



Hidalgo County  
Planning  
Department

T.J. Arredondo, CFM  
Director of Planning

Main Office

1304 S. 25<sup>th</sup> Street  
Edinburg, Texas 78542  
Phone (956) 318-2840  
Fax (956) 318-2844

Engineering Projects Office

902 N. Doolittle Road  
Edinburg, Texas 78542  
Phone (956) 292-7080  
Fax (956) 292-7089

Precinct No. 1 Substation

1902 Joe Stephens Ave.  
Weslaco, Texas 78596  
Phone (956) 968-4734  
Fax (956) 973-7850

Precinct No. 3 Substation

2401 N. Moorefield Road  
Mission, Texas 78572  
Phone (956) 205-7045  
Fax (956) 205-7049

**PIPELINE AND UTILITY PERMIT APPLICATION PACKET**

THE STATE OF TEXAS

COUNTY OF HIDALGO

PRECINCT 3

**APPLICATION AND AGREEMENT FOR PIPELINE OR  
UTILITY PERMIT**

Date: 10-24-19

Izaguirre Real Estate  
Holdings LLC.

(hereinafter referred to as  
"Applicant") does hereby make application to the Hidalgo County  
through the Hidalgo County Planning Department (hereinafter referred  
to as "HCPD") to construct, maintain and repair pipelines or utilities  
across the easements, right-of-ways, property or property interest as  
described below.

Information required:

1. Name, Address and Phone number of Applicant:

Izaguirre Real Estate Holdings LLC.  
7413 N. La Homa Rd. Mission TX 78574  
(456) 240-3246 / (456) 584-0554

2. Name, Address and Phone number of company or agency owning  
Pipeline or Utility (please indicate if same as Applicant):

City of Alton  
509 South Alton Blvd. Alton TX 78573

3. Name, Address and Phone number of operator of Pipeline or  
Utility (please indicate if same as Applicant):

City of Alton  
509 South Alton Blvd. Alton TX 78573

4. Name, Address and Phone number of contractor to install Pipeline  
or Utility:

Villarreal Paving & Demolition  
3804 Mirabel St. Mission TX 78574



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5. Is this a common carrier pipeline or utility? If yes, please submit the Applicant's Texas Railroad Commission Form "T-4" or similar form designating the facility:

6" Sanitary Sewer force main  
pipeline

6. Does Applicant have the Power of Eminent Domain?

no

7. Will the product be carried for hire or by the owner of the goods?

Sanitary sewer

8. Name and Legal description of property owner requesting utility services if applicable:

Traguirre Real Estate  
Holdings LLC.

9. Type of utility work within county road right-of-way:

Bore Crossing  Line Extension Along R.O.W.  Other OPEN CUT.

10. Where is the origin of the line?

Lift Station located @  
Edward's No. 18

11. Where is the destination of the line?

Southbound to sanitary sewer  
manhole located at intersection  
of Co. 10 & Trooper Rd.



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**PIPELINE AND UTILITY PERMIT APPLICATION PACKET**

12. Utility Crossing Coordinate X: 26°18'21.37" Y: 98°19'07.66" N  
(NAD 83 Texas South FIPS 4205 feet)
13. Number and size of lines:  
6" sanitary sewer  
force main pipeline
14. Pressure (each line):  
n/a
15. Content (each line):  
sanitary sewer
16. Estimated date of installation of Pipeline or Utility:  
As soon as the permit gets approved.



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## PIPELINE AND UTILITY PERMIT APPLICATION PACKET

If requested permit is granted by HCPD, Applicant, in consideration thereof, agrees and binds itself as follows:

1. All pipelines or utilities herein will be horizontally placed within the right-of-way as determined by HCPD and at a minimum depth of five (5) feet below natural ground. Depth, horizontal, and vertical location shall be confirmed by HCPD Inspectors.
2. Location map, profile, and plans concerning the proposed pipeline or utility crossing will be furnished with this application.
3. HCPD will be notified in writing ten days prior to the beginning date of construction under this permit.
4. Applicant will bear the entire expense of all future relocations of any pipelines or utilities should such relocation, at the sole discretion of the Hidalgo County Commissioners Court, be necessary for improvements, alteration, or maintenance of the Hidalgo County's easement or property of interest.
5. Applicant will notify the HCPD at least 48 hours prior to covering work and or completion of its work and removal of its equipment from the job site to permit HCPD to make an inspection.
6. Upon notification by the HCPD, the Applicant will promptly repair or rectify any deficiency or condition caused by the Applicant's operations or installations under this permit. Applicant will leave easement in as near the same condition or better, in the HCPD's sole judgment, as it existed prior to the commencement of the operations under this permit.
7. Hidalgo County shall not be liable or responsible for, and shall be saved and held harmless by Applicant, and further shall be indemnified by Applicant, from and against any and all suits, actions, losses, damages, claims, or liability of any character, type, or description, including all expenses of litigation, court costs, attorney's fees, and engineering fees for injury or death to any person, or injury to any property, received or sustained by any person or persons or property, arising out of, or occasioned by, directly or indirectly, the performance of Applicant under this agreement, including claims and damages arising in part from the negligence of the Hidalgo County.



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## PIPELINE AND UTILITY PERMIT APPLICATION PACKET

It is the expressed intent of the parties to this agreement that the indemnity provided for in this section is extended by Applicant to indemnify and protect Hidalgo County from the consequences of Hidalgo County's own negligence, whether that negligence is the sole or contributory cause of the resultant injury death, or damage.

Applicant further agrees to defend, at its own expense, with attorneys acceptable to Hidalgo County and on behalf of the Hidalgo County, and in the name of Hidalgo County, any claim or litigation brought against the Hidalgo County in connection with any such injury, death or damage.

Before construction is begun on such pipeline or utility crossings, Applicant will furnish to the HCPD a certificate of insurance (or other security approved by the HCPD) payable to Hidalgo County and protecting Hidalgo County (as an additional named insured) against any claims for personal injuries or damages to property resulting from the operations of Applicant, its agents, servants, employees, and contractors under this permit. Insurance is to be supplied in accordance with the attached Schedule A.

8. Hidalgo County makes no warranties, expressed or implied, in the granting of this permit; nor does Hidalgo County purport to grant any property interest or exclusive privileges whatsoever by granting such permit. It is specifically understood that Hidalgo County is not the agent for, nor does it act for, the fee owners or any persons or entities having any right, or title to possession of the land upon which the Hidalgo County's easement or other property interest is located. Furthermore, in granting this permit Hidalgo County makes no representation or warranty that it has any property interest, including, but not limited to, an easement or right of way, in the land

upon which Applicant constructs, maintains, repairs, or modifies the pipelines or utilities, made the subject of this application, nor does Hidalgo County make any representation or warranty as to the validity, quality or extent of such property interest, if any. Applicant acknowledges its understanding that Hidalgo County in granting this permit, does not convey or grant to Applicant any rights, title or interest for which is has no legal authority to grant or convey.

9. Applicant binds itself to comply with all federal, state, and local laws or regulations and will obtain all necessary permits from all local and federal agencies required by law before installation or construction is begun.



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10. Applicant will install its pipelines and utilities in a manner and location as shown in the plans and specifications filed with HCPD in support of this application for permit. Hidalgo County Planning Department's representative may at any time make such inspection as such engineer or other representation may deem necessary to assure that the construction of the pipeline or utilities is in accordance with the plans and specifications submitted, and said engineer or representative shall have the right to temporarily suspend Applicant's work if necessary, while such inspection is being made. Should Applicant not install the pipelines or utilities in accordance with the terms and conditions of this permit, Applicant agrees that the Hidalgo County shall have the right to require, at Applicant's expense, the removal of the pipelines and utilities and its replacement in conformance to said plans and specifications and conditions of this permit. Hidalgo County may revoke this permit and suspend all work hereunder if it is determined by Hidalgo County that the pipelines or utilities are not being installed in accordance with such plans and specifications and conditions of this permit. The suspension or revocation of this permit shall not be a basis for a claim for damages against Hidalgo County.

11. Except in emergency situations where it is necessary to protect life and property, Applicant will not make any change, modification, or alteration in or to the pipelines or utilities without first securing a new or amended permit from Hidalgo County prior to the making of any such change. Applicant will maintain the pipelines or utilities hereby authorized in good and safe condition, and in accordance with plans, specifications, and this permit.

12. Applicant agrees to pay HCPD a permit fee to cover administrative costs in the amount of **\$500.00**, plus a reimbursement to HCPD for any necessary engineering fees which may be incurred for the study and processing of the Application. This fee will permit a single pipeline or utility to be within County right-of-way. Applicant further agrees to pay an additional fee of **\$500.00** for each additional line included in permit application at the same location; however, more than one location may be included in a single application.

Requests to lay additional line or lines, not included in an initial permit application, must be made by separate application, with new permit fees paid accordingly and support data provided.



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Permit fees may be waived where Applicant is a state, county, municipality, or a special political subdivision.

13. The Applicant is allowed one hundred twenty days (120) from the granting of the permit to start construction of the pipelines or utilities crossings. Once started, the Applicant is allowed ninety (90) days to complete all work under such permit. All construction must be completed within two hundred ten (210) days from the date of issuance of permit. Upon application, extension of the time periods set forth in this paragraph may be granted by the Hidalgo County Commissioners Court. Such applications for extension must be received by HCPD at least thirty days before the expiration of the two hundred ten (210) days period. A new permit fee, in accordance with Paragraph 12 hereof, will be charged for each extension granted.

Construction of any pipeline or utility crossing will not begin until written approval has been given by HCPD.

14. All provisions of the Pipeline and Utility Permit Administration Policy of Hidalgo County, if any, and all amendments thereto, are hereby incorporated herein as part of the terms and conditions of this permit for all purposes.

15. Applicant warrants and represents that it has secured from all fee owners of the involved property an easement or other property rights to construct, repair or modify the pipeline or utility in the manner set forth herein.

16. This Pipeline and Utility Permit if granted by Hidalgo County is subject to any and all other requirements, specifications and conditions listed in Exhibit A attached hereto.

17. Hidalgo County requires all coordinates of all utility crossings. Horizontal datum to be in NAD 83 State Plane Texas South 4205 feet and vertical datum in NAVD 88 Geoid 12a.



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18. This permit constitutes the entire agreement between the parties with regard to the subject matter hereof, and all prior agreements, representations, and negotiations between the parties regarding the subject matter are hereby superseded. This permit shall not be altered or amended except by an agreement in writing executed by the parties hereto.

19. Applicant warrants and represents that its undersigned representative has full authority to bind Applicant to the terms and conditions of the foregoing Application and Agreement for Pipeline or Utility Permit.

DATED this 24<sup>th</sup> day of October, 2019.

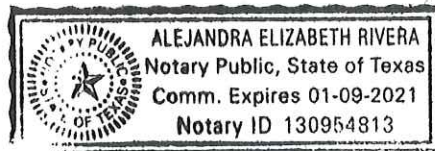
Aniceto Izaguirre  
(Name of Applicant – Printed or Typed)

By: Aniceto Izaguirre  
Signature

Title: president

STATE OF TEXAS  
COUNTY OF HIDALGO

SUBSCRIBED AND SWORN TO before me the Applicant,  
Aniceto Izaguirre, on this 24<sup>th</sup> day of October, 2019,  
to which witness my hand and seal of office.



[Signature]  
Notary Public for the State of Texas

My Commission Expires: 01-09-2021



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**APPROVAL OF APPLICATION BY  
HIDALGO COUNTY PLANNING DEPARTMENT**

Came on for consideration this \_\_\_\_\_ day of \_\_\_\_\_,  
20\_\_\_\_. The above and foregoing Application for Pipeline and Utility  
Permit, and after consideration of the same by the Hidalgo County  
Commissioners Court, said Application and Agreement for Pipeline or  
Utility Permit is hereby APPROVED.

HIDALGO COUNTY:

\_\_\_\_\_  
Richard F. Cortez, County Judge



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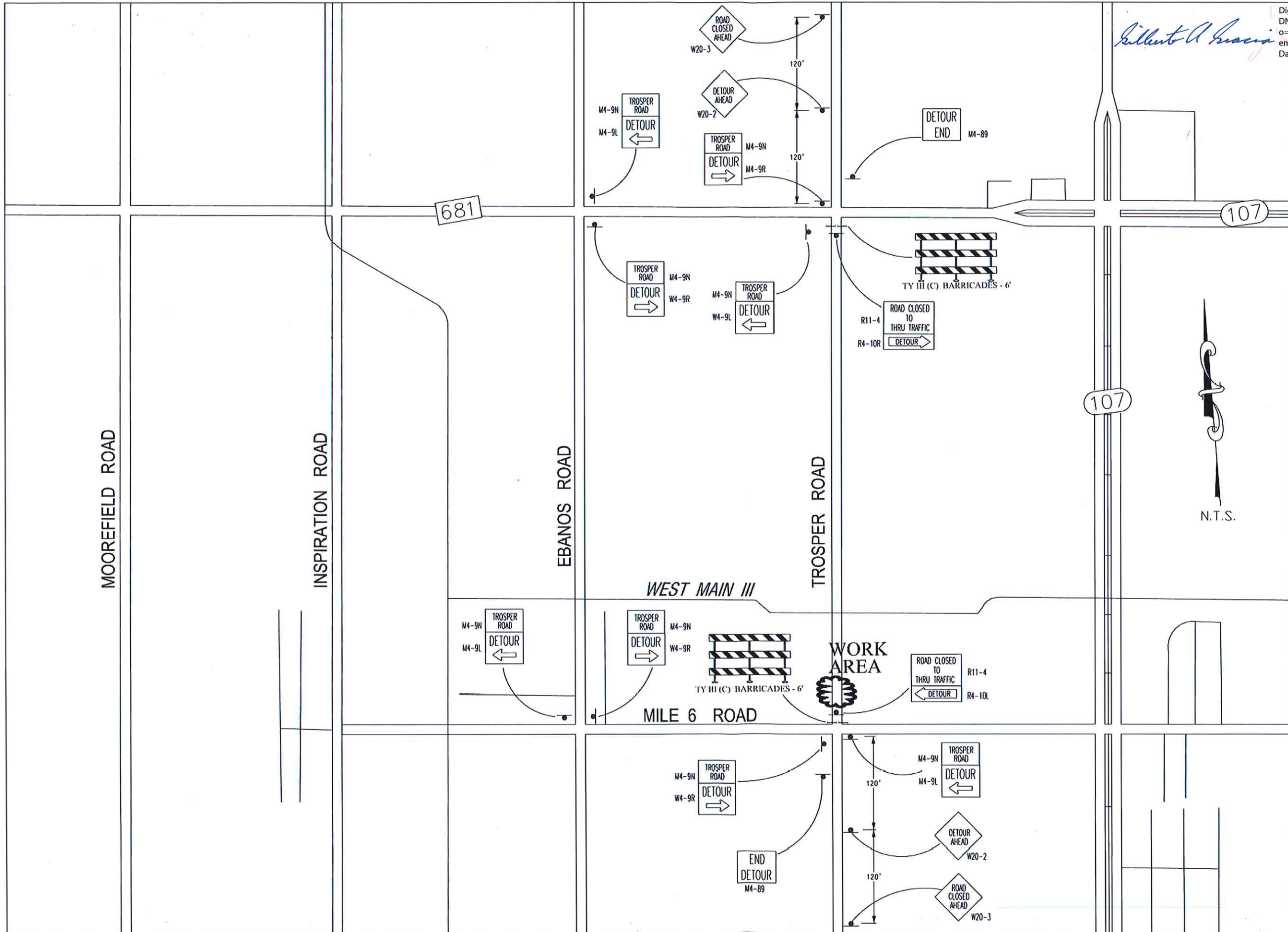
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**PIPELINE AND UTILITY PERMIT APPLICATION PACKET**

**EXHIBIT A**

(Please insert description of project location and supporting documents for proposed utility work)



*Gilberto A. Gracia*

Digitally signed by Gilberto A. Gracia, P.E.  
 DN: cn=Gilberto A. Gracia, P.E.,  
 o=Izaguirre Engineering Group, LLC, ou,  
 email=alphagag@aol.com, c=US  
 Date: 2019.12.10 23:40:19 -06'00'



**IZAGUIRRE**  
 Engineering Group LLC.  
 F-10214  
 PHONE (956) 240-0749  
 FAX (956) 584-0554  
 7413 N. LA HOMA ROAD  
 MISSION TEXAS, 78574

No.	Revision/Issue	Date

Form Name and Address  
 IZAGUIRRE ENGINEERING GROUP, LLC.  
 7413 North La Homa Road  
 Mission Tx. 78574

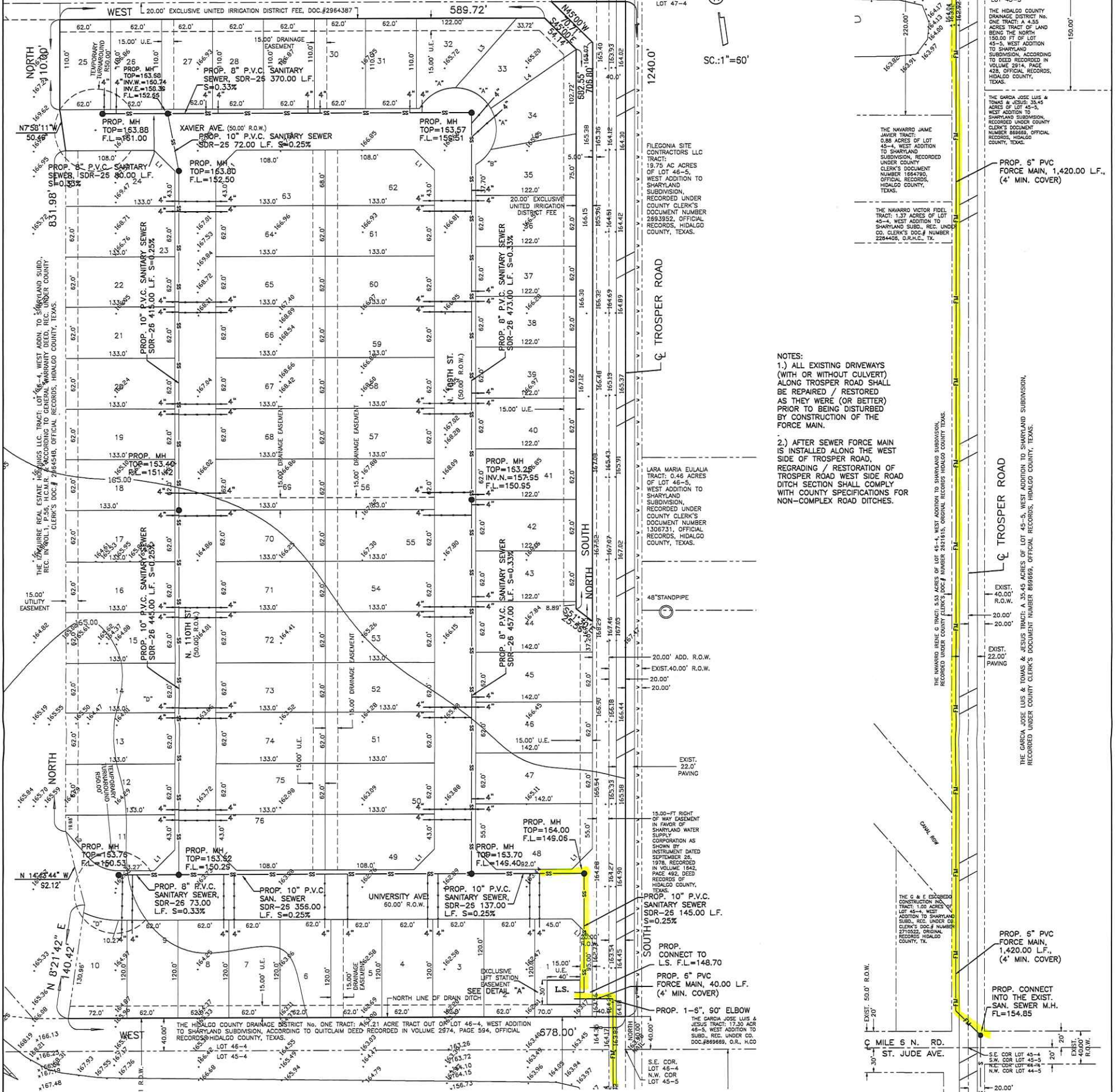
TRAFFIC CONTROL PLAN  
 TROSPERS ROAD  
 VIA  
 INSPIRATION ROAD

Project	SANITARY SEWER FORCE MAIN	Sheet	1 of 1
Date	DECEMBER 10, 2019	Scale	NTS

# EDUARDOS SUBDIVISION No. 18 MAP OF SANITARY SEWER

A 18.724-ACRE TRACT OF LAND, OUT OF LOT 45-4, WEST ADDITION TO SHARYLAND SUBDIVISION, AS PER THE MAP OR PLAT THEREOF RECORDED IN VOLUME 1, PAGE 56, MAP RECORDS IN THE OFFICE OF THE COUNTY CLERK OF HIDALGO COUNTY, TEXAS, AND ACCORDING TO GENERAL WARRANTY DEED RECORDED UNDER COUNTY CLERK'S DOCUMENT NUMBER 2954307, OFFICIAL RECORDS, HIDALGO COUNTY, TEXAS.

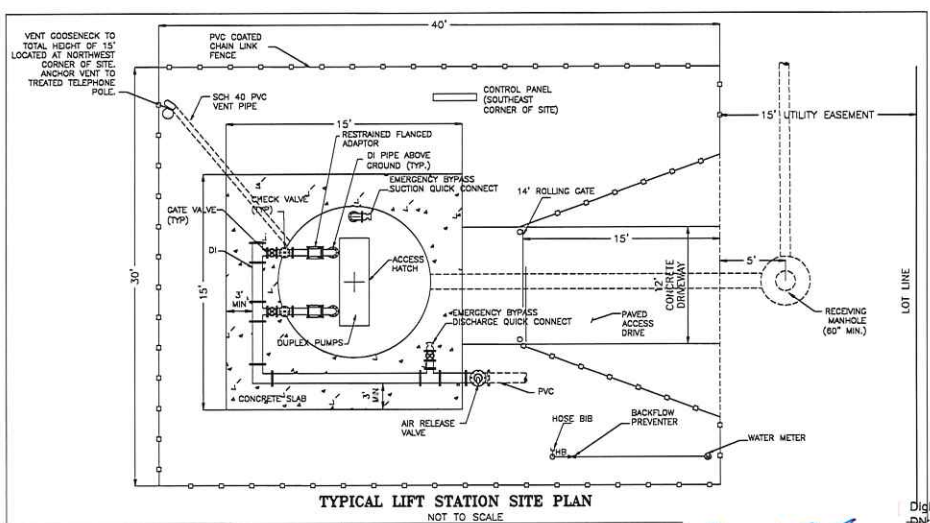
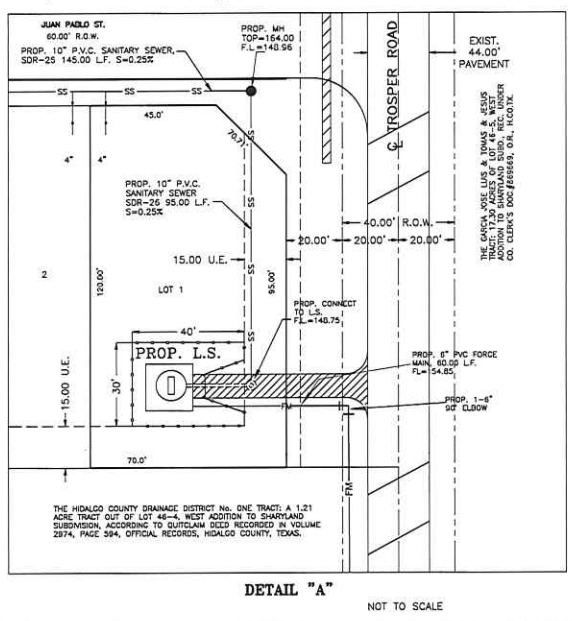
THE IZAGUIRRE REAL ESTATE HOLDINGS LLC, TRACT: LOT 45-4, WEST ADDN. TO SHARYLAND, REC. IN VOL. 1, P. 56, H.C.M.R. & ACCORDING TO GENERAL WARRANTY DEED, REC. UNDER COUNTY CLERK'S DOC. # 2954548, OFFICIAL RECORDS, HIDALGO COUNTY, TEXAS.



- NOTES:
- 1.) ALL EXISTING DRIVEWAYS (WITH OR WITHOUT CULVERT) ALONG TROSPER ROAD SHALL BE REPAIRED/RESTORED AS THEY WERE (OR BETTER) PRIOR TO BEING DISTURBED BY CONSTRUCTION OF THE FORCE MAIN.
  - 2.) AFTER SEWER FORCE MAIN IS INSTALLED ALONG THE WEST SIDE OF TROSPER ROAD, REGRADING / RESTORATION OF TROSPER ROAD WEST SIDE ROAD DITCH SECTION SHALL COMPLY WITH COUNTY SPECIFICATIONS FOR NON-COMPLEX ROAD DITCHES.

**COST ESTIMATE**

WATER DISTRIBUTION:	\$ 128,310.00
PAVING IMPROVEMENTS:	\$ 385,765.11
DRAINAGE IMPROVEMENTS:	\$ 88,456.00
SANITARY SEWER IMPROVEMENTS:	\$ 558,026.00
<b>TOTAL:</b>	<b>\$ 1,160,557.11</b>



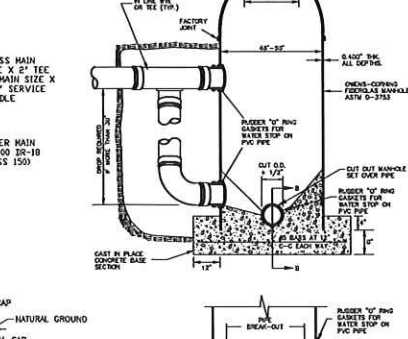
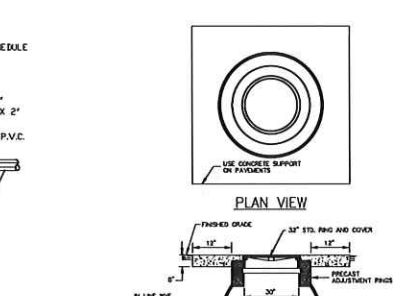
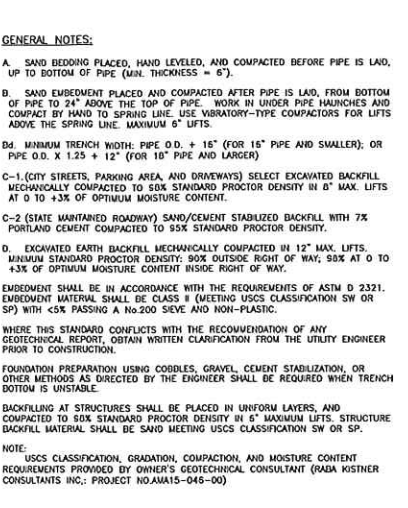
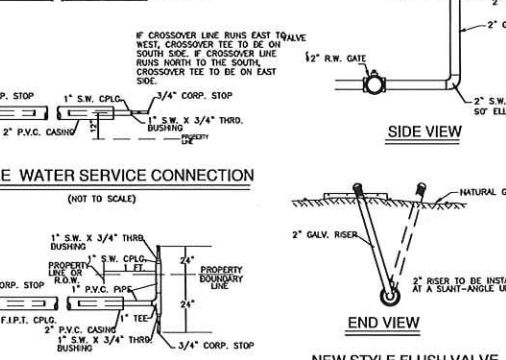
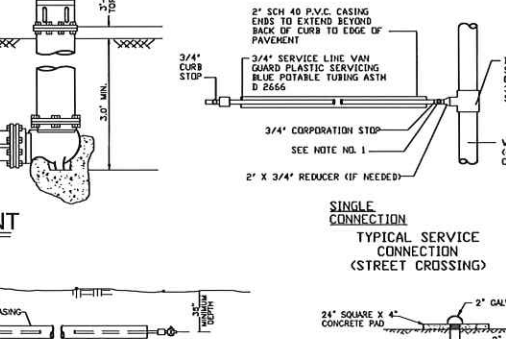
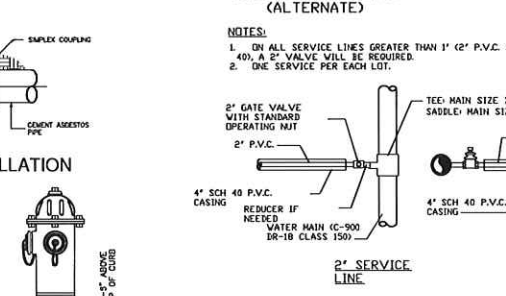
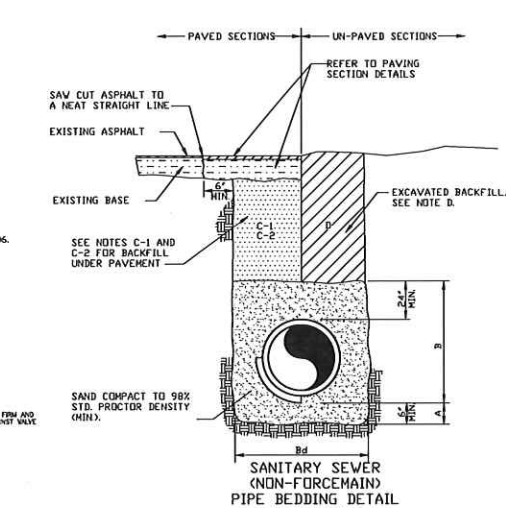
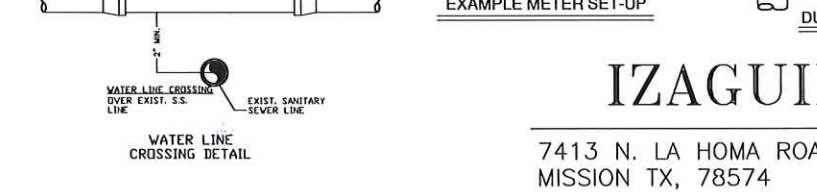
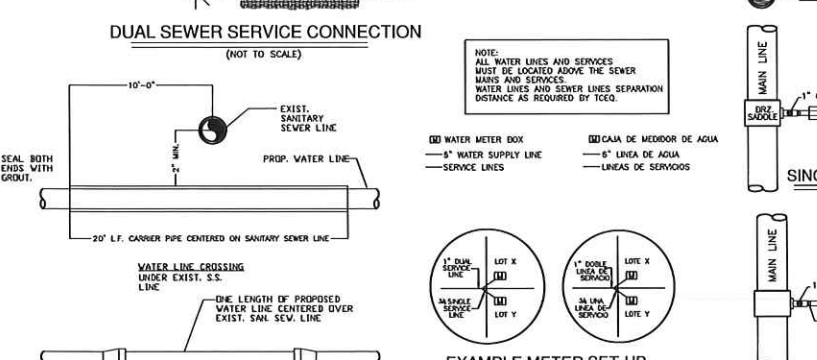
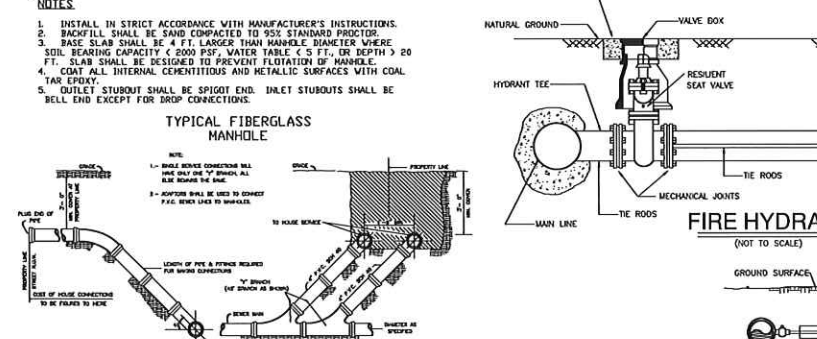
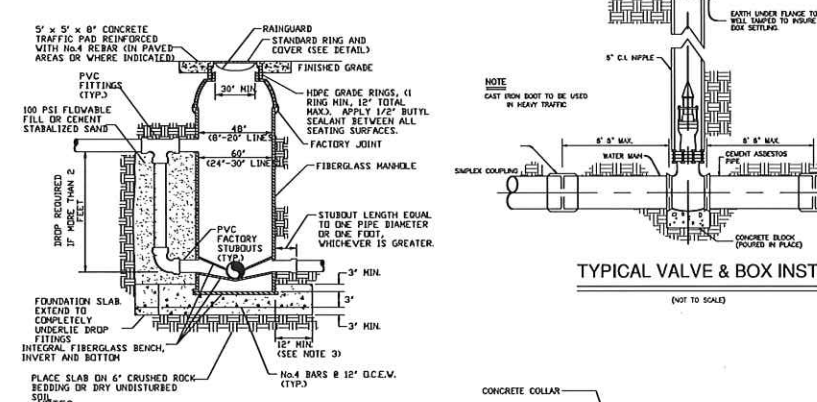
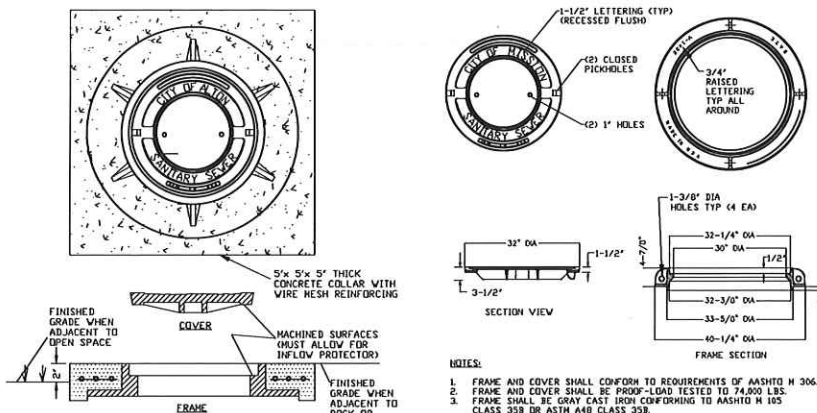
**IZAGUIRRE ENGINEERING GROUP, LLC.**  
7413 N. LA HOMA MISSION TX, 78574  
CONSULTING ENGINEERS F-10214  
TEL. (956) 584-0554 FAX. (956) 584-0554

**EDUARDOS SUBDIVISION No. 18  
SANITARY SEWER LAYOUT**

Digitally signed by Gilberto A. Gracia, P.E.  
DN: cn=Gilberto A. Gracia, P.E., o=Izaguirre Engineering Group, LLC, ou, email=phagag@aol.com, c=US  
Date: 2019.12.30 10:01:18 -06'00'

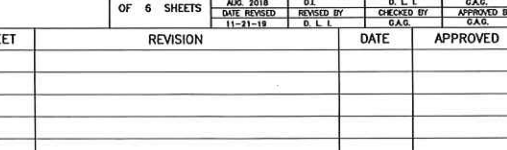
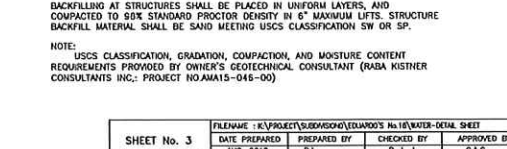
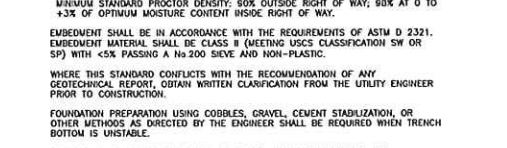
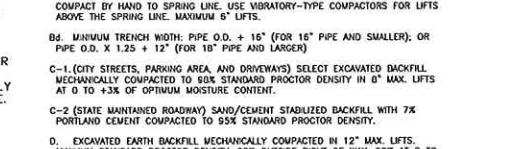
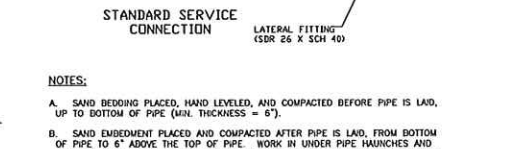
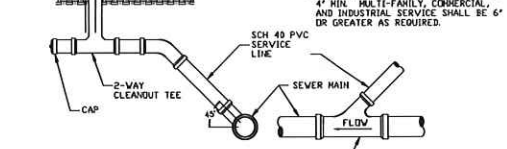
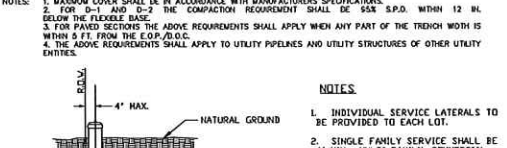
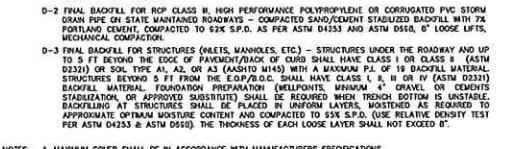
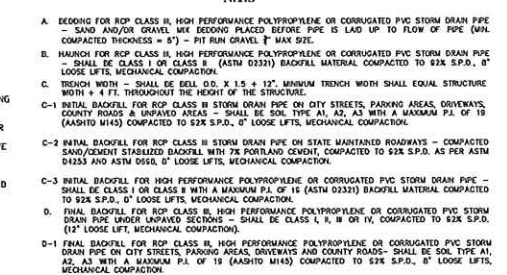
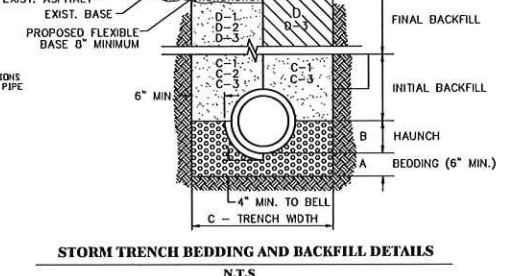
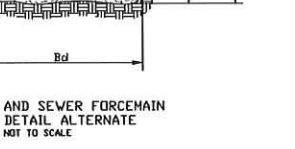
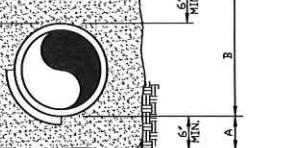
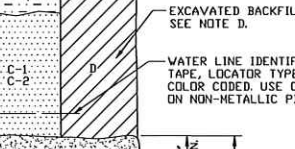
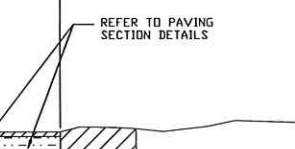
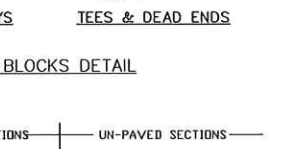
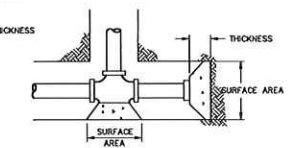
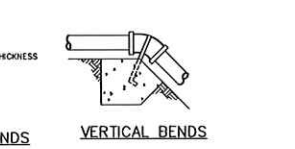
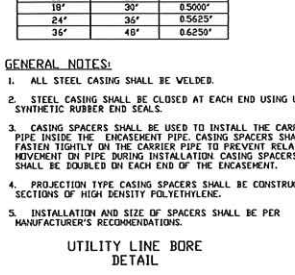
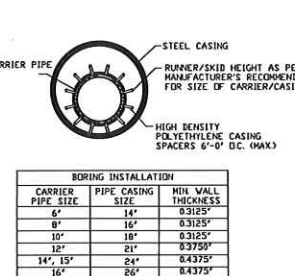
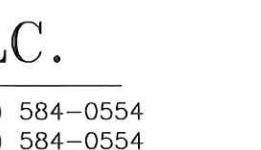
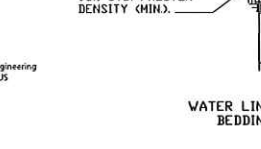
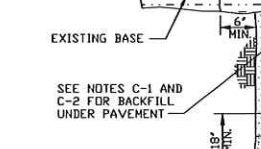
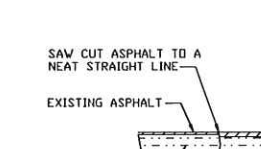
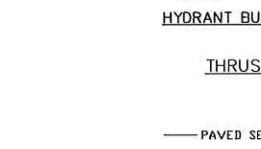
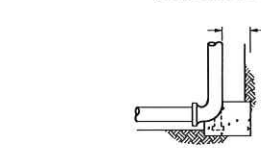
# EDUARDO'S SUBDIVISION No. 18

## DETAIL SHEET



THRUST BLOCK SIZE			WEIGHT AT VERTICAL BENDS - LBS
DIAMETER OF PIPE INCHES	SURFACE AREA SQ. FT.	THICKNESS INCHES	
22-1/2" BENDS			
6 OR LESS	2	8	1,700
8	3	12	3,000
10	3.5	12	4,500
12	4	14	6,600
14	5	18	9,000
16	6	18	11,000
18 OR LESS	4	12	3,200
8	5	14	5,000
10	6	18	9,000
12	7	18	13,000
14	8	24	17,000
16	11.5	24	23,200
18" BENDS			
6 OR LESS	6	12	6,000
8	8	15	10,700
10	10	18	16,700
12	12	18	24,000
14	16	24	32,600
16	21	24	42,700
18" OR LESS	3	12	—
10	4	15	—
12	6	18	—
14	8.5	18	—
16	11.5	24	—
18	15	24	—

BORING INSTALLATION		
CARRIER PIPE SIZE	PIPE CASING SIZE	MIN WALL THICKNESS
6"	14"	0.3125"
8"	16"	0.3125"
10"	18"	0.3125"
12"	21"	0.3750"
14", 15"	24"	0.4375"
16"	26"	0.4375"
18"	28"	0.5000"
24"	36"	0.5625"
36"	48"	0.6250"



# IZAGUIRRE ENGINEERING GROUP, LLC.

7413 N. LA HOMA ROAD MISSION TX, 78574 CONSULTING ENGINEERS F-10214 TEL. (956) 584-0554 FAX (956) 584-0554

No.	SHEET	REVISION	DATE	APPROVED



# EDUARDOS SUBDIVISION No. 18 MAP OF PAVING AND DRAINAGE

A 18.724-ACRE TRACT OF LAND, OUT OF LOT 45-4, WEST ADDITION TO SHARYLAND SUBDIVISION, AS PER THE MAP OR PLAT THEREOF RECORDED IN VOLUME 1, PAGE 56, MAP RECORDS IN THE OFFICE OF THE COUNTY CLERK OF HIDALGO COUNTY, TEXAS, AND ACCORDING TO GENERAL WARRANTY DEED RECORDED UNDER COUNTY CLERK'S DOCUMENT NUMBER 2564387, OFFICIAL RECORDS, HIDALGO COUNTY, TEXAS.

## MASTER DRAINAGE STATEMENT FOR EDUARDOS SUBDIVISION NOS. 18, 19, 20, 21, & 22

**I. PROJECT CHARACTER AND LOCATION**  
The Eduardo's Subdivisions Nos. 18 thru 22 master development tract covers (refer to location map) and relative required detention volume(s) is a completion of five (5) proposed single-family residential subdivisions as follows (refer to drainage calculation sheets):  
Eduardo's Subdivision No. 18 16,724 ac. net 76 proposed lots Det. 74,151 cu-ft  
Eduardo's Subdivision No. 19 17,457 ac. net 60 proposed lots Det. 74,151 cu-ft  
Eduardo's Subdivision No. 20 20,328 ac. net 74 proposed lots Det. 88,232 cu-ft  
Eduardo's Subdivision No. 21 18,210 ac. net 75 proposed lots Det. 88,446 cu-ft  
Eduardo's Subdivision No. 22 16,676 ac. net 60 proposed lots Det. 73,323 cu-ft  
Total Detention Required for Eduardo's Subdivisions Nos. 18 thru 22 Det. 395,340 cu-ft

Said proposed master development tract is located within the Extrajurisdictional Jurisdiction of the City of McAllen, Texas, approximately one-quarter (1/4) mile north of Mile 5 North Road and stretches between Trooper Road and Los Diamas Road, with frontage on both of those roads. All five (5) proposed subdivisions tracts consist of a combined total of 53,195 acres net out of Lots 45-4, 47-3, 47-4, & 48-4, West Addition To Sharyland Subdivision, Hidalgo County, Texas, as recorded in Volume 1, Page 56, Map Records of Hidalgo County, Texas.

**II. FLOOD PLAN**  
Referring to the attached Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Community Panel No. 480334 0255 D, revised JUNE 6, 2000, the five (5) proposed subdivisions tracts are located in zones as follows:  
Eduardo's Subdivision No. 18 is located within "Zone X"  
Eduardo's Subdivision No. 19 is located within "Zone X" and "Zone A"  
Eduardo's Subdivision No. 20 is located within "Zone X"  
Eduardo's Subdivision No. 21 is located within "Zone X"  
Eduardo's Subdivision No. 22 is located within "Zone X"  
Flood Zone "X" is a flood area categorized as "Special Flood Hazard Area inundated by a 100-year flood" and indicates an area where no base flood elevations have been determined. Flood Zone "A" is a flood area categorized as "Special Flood Hazard Area inundated by a 100-year flood" and indicates an area where no base flood elevations have been determined.

**III. SOIL CONDITIONS**  
Referring to the U.S.D.A. Soil Conservation Survey of Hidalgo County (1979) and attached USDA Natural Resource Conservation Service Custom Soil Report for the master development tract, the predominant soils of the master development tract are classified as Comitee-3 (loamy fine sand), Hidalgo-25 (fine sandy loam), and Hidalgo-20 (sandy clay loam).  
Comitee-3 soil (Hydrologic Group A, Unified Class SM-SC), typically found with 0-3% slopes, consists of a surface layer of brown loamy fine sand about 28 inches thick. The soil from 28 to 80 inches down, is a very pale brown sandy clay loam. This soil: a) is non-calcareous to 49 inches down, b) is well drained, c) has medium available water capacity, d) has very slow surface runoff, e) has moderately rapid permeability, f) has an overall moderate shrink-swell potential, g) has a moderate hazard of soil blowing, and h) has a moderate hazard of water erosion.  
Hidalgo-25 soil (Hydrologic Group B, Unified Class SC-CL), typically found with 0-1% slopes, consists of a surface layer of dark gray brown fine sandy loam about 17 inches thick. The next soil layer down, from 17 to 30 inches, is brown sandy clay loam. The next soil layer down, from 30 to 35 inches, is pale brown sandy clay loam. The soil from 35 to 72 inches is a very pale brown sandy clay loam. This soil: a) is calcareous throughout, b) is well drained, c) has medium available water capacity, d) has slow surface runoff, e) has moderate permeability, f) has an overall moderate shrink-swell potential, g) has a moderate hazard of soil blowing, and h) has a slight hazard of water erosion. See attached Soil Report.  
Hidalgo-26 soil (Hydrologic Group B, Unified Class SC-CL), typically found with 0-1% slopes, consists of a surface layer of dark gray brown sandy clay loam about 17 inches thick. The next soil layer down, from 17 to 28 inches, is brown sandy clay loam. The next soil layer down, from 28 to 38 inches, is pale brown sandy clay loam. The soil from 38 to 65 inches is a very pale brown sandy clay loam. This soil: a) is calcareous throughout, b) is well drained, c) has high available water capacity, d) has slow surface runoff, e) has moderate permeability, f) has an overall moderate shrink-swell potential, g) has a slight hazard of soil blowing, and h) has a slight hazard of water erosion. See attached Soil Report.  
Hidalgo-30 soil (Hydrologic Group B, Unified Class SC-CL), typically found with 0-1% slopes, consists of a surface layer of dark gray brown sandy clay loam about 15 inches thick. The next soil layer down, from 15 to 25 inches, is brown sandy clay loam. The next soil layer down, from 25 to 35 inches, is pale brown sandy clay loam. The soil from 35 to 65 inches is a very pale brown sandy clay loam. This soil: a) is calcareous and moderately to strongly silty throughout, b) is well drained, c) has low available water capacity, d) has slow surface runoff, e) has moderate permeability, f) has an overall moderate shrink-swell potential, g) has a slight hazard of soil blowing, and h) has a slight hazard of water erosion. See attached Soil Report.

**IV. EXISTING CONDITIONS**  
Historically, the master development tract consists of brush land. Topographic elevations obtained from the site indicate that the existing terrain has a slight grade to the east approximately (2.35%). Runoff from the master development tract is by sheet runoff flowing overland towards the east and is intercepted by an existing road side ditch along the west side of Trooper Road. Said roadside ditch flows south and outfalls into the Hidalgo County Drainage District No. 1 (HCD#1) drain ditch known as the West Main II Outfall, which is located parallel and adjacent to the south perimeter of the subject master development tract. Said West Main II Outfall drain ditch is serviced by the HCD#1 drain ditch network which ultimately outfalls into the Arroyo Colorado.

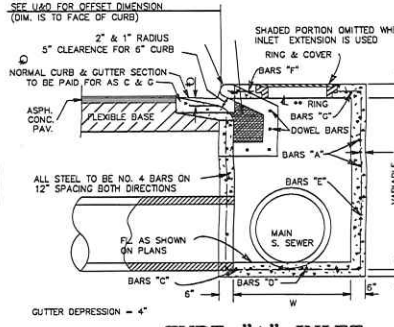
**V. PROPOSED CONDITIONS**  
On-site drainage improvements will be constructed in accordance with the drainage standards and requirements of the City of McAllen and HCD#1. The development surface is to be graded to direct storm water surface runoff towards proposed paved curb and gutter streets. Solid storm water surface runoff will be intercepted by proposed type "A" curb inlets to be installed at appropriate locations. Said curb inlets to be connected to an appropriately sized drain pipe system (refer to attached drainage calculations), which will outfall into a proposed post development storm water runoff detention facility (described in Section IV herein) to be located within HCD#1 south of and immediately adjacent to the subject 53,195 acres of the master development tract. Said detention facility will be drained by a 24-inch "flexible" drainage, which will in turn outfall into the previously mentioned existing HCD#1 West Main II Outfall Drain Ditch.

**VI. RUNOFF CALCULATIONS**  
In accordance with the drainage policies of the City of McAllen and HCD#1, the storm water surface runoff was determined utilizing the Rational Method as follows (refer to drainage calculation sheets):  
a) the 10-year storm for pre-development surface water runoff,  $C_{max} = 40.40$  cfs;  
b) the 30-year storm for post-development surface water runoff,  $C_{max} = 148.54$  cfs;  
After-development storm water surface runoff of the 30-year storm, increased by  $S = 108.14$  cfs.

In accordance with the drainage standards and requirements of the City of McAllen and HCD#1, the total detention requirement for this subject master development 53,195 acre tract is 395,340 cu-ft (9,078 acre-feet) as outlined previously in Section I above. Said required detention volume will be provided for the subject master development 53,195 acre tract by the proposed detention facility previously mentioned in Section V above and will have the capacity to detain a total volume of approximately 634,826 cu-ft (14,574 acre-feet).

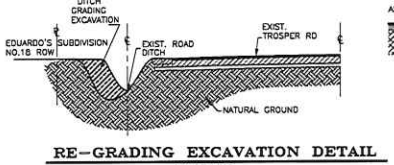
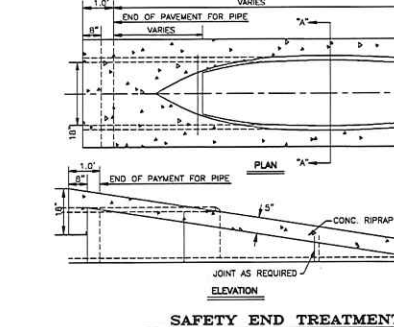
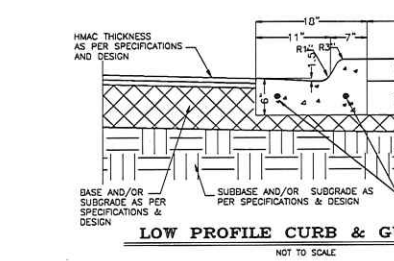


GILBERTO A. GRACIA-P.E. No. 62477  
This seal appearing on this document was authorized by Gilberto A. Gracia, P.E. No. 62477 on the above designated date.



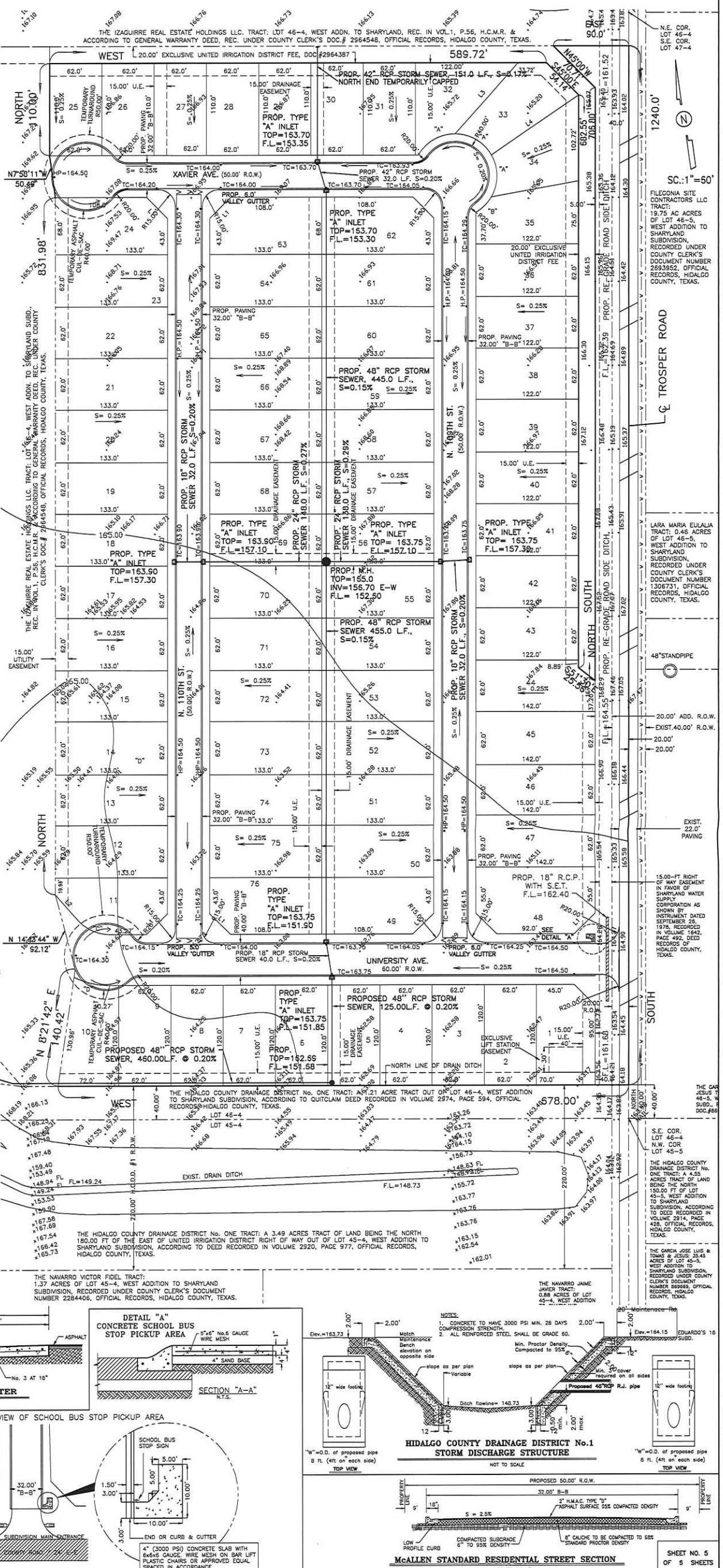
**COST ESTIMATE**

PAVING DISTRIBUTION	\$ 128,310.00
WATER IMPROVEMENTS	\$ 358,252.11
DRAINAGE IMPROVEMENTS	\$ 88,455.00
SAN. SEWER IMPROVEMENTS	\$ 356,058.00
<b>TOTAL</b>	<b>\$ 880,585.11</b>



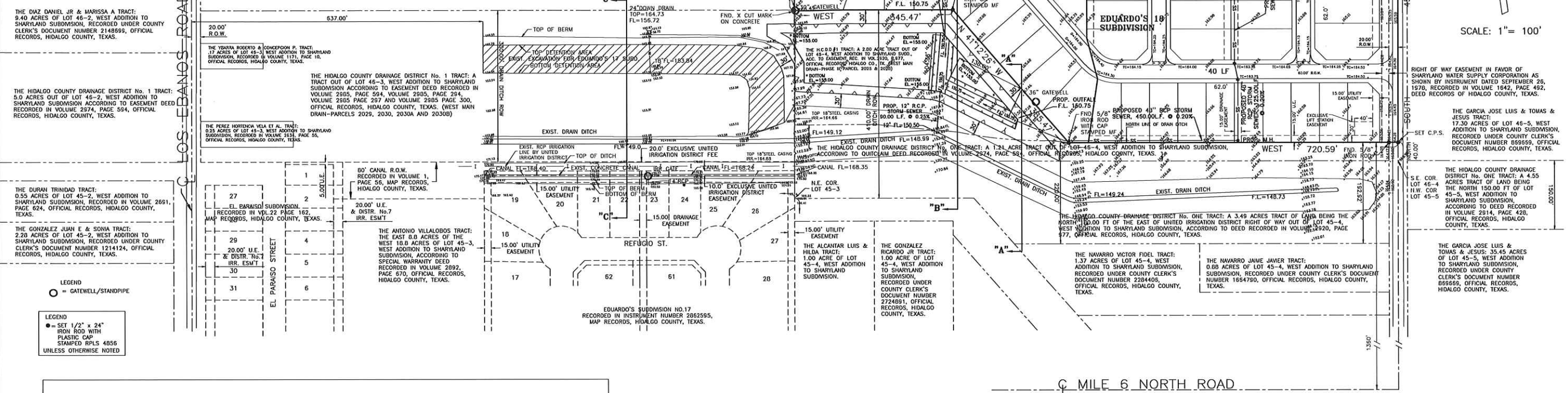
1. ALL HONEYCOMBING SHALL BE GROUTED TO PROVIDE A UNIFORM SURFACE.
2. WHEN HONEYCOMBING IS EXCESSIVE AS DETERMINED BY THE COUNTY OF HIDALGO COUNTY DESIGNATED REPRESENTATIVE, CURB AND GUTTER SHALL BE REPLACED.
3. BACKFILL BEHIND CURBS SHALL BE ACCUMULATED WITHIN 24 HOURS AFTER BACK FORM IS REMOVED OR 48 HOURS AFTER SLIP FORMING.
4. CURB AND GUTTER CONCRETE SHALL BE CLASS "A" (5,000 PSI).
5. REINFORCED STEEL AS SHOWN.
6. MAX. LENGTH OF CURB AND GUTTER SECTION IS 80' BETWEEN 1" EXPANSION JOINT.

PROP. OUTFALL  
CONC. RIP-RAP 48" RCP  
F.L. = 150.75



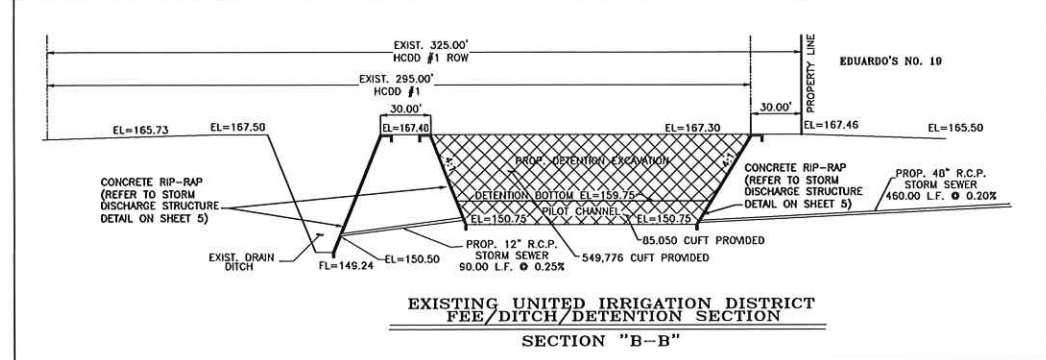
# LOT 46-3

RECORDED IN VOLUME 1, PAGE 56, MAP RECORDS, HIDALGO COUNTY, TEXAS.

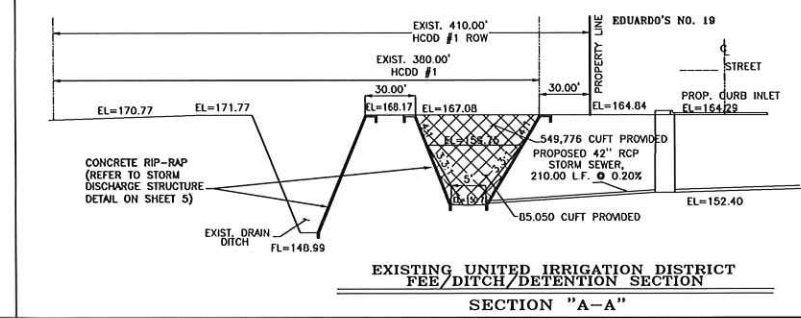


SCALE: 1" = 100'

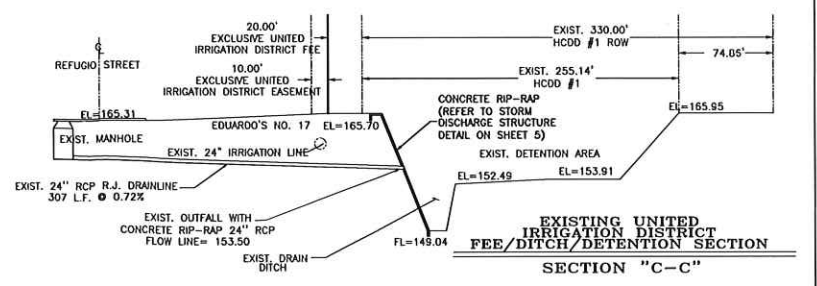
- LEGEND**
- = GATEWELL/STANDPIPE
  - = SET 1/2" x 24" IRON ROD WITH PLASTIC CAP STAMPED RPLS 4056 UNLESS OTHERWISE NOTED



VOL. = 395,340 CUFT REQUIRED  
VOL. = 634,826 CUFT TOTAL PROVIDED  
DETENTION VOLUME ABOVE CHANNEL = 549,776 CUFT  
DETENTION VOLUME IN CHANNEL = 85,050 CUFT



HORIZONTAL DETENTION SURFACE AREA AT ELEV. 167.30 = 79,720 SQFT  
HORIZONTAL DETENTION BOTTOM AREA AT ELEV. 159.75 = 65,916 SQFT  
AVERAGE HORIZONTAL AREA AT ELEV. 163.53 = 72,810 SQFT  
DETENTION DEPTH FROM ELEV. 167.30 TO 159.75 = 7.55 FT  
DETENTION VOLUME ABOVE CHANNEL = 549,776 CUFT  
DETENTION CHANNEL DEPTH = 5 FT  
DETENTION CHANNEL WIDTH AT TOP = 65 FT  
DETENTION CHANNEL WIDTH AT BOTTOM = 5 FT  
DETENTION CHANNEL END AREA = 35 FT X 5 FT = 315 SQFT  
DETENTION CHANNEL LENGTH(S) = 120 FT + 150 FT = 270 FT  
DETENTION CHANNEL VOLUME = 315 SQFT X 270 FT = 85,050 CUFT  
TOTAL DETENTION VOLUME = 549,776 CUFT + 85,050 CUFT = 634,826 CUFT



SHEET NO. 6 OF 6 SHEETS

## IZAGUIRRE ENGINEERING GROUP, LLC.

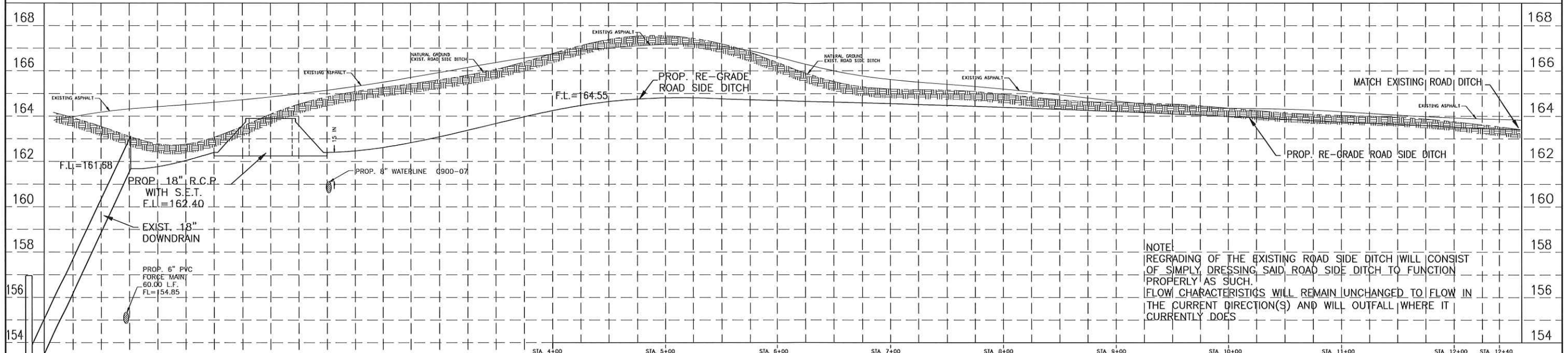
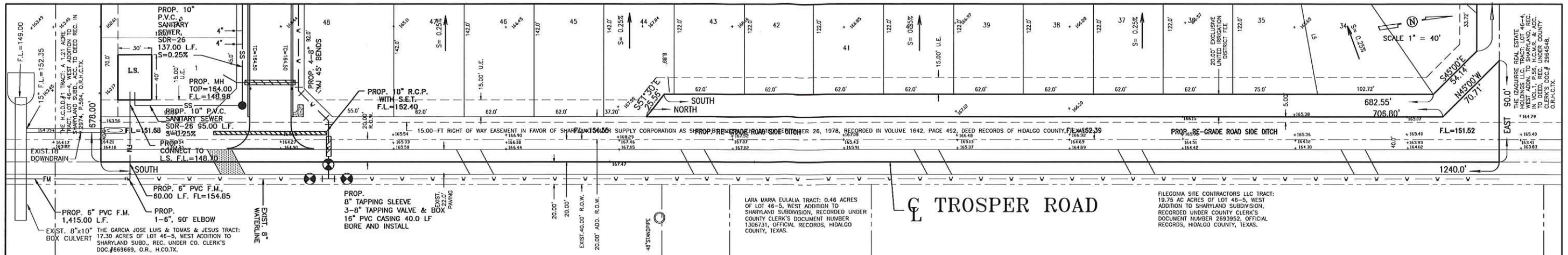
7413 N. LA HOMA  
MISSION TX, 78574

CONSULTING ENGINEERS  
F-10214

TEL. (956) 584-0554  
FAX. (956) 584-0554

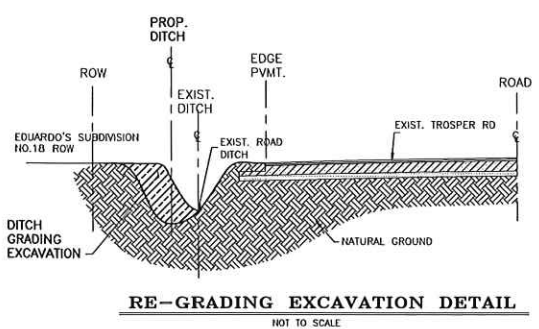
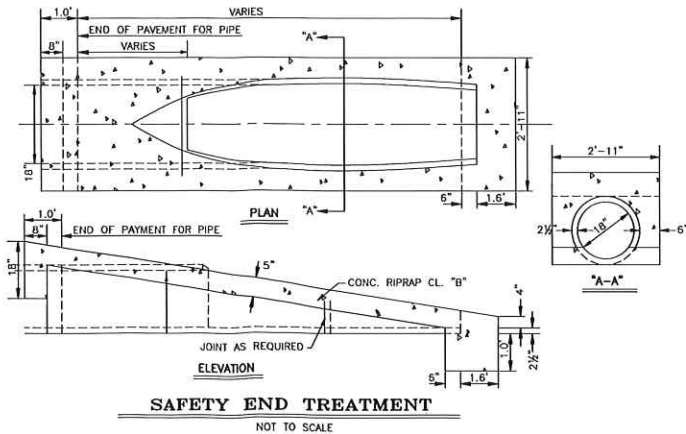
## MASTER DETENTION FACILITY EDUARDO'S 18, 19, 20, 21 & 22 H.C.D.D. #1, WEST MAIN DRAIN-PHASE III PARCEL 2026 & 2028





NOTE:  
 REGRADING OF THE EXISTING ROAD SIDE DITCH WILL CONSIST OF SIMPLY DRESSING SAID ROAD SIDE DITCH TO FUNCTION PROPERLY AS SUCH.  
 FLOW CHARACTERISTICS WILL REMAIN UNCHANGED TO FLOW IN THE CURRENT DIRECTION(S) AND WILL OUTFALL WHERE IT CURRENTLY DOES.

### EDUARDOS SUBDIVISION No. 18



## IZAGUIRRE ENGINEERING GROUP, LLC.

PRINCIPAL CONTACTS:  
 OWNER: DIANA LAURA IZAGUIRRE  
 ENGINEER: GILBERTO A. GRACIA  
 SURVEYOR: HOMERO LUIS GUERRERIZ

7413 N. LA HOMA  
 MISSION TX, 78574

CONSULTING ENGINEERS  
 F-10214

TEL. (956) 584-0554  
 FAX. (956) 584-0554



Digitally signed by Gilberto A. Gracia, P.E.  
 DN: cn=Gilberto A. Gracia, o=Izaguirre Engineering Group, LLC, ou, email=alpha@ieg.com, c=US  
 Date: 2019.12.10 23:41:49 -0600

DATE PREPARED	PREPARED BY	CHECKED BY	APPROVED BY
DATE REVISION	REVISION BY	CHECKED BY	APPROVED BY

REVISION	DATE	APPROVED

RIGHT OF WAY EASEMENT IN FAVOR OF SHARYLAND WATER SUPPLY CORPORATION AS SHOWN BY INSTRUMENT DATED SEPTEMBER 26, 1978, RECORDED IN VOLUME 1642, PAGE 492, DEED RECORDS OF HIDALGO COUNTY, TEXAS.

THE GARCIA JOSE LUIS & TOMAS & JESUS TRACT: 17.30 ACRES OF LOT 46-5, WEST ADDITION TO SHARYLAND SUBDIVISION, RECORDED UNDER COUNTY CLERK'S DOCUMENT NUMBER 869669, OFFICIAL RECORDS, HIDALGO COUNTY, TEXAS.

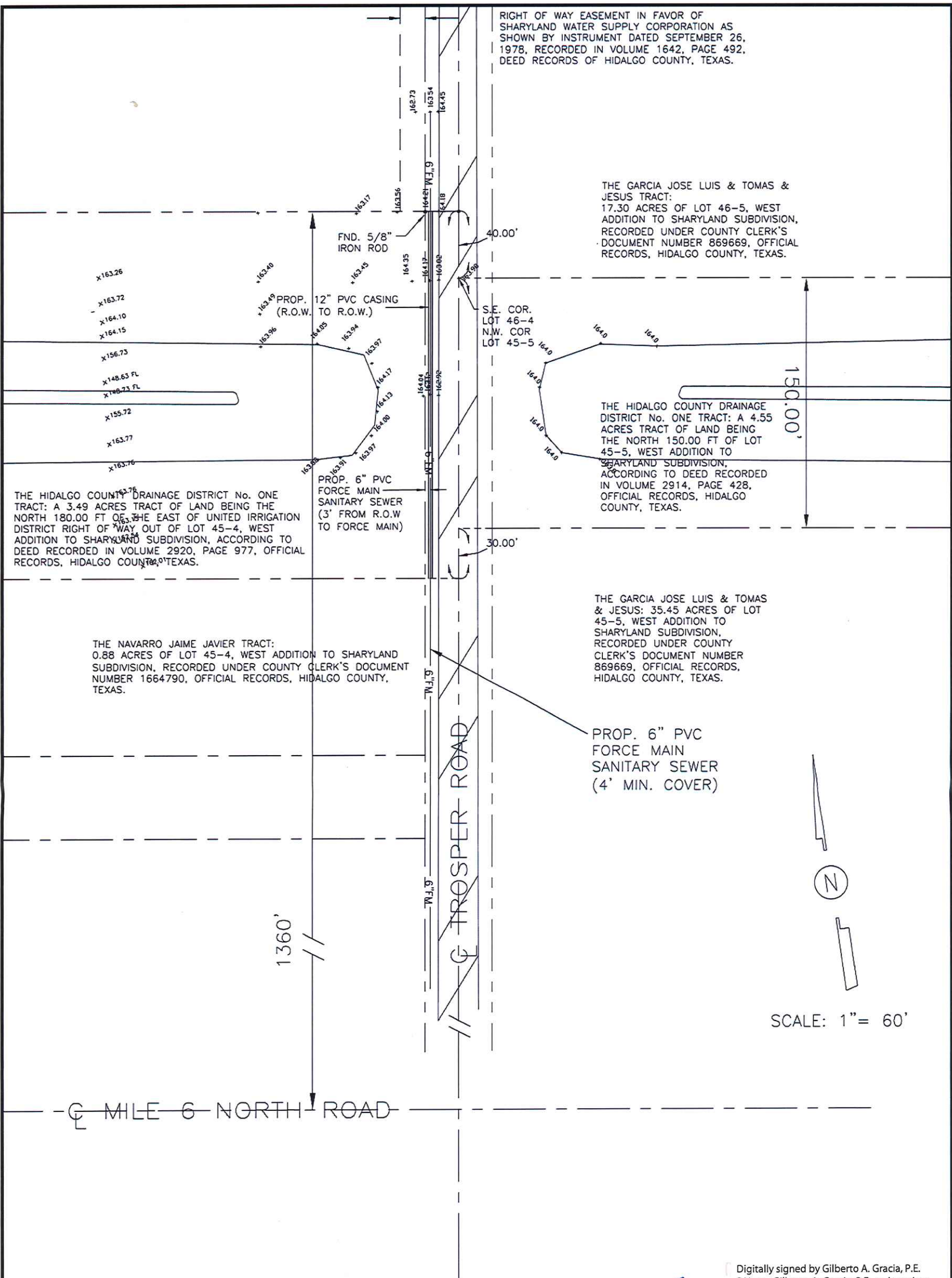
THE HIDALGO COUNTY DRAINAGE DISTRICT No. ONE TRACT: A 4.55 ACRES TRACT OF LAND BEING THE NORTH 150.00 FT OF LOT 45-5, WEST ADDITION TO SHARYLAND SUBDIVISION, ACCORDING TO DEED RECORDED IN VOLUME 2914, PAGE 428, OFFICIAL RECORDS, HIDALGO COUNTY, TEXAS.

THE HIDALGO COUNTY DRAINAGE DISTRICT No. ONE TRACT: A 3.49 ACRES TRACT OF LAND BEING THE NORTH 180.00 FT OF THE EAST OF UNITED IRRIGATION DISTRICT RIGHT OF WAY OUT OF LOT 45-4, WEST ADDITION TO SHARYLAND SUBDIVISION, ACCORDING TO DEED RECORDED IN VOLUME 2920, PAGE 977, OFFICIAL RECORDS, HIDALGO COUNTY, TEXAS.

THE NAVARRO JAIME JAVIER TRACT: 0.88 ACRES OF LOT 45-4, WEST ADDITION TO SHARYLAND SUBDIVISION, RECORDED UNDER COUNTY CLERK'S DOCUMENT NUMBER 1664790, OFFICIAL RECORDS, HIDALGO COUNTY, TEXAS.

THE GARCIA JOSE LUIS & TOMAS & JESUS: 35.45 ACRES OF LOT 45-5, WEST ADDITION TO SHARYLAND SUBDIVISION, RECORDED UNDER COUNTY CLERK'S DOCUMENT NUMBER 869669, OFFICIAL RECORDS, HIDALGO COUNTY, TEXAS.

PROP. 6" PVC FORCE MAIN SANITARY SEWER (4' MIN. COVER)



SCALE: 1" = 60'

6" PVC SANITARY SEWER FORCE MAIN ALONG TROSPER ROAD CROSSING H.C.D.D. #1 MAIN DRAIN - PHASE III

*Gilberto A. Gracia*

Digitally signed by Gilberto A. Gracia, P.E.  
 DN: cn=Gilberto A. Gracia, P.E., o=Izaguirre Engineering Group, LLC, ou, email=alphagag@aol.com, c=US  
 Date: 2019.12.10 23:42:06 -06'00'

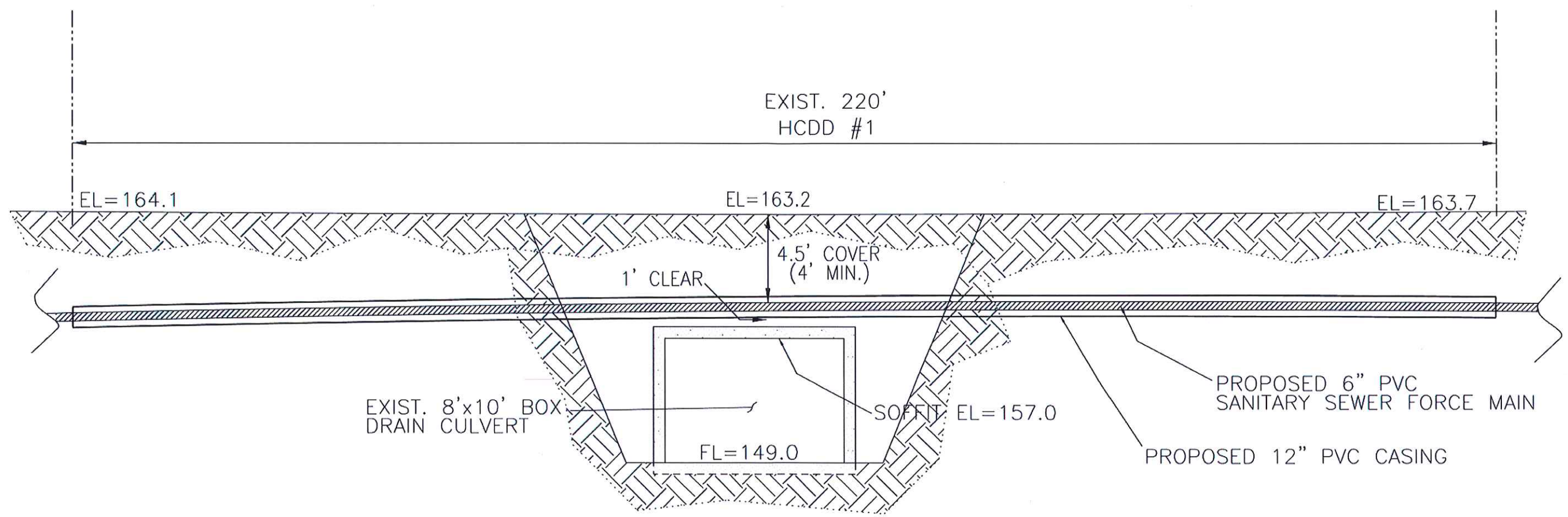
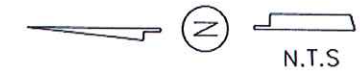


**IZAGUIRRE ENGINEERING GROUP, LLC.**

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N.T.S.

PROFILE VIEW  
6" PVC SANITARY SEWER  
FORCE MAIN ALONG TROSPER ROAD CROSSING  
H.C.D.D. #1 MAIN DRAIN - PHASE III

N.T.S.

