

Texas Department of Transportation

13301 GATEWAY BLVD. WEST • EL PASO TX 79928-5410 • (915) 790-4200

May 17, 2013

Mr. Duane C. Price, PLS, RLS
Boundary and Realty Officer
United States International Boundary and Water Commission (USIBWC)
7171 North Mesa Street, Suite C-100
El Paso, Texas 79902-1441

RE: Loop 375 - Border Highway West Extension Project
Control-Section-Job: 2552-04-027

Dear Mr. Price:

This letter along with the enclosures is the official request from the Texas Department of Transportation for licensing the seven (7) drainage structures that outfall to the Rio Grande River. The limits of these outfall structures are from Racetrack Drive to the proposed Loop 375/Coles Street interchange.

The following table lists the structure, type, improvement, and brief description of the work to be constructed. The table below along with the attached Hydrologic Calculations Comparison Table and the Preliminary Engineering Detailed Drawings complete the require license checklist.


OUTFALL STRUCTURE ID	STRUCTURE TYPE	IMPROVEMENT	BRIEF DESCRIPTION OF THE WORK
O-1A	24" RCP	New reinforced concrete pipe outfall	Grading, concrete headwall, grate inlets, and storm sewer system outfalling to the Rio Grande River
*O-2	2-10'X5' MCBC	New multiple concrete box culvert	Grading, concrete wing walls, junction boxes with storm sewer system connections, and concrete boxes outfalling to the Rio Grande River
*O-5	2-6'X4' MCBC	New multiple concrete box culvert	Grading, concrete wing walls, junction boxes with storm sewer system connections, and concrete boxes outfalling to the Rio Grande River
*O-14	10'X4' CBC	New concrete box culvert	Grading, concrete wing walls, junction boxes with storm sewer system connections, and concrete box outfalling to the Rio Grande River

OUTFALL STRUCTURE ID	STRUCTURE TYPE	IMPROVEMENT	BRIEF DESCRIPTION OF THE WORK
O-26	2-10'X4' MCBC	Existing multiple concrete box culvert	junction boxes and storm sewer system connections to existing concrete boxes
O-27	36" RCP	New reinforced concrete pipe outfall	Grading, concrete headwall, junction box, grate inlets, and storm sewer system connection to the reinforced concrete pipe outfalling to the Rio Grande River
O-38	36" RCP	New reinforced concrete pipe outfall (upgrade existing 24" RCP outfall)	Grading, levee penetration, concrete headwall, junction box, grate inlets, and storm sewer system connection to reinforced concrete pipe outfalling to the Rio Grande River

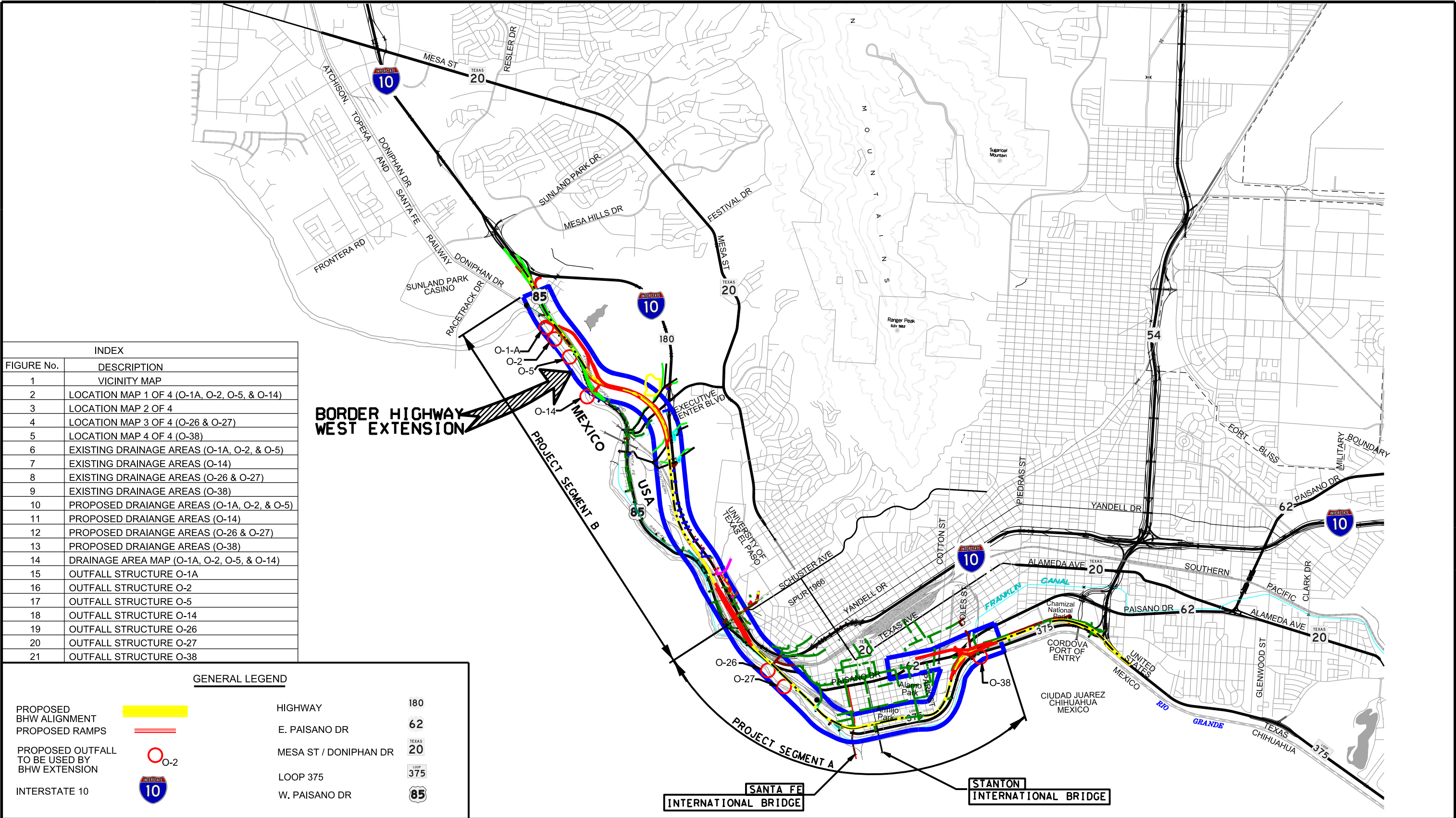
* These structures have been identified in the proposed levee improvement plans prepared by IBWC and these structures will be upgraded (increase capacity) based on the 90% Plans of the Courchesne Reach and Nemexas Reach Canalization Project Phase 2 (Courchesne East Levee Station 1982+00 to Station 1987+80).

We look forward for the concurrence from IBWC and the issuance of the license for these outfall structures critical for the continued development of the Border Highway West Extension Project.

Sincerely,


for Robert Bielek, DPA, P.E.
District Engineer

Enclosures: Calculations and Comparison Table for IBWC Outfalls along for the BHW
Preliminary Engineering Detailed Drawings, Dated May 16, 2013



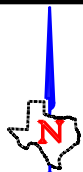
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5	LOCATION MAP 4 OF 4 (O-38)
6	EXISTING DRAINAGE AREAS (O-1A, O-2, & O-5)
7	EXISTING DRAINAGE AREAS (O-14)
8	EXISTING DRAINAGE AREAS (O-26 & O-27)
9	EXISTING DRAINAGE AREAS (O-38)
10	PROPOSED DRAINAGE AREAS (O-1A, O-2, & O-5)
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21	OUTFALL STRUCTURE O-38

GENERAL LEGEND

PROPOSED BHW ALIGNMENT
PROPOSED RAMPS
PROPOSED OUTFALL TO BE USED BY BHW EXTENSION
INTERSTATE 10

HIGHWAY
E. PAISANO DR
MESA ST / DONIPHAN DR
LOOP 375
W. PAISANO DR

180
62
20
375
85



0 2500 5000 7500
SCALE IN FEET

PRELIMINARY

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NAME PE# Date

MCI FIRM TEXAS REGISTRATION NUMBER: F-000554

DATE: MAY 16, 2013



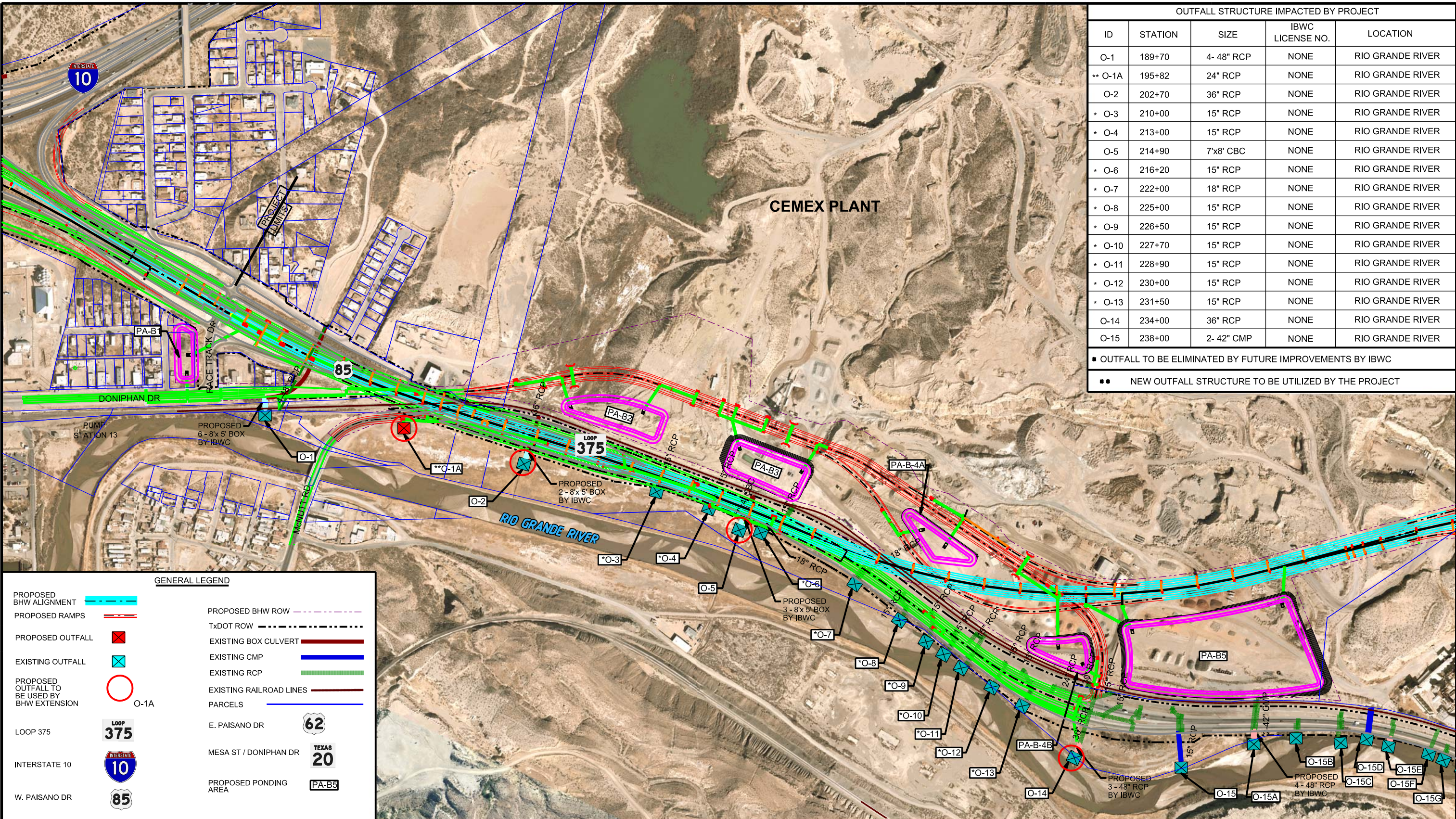
Loop 375 Border Highway West Extension Project
From Racetrack Drive to East of Park Street
VICINITY MAP

TxDOT El Paso District
CSJ: 2552-04-027

User: jesse

...\\Figure *2*Outfalls Locations.dgn

DATE: 5/14/2013 TIME: 10:27:13 AM FILE:



OUTFALL STRUCTURE IMPACTED BY PROJECT				
ID	STATION	SIZE	IBWC LICENSE NO.	LOCATION
O-1	189+70	4- 48" RCP	NONE	RIO GRANDE RIVER
** O-1A	195+82	24" RCP	NONE	RIO GRANDE RIVER
O-2	202+70	36" RCP	NONE	RIO GRANDE RIVER
* O-3	210+00	15" RCP	NONE	RIO GRANDE RIVER
* O-4	213+00	15" RCP	NONE	RIO GRANDE RIVER
O-5	214+90	7"x8" CBC	NONE	RIO GRANDE RIVER
* O-6	216+20	15" RCP	NONE	RIO GRANDE RIVER
* O-7	222+00	18" RCP	NONE	RIO GRANDE RIVER
* O-8	225+00	15" RCP	NONE	RIO GRANDE RIVER
* O-9	226+50	15" RCP	NONE	RIO GRANDE RIVER
* O-10	227+70	15" RCP	NONE	RIO GRANDE RIVER
* O-11	228+90	15" RCP	NONE	RIO GRANDE RIVER
* O-12	230+00	15" RCP	NONE	RIO GRANDE RIVER
* O-13	231+50	15" RCP	NONE	RIO GRANDE RIVER
O-14	234+00	36" RCP	NONE	RIO GRANDE RIVER
O-15	238+00	2- 42" CMP	NONE	RIO GRANDE RIVER
■ OUTFALL TO BE ELIMINATED BY FUTURE IMPROVEMENTS BY IBWC				
■■ NEW OUTFALL STRUCTURE TO BE UTILIZED BY THE PROJECT				

0 250 500 750

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Texas Department of Transportation

MCI Moreno Cardenas Inc.

HALFF

Loop 375 Border Highway West Extension Project

From Racetrack Drive to East of Park Street

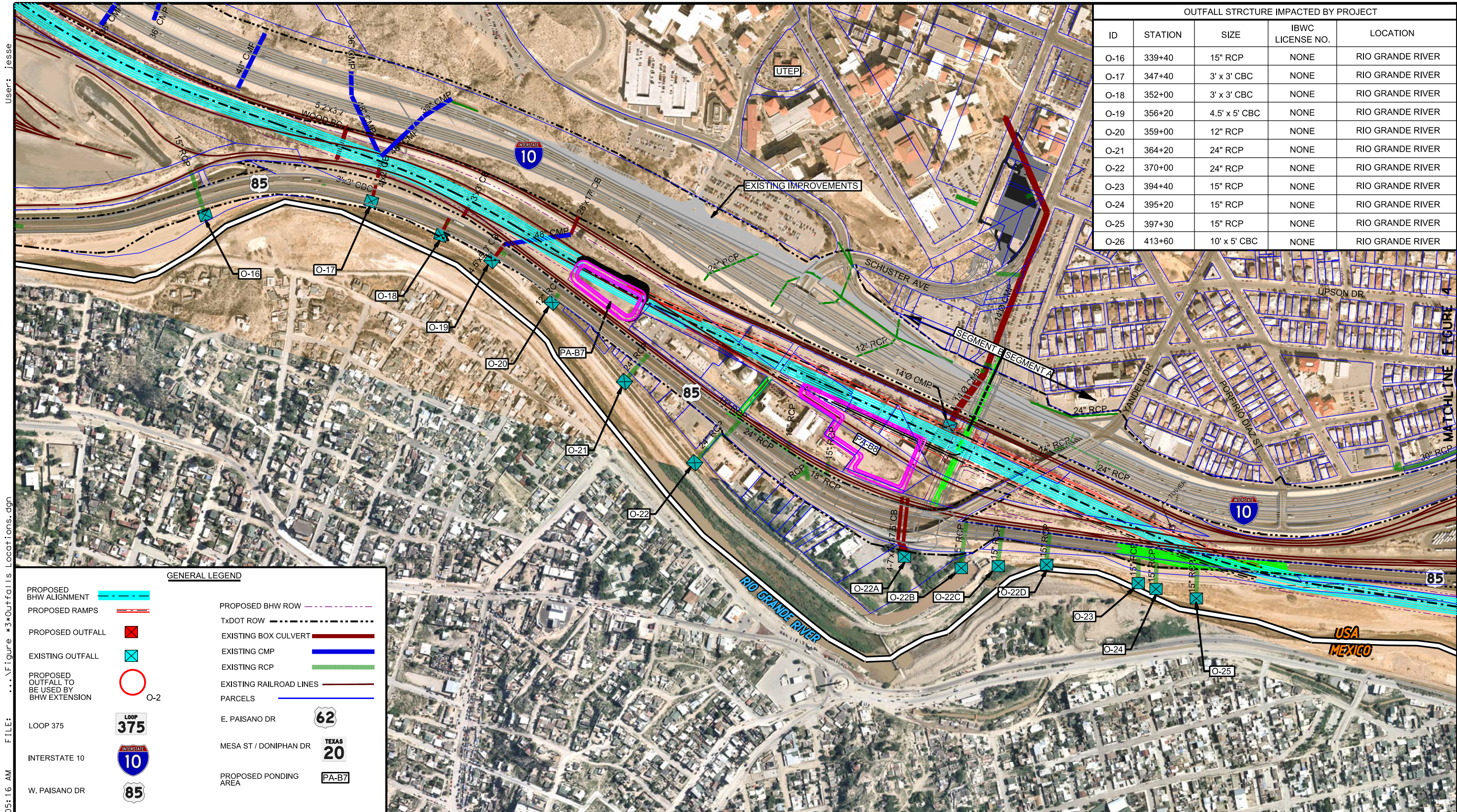
(OUTFALLS TO RIO GRANDE RIVER)

LOCATION MAP 1 OF 4

TxDOT El Paso District

CSJ: 2552-04-027

FIGURE 2



OUTFALL STRUCTURE IMPACTED BY PROJECT				
ID	STATION	SIZE	IBWC LICENSE NO.	LOCATION
O-16	339+40	15" RCP	NONE	RIO GRANDE RIVER
O-17	347+40	3' x 3' CBC	NONE	RIO GRANDE RIVER
O-18	352+00	3' x 3' CBC	NONE	RIO GRANDE RIVER
O-19	356+20	4.5' x 5' CBC	NONE	RIO GRANDE RIVER
O-20	359+00	12" RCP	NONE	RIO GRANDE RIVER
O-21	364+20	24" RCP	NONE	RIO GRANDE RIVER
O-22	370+00	24" RCP	NONE	RIO GRANDE RIVER
O-23	394+40	15" RCP	NONE	RIO GRANDE RIVER
O-24	395+20	15" RCP	NONE	RIO GRANDE RIVER
O-25	397+30	15" RCP	NONE	RIO GRANDE RIVER
O-26	413+60	10' x 5' CBC	NONE	RIO GRANDE RIVER

GENERAL LEGEND

PROPOSED BHW ALIGNMENT

PROPOSED RAMP

PROPOSED OUTFALL

EXISTING OUTFALL

PROPOSED OUTFALL TO BE USED BY BHW EXTENSION

LOOP 375

INTERSTATE 10

W. PAISANO DR

PROPOSED BHW ROW

TxDOT ROW

EXISTING BOX CULVERT

EXISTING CMP

EXISTING RCP

EXISTING RAILROAD LINES

PARCELS

E. PAISANO DR

MESA ST / DONIPHAN DR

PROPOSED PONDING AREA

O-2

TEXAS 62

TEXAS 20

PA-B7

DATE: 5/14/2013

TIME: 9:05:16 AM

FILE: ...Figure *3*Outfalls Locations.dgn

User: jesse

0 250 500 750

SCALE IN FEET

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CITY OF EL PASO

PROJECT AREA

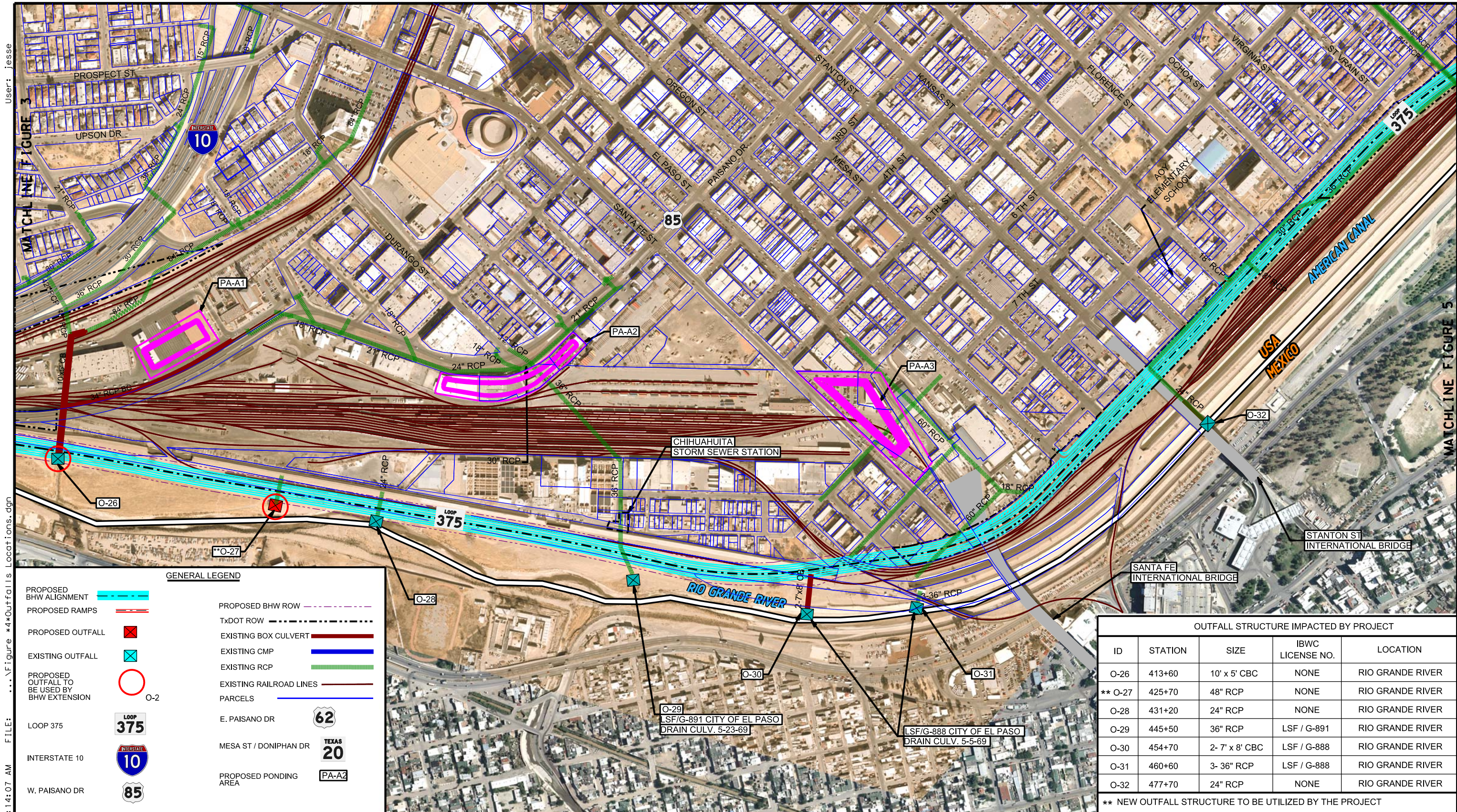
MCi Moreno Cardenas Inc.
consulting engineers
TEXAS REGISTRATION # F-000554

HALFF
TRANSPORTATION
FIRM # F-112

Loop 375 Border Highway West Extension Project
From Racetrack Drive to East of Park Street
(OUTFALLS TO RIO GRANDE RIVER)
LOCATION MAP 2 OF 4

TxDOT El Paso District
CSJ: 2552-04-027

FIGURE 3



GENERAL LEGEND

PROPOSED BHW ALIGNMENT:

PROPOSED RAMP:

PROPOSED OUTFALL:

EXISTING OUTFALL:

PROPOSED OUTFALL TO BE USED BY BHW EXTENSION:

LOOP 375:

INTERSTATE 10:

W. PAISANO DR:

PROPOSED BHW ROW:

TxDOT ROW:

EXISTING BOX CULVERT:

EXISTING CMP:

EXISTING RCP:

EXISTING RAILROAD LINES:

PARCELS:

E. PAISANO DR:

MESA ST / DONIPHAN DR:

PROPOSED PONDING AREA:

OUTFALL STRUCTURE IMPACTED BY PROJECT				
ID	STATION	SIZE	IBWC LICENSE NO.	LOCATION
O-26	413+60	10' x 5' CBC	NONE	RIO GRANDE RIVER
** O-27	425+70	48" RCP	NONE	RIO GRANDE RIVER
O-28	431+20	24" RCP	NONE	RIO GRANDE RIVER
O-29	445+50	36" RCP	LSF / G-891	RIO GRANDE RIVER
O-30	454+70	2- 7' x 8' CBC	LSF / G-888	RIO GRANDE RIVER
O-31	460+60	3- 36" RCP	LSF / G-888	RIO GRANDE RIVER
O-32	477+70	24" RCP	NONE	RIO GRANDE RIVER
** NEW OUTFALL STRUCTURE TO BE UTILIZED BY THE PROJECT				

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0 250 500 750
SCALE IN FEET

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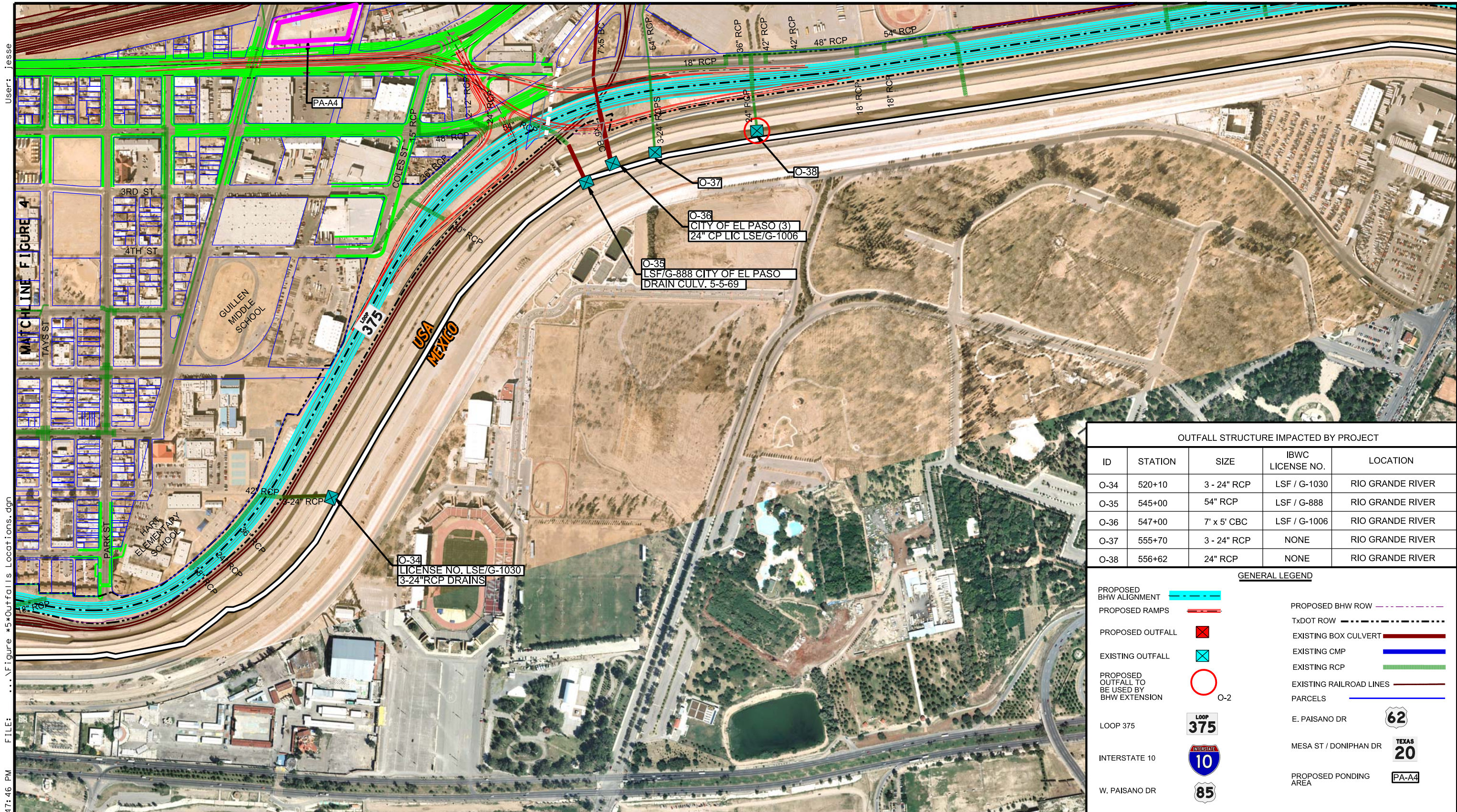
CITY OF EL PASO

PROJECT AREA

Loop 375 Border Highway West Extension Project
From Racetrack Drive to East of Park Street
(OUTFALLS TO RIO GRANDE RIVER)
LOCATION MAP 3 OF 4

TxDOT El Paso District
CSJ: 2552-04-027

FIGURE 4



OUTFALL STRUCTURE IMPACTED BY PROJECT				
ID	STATION	SIZE	IBWC LICENSE NO.	LOCATION
O-34	520+10	3 - 24" RCP	LSF / G-1030	RIO GRANDE RIVER
O-35	545+00	54" RCP	LSF / G-888	RIO GRANDE RIVER
O-36	547+00	7' x 5' CBC	LSF / G-1006	RIO GRANDE RIVER
O-37	555+70	3 - 24" RCP	NONE	RIO GRANDE RIVER
O-38	556+62	24" RCP	NONE	RIO GRANDE RIVER

GENERAL LEGEND

PROPOSED BHW ALIGNMENT

PROPOSED RAMP

PROPOSED OUTFALL

EXISTING OUTFALL

PROPOSED OUTFALL TO BE USED BY BHW EXTENSION

LOOP 375

INTERSTATE 10

W. PAISANO DR

PROPOSED BHW ROW

TXDOT ROW

EXISTING BOX CULVERT

EXISTING CMP

EXISTING RCP

EXISTING RAILROAD LINES

PARCELS

E. PAISANO DR

MESA ST / DONIPHAN DR

PROPOSED PONDING AREA

O-2

TEXAS 62

TEXAS 20

PA-A4

DATE: 5/15/2013

TIME: 1:47:46 PM

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User: Jesse

0 250 500 750

SCALE IN FEET

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CITY OF EL PASO

Loop 375 Border Highway West Extension Project

From Racetrack Drive to East of Park Street

(OUTFALLS TO RIO GRANDE RIVER)

LOCATION MAP 4 OF 4

TxDOT El Paso District
CSJ: 2552-04-027

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consulting engineers

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TRC FIRM #E-312

Texas Department of Transportation

FIGURE 5

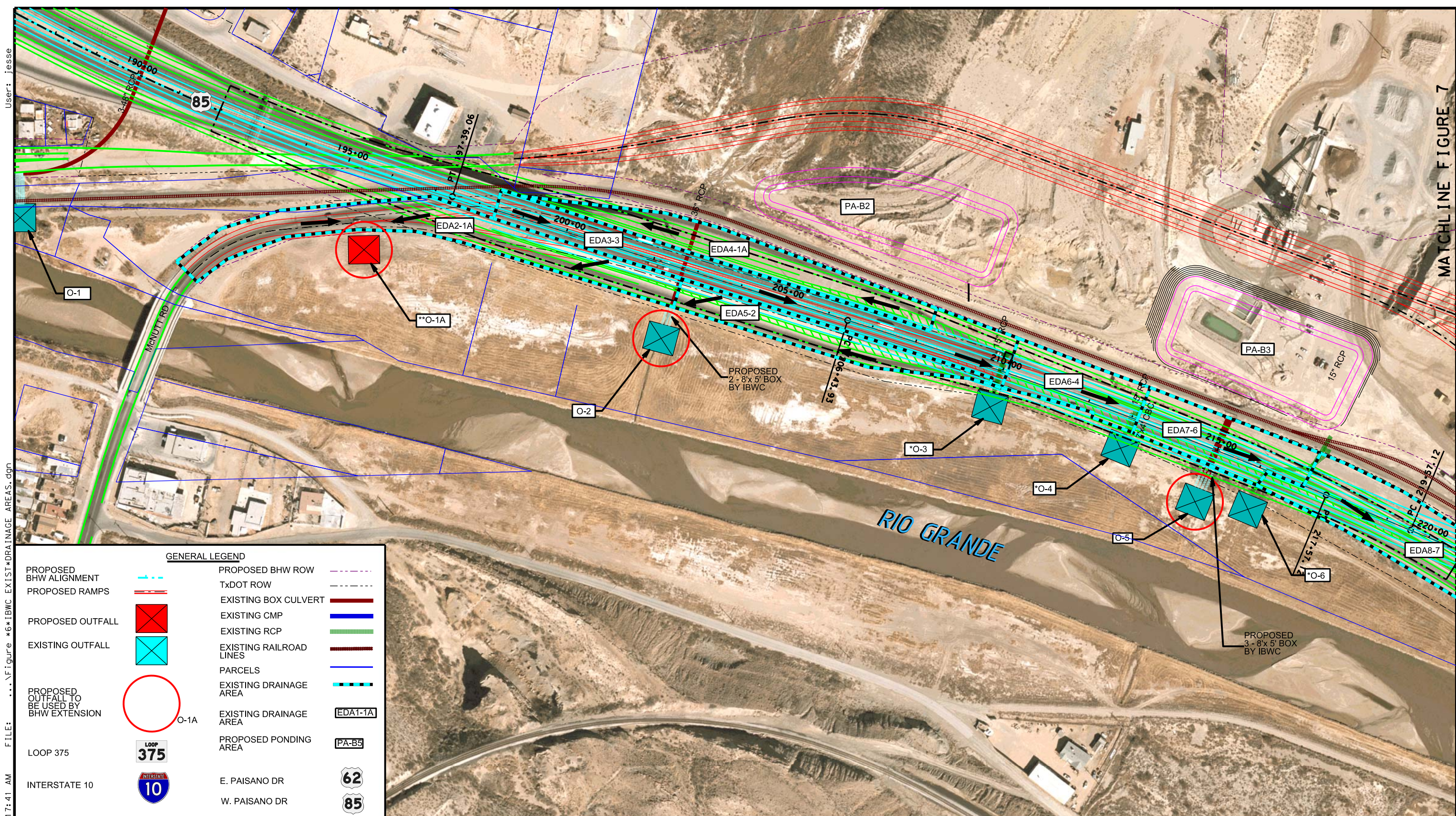
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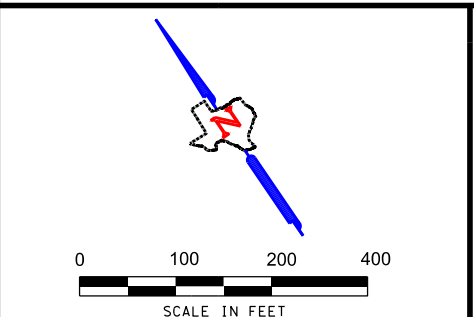
DATE: 5/16/2013

MATCHLINE FIGURE 7



GENERAL LEGEND

PROPOSED BHW ALIGNMENT		PROPOSED BHW ROW	
PROPOSED RAMPS		TxDOT ROW	
PROPOSED OUTFALL		EXISTING BOX CULVERT	
EXISTING OUTFALL		EXISTING CMP	
PROPOSED OUTFALL TO BE USED BY BHW EXTENSION		EXISTING RCP	
LOOP 375		EXISTING RAILROAD LINES	
INTERSTATE 10		PARCELS	
		EXISTING DRAINAGE AREA	
		EXISTING DRAINAGE AREA	
		PROPOSED PONDING AREA	
		E. PAISANO DR	
		W. PAISANO DR	



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Loop 375 Border Highway West Extension Project
From Racetrack Drive to East of Park Street

**(OUTFALLS TO RIO GRANDE RIVER)
EXISTING DRAINAGE AREAS**

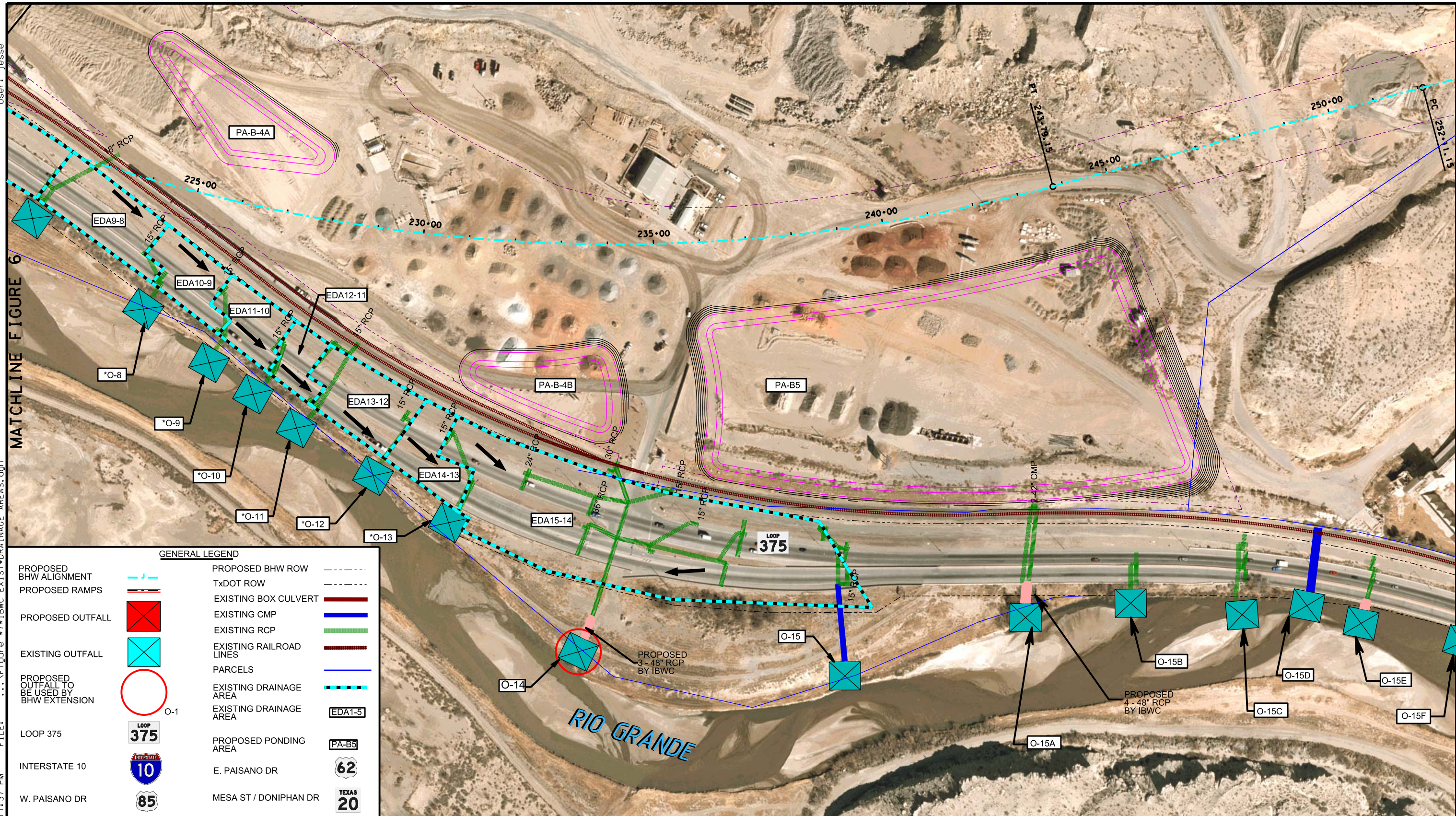
TxDOT El Paso District
CSJ: 2552-04-027

Moreno Cardenas Inc.
consulting engineers
TEXAS REGISTRATION # F-000554

HALFF
TRC FIRM #E-512

FIGURE 6

User: jesse
...Figure *7*IBWC EXIST*DRAINAGE AREAS.dgn
FILE:
DATE: 5/15/2013 TIME: 5:11:37 PM



GENERAL LEGEND

PROPOSED BHW ALIGNMENT	PROPOSED RAMP	PROPOSED OUTFALL	EXISTING OUTFALL	PROPOSED OUTFALL TO BE USED BY BHW EXTENSION	LOOP 375	INTERSTATE 10	W. PAISANO DR
PROPOSED BHW ROW	TxDOT ROW	EXISTING BOX CULVERT	EXISTING CMP	EXISTING RCP	EXISTING RAILROAD LINES	PARCELS	EXISTING DRAINAGE AREA
EXISTING DRAINAGE AREA	EXISTING DRAINAGE AREA	PROPOSED PONDING AREA	E. PAISANO DR	MESA ST / DONIPHAN DR			

Scale: 0 100 200 300
SCALE IN FEET

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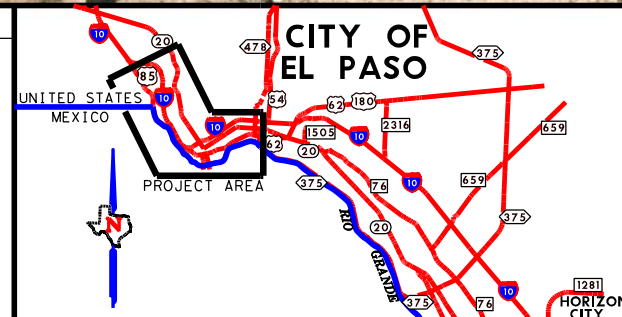
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TRC FIRM #E-512

Texas Department of Transportation

Loop 375 Border Highway West Extension Project
From Racetrack Drive to East of Park Street

**(OUTFALLS TO RIO GRANDE RIVER)
EXISTING DRAINAGE AREAS**

TxDOT El Paso District
CSJ: 2552-04-027

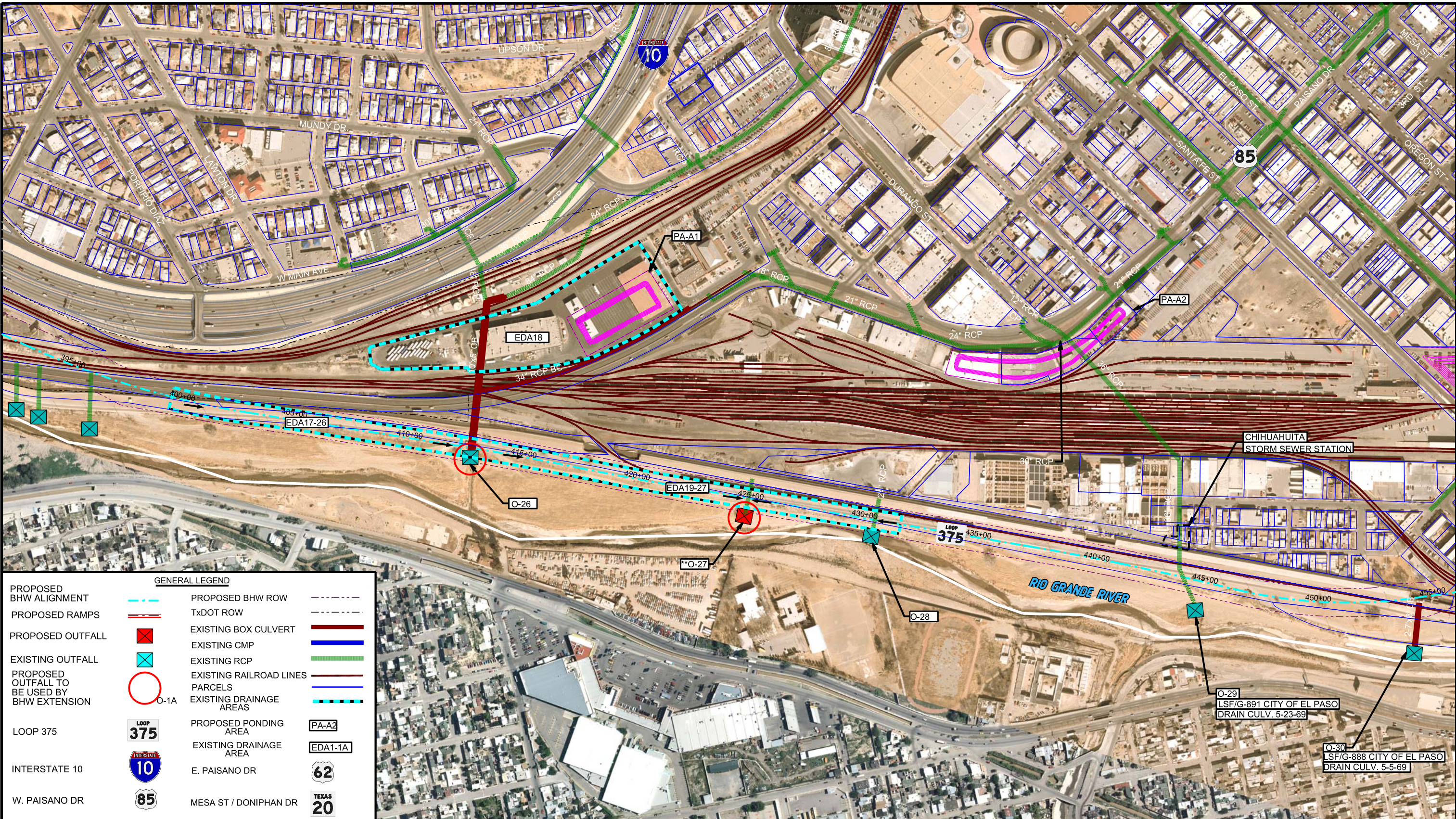
FIGURE 7

User: jesse

...\\Figure *8*IBWC EXIST* DRAINAGE AREAS.dgn

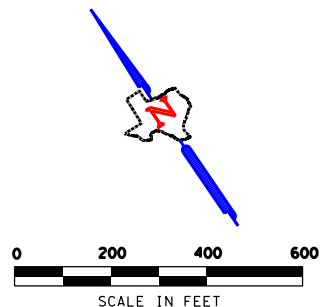
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DATE: 5/15/2013



GENERAL LEGEND

PROPOSED BHW ALIGNMENT	--- --	PROPOSED BHW ROW	--- --
PROPOSED RAMPS	==	TxDOT ROW	---
PROPOSED OUTFALL	⊠	EXISTING BOX CULVERT	---
EXISTING OUTFALL	⊠	EXISTING CMP	---
PROPOSED OUTFALL TO BE USED BY BHW EXTENSION	⊠	EXISTING RCP	---
	⊠	EXISTING RAILROAD LINES	---
	⊠	PARCELS	---
	⊠	EXISTING DRAINAGE AREAS	---
	⊠	PROPOSED PONDING AREA	PA-A2
	⊠	EXISTING DRAINAGE AREA	EDA1-1A
	⊠	E. PAISANO DR	62
	⊠	MESA ST / DONIPHAN DR	TEXAS 20
LOOP 375	375		
INTERSTATE 10	10		
W. PAISANO DR	85		



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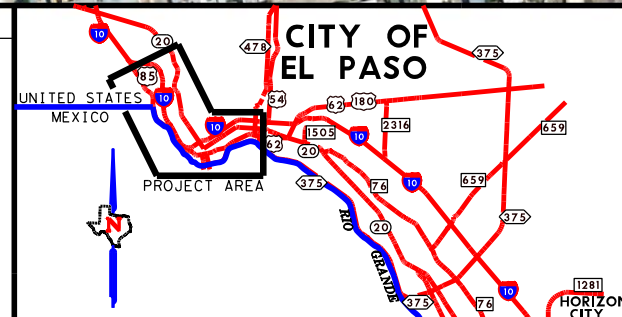
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consulting engineers
TEXAS REGISTRATION # F-000554

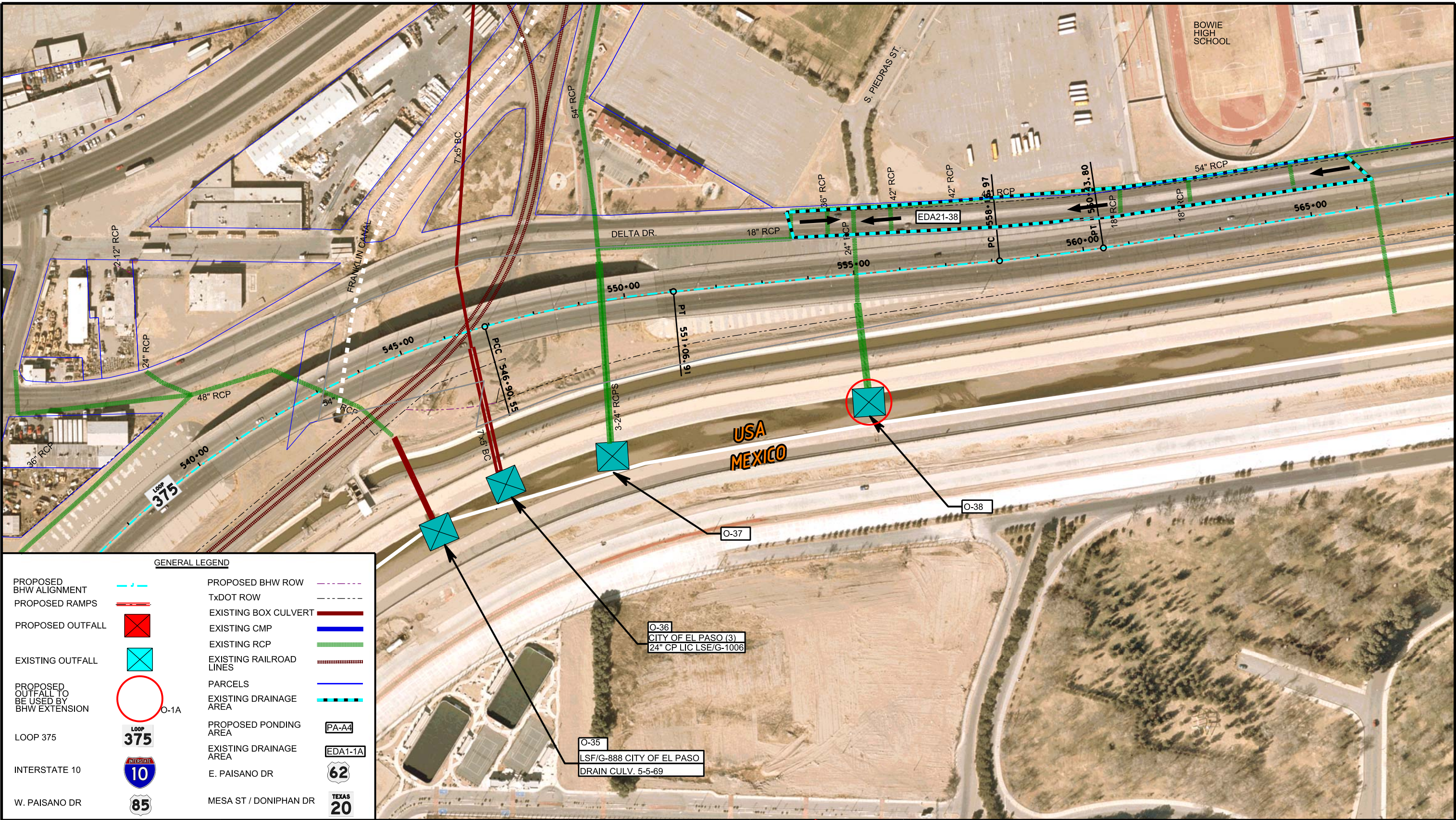
HALFF
TRC FIRM # F-12

Loop 375 Border Highway West Extension Project
From Racetrack Drive to East of Park Street

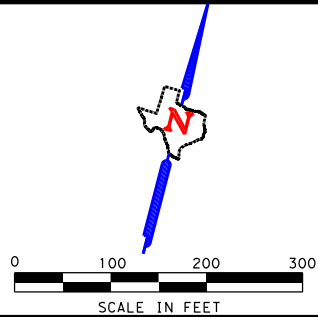
(OUTFALLS TO RIO GRANDE RIVER) EXISTING DRAINAGE AREAS

TxDOT El Paso District
CSJ: 2552-04-027

FIGURE 8



GENERAL LEGEND			
PROPOSED BHW ALIGNMENT		PROPOSED BHW ROW	
PROPOSED RAMPS		TxDOT ROW	
PROPOSED OUTFALL		EXISTING BOX CULVERT	
EXISTING OUTFALL		EXISTING CMP	
PROPOSED OUTFALL TO BE USED BY BHW EXTENSION		EXISTING RCP	
	O-1A	EXISTING RAILROAD LINES	
LOOP 375		PARCELS	
INTERSTATE 10		EXISTING DRAINAGE AREA	
W. PAISANO DR		PROPOSED PONDING AREA	
		EXISTING DRAINAGE AREA	
		E. PAISANO DR	
		MESA ST / DONIPHAN DR	



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NAME PE# Date

MCI FIRM TEXAS REGISTRATION NUMBER: F-000554

DATE: MAY 16, 2013



Texas Department of Transportation

MCI Moreno Cardenas Inc.
consulting engineers
TEXAS REGISTRATION # F-000554

HALFF
TRC FIRM #E-512

Loop 375 Border Highway West Extension Project
From Racetrack Drive to East of Park Street

(OUTFALLS TO RIO GRANDE RIVER)
EXISTING DRAINAGE AREAS

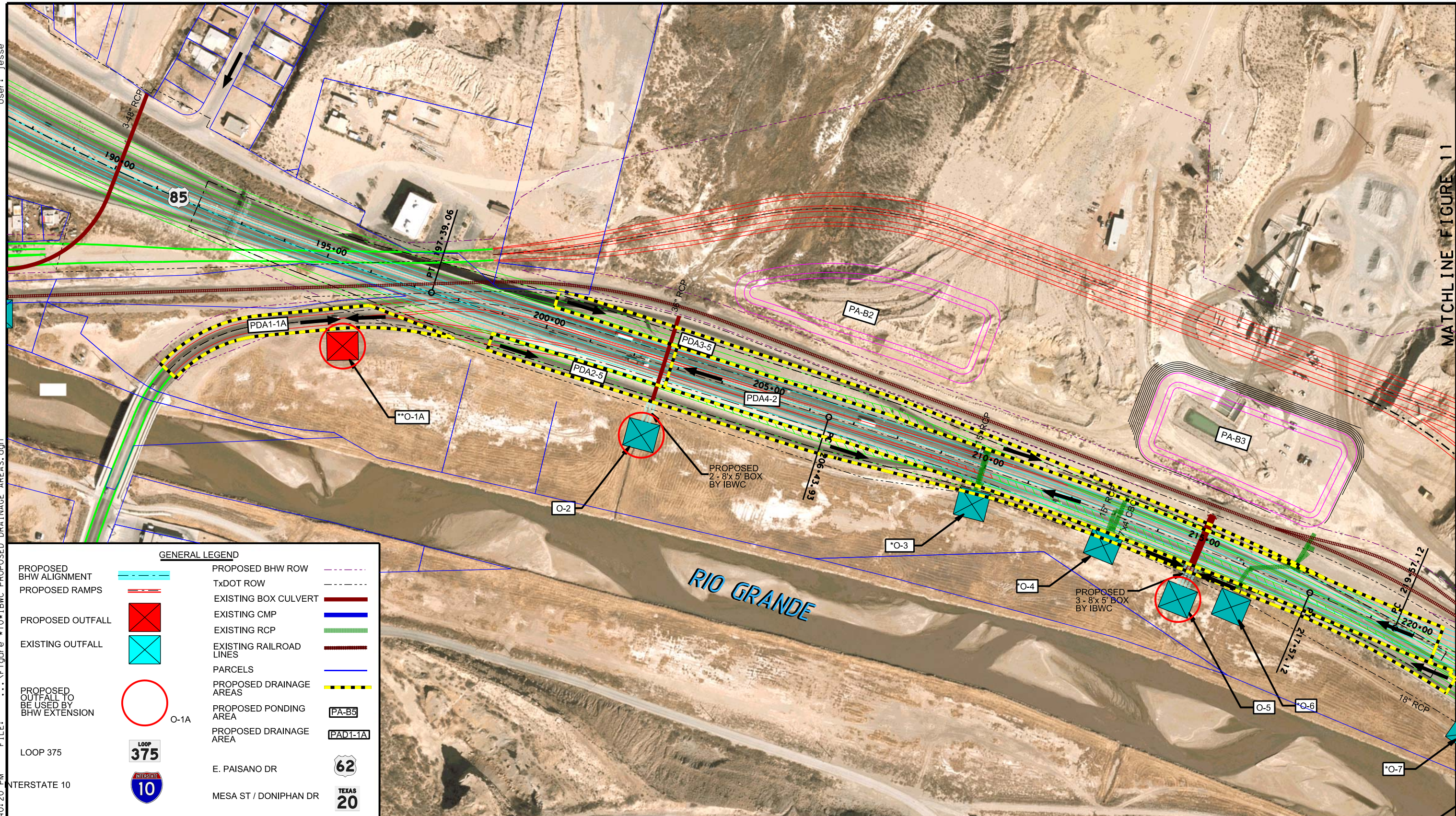
TxDOT El Paso District
CSJ: 2552-04-027

FIGURE 9

User: jesse

FILE: ...\\Figure *10*IBWC PROPOSED DRAINAGE AREAS.dgn

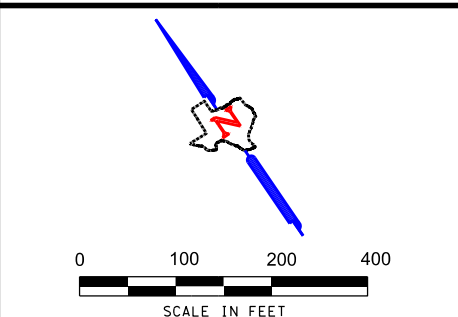
DATE: 5/15/2013 TIME: 5:40:20 PM



MATCHLINE FIGURE 11

GENERAL LEGEND

PROPOSED BHW ALIGNMENT		PROPOSED BHW ROW	
PROPOSED RAMP		TxDOT ROW	
PROPOSED OUTFALL		EXISTING BOX CULVERT	
EXISTING OUTFALL		EXISTING CMP	
PROPOSED OUTFALL TO BE USED BY BHW EXTENSION		EXISTING RCP	
LOOP 375		EXISTING RAILROAD LINES	
INTERSTATE 10		PARCELS	
		PROPOSED DRAINAGE AREAS	
		PROPOSED PONDING AREA	
		PROPOSED DRAINAGE AREA	
		E. PAISANO DR	
		MESA ST / DONIPHAN DR	



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NAME PE# Date

MCI FIRM TEXAS REGISTRATION NUMBER: F-000554



Loop 375 Border Highway West Extension Project
From Racetrack Drive to East of Park Street
(OUTFALLS TO RIO GRANDE RIVER)
PROPOSED DRAINAGE AREAS

TxDOT El Paso District
CSJ: 2552-04-027

Moreno Cardenas Inc.
consulting engineers
TEXAS REGISTRATION # F-000554

HALFF
TRC FIRM #E-512

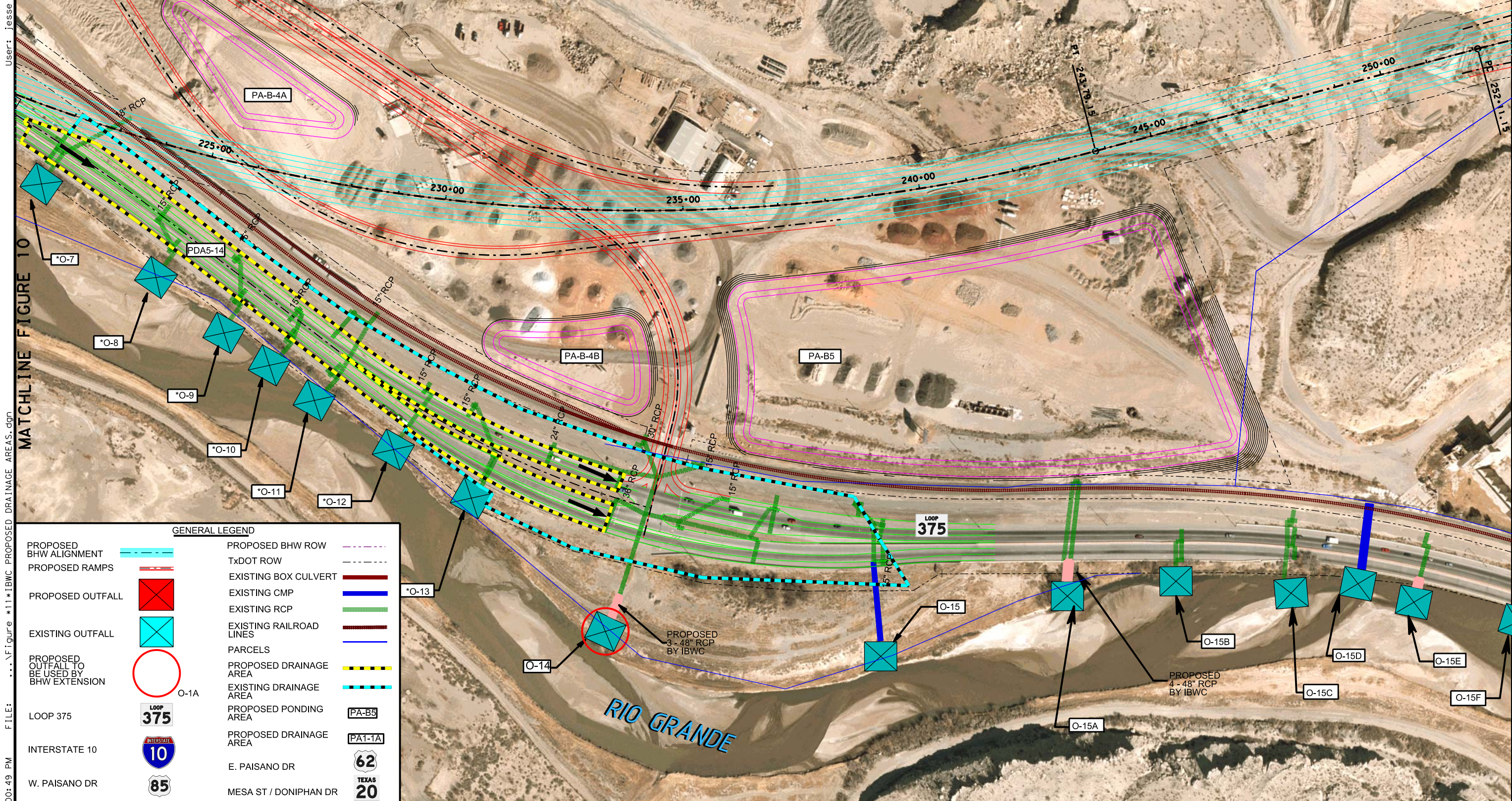
FIGURE 10

User: Jesse

...Figure *11*IBWC PROPOSED DRAINAGE AREAS.dgn

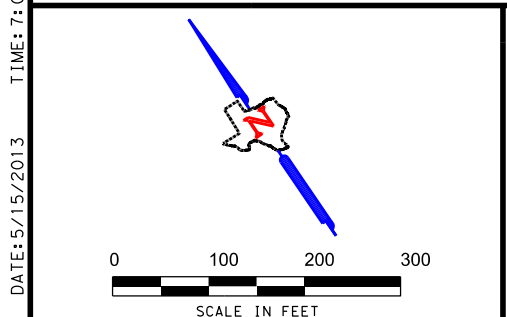
FILE:

DATE: 5/15/2013



GENERAL LEGEND

PROPOSED BHW ALIGNMENT		PROPOSED BHW ROW	
PROPOSED RAMPS		TxDOT ROW	
PROPOSED OUTFALL		EXISTING BOX CULVERT	
EXISTING OUTFALL		EXISTING CMP	
PROPOSED OUTFALL TO BE USED BY BHW EXTENSION		EXISTING RCP	
	O-1A	EXISTING RAILROAD LINES	
LOOP 375		PARCELS	
INTERSTATE 10		PROPOSED DRAINAGE AREA	
W. PAISANO DR		EXISTING DRAINAGE AREA	
		PROPOSED PONDING AREA	
		PROPOSED DRAINAGE AREA	
		E. PAISANO DR	
		MESA ST / DONIPHAN DR	



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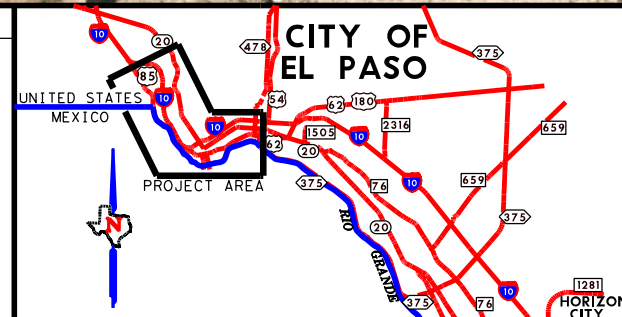
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TRC FIRM # F-512

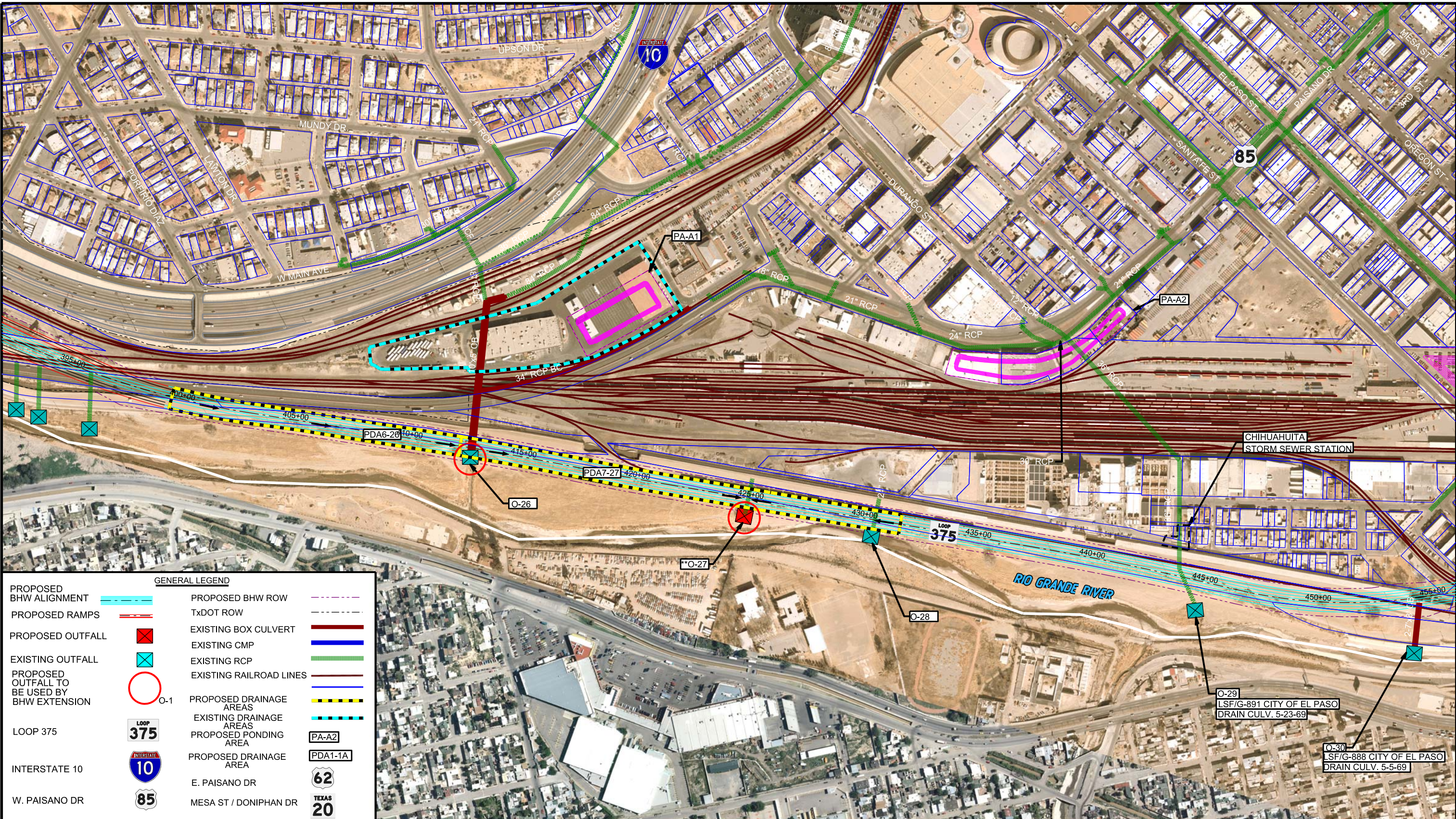
Loop 375 Border Highway West Extension Project
From Racetrack Drive to East of Park Street

**(OUTFALLS TO RIO GRANDE RIVER)
PROPOSED DRAINAGE AREAS**

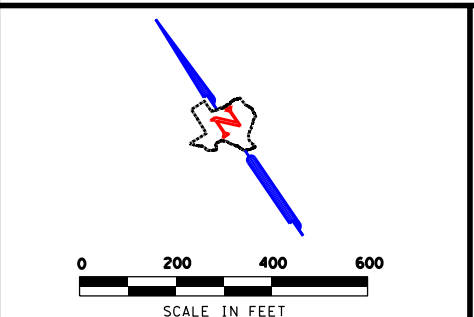
TxDOT El Paso District
CSJ: 2552-04-027

FIGURE 11

User: jesse
...Figure *12*IBWC PROPOSED DRAINAGE AREAS.dgn
FILE:
DATE: 5/15/2013 TIME: 7:15:38 PM



GENERAL LEGEND			
PROPOSED BHW ALIGNMENT		PROPOSED BHW ROW	
PROPOSED RAMPS		TxDOT ROW	
PROPOSED OUTFALL		EXISTING BOX CULVERT	
EXISTING OUTFALL		EXISTING CMP	
PROPOSED OUTFALL TO BE USED BY BHW EXTENSION		EXISTING RCP	
		EXISTING RAILROAD LINES	
		PROPOSED DRAINAGE AREAS	
		EXISTING DRAINAGE AREAS	
		PROPOSED PONDING AREA	
		PROPOSED DRAINAGE AREA	
		E. PAISANO DR	
		MESA ST / DONIPHAN DR	
LOOP 375			
INTERSTATE 10			
W. PAISANO DR			



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Loop 375 Border Highway West Extension Project
From Racetrack Drive to East of Park Street

**(OUTFALLS TO RIO GRANDE RIVER)
PROPOSED DRAINAGE AREAS**

TxDOT El Paso District
CSJ: 2552-04-027

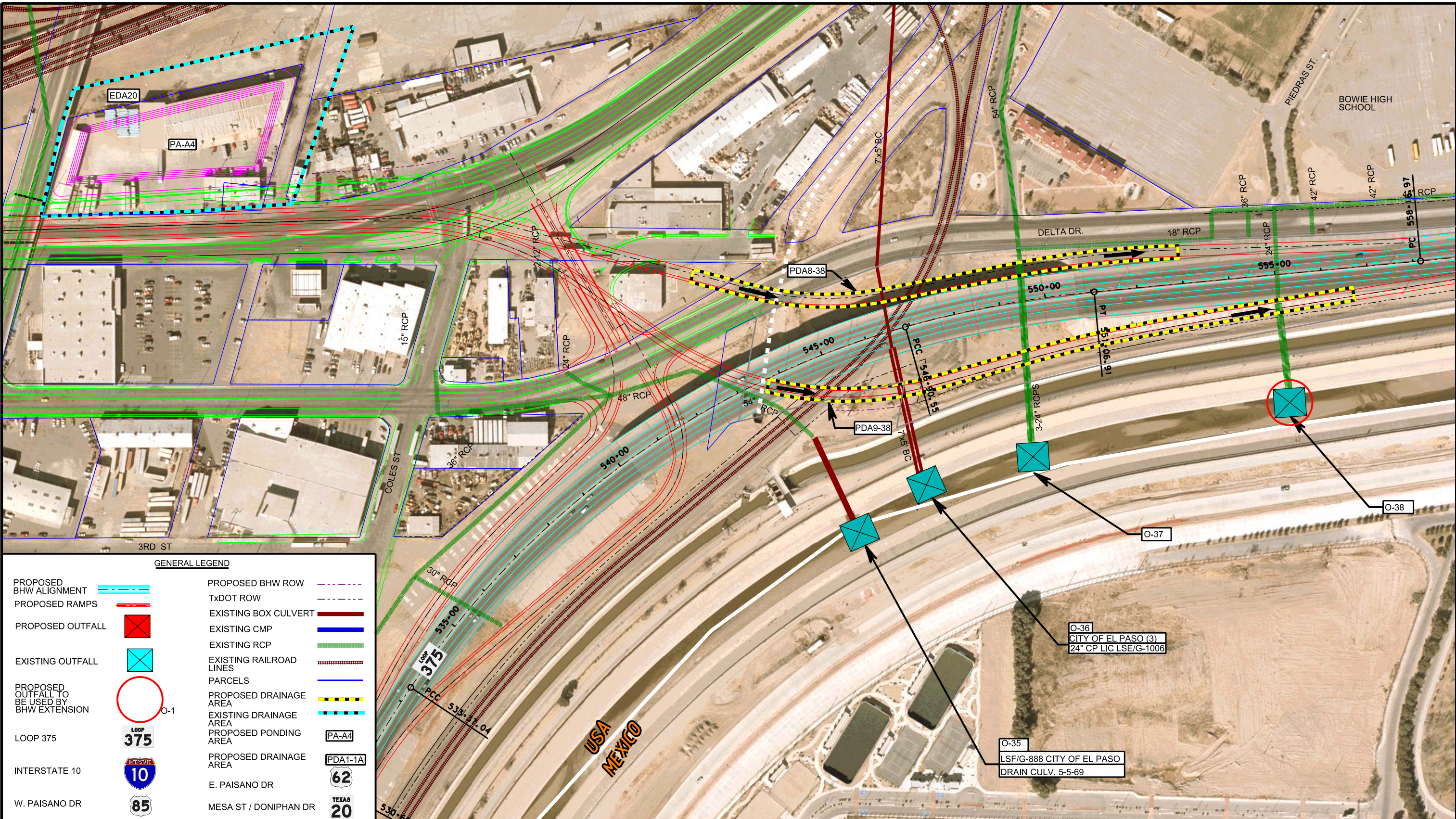
FIGURE 12

User: jesse

FILE: ...\\Figure *13*IBWC PROPOSED DRAINAGE AREAS.dgn

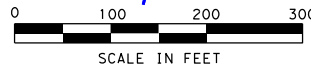
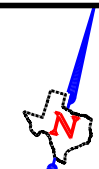
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DATE: 5/15/2013



GENERAL LEGEND

- | | |
|--|-------------------------|
| PROPOSED BHW ALIGNMENT | PROPOSED BHW ROW |
| PROPOSED RAMPS | TxDOT ROW |
| PROPOSED OUTFALL | EXISTING BOX CULVERT |
| EXISTING OUTFALL | EXISTING CMP |
| PROPOSED OUTFALL TO BE USED BY BHW EXTENSION | EXISTING RCP |
| LOOP 375 | EXISTING RAILROAD LINES |
| INTERSTATE 10 | PARCELS |
| W. PAISANO DR | PROPOSED DRAINAGE AREA |
| | EXISTING DRAINAGE AREA |
| | PROPOSED PONDING AREA |
| | PROPOSED DRAINAGE AREA |
| | E. PAISANO DR |
| | MESA ST / DONIPHAN DR |



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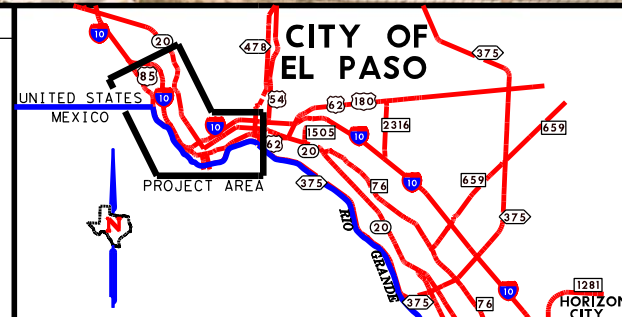
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DATE: MAY 16, 2013



Loop 375 Border Highway West Extension Project
From Racetrack Drive to East of Park Street
(OUTFALLS TO RIO GRANDE RIVER)
PROPOSED DRAINAGE AREAS

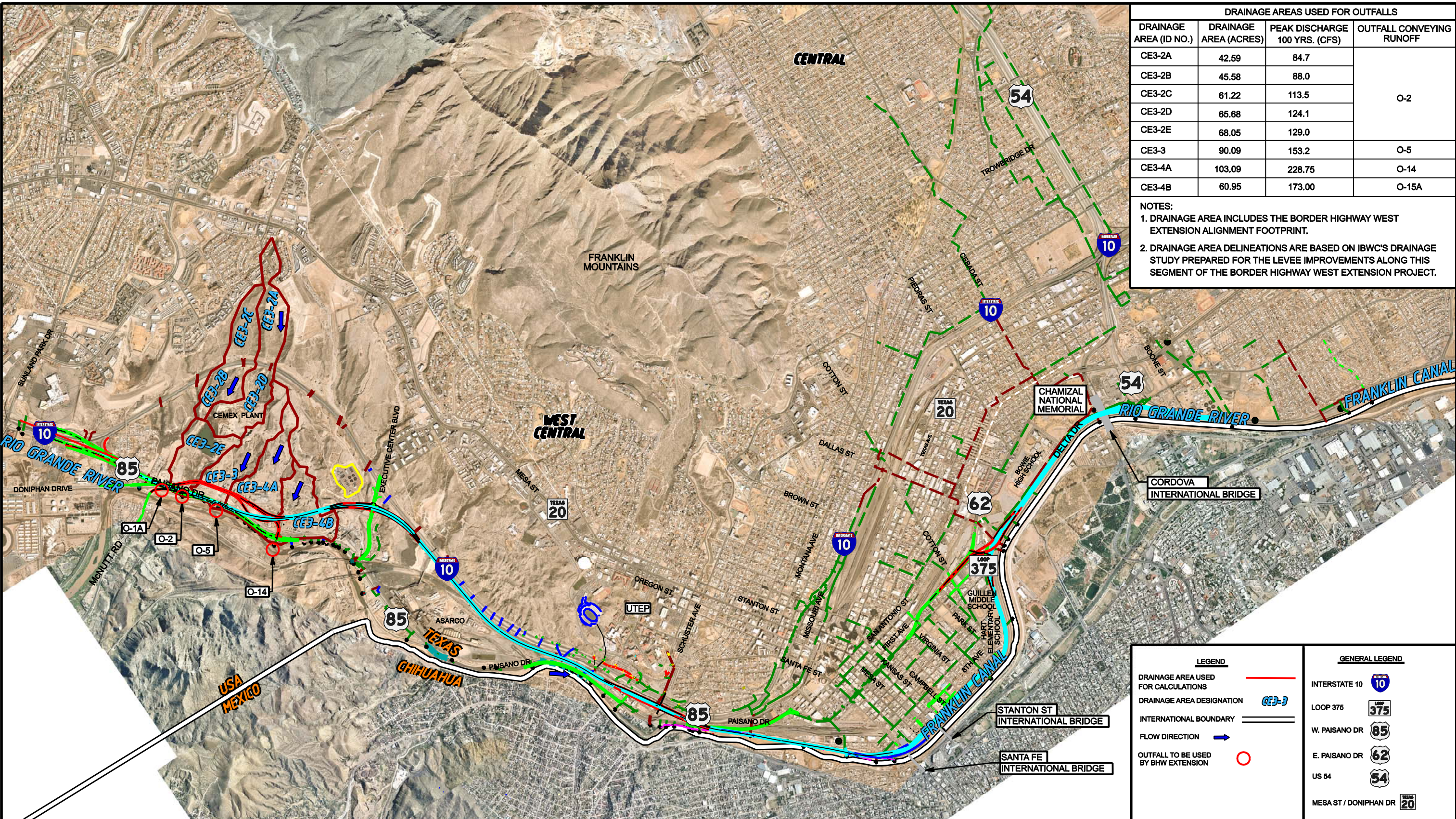
TxDOT El Paso District
CSJ: 2552-04-027

FIGURE 13

User: jesse

...Figure *14*Drainage Area Map.dgn

DATE: 5/14/2013 TIME: 11:07:34 AM FILE:



DRAINAGE AREAS USED FOR OUTFALLS			
DRAINAGE AREA (ID NO.)	DRAINAGE AREA (ACRES)	PEAK DISCHARGE 100 YRS. (CFS)	OUTFALL CONVEYING RUNOFF
CE3-2A	42.59	84.7	O-2
CE3-2B	45.58	88.0	
CE3-2C	61.22	113.5	
CE3-2D	65.68	124.1	
CE3-2E	68.05	129.0	
CE3-3	90.09	153.2	O-5
CE3-4A	103.09	228.75	O-14
CE3-4B	60.95	173.00	O-15A

NOTES:
1. DRAINAGE AREA INCLUDES THE BORDER HIGHWAY WEST EXTENSION ALIGNMENT FOOTPRINT.
2. DRAINAGE AREA DELINEATIONS ARE BASED ON IBWC'S DRAINAGE STUDY PREPARED FOR THE LEVEE IMPROVEMENTS ALONG THIS SEGMENT OF THE BORDER HIGHWAY WEST EXTENSION PROJECT.

LEGEND

DRAINAGE AREA USED FOR CALCULATIONS

DRAINAGE AREA DESIGNATION

INTERNATIONAL BOUNDARY

FLOW DIRECTION

OUTFALL TO BE USED BY BHW EXTENSION

GENERAL LEGEND

INTERSTATE 10

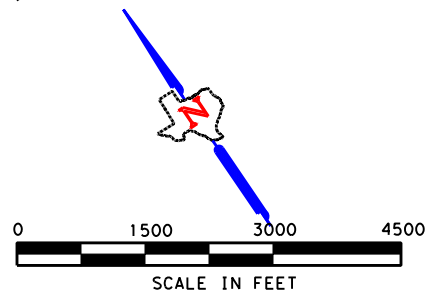
LOOP 375

W. PAISANO DR

E. PAISANO DR

US 54

MESA ST / DONIPHAN DR



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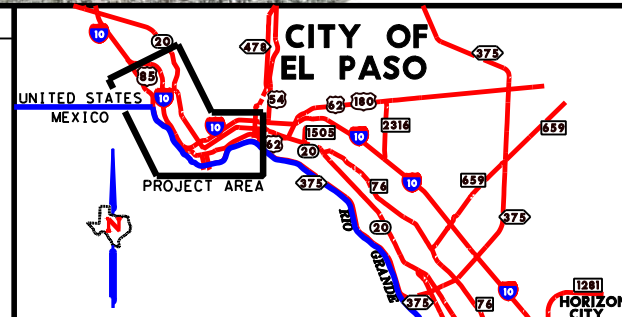
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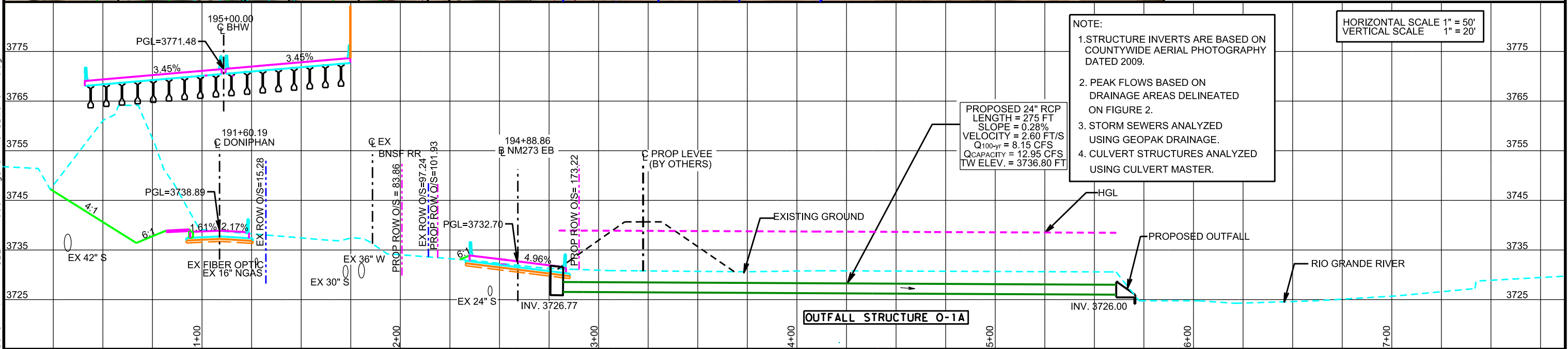
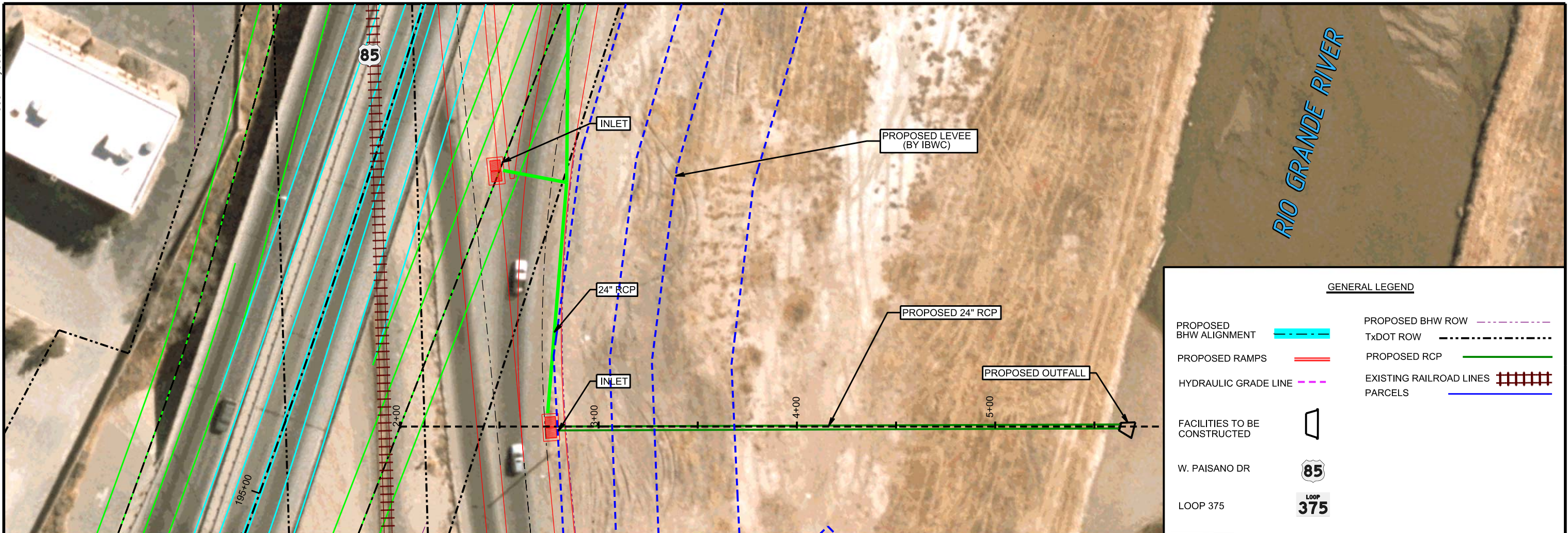
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consulting engineers
TEXAS REGISTRATION # F-000554

HALFF
TDCP FIRM # 5312

Loop 375 Border Highway West Extension Project
From Racetrack Drive to East of Park Street
(OUTFALLS TO RIO GRANDE RIVER)
DRAINAGE AREA MAP

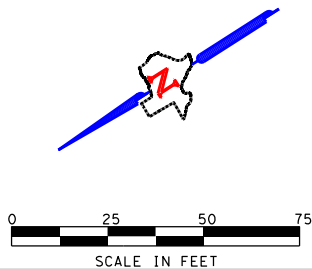
TxDOT El Paso District
CSJ: 2552-04-027

FIGURE 14



- NOTE:
1. STRUCTURE INVERTS ARE BASED ON COUNTYWIDE AERIAL PHOTOGRAPHY DATED 2009.
 2. PEAK FLOWS BASED ON DRAINAGE AREAS DELINEATED ON FIGURE 2.
 3. STORM SEWERS ANALYZED USING GEOPAK DRAINAGE.
 4. CULVERT STRUCTURES ANALYZED USING CULVERT MASTER.

HORIZONTAL SCALE 1" = 50'
VERTICAL SCALE 1" = 20'



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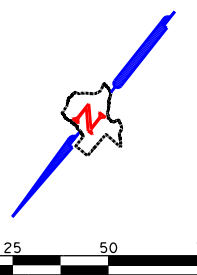
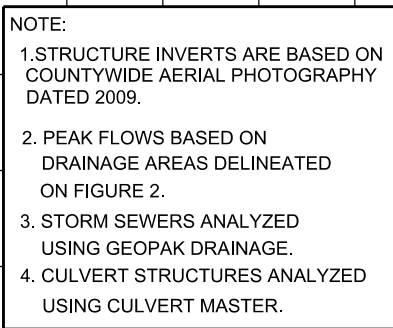
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NAME	PE#	Date

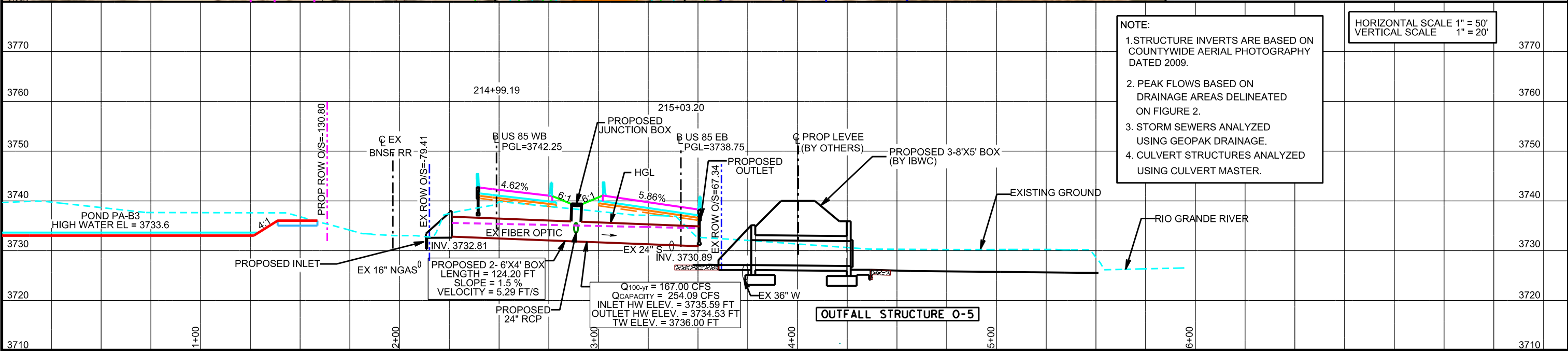
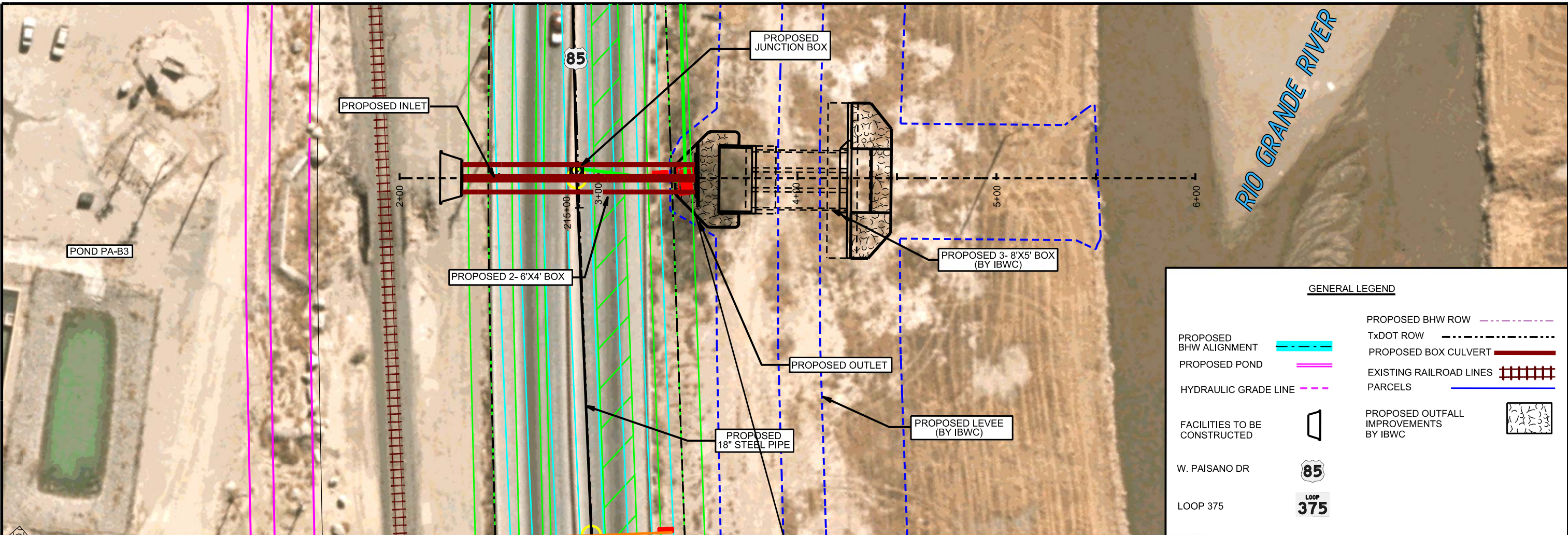
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TRC FIRM #E-512





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CITY OF EL PASO

Texas Department of Transportation

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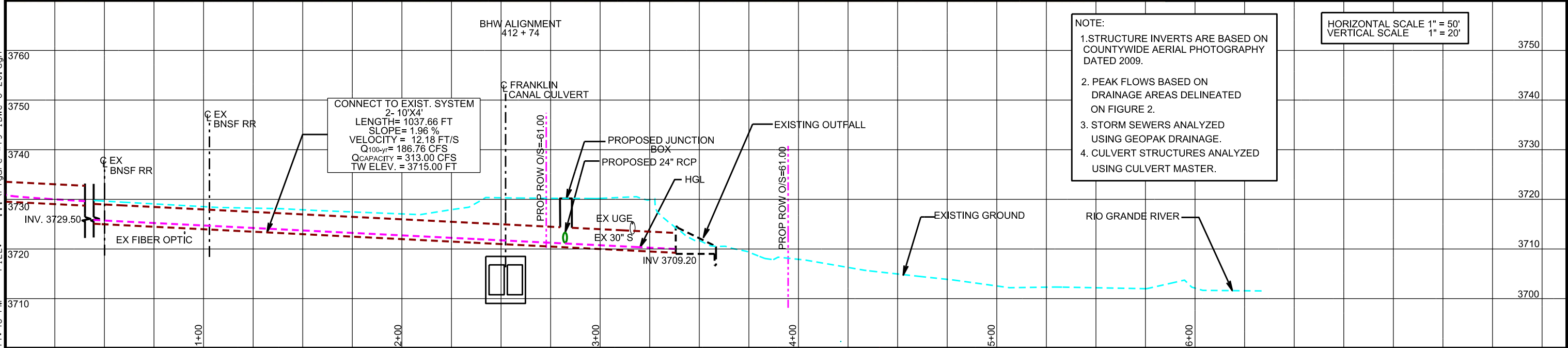
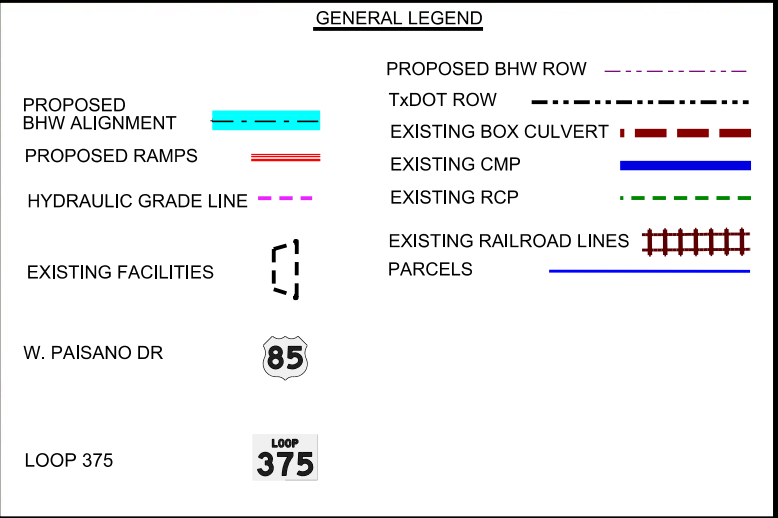
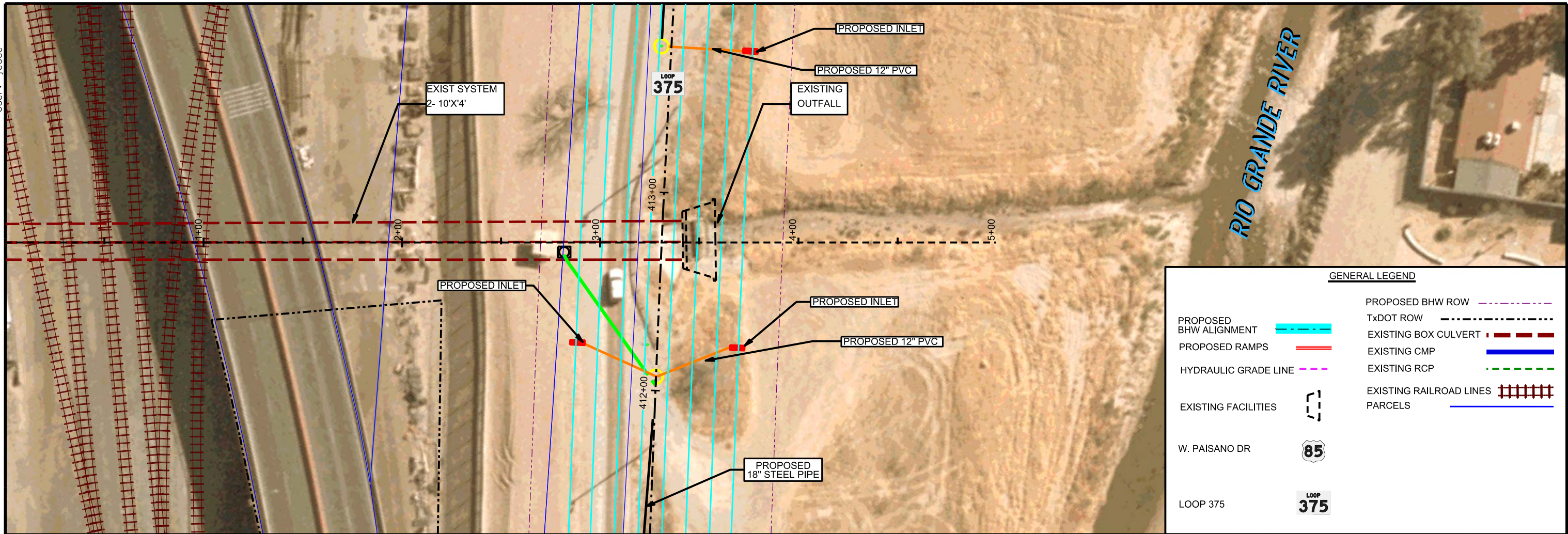
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TRC FIRM #E-512

Loop 375 Border Highway West Extension Project
From Racetrack Drive to East of Park Street
RIO GRANDE RIVER OUTFALL STRUCTURE O-5
RIVER STATION 25+89 (McNUTT LEVEE)

TxDOT El Paso District
CSJ: 2552-04-027

FIGURE 17

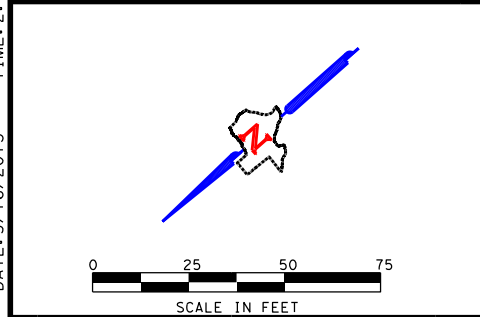




NOTE:

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2. PEAK FLOWS BASED ON DRAINAGE AREAS DELINEATED ON FIGURE 2.
3. STORM SEWERS ANALYZED USING GEOPAK DRAINAGE.
4. CULVERT STRUCTURES ANALYZED USING CULVERT MASTER.

HORIZONTAL SCALE 1" = 50'
VERTICAL SCALE 1" = 20'



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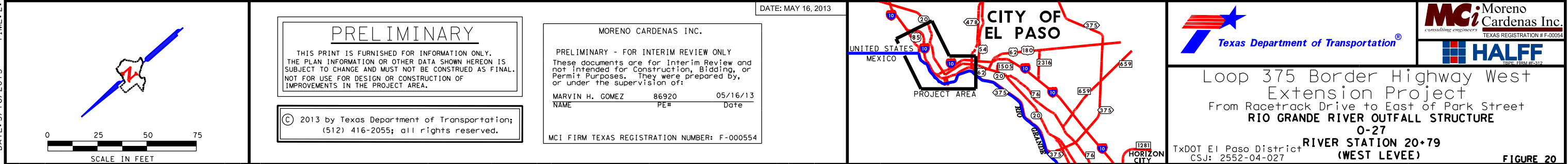
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consulting engineers
TEXAS REGISTRATION # F-000554

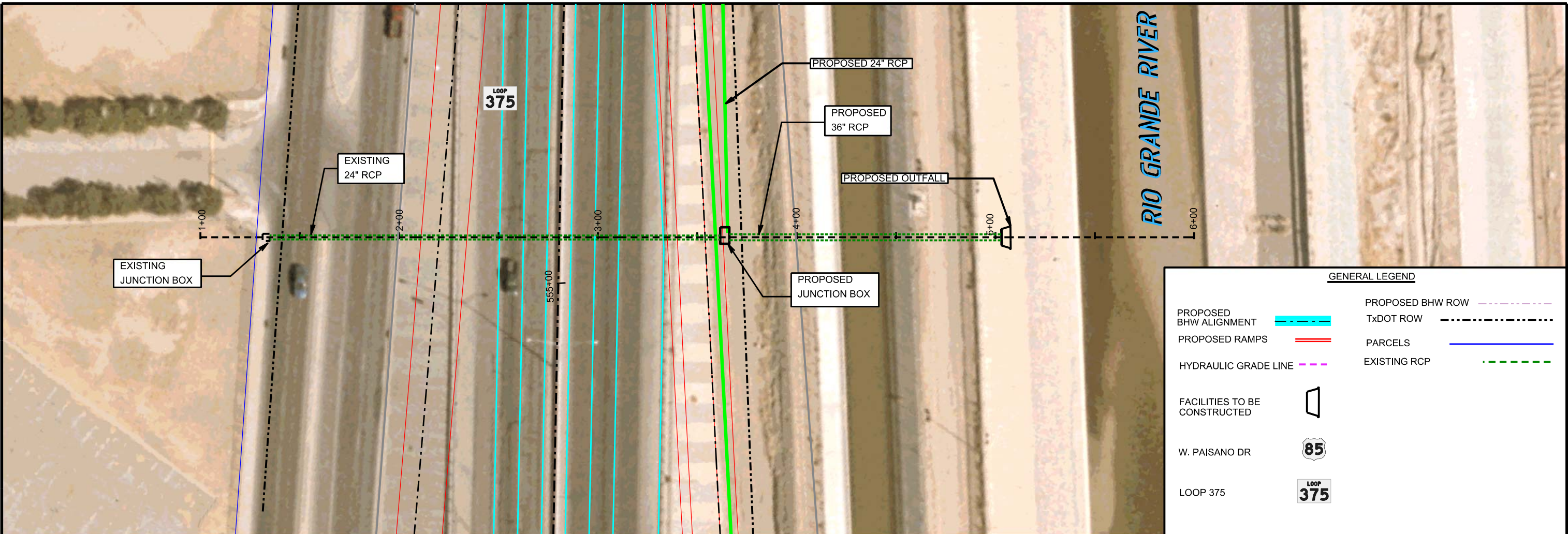
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TRC FIRM #E-312

Loop 375 Border Highway West Extension Project
From Racetrack Drive to East of Park Street
RIO GRANDE RIVER OUTFALL STRUCTURE 0-26
RIVER STATION 8+79 (WEST LEVEE)

TxDOT El Paso District
CSJ: 2552-04-027

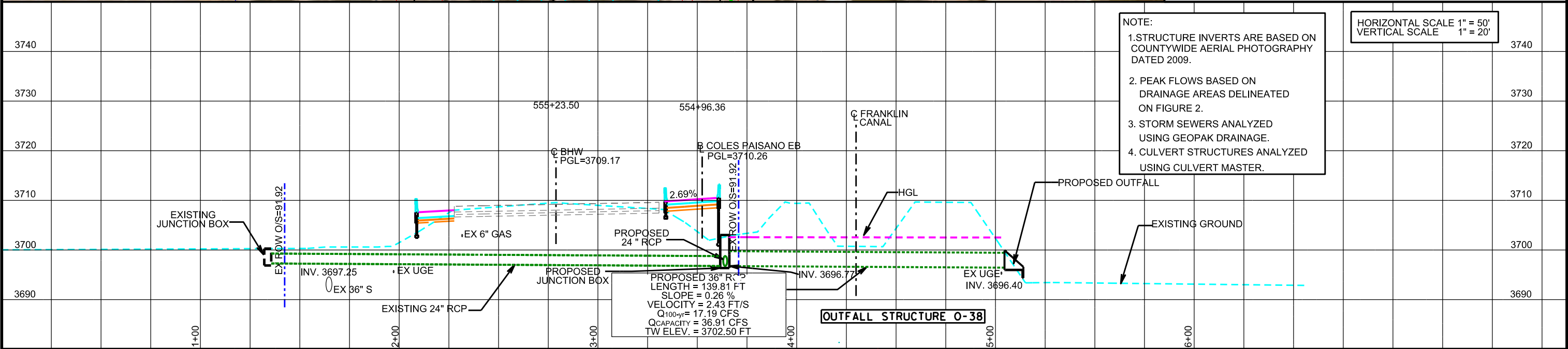
FIGURE 19





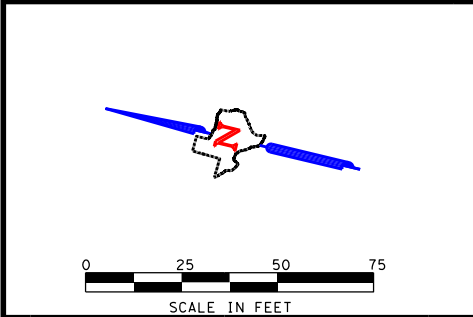
GENERAL LEGEND

PROPOSED BHW ALIGNMENT		PROPOSED BHW ROW	
PROPOSED RAMPS		TxDOT ROW	
HYDRAULIC GRADE LINE		PARCELS	
FACILITIES TO BE CONSTRUCTED		EXISTING RCP	
W. PAISANO DR			
LOOP 375			



- NOTE:
1. STRUCTURE INVERTS ARE BASED ON COUNTYWIDE AERIAL PHOTOGRAPHY DATED 2009.
 2. PEAK FLOWS BASED ON DRAINAGE AREAS DELINEATED ON FIGURE 2.
 3. STORM SEWERS ANALYZED USING GEOPAK DRAINAGE.
 4. CULVERT STRUCTURES ANALYZED USING CULVERT MASTER.

HORIZONTAL SCALE 1" = 50'
VERTICAL SCALE 1" = 20'



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DATE: MAY 16, 2013



Loop 375 Border Highway West Extension Project
From Racetrack Drive to East of Park Street
RIO GRANDE RIVER OUTFALL STRUCTURE O-38
RIVER STATION 54+18 (U.S. LEVEE)

TxDOT El Paso District
CSJ: 2552-04-027

Moreno Cardenas Inc.
consulting engineers
TEXAS REGISTRATION # F-000554

HALFF
TRC FIRM # F-512

FIGURE 21