

FIGURE 1
PROJECT LOCATION



STATE OF MICHIGAN

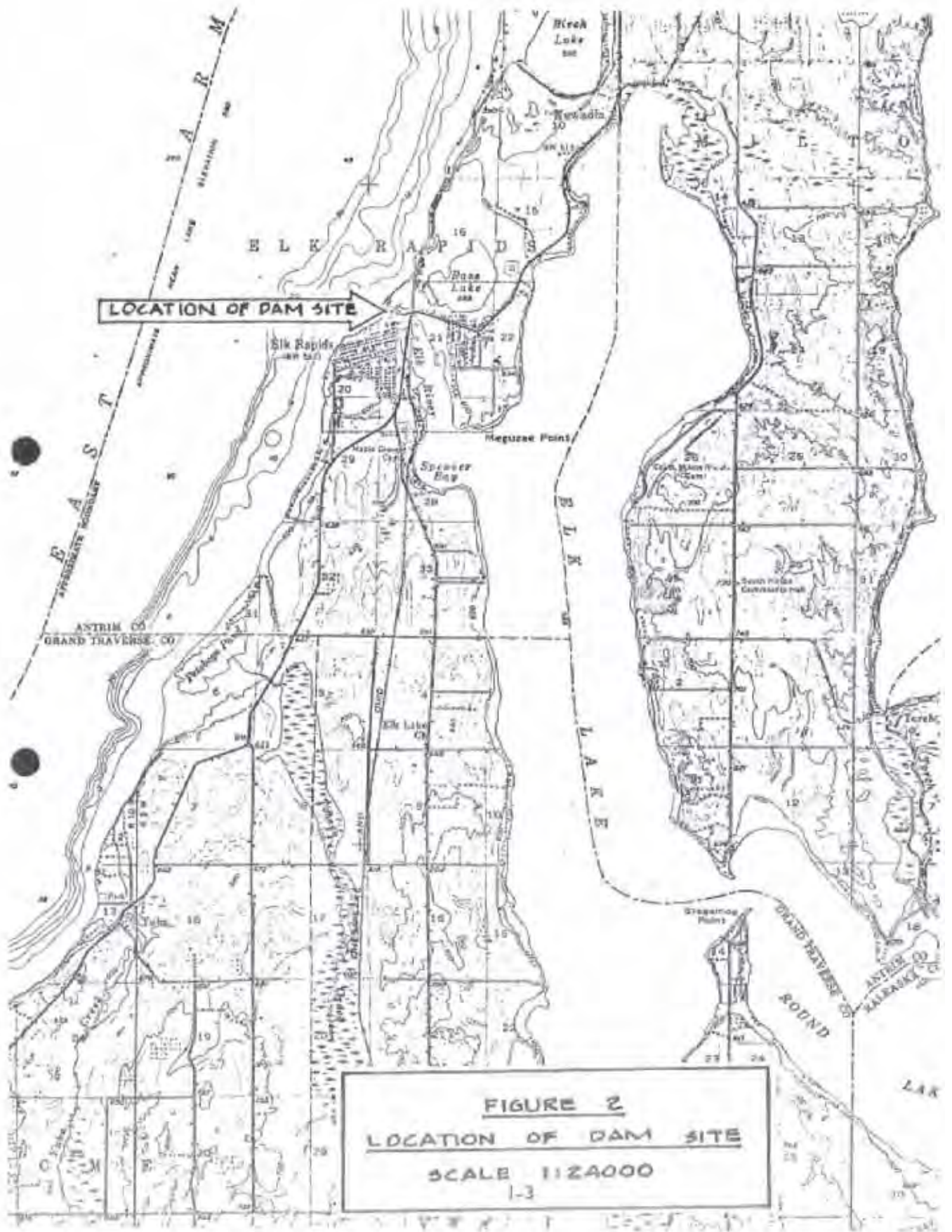


FIGURE 2
LOCATION OF DAM SITE
SCALE 1:24000
 1-3

THIS INDENTURE made this 4th day of June A.D. 1925
between the Elk Rapids Iron Company, a corporation organized and
existing under and by virtue of the laws of the state of Michigan,
having its principle office and place of business in the village of
Elk Rapids, County of Antrim and state of Michigan, as party of the
first part, and the Elk Electric Company, a corporation organized and
existing under and by virtue of the laws of the state of Michigan,
having its principle office and place of business in the village of
Elk Rapids, County of Antrim, and state of Michigan, as

party of the second part,

WITNESSETH, that said party of the first part for and in
consideration of the sum of One Dollar (\$1.00) and other valuable
considerations to it in hand paid by the said party of the second
part, the receipt whereof is hereby confessed and acknowledged,
does by these presents grant, bargain, sell, remise, release, alien,
and confirm unto the said party of the second part, its successors
and assigns, FOREVER, all those rights, privileges, easements,
franchises, or pieces or parcels of land situate and being in the
township of Elk Rapids and in the county of Antrim, and state of
Michigan, known and described as follows to-wit:

FIRST.

All that part of Government Lot number four (4) under the
United States Re-Survey of Section twenty-one (21) Township twenty
nine (29) North of Range Nine (9) West, said Lot four (4) being that
part of the South Half of the North West Quarter (1/4 of NW 1/4) of
said section lying and being North of Elk River, and described as
follows: Commencing at the Meander Corner on the section line
between Sections twenty and twenty one (20) & (21) on the shore of
Grand Traverse Bay, and marked by a railroad iron post,
THENCE run Northeastly along the shore of said Grand Traverse Bay
five hundred and two (502) feet to the Northwest corner of a parcel

of land heretofore on January 4th, 1922 conveyed by Elk Rapids Iron Company to Elk Electric Company;

THENCE run South forty-five degrees East (S 45 degrees E) one hundred seventy and four tenths feet (170.4);

THENCE run North fifty five degrees East (N 55 degrees E) one hundred seventeen and three tenths feet (117.3);

THENCE run North forty five degrees East (N 45 degrees E) ninety seven feet (97) across bridge;

THENCE run South forty three degrees East (S 43 degrees E) twenty six feet; (26);

THENCE run South seventy degrees East (S 70 degrees E) three hundred twenty five (325) feet;

THENCE run South seventy nine degrees and thirty minutes East (S 79 degrees 30' E) fifty (50) feet;

THENCE run South eighty two degrees East (S 82 degrees E) fifty (50) feet;

THENCE run South eighty four degrees thirty minutes East (S 84 degrees 30' E) fifty (50) feet;

THENCE run North eighty five degrees east (N 85 degrees E) fifty (50) feet.

THENCE run North seventy four degrees east (N 74 degrees E) fifty (50) feet;

THENCE run North sixty four degrees thirty minutes East (N 64 degrees 30' E) fifty (50) feet;

THENCE run North sixty two degrees East (N 62 degrees E) ninety five (95) feet along South line of Highway to west line of right of way of the Pere Marquette Railroad;

THENCE run South thirty (30) feet to the shore of Elk River;

THENCE run Westerly along the shore of Elk River six hundred thirty four (634) feet;

THENCE run South forty seven degrees West (S 47 degrees W) across

bay or race one hundred thirteen (113) feet;

THENCE Southerly along shore of race or bay ninety-six (96) feet to the shore of the main stream of Elk River;

THENCE run Westerly along the shore of Elk River three hundred (300) feet; THENCE run South seventy one degrees West (S 71 degrees W) across end of bridge twenty six (26) feet;

THENCE run South fifty two degrees West (S 52 degrees W) sixty three (63) feet to the Water Works property of the village of Elk Rapids;

THENCE run North forty degrees West (N 40 degrees W) along the East side of the said Water Works property and which last mentioned line is parallel to the East side of the Water Supply Power House and ten (10) feet distant therefrom seventy one (71) feet to North East corner of the Water Works property; THENCE run South fifty degrees West (S 50 degrees W) along North side of Water Works property thirty six (36) feet to North west corner of said Water Works property; THENCE run South forty degrees East (S 40 degrees E) to the shore of Elk River;

THENCE run Southwesterly along the shore of said Elk River two hundred twenty four (224) feet more or less to the meander corner or post on the north side of said Elk River on the section line between sections twenty (20) and twenty-one (21);

THENCE run North on said section line fifty one and five tenths (51.5) feet to place of beginning.

Including all flowage rights, water power rights and riparian rights, whatever the same may lawfully be, comprehend and include, in any manner appertaining to and belonging to said above described land and also the fee simple absolute to the bed of Elk River adjacent and appurtenant to the above described land, so far as the same may be adjacent and appurtenant. Also including herein all right, title, interest, of said first party in and to the dam chute, spill-way, race way and tail race that may be appurtenant to, belong to, or in any wise appertain to the above described land

SHOULD THE PARTY HERETO...
TO THE SPOTS OF THE WATER...
SHOULD THE PARTY HERETO...
AND OR THE... (22) 1921

with the full right to make any and all additions, improvements, alterations, repairs and changes to or in the same, but not such as will confiscate or encroach upon the land heretofore conveyed by said party of the first part, to the village of Elk Rapids for a water works site, by deed dated April 9th, 1921, and recorded in the office of the Register of Deeds for Antrim County in Liber 67 of Deeds on page 65 and following, on May 12th, 1921.

Also including (in this conveyance) all the flowage rights, water power rights, riparian rights, title and interest, whether legal or equitable, appertaining to or in any wise belonging to said above described land in and to the water power of said party of the first part developed by the natural flow of said Elk River and by the dams of said Elk Rapids Iron Company in and across said Elk River.

But nothing herein in this instrument anywhere contained shall be so construed as to prevent the village of Elk Rapids, its successors or assigns from pumping water from said Elk River either above or below said dam or dams to supply its water work system with ample water at all times.

Excepting and reserving from the parcel of land herein above described and from the rights and interests and easements herein above described and intended to be conveyed:

A. A right of way for a water pipe or water main, said water main or pipe being now in the ground, which said right of way was heretofore conveyed by the said Elk Rapids Iron Company and the Elk Rapids Water Supply Company to the village of Elk Rapids by deed dated April 9th, 1921 and recorded in the office of the Register of Deeds for Antrim County, Michigan in Liber 67 of Deeds on pages 67 and 68 and 69, on May 19, 1921, which said right of way is more fully and particularly described in said deed as follows:

"A right of way for water pipe or water main, said water pipe or water main being now in the ground, and the line herein

... ON ...
...
...
...
...

described being expressly intended to follow the actual course of
said water pipe main as now actually existing in the ground, said
water main being a part of the water main running from the power
house situated on the easterly part of lot four (4) of Section
twenty-one (21), town twenty-nine (29) North of Range Nine (9)
West through parts of lot four (4), one (1), two (2) and six (6)
of said section twenty-one (21), said right of way being for water
main and to carry with it the full right at any and all times to
enter upon said right of way and said parts of said lots to dig up,
excavate, for said water main, and to maintain, alter, repair and
improve the same by the said village of Elk Rapids, its agents,
servants or any other person or persons whomsoever, for its, its
successors and assigns, use, benefit, abuse or advantage, said right
of way being ten (10) feet in width, five (5) feet on each side of
the following described line which is intended to follow the
actual course of said water main in the ground, and should variations
occur or be discovered then the course of water main itself shall
govern and be deemed to be the right of way herein excepted and
reserved, viz: Commencing at the meander post on the west line of
section twenty-one (21), town twenty-nine (29) north of range nine
(9) west, on the North shore of Elk River, said meander post being
evidenced by an iron monument; thence run North on said section line
fifty one and one-half feet ($51\frac{1}{2}$) to a railroad iron monument on the
shore of Grand Traverse Bay on said section line; thence run North
seventy one degrees East, Two Hundred twelve feet (N 71 d. E 212)
to the South West corner of the old grist mill foundation, which
point is also two hundred thirty six (236) feet distant from said
meander post; thence run South six degrees East (S 6 d. E) thirty
three (33) feet to a point hereafter called Station "M", and being
the angle of said water main, one side of which runs to the East
side and the other to the West side of said village of Elk Rapids;
thence run North forty-five degrees thirty minutes (N 45 d. 30' E)

200000-100 (11) 1921...
...of the company...
...of the village of Elk Rapids...
...of the Register of Deeds for Antrim County...
...of the Register of Deeds for Antrim County...

East, thirty six (36) feet to the east line of a parcel of land conveyed by Elk Rapids Iron Company to the village of Elk Rapids on April 9th, 1921 by deed recorded in the office of the Register of Deeds for Antrim County in Liber 67 of Deeds on page 65 and following for a place of beginning of the right of way; thence run North forty five degrees thirty minutes East (N 45 d. 30' E) five hundred ninety five (595) feet, more or less, to an angle of said water main; thence angle left ninety degrees (90 d) and run north forty four degrees thirty minutes West (N 44 d. 30' W) two hundred two feet (202) more or less to angle of water main; thence angle right ninety degrees (90 d) and run North forty five degrees thirty minutes East (N 45 d. 30' E) three hundred fifteen (315) feet more or less to angle of water main, which takes the water main beyond the limits of the parcel of land herein in this deed described.

Also commencing at the aforesaid Station "M", thence run South forty eight degrees East (S 48 d. E) ninety five (95) feet more or less over and across the bed of Elk River to the northerly terminus of a strip of land designated as water main reserve, ten (10) feet wide, on the plat of H. H. Noble's Addition to the village of Elk Rapids according to the plat thereof as recorded in the office of the Register of Deeds for Antrim County.

B. Also excepting and reserving from this conveyance the following rights, privileges and easements which were heretofore conveyed by said Elk Rapids Iron Company and said Elk Rapids Water Supply Company to the village of Elk Rapids by deed dated April 9th, 1921 and recorded in the office of the Register of Deeds for Antrim County in Liber (67) Sixty-seven of Deeds on pages sixty seven (67), sixty eight (68) and sixty nine (69) on May 19th, 1921, said rights, privileges and easements hereby excepted and reserved being more fully described in said last mentioned deed as follows to-wit:

"The right, privilege, and easement of laying, maintaining and keeping one or more water pipe mains along the bed of Elk River adjacent to the following described lands: Lots number One (1), Two (2), Three (3), Four (4), Six (6) and Seven (7) of Section Twenty one (21) in Town Twenty-nine (29) North Range Nine (9) West."

Also excepting and reserving all those said rights, privileges and easements pertaining to water main and right of way for same only that were reserved to said Elk Rapids Iron Company in a certain deed from it to the Lake Superior Iron and Chemical Company, dated May 1, 1907 and recorded in the office of the Register of Deeds for Antrim County in Liber Forty one (41) of deeds on pages Three hundred sixty two to three hundred sixty eight (362-368) inclusive, subject, however, to any rights of the state of Michigan and the United States in and to the control of the bed of said Elk River.

C. Also a right of way for intake water main, intake running ten (10) feet in width, five (5) feet on each side of intake pipe as it actually exists and is now laid running from the property of the village of Elk Rapids, known as the Water Works property, easterly through, under and across the dam above mentioned to the bed of Elk River above said dam where it will join the right, privilege and easement of laying, keeping and maintaining said water main in or on the bed of said Elk River, with full right of access thereto at any and all times for the purpose of doing any work in connection with altering, maintaining, repairing or replacing said water main, this being the main intake pipe from the crib which is located in the head waters of Elk River and the intake main therefrom is laid in the bed of Elk River from said crib to the water supply power house of the village of Elk Rapids.

D. Also excepting and reserving from said described lands all rights, titles, privileges and easements which were heretofore conveyed by the said Elk Rapids Iron Company and the said Elk Rapids

Water Supply Company to the village of Elk Rapids by two certain deeds, each dated April 9th, 1921, and recorded in the office of the Register of Deeds for Antrim County, the one in Liber Sixty Seven (67) of Deeds on page Sixty five (65), the other in Liber Sixty seven (67) of Deeds on page sixty seven (67) and following, whether herein specifically mentioned or not.

E. Also excepting and reserving from said above described lands all existing highway rights where the main travelled highway known as the Grand Traverse and Emmet State Road running across said Lot Four (4) and also known as "M 11." Also excepting and reserving herein a right of way for highway along the easterly side of a parcel of land heretofore conveyed by Elk Rapids Iron Company to Elk Electric Company by deed dated January 4th, 1922, from M 11 running North forty-three degrees west (N 43° W) to the shore of Grand Traverse Bay, which said right of way said first party has or intends to convey to the village of Elk Rapids by deed dated June Fourth 1925.

F. Also excepting and reserving to said first party, its successors and assigns, a right of way for a highway or private road, twenty two (22) feet in width, being eleven (11) feet in width on each side of the following described line, which said line is intended to follow the center of the road or private highway as now existing from the section line between sections twenty and twenty one (20 & 21) easterly to the highway known as M 11, which said line is more particularly described as follows; and should a variation occur between the courses and distances hereafter given, then the center of the private road as now used upon the land shall govern and deem to be the line hereinafter described: Commencing at the meander post of the section line between sections twenty and twenty one (20 & 21) on the north shore of Elk River; thence running north on said section line nineteen (19) feet more or less to the center of the private driveway thereon for place of beginning; thence run north sixty degrees east (N 60° E) seventy five (75) feet; thence run north seventy degrees east (N 70° E) Sixty (60) feet; thence run north sixty three degrees

in
of the
aven (67)
ven (67)
n
bed
ghway
as said
serving
a parcel
Electric
th forty-
ish said
village of
its
te road,
h on each
nded to
ing from
(21)
e partic-
ween
the
to be the
of the
on the
n line
driveway
s east
rees
exress

east (N 63° E) Seventy five (75) feet to a point hereinafter called "Station A"; thence continuing north sixty three degrees east (N 63° E) twenty five (25) feet to the west line of the old race way leading to the old grist mill; thence run north fifty five degrees east (N 55° E) to the easterly line of the Grand Traverse and Emmet State Road, which is also known as M. H. Also commencing at the aforesaid Station A and running thence South fifty degrees east (S 50° E) fifteen feet (15) more or less, to the north line of the property owned by the village of Elk Rapids and occupied and used as a water works power house site; said right of way hereinabove described shall be considered as appurtenant to Lot four (4) of section twenty (20) in township twenty nine (29) north of range nine (9) west, and shall be a reservation of a right of way which shall be appurtenant to and run with the land known as lot four (4) of section twenty (20), being locally known as the "Island property" and the aforesaid right of way running westerly from the West line of said Grand Traverse and Emmet State Road to said Station A and running thence South fifty degrees east (S 50° E) from said Station A shall be considered as also appurtenant to and running with the property known as the water works power house site, and more particularly described in a deed from the Elk Rapids Iron Company to the village of Elk Rapids, dated April 9th, 1921, and recorded in Liber sixty seven (67) of deeds on page sixty five (65), both of which said rights of way are hereby reserved to provide a means of ingress and egress to and from said Island property by the owners thereof, their successors or assigns, and by the owners of said water works power house site, its successors or assigns, said rights or way to be used in any manner deemed necessary or advisable by the owners of either and both of said above mentioned properties so as not to interfere with the water power herein by this instrument conveyed to said second party, but said second party shall not use its property or lands herein conveyed in such manner as to incumber, obstruct or encroach upon said right of way herein reserved. It is also understood that the burden of maintaining the bridge across the old race way leading to the grist mill shall be upon the

owners of said right of way, or the owners of said Lot four (4) of said section twenty (20) and shall run with the right of way herein reserved.

G. Also reserving to said first party, its successors and assigns, a right of way for a water main from said lot four (4) of said section twenty (20) across and over the bed of Elk River, being ten (10) feet in width, five (5) feet on each side of the following described line, commencing at a point on said lot four (4), fifteen (15) feet more or less west of the west line of Pine Street of the village of Elk Rapids, extended northerly would intersect the north shore of Elk River; thence run South fifteen degrees west (S 15° W) to the south shore of said Elk River, it being intended to follow the course of the water main now laid and extending from the water main on River Street in said village across said Elk River to said lot four (4) and should variations occur in this description the actual course of said water main shall be deemed to be the center of the right of way herein reserved with full right of access thereto at all times for any purpose deemed necessary or advisable by said first party, its successors and assigns, and the right of way hereby reserved shall be appurtenant to and run with said lot four (4) of said section twenty (20).

SECOND.

All that part of lot six (6) of section twenty one (21) town twenty nine (29) north of range nine (9) west, more particularly described as follows: Commencing at a point at the north line of Noble Street of H. H. Noble's Addition to the village of Elk Rapids, which is twenty two and one half (22½) feet north nineteen degrees west (N 19° W) from the north west corner of lot thirteen (13) of H. H. Noble's Addition to the village of Elk Rapids; thence run North nineteen degrees west (N 19° W) two hundred forty one and six tenths (241.6) feet, more or less to the shore of Elk River; thence continue north nineteen degrees west (N 19° W) along the easterly side of the dam across Elk River to the north shore of Elk River, being at the north end of the bridge across said river on said dam, (the same point being also on the southerly line of land herein described in paragraph one above;) thence run south

seventy one degrees

West (S 71 d. W) Twenty six (26) feet; thence run South Fifty two degrees W (S 52 d. W) Sixty three (63) feet; thence run South fifty degrees West (S 50 d. W) along the southerly side of said water works property thirty six (36) feet to the southwest corner of said water works property; thence run South to the South shore of Elk River; thence run Northwesterly along the South shore of Elk river to a point which is ten (10) feet West of the base of Masonry Dam; thence run South nineteen degrees East (S 19 d. E) parallel to the base of said Masonry Dam and ten (10) feet distant therefrom to the North line of Noble Street of H. H. Noble's Addition to the village of Elk Rapids; thence run North seventy six degrees West (N 76 d. W) to place of beginning, intending hereby to convey all right, title and interest of said first party in and to its dam across Elk River.

Excepting and reserving therefrom,

A. All existing highway rights especially including the highway right of highway known as "M 11" or the Grand Traverse and Emmet State Road running the full length of the strip of land herein above conveyed.

B. Also excepting and reserving a right of way from said "M 11" easterly to the property of the Elk Rapids Cooperative Marketing Association.

C. Also excepting and reserving a right of way for public highway and wharfage purposes from the shore of Elk River, the North side of which is where the dam intersects the said shore of Elk River, a distance of thirty nine (39) feet in width and running from the East line of the property in this paragraph conveyed to the East line of "M 11", it being uncertain whether the East line of M 11 is the East line of the property herein conveyed or not.

D. Also excepting and reserving a right of way for water main, ten (10) feet in width, being five (5) feet on each side of the following described line: Commencing at Station M above referred to in Exception A of paragraph one; run thence South forty eight degrees East (S 48° E) ninety five feet (95), more or less, over and across the bed of Elk River to the center of the Northerly terminus of a strip of land designated as water main reserve, ten (10) feet wide, on the plat of H. H. Noble's Addition to the Village of Elk Rapids, according to the plat thereof as recorded in the office of the Register of Deeds for Antrim County Michigan.

THIRD.

There is also conveyed hereby all water power rights and interests of every kind and nature whether legal or equitable now belonging to the Elk Rapids Iron Company, in and to the water power developed by the natural flow of Elk River or by the dams across said Elk River in the Village of Elk Rapids, appurtenant to the following described lands so far as the same may lawfully or equitably belong thereto or be considered as connected with the said water power as developed by the natural flow of said Elk River or by said dams: The lands to which the above applies are described as follows, to-wit: - - - - -

 Lots six (6) of section twenty one (21) in Town twenty nine (29) North of Range Nine (9) West; Lots four (4) and one (1) of section twenty (20) in Town twenty nine (29) North of Range Nine (9) West; Lots two (2) and three (3) of section twenty one (21) in town twenty nine (29) North of Range Nine (9) West; situated in the Township of Elk Rapids County of Antrim and State of Michigan.

ter
of
forty
ss,
herly
ten
illage
e

it being expressly understood that no part or parcel of the land or upland other than that in paragraphs FIRST and SECOND above described is conveyed or intended to be conveyed by this instrument, excepting and reserving from the water power rights in this paragraph conveyed all those riparian rights, privileges and easements that are not inconsistent with the use and enjoyment of the water power herein conveyed, which riparian rights and easements hereby reserved shall be appurtenant to and run with each one of the above described parcels of land and nothing herein contained shall at any time be construed to prevent access to the waters of said Elk River by the owners of any and all of said lands their or any of their agents, servants, invitees, licensees, or any other person or persons with the express or implied permission of the owners of said lands at any time.

now
power
ss
e
quit-
d
of
bed
-
ine
of
ne (9)
n town
e

As there is at this time a bridge extending across said Elk River from Lot four (4) of Section twenty (20) in Town twenty nine (29) North of Range Nine (9) West in a southerly direction to a point near the northerly terminus of Pine Street in the said Village of Elk Rapids, Nothing herein anywhere contained shall at any time construed so as to prevent or hinder the said party of the first its successors or assigns from maintaining, replacing, repairing, rebuilding, altering or improving said bridge at any time or in any manner by them or any of them deemed necessary or advisable.

FOURTH.

Expressly including herein all the water rights, titles, privileges and easements excepted and reserved to said Elk Rapids Iron Company in a certain deed by it to Elk Electric Company, dated January 4, 1922, conveying a portion of Lot Four (4) of Section Twenty one (21) town twenty-nine (29) North Range Nine (9) West wherein the water power and the water power rights developed by the natural flow of Elk River and by the dams above mentioned were reserved to said first party, it being understood that the water power and water power rights reserved to said first party in said deed are herein conveyed to said second party by this instrument.

FIFTH.

Also including herein the water power and flowage rights which were expressly excepted and reserved to said Elk Rapids Iron Company by a deed from it to the Lake Superior Iron and Chemical Company dated May 1, 1907 and recorded in the office of the Register of Deeds for Antrim County in Liber Forty one (41), of Deeds on pages Three hundred sixty two to three hundred sixty eight (362-368) inclusive.

But not including herein any of the water pipe reservations which were heretofore conveyed to said Village of Elk Rapids by said deeds from said Iron Company to said village of Elk Rapids above referred to.

SIXTH.

Said first party expressly reserves the right to convey to the village of Elk Rapids a highway which shall extend Bridge Street of said village of Elk Rapids northerly to the shore of Elk River; thence continuing westerly along the shore of Elk River to connect with and join to the highway known as "M1" and no part of the above described right of way for highway is intended to or shall be construed to be included in this conveyance with the exception of

IN WITNESS WHEREOF the said Elk Rapids Iron Company has caused these presents to be signed in its name by its President and Secretary and sealed with its corporate seal, the day and year first above written.

the water power and water rights pertaining thereto.

Together with all and singular the hereditaments and appurtenances thereunto belonging or in any wise appertaining.

TO HAVE AND TO HOLD the said rights, privileges, easements, titles, interests and premises as herein above described, subject to the exceptions and reservations herein above mentioned, unto the said party of the second part and to its successors and assigns, FOREVER. And the said party of the first part, for itself, its successors or assigns, does covenant, grant, bargain and agree to and with the said party of the second part, its successors and assigns, that at the time of the enrolling and delivery of these presents it was well seized of the above granted rights, titles, privileges, easements, interests and premises subject to the exceptions and reservations above set forth in fee simply, and that they are free and clear from all incumbrances whatever except as herein above set forth and except such rights, titles, interests or control as the state of Michigan or the government of the United States may have or claim to exercise over the said Elk River or the bed thereof and that it will and its successors shall forever warrant and defend the same against all lawful claims whatsoever except as above set forth.

IN WITNESS WHEREOF the said Elk Rapids Iron Company has caused these presents to be signed in its name by its President and Secretary and sealed with its corporate seal, the day and year first above written.

ELK RAPIDS IRON COMPANY

BY Benjamin Carpenter
President.

ATTEST William J. Jarrant
Secretary.

Signed, sealed and delivered in the presence of
Hildred B. Allan
Marjorie H. Allan



ch
ny

said

to the
t of

sect
above

of

STATES OF ILLINOIS }
COUNTY OF COOK } 38.

On this 26th day of June A.D. 1925

before me a Notary Public, in and for said County, appeared Benjamin Carpenter and Kellogg Fairbank, to me personally known, who being by me duly sworn did say each for himself that they are respectively the president and secretary of the ELK RAPIDS IRON COMPANY, one of the corporations named in and which executed the within instrument, and that the seal affixed to said instrument is the corporate seal of said corporation and that said instrument was signed and sealed in behalf of said corporation, by authority of its board of directors, and the said Benjamin Carpenter and Kellogg Fairbank, acknowledged said instrument to be the free act and deed of said corporation.

Francis M. Johnston

NOTARY PUBLIC

in and for COOK County, Illinois.

My commission expires Aug 15 1927

QUIT CLAIM DEED TO THE SERVICE COMPANY

REGISTER NO.

14-C

FILE NO.

633

WHEREAS, about the year 1854 or 1855 there was constructed across Elk River a dam by one Abram Wadsworth, and

WHEREAS, the rights of said Abram Wadsworth to said dam were afterwards transferred to the co-partnership composed of Wirt Dexter and Henry H. Noble and by them afterwards transferred to the Elk Rapids Iron Company, and said dam was rebuilt and considerably strengthened about the year 1860 or 1862, and by means of which dam the water power was developed in Elk River in the village of Elk Rapids and said dam and water power has been in existence in its present condition for upwards of forty (40) years and during the time said dam was in existence certain riparian rights, flowage rights and water power rights have been acquired by the owners thereof by prescription, adverse possession and continuous, uninterrupted, open, notorious, visible user thereof for a long period of years whereby said rights have become vested in the Elk Rapids Iron Company, the owners of said dam, and

WHEREAS the Dexter & Noble Land Company on said lands bordering upon the waters of the stream above said dam and may be considered to hold and acquire some water power or flowage rights on said lands, and

WHEREAS it is desirable to convey by this instrument all of such water power, flowage, riparian, or other rights, titles and easements pertaining to or in any wise effecting the water power developed by the natural flow of Elk River or the existence of the dams across said river at Elk Rapids and to convey the same to the Elk Electric Company, NOW THEREFORE,

THIS INDENTURE made this fourth day of June A. D. 1925, between the ELK RAPIDS IRON COMPANY, a corporation organized and existing under and by virtue of the laws of the state of Michigan, having its principal office and place of business in the

5261

RECORDED IN THE OFFICE OF THE REGISTER OF DEEDS AT LANSING, MICHIGAN, ON JUNE 11, 1925.

RETURN TO THE REGISTER

180.
3

1st part

2nd

Village of Elk Rapids, County of Antrim and State of Michigan, and the DEXTER & NOBLE LAND COMPANY, a corporation organized and existing under and by virtue of the laws of the state of Michigan, having its principal office and place of business in the Village of Elk Rapids, County of Antrim and State of Michigan, as parties of the first part, and ELK ELECTRIC COMPANY, a corporation organized and existing under and by virtue of the laws of the State of Michigan, having its principal office and place of business in the Village of Elk Rapids, County of Antrim and State of Michigan, as party of the second part,

WITNESSETH, That the said parties of the first part, for and in consideration of the sum of One (\$1.00) Dollar and other valuable considerations to them in hand paid by the said party of the second part, the receipt whereof is hereby confessed and acknowledged, do by these presents, grant, bargain, sell, remise, release, and quit claim unto the said party of the second part, its successors and assigns, FOREVER, all those rights, privileges and easements situate and being in the counties of Antrim, Kalkaska and Grand Traverse, in the state of Michigan, known and described as follows, to-wit: - - - -

"All flowage rights and water power rights whatever the same may lawfully be, comprehend and include, now owned, possessed and enjoyed by the Elk Rapids Iron Company, or the Dexter & Noble Land Company, or either of them, and whether the same were acquired or obtained by deed, grant, adverse possession, prescription, user, exceptions and reservations in deeds, or otherwise, in and to any of the lands and premises bordering upon the Elk River, Elk Lake, "The Narrows" so called, Round Lake, Torch River, Rapid River, Torch Lake, Clam River, Clam Lake, Grass River and Grass Lake, situated in the counties of Antrim, Grand Traverse and Kalkaska, and pertaining to or appurtenant to any of the upland upon sections ten (10), eleven (11), fourteen (14), fifteen (15), twenty (20), twenty one (21), twenty two (22), twenty three (23), twenty four (24), twenty six (26), twenty eight (28), thirty three (33), and thirty five (35), being in

1.
said
3.
in
f
ase-
toped
iss-
ic
me
a the

Township twenty nine (29) north of range nine (9) west, in the townships of Elk Rapids and Milton in the county of Antrim; Sections twelve (12), thirteen (13), and twenty four (24), being in township thirty one (31) north of range nine (9) west, in the township of Torch Lake, County of Antrim; state of Michigan;

Sections six (6), seven (7) and eighteen (18), being in township twenty eight (28) north of range eight (8) west, in the township of Milton, county of Antrim; state of Michigan;

Sections four (4), six (6), seven (7), nine (9), sixteen (16), eighteen (18), nineteen (19), twenty one (21), twenty eight (28), twenty nine (29), thirty (30), thirty one (31), thirty three (33); also Sections one (1), two (2), three (3), ten (10), eleven (11), twelve (12), thirteen (13), and fourteen (14), all being in township twenty nine north of range eight west, in the townships of Milton and Helena, in the County of Antrim; state of Michigan;

Sections five (5), six (6), seven (7), eight (8), seventeen (17), eighteen (18), nineteen (19), twenty one (21), twenty eight (28), thirty (30), thirty one (31), thirty three (33); also sections twenty two (22), twenty three (23), twenty five (25), twenty six (26), twenty seven (27), and thirty five (35), being in township thirty (30) north of range eight (8) west, in the townships of Milton and Forest Home in the County of Antrim; state of Michigan;

Sections six (6), seven (7), seventeen (17), eighteen (18), nineteen (19), twenty (20), twenty nine (29), thirty (30), thirty one (31) and thirty two (32), being in township thirty one north of range eight (8) west, in the townships of Central Lake and Torch Lake, in the county of Antrim; state of Michigan;

Sections six (6) and seven (7) being in township twenty nine (29) north of range seven (7) west, in the township of Custer in the county of Antrim; state of Michigan;

Sections three (3), four (4), ten (10), thirteen (13), fourteen (14), fifteen (15), twenty two (22), twenty three (23), twenty six (26), and twenty seven (27), being in township twenty eight (28) north of range

... nine (9) west, in the township of Whitewater, Grand Traverse County, state of Michigan;

Sections four (4), five (5), six (6), seven (7), eighteen (18), nineteen (19), twenty (20), twenty eight (28), and thirty (30), being in township twenty eight (28), north of range eight (8), west, in the township of Clearwater, Kalkaska County, state of Michigan;

Also any and all water power rights, privileges and easements pertaining to any and all of the lands and premises bordering on the waters of Elk River, Elk Lake, The Narrows, Round Lake, Torch River, Torch Lake, Glan River, Glan Lake, Grass River, Grass Lake, in the counties of Antrim, Grand Traverse and Kalkaska, state of Michigan, whether herein specifically mentioned by sections, or not."

TO HAVE AND TO HOLD the said water power rights, privileges and easements as above described to the said party of the second part and to its successors or assigns, forever.

IN WITNESS WHEREOF the said Elk Rapids Iron Company and the Dexter & Noble Land Company have caused these presents to be signed in their respective corporate names and sealed with their respective corporate seals on the day and year first above written and all by the authority of their board of directors respectively.

Signed, sealed and delivered in the presence of

Thildrick Allan
Margaret H. H. Allan

BY Carson Carpenter
President

ATTEST J. C. Lawrence
Secretary

DEXTER & NOBLE LAND COMPANY

Signed, sealed and delivered in the presence of

Robert Williamson
J. C. Lawrence

BY John B. Griffin
President

ATTEST Charles J. Lawrence
Secretary

so
y
ty
id
'8)
7
nty
)
and
re

STATE OF MICHIGAN)
COUNTY OF ANTRIM) SS.

On this Fourth day of June A. D.

1925, before me a NOTARY PUBLIC in and for said County, personally appeared John B. Griffin and Charles D. Towne, personally known to me, who being duly sworn did say that John B. Griffin is the President and Charles D. Towne is the Secretary of the Dexter & Noble Land Company, and that the seal affixed to the foregoing instrument is the corporate seal of said Dexter & Noble Land Company, and that said instrument was signed and sealed in behalf of said corporation by authority of its board of directors and the said John B. Griffin and Charles D. Towne acknowledged said instrument to be the free act and deed of the said Dexter & Noble Land Company.

1
County
is.
17

Fitch W. Williams
NOTARY PUBLIC in and for Antrim
County, Michigan.

My Commission expires Jan 17 1929

159 540

THIS INDENTURE, made this 1st day of February, 1967, between
CONSUMERS POWER COMPANY, a corporation duly authorized to do business in Michi-
gan, with its principal office therein at 212 West Michigan Avenue, Jackson,
Michigan, party of the first part, and the COUNTY OF ANTRIM, Michigan with
offices at Bellaire, Michigan, party of the second part,

WITNESSETH:

That the said party of the first part, for and in consideration of
the sum of One Dollar (\$1.00) and the further consideration of the assumption
by second party of the obligation to properly maintain the Elk Rapids Dam and
the assumption of all other obligations and liabilities in connection there-
with, the receipt and release whereof is hereby confessed and acknowledged,
doe by these presents grant, bargain, sell, release, release and forever
QUITCLAIM unto the said party of the second part and to its successors and
assigns, forever, all those certain pieces or parcels of land and rights in
land situate in the Village of Elk Rapids, County of Antrim and State of
Michigan, known and described as follows:

All that part of Government Lot No. 4 under the United
States Re-Survey of Section 21, T29 R, 89W, said Lot No. 4
being that part of the S 1/2 of the NW 1/4 of said section
lying and being North of Elk River, and described as follows:
Commencing at the meander corner on the section line between
Sections 20 and 21 on the shore of Grand Traverse Bay, and
marked by a railroad iron post, thence run N^Wly along the
shore of said Grand Traverse Bay 502 feet to the Northwest
corner of a parcel of land heretofore on January 4, 1922 con-
veyed by Elk Rapids Iron Company to Elk Electric Company;
thence run S 45° E 170.4 feet; thence run N 55° E 117.3 feet;
thence run N 45° E 97 feet across bridge; thence run S 43° E
26 feet; thence run S 70° E 325 feet; thence run S 79° 30' E
50 feet; thence run S 62° E 50 feet; thence run S 24° 30' E
50 feet; thence run N 65° E 50 feet; thence run N 74° E 50
feet; thence run N 64° 30' E 50 feet; thence run N 62° E 95
feet along South line of Highway to West line of right of way
of the Pere Marquette Railroad; thence run S 30 feet to the
shore of Elk River; thence run W^{ly} along the shore of Elk
River 654 feet; thence run S 47° W across bay or rice 113
feet; thence S^{ly} along shore of race or bay 96 feet to the
shore of the main stream of Elk River; thence run W^{ly} along
the shore of Elk River 300 feet; thence run S 71° W across
end of bridge 26 feet; thence run S 52° W 63 feet to the
Water Works property of the Village of Elk Rapids; thence
run S 40° W along the East side of said Water Works property
and which last mentioned line is parallel to the East side
of the Water Supply Power House and 10 feet distant there-
from 71 feet to Northeast corner of the Water Works property;
thence run S 50° W along North side of Water Works property
26 feet to Northwest corner of said Water Works property;
thence run S 40° S to the shore of Elk River; thence run
S^{ly} along the shore of said Elk River 224 feet more or
less to the meander corner or post on the North side of said
Elk River on the section line between Sections 20 and 21;
thence run North on said section line 51.5 feet to place of
beginning. Including all flange rights, water power rights
and riparian rights, whatever the same may lawfully be, com-
prehend and include, in any manner appertaining to and be-
longing to said above described land and also the fee simple
absolute to the bed of Elk River adjacent and appurtenant to
the above-described land, so far as the same may be adjacent

RETURN TO COURT
At the County

Witness my hand and seal of the County of Antrim, Michigan, this 1st day of February, 1967.

County Clerk

and appurtenant. Also including herein all right, title and interest, of said first party in and to the dam chute, spillway, raceway and tailrace that may be appurtenant to, belong to, or in anywise appertain to the above-described land with the full right to make any and all additions, improvements, alterations, repairs and changes to or in the same.

Also commencing 544.75 feet N 37° E of the meander post on the North side of Elk River on the section line between Sections 20 and 21 in T29N, R9W, said meander post being marked by an iron pipe driven into the ground, and said point of commencement being marked by an iron pipe driven into the ground on the shore of Grand Traverse Bay, thence S 45° E 170.4 feet; thence N 55° E 117.3 feet; thence N 45° E 97 feet; thence N 77° E 63.5 feet; thence N 22° 30' W 84 feet; thence N 43° W 676 feet to the shore of Grand Traverse Bay; thence W'ly and S'ly along the shore of said Bay to the place of beginning.

Also all that part of Lot No. 6 of Section 21, T29N, R9W, more particularly described as follows: Commencing at a point at the North line of Noble Street of H. H. Noble's Addition to the Village of Elk Rapids, which is 22-1/2 feet N 19° W from the Northwest corner of Lot 13 of H. H. Noble's Addition to the Village of Elk Rapids; thence run N 19° W 241.0 feet, more or less to the shore of Elk River; thence continue N 19° W along the S'ly side of the dam across Elk River to the North shore of Elk River, being at the North end of the bridge across said river on said dam, the same point being also on the S'ly line of land described above; thence run S 71° W 26 feet; thence run S 52° W 62 feet; thence run S 50° W along the S'ly side of said water works property 42 feet to the Southwest corner of said water works property; thence run South to the South shore of Elk River; thence run NW'ly along the South shore of Elk River to a point which is 10 feet West of the base of masonry dam; thence run S 19° E parallel to the base of said masonry dam and 10 feet distant therefrom to the North line of Noble Street of H. H. Noble's Addition to the Village of Elk Rapids; thence run N 76° E to place of beginning, intending hereby to convey all right, title and interest of first party in and to its dam across Elk River.

Excepting therefrom a parcel of land described as: Commencing at the meander corner on the section line between Sections 20 and 21 on the shore of Grand Traverse Bay, and marked by a railroad iron post; thence run NE'ly along the shore of said Grand Traverse Bay 502 feet; thence run S 45° E 170.4 feet; thence run N 55° E 117.3 feet; thence run S 45° E 26 feet to the Southeast corner of US 31 Highway bridge; thence run S 52° 40' W along Southeasterly line of said highway 75 feet to an iron stake for a place of beginning; thence S 52° 40' W along Southeasterly line of said highway 72 feet; thence S 46° 45' W along said highway 114 feet; thence S 25° 45' W along said highway 84 feet to the Northeasterly corner of highway bridge; thence Northeasterly along the shore of Elk River 259.5 feet to an iron stake; thence N 35° 20' W 158 feet to the place of beginning.

Also excepting a parcel of land in the NW 1/4 of Section 21, T29N, R9W, described as follows: to find the place of beginning commence at a 1-inch iron pipe set at the intersection of the center line of Dexter Street with the center line of

UGP 159 22542

River Street, thence N 21° 52' 35" W 733.51 feet, thence N 52° 40' 00" E 116.60 feet to a point on the N'y line of Dexter Street, which point is the place of beginning of this description, running thence N 52° 40' 00" E along the N'y line of Dexter Street 133.04 feet, thence N 47° 15' 35" W 133.63 feet, thence S 42° 46' 00" W 132 feet, thence S 47° 15' 35" E 110.99 feet to the place of beginning. (This description is based upon an assumed bearing of N 71° 17' 07" E along the center line of River Street)

Also conveying the rights and easements to overflow, percolate, saturate, wash away or in any way affect the land upstream or downstream along and adjoining the Elk River as now owned by Consumers Power Company acquired either by grant, prescription or otherwise, in connection with the operation of the Elk Rapids Dam as now constructed.

Excepting and reserving to first party, its successors and assigns forever, the easement and right to erect, lay and maintain lines consisting of poles, wires, cables, conduits and other fixtures and appurtenances for the purpose of transmitting and distributing electricity and/or conducting a communication business on, over, under and across the premises herein conveyed, including all public highways upon or adjacent to said parcel of land. The route to be taken by said lines of poles, wire, cables and conduits on, over, under and across said land being more specifically described as follows:

One line of poles, wires, cables and conduits to run on a route as now located and constructed approximately as follows: to find the place of beginning, commence at a 1-inch iron pipe set at the intersection of the center line of Dexter Street with the center line of River Street, thence N 21° 52' 35" W 733.51 feet, thence N 52° 40' 00" E 116.60 feet to a point on the N'y line of Dexter Street, which point is hereinafter referred to as "Point A", thence N 52° 40' 00" E along the N'y line of Dexter Street 69.7 feet to the place of beginning of this description, running thence S 17° 25' W 128 feet, thence S 0° 01' E 93.4 feet, thence S 27° 07' E 183.3 feet, thence S 27° 47' E 137 feet, thence S 3° 35' E to the S'y line of the land herein conveyed.

One line of poles, wires, cables and conduits to run on a route as now located and constructed approximately as follows: to find the place of beginning commence at Point A described above, thence N 52° 40' 00" E along the N'y line of Dexter Street 114.94 feet to the place of beginning of this description, running thence S 42° 29' E to the S'y line of the land herein conveyed.

One line of poles, wires, cables and conduits to run on a route as now located and constructed approximately as follows: to find the place of beginning commence at Point A described above, thence N 52° 40' 00" E along the N'y line of Dexter Street 133.04 feet, thence N 47° 15' 35" W 2 feet to the place of beginning of this description, running thence N 62° 42' E 10.5 feet, thence N 67° 44' E to the NE'y line of the land herein conveyed.

One line of poles, wires, cables and conduits to run on a route as now located and constructed approximately as follows: to find the place of beginning

LOW 139 525

(D)

commence at Point A described above, thence N 52° 40' 00" E along the N'ly line of Dexter Street 133.04 feet, thence N 47° 19' 35" W 120.33 feet to the place of beginning of this description, running thence N 33° 26' E to the NE'ly line of the land herein conveyed.

All of said route descriptions are based upon an assumed bearing of N 71° 17' 07" E along the center line of River Street.

With full right and authority to first party, its successors, licensees, lessees or assigns and its and their agents and employees to enter at all times upon said land for the purpose of patrolling, constructing, repairing, removing, replacing, improving, enlarging and maintaining such wires, cables, conduits and poles and other supports with all necessary braces, guys, anchors, umbles and transformers and stringing thereon and supporting and suspending therefrom lines of wires, cables or other conductors for the transmission of electrical energy and/or communication and to trim, remove, destroy or otherwise control any trees and brush which may, in the opinion of first party, interfere or threaten to interfere with or be hazardous to the construction, operation and maintenance of said lines. It is understood that no buildings or other structures will be placed under such wires and/or over such cables without the written consent of first party. It is further understood that nonuse or a limited use of this easement by first party shall not prevent first party from later making use of the easement to the full extent herein reserved.

Subject to all existing easements for highways, walkways, pipelines and sewer lines over and across said land.

Chatham County

Second party, by the acceptance of this deed, accepts and assumes all of the duties, obligations and conditions arising out of the ownership of the lands, dam, dam permit, flowage rights, and water power rights appurtenant to said lands and dam, whether such duties, obligations and conditions are express or implied or created by common law, statute or other governmental regulations.

Together with all and singular the hereditaments and appurtenances thereto belonging or in anywise appertaining; TO HAVE AND TO HOLD the said above-described premises unto the said party of the second part, its successors and assigns, to the sole and only proper use, benefit and behoof of the said party of the second part, its successors and assigns, forever.

IN WITNESS WHEREOF, the said party of the first part has caused these presents to be signed by its Senior Vice President and its corporate seal to be hereunto affixed and attested by its Secretary the day and year first above written.

Signed, Sealed and Delivered
in the Presence of

CONSUMERS POWER COMPANY

Frances S. Schaefer
Frances S. Schaefer

By W. C. Schmidt
W. C. Schmidt
Senior Vice President

Lucile M. Gault
LUCILE M. GAULT

Attest:
W. E. Eels
W. E. EELS
Secretary

LIBER 159 PAGE 54 1/2

STATE OF MICHIGAN }
COUNTY OF JACKSON } SS.

On this 1st day of February, 1967, before me, a Notary Public in and for said County, personally appeared W. C. Schmidt to me personally known, who being by me duly sworn, did say that he is Senior Vice President of Consumers Power Company, the corporation named in and which executed the within instrument, and that the seal affixed to said instrument is the corporate seal of said corporation, and that said instrument was signed and sealed in behalf of said corporation by authority of its Board of Directors; and said W. C. Schmidt acknowledged said instrument to be the free act and deed of said corporation.

Willoween R. Smith
Willoween R. Smith
Notary Public, Jackson County, Michigan
My commission expires Sept. 7, 1979

PREPARED BY W. E. HAGEN, CONSUMERS POWER CO.
212 W. MICHIGAN AVENUE, JACKSON, MICHIGAN

*This is a receipt
for the 1st of 1967*

*W. C. Schmidt
100 1000
200 1000*



I, Josephine Bargy, Register of Deeds for Antrim County, Michigan,
Certify this to be an exact copy of instrument recorded in Liber 159
page 54 Signed and Sealed this 29 day of July 1967

Josephine Bargy
we

STATE OF MICHIGAN
IN THE CIRCUIT COURT FOR THE COUNTY OF ANTRIM

File No.

*In the Matter of a Petition of the
Antrim County Board of Commissioners
for a Determination of the Normal
Height and Level of the Waters of
Elk Lake and Skegemog Lake situated
in the Counties of Antrim, Grand
Traverse and Kalkaska, Michigan.*

TO THE SAID COURT:

Your petitioners, the County Board of Commissioners for the County of Antrim, Michigan, by and through its duly authorized Prosecuting Attorney, Scott S. Power, respectfully represents unto this Honorable Court as follows:

1. That the said Board of Commissioners on the 13th day of April, 1971, by resolution duly adopted, a copy of which is hereto attached and identified "Exhibit A", pursuant to the provisions of Act 146 of the Public Acts of 1961 as amended by Act 175 of the Public Acts of 1969, directed the Prosecuting Attorney for Antrim County, Michigan, to institute by proper petition in the Circuit Court for said County a proceeding to have determined and established the normal height and level of the waters of Elk Lake and Skegemog Lake situated in the Counties of Antrim, Grand Traverse and Kalkaska, Michigan.

2. That Grand Traverse Board of Commissioners on the 9th day of June, 1971, and the Kalkaska County Board of Commissioners on the 14th day of September, 1971, by resolutions duly adopted,

EXHIBIT **7**

copies of which are hereto attached and identified as "Exhibit B" and "Exhibit C", pursuant to the provisions of Act 146 of the Public Acts of 1961 as amended by Act 175 of the Public Acts of 1969, directing the Prosecuting Attorney of Antrim County to institute the proper proceedings for a determination of a normal height and level of the waters in Elk Lake and Skegemog Lake.

3. That the determination and establishment of the normal height and level of the waters in said Elk Lake and Skegemog Lake is necessary for the purpose of protecting the public health, welfare and safety and the conservation of the natural resources of the State of Michigan and to preserve and protect the values of properties developed around said lakes as a result of the creation of the normal level.

WHEREFORE PETITIONERS PRAY:

A. That this Honorable Court shall determine and establish the normal height and levels of the waters of Elk Lake and Skegemog Lake in the Counties of Antrim, Grand Traverse and Kalkaska, Michigan.

B. That said Court shall fix a day for hearing on said petition at which time and place allegations and proof with respect to the matters set forth in this petition shall be heard and that notice of said hearing shall be given by publication of Order for Hearing and Publication in the Elk Rapids Progress, the Traverse City Record Eagle and the Leader-Kalkaskian at least once each week for six successive weeks prior to the date of hearing, and copies of the published notice of hearing served by certified mail upon all the owners of record of lands within the assessment district of said Elk Lake and Skegemog Lake at least three weeks prior to the date set for hearing on this petition.

and the petitioners will ever pray;

Dated: October 13, 1971.

ANTRIM COUNTY BOARD OF COMMISSIONERS

By Scott S. Power

SCOTT S. POWER
Prosecuting Attorney
Antrim County, Michigan

STATE OF MICHIGAN
IN THE CIRCUIT COURT FOR THE COUNTY OF ANTRIM

In the Matter of the Petition of the
Antrim County Board of Commissioners
for a Determination of the Normal Height
and Level of the Waters of Elk and
Skegemog Lakes Situated in the Counties
of Antrim, Grand Traverse and Kalkaska,
Michigan.

File No. 962

ORDER

At a session of said Court held at the Courthouse in
the Village of Bellaire in Antrim County on the 25th
day of September, 1975.

PRESENT: HONORABLE RAYMOND L. SMITH
CIRCUIT COURT JUDGE

Having read the Petition of the Antrim County Board of
Commissioners for a Determination of the Normal Height and Level
of the Waters of Elk and Skegemog Lakes, and having heard
testimony in support of said Petition, and the Court being
further fully advised in the premises, now, therefore,

On Motion of Robert J. Stephan, Prosecuting Attorney for
Antrim County, Michigan, on behalf of Petitioner,

IT IS ORDERED AND ADJUDGED and this Court by virtue of
the authority therein vested and in pursuance of the statute in
such case made and provided, does ORDER AND ADJUDGE that a level
of 590.80 feet Elk Rapids Dam gauge reading (588.26 feet
International Great Lakes Datum of 1955) shall be maintained from
April 15 of each year or ice break-up on said lakes, whichever
occurs later, until November 1 of each year; on November 1 of
each year said lake level shall be reduced to 590.20 feet Elk
Rapids Dam gauge reading (587.66 International Great Lakes Datum
of 1955) until the following April 15, or ice break-up, whichever
occurs later at which time it shall be increased to the previous
above stated level until further Order of this Court.

EXHIBIT 8

MARKETABLE RECORD TITLE
Act 200 of 1945

AN ACT to define a marketable record title to an interest in land; to require the filing of notices of claim of interest in such land in certain cases within a definite period of time and to require the recording thereof; to make invalid and of no force or effect all claims with respect to the land affected thereby where no such notices of claim of interest are filed within the required period; to provide for certain penalties for filing slanderous notices of claim of interest, and to provide certain exceptions to the applicability and operation thereof.

History: 1945, Act 200, Eff. Sept. 6, 1945.

The People of the State of Michigan enact:

565.101 Marketable record title.

Sec. 1. Any person, having the legal capacity to own land in this state, who has an unbroken chain of title of record to any interest in land for 20 years for mineral interests and 40 years for other interests, shall at the end of the applicable period be considered to have a marketable record title to that interest, subject only to claims to that interest and defects of title as are not extinguished or barred by application of this act and subject also to any interests and defects as are inherent in the provisions and limitations contained in the muniments of which the chain of record title is formed and which have been recorded within 3 years after the effective date of the amendatory act that added section 1a or during the 20-year period for mineral interests and the 40-year period for other interests. However, a person shall not be considered to have a marketable record title by reason of this act, if the land in which the interest exists is in the hostile possession of another.

History: 1945, Act 200, Eff. Sept. 6, 1945;—CL 1948, 565.101;—Am. 1997, Act 154, Imd. Eff. Dec. 22, 1997.

565.101a "Mineral interest" defined.

Sec. 1a. As used in this act, "mineral interest" means an interest in minerals in any land if the interest in minerals is owned by a person other than the owner of the surface of the land. Mineral interest does not include an interest in oil or gas or an interest in sand, gravel, limestone, clay, or marl.

History: Add. 1997, Act 154, Imd. Eff. Dec. 22, 1997.

565.102 Unbroken chain of title to interest in land; conditions.

Sec. 2. A person is considered to have an unbroken chain of title to an interest in land as provided in section 1 when the official public records disclose either of the following:

(a) A conveyance or other title transaction not less than 20 years in the past for mineral interests and 40 years for other interests, which conveyance or other title transaction purports to create the interest in that person, with nothing appearing of record purporting to divest that person of the purported interest.

(b) A conveyance or other title transaction not less than 20 years in the past for mineral interests and 40 years for other interests, which conveyance or other title transaction purports to create the interest in some other person and other conveyances or title transactions of record by which the purported interest has become vested in the person first referred to in this section, with nothing appearing of record purporting to divest the person first referred to in this section of the purported interest.

History: 1945, Act 200, Eff. Sept. 6, 1945;—CL 1948, 565.102;—Am. 1997, Act 154, Imd. Eff. Dec. 22, 1997.

565.103 Marketable record title; successors in interest; notice of claims; filing for record.

Sec. 3. Marketable title shall be held by a person and shall be taken by his or her successors in interest free and clear of any and all interests, claims, and charges whatsoever the existence of which depends in whole or in part upon any act, transaction, event, or omission that occurred prior to the 20-year period for mineral interests, and the 40-year period for other interests, and all interests, claims, and charges are hereby declared to be null and void and of no effect at law or in equity. However, an interest, claim, or charge may be preserved and kept effective by filing for record within 3 years after the effective date of the amendatory act that added section 1a or during the 20-year period for mineral interests and the 40-year period for other interests, a notice in writing, verified by oath, setting forth the nature of the claim. A disability or lack of knowledge of any kind on the part of anyone does not suspend the running of the 20-year period for mineral interests or the 40-year period for other interests. For the purpose of recording notices of claim for homestead interests the date from which the 20-year period for mineral interests and the 40-year period for other interests shall run shall be the date of recording of the instrument, nonjoinder, in which is the basis for the claim. A notice may be filed for record by the claimant or by any other person acting on behalf of any claimant if 1 or

more of the following conditions exist:

- (a) The claimant is under a disability,
- (b) The claimant is unable to assert a claim on his or her own behalf,
- (c) The claimant is 1 of a class but whose identity cannot be established or is uncertain at the time of filing the notice of claim for record.

History: 1945, Act 200, Eff. Sept. 6, 1945;—CL 1948, 565.103;—Am. 1997, Act 154, Imd. Eff. Dec. 22, 1997.

565.104 Marketable record title; failure to file notice not to bar right to possession.

Sec. 4. This act shall not be applied to bar any lessor or his successor as reversioner of his right to possession on the expiration of any lease or any lessee or his successor of his rights in and to any lease; or to bar any interest of a mortgagor or a mortgagee or interest in the nature of that of a mortgagor or mortgagee until after such instrument under which such interests are claimed shall have become due and payable, except where such instrument has no due date expressed, where such instrument has been executed by a railroad, railroad bridge, tunnel or union depot company, or any public utility or public service company; or to bar or extinguish any easement or interest in the nature of an easement, the existence of which is clearly observable by physical evidences of its use; or to bar or extinguish any easement or interest in the nature of an easement, or any rights appurtenant thereto granted, excepted or reserved by a recorded instrument creating such easement or interest, including any rights for future use, if the existence of such easement or interest is evidenced by the location beneath, upon or above any part of the land described in such instrument of any pipe, valve, road, wire, cable, conduit, duct, sewer, track, pole, tower, or other physical facility and whether or not the existence of such facility is observable, by reason of failure to file the notice herein required. Nor shall this act be deemed to affect any right, title or interest in land owned by the United States, nor any right, title or interest in any land owned by the state of Michigan, or by any department, commission or political subdivision thereof.

History: 1945, Act 200, Eff. Sept. 6, 1945;—Am. 1946, 1st Ex. Sess., Act 25, Imd. Eff. Feb. 26, 1946;—Am. 1947, Act 117, Imd. Eff. May 22, 1947;—CL 1948, 565.104;—Am. 1951, Act 235, Eff. Sept. 28, 1951;—Am. 1965, Act 323, Eff. Mar. 31, 1966.

565.105 Notice of claim to contain land description; recording, fees, indexing.

Sec. 5. To be effective and to be entitled to record the notice above referred to shall contain an accurate and full description of all the land affected by such notice which description shall be set forth in particular terms and not by general inclusions, but if said claim is founded upon a recorded instrument then the description in such notice may be the same as that contained in such recorded instrument. Such notice shall be filed for record in the register of deeds office of the county or counties where the land described therein is situated. The register of deeds of each county shall accept all such notices presented to him which describe land located in the county in which he serves and shall enter and record full copies thereof in the same way that deeds and other instruments are recorded and each register shall be entitled to charge the same fees for the recording thereof as are charged for recording deeds. In indexing such notices in his office each register shall enter such notices under the grantee indexes of deeds under the names of the claimants appearing in such notices.

History: 1945, Act 200, Eff. Sept. 6, 1945;—Am. 1947, Act 117, Imd. Eff. May 22, 1947;—CL 1948, 565.105.

565.106 Construction of act; purpose; extinguishment of claim.

Sec. 6. This act shall be construed to effect the legislative purpose of simplifying and facilitating land title transactions by allowing persons dealing with the record title owner, as defined in this act, to rely on the record title covering a period of not more than 20 years for mineral interests and 40 years for other interests prior to the date of such dealing and to that end to extinguish all claims that affect or may affect the interest dealt with, the existence of which claims arises out of or depends upon any act, transaction, event, or omission antedating the 20-year period for mineral interests and the 40-year period for other interests, unless within the 20-year period for mineral interests or the 40-year period for other interests a notice of claim as provided in section 3 has been filed for record. The claims extinguished by this act are any and all interests of any nature whatever, however denominated, and whether the claims are asserted by a person sui juris or under disability, whether the person is within or outside the state, and whether the person is natural or corporate, or private or governmental.

History: 1945, Act 200, Eff. Sept. 6, 1945;—CL 1948, 565.106;—Am. 1997, Act 154, Imd. Eff. Dec. 22, 1997.

565.107 Limitations of actions.

Sec. 7. Nothing contained in this act shall be construed to extend the periods for the bringing of an action or for the doing of any other required act under any existing statutes of limitation nor to affect the operation of

any existing acts governing the effect of the recording or of the failure to record any instruments affecting land nor to affect the operation of Act No. 216 of the Public Acts of 1929 nor of Act No. 58 of the Public Acts of 1917 as amended by Act No. 105 of the Public Acts of 1939.

History: 1945, Act 200, Eff. Sept. 6, 1945;—CL 1948, 565.107.

Compiler's note: For provisions of Act 216 of 1929, Act 58 of 1917, and Act 105 of 1939, referred to in this section, see MCL 565.381 et seq., MCL 558.81 et seq., and MCL 558.91 et seq., respectively.

565.108 Filing slanderous notices of claims; costs awarded to plaintiff.

Sec. 8. No person shall use the privilege of filing notices hereunder for the purpose of slandering the title to land, and in any action brought for the purpose of quieting title to land, if the court shall find that any person has filed a claim for that reason only, he shall award the plaintiff all the costs of such action, including such attorney fees as the court may allow to the plaintiff, and in addition, shall decree that the defendant asserting such claim shall pay to plaintiff all damages that plaintiff may have sustained as the result of such notice of claim having been so filed for record.

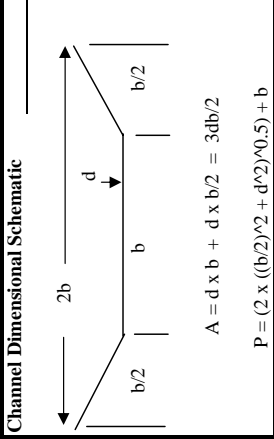
History: 1945, Act 200, Eff. Sept. 6, 1945;—CL 1948, 565.108.

565.109 Claims not barred; time for filing notice of claim.

Sec. 9. No interest, claim or charge shall be barred by the provisions of section 3 of this act until February 1, 1948, and any interest, claim or charge that would otherwise be barred by said section 3 may be preserved and kept effective by the filing of a notice of claim as required by this act prior to said first day of February, 1948.

History: 1945, Act 200, Eff. Sept. 6, 1945;—Am. 1946, 1st Ex. Sess., Act 25, Imd. Eff. Feb. 26, 1946;—Am. 1947, Act 117, Imd. Eff. May 22, 1947;—CL 1948, 565.109.

APPENDIX C HYDRAULIC CALCULATIONS

Elk/Skegemog Narrows													
Worst Case Peak Flow (cfs)*	Channel Width "2b"	Channel Depth "d"	b/d	Run/Rise b/2d	Area A (ft ²)	Perimeter P(ft)	Velocity V (ft/sec)	Hydraulic Radius R	Roughness Coefficient n	Hydraulic Slope (ft/ft)	Channel Length (feet)	Head Loss	
1000	1500	5	150	75	5625	1500	0.2	3.75	0.025	2 x 10 ⁻⁶	100	feet	inches
*Peak Flow at the Project over the past 8 years was 936 cfs (Data Source: Stockhausen 2009)													
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>Manning's Formula for flow in open channels (Source: Davis 1942, p. 2)</p> <p>$V = (1.486/n) \times R^{.667} \times S^{.5}$ $S = ((V * n) / (1.486 \times R^{.667}))^{.2}$ S = hydraulic slope (head loss per distance)</p> <p>R = Hydr Radius = A / Perimeter (wetted) V = Flow (cfs) / Area (ft²)</p> <p>n = roughness coeff = 0.0225 - normal condition 0.0250 - w/ stones & weeds 0.0350 - poor condition 0.0500 - debris & weed obstructed</p> </div> <div style="width: 45%; text-align: center;"> <p>Channel Dimensional Schematic</p>  <p>$A = d \times b + d \times b/2 = 3db/2$ $P = (2 \times ((b/2)^2 + d^2)^{.5}) + b$</p> </div> </div>													
The flow cross-sectional dimensions of the Narrows are about 1,500 feet wide and 5 feet deep. Peak flows through the Narrows can be up to 1,000 cfs (cubic feet per second). At this flow level, the calculated velocity through the Narrows would be, at a maximum, 0.2 feet per second. The difference in the two lake levels would thus be imperceptible (about 2 thousandths of an inch).													

Hydraulic Calculation of Surface Level of Elk and Skegemog Lakes

Open Channel Flow Losses for Torch River														
Section	Peak Flow (cfs)		Channel Width "2b"	Channel Depth "d"	Run/Rise b/2d	Area A (ft ²)	Perimeter (ft)	Velocity V (ft/sec)	Hydraulic Radius R	Roughness Coefficient n	Hydraulic Slope S (ft/ft)	Channel Length (ft)	Head Loss	
	Torch River	Rapid River											Total Flow	(ft)
1	680	680	45	6	1.9	203	48	3.4	4.22	0.025	0.00047	370	0.1731	2.0768
2	680	680	70	5.5	3.2	289	72	2.4	4.03	0.025	0.00024	2200	0.5384	6.4602
3	680	140	140	5.5	6.4	578	141	1.4	4.1	0.025	0.00009	3900	0.3388	4.0661
4	680	140	90	5.5	4.1	371	91	2.2	4.07	0.025	0.00021	1800	0.3827	4.5928
5	680	140	170	5.5	7.7	701	171	1.2	4.11	0.025	0.00006	1600	0.094	1.1284
Average channel width												117	1.53	18.3
Total Length (miles)												1.87	0.95	11.4

Section	Median Annual Flow (cfs)		Channel Width "2b"	Channel Depth "d"	Run/Rise b/2d	Area A (ft ²)	Perimeter (ft)	Velocity V (ft/sec)	Hydraulic Radius R	Roughness Coefficient n	Hydraulic Slope S (ft/ft)	Channel Length (ft)	Head Loss	
	Torch River	Rapid River											Total Flow	(ft)
1	387	387	45	5	2.3	169	47	2.3	3.58	0.025	0.00027	370	0.1004	1.2048
2	387	387	70	4.5	3.9	236	71	1.6	3.32	0.025	0.00015	2200	0.3368	4.0418
3	387	80	140	4.5	7.8	473	141	1	3.36	0.025	0.00005	3900	0.2136	2.5633
4	387	80	90	4.5	5	304	91	1.5	3.34	0.025	0.00013	1800	0.2404	2.8847
5	387	80	170	4.5	9.4	574	170	0.8	3.37	0.025	0.00004	1600	0.0593	0.712
Average channel width												117	0.95	11.4
Total Length (miles)												1.87	0.95	11.4

Manning's Formula for flow in open channels
(Source: Davis, 1942, pg 2)

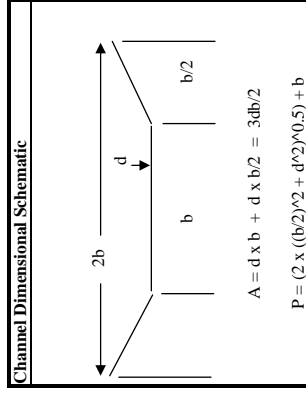
$$V = (1.486/n) \times R^{0.667} \times S^{0.5}$$

$$S = ((V * n) / (1.486 \times R^{0.667}))^{0.2}$$

S = hydraulic slope (head loss per distance)

R = Hydr Radius = A / Perimeter (wetted)
V = Flow (cfs) / Area (ft²)

n = roughness coeff =
0.0225 - normal condition
0.0250 - w/ stones & weeds
0.0350 - poor condition
0.0500 - debris & weed obstructed



Elk/Skegemog Hydrology Budget			
Source	% of Total Discharge*	Peak	Median
Torch River inflow	68*	680	387
Rapid River inflow	14*	140	80
Groundwater, precipitation, evaporation, tributaries	18*	180	102
Total Elk/Skegemog outflow**	100%	1000	509

**Source: MDNR 1993, p. 85

** Data Source: 8 years of flow data from the Project. The peak flow number has been rounded up from the observed 936 cfs to provide an assumed worst case scenario (Stockhausen 2009)

Hydraulic Calculation of Surface Level Difference between Torch and Skegemog Lakes

APPENDIX D



JENNIFER M. GRANHOLM
GOVERNOR

STATE OF MICHIGAN

DEPARTMENT OF NATURAL RESOURCES

LANSING

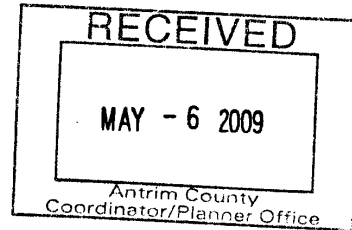


REBECCA A. HUMPHRIE
DIRECTOR

May 4, 2009

Mr. Mark Stone
Drain Commissioner
County of Antrim
PO Box 287
203 E Cayuga St.
Bellaire, MI 49629

Mark S.
Bill S.
File



RE: RESPONSE TO ANTRIM COUNTY'S LICENSING PROPOSAL FOR THE ELK RAPIDS HYDROELECTRIC PROJECT (FERC NO. 3030) LICENSING PROSOSAL

Dear Mr. Stone,

The Michigan Department of Natural Resources (Department) has the following comments in response to Antrim County's (County) proposal and from the follow up meeting to discuss the potential licensing of the Elk Rapids Hydroelectric Project.

Project Operation

The Department prefers projects be operation in run of river (ROR) mode, by which as closely as possible, inflows to the system equal outflows. This has been the primary mode of operation for this project for many years and it is the Department's expectation that this mode of operation will continue.

To monitor compliance with run of river operation, the Department prefers US Geological Survey (USGS) gauges with telemetry that can be monitored remotely. Preferably, this would be for inflows to the reservoir and in the tailrace. As discussed at our meeting, the Department is willing to discuss verification of ROR operation based on plant statistics (output, headwater elevations, gate settings, etc.). This will require developing a calibrated set of rating curves for the units at the project and verified by USGS or a qualified consultant mutually agreed upon by the Department and the County.

The data can be used to demonstrate the project operation meets and electronic copies can be supplied to the resource agencies on request for short term needs and annually as part of any compliance reporting ROR operation to the Federal Energy Regulatory Commission (FERC).

As discussed at the meeting, your request to consider flow changes for operational considerations (i.e., peaking) is unacceptable. The Department stands firm that the only acceptable proposed

NATURAL RESOURCES COMMISSION
Keith J. Charters, Chair • Mary Brown • Hurley J. Coleman, Jr. • John Madigan • J. R. Richardson • Frank Wheatlake

STEVENS T. MASON BUILDING • P.O. BOX 30028 • LANSING, MICHIGAN 48909-7528
www.michigan.gov/dnr • (517) 373-2329

Great Lakes, Great Times, Great Outdoors!

operation of this project is run of river. If you choose to pursue operation other than ROR, the Department will request that you contract with a qualified consultant to conduct an Instream Flow Incremental Methodology (IFIM) study to compare any changes in habitat that may occur as part of any deviation in operation from ROR.

Fisheries and Aquatic Resources and other Natural Resources

As was discussed at the meeting, summaries of the natural resources and environmental conditions can be compiled by your cooperators. There are copies of environmental assessments for hydropower projects readily available on the internet via FERC's eLibrary. You can review those and the FERC licensing handbook to determine the amount of information that you will need to compile. The Department may have survey information that describes the fishery community which is available. The County may find this route helpful in reducing costs in terms of relicensing, however you should be aware that unless there is sufficient content, FERC may request additional information or studies to verify any section that may be deficient. Even though the project boundaries are small, the Department requests that your analysis include the area of influence when discussing impacts to aquatic resources related to operation of the project.

The parties charged with compiling this information will also be responsible for contacting the appropriate parties, such as Michigan Natural Features, MDNR Wildlife Division, etc. to collect data on threatened and endangered species, species of concern and any special features or communities that are in the area of influence. This information should be incorporated into your aquatic resources management plan and land management plans.

Fisheries Entrainment and Mortality

The Department prefers a properly designed and conducted turbine entrainment and mortality study conducted onsite. In recent years the FERC has allowed development of a desktop analysis for turbine entrainment using data from studies as similar sized projects in the mid-west region. At this point in time the Department concurs with the County's proposal to seek an alternative path for a resolution to this issue. An agreement to negotiate a rate based on production which can be accumulated in a trust fund to be utilized for development of potential fish protection devices or other environmental enhancements within the area of influence of the project should be included in your aquatic resources management plan.

Recreation

The Department understands that the County (or other local entities) provides a number of recreational opportunities related to the project and associated reservoir. You will still be required to provide a detailed description of those amenities so the adequacy of these facilities

can be analyzed. Per our discussion, you may consider if there are any improvements that can be made in the immediate vicinity of the powerhouse to enhance the recreational opportunities there while developing your recreation plan.

Water Quality Considerations

As we discussed at our meeting, the County will be required to obtain a 401 Water Quality Certification from the Michigan Department of Environmental Quality (MDEQ). The requirements for this may include a number of studies in order for them to properly evaluate the situation. You will have to contact them for specifics. You have indicated that the County and a number of your cooperater groups have been participating in collecting various water quality data for many years. Some of this information will prove useful. In addition, you may be required to conduct continuous monitoring of dissolved oxygen and temperature in the impoundment and tailrace. You may also be required to conduct sediment sampling for contaminants in the impoundment and the tailrace. This requirement is often required on a schedule of every 5 years. Since your tailrace is accessible to Great Lakes fish you may be required to conduct contaminant analysis on fish in the impoundment and the tailrace. This too is often required on a schedule throughout the term of the license.

Other issues that may arise are aquatic invasive species monitoring (purple loosestrife and Eurasian water milfoil) and erosion in the reservoir and tailrace. These items have been included in 401 Certifications in the past. You will need to be prepared to conduct inventories and address them in your draft application.

Large Woody Debris Transport

The presence of the Great Lakes harbor directly downstream of the project poses issues for passing large woody debris. The Department concurs that you may not want to pass organic matter of sufficient size to become a hazard to downstream navigation. As an alternative to passing the debris, the Department recommends that the County prepare a large woody debris management plan which will utilize any large woody debris collected to create fish cover in the reservoir.

Terrestrial Habitat Improvements

At the meeting we discussed the limitations of the County's ability to conduct much work in terms of terrestrial wildlife enhancement due to the small size of the project lands. The Department suggests the County consider the US Fish and Wildlife Service's (USFWS) request to install some enhancements such as purple martin nesting house(s) and bat house(s) while developing the wildlife management plan.

Mr. Mark Stone, Drain Commissioner
Response to Licensing Proposal

May 4, 2009
Page 4

Inclusion of the Michigan Hydro Relicensing Coalition

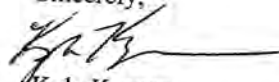
The Michigan Hydro Relicensing Coalition (MHRC) has expressed interested in being included in the settlement and/or licensing process. They have participated in a number of settlement negotiations and provide a non-governmental organization perspective to the process. Inclusion of concurrence of the MHRC in filings with FERC will assist in getting the process completed as efficiently as possible. The primary contact is:

Mr. James D. Schramm
Michigan Hydro Relicensing Coalition
4780 Longbridge Rd.
Pentwater, MI 49449
231-869-5487

Please let me know if you have any questions or need any clarification. I suggest you review this with your team and we schedule another meeting or conference call to help you finalize your decision on relicensing. Feel free to contact me at:

MICHIGAN DEPARTMENT OF NATURAL RESORUCES
MIO FIELD OFFICE
191 S MT TOM RD
MIO MI 48647

Sincerely,



Kyle Kruger
Senior Fisheries Biologist
Habitat Management Unit
FISHERIES DIVISION
(989) 826-3211 Ext. 7073

cc J. Schramm, MHRC, Pentwater
B. Fisher, USFWS, E. Lansing
C. Freiburger, Fisheries, Lansing

APPENDIX E
ADDITIONAL WATER QUALITY STUDIES
BELOW THE BELLAIRE DAM

The Additional Water Quality Studies list follows this page.

Arnold, J. et al. Estimates of Groundwater Entering Torch Lake plus Cedar River Watershed and Land Use. Bellaire, Michigan.

Bailey, Keenan et al. 2004. Torch Lake- Flow Rates of Rivers and Tributaries. Bellaire, Michigan.

Belanger, J. et al. 2006. Analysis of Hydrolab Profiles for Torch Lake, Lake Bellaire and Clam Lake in Antrim County, Michigan. Bellaire, Michigan.

Bohannon, W. et al. 2008. Lake Bellaire Shoreline Survey Summary Report. Bellaire, Michigan.

Bretz. 2006. Torch Lake Historic Water Quality Data: A Compilation of Known Data on Torch Lake. Eastport, Michigan.

Conkle, Sarah et al. 2004. A Shoreline Algal Survey of Torch Lake, Clam Lake and Lake Bellaire. Bellaire, Michigan.

Hoadley, A. et al. Clam Lake Shoreline Survey Summary Report. Bellaire, Michigan.

Long, D. et al. 2000. Inland Lakes Sediment trends: Sediment Analysis Results in Five Michigan Lakes, Final Report 1999-2000: Cass Lake, Elk Lake, Gratiot Lake, Gull Lake, Higgins Lake. Lansing, Michigan.

Michigan Clean Water Corps. 2004. Cooperative Lakes Monitoring Program Annual Report. Lansing, Michigan.

_____. 2005. Cooperative Lakes Monitoring Program Annual Report. Lansing, Michigan.

_____. 2006. Cooperative Lakes Monitoring Program Annual Report. Lansing, Michigan.

Nelson, Michael. 2005. Piezometric Determination of Groundwater Flux and Phosphorus Loading of Torch Lake. Bellaire, Michigan.

Oswald, R. et al. 2003. Summary of North Torch Lake- Eastport Creek Contamination Investigation. Bellaire, Michigan.

The Watershed Center- Grand Traverse Bay. 2008. Torch Lake Shoreline Greenbelt Survey Summary Report. Traverse City, Michigan.

Walton, Derek. 2005. Total Phosphorus Input and Output of Torch Lake plus the Watershed Boundary of Shanty Creek. Bellaire, Michigan.

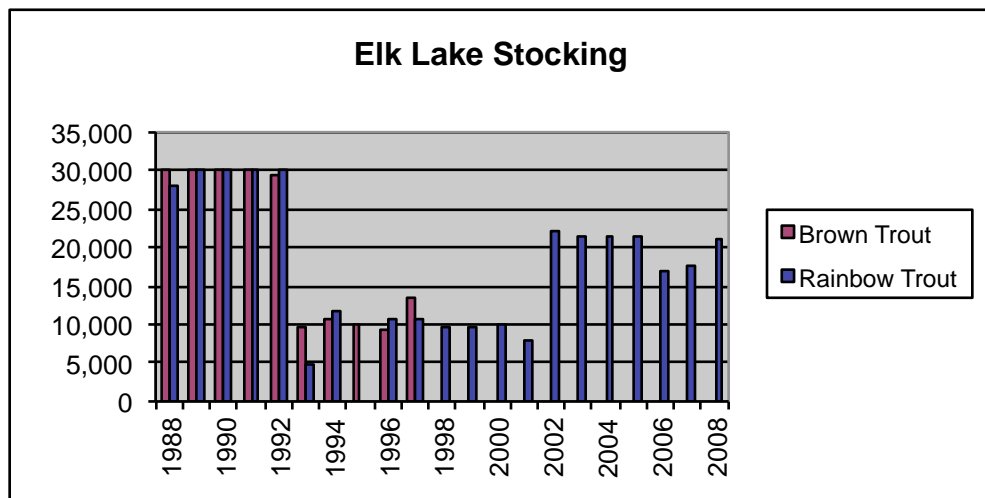
Yamaguchi, Howard. 2005. Delineation of Land Use in the Butler, Cedar, Cold, Dewey, Finch, Shanty-Maury, and Spencer Creek Watersheds. Bellaire, Michigan.

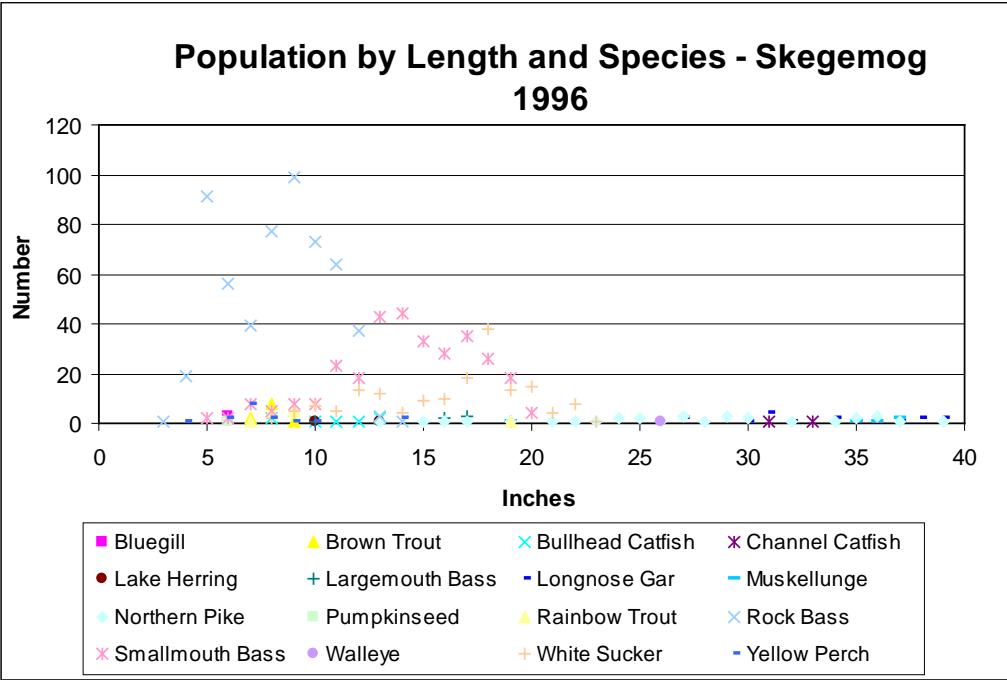
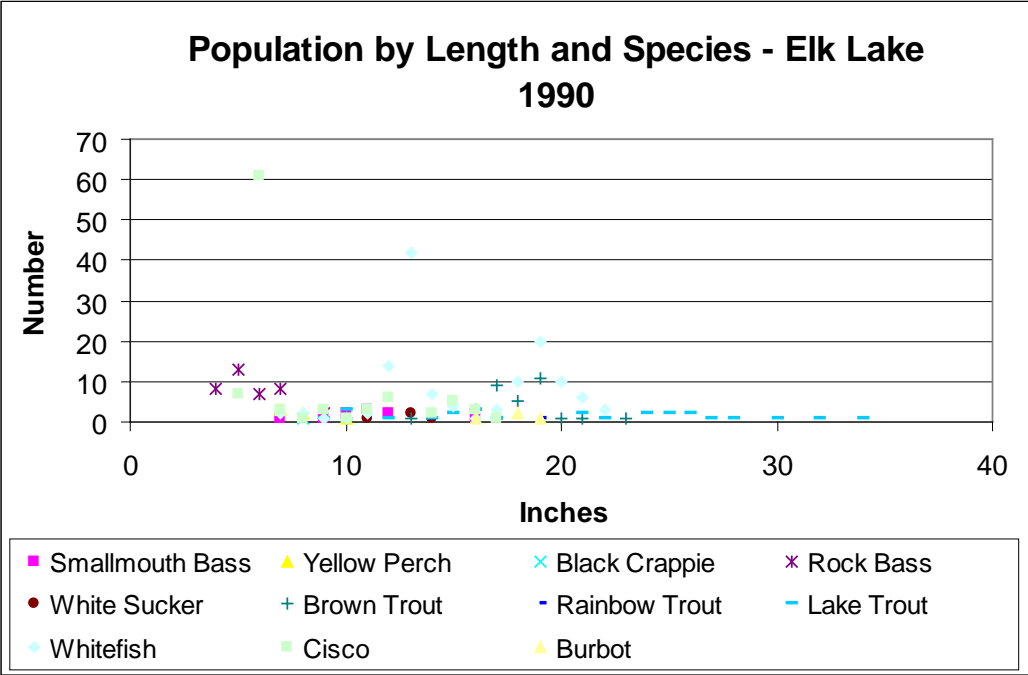
Yohn, S. et al. 2003. Inland Lakes Sediment Trends: Sediment Analysis Results in Six Michigan Lakes, Final Report 2002-2003: Houghton Lake, Hubbard Lake, Imp Lake, Round Lake (N. Manistique), Torch Lake, Witch Lake. Lansing, Michigan.

APPENDIX F FISH POPULATION DATA

Species (Length in inches)	Age (Years)										
	1	2	3	4	5	6	7	8	9	10	11
Brook trout (streams)	2.7	5.7	8.2	10.4	13.9	16.7					
Brown trout (streams)	3	6.4	9	11.5	15.1	18.8	21.3	23.9			
Yellow Perch	3.1	4.6	6.1	7	8	9	9.9	10.7	11.3	11.8	12.3
Bluegill	2.3	3.4	4.4	5.5	6.4	7	7.5	7.9	8.6	8.8	9.1
Pumpkinseed	2.8	3.3	4.4	5.2	5.9	6.4	6.9	7.3	7.8		
Rock bass	1.5	3.1	4.5	5.6	6.5	7.4	8.2	8.9	9.6	9.9	10.1
Largemouth Bass	3.6	6.1	8.6	10.5	12.2	13.6	15.1	16.7	17.7	18.8	19.8
Smallmouth Bass	3.4	6.1	9.2	11.3	13.3	14.9	15.7	16.8	17.5	18.5	19.2
Walleye	7.1	9.5	13.3	15.2	17.2	18.6	19.2	19.6	21.6	21.4	25.2
Muskellunge	6.8	15.7	19.9	25.1	31.9	34.7	36.8	39.2	41.1	45.3	48.7
Northern pike	10.2	15.6	19.4	22.2	24.6	26.5	28.9	32.7	33.4	38.7	39.6
White sucker	3.5	8.6	12	14.3	16.3	16.9	18.1				

**Average Age-Growth (in inches) Relationships for Selected Michigan Fish Species
(Source: MDNR 1985)**





(Source: MDNR 1990, 1996)