

A las once del día miércoles once de junio de mil novecientos veinticuatro, la Comisión Mixta se reunió en las oficinas de la Sección Americana en El Paso, Texas, de conformidad con lo acordado en el acta número cuarenta y tres de seis de junio de mil novecientos veinticuatro, estando presentes además de ambos Comisionados, ambos Secretarios y los Ingenieros Consultores de ambas Secciones: los Ingenieros L. M. Lawson y Salvador Arroyo.- Los Señores Lawson y Arroyo presentaron sus recomendaciones acerca de los proyectados cortes en el Río Bravo (Grande) entre los monumentos número uno y veintiuno de la isla de San Elizario separadamente en informes escritos, copias de los cuales se agregan a la presente acta y forman parte de ella. El Comisionado Americano propuso que los informes de los Señores Lawson y Arroyo se turnaran a los Ingenieros Consultores de ambas Secciones ordenandoles que hagan un informe escrito a la Comisión Mixta, lo antes posible.- El Comisionado Mexicano estuvo conforme.- Los Secretarios entregarán a los Ingenieros Consultores una copia de esta acta.- La sesión se levantó para reunirse a petición de cualquiera de los Comisionados.

Gustavo P. Serrano  
Comisionado Mexicano.

Henry Curry  
Comisionado Americano.

José Hernández Queda  
Secretario Mexicano.

Harrie Lelawman  
Secretario Americano.

At eleven o'clock A.M., Wednesday, June eleventh, nineteen hundred and twenty-four, the Joint Commission met at the offices of the American Section, El Paso, Texas, according to agreement in Minute number forty-three of June sixth, nineteen hundred and twenty-four, being present besides both Commissioners, both Secretaries and the Consulting Engineers of both Sections: Engineers L. M. Lawson and Salvador Arroyo.- Messrs. Lawson and Arroyo presented their recommendations regarding the proposed cut-offs on the Río Grande River, between monument number one and twenty-one of San Elizario Island, in separate written reports, copies of which are attached and form part of this Minute.-The American Commissioner proposed that the written reports of Messrs. Lawson and Arroyo be referred to the Consulting Engineers of both Sections and they are requested to make a written report to the Joint Commission as soon as possible.- The Mexican Commissioner concurred.- The Secretaries will deliver to the Consulting Engineer a copy of this Minute. Meeting adjourned subject to call of either Commissioner.

Henry Curry  
American Commissioner.

Gustavo P. Serrano  
Mexican Commissioner.

Harrie Lelawman  
American Secretary.

José Hernández Queda  
Mexican Secretary.

C. Juárez, Chih., junio 10 de 1924.

INFORME A LOS COMISIONADOS DE LIMITES SOBRE LOS CORTES PROPUESTOS POR EL CONDADO DE EL PASO EN LA PARTE AMERICANA DEL RIO, EN LAS CERCANIAS DE TABENS.

ASUNTO: Se expone al criterio personal del suscrito sobre los cortes propuestos por el Condado de El Paso.

El resultado de las audiencias públicas verificadas en Tornillo y en Guadalupe, con motivo de los cortes propuestos en la parte Americana del rio Bravo en las cercanías de Tabens, por el Condado de El Paso, puede sintetizarse como sigue:

Sobre el lado americano: La opinión unánime de los propietarios de terrenos comprendidos dentro de la Zona en la cual se proponen los cortes, es decididamente en favor de estos.- La opinión de algunos propietarios de terrenos aguas abajo de los cortes propuestos, es favorable a la realización de ellos, aún cuando no pueden dichos propietarios manifestar en forma concreta su opinión acerca de si habría o no perjuicios para sus propiedades. Estiman que los cortes en el rio indudablemente producirían resultados favorables si se iniciasen de Fort Quitman hacia aguas arriba.

Sobre el lado mexicano: La opinión unánime de los interesados, es opuesta a la realización de los cortes. Las ideas dominantes son las siguientes: Por parte de los vecinos de Guadalupe: Temor que por la rectificación del río por obra de los cortes en proyecto, la corriente socave la margen mexicana en el lugar en que se encuentra establecida la boca-toma del canal de riego auxiliar de Guadalupe, produciendo así un descenso del nivel superficial del manjo de agua en el río, que pudiera poner en seco dicha boca-toma.

Además, se teme el efecto de socavación sobre la margen mexicana lo que puede acarrear la destrucción consecutiva de dicha toma por causa del mayor gasto que pudiera penetrar a esta última;

Por parte de los vecinos de Guadalupe y San Ignacio: Se teme la posibilidad de que en la serie de vueltas forzadas que el río presenta, aguas abajo de Guadalupe y San Ignacio, se depositara el azolve erosionada por la corriente lo que se traduciría en una sobre-elevación del plano de agua en frente de Guadalupe y hacia aguas abajo de dicha población, haciendo así más amenazadora la posición relativa del río con respecto de los terrenos abajo de Guadalupe y San Ignacio, los que ya en épocas anteriores han sido inundados, aumentando en consecuencia el peligro para dichos terrenos bajos.

Si se analizan.- las objeciones presentadas por los interesados del lado mexicano, se tiene: 1o.- Que el lugar de la boca-toma del canal de Guadalupe, se encuentra inmediatamente aguas abajo de los cortes propuestos; 2o.- Que el efecto erosivo de la corriente podría llegar a ser mas acentuado que en la actualidad, si llegaran a realizarse dichos cortes y como el recodo del río en el lugar de la boca-toma es entrante hacia el territorio nacional, es racional pensar que el efecto sobre la margen mexicana puede llegar a hacerse sentir

con bastante intensidad, para traer modificaciones de dicho margen.

Aunque parece algo problemático, quizás podría suceder que aguas abajo de dicho recodo que se acaba de considerar, pueda continuarse el efecto erosivo de la corriente, a una distancia que no es posible precisar, pero que estaría dada por el tramo del río en que el mismo es medianamente recto, es decir por el tramo inmediatamente anterior a la serie de vueltas forzadas que quedan en frente de Guadalupe, - siendo posible el depósito de material de acarreo en la parte de dicho tramo medianamente recto si es que en el mismo existe algún cambio brusco de la corriente, o aguas abajo, en la región de las vueltas bruscas en frente de Guadalupe. No teniendo el suscrito datos de nivelación, ni de anchos del río, en una zona razonable abajo de los cortes, no es posible prejuzgar con algún fundamento del resultado probable de los cortes proyectados; entendiéndolo el suscrito - que debe corresponder al Condado de El Paso, como interesado directo en la realización de dichos cortes, la presentación de planos, perfiles y secciones del río en la zona susceptible de modificaciones como consecuencia de los cortes propuestos, a fin de hacer posible de algún modo tomar con cierto asomo de fundamento, una resolución sobre este asunto.

Atendiendo a consideraciones de índole distinta a la de los daños posibles o probables que pueden determinar los cortes proyectados, tal como lo temen los rivereños mexicanos, la opinión personal del exponente, es que sentado por el Sr. L. M. Lawson y por el que suscribe el criterio que parece que debe gobernar el estudio de los problemas que entraña el Alto Río Bravo, la aceptación del proyecto formulado por el Condado de El Paso, parece absolutamente en contradicción con ese criterio fundamental que fue adoptado por los diversos interesados en la cuestión; de aceptarse el proyecto que ahora se presenta se sentaría un precedente que puede llegar a ser peligroso si posteriormente cualquiera otra Comunidad o grupo de intereses particulares, decidieran realizar en cualquier parte del recorrido del río, cortes en el mismo, pues sería de todo punto injustificado oponerse a dicha realización si llegara a sentarse el precedente de que hablo, a menos que se esgrimieran objeciones de política internacional, las que están fuera del alcance de la misión del suscrito.

Se ha expresado el argumento de que de no realizarse los cortes proyectados, podría presentarse el peligro de que el río mismo abriera su cauce cortando por alguno de los canales de drenaje establecidos en la Isla de San Elizario; en opinión del suscrito, este peligro no es tan real como parece, puesto que el Reclamation Service ha previsto al establecer sus canales de drenaje, la instalación de estructuras que denomina "chek structures" y que localizadas en los lugares de mayor peligro de dichos canales, tiene por objeto aislar la parte del canal que quede hacia aguas abajo de esas estructuras, confinando así el daño posible para las mismas, a la parte comprendida entre el río y dichas estructuras.

Proyectándose además los cortes de que se trata para el gasto controlable del río, esto es para un gasto de 3000 a 4000 pies cúbicos por segundo, según aseveración del Ingeniero del Condado, parece razonable recurrir como medidas de emergencia a aquellas que impidan la realización del corte probable del río hacia los canales de drenaje de la Isla, o que impidan daños a las obras de riego del distrito en cuestión, así como a la construcción del sistema de di-

-ques que impidan el desbordamiento del río hacia terrenos de labor, obras que llenando debidamente el objeto que se persigue de protección en la Zona de Fabens, no tienen el peligro de acarrear trastornos hacia aguas abajo del lugar de las obras proyectadas.

El criterio personal del suscrito, es que en general, cualquiera obra que se lleve a cabo en el río, no determine perjuicios a las zonas en cultivo y en donde se han verificado mejoras que significan inversión de sumas de dinero más o menos cuantiosas. Por lo que se refiere a Guadalupe y San Ignacio el suscrito cree que debe limitar su acción a impedir que haya daños posibles para las obras existentes de boca-toma de los canales de riego, sin entrar en consideraciones sobre si dichos canales han sido construidos con o sin derecho por los rivereros mexicanos; y basta con que pueda existir la posibilidad de daños para esas obras, para que el suscrito se incline en el caso presente, a que son de adoptarse obras de carácter de emergencia que no puedan determinar dichos daños, ya que de llevarse a cabo los cortes de que se trata, por una Entidad moral como la del Condado de El Paso, que cree el que esto escribe, no puede invertir ninguna suma de dinero fuera de sus propios límites, no podría garantizar los daños que se llevasen a cabo o que pudieran presentarse para la margen mexicana del río Bravo. Es esta razón la que impide fijar como condición para la realización de las obras, que las promotores de las mismas se hicieran responsables de los daños que esas obras ocasionaran.

Resumiendo todo lo anterior puede indicarse: 1o.- Que no existen datos ningunos que permitan prejuzgar con cierto fundamento si los cortes proyectados pueden determinar perjuicios hacia aguas abajo, ni mucho menos prejuzgar sobre la importancia de dichos perjuicios; 2o.- Que tratándose de una Entidad moral como la del Condado de El Paso, no puede racionalmente establecerse como condición para permitir la realización de los cortes, la de que dicho Condado aceptase la responsabilidad consecutiva a la verificación de la obra; 3o.- Que la opinión unánime de los rivereros mexicanos es opuesta a la rectificación del río; 4o.- Que la opinión del suscrito es opuesta a la rectificación radical del río, máxime cuando puede existir la posibilidad de daños a intereses de cualquier índole como consecuencia de dichos trabajos; 5o.- Que la opinión pública del lado americano se inclina a la realización de dichos cortes si los mismos se verifican comenzando de Fort Quitman hacia aguas arriba, criterio por demás racional; 6o.- Que no habiéndose aún verificado trabajos de emergencia en la Zona que se pretende proteger, parece racional indicar que debe darse preferencia a la ejecución de obras de emergencia distintas de los cortes mismos, y dejar estos últimos para cuando la experiencia demostrara que otro tipo de obras de emergencia no proporcionara resultado satisfactorio.

Con todo respeto.

*S. amp*

(translation)

C. Juárez, Chih., June 10, 1924.

REPORT TO THE BOUNDARY COMMISSIONERS ON THE PROPOSED CUT-OFFS BY THE COUNTY OF EL PASO, ON THE AMERICAN SIDE OF THE RIVER, IN THE VICINITY OF FABENS.

SUBJECT: The proposed cut-offs by the County of El Paso are submitted to the personal judgment of the undersigned.

The result of the public hearings held at Tornillo and Guadalupe in regard to the proposed cut-offs on the American side of the Rio Grande, near Fabens, proposed by the County of El Paso can be synthesized as follows:

On the American side: The unanimous opinion of the land-owners within the zone taken up by the proposed cut-offs, is decidedly in favor of same. The opinion of some of the land owners below the proposed cut-offs, is favorable to them, even when said land-owners can not state in a concrete form their opinion as to whether or not there would be any damages done to their properties. They estimate that the cut-offs in the river would undoubtedly produce favorable results if they were started from Fort Quitman and go up-stream.

On the Mexican side: The unanimous opinion of the interested parties, is opposed to the cut-offs. The prevailing ideas are the following: On the part of the residents of Guadalupe and vicinity: Fear that on account of the straightening of the river by means of the proposed cut-offs, the current would undermine the river-bank on the Mexican side where the in-take of the auxiliary irrigation canal of Guadalupe is situated, and lower the level of the water in the river which would make this canal dry.

Furthermore, it is feared that on account of the undermining on the Mexican side greater waste would come down and destroy said in-take.

In what concerns the residents of Guadalupe and San Ignacio: It is feared that on account of the series of sharp bends on the river below Guadalupe and San Ignacio, the erosive silt carried by the current would produce a super-elevation of the water-levels in front of Guadalupe and further down, causing a threatening position of the river in regard to lands below Guadalupe and San Ignacio which on past years have been inundated, and increasing therefore the danger for said low-lands.

If we analyze the objections of the interested parties of the Mexican side, we have: 1st.--That the place of intake of the canal of Guadalupe is situated immediately below the proposed cut-offs; 2nd.-- That the erosive effect of the current would become more pronounced than at present, if said cut-offs were made and as the bends of the river where the in-take is situated is directed towards national territory, it is reasonable to think that the effect on the Mexican bank can be felt with sufficient force to create changes on said bank.

Although it appears somewhat disputable, perhaps it could happen that the water below said bend would continue the erosive effect of the current for such a distance, as is not possible to figure, but would be regulated by that portion of the river where it is straighter--that is to say, by the portion immediately before the series of sharp bends that are in front of Guadalupe, and deposits of silt being possible in that portion if there is a sudden change of the current, or below, in the region of the sharp curves (bends) in front of Guadalupe. The undersigned not having data of levels, or width of the river, of a fairly large zone below the cut-offs, it is impossible to pre-judge with any foundation as to the probable result of the proposed cut-offs. The undersigned understands that the County of El Paso as the interested party in the making of these cut-offs, should furnish plans, contours and sections of the river of the zone susceptible to changes on account of the proposed cut-offs, in order to pass judgment with some foundation on the decision of the matter.

Taking into consideration a distinct inclination from the possible or probable damages which could come from the cut-offs as feared by the Mexican property-owners adjoining the river, the personal opinion of the exponent, and established by Mr. L. M. Lawson and by the undersigned that it appears as if a study should govern the problem in the Upper Rio Grande, and the <sup>adoption of the</sup> project formulated by the County of El Paso appears to be in absolute contradiction with that fundamental judgment adopted by the different interested parties; in accepting the project now presented, a precedent would be established that could be dangerous if hereafter any other community, or group of interested persons decide to make cut-offs in any part of the length of the river, and it would be an injustice to oppose such projects if the precedent was established - unless objections would arise of international policy which are not included in the mission of the undersigned.

The argument has been brought up that in not making the proposed cut-offs, the danger of the opening of a new channel or cutting through one of the irrigation canals in the Island of San Elizario would be probable; but in the opinion of the undersigned, this danger is not so certain, as it appears, notwithstanding that the Reclamation Service has established on their irrigation canals the installation of structures known as "check structures" places at the places where the danger is greater; these structures have for their object the isolation of that part of the canal which is below said structure, confining the possible danger to same to that part comprised between the river and said structures.

Planning the cut-offs referred to, to the controlled waste of the river - a waste of 3,000 to 4,000 cubic feet, according to the County Engineer, it appears reasonable to take emergency measures to prevent the probable cutting of the river towards the irrigation canals of the Island or such as would prevent damages to the irrigation works in the district in question, as well as the construction of a dyke system which will prevent the overflowing of the river into agru

river into agricultural lands ---works which are made for protection purposes in the vicinity of Fabens and would not make any changes below the same.

The personal judgment of the undersigned, is that, in general, any work made in the river should not be harmful to the agricultural zones where there are improvements of more or less large amounts of money. In what concerns Guadalupe and San Ignacio, the undersigned believes that he should limit his action to preventing possible damages to the in-takes of the irrigation canals without taking into consideration if said canals have been constructed with or without right by the citizens of Mexico; and it is enough that there exists the possibility of damages to those works; and the undersigned would be inclined in the present case that emergency measures be taken that would not cause said damages, seeing that to make the proposed cut-offs by the County of El Paso (Entidad moral - moral entity) which the undersigned believes could not spend any sum of money outside of its proper boundaries, they could not therefore guarantee the damages which might happen on the Mexican side of the Rio Grande. This is the reason that prevents the fixing of a condition for the making of the cut-offs, to wit: that the promoters of the same would make themselves responsible for damages done by said cuts.

In resumé, the foregoing is as follows: 1st.-That there exists no data in order to pre-judge with reason if the proposed cut-offs would cause damages below--much less judge on the importance of said damages. 2nd.- That treating of an (Entidad moral - moral entity) as the County of El Paso, the condition that said County agrees to take a consecutive responsibility to the making of the cuts, cannot reasonably be established. 3rd.- That the unanimous opinion of the Mexican property-owners along the river is opposed to the straightening of the river. 4.- That the opinion of the undersigned is opposed to the radical straightening of the river when there exists the possibility of damages to any class of interests by such works. 5.- That the public opinion on the American side is inclined to the making of the said cuts if the same are made from Fort Quitman (beginning at Fort Quitman)--judgment uselessly reasonable. 6.-That by not having constructed emergency works in the zone to be protected, it seems reasonable to indicate that preference should be given to the construction of emergency works different from said cuts, and leave these latter for when experience would show that another class of emergency works would not give a satisfactory result.

Respectfully,

(signed) A. ARROYO

DEPARTMENT OF THE INTERIOR  
UNITED STATES RECLAMATION SERVICE

El Paso, Texas,  
June 11, 1924.

International Boundary Commission,  
First National Bank Building,  
El Paso, Texas.

Sirs:

You have referred to the writer for report a plan submitted to you by the County Engineer, of El Paso County, covering certain changes in the Rio Grande in that portion of its course in the El Paso Valley between Boundary Monuments Numbers 1 and 21. This section of the river, due to avulsive change in 1857, lies wholly in the United States, but it has been construed by your commission that such river changes as may be deemed advisable should be approved by the Boundary Commission. The plan of the County Engineer contemplates six changes in the river's course, three of which are in the nature of distinct cut-offs, wholly outside of the present normal channel and the river banks, and three which propose moderation of short bends.

The entire course between El Paso and Fort Quitman, by reason of the absence of large floods and the encroachment of improvements and irrigation and drainage works, has become more restricted, and meanders that were formerly shortened by excessive discharge have become more tortuous through the inability of the decreased flow to successfully discharge the sediment delivered to it and accumulated from upper river sources. The symptoms of this condition of rising river bed have manifested themselves at various points along the river where low areas are now flooded by slight increases in discharge, or where lengthening meanders now threaten improvements.

Two conditions must be fulfilled in considering plans for river control work, even in sections where the work is more or less of a local character and for local benefit,- first, the normal discharge for irrigation use, and, second, the arroyo and flood discharges from upper river sources. The minimum, or first condition, is between 500 and 1,000 second feet, and the second, or maximum condition, can be assumed at approximately 10,000 second feet. The conditions involved in what is known as the Hanson-Elam cut-offs are largely different from those of the other three suggested. At this point three separate cuts are proposed where the river has now a normal length of three miles. The cut-offs will affect the shortening to approximately one-third of



this distance. The river course above and below this point has no dissimilar characteristics to any other portion, in that there is no more favorable condition below for it to carry off the accumulated sediment than in other places, and the introduction of a radical river shortening cannot but have its effect in depositing eroded material, with no opportunity for its discharge beyond the limits where such disposition would cause no damage. The greater the scouring action in the proposed cut-offs, accompanied by the greater relief, would mean the more damaging effect below. The present condition of the river bed below the proposed cut-offs is such that any increase in the deposit of sediment would increase the present difficulties, and the good which may be accomplished to lands where the river would be slightly lowered would be of no benefit to other lands below, and these would require adequate protection by levees and drains.

In this connection, attention is called to the fact that where artificial cut-offs have been made in the past at the Cordova Island and at the head of the San Elizario Island the flood and seepage conditions are now more serious and more noticeable than at other points, and it can be reasonably expected that with attempts to improve conditions in certain localities, without giving consideration to the entire problem, that the number of such menaced areas will increase.

The agency involved in such work would naturally be held responsible for conditions arising as a result of such cut-offs. With a relatively small amount of water being discharged in the river, such as is normally required for irrigation, it might be difficult to actually distinguish between the results directly attributed to such work, and those which would normally occur. Any claims could be set up by land owners below in either or both countries involved. The entire good or bad effect of radical shortening would depend upon the amount of water being discharged. The work proposed would be of practically no benefit as a protection measure in case of large floods, although some good would be accomplished to the individuals' lands at the cut-off, and remove at that particular point the present danger of erosion of irrigation canal and damage to drainage works at times of normal discharge. The above applies to the plan for cut-offs at the Hanson-Elam location. The three other proposed changes are of less pronounced nature, and should have little or no effect in silting or scouring the river bed, but will permit extension of irrigation and drainage facilities to areas now impossible to reach.

#### RECOMMENDATIONS

It is requested that you authorize the work to proceed along the lines of shortening the bends in the present river to reduce sharp

impingement, and that these channel changes be confined, as far as possible, within flood banks, rather than the radical elimination of meanders, this work to be contingent upon providing effective bank protection work to prevent further encroachments by river cutting.

Respectfully submitted,

*D. W. Lawson.*

Engineer representing  
United States Federal Government.