates considerably in excess of these values. With the increased gradient caused by the 40 ft. increase in water depth, the loss rate will likely exceed the 80 cfs. In any case there will be increased losses which will contribute to the shallow and/or regional groundwater systems.

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Even with the slurry cutoff trench in place, underflow through the basalts with interbed strata of low permeability can add to the already critical subwater problem along areas on the east side of the river. Soil Conservation Service and U.S. Bureau of Reclamation studies over the past years have confirmed this problem and surface drainage systems have been contemplated. In my opinion, construction of the proposed Gem State Project reservoir will negatively impact the drainage of the adjacent lands.

A model of the perched groundwater system on the east side of the river is not available to assist in quantifying the impact of additional input to the system. However, when perched groundwater levels are already causing drainage problems and water tables near the ground surface, addition of even small inflows can cause problems on a significantly larger area.

Again, this water loss, whatever the magnitude, will decrease the surface water divertable in the reach between the proposed dam and American Falls.

Seepage from the proposed reservoir which reaches the regional aquifer will return to the Snake River in the Blackfoot-Neeley reach as indicated by groundwater models of the Snake Plain aquifer operated by the Idaho Department of Water Resources and U. S. B. R. Groundwater flow lines indicate that this area of the aquifer contributes to the springs entering the river above American Falls. Time lags are not known definitely, however the return flow delay will cause a change in the historical time sequence of inflows to the reservoir. Although this redirection of water does not constitute a net depletion of the water resource, the deprivation of senior users in the affected reach of natural and/or stored water diversions appears to violate the intent of the statutes.

Sincerely yours,

C. E. Brockway

C. E. Brockway, P.E.

cc: J. Anderson
R. Underwood

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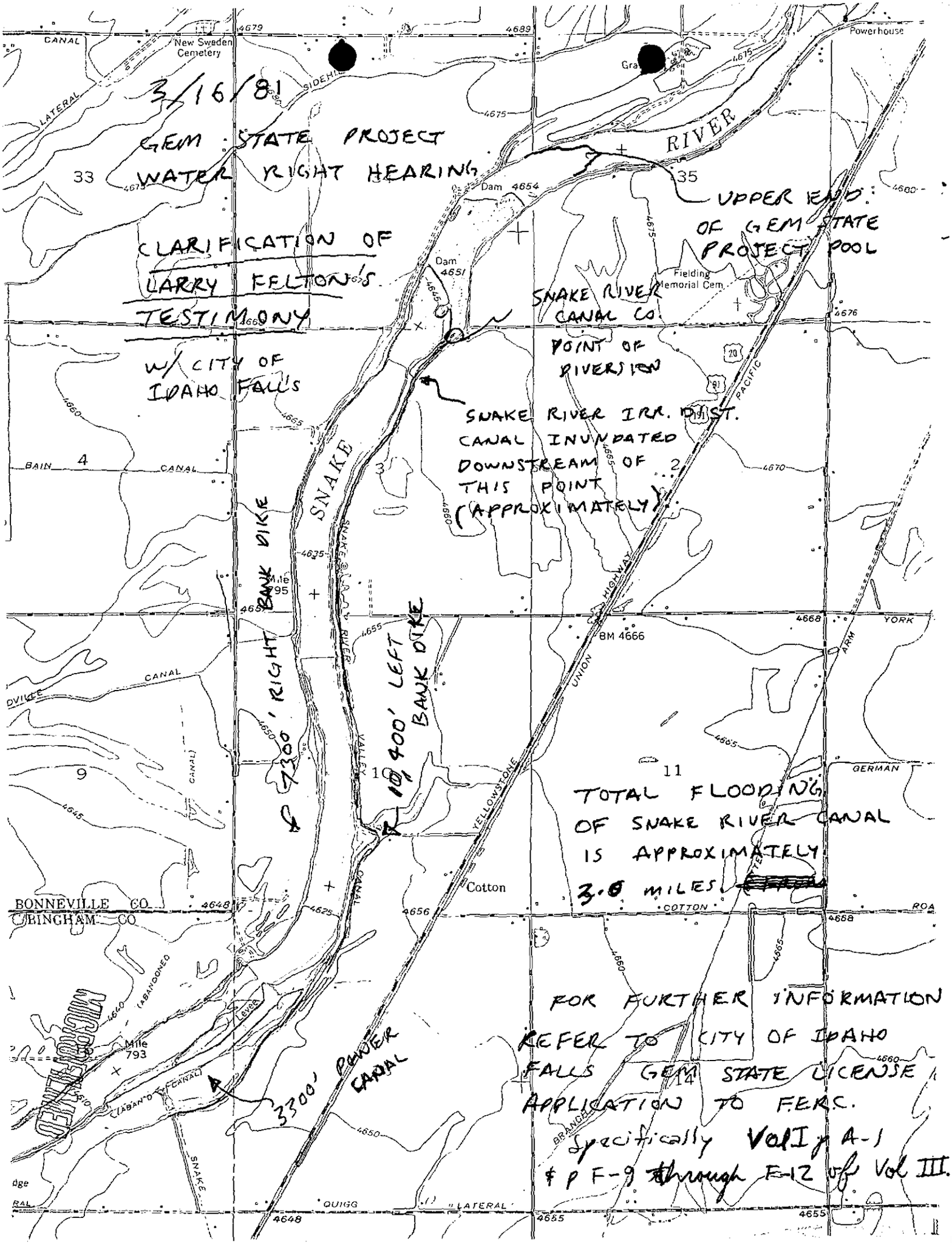

3/16/81
GEM STATE PROJECT
WATER RIGHT HEARING
CLARIFICATION OF
LARRY FELTON'S
TESTIMONY
W/ CITY OF
IDAHO FALLS
UPPER END
OF GEM STATE
PROJECT POOL
SNAKE RIVER
CANAL CO.
POINT OF
DIVERSION
SNAKE RIVER IRR. DIST.
CANAL INUNDATED
DOWNSTREAM OF
THIS POINT
(APPROXIMATELY)
7300' RIGHT BANK DIKE
10,400' LEFT
BANK DIKE
TOTAL FLOODING
OF SNAKE RIVER CANAL
IS APPROXIMATELY
3.0 MILES
3300' POWER
CANAL
FOR FURTHER INFORMATION
REFER TO CITY OF IDAHO
FALLS GEM STATE LICENSE
APPLICATION TO F.E.R.C.
Specifically Vol I p A-1
& p F-9 through F-12 of Vol III.
New Sweden
Cemetery
Powerhouse
Dam 4654
Dam
4651
Fielding
Memorial Cem.
SNAKE
RIVER
BAIN
CANAL
Mile
795
BM 4666
YORK
ARM
UNION
HIGHWAY
YELLOWSTONE
VALLEY
CANAL
GERMAN
Cotton
COTTON
ROA
BONNEVILLE CO
BINGHAM CO
Mile
793
(ABANDONED
Levee
SNAKE
QUIGG
LATERAL
BRANCH
PACIFIC
33
35
4
3
2
9
10
11
14

3-16-82
IDAHO FALLS

Jerry Eggleston
CH2M-Hill

EVAPORATION FROM FREE WATER SURFACE WITH AND WITHOUT THE PROPOSED GEM STATE HYDROPOWER PROJECT

Estimates of the evaporation from the exposed water surface in the reach of river affected by the proposed Gem State project can be estimated using Weather Bureau data from an evaporation pan and the area of exposed water surface.

Without the project, there is the area of exposed water surface in the natural channel of the Snake River. In addition, during the irrigation season, there is the exposed water surface in those portions of the canals adjacent to the river which will be inundated by the proposed project. Without the project, evaporation occurs from all of these water surfaces.

The area of water surface for the Snake River and the affected portions of the adjacent canals has been measured on detailed topographic mapping of the project site. The mapping, developed from aerial photos taken on May 12, 1977, has a 4-foot contour interval. On the date of the aerial photography the flow in the Snake River was 5,930 cubic feet per second (cfs), which is slightly greater than the long-term mean annual flow at the site (5,657 cfs, 1932-1979 average). The flow in the canals on the date of the photography probably would have been somewhat less than the maximum flow during the peak of the irrigation season. From this mapping, we measured the area of the Snake River water surface from the damsite to the point at which the normal pool elevation contour crosses the river as 206 acres. The water surface area of the Snake River Valley Canal, from its diversion to the point at which it crosses the levee proposed to contain the reservoir, is 15 acres. The area of the Woodville Canal, from its point of diversion to the point where it crosses the levee proposed to contain the reservoir, is 4 acres.

The water surface area of the proposed reservoir, at normal pool level of elevation 4655, is 305 acres. Thus, during the period of maximum evaporation, the area of the exposed water surface with the project is 305 acres, as compared with a presently exposed area without the project of 225 acres.

The nearest Weather Bureau observation station with an evaporation pan with long-term records is the one at the Aberdeen Experiment Station. Records for the experiment station are available for more than 45 years. That station

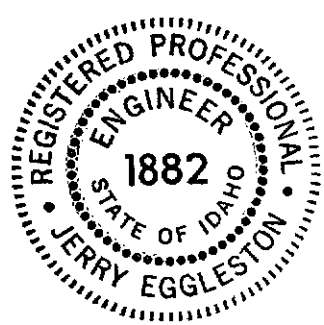
Applicant

is located approximately 50 miles southwest of the project site. From the publication Climatological Handbook - Columbia Basin States - Precipitation - Volume II, prepared by the Meteorology Committee, Pacific Northwest River Basins Commission in September 1969, the 30-year period from 1935 through 1965 shows pan evaporation at the Aberdeen Experiment Station as shown in Table 1. These data are shown for the period from April through October. This is because, during colder weather, the evaporation pan will freeze and data cannot be obtained. Based upon studies by the Weather Bureau, as published in Technical Paper No. 37,* the May through October pan evaporation is estimated as 81 percent of the total annual pan evaporation. This figure was used to compute the annual total shown in Table 1.

Because the standard Weather Bureau Class A pan is 4 feet in diameter and approximately 1 foot deep, its temperature varies much more rapidly than the temperature of a larger body of water, such as a reservoir or lake. For this reason, the evaporation from a Class A pan is considerably higher than the evaporation from a lake water surface. From data in Weather Bureau Technical Paper No. 37*, the pan coefficient to estimate lake evaporation from pan data is 0.72 for the area of the Gem State project. On this basis, the average annual evaporation from the water surface, either with or without the project, would be 38 inches per year.

The total annual evaporation without the project would, thus, be 38 inches per year from the Snake River water surface, and evaporation from the canal water surfaces during the irrigation season amounts to 34 inches, for a total evaporation from the project site, without the project of 710 acre-feet per year. With the project, and a reservoir water surface area of 305 acres, the total evaporation is approximately 980 acre-feet. The increase in evaporation is, thus, 270 acre-feet.

*See Idaho Water Resources Inventory by the University of Idaho for the Idaho Water Resources Board, p. 63.



Jerry Eggleston
3-16-82

MICROFILMED

Table 1
MONTHLY PAN EVAPORATION
AT THE
ABERDEEN EXPERIMENT STATION
FOR THE PERIOD
1935-1965
(in inches)

Statistic	April	May	June	July	August	September	Annual Evaporation Pan	Annual Evaporation Lake	Irrigation Season Evaporation Pan	Irrigation Season Evaporation Lake
Mean	4.6	7.1	8.0	9.4	8.4	5.7	52	38	47	34
Greatest	6.4	8.5	10.6	11.4	11.0	7.4				
Least	1.8	4.8	5.6	7.5	5.5	3.4				

The monthly data for April through October are from Climatological Handbook - Columbia Basin States - Precipitation - Volume II by the Meteorology Committee, Pacific Northwest River Basins Commission, p. 259, September 1969.

The annual totals are computed using data from Weather Bureau Technical Paper No. 37.

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B12261.V0
3-15-82

3-16-82
IDAHO FALLS

CH2M HILL

MEMORANDUM

TO: City of Idaho Falls

FROM: R. J. Pope, Consulting Civil Engineer

DATE: March 11, 1982

SUBJECT: Water Losses at the Gem State Hydroelectric Project
City of Idaho Falls, Idaho

PROJECT: B12261.V0

In response to a verbal request from the City of Idaho Falls, I have reviewed the design of the proposed Gem State Hydroelectric Project with respect to the anticipated seepage conditions and water loss which may be anticipated after completion of construction of the project.

Geotechnical studies included a review of the construction plans, geologist's reports on the soils and geologic conditions at the site, and logs of test borings which have been drilled for the project.

I recently visited the project site and observed several gravel borrow pits located within a short distance of the riverbanks that are considered representative of the gravel foundation for the dikes, and observed the gravel

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beaches along the river and outcrops of basalt rock that underly the gravel.

On the basis of available information and experience gained from numerous projects with related problems, I have estimated the quantity of water loss due to the proposed impoundment of water retained by dikes on both banks of the present river channel. I have also made a comparative estimate of the water loss by seepage from the irrigation canals currently located adjacent to the riverbanks.

The design for the dikes includes foundation preparation by first stripping the sandy silt topsoil down to the top of alluvial sandy gravel. The sandy gravels are fairly pervious, with an estimated permeability ratio in the order of 1×10^{-3} feet per minute. A cutoff to prevent seepage under the dikes is planned to prevent relatively high water losses and avoid seepage and saturation of the landward areas. A slurry trench cutoff will be constructed from the top of the gravels to the top of the underlying basalt rock, a depth of about 20 to 25 feet.

Slurry trench cutoffs were first used under the McNary Levees at Pasco-Kennewick on the Columbia in 1958. A cut-off through 80 feet of erratic deposits of sand, gravel, cobbles, and openwork gravel was constructed at Wanapum Dam in the early 60's. Slurry trench cutoffs were also successfully used at Lewiston Levees in Idaho and at a levee constructed on a gravel bar adjacent to the Willamette River for protection of a major fish hatchery in connection with Hills Creek Dam in Oregon.

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The tench excavation for the Gem State project could best be made with a backhoe. The trench is held open during excavation with a slurry mixture of bentonite clay. Bentonite is a very fine, swelling, colloidal clay, and the slurry has a specific gravity of 1.2 to as high as 1.8. The heavy fluid tries to penetrate into the gravel walls until it forms a seal adjacent to the sidewalls by gellation of the colloidal clay. Some advocates of slurry trench construction believe the sidewall seals are sufficiently watertight for a cutoff regardless of what material is used for backfill of the trench.

The trench backfill for this project will consist of the sandy gravel, previously removed from the trench, to which has been added a wet slurry of bentonite. The mixture resembles a very wet, high slump concrete mix. The backfill progresses from one end of the trench to the other, following excavation as close as practical.

A small percentage of bentonite clay, in the order of 2 percent, added to the sandy gravel will provide a very tight mixture with a permeability ratio not over 1×10^{-7} feet per minute. Sandy silt may also be added if the percentage of fines in the natural gravels is less than desirable.

An impervious zone in the dike will connect to the top of the cutoff trench. The impervious zone will be made of sandy silts, well compacted at a water content above optimum and have a permeability ratio of not over 1×10^{-6} feet per minute.

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The slurry trench cutoff eliminates all worry of water seepage through the gravels underneath the dikes. However, the permeability of the gravels is important for estimating the water loss from the existing irrigation canals. The permeability of the well graded, sandy gravels is estimated to be in the order of 1×10^{-3} feet per minute.

The basalt rock beneath the gravel is of large columnar pattern with vertical orientation. The core recovered during drilling operations was frequently of 5 feet length in one piece. Practically no core loss was experienced. As a general rule, the vertical permeability is larger than the horizontal permeability for columnar rock formations.

Based on experience gained from pressure testing basalt rock formations for several dam projects, it is estimated that a permeability ratio applicable to estimating leakage through this rock would be in the order of 1×10^{-4} feet per minute.

Considering the worst case that might be encountered such as a pervious flow contact, water loss estimates for the Gem State project have also been computed for a worse case permeability within the basalt rock of 1×10^{-3} feet per minute.

A sandy silt interbed at a depth of 50 to 55 feet, having a thickness of 2 to 12 feet and averaging about 5 feet will form an impervious barrier to seepage below. The sandy silt interbed is estimated to have a permeability of not more than 1×10^{-6} feet per minute.

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A summary of the computed water loss quantities is shown in the following tabulations:

GEM STATE HYDROELECTRIC PROJECT
WATER LOSS ESTIMATE SUMMARY

Zone of Loss	Estimate based on Best Conservative Values	Estimate based on Worst Values
Loss through slurry cutoffs	< 6.3 ac-ft/yr	6.3 ac-ft/yr
Loss through rock below slurry cutoff	< 825 ac-ft/yr	4,200 ac-ft/yr
Loss through sa. silt interbed	< 612 ac-ft/yr	612 ac-ft/yr
Totals for project	< 1,440 ac-ft/yr	4,820 ac-ft/yr

WATER LOSS FROM IRRIGATION CANALS FOR 6-MONTHS
OPERATION BEFORE CONSTRUCTION OF
GEM STATE HYDROELECTRIC PROJECT

Canal	Total Loss	Return to River	Net Loss
Snake River Valley Irrigation Co. (Lt. Bank)	1,300 ac-ft	640 ac-ft	660 ac-ft
Woodville Canal (Rt. Bank)	62 ac-ft	30 ac-ft	32 ac-ft
Totals for both canals	1,360 ac-ft	670 ac-ft	690 ac-ft

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The computations for the Gem State project including the dikes on both sides of the river and the powerhouse dike indicate a best estimate using the most reasonable but conservative values is a water loss estimate of less than 1,440 acre-feet per year. Less than 1 percent of the loss is through the slurry trench cutoffs; about 57 percent is through the basalt rock and 42 percent is through the sandy silt interbed.

A comparison of the project water loss to the total annual loss from irrigation canals now operating indicates that the amounts are nearly equal. However, about half of the loss from the irrigation canals returns to the river, so the net loss is about half that for the project. Part of the loss from the project also returns to the river, but the quantity is difficult to estimate.

For the very unlikely event that the worst case resulting from a permeability in the rock foundation that is about the same as that for the gravel, the computed water loss for the project would be 4,820 acre-feet per year, about 3 times the best estimate. Water losses from the existing canals are more likely to be affected by anomalies in the gravel foundation. Such conditions will not contribute to water loss for the project because of the slurry trench cutoffs.

Robert J. Rogers

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3-16-82
IDAHO FALLS

My name is Dennis J Hjelm. My address is Box 646, Basalt, Idaho 83218. I have lived in the Firth, Basalt area all of my life. I have been employed by the Snake River Valley Irrigation District for the past 12 years. I have been the manager for the past 8 years.

In behalf of the Snake River Valley Irrigation District I would like to present the following facts for consideration.

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objector

The City of Idaho Falls has proposed to build a dam, and a reservoir on the Snake River, to be located in Bonneville County, approximatly 2 1/2 miles north of Shelley, Idaho. They have applied for a non-consumptive water permit of 5,000 CFS from the Idaho Department of Water Resources. They have also applied for a FERC permit for producing hydro power at the site.

If this dam is constructed, the reservoir will have a surface area of over 300 acres, and will have a depth of upwards of 45 feet. (A)

FACTS TO CONSIDER

1. Evaporation on a 300 acre body of water at the proposed site would have amounted to a loss of 60 acre feet of water per day during July and August 1981. Although lesser amounts would have been lost during June and September, it is conceivable to have had a loss of over 5,000 acre feet of water during a comparable year. This would be a significant loss; especially during a short water year, such as 1977.

2. According to the Soil Conservation Soil Manuals of both Bingham and Bonneville counties, the soil of the proposed site has a possible permibility rate of 2 inches plus per hour. 2 inches per hour per 24 hours equals a loss of 48 inches, or 4 feet per 24 hours. Therefore, it is very conceivable that a body of water 1 acre in surface area, built on the proposed reservoir site could have a permibility loss of 4 acre feet of water per day. If a body of water 1 acre in surface area has a potential permibility loss of 4 acre feet of water per day then a body of water of 300 acres of surface area could have

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(A) This is an increase of over 200 acres from the present surface area of the river.

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a potential loss of 1200 acre feet of water per day; (438,000 acre fee per year), 1,200 acre feet equals 600 CFS, which would amount to 10%-25% of the flow of the river.

3. According to an article in the Idaho Falls Post Register, Oct. 13 1981 pg. A-6; "A lake developed near Teton City when the South Fork of the Teton River washed through its banks and filled an ajoining gravel pit. The newly formed lake is approximately 20 feet deep, and has a surface area of about 20 acres. Because of seepage and/or evaporation the loss of water to down stream water users on the Teton River, due to the impoundment of their water in said lake amounted to 35 CFS, or 70 acre of water per day. At this rate, 70 acre feet of loss divided by 20 acres equals 3.5 acre feet of loss per acre per day.

(This loss was calculated by Mr. Ron Carlson and his staff of the Department of Water Resourses of Idaho Falls.)

4. From approximatley June 1-15 to October 1-15 of each year all water passing Idaho Falls, which would be impounded by their proposed "Gem State Hydro Dam" belongs to a water user, or a water user entity, down stream between Idaho Falls, Idaho and Blackfoot, Idaho, either as decreed water; or as stored water; which has been released from up stream storage to fill the needs of the said water users and entities.

5. While the evaporation loss (item 1) would be a permanent loss, the loss by seepage (item 2) could possibly be reclaimed in 1 of 3 ways.

A. Some of the water could return to the Snake River above American Falls, through springs such as at Springfield. But how much?

B. Some of the water could return to the Snake River below American Falls, through springs such as the Thousand Springs at

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Hagerman. Again how much?

C. Some of the lost water would undoubtedly seep into the Snake River Aquifer. Here again, how much?

Regardless of the method of reclaiming the water which would be lost through permibility at the proposed "Gem State Hydro Dam"; the extraction of said water through seepage at said dam site, would be a direct loss to all water users and water user entities between Idaho Falls, Idaho and Blackfoot, Idaho.

6. If through the impoundment of the waters of the Snake River at the proposed "Gem State Hydro Dam", there was a loss of at least 600 CFS per day; and because of the impoundment and associated seepage between Oct.1-15 and June 1-15, could this loss of natural flow in the river possibly affect the filling of the American Falls Reservoir, and thereby affect the storage rights of space holders in said reservoir; especially in a short water year?

Furthermore, if American Falls Reservoir should fail to fill, then it has a direct bearing on the filling of the Palisades Reservoir; because American Falls has first rights to fill, thereby affecting the storage rights of space holders in the Palisades Reservoir, also. (B)

7. The City of Idaho Falls does not have a consumptive water permit (of any value). They have applied for a non-consumtive water permit of 5,000 CFS (and are in the process of applying for an additional 2,000 CFS) for the purpose of producing hydro power at the proposed Gem State site.

But if through the impoundment of said waters at the said site, evaporation and seepage losses do occur, does this not become a consumptive use of water?

8. If the proposed Gem State Hydro Dam and Reservoir were allowed to be constructed, and losses of water in any amount to any water user did

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(B) Actually this also would affect the filling of all up stream storage rights in Island Park and Jackson as well.

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occur, would not that be an unlawful infringement upon the existing water rights of any and all water rights so affected?

9. (A) The City of Idaho Falls has also applied for another water right of 7,000 CFS for another Hydro power site to be located on the Snake River west of Shelley, Idaho. (B) The City of Shelley is working with the Corps of Engineers on a hydro power dam site to be located between Shelley, Idaho and Firth,Idaho. (C) The soil composition of these sites are the same as those of the Gem State site, and therefore could have the same permibility rate as it does.

10. The interruption of water flow by the impoundment of said waters at any of these proposed sites, or any others between Blackfoot and Idaho Falls would be an infringment of existing water rights and a violation of existing water laws and codes.

Examples:

42-105 Use of Natural Channels (item) Interruption of flow

42-106 Priority (item) Diversion by subsequent appropriator
(item) Protection of right

Sec. 18-4301 Interference with Ditches, Canals, and Reservoirs. (the placement of any obstruction to the free flow of water)

Sec. 18-4304 Wrongful Diversion of Water

Sec. 18-4305 Interference with Headgates etc. (any obstruction placed in any stream, which retards or impedes the flow of water)

Sec. 18-4310 Interference with Delivery (any person who shall prevent or interfere with the proper delivery of water to persons having a right thereto)

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When you speak of solid bedrock along this stretch of the river, I wonder if there is such a thing. There is a lava (or basalt) rock formation underlying the area, the depth of which can vary from on top of the surface to over a hundred feet below, and can change drastically in a vertical line within a few feet. It also contains large fissures or openings, some of which have been filled in or filled over with soil and other matter over the years. These fillings were taken care of by mother nature over a course of the past thousand years, and therefore, they (the fillings of these fissures) were not necessarly of the best type of material, and they were not compacted in any manner. As the fillings become saturated with water, it is not uncommon for these to blow out, causing a type of sinkhole capable of consuming varying amounts of water. More than one farmer in the area (between Idaho Falls and Blackfoot on the west side of the river) has been known to lose an entire ditch of water into such a sinkhole over night. Some of these ditches were capable of carrying upwards of a thousand inches of water, and so were the sinkholes. Both the New Sweden Irrigation Distrist and the New Lavaside Canal Company have experienced similar problems in their canals nd canal system through the years.

I lived and farmed in this area north-west of Firth until 1978, and I know these facts to be true from personal experience.

Also the New Sweden Irrigation District constructed a reservoir next to our family farm in the 1940's. Through the years sinkholes have developed in this reservoir, that consume more water than the reservoir will store. They have had to section off and abandon portions of this reservoir due

to these large sinkholes.

Is it not possible for similar conditions and problems to exist in the area of the Gem State Hydro Dam and Reservoir?

I have further substantiated this reasoning by conversing with Mr. Lamar Barrus, a well driller who lives at Basalt, Idaho. Through his experience of well drilling in the area, he feels that it would be next to impossible to seal off an area of the size of the Gem State Hydro Reservoir, because of the variation of the ground strata.

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12.

Referring to Idaho Code Section 18-4302. "Wasting Water Used for Irrigation"

There are 15 Canal Companies, Ditch Companies and/or Irrigation Districts between Idaho Falls and Blackfoot who have decreed rights of 274,352 inches of water plus 533,590 acre feet of storage water rights, all of which are recognized as irrigation water rights, and all of which would have to pass through and/or be impounded by the Gem State Hydro Reservoir.

If any of this water was caused to be lost through seepage and or evaporation, above and beyond that amount which presently exists, then would not that be considered a "Wasting of Irrigation Water", contrary to Idaho Law. Can the Department Of Water Resources encourage such a waste, when we as a state are being encouraged to conserve our water.

A list of the affected water entities and their water rights amounts is attached.

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Water right (Decreed & Stored)
holders and users of the Snake River, Idaho
Falls to Blackfoot

		decreed inches	CFS	Storage acre feet
1.	Abeerdeen Springfield Canal Co.	74,000	1480	266,244
2.	Blackfoot Irrigation Co.	23,340	467	23,977
3.	Corbett Slough Ditch Co.	12,621	252	11,602
4.	Danskin Ditch Co.	14,247	285	2,350
5.	Forth Hall Irrigation Project	30,799	617	130,831
6.	New Lava Side Ditch Co.	9,020	180	11,750
7.	Nielsen-Hansen Ditch Co.	800	16	0
8.	Parsons Ditch Co.	2,542	51	700
9.	PeoplessCanal & Irrigation Co.	31,210	624	76,435
10.	Riverside Canal Co.	9,235	185	1,500
11.	Trego Ditch Co.	4,355	87	5,251
12.	Watson Slough Ditch & Irrigation Co.	6,107	122	2,350
13.	Wearyrisk Ditch Co.	4,355	88	600
14.	Snake River Valley Irrigation Dist.	43,809	876	91,467
15.	Woodville Canal Co.	7,912	158	15,441
	Total	274,352	5,488	640,498
	Total--minus #14 & #15	222,631	4,454	533,590

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Average flow at Shelley guage station (CFS)

	1976	1977	1978	1979
Jan		4800	2310	5598
Feb		2888	2407	5690
Mar		1976	3655	7685
Apr		3104	8988	8706
May		6111	13500	8712
June		5452	11620	8570
July		5020	7227	5999
Aug		5275	4284	4338
Sep		2310	3499	2924
Oct	3416	1279	2274	
Nov	3551	2098	3511	
Dec	5948	2381	5000	

13. Where as the Jackson, Palisades, Island Park and American Falls reservoirs were constructed to be filled for the purpose of storing supplemental irrigation water and then lowered or emptied to satisfy irrigation needs down stream as needed; the proposed Gem State Hydro Reservoir is designed to be kept full to capacity at all times for the purpose of hydro power production, and could not be drawn down for two reasons: (1) during the irrigation season, April 25 - Nov 25, the heighth would need to be maintained to insure water intake for the Woodville Canal Co. and The Snake River Valley Irrigation District., (2) if it were drawn down at any time there would not be water going thru the penstock and power plant of the Gem State Hydro Plant.

The question is, can the water users, and water user entities of the State of Idaho, who hold existing valid water rights allow these type of facilities to be constructed throughout the State of Idaho, by any entity or individual who has a desire to do such. If we are to protect our rights to the use of the waters of the State of Idaho, as now legally granted, we need to take action now.

We realize and recognize the need and demand for more energy in the future. We whole heartedly support the construction of hydro-plants, when their construction and operations do not infringe on/or otherwise affect existing water rights.

But inasmuch as the hydro power dam, now being considered by the City of Idaho Falls, known as the "Gem State Power Site" would if completed, have a definite negative impact upon the rights and privileges of any and all existing water right holders, either individually or collectively, who have existing water rights in the Snake River below the proposed dam site and reservoir, or storage space rights within American Falls and/or Palisades Reservoirs.

Therefore, in order to protect our water rights as now legally constituted, we the Board of Directors and manager of the Snake River Valley Irrigation District do hereby urge and request of the Idaho Department of Water Resources, to deny the water application permit "01-7018.

Carlos S. Nielson

Keith L Nickerson

Gerald Hanson

Dennis J Hjelm

3-16-82 IDAHO FALLS

Information Hearing Application # 01-7018
City of Idaho Falls

DWR,

Ken Dunn 01-7051
Ernie Carlson Utah Power & Light

01-7059
Snake River Valley I. D.

Kent Foster
Mayor Campbell
Steve Harrison
Sevry Eggleston
Robert Pope
" Gordon (U.P. UP&L)

Mayor Campbell
Replace water for prior rights
25% energy to UP&L

Steve Harrison
(3) 1,000 yr flood w/ 5 foot free board
(5) 7,000 cfs discharge
(9) 46 acres acquired ≈ 50% of needed property
Advertised for bids
Kent Foster - difference in discharge will not
UP&L right

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Application	Feasibility Report
5000 cfs	6,000 cfs
Diversion structure 20' head	37' 2,000' power Canal 7,500' dike right bank 10,000 " left bank
7-8 MW	15.2 - 19.6 MW
	FERC App 5000 A.F Storage

1. Seepage losses - existing water rights

2. Water right application for 6k cfs total

HOW 3. 270 AF Evap loss to be made up how?

HOW 4 Seepage loss 750 AF - 4130 AF

I.F. 5. Financing of project - Bonds?

6. Run off during spring from land adjacent to dike

7. Design of SRVID intake structure to function if reservoir is drawndown.

Summarize -

Legal issues

Brockway Statement

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SRVID

Carlos
Mr. Nelson Pres SRVID

Water in ~~river~~ during season are all decreed or licensed.

Impact on system not known at time of application 791 - 789 runs mile - ≈ 3 miles

Water taken from top of reservoir.

City will take over property of District.

* Run off from land during spring

43-205 (3) would control

Storage would be last on system

Water for SRVID if reservoir is drawn down

Ralph Heston - New Sweden

New ~~Set~~ Sweden losses were ≈10% during July & August - New Sweden 1906

Raymond R Underwood - J.U.B.

Bank storage can occur

Environmental aspects including min flows

Sewage treatment plants effluent to be used as make up for seepage.

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Foster —

answer to questions —

City has permit from sewage treatment plant.
1980 priority for make up water

City has 1600 AC of land within I.D. (airport, parks etc.)

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Jerry Eggleston
Evap. losses - 270 AF increase

Robert Pope
Water loss by seepage -
Slurry trench to avoid saturation of adjacent farmland

Seepage	1440	4820
	-690	690
	750 AF/yr	4130 AF/yr

Larry Felton -

Robert Gordon V.P. UP&L
Negotiating an agreement for 25% of system output. Principal issues have been resolved
Lease real property assign application
25% would be available to UP&L in summer

Kent Foster - Will submit legal issues

W.J. Anderson - Council
Feasibility of project with UP&L agreement.

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6-8-82

01-7018 City of Idaho Falls

Gem State Site
H = 40'
305 Ac reservoir 4 mi long
Reservoir El 4655
Dikes 4660 1000 yr flood

R.J. Pope testimony 3-11-82
Seepage losses
permiability gravels 1×10^{-3} ft/min
dike construction - cut off, slurry trench
slurry trench backfill - sandy gravel bentonite

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1-16-82
IDAHO FALLS

Statement of Slem Harrison

GEM STATE SITE

PROJECT DESCRIPTION

1) 40 ft. earth fill dam with concrete spillway.

2) Creation of 305 acre pond about 4 miles long.

3) Pond elevation at 4,655 - dikes at 4,660 will handle a 1,000 year flood.

4) A 3,300 ft. long power channel to powerhouse is contemplated.

5) The 22.3 MW turbine will discharge 7,000 cfs under 41.4 ft. head.

6) A 3.75 miles 44 kV transmission line will interconnect with the City's 44 kV system.

7) Energy production average water year 125,000,000 KWH about 1/4 of City's present requirements.

8) We expect to sell Utah Power & Light about 1/4 of annual production and BPA the remainder.

9) BPA sales will be suspended when economics dictate.

10) Capital costs will be in the $90,000,000 range and includes about 20,000,000 in capitalized reserves. Construction costs are expected to be in the 50-55 million range.

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Applicant

GEM STATE PROJECT

INFORMATION FOR WATER RIGHT HEARING

Tuesday - March 16, 1982

		Date Applied Or Started	Date Granted or Completed
1.	State Water Right Permit (IDWR #01-7018)	3/17/78	-
2.	FERC Preliminary Permit	8/21/79	11/13/79 (Accepted for Filing) 3/25/80 (Issued Permit)
3.	Sewage Treatment Water Right	1/80	4/29/80
4.	Feasibility Report		2/81
5.	Property Owner Hearing	3/12/81	
6.	Corps of Engineer Permit	6/8/81 2/19/82	8/26/81 3/2/82 (Renewed)
7.	Property Appraisals	7/15/81	9/81
8.	License Application	9/3/81	1/19/82 (Accepted for Filing)
9.	Property Purchases Authorized	9/10/81	Approximately 46 acres acquired to date

10. Utah Power & Light property negotiations is proceeding.

MICROFILMED

March 30, 1982

Kent Foster
P. O. Box 129
Idaho Falls, ID 83401

Dear Mr. Foster:

RE: Water Right No. 01-7013

As you requested enclosed are copies of written testimony submitted at the March 26, 1982 hearing in Idaho Falls by:

1. Carlos Nielson
2. Raymond Underwood
3. Dennis J. Ajelm

Sincerely,

A. KENNETH DUNN
Director

AKD:alw
Encls.

cc: W. J. Anderson

April 1, 1982

CERTIFIED MAIL

Mr. Kent Foster
P. O. Box 129
Idaho Falls, ID 83401

Dear Mr. Foster:

RE: Water Right No. 01-7018 - City of Idaho Falls

Enclosed is a copy of testimony submitted by C. J. Freeboy in behalf of the Snake River Valley Irrigation District.

Please prepare any response you have within the agreed time set at the hearing.

Sincerely,

A. KENNETH DUNN
Director

AKD:alw
Enc.

Name	Representing	Statement
B. N. RINEHART	—	—
Dave Prowde	Ktee	
GLEN A. MORTENSEN	—	—
Bill Powell	KUPI	
— Steve Harrison	City of IF	yes ✓
— Tom Campbell	city of IF	yes ✓
R J Rhees	Utah Power	—
Judy L. Williams	Utah Power	—
— Robert Gordon	" "	yes ✓
Dale Rockwood	Committee of Nine	
Reed Hansen	"	
X Jeff Paine	City of Idaho Falls	No
Larry E. Felton	" " " "	"
Kent [illegible]	City of Idaho Falls	yes
[illegible]	New Area Side Car	—
Dennis J Hyde	SRVID	yes ✓
Ralph [illegible] Heston		yes ✓
Gerald A Hansen	SRVIA	
Keith Nickerson	S.R. Irrigation	
— Carlos Nielson	Snake River irri Dist	yes ✓
Raymond L. (Ron) Underwood	J-U-B Engineers Inc.	yes ✓
W J Anderson	attorney Snake River Valley Irr.	yes
BOB MOONEY	CITY OF IDA FALLS	No
Wayne Wolfe	" "	No
Donald F. Lloyd	—	No
ANNE BURKE	POST REGISTER	NO
— Robert J. Pyne	CH2M	YES ✓
— Jerry Eggleston	CH2M Hill for Idaho Falls	yes ✓

MICROFILMED

ACCEPTANCE OF REGISTERED, INSURED, C.O.D. AND CERTIFIED MAIL

NAME AND ADDRESS OF SENDER: Department of Water Resources
Statehouse

Indicate type of mail
- ☐ Registered
- ☐ Insured
- ☐ COD
- ☒ Certified

I certify that we have
- ☐ Commercial Insurance
- ☐ A deductible clause of $

Affix stamp here if issued as certificate of mailing or for additional copies of this bill.
POSTMARK AND DATE OF RECEIPT

LINE	NUMBER OF ARTICLE	NAME OF ADDRESSEE, STREET, AND POST-OFFICE ADDRESS	POSTAGE	FEE	Handling Charge	Actual Value (If Registered)	DUE SENDER IF C.O.D.	R. R. FEE	S.D. FEE	S. H. FEE	REST. DEL. FEE / REMARKS
1	138725	Mr. Kent Foster	20	75							01-7018
2		P. O. Box 129									
3		Idaho Falls, ID 83401									
4											
5											
6											
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11											
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14											
15											

TOTAL NUMBER OF PIECES LISTED BY SENDER	TOTAL NUMBER OF PIECES RECEIVED AT POST OFFICE	*POSTMASTER, PER (Name of receiving employee)*
1	1	4/1/82

The full declaration of value is required on all domestic and international registered mail. Commercial Insurance—Payment of the full registry fee is required on articles valued up to $1,000 or the full amount of the deductible if the deductible exceeds $1,000. The maximum indemnity payable is $25,000 for registered mail, $400 for COD and $400 for insured mail. Special handling charges apply only to third- and fourth-class parcels. Special delivery service also includes special handling service.

PS Form 3877, Sept. 1979

alw

FORM MUST BE COMPLETED BY TYPEWRITER, INK OR BALL POINT PEN

☆ U.S. GOVERNMENT PRINTING OFFICE: 1979-301-994

February 19, 1982

Snake River Valley Irrigation District
c/o Dennis Hjelm
Box 646
Basalt, ID 83210

Gentlemen:

Re: Application for Permit No. 01-7018
(City of Idaho Falls, Idaho)

The department has scheduled a fact finding hearing on Application No. 01-7018 filed by the City of Idaho Falls. The hearing will be conducted in Idaho Falls on Tuesday, March 16, 1982 in the second floor conference room, State Office Building, Idaho Falls, Idaho at 1:00 p.m.

While you will not be considered a protestant, you will have the opportunity to provide information relative to the issues the director must consider pursuant to Section 42-203, Idaho Code.

Sincerely,

L. GLEN SAXTON
Chief, Operations Bureau

LGS:rf

cc: W. J. Anderson
IDWR -- Eastern Region

February 19, 1982

Utah Power and Light Company
P. O. Box 899
Salt Lake City, UT 84100

Gentlemen:

Re: Application for Permit No. 01-7018
(City of Idaho Falls, Idaho)

The department has scheduled a fact finding hearing on Application No. 01-7018 filed by the City of Idaho Falls. The hearing will be conducted in Idaho Falls on Tuesday, March 16, 1982 in the second floor conference room, State Office Building, Idaho Falls, Idaho at 1:00 p.m.

While you will not be considered a protestant, you will have the opportunity to provide information relative to the issues the director must consider pursuant to Section 42-203, Idaho Code.

Sincerely,

L. GLEN SAXTON
Chief, Operations Bureau

LGS:rf

cc: IDWR -- Eastern Region

February 19, 1982

Idaho Department of Fish and Game
Statehouse Mail
Boise, ID 83720

Gentlemen:

Re: Application for Permit No. 01-7018
(City of Idaho Falls, Idaho)

The department has scheduled a fact finding hearing on Application No. 01-7018 filed by the City of Idaho Falls. The hearing will be conducted in Idaho Falls on Tuesday, March 16, 1982 in the second floor conference room, State Office Building, Idaho Falls, Idaho at 1:00 p.m.

While you will not be considered a protestant, you will have the opportunity to provide information relative to the issues the director must consider pursuant to Section 42-203, Idaho Code.

Sincerely,

L. GLEN SAXTON
Chief, Operations Bureau

LGS:rf

cc: IDWR -- Eastern Region

February 19, 1982

Idaho Department of Fish and Game
1515 Lincoln Road
Idaho Falls, ID 83401

Gentlemen:

Re: Application for Permit No. 01-7018
(City of Idaho Falls, Idaho)

The department has scheduled a fact finding hearing on Application No. 01-7018 filed by the City of Idaho Falls. The hearing will be conducted in Idaho Falls on Tuesday, March 16, 1982 in the second floor conference room, State Office Building, Idaho Falls, Idaho at 1:00 p.m.

While you will not be considered a protestant, you will have the opportunity to provide information relative to the issues the director must consider pursuant to Section 42-203, Idaho Code.

Sincerely,

L. GLEN SAXTON
Chief, Operations Bureau

LGS:rf

cc: IDWR -- Eastern Region

February 19, 1982

G. S. Harrison
City of Idaho Falls
P. O. Box 220
Idaho Falls, ID 83401

Gentlemen:

Re: Application for Permit No. 01-7013
(City of Idaho Falls, Idaho)

The department has scheduled a fact finding hearing in connection with the above referenced water right application for permit in Idaho Falls on Tuesday, March 16, 1982 in the second floor conference room, State Office Building, 150 Shoup, Idaho Falls, Idaho at 1:00 p.m.

Notice of the fact finding hearing has been sent to several other interested parties. Those parties cannot be considered by the department as protestants, but will be provided the opportunity to present information relative to the issues in Section 42-203, Idaho Code which the director must consider.

Sincerely,

L. GLEN SAXTON
Chief, Operations Bureau

LGS:rf

cc: IDWR -- Eastern Region
Utah Power and Light Company
Snake River Valley Irrigation District
Idaho Department of Fish and Game, Boise and Idaho Falls

WATER RIGHT NUMBER 01-7018

OWNER LAST NAME - CITY OF IDAHO FALLS FIRST NAME - ORIG OWNER -
ADDRESS LINE 1 - C/O G.S. HARRISON ADDRESS LINE 2 - P.O. BOX 220
ADDRESS LINE 3 - CITY - IDAHO FALLS STATE - ID ZIP CODE - 83401
SOURCE - SNAKE RIVER TRIBUTARY OF - COLUMBIA RIVER
STAGE - APPLICATION STATUS - PRIORITY - 03-17-1978 COUNTY - BONNEVILLE TOTAL DIV. RATE - 5000.0000 -CFS
TOTAL DIV. VOLUME - .00 AFA TRFR/AMEND - WATER DIST. - DLE/CAREY ACT - RIGHT BASIS -
DIVERSION POINT - NWNW 15 01N 37E LOT REDIV - 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
FROM - 01-01 TO - 12-31 USE - POWER USE DIV. RATE - 5000.0000 CFS USE DIV. VOLUME - .00 AFA
USE - POWER PLACE OF USE - TWN 01N RNG 37E SEC 15 TRACT NWNW LOT AC
DECREE NAME - DATE - TOTAL ACRES 0
REMARKS -
NON IRRIG USE -
OTHER RIGHTS FOR SAME USE -
PROOF DUE - PERMIT/DENIED - PROTESTED - HEARING - OLD NO. -
PROOF MADE - FLD EXAM - COND. OF APPROVAL -
DIVERSION MEANS - CONCRETE STRUCTURE TO PROVIDE HEAD OF ABOUT 20 FT.

CITY OF IDAHO FALLS
P.O. BOX 220
IDAHO FALLS, IDAHO 83401

ELECTRIC DIVISION

Department of Water Resources

(208) 529-1430

RECEIVED
JAN 18 1982

January 15, 1982

Set for Thurs 18th 1:00 Id. Falls

01-7018

Mr. Kenneth Dunn, Director
State of Idaho
Department of Water Resources
450 W. State Street
Statehouse
Boise, Idaho 83720

Re: Water Right Application for the Gem State Hydroelectric Project

Dear Mr. Dunn:

The City of Idaho Falls continues to feel that the late filing by the Snake River Valley Irrigation District opposing the referenced water right application has no standing. The City however, will welcome a hearing on the water right application to resolve any questions the director may have regarding the application.

Scheduling of such a hearing at your earliest opportunity would be appreciated to allow timely resolution of this matter.

Sincerely,

ELECTRIC LIGHT DIVISION

G. S. HARRISON
MANAGER

GSH/307/sw

cc: Miles Bubenik
Jeff Paine
Dale Storer
Art Smith
Kent Foster
Bob Mooney

MICROFILMED

CITY OF IDAHO FALLS
P.O. BOX 220
IDAHO FALLS, IDAHO 83401

ELECTRIC LIGHT DIVISION

Mr. Kenneth Dunn, Director
State of Idaho
Department of Water Resources
450 W. State Street
Statehouse
Boise, ID 83720

MICROFILMED

State of Idaho
DEPARTMENT OF WATER RESOURCES
STATE OFFICE, 450 W. State Street, Boise, Idaho

JOHN V. EVANS
Governor

A. KENNETH DUNN
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 334-4440

October 26, 1981

W. J. Anderson
SHARP, ANDERSON, BUSH & NELSON
490 Memorial Drive
Idaho Falls, ID 83401

Dear Mr. Anderson:

RE: Snake River Valley Irrigation District

Your letter of October 16, 1981 has been received protesting issuance of permit on application 01-7018 filed by the city of Idaho Falls. The city's application was filed in March of 1978, and advertised as provided by statutes with a final date for accepting protests on April 10, 1978. I cannot accept your protest at this late date. After carefully reviewing the application, a feasibility report submitted in support of the application and your letter, I plan to hold an informational hearing to insure that I have information to reach a decision as provided by Section 42-203, Idaho Code.

While I cannot offer you a status as a protestant and full party to the proceedings, you will be provided notice of the hearing and given an opportunity to provide information at the hearing relative to the issues to be considered at the hearing as provided in Section 42-203, Idaho Code.

Sincerely,

for A. KENNETH DUNN
Director

AKD:alw

MICROFILMED

State of Idaho
DEPARTMENT OF WATER RESOURCES
STATE OFFICE, 450 W. State Street, Boise, Idaho

JOHN V. EVANS
Governor

A. KENNETH DUNN
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 334-4440

October 26, 1981

The Honorable Thomas Campbell
Mayor of Idaho Falls
308 C Street
P. O. Box 220
Idaho Falls, ID 83401

ATTENTION: G. S. Harrison

Dear Mayor Campbell:

RE: 01-7018

On March 17, 1978 you filed an application for the city to appropriate 5,000 cfs of water from Snake River for a hydropower project at a site known as Gem State. After our preliminary review and processing, you were notified on August 10, 1978 that additional consideration of the application would be delayed until further information was submitted concerning ownership of the project site and project feasibility. The project feasibility report submitted by the city and a letter written by W. J. Anderson on behalf of Snake River Valley Irrigation District raises a number of questions that must be answered prior to final processing of the application.

While I am required by Section 42-203, Idaho Code, to investigate and be informed on specified criteria that control my final determination on your application, it appears to me that an informational hearing is needed to fully address the issues raised in the letter and by the feasibility report. I would summarize these issues as follows:

1. The impact, if any, the proposed project will have on existing rights,

2. Whether the water supply is sufficient for the purposes intended,

3. The impact of the project on the local public interest due to possible effects on fish and wildlife and the visual effect of the dikes proposed,

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4. The financial ability of city to develop the project as proposed,

and as a final issue,

5. Whether the provisions of Section 42-205 concerning the use of existing irrigation facilities is relevant to the proposed project.

A hearing date and location will be set to receive information on these issues in the near future.

A comparison of the project described in the feasibility study to that proposed in the application for water permit indicates that the project has been expanded in size and scope since the filing was made. Although additional water will not be required through the turbines, if the impoundment created will store a significant amount of water it may need to be provided for in the application. Also, because the powerhouse is proposed to be moved downstream into Section 16, the application no longer correctly describes the place of use. You may want to file an amended application or additional applications to fully describe the project prior to a hearing being held. However, an amended application must be readvertised and an opportunity given for protests. An expansion requested on an amended application may also result in the priority of the application being advanced.

Sincerely,

for A. KENNETH DUNN
Director

AKD:alw

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JOHN M. SHARP
W. JOE ANDERSON
EUGENE L. BUSH
DOUGLAS R. NELSON
STEVEN A. GARDNER

LAW OFFICES
SHARP, ANDERSON, BUSH & NELSON
490 MEMORIAL DRIVE
IDAHO FALLS, IDAHO 83401

J. RICHARD SHARP
(1943-1979)

P.O. BOX 158
(208) 522-3001

October 16th, 1981

State of Idaho
Water Resource Board
Statehouse
Boise, Idaho 83720

Re: Snake River Valley Irrigation District

Dear Sirs:

I am writing as attorney for the Snake River Valley Irrigation District in regard to their application before the Board for a permit to appropriate waters of the State of Idaho to generate electrical energy for revenue to improve the diversion and works of the District.

The present diversionary works for the District are located at the north boundary of Section 3, (NE¼), Twn. 1N, R37EBM, with the diversionary dam in the Snake River extending into the adjacent Section 34 to the North.The district has applied for 1500 cfs. to divert through present canals as they may be enlarged and improved, to a location approximately 3 miles downstream to a low head generating facility. The canal of the District runs in close proximity to the river for this distance.

The city of Idaho Falls has applied for a permit to appropriate 5000 cfs. from the Snake River for the purpose of electrical generation. The City's plan calls for the erection of a dam in Snake River at approximately the point the District plans to build its generating facility. The backwaters of the City's dam would extend upstream beyond the District's diversion dam and would flood the District's dam, its diversionary works, and its canal system down to the point of the dam. Construction of the City's dam would also apparently destroy the location of the generating facility for the District.

The application of the City of Idaho Falls is endorsed as received on 3-17-78. The application of the District is endorsed as received on 12-12-80. It is my understanding that the District's application was received before the City received a preliminary permit from FERC.

Idaho Code 42-205 provides a mandate to the Department of Water Resources in issuing permits for power purposes. Sub-paragraph (2)of this code section provides that water cannot be appropriated for hydropower development uses within or using existing man-made

MICROFILMED
RECEIVED
OCT 19 1981
Department of Water Resources

LAW OFFICES
SHARP, ANDERSON, BUSH & NELSON
490 MEMORIAL DRIVE
IDAHO FALLS, IDAHO 83401

JOHN M. SHARP
W. JOE ANDERSON
EUGENE L. BUSH
DOUGLAS R. NELSON
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(1943-1979)

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irrigation facilities without the permission of the owner thereof. The City of Idaho Falls plans to build their generating facility by building a dam,impounding water over a 305 acre area to create a head, and running it through their generators. The backwaters wouldcompletely inundate the diversion dam, the diversion works and approximately three miles of the canal of the District.We submit that this is an attempted appropriationwithin the existing facilities and certainly when they flood the existing facilities they are using them. The City of Idaho Falls did not obtain the permission of the owner of the existing facilities, the Snake River Valley Irrigation District.

Subparagraph (3) of Section 42-205 provides that when competing applications for a permit have been filed prior to the effective date of the act (April 1, 1981, with both the City's and District's having been filed prior thereto) for the additional use for hydropower purposes that would utilize facilities that are owned or controlled by the holder of an existing water permit, license, decree, or established constitutional water usage, the director shall give preference to the application of the owner of the existing rights. Both the application of the City and of the District would utilize the existing facilities of the District and therefore the District must be given preference in its application.

I understand that Utah Power & Light Co. have also filed an application and I believe that the same situation would prevail with their application.

In my opinion there aresufficient facts in your file to justify the denial of the application of the City of Idaho Falls and grant the application to the District. If there is any doubt about it then I believe there should be a hearing held with findings of fact and conclusions to support any order.

We submit further that the application of the City of Idaho Falls should not be granted since the water flow records of the Snake River near Shelley, Idaho show that the water supply itself is insufficient for the purpose for which it is sought to be appropriated, and with the construction of a 305 acre reservoir the evaporation in the summer would be approximately 60 acre feet per day which would further diminish the supply of water. The City of Idaho Falls must pass a general obligation bond issue before it would have sufficient financial resources to complete the work. The bond election has as yet, not been called for and its passage is highly conjectural. The furtherance of the project proposed by the City would conflict with the local public interest, where the local public interest is defined as the affairs of the people in the area directly affected by the proposed use. The local

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LAW OFFICES
SHARP, ANDERSON, BUSH & NELSON
490 MEMORIAL DRIVE
IDAHO FALLS, IDAHO 83401

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EUGENE L. BUSH
DOUGLAS R. NELSON
STEVEN A. GARDNER

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(1943-1979)

P.O. BOX 158
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public interest would be better served for those people living in the area affected by granting the permit to the Snake River Irrigation District. The area residents would then benefitby having revenue produced through the generation of electricity by the District. This would pay for the necessary renovation and improvement of the works and reduce the assessment levy. Further it would benefit the residents living close to the river in the area affected by not having a high dike built in front of their properties to form the reservoir. The properties along the river would not have frontage on the lake but would be hidden behind a high dike and levee necessary to construct the lake.

The reasons given above are given as protests to the granting of the application of the City of Idaho Falls pursuant to the provisions of 42-203 of the Idaho Code. We respectfully request a hearing thereon and to be notified of any and all action proposed or taken.

Sincerely yours,

SHARP, ANDERSON, BUSH & NELSON

W. J. Anderson

WJA:s

MICROFILMED

Power play . . .

A dispute over who will build new plant could become costly

By LESLIE CRIDER
of The News

SHELLEY — If the three groups who want to build a hydropower plant on the Snake River between Shelley and Idaho Falls got together, there wouldn't be any problems.

But that isn't likely to happen. And the conflict could be costly.

Utah Power & Light Co. owns much of the land. But Idaho Falls has the water rights. But the Snake River Valley Irrigation District water users own the canal.

The Idaho Falls and UP&L proposed plants would cost between $75-$90 million and the water users' project, a small plant, would cost $3.5 million.

"We've been willing to negotiate with them (Idaho Falls) to build a joint plant," said Roland "Bud" Rhees, Rexburg division manager for UP&L, in a telephone conversation.

"We figure where we own the acreage and the city would be willing to go in on the project with their water right it would be good on both sides," Rhees added.

But Idaho Falls Mayor Thomas Campbell says the city does not want a joint venture. It doesn't want UP&L as "an equal partner."

"We would like to sell them (UP&L) any extra power we produce during our peak times," Campbell says.

Also, Campbell says there may be legal problems with a non-profit entity, such as the city, going into competition with a private business.

So negotiations, both sides say, are at a standstill.

UP&L can't build a hydropower plant without the water rights. Because Idaho Falls was the first to file for the rights, March 17, 1978, then it has first dibs on the water. UP&L was next by filing April 9, 1980, and the Snake River water users filed last, Dec. 12, 1980.

If Idaho Falls should decide not to build a power plant, then UP&L would be next in line with the water users last.

Idaho Falls also has a permit from the Federal Energy Regulatory Commission to study the feasibility of building a hydropower plant. The FERC permit expired in September, but Idaho Falls has applied for a license. The FERC permit prevents another entity from building a power plant as long as Idaho Falls is looking into the matter. Both the water right and the FERC permit are needed before work can begin.

But Idaho Falls needs the land to build the project, and much of the land is owned by UP&L. And Rhees says UP&L is not interested in selling the land unless the utility can be part owner of the power plant. If it could, UP&L would build a plant similar to the one Idaho Falls wants to build.

Rhees and other state water officials say it's possible the question of ownership will end up in the courts. And that will cost money.

Idaho Falls residents have spent almost a half-million dollars on studies. Jeff Paine, an engineer for the city, says $50,000 came out of the city's Electric Division to help fund a water study for the state. Another $400,000 was spent from "current revenues" to pay for a FERC study.

The hydropower plant, which Campbell says will provide Idaho Falls with one-third of its power needs, will cost millions more each year the project is delayed. If construction begins by 1982, the plant will cost about $75 million. By 1986 the same plant is expected to cost about $90 million. So any legal entanglements will cost the city in legal fees and in construction costs.

The water users present another possible legal webb. They own a canal that will have to be reconstructed if the either Idaho Falls or UP&L build a power plant. And they don't want the canal moved.

Also, the water users would like to build a hydropower plant that would produce an average 3½ megawatts of power compared with the 14.3 average proposed by Idaho Falls.

W. Joe Anderson, legal counselor for the water users, could not be reached for comment, but some state water officials say the water users may try to apply a new state law to the case.

Section 42-205 of the Idaho Code, which was amended this year, says:

"Water cannot be appropriated for hydropower development uses within or using existing man-made irrigation facilities without permission of the owner thereof."

Dennis Hjelm, manager for the water users, says his group is not interested in granting permission to Idaho Falls or UP&L.

Continued . . .

BLACKFOOT NEWS
Blackfoot, Idaho
OCT 2 1981

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Power Play Returns...

The law also says:

"When competing applications for a permit have been filed prior to the effective date (April 1, 1981) of this act for the additional use for hydropower purposes (UP&L and Idaho Falls, for example) that would utilize facilities that are owned or controlled by the holder of an existing water permit, license, degree or established constitutional water usage (the water users, in this case), the director shall give preference to the application of the owner of the existing rights or his agent."

But some people, including state Sen. Israel Merrill and District 1 Watermaster Ron Carlson, say the intention of the law is to protect the irrigators from fly-by-night companies that might want to take water away from the irrigators. The whole matter could be left up to the courts to decide.

The water users have already voted to borrow $25,000 from the Idaho State Department of Water Resources at a low interest rate for a feasibility study. Ron Underwood, area manager for J-U-B Engineers Inc., the Pocatello firm who is doing the study, says the study should take about six months. If all goes well, construction could begin in 1982 and be completed by 1984. That's if all goes well.

Campbell says he expects Idaho Falls residents to vote in a bond election in January or February to pay for the city's plant. The city has not gotten FERC approval for a license yet, something that could take months, but Paine says the longer the city waits, the more expensive the project. But then the city could end up without a place to build the plant.

And if for any reason the Idaho Falls project doesn't go through, UP&L and the water users will be on the side lines waiting to build a hydropower plant.

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copy

State of Idaho
DEPARTMENT OF WATER RESOURCES
STATE OFFICE, 450 W. State Street, Boise, Idaho

JOHN V. EVANS
Governor

A. KENNETH DUNN
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 334-4440

July 24, 1981

RE: Application for Permit No. 01-7018

Dear Applicant:

The 1981 Idaho Legislature made a change in Section 42-205, Idaho Code, that may affect the above referenced application. The change requires that if a proposed hydropower project will use existing irrigation facilities, the approval of the owner of the facilities must be obtained before an application for permit to develop a water right can be approved.

Please find enclosed an affidavit which we must receive before we can complete the review of your application. Please complete the affidavit, sign it before a notary, and return it to this office at your earliest convenience, no later than August 15, 1981.

Sincerely,

David R. Tuthill Jr.

DAVID R. TUTHILL JR., P. E.
Supervisor, Water Allocation Section

DRT:jg

Enclosure

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Form No. 202a
2/79

State of Idaho

Department of Water Resources

APPLICATION FOR PERMIT ANALYSIS SHEET

INITIAL REVIEW BY: Loren Holmes 3-17-80 APPLICATION NUMBER: 01-7018

CHECK:

- ☑ Source.
- ☑ Point of diversion.
- ☑ County.
- ☑ Description of diverting works.
- ☑ Time required for beneficial use of water.
- ☐ Place of use or acres irrigated.
- ☑ Map.
- ☑ Signature.
- ☑ Fee.
- ☐ Yes ☑ No Field check required.
- ☐ Yes ☑ No Critical groundwater area.
- ☐ Yes ☑ No Request dam safety information. Sent by: _____ Date: _____
- ☑ Yes ☐ No* In form to receipt.

Field check by: _____
Date: _____
Comments: _____

1015
460
1465.00

*REQUEST THE FOLLOWING ADDITIONAL INFORMATION FROM THE APPLICANT: _____

SEND COPIES TO:

- ☐ Idaho State Health Department. Copies sent by: _____ Date: _____
- ☐ Idaho Fish and Game Department.
- ☐ Idaho Department of Lands.
- ☐ U.S. Bureau of Land Management.
- ☐ U.S. Forest Service.
- ☐ Other _____

PROCESSING:

- ☐ Yes ☑ No Platted by: _____ Map No. _____
- ☐ Yes ☐ No Other rights on same place of use. See previous staff analysis sheet
- ☑ Yes ☐ No* In form for advertising.
  Final date for protests: _____
- ☐ Yes ☑ No Protests received. If yes, record information on 4th page of application.

FINAL REGIONAL PROCESSING REVIEW:

- ☑ Affidavit of publication received. Date: _____
- ☑ Application published correctly. If not, record action taken: _____
- ☑ Fee amount, receipt date & number, recorded on application.
- ☑ Publication dates and paper, recorded on application.
- ☑ Protests, dates, withdrawal, etc., recorded on application.
- ☐ Recommendation & initial, recorded on application.
- ☑ Yes ☐ No Measuring device required.
- ☐ Yes ☑ No Access port required.
- ☑ Yes ☐ No Will water be delivered by watermaster? If yes, what district? _____

3/17/1978 Date of priority recommended.

Special conditions of approval or cover letter. _____

* THIS PERMIT DOES NOT CONSTITUTE IDAHO PUBLIC UTILITIES COMMISSION OR FEDERAL ENERGY REGALATORY COMMISSION APPROVAL THAT MAY BE REQUIRED.

By: _____ Date: _____

STATE OFFICE REVIEW:

01, 17, 08A, * use above condition

☐ See attached sheet for more information.

By: Jami Date: 9/30/81

MICROFILMED

INTER-DEPARTMENT MEMO — 1

FROM Dave T

DATE Aug 31, 1981

TO Jim

SUBJECT 01-7018

The Ferc prelim permit is said in the letter from Ed Falls to have been approved. Please prepare for signature as soon as the Sec. 42-205 affidavit is received.

Dave

SIGNATURE

ELECTRIC DIVISION

CITY OF IDAHO FALLS

P.O. BOX 220
IDAHO FALLS, IDAHO 83401

(208) 529-1430

Hollingshead
Dave T. DRT
File in 01-7018

May 7, 1981

Mr. Ron Carlson
Department of Water Resources
State Office Building
150 Shoup Avenue
Idaho Falls, Idaho 83401

Re: City of Idaho Falls, Gem State Project

Dear Mr. Carlson:

Please refer to our application #01-7018 on file in your office requesting a permit to appropriate public waters in the amount of 5,000 cfs for power generation at the Gem State Hydroelectric Project, approximately five miles downstream of Idaho Falls, on the Snake River. The Federal Energy Regulatory Commission granted the City a preliminary permit in 1979. This permit gives the City a three year priority on the site to study and determine the feasibility of developing it. Feasibility of the project has been established and the report published and dated February 1981. A copy is enclosed.

The City will file a license application with FERC on about July 1, 1981, with the expectation that a project license will be issued about July 1, 1982. If this schedule is maintained, construction could begin in August of 1982.

In anticipation of the August 1982 construction start, a contract for delivery of turbine-generating equipment must be awarded in August 1981. A year to fifteen months lead time is required for manufacture of equipment.

This letter is to keep your department informed that we are continuing with our efforts to develop this project. The water right referenced above continues to be of great importance to the success of the project. If any further information is required to maintain the active status of this application, please contact me.

Sincerely,

ELECTRIC LIGHT DIVISION

G. S. Harrison

G. S. HARRISON
MANAGER

MICROFILMED

GSH/sp/209

cc: Miles Bubenik, CH2M Hill

CITY OF IDAHO FALLS

P.O. BOX 220
IDAHO FALLS, IDAHO 83401

OFFICE OF: Electric Division

April 12, 1979

RECEIVED
APR 16 1979
Department of Water Resources
Eastern District Office

Mr. William A. Scribner, Chief
Bureau of Navigable Waters
Statehouse, Boise, Idaho 83720

RE: 01-7018
City of Idaho Falls

Dear Mr. Scribner:

The application 01-7018 is for the contemplated development of the Gem State hydro site on the Snake River near the Bingham-Bonneville county line.

The City intends to apply to FERC for a preliminary permit in calendar year 1979. Feasibility studies will determine whether or not the City proceeds with developments.

If you have any questions please call or write this office.

Sincerely,

G. S. Harrison, Manager
Electric Light Division
City of Idaho Falls

lb

cc: Ernest M. Carlsen

MICROFILMED

April 11, 1979

William A. Scribner, Chief
Bureau of Navigable Waters
Department of Lands
Statehouse
Boise, Idaho 83720

Dear Mr. Scribner:

Re: Application for Permit No. 01-7018 - City of Idaho Falls

Pursuant to your letter of March 7, 1979, attached please find a letter addressed to the City of Idaho Falls from L. Glen Saxton, Chief, Operations Bureau of the Department of Water Resources, dated October 10, 1978.

To date, the City of Idaho Falls has not advised the Department of ownership concerning the proposed site or indicated they are going to proceed with the proposed development. We have, therefore, forwarded a copy of your letter to the City of Idaho Falls in care of G. S. Harrison in hopes that he can advise you of the City's intentions.

Respectfully submitted,

ERNEST M. CARLSEN
Water Resource Analyst

EMC:dh

Attachment

MICROFILMED

August 10, 1978

Re: Application for Permit No. 01-7018

City of Idaho Falls
c/o G. S. Harrison
P. O. Box 220
Idaho Falls, ID 83401

Dear Mr. Harrison:

A review of the above referenced application and file indicates that you have filed a declaration of intension with the Federal Energy Regulatory Commission.

The Department would like to have information concerning ownership of the proposed site location. This information apparently was inadvertently not shown on the water right application under item 9.

The application will be held until such time that feasibility information is available and can be submitted to the Department for further consideration of the application.

Please feel free to contact me or Ron Carlson of our Eastern Region in Idaho Falls, if you have further questions regarding this matter.

Sincerely,

L. GLEN SAXTON
Chief, Operations Bureau

LGS;rf

cc: Eastern Region

MICROFILMED

April 11, 1979

City of Idaho Falls
% G. S. Harrison
P. O. Box 220
Idaho Falls, Idaho 83401

Dear Mr. Harrison:

Re: Application for Permit No. 01-7018

Enclosed please find a letter recently received from William A. Scribner, Chief of Bureau of Navigable Waters, Department of Lands. Their letter requests information concerning the City's intentions for Application for Permit No. 01-7018. Since our files do not indicate this information, it is hoped that you will reply to Mr. Scribner's inquiry.

Respectfully submitted,

ERNEST M. CARLSEN
Water Resource Analyst

EMC:dh

Enclosure

MICROFILMED

STATE OF IDAHO

DEPARTMENT OF LANDS
STATEHOUSE, BOISE, IDAHO 83720
GORDON C. TROMBLEY
DIRECTOR

STATE BOARD OF LAND COMMISSIONERS
JOHN V. EVANS
GOVERNOR AND PRESIDENT
PETE T. CENARRUSA
SECRETARY OF STATE
DAVID H. LEROY
ATTORNEY GENERAL
JOE R. WILLIAMS
STATE AUDITOR
JERRY L. EVANS
SUP'T OF PUBLIC INSTRUCTION

March 7, 1979

Department of Water Resources
Eastern District
1515 Lincoln Road
Idaho Falls, ID 83401

RE: 01-7018
City of Idaho Falls

Gentlemen:

Please advise us of the disposition of this case. Does the city plan to proceed with development at this site or have the plans changed to modify the three existing facilities.

Very truly yours,

WILLIAM A. SCRIBNER, Chief
Bureau of Navigable Waters

WAS:bv

cc: Eastern Idaho

RECEIVED
MAR 8 1979
Department of Water Resources
Eastern District Office

MICROFILMED

August 10, 1978

Re: Application for Permit No. 01-7018

City of Idaho Falls
c/o G. S. Harrison
P. O. Box 220
Idaho Falls, ID 83401

Dear Mr. Harrison:

A review of the above referenced application and file indicates that you have filed a declaration of intension with the Federal Energy Regulatory Commission.

The Department would like to have information concerning ownership of the proposed site location. This information apparently was inadvertently not shown on the water right application under item 9.

The application will be held until such time that feasibility information is available and can be submitted to the Department for further consideration of the application.

Please feel free to contact me or Ron Carlson of our Eastern Region in Idaho Falls, if you have further questions regarding this matter.

Sincerely,

L. GLEN SAXTON
Chief, Operations Bureau

LGS;rf

cc: Eastern Region

Mr. L. Glen Saxton

FEDERAL ENERGY REGULATORY COMMISSION

WASHINGTON 20426
OEPR-LP
City of Idaho Falls

JUN 21 1978

RECEIVED

JUN 26 1978

Department of Water Resources

Mr. G. S. Harrison
Manager
Electric Light Division
City of Idaho Falls
P. O. Box 220
Idaho Falls, Idaho 83401

Dear Mr. Harrison:

This will acknowledge receipt of your letter concerning a declaration of intention for a proposed hydroelectric project that the City of Idaho Falls is considering.

Mr. Donald Lees of my staff has advised Mr. Jeff Paine, your chief engineer, of the nature of a declaration of intention (DI) and has pointed out that filing a DI may not be appropriate for the project you have in mind because the Commission has found the portion of the Snake River in question to be navigable and thus subject to its jurisdiction.

We suggest that you ask the Department of Water Resources of the State of Idaho if the filing of a preliminary permit application or an application for license would satisfy their requirements.

Please call Mr. Lees at 202-275-4861 or Mr. William Kopfler of our San Francisco Regional Office at 415-556-0573 if you have any further questions on this matter.

Sincerely,

William W. Lindsay

William W. Lindsay
Director, Office of Electric
Power Regulation

MICROFILMED

May 16, 1978

Re: Permit No. 01-7018 (City of Idaho Falls)

City of Idaho Falls
c/o G. S. Harrison
P.O. Box 220
Idaho Falls, Idaho 83401

Dear Mr. Harrison:

The above referenced application with related correspondence has been forwarded by our Eastern Regional Office for review and final Departmental action.

From a review of the correspondence in the file, it appears that a declaration of intension must be filed with the Federal Energy Regulatory Commission. Please submit evidence to this Department to show that the necessary filing has been done in order that the Department can take final action on the water right filing.

If you have questions regarding this matter, please contact this office.

Sincerely,

L. GLEN SAXTON
Chief, Operations Bureau

LGS:jfr

CONVERTED

STATE OF IDAHO

DEPARTMENT OF FISH AND GAME

REGION 6
1515 LINCOLN ROAD
IDAHO FALLS, IDAHO 83401

March 31, 1978

RECEIVED
MAR 31 1978
Department of Water Resources
Eastern District Office

Mr. Ronald D. Carlson
Supervisor, Eastern Region
Idaho Department of Water Resources
1515 Lincoln Road
Idaho Falls, Idaho 83401

Re: 01-7018
City of Idaho Falls

Dear Ron:

The Department of Fish and Game has an agreement with Utah Power and Light Company to develop and administer a 26 acre access site at the proposed location of this structure.

Being as Utah Power and Light Company does own the property, I assume the City of Idaho Falls has received prior permission from Utah Power to develop an electrical power generation plant. In any case, our agreement can be terminated with six months notice.

Sincerely,

DEPARTMENT OF FISH AND GAME
Joseph C. Greenley, Director

Tom Reinecker
Regional Supervisor
Region 6

cc: Bureau of Fisheries
Bureau of Program Coordination
Paul Jeppson
Howard Kaster

MICROFILMED

FEDERAL ENERGY REGULATORY COMMISSION
REGIONAL OFFICE
555 Battery Street, Room 415
San Francisco, California 94111

RECEIVED
MAR 27 1978
Department of Water Resources
Eastern District Office

March 23, 1978

Mr. Ronald D. Carlson
Supervisor, Eastern Region
State of Idaho
Department of Water Resources
1515 Lincoln Road
Idaho Falls, ID 83401

Dear Mr. Carlson:

Thank you for your letter of March 17, 1978, advising us of an Application for Permit No. 01-7018 filed on March 17, 1978, by the City of Idaho Falls, Idaho, for a permit to divert water from the Snake River for power purposes.

On the basis of the limited information contained in the application, it appears that the proposed project may require a license from the Federal Energy Regulatory Commission. In any event, Section 23(b) of the Federal Power Act (16 U.S.C. 817) requires that the proponent of a project file a declaration of intention with the Commission before undertaking construction. Upon receipt of the declaration of intention the Commission will instigate an investigation to determine if navigation or the interests of interstate or foreign commerce would be affected by the proposed project and if an application for license should be filed.

The City of Idaho Falls is being informed by separate correspondence of the action which should be taken with the Commission regarding licensing of the proposed project.

Very truly yours,

Eugene Neblett
Regional Engineer

MICROFILMED

FEDERAL ENERGY REGULATORY COMMISSION
REGIONAL OFFICE
555 Battery Street, Room 415
San Francisco, California 94111

RECEIVED
MAR 27 1978
Department of Water Resources
Eastern District Office

March 23, 1978

COPY

Mr. G. S. Harrison
City of Idaho Falls
P. O. Box 220
Idaho Falls, ID 83401

Dear Mr. Harrison:

The State of Idaho, Department of Water Resources, has furnished us a copy of Application No. 01-7018 by which you seek a permit to divert 5,000 cfs of water from the Snake River for the purpose of developing hydroelectric power.

From information provided in the application it appears that you should apply for a license from the Federal Energy Regulatory Commission to construct, operate, and maintain the proposed project. Even if you question the Commission's licensing jurisdiction, you are required by Section 23(b)of the Federal Power Act (16 U.S.C. 817) to file a declaration of intention with the Commission before construction. Upon the filing of a declaration of intention the Commission will instigate an investigation to determine if navigation or the interests of interstate or foreign commerce would be affected by the proposed project and if a license is required.

We note that the proposed project would have a capacity estimated at 7-8 megawatts. This would be classified as a major project and would require an application filing similar to that you recently submitted for the Upper, City, and Lower Plants in Idaho Falls.

If you have any question regarding this matter, please contact us. Our telephone number is (415) 556-0573.

Very truly yours,

EUGENE NEBLETT

Eugene Neblett
Regional Engineer

cc: Mr. Ronald D. Carlson
Supervisor, Eastern Region
State of Idaho, DWR

MICROFILMED

STATE OF IDAHO

DEPARTMENT OF LANDS

STATEHOUSE, BOISE, IDAHO 83720

GORDON C. TROMBLEY
DIRECTOR

STATE BOARD OF LAND COMMISSIONERS
JOHN V. EVANS
GOVERNOR AND PRESIDENT
PETE T. CENARRUSA
SECRETARY OF STATE
WAYNE L. KIDWELL
ATTORNEY GENERAL
JOE R. WILLIAMS
STATE AUDITOR
ROY TRUBY
SUPT OF PUBLIC INSTRUCTION

23 March 1978

RECEIVED
MAR 27 1978
Department of Water Resources
Eastern District Office

Ronald D. Carlson
Department of Water Resources
Eastern Region
1515 Lincoln Road
Idaho Falls, ID 83401

Dear Ron: RE: 01-7018 - City of Idaho Falls

The work proposed in the above-numbered diversion application will effect a navigable stream. An easement will be required from the Department of Lands for the installation proposed.

The applicant has been advised of this Department's requirements. Please show that: (1) Your authorization constitutes a permit from the Department of Lands and, (2) An easement will be required from the Department of Lands for the installation of the concrete structure in the Snake River.

Very truly yours,

DIVISION OF EARTH RESOURCES

William A. Scribner
WILLIAM A. SCRIBNER, Chief
Bureau of Navigable Waters

WAS:ph

cc: Bureau of Lands
Eastern Idaho Area

MICROFILMED

EQUAL OPPORTUNITY EMPLOYER

Department of Energy
Bonneville Power Administration
Idaho Falls District Office
P.O. Box 2558
Idaho Falls, Idaho 83401

RECEIVED
MAR 23 1978
Department of Water Resources
Eastern District Office

In reply refer to: OWI

March 22, 1978

Ronald D. Carlson, Supervisor
Eastern Region
State of Idaho Department of Water Resources
1315 Lincoln Road
Idaho Falls, Idaho 83401

Dear Mr. Carlson:

Subject: City of Idaho Falls, Application No. 01-7018

Thank you for the opportunity to comment on the City of Idaho Falls' application for water rights associated with a 7 to 8 Megawatt hydro generating site on the Snake River, located in the NW¼, NW¼, Sec. 15, T.1N., R.37E.B.M., Bonneville County, Idaho.

From our observation, it appears that this proposed project would be a redevelopment of a previously abandoned site. It appears to be an excellent site for a low-head bulb turbine installation with minimal environmental effect.

In view of the critical energy situation facing us in the Northwest, and Nation as a whole, we anticipate there will be increasing activity with regard to development of small hydro sites which have not been pursued in the past because of size or feasibility. At present, many of these sites have become economically feasible when compared with the cost of alternate thermal generation.

Subject to the results of engineering, economic, and environmental impact studies, we support approval of the subject application for non-consumptive water rights.

Sincerely yours,

Martin C. Derksema
District Manager

MICROFILMED

March 17, 1978

RE: Application for Permit No. 01-7018 CITY OF IDAHO FALLS

The Post Register
P.O. Box 1800
Idaho Falls, ID 83401

Gentlemen:

Enclosed you will find a legal notice which we wish to have published once a week for two consecutive weekly issues of your newspaper. We have inserted the publication dates allowing time for you to submit us a galley proof for review before publication.

After sending us a galley proof, proceed with the publication on the dates we have inserted, assuming the notice is correct. If we have any corrections, we will notify you before the first publication. If you cannot publish the notice on the proposed dates, please contact us immediately.

An affidavit of publication must be submitted to the Department along with the publication bill.

Very truly yours,

RONALD D. CARLSON
Supervisor
Eastern Region

Bill submitted 4-04-78 by CW

RDC:CD

Enclosure: Legal Notice (1)

RECEIVED

NOTICE OF APPLICATION FOR WATER PERMIT

Notice is hereby given that the City of Idaho Falls, Idaho Falls, Idaho

has on 3-17-78 submitted Application No. 01-7018

for a permit to appropriate 5,000 cubic feet per second XXXXXXXXXXXXXXXXXX acre feet per annum

of water from the Snake River tributary to Columbia River

by means of dam

within the NW¼NW¼, Sec. 15, T. 1N, R. 37E, B.M., Bonneville County;

to be used from Jan. 1 to Dec. 31

for power generation

within the NW¼NW¼, Sec. 15, T. 1N, R. 37E, B.M.

If issued, this permit will be subject to all prior water rights. Protests against the granting of the permit must be filed with the Idaho Department of Water Resources, 1515 Lincoln Road, Idaho Falls, Idaho, 83401 on or before April 10, 1978.

C. STEPHEN ALLRED

Director

Published in the Post Register, Idaho Falls, Idaho

on March 23 and March 30, 1978

MICROFILMED

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
EASTERN REGION

John V. Evans
Governor

C. Stephen Allred
Director

1515 Lincoln Road
Idaho Falls, Idaho 83401
(208) 523-7186

March 17, 1978

RE: Application for Permit No. 01-7018

Federal Energy Regulatory Commission
Bureau of Power
555 Battery Street
Room 415
San Francisco, CA 94111

Gentlemen:

We are enclosing a copy of an application that may be of interest to your agency. Please review the application and if you have any comments, submit them to our Department as soon as possible. The last date of protest is April 10, 1978, and we are required to take final action shortly thereafter.

If we may be of further assistance, please contact us.

Very truly yours,

RONALD D. CARLSON
Supervisor
Eastern Region

RDC:CD

Enclosure

MICROFILMED

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
EASTERN REGION

John V. Evans
Governor

C. Stephen Allred
Director

1515 Lincoln Road
Idaho Falls, Idaho 83401
(208) 523-7186

March 17, 1978

RE: Application for Permit No. 01-7018

Mr. Martin C. Derksema
District Manager
Bonneville Power Administration
Box 2558
Idaho Falls, Idaho 83401

Dear Mr. Derksema:

We are enclosing a copy of an application that may be of interest to your agency. Please review the application and if you have any comments, submit them to our Department as soon as possible. The last date of protest is April 10, 1978, and we are required to take final action shortly thereafter.

If we may be of further assistance, please feel free to contact us.

Very truly yours,

RONALD D. CARLSON
Supervisor
Eastern Region

RDC:CD

Enclosure

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
EASTERN REGION

John V. Evans
Governor

C. Stephen Allred
Director

1515 Lincoln Road
Idaho Falls, Idaho 83401
(208) 523-7186

March 17, 1978

RE: Application for Permit No. 01-7018

William A. Scribner, Chief
Division of Earth Resources
Department of Lands
Statehouse,
Boise, Idaho 83720

Dear Mr. Scribner:

We are enclosing a copy of an application that may be of interes to your agency. Please review the application and if you have any comments, submit them to our Department as soon as possible. The last date of protest is April 10, 1978, and we are required to take final action shortly thereafter.

If we may be of further assistance, please feel free to contact us.

Very truly yours,

RONALD D. CARLSON
Supervisor
Eastern Region

RDC:CD

Enclosure

MICROFILMED

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
EASTERN REGION

John V. Evans
Governor

C. Stephen Allred
Director

1515 Lincoln Road
Idaho Falls, Idaho 83401
(208) 523-7186

March 17, 1978

RE: Application for Permit No. 01-7018

District Engineer
Walla Walla Corps of Engineers
Bldg. 602, City-County Airport
Walla Walla, WA 99362

Gentlemen:

We are enclosing a copy of an application that may be of interest to your agency. Please review the application and if you have any comments, submit them to our Department as soon as possible. The last date of protest is April 10, 1978, and we are required to take final action shortly thereafter.

If we may be of further assistance, please feel free to contact us.

Very truly yours,

RONALD D. CARLSON
Supervisor
Eastern Region

RDC:CD

Enclosure

MICROFILMED

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
EASTERN REGION

John V. Evans
Governor

C. Stephen Allred
Director

1515 Lincoln Road
Idaho Falls, Idaho 83401
(208) 523-7186

March 17, 1978

RE: Application for Permit No. 01-7018 CITY OF IDAHO FALLS

Mr. Tom Reinecker
Regional Supervisor
Department of Fish & Game
1515 Lincoln Road
Idaho Falls, ID 83401

Dear Tom:

We are enclosing a copy of application that may be of interest to your agency. Please review the application and if you have any comments, submit them to our Department as soon as possible. The last date of protest is April 10, 1978, and we are required to take final action shortly thereafter.

If we may be of further assistance, please feel free to contact us.

Very truly yours,

RONALD D. CARLSON
Supervisor
Eastern Region

RDC:CD

Enclosure

MICROFILMED

March 17, 1978

RE: Application for Permit No. 01-7018

City of Idaho Falls
c/o G. S. Harrison
P.O. Box 220
Idaho Falls, ID 83401

Dear Mr. Harrison:

Attached herewith is Departmental receipt No. 9883 in the amount of $1465.00 for the above referenced application.

Very truly yours,

COLLEEN WRAY
Secretary

CW:CD

Attachment

CITY OF IDAHO FALLS

CLAIM

DATE March 16, 1978

TO State of Idaho, Department of Water Resources

For Right-of-Way in the general vicinity of Bonneville-Bingham County line ---------- $1,465.00

I, the undersigned, depose and say that the foregoing account is true and correct, that the services or articles therein mentioned have been furnished and that no part or the same has been allowed or paid or heretofore submitted.

(sign here) _____

MICROFILMED

Vo. No. _____ Wa. No. 4834 Date 3/16/78

Account of STATE OF IDAHO, DEPT. OF WATER RESOURCES

VENDOR NO. 540542

For: Right-of-Way

RECEIVED
MAR 17 1978
Department of Water Resources
Eastern District Office

DISTRIBUTION AS FOLLOWS:

Fund and Code Number	Sub-total	Amount
GENERAL		
STREET		
AIRPORT		
WATER AND SEWER		
ELECTRIC LIGHT 005 510 401 69 01	1,465 00	1,465 00
RECREATION		
CAPITAL IMPROVEMENT		
REVENUE SHARING		
COMMUNITY DEVELOPMENT		
TOTAL		1,465 00

APPROVED

DEPARTMENT OF WATER RESOURCES
- STAFF ANALYSIS -

Item	Initial	Date	
			Application No. _____
			✓ Source
			✓ Point of Diversion
			✓ County
			✓ Quantity of Water and Period of Use
			✓ Description of Diverting Works
			✓ Time required for B/U of water
			✓ Place of Use or Acres Irrigated
			✓ Map
			✓ Signature Period of use & 5-yr time for Completion added Re T.C. w/Steve Harrison
			✓ Fee
(1)	LH	3-17-78	In form to receipt yes
(2)	LH	3-17-78	Send Copies to:
			____ Idaho State Health Department
			✓ Idaho Fish and Game Department
			____ Bureau of Land Management
(3)	LH	3-17-78	✓ WM-01 - Route to Agencies Completed w/Power APPS,
			____ Request Special Use Permit from U.S.F.S.
			____ Request Easement from B.L.M.
			____ Request Information from Applicant
(4)	LH	3-17-78	In form for advertising yes
(5)	____	____	Platted on Map No. _____
(6)	LH	3-17-78	Located within Water District No. 01
(7)	LH	3-17-78	NA Critical groundwater area: yes____ no____
(8)	"	"	NA Groundwater levels:
			____ Declining, ____ Stable, ____ Increasing
			(comment) _____
(9)	LH	3-17-78	Other rights on the same place of use None
(10)	"	"	Comments: Permit 01-2013 (cancelled) is on same site
(11)	CW	4-04-78	Affidavit of Publication received (date) April 4-1978
(12)	CW	____	Final date for protests April 10-1978
			Protests received: yes____ no____
(13)	LH	4-24-78	All requested information received from agencies or applicant: yes ✓ no____
(14)	LH	4-24-78	Action recommended:
			✓ Approve ____ Deny
			3-17-78 Proposed Priority
			____ Reason for Reduction _____
			✓ Measuring device required
			____ See attached sheet for other conditions of approval
			____ No special conditions for approval
(15)	District E		By Loren O Kahler Date 4-24-78

RECEIVED
APR 26 1978
Department of Water Resources

MICROFILMED

Copy Sent

SUPPLEMENT TO THE

SHELLEY HYDROELECTRIC PROJECT

EXHIBIT E

ENVIRONMENTAL STUDY

Prepared for

CITY OF IDAHO FALLS, IDAHO

Prepared by

CH2M HILL
Boise, Idaho

October 1984

MICROFILMED

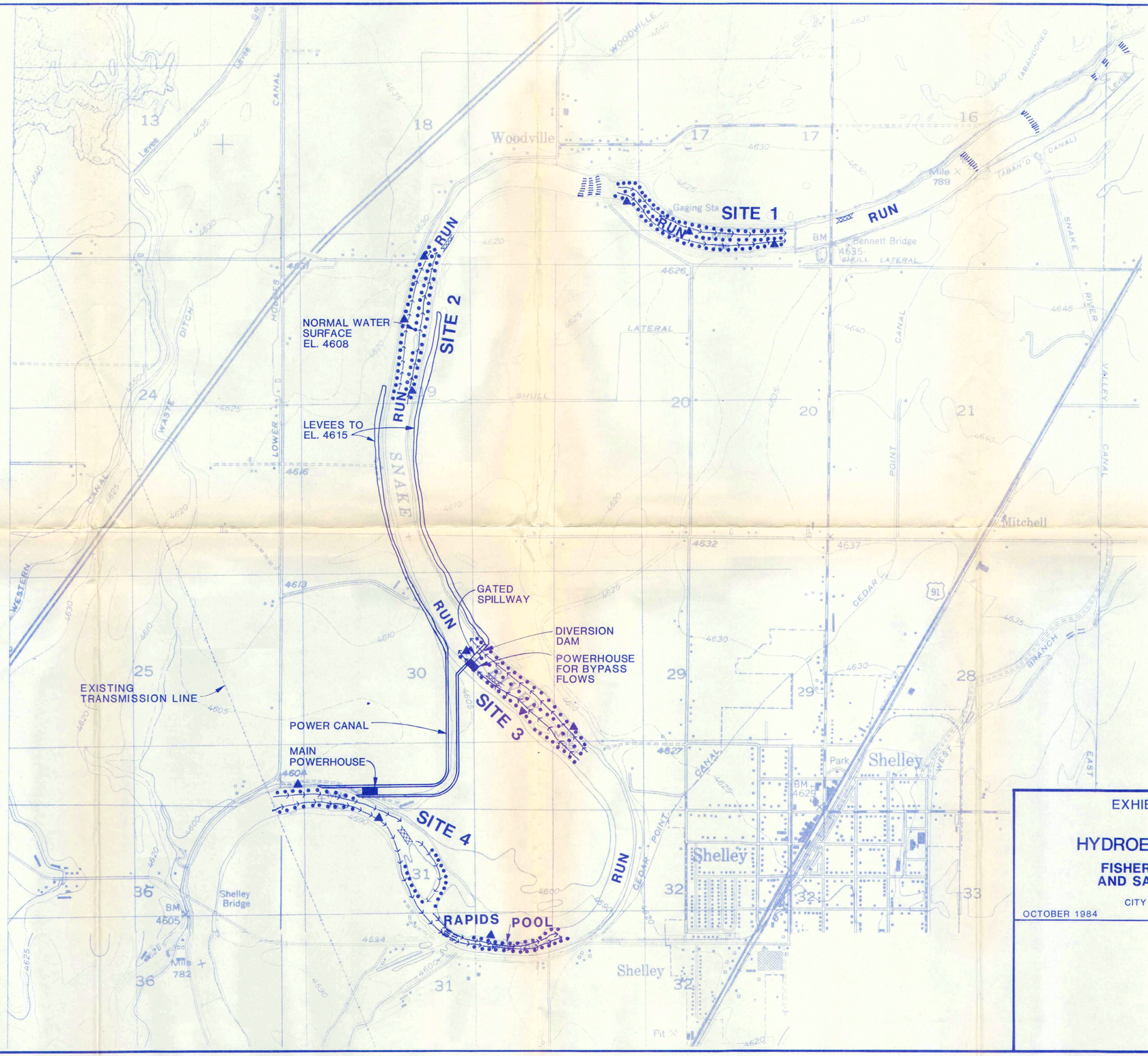

EXHIBIT E SUPPLEMENT

SHELLEY HYDROELECTRIC PROJECT

FISHERIES HABITAT TYPES AND SAMPLING LOCATIONS

CITY OF IDAHO FALLS, IDAHO

OCTOBER 1984

FIGURE 1

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BOT427/009

INTRODUCTION

This report on fisheries and aquatic habitat supplements the draft Exhibit E of the Shelley hydroelectric project license application. The draft Exhibit E is now before state and federal agencies for review, comment, and consultation.

During the week of September 17, 1984, several aquatic resource studies were conducted in the Shelley hydroelectric project area. These studies included gillnetting, electrofishing, substrate, and benthos analysis. The objectives of the studies were to define relative fisheries abundance and distribution and characterize the aquatic habitat. Figure 1 shows the four sampling locations, data collection effort, and types of fisheries habitat.

BOT427/002

METHODS

Gillnet and electrofishing techniques were employed to identify relative fish species abundance, distribution, and size. Scale analysis techniques were performed on all game fish species captured to define the age structure of each species. Extensive scuba diving was performed throughout the project area to identify spawning and rearing habitat available to game fish. Analysis of benthic macroinvertebrates throughout the project area was performed to quantitatively and qualitatively characterize the fisheries food base.

SAMPLE SITE SELECTION

As shown in Figure 1, four sampling sites were selected above and within the project area. Each sample site was selected on the basis of representative habitat types found within the project area (i.e., pools, rapids, riffles, and runs). Over 2.5 miles of the Snake River were intensively sampled, or 40 percent of the 6.25-mile-long project.

ELECTROFISHING

Electroshocking was performed using an 18-foot jet boat equipped with electrofishing gear. A 4,500-watt generator was used to power a Coffelt VVP-15 electroshocker. The most effective output was determined to be continuous dc at 250 to 300 volts. A single throwable anode and six dropper cathodes proved more effective than a boom anode. The anode was intermittently energized to minimize the escape of fish, which perceive the low levels of current density outside of the effective shocking zone.

Two to three sampling passes were generally made through the mid-channel area and each shoreline area of the sample sections. The amount of time spent electroshocking in each sample section was recorded (in seconds).

Shocking was done while moving upstream through the sample areas. The electrofishing boat was operated by a four-man crew. One man controlled movement of the boat while the other three operated the electrofishing equipment and netted the fish. All fish captured were identified, counted, measured for standard length (to the nearest 0.01 foot), and weighed (to the nearest ounce). Scale samples were taken from game fish.

GILLNETTING

One net at each sample section was set for 24 hours. The nets were either floating or sinking designed, 125 feet long, 6 feet deep with 5-foot by 25-foot panels of 1/2-, 3/4-, 1-, 1-1/2-, and 1-1/2-inch monofilament mesh. The smallest mesh panel was anchored and set near shore and then layed perpendicular or diagonal to the river flow.

AGE ANALYSIS

Scales were collected from all game fish. In the laboratory, the ages of the fish sampled were determined via the scale reading technique. The annuli were read with the aid of an Olympus binocular microscope and a scale magnifier.

BENTHIC INVERTEBRATES

Benthic invertebrate samples were taken in four sample sections. Riffle areas were chosen in each of the areas and

were sampled using a Surber sampler. Three 1-square-foot replicate samples were collected in each area. Samples were preserved in 10 percent formalin.

In the laboratory, the macroinvertebrate samples were sorted, identified to the lowest practical taxonomic level, and enumerated. A 2X lighted magnifier was used for rough sorting while a 40X Olympus binocular microscope was used for identification and enumeration. Where possible, the number of organisms per square meter was calculated. Where quantitative analyses were not possible, a species list for the sample area was determined.

SCUBA DIVES

Scuba dives were conducted in each sample area with two divers moving from upstream to downstream in zigzag patterns along both shorelines and mid-stream. Data on substrate percent composition (Wentworth's classification) were recorded every 100 yards. At those intervals the divers would surface and an average of each estimate recorded. When significant spawning areas were identified, additional diving was performed to determine the approximate size of the spawning habitat.

BOT427/002

RESULTS

FISHERIES ABUNDANCE AND DISTRIBUTION

Results of the gillnet effort are presented in Table 1. Gillnet sets at sampling sites 1 and 2 experienced problems in that the nets filled with periphyton and detritus and, consequently, no fish were taken in these net sets. On the other hand, gillnet sets at sample sites 3 and 4 were more successful and caught two brown trout and 44 non-game fish. Because the gillnets could not be set directly in and perpendicular to the current (due to high velocities), they were not particularly effective. However, electrofishing was very successful and results of this effort form a data base to identify distribution and relative abundance.

Table 2 shows the results of electrofishing by sample site and instream location. The combined electrofishing and gillnet effort resulted in 118 game fish and 179 non-game fish captured--a ratio of 1:1.5, respectively. The dominant game fish species was mountain whitefish, while Utah suckers were the most common non-game fish species taken. It is arguable whether electroshocking techniques are selective; however, given the range in size of fish taken, variety of habitats from which they were taken, the diversity of species, and comparable observations from scuba diving, the relative abundance shown in Tables 1 and 2 is a reasonable measure of existing conditions. It can also be seen from these tables that brown trout are better suited to the habitat conditions in this reach of the Snake River than rainbow or other trout species.

The range and average lengths and weights of fish captured are shown in Table 3. The average brown trout was about

Table 1
NUMBER OF FISH CAPTURED BY GILLNETTING

Gillnet Sample Location	Brown Trout	Mountain Whitefish	Rainbow Trout	Utah Sucker	Utah Chub	Redside Shiner	Speckled Dace	Mottled Sculpin
Site 1	0	0	0	0	0	0	0	0
Site 2	0	0	0	0	0	0	0	0
Site 3	2	0	0	11	1	0	0	0
Site 4	0	0	0	31	1	0	0	0
TOTAL	2	0	0	42	2	0	0	0

BOT427/003

Table 2
NUMBER OF FISH CAPTURED BY ELECTROSHOCKING

Electrofishing Sample Location	Brown Trout	Mountain Whitefish	Rainbow Trout	Utah Sucker	Utah Chub	Redside Shiner	Speckled Dace	Mottled Sculpin
Site 1 - Left Bank	3	10	0	6	0	1	0	0
Site 1 - Right Bank	0	3	0	10	0	0	0	0
Subtotal	3	13	0	16	0	1	0	0
Site 2 - Left Bank	5	7	2	11	0	0	0	0
Site 2 - Right Bank	3	14	0	12	0	8	0	0
Subtotal	8	21	2	23	0	8	0	0
Site 3 - Left Bank	3	13	0	9	0	7	0	0
Site 3 - Islands	0	27	1	8	0	10	1	0
Subtotal	3	40	1	17	0	17	1	0
Site 4 - Left Bank	0	4	1	4	0	0	0	1
Site 4 - Islands	5	10	0	8	0	37	1	0
Site 4 - Right Bank	0	5	0	1	0	0	0	0
Subtotal	5	19	1	13	0	37	1	1
TOTAL	19	93	4	69	0	63	2	1

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Table 3
LENGTH AND WEIGHT OF FISH CAPTURED

Species	Fork Length Range (cm)	Average Length (cm)	Weight Range (gm)	Average Weight (gm)
Brown Trout	9.0 - 51.5	20.0	28.3 - 1,729.3	734.3
Mountain Whitefish	8.5 - 34.5	19.7	28.3 - 652.0	135.0
Rainbow Trout	10.0 - 12.0	11.4	*	*
Utah Sucker	8.5 - 48.0	38.4	28.3 - 1,559.2	913.7
Utah Chub	11.5 - 13.0	12.2	*	*
Redside Shiner	5.5 - 10.5	7.7	*	*
Speckled Dace	8.0 - 9.5	8.7	*	*
Mottled Sculpin	3.5	3.5	*	*

*Below one ounce scale limit.

BOT421/041

7 inches long and weighed 0.6 pounds. The average whitefish was also about 8 inches long, but the average weight was about 1/4 pound. The average Utah sucker was 15 inches and 2 pounds. The overall biomass ratio was one pound of game fish to 4 pounds of non-game fish.

The distribution of game and non-game fish throughout the project area is shown in Figure 2. Generally, the numbers of fish increased from upstream to downstream. This observation follows the improved habitat associated with islands and pools in downstream sample sites 3 and 4. The ratio of game to non-game fish (1:4) in sample site 4 is attributed to side channel areas around islands where flow is reduced and the substrate is primarily silt and mud, creating a nursery area primarily for redside shiners.

FISHERIES AGE AND LENGTH

Scales from 78 mountain whitefish, 18 brown trout, and 4 rainbow trout collected in the Snake River (Shelley hydro project) during September 1984 were examined for age determinations. The fish age-standard length (cm) relationships for these species are summarized in Table 4 and Figure 3.

All rainbow trout collected were young-of-the-year (age 0+ years). Their mean length was 11.4 cm, with individual lengths varying between 10.0 and 12.0 cm. Most brown trout were yearling (age 1+ years) fish and had a mean length of 19.4 cm. Only one brown trout was older than age 2+ years. Mountain whitefish ranged in age from 0+ to 6+ years and in length from 8.5 to 36.0 cm. There was some overlap of individual lengths among adjacent age groups of whitefish. Growth of whitefish appeared slightly less than that of comparably aged trout, although data are limited (Table 4).

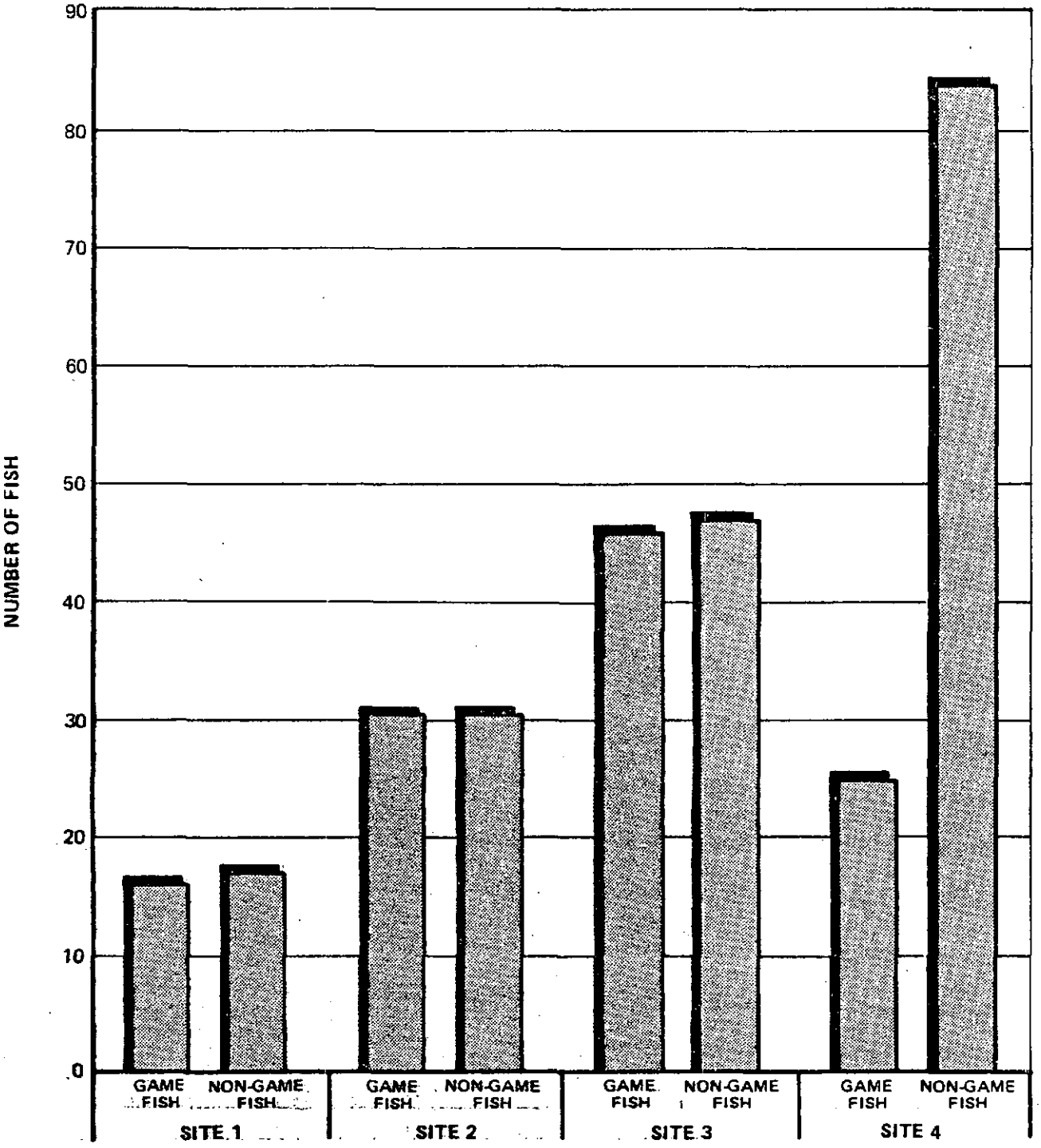

FIGURE 2

GAME AND NON-GAME FISH DISTRIBUTION AND ABUNDANCE (CAPTURED BY GILLNETTING AND ELECTROSHOCKING)

SHELLEY HYDROELECTRIC PROJECT
CITY OF IDAHO FALLS, IDAHO

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Table 4
AGE-LENGTH RELATIONSHIP OF GAME FISH

Fish Number	Species	Length (cm)	Age	Sample Area
13	Brown Trout	19.0	1+	Site 3
14	Brown Trout	51.5	6+	Site 3
47	Mountain Whitefish	29.0	5+	Site 1
48	Brown Trout	22.0	1+	Site 1
49	Brown Trout	22.5	2+	Site 1
50	Brown Trout	9.0	0+	Site 1
51	Mountain Whitefish	25.0	3+	Site 1
52	Mountain Whitefish	27.5	4+	Site 1
53	Mountain Whitefish	26.5	4+	Site 1
54	Mountain Whitefish	20.5	2+	Site 1
55	Mountain Whitefish	24.0	3+	Site 1
56	Mountain Whitefish	17.0	2+	Site 1
57	Mountain Whitefish	17.5	1+	Site 1
58	Mountain Whitefish	18.0	1+	Site 1
59	Mountain Whitefish	16.5	1+	Site 1
67	Mountain Whitefish	17.0	1+	Site 1
68	Mountain Whitefish	25.0	3+	Site 1
69	Mountain Whitefish	16.5	1+	Site 1
80	Brown Trout	19.0	1+	Site 2
81	Brown Trout	17.5	1+	Site 2
82	Rainbow Trout	12.0	0+	Site 2
83	Mountain Whitefish	18.5	2+	Site 2
84	Mountain Whitefish	16.5	1+	Site 2
85	Mountain Whitefish	16.5	1+	Site 2
91	Mountain Whitefish	24.0	2+	Site 2
92	Brown Trout	19.5	1+	Site 2
93	Brown Trout	20.5	1+	Site 2
94	Brown Trout	18.0	1+	Site 2
95	Rainbow Trout	12.0	0+	Site 2
96	Mountain Whitefish	17.5	1+	Site 2
97	Mountain Whitefish	18.0	1+	Site 2
98	Mountain Whitefish	17.5	2+	Site 2
105	Brown Trout	19.0	1+	Site 2
106	Brown Trout	19.5	1+	Site 2
107	Brown Trout	21.0	1+	Site 2
108	Mountain Whitefish	27.0	4+	Site 2
109	Mountain Whitefish	27.0	3+	Site 2
110	Mountain Whitefish	25.5	3+	Site 2
111	Mountain Whitefish	28.0	5+	Site 2
112	Mountain Whitefish	25.5	4+	Site 2
113	Mountain Whitefish	22.0	2+	Site 2
114	Mountain Whitefish	22.5	2+	Site 2
115	Mountain Whitefish	21.0	2+	Site 2
116	Mountain Whitefish	21.5	2+	Site 2
117	Mountain Whitefish	17.0	2+	Site 2

Table 4 (Continued)
AGE-LENGTH RELATIONSHIP OF GAME FISH

Fish Number	Species	Length (cm)	Age	Sample Area
118	Mountain Whitefish	17.5	1+	Site 2
119	Mountain Whitefish	17.0	1+	Site 2
120	Mountain Whitefish	15.5	1+	Site 2
121	Mountain Whitefish	11.0	0+	Site 2
142	Brown Trout	21.0	1+	Site 3
143	Brown Trout	19.5	0+	Site 3
144	Brown Trout	12.0	1+	Site 3
145	Mountain Whitefish	24.5	2+	Site 3
146	Mountain Whitefish	25.0	3+	Site 3
147	Mountain Whitefish	23.0	2+	Site 3
148	Mountain Whitefish	17.5	1+	Site 3
149	Mountain Whitefish	17.0	2+	Site 3
150	Mountain Whitefish	17.0	1+	Site 3
151	Mountain Whitefish	15.5	1+	Site 3
152	Mountain Whitefish	17.0	2+	Site 3
153	Mountain Whitefish	17.5	2+	Site 3
154	Mountain Whitefish	17.5	2+	Site 3
155	Mountain Whitefish	11.0	0+	Site 3
156	Mountain Whitefish	11.5	1+	Site 3
157	Mountain Whitefish	8.5	0+	Site 3
174	Mountain Whitefish	34.5	6+	Site 3
175	Mountain Whitefish	36.0	6+	Site 3
176	Mountain Whitefish	24.5	3+	Site 3
177	Mountain Whitefish	26.5	4+	Site 3
178	Mountain Whitefish	26.5	4+	Site 3
179	Mountain Whitefish	26.0	4+	Site 3
180	Mountain Whitefish	26.5	3+	Site 3
181	Mountain Whitefish	26.5	3+	Site 3
182	Mountain Whitefish	23.5	3+	Site 3
183	Mountain Whitefish	23.5	3+	Site 3
184	Mountain Whitefish	26.5	4+	Site 3
185	Mountain Whitefish	21.5	2+	Site 3
186	Mountain Whitefish	26.5	3+	Site 3
187	Mountain Whitefish	21.5	2+	Site 3
188	Mountain Whitefish	25.0	3+	Site 3
189	Mountain Whitefish	17.5	1+	Site 3
190	Mountain Whitefish	16.5	2+	Site 3
191	Mountain Whitefish	21.5	2+	Site 3
192	Mountain Whitefish	15.0	1+	Site 3
193	Mountain Whitefish	17.5	1+	Site 3
194	Mountain Whitefish	10.5	0+	Site 3
195	Mountain Whitefish	10.0	0+	Site 3
196	Mountain Whitefish	11.5	0+	Site 3
197	Mountain Whitefish	10.0	0+	Site 3
198	Mountain Whitefish	10.0	0+	Site 3

Table 4 (Continued)
AGE-LENGTH RELATIONSHIP OF GAME FISH

Fish Number	Species	Length (cm)	Age	Sample Area
199	Mountain Whitefish	10.5	0+	Site 3
200	Mountain Whitefish	9.5	0+	Site 3
201	Rainbow Trout	10.0	0+	Site 3
221	Rainbow Trout	11.5	0+	Site 4
222	Mountain Whitefish	21.0	2+	Site 4
223	Mountain Whitefish	21.0	2+	Site 4
224	Mountain Whitefish	24.5	3+	Site 4
225	Mountain Whitefish	16.5	1+	Site 4
231	Brown Trout	18.5	1+	Site 4
232	Brown Trout	18.0	1+	Site 4

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MOUNTAIN WHITEFISH

	AGE						
	0+	1+	2+	3+	4+	5+	6+
LENGTH (cm)							
MEAN	10.2	16.6	20.0	25.1	26.5	28.5	35.2
RANGE	8.5-11.5	11.5-18.0	16.5-24.5	23.5-27.0	25.5-27.5	28.0-29.0	34.5-36.0
SAMPLE SIZE	10	20	22	14	8	2	2

BROWN TROUT

	AGE			
	0+	1+	2+	6+
LENGTH (cm)				
MEAN	10.8	19.4	22.5	51.5
RANGE	9.5-12.0	17.5-22.0	–	–
SAMPLE SIZE	2	14	1	1

RAINBOW TROUT

	AGE
	(0+ ONLY)
LENGTH (cm)	
MEAN	11.4
RANGE	10.0-12.0
SAMPLE SIZE	4

FIGURE 3
AGE - LENGTH SUMMARY FOR MOUNTAIN WHITEFISH, BROWN TROUT, AND RAINBOW TROUT

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Length-frequency histograms for mountain whitefish, brown trout, and Utah sucker captured during September 1984 field investigations are shown in Figure 4. Utah sucker rather than rainbow trout are depicted due to their considerably larger sample size (107 versus 4).

The mountain whitefish histogram clearly reflects the young-of-the-year and yearling age groups, possibly three age groups of fish (2+, 3+, and 4+ years) between 20 and 28 cm long, and a maximum age group of fish 34 to 36 cm long. This histogram generally corresponds to results of scale analyses, although the older age groups appear less distinct than the younger. Brown trout young and yearling histogram values also correspond to scale analyses for these two youngest age groups. The histogram for Utah suckers suggests young are similar in size to whitefish and trout, but older age groups are somewhat larger than game fish. It is unclear whether yearling suckers were absent from the catch or experienced rapid growth to between 27 and 33 cm during their second year of life. Suckers longer than 34 cm probably represent at least three and possibly many more age groups.

FISHERIES HABITAT

Scuba surveys were conducted to identify substrate types, spawning habitats, and rearing areas in the project reach. Figures 5 through 8 show the substrate composition and potential spawning areas found in the four sampling sites. Overall, the substrate composition in this reach of the Snake River is 30 percent boulder, 40 percent cobble, 20 percent gravel, and 10 percent silt (Wentworth's classification). High suspended solid loads typical of this area

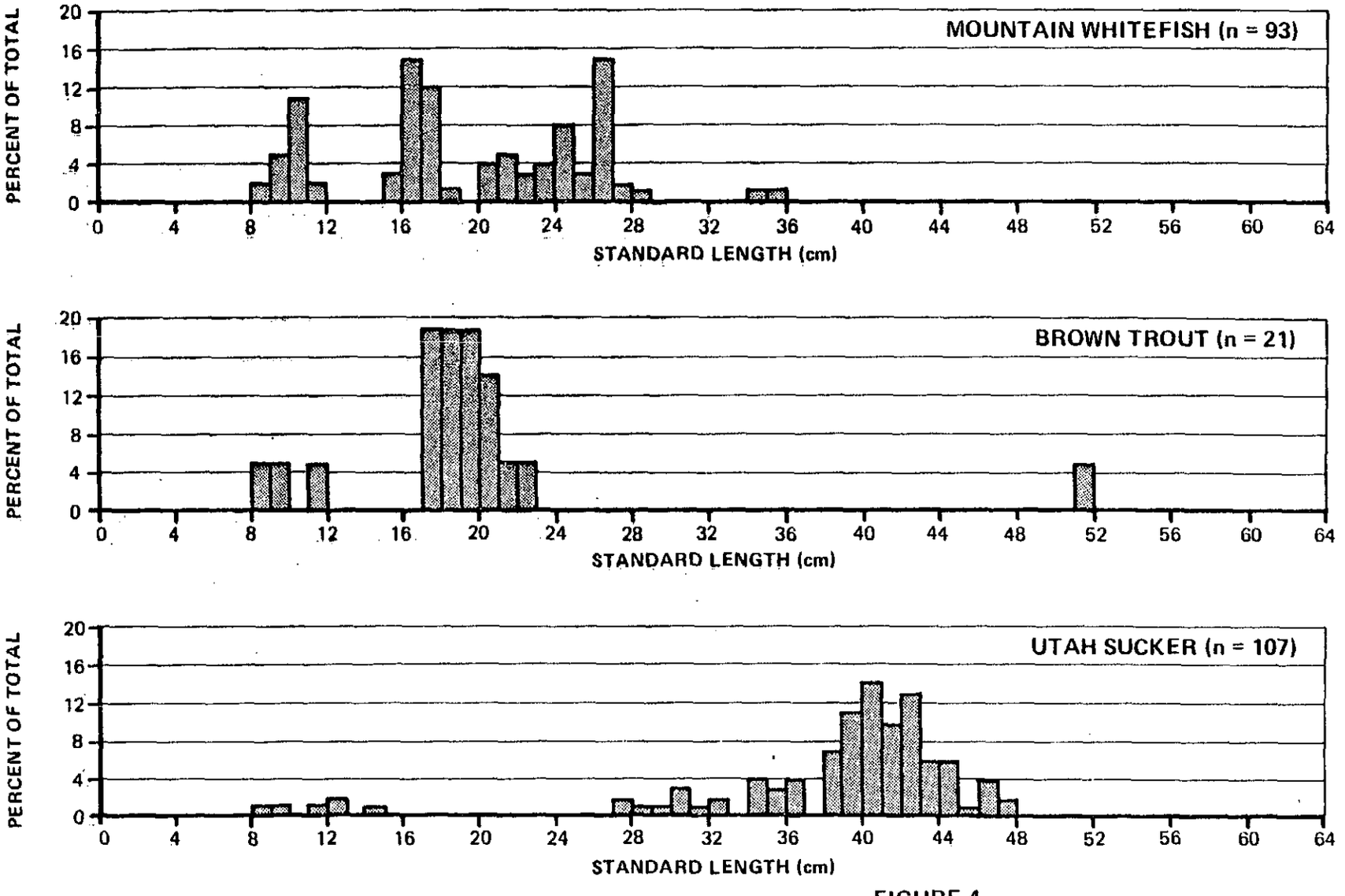

FIGURE 4

LENGTH - FREQUENCY HISTOGRAMS (1-cm INTERVALS) FOR MOUNTAIN WHITEFISH, BROWN TROUT, AND UTAH SUCKER.

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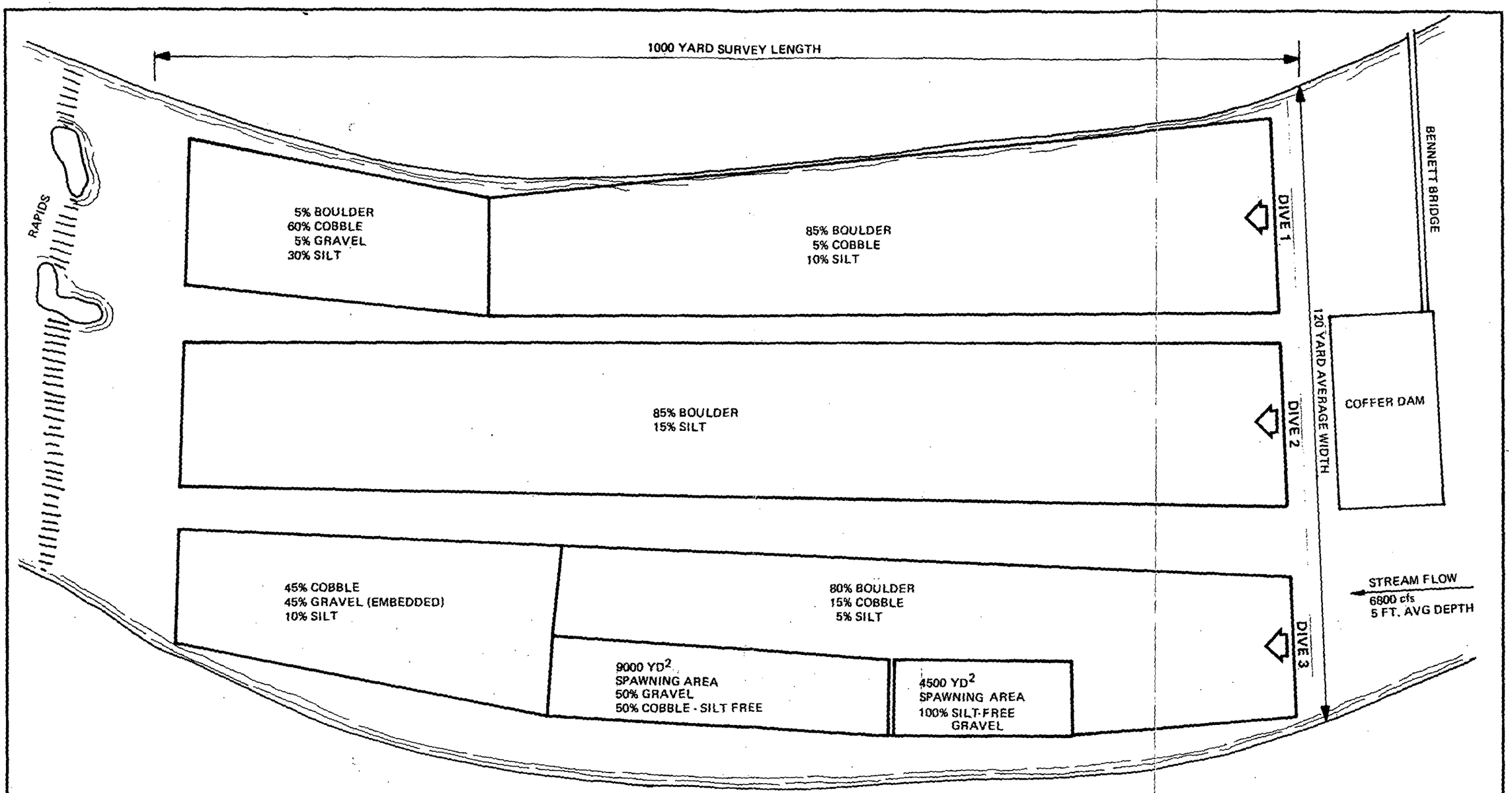

FIGURE 5
SUBSTRATE ANALYSIS RESULTS FROM SCUBA DIVES IN SAMPLE AREA 1

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2000 YARD SURVEY LENGTH

80% MUD
20% COBBLE

ISLAND

DIVE 3

10% BOULDER
60% COBBLE
15% SILT
15% GRAVEL

80% MUD
20% COBBLE

ISLAND

100% MUD

ISLAND

ISLAND

ISLAND

60% COBBLE
10% GRAVEL
30% SILT

80% GRAVEL
20% SILT (SPAWNING)

FLOW
6800 cfs
8 FT. AVG. DEPTH

325 YARD AVERAGE WIDTH

DIVE 1

30% BOULDER
60% COBBLE
10% SILT

DIVE 2

20% BOULDER
60% COBBLE
10% GRAVEL
10% SILT

B17486.B0

FIGURE 8
SUBSTRATE ANALYSIS RESULTS FROM SCUBA DIVES IN SAMPLE AREA 4

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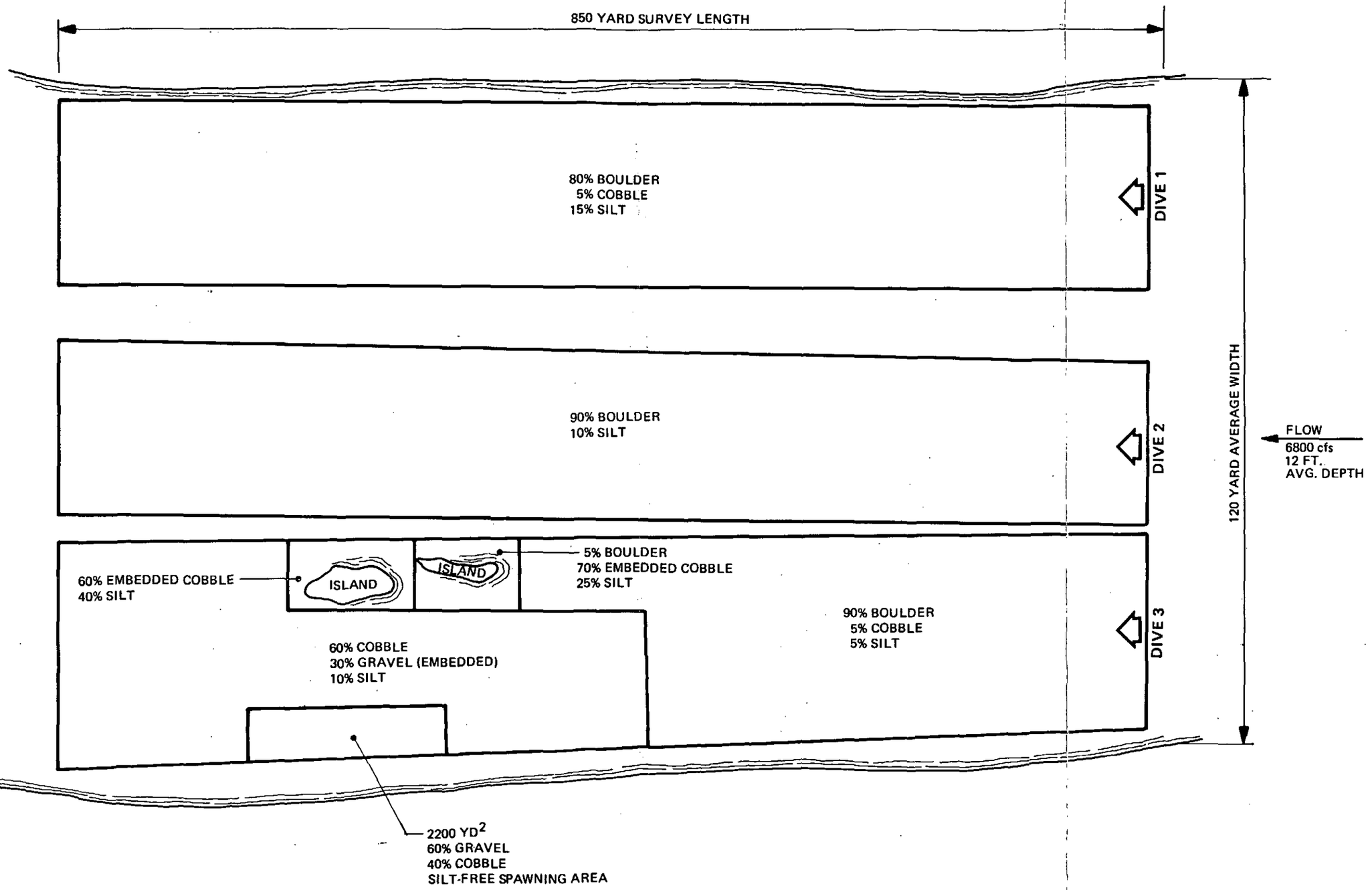

FIGURE 6

SUBSTRATE ANALYSIS RESULTS FROM SCUBA DIVES IN SAMPLE AREA 2

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700 YARD SURVEY LENGTH

60% COBBLE
30% SAND/SILT
10% GRAVEL (EMBEDDED)

10% COBBLES
80% GRAVEL
10% SAND

ISLAND

SPAWNING/REARING/BENTHOS AREA

DIVE 1

80% COBBLE
20% SAND/SILT

ISLAND

50% COBBLE
30% SAND/SILT
20% GRAVEL (EMBEDDED)

10% BOULDER
80% SAND/SILT
10% COBBLE

ISLAND

REARING HABITAT

80% COBBLE
10% GRAVEL
10% SAND/SILT

ISLAND

ISLAND

ISLAND

(GRAVEL POCKETS
AVAILABLE FOR SPAWNING)

DIVE 2

140 YARD AVERAGE WIDTH

ISLAND

FLOW
6800 cfs
6 FT. AVG.
DEPTH

50% COBBLE
30% SAND/SILT
20% GRAVEL (EMBEDDED)

80% COBBLE
10% GRAVEL (EMBEDDED)
10% SAND/SILT

DIVE 3

B17486.B0

FIGURE 7
SUBSTRATE ANALYSIS RESULTS FROM SCUBA DIVES IN SAMPLE AREA 3
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CITY OF IDAHO FALLS, IDAHO

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of the Snake River contribute to siltation of the substrate. Gravel recruitment appears to be occurring in this area since several trout spawning sites were identified.

The highest quality spawning area was located in sample site 1 just downstream of Bennett Bridge. From Figure 5 it can be seen that approximately 4,500 square yards of quality (suitably sized and silt free) spawning gravels were found. Another 9,000 square yards of marginal spawning habitat were located immediately downstream. This would be a secondary spawning site. Sample site 2 (Figure 6) contained about 2,200 square yards of secondary spawning habitat. Sample sites 3 and 4 contained scatterings of primary and secondary spawning habitat.

Observations resulting from the scuba dives indicated that juvenile and adult game fish and non-game fish were partioned into distinct rearing habitats. Generally, in open water river areas not influenced by islands, suckers were found in silted areas which lacked instream cover (bank undercuts, boulders); whitefish occurred in silted, fast-flowing areas containing instream cover; while trout species were generally noted in relatively silt-free areas with instream cover. The offshore partioning consisted of juvenile and adult trout in shallow, nearshore waters; whitefish further offshore in deeper, high velocity areas; and suckers in open water, deep, silt/mud substrate habitat. This partioning was not exclusive and all species were observed in all river areas. However, the overall use of rearing areas appeared to follow these trends.

The downstream sample sites (3 and 4) were influenced by islands which provided significant instream cover, particularly from bank undercuts, overhanging riparian vegetation, and pools formed between islands. Although velocities between the islands were high, trout were observed at the

bottoms of pools very close to the substrate where laminar flow provided protection from current velocities. Rearing habitat for game fish provided by the islands was reflected in the catch data (i.e., as rearing habitat improved downstream, the catch increased). Table 4 shows that the greatest number of game fish were captured at site 3; which also had the best rearing habitat.

BENTHIC MACROINVERTEBRATES

The benthic taxa identified throughout the project area are presented in Table 5. The benthic macroinvertebrate community in this section of the Snake River is dominated by Hydropsychial caddisflies, Siphloncurial mayflies, Planorbid snails, and Chironomid midges. Diversity indices (Wilhm, 1970) calculated for each sample (see Figure 9) indicate that the proposed project area supports a relatively diverse benthic macroinvertebrate community. Diversities in the range calculated for the proposed project area ($\bar{d}$ = 1.3 to 2.9) suggest that this section of the Snake River is a clean-water area that is not significantly influenced by pollution (Wilhm, 1970).

BOT421/040

Table 5
TAXONOMIC LIST FOR THE SNAKE RIVER
NEAR IDAHO FALLS, IDAHO

Ephemeroptera (Mayflies)
- Tricorythidae
- Heptageniidae
- Siphloneuridae
- Ephemerellidae

Odonata (Dragonflies)
- Gomphidae

Plecoptera (Stoneflies)
- Perlodidae
- Perlidae

Hemiptera (Bugs)
- Corixidae

Tricoptera (Caddisflies)
- Hydropsychidae
  - Hydropsyche
  - Cheumatopsyche
- Hydroptilidae
- Brachycentridae
- Leptoceridae
- Glossosomatidae
- Helicopsychidae

Diptera (Midges)
- Chironomidae
- Tipulidae
  - Dicranota
  - Hexatoma

Lepidoptera (Aquatic caterpillars)
- Pyralidae
  - Parargyractis

Oligochaeta (Aquatic Worms)

Pelecypoda (Clams)
- Sphaeriidae

Hirudinea (Leeches)

Gastropoda (Snails)
- Planorbidae
- Lymnacidae

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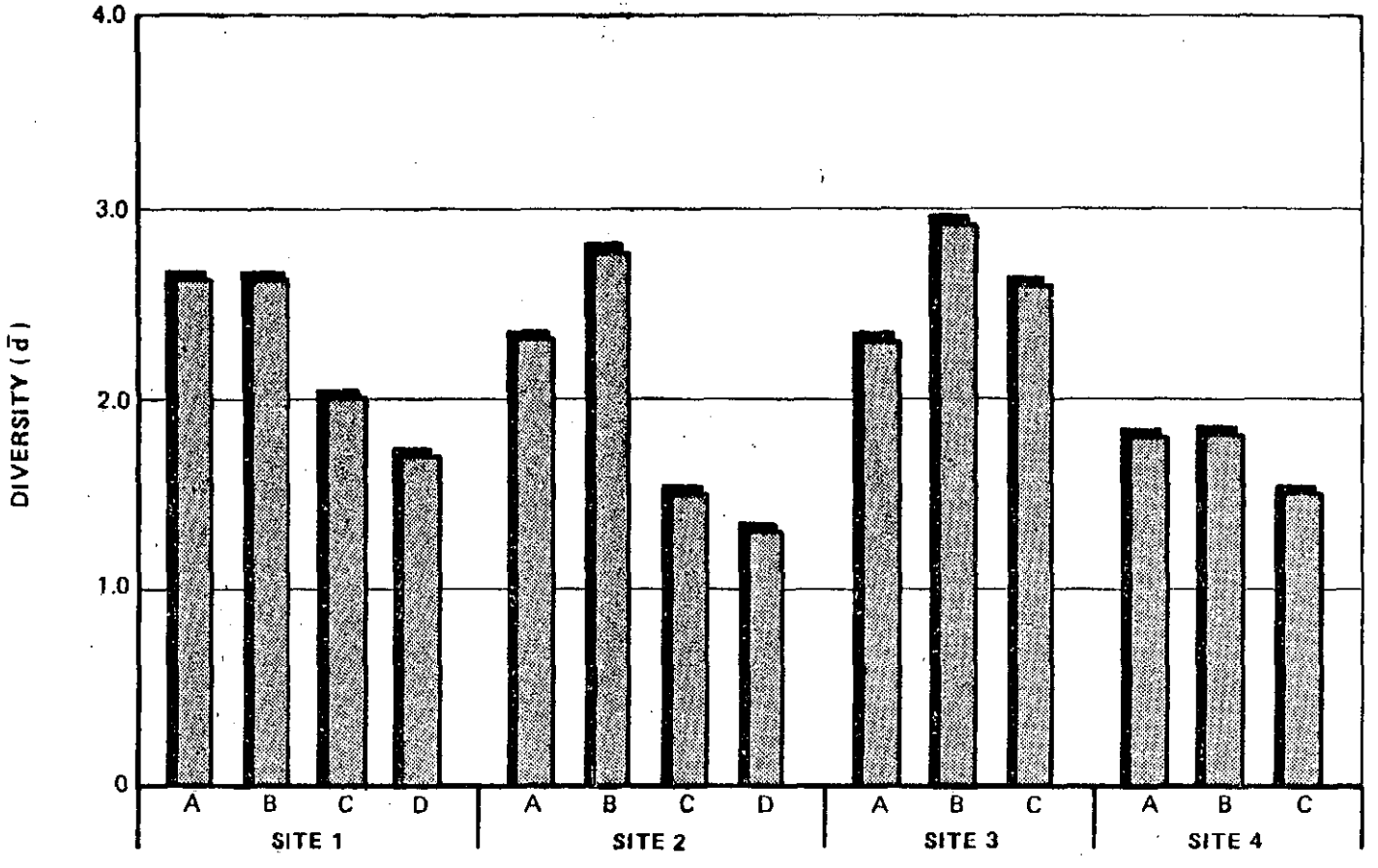

FIGURE 9

DIVERSITY INDICES ($\bar{d}$) FOR THE SNAKE RIVER NEAR IDAHO FALLS, IDAHO

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CITY OF IDAHO FALLS, IDAHO

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project area will be reduced by 10 percent. Therefore, it is anticipated that benthic macroinvertebrate production in the project area will be reduced by about the same.

Flow reductions can also cause water quality (especially temperature and dissolved oxygen) changes which can influence benthic macroinvertebrate production. No water quality changes are anticipated due to the proposed project.

The flow reductions proposed could result in slower current velocities and substrate composition changes. These habitat alterations could result in a change in the species composition of the project area from fast-water, coarse substrate species (Hydropsychial caddisflies, Planorbid snails, etc.) to slower-water, finer-substrate species (Lymnacial snails, Leptocerid caddisflies).

Flow reductions typically initiate a dramatic increase in benthic macroinvertebrate drift rates (White, et al., 1981). This increase is temporary, however, and generally returns to normal or subnormal rates after 3 to 7 days (White, et al., 1981).

The effect of increasing depth in the project pool area would potentially increase benthos production by increasing the wetted perimeter. This, however, assumes that pool retention time and flow velocities are not too different from existing conditions.

HABITAT VALUE

In order to clarify the relative value of the habitat represented by the four sample sites, a simple matrix analysis was performed. Table 6 shows the relative value of each habitat type (or sample site). A weighting factor was applied to each sample site which rated its value as habitat

Table 6
HABITAT VALUE MATRIX

	Habitat Type	Weighting Factor	Habitat Rating: Game/Nongame Fish Ratio	Habitat Rating: Fish Food Production	Habitat Rating: Spawning Areas	Habitat Rating: Rearing Areas	Habitat Rating: Substrate Quality	Rank
Site 1	Run/Pool	2	4	3	4	1	2	28
Site 2	Run/Pool	2	4	4	1	2	1	24
Site 3	Riffle/Pool	3	4	4	2	4	4	54
Site 4	Pool/Rapids/Riffle	3	3	2	3	4	3	45

Rank = Σ (weighting factor x habitat rating)

BOT427/008

from 1 to 4 (a numerical value of 4 indicates the highest value, while 1 is the lowest). Similar values were subjectively determined for the various habitat attributes in order to rate them.

The highest value habitat areas, as shown in Table 6, were sample sites 3 and 4 (below the proposed diversion), while sites 1 and 2 (within the proposed impoundment) were about half the value of downstream areas.

BOT427/002

SNAKE RIVER VALLEY IRRIGATION DISTRICT
221 SOUTH EMERSON . . . . . SHELLEY, IDAHO 83274
TELEPHONE (208) 357-3420

RECEIVED
APR 28 1986
Department of Water Resources

April 24, 1986

Mr. Glen Saxton, Chief
Operation Bureau
State of Idaho
Department of Water Resources
Statehouse
Boise, Idaho 83720

Dear Mr. Saxton,

Pertaining to your letter of March 13, 1986, (copy attached) our application (#01-7059) for 1500 CFS of water was originally applied for to produce power by taking the water through our canal system for approximately 3 miles and then return it to the river through a turbine and generator.

When permit #01-7018 was granted their water right precluding us of this opportunity, we ammended our application to use the water of our application for hydro production at our headgates as part of our normal diversion of our decreed and storage rights for agriculture purposes.

Since that time, the city of Idaho Falls (#01-7018) has proceeded with court proceedings to condemn our present diversion works and the first 3 miles of our delivery system. As part of the said condemnation settlement, they are required to furnish our entity with new headgates as part of their new dam and hydro works.

Although nearly a year has gone by since the condemnation rights were granted to the city of Idaho Falls, they have not firmly decided what they are going to do; and until they do, it is impossible for us to proceed with our project.

I have had numerous contacts with your office (mainly Ron Carlson, Ken Dunn, and Norm Young) in the past. They are aware of our problem. Mr. Dunn recommended that we leave our application as is until we are able to proceed. In as much as the application was not contested, the water right could be granted (subject to previous rights); but then we would be subject to the rules of the permit to begin construction within a given time period.

Because of the delays caused by the city of Idaho Falls project, there is really nothing we can do at this point and probably won't be able to before 1990. As

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soon as their project is completed and our new headgates are installed and operating, we have full intention to proceed with our project.

Sincerely,

Dennis J. Hjelm

Dennis J. Hjelm
Manager

DJH/jc

P.S. I was in to see you March 26, 1986, but you were out of your office at the time (11:45 a.m. - 12:30 p.m.) So I then discussed the matter with Mr. Jim Johnson.

cc: Ken Dunn, Department of Water Resources
Norm Young, Department of Water Resources
Gary Spackman, Department of Water Resources
Jim Johnson, Department of Water Resources
Ron Carlson, Idaho Falls
W.J. Anderson, Idaho Falls

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State of Idaho
DEPARTMENT OF WATER RESOURCES
STATE OFFICE, 450 W. State Street, Boise, Idaho

JOHN V. EVANS
Governor

A. KENNETH DUNN
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 334-4440

March 13, 1986

Snake River Valley Irrigation District
c/o Dennis Hjelm
Box 646
Basalt, ID 83218

Re: Application for Permit No. 01-7059

Dear Mr. Hjelm:

The Department recently reviewed the above-referenced application which was filed on March 30, 1984. The application proposes the diversion of 1500 cfs from the Snake River for hydropower generation to be diverted within the NW¼NE¼, Section 3, T1N, R37E.

A review of Department files shows that Permit Nos. 01-7018 (City of Idaho Falls) and 01-7051 (Utah Power and Light Co.) have both been issued and appear to preclude or conflict with the proposed development anticipated by Application No. 01-7059.

The file for Application No. 01-7059 does not show evidence of any recent activity to show diligence toward project development. The file lacks plans and specs for the proposed facility, evidence of financial resources available for project construction, feasibility information and evidence to show approvals are actively being sought from the Federal Energy Regulatory Commission.

In order to maintain the application in good standing, please advise the Department of the status of the proposed project and provide the Department with copies of any of the above-referenced lacking information within thirty (30) days.

If you have questions, please feel free to contact the Department.

Sincerely,

L. Glen Saxton

L. GLEN SAXTON
Chief, Operations Bureau

ls

cc: Eastern Region
W. J. Anderson

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SNAKE RIVER VALLEY IRRIGATION DISTRICT
221 SOUTH EMERSON . . . . . SHELLEY, IDAHO 83274
TELEPHONE (208) 357-3420

April 24, 1986

Mr. Gary Spackman, Senior Resource Agent
State of Idaho, Dept. of Water Resources
150 Shoup - Suite 15
Idaho Falls, Idaho 83402

RE: Your letter of February 24, 1986, concerning our Application for Permit No. 01-7083

Dear Mr. Spackman,

In reference to your above noted letter, we would like to update you on our status. Since our application for water rights was made with you for our hydroelectric project, we have made an application with F.E.R.C. for an exemption from licensing on our site. During the time our application was being considered, F.E.R.C. ammended the regulations governing these exemptions and denied our application.

We apologize for leaving you in suspense on this matter, but it is our intention to refile with F.E.R.C. for the license and consequently request that you leave our application for permit active as we will need it to file for our license.

We sincerely appreciate your consideration and cooperation in this matter. We will keep you aware of our progress on our project.

Sincerely,

Carlos S. Nielson
Chairman of the Board

Carlos S. Nielson

CSN/jc

cc: Ken Dunn, Dept. of Water Resources, Boise
Norm Young, Dept. of Water Resources, Boise
Glen Saxton, Dept. of Water Resources, Boise
Jim Johnson, Dept. of Water Resources, Boise
Ron Carlson, Idaho Falls
W.J. Anderson, Idaho Falls

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STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
EASTERN REGION

John V. Evans
Governor

A. Kenneth Dunn
Director

150 Shoup — Suite 15
Idaho Falls, Idaho 83402
(208) 525-7161

February 24, 1986

RE: Application for Permit No. 01-7083

Mr. Carlos S. Nielson
Chairman of the Board
Snake River Valley Irrigation District
221 South Emerson
Shelley, ID 83274

Dear Mr. Nielson:

In July, 1985, Ernest Carlsen of the Department of Water Resources sent you a letter informing you that the hydropower plant proposed in Snake River Valley Irrigation's application for permit to appropriate water would need approval by the Federal Energy Regulatory Commission (FERC), and that the Department would postpone further action on the permit until November, 1985. This deferment was granted in order to give the irrigation district some time to process an application with FERC, and attempt to receive a ruling from it on the project.

The Department, however, cannot continue to defer action if no efforts are being made by an applicant to further approval and construction of the hydro-electric facility. The Department must be informed that the applicant is proceeding with due diligence to develop the hydro-electric proposal.

Please consider this letter a request for information regarding what steps you have taken toward obtaining approval of the hydro-electric facility by FERC, including copies of applications for permits or exemptions that have been filed with FERC. To insure that you have adequate time to submit the above requested information, no administrative action will be taken on your

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permit for another sixty (60) days from the date of this letter. If you do not respond within the above prescribed period of time, however, your failure to do so will jeopardize the status of your application for permit and the attached date of priority.

Sincerely,

Gary Spackman

GARY SPACKMAN
Sr. Resource Agent

GS:cw

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In the Supreme Court of the State of Idaho

RECEIVED
OCT 8 1985
Department of Water Resources

IN THE MATTER OF APPLICATION FOR PERMIT NO. 01-7018 IN THE NAME OF THE CITY OF IDAHO FALLS

SNAKE RIVER VALLEY IRRIGATION DISTRICT,

Petitioner-Appellant,

v.

IDAHO DEPARTMENT OF WATER RESOURCES, an executive agency of the State of Idaho, City of Idaho Falls

Respondents.

NO. 16015

REMITTITUR

TO: SEVENTH JUDICIAL DISTRICT COURT, COUNTY OF BONNEVILLE.

The Court having entered an order dismissing this appeal on September 26, 1985; therefore,

IT IS HEREBY ORDERED that the appeal herein from the judgment of the District Court be, and is hereby dismissed, no costs taxed.

DATED this 26th day of September, 1985.

I, Frederick C. Lyon, Clerk of the Supreme Court of the State of Idaho, do hereby certify that the above is a true and correct copy of the [illegible] entered in the above entitled cause and now on record in my office.
WITNESS my hand and the Seal of this Court 9-26-85

FREDERICK C. LYON Clerk

[signature] Deputy

By: Marilyn Bonner Deputy Clerk
Clerk of the Supreme Court
STATE OF IDAHO

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W. J. ANDERSON
Of SHARP, ANDERSON, BUSH & NELSON
Attorneys at Law
P. O. Box 158
Idaho Falls, Idaho 83402-0158
Telephone: (208) 522-3001

IN THE SUPREME COURT OF THE STATE OF IDAHO

IN THE MATTER OF APPLICATION FOR PERMIT NO. 01-7018 IN THE NAME OF THE CITY OF IDAHO FALLS.	
SNAKE RIVER VALLEY IRRIGATION DISTRICT, Petitioner-Appellant, v. IDAHO DEPARTMENT OF WATER RESOURCES, an Executive Agency of the State of Idaho, CITY OF IDAHO FALLS, Defendants-Respondents.	Supreme Court No. 16015 ORDER OF DISMISSAL

Upon the motion of the appellant, Snake River Valley Irrigation District;

IT IS HEREBY ORDERED that the appeal now pending in the above entitled matter be, and the same hereby is, dismissed.

DATED this 26th day of September, 1985.

For the Supreme Court

Frederick C. Lyon, Clerk

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AUG 5 1985

W. J. ANDERSON
Of SHARP, ANDERSON, BUSH & NELSON
Attorneys at Law
P. O. Box 158
Idaho Falls, Idaho 83402-0158
Telephone: (208) 522-3001

IN THE SUPREME COURT OF THE STATE OF IDAHO

IN THE MATTER OF APPLICATION FOR PERMIT NO. 01-7018 IN THE NAME OF THE CITY OF IDAHO FALLS.

SNAKE RIVER VALLEY IRRIGATION DISTRICT,

Petitioner-Appellant,

v.

IDAHO DEPARTMENT OF WATER RESOURCES, an Executive Agency of the State of Idaho, CITY OF IDAHO FALLS,

Defendants-Respondents.

Supreme Court No. 16015

MOTION FOR WITHDRAWAL AND DISMISSAL

FILED - ORIGINAL
AUG - 5 1985
Supreme Court ___ Court of Appeals
Entered on ATS by: CB

COMES NOW, Snake River Valley Irrigation District, Appellant, and withdraws the appeal heretofore filed and moves the Court for an order of dismissal of the appeal now pending.

DATED this 2nd day of August, 1985.

W. J. Anderson
of Sharp, Anderson, Bush & Nelson
Attorneys for Appellant

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State of Idaho
DEPARTMENT OF WATER RESOURCES
STATE OFFICE, 450 W. State Street, Boise, Idaho

JOHN V. EVANS
Governor

A. KENNETH DUNN
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 334-4440

AUGUST 21, 1985

RE: PERMIT NO. 01-7018 (GEM STATE HYDRO PROJECT)

DEAR PERMIT HOLDER:

ACCORDING TO OUR RECORDS, YOU ARE THE HOLDER OF A WATER PERMIT ON WHICH PROOF OF BENEFICIAL USE OF WATER WAS NOT SUBMITTED BEFORE JULY 1, 1985, WHICH INDICATES YOUR PROJECT IS NOT COMPLETE. THEREFORE, YOU NEED TO BE AWARE OF CHANGES IN IDAHO LAW, EFFECTIVE JULY 1, 1985, WHICH IMPACT ALL WATER PERMITS ISSUED BY THIS DEPARTMENT.

SPECIFICALLY, PURSUANT TO SECTION 42-203D, IDAHO CODE, THE DEPARTMENT MUST REVIEW ALL PERMITS FOR WHICH DEVELOPMENT OF WATER USE WAS NO COMPLETED ON OR BEFORE JULY 1, 1985, TO DETERMINE IF THEY MEET THE NEW REQUIREMENTS OF CHAPTER 2, TITLE 42, IDAHO CODE. RULES AND REGULATIONS GOVERNING THE RE-EVALUATION OF PERMITS ARE NOT YET FINALIZED. HOWEVER, IF YOU COMPLETED THE DEVELOPMENT UNDER YOUR PERMIT BEFORE JULY 1, 1985, YOU SHOULD SUBMIT A PROOF OF BENEFICIAL USE STATEMENT, STATING THAT THE PROJECT WAS COMPLETED BEFORE JULY 1, 1985 SO THAT YOUR PERMIT WILL NOT BE SUBJECT TO THE REVIEW REQUIREMENTS OF SECTION 42-203D, WHICH READS AS FOLLOWS:

> 42-203D. REVIEW OF PERMITS - OPPORTUNITY FOR HEARING. - (1)THE DEPARTMENT SHALL REVIEW ALL PERMITS ISSUED PRIOR TO THE EFFECTIVE DATE [JULY 1, 1985] OF THIS SECTION, EXCEPT TO THE EXTENT A PERMIT HAS BEEN PUT TO BENEFICIAL USE PRIOR TO JULY 1, 1985, TO DETERMINE WHETHER THEY COMPLY WITH THE PROVISIONS OF CHAPTER 2, TITLE 42, IDAHO CODE. IF THE DEPARTMENT FINDS THAT THE PROPOSED USE DOES NOT SATISFY THE CRITERIA OF CHAPTER 2, TITLE 42, IDAHO CODE, THEN THE DEPARTMENT SHALL EITHER CANCEL THE PERMIT OR IMPOSE THE CONDITIONS REQUIRED TO BRING THE PERMIT INTO COMPLIANCE WITH CHAPTER 2, TITLE 42, IDAHO CODE. IF THE DEPARTMENT FINDS THAT THE PERMIT SATISFIES THE CRITERIA ESTABLISHED IN CHAPTER 2, TITLE 42, IDAHO CODE, THEN THE DEPARTMENT SHALL ENTER AN ORDER CONTINUING THE PERMIT. (2)THE DEPARTMENT SHALL PROVIDE AN OPPORTUNITY FOR HEARING IN ACCORDANCE WITH SECTION 42-1701A, IDAHO CODE, AND SECTIONS 67-5209 THROUGH 67-5215, IDAHO CODE, FOR EACH HOLDER OF A PERMIT THAT IS PROPOSED EITHER TO BE CANCELLED OR MADE SUBJECT TO NEW CONDITIONS.

YOU MAY OBTAIN PROOF OF BENEFICIAL USE FORMS FROM THE DEPARTMENT. IF YOU HAVE ANY QUESTIONS, PLEASE LET US KNOW.

SINCERELY,

L. Glen Saxton

L. GLEN SAXTON
CHIEF, OPERATIONS BUREAU

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RECEIVED
MAY 10 1985
Department of Water Resources

NCY

W. J. ANDERSON
Of SHARP, ANDERSON, BUSH & NELSON
Attorneys at Law
P. O. Box 158
Idaho Falls, Idaho 83402-0158
Telephone: (208) 522-3001

IN THE DISTRICT COURT OF THE SEVENTH JUDICIAL DISTRICT OF THE STATE OF IDAHO, IN AND FOR THE COUNTY OF BONNEVILLE

IN THE MATTER OF APPLICATION FOR PERMIT NO. 01-7018 IN THE NAME OF THE CITY OF IDAHO FALLS.	Case No. 30087
SNAKE RIVER VALLEY IRRIGATION DISTRICT, Petitioner-Appellant, v. IDAHO DEPARTMENT OF WATER RESOURCES, an Executive Agency of the State of Idaho, CITY OF IDAHO FALLS, Respondents.	NOTICE OF APPEAL

TO: THE ABOVE NAMED RESPONDENT, CITY OF IDAHO FALLS, AND ITS ATTORNEY, KENT W. FOSTER; AND TO THE STATE OF IDAHO, DEPARTMENT OF WATER RESOURCES, AND TO ITS ATTORNEYS, PHILLIP J. RASSIER and DAVID J. BARBER, AND THE CLERK OF THE ABOVE ENTITLED COURT

NOTICE IS HEREBY GIVEN THAT:

1. The above named appellant, Snake River Valley Irrigation District, appeals against the above named respondents to the Idaho Supreme Court from the Decision and Judgment of the above entitled Court, entered April 2, 1985, affirming a deci-

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sion of the Director of the Idaho Water Resource Board and entered in the above entitled proceeding on the 2nd day of April, 1985, Honorable H. Reynold George, presiding.

2. That the party has a right to appeal to the Idaho Supreme Court, and the judgments or orders described in paragraph 1 above are appealable orders under and pursuant to Rule 11(a)(1), I.A.R.

3. A reporter's transcript requested:

The reporter's transcript of the Administrative Agency Hearing filed with the District Court is requested to be filed upon appeal.

4. The appellant requests the following documents to be included in the Clerk's record, in addition to those automatically included under Rule 28 I.A.R.: The Memorandum Decision.

5. I certify:

(a) That a copy of this notice of appeal has been served on the reporter.

(b) That the Clerk has been paid the estimated fee for preparation of the transcript.

(c) That the appellate filing fee has been paid.

(d) That service has been made upon all parties required to be served pursuant to Rule 20, I.A.R., and the Attorney General of Idaho pursuant to Section 67-1401(1), Idaho Code.

DATED this 13th day of May, 1985.

W. J. Anderson
of Sharp, Anderson, Bush & Nelson
Attorneys for Appellant

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I hereby certify that on the 13th day of May, 1985, I mailed a true and correct copy of the foregoing Notice of Appeal to the following:

Carlton Way
Court Reporter
Bonneville County Courthouse
Idaho Falls, Idaho 83402

Kent W. Foster
Holden, Kidwell, Hahn & Crapo
P. O. Box 129
Idaho Falls, Idaho 83402

Phillip J. Rassier
David J. Barber
Deputy Attorneys General
Department of Water Resources
Statehouse
Boise, Idaho 83720

by depositing a copy thereof in the United States mail, at Idaho Falls, Idaho, enclosed in an envelope addressed to the above named at the address set out below, with postage prepaid, by first class mail.

W. J. Anderson

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RJC 3/9/85

IN THE DISTRICT COURT OF THE SEVENTH JUDICIAL DISTRICT

OF THE STATE OF IDAHO, COUNTY OF BONNEVILLE

* * *

IN THE MATTER OF APPLICATION FOR PERMIT NO. 01-7018 IN THE NAME OF THE CITY OF IDAHO FALLS SNAKE RIVER VALLEY IRRIGATION DISTRICT, Appellant, -vs- A. KENNETH DUNN, Director of the Idaho Department of Water Resources, and the CITY OF IDAHO FALLS, Respondents.	Case No. 30087 MEMORANDUM DECISION

An administrative hearing was held on the city of Idaho Falls' Application for Permit to Appropriate the Public Waters of the State of Idaho. The Department of Water Resources issued a modified Memorandum Decision and Order on October 13, 1983, granting the Application. The Snake River Valley Irrigation District appealed the decision. The appeal process of filing briefs and having oral argument has been completed, and the Court now renders its decision.

The appellant which will be referred to

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as the Irrigation District set forth 13 issues to be decided on appeal, and the applicant, city of Idaho Falls listed 6, with the Department of Water Resources listing 4. Each of the parties have presented well-written statement of facts, and the Court will adopt those statements and will not repeat them in this decision.

The first issue the city sets forth is whether the provisions of Idaho Code 42-205 are applicable to the facts of the case. The Court will turn its attention to the Idaho Code 42-205 (2) which reads:

> Water cannot be appropriated for hydro-power development uses within or using existing man made facilities without permission of the owner thereof.

The irrigation district did not give its permission in this case, therefore if this section applies, there is reason to reverse the Department's decision. The hydroelectric project requires the inundation of the diversion dam and head gate, and some two to three miles of the Irrigation District's feeder canal and contemplates a substitution of a new structure for diversion of water into the existing canal. That diversion would take place some three

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miles down stream from the present diversion site. It's clear that no water is delivered to any irrigator upstream from the new diversion contemplated. Thus no water rights held by any landowner would be interfered with.

This Court has been unable to find any case authority that would aid in the determination whether such an inundation "uses" the facilities of the Irrigation District. The Irrigation District would have the Court go to dictionary definitions of the words "use", "using" and "utilize" to make a determination. However, those definitions do not particularly fit. The Court takes notice that in another separate civil action, the city seeks to condemn the area covered by the present diversion and some three miles of canal owned by the Irrigation District. The condemnation is to acquire the land on which those facilities are located for the city's "use" in the hydroelectric project. It could be argued that the city assumes a contradictory position, however, the two uses are entirely different. The condemnation seeks only the acreage upon which the diversion and carrying facilities are located. It is apparent that these facilities are of no asset value in the construction process. The city cannot use the

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facilities to any advantage in the construction. This Court finds that there must be some asset value in the facilities before it could be said there is any use being made of them and finds that permission of the Irrigation District was not required as a prerequisite.

The District complains of the absence of due process during the hearing on the city Application. In the Administrative Procedure Act at 67-5210 (3), it states that a party may conduct cross-examination required for a full and true disclosure of the facts. The District does not allege that cross-examination was sought and denied. Nothing is brought to the attention of the Court suggesting that the District was denied opportunity to make a full and true disclosure of any evidence they wanted to have considered. Affording due process is more than a mere mechanical process. Due process protects against the loss of substantial rights, and if those rights were not marred, disturbed or in some way limited, then due process would not be denied. The Court finds the District was not denied due process.

In the District's list of issues on appeal, they allege the Director erred in not giving the District the priority for the additional use for

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hydropower purposes that utilizes facilities that are owned or controlled by the District. As to this issue, the Court can only say that any priority that the District might be entitled to could only come from the making of a prior application.

The balance of issues raised by the District where error is alleged, the Court must determine whether the administrative decision was supported by substantial evidence. In this determination, the Court must not substitute its judgment for that of the agency. Other issues will be discussed as follows:

1. The Court agrees with the city in that the grant by the agency is for 5000 cfs for hydropower generation and not for 7,500 cfs. There is substantial evidence to support that grant.

2. The part that Utah Power and Light will play in this project is yet to be determined, and the Court finds the agency committed no error in regard to any statement about the part Utah Power may eventually play in the project.

3. The publication required by statute was adequate, and the Director did not err in a failure to require a new publication.

4. The Director did not err in failing

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to give consideration to the change in the point of diversion of the District. The water right of the District is adequately protected under the grant.

5. There is substantial evidence showing that no farmer would be deprived of being able to apply his irrigation water to a beneficial use. Water rights are to be closely guarded, but, here, that guard exists.

6. The agency considered and accepted substantial evidence to show that the water supply was sufficient for the project.

Considering all the evidence and the findings, the decision of the Department of Water Resources is upheld. The agency would have the Court dismiss the appeal due to an alleged untimely filing by the Irrigation District. The Court does not ignore the possible invalidity of any appeal, however, the decision to uphold the agency on appellate review is a preferable basis for deciding the case.

Dated: April 2, 1985.

H. REYNOLD GEORGE
District Judge

cc: W.J. Anderson, Esq.
Phillip J. Rassier, Esq.
Kent W. Foster, Esq.

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Note,

after fact
Finding hearing
in Id. Falls
on 3-16-82
Dept needs to
prepare & send
comments to
FERC by 4-15-82

VH
3-12-82

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Route To		Date	Initial
	Director		
	Deputy Dir.		
	Reso. Adm.		
	Reso. Analysis		
✓	Oper. Bureau		
	Proj. Stud. Bu.		
	Reg. Off. Bu.		
	Tech. Serv. Bu.		

FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, D.C. 20426

MAR 03 1982

RECEIVED
MAR 9 1982
Department of Water Resources

OEPR-DEA
Project No. 2952
Idaho

TO THE AGENCY ADDRESSED

SUBJECT: Initiation of the Environmental Scoping Process for the Proposed Gem State Hydroelectric Project, FERC No. 2952

The City of Idaho Falls (Applicant) filed with the Federal Energy Regulatory Commission on September 14, 1981, and supplemented on December 23, 1981, an application for construction and operation of the Gem State Hydroelectric Project, FERC No. 2952. The proposed project would be located on the Snake River approximately 6 miles downstream from the City of Idaho Falls, in Bingham and Bonneville Counties, Idaho. The project would consist of a 40-foot-high, 4,300-foot-long earthfill dam, impounding a reservoir approximately 4 miles in length and having a surface area of 305 acres. The Commission's Staff has determined that licensing of the Gem State Project would constitute a major Federal action significantly affecting the quality of the human environment; therefore, an Environmental Impact Statement (EIS) will be prepared as noticed on January 26, 1982.

As an initial step in the EIS process, you are requested to assist the Commission's Staff in (1) determining the scope of issues to be addressed in the EIS, (2) identifying the significant issues related to the proposed action, (3) identifying any issues that are not significant or that have been covered by prior environmental review, and (4) developing any pertinent information that may be necessary for the preparation of an EIS.

To assist you in this scoping process, a proposed outline for the Gem State EIS is attached. You will notice that a Coal-Fired Steam-Electric Development, has been tentatively identified as a reasonable alternative to the Gem State Project. The Coal-Fired plant is not site specific at this time. Any data or other information concerning the natural resources that may be affected by a Coal-Fired plant should be brought to the attention of the Commission's Staff.

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Preliminary scheduling of the Draft EIS for early summer, 1982, requires that all responses to this inquiry be received no later than April 15, 1982. Please address responses to: Director, Division of Environmental Analysis, Federal Energy Regulatory Commission, Room 308-RB, 825 North Capitol Street N.E., Washington, D.C. 20426.

Any questions concerning the Gem Sate EIS and scoping process should be directed to J. Mark Robinson at 202/376-9060.

Sincerely,

Robert E. Cackowski

Robert E. Cackowski
Acting Director, Office of
Electric Power Regulation

Enclosures: EIS Outline

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FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, D.C. 20426

MAR 03 1982

OEPR-DEA
Project No. 2952
Idaho

TO THE AGENCY ADDRESSED

SUBJECT: Initiation of the Environmental Scoping Process for the Proposed Gem State Hydroelectric Project, FERC No. 2952

The City of Idaho Falls (Applicant) filed with the Federal Energy Regulatory Commission on September 14, 1981, and supplemented on December 23, 1981, an application for construction and operation of the Gem State Hydroelectric Project, FERC No. 2952. The proposed project would be located on the Snake River approximately 6 miles downstream from the City of Idaho Falls, in Bingham and Bonneville Counties, Idaho. The project would consist of a 40-foot-high, 4,300-foot-long earthfill dam, impounding a reservoir approximately 4 miles in length and having a surface area of 305 acres. The Commission's Staff has determined that licensing of the Gem State Project would constitute a major Federal action significantly affecting the quality of the human environment; therefore, an Environmental Impact Statement (EIS) will be prepared as noticed on January 26, 1982.

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MICROFILMED

Preliminary scheduling of the Draft EIS for early summer, 1982, requires that all responses to this inquiry be received no later than April 15, 1982. Please address responses to: Director, Division of Environmental Analysis, Federal Energy Regulatory Commission, Room 308-RB, 825 North Capitol Street N.E., Washington, D.C. 20426.

Any questions concerning the Gem Sate EIS and scoping process should be directed to J. Mark Robinson at 202/376-9060.

Sincerely,

Robert E. Cackowski

Robert E. Cackowski
Acting Director, Office of
Electric Power Regulation

Enclosures: EIS Outline

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FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, D.C. 20426

MAR 03 1982

OEPR-DEA
Project No. 2952
Idaho

TO THE AGENCY ADDRESSED

SUBJECT: Initiation of the Environmental Scoping Process for the Proposed Gem State Hydroelectric Project, FERC No. 2952

The City of Idaho Falls (Applicant) filed with the Federal Energy Regulatory Commission on September 14, 1981, and supplemented on December 23, 1981, an application for construction and operation of the Gem State Hydroelectric Project, FERC No. 2952. The proposed project would be located on the Snake River approximately 6 miles downstream from the City of Idaho Falls, in Bingham and Bonneville Counties, Idaho. The project would consist of a 40-foot-high, 4,300-foot-long earthfill dam, impounding a reservoir approximately 4 miles in length and having a surface area of 305 acres. The Commission's Staff has determined that licensing of the Gem State Project would constitute a major Federal action significantly affecting the quality of the human environment; therefore, an Environmental Impact Statement (EIS) will be prepared as noticed on January 26, 1982.

As an initial step in the EIS process, you are requested to assist the Commission's Staff in (1) determining the scope of issues to be addressed in the EIS, (2) identifying the significant issues related to the proposed action, (3) identifying any issues that are not significant or that have been covered by prior environmental review, and (4) developing any pertinent information that may be necessary for the preparation of an EIS.

To assist you in this scoping process, a proposed outline for the Gem State EIS is attached. You will notice that a Coal-Fired Steam-Electric Development, has been tentatively identified as a reasonable alternative to the Gem State Project. The Coal-Fired plant is not site specific at this time. Any data or other information concerning the natural resources that may be affected by a Coal-Fired plant should be brought to the attention of the Commission's Staff.

MICROFILMED

Preliminary scheduling of the Draft EIS for early summer, 1982, requires that all responses to this inquiry be received no later than April 15, 1982. Please address responses to: Director, Division of Environmental Analysis, Federal Energy Regulatory Commission, Room 308-RB, 825 North Capitol Street N.E., Washington, D.C. 20426.

Any questions concerning the Gem Sate EIS and scoping process should be directed to J. Mark Robinson at 202/376-9060.

Sincerely,

Robert E. Cackowski

Robert E. Cackowski
Acting Director, Office of
Electric Power Regulation

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FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, D.C. 20426

MAR 03 1982

OEPR-DEA
Project No. 2952
Idaho

TO THE AGENCY ADDRESSED

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Robert E. Cackowski
Acting Director, Office of
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RECEIVED
JAN 25 1982
Department of Water Resources

FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON 20426

IN REPLY REFER TO:

OEPR-HL
Project No. 2952-001 - Idaho
City of Idaho Falls

JAN 19 1982

TO THE AGENCY ADDRESSED

Subject: City of Idaho Falls' application for Major License for proposed Gem State Hydroelectric Project No. 2952-001 located on the Snake River in Bingham and Bonneville Counties, Idaho.

The subject application has been accepted for filing by the Commission. Enclosed is a proposed public notice describing the application. Within approximately 30 days, the Applicant will forward to you an appropriate number of copies of the application for your information and any comments and recommendations you may have involving your interests.

Please submit any comments on the application to the Secretary of the Commission, with a copy to the Applicant, within 60 days of the date the applications are mailed. If you have not submitted comments or a request for a specific extension of time within that period, we will assume that you have none.

Sincerely,

William W. Lindsay

William W. Lindsay
Director, Office of Electric
Power Regulation

Enclosures:
Proposed Notice
List of Addressees

MICROFILMED

RECEIVED
JAN 25 1982
Department of Water Resources

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

City of Idaho Falls) Project No. 2952-001

NOTICE OF APPLICATION FOR LICENSE (over 5 MW)

Take notice that the City of Idaho Falls, (Applicant) filed on September 14, 1981, an application for license [pursuant to the Federal Power Act, 16 U.S.C. §§791(a) - 825(r)] for construction and operation of a water power project to be known as Gem State Hydroelectric Project No. 2952. The project would be located on Snake River, near the City of Idaho Falls, in Bingham and Bonneville Counties, Idaho. Correspondence with the Applicant should be directed to: Mr. G. S. Harrison, Manager, Electric Light Division, City of Idaho Falls, 140 South Capitol Avenue, P.O. Box 220, Idaho Falls, Idaho 83401.

Project Description - The proposed project would consist of: (1) a 40-foot high, 4,300-foot long earthfill dam, impounding a reservoir with a storage capacity of 5,000 acre-feet and surface area of 305 acres; (2) a four-bay spillway, each bay 40-foot wide and 32-foot high; (3) a 3,300-foot long power canal, narrowing in width from 620-foot to 200-foot; (4) a powerhouse containing one generating unit with an installed capacity of 22.3 MW; (5) a 1,080-foot long tailrace; (6) a 7,300-foot long dike upstream from the spillway on the right bank and a 10,400-foot long dike upstream from the powerhouse on the left bank; (7) two access roads which will be improvements to existing roads; (8) a 3.75-mile long, 44-kV transmission line from the powerhouse to the City's Westside substation; and (9) appurtenant facilities. The project would affect U.S. lands within the Bureau of Land Management.

Purpose of Project - The project would generate an estimated average annual energy of 125.12 million kWh which would be sold to the Bonneville Power Administration.

Competing Applications - Anyone desiring to file a competing application must submit to the Commission, on or before _____, either the competing application itself [See 18 C.F.R. §4.33(a) and (d)] or a notice of intent [See 18 C.F.R. §4.33(b) and (c)] to file a competing application. Submission of a timely notice of intent allows an interested person to file an acceptable competing application no later than the time specified in §4.33(c) or §4.101 et. seq. (1981).

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Comments, Protests, or Petitions to Intervene - Anyone may submit comments, a protest, or a petition to intervene in accordance with the requirements of the Rules of Practice and Procedure, 18 C.F.R. §1.8 or §1.10 (1980). In determining the appropriate action to take, the Commission will consider all protests or other comments filed, but only those who file a petition to intervene in accordance with the Commission's Rules may become a party to the proceeding. Any comments, protests, or petitions to intervene must be received on or before _____.

Filing and Service of Responsive Documents - Any filings must bear in all capital letters the title "COMMENTS", "NOTICE OF INTENT TO FILE COMPETING APPLICATION", "COMPETING APPLICATION", "PROTEST", or "PETITION TO INTERVENE", as applicable, and the Project Number of this notice. Any of the above named documents must be filed by providing the original and those copies required by the Commission's regulations to: Kenneth F. Plumb, Secretary, Federal Energy Regulatory Commission, 825 North Capitol Street, NE., Washington, D.C. 20426. An additional copy must be sent to: Fred E. Springer, Chief, Applications Branch, Division of Hydropower Licensing, Federal Energy Regulatory Commission, Room 208 RB at the above address. A copy of any notice of intent, competing application, or petition to intervene must also be served upon each representative of the Applicant specified in the first paragraph of this notice.

Secretary

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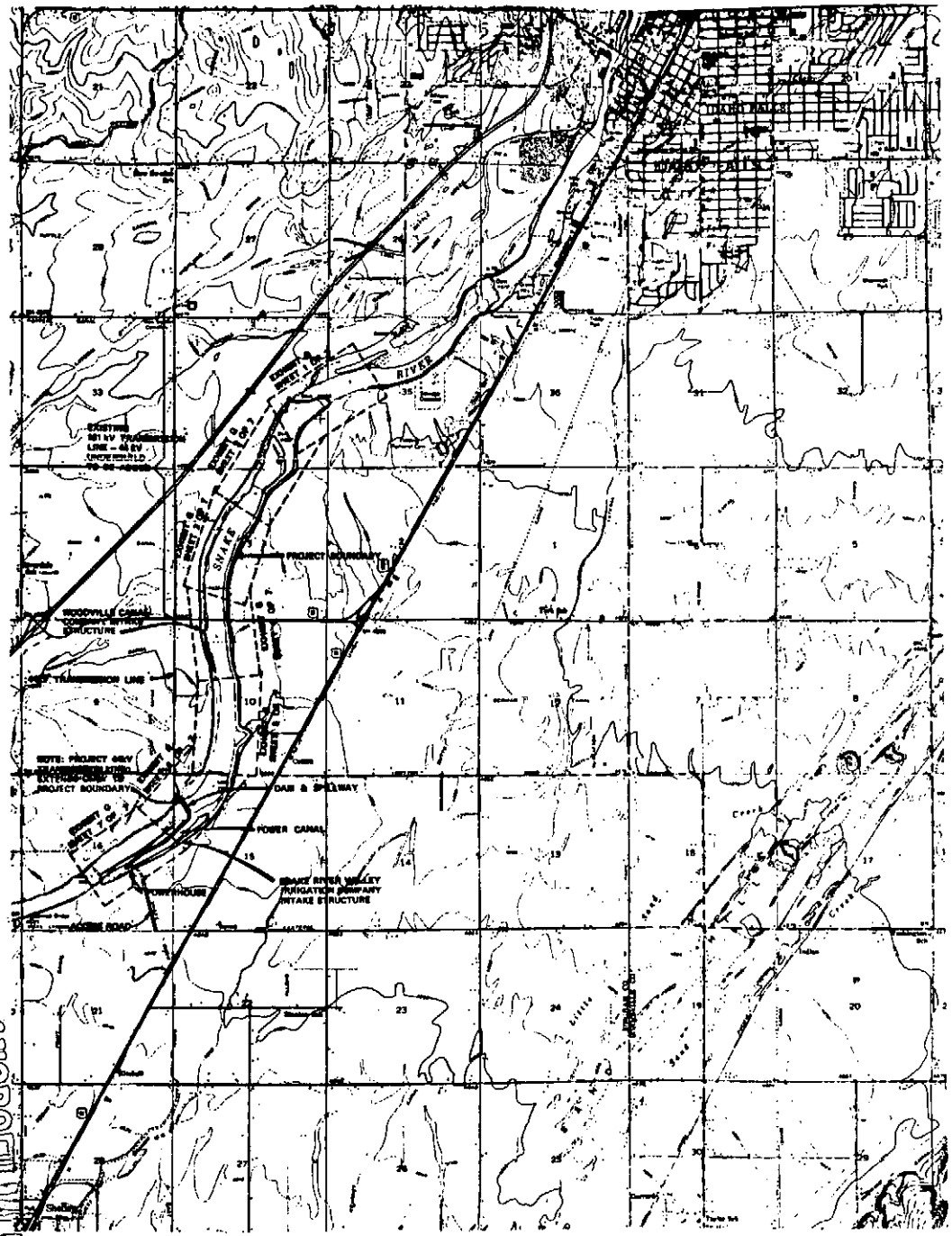
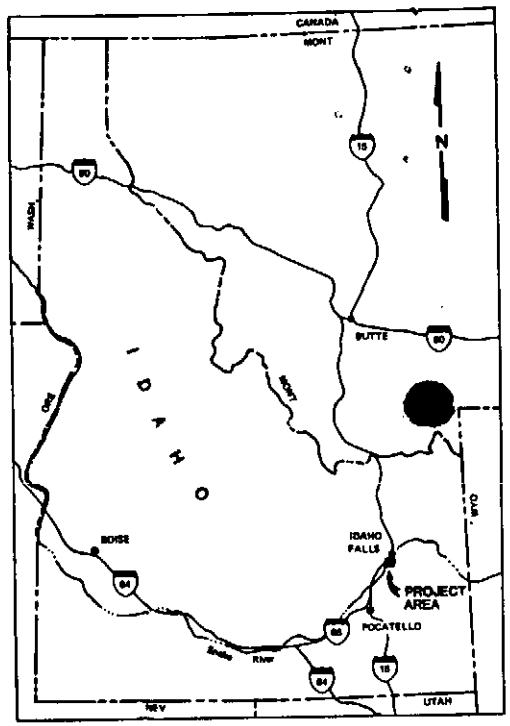
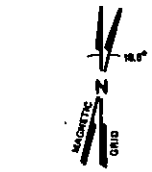




KEY MAP

SCALE 0 50 100 150 200 MILES

1" = 80 MILES



VICINITY MAP

SCALE 0 2000 4000 6000 8000 FEET

1" = 2000 FEET

EXHIBIT G-1

GEM STATE HYDROELECTRIC PROJE

LOCATION MAP

CITY OF IDAHO FALLS, IDAHO

JULY 1981 SHEET 1 OF

FERC No. 2452-001

FERC. NO

LIST OF ADDRESSEES
Project No. 2952-001

Addressee	No. of Copies
Chief of Engineers (HQDA) DAEN-CWE-HY Department of the Army Washington, D.C. 20314	4
Chief of the Forest Service Department of Agriculture P.O. Box 2417 Washington, D.C. 20013	5
Honorable James Watt Secretary of the Interior Washington, D.C. 20240	20
Regional Administrator Region X Environmental Protection Agency 1200 Sixth Avenue Seattle, Washington 98101	5
Fish and Game Department State of Idaho P.O. Box 25 Boise, Idaho 83707	1
Mr. Merle W. Wells Director Idaho Historical Society 610 North Julia Davis Drive Boise, Idaho 83706	1
Director Department of Parks and Recreation State of Idaho Statehouse Boise, Idaho 83720	1
Director Department of Water Resources State of Idaho Statehouse Boise, Idaho 83720	1

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List of Addressees (cont.)
Project No. 2952-001

Addressee	No. of Copies
Idaho Public Utilities Commission Statehouse Boise, Idaho 83720	1
Chairman Board of Commissioners Gooding County Gooding, Idaho 83330	1
Chairman Board of Commissioners Twin Falls County Twin Falls, Idaho 83301	1

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No. of Allotment	Name of Claimant	Date of Priority	Amount in Second	Point of Diversion and Place of Use
29 0234 66	Peachend	July	1.764	Said water to be diverted from Toponce Creek at a point within or without the confines of the lands herei designated for the irrigation of 88.21 acres in the NE¼NW¼ and the NW¼NE¼ of Section 36, Township 6 South Range 38 E.B.M.
29 0235 67	Jack Hoyt	July 6, 1868	1.58	Said water to be diverted from Toponce Creek at a point within or without the confines of the lands herein designated for the irrigation of 79.24 acres in the SE¼NE¼ of Section 35, and the SW¼NW¼ of Section 36, Township 6 South, Range 38 E.B.M.
~~F. 2327~~ 29 0236 68	Mary Hoyt	July 6, 1868	.81	Said water to be diverted from Toponce Creek at a point within or without the confines of the lands herein designated for the irrigation of 15.85 acres in the SE¼SE¼ of Section 35, and the SW¼SW¼ of Section 36, Township 6 South, Range 38 E.B.M.
290001 70	Kate Hoyt	July 6, 1868	1.076	Said water to be diverted from Toponce Creek at a point within or without the confines of the lands herein designated for the irrigation of 53.80 acres in the S½NW¼ of Section 1, Township 7 South, Range 38 E.B.M.
~~F. 2327~~ 29 0238 71	Nemenatse	July 6, 1868	1.733	Said water to be diverted from Toponce Creek at a point within or without the confines of the lands herein designated for the irrigation of 86.67 acres in the SE¼NW¼ and the SW¼NE¼ of Section 36, Township 6 South Range 38 E.B.M.
~~F. 2327~~ 29 0239 72	Novish	July 6, 1868	1.679	Said water to be diverted from Toponce Creek at a point within or without the confines of the lands herein designated for the irrigation of 83.97 acres in the NE¼SW¼ and the NW¼SE¼ of Section 36, Township 6 South Range 38 E.B.M.

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No of Allotment	Name of Claimant	Date of Priority	Amount in Second	Point of Diversion and Place of Use
29 0240 73	Charlie Pizoka	July 6, 1868	.862	Said water to be diverted from Toponce Creek at a point without the confines of the lands herein designated for the irrigation of 43.72 acres in the SW¼SE¼ and the SE¼SW¼ of Section 35, Township 6 South, Range 38 E.B.M.
29 0241 74	Chege	July 6, 1868	.913	Said water to be diverted from Toponce Creek at a point without the confines of the lands herein designated for the irrigation of 46.07 acres in Lots 3 and 4, Section 1, Township 7 South, Range 38 E.B.M.
29 0242 75	Moohowar	July 6, 1868	.71	Said water to be diverted from Toponce Creek at a point without the confines of the lands herein designated for the irrigation of 35.8 acres in Lots 1 and 2, Section 1, Township 7 South, Range 38 E.B.M.
290002 ~~0241~~ 76	Albert Kiwonea	July 6, 1868	1.398	Said water to be diverted from Toponce Creek at a point without the confines of the lands herein designated for the irrigation of 69.12 acres in the S½NE¼ of Section 1, Township 7 South, Range 38 E.B.M.
290003 ~~0242~~ 77	Hattie Kiwonea	July 6, 1868	1.439	Said water to be diverted from Toponce Creek at a point without the confines of the lands herein designated for the irrigation of 71.96 acres in the N½ SE¼ of Section 1, Township 7 South, Range 38 E.B.M.
29 0245 78	Thomas Kennedy	July 6, 1868	1.33	Said water to be diverted from Toponce Creek at a point without the confines of the lands herein designated for the irrigation of 66.68 acres in the N½ SW¼ of Section 1, Township 7 South, Range 38 E.B.M.
29 0246 79	Pocasah	July 6, 1868	1.6	Said water to be diverted from Toponce Creek at a point without the confines of the lands herein designated for the irrigation of 80.24 acres in the S½ SW¼ of Section 1, Township 7 South, Range 38 E.B.M.

Trans # 1052

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NOV 12 1992

FEASIBILITY REPORT

GEM STATE HYDROELECTRIC PROJECT

Prepared for

CITY OF IDAHO FALLS, IDAHO

February 1981

CH2M HILL

FEASIBILITY REPORT

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Chapter 1

Chapter 1
SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

SUMMARY

The Gem State Hydroelectric Project will be a run-of-river generating facility located on the Snake River at river mile 789.76, approximately 5.5 miles southwest of the City of Idaho Falls. The project is at the site of an existing timber crib dam and powerhouse canal. None of the existing structures are suitable for incorporation in the proposed development. See Figure 1-1 for a photograph of the site.

In summary,

- The recommended development consists of: a 37-foot-high earth dam and four-bay spillway, a 2,000-foot-long power canal and adjacent dikes leading to a downstream powerhouse that will house the turbine generator, and a 7,500-foot-long earth dike upstream on the right bank and a similar 10,000-foot-long dike on the left bank.

- The project can be developed for several reservoir elevations, from 4645 up to 4655 feet NGVD (National Geodetic Vertical Datum). The feasibility report is based on elevation 4655.

- At various reservoir elevations and under differing water conditions, the project's estimated output is as shown in Table 1-1.

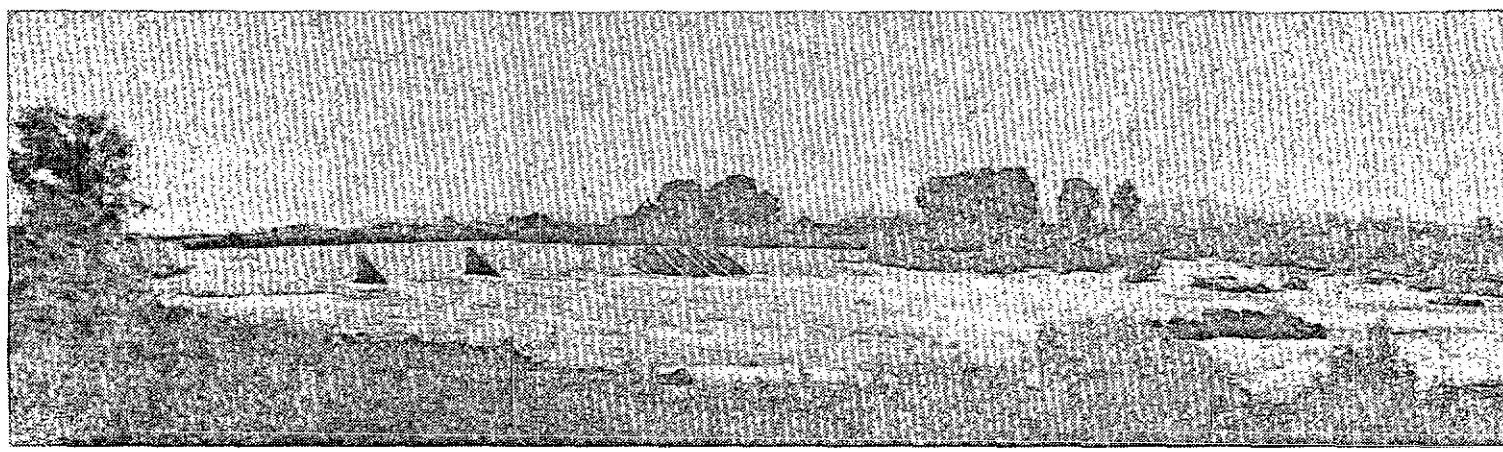
Table 1-1

GEM STATE HYDROELECTRIC PROJECT
OUTPUT SUMMARY

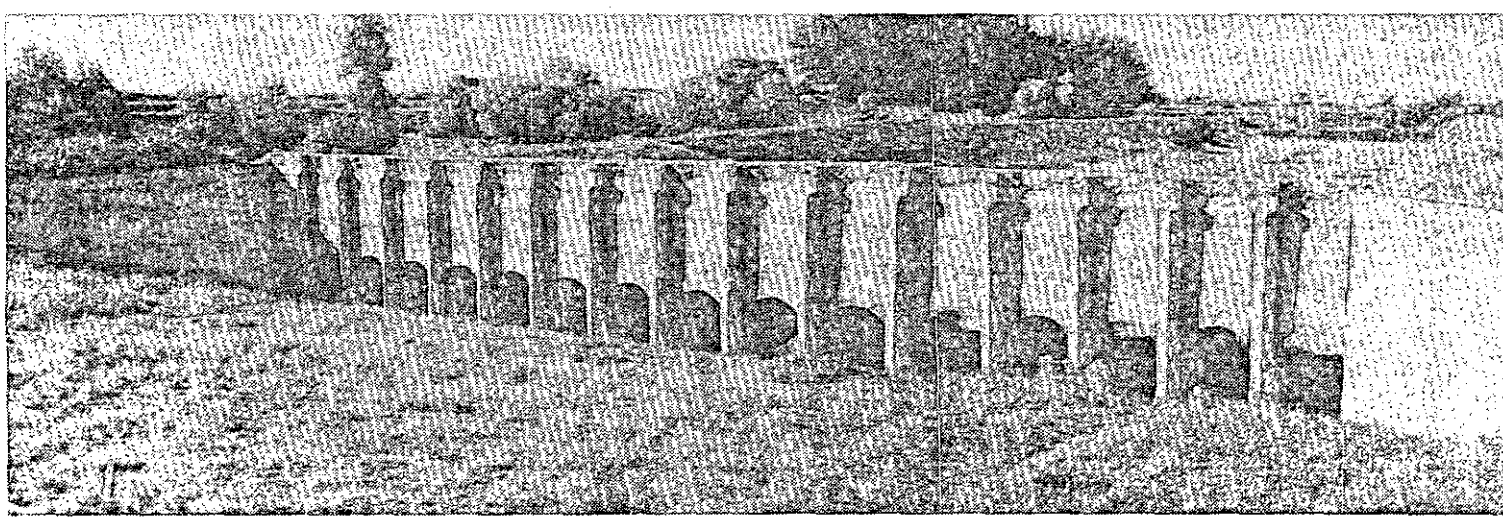
Reservoir Elevation (ft NGVD)	Gross Head (ft)	Installed Capacity (MW)	Annual Energy Production (MWh)		
			Critical Water	Average Water	Above Average
4645	34	15.2	76,000	93,000	113,000
4650	39	17.4	87,000	107,000	129,000
4655	44	19.6	98,000	120,000	145,000

- Final selection of the turbine/generator type will be made during design. For this report, a single, 20-MW bulb unit was assumed.

FIGURE 1–1
Gem State Hydroelectric Project



VIEW OF GEM STATE HYDROELECTRIC DEVELOPMENT
FROM RIGHT BANK DOWNSTREAM OF PRIOR CONSTRUCTION



VIEW OF INTAKE STRUCTURE AND DOWNSTREAM POWER
CANAL ON LEFT BANK

- Project financing was assumed to be at 10-3/8 percent for 35 years, and that it will be on a basis similar to that for the three upstream projects.

- The estimated financing requirement for the project is dependent on the project schedule. Table 1-2 summarizes project costs for three possible online dates.

Table 1-2

GEM STATE HYDROELECTRIC PROJECT
COST SUMMARY

(Average water conditions, pool elev. 4655 NGVD)

On-Line Date	Estimated Financing Requirement	Cost ($/Installed kW)	Mills/kwh in First Year
Jan 1984	$70,399,000	$3,517	56
Jan 1985	79,306,000	3,965	62
Jan 1986	89,131,000	4,457	70

- The project's benefit/cost ratio is estimated at between 1.1 and 1.5, depending on the online date.

- Under present contracts, and assuming a 1-year slippage in WPPSS 4 and 5, the projected energy deficits for the City without and with the Gem State project are:

Calendar Year	Energy Surplus (Deficit) (August MW)	
	Without Project	With Project
1984	(4.0)	8.2
1985	(7.8)	4.4
1986	(11.8)	0.4
1987	(4.3)	7.9
1988	(4.4)	7.8
1989	(4.8)	7.4
1990	(5.0)	7.2
1991	(5.1)	7.1
1992	(15.9)	(3.7)

CONCLUSIONS

Our conclusions are:

- The project is technically, economically, financially, and environmentally feasible.
- The estimated project costs compare favorably with other projects being developed in the region.
- The project is needed to meet projected energy deficits of the City. Short-term surpluses will be marketable to others.
- There appear to be no inherent environmental or socio-institutional barriers to the construction of the project.
- The best method to finance the project is through the sale of general obligation bonds.

RECOMMENDATIONS

It is recommended that the City:

- Pursue project development.
- Obtain site access as soon as possible, either through negotiation or eminent domain.
- Conduct subsurface investigations as soon as site access is obtained.
- Select an engineering firm to begin preparation of the FERC license application and final design.

Chapter 2

Chapter 2
INTRODUCTION

PURPOSE

The report assesses the technical, economic, financial, and environmental feasibility of the Gem State Hydroelectric Project, FERC Project No. 2952, and establishes the project's feasibility. Alternative concepts were identified and considered. Project feasibility has been determined based on a reservoir pool elevation of 4655 feet NGVD (National Geodetic Vertical Datum).

The project consists of a dam and spillway at river mile 789.76[1], a power canal, powerhouse, and tailrace on the left bank of the river, and dikes on both right and left banks. The right bank dike is about 7,500 feet long, and the left bank dike is about 10,000 feet long. They are necessary to contain the reservoir pool at elevation 4655 feet NGVD.

The City of Idaho Falls received a Federal Energy Regulatory Commission (FERC) preliminary permit for the Gem State Project on March 25, 1980. The City has also received a U.S. Department of Energy loan in the amount of $50,000 to study the project's feasibility.

AUTHORITY

CH2M HILL was authorized by the City to conduct this feasibility study in a letter dated May 12, 1980.

SCOPE

The scope of the engineering services includes:

Task 1--Data Collection

Conduct a visit to the Gem State site to determine the physical interrelationships of the existing facilities. Identify (or confirm) possible project concepts. Gather hydrologic data to provide the base for the conceptual design and power production. Data relating to the Gem State Project in common with the three projects currently under construction by the City will be fully utilized and not duplicated.

Task 2--Geotechnical Investigations

Conduct limited subsurface investigations at the dam site, canal dikes, and proposed powerhouse location to determine probable foundation materials.

---

[1]U.S.G.S. Quad Map, 1948, photo revised, 1979

This task was not performed because site access has not been obtained.

Task 3--Conceptual Design

Develop a conceptual design for each identified alternative.

Task 4--Feasibility Level Cost Estimate

Estimate the total project cost for each identified alternative based on the conceptual designs developed in Task 3. The cost estimates will be itemized according to FERC accounts. Estimate the project's annual cost.

Task 5--Power Production

Estimate the monthly energy production from Gem State Project for an average, dry, and wet weather year.

Task 6--Value of Power and Marketing

Estimate the cost of power from the project and compare the cost to other power supply alternatives. Identify and discuss the possible markets for power.

Task 7--Financial Alternatives

Identify available alternatives for financing the project.

Task 8--Benefit/Cost Evaluation

Calculate benefit/cost ratios for several discount rates. The project costs will be based on the cost estimate developed in Task 4 and the benefits will be based on the value of power from other power supply alternatives.

Task 9--Environmental and Social Aspects

Identify and briefly discuss the environmental and social aspects that may impact the development of the project.

Task 10--Project Implementation

Prepare a plan and schedule showing the steps to implement the Gem State Project. The schedule will identify the key milestones of licensing, financing, design, equipment procurement, and construction.

PRIOR STUDIES

The City, in investigating the rehabilitation of its three existing generation facilities upstream from the project, has completed a significant amount of work that is applicable

to the Gem State site. This prior work was used to the extent possible in developing the hydrological analysis and cost estimates.

ACKNOWLEDGMENTS

We would like to thank the City for the opportunity to be of service and the City's staff for their excellent assistance and cooperation. We would also like to acknowledge the assistance and cooperation provided by the Idaho Department of Fish and Game.

Chapter 3

Chapter 3
SITE CHARACTERISTICS AND EXISTING FACILITIES

GENERAL

The Gem State Hydroelectric Project will be a run-of-river generating facility located on the Snake River at river mile 789.76, approximately 5.5 miles southwest of the city of Idaho Falls, at latitude N43°25'20" and longitude W112°6'05". The project is located in Bonneville and Bingham Counties, with the entire reservoir and dam in nearby Bonneville County. The project location is shown in Figure 3-1.

LEGAL ACCESS

Utah Power and Light Company (UP&L), an investor-owned electric utility, owns the parcels of land on both the right and left river banks required for construction of the dam, spillway power canal, powerhouse, and tailrace. UP&L has denied the City access to the site to conduct subsurface investigations. The City of Idaho Falls should acquire these parcels at once, either through purchase or eminent domain.

Other lands affected by the project should also be acquired by the City.

GEOLOGY

The project site is centrally located within the Snake River plain, which trends northeast across Bonneville County, varying in width from 8 to 12 miles. The broad alluvial valley is filled with clay, silt, sand, gravel, lava, and pyroclastics. At the Gem State site, coarse gravels, silts, and sands overlie the basalt bedrock. Gravel depth varies from 20 to 25 feet, and the gravels appear to contain appreciable silt and sand. The plain, between Idaho Falls and the site, a distance of about 30,000 feet, has an elevation difference of 50 feet or a slope, southwest, of about 9 feet per mile. While no explorations of foundation conditions have been conducted to date, basalt bedrock is exposed at both the spillway and powerhouse locations. Bedrock elevation is about 4623 feet NGVD at the spillway and is level from bank to bank. Immediately below the spillway, and extending about 1,000 feet downstream, a 150-foot-wide channel has been eroded into the bedrock and bedrock elevation in the channel is about 4600 feet NGVD.

Bedrock elevation in the riverbed opposite the left bank powerhouse location is 4605 feet NGVD. Bedrock elevation at the powerhouse was estimated to be 4615 feet NGVD, and the powerhouse foundation for the bulb-type turbine rock is at elevation 4580 feet NGVD.

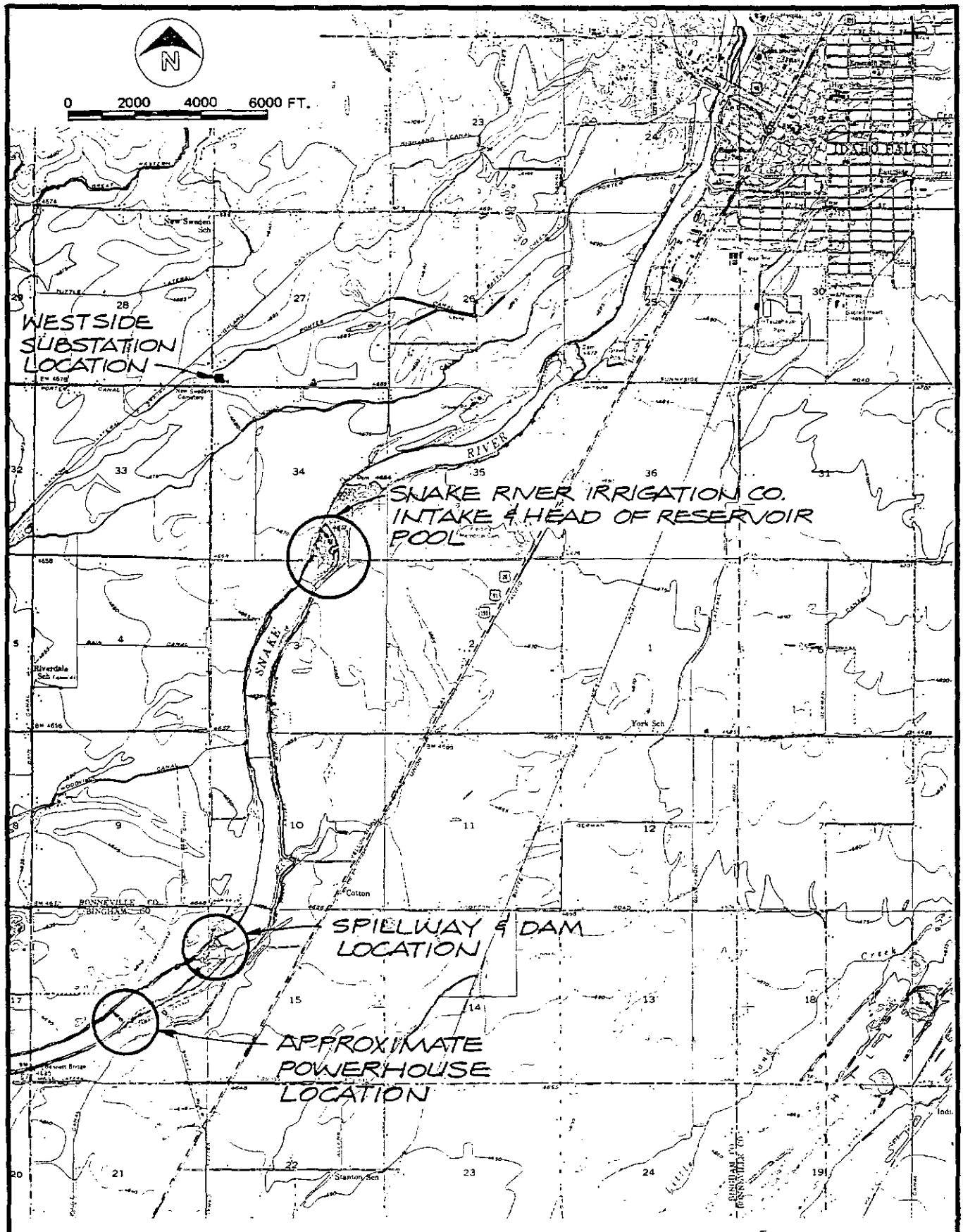


FIGURE 3-1

PROJECT LOCATION & SITE PLAN

CH2M HILL

The exposed basalt bedrock has a columnar structure, is fractured and is of good quality. There are no mapped faults within 15 miles of the project. The nearest concentrations of seismic activity are 45 miles southeast and 100 miles north-northeast. The maximum probable earthquake acceleration is estimated to be 0.12 g (an event equal to or greater than the magnitude received once every 10,000 years).

Generally speaking, foundation conditions are very favorable and the materials for embankment construction appear to be good quality.

Based on observations in the general project area, the existing ground-water level appears to be quite low.

WATER RIGHTS

In March 1978, the City filed an "Application for Permit To Appropriate the Public Waters of the State of Idaho" for the Gem State Project in the amount of 5,000 cfs. A payment of $1,465 accompanied the application.

The state's Department of Water Resources has not yet approved the application. It is awaiting the project feasibility study and City acquisition of project lands.

LAND EASEMENTS

In September 1980, the City filed an application for easements on state lands below the ordinary or high water mark of the river. These easements involve two parcels of land--the dam and spillway area, and the powerhouse and tailrace area. The application was filed with the Idaho State Department of Public Lands.

Chapter 4

Chapter 4
HYDRAULICS AND HYDROLOGY

GENERAL

The Snake River drainage area at the project site is about 9,790 square miles. The river originates at elevations exceeding 9,500 feet along the Continental Divide in Wyoming, then flows south through western Wyoming, and then southwest through the famous Snake River Valley toward Idaho Falls, Idaho. Snowmelt, which occurs primarily during April, May, and June, is the principal source of streamflow. Light rainfall and occasional thunderstorms also contribute to streamflow. Annual precipitation in the watershed varies from 60 inches in the mountain headwaters to less than 10 inches in the valley.

The primary use of the Snake River near the project site is hydroelectric power generation and irrigation. In addition, upstream reservoirs store water for flood control, navigation, fish migration, and low flow augmentation. These reservoirs include: Jackson Lake and Palisades Reservoir on the Snake River, Henrys Lake and Island Park Reservoir on the Henrys Fork, and Ririe and Grays Lake on Willow Creek.

The average monthly flow in the river at the project site varies from a low of 2,600 cfs to a high of 10,900 cfs. The maximum flow of record is 67,300 cfs (June 1976) and the minimum flow is 288 cfs (November 1934).

HYDROLOGY

A hydrologic analysis of the Snake River at the project site was completed to determine the quantity and duration of flow available for power generation. The basis for the analysis was flow data measured at the U.S. Geological Survey stream gage on the Snake River near Shelley, Idaho (gage #13060000), approximately 6 miles downstream from the project site. The Idaho Department of Water Resources has adjusted the flows measured at the gage from 1928 through 1977 to reflect what would have occurred under the present level of upstream regulation and diversion. These average monthly flows were the basis for developing the flow duration curve, Figure 4-1, for the project site.

Because of diversions for irrigation between the City's Lower Plant and the project, the flow duration curve for Gem State is somewhat different than for the upstream projects. An adjustment was made to reflect a 50 cfs discharge at the spillway. No adjustment was made to account for the difference in location between the gage and the project site because the difference in drainage area between the gage site and the project site is less than 0.1 percent. Increased evaporation losses were assumed to be negligible.

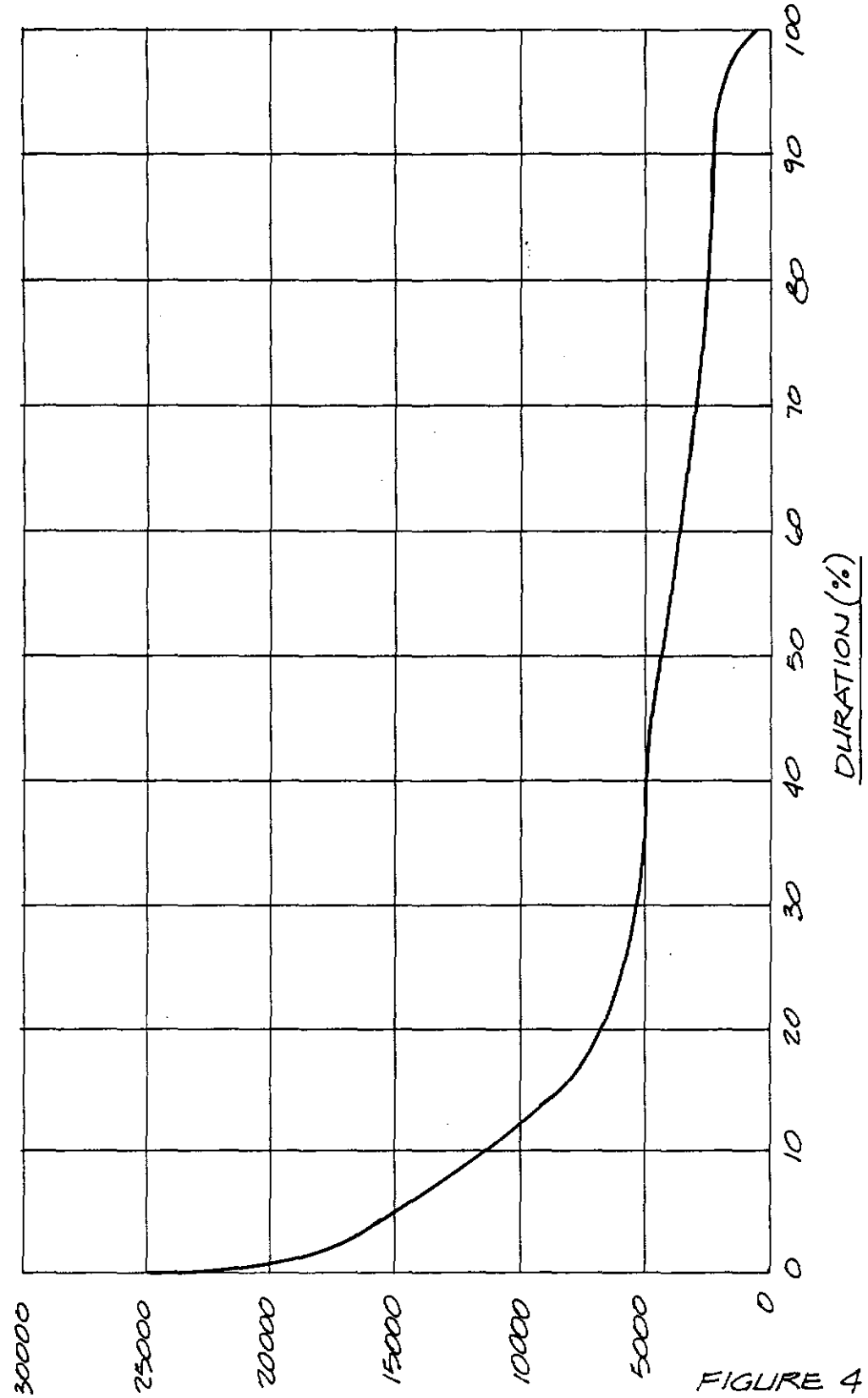


FIGURE 4-1
GEM STATE
HYDROELECTRIC
PROJECT

FLOW DURATION CURVE

CH2M HILL

The flow duration curve based on 50 years of measured streamflow data was the basis for average year energy calculations. The critical period for energy production was August 1928 through February 1932. This is the period used for computing "dependable energy" under the Pacific Northwest Coordination Agreement. Energy production during a representative wet year (1975 water year) was also calculated. The wet year selected had a total annual runoff midway between the average annual runoff and the maximum runoff of record.

An analysis using the flow conditions that will prevail if the Recommended State Water Plan is implemented was not done.

HYDRAULICS

The tailwater rating curve, Figure 4-2, for the project powerhouse was developed using the step backwater analysis method. Surveyed cross sections, both upstream and downstream of the powerhouse, were the basis for calculating water surface profiles for flows spanning the range of expected powerhouse discharges. The gross available power head for three possible reservoir levels is shown in Figure 4-3.

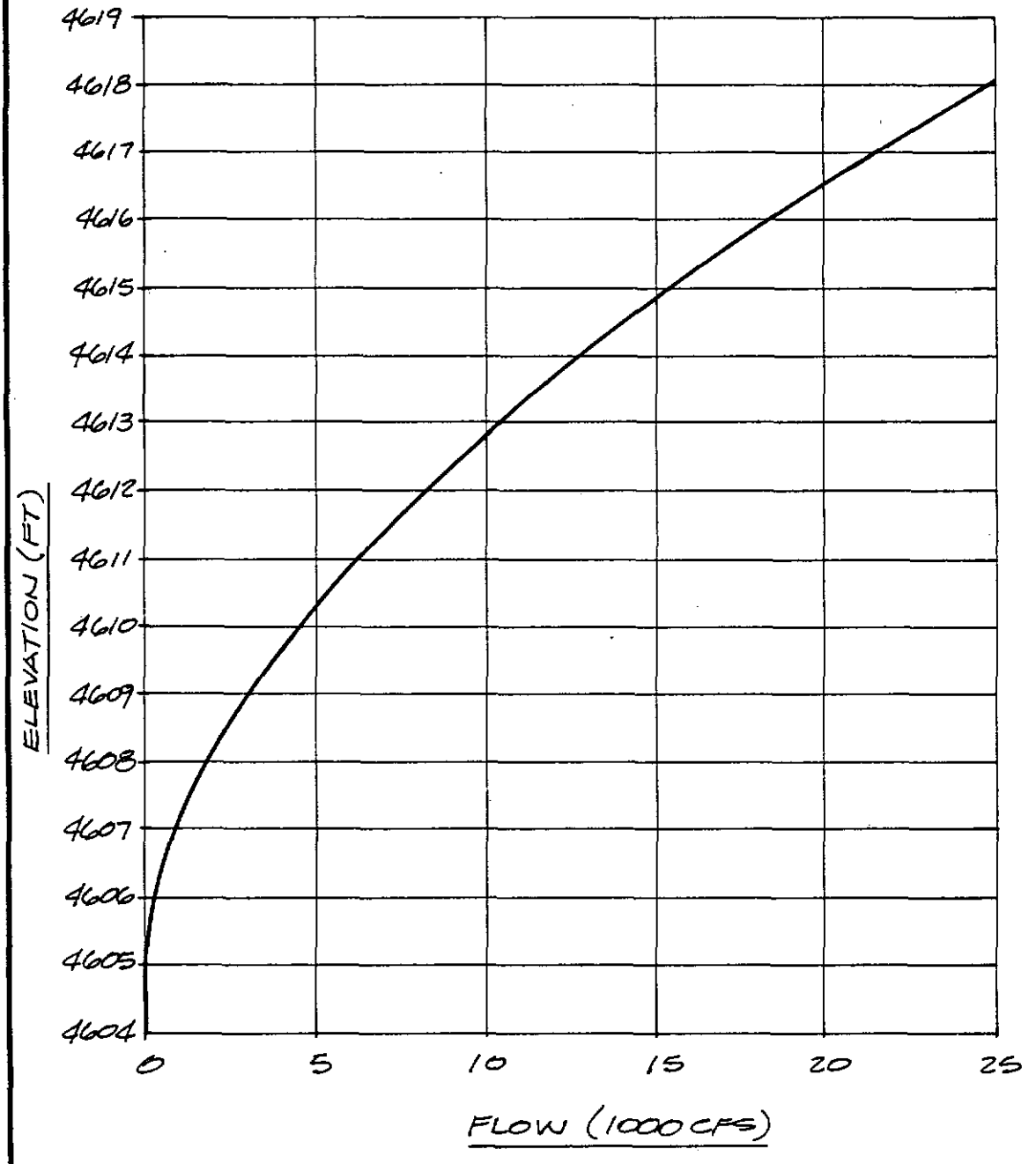


FIGURE 4-2
GEM STATE
HYDROELECTRIC
PROJECT
TAILWATER RATING CURVE

CH2M HILL

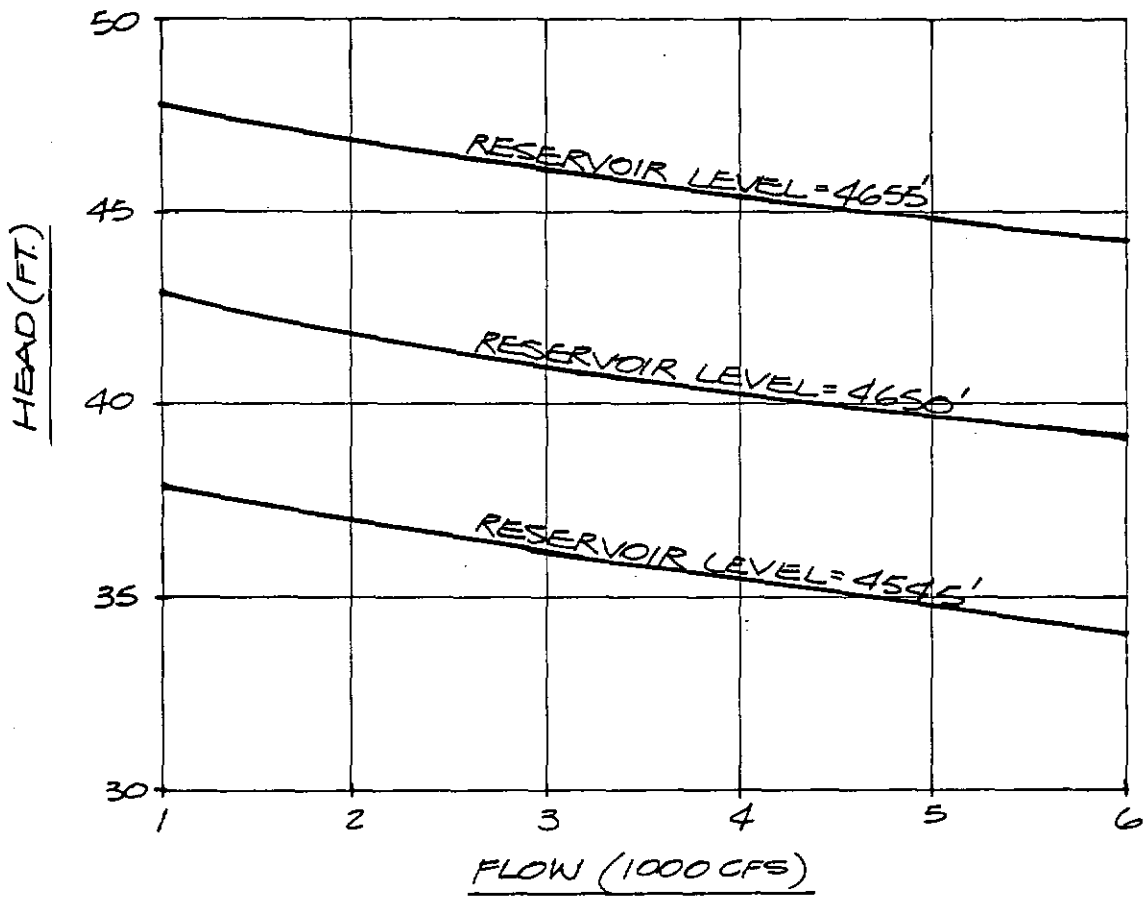


FIGURE 4-3

GEM STATE HYDROELECTRIC PROJECT GROSS POWER HEAD

CH2M HILL

Chapter 5

Chapter 5
RECOMMENDED PROJECT DEVELOPMENT

GENERAL

SITE CHARACTERISTICS

The proposed Gem State hydroelectric development will occupy the site of a previous uncompleted and unsuccessful hydro development, some of which remains in the riverbed and along the left bank downstream of the rapids. These remains consist of a breached timber crib dam across the rapids, a diversion headworks, and a power canal along the left bank. The facilities were constructed in 1910, apparently for power generation. Evidence indicates that the powerhouse was never constructed. None of the existing structures are suitable for incorporation in the proposed development.

Because the Snake River plain in the area southwest of Idaho Falls has little relief, the Gem State project will be run-of-river, with the reservoir providing a small amount of storage. The spillway size and location is constrained by the probable maximum flood, favorable bedrock elevation, reservoir level, and the tailwater elevation. The powerhouse location is similarly constrained.

The alternatives considered--a straight-axis layout, both above and below the rapids, and the recommended layout--were evaluated on the basis of required rock excavation, head developed, and relative costs. The recommended development places the spillway immediately above the rapids at river mile 789.76 and the powerhouse on the left bank about 2,000 feet downstream.

A layout that would place the spillway and powerhouse on a straight axis bank to bank and above the rapids would require much rock excavation and a high concrete gravity training wall separating powerhouse and spillway flow. Also, this layout would not develop as much head (power) as the proposed development because of a higher tailwater elevation. A straight axis layout below the rapids would require considerable rock excavation, additional spillway concrete, and a gravity training wall between the powerhouse and spillway flows.

In order to develop the maximum power potential of the site and to avoid costly rock excavation, the existing left bank power canal leading to a downstream powerhouse is used. The powerhouse is located outside the river channel, which will permit a timely construction start on that work that is on the critical path to power on line.

DESCRIPTION OF RECOMMENDED DEVELOPMENT

The proposed hydroelectric project will develop a head of 44 feet at a design flow of 6,000 cubic feet per second. The installed capacity would be about 20 megawatts.

The recommended development consists of: a 37-foot-high earth dam and four-bay spillway, a 2,000-foot-long power canal and adjacent dikes leading to a downstream powerhouse that will house the turbine generators, and a 7,500-foot-long earth dike upstream on the right bank and a similar 10,000-foot-long dike on the left bank. Access to the project from the east via the Yellowstone Highway will be provided by the left bank dike. A roadway will allow vehicles to access and cross the dam and spillway to the right bank and the New Sweden School Road to the west. Refer to Figures 5-1 through 5-7.

The reservoir created by the project extends 20,000 feet upstream. At pool elevation 4655 feet NGVD the reservoir has a surface area of about 250 acres and storage of about 4500 acre-feet.

To prevent stagnation of water in the Snake River channel below the spillway and above the powerhouse tailrace, a flow of 50 cfs will be discharged adjacent to the right spillway training wall. A 40-foot-wide bascule gate in the power canal dike will allow for discharge of floating debris and ice. No provisions have been included for fish passage.

The Snake River Irrigation Company canal will be inundated by the reservoir from its present intake to where the left bank dike intersects the canal, a length of about 3 miles; construction of a new irrigation canal intake control structure where the left bank intersects the irrigation canal will be necessary. It is our understanding that water losses in the portion of the canal that will be inundated are large enough that the Irrigation Company may welcome the change. About 2 miles of the Woodville Canal Company's canal, including the existing intake, will also be inundated. It is proposed to relocate the intake structure to a point immediately below the State Highway 26 bridge at river mile 791.1.

A reservoir pool elevation of 4655 will require that the Highway 26 bridge be raised. The possibility of doing this has been discussed with the State Highway Department, which expressed its willingness to cooperate.

SNAKE RIVER IRRIGATION COMPANY INTAKE

SNAKE

RIVER

WATER

MATCH TO SHEET 1

MATCH TO SHEET 3

N 652,000 E 522,000 N 651,500 N 651,000 E 521,500 N 650,500 N 650,000 E 521,000 N 649,500

E 522,000 N 652,500 E 521,500 E 521,000 N 653,000 E 520,500

NOTE: CONTROL PROVIDED BY CITY OF IDAHO FALLS

SCALE 1" = 100'

CONTOUR INTERVAL 4' WITH 2' SUPPLEMENTARY CONTOURS

PHOTOGRAPHY DATE MAY. 12, 1977

FIGURE 5-1
GEM STATE
HYDROELECTRIC
PROJECT
SITE PLAN
SHEET 1 OF 7

CH2M HILL

Mymphis AERIAL SURVEYS INC 50 West 2950 South Salt Lake City, Utah 84115 Phone: (801) 484-4351 9132

SHEET NO. 2

N 649,500 E 520,500 N 649,000 N 648,500 N 648,000 E 520,000 N 647,500 N 647,000 E 519,500 N 646,500

E 520,500 E 520,000 E 519,500 N 650,000 E 519,000

MATCH TO SHEET 2

MATCH TO SHEET 4

SNAKE RIVER

NOTE: CONTROL PROVIDED BY CITY OF IDAHO FALLS

CH2M HILL

FIGURE 5-2
GEM STATE HYDROELECTRIC PROJECT
SITE PLAN
SHEET 2 OF 7

SCALE 1" = 100'
100' 50' 0' 100' 200' 300'
CONTOUR INTERVAL 4' WITH 2' SUPPLEMENTARY CONTOURS
PHOTOGRAPHY DATE MAY. 12, 1977

AERIAL SURVEYS INC 50 WEST 2950 South Salt Lake City, Utah 84115 Phone (801) 484-4351-9132

N 647,000 N 646,500 N 646,000 N 645,500 N 645,000 E 520,000 N 644,500 N 644,000

E 519,500

E 519,000

E 518,500

E 518,000

SNAKE RIVER

TANK

MATCH TO SHEET 3

MATCH TO SHEET 5

FIGURE 5-3
GEM STATE
HYDROELECTRIC
PROJECT
SITE PLAN
SHEET 3 OF 7

SCALE 1" = 100'

100' 50' 0' 100' 200' 300'

CONTOUR INTERVAL 4' WITH 2' SUPPLEMENTARY CONTOURS

PHOTOGRAPHY DATE MAY. 12, 1977

CH2M HILL

NOTE: CONTROL PROVIDED BY CITY OF IDAHO FALLS

Olympus AERIAL SURVEYS INC 50 WEST 2950 SOUTH Salt Lake City, Utah 84115 Phone (801) 484-4351-9132

SHEET NO. 4

N 643,500 N 643,000 N 642,500 N 642,000 E 520,000 N 641,500 N 641,000

E 520,000 N 644,000

E 519,500

E 519,000

E 518,500

E 518,000

MAXIMUM POOL ELEV 4650

TANK

4640

SNAKE RIVER

MATCH TO SHEET 4

MATCH TO SHEET 6

NOTE: CONTROL PROVIDED BY CITY OF IDAHO FALLS

FIGURE 5-4
GEM STATE HYDROELECTRIC PROJECT
SITE PLAN
SHEET 4 OF 7

SCALE 1" = 100'

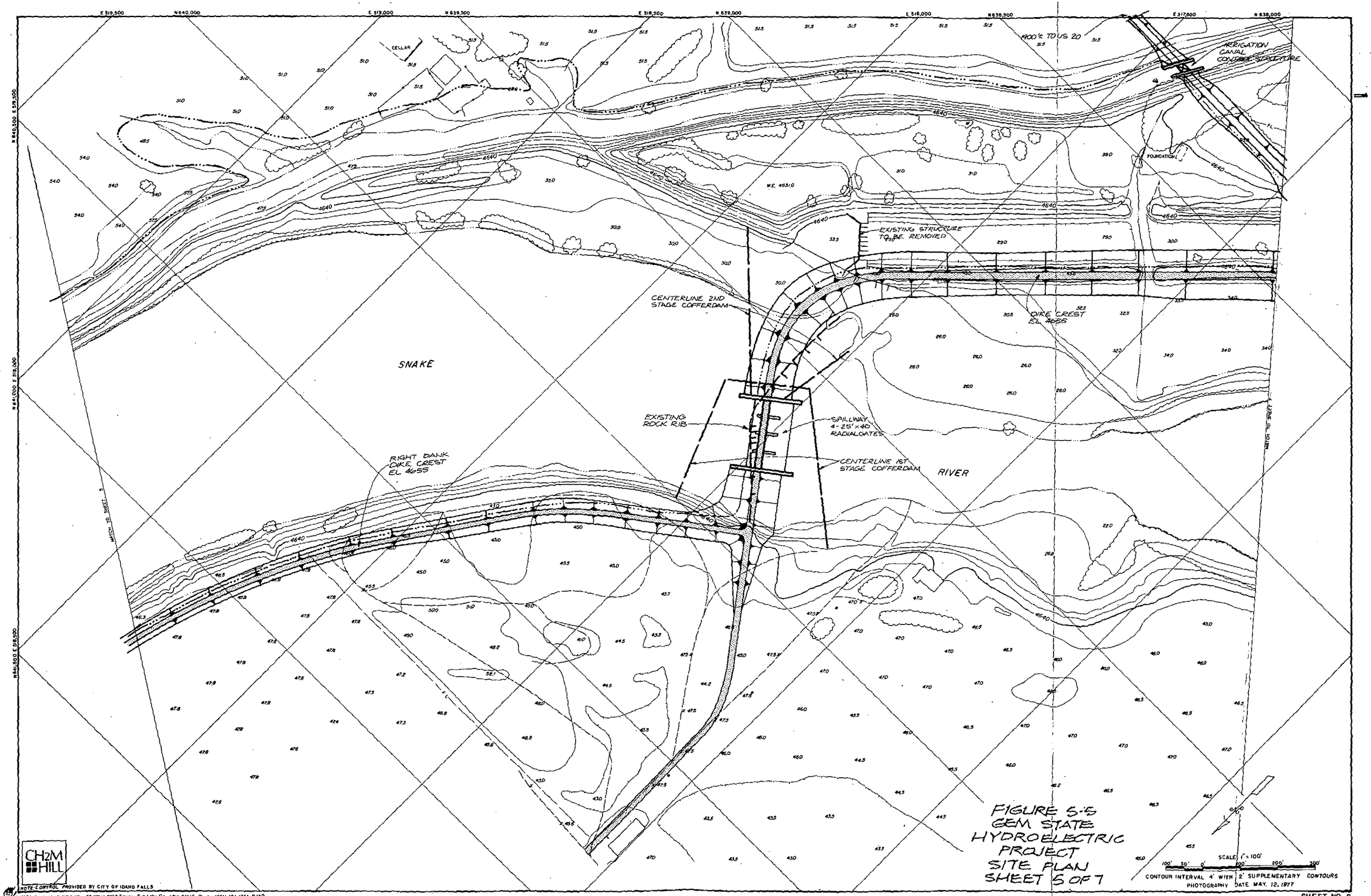
100' 50' 0' 100' 200' 300'

CONTOUR INTERVAL 4' WITH 2' SUPPLEMENTARY CONTOURS

PHOTOGRAPHY DATE MAY. 12, 1977

Olympus AERIAL SURVEYS INC 50 WEST 2950 SOUTH Salt Lake City, Utah 84115 Phone (801) 484-4351-9132

SHEET NO. 5



CH2M HILL

NOTE: CONTROL PROVIDED BY CITY OF IDAHO FALLS

Aerial Surveys Inc. 50 West 2950 South Salt Lake City, Utah 84115 Phone (801) 484-4351-9132

FIGURE 5-5
GEM STATE HYDROELECTRIC PROJECT
SITE PLAN
SHEET 5 OF 7

SHEET NO. 6

E 517,000 N 637,500 E 516,500 E 516,000 N 637,000 E 515,500 N 636,500 E 515,000 N 636,000

N 639,000 E 517,000 N 638,500 E 516,500 N 639,000

MAXIMUM POOL ELEV 4650

POWERHOUSE AND SLUICEWAY

40 FOOT BASCULE GATE

TAIL RACE CHANNEL

SNAKE RIVER

MATCH TO SHEET 6

MATCH TO SHEET 8

NOTE: CONTROL PROVIDED BY CITY OF IDAHO FALLS

Olympus AERIAL SURVEYS INC 50 WEST 2950 SOUTH Salt Lake City, Utah 84115 Phone: (801) 484-4351-9132

SCALE 1" = 100'

100' 50' 0' 100' 200' 300'

CONTOUR INTERVAL 4' WITH 2' SUPPLEMENTARY CONTOURS

PHOTOGRAPHY DATE MAY. 12, 1977

SHEET NO. 7

FIGURE 5.6
GEM STATE
HYDROELECTRIC
PROJECT
SITE PLAN
SHEET 6 OF 7

The plan, as described, is for a reservoir pool elevation of 4655 feet NGVD. The plan can also be adapted to lower reservoir levels which result in relatively small decreases in affected land, dike, and dam height.

The proposed project, as shown in Figures 5-6 and 5-7, will be adjusted to the bedrock. The spillway will not require significant adjustment, and the final powerhouse location will be adjusted upstream or downstream depending on rock elevation at the powerhouse and in the tailrace channel. Bedrock elevation cannot be determined until site access is obtained and subsurface investigations are conducted.

Pool elevation 4655 feet will not directly displace any residential dwellings. The construction and nature of the embankments may result in the need to reach accommodations with various owners. The 4655-foot pool elevation requires a maximum dike height of 15 feet, including the 5-foot freeboard.

The project will be electrically interconnected to the City of Idaho Falls' 44-kV loop system that serves the interior portions of the city. This interconnection will be made at the City's soon-to-be-built Westside Substation, located in the southwest corner of section 27, T2N, R37E. See Figure 3-1.

Power will be generated at a subvoltage and stepped up to 44 kV at the site. The power will then be transmitted at 44 kV for approximately 3 to 3-1/2 miles to the substation. The first 1 to 1-1/2 miles will be new single circuit wood pole construction. The remaining 2 miles will be as underbuild on the City's newly constructed 161-kV steel pole transmission line.

An alternative substation site 1 mile west is also being considered. If selected, an additional 1 mile of new 44 kV single circuit wood pole line will be needed. To the extent possible, any new transmission lines will parallel existing roads and use existing rights-of-way.

DESIGN CONSIDERATIONS

The river at the proposed site is confined at the head of the rapids within banks that are about 20 feet above the bedrock. Under average river flows, there is a 10-foot drop at the rapids and an additional approximately 5-foot drop over the next 3,500 feet downstream. A structure at the rapids could develop a 32-foot head, and a left bank power canal leading to a downstream powerhouse could develop an additional 2 feet of head, for a total of 34 feet.

With the construction of dikes on both banks, a maximum of 10 additional feet of head can be developed.

A four-bay spillway will pass all flow in excess of powerhouse capacity and is sized to pass the probable maximum flood without overtopping the dam. The final powerhouse location will be determined when explorations establish the bedrock profile in the powerhouse approach and tailrace channels. Because all materials for embankment construction, including the impervious core, may be obtained from excavation of powerhouse approach and tailrace channels, and the cost for rock excavation is three times that of gravel, a site that will minimize rock excavation and develop maximum head should be selected.

The downstream water surface profile and high rock elevations suggest that the final powerhouse location may be positioned well upstream of that now shown on the drawings.

Except for the powerhouse and spillways (see Figures 5-7 and 5-8), all structures are gravel and rock embankments with both inclined and central impervious cores. A cost study of concrete versus earth embankments, using $200/cu yd for concrete and $5/cu yd for earth, favors the earth embankments by a factor of 10.

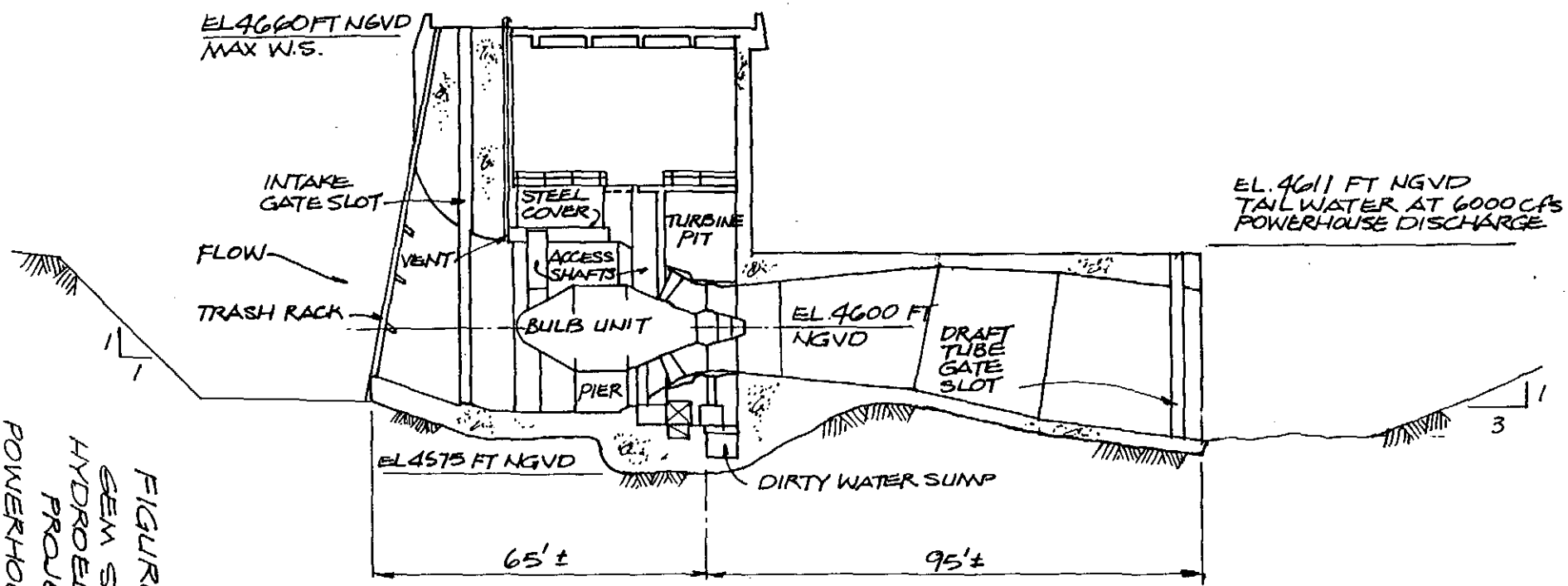
The right spillway embankment and left bank power canal embankment include positive seepage cutoffs to the bedrock. The right and left bank dikes are founded on about 20 to 25 feet of gravels that are excellent foundation materials from a stability standpoint but could also be quite pervious, requiring some type of treatment. The estimate for the 4655-foot pool elevation assumes that foundation treatment will be required; therefore, a slurry type cutoff to bedrock and perforated pipe toe drains have been included in the construction estimate.

As the amount of concrete required for the project exceeds 25,000 cubic yards, it is possible the contractor may wish to erect a plant at the site; however, for this stage of investigation, it has been assumed that concrete will be obtained from local plants. Aggregates are known to be alkali reactive, and therefore Type II, low alkali cement must be specified.

TURBINE/GENERATOR SELECTION

In selecting the turbine/generator(s) the major considerations are:

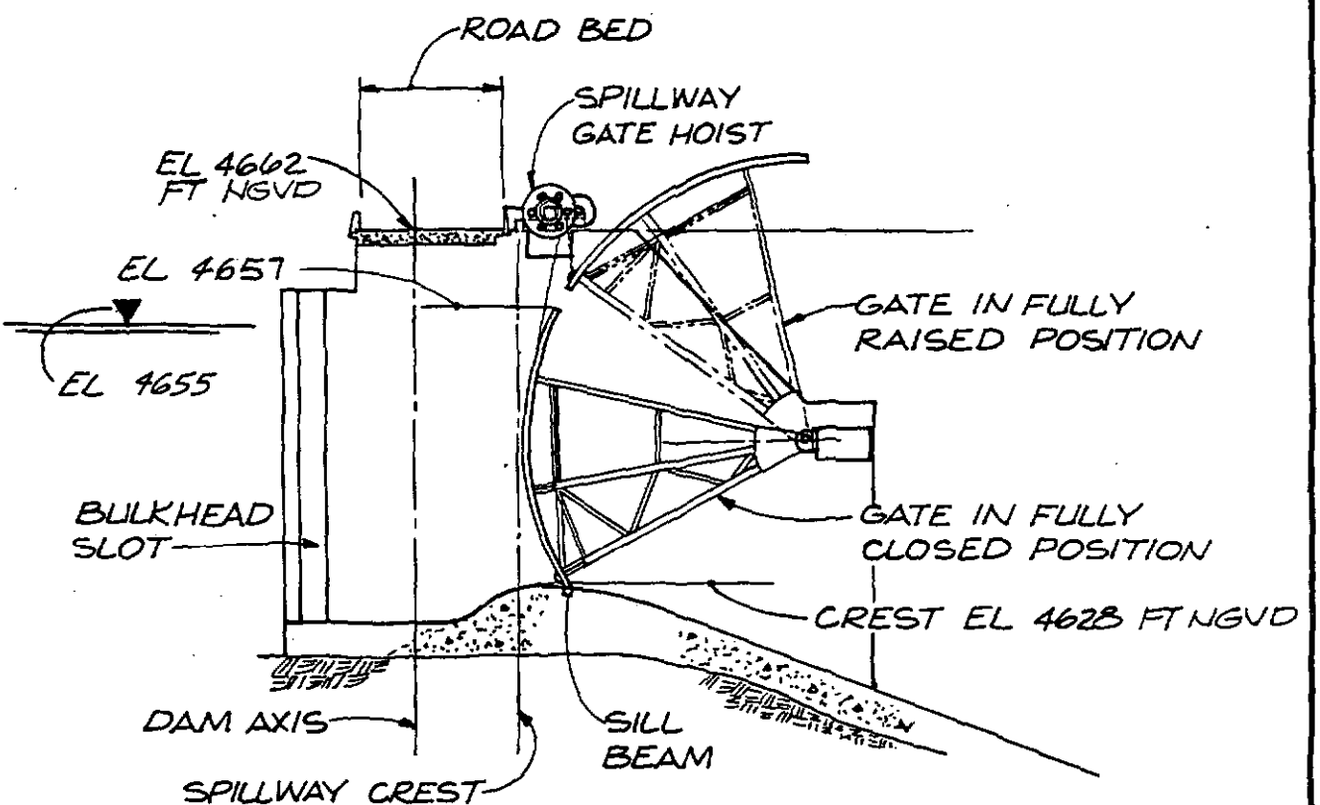
- Net available head
- Available flows
- Powerhouse excavation requirements
- Cost and value of incremental increases in project output



SECTION

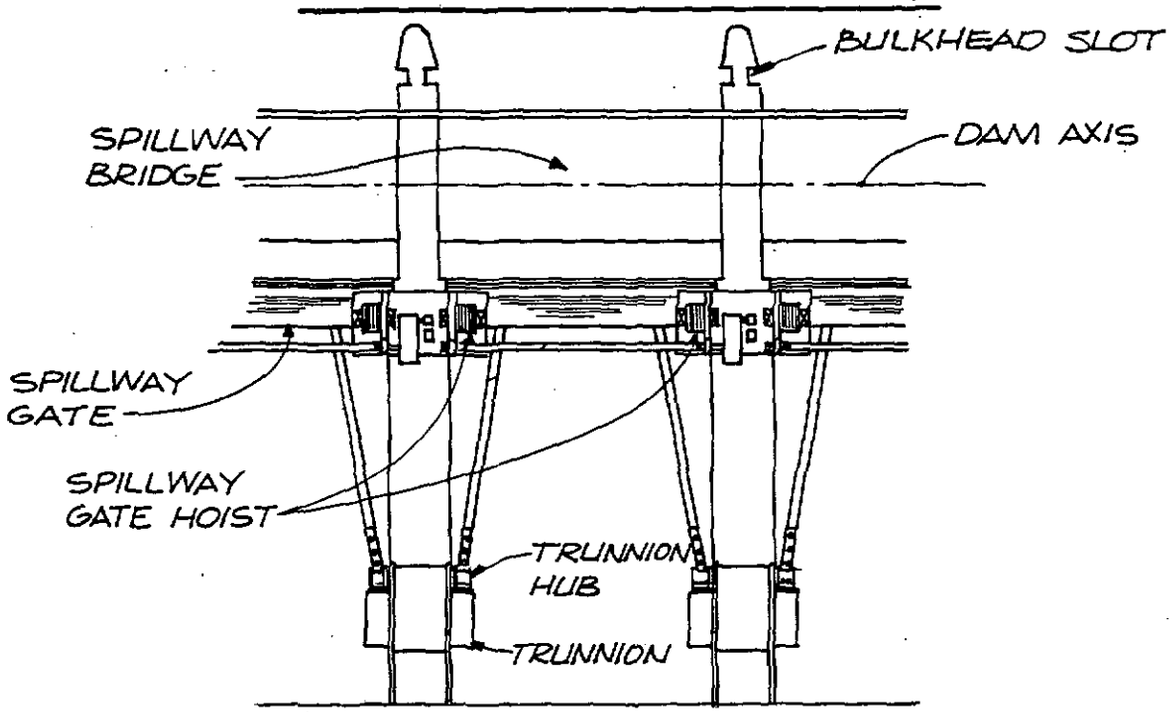
FIGURE 5-7
GEM STATE
HYDROELECTRIC
PROJECT
POWERHOUSE SECTION

CH2M HILL



SPILLWAY GATE

INTERMEDIATE PIER



PLAN

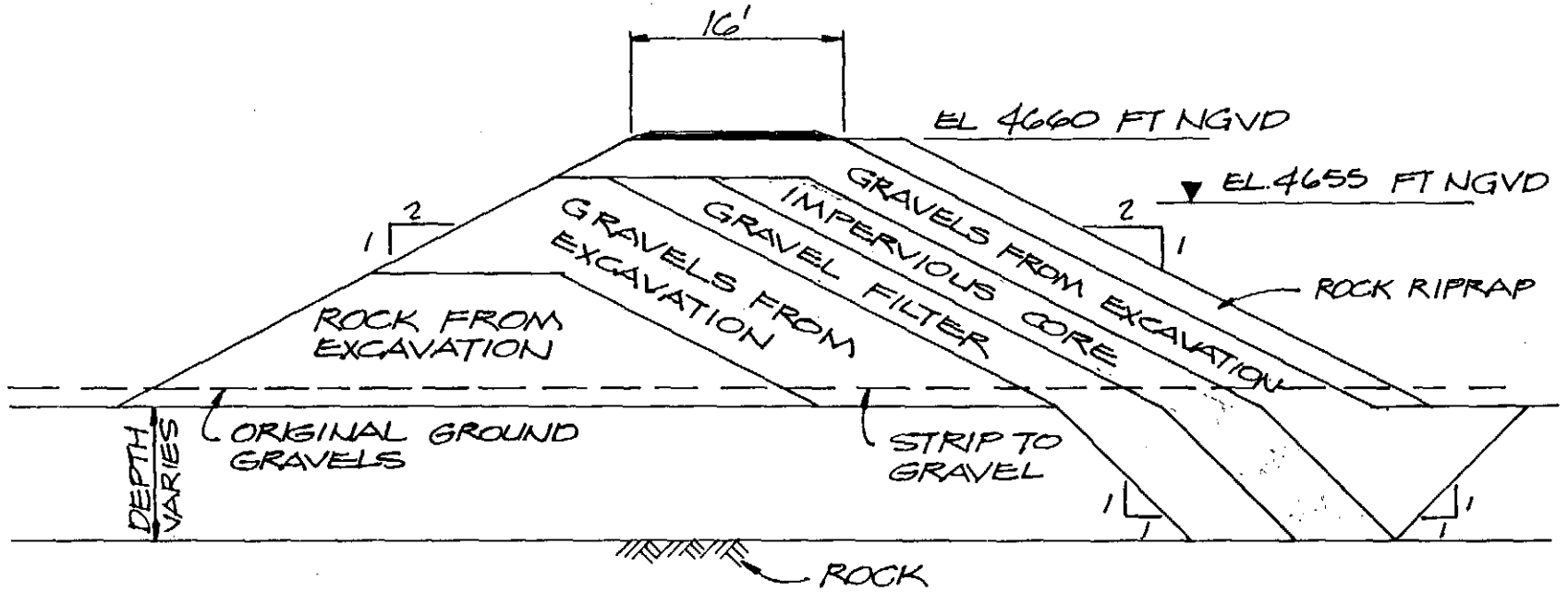
SPILLWAY

N.T.S.

FIGURE 5-8
GEM STATE HYDROELECTRIC PROJECT
SPILLWAY

CH2M HILL

HERCULENE®
DRAFTING FILM



SECTION

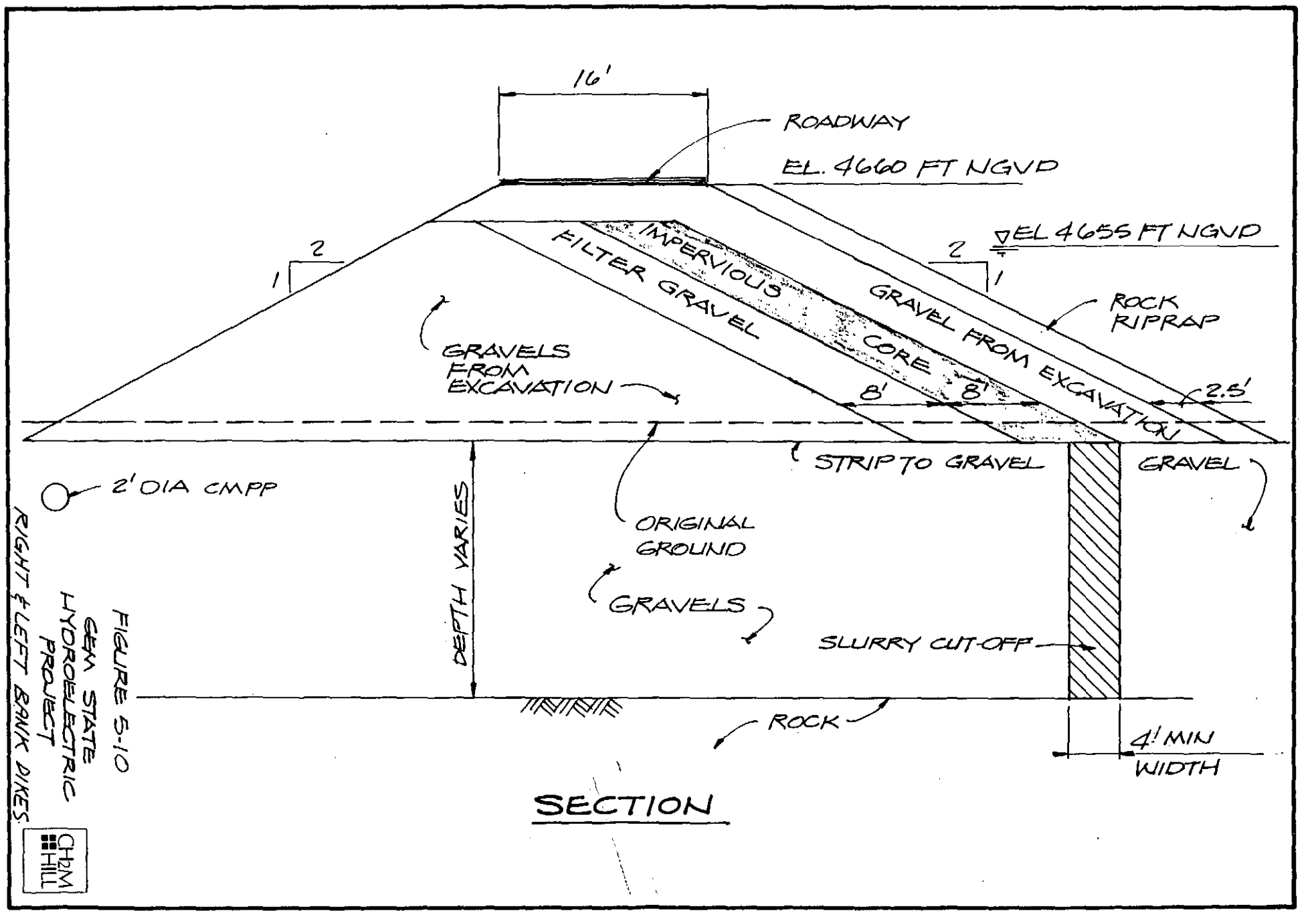
N.T.S.

FIGURE 5-9

GEM STATE HYDROELECTRIC PROJECT

RIGHT ABUTMENT TIE & POWER CANAL DAM

CH2M HILL



SECTION

FIGURE 5-10
GEM STATE HYDROELECTRIC PROJECT
RIGHT & LEFT BANK DIKES

CH2M HILL

- Machine efficiencies
- Operation and maintenance

The project has a net available head in the approximate range of 44 to 47 feet. Based on our analysis of the flow duration curve, and the studies done for the City's three upstream plants, a flow of 6,000 cfs has been used for the purpose of establishing project feasibility.

The practical designs for hydro turbines with a design flow of 6,000 cfs and in the head range of 44 to 47 feet are:

- Vertical Kaplans
- Horizontal tube Kaplans
- Horizontal bulb Kaplans
- "Straflo"
- Fixed blade propeller

The first three have the common characteristics of fully adjustable turbine blades and wicket gates and/or entrance vanes. "Straflo" is the proprietary name of a combined turbine generator unit developed by Escher Wyss of Switzerland.

During the final sizing and selection of the design and number of units to be installed, detailed consideration should be given to use of turbines of the vertical Kaplan and of the horizontal bulb Kaplan type. The final selection should be based on maximizing the economic annual energy production, minimizing overall powerhouse capital costs relative to the life cycle costs of capital operations, maintenance, and repairs. A letter report in which vertical and horizontal bulb Kaplan units are compared is included as Appendix A.

In order to estimate the powerhouse construction costs for this study, we have assumed a single bulb unit.

To confirm the availability of turbine-generators and to obtain preliminary pricing, we solicited information from Allis Chalmers of York, Pennsylvania, and from Brimme Kamp & Horn Corporation of Oakland, California (representatives for Vevey Engineering Works, Ltd., of Switzerland). Copies of these letters are in Appendix B.

Preliminary prices submitted, in United States currency (including delivery FOB Idaho Falls July 1, 1980, prices) are:

1. One-bulb unit complete (6,000 cfs):

Allis Chalmers	$6,350,000
Brimme, Kamp & Horn	7,200,000

2. Two identical (3,000 cfs each) bulb units, complete:

Allis Chalmers	$7,400,000
Brimme, Kamp & Horn	7,200,000

The information requested from these manufacturers was based on an installed capacity of approximately 14 MW. For the purpose of estimating the cost of a 20-MW machine(s), we have added $1,100,000 to the $7,400,000 estimate received.

CONSTRUCTION SCHEME AND SCHEDULE

Based on an optimistic, but reasonable, time schedule, the project could be brought online in mid-to-late 1984. The major items on the critical path to meeting the schedule are: site access for subsurface explorations, receiving a FERC license, voter authorization for issuing bonds, securing financing, the turbine/generator contract award, and powerhouse construction. Refer to Figure 5-11.

We estimate that a FERC license application could be submitted by July 1981 and that a license would be received 12 months later (July 1982). The major consideration in submitting a FERC license application by July 1981 is site access to conduct subsurface investigations required for design and licensing. A delay in obtaining site access for exploration could result in a 4- to 5-month delay in the project.

We have also assumed that voter authorization for project financing would be obtained in July 1981.

As soon as FERC grants a license, the permanent project financing would be secured; the turbine/generator contract signed; and the contract(s) for powerhouse excavation, dikes, powerhouse, dam, and spillway signed. However, if the City is willing to obligate itself to pay for the first year of work on the turbine/generator contract (estimated at less than $500,000) without a FERC license and using interim financing, the project schedule could be shortened by 6 to 8 months by issuing the turbine/generator contract soon after FERC's public notice period. The shorter schedule would reduce project cost and have power on-line in the winter of 1983-84.

The single construction feature on the critical path to power production is the powerhouse. Accordingly, a site

access and powerhouse excavation contract should be awarded immediately after bonds are sold in the summer of 1982, followed soon afterward by the main construction contract.

Under the powerhouse excavation contract, road access and powerhouse excavation of overburden gravels and rock will be performed. Rock from powerhouse excavation will be used for the right bank, first-stage cofferdam, which is required for spillway, dam, and abutment construction. The first-stage cofferdam, river diversion, and spillway construction would be accomplished in the spring and summer of 1983. The right abutment embankment would be completed before the second-stage cofferdam construction.

The left bank, second-stage cofferdam will divert the river through the spillway, allowing construction of the embankment between the spillway and the completed power canal embankment, Figure 5-5.

The spillway gates will be installed behind stoplogs. Powerhouse construction will be in the dry. Materials from the required tailrace excavation will be placed directly into the embankments.

The slurry cutoffs to bedrock for both dikes are scheduled for completion in the fall of 1982 to allow time for consolidation of the slurry backfill. Embankment construction for the power canal and dikes will be accomplished in the summer of 1983 using rock and gravels excavated from the tailrace. Sufficient quantities of impervious materials for the dikes are available in the existing dike, which must be removed. Rock for riprap is available from tailrace excavation.

OCT 80 | JAN 81 | APRIL 81 | JULY 81 | OCT 81 | JAN 82 | APRIL 82 | JULY 82 | OCT 82 | JAN 83 | APRIL 83 | JULY 83 | OCT 83 | JAN 84 | APRIL 84 | JULY 84

PUBLIC INFORMATION SESSION

INITIATE DESIGN FOR LICENSE & APPLICATION

BOND AUTHORIZATION ELECTION & FILE LICENSE APPLICATION/ AMENDMENT

FERC PROCESSING

FERC LICENSE RECEIVED

PERMENANT FINANCING SECURED

INTERIM FINANCING SECURED

PREPARE TURBINE-GENERATOR CONTRACT

AWARD T/G CONTRACT (ALTERNATE 2)

AWARD TURBINE-GENERATOR CONTRACT (ALTERNATE 1)

POWERHOUSE FIRST CONCRETE (ALTERNATE 2)

POWER ON-LINE (ALTERNATE 1)

POWER ON-LINE (ALTERNATE 2)

ADVERTISE

POWERHOUSE - FIRST CONCRETE (ALTERNATE 1)

PREPARE CONTRACT PLANS & SPECIFICATIONS

AWARD CONSTRUCTION CONTRACT

BEGIN DETAIL DESIGN FOR DAMS, SPILLWAY & POWERHOUSE

SLURRY CUT OFF

RIGHT & LEFT BANK DIKE CONSTRUCTION

CONTRACTOR ACCESS & POWERHOUSE EXCAVATION

IRRIGATION CONTROL STRUCTURE

RIGHT ABUTMENT

SECOND STAGE COFFERDAM

LEFT ABUTMENT EARTH TIE

SPILLWAY CONSTRUCTION

INSTALL SPILLWAY GATES

FIRST STAGE COFFERDAM CONSTRUCTION

REAL ESTATE AQUISITION

OBTAIN ACCESS TO CONSTRUCTION SITE (DELAY EFFECTS POWER-ON-LINE)

REAL ESTATE AQUISITIONS COMPLETE

○ CRITICAL PATH CHECKPOINTS

FIGURE 5-11
GEM STATE HYDRO
DESIGN & CONSTRUCTION SCHEDULE

CH2M HILL

Chapter 6

Chapter 6
PROJECT POWER PRODUCTIVITY

STUDY METHODOLOGY

The power and energy potential of the project were determined using the annual flow duration curve and adjusted historic discharges described in Chapter 4. Average energy production was computed by converting the annual flow duration curve to a power duration curve and integrating the area under the curve between the maximum and minimum turbine-generator capacities. The power duration curve was determined using the tailwater rating curve described in Chapter 4 and a typical machine efficiency curve for a propeller turbine with wicket gates (Figure 6-1). The power duration curve was used for energy calculations because the project has no capacity for storing flows greater than the machine capacity or for using stored water when natural flows are less than the machine capacity. Energy production was not adjusted to reflect machine outages.

It was assumed that hydraulic losses in the power canal and penstock are negligible. Turbine losses are incorporated in the turbine generator efficiency curve.

STUDY RESULTS

The power and energy potential was computed for three different reservoir elevations. Table 6-1 shows the results for the average runoff year.

The energy potential of the project during the critical period (1928-1932) and during a representative wet period (1975) is shown in Table 6-2.

Table 6-1

POTENTIAL POWER AND ENERGY--AVERAGE YEAR

Reservoir Elevation (ft NGVD)	Maximum Power[a] (MW)	Annual Energy (MWh)	Capacity Factor (%)
4645	15.2	93,000	70
4650	17.4	107,000	70
4655	19.6	120,000	70

[a]Turbine sized for maximum flow of 6,000 cfs.

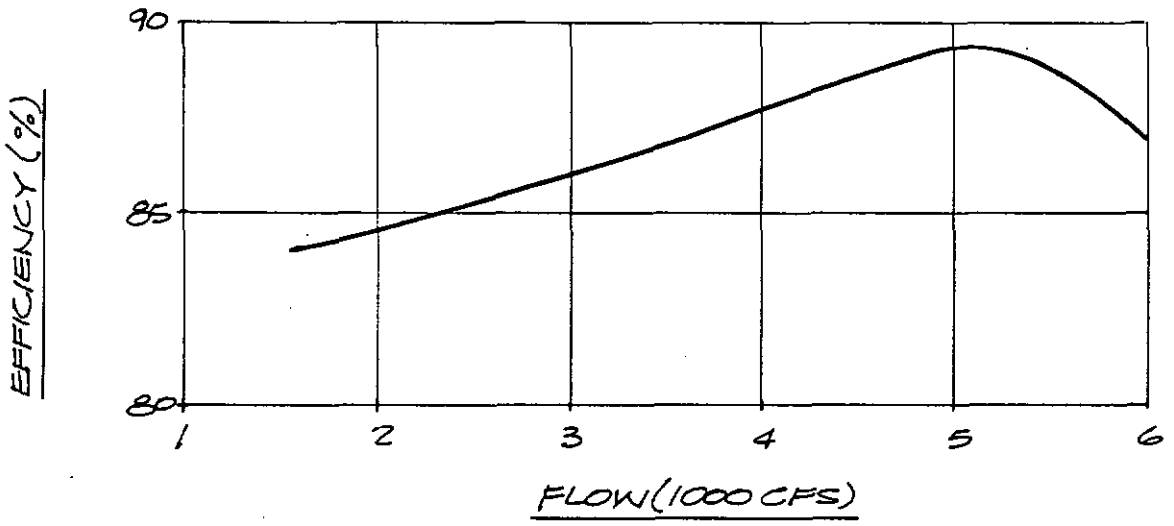
Table 6-2

POWER POTENTIAL--CRITICAL YEAR AND WET YEAR

Reservoir Elevation (ft NGVD)	Critical Year Energy[a] (MWh)	Wet Year Energy[b] (MWh)
4645	76,000	113,000
4650	87,000	129,000
4655	98,000	145,000

[a]Based on average 12 months during August 1928 through February 1932 period.

[b]Based on 1975 water year.



NOTE:
BASED ON AVERAGE EFFICIENCY FOR VARIABLE PITCH PROPELLER TURBINE WITH WICKET GATES. GENERATOR EFFICIENCY ASSUMED AT 95 PERCENT.

FIGURE 6-1
GEM STATE HYDROELECTRIC PROJECT
TURBINE GENERATOR EFFICIENCY

CH2M HILL

Chapter 7

Chapter 7
PROJECT COSTS

GENERAL

The project cost estimate has been developed based on a reservoir pool elevation of 4655 feet NGVD.

Project costs have been developed for three on-line dates: January 1984, January 1985, and January 1986. January 1984 is the fast-track approach. The other two estimates show the impact of a longer period for project development.

The assumptions used in developing project costs were:

- The detailed construction cost estimate (Appendix C) was prepared using July 1, 1980, cost levels, and includes a 20 percent contingency.
- The assumptions used are conservative; that is, they result in higher project costs. If the project is feasible using these assumptions, then it will appear even more feasible under more favorable assumptions.
- The manufacturers' quotes on 14 MW unit(s) were scaled upward to reflect an installed capacity of 20 MW.
- Based on the assumed construction schedule and cash flow, these costs were then escalated at 12 percent a year to determine actual costs.
- Engineering costs were estimated at approximately 10 percent of the estimated construction cost for feasibility, licensing, and design, and at approximately 5 percent for construction supervision.
- City engineering and administration costs were estimated at 7.5 percent of the engineering costs.
- State use tax was calculated at 3 percent of the estimated cost of materials for the project, approximately $18,000,000.
- Legal and financing costs were estimated based on the levels estimated for the three upriver projects.
- Capitalized interest was calculated using an interest rate of 10-3/8 percent a year.
- The capitalized Renewal and Replacement Fund was estimated at $3,000,000, the approximate cost of the moving turbine/generator parts.

- The capitalized Bond Reserve Account Fund was assumed to be 1 year's debt service, based on the estimated financing requirements, using levelized debt service at 10-3/8 percent interest and 33 annual principal payments.

- It was assumed that bonds would be sold as needed. Under this assumption, there are no bond proceeds available for short-term investment. If the bonds are sold prior to actual expenditure, there would be proceeds available for short-term investment. The interest earned would be credited to the project, reducing the financing required.

Should any of these assumptions prove to be inaccurate, the project's costs will be different from those estimated.

PROJECT FINANCING REQUIREMENT

Table 7-1 develops the project estimated financing requirements. It can be seen that the on-line date has a tremendous impact on project costs. This is because of cost escalation and increased interest during construction.

PROJECT ANNUAL COSTS

Tables 7-2, 7-3, and 7-4 develop the project annual costs for the first 10 years of project operation, based on average water conditions. Levelized debt service was estimated based at 10-3/8 percent interest, and 35-year bonds (33 annual principal payments were used to calculate debt service). Operation and maintenance costs were estimated at $200,000 in 1980, including administration and general expenses, and renewals and replacements. This amount was then escalated at 12 percent a year to the years of operation. It was assumed that interest on the capitalized funds is earned at the rate of 12 percent a year and credited against annual project costs.

Table 7-5 summarizes the estimated first year annual costs of the project for the three different on-line dates, and for three different water conditions: critical, average, and above average. These three water conditions are discussed in more detail in Chapter 6. It can be seen that water conditions, which determine the amount of energy generated, have a significant impact on the unit cost (mills/kWh) of the project output.

The impact of shorter and longer financing periods was also investigated, assuming average water conditions. A 30-year bond issue (28 principal maturities) would increase project costs approximately 2 mills/kWh. A 40-year bond issue (38 principal maturities) would reduce project costs approximately 1 mill/kWh.

Table 7-1

GEM STATE HYDROELECTRIC PROJECT

ESTIMATED PROJECT FINANCING REQUIREMENTS

	On-Line Date--January		
	1984	1985	1986
Estimated Construction Cost			
Estimated cost in 1980 $	$32,146,700	$32,146,700	$32,146,700
Escalation (@ 12%/yr)	11,734,100	17,381,800	23,216,000
Estimated Construction Cost	$43,880,800	$49,528,500	$55,362,700
Overhead Costs			
Engineering--feasibility, licensing, design, supervision	$ 6,351,000	$ 7,087,200	$ 7,848,000
City engineering/administration	476,300	531,500	588,600
State use tax	540,000	594,000	653,000
Legal, financing	356,000	391,000	439,000
Capitalized interest during construction	8,134,800	9,274,200	10,959,500
Capitalized Renewal and Replacement Fund	3,000,000	3,300,000	3,630,000
Capitalized Bond Reserve Account Fund	7,600,000	8,600,000	9,650,000
Overhead costs	$26,458,100	$29,777,900	$33,768,100
Estimated Financing Requirements	$70,338,900	$79,306,400	$89,130,800

Table 7-2

GEM STATE HYDROELECTRIC PROJECT

ANNUAL PROJECT COST--ON-LINE JANUARY 1984

Year	Debt Service	O&M	Interest Earned on Reserves	Total Annual Cost	Cost in Mills/kWh (avg water)
1984	$7,590,000	$281,000	$(1,152,000)	$6,719,000	56.0
1985	7,590,000	315,000	(1,152,000)	6,753,000	56.3
1986	7,590,000	352,000	(1,152,000)	6,790,000	56.6
1987	7,590,000	395,000	(1,152,000)	6,833,000	56.9
1988	7,590,000	442,000	(1,152,000)	6,880,000	57.3
1989	7,590,000	495,000	(1,152,000)	6,933,000	57.8
1990	7,590,000	555,000	(1,152,000)	6,993,000	58.3
1991	7,590,000	621,000	(1,152,000)	7,059,000	58.8
1992	7,590,000	695,000	(1,152,000)	7,134,000	59.5
1993	7,590,000	779,000	(1,152,000)	7,217,000	60.1

Table 7-3

GEM STATE HYDROELECTRIC PROJECT

ANNUAL PROJECT COST--ON-LINE JANUARY 1985

Year	Debt Service	O&M	Interest Earned on Reserves	Total Annual Cost	Cost in Mills/kWh (avg water)
1985	$8,560,000	$315,000	$(1,428,000)	$7,447,000	62.1
1986	8,560,000	352,000	(1,428,000)	7,482,000	62.4
1987	8,560,000	395,000	(1,428,000)	7,527,000	62.7
1988	8,560,000	442,000	(1,428,000)	7,574,000	63.1
1989	8,560,000	495,000	(1,428,000)	7,627,000	63.6
1990	8,560,000	555,000	(1,428,000)	7,687,000	64.1
1991	8,560,000	621,000	(1,428,000)	7,753,000	64.6
1992	8,560,000	696,000	(1,428,000)	7,828,000	65.2
1993	8,560,000	779,000	(1,428,000)	7,911,000	65.9
1994	8,560,000	873,000	(1,428,000)	8,005,000	66.7

Table 7-4

GEM STATE HYDROELECTRIC PROJECT

ANNUAL PROJECT COST--ON-LINE JANUARY 1986

Year	Debt Service	O&M	Interest Earned on Reserves	Total Annual Cost	Cost in Mills/kWh (avg water)
1986	$9,620,000	$352,000	($1,593,600)	$8,378,400	69.8
1987	9,620,000	395,000	(1,593,600)	8,421,400	70.2
1988	9,620,000	442,000	(1,593,600)	8,468,400	70.6
1989	9,620,000	495,000	(1,593,600)	8,521,400	71.0
1990	9,620,000	555,000	(1,593,600)	8,581,400	71.5
1991	9,620,000	621,000	(1,593,600)	8,647,400	72.1
1992	9,620,000	696,000	(1,593,600)	8,722,400	72.7
1993	9,620,000	779,000	(1,593,600)	8,805,400	73.4
1994	9,620,000	873,000	(1,593,600)	8,899,400	74.2
1995	9,620,000	977,000	(1,593,600)	9,003,400	75.0

Table 7-5

GEM STATE HYDROELECTRIC PROJECT

FIRST YEAR ENERGY COST UNDER DIFFERENT WATER CONDITIONS

Online Date	Project Energy Cost - Mills/kWh		
	Critical Water (98,000 MWh)	Average Water (120,000 MWh)	Above Average (145,000 MWh)
Jan 1984	69	56	46
Jan 1985	76	62	51
Jan 1986	85	70	58

A 1 percent increase or decrease in the assumed interest rate of 10-3/8 percent would increase or decrease project annual costs 5 to 7 mills/kWh, respectively.

If a financing period of less than 35 years is necessary and an interest rate of 11 percent is obtained, project costs could go up 5 to 6 mills/kWh. Even under these circumstances the project would remain feasible because the alternatives would be experiencing the same bond market conditions. The value of the energy is discussed in more detail in Chapter 9.

Calculations were also done assuming an escalation rate of 10 percent and an interest cost of 9 percent. Depending on the project's on-line date, these more favorable assumptions result in a reduced total financing requirement of from $7 to $13 million, and first-year energy costs of 44 to 56 mills/kWh, a reduction of about 13 mills.

Chapter 8

Chapter 8
FINANCIAL ALTERNATIVES

Under the existing constitution of the State of Idaho, the City is prohibited from issuing revenue bonds to finance the construction of new power generation facilities. Because it will take a constitutional amendment to allow the use of revenue bonds for the Gem State project, a 3-year process, another method is needed for timely project development.

The City can issue general obligations (GO) bonds to finance the project. This process is being investigated by the City's bond counsel and his report to the City will cover this process in detail. At this time, GO bonds appear to be the desired alternative. Other types of debt financing do not appear to be attractive.

Leasing is a possibility, but, because of the City's tax-exempt status, it does not appear to be desirable.

Joint ownership with others is another possibility, but as long as the City is able to finance the entire project and it needs the project output on a long-term basis, this is not being considered.

Chapter 9

Chapter 9
PROJECT OUTPUT MARKETING AND VALUE

BACKGROUND

The City of Idaho Falls has operated its own municipal electrical system since 1901. For many years, the City's needs were met by its own generation resources, principally three small run-of-river hydroelectric projects upstream from the proposed site. When these resources could no longer meet all of the City's needs, it contracted with others to purchase additional power. Since 1963, the City has purchased its needs, over and above those supplied by its own resources, from the Bonneville Power Administration (BPA). Until the recent enactment of the Pacific Northwest Power Planning and Conservation Act, a BPA notice of insufficiency was scheduled to take effect on July 1, 1983. Under insufficiency and beginning July 1, 1983, BPA would no longer have been able to meet all of the City's requirements. Additional resources were needed to meet anticipated load growth.

Passage of the Act did not alter the City's or the region's projected load/resource balances or the need to develop additional resources. The Act authorizes BPA to acquire resources, through purchase, that will allow it to meet its obligations to meet preference utility requirements. Because of this, the City has the option of selling the project's output to BPA.

The Act also authorizes BPA to offer new 20-year requirements contracts to preference utilities. Under these contracts, BPA will be obligated to meet the City's load requirements over and above those met by any of the City's resources that it chooses to dedicate to its loads. On paper, this eliminates the BPA insufficiency. It does not, however, eliminate the need for the City to develop resources that it can dedicate to its loads, sell to BPA, or make a sales arrangement with another party. In this way, the City will ensure that sufficient resources are developed to meet its loads, or if sold to BPA, to allow BPA to meet its obligations. BPA cannot build or sponsor resources; the only way it has to meet its load growth obligations is through purchases from others.

The need for additional resources is regionwide; the region's utilities are projecting energy deficits throughout the 1980's and 1990's.

The City's three existing generation facilities are being rehabilitated and, when finished, will have an installed capacity of 27 MW and produce 174,000 MWh annually.

PROJECT OUTPUT MARKET

During the 1980's and early 1990's, the City will meet loads from four identified sources: the rehabilitated facilities, BPA, the Washington Public Power Supply System, and the Gem State Hydroelectric Project. Table 9-1 shows the City's projected loads and resources. The analysis assumes a 1-year slippage in the presently scheduled on-line date for WPPSS 4 and 5. This assumption is thought to be realistic. The City will need a portion of the project output to meet loads as soon as it comes online. In fact, if the project comes online after January 1984, the City will need to find short-term sources of power between July 1983 and when the project comes on line. Any temporary surpluses should be easily marketable to BPA or other utilities. The City has already had discussions with Salmon River Electric Cooperative in Challis, Idaho, about this possibility.

UNIT VALUE OF PROJECT POWER AND ENERGY

As discussed in Chapter 7 and shown in Table 7-5, the project is expected to produce energy at a cost of between 56 and 70 mills/kWh under average water conditions, depending on the on-line date. This compares favorably to other sources of generation coming on-line at about the same time. Table 9-2 lists the estimated first-year costs of all of the region's thermal plants and some of the hydroelectric projects expected to come online about 1984. WPPSS 4 and 5, coming on line about 1987, are also shown since the City is a participant in these two projects. Projects being discussed for the late 1980's are being estimated in the range of 75 to 85 mills/kWh. The fuel cost of a thermal plant is a much larger portion of the annual cost than it is for a hydroelectric project where the fuel is essentially free. As a result, the costs of thermal plants are much more subject to escalation due to increasing fuel costs than are hydroelectric plants.

Table 9-1

PROJECTED LOADS AND RESOURCES - CITY OF IDAHO FALLS
(Average MW)

	Calendar Years								
	1984	1985	1986	1987	1988	1989	1990	1991	1992
Projected loads	71.2	75.0	79.0	83.3	87.7	92.5	97.5	102.6	108.1
Resources									
Self-generation (excl. Gem State)	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4
BPA	47.8	47.8	47.8	47.8	47.8	47.8	47.8	47.8	47.8
WPPS 4 and 5									
Participants share	0	0	0	3.7	9.5	12.7	14.1	14.7	14.7
Assignment share	0	0	0	9.1	8.2	9.8	13.7	18.6	12.8
Transmission losses	0	0	0	(1.0)	(1.6)	(2.0)	(2.5)	(3.0)	(2.5)
Additional of resources required	4.0	7.8	11.8	4.3	4.4	4.8	5.0	5.1	15.9
Gem State Hydro	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2
Surplus (Deficit)	8.2	4.4	0.4	7.9	7.8	7.4	7.2	7.1	(3.7)

Table 9-2

ESTIMATED FIRST-YEAR COST OF PROJECTS COMING ONLINE ABOUT 1984 IN THE REGION

Project Name	Type of Plant	Estimated Cost Mills/kWh (1984 dollars)
No. 1 Boardman	Coal	50
Colstrip 3 and 4	Coal	50
Valny 1 and 2	Coal	47
WNP 2	Nuclear	48
North Fork, Payette	Hydro	45
Cascade	Hydro	55
Island Park	Hydro	50
Kanaka Rapids	Hydro	55
City of Portland	Hydro	62
Eagle Rock	Hydro	53
WPPSS 4 and 5	Nuclear	65[a]
Creston 3 and 4	Coal	80[b]

[a] 1986 dollars.
[b] 1988 dollars.

Chapter 10

Chapter 10
BENEFIT/COST EVALUATION

The project's benefit/cost ratio over the life of the project was calculated, using the same assumptions as those discussed in Chapter 7. Additional assumptions are:

- Project benefits are based on the estimated cost of purchasing replacement power and average water conditions. It was assumed replacement power would cost:

1984	50 mills
1985	54 mills
1986	58 mills

  The 1986 cost was escalated at 5 percent a year thereafter. Five percent is a conservative escalation rate.

- Discount rates of 9, 12, and 15 percent were used to calculate benefit/cost ratios. This is thought to be a reasonable range of discount rates.

Table 10-1 lists the calculated benefit/cost ratios for the project. Refer to Appendix D for the detailed calculations.

Table 10-1

GEM STATE HYDROELECTRIC PROJECT

BENEFIT COST RATIOS AND INTERNAL RATE OF RETURN

Online Date	Benefit Cost Ratio 9%	12%	15%
Jan 1984	1.47	1.36	1.28
Jan 1985	1.40	1.29	1.21
Jan 1986	1.30	1.21	1.13

Chapter 11

Chapter 11
ENVIRONMENTAL AND SOCIO-INSTITUTIONAL ASPECTS

The environmental analysis (refer to Appendix D for a more detailed discussion) was conducted for a prescribed study area surrounding the project facilities and proposed reservoir. The boundaries of the study area are shown in Figure 11-1.

There appear to be no inherent environmental or socio-institutional barriers to the construction of the project. Several considerations do exist, however, that may warrant further attention. In these instances, delays in resolving these considerations could impact the obtainment of key permits.

Reduced flow velocities between the dam and the powerhouse will impact one of the fishing areas in the reach. However, the extent of this impact is unknown. The blockage of upstream migration may also impact the fishery within the city limits of Idaho Falls. The Idaho Department of Fish and Game believes they have a significant responsibility to the fishery at the site, in maintaining existing access, and to the fishery within the city limits.

The project reach is believed to be a potential spawning area for cutthroat and brown trout, but no data are available to assess the extent of spawning that may occur. If the area is used for spawning, the project would block upstream passage, thereby reducing a source of fish for downstream reaches. It will be necessary to assess the spawning usage in order to identify the need for mitigation measures.

The project will reduce the amount of riparian habitat because of inundation, resulting in reduced wildlife habitat. Because hunting does occur in the project area, there should not be hunting prohibition on the reservoir.

The detailed scope of the needed fish and wildlife resource studies is included in Appendix E. The studies will develop the field data needed to prepare the FERC license exhibits R, S, and W (Recreation, Fish and Wildlife Mitigation, and Environmental Report, respectively).

State and Federal agencies are interested in provisions for recreational facilities and enhancement of recreational opportunities. In terms of areawide needs and level of use, the type and distribution of the proposed facilities or programs should be well documented.

From previous work done in the area, it appears the potential for historical or archeological resources is low.

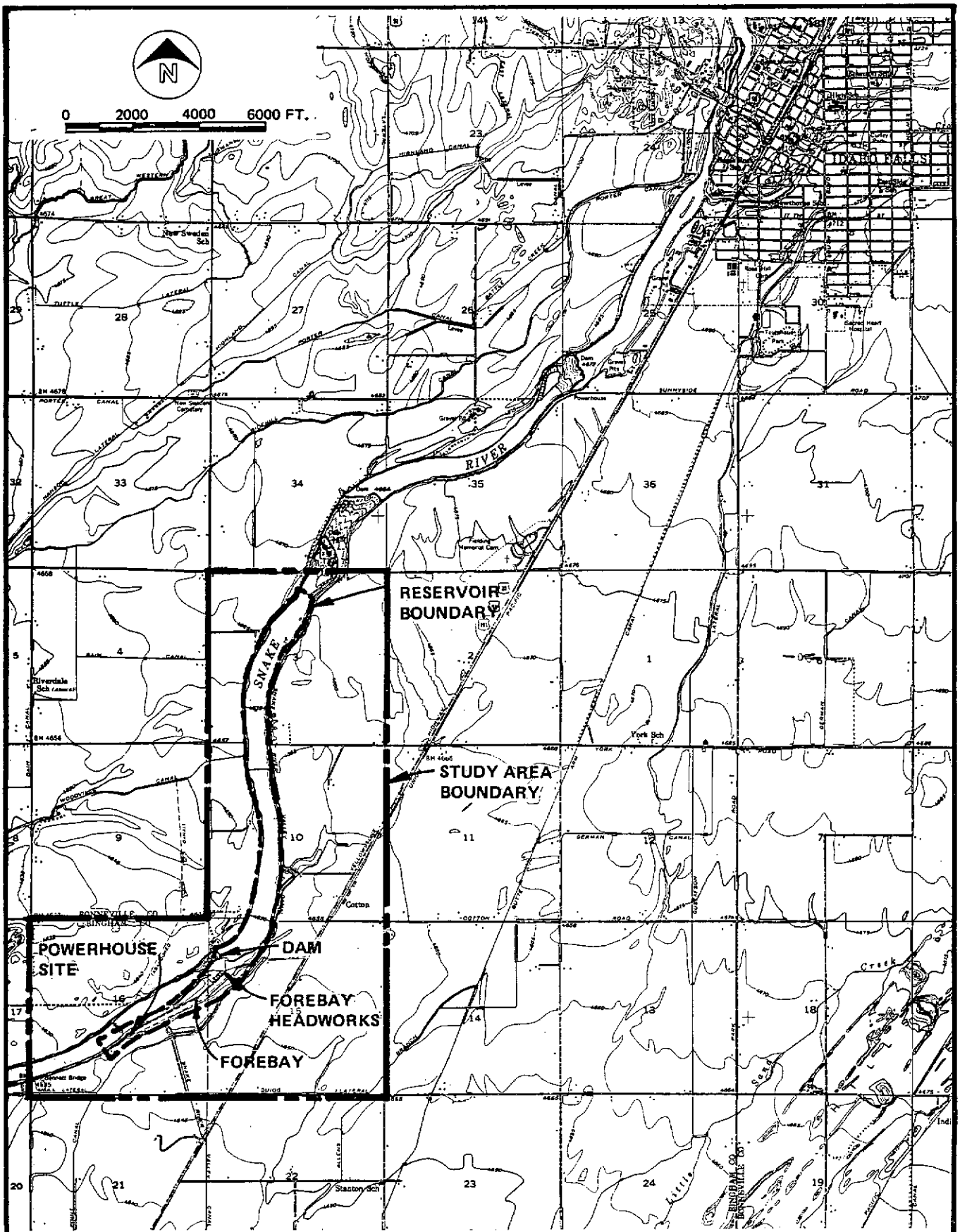


FIGURE 11-1
STUDY AREA

CH2M HILL

B12261.H0

Chapter 12

Chapter 12
PROJECT IMPLEMENTATION

The City received a FERC preliminary permit on March 25, 1980, for a period of 36 months, effective March 1, 1980. The City has also received a U.S. Department of Energy feasibility loan in the amount of $50,000.

In accordance with the requirements of the preliminary permit, the City forwarded a progress report to FERC September 1980.

When the City files a FERC license or license amendment application, permit applications will also be filed with other agencies having jurisdiction over various aspects of the project.

Rather than applying for a separate FERC license for the project, it may be more appropriate to apply for an amendment to the license received for the three other City power plants. Because of the close interrelationship of the four projects this approach has great appeal. It should also simplify the FERC process both now and in the future.

A possible disadvantage might be receiving a license for Gem State that is for somewhat less than 50 years.

As mentioned earlier, the City has already applied to the State of Idaho for water rights and project easements.

SCHEDULE

It is recommended that the City authorize the preparation of a FERC hydroelectric project license application and other required permit applications.

The construction scheme and schedule were discussed in detail in Chapter 5.

During the FERC license application and processing phase, other license permits, applications will be pursued, prepared and filed. These include:

Federal

- Fish and Wildlife Service
- Corps of Engineers Section 404 Permit
- National Marine Fisheries Service
- Heritage Conservation and Recreation Service

State

- Department of Water Resources
  - Water Rights
  - Stream Alteration Permit
  - Dam Safety Inspection
- Department of Health and Welfare
  - Section 401 Water Quality Certificate
- Department of State Lands
  - Temporary Right-of-Way Permit
  - Easements
- Public Utility Commission
  - Certificate of Convenience and Necessity

Local

- County Planning Agencies
- Building, clearing, and grading permits

It is expected that this process will parallel the FERC process. These efforts are estimated to cost about $20,000 to prepare. Filing fees, as in the case of water rights, will be in addition to this amount.

REFERENCES/CONSULTATION

The following list of references and individuals were consulted during the preparation of the environmental discussion. There are no known environmental studies that have been prepared for the area affected by the proposed project.

REFERENCES

City of Idaho Falls. 1978. Application for License, Idaho Falls Hydroelectric Project - Exhibit W. FERC Project No. 2842.

Idaho Department of Health and Welfare. 1980. Water Quality Standards and Wastewater Treatment Requirements. Title 1, Chapter 2.

CONSULTATION

Borup, C. 1980. Personal Communication, August 4, 1980. County Planner, Bonneville County, Idaho.

Cramer, E. 1980. Personal Communication, July 8, 1980. Parks Director, Idaho Falls, Idaho.

Druss, M. 1980. Personal Communication, August 6, 1980. Archaeologist, Idaho State University.

Gilchrist, R. 1980. Personal Communication, July 8, 1980. City Planner, Idaho Falls, Idaho.

Hjelm, D. J. 1980. Personal Communication, August 5, 1980. Manager, Snake River Valley Irrigation District.

Reinecher, T. 1980. Personal Communication, July 10, 1980. Regional Supervisor, Idaho Department of Fish and Game.

Serr, S. 1980. Personal Communication, August 6, 1980. Archaeologist, Idaho State University.

Appendix A

PROTRANS CONSULTANTS (915) 532-2282
P.O. BOX 12608, EL PASO, TEXAS 79912

September 29, 1980

Mr. Ralph W. Martin
CH2M-Hill
Post Office Box 428
Corvallis, Oregon 97330

Subject: Gem State Hydroelectric Project, Snake River - Comparison of Bulb and Vertical Kaplan Units

Dear Ralph:

This letter responds to your verbal request of September 16, 1980 that we furnish information which may help you compare bulb and vertical Kaplan alternatives for the subject hydroelectric plant. You told me that the site is the fourth plant downstream from Idaho Falls and that gross head will average 35 to 40 feet. You also told me that flow available for power will be about 6,000 cubic feet per second. You said the plant would be at the left bank of the river, where sound rock is probably close to the surface, and at the end of a channel 1000 feet to 1500 feet long.

We have recently been making similar comparisons for units capable of discharging a little more water at that head, for plants in different parts of the United States. The advice to you in this letter is based on relatively detailed studies.

Within the past three months we obtained quotations from three manufacturers for both bulb-type units and vertical shaft units. The turbines were Kaplan adjustable blade propellers with wicket gates. We required identical maximum safe discharge at the same pickoff head for the bulb units and the vertical units. Each manufacturer was free to select turbine runner diameters, rotating speeds, and settings with respect to minimum tailwater. The manufacturers were asked, among many other items, to state what the generator outputs would be at the pickoff condition.

Allis-Chalmers selected a higher rotating speed for the vertical unit than for the bulb unit. Vevey selected a higher speed for the bulb unit but set the bulb unit more than a full runner diameter deeper than the vertical unit. Escher-Wyss (originators of bulb-type units and manufacturers of units for Racine - the largest ever built) selected identical rotating speeds but their vertical unit had a smaller runner diameter than their bulb unit. The Escher-Wyss bulb was set almost a full runner diameter deeper than their vertical unit.

Escher-Wyss quoted a higher efficiency for the vertical turbine than for the bulb turbine. Each manufacturer quoted the same generator output from its bulb and its vertical units. Performance quoted was about the same for all three manufacturers. After adjusting for the small differences in runner diameter, preliminary price quotations for bulb units and vertical units were the same.

Allowing for the manufacturer's bias toward selecting machines already designed and built, it appeared to us that the quoted bulb units and vertical units would be equally efficient; would have turbine runners about the same diameter; would have about the same rotating speed and maximum output; and could be purchased for almost identical cost. The bulb unit shaft centerline settings were deeper than settings of the throat of vertical units. A deeper setting for bulb units having the same rotating speed and cavitation characteristics as vertical units is a consequence of geometry. There is the same need for avoiding cavitation at the blades at the top of their sweep in a bulb unit as there is for avoiding cavitation near the blade centerline of a vertical unit. From the geometry, the shaft of a bulb unit should be set deeper than the blades of a vertical unit by about half a runner diameter.

We calculated areas and velocities along the flow path for the bulb units at the Second Powerhouse, Rock Island Project (on the Columbia River in Washington). The typical flow path to a bulb unit is very short and there are places where the shapes and the net flow areas change abruptly. The bulb support piers, intake divider piers, and three access piers to the bulb are all designed on the assumption that flow patterns in the full size unit will be symmetric with respect to the centerline of the unit.

From our measurements of flow in the intakes of large vertical units at several plants on the Columbia River, we know there are large deviations from symmetry of flow (though symmetry should, theoretically, exist). Piers of large vertical units are sometimes designed to be asymmetric in an attempt to create more nearly uniform directions of flow. To our knowledge, no field test data in which the absolute quantity of discharge has been measured with the same kind of equipment are available for comparing performance of the two kinds of units. Field tests of performance of the Rock Island bulb units are scheduled for Spring of 1981. When those tests are completed and analyzed, we will know the following about the large bulb units at Rock Island:

a. flow patterns and velocities at hundreds of locations in the intake water passages.

b. performance of the entire hydroelectric plant including the effects of the approach channel, the intakes and trashracks, the major equipment, and the effects of the tailrace channel,

all as tested by the same measuring equipment and technique used at ten hydroelectric plants on the Columbia River and one on the Snake River.

Then we will be able to compare performance of plants with large vertical units (including one with Francis type turbines) with performance of a plant with large bulb units.

We prepared the following listing for comparing dimensions and for comparing other items. In the listing, equality infers either no difference or no apparent difference. Information in the comparison is derived from data furnished by manufacturers, from information furnished by owners of the units at Rock Island, and from various studies and layouts made by PROTRANS Consultants during the past three years.

	Bulb Kaplan	Vertical Kaplan
Runner diameter at constant speed	1	1
Maximum output at constant speed	1	1
Efficiency quoted by manufacturer	1	1
Discharge at constant diameter and speed	1	1
Cost of major machinery	1	1
Cost of gates, guides, bulkheads	depends on river, water levels, site.	
Width of unit monolith	0.61±	1
Length, upstream to downstream, of principal portion of monolith	1	1
Additional upstream to downstream extension of draft tube cf length of principal portion	0.5±	0
Total concrete in powerhouse	1±	1±
Depth of excavation at downstream face of draft tube	1	1
Depth of excavation at face of intake	1 plus (2 x diameter)	1
Total excavation	depends on location of top of sound rock, channel topography, abutment strata and topography	
Generator voltage	4.6 to 7.6 kV	13.8 + kV
Rotating inertia	0.5±	1
Generator cooling problems	1 to 1+	1
Time and cost for erection	1 to 1+	1
Down time for given items of maintenance or repair	1 to 1+++	1

A few general comments can be made regarding selection of bulb-type units. If there is a steep rock abutment, and each foot of width of powerhouse requires a great amount of rock excavation, then a plant with bulb units might be a good choice. That was the reasoning behind the original selection at Rock Island. If all other things are equal, costs for subsequent maintenance will probably be less with a vertical unit, because the internal geometry of the bulb unit makes access to and handling of parts difficult.

If the physical size of a bulb unit is below a certain limit, dimensions are too small for practical generators inside a bulb and are too small for access to the turbine in a bulb setting. With the head range and total flow mentioned by you, if I were considering bulb units I would select one larger unit rather than two small units (assuming there is no compelling reason for avoiding a larger unit).

If it appeared that all other considerations were of equal or nearly equal significance, I would select a vertical unit because bidding might be more intense and future maintenance would be easier.

I hope this letter answers your questions, Ralph. My very best regards!

Very truly yours,
for P R O T R A N S

Dave

David N. Raffel, P. E.
Director

DNR/alc

copy: Mr. Miles Bubenik
CH2M-Hill
200 S. W. Market Street, 12th Floor
Portland, Oregon 97201

Copy

Appendix B

ALLIS-CHALMERS

BOX 712 • YORK, PENNSYLVANIA 17405 / 717 792-3511

YORK PLANT
HYDRO-TURBINE DIVISION

July 15, 1980

CH2M Hill
1600 S.W. Western Blvd.
P.O. Box 428
Corvallis, Oregon 97330

ATTENTION: Mr. Ralph W. Martin

SUBJECT: City of Idaho Falls
Gem State Hydroelectric Project

Dear Mr. Martin:

We are responding to your letter of 17 June 1980 requesting information for the Gem State Hydroelectric Project. Information for the alternatives is as follows:

The preliminary estimating price for one (1) bulb turbine with a rated turbine output of 14 MW when rotating at a synchronous speed of 100 RPM and operating under a head of 9 M including governor and adjustable wicket gates along with the accompanying generator 15170 kva, .9 power factor, 3 phase, 60 Hz, 6900 V, 13650 kW, is:

SIX MILLION
THREE HUNDRED FIFTY THOUSAND DOLLARS.....$6,350,000.00

F.O.B. factory, freight allowed to site.

The preliminary price for two (2) bulb turbines with a rated turbine output of 7 MW each, when rotating at a synchronous speed of 138.5 RPM, and operating under a head of 9 M including governor and adjustable wicket gates along with two (2) accompanying generators 7585 kva, .9 power factor, 3 phase, 60 Hz, 4160 V, 6.825 MW (each) is:

SEVEN MILLION
FOUR HUNDRED THOUSAND DOLLARS.....$7,400,000.00

F.O.B. factory, freight allowed to site.

All calculations were based on 6,000 cfs and a 30 ft. net head.

All units have a centerline depth of 5 meters below tailwater.

We hope that the preceding information will be of assistance. If you require anymore information feel free to contact us.

Sincerely,

Hugh W. Benedict

Hugh W. Benedict
Associate Engineer

HWB/jb

BRIMMEKAMP & HORN CORPORATION
6016 Chelton Drive • Oakland, CA. 94611 • Telephone (415) 531-2000
TELEX: 336 414

CH 2 M Hill
1600 S.W. Western Blvd.
P.O. Box 428
Portland, Ore. 97330
Attn.: Mr. R.W. Martin

July 25, 1980

Subject: Fall River - Island Park Hydro Project
Our P.: 40,206

Dear Mr. Martin:

With regard to our telephone conversation of today, we are having the pleasure of submitting herewith Vevey's budget proposal as follows:

Please find enclosed two sketches representing Vevey's solution for single unit and for two identical units which fit the characteristics of Gem State project.

Cost for generators and electrical elements have been estimated even if they are not in our manufacturing program. The main characteristics of the units are as follows:

Alternative A

single bulb unit

Net head	:	9,14 m_3
Discharge	:	169,9 m^3/s
Output	:	13,7 MW
Rotation speed	:	112,5 RPM
Runaway speed	:	323 RPM off cam
		268 RPM on cam
external runner diameter	:	4,743 m
Horizontal bulb axis	:	3,90 m below min. Tailwater level
Estimated cost	:	7,200,000 US $ (FOB Idahoe Falls)
Main dimensions	:	see sketch # 1
Total mass of supply	:	approx. 524 metric tons.

Alternative B

two identical bulb units

Net head	:	9,14	m_3
Discharge	:	84,95	m^3/s
Output	:	6,85	MW
Rotation speed	:	163,6	RPM
Runaway speed	:	470	RPM off cam
		390	RPM on cam
External runner diameter	:	3,261	m
Horizontal bulb axis	:	2.85	m below min. Tailwater level
Estimeated cost	:	7,200,000	US $ (FOB Idahoe Falls)
Main dimensions	:	see sketch # 2	
Total mass of supply	:	approx. 505	metric tons

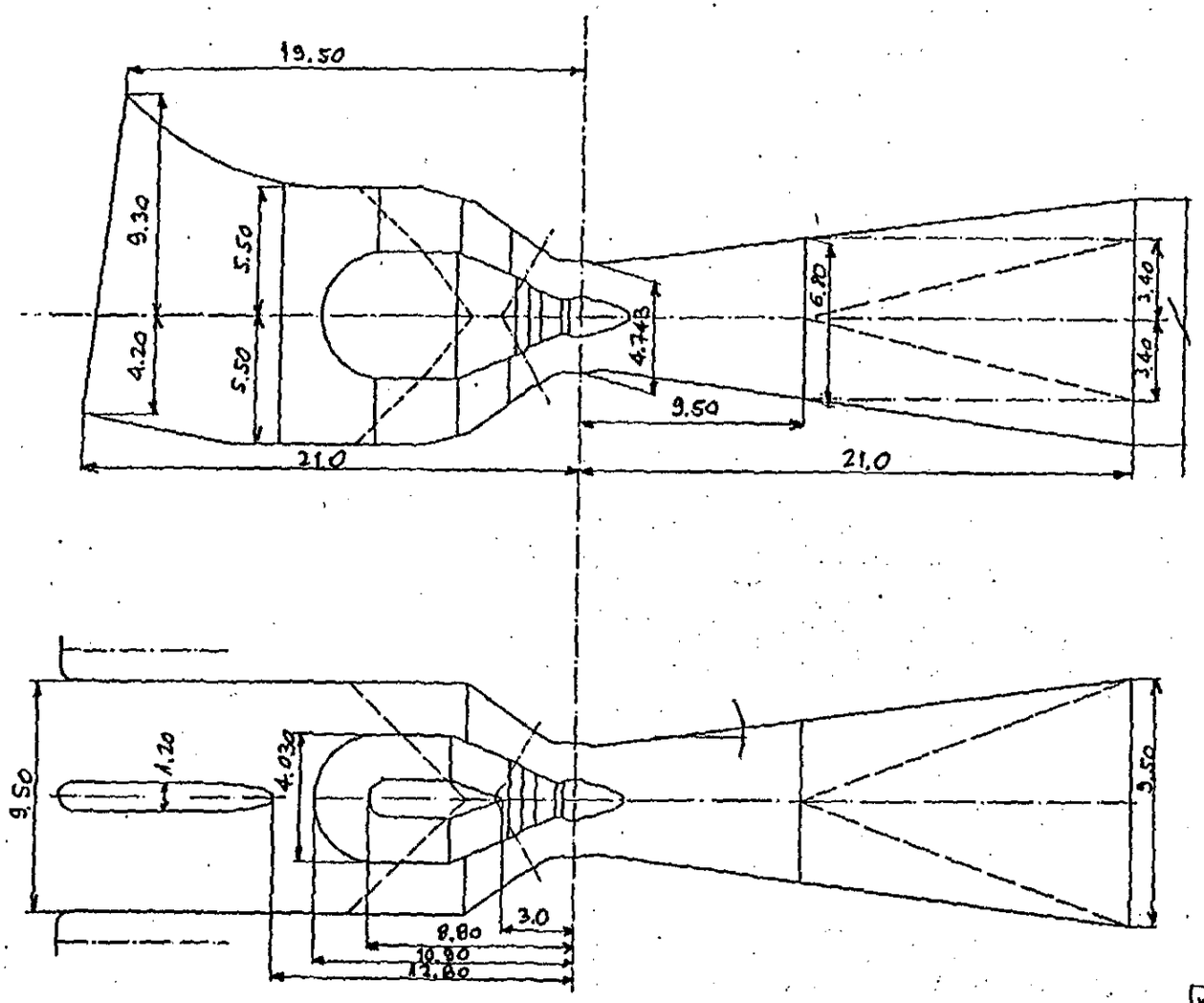
It is noticable that for this particular case, the cost is practically identical for two units versus single unit.

As metioned to you, we have sent to you on June 25, 1980 some information and brochures on Vevey's production line and we hope that these and the above budget proposal will meet with your requirements.

We look forward to hearing from you further and we would like to ask you to please contact us if you have any questions or if you need more information.

Sincerely yours
Brimmekamp & Horn Corporation

Wolfgang W. Horn
Encl.



1 Unit

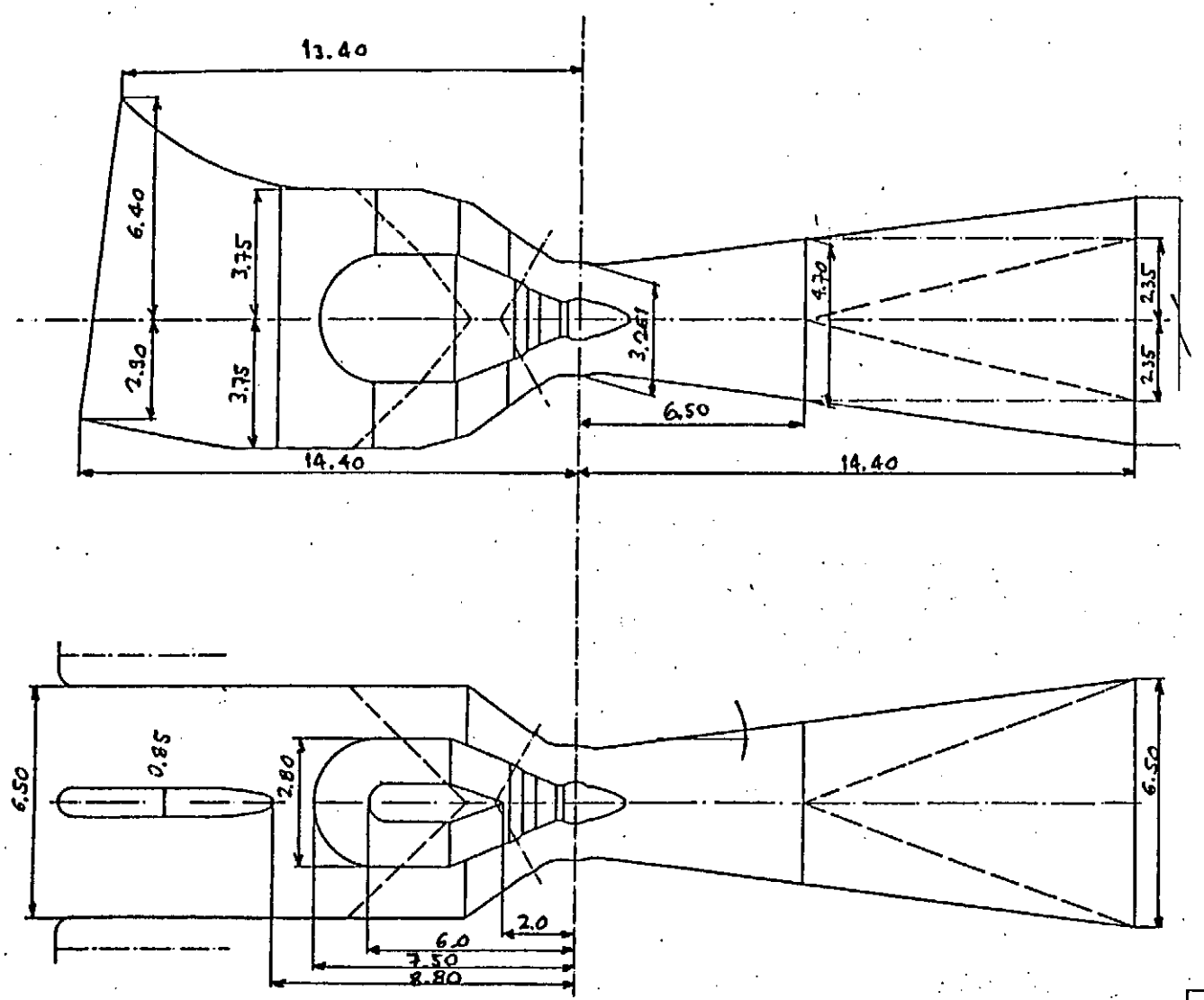
13.7 MW
9.14 m
169.9 m³/s
60 Hz

N' = 112.5 RPM
De = 4.743 m
Hs = -3,90 m

Dimensions in meters

Montée:	No. Dessin d'ensemble:	No. analyse:
Remplacé par:	Remplace	Provient de
Ind	Modifications	Date / Visa
GEM STATE PROJECT	Echelle 1	10.7.80
Groupe	Ateliers de Constructions Mécaniques de	# 1

B-5



2 Units

6.85 MW
8.14 m
84.95 m³/s
60 Hz

N' = 163.6 RPM
De = 3.261 m
Hs = - 2.85

Manière :	No. Dessin d'ensemble :	No. analog :	
Remplacé par :	Remplace :	Provient de :	
Ind.	Modifications	Date	Visa
GEM STATE PROJECT	Echelle ./.	dessiné 10.7.80	
Groupe	Ateliers de Constructions Mécaniques de V...	#2	

B-6

Appendix C

Appendix C

COST ESTIMATE
FOR
GEM STATE HYDROELECTRIC PROJECT
Pool Elev. 4650 Ft

FERC Account		Quantity	Unit Cost	Total Cost
HYDROELECTRIC PLANT ACCOUNTS				
330	Lands, Easements and Rights of Way			$ 750,000
331	Structures and Improvements			
	Care of Water (pH)			$ 50,000
	Powerhouse Excavation			
	Common Excavation	12,000 CY	$ 5.00	60,000
	Rock	8,300 CY	15.00	124,500
	Presplitting	6,750 FT	8.00	54,000
	Foundation Preparation	700 SY	25.00	17,500
	Found Drains		LS	35,000
	Concrete	9,000 CY	250.00	2,250,000
	Concrete Retaining Walls	7,500 CY	50.00	375,000
	Reinf. Steel	600 T	1,400.00	840,000
	Trashrack and Bulkheads		LS	600,000
	Post Tensioning System		LS	100,000
	Miscellaneous		LS	500,000
	Subtotal			$5,006,000
	Contingency 20%			1,001,200
	Total			$6,007,200
332	Reservoirs, Dams, and Waterways			
	Diversion and Care of Water		LS	$ 450,000
	Excavation Tailrace			
	Channel (Common)	125,000 CY	$ 3.00	375,000
	Channel (Rock)	78,000 CY	8.00	624,000
	Presplitting	13,750 LF	8.00	110,000
	Excavation Spillway (Rock)	8,000 CY	25.00	200,000
	Presplitting	3,200 LF	8.00	25,600
	Foundation Preparation		LS	40,000
	Grouting		LS	50,000
	Foundation Drains		LS	50,000

FERC Account		Quantity	Unit Cost	Total Cost
	Excavation Existing Dike (Power Canal)	150,000 CY	$ 1.00	$ 150,000
	Right Bank Dike Stripping		LS	50,000
	Right Bank Dike Slurry Cutoff	172,500 SF	2.50	431,250
	Right Bank Dike Embankment			
	Core	15,000 CY	4.25	63,750
	Filter	15,000 CY	7.00	105,000
	Gravels	50,000 CY	3.00	150,000
	Riprap	12,500 CY	7.00	87,000
	Foundation Prep.		LS	60,000
	Power Canal Embankment			
	Core	23,200 CY	2.50	58,000
	Filter	23,200 CY	7.00	162,400
	Gravels	80,000 CY	1.00	80,000
	Riprap	6,200 CY	7.00	43,400
	Rock	4,500 CY	1.00	45,000
	Foundation Prep.		LS	111,000
	Excavation Core	23,000 CY	2.00	46,000
	Left Bank Dike			
	Slurry and Cutoff	250,000 SF	2.50	625,000
	Foundation Prep.		LS	75,000
	Core	28,000 CY	2.50	70,000
	Filter	28,000 CY	7.00	196,000
	Gravel	44,000 CY	1.00	44,000
	Riprap	17,000 CY	7.00	119,000
	Culverts		LS	30,000
	Drain Ditch		LS	324,000
	Access Roads			
	Gravel	17,000 CY	5.00	85,000
	Paving	11,000 SY	6.50	71,500
	Fencing		LS	150,000
	Derrick Stone		LS	50,000
	Concrete, Spillways			
	Trailing Walls	5,500 CY	125.00	687,500
	Piers	1500 CY	350.00	525,000
	Slab	2,800 CY	150.00	420,000
	Bascule	250 CY	250.00	62,500
	Bridges		LS	125,000
	Reinforcing Steel	100 T	1,400.00	140,000
	Rock Anchors	300 EA	100.00	30,000
	Radial Gates, Trunion and Operating Machinery		LS	$1,250,000
	Embedded Steel		LS	60,000
	Post Tensioning		LS	45,000

FERC Account		Quantity	Unit Cost	Total Cost
	Standby Power		LS	40,000
	Bascule Gate		LS	50,000
	Electric Power		LS	50,000
	Irrigation Intake (Snake River Irr.)		LS	75,000
	Irrigation Intake (Woodville Irr.)		LS	15,000
	Attraction Water Conduit and Valve		LS	120,000
	Spillway Stoplogs		LS	200,000
	Misc. Metal		LS	50,000
	Subtotal			9,351,900
	Contingency 20%			1,870,400
	Total			$11,222,300
333	Waterwheels, Turbines and Generators			
	Turbine/Generators		LS	$8,500,000
	Erection		LS	1,250,000
	Turbine--General Tests		LS	100,000
	Subtotal			9,850,000
	Contingency 20%			1,970,000
	Total			$11,820,000
334	Accessory Electrical Equipment			
	Switchgear and Miscellaneous		LS	$ 50,000
	Miscellaneous Equipment		LS	379,000
	Subtotal			429,000
	Contingency 20%			85,800
	Total			$ 514,800
335	Miscellaneous Powerplant Equipment			
	Heating, Ventilating		LS	$ 60,000
	Sump Pumps		LS	15,000
	Air Compressors		LS	10,000
	Miscellaneous Equipment		LS	165,000
	Subtotal			250,000
	Contingency 20%			50,000
	Total			$ 300,000

FERC Account		Quantity	Unit Cost	Total Cost
336	Roads, Railroads and Bridges			0
	Highway Bridge			750,000
	Irrigation Canal Bridge		LS	30,000
				780,000
	Contingency 20%			156,000
	Total			936,000
	TRANSMISSION PLANT ACCOUNT			
350	Land and Rights			0
352	Structures and Improvements			
	Substation Foundations		LS	$ 5,000
	Fence		LS	2,000
	Subtotal			7,000
	Contingency 20%			1,400
	Total			$ 8,400
353	Station Equipment			
	Transformer and Miscellaneous Equipment		LS	$ 250,000
	Contingency 20%		LS	50,000
	Total			$ 300,000
355	Poles and Fixtures			
	3 Mile Dist. Syst.		LS	$ 150,000
	Contingency 20%			30,000
	Total			$ 180,000
356	Overhead Cond. and Devices			
	Conductors		LS	$ 50,000
	Insulators		LS	25,000
	Subtotal			75,000
	Contingency 20%			15,000
	Total			$ 90,000

FERC Account		Quantity	Unit Cost	Total Cost
358	Underground Conductors and Devices			
	Conductors			15,000
	Contingency 20%			3,000
	Total			18,000
	Total Direct Cost			$32,146,700
	Engineering			3,214,000
	Construction Supervision			1,607,000
	Total Construction Cost			$36,967,700

Appendix D

January 1984 On-line Date
GEMSTATE HYDROELECTRIC PROJECT
(THOUSANDS DOLLARS)

(DISCOUNT RATE= .090)

YEAR	DEBT SERVICE	O&M	INTEREST ON RESERVES	PROJECT COST ANNUAL	PROJECT COST PRESENT WORTH	ALTERNATE COST ANNUAL	ALTERNATE COST PRESENT WORTH	NET PRESENT WORTH ANNUAL	NET PRESENT WORTH CUMULATIVE
1984	7590.0	281.0	1152.0	6719.0	4759.9	6000.0	4250.6	-509.4	-509.4
1985	7590.0	309.1	1152.0	6747.1	4385.2	6480.0	4211.6	-173.6	-683.0
1986	7590.0	340.0	1152.0	6778.0	4041.5	6906.0	4117.8	76.3	-606.6
1987	7590.0	374.0	1152.0	6812.0	3726.4	7251.3	3966.7	240.3	-366.3
1988	7590.0	411.4	1152.0	6849.4	3437.5	7613.9	3821.1	383.7	17.3
1989	7590.0	452.6	1152.0	6890.6	3172.6	7994.6	3680.9	508.3	525.6
1990	7590.0	497.8	1152.0	6935.8	2929.8	8394.3	3545.8	616.1	1141.7
1991	7590.0	547.6	1152.0	6985.6	2707.1	8814.0	3415.7	708.6	1850.3
1992	7590.0	602.3	1152.0	7040.3	2503.1	9254.7	3290.4	787.3	2637.6
1993	7590.0	662.6	1152.0	7100.6	2316.1	9717.4	3169.6	853.6	3491.1
1994	7590.0	728.8	1152.0	7166.8	2144.7	10203.3	3053.3	908.7	4399.8
1995	7590.0	801.7	1152.0	7239.7	1987.6	10713.5	2941.3	953.7	5353.4
1996	7590.0	881.9	1152.0	7319.9	1843.7	11249.1	2833.3	989.7	6343.1
1997	7590.0	970.1	1152.0	7408.1	1711.8	11811.6	2729.3	1017.5	7360.6
1998	7590.0	1067.1	1152.0	7505.1	1591.0	12402.2	2629.2	1038.2	8398.8
1999	7590.0	1173.8	1152.0	7611.8	1480.4	13022.3	2532.7	1052.3	9451.1
2000	7590.0	1291.2	1152.0	7729.2	1379.1	13673.4	2439.8	1060.6	10511.7
2001	7590.0	1420.3	1152.0	7858.3	1286.4	14357.1	2350.2	1063.8	11575.5
2002	7590.0	1562.3	1152.0	8000.3	1201.5	15074.9	2264.0	1062.5	12638.0
2003	7590.0	1718.6	1152.0	8156.6	1123.8	15828.7	2180.9	1057.1	13695.1
2004	7590.0	1890.4	1152.0	8328.4	1052.8	16620.1	2100.9	1048.1	14743.2
2005	7590.0	2079.5	1152.0	8517.5	987.8	17451.1	2023.8	1036.0	15779.2
2006	7590.0	2287.4	1152.0	8725.4	928.3	18323.7	1949.5	1021.2	16800.4
2007	7590.0	2516.2	1152.0	8954.2	874.0	19239.9	1878.0	1004.0	17804.4
2008	7590.0	2767.8	1152.0	9205.8	824.4	20201.8	1809.0	984.7	18789.0
2009	7590.0	3044.6	1152.0	9482.6	779.0	21211.9	1742.7	963.6	19752.7
2010	7590.0	3349.0	1152.0	9787.0	737.7	22272.5	1678.7	941.0	20693.7
2011	7590.0	3683.9	1152.0	10121.9	699.9	23386.2	1617.1	917.2	21610.9
2012	7590.0	4052.3	1152.0	10490.3	665.5	24555.5	1557.8	892.3	22503.2
2013	7590.0	4457.5	1152.0	10895.5	634.1	25783.2	1500.6	866.5	23369.7
2014	7590.0	4903.3	1152.0	11341.3	605.6	27072.4	1445.5	840.0	24209.6
2015	7590.0	5393.6	1152.0	11831.6	579.6	28426.0	1392.5	812.9	25022.5
2016	7590.0	5933.0	1152.0	12371.0	556.0	29847.3	1341.4	785.4	25807.9
2017	7590.0	6526.3	1152.0	12964.3	534.5	31339.7	1292.2	757.6	26565.6
2018	7590.0	7178.9	1152.0	13616.9	515.1	32906.7	1244.7	729.7	27295.2
2019	7590.0	7896.8	1152.0	14334.8	497.5	34552.0	1199.1	701.6	27996.8
2020	7590.0	8686.5	1152.0	15124.5	481.5	36279.6	1155.1	673.5	28670.3
2021	7590.0	9555.1	1152.0	15993.1	467.1	38093.6	1112.7	645.5	29315.9
TOTAL					62149.4		91465.2		

NOTE:THIS ANALYSIS ASSUMES A 9% GENERAL INFLATION RATE

$$\text{Benefit/Cost Ratio} = \frac{91465.2}{62149.4} = 1.47$$

January 1984 On-line Date
GEMSTATE HYDROELECTRIC PROJECT
(THOUSANDS DOLLARS)

(DISCOUNT RATE= .120)

YEAR	DEBT SERVICE	O&M	INTEREST ON RESERVES	PROJECT COST ANNUAL	PROJECT COST PRESENT WORTH	ALTERNATE COST ANNUAL	ALTERNATE COST PRESENT WORTH	NET PRESENT WORTH ANNUAL	NET PRESENT WORTH CUMULATIVE
1984	7590.0	281.0	1152.0	6719.0	4270.0	6000.0	3813.1	-456.9	-456.9
1985	7590.0	309.1	1152.0	6747.1	3828.5	6480.0	3676.9	-151.6	-608.5
1986	7590.0	340.0	1152.0	6778.0	3434.0	6906.0	3498.8	64.8	-543.7
1987	7590.0	374.0	1152.0	6812.0	3081.4	7251.3	3280.1	198.7	-344.9
1988	7590.0	411.4	1152.0	6849.4	2766.4	7613.9	3075.1	308.7	-36.2
1989	7590.0	452.6	1152.0	6890.6	2484.8	7994.6	2882.9	398.1	361.9
1990	7590.0	497.8	1152.0	6935.8	2233.1	8394.3	2702.7	469.6	831.5
1991	7590.0	547.6	1152.0	6985.6	2008.2	8814.0	2533.8	525.6	1357.1
1992	7590.0	602.3	1152.0	7040.3	1807.1	9254.7	2375.5	568.4	1925.5
1993	7590.0	662.6	1152.0	7100.6	1627.3	9717.4	2227.0	599.7	2525.2
1994	7590.0	728.8	1152.0	7166.8	1466.5	10203.3	2087.8	621.3	3146.5
1995	7590.0	801.7	1152.0	7239.7	1322.7	10713.5	1957.3	634.6	3781.2
1996	7590.0	881.9	1152.0	7319.9	1194.0	11249.1	1835.0	640.9	4422.1
1997	7590.0	970.1	1152.0	7408.1	1078.9	11811.6	1720.3	641.3	5063.5
1998	7590.0	1067.1	1152.0	7505.1	976.0	12402.2	1612.8	636.8	5700.3
1999	7590.0	1173.8	1152.0	7611.8	883.8	13022.3	1512.0	628.2	6328.5
2000	7590.0	1291.2	1152.0	7729.2	801.3	13673.4	1417.5	616.2	6944.7
2001	7590.0	1420.3	1152.0	7858.3	727.4	14357.1	1328.9	601.5	7546.2
2002	7590.0	1562.3	1152.0	8000.3	661.2	15074.9	1245.8	584.7	8130.9
2003	7590.0	1718.6	1152.0	8156.6	601.9	15828.7	1168.0	566.1	8697.0
2004	7590.0	1890.4	1152.0	8328.4	548.7	16620.1	1095.0	546.3	9243.3
2005	7590.0	2079.5	1152.0	8517.5	501.0	17451.1	1026.5	525.5	9768.8
2006	7590.0	2287.4	1152.0	8725.4	458.3	18323.7	962.4	504.1	10272.9
2007	7590.0	2516.2	1152.0	8954.2	419.9	19239.9	902.2	482.3	10755.2
2008	7590.0	2767.8	1152.0	9205.8	385.4	20201.8	845.8	460.4	11215.6
2009	7590.0	3044.6	1152.0	9482.6	354.5	21211.9	793.0	438.5	11654.1
2010	7590.0	3349.0	1152.0	9787.0	326.7	22272.5	743.4	416.7	12070.8
2011	7590.0	3683.9	1152.0	10121.9	301.7	23386.2	696.9	395.3	12466.1
2012	7590.0	4052.3	1152.0	10490.3	279.1	24555.5	653.4	374.3	12840.4
2013	7590.0	4457.5	1152.0	10895.5	258.9	25783.2	612.6	353.7	13194.1
2014	7590.0	4903.3	1152.0	11341.3	240.6	27072.4	574.3	333.7	13527.8
2015	7590.0	5393.6	1152.0	11831.6	224.1	28426.0	538.4	314.3	13842.1
2016	7590.0	5933.0	1152.0	12371.0	209.2	29847.3	504.7	295.5	14137.6
2017	7590.0	6526.3	1152.0	12964.3	195.7	31339.7	473.2	277.4	14415.0
2018	7590.0	7178.9	1152.0	13616.9	183.6	32906.7	443.6	260.0	14675.1
2019	7590.0	7896.8	1152.0	14334.8	172.5	34552.0	415.9	243.3	14918.4
2020	7590.0	8686.5	1152.0	15124.5	162.5	36279.6	389.9	227.4	15145.8
2021	7590.0	9555.1	1152.0	15993.1	153.5	38093.6	365.5	212.1	15357.8
TOTAL					42630.1		57987.9		

NOTE:THIS ANALYSIS ASSUMES A 9% GENERAL INFLATION RATE

$$\text{Benefit/Cost Ratio} = \frac{57937.9}{42630.1} = 1.36$$

January 1984 On-line Date

GEMSTATE HYDROELECTRIC PROJECT
(THOUSANDS DOLLARS)

(DISCOUNT RATE= .150)

YEAR	DEBT SERVICE	O&M	INTEREST ON RESERVES	PROJECT COST ANNUAL	PROJECT COST PRESENT WORTH	ALTERNATE COST ANNUAL	ALTERNATE COST PRESENT WORTH	NET PRESENT WORTH ANNUAL	NET PRESENT WORTH CUMULATIVE
1984	7590.0	281.0	1152.0	6719.0	3841.6	6000.0	3430.5	-411.1	-411.1
1985	7590.0	309.1	1152.0	6747.1	3354.5	6480.0	3221.7	-132.8	-543.9
1986	7590.0	340.0	1152.0	6778.0	2930.3	6906.0	2985.7	55.3	-488.6
1987	7590.0	374.0	1152.0	6812.0	2560.9	7251.3	2726.0	165.1	-323.4
1988	7590.0	411.4	1152.0	6849.4	2239.1	7613.9	2489.0	249.9	-73.5
1989	7590.0	452.6	1152.0	6890.6	1958.7	7994.6	2272.6	313.8	240.3
1990	7590.0	497.8	1152.0	6935.8	1714.4	8394.3	2074.9	360.5	600.8
1991	7590.0	547.6	1152.0	6985.6	1501.5	8814.0	1894.5	393.0	993.8
1992	7590.0	602.3	1152.0	7040.3	1315.9	9254.7	1729.8	413.9	1407.7
1993	7590.0	662.6	1152.0	7100.6	1154.0	9717.4	1579.4	425.3	1833.0
1994	7590.0	728.8	1152.0	7166.8	1012.9	10203.3	1442.0	429.1	2262.2
1995	7590.0	801.7	1152.0	7239.7	889.7	10713.5	1316.6	426.9	2689.1
1996	7590.0	881.9	1152.0	7319.9	782.2	11249.1	1202.1	419.9	3109.0
1997	7590.0	970.1	1152.0	7408.1	688.4	11811.6	1097.6	409.2	3518.2
1998	7590.0	1067.1	1152.0	7505.1	606.5	12402.2	1002.2	395.7	3913.9
1999	7590.0	1173.8	1152.0	7611.8	534.8	13022.3	915.0	380.2	4294.0
2000	7590.0	1291.2	1152.0	7729.2	472.3	13673.4	835.4	363.2	4657.2
2001	7590.0	1420.3	1152.0	7858.3	417.5	14357.1	762.8	345.3	5002.5
2002	7590.0	1562.3	1152.0	8000.3	369.6	15074.9	696.5	326.9	5329.4
2003	7590.0	1718.6	1152.0	8156.6	327.7	15828.7	635.9	308.2	5637.6
2004	7590.0	1890.4	1152.0	8328.4	290.9	16620.1	580.6	289.7	5927.3
2005	7590.0	2079.5	1152.0	8517.5	258.7	17451.1	530.1	271.4	6198.6
2006	7590.0	2287.4	1152.0	8725.4	230.5	18323.7	484.0	253.5	6452.2
2007	7590.0	2516.2	1152.0	8954.2	205.7	19239.9	441.9	236.3	6688.4
2008	7590.0	2767.8	1152.0	9205.8	183.9	20201.8	403.5	219.6	6908.1
2009	7590.0	3044.6	1152.0	9482.6	164.7	21211.9	368.4	203.7	7111.8
2010	7590.0	3349.0	1152.0	9787.0	147.8	22272.5	336.4	188.6	7300.4
2011	7590.0	3683.9	1152.0	10121.9	132.9	23386.2	307.1	174.2	7474.6
2012	7590.0	4052.3	1152.0	10490.3	119.8	24555.5	280.4	160.6	7635.2
2013	7590.0	4457.5	1152.0	10895.5	108.2	25783.2	256.0	147.8	7783.0
2014	7590.0	4903.3	1152.0	11341.3	97.9	27072.4	233.8	135.8	7918.9
2015	7590.0	5393.6	1152.0	11831.6	88.8	28426.0	213.4	124.6	8043.5
2016	7590.0	5933.0	1152.0	12371.0	80.8	29847.3	194.9	114.1	8157.6
2017	7590.0	6526.3	1152.0	12964.3	73.6	31339.7	177.9	104.3	8261.9
2018	7590.0	7178.9	1152.0	13616.9	67.2	32906.7	162.5	95.2	8357.2
2019	7590.0	7896.8	1152.0	14334.8	61.5	34552.0	148.3	86.8	8444.0
2020	7590.0	8686.5	1152.0	15124.5	56.5	36279.6	135.4	79.0	8522.9
2021	7590.0	9555.1	1152.0	15993.1	51.9	38093.6	123.7	71.7	8594.7
TOTAL					31094.1		39688.8		

NOTE:THIS ANALYSIS ASSUMES A 9% GENERAL INFLATION RATE

Benefit/Cost Ratio = $\frac{39688.8}{31094.1}$ = 1.28

January 1985 On-line Date
GEMSTATE HYDROELECTRIC PROJECT
(THOUSANDS DOLLARS)

(DISCOUNT RATE= .090)

YEAR	DEBT SERVICE	O&M	INTEREST ON RESERVES	PROJECT COST ANNUAL	PROJECT COST PRESENT WORTH	ALTERNATE COST ANNUAL	ALTERNATE COST PRESENT WORTH	NET PRESENT WORTH ANNUAL	NET PRESENT WORTH CUMULATIVE
1985	8560.0	315.0	1428.0	7447.0	4840.0	6480.0	4211.6	-628.5	-628.5
1986	8560.0	346.5	1428.0	7478.5	4459.2	6906.0	4117.8	-341.4	-969.8
1987	8560.0	381.1	1428.0	7513.2	4110.0	7251.3	3966.7	-143.2	-1113.1
1988	8560.0	419.3	1428.0	7551.3	3789.7	7613.9	3821.1	31.4	-1081.7
1989	8560.0	461.2	1428.0	7593.2	3496.1	7994.6	3680.9	184.8	-896.9
1990	8560.0	507.3	1428.0	7639.3	3226.9	8394.3	3545.8	318.9	-578.0
1991	8560.0	558.0	1428.0	7690.0	2980.1	8814.0	3415.7	435.6	-142.4
1992	8560.0	613.8	1428.0	7745.8	2753.9	9254.7	3290.4	536.5	394.1
1993	8560.0	675.2	1428.0	7807.2	2546.6	9717.4	3169.6	623.1	1017.1
1994	8560.0	742.8	1428.0	7874.8	2356.5	10203.3	3053.3	696.8	1713.9
1995	8560.0	817.0	1428.0	7949.0	2182.3	10713.5	2941.3	758.9	2472.9
1996	8560.0	898.7	1428.0	8030.7	2022.7	11249.1	2833.3	810.6	3283.5
1997	8560.0	988.6	1428.0	8120.6	1876.5	11811.6	2729.3	852.9	4136.4
1998	8560.0	1087.5	1428.0	8219.5	1742.5	12402.2	2629.2	886.7	5023.1
1999	8560.0	1196.2	1428.0	8328.2	1619.8	13022.3	2532.7	913.0	5936.1
2000	8560.0	1315.8	1428.0	8447.8	1507.4	13673.4	2439.8	932.4	6868.5
2001	8560.0	1447.4	1428.0	8579.4	1404.4	14357.1	2350.2	945.8	7814.3
2002	8560.0	1592.2	1428.0	8724.2	1310.2	15074.9	2264.0	953.8	8768.0
2003	8560.0	1751.4	1428.0	8883.4	1224.0	15828.7	2180.9	956.9	9725.0
2004	8560.0	1926.5	1428.0	9058.5	1145.0	16620.1	2100.9	955.8	10680.8
2005	8560.0	2119.2	1428.0	9251.2	1072.8	17451.1	2023.8	950.9	11631.7
2006	8560.0	2331.1	1428.0	9463.1	1006.8	18323.7	1949.5	942.7	12574.4
2007	8560.0	2564.2	1428.0	9696.2	946.4	19239.9	1878.0	931.5	13505.9
2008	8560.0	2820.6	1428.0	9952.6	891.2	20201.8	1809.0	917.8	14423.8
2009	8560.0	3102.7	1428.0	10234.7	840.8	21211.9	1742.7	901.8	15325.6
2010	8560.0	3412.9	1428.0	10544.9	794.8	22272.5	1678.7	883.9	16209.5
2011	8560.0	3754.2	1428.0	10886.2	752.8	23386.2	1617.1	864.3	17073.9
2012	8560.0	4129.6	1428.0	11261.6	714.4	24555.5	1557.8	843.3	17917.2
2013	8560.0	4542.6	1428.0	11674.6	679.5	25783.2	1500.6	821.1	18738.3
2014	8560.0	4996.9	1428.0	12128.9	647.6	27072.4	1445.5	797.9	19536.2
2015	8560.0	5496.6	1428.0	12628.6	618.6	28426.0	1392.5	773.9	20310.1
2016	8560.0	6046.2	1428.0	13178.2	592.2	29847.3	1341.4	749.1	21059.2
2017	8560.0	6650.8	1428.0	13782.8	568.3	31339.7	1292.2	723.9	21783.1
2018	8560.0	7315.9	1428.0	14447.9	546.5	32906.7	1244.7	698.2	22481.3
2019	8560.0	8047.5	1428.0	15179.5	526.8	34552.0	1199.1	672.3	23153.6
2020	8560.0	8852.3	1428.0	15984.3	508.9	36279.6	1155.1	646.2	23799.8
2021	8560.0	9737.5	1428.0	16869.5	492.7	38093.6	1112.7	619.9	24419.7
2022	8560.0	10711.2	1428.0	17843.2	478.1	39998.3	1071.8	593.7	25013.4
TOTAL					63273.1		88286.5		

NOTE:THIS ANALYSIS ASSUMES A 9% GENERAL INFLATION RATE

Benefit/Cost Ratio = $\frac{88286.5}{63273.1} = 1.40$

January 1985 On-line Date

GEMSTATE HYDROELECTRIC PROJECT
(THOUSANDS DOLLARS)

(DISCOUNT RATE= .120)

YEAR	DEBT SERVICE	O&M	INTEREST ON RESERVES	PROJECT COST ANNUAL	PROJECT COST PRESENT WORTH	ALTERNATE COST ANNUAL	ALTERNATE COST PRESENT WORTH	NET PRESENT WORTH ANNUAL	NET PRESENT WORTH CUMULATIVE
1985	8560.0	315.0	1428.0	7447.0	4225.6	6480.0	3676.9	-548.7	-548.7
1986	8560.0	346.5	1428.0	7478.5	3788.8	6906.0	3498.8	-290.0	-838.7
1987	8560.0	381.1	1428.0	7513.2	3398.6	7251.3	3280.1	-118.4	-957.2
1988	8560.0	419.3	1428.0	7551.3	3049.8	7613.9	3075.1	25.3	-931.9
1989	8560.0	461.2	1428.0	7593.2	2738.2	7994.6	2882.9	144.7	-787.2
1990	8560.0	507.3	1428.0	7639.3	2459.7	8394.3	2702.7	243.1	-544.1
1991	8560.0	558.0	1428.0	7690.0	2210.7	8814.0	2533.8	323.1	-221.0
1992	8560.0	613.8	1428.0	7745.8	1988.2	9254.7	2375.5	387.3	166.3
1993	8560.0	675.2	1428.0	7807.2	1789.2	9717.4	2227.0	437.8	604.1
1994	8560.0	742.8	1428.0	7874.8	1611.3	10203.3	2087.8	476.5	1080.5
1995	8560.0	817.0	1428.0	7949.0	1452.3	10713.5	1957.3	505.1	1585.6
1996	8560.0	898.7	1428.0	8030.7	1310.0	11249.1	1835.0	525.0	2110.6
1997	8560.0	988.6	1428.0	8120.6	1182.7	11811.6	1720.3	537.6	2648.2
1998	8560.0	1087.5	1428.0	8219.5	1068.9	12402.2	1612.8	543.9	3192.1
1999	8560.0	1196.2	1428.0	8328.2	967.0	13022.3	1512.0	545.0	3737.1
2000	8560.0	1315.8	1428.0	8447.8	875.8	13673.4	1417.5	541.7	4278.8
2001	8560.0	1447.4	1428.0	8579.4	794.1	14357.1	1328.9	534.8	4813.6
2002	8560.0	1592.2	1428.0	8724.2	721.0	15074.9	1245.8	524.8	5338.4
2003	8560.0	1751.4	1428.0	8883.4	655.5	15828.7	1168.0	512.5	5850.9
2004	8560.0	1926.5	1428.0	9058.5	596.8	16620.1	1095.0	498.2	6349.1
2005	8560.0	2119.2	1428.0	9251.2	544.2	17451.1	1026.5	482.3	6831.4
2006	8560.0	2331.1	1428.0	9463.1	497.0	18323.7	962.4	465.4	7296.8
2007	8560.0	2564.2	1428.0	9696.2	454.7	19239.9	902.2	447.5	7744.3
2008	8560.0	2820.6	1428.0	9952.6	416.7	20201.8	845.8	429.1	8173.5
2009	8560.0	3102.7	1428.0	10234.7	382.6	21211.9	793.0	410.4	8583.8
2010	8560.0	3412.9	1428.0	10544.9	352.0	22272.5	743.4	391.4	8975.3
2011	8560.0	3754.2	1428.0	10886.2	324.4	23386.2	696.9	372.5	9347.8
2012	8560.0	4129.6	1428.0	11261.6	299.7	24555.5	653.4	353.7	9701.5
2013	8560.0	4542.6	1428.0	11674.6	277.4	25783.2	612.6	335.2	10036.7
2014	8560.0	4996.9	1428.0	12128.9	257.3	27072.4	574.3	317.0	10353.7
2015	8560.0	5496.6	1428.0	12628.6	239.2	28426.0	538.4	299.2	10652.9
2016	8560.0	6046.2	1428.0	13178.2	222.8	29847.3	504.7	281.9	10934.8
2017	8560.0	6650.8	1428.0	13782.8	208.1	31339.7	473.2	265.1	11199.9
2018	8560.0	7315.9	1428.0	14447.9	194.8	32906.7	443.6	248.8	11448.7
2019	8560.0	8047.5	1428.0	15179.5	182.7	34552.0	415.9	233.2	11681.9
2020	8560.0	8852.3	1428.0	15984.3	171.8	36279.6	389.9	218.1	11900.0
2021	8560.0	9737.5	1428.0	16869.5	161.9	38093.6	365.5	203.7	12103.6
2022	8560.0	10711.2	1428.0	17843.2	152.9	39998.3	342.7	189.8	12293.4
TOTAL					42224.0		54517.5		

NOTE:THIS ANALYSIS ASSUMES A 9% GENERAL INFLATION RATE

Benefit/Cost Ratio = $\frac{54517.5}{42224.0} = 1.29$

January 1985 On-line Date
GEMSTATE HYDROELECTRIC PROJECT
(THOUSANDS DOLLARS)

(DISCOUNT RATE= .150)

YEAR	DEBT SERVICE	O&M	INTEREST ON RESERVES	PROJECT COST ANNUAL	PROJECT COST PRESENT WORTH	ALTERNATE COST ANNUAL	ALTERNATE COST PRESENT WORTH	NET PRESENT WORTH ANNUAL	NET PRESENT WORTH CUMULATIVE
1985	8560.0	315.0	1428.0	7447.0	3702.5	6480.0	3221.7	-480.8	-480.8
1986	8560.0	346.5	1428.0	7478.5	3233.2	6906.0	2985.7	-247.5	-728.3
1987	8560.0	381.1	1428.0	7513.2	2824.5	7251.3	2726.0	-98.4	-826.7
1988	8560.0	419.3	1428.0	7551.3	2468.5	7613.9	2489.0	20.5	-806.3
1989	8560.0	461.2	1428.0	7593.2	2158.5	7994.6	2272.6	114.1	-692.2
1990	8560.0	507.3	1428.0	7639.3	1888.3	8394.3	2074.9	186.6	-505.5
1991	8560.0	558.0	1428.0	7690.0	1652.9	8814.0	1894.5	241.6	-264.0
1992	8560.0	613.8	1428.0	7745.8	1447.8	9254.7	1729.8	282.0	18.1
1993	8560.0	675.2	1428.0	7807.2	1268.9	9717.4	1579.4	310.5	328.5
1994	8560.0	742.8	1428.0	7874.8	1112.9	10203.3	1442.0	329.1	657.6
1995	8560.0	817.0	1428.0	7949.0	976.9	10713.5	1316.6	339.7	997.3
1996	8560.0	898.7	1428.0	8030.7	858.2	11249.1	1202.1	343.9	1341.3
1997	8560.0	988.6	1428.0	8120.6	754.6	11811.6	1097.6	343.0	1684.3
1998	8560.0	1087.5	1428.0	8219.5	664.2	12402.2	1002.2	338.0	2022.3
1999	8560.0	1196.2	1428.0	8328.2	585.2	13022.3	915.0	329.8	2352.1
2000	8560.0	1315.8	1428.0	8447.8	516.2	13673.4	835.4	319.3	2671.4
2001	8560.0	1447.4	1428.0	8579.4	455.8	14357.1	762.8	307.0	2978.3
2002	8560.0	1592.2	1428.0	8724.2	403.1	15074.9	696.5	293.4	3271.8
2003	8560.0	1751.4	1428.0	8883.4	356.9	15828.7	635.9	279.0	3550.8
2004	8560.0	1926.5	1428.0	9058.5	316.5	16620.1	580.6	264.2	3814.9
2005	8560.0	2119.2	1428.0	9251.2	281.0	17451.1	530.1	249.1	4064.0
2006	8560.0	2331.1	1428.0	9463.1	250.0	18323.7	484.0	234.1	4298.1
2007	8560.0	2564.2	1428.0	9696.2	222.7	19239.9	441.9	219.2	4517.3
2008	8560.0	2820.6	1428.0	9952.6	198.8	20201.8	403.5	204.7	4722.0
2009	8560.0	3102.7	1428.0	10234.7	177.8	21211.9	368.4	190.7	4912.7
2010	8560.0	3412.9	1428.0	10544.9	159.3	22272.5	336.4	177.1	5089.8
2011	8560.0	3754.2	1428.0	10886.2	143.0	23386.2	307.1	164.2	5254.0
2012	8560.0	4129.6	1428.0	11261.6	128.6	24555.5	280.4	151.8	5405.8
2013	8560.0	4542.6	1428.0	11674.6	115.9	25783.2	256.0	140.1	5545.9
2014	8560.0	4996.9	1428.0	12128.9	104.7	27072.4	233.8	129.0	5674.9
2015	8560.0	5496.6	1428.0	12628.6	94.8	28426.0	213.4	118.6	5793.6
2016	8560.0	6046.2	1428.0	13178.2	86.0	29847.3	194.9	108.8	5902.4
2017	8560.0	6650.8	1428.0	13782.8	78.3	31339.7	177.9	99.7	6002.1
2018	8560.0	7315.9	1428.0	14447.9	71.3	32906.7	162.5	91.1	6093.2
2019	8560.0	8047.5	1428.0	15179.5	65.2	34552.0	148.3	83.2	6176.4
2020	8560.0	8852.3	1428.0	15984.3	59.7	36279.6	135.4	75.8	6252.1
2021	8560.0	9737.5	1428.0	16869.5	54.8	38093.6	123.7	68.9	6321.0
2022	8560.0	10711.2	1428.0	17843.2	50.4	39998.3	112.9	62.5	6383.6
TOTAL					29987.6		36371.2		

NOTE:THIS ANALYSIS ASSUMES A 9% GENERAL INFLATION RATE

Benefit/Cost Ratio = $\frac{36371.2}{29987.2} = 1.21$

January 1986 On-line Date

GEMSTATE HYDROELECTRIC PROJECT
(THOUSANDS DOLLARS)

(DISCOUNT RATE= .090)

YEAR	DEBT SERVICE	O&M	INTEREST ON RESERVES	PROJECT COST ANNUAL	PROJECT COST PRESENT WORTH	ALTERNATE COST ANNUAL	ALTERNATE COST PRESENT WORTH	NET PRESENT WORTH ANNUAL	NET PRESENT WORTH CUMULATIVE
1986	9620.0	352.0	1593.6	8378.4	4995.8	6906.0	4117.8	-877.9	-877.9
1987	9620.0	387.2	1593.6	8413.6	4602.5	7251.3	3966.7	-635.8	-1513.8
1988	9620.0	425.9	1593.6	8452.3	4241.9	7613.9	3821.1	-420.8	-1934.6
1989	9620.0	468.5	1593.6	8494.9	3911.3	7994.6	3680.9	-230.4	-2164.9
1990	9620.0	515.4	1593.6	8541.8	3608.1	8394.3	3545.8	-62.3	-2227.2
1991	9620.0	566.9	1593.6	8593.3	3330.2	8814.0	3415.7	85.5	-2141.7
1992	9620.0	623.6	1593.6	8650.0	3075.4	9254.7	3290.4	215.0	-1926.7
1993	9620.0	685.9	1593.6	8712.3	2841.8	9717.4	3169.6	327.8	-1598.9
1994	9620.0	754.5	1593.6	8780.9	2627.7	10203.3	3053.3	425.6	-1173.2
1995	9620.0	830.0	1593.6	8856.4	2431.4	10713.5	2941.3	509.8	-663.4
1996	9620.0	913.0	1593.6	8939.4	2251.6	11249.1	2833.3	581.8	-81.6
1997	9620.0	1004.3	1593.6	9030.7	2086.8	11811.6	2729.3	642.6	561.0
1998	9620.0	1104.7	1593.6	9131.1	1935.7	12402.2	2629.2	693.4	1254.4
1999	9620.0	1215.2	1593.6	9241.6	1797.4	13022.3	2532.7	735.3	1989.7
2000	9620.0	1336.7	1593.6	9363.1	1670.7	13673.4	2439.8	769.1	2758.8
2001	9620.0	1470.4	1593.6	9496.8	1554.6	14357.1	2350.2	795.6	3554.4
2002	9620.0	1617.4	1593.6	9643.8	1448.3	15074.9	2264.0	815.7	4370.1
2003	9620.0	1779.2	1593.6	9805.6	1351.0	15828.7	2180.9	829.9	5199.9
2004	9620.0	1957.1	1593.6	9983.5	1262.0	16620.1	2100.9	838.9	6038.8
2005	9620.0	2152.8	1593.6	10179.2	1180.5	17451.1	2023.8	843.3	6882.1
2006	9620.0	2368.1	1593.6	10394.5	1105.9	18323.7	1949.5	843.6	7725.8
2007	9620.0	2604.9	1593.6	10631.3	1037.7	19239.9	1878.0	840.3	8566.0
2008	9620.0	2865.4	1593.6	10891.8	975.3	20201.8	1809.0	833.7	9399.7
2009	9620.0	3151.9	1593.6	11178.3	918.3	21211.9	1742.7	824.3	10224.0
2010	9620.0	3467.1	1593.6	11493.5	866.3	22272.5	1678.7	812.4	11036.5
2011	9620.0	3813.8	1593.6	11840.2	818.7	23386.2	1617.1	798.4	11834.8
2012	9620.0	4195.2	1593.6	12221.6	775.3	24555.5	1557.8	782.4	12617.3
2013	9620.0	4614.7	1593.6	12641.1	735.7	25783.2	1500.6	764.9	13382.2
2014	9620.0	5076.2	1593.6	13102.6	699.6	27072.4	1445.5	745.9	14128.1
2015	9620.0	5583.8	1593.6	13610.2	666.7	28426.0	1392.5	725.8	14853.8
2016	9620.0	6142.2	1593.6	14168.6	636.8	29847.3	1341.4	704.6	15558.5
2017	9620.0	6756.4	1593.6	14782.8	609.5	31339.7	1292.2	682.7	16241.1
2018	9620.0	7432.0	1593.6	15458.4	584.7	32906.7	1244.7	660.0	16901.1
2019	9620.0	8175.3	1593.6	16201.7	562.2	34552.0	1199.1	636.8	17537.9
2020	9620.0	8992.8	1593.6	17019.2	541.8	36279.6	1155.1	613.2	18151.1
2021	9620.0	9892.1	1593.6	17918.5	523.4	38093.6	1112.7	589.3	18740.4
2022	9620.0	10881.3	1593.6	18907.7	506.7	39998.3	1071.8	565.2	19305.6
2023	9620.0	11969.4	1593.6	19995.8	491.6	41998.2	1032.5	540.9	19846.5
TOTAL					65260.9		85107.5		

NOTE:THIS ANALYSIS ASSUMES A 9% GENERAL INFLATION RATE

$$\text{Benefit/Cost Ratio} = \frac{85107.5}{65260.9} = 1.30$$

January 1986 On-line Date
GEMSTATE HYDROELECTRIC PROJECT
(THOUSANDS DOLLARS)

(DISCOUNT RATE= .120)

YEAR	DEBT SERVICE	O&M	INTEREST ON RESERVES	PROJECT COST ANNUAL	PROJECT COST PRESENT WORTH	ALTERNATE COST ANNUAL	ALTERNATE COST PRESENT WORTH	NET PRESENT WORTH ANNUAL	NET PRESENT WORTH CUMULATIVE
1986	9620.0	352.0	1593.6	8378.4	4244.8	6906.0	3498.8	-746.0	-746.0
1987	9620.0	387.2	1593.6	8413.6	3805.9	7251.3	3280.1	-525.8	-1271.7
1988	9620.0	425.9	1593.6	8452.3	3413.8	7613.9	3075.1	-338.6	-1610.4
1989	9620.0	468.5	1593.6	8494.9	3063.4	7994.6	2882.9	-180.4	-1790.8
1990	9620.0	515.4	1593.6	8541.8	2750.2	8394.3	2702.7	-47.5	-1838.3
1991	9620.0	566.9	1593.6	8593.3	2470.4	8814.0	2533.8	63.4	-1774.8
1992	9620.0	623.6	1593.6	8650.0	2220.2	9254.7	2375.5	155.2	-1619.6
1993	9620.0	685.9	1593.6	8712.3	1996.6	9717.4	2227.0	230.3	-1389.3
1994	9620.0	754.5	1593.6	8780.9	1796.8	10203.3	2087.8	291.0	-1098.2
1995	9620.0	830.0	1593.6	8856.4	1618.0	10713.5	1957.3	339.3	-759.0
1996	9620.0	913.0	1593.6	8939.4	1458.2	11249.1	1835.0	376.8	-382.2
1997	9620.0	1004.3	1593.6	9030.7	1315.3	11811.6	1720.3	405.0	22.8
1998	9620.0	1104.7	1593.6	9131.1	1187.4	12402.2	1612.8	425.4	448.2
1999	9620.0	1215.2	1593.6	9241.6	1073.0	13022.3	1512.0	439.0	887.2
2000	9620.0	1336.7	1593.6	9363.1	970.6	13673.4	1417.5	446.8	1334.0
2001	9620.0	1470.4	1593.6	9496.8	879.0	14357.1	1328.9	449.9	1783.9
2002	9620.0	1617.4	1593.6	9643.8	797.0	15074.9	1245.8	448.8	2232.7
2003	9620.0	1779.2	1593.6	9805.6	723.5	15828.7	1168.0	444.4	2677.1
2004	9620.0	1957.1	1593.6	9983.5	657.7	16620.1	1095.0	437.2	3114.4
2005	9620.0	2152.8	1593.6	10179.2	598.8	17451.1	1026.5	427.8	3542.1
2006	9620.0	2368.1	1593.6	10394.5	545.9	18323.7	962.4	416.4	3958.6
2007	9620.0	2604.9	1593.6	10631.3	498.5	19239.9	902.2	403.7	4362.3
2008	9620.0	2865.4	1593.6	10891.8	456.0	20201.8	845.8	389.8	4752.1
2009	9620.0	3151.9	1593.6	11178.3	417.9	21211.9	793.0	375.1	5127.2
2010	9620.0	3467.1	1593.6	11493.5	383.6	22272.5	743.4	359.8	5486.9
2011	9620.0	3813.8	1593.6	11840.2	352.9	23386.2	696.9	344.1	5831.0
2012	9620.0	4195.2	1593.6	12221.6	325.2	24555.5	653.4	328.2	6159.2
2013	9620.0	4614.7	1593.6	12641.1	300.3	25783.2	612.6	312.2	6471.4
2014	9620.0	5076.2	1593.6	13102.6	277.9	27072.4	574.3	296.3	6767.8
2015	9620.0	5583.8	1593.6	13610.2	257.8	28426.0	538.4	280.6	7048.4
2016	9620.0	6142.2	1593.6	14168.6	239.6	29847.3	504.7	265.1	7313.5
2017	9620.0	6756.4	1593.6	14782.8	223.2	31339.7	473.2	250.0	7563.5
2018	9620.0	7432.0	1593.6	15458.4	208.4	32906.7	443.6	235.2	7798.7
2019	9620.0	8175.3	1593.6	16201.7	195.0	34552.0	415.9	220.9	8019.6
2020	9620.0	8992.8	1593.6	17019.2	182.9	36279.6	389.9	207.0	8226.6
2021	9620.0	9892.1	1593.6	17918.5	171.9	38093.6	365.5	193.6	8420.2
2022	9620.0	10881.3	1593.6	18907.7	162.0	39998.3	342.7	180.7	8600.9
2023	9620.0	11969.4	1593.6	19995.8	153.0	41998.2	321.3	168.3	8769.2
TOTAL					42392.7		51161.8		

NOTE:THIS ANALYSIS ASSUMES A 9% GENERAL INFLATION RATE

$$\text{Benefit/Cost Ratio} = \frac{51161.8}{42392.7} = 1.21$$

January 1986 On-line Date

GEMSTATE HYDROELECTRIC PROJECT

(THOUSANDS DOLLARS)

(DISCOUNT RATE= .150)

YEAR	DEBT SERVICE	O&M	INTEREST ON RESERVES	PROJECT COST ANNUAL	PROJECT COST PRESENT WORTH	ALTERNATE COST ANNUAL	ALTERNATE COST PRESENT WORTH	NET PRESENT WORTH ANNUAL	NET PRESENT WORTH CUMULATIVE
1986	9620.0	352.0	1593.6	8378.4	3622.2	6906.0	2985.7	-636.6	-636.6
1987	9620.0	387.2	1593.6	8413.6	3163.0	7251.3	2726.0	-437.0	-1073.5
1988	9620.0	425.9	1593.6	8452.3	2763.1	7613.9	2489.0	-274.1	-1347.6
1989	9620.0	468.5	1593.6	8494.9	2414.8	7994.6	2272.6	-142.2	-1489.8
1990	9620.0	515.4	1593.6	8541.8	2111.4	8394.3	2074.9	-36.5	-1526.3
1991	9620.0	566.9	1593.6	8593.3	1847.1	8814.0	1894.5	47.4	-1478.9
1992	9620.0	623.6	1593.6	8650.0	1616.7	9254.7	1729.8	113.0	-1365.8
1993	9620.0	685.9	1593.6	8712.3	1416.0	9717.4	1579.4	163.4	-1202.5
1994	9620.0	754.5	1593.6	8780.9	1241.0	10203.3	1442.0	201.0	-1001.5
1995	9620.0	830.0	1593.6	8856.4	1088.4	10713.5	1316.6	228.2	-773.2
1996	9620.0	913.0	1593.6	8939.4	955.3	11249.1	1202.1	246.8	-526.4
1997	9620.0	1004.3	1593.6	9030.7	839.2	11811.6	1097.6	258.4	-268.0
1998	9620.0	1104.7	1593.6	9131.1	737.8	12402.2	1002.2	264.3	-3.7
1999	9620.0	1215.2	1593.6	9241.6	649.4	13022.3	915.0	265.7	262.0
2000	9620.0	1336.7	1593.6	9363.1	572.1	13673.4	835.4	263.4	525.4
2001	9620.0	1470.4	1593.6	9496.8	504.6	14357.1	762.8	258.2	783.6
2002	9620.0	1617.4	1593.6	9643.8	445.6	15074.9	696.5	250.9	1034.5
2003	9620.0	1779.2	1593.6	9805.6	393.9	15828.7	635.9	242.0	1276.5
2004	9620.0	1957.1	1593.6	9983.5	348.8	16620.1	580.6	231.8	1508.3
2005	9620.0	2152.8	1593.6	10179.2	309.2	17451.1	530.1	220.9	1729.2
2006	9620.0	2368.1	1593.6	10394.5	274.6	18323.7	484.0	209.5	1938.7
2007	9620.0	2604.9	1593.6	10631.3	244.2	19239.9	441.9	197.7	2136.4
2008	9620.0	2865.4	1593.6	10891.8	217.6	20201.8	403.5	186.0	2322.4
2009	9620.0	3151.9	1593.6	11178.3	194.2	21211.9	368.4	174.3	2496.6
2010	9620.0	3467.1	1593.6	11493.5	173.6	22272.5	336.4	162.8	2659.4
2011	9620.0	3813.8	1593.6	11840.2	155.5	23386.2	307.1	151.6	2811.1
2012	9620.0	4195.2	1593.6	12221.6	139.6	24555.5	280.4	140.9	2951.9
2013	9620.0	4614.7	1593.6	12641.1	125.5	25783.2	256.0	130.5	3082.4
2014	9620.0	5076.2	1593.6	13102.6	113.1	27072.4	233.8	120.6	3203.1
2015	9620.0	5583.8	1593.6	13610.2	102.2	28426.0	213.4	111.3	3314.3
2016	9620.0	6142.2	1593.6	14168.6	92.5	29847.3	194.9	102.4	3416.7
2017	9620.0	6756.4	1593.6	14782.8	83.9	31339.7	177.9	94.0	3510.7
2018	9620.0	7432.0	1593.6	15458.4	76.3	32906.7	162.5	86.1	3596.8
2019	9620.0	8175.3	1593.6	16201.7	69.6	34552.0	148.3	78.8	3675.6
2020	9620.0	8992.8	1593.6	17019.2	63.5	36279.6	135.4	71.9	3747.5
2021	9620.0	9892.1	1593.6	17918.5	58.2	38093.6	123.7	65.5	3813.0
2022	9620.0	10881.3	1593.6	18907.7	53.4	39998.3	112.9	59.5	3872.6
2023	9620.0	11969.4	1593.6	19995.8	49.1	41998.2	103.1	54.0	3926.6
TOTAL					29326.0		33252.6		

NOTE:THIS ANALYSIS ASSUMES A 9% GENERAL INFLATION RATE

$$\text{Benefit/Cost Ratio} = \frac{33252.6}{29326.0} = 1.13$$

Appendix E

Appendix E
ENVIRONMENTAL ANALYSIS

The environment surrounding the project area was examined both in terms of the natural environment and the human environment. The elements under each of these broad topical areas are described on the following pages. The discussion will briefly describe present conditions and possible areas of environmental concern. Readily identifiable remedial measures will be discussed as appropriate.

Fish

Existing Conditions

The Gem State project area is classified as a Class III, Substantial Fishery Resource, by the Idaho Department of Fish and Game and U.S. Fish and Wildlife Service (1978). The area immediately downstream is a Class II, High Priority Fishery Resource. Game species are dominated by cutthroat trout, rainbow trout, and mountain whitefish. Other game species, such as brown trout, kokanee, and yellow perch, are also found, but in limited numbers. According to the IDF&G (Reinecker, 1980), the area is not stocked but relies on migration and natural reproduction. The extent of spawning in the reach is unknown, but the potential exists for both cutthroat and brown trout reproducing in the main channel. The pattern of migration for game species is unclear, although most cutthroat and rainbow trout are reported to move into the area from upstream (City of Idaho Falls, 1978). The only source of kokanee is Island Park Reservoir. The South Fork of the Snake River and Palisades Reservoir are the only place where brown trout are stocked. However, spawning fish (i.e., cutthroat and brown trout) would move into and through the project reach from downstream areas. Any upstream migration is blocked at Idaho Falls. IDF&G believes this blockage results in a popular fishery within the city limits.

Nongame species, such as the Utah sucker and Utah chub, dominate the fish community of the reach. As yet, carp have not extended their range to the project area. These species have a tendency to out-compete game fish in slow moving, warm waters like those in much of the project reach.

The project reach is fished moderately by local residents, primarily juveniles. The main access points are at the proposed damsite and at the upper end of the proposed reservoir near the existing irrigation diversion structures. An agreement exists between the IDF&G and Utah Power and Light Company to provide fisherman access at the damsite area. The damsite facilities provide access to both the project reach and downstream areas. The rapids at the site appear to provide especially good fish habitat in contrast to the deeper, slower water of the rest of the reach. While the project

reach has a demonstrated use for fishing, the extent of that use is undocumented.

No endangered, threatened, or fish species of special concern are found in the project area.

Environmental Considerations

IDF&G expressed a concern over the loss of fish habitat and fishing opportunity between the proposed dam and the powerhouse. Significantly reduced flows would substantially lower the value of the site for fishing. Creation of a reservoir would change the type of fishing--from bank fishing to boat fishing. Development of other access points was recommended.

Another concern was the potential blockage of any cutthroat and brown trout moving upstream to spawn. However, the extent of this migration, if any, is unknown. The IDF&G suggested studies be conducted to determine how much spawning occurs in the project reach and the extent of upstream migration. Fish passage facilities may be required.

Vegetation

Existing Conditions

The general pattern of plant communities in the Gem State project area is fairly simple. Dominant habitats include riparian, sagebrush, and agricultural croplands. The riparian habitat consists of a 10- to 30-foot strip of willows, cottonwoods, and other brush species lining the steep river banks for the 2.5 mile project reach. The willow and brush cover is very dense, while cottonwoods are sparsely scattered along the strip. No marshlands were observed in the reach. Sagebrush and grass habitats occur adjacent to the riparian band. Big sage, rabbitbrush, prickly pear cactus, and various grasses are dominant species. The width of the sagebrush band is narrow, but varies depending on how close local farmers are able to develop their fields. In many areas, volunteer grains have invaded the sagebrush community. Agricultural crops surround the native habitats of the project area.

The vegetative pattern observed in the project area appears to be repeated both above and below the reach. It is a rather typical arrangement along most of the watercourses in the region. The primary value of this type of vegetative complex lies in the riparian community. Its dense cover and root system have a tendency to stabilize the riverbanks and prevent erosion. It is also highly valuable as wildlife habitat.

No endangered or threatened plants were identified in the project area.

Environmental Considerations

The reduction of riparian habitat was not considered a major concern by the state and local agencies contacted. It should be noted, however, that wetlands, which include riparian habitats, are protected by Federal regulations and policies. Anticipated reservoir fluctuations of 1 foot or less would not significantly impair the development of a shoreline riparian habitat.

Wildlife

Existing Environment

The Gem State project area supports a diversity of wildlife primarily related to the aquatic and semi-aquatic habit found within the reach. Waterfowl and other water-oriented birds occur in fair abundance. However, the project is not on any major flyway, and mostly local populations are likely to use the area. Geese and several species of ducks nest along the river. The area offers only limited waterfowl hunting. Beaver and muskrats appear to be common along the river. The riparian habitat along the shoreline on both sides of the river is extensive and likely supports large populations of nongame species, particularly during the breeding seasons. The most common birds observed during the July site visit were swallows, robins, warblers, magpies, and gulls. The proximity of this cover to abundant food, such as grain and other crops, provide ideal habitat for game and nongame species alike. Upland game, such as pheasant, partridges, and quail, are abundant and offer good hunting for local residents.

The only big game species likely to occur within the project area is mule deer. The lack of large, broken tracts of escape cover limit their population. Data on wildlife in the area are extremely sparce.

The only endangered, threatened, or species of special concern likely to use the area is the bald eagle. These would be wintering birds that take advantage of the large cottonwoods as perch sites.

Environmental Considerations

Riparian habitats are generally considered extremely valuable to wildlife. However, this loss was not viewed as a special concern by the IDF&G. Loss of riparian habitat would have some impact on upland game in that it would reduce critical escape and thermal cover in the area. The major wildlife issue expressed by the IDF&G was any potential prohibition of hunting within the project area.

Water Quality

Existing Conditions

Water quality in the project reach is considered good. No violations of state standards have been recorded in the Snake River near the project. The project reach is protected for domestic water supply, agricultural water supply, cold water biota, salmonid spawning, and primary and secondary contact recreation. It is not classified as a special resource water (Idaho Department of Health and Welfare, 1980). Generally, hydroelectric facilities need only be concerned with dissolved oxygen gas saturation, temperature, and sedimentation. Because the Gem State project will be a low head facility, dissolved oxygen and gas supersaturation will not be a problem.

Temperatures in the project reach have been optimal for salmonids ever since Palisades Reservoir was built in 1956. Summer temperatures have dropped 10°C with its operation (City of Idaho Falls, 1980). The development of Gem State will slow water moving through the area and increase summer temperatures only slightly. Thus, no temperature concerns can be expected.

Environmental Considerations

The power plant will be entirely dependent on run-of-river flows. Because reservoir storage is small, reservoir drawdown to augment run-of-river power output over the long term is not practical. As a result, the reservoir elevation will not to fluctuate widely. A fluctuation of approximately 1 foot or less may occur daily because of project operation practices.

Overall, the proposed project would not have any significant impact on the existing hydrologic environment, except for a change in release below the dam. During river flows of less than 6,000 cfs, the river channel below the spillway and above the powerhouse tailrace will be subject to a minimum flow of 50 cfs. Although this practice may reduce the value of the fishery (see earlier discussion under fish) in the reach, it would not significantly alter water temperatures or dissolved oxygen levels. Water flows in this reach will fluctuate depending on river flow--flows in excess of 6,000 cfs will be spilled.

As much as 250,000 cubic yards of material may be excavated from the powerhouse and tailrace. Virtually all of this material will be used in project construction. The project utilizes a balanced materials approach, that is, excavated materials are used to construct other project features without the need for large amounts of borrow materials.

No major water quality concerns are anticipated with development of the Gem State project. Reduced temperatures and retention of sediments are minor concerns. However, an important consideration should be given to construction practices. The IDF&G expressed concern over the manner in which earth and rock materials were being placed in the river at the upstream projects. IDF&G felt large amounts of fine-grained soil were being dumped into the river, creating a turbidity and sediment problem. Because the Gem State cofferdams will be constructed of rock and gravels from the tailrace excavation, suspended sediments will be minimized.

Land Use

Existing Conditions

The hydroelectric project would be located on the Snake River approximately 5.5 miles southwest of Idaho Falls. The land uses generally surrounding the project area are shown in Figure E-1.

Irrigated agriculture is the most widespread use of land in the study area. Large parcels of land are currently being used to raise potatoes, alfalfa, and small grains. Virtually all the lands directly adjacent to the project reach are agricultural lands.

Most of the commercial and industrial land uses are on the periphery of the study area, principally along the Yellowstone Highway. These areas are approximately 1/2 mile from the River's edge. Commercial and industrial lands are occupied by general sales establishments, light industrial, and several lumber concerns. One large parcel of land has been developed as an industrial park. Although streets and gutters are in place, few industries have located in the park.

Residential dwellings are principally located along New Sweden School Road. The residents are situated on large lots or acreage, and are surrounded by agricultural land. A total of seven homes are adjacent to the 2.5-mile river reach affected by the project. Each of these homes is associated with a farm, and most are surrounded by equipment or storage buildings.

Other specific land uses in the project reach include some nonirrigated pasture, gravel mining, and irrigation canals. The Snake River Valley Canal parallels the entire project reach on the east bank of the river and the Woodville Canal parallels the upper reach of the west bank for about 1 mile. Urban uses and recreational developments are nonexistent, with the exception of one sportsman access on the right bank below the rapids.

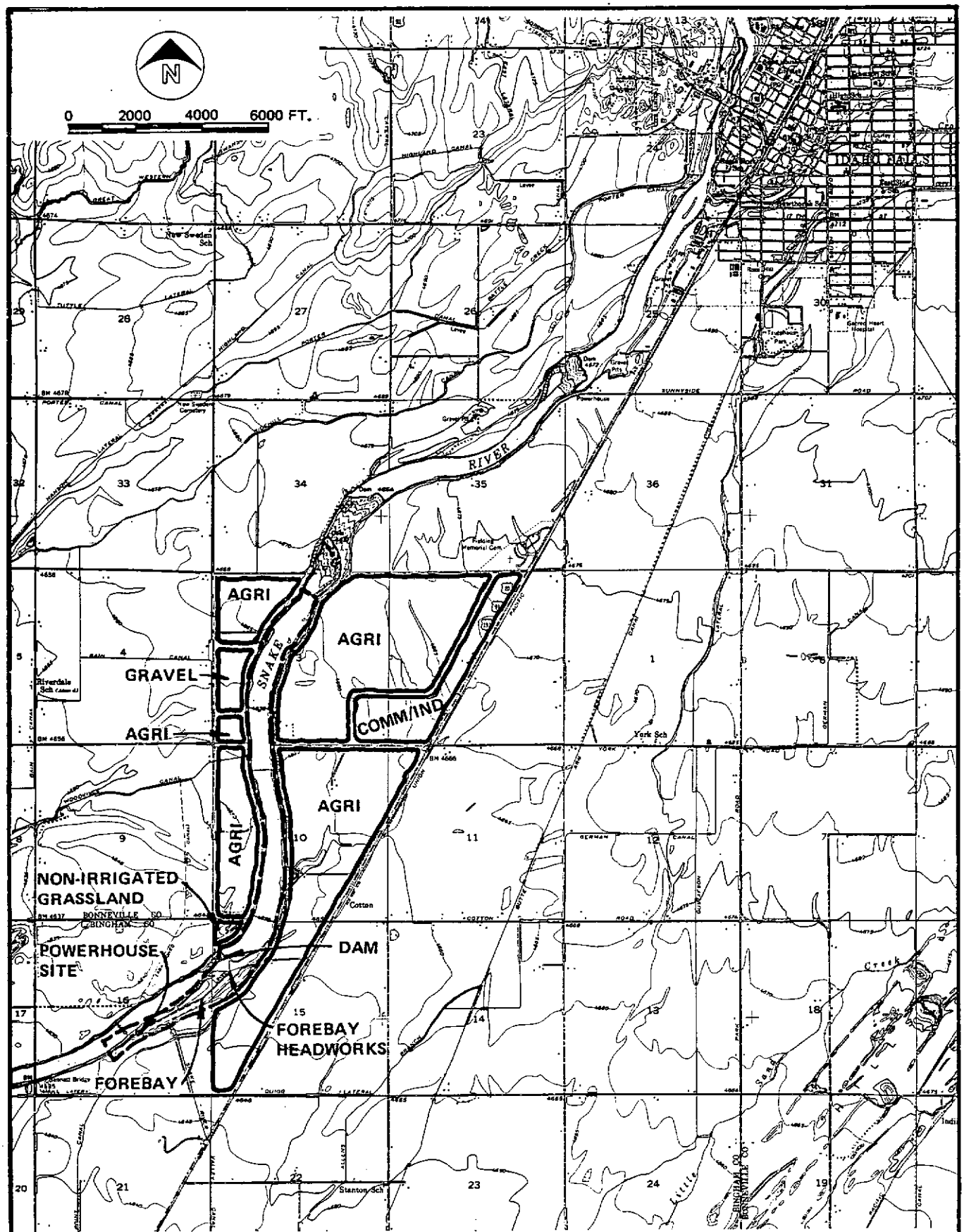


FIGURE E-1

LAND USE

CH2M HILL

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Land Use Planning: The study area lies on the boundary of Bonneville and Bingham Counties. The project is entirely in the unincorporated areas of these two jurisdictions. Both entities have an established planning function supervised by professional staff.

Bonneville County is in the process of updating its Comprehensive Plan. The plan designates the future use of the study area as agricultural. A planning objective includes dedicating a continuous greenbelt or recreation easement along the Snake River. The portion of the study area in Bonneville County is largely zoned agricultural. The zone discourages residential use with a minimum lot size of 1 acre. Bonneville County's land use control ordinances do not contain any special conditions that would apply to the project.

Bingham County's land use plan also designates its portion of the project area as agriculture. The area is also zoned for agricultural use. Bingham County, however, requires that a conditional use permit be applied for and received for public utility installations. The permit procedure requires a public hearing be held with prescribed advance notice.

Environmental Considerations

The land use patterns in the study area are compatible with the project features. The project would not cause any significant displacement of highly developed properties. Three or four residential dwellings would be displaced. Relocation should not be an insurmountable problem for the residents. Approximately 40 to 50 acres of land would be inundated by the pool of the dam.

The Snake River Valley Canal occupies lands that would be inundated by the pool. The proposal would include relocation of the Snake River Valley Irrigation District intake control structure. Operationally, this would have no effect on the irrigation system or its users. This change requires consultation with the Board of Commissioners of the Irrigation District.

Although the respective County plans do not specifically address water resource developments, the project does not appear to be in conflict with any established planning goals or objectives. The project will enhance the recreation opportunities in this reach of the river. That includes better fishing access and boating opportunities.

Recreation

Existing Conditions

The Snake River reach affected by the proposed project experiences a low level of recreational activity. Streambank

conditions, dense shoreline vegetation, water hazards, and poor access contribute to poor utilization.

Compared to other fisheries in the region, this reach of the Snake River ranks low in popularity. Better managed sports fishing waters, such as Palisades Reservoir, Island Park Reservoir, Henry's Fork River, and Henry's Lake, receive heavy fishing pressure in the region from state and out-of-state residents. Fishing by local residents is the principal form of recreational use in the project area. The use is concentrated in the vicinity of a sportsman access at the existing damsite. This access was developed through a cooperative agreement between Utah Power and Light, the property owner, and the State Department of Fish and Game. A condition of the agreement is that the state has provisional use of 26.7 acres. The land extends about 1,300 feet along the right bank river front. Provisions in the agreement give Utah Power and Light the option to terminate the agreement at any time. The access represents the only developed recreation facility in the project area; consisting of a graveled access road, unpaved boat ramp, and graveled parking area. Fishing occurs at other locations along the project reach. However, limited access and other conditions less condusive to angling reduce their popularity for fishing.

Little boating use occurs in the project reach above the rapids; some occurs below the rapids. A lack of launch facilities and water conditions account for the usage. Pleasure boating on the Snake River is an ever-increasing recreational activity and the quiet waters behind Idaho Falls' three upstream dams are popular areas.

Hunting for upland game birds and waterfowl in the project area is mainly by local residents, and is not extensive.

Quantitive data concerning fishing, hunting, and boating activities in the project area are not available. Recreation experience in the area is basically unregulated and not formally developed. The environment exists in a rural/natural condition.

Cultural Resources

Existing Conditions

Information documenting historical or archaeological resources in the area are limited. Work conducted for the three upstream dams revealed no significant historic sites in the area. Archaeological investigations produced no indications of cultural resources.

The Snake River reach affected by the project experiences a low level of recreational activity. Streambank conditions, dense shoreline vegetation, water hazards, and poor access contribute to its low utilization.

Environmental Considerations

From previous works in the area, it appears the potential for historical and archaeological resources is low. Because these earlier studies were not conducted in the affected area, further investigations will be required in the study area to satisfy FERC guidelines. The principal area of investigation would include the area to be inundated, areas affected by construction activities, and transmission line corridors.

Appendix F

Appendix F

DETAILED SCOPE OF THE PROPOSED WILDLIFE AND AQUATIC RESOURCE STUDY

A thorough search will be made for all existing literature available for the project area and region. Sources will include Idaho Department of Fish and Game files, U.S. Fish and Wildlife, Idaho Department of Health and Welfare, university libraries, and scientific journals.

Where the literature search does not provide sufficient information, field surveys, described in greater detail below, will be conducted to develop the basic data needed to prepare Exhibits R, S, and W for the FERC license application. The scope of the field surveys will be determined during the literature search.

Information used in developing the environmental reports for the three upriver hydroelectric plants under construction for the City of Idaho Falls will be used as applicable. Each study is estimated to cost $12,500 to $25,000.

All data will be analyzed and used to prepare the required sections of Exhibits W, R and S.

Proposed Wildlife Resource Study

In order to adequately assess the impact of the proposed project on wildlife populations inhabiting the project area, a series of biological studies will be needed to develop the data for the environmental exhibits of the FERC license application.

Threatened and Endangered Species

The Gem State project lies within the range of both the bald eagle (Haliaeetus leucocephalus) and the peregrine falcon (Falco peregrinus anatum). Bald eagles are known to use portions of the Snake River well below the project area during the winter. The peak of this activity occurs in January, and the project area will be surveyed at this time. The entire project length will be traversed twice daily over a 5-day period to determine the status of the bald eagle within the project area.

Avian Surveys

Game birds, especially pheasants (Phasianus colchicus), frequently use brushy areas of the type constituting the riparian zone along the river for thermal or roosting cover. In intensively farmed areas, riparian areas often represent the only cover of this type available to pheasants. Game bird use of the riparian zone will be surveyed via flush count

transects conducted in November. An additional index of game bird use of the riparian vegetation will be obtained through track counts conducted during January.

Breeding bird counts will be conducted in late May or early June. Because of the flocking characteristics of wintering songbirds and the relatively narrow width of the riparian vegetation, a modified strip transect method will be employed to inventory songbird populations. The survey will consist of three, 1.6-km transects. Each transect will be run for 5 consecutive days during the first 3 hours after sunrise.

Waterfowl populations will be surveyed during fall migration and during the breeding season. Migratory surveys will be conducted during early November. Breeding activity will be assessed during late May-early June (geese) and mid-July (ducks). The breeding duck survey will consist of an on-the-water brood search.

Mammalian Surveys

Mammalian predators will be surveyed using a series of scent post stations set up during the early November sampling period. Standardized methods will be utilized. The scent stations will be placed at 0.5-km intervals along 5 km of river. Track counts will be conducted during January to provide an additional index of mammalian predator use of the riparian zone.

Aquatic mammal activity will be determined from a boat. Both riverbanks will be searched for signs of beaver (Castor canadensis) and muskrat (Ondatra zibethica) activity (tracks, dens, fresh-cut willow saplings, food caches, etc.). The November survey coincides with the period of low river flow, resulting in the exposure of den entrances. This survey will only establish the presence of these species and will not yield quantitative population data.

Small mammal populations will be sampled during the May-June field activities. Ten lines of ten Sherman live traps each will be used. Traps will be baited and set for 5 consecutive nights. Captured animals will be identified, toe-clipped, and released.

Hunter Use of the Project Area

Hunter activity associated with upland game birds and waterfowl will be determined during the November field activities.

Proposed Aquatic Resource Study

The aquatic organisms of the project area will be censused for inclusion into the Exhibit W and Exhibit S. Four types of studies will require field work. They are:

- o Fish spawning survey
- o Electrofishing
- o Creel census
- o Benthos studies

The fish spawning survey will be conducted to determine the extent, if any, of spawning by brown trout in and below the project area. This will be accomplished during the December low flow period. Maps will be used to record all redds (nest sites) observed from 10 river miles below the proposed tail-race to the City of Idaho Falls' lower plant some 3 miles above the project. All potential spawning gravel areas will also be mapped.

The electrofishing surveys will consist of several timed transects in the project reach (reservoir and reduced flow area) and below the project. The surveys will determine species, composition of all fish species, age, class of game species, and size distribution of game fish. Electrofishing will be done from a boat using a portable generator, electro-fishing unit, and electrode booms. The surveys will be conducted at low flow period in the fall and spring.

Creel censuses will be conducted in the project reach to determine use of the area by fishermen. Standard methods used by the Idaho Fish and Game Department will be followed. These call for fishermen to be interviewed on randomly selected weekdays and weekends over a 2-week period each during March, April, and May for a total of three survey periods. Interviews will consist of filling in interview sheets requesting number of fish caught, species composition, length of time fished, and home location of person fishing. Other data, such as method of fishing (boat or bank), size range of fish, and numbers of fishermen observed will also be recorded.

A survey of benthos will be made in the proposed reservoir area, reduced flow area, and below the project. Benthos will be sampled using appropriate methods. Replicate samples from each station will be taken in the fall and spring to coincide with the electrofishing program. Samples will be preserved and taken to the lab for analysis.

BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE STATE OF IDAHO

IN THE MATTER OF THE APPLICATION FOR PERMIT NO. 01-7018 IN THE NAME OF THE CITY OF IDAHO FALLS.	Case No. 30087 TRANSCRIPT OF HEARING BEFORE THE DEPARTMENT OF WATER RESOURCES

Hearing held at Idaho Falls, State of Idaho, March 16, 1982, before A. KENNETH DUNN, Director, Idaho Department of Water Resources.

APPEARANCES

For the Applicant, City of Idaho Falls	Kent W. Foster HOLDEN, KIDWELL, HAHN & CRAPO P.O. Box 129 Idaho Falls, Idaho 83402
For Snake River Valley Irrigation District	W. J. Anderson SHARP, ANDERSON, BUSH & NELSON P.O. Box 158 Idaho Falls, Idaho 83401

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LODGED this 30th day of August, 1984.

A. KENNETH DUNN
Director
Idaho Department of Water Resources

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BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE STATE OF IDAHO

Case No. 30087

IN THE MATTER OF THE APPLICATION FOR PERMIT NO. 01-7018 IN THE NAME OF THE CITY OF IDAHO FALLS.	TRANSCRIPT OF HEARING BEFORE THE DEPARTMENT OF WATER RESOURCES

BE IT REMEMBERED that this matter came on for hearing on the 16th day of March, 1982, at Idaho Falls, Idaho, before A. Kenneth Dunn, Director, Idaho Department of Water Resources.

APPEARANCES

For the Applicant: City of Idaho Falls	Kent W. Foster HOLDEN, KIDWELL, HAHN & CRAPO P.O. Box 129 Idaho Falls, Idaho 83402
For Snake River Valley Irrigation District	W. J. Anderson SHARP, ANDERSON, BUSH & NELSON P.O. Box 158 Idaho Falls, Idaho 83401

MR. DUNN: The meeting has come to order. My name is Kenneth Dunn. I'm the Director of the Idaho Department of Water Resources. We're here for the purpose of a information meeting to provide me with some additional information as assistance in issuing a permit to appropriate water from the Snake River for hydroelectric purposes. There are three competing applications, essentially for the same site on the Snake River, the City of Idaho Falls being the earliest priority. That's the primary purpose of this meeting is to receive testimony relative to the City of Idaho Falls' application which as to date the Department has not taken action on. I want to emphasize that this is not a adversary

hearing, a protest hearing as the Department normally holds in a water right case. It's an information meeting. It's to provide information to the Director to assist him, to assist me in issuing the permit. Therefore, there will not be cross-examinations as we would have in a normal hearing. I will receive statements from anybody who wishes to discuss the water rights in question, but I want to emphasize that there will be no questioning from the audience. The questions, if there are any, can be made in the form of a question to me as part of your testimony. Subsequent to this meeting I will be issuing a decision on the water right. I hope it's soon but I cannot at this time tell you when that will take place. With that, I'll ask the City of Idaho Falls, whoever wants to represent them initially, to come forward and then it'll be up to the City, I guess, to decide in which order following the first one, first statement, that you'd like to proceed. So would you come forward?

MR. FOSTER: Mr. Dunn, my name is Kent Foster. I'm an attorney here in town, in Idaho Falls with the firm of Holden, Kidwell, Hahn & Crapo. We're here today representing the City of Idaho Falls. Although I don't wish to make a formal statement at this time, I thought it might be appropriate to introduce the witnesses who will testify on behalf of the City and the order in which they will present their testimony and they'll each know how we intend to proceed. First of all, Mayor Campbell, Mayor Tom Campbell, the Mayor of the City of Idaho Falls would like to make

a short presentation. He will be followed by Mr. Steve Harrison, Mr. G.S. Harrison, who is the electrical engineer for the City of Idaho Falls. He will then be followed by Mr. Jerry Eggleston who's with the engineering firm of CH_2M Hill who has done most of the engineering on the proposed Gem State Hydroelectric project of the City. He will be followed by Mr. Robert Pope. Mr. Pope is a consulting engineer who has done some consulting work with CH_2M Hill in connection with this project. And then following that there will be some testimony from Mr. Robert Gordon who is a vice-president of Utah Power & Light. And then I will, if there are any additional comments to make, I will probably do that at the conclusion, or at a later time. Thank you.

MR. DUNN: Okay.

MR. CAMPBELL: Mr. Dunn, I'm Mayor Tom Campbell.

MR. DUNN: Would you like to be seated Mayor?

MR. CAMPBELL: Thank you sir.

MR. DUNN: It might be a little bit more comfortable.

MR. CAMPBELL: I certainly am not a technical person and it's not my intent to come before you and provide technical information but I asked for the opportunity to speak because I thought that I might express some feelings on behalf of the elected officials in the community who I think represent this community very well, especially in the area of hydro development. I don't know if you know but last time we developed a project in Idaho Falls we received a 97% vote from our people, an overwhelming majority, in

support of our administration and the kind of things we're trying to do in hydro development. And I would like to tell you that as far as the generation of electricity if I read my history right, it was about 1882 when Thomas Edison first generated any electricity in this United States for commercial use and just eight years later, 1900, Idaho Falls became a utility and started generating electricity so I tell you that to show you that we're not new comers into the hydro development. We're not Johnny-come-lately's or opportunists who are trying to take advantage of the valley or misuse the river. We're bona fide utility people who are trying to generate electricity for our use and for use throughout the region. In the 82 years that we've been in the business, I can see no record of any time that we've had conflict with the irrigators or the agricultural concerns of this valley. We've always been on very friendly terms and the reason is, I think, is because we all know and realize that the interests of agriculture are first. Their water rights are first and we know that when we begin to generate on the river that we're second and they're first. And there is no way that the City of Idaho Falls intends to violate any laws or to go around any laws. We intend to obey the laws and respect the rights of others in the use of water and that's why we have gone to such lengths to design a project that we think is a good project. And we haven't done it just with our local people or with a few drawings. We have spent a great deal of time, a great deal of money, hired what we think

is some of the finest engineering and financial consultant people in the nation to help us design a project that will work and will do what we say it will do. It will generate about 22-1/2 megawatts of power on the Snake River. If the project for some reason should disturb the downstream use of water or should lessen it in any way, we don't believe it will, but if it should, we know that we have to replace that water and we're prepared to do just that. The electricity that we generate is, 25% of it's to be sold to Utah Power & Light. Utah Power & Light provides electricity for much of the pumping of the agricultural people in this area and I know they're anxious to have a hydro project in their system that can provide electricity for the irrigators up and down the valley. The other 75%, at this time, we plan to sell to Bonneville Power and I'm sure you're aware of the new law that says that goes into a pool from which we all buy, including Utah Power & Light and Idaho Power if they so choose, so directly and indirectly the rural people of this valley get a use of the power that we're going to generate on the river for many years. We're proud that we'll be able to do this. It's not a selfish project but one that we think will help the valley and the region. And I've brought with me today a great many technical people, you've heard the list, who are going to testify. I'd like you to be able to ask them any questions that you want. If there's any information that we don't have at this hearing, we'll provide it. And if there's any place in this state that you want

to meet with any of the people that are working on our project, we'd be glad to provide them at our expense to testify. We do want to cooperate and we want to build the project with friendly feelings. Thank you sir.

MR. DUNN: Thank you Mayor. Steve Harrison.

MR. HARRISON: Mr. Dunn, I brought along a little thing here that you can kinda follow me along with while I explain the project the best I can. My name is Steve Harrison. My address is Route 2, Box 198, in Idaho Falls. I am manager of the City light department. I'm an electrical engineer registered in the State of Idaho. In general, the project will contain a 40 foot high earth filled dam with a concrete spillway section across the main channel of the river. The dam and the spillway will create a pond of about 305 surface acres. It'll be about 4 miles long. The pond elevation will be at 4655. The dike heights that'll be required on each side of the river will be about 4660 which will handle a thousand year flood. The design for that is for, like I say, a thousand year flood with a 5 foot freeboard under normal water conditions. We will have a power channel that runs from the, nearly the center of the river to the left bank or the east side of the river, 3300 foot long, to the powerhouse. The turbine, we expect to be, to install a 22.3 megawatt turbine that'll discharge 7000 cubic feet a second under a net head of 41.4 feet. There'll be a transmission line from the generating facilities approximately 3.75 miles long. That line will be 44 Kv and it'll

interconnect with the City's 44 Kv system. Energy production is expected to be 125 million kilowatt hours on an average water year. One-fourth of that we expect to sell to Utah Power. Just to give you an idea of what kind of capacity that still means to the City of Idaho Falls, we will still have more energy out of that project than any one of the three projects we're working on in the City. We will attempt to sell or use the billing credit method of handling the remaining 75% of the output with BPA at least for a period of time. Hopefully when economics dictate, we would withdraw that portion and use it within the City loads. The capital costs of the project are in the 90 million dollar range but about 20 million dollars of that is capitalized reserves. We think the construction costs are in the, the 50 to 55 million dollar range. I don't have any energy figures at this time because it's, we don't know the interest rates we would have to pay or the length of the life of the bonds that we'd have to sell. The City applied for water rights from the Department in March, '78. Since that time we have obtained a preliminary permit from FERC. We received the permit March of 1980. We filed on the discharge from the sewage treatment plant for water rights on that in January, 1980 and you people have approved that permit. Our feasibility report was completed in February, 1981. We have contacted the property owners in the area. We had a hearing in March, 1981. We have obtained two different Corps of Engineers permits to allow us to drill to test the subsurface

rock and we have appraised the properties. We have not appraised the Snake River property. We have not appraised a portion of the Utah property.

MR. DUNN: The appraisals you are talking about are the properties that would be inundated or be part of the facilities?

MR. HARRISON: Within the project boundaries.

MR. DUNN: Okay.

MR. HARRISON: We filed for a FERC license. The application was submitted in September, '81 and it was accepted for filing in January of '82. The City Council has authorized us to proceed with the purchases of property. To date we have acquired approximately 46 acres of private property.

MR. DUNN: What's the total acreage that you'll have to have? I just, I want to know what the 46 represents out of the total.

MR. HARRISON: I guess, I really don't know that. I would say that roughly 50% has been obtained.

MR. DUNN: Okay.

MR. HARRISON: We have been negotiating with Utah Power & Light for acquisition of their property to site the project. In addition and finally, the City has advertised for bids for the turbine generators. I guess that's the end of my statement unless you have questions or care to make a statement.

MR. DUNN: I have one. The outline you provided me and your statement says that the discharge is 7000 cfs and you're application is for 5000 cfs. Do you intend to file a supplemental water

right or how are you going to handle the 2000 difference?

MR. HARRISON: We recognize that we need more water and I guess that I'd ask our attorney to make a statement to that.

MR. DUNN: Okay.

MR. FOSTER: Excuse me, I might just interject if it's appropriate at this point, Mr. Dunn.

MR. DUNN: Sure.

MR. FOSTER: One of the reasons the Utah Power & Light people are here to make a statement is that there has been, as a result of negotiations, an arrangement which would result in the City using as much of the Utah Power & Light potential right as may be necessary and that'll be discussed in more detail by Mr. Gordon when he makes his statement.

MR. DUNN: Okay. All right thank you Mr. Harrison.

MR. HARRISON: Thank you.

MR. EGGLESTON: Mr. Dunn, my name is Jerry Eggleston. I reside at 2503 Esquire Drive in Boise, Idaho. I have worked for the past 17 years for CH_2M Hill in their Boise office. I'm a graduate with a Bachelors Degree in Engineering and I'm registered in, as a Civil Engineer, in Idaho since 1967. If I may, I would like to summarize briefly the results of my examination of the evaporation losses that will occur with the project and compare them with those that occur now without the project and present the detail in the written report. Estimates of the evaporation loss that occur can be made from the area of exposed water surface and

evaporation rate data from weather bureau pan data. The exposed area of the water surface with the project, of course, would be the reservoir surface. However, without the project, under present conditions there are losses from the river surface and during the irrigation season there are losses from the canal water surfaces. Measuring those areas from mapping available for the project we find that the surface of the river at approximately the mean annual flow is 206 acres. That, for the Snake River Valley Canal at the time of the mapping in May of 1977, would be approximately 15 acres. It would be larger later on in the season when larger flows are being diverted. The area of the Woodville Canal affected by the project on the same basis is about 4 acres. The total area of the reservoir proposed in the project as Mr. Harrison has indicated is 305 acres. So we have a comparison with the project of 305 surface acres with 225 acres of water surface in the summer time during the period of maximum evaporation that's exposed now. The nearest weather bureau pan data to the project site is that at the Aberdeen experiment station about 50 miles southwest of the site. There are 45 years plus of records at the, at that station. From that station making a proper adjustments for the season during which records can be collected to the annual evaporation and adjusting the pan data to lake data, we can determine that there would be approximately 3 feet of evaporation from exposed water surfaces during the year. Taking all of these factors into consideration with

the areas that are exposed all year-round from the existing Snake River plus in the summer time the canals and comparing that with the exposed water surface for the proposed project, it indicates that there would be approximately 270 acre feet of increased evaporation loss as a result of the project. And that would conclude my testimony unless you have questions.

MR. DUNN: Yes, Mr. Eggleston, I have one question. Have you done any work on seepage losses that might occur in the reservoir to compensate for water that might be lost from the system due to infiltration into the ground water?

MR. EGGLESTON: Yes, that has been done and Mr. Pope will cover that in his testimony.

MR. DUNN: Okay, fine. I don't have any further questions at this time. Thank you.

MR. EGGLESTON: Thank you.

MR. DUNN: Robert Pope.

MR. POPE: Mr. Dunn, My name is Robert Pope. I'm a consulting Civil Engineer. Graduated from the University of Washington with a Bachelor of Arts Degree, have had graduate studies at MIT. I was employed by, I'm registered in the State of Oregon as a professional Civil Engineer. I was employed by the Corps of Engineers in the Portland District in 1940 as a Civil Engineer in their Soil Mechanics Section and except for about 2 years of military service I worked for the Portland District Corps of Engineers until my retirement in 1973. During this time I was a

responsible Soils Design Engineer or Geotechnical Engineer for practically all of the dams constructed on the Willamette River system, including Lookout Point, Hills Creek, Fall Creek, Cougar Dam, Blue River, several others and Lost Creek on the Rogue River system and The Dalls Dam on the Columbia River, the Dalls Closure Dam and construction or reinforcement of the levees on both banks of the Columbia River in the Portland area on down to the mouth of the river, including repair failures that occurred after several floods. I received a request for a review of the design of the proposed Gem State Hydroelectric project, with respect to anticipated seepage conditions and the water losses which may be anticipated after completion of the project. My studies included a review of the construction plans, the soils and geological conditions of the site and logs of test boring which had been drilled for the project. I recently visited the project. I observed several gravel borrow pits and the rock conditions near the powerhouse site that are exposed. On the basis of the available information and experience I have gained from numerous projects with related problems, I have estimated the quantity of water loss due to the proposed impoundment of water retained by the dikes on both banks of the present river channel. I have also made a comparative estimate of the water loss by seepage from the irrigation canals currently located adjacent to the river banks. The design for the dikes for the project includes foundation preparations by first stripping the sandy silt topsoil down to the

top of the alluvial sandy gravels. The sandy gravels are fairly pervious with an estimated permeability in the order of 1 times 10 to the minus 3 feet per minute. A cutoff to prevent seepage under the dikes is planned to prevent relative high water losses through the gravels and avoid seepage and saturation of the landward farmland areas. A slurry trench will be constructed from the top of the gravels to the top of the underlying basalt, a depth of about 20 to 25 feet. Now, slurry trench cutoffs were first used under the McNary levees at Pasco and Kennewick along the Columbia River in 1958. A cutoff through 80 feet of erratic deposits of sand, gravel and cobble and open ore gravels was constructed at Wanapum Dam in the early '60's and slurry trench cutoffs were also successfully used at the Lewiston levees in Idaho and at a levee constructed along a gravel bar for protection of a major fish hatchery at the Lost Creek Dam project in Oregon. The trench excavation for the Gem State Project could best be made with a backhoe and I mention this because frequently they are made with a drag line which does not have the positive feel for when it encounters rock at depths whereas a backhoe has a crout on the bucket and you can feel the bottom rock surface more easily. The trench is held open during excavation with a slurry mixture of bentonite clay. Bentonite is a very fine swelling colloidal clay and the slurry has a specific gravity of about 1.2 to as high as 1.8. The heavy fluid tries to penetrate through the gravel side walls of the trench and it forms a seal

adjacent to the side walls by gelation of the colloidal clay. Some advocates of a slurry trench cutoff believe that the seal along the side walls is sufficient for an impervious barrier regardless of what back fill is used within the trench. The trench backfill for this project will be, consist of a sandy gravel which has been removed from the trench to which has been added a wet, slurry bentonite. The mixture is made by, on the ground, by adding the wet bentonite slurry and then blading it back and forth to mix it in and the resulting mixture is about like a wet, high slump concrete mix, and the backfill progresses from one end of the trench to the other following excavation as closely as possible. A small percentage of bentonite in the order of maybe 2 or 3% added to the sandy gravel of the gradation we have here will provide a varied type mixture with a permeability ratio of not over 1 times 10 to the minus 7 feet per minute. Sandy silt may also be added to the bentonite clay or gravel mixture if there is a natural shortage of fines in the gravel. An impervious zone in the dike will connect to the top of the cutoff trench and of course the bottom is connected to the basalt rocks below. The impervious zone and the dike above will be made of sandy silts well compacted at a water content above optimum and have a permeability ratio of not over 1 times 10 to the minus 6 feet per minute. The slurry trench cutoff eliminates all worry of water seepage through the gravels under neath the dikes. However, the gravels, the permeability of the

gravels is important for estimating the water loss from the existing irrigation canals. The bottom of the existing canals are in gravel and most of the side walls. The permeability of the well graded, sandy gravels is estimated to be in the order of 1 times 10 to the minus 3 feet per minute. The basalt rock beneath the gravel is of large columnar pattern with vertical orientation. The core recovered during drilling operations was frequently of five feet length in one piece. Practically no core loss was experienced. As a general rule the permeability of columnar type basalt is higher in a vertical direction than in a horizontal direction. Based on experience gained from pressure testing basalt rock formations for several dam projects, it is estimated that the permeability ratio applicable to estimating leakage through the rock would be in the order of 1 times 10 to the minus 4 feet per minute. I looked at the rock near the powerhouse site and it looks tighter than that, Mr. Dunn, but I would not use a higher number until more information is gathered. Considering the worst case that might be encountered such as a pervious flow contact within the basalt, water loss estimates for the Gem State Project have also been computed for a worse case permeability within the basalt rock permeability in the order of 1 times 10 to the minus 3 feet per minute. This is, in my mind, a worse conceivable case. A sandy silt interbed at a depth of 50 to 55 feet has a thickness that varies from about 2 to 12 feet and averages about 5 feet and it will form an impervious barrier

to seepage below that level. The sandy silt interbed is estimated to have a permeability of not more than 1 times 10 to the minus 6 feet per minute. Now I've tabulated a summary of the computed water loss quantities and although they are broken down to loss through the slurry trench cutoffs and loss through the rock and loss through the sandy silt interbed, the total estimated seepage using the best conservative values of the new project would be 1440 acre feet per year. If I make an estimate based on the worst case values that I mentioned for basalt, that seepage would be about 3, a little over 3 times as much or 4,820 acre feet per year. Estimating the water loss from the present irrigation canals during a six month irrigation period for the two canals I get a total water loss of 1360 acre feet but I also estimate that about half of that is returned to the river on the river side of the canal which is about 670 acre feet giving a net loss of 690 acre feet, which is about half the loss estimated for the new project. The computations for the Gem State project, including dikes on both sides of the river and the powerhouse dike, indicate a best estimate using the most reasonable but conservative values is a water loss estimate of less than 1440 acre feet per year. Now less than 1% of that loss is through the slurry trench cutoffs. About 57% is through the basalt rock and 42% is through the sandy silt interbed. Water losses from the existing canals, I've only given one value. I haven't given a worst case value and I haven't figured one but there is about the

same chance of error on that one as there is on the present project. It could also be higher than I show it on worse conceivable case. That about concludes my study.

MR. DUNN: Mr. Pope, on the losses that you tabulate, I guess you can summarize it from your opinion then is that the project losses would be someplace between the 1440 and the 4820 then. Is it, would that be an estimate?

MR. POPE: Well, my best estimate is less than 1440. I put the 4820 up as, in as an upper limit that I can possibly justify.

MR. DUNN: Okay, that's what I was trying to verify.

MR. POPE: Yeah.

MR. DUNN: The 1440, you're not saying, is the minimum but that's your

MR. POPE: No it's not.

MR. DUNN: estimate of what you think it would be just based on the surface

MR. POPE: That's right. I really think it would be less than that.

MR. DUNN: view of what you saw.

MR. POPE: But that's the best number I can come up with.

MR. DUNN: I see. And you're fairly confident that with the construction techniques that have been, that have taken place before with your experience that you could seal off the losses from the dikes and with cutoff trenches and achieve that kind of success?

MR. POPE: Yes. I have real confidence in that. It does require some construction control and some supervision but it's been proven and it's been used very successfully on a number of projects. And I only mentioned the local ones but for instance on the Bonneville second powerhouse, I was employed by the Corps of Engineers during the early studies on that and I was retained as a consultant after I retired, on the seepage and water control during the excavation for the foundation for the second powerhouse which went down to about, well, over a hundred feet below the river level which is right adjacent to the excavation or the pool, Bonneville pool, and a failure would have caused loss of the Bonneville operating powerhouse now plus the delays to construction. So it was a very sensitive job and the slurry trench for excavation there, but the backfill was not done in this method. It was a concrete wall. But that's a very high pressure job.

MR. DUNN: So it's primary construction techniques that are going to dictate whether it's successful or not.

MR. POPE: That's right. That's a fair statement.

MR. DUNN: The concept is valid.

MR. POPE: It's proven.

MR. DUNN: All right, thank you Mr. Pope.

MR. FOSTER: Excuse me. Mr. Dunn, before we call Mr. Gordon, one thing I, I guess I omitted, we put up on the wall an exhibit which is an enlarged drawing of the site showing the location of

the dam, the proposed location of the dam and the proposed location of the powerhouse as it presently exists and although I think the Department already has copies of the FERC, the Federal Energy Regulatory Commission application, we thought it'd be helpful to have that here so that if anyone wished to refer to it they could. If we might take just a moment and ask Mr. Larry Felton of the City Electrical Engineering Department to just point out maybe the relevant features on that, I think that would be helpful at this point. May we interject that at this point?

MR. DUNN: Sure, that'd be fine. Mr. Felton.

MR. FELTON: Mr. Director, my name is Larry Felton. I'm employed with the City of Idaho Falls electric division. I'm a registered professional engineer and I live at 1445 Joseph Street, Idaho Falls. I'll point out some of the features that Kent was talking about. Mr. Pope was talking about the slurry cutoff trench system of containing a pool of water and I drew the slurry cutoff area in dark brown to show you that it's the center of essentially a dike and that it represents the barrier from the water seeping outward into farmland. And the dashed blue represents the pool that would be created behind this slurry cutoff wall. The orange represents the total dike that would be constructed and naturally the pool elevation would come up to within 5 feet of the top of this dike. The top of the dike, this is the dike and here's the dam. The top of the dam and the dikes are, is at 4660 feet and the pool elevation is 4655 so the idea is to main-

tain that within plus or minus a foot and maintain a freeboard of 5 feet. This is the spillway area here. It's capable of passing, according to the consultant's calculations, a thousand year flood and it represents the safety valve for the project. It also maintains a pool elevation to the level that's necessary to keep the elevation at 4660 and still pass as much as necessary through the bulb turbine. Once it enters into the power canal area here, there's a distance of 3300 feet from here down to the powerhouse which I've represented in yellow, and it's at the end of the dike structure. Again, it has a bentonite type containment. The concrete, the powerhouse itself will be concrete and be very much like the three bulb turbine projects that the City has under construction now. The water would go through the bulb turbine and then pass back out into the river. There is a spillway, or I should say a, yeah, another additional spillway here for excess flows. It's mainly used for passing debris from the power channel and also ice. The top of the structure here is at 4660 like I said. The bottom of the spillway structure is 4618 feet in elevation. The minimum tail water would be 4608 with an average of 4612 where it enters in here. There will be a, and this is in the FERC license, there will be a maintenance flow from the spillway to maintain the pool so that enough fresh water passes to keep it from causing problems. This structure here is where the Snake River canal would come out from the pool. You can't quite see it but it actually, just inside the dike

structure, we plan to put in a, two 72 inch pipes to feed water into their canal and have it so that it's well regulated and probably better than they may have now because it's closer to where they need the water. But there's, as I understand it, two pipes to maintain reliability of their service. Do you have any questions Director Dunn?

MR. DUNN: Yeah. Mr. Felton, how far upstream does that go from the end of that map, in other words, cutoff there?

MR. FELTON: It goes, it's a little different on each side. I believe this side is about 7200 feet and I think this side from possibly down here is about 10,000. But actually it's about 7200 feet from this point back upstream. It actually comes to ground level right where Highway 20 crosses the Snake River and that's about, I believe, two and a half miles upstream, if I got my figures correct. But that's where it stops. It goes a little bit further on one side.

MR. DUNN: So there'd be about, using those figures then, it'd be about two and a half miles of the canal of Snake River Valley Irrigation District that would be inundated and be replaced with that outlet structure.

MR. FELTON: Snake River's canal is actually somewhat upstream of the Highway 20 bridge and in order to give you an exact footage I'd have to look but it's at the top end of the pool, more or less.

MR. DUNN: That's fine. Thank you. (End of tape). Mr. Gordon.

MR. GORDON: Mr. Dunn, my name's Robert Gordon. I live in Salt Lake City. I'm a vice-president of Utah Power & Light Company. My primary area of responsibility is the legal department and including the lands right of way and ad valorum tax department. Our company supplies service in southeastern Idaho as well as southwestern Wyoming and most of Utah. In the State of Idaho we have some 40,000 customers and the service area runs generally in a north and south line from Ashton and St. Anthony down to Rexburg, or pardon me, down to Preston and Malad on the south excluding Idaho Falls, Pocatello and Blackfoot. The company has some 2200 megawatts of generating capability. We're rather interested in hydropower because out of that 2200 megawatts only 4% currently is hydro. Ninety-four percent is coal fired and the remaining 2% is oil and gas. As was indicated by the Mayor, I believe the Mayor, the Company has a water filing, second priority I believe, for some 3000 cfs. The Company also has some property, real property at the proposed project site. We've been negotiating with Idaho Falls for some time on a, I won't call it a joint venture because the City will actually finance, own and operate the plant. The Company's interest would be in obtaining a portion of the output. We have discussed 25% of the output and primarily during the months of June, July and August when our load for irrigation pumping purposes is very high. We have essentially reached agreement although there's not a formal letter of intent signed. We have been exchanging drafts and

polishing and re-wording letters of intent but I think it is at the stage where all principal issues essentially between the company and the city have been resolved and there's still some fine tuning to do and clearances to get but I think a letter of intent will be executed within the very near future. As part of that, the Company would lease to the City its real property for the project and in addition, the Company would cooperate to the extent that the available water that may be involved in the Company's filing, which may be required for this project, would be a signed lease to somehow transfer to the City so that they would have the necessary water rights for the full project. The Company has committed to the City to work with them on this project. The obtaining of 25% of that capacity in the summer time for our purposes would be we think very valuable to our customers and our ratepayers. It'd be beneficial to them to have that source of water in the summer time. And while we do not have a formal letter signed as of this date, I do think the Company and the City have more or less committed to go forward with this project and I think the mechanics of getting a letter of intent will be solved with no problems. That's all I had Mr. Dunn.

MR. DUNN: You talk about 25%. Is that most of the output during the summer time?

MR. GORDON: Yes.

MR. DUNN: So that during the winter time, that's when the sale to BPA would take place by the City?

MR. GORDON: That's correct. Ours is a summer peaking company and tremendous needs for power in the summer time for irrigation pumping purposes.

MR. DUNN: Would that help mitigate part of your load management problems that you're, some of the water users have been experiencing?

MR. GORDON: I think it would. I think it would. Jim Taylor has been most instrumental in negotiating with the City. He's the vice-president and commercial manager. It's under his direction the load management program has been functioning and he was unable to be here today. But I think that would go a long ways toward helping some of those problems.

MR. DUNN: All right, thank you Mr. Gordon.

MR. GORDON: Thank you.

MR. DUNN: Mr. Foster, do you have a summary statement or there's something you wish to say?

MR. FOSTER: Not really. In fact I might offer at this point Mr. Dunn, to maybe not make much of a statement. I think most of the factual information that we intended to present has been presented. If there are questions or areas in which the Director has continuing interest or additional interest we'll be happy as the Mayor indicated, to try to address those either through additional testimony or we can have it presented in written form. I realize that probably no one gets very enthused about listening to the attorneys make legal presentations. However, I have to

recognize and I'm sure the Director recognizes that part of the dispute here that has been raised, whether properly or improperly, certainly centers around legal issues and while I'm prepared to address that at this hearing I might just suggest that with the Director's permission, that might be submitted in writing. It might be better than listening to a lengthy legal boring argument from attorneys at this point in time. But we're prepared to do how ever you think we should.

MR. DUNN: Well, not to be disparaging to attorneys, I'd prefer that you submitted it in writing rather than

MR. FOSTER: Well, I assumed so.

MR. DUNN: make us, we don't want to endure your

MR. FOSTER: I suspected that. We have nothing further at this time unless there's something to which we can respond later on or if there's anything else you'd like to have us address. There are some other experts here and I think we have about everyone who has a detailed familiarity with the project here so if there are things that would be interesting we'd be happy to address. Thank you very much.

MR. DUNN: Thank you and on, with respect to the other parties, when you do submit the issue if you would send copies to them so that they might be able to respond to me as part of your statement.

MR. FOSTER: Okay.

MR. DUNN: All right, Mr. Gordon, you're the only one who is

going to speak on behalf of Utah Power & Light Company, is that correct?

MR. GORDON: That's correct.

MR. DUNN: Okay. So Snake River Irrigation District would be the next group that I would like to have present testimony. Who is going to represent them?

MR. ANDERSON: Well, if you may, please Mr. Dunn.

MR. DUNN: Mr. Anderson.

MR. DUNN: I'm W.J. Anderson, attorney at Sharp, Anderson & Bush, Idaho Falls representing Snake River Valley Irrigation District in their appearance in this hearing. And just as a prelude to the testimony I would like to perhaps pose a question as you indicated might be proper for Mr. Gordon and the City as to what arrangements of this sale of 25% of the power would take? Is that, and what price were they going to pay and what amount is going to be paid for the lease? In other words, what is the feasibility after that is taken into consideration as far as the sale of the power and the feasibility of their project. This we don't know and this, as is indicated, is not signed yet and so I guess nobody but the principals involved have that information but I think it's a pertinent matter that should be submitted and knowledge made of that so that the feasibility of the project could be considered with that in mind. Also, Utah Power & Light in their application for a water permit faces the same legal arguments that we would interpose as to the City of Idaho Falls

and I heard very clearly the Director's statement as to not wanting to hear any argument on that so we will reserve that also. For the statements that would be made on behalf of the Snake River Irrigation District then, we would have Mr. Nielson and Mr. Hjelm, Mr. Underwood and I believe Mr. Hammond is going to make a statement and then as I did request earlier, we have a statement being prepared and information by Dr. Charles Brockway which we would like to submit in written form as soon as it's available and with your permission as he was unable by a conflict to be here at this hearing and if we could proceed then, we'll have Mr. Nielson start.

MR. DUNN: Mr. Nielson, go right ahead.

MR. NIELSON: Mr. Dunn, I'm Carlos Nielson of Shelley, Route 1. I'm a farmer. I farm approximately 600 acres and I'm president of the Snake River Valley Irrigation District, a quasi-municipal corporation of the State of Idaho organized in 1907. Such district was organized as a consolidation of the Cedar Point Canal Company and the Snake River Canal Company. The Snake River Irrigation District has within its district approximately 22000 acres and has decreed water rights from the Snake River to irrigate such lands of 878 cfs and storage rights in Jackson, Palisades and American Falls reservoirs of 91,892 acre feet. The diversion works of the Snake River Valley Irrigation District are located at the river mile point 792.33 on the Snake River which is just west of the Fielding Memorial Cemetery south of Idaho Falls.

The canal of the Snake River Valley Irrigation District then goes southerly in close proximity to the east bank of the Snake River for a distance of approximately 3 miles to a point where there is a diversion works to divert the water into two main canal distribution systems of the District with the Cedar Point Canal going to the west and the Snake River Canal going to the east with the water being furnished irrigating the lands in the vicinity of Shelley, Firth, Basalt and Kimball. I am familiar with the water rights of the Snake River between Idaho Falls and Blackfoot and with the flow of water therein and with the diversions of the Snake River Valley Irrigation Districts, the Woodville Canal Company, the Reservation Canal, the Blackfoot Irrigation Canal and others south of Shelley that in a normal flow of the Snake River there is little or no water flowing south of Blackfoot and all of the water that is flowing in the period of time subsequent to the high water runoff in the spring is decreed or storage rights of water users diverting from the Snake River. That there is no extra water which is not owned by such water users. At many times during the irrigation season those water users diverting water south of Shelley are required to build up their diversion works in order to get their decreed water because of the minimum flow in the river. The City of Idaho Falls made an application for a permit for the diversion of 5000 cfs for power generation which was filed March 17th, 1978 and published March 23rd and 30th, 1978. Neither the application nor the publication

gave any hint to anyone associated with the Snake River Valley Irrigation District of the impact that Idaho Falls' plan would have upon the District. There was no information that Idaho Falls would attempt to change the diversion works of the District and flood approximately 3 miles of its canal plus other lands owned by the District and have a completely new diversion point and diversion works. At the time of the application within the protest period as set by law, the Districts have no way of knowing and no way of ascertaining the serious impact Idaho Falls would plan to make upon the District system. The present plans contemplated by Idaho Falls as best we can understand them would plan for a complete change of our diversion works of the District from the present location on the river mile 792.33 where the existing diversion dam is located to a point where they propose to relocate the diversion works at a river mile 789.56, a distance of approximately 3 miles. The canal in this area would be flooded and obliterated. The diversion works which now presently takes water from essentially the bottom of the river would be changed to take the water from the top of the reservoir, and thus, there would be a danger in the level of the reservoir, could not be maintained, that the District could not divert their decreed and stored water rights. Additionally, the City desires easements for the drainage across the District's canal and for the land the District owns upon which the City desires to erect their dike plus an easement for an access road. This drastic

change as proposed by Idaho Falls were not apparent to the District until subsequent to a time that the District had applied for a 1500 cfs additional flow from the river for development of a hydro generating plant in the same vicinity as the City of Idaho Falls wished to develop their plant. At the time of the application for the water permit, the District had no knowledge and was not informed nor furnished any information concerning Idaho Falls' plan. It was after this filing by the District that the City divulged their plans and made known their intent to take over the canals, diversion works and property of the District. The plan the City now projects would create drainage problems from surrounding lands as the plan for the reservoir would require dikes built on each side to impound the water which would prevent the natural runoff from the surrounding lands in the winter and spring from running into the river. This would create problems for the landowners in the area. The plan of the City calls for impounding the water into a 305 acre reservoir, thus, the City is increasing the water surface by 220 to 250 acres over the area that would be surface water with the natural flow of the river. The loss during the summer by evaporation of additional surface would be a significant factor and since all of the water downstream from the project location is decreed or stored water owned by the water users any loss by evaporation would be a significant factor which would become a consumptive use by the City of Idaho Falls. Additionally, the lands in the area are

subject to permeation as seepage loss. Expanding the river flow from an area by approximately 230 to 250 acres and impounding it behind dikes would create a significant serious loss by seepage. This water would not be lost to the river system as a whole as it would emerge downstream at some location in the form of springs but it would be lost to immediate intervening water users who could not have any way of supplementing their lost water supply. The water loss by seepage would emerge again perhaps at the springs near American Falls or further down in the aquifer. But this would not help those intervening between the reservoir and reemergence of the water and the loss would be a loss and a consumptive use by the City of Idaho Falls which would be from water which is owned either as decreed water or storage water rights by downstream water users. Also, the water which seeps from the reservoir and through the dikes would increase intensity of the problem of the subgroundwater in the area of Firth. This area already has a serious groundwater problem and in, with additional water entering in this perched water table, it would intensify their water problems to their detriment. The area around Firth is in the Snake River Valley Irrigation District and the farms and the homes in such area would suffer as a result of having the reservoir impound the water with the seepage resulting therefrom. The District filed its application which is endorsed as received on December 12th, 1980. We believe that the provisions of the Idaho Code Section 42-205 subparagraph 3 would control. This

provides that when competing application for permits have been filed prior to the effective date of the act which was April 1, 1981, for additional use for hydropower purposes that would utilize facilities that are owned and controlled by the holder of an existing water permit, license, decree or established constitutional water usage, the Director shall give preference to the application of the owner of the existing rights. The application of the District is prior to that cutoff deadline and the application of the City desires to utilize the facilities that the District now has. We believe, therefore, that the statute makes it mandatory that preference shall be given the District as the owner of the existing rights. We believe that the area residents would be better served by denying the City's application and granting the application to the District for the reason that the hydro generating plant that may be installed by the District would not create any water losses by evaporation or seepage and would produce revenue to pay for the renovation of the works and system of the District. Denial of the City's application would be a benefit to the water users who would not then suffer the depletion and the diminution of their water through seepage and evaporation. The area residents would also benefit by denying the application of the City in that the subwater problem in the areas now concerned would not be intensified. It would not then become a problem in other areas that could be affected by the creation of the reservoir. The City's plan would appropriate

water for hydropower development uses within, or using existing man-made irrigation facilities of the District. The District, which is the owner of such facilities, has not given permission for the development by the City. We respectfully request that the application of the City be denied. Here's a copy of that.

MR. DUNN: Well, thank you. Now, I understood this correctly Mr. Nielson that the length of canal that would be affected would be about 3 miles and that's what would be represented up there

MR. NIELSON: That's right yes, uh-huh.

MR. DUNN: on that map going up on the other side of that?

MR. NIELSON: Yes.

MR. DUNN: And you were aware of the City's application but you feel that you didn't understand the impacts at the time that it was advertised through our advertising procedure, is that

MR. NIELSON: We wasn't aware of it until we, after we made our application.

MR. DUNN: Oh, I see. Okay, that's the only questions I have. Thank you.

MR. NIELSON: Okay, thank you.

MR. HJELM: Mr. Dunn, My name is Dennis J. Hjelm. My address is Box 646, Basalt, Idaho. I have lived in the Firth and Basalt area all of my life. I have been employed by the Snake River Valley Irrigation District for the past 12 years, position of Manager for the past 8 years which I now hold. In behalf of the Snake River Valley Irrigation District I would like to present

the following facts for consideration. The City of Idaho Falls has proposed to build a dam and a reservoir on the Snake River to be located in Bonneville County approximately two and one half miles north of Shelley, Idaho. They have applied for a nonconsumptive water permit of 5000 cfs from the Idaho Department of Water Resources. They have also applied for a FERC permit for producing hydropower at the site. If the dam is constructed the reservoir will have a service area of over 300 acres and depths of upwards of 40 to 45 feet. I understand from our engineer that this will increase the present service area of the river over 200 acres from the present time. Facts to consider: evaporation on a 300 acre body of water at the proposed site would have amounted to a loss of 60 acre feet of water per day during July and August of 1981. Although lesser amounts would have been lost during June and September, it is conceivable to have lost over 5000 acre feet of water during a comparable year. This would be a significant loss especially during short water years such as 1977. According to Soil Conservation Soil Maps of both Bingham and Bonneville County the soil of the proposed site has a possible permeability rate of 2 inches plus per hour. Taking the minimum of 2 inches per hour for a 24-hour period equals a loss of 48 inches or 4 feet per 24 hours. Therefore, it is very conceivable that a body of water 1 acre in service area built on the proposed reservoir site could have a permeability loss of 4 acre feet of water per day. If the body of water one acre in service area has

a potential permeability loss of 4 acre feet of water per day, then a body of water 300 acres of service area could have a potential loss of over 1200 acre feet of water per day. Twelve hundred acre feet equals 600 cfs which could amount to 10 to 25% of the flow of the river. Now, this may sound a little exuberant but according to an article in Idaho Falls Post Register dated October the 13th, 1981, page A-6 "A lake developed near Teton City when the Southfork of the Teton River washed through its banks and filled an adjoining gravel pit. The newly formed lake is approximately 20 feet deep and has a service area of approximately 20 acres. Because of seepage and evaporation the loss of water to downstream users on the Teton River due to the impoundment of their water in the said lake amounted to 35 cfs or 70 acre feet of water per day. At this rate, 70 acre feet of water divided by 20 acres equals 3.5 acre feet of water loss per day." So I'm not too far off in my 4 acre figuration downstream. This loss was calculated at Teton by Mr. Ron Carlson and staff at the Department of Water Resources in Idaho Falls. Fact No. 4. From approximately June 1st to the 15th to October 1st to the 15th of each year all water passing Idaho Falls which would be impounded by the proposed Gem State Hydro Dam site belongs to a water user or a water user entity downstream between Idaho Falls, Idaho and Blackfoot, Idaho either as decreed water or as stored water which has been released from upstream storage to fill the needs of the water users and entities downstream. Item 5. While the evapora-

tion loss in Item 1 would be a permanent loss, the loss by seepage in Item 2 could possibly be reclaimed in one of three ways: A) Some of the water could return to the Snake River above American Falls through springs such as Springfield Lakes, but how much. B) Some of the water could return to the Snake River below American Falls through springs such as Thousand Springs at Hagerman Valley. Again how much? Some of the lost water could undoutedly seep into the Snake River aquifer. Again, how much, and at whose expense? Regardless of the method of reclaiming the water which would be lost through the permeability at the proposed Gem State Hydro dam, the extraction of said water through the seepage of said dam site would be a direct loss to all water users and the water user entities between Idaho Falls, Idaho and Blackfoot, Idaho. Now I understand Idaho Falls claims that they can replace this water through the purchase of stored excess through the water bank and whatnot but the question I have is how would they do that such as a dry water year of '77 when there's no water to replace? There not water enough for irrigation let alone for this type of thing. And how do we know how soon '77's going to reoccur. We almost had it last year. Okay, Item 6. If through the impoundment of the water of the Snake River at the proposed Gem State Hydro site, there was a loss of at least 600 cfs per day and because of the impoundment and the associated seepage between October the 1st and 15th and June the 1st and 15th, could this loss of natural flow in the river possibly

affect the filling of American Falls Reservoir and thereby affect the storage rights of space holders in said reservoir especially on a short water year? Furthermore, if American Falls reservoir should fail to fill then it has a direct bearing on the filling of Palisades Reservoir because American Falls has first rights to fill thereby affecting the storage rights and space holders in Palisades Reservoir also, and actually this would also affect the filling of all upstream storage rights in Island Park and Jackson Lake as well. So we're compounding the whole problem. Item 7. The City of Idaho Falls does not have a consumptive water permit of any value. They have applied for a nonconsumptive water permit of 5000 cfs, in the process of applying for an additional 2000 cfs for the purpose of producing hydropower at the proposed Gem State site. But, if through the impoundment of said waters at the said site evaporation and seepage losses do occur, does this not then become a consumptive use of water? Item 8. If the proposed Gem State Hydro Dam and reservoir were allowed to be constructed the losses of water in any amount to any water users did occur would not that be an unlawful infringement upon existing water rights of any and all water rights so affected? Item 9. The City of Idaho Falls has also applied for another water right of 7000 cfs for another hydro dam site to be located on the Snake River west of Shelley. B) the City of Shelley is working with the Corps of Engineers on a hydro dam site to be located between Shelley and Firth. C) The soil compositions of

these sites are the same as those of the Gem State site and therefore could have the same permeability rate as it does. 10. The interruptions of water flow by the impoundment of said waters at any of these proposed sites or any others between Blackfoot and Idaho Falls would be an infringement of existing water rights and a violation of existing water laws and codes and I have here for example, 42-105, the use of natural channels; 42-106, priorities; Section 18-4301, interferences with ditches, canals and reservoirs; Section 18-4304, wrongful diversion of water; Section 18-4305, the interference with headgates etc.; Section 18-4310, the interference with delivery. Item 11. When you speak of a solid bedrock along this stretch of the river I wonder if there is such a thing. There is a lava or a basalt rock formation underlying the area the depth of which can vary from on top of the surface to over a hundred feet below and can change drastically in a vertical line within a few feet. It also contains large fissures or openings, some of which have been filled in or filled over with soil and other matters over the years. These fillings were taken care of by mother nature over a course of the past thousand years and therefore they, the fillings of these fissures, were not necessarily the best type of material and they were not compacted of any matter. As these fillings become saturated with water, it is not uncommon for them to blow out causing a type of sink hole to appear capable of consuming varying amounts of water. More than one farmer in the area be-

tween Idaho Falls and Blackfoot on the west side of the river has been known to lose on entire ditch of water into such a sink hole over night. Some of these ditches were capable of carrying upwards of a thousand inches of water and so were the sink holes. Both the New Sweden Irrigation District and the New Lava Site Canal Company have experienced similar problems in their canals and canal systems throughout the years. I lived and farmed this area northwest of Firth since 1978 and I know these facts to be true from personal experiences. Also the New Sweden Irrigation District constructed a reservoir next to our family farm in the 1940's. Through the years sink holes have developed in this reservoir that can consume more water than the reservoir will store. They have had to section off and abandon portions of this reservoir due to these large sink holes. It is not, is it not possible for similar conditions and problems to exist in the area of the Gem State Hydro dam and reservoir? I have further substantiated this reasoning by conversing with Mr. Lemar Barrus, a well driller who lives at Basalt, Idaho. Through his experiences of well drilling in this area, he feels that it would be next to impossible to seal off an area of the size of Gem State Hydro reservoir because of the variations of the ground strata. The question I would have perhaps asked at this time, if a sink hole was to develope during the irrigation season and it had to be repaired, the reservoir would be drained in order to do so, how would the Snake River Valley Irrigation District and the

Woodville District get water during this time because if they drained the reservoir we can't get water. Item 12. Referring to the Idaho Code Section 18-4302 concerning wasting waters used for irrigation. There are 15 canal companies, ditch companies and/or irrigation districts between Idaho Falls and Blackfoot who have decreed water rights of 274,000 plus, inches of water plus 533,000 plus, acre feet of storage water rights all of which are recognized as irrigation water rights and all of which would have to pass through and/or be impounded by the Gem State hydro reservoir. If any of this water was thought to be lost through seepage and evaporation above and beyond that which amount which presently exists, would, then would that not be considered a wasting of irrigation water contrary to Idaho law? Can the Department of Water Resources encourage such a waste when we as a State are being encouraged to conserve our water? And I have following on the next two pages a list of the water entities and the water rights and their amounts. Item 13. Whereas the Jackson, Palisades, Island Park and American Falls reservoirs were constructed to be filled for the purpose of storing supplemental irrigation water and then lowered or emptied to satisfy the irrigation needs downstream as needed, the proposed Gem State hydro reservoir is designed to be kept full to capacity at all times for the purpose of hydro power production and could not be drawn down for two reasons. First of all, during the irrigation season between April 25th and November 25th, the height would

need to be maintained to ensure water intake for both the Woodville Canal Company and the Snake River Valley Irrigation District. Item 2, if it were drawed down much below their height there would not have any water go into the penstock for the hydro plant. The question is, can the water users and water user entities in the State of Idaho who hold existing valid water rights allow these type of facilities to be constructed throughout the State of Idaho by any entity or individual who has a desire to do so? If we are to protect our rights to the use of the waters of the State of Idaho as now legally granted, we need to take action. We realize and recognize the need and demand for more energy in the future. We wholeheartedly support the construction of hydro plants when their construction and operations do not infringe on or otherwise do not affect existing water rights. But inasmuch as a hydro power dam site as now being considered by the City of Idaho Falls known as the Gem State power site would, if completed, have a definite negative impact upon the rights and privileges of any and all existing water rights either individually or collectively who have existing water rights in the Snake River below the proposed site and reservoir or storage spaces within American Falls or the other reservoirs. Therefore, in order to protect our water rights as now legally constituted, we the Board of Directors and managers of the Snake River Valley Irrigation District do hereby urge and request the Idaho Department of Water Resources to deny the water application permit 01-7018.

MR. DUNN: Thank you Mr. Hjelm. Listening to your testimony it seems to me that the big concern you have, and certainly it is a concern, is the potential impact on the existing water rights. If that can be solved, if assurances can be provided, would that remove, essentially remove your objection to the facility? And I say "if" the City of Idaho Falls can either purchase storage or somehow get water to make up for any seepage or evaporation and if their intake, not their intake but the intake facilities to Snake River were designed so that if the worst happened and they had to draw the reservoir down that you could still get water. Would that mitigate the problems you've got with it?

MR. HJELM: Well, it would solve the water right problem but I, the question I have in my mind, this thing sounds good that they're going to keep this thing full, the reservoir full,

MR. DUNN: Yes, Mr. Hjelm.

MR. HJELM: but experience I've seen in the past, I can think of a feedlot down in Blackfoot that was built and guaranteed there'd be no smell to the adjoining property owners, no problems whatsoever. Since it's been constructed the people have practically had to abandon, their value of the land has gone down, they can't sell the ground. Once it's in, it's too late to change their mind. You can find the same thing happening with the, down in Shelley with the R.T. French Company. They took over some ground to put their surplus water on and the same thing happened there. Well, we won't have no problem. After it's in, problems arise

and then it's too late.

MR. DUNN: I know, but my question was, is, if the intake structure of the Snake River Irrigation District is such that you could get your water if that reservoir was drained.

MR. HJELM: Well, they, it can't be then. The way it, have proposed, their structure if it's drained we can't get water.

MR. DUNN: If they designed it so that you could?

MR. HJELM: Well

MR. DUNN: Would that satisfy, would that remove your objection?

MR. HJELM: I would have to see what they have in mind.

MR. DUNN: Assuming that it, whatever they designed would work, would that remove your objections to it?

MR. HJELM: As far as that's concerned, yes.

MR. DUNN: Okay, and I understand the water right problems. That is important and it's something that we have to look at. All right thank you Mr. Hjelm. That's all I have.

MR. HJELM: Could we have Mr. Heston speak next? He has an appointment at 3:00.

MR. DUNN: Sure.

MR. HESTON: Mr. Dunn, I'm Ralph Heston. I used to be with New Sweden Irrigation District until I retired. After hearing all these other figures and engineers and what have you, I don't know what I'm doing in here.

MR. DUNN: Well, you may add the common sense we need.

MR. HESTON: The, oh, about all I'd have to say, not, I'm not

siding in with either outfit. They've all got their points. But on this waste and seepage it does amount to a big percentage anywhere along the lavas and even in the gravel. New Sweden Irrigation would loose as much as 10% in say for six weeks there in July and part of August from the time it left the river until it went out onto the farms and they'd run, well, let's see, 600 second feet in one canal and 400 in another one at the peak of the irrigating season.

MR. DUNN: That's out of your canal system.

MR. HESTON: Yes. We've had a lot of, they had a lot of sink holes and they've used bentonite and everything else and of course many years a lot of us was with it, wasn't any of us that'd guarantee it would fix one. They might hold and they might not.

MR. DUNN: How long has the New Sweden Canal system been there?

MR. HESTON: Well, I helped put in a new dam in the river, I think in '66, that was first built back about 1906 where the Idaho and New Sweden come out of the river. Well, I did know the history but I, just off hand now, I can't say how far back New Sweden does go but it was clear back to where it was Great Western Land and Title to start out with 'til New Sweden took over, bought it out.

MR. DUNN: So you're saying that New Sweden at least has been there since the early 1900's.

MR. HESTON: Yes.

MR. DUNN: And they still have losses in their canals?
MR. HESTON: Oh, un-huh.
MR. DUNN: Of about 10% during July and August?
MR. HESTON: Yes, they still have that. That's following a point of getting, you're backing the water up and whether it's a reservoir or just backing it up in canals with checks where you have your weirs and what have you, it'll still, it just makes you lose that much more water. That's about the only
MR. DUNN: Okay, do you have anything else?
MR. HESTON: No, I don't believe so.
MR. DUNN: All right. Thank you very much.
MR. HESTON: You bet.
MR. UNDERWOOD: Mr. Dunn, my name is Raymond R. Underwood. I'm the area manager for JUB Engineers in Pocatello. By way of background, JUB Engineers has been hired by the District to study a three megawatt hydroelectric plant which they have contemplated would be located very close to the site that the Gem State Project is located on. During the course of these studies some questions came up concerning how this project would work in cooperation or in any compatible way along with the project that is being contemplated now known as the Gem State Project and physically and engineering wise we see no difficulty with the two being operated compatibly. However, there are some difficulties that could arise from the problems that have already been gone over here in great detail, namely, those problems involved with

the construction of a dam, losses of water either through deper-
colation, shallow percolation into an upper or first water table,
things along these lines as well as bank storage. We did some
preliminary calculations at the request of the Snake River Valley
Irrigation District and we came up with some figures that are
still at this stage preliminary but indicate that losses would
approximate several hundreds of acre feet lost to bank storage.
Realizing, of course, that any water that is raised into a reser-
voir and then fixed at a given elevation, in this case fairly high
above the given water table, a certain amount of water will go
into bank storage itself and will not be reclaimed until that
reservoir is drawn back down again. In addition, if there are
paths for water to escape around the dikes and these dikes, again
penetrate only to the top of the basalt bedrock, if there are
paths for this water to escape around it, it can find another way
out and the losses could be significant to these downstream water
users that have been named who have rights downstream. And as
Mr. Hjelm has pointed out, there are a considerable number of
these people and it appears that under very low water conditions
there's very little extra water to go around so there could be
some very tight years involved, if there are any additional
losses that are incurred through the building of this project.
Rather than answer about, I don't think there's anything any more
boring than two engineers arguing about the precision or the
accuracy of the particular numbers but I think we're all agreed

that there would be some losses that would take place, both from evaporation and from depercolation. How much this is, is, as I say, we're working on some additional studies and Dr. Charles Brockway is also working on some figures for the Snake River Valley Irrigation District as well. There is one other area though that has not been mentioned and I think it's worthwhile to bring it up at this time and that is, with the project contemplated by the Snake River Valley Irrigation District all facilities are essentially there. We're talking about using the existing canal, existing structures and the only new construction that would be involved would be the installation of the penstocks and a powerhouse. No other major changes would be made. However, with the new project, the Gem State Project, a major dam would be constructed, a large reservoir and there are some environmental problems that are doubtless to come out in this sort of thing. There are, right now, the present area that would be occupied by this proposed reservoir is covered with vegetation. There are a lot of game animals, non-game animals, a lot of birds that rest in the area and it's pretty good fishing area as well. We, in our discussions with the State Fish and Game, came up with the figure that at least one thousand cfs would be left in the river at all times as a base flow to maintain the habitat especially for the fish right along, right in the river area itself and I think that this question should be posed to the City of Idaho Falls and they should be asked to explain how they intend to

overcome any environmental difficulties if those points have not yet been satisfactorily answered. (End of tape.)

MR. DUNN: Go ahead.

MR. UNDERWOOD: The last thing that I would like to mention is that I believe there was a point made earlier that flows from the sewage treatment facility in Idaho Falls would be applied as a trade-off or as some make up water to the Snake River Valley Irrigation District or to other users downstream and my question would be, doesn't that water not already enter into the state Snake River system and is it already not part of that system or is this new water that is being developed that we are unaware of. Essentially, Mr. Dunn, these elements are the points that I wish to make on behalf of the Snake River Irrigation District and I have these statements written down for your review.

MR. DUNN: Okay, and from your testimony I guess we can say that you feel there is some losses from evaporation and seepage but

MR. UNDERWOOD: Yes.

MR. DUNN: We'll leave that to the

MR. UNDERWOOD: The exact amounts, I think, are yet to be determined.

MR. DUNN: The amounts, I guess Mr. Brockway is going to submit some information and

MR. UNDERWOOD: Yes, I have some figures also here, some coarse estimates. They are, of course, they are in excess of what has been stated earlier by some of the other speakers.

MR. DUNN: All right, thank you Mr. Underwood.
MR. UNDERWOOD: Thank you.
MR. DUNN: Mr. Anderson, are you the next one?
MR. ANDERSON: I think that is all that were going to make statements on behalf of the Irrigation District and again I, with Kent, would not prolong this with any legal arguments now and would appreciate the offer of replying to any statement that he makes in that respect. But as far as any factual information, I have nothing further to add and would rely then upon those who have submitted and would request the opportunity to submit the statement from Dr. Brockway giving the City, of course, an opportunity to view that and have a chance to respond and I also received a copy in the mail, I'm sure that, it indicated that others did also, from Mr. Rosholt who was making a statement on behalf of some of the water users in the Magic Valley which he had addressed to this office, I believe, in order to have it as part of the record. Has that been received or will that be part of your record as far as your information (inaudible)?
MR. DUNN: I have not received it. Have you seen it Ernie?
MR. CARLSON: No, I haven't seen it.
MR. DUNN: But we will, we will take that under consideration in issuing a permit and has he sent copies to the City?
MR. ANDERSON: I received a copy. Did you receive a copy?
MR. FOSTER: The City didn't. I've have seen it. It was addressed to Ron Carlson and he did request that it be made a

part of this record. We have no objection.

MR. DUNN: All right. If the copy isn't sent to you, we'll see that you do get one.

MR. FOSTER: Okay.

MR. DUNN: I've got a couple questions, Mr. Foster, of the City and maybe I'll state them and then you can find out who might best answer them. First is how the City proposes to make up the evaporation and seepage losses that would be experienced from the project. Secondly, the method of financing of the project because I think that relates somewhat to the feasibility as to where the dollars would come from. And third, the question of how the runoff during the spring from the lands outside of the dikes would be handled, if the present runoff drainage system is interrupted by the dikes.

MR. FOSTER: Thank you. I might respond to the first one and then if there is any additional information maybe I can present that. The City has stated and

MR. DUNN: Excuse me, would you mind coming up here

MR. FOSTER: I'd be happy to.

MR. DUNN: so that we can make sure that we, my notes don't have to reflect the record.

MR. FOSTER: Surely. I think Mayor Campbell and others have said that the City has every intention of doing what might be required as a condition of any permit granted to make up losses from seepage and evaporation. We've tried the best we know how to esti-

mate what those might be. And at least our studies are not just preliminary or speculative. They've been as nearly accurate as probably they can be at this point in time. We'll be interested also to see Dr. Brockway's information. The seepage losses might be made up from a number of possible sources. I think it would be possible, for instance, for the City to purchase or otherwise acquire, perhaps through lease =, the use of an existing water right. That might be a natural flow right or a storage right and in either event it would probably require some sort of a change in the nature of the use in order to satisfy the conditions of the permit and also to be certain that they were for power purposes or for the purposes in connection with the production of hydropower at this site. In that regard, the letter that you received and you haven't seen yet, from Mr. Rosholt, contains essentially an offer on behalf of, I think, 5 or 6 companies including Twin Falls Canal Company, the Northside Canal Company, Milner Lowlift and some others to lease storage or other rights to the City for that purpose. They indicate that it's their belief that probably will not, those losses will probably not be particularly significant. I might mention, it's my understanding that there has never been a year when there wasn't adequate water available through the rental pool with which the Department's familiar, in water District No. 1, from which the City might rent water assuming that we can work out an arrangement for the appropriate, either temporary or permanent, change in the nature

of the use of those storage rights that are, that are submitted for rental to that pool. So I think there are a number of possibilities there. We're certainly exploring all of them. And in addition to that, the City might appropriate a new right and I would mention, the Mayor alluded to this earlier and I think there was some confusion, about the use of the water which presently comes from the discharge pipe for the City's sewage system, the sewage treatment plants. All of that water that comes through that system as I understand it, is presently a result of pumping water from the City wells. The City has rights to pump water for the municipal and domestic purposes from those wells. Of course it goes through the homes and eventually through the sewage treatment system and back into the river. The discharge from that pipe is estimated at about 14 cubic feet per second and in 1980 the City applied for and did receive, a permit This isn't just an application, but did receive a permit to use that specific water in connection with this particular hydroelectric project and so I don't know what changes might need to be made in the terms of that permit but it was certainly intended that that 14 cubic feet per second be used for whatever purposes were essential in connection with this particular project. The 14 cubic feet per second will probably yield, I haven't got my calculator out and tried to do the math, but probably somewhere between 7 and 10 thousand acre feet per year and from our information at this point in time that ought to be more

than adequate to make up any losses that we're aware of. In addition, there's another alternative. The City owns, oh, maybe 16, 17 hundred acres of land under three irrigation districts, the Idaho Irrigation District, Progressive Irrigation District and the New Sweden Irrigation District. There is a good deal of that land which is not irrigated any longer because it consists of airport runways and parks, or rodeo grounds and things of that sort. It may be possible under some arrangement with, and some of those irrigation districts have indicated a willingness to assist in this regard, perhaps to use that water. There probably would be required some sort of an application for a change in the nature of the use but that water might also be used to replace any losses. I guess the way I respond is that I think there are numerous alternatives and unless the losses really did prove to be much greater than anything we anticipate, I think they can be handled quite easily. As far as financing is concerned, at this point in time I think you're aware the City intends to hold a bond election and the, they've worked through both Idaho First National Bank and a company and I've forgotten the name of it. What's the name of the company? Isn't it out of Denver?

MR. CAMPBELL: Kirschner and Moore.

MR. FOSTER: Kirschner and Moore on the financing and I don't believe anything is final at this point, is it, in terms of what we

MR. CAMPBELL: We have not set a bond election date for sure but

we're working in that direction now.
MR. DUNN: But that would be the method in which you'd obtain the financing
MR. FOSTER: Yes.
MR. DUNN: is through the bond market
MR. FOSTER: Yes.
MR. DUNN: so that, assuming the worst happened, either you developed some enormous sink holes in which you just couldn't retain any water, then the risk falls back either to the City taxpayers or to the bond holders I assume, in trying to recover their money however they might do it?
MR. FOSTER: Surely. I think ultimately the City, the taxpayers, and we don't anticipate anything like that. Now, as far as the runoff problem outside the dikes I think I, I'm not prepared to respond to that but there may be someone here. Jerry?
MR. EGGLESTON: I could perhaps offer some response.
MR. FOSTER: Please do because I don't have any information to offer and as I understood it there were to be some additional pipes in the dike through which water could be taken out of the reservoir and they may, it may be possible to get water back into the reservoir through those, those same pipes but I don't know much about that.
MR. DUNN: And I guess the next question that I thought of while you were talking was the design of the intake structure of the Snake River Valley Irrigation District canal and at what eleva-

tion that would take water and can it be designed such that again if that reservoir has to be drawn down for whatever purpose that it does not interrupt the irrigation system of the Snake River.

MR. FOSTER: I think we can respond to that as well.

MR. DUNN: All right.

MR. FOSTER: Perhaps maybe Mr. Eggleston first and then I guess I,

MR. DUNN: Mr. Eggleston.

MR. EGGLESTON: Referring to the map here and to get a feel for the drainage interruption that was mentioned, the levees will extend upstream about 7,000 feet, up to basically where the highway bridge crosses the proposed reservoir. Upstream from that there would be no interruption of the, of the surface drainage pattern to the river or to the canals. On the west side generally the land drains away from the river in this immediate strip so that the fact that there's a levee on the river bank would not have any detriment, detrimental or adverse affect. On the east side, the land does drain toward the river, presently drains into the Snake River Valley Canal and the levee would be constructed outside of, outside of or east of the canal and thus interrupt the surface drainage. To take care of that, a drainage ditch and proposed right at the toe of the dike in the upper reaches and as we get down into this area you will note on the map there are a number of places here where a drop structure is shown. This would be a drop structure into a pipe conveying the water from the drainage district, or the drainage ditch and the

on around through here and ultimately back into the river tailrace, so that that can be sized to handle the drainage that presently reaches the Snake River Valley Canal and carry it away so that we don't cause ponding and backwater behind the levee. Was someone else going to respond to the Snake River Valley Canal intake question?

MR. FOSTER: If you're prepared why don't you go right ahead?

MR. EGGLESTON: Recognizing their concern, the structure that's proposed here has its flow line at the present canal flow line so that in the event the pool cannot be maintained, water can still flow through the canal and through the structure. With one exception, the Snake River Valley Canal is left intack throughout its length under the proposed project. Up about here the canal has a wow in it where it loops around a draw. There it would be cut off but it would be a relatively simple matter, construction wise, if the pool could not be maintained, to restore that loop of the canal that would be cut off by the levee so that the existing diversion could be used and the existing canal could be used in an emergency. So we think we've covered that problem. A similar design has been used for the Woodville Canal. There, we have very little, there's only a few hundred feet of levee that's adjacent to the Woodville Canal and then it cuts through the levee and turns to the west. Again, the outlet is at the canal flow line drainage so that the restoration of the existing canal could be made relatively easily and water diverted as it is now if the

pool couldn't be maintained.

MR. DUNN: Thank you.

MR. FOSTER: Excuse me. Mr. Dunn, it was just pointed out to me that that was one of the matters that was required to be addressed in the Federal Energy Regulatory Commission license applications and so that's addressed in a little more detail in that set of materials that I think have already been furnished, to the Department. If the Department doesn't have those we'd be happy to submit a set for this, the record, for this particular action.

MR. DUNN: We would like another set. We do have one but I'd like another set.

MR. FOSTER: We'll get one and get it to you.

MR. DUNN: All right. Let me ask you another question Mr. Foster. As part of that federal license are you required to prepare an environmental impact statement?

MR. FOSTER: There is an environmental assessment

MR. DUNN: assessment

MR. FOSTER: that is required and that is in Volume III of that particular license application. I think Exhibit B.

MR. EGGLESTON: Yes. And there may be an EIS required and they may hold their own hearings but we will provide that information for them.

MR. ANDERSON: FERC may do their own.

MR. DUNN: FERC may do that in addition to whatever

MR. EGGLESTON: Yeah, they will do that themselves. They just

ask for the best of the information.

MR. DUNN: You provide the data and they hold a hearing. Is there anybody else who wishes to provide any testimony this afternoon?

MR. ANDERSON: One comment Mr. Dunn. I was just advised by one of the directors that they're, this plan of leaving

MR. DUNN: Excuse me if I might. If you'd give your name, because we're never going to figure this out.

MR. ANDERSON: Oh, Joe Anderson, representing the Snake River Valley.

MR. DUNN: Thank you.

MR. ANDERSON: And the comment was made that the canal would be left in its present form although inundated by the pool and that then if anything happened they could draw the water down and use that but their experience, once the ground has been under water for some period of time it would be valueless as far as holding a stream going down and would be, would be of no practical use. So that would be no solution to that particular problem. And also the takeout at the level of the canal, the canal is quite a bit higher than the level of the river at that point, maybe 35, 40 feet above what the river bottom is so having a takeout at the level of the canal is not going to do any good if the reservoir isn't holding the water and there's not water up at the reservoir pool level.

MR. DUNN: Well, if there's no further testimony, before we close

the hearing, there were, there was some discussion of briefing some legal issues. Mr. Foster, you're going to provide me with some information. How long do you need to do that?

MR. FOSTER: If we could have about 2 weeks that would be helpful. I'm not, I've got to be out of my office. My schedule presently, I'll be out for about a week. If I could have a week after that (inaudible).

MR. DUNN: Okay, fine then, we'd expect something within 2 weeks and I would think with that same time frame Dr. Brockway's statement could be prepared?

MR. ANDERSON: Within two weeks?

MR. DUNN: Yes.

MR. ANDERSON: I would be able to, yes.

MR. DUNN: And then we'd allow 10 days comments from either party on those two statements?

MR. ANDERSON Yeah.

MR. DUNN: Yeah, we'll trade them back and forth. If there's no further business then, the meeting is adjourned. Thank you.

WHEREUPON the foregoing hearing was closed.

CERTIFICATE OF HEARING OFFICER

STATE OF IDAHO)
) ss.
County of Ada)

I, A. KENNETH DUNN, Director, Idaho Department of Water Resources, DO HEREBY CERTIFY as follows:

That I served as the Hearing Officer in the foregoing cause which was heard on the 16th day of March, 1982, at Idaho Falls, Idaho;

That the proceedings of the hearing were recorded by means of an electronic recording tape;

That the foregoing typewritten transcript constitutes a full, true and correct record of said hearing as recorded at the time of the proceeding;

That said transcript consists of 61 pages.

A. KENNETH DUNN, Director
Department of Water Resources

BEFORE THE DEPARTMENT OF WATER RESOURCES

OF THE STATE OF IDAHO

IN THE MATTER OF THE APPLICATION FOR PERMIT NO. 01-7018 IN THE NAME OF THE CITY OF IDAHO FALLS.	))))	Case No. 30087 CERTIFICATE OF TRANSCRIPTION

The undersigned does hereby certify that she correctly and accurately transcribed and typed the above transcript from the recording of the hearing which was recorded on March 16, 1982, in the above entitled action.

Jan Heck

TRANSCRIBER

State of Idaho
DEPARTMENT OF WATER RESOURCES
STATE OFFICE, 450 W. State Street, Boise, Idaho

JOHN V. EVANS
Governor

A. KENNETH DUNN
Director

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November 1, 1985

Dennis Hjelm
Snake River Valley Irrigation District
Box 646
Basalt, ID 83218

Dear Dennis:

Enclosed for your review, in accordance with your request of last week, is a copy of the Transcript of Hearing Before the Department of Water Resources in the matter of the Application for Permit No. 01-7018 in the name of the city of Idaho Falls. Please return the transcript to me after you have reviewed it.

Sincerely,

NORMAN C. YOUNG
Administrator
Resources Analysis Division

NCY:alw
Enc.