



# HIDALGO COUNTY PLANNING DEPARTMENT

T.J. Arredondo, CFM  
Director of Planning

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## HIDALGO COUNTY COMMISSIONERS COURT MEETING

DATE: 10-09-2018

PROPOSED EDUARDOS SUBDIVISION NO. 18, PRECINCT No. 3.

ENGINEER: IZAGUIRRE ENGINEERING GROUP LLC. DEVELOPER: IZAGUIRRE REAL ESTATES HOLDINGS LLC.

PRELIMINARY APPROVAL     FINAL APPROVAL     FINAL APPROVAL WITH FINANCIAL GUARANTEE     WITH VARIANCE

NUMBER OF LOTS: 76  \*SINGLE FAMILY     \*MULTI-FAMILY     COMMERCIAL     INSTITUTIONAL

LOCATION DESCRIPTION: WEST OF TROSPER ROAD APPROXIMATELY 1360 FEET NORTH OF MILE 6 NORTH ROAD.

SUBDIVISION LIES WITHIN THE:  ETJ OF MISSION AND WAS APPROVED BY THE P & Z AND CITY COMMISSION OF SAID CITY

DRAINAGE REPORT WAS APPROVED BY HCDD#1: ON 8-29-2018 PROPERTY LIES WITHIN FLOOD ZONE: "X" AS PER FEMA.

DRAINAGE DESIGN: DRAINAGE WILL BE PROVIDED BY STORM DRAINAGE PIPE SYSTEM AND DETENTION WILL BE PROVIDED BY WIDENING THE EXISTING DRAIN DITCH.

ROAD R.O.W. DEDICATION: 20.00 FEET ONTO TROSPER ROAD.

H.C.R.O.W. PRELIMINARY APPROVAL DATE: 9-18-2018 BY, VICTOR GALLARDO, PCT. 3 R.O.W. AGENT

H.C.H.D. PRELIMINARY APPROVAL DATE: 8-15-2018 BY, ENVIRONMENTAL HEALTH DIVISION

SEWER SYSTEM:  SANITARY SEWER BY: MISSION LINE SIZE: 6" LOCATION: MILE 6 NORTH ROAD.

WATER SERVICE PROVIDER: S.W.S.C. LINE SIZE: 8" LOCATION: TROSPER ROAD.

H.C.E.O.C. PRELIMINARY APPROVAL DATE: 9-05-2018 : BY MARTIN RAMIREZ ENVIRONMENTAL COMPLIANCE COORDINATOR

**LARGE CONSTRUCTION**

*The applicant has submitted the required NOI as per Part II, Section E of the TPDES General Permit for Construction Activities (TXR150000) along with a copy of the Erosion Control Plan for the proposed project.*

PRELIMINARY APPROVAL FROM THE  
HIDALGO COUNTY COMMISSIONERS COURT ON: \_\_\_\_\_, \_\_

STAFF RECOMMENDS:  **Preliminary Approval** subject to comments and future recommendations by planning, other departments and the approval of the City of MISSION.

**Final Approval** subject to recommendations other departments

**Final Approval** with financial guarantee.

*This subdivision plat has been reviewed and complies with the Hidalgo County Subdivision Rules, Texas Water Development Board Model Subdivision Rules and The Texas Local Government Code.*



ALL WATERLINE CONSTRUCTION SHALL REFERENCE SHARYLAND WATER SUPPLY COMPANY CONSTRUCTION STANDARDS. CONTRACTOR SHALL REFERENCE SHARYLAND WATER SUPPLY COMPANY STANDARD DETAILS WHENEVER CONFLICTS ARISE.

## EDUARDOS SUBDIVISION No. 18 MAP OF WATER DISTRIBUTION

A 19.43-ACRE TRACT OF LAND, OUT OF LOT 46-4, 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.

FINAL ENGINEERING REPORT FOR EDUARDOS SUBDIVISION No. 18 BY GILBERTO A. GRACIA, P.E.  
WATER SUPPLY: Description and Code.  
WATER SUPPLY:  
EDUARDOS SUBDIVISION No. 18 WILL BE PROVIDED WITH POTABLE WATER BY THE WATER COMPANY OF SHARYLAND WATER SUPPLY COMPANY (S.W.S.C.) THE SUBDIVISION AND COMPANY S.W.S.C. SIGNED A CONTRACT BY WHICH THE SUBDIVISION WILL RECEIVE SUFFICIENT WATER PROVISION FOR AT LEAST 30 YEARS AND S.W.S.C. HAS PROVIDED SUFFICIENT DOCUMENTATION TO ESTABLISH THE LONG TERM QUANTITY AND QUALITY OF THE AVAILABLE WATER SUPPLIES TO SERVE THE FULL DEVELOPMENT OF THIS SUBDIVISION.  
S.W.S.C. HAS AN EXISTING 8" DIAMETER WATER LINE RUNNING ALONG THE EAST SIDE OF TROSPER RD.

THE WATER SYSTEM FOR EDUARDOS SUBDIVISION No. 18 CONSISTS OF A 8" DIAMETER WATER LINE THAT TAPS INTO THE EXISTING 8" DIAMETER WATER LINE THAT RUNS ALONG THE EAST SIDE OF TROSPER ROAD. THE PROPOSED 8" DIAMETER WATER LINE RUNS EAST FOR APPROXIMATELY 700.00 FEET ALONG THE NORTH SIDE OF JUAN PABLO STREET ENDING WITH A FLUSH VALVE AT THE END OF THE STREET. FROM SAID PROPOSED 8" DIAMETER WATER LINE ANOTHER PROPOSED 8" DIAMETER WATER LINE BRANCHES OFF AND RUNS NORTH FOR APPROXIMATELY 83.00 FEET ALONG THE WEST SIDE OF TROSPER STREET. ANOTHER PROPOSED 8" DIAMETER WATER LINE BRANCHES OFF AND RUNS SOUTH FOR APPROXIMATELY 440.00 FEET ALONG THE SOUTH SIDE OF SEEN STREET, ENDING WITH A FLUSH VALVE AT THE END OF THE STREET. ANOTHER PROPOSED 8" DIAMETER WATER LINE BRANCHES OFF AND RUNS NORTH FOR APPROXIMATELY 83.00 FEET ALONG THE EAST SIDE OF PEDRO STREET ENDING WITH THE PROPOSED 8" DIAMETER WATER LINE ON SEEN STREET.  
FROM THE PROPOSED 8" DIAMETER WATERLINES, THIRTY-TWO (32) DOUBLE SERVICES OF 1" DIAMETER AND TWELVE (12) SINGLE SERVICES ARE COMING OUT OF THIS LINE. SAID SERVICES TERMINATE AT THE WATER METERS OF EACH LOT. THE 8" DIAMETER WATER SERVICE LINES, AND THE WATER METER BOXES WILL BE INSTALLED AT A TOTAL COST OF \$128,310.00 PER LOT. IN ADDITION THE SUBDIVISION WILL PAY S.W.S.C. THE AMOUNT OF \$243,000.00 WHICH COVERS THE \$23,000.00 COST PER LOT STATED IN THE 30 YEAR WATER SERVICE AGREEMENT, WHICH SUM REPRESENTS THE TOTAL COST OF WATER METER RIGHTS ACQUISITION FEES AND ALL WORKSHOPS OR OTHER FEES ASSOCIATED WITH CONSTRUCTING THE INDIVIDUAL LOTS IN THE SUBDIVISION TO S.W.S.C. UPON REQUEST BY THE LOT OWNER, S.W.S.C. WILL PROMPTLY INSTALL AT NO CHARGE THE WATER METER FOR THAT LOT. NO FINE HYDRANTS WERE REQUIRED. THE DRAINAGE FACILITIES HAVE BEEN APPROVED AND ACCEPTED BY S.W.S.C. AND SAID DISTRIBUTION SYSTEM IS OPERABLE AS OF THE DATE OF THE RECORDING OF THE PLAT.

SANITARY SEWER DESCRIPTION AND EXPENSES:  
EDUARDOS SUBDIVISION No. 18 SUBDIVISION WILL BE SERVED BY WASTEWATER SERVICE FROM CITY OF MISSION. THE SUBDIVISION AND CITY OF MISSION HAVE ENTERED INTO A CONTRACT IN WHICH CITY OF MISSION HAS PROMISED TO TREAT THE SUFFICIENT WASTEWATER FOR AT LEAST 30 YEARS AND CITY OF MISSION HAS PROVIDED DOCUMENTATION TO SUFFICIENTLY ESTABLISH THE LONG TERM QUANTITY AND QUALITY OF THE AVAILABLE WASTEWATER SUPPLIES TO SERVE THE FULL DEVELOPMENT OF THIS SUBDIVISION.  
THE CITY OF MISSION HAS AN EXISTING LIFT STATION LOCATED AT LOT 1 FOR THIS SUBDIVISION.  
THE SANITARY SEWER SYSTEM OF EDUARDOS SUBDIVISION No. 18 CONSISTS OF A PROPOSED 8" DIAMETER SEWER LINE THAT TAPS INTO A PROPOSED MAIN SEWER LINE LOCATED ON THE NORTH EAST SIDE OF THIS SUBDIVISION. SAID PROPOSED 8" DIAMETER SEWER LINE RUNS APPROXIMATELY 1,110.00 FEET ALONG THE EAST SIDE OF JUAN PABLO STREET TO A MAN HOLE ON THE SOUTH SIDE OF JUAN PABLO STREET. FROM THERE IT TURNS EAST AND RUNS APPROXIMATELY 145.00 FEET TO A MAN HOLE AND IT TURNS SOUTH RUNNING APPROXIMATELY 83.00 FEET ALONG A 15'-FT UTILITY EASEMENT TO AND CONNECTS WITH THE EXISTING 8" DIAMETER SEWER LINE SITUATED ON THE SOUTH WEST SIDE OF JUAN PABLO STREET. ANOTHER PROPOSED 8" DIAMETER SEWER LINE BRANCHES OFF AND RUNS SOUTH FOR APPROXIMATELY 440.00 FEET ALONG THE SOUTH SIDE OF THE SAME STREET AND CONNECTS WITH THE PROPOSED MAIN SEWER LINE. ANOTHER PROPOSED 8" DIAMETER SEWER LINE BRANCHES OFF AND RUNS NORTH FOR APPROXIMATELY 887.00 FEET ALONG THE WEST SIDE OF THE SAME STREET AND IT CONNECTS WITH THE PROPOSED MAIN SEWER LINE. ANOTHER PROPOSED 8" DIAMETER SEWER LINE BRANCHES OFF AND RUNS NORTH FOR APPROXIMATELY 440.00 FEET EAST ALONG THE NORTH SIDE OF THE SAME STREET AND CONNECTS WITH THE PROPOSED MAIN SEWER LINE. ANOTHER PROPOSED 8" DIAMETER SEWER LINE BRANCHES OFF AND RUNS SOUTH FOR APPROXIMATELY 80.00 FEET AND IT BENDS SOUTH ALONG THE WEST SIDE OF TROSPER ROAD RUNNING APPROXIMATELY 1,415.00 FEET WHERE IT CONNECTS WITH AN EXISTING MAN HOLE.  
SANITARY SERVICES TERMINATE AT THE SEWER METERS OF EACH LOT FOR A TOTAL OF SEVENTY SIX (76) SANITARY SEWER SERVICES.  
THE 8" SEWER LINES, THE 4" SERVICE LINES, THE TEN (10) SANITARY SEWER MANHOLES AND THE 1" FORCE MAIN LINE HAVE BEEN INSTALLED AT A TOTAL COST OF \$273,058.00 PER LOT. IN ADDITION, THE DRAINAGE FACILITIES DESCRIBED ABOVE, ARE AS FOLLOWS:  
ADAPTED UNDER SECTION 16.043, WATER CODE, I CERTIFY THAT THE COSTS TO INSTALL WATER AND SEWER FACILITIES, DESCRIBED ABOVE, ARE AS FOLLOWS:  
WATER FACILITIES - THESE FACILITIES FULLY CONSTRUCTED, WITH THE INSTALLATION OF WATER METERS, WILL COST A GRAND TOTAL OF \$571,310.00 WHICH EQUALS TO \$4,888.29 PER LOT.  
SEWER FACILITIES - THESE FACILITIES FULLY CONSTRUCTED WILL COST A GRAND TOTAL OF \$273,058.00 WHICH EQUALS TO \$4,834.85 PER LOT.

ENGINEER CERTIFICATION:  
BY MY SIGNATURE BELOW, I CERTIFY THAT THE WATER AND SEWER SERVICE FACILITIES DESCRIBED ABOVE ARE IN COMPLIANCE WITH THE MODEL RULES ADOPTED UNDER SECTION 16.043, WATER CODE, I CERTIFY THAT THE COSTS TO INSTALL WATER AND SEWER FACILITIES, DESCRIBED ABOVE, ARE AS FOLLOWS:  
WATER FACILITIES - THESE FACILITIES FULLY CONSTRUCTED, WITH THE INSTALLATION OF WATER METERS, WILL COST A GRAND TOTAL OF \$571,310.00 WHICH EQUALS TO \$4,888.29 PER LOT.  
SEWER FACILITIES - THESE FACILITIES FULLY CONSTRUCTED WILL COST A GRAND TOTAL OF \$273,058.00 WHICH EQUALS TO \$4,834.85 PER LOT.



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.

REPORT FINAL DE INGENIERIA PARA EDUARDOS SUBDIVISION No. 18 POR GILBERTO A. GRACIA, P.E.

PROVISION DE AGUA DESCRIPCION Y GASTOS:  
EDUARDOS SUBDIVISION No. 18 SERA PROVEIDA DE AGUA POTABLE POR LA COMPANIA DE AGUA SHARYLAND WATER SUPPLY COMPANY (S.W.S.C.). EL SUBDIVISION Y LA COMPANIA DE AGUA S.W.S.C. FIRMARON UN CONTRATO POR EL CUAL LA SUBDIVISION RECIBIRA PROVISION DE AGUA SUFFICIENTE POR LOS PROXIMOS 30 AÑOS Y LA COMPANIA DE AGUA S.W.S.C. PRESENTO SUFICIENTE DOCUMENTACION PARA ESTABLECER A LARGO PLAZO LA CANTIDAD Y CALIDAD DE AGUA SUFICIENTE PARA SERVIR EL FUTURO DESARROLLO DE LA SUBDIVISION.  
S.W.S.C. TIENE UNA LINEA DE 8" DE DIAMETRO EXISTENTE, CORRIENDO POR EL LADO ESTE DE LA CALLE TROSPER RD.  
EL SISTEMA EXISTENTE DE AGUA PARA EDUARDOS SUBDIVISION No. 18 CONSISTE DE UNA LINEA DE AGUA DE 8" DE DIAMETRO QUE SE CONECTA CON LA LINEA EXISTENTE DE 8" DE DIAMETRO QUE CORRE EN EL LADO ESTE DE LA CALLE TROSPER ROAD. LA LINEA PROPUUESTA DE 8" DE DIAMETRO CORRE HACIA EL ESTE POR UN APROMOXIMADO 700.00 PIES POR EL LADO NOROESTE DE LA CALLE JUAN PABLO ST. TERMINANDO CON UNA VALVULA DE PURGA AL FINAL DE LA CALLE. DE EN LA LINEA PROPUUESTA DE 8" DIAMETRO CORRE HACIA EL NORTE POR UN APROMOXIMADO 83.00 PIES POR EL LADO NOROESTE DE LA CALLE TROSPER ST. DESPUES DA VUELTA AL OESTE Y CORRE APROMOXIMADO 440.00 PIES POR EL LADO SUR DE LA CALLE SEEN ST. TERMINANDO EN UNA VALVULA DE PURGA AL FINAL DE LA CALLE. OTRA LINEA DE AGUA DE 8" DIAMETRO SE CONECTA CON LA LINEA PROPUUESTA DE 8" DIAMETRO QUE ESTA EN LA CALLE JUAN PABLO ST. Y CORRE HACIA EL NORTE APROMOXIMADO 83.00 PIES POR EL LADO ESTE DE LA CALLE PEDRO ST. CONECTANDOSE Y HACIENDO UN CIRCUITO CERRADO CON LA LINEA DE AGUA DE LA CALLE SEEN ST.

DE LA LINEA DE 8" DE DIAMETRO SE DESPRENDEN TREINTA Y DOS (32) SERVICIOS DOBLES DE 1" DE DIAMETRO Y DOCE (12) SERVICIOS SENCILLOS, QUE VAN HACIA LOS MEDIORES DE CADA LOTE. LAS LINEAS DE 1" DE DIAMETRO, LAS LINEAS DE SERVICIOS DE AGUA Y LAS CAJAS DE LOS MEDIORES SE INSTALARAN A UN COSTO TOTAL DE US \$128,310.00 DE LOS CUALES SE CUBRIRON US \$1,888.29 POR LOTE. EL DISEÑO DE LA SUBDIVISION FUE APROXIMADO A UN COSTO TOTAL DE US \$243,000.00 O US \$3,200.00 POR LOTE DE ACORDO AL CONTRATO Y DOCUMENTO DE 30 AÑOS DE SERVICIO DE AGUA POTABLE QUE CORRE EL RIESGO DE AGUA, INCLUYENDO COSTOS DE LA INSTALACION DE CADA MEDIDOR, TUBOS DE CONDUCCION Y MONTAJES, CUANDO EL DUEÑO DEL SOLAR SOLICITE UN MEDIDOR DE AGUA. LA COMPANIA AGUA S.W.S.C. INSTALARA EL MEDIDOR SIN COSTO ALGUNO AL DUEÑO. NINGUN MEDIDOR DE AGUA SERA INSTALADO YA QUE NO FUEON REQUERIDOS PARA ESTA SUBDIVISION. EL SISTEMA DE AGUA ESTARA EN FUNCIONAMIENTO COMPLETO ANTES O EN LA FECHA, EN LA CUAL LA SUBDIVISION SEA REGISTRADA EN EL CONDADO DE HIDALGO.

DRENAJE DESCRIPCION, GASTOS Y FECHA DE INICIO PARA FACILITAR EL DRENAJE PARA LA SUBDIVISION  
LA SUBDIVISION DE EDUARDOS SUBDIVISION No. 18 RECIBIRA SU PROVISION DE DRENAJE SANITARIO DE LA CIUDAD DE MISSION. EL DUEÑO DE LA SUBDIVISION Y LA CIUDAD DE MISSION HAN FIRMADO UN CONTRATO POR EL CUAL LA SUBDIVISION RECIBIRA SU PROVISION DE DRENAJE SANITARIO POR LOS PROXIMOS 30 AÑOS. LA CIUDAD DE MISSION HA PRESENTADO DOCUMENTACION PARA DEMOSTRAR A LARGO PLAZO LA CANTIDAD Y CALIDAD DE DRENAJE SANITARIO ACCESIBLE PARA SERVIR EL FUTURO DESARROLLO DE LA SUBDIVISION.  
LA CIUDAD DE MISSION CUENTA CON UNA ESTACION DE BOMBEO PARA ESTE DESARROLLO LA CUAL SERVIRA A ESTA SUBDIVISION DE EDUARDOS SUBDIVISION No. 18. LOCALIZADA EN EL LOTE 1.

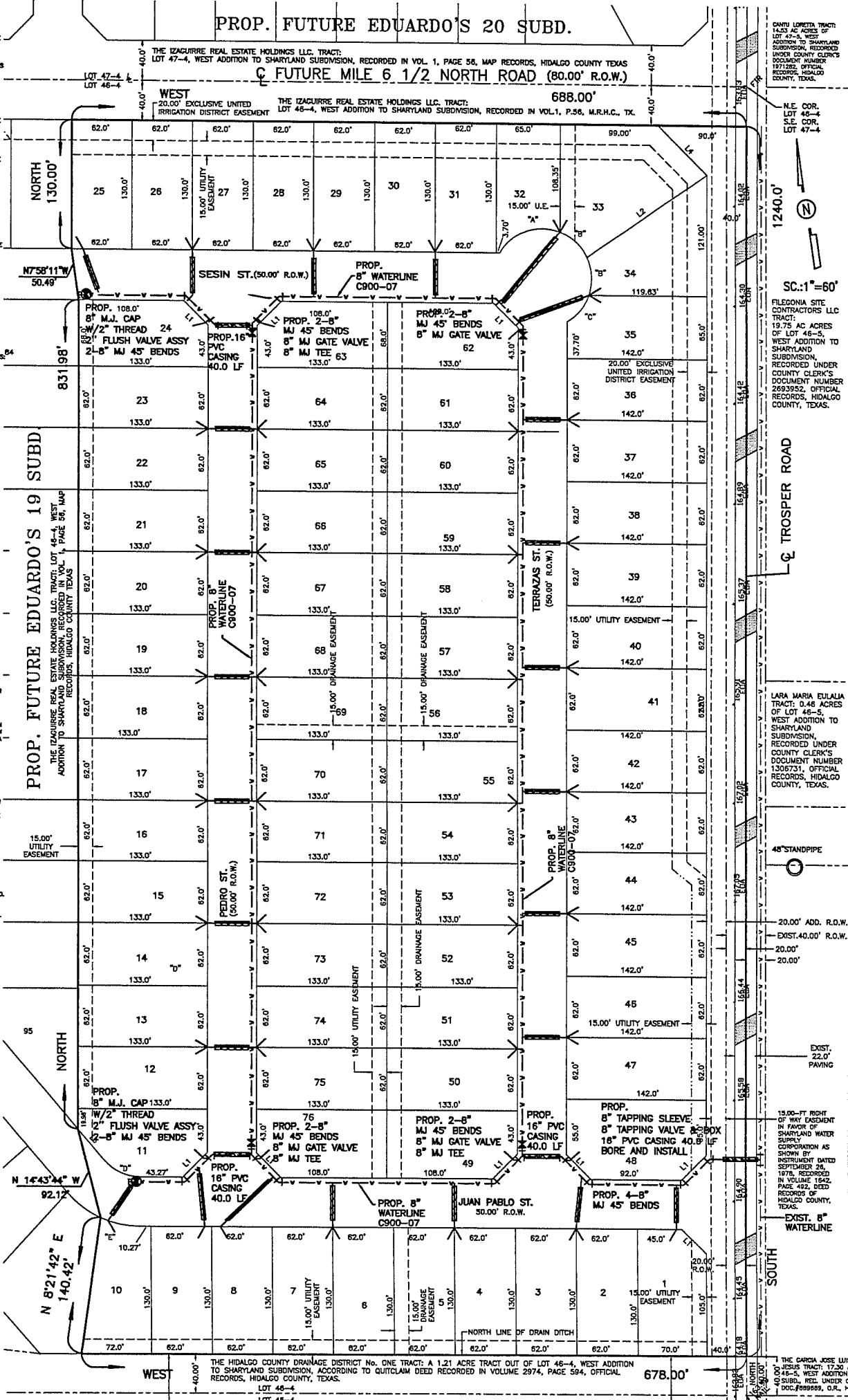
EL DRENAJE SANITARIO DE EDUARDOS SUBDIVISION No. 18 CONSISTE DE UNA LINEA DE DRENAJE SANITARIO PROPUUESTA DE 8" DE DIAMETRO QUE SE CONECTARA A UN POZO DE VISTA LOCALIZADO EN EL LADO NOROESTE DE ESTA SUBDIVISION. ESTA LINEA MENCIONADA CORRE APROMOXIMADO 1,110.00 PIES AL SUR POR EL LADO ESTE DE LA CALLE JUAN PABLO ST. TERMINANDO EN UN POZO DE VISTA PROPUUESTO EN LA CALLE JUAN PABLO STREET. DE AHÍ LA LINEA DA VUELTA HACIA EL ESTE Y CORRE APROMOXIMADO 145.00 PIES A UN POZO DE VISTA Y A LA VEZ DA VUELTA AL SUR Y CORRIENDO APROMOXIMADO 83.00 PIES POR UN DERECHO DE PASO DE 15 PIES DE ANCHO Y CONECTANDOSE A LA ESTACION DE BOMBEO DE DRENAJE SANITARIO LOCALIZADA EN EL LOTE 1. OTRA LINEA PROPUUESTA DE 8" DIAMETRO COMIENZA EN EL LADO SUR OESTE DE LA CALLE JUAN PABLO STREET Y CORRE APROMOXIMADO 440.00 PIES HACIA EL ESTE POR EL LADO SUR DE LA MISMA CALLE CONECTANDOSE CON EL POZO DE VISTA PROPUUESTO. OTRA LINEA PROPUUESTA DE 8" DIAMETRO COMIENZA EN EL LADO NOROESTE DE LA CALLE PEDRO ST. Y CORRE APROMOXIMADO 887.00 PIES POR EL LADO OESTE DE LA MISMA CALLE Y CONECTANDOSE CON LA LINEA PROPUUESTA DE LA CALLE JUAN PABLO ST. OTRA LINEA PROPUUESTA DE 8" DIAMETRO COMIENZA EN EL LADO NOROESTE DE LA CALLE SEEN ST. Y CORRE APROMOXIMADO 440.00 PIES HACIA EL ESTE POR EL LADO NOROESTE DE LA MISMA CALLE Y CONECTANDOSE CON EL POZO DE VISTA PROPUUESTO. DE LA ESTACION DE BOMBEO SE DA UNA LINEA DE DRENAJE SANITARIO A PROVISION DE 8" DIAMETRO QUE CORRE APROMOXIMADO 80.00 PIES HACIA EL ESTE Y AHÍ DOBLA Y CORRE HACIA EL SUR APROMOXIMADO 1,415.00 PIES POR EL LADO OESTE DE LA CALLE TROSPER, FINALMENTE AHÍ SE CONECTA CON UN POZO DE VISTA EXISTENTE.

LOS SERVICIOS DE DRENAJE SANITARIO TERMINARAN EN LOS MEDIORES DE DRENAJE SANITARIO DE CADA LOTE PARA DAR UN TOTAL DE SETENTA Y SEIS (76) DRENAJES.  
LAS LINEAS DE DRENAJE SANITARIO DE 8" PULGADAS, LOS SERVICIOS DE 4" PULGADAS, LOS DIEZ (10) POZOS DE VISTA Y LA LINEA DE 1" A PRESION HAN SIDO INSTALADAS, A UN COSTO TOTAL DE US \$273,058.00 O US \$4,834.85 POR LOTE. EL SISTEMA DE DRENAJE SANITARIO ESTARA EN FUNCIONAMIENTO COMPLETO ANTES O EN LA FECHA, EN LA CUAL LA SUBDIVISION SEA REGISTRADA EN EL CONDADO DE HIDALGO.

CERTIFICACION:  
CON MI FIRMA, CERTIFICO QUE LOS SERVICIOS Y SISTEMAS DE AGUA Y DE DRENAJE, DESCRITOS EN ESTE DOCUMENTO CUMPLEN CON LAS MODEL SUBDIVISION RULES (LAS REGLAS GOBERNADORAS A LAS SUBDIVISIONES), APROBADAS EN LA SECCION 16.043 DEL TEXAS WATER CODE (CODIGO DE AGUA DE TEXAS), CERTIFICO QUE LOS GASTOS PARA INSTALAR LOS SISTEMAS DE AGUA Y DE DRENAJE SON:  
AGUA: EL SISTEMA/SERVICIO DE AGUA SERA INSTALADO Y COMPLETAMENTE CONSTRUIDO MENOS LOS MEDIDORES MECANICOS DE AGUA QUE COSTAN UN TOTAL DE US \$571,310.00 O US \$4,888.29 POR LOTE.  
DRENAJE: SE ESTIMA QUE EL DRENAJE COSTARA UN COSTO TOTAL DE US \$273,058.00 O US \$4,834.85 POR LOTE.



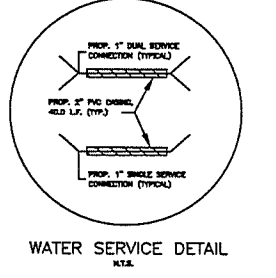
GILBERTO A. GRACIA-P.E. No. 62477  
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**COST ESTIMATE**

WATER DISTRIBUTION:	\$ 128,310.00
PAVING IMPROVEMENTS:	\$ 385,765.11
DRAINAGE IMPROVEMENTS:	\$ 88,455.00
SANITARY SEWER IMPROVEMENTS:	\$ 273,058.00
<b>TOTAL:</b>	<b>\$ 875,588.11</b>

- GENERAL CONSTRUCTION NOTES:**
- ALL PROPOSED WATER LINES TO BE C-900 DR-25.
  - CONTRACTOR TO INSTALL 1" SERVICE CONNECTIONS TO EVERY LOT & ALL SERVICES TO BE LOCATED IN FRONT OF LOTS APPROXIMATELY 1.0 FOOT FROM LOT LINE. CONTRACTOR TO UTILIZE SINGLE & DOUBLE SERVICE CONNECTIONS AS NEEDED.
  - CONTRACTOR TO NOTIFY ALL UTILITY COMPANIES FOR VERIFICATION OF CONFLICTS PRIOR TO CONSTRUCTION ON SITE.
  - SEE WATER DETAIL SHEET FOR MORE INFORMATION.
  - ALL LOTS SHALL BE PROVIDED WITH SERVICE STUBOUTS AND SAID SERVICE LOCATIONS SHALL BE MARKED ON THE CURB AND CUTTER WITH A "W" NOT LESS THAN 1 1/2" IN SIZE OR IN A MANNER APPROVED BY THE CITY AND SHALL BE 12" BELOW FINISH GRADE ELEVATION.
  - THE RESIDENTIAL LOTS SHOULD REFLECT SERVICE BY A 3/4" METER.

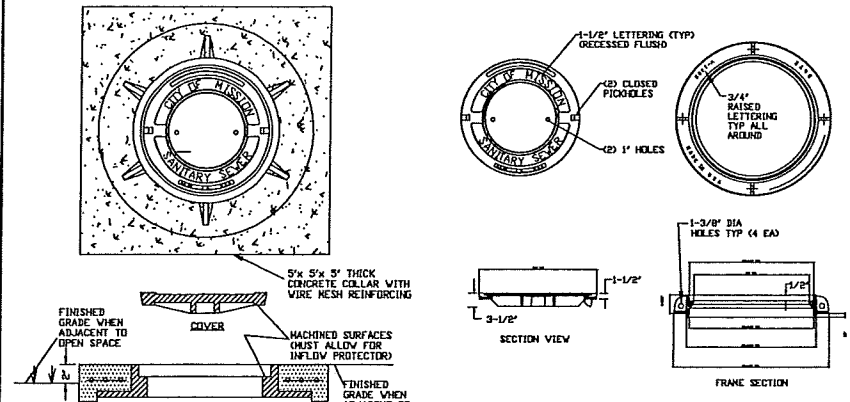


WATER SERVICE DETAIL

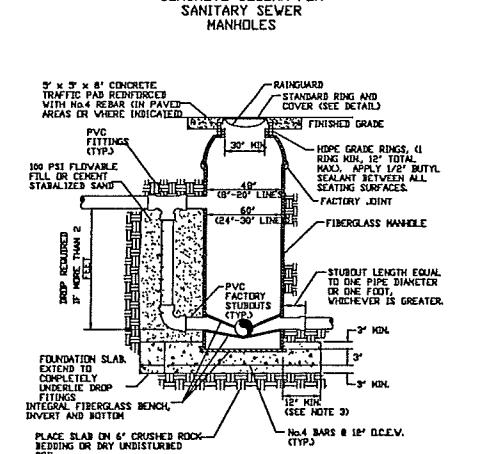
SHEET NO. 2 OF 6 SHEETS

# EDUARDO'S SUBDIVISION No. 18

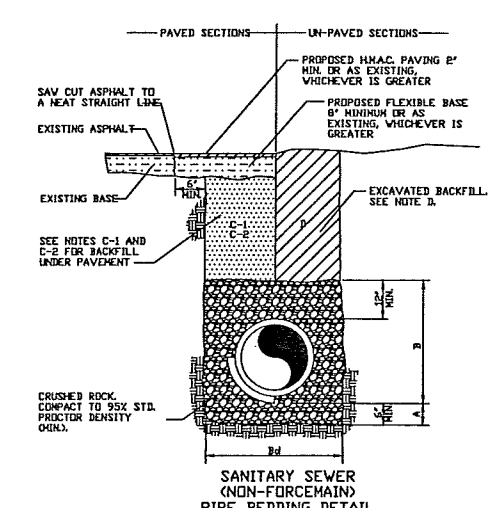
## DETAIL SHEET



**SANITARY SEWER MANHOLE STANDARD RING & COVER**



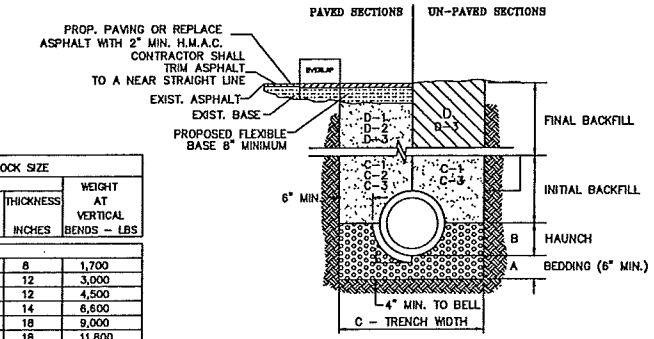
**CONCRETE COLLAR FOR SANITARY SEWER MANHOLES**



**SANITARY SEWER (NON-FORCEMAIN) PIPE BEDDING DETAIL**

**GENERAL NOTES:**

- CRUSHED ROCK BEDDING PLACED, HAND LEVELED, AND COMPACTED BEFORE PIPE IS LAID, UP TO BOTTOM OF PIPE (MIN THICKNESS = 6").
- CRUSHED ROCK BACKFILL PLACED AND COMPACTED AFTER PIPE IS LAID, FROM BOTTOM OF PIPE TO 12" ABOVE THE TOP OF PIPE. WORK IN UNDER PIPE HAUNCHES AND COMPACT BY HAND TO SPRING LINE. USE VIBRATORY-TYPE COMPACTORS FOR LIFTS ABOVE THE SPRING LINE. MAXIMUM 6" LIFTS.
- MINIMUM TRENCH WIDTH PIPE O.D. + 16" (FOR 16" PIPE AND SMALLER); PIPE O.D. X 125 + 12" (FOR 18" PIPE AND LARGER)
- (CITY STREETS, PARKING AREA, AND DRIVEWAYS) SELECT EXCAVATED BACKFILL MECHANICALLY COMPACTED TO 95% STANDARD PROCTOR DENSITY IN 6" MAX. LIFTS.
- (STATE MAINTAINED ROADWAY) SAND/CEMENT STABILIZED BACKFILL WITH 7% PORTLAND CEMENT COMPACTED TO 95% STANDARD PROCTOR DENSITY IN 6" MAX. LIFTS.
- EXCAVATED EARTH BACKFILL MECHANICALLY COMPACTED IN 12" MAX. LIFTS. MINIMUM STANDARD PROCTOR DENSITY: 90% OUTSIDE RIGHT OF WAY; 95% INSIDE RIGHT OF WAY.
- EMBANKMENT SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM D 2021. EMBANKMENT MATERIAL SHALL BE CLASS 1A (CRUSHED ROCK) OR 1B (CRUSHED ROCK-SAND MIXTURE) WITH LESS THAN 50% PASSING A No. 4 SIEVE. MAXIMUM 3/4" SIZE FOR PIPE SIZE 6" TO 18". GREATER THAN 90% OF CRUSHED ROCK SHALL HAVE AT LEAST THREE BROKEN FACES. NO MORE THAN 2% UNBROKEN FRACTION ALLOWED.
- IN SATURATED OR UNSTABLE SOILS, EMBANKMENT SHALL BE CLASS III ONLY (SEE SPECIFICATIONS FOR GRADATION REQUIREMENTS).
- WHERE THIS STANDARD CONFLICTS WITH THE RECOMMENDATION OF ANY GEOTECHNICAL REPORT, OBTAIN WRITTEN CLARIFICATION FROM THE UTILITY ENGINEER PRIOR TO CONSTRUCTION.
- FOUNDATION PREPARATION USING COBBLES, GRAVEL, CEMENT STABILIZATION, OR OTHER METHODS AS APPROVED BY THE ENGINEER SHALL BE REQUIRED WHEN TRENCH BOTTOM IS UNSTABLE.
- BACKFILLING AT STRUCTURES SHALL BE PLACED IN UNIFORM LAYERS, AND COMPACTED TO 95% STANDARD PROCTOR DENSITY IN 6" MAXIMUM LIFTS. STRUCTURE BACKFILL MATERIAL SHALL BE SAND.



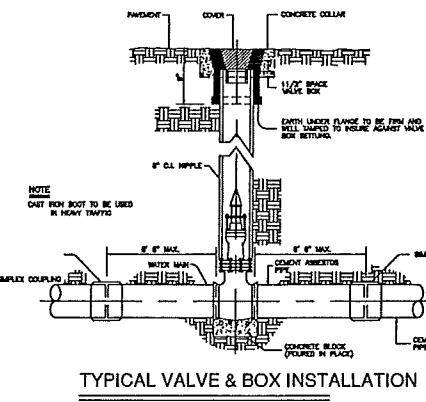
**STORM TRENCH BEDDING AND BACKFILL DETAILS**

THRUST BLOCK SIZE			
DIAMETER OF PIPE (INCHES)	SURFACE AREA (SQ. FT.)	THICKNESS (INCHES)	WEIGHT AT VERTICAL BENDS - LBS
<b>22-1/2" BENDS</b>			
6 OR LESS	2	6	1,700
8	3	12	3,000
10	3.5	12	4,500
12	4	14	6,600
14	5	18	9,000
18	6	18	11,800
<b>45" BENDS</b>			
6 OR LESS	4	12	3,200
8	5	14	5,800
10	6	18	9,000
12	7	18	13,000
14	8	24	17,000
18	11.5	24	23,200
<b>90" BENDS</b>			
6 OR LESS	6	12	6,000
8	8	15	10,700
10	10	18	16,700
12	12	18	24,000
14	15	24	32,600
18	21	24	42,700
<b>TEES &amp; DEAD ENDS</b>			
6 OR LESS	3	12	---
8	4	15	---
10	6	18	---
12	8.5	18	---
14	11.5	24	---
18	15	24	---

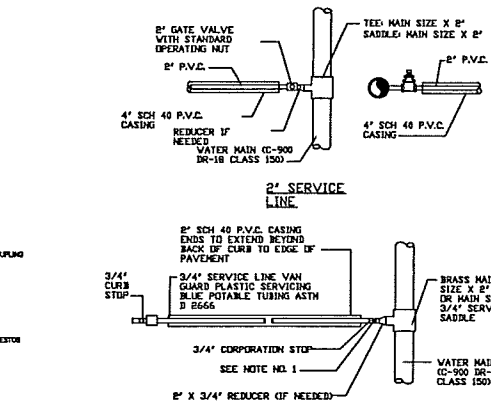
**STORM TRENCH BEDDING AND BACKFILL DETAILS**

**N.T.S.**

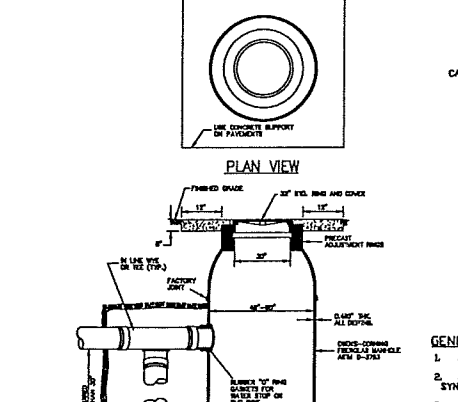
- BEDDING FOR RCP CLASS II, HIGH PERFORMANCE POLYPROPYLENE OR CORRUGATED PVC STORM DRAIN PIPE - SAND AND/OR GRAVEL MIX BEDDING BEFORE PIPE IS LAID UP TO FLOW OF PIPE (MIN. COMPACTED THICKNESS = 6") - FIT RUN GRAVEL 6" MAX SIZE.
- HAUNCH FOR RCP CLASS II, HIGH PERFORMANCE POLYPROPYLENE OR CORRUGATED PVC STORM DRAIN PIPE - SHALL BE CLASS I OR CLASS II (ASTM D3221) BACKFILL MATERIAL COMPACTED TO 92% S.P.D., 6" LOOSE LIFTS, MECHANICAL COMPACTION.
- TRENCH WIDTH - SHALL BE BELL O.D. X 1.5 + 12". MAXIMUM TRENCH WIDTH SHALL EQUAL STRUCTURE WIDTH + 4 FT. THROUGHOUT THE HEIGHT OF THE STRUCTURE.
- INITIAL BACKFILL FOR RCP CLASS II STORM DRAIN PIPE ON CITY STREETS, PARKING AREAS, DRIVEWAYS, COUNTY ROADS & UNPAVED AREAS - SHALL BE SOIL TYPE A1, A2, A3 WITH A MAXIMUM P.I. OF 19 (ASTM M145) COMPACTED TO 92% S.P.D., 6" LOOSE LIFTS, MECHANICAL COMPACTION.
- INITIAL BACKFILL FOR RCP CLASS II STORM DRAIN PIPE ON STATE MAINTAINED ROADWAYS - COMPACTED SAND/CEMENT STABILIZED BACKFILL WITH 7% PORTLAND CEMENT, COMPACTED TO 92% S.P.D. AS PER ASTM D4253 AND ASTM D688, 6" LOOSE LIFTS, MECHANICAL COMPACTION.
- INITIAL BACKFILL FOR HIGH PERFORMANCE POLYPROPYLENE OR CORRUGATED PVC STORM DRAIN PIPE - SHALL BE CLASS I OR CLASS II WITH A MAXIMUM P.I. OF 19 (ASTM D3221) BACKFILL MATERIAL COMPACTED TO 92% S.P.D., 6" LOOSE LIFTS, MECHANICAL COMPACTION.
- FINAL BACKFILL FOR RCP CLASS II, HIGH PERFORMANCE POLYPROPYLENE OR CORRUGATED PVC STORM DRAIN PIPE UNDER UNPAVED SECTIONS - SHALL BE CLASS I, II, III OR IV, COMPACTED TO 92% S.P.D. (12" LOOSE LIFT, MECHANICAL COMPACTION).
- FINAL BACKFILL FOR RCP CLASS II, HIGH PERFORMANCE POLYPROPYLENE OR CORRUGATED PVC STORM DRAIN PIPE ON CITY STREETS, PARKING AREAS, DRIVEWAYS AND COUNTY ROADS - SHALL BE SOIL TYPE A1, A2, A3 WITH A MAXIMUM P.I. OF 19 (ASTM M145) COMPACTED TO 92% S.P.D., 6" LOOSE LIFTS, MECHANICAL COMPACTION.
- FINAL BACKFILL FOR RCP CLASS II, HIGH PERFORMANCE POLYPROPYLENE OR CORRUGATED PVC STORM DRAIN PIPE ON STATE MAINTAINED ROADWAYS - COMPACTED SAND/CEMENT STABILIZED BACKFILL WITH 7% PORTLAND CEMENT, COMPACTED TO 92% S.P.D. AS PER ASTM D4253 AND ASTM D688, 6" LOOSE LIFTS, MECHANICAL COMPACTION.
- FINAL BACKFILL FOR STRUCTURES (INLETS, MANHOLES, ETC.) - STRUCTURES UNDER THE ROADWAY AND UP TO 5 FT. BEYOND THE EDGE OF PAVEMENT/RAMP OF CURB SHALL HAVE CLASS I OR CLASS II (ASTM D3221) OR SOIL TYPE A1, A2, OR A3 (ASTM M145) WITH A MAXIMUM P.I. OF 19 BACKFILL MATERIAL. STRUCTURES BEYOND 5 FT FROM THE E.O.P./E.O.C. SHALL HAVE CLASS I, II, III OR IV (ASTM D3221) BACKFILL MATERIAL. FOUNDATION PREPARATION (WELPONS, MINOR 4" GRAVEL OR CEMENTS STABILIZATION, OR APPROVED SUBSTITUTE) SHALL BE REQUIRED WHEN TRENCH BOTTOM IS UNSTABLE. BACKFILLING AT STRUCTURES SHALL BE PLACED IN UNIFORM LAYERS, THICKNESS AS REQUIRED TO APPROXIMATE OPTIMUM MOISTURE CONTENT AND COMPACTED TO 92% S.P.D. (USE RELATIVE DENSITY TEST PER ASTM D4253 & ASTM D688). THE WEIGHTS OF EACH LOOSE LAYER SHALL NOT EXCEED 6".



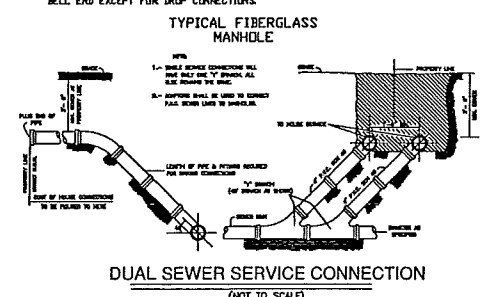
**TYPICAL VALVE & BOX INSTALLATION**



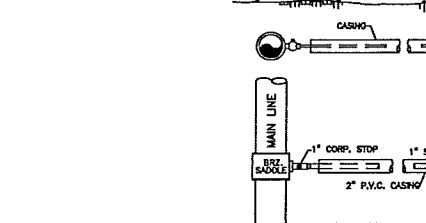
**SINGLE CONNECTION TYPICAL SERVICE CONNECTION (STREET CROSSING)**



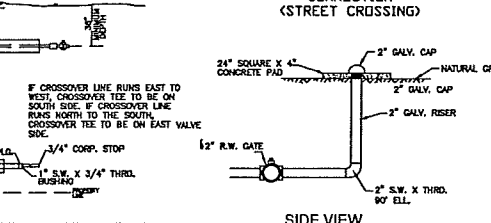
**TYPICAL FIBERGLASS MANHOLE W/ DROP STRUCTURE**



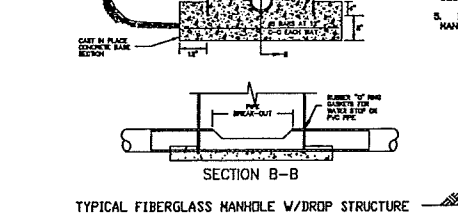
**TYPICAL FIBERGLASS MANHOLE**



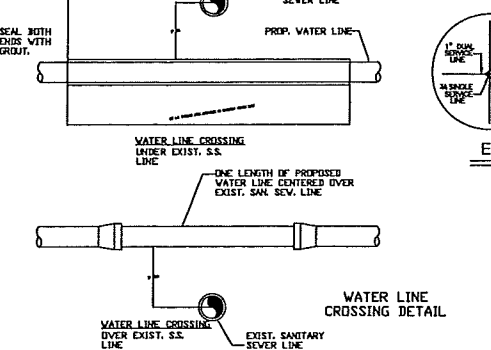
**SINGLE WATER SERVICE CONNECTION**



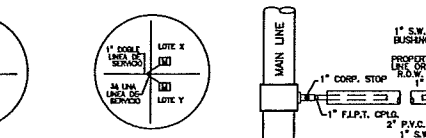
**SIDE VIEW**



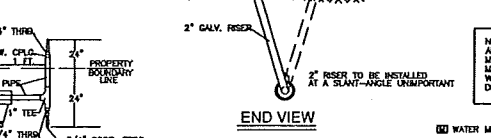
**SECTION B-B**



**WATER LINE CROSSING DETAIL**



**EXAMPLE METER SET-UP**



**DUAL WATER SERVICE CONNECTION**

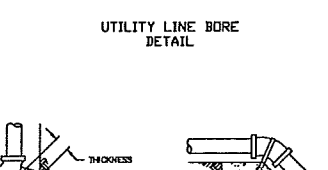


**NEW STYLE FLUSH VALVE INSTALLATION**

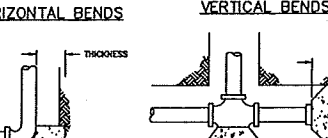
BORING INSTALLATION		
CARRIER PIPE SIZE	PIPE CASING SIZE	MIN. WALL THICKNESS
6"	14"	0.3125"
8"	16"	0.3125"
10"	18"	0.3125"
12"	21"	0.3750"
14"	24"	0.4375"
16"	26"	0.4375"
18"	30"	0.5000"
24"	36"	0.5625"
36"	48"	0.6250"

**GENERAL NOTES:**

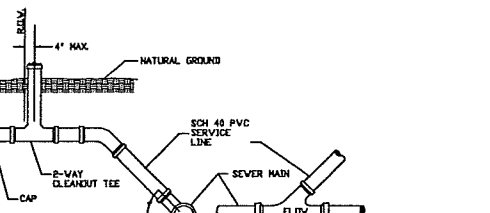
- ALL STEEL CASING SHALL BE WELDED.
- STEEL CASING SHALL BE CLOSED AT EACH END USING USING SYNTHETIC RUBBER END SEALS.
- CASING SPACERS SHALL BE USED TO INSTALL THE CARRIER PIPE INSIDE THE ENCASMENT PIPE. CASING SPACERS SHALL FASTEN TIGHTLY ON THE CARRIER PIPE TO PREVENT RELATIVE MOVEMENT ON PIPE DURING INSTALLATION. CASING SPACERS SHALL BE DOUBLED ON EACH END OF THE ENCASMENT.
- PROJECTION TYPE CASING SPACERS SHALL BE CONSTRUCTED SECTIONS OF HIGH DENSITY POLYETHYLENE.
- INSTALLATION AND SIZE OF SPACERS SHALL BE PER MANUFACTURER'S RECOMMENDATIONS.



**UTILITY LINE BORE DETAIL**



**HORIZONTAL BENDS**



**STANDARD SERVICE CONNECTION**

**NOTES:**

- INDIVIDUAL SERVICE LATERALS TO BE PROVIDED TO EACH LOT.
- SINGLE FAMILY SERVICES SHALL BE 4" MIN. MULTI-FAMILY, COMMERCIAL, AND INDUSTRIAL SERVICES SHALL BE 6" OR GREATER AS REQUIRED.



GILBERTO A. GRACIA - P.E. No. 62477

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7413 N. LA HOMA ROAD  
MISSION TX, 78574

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F-10214

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FAX (956) 584-0554

No.	SHEET	REVISION	DATE	APPROVED

SHEET No. 3 OF 8 SHEETS					
FILENAME	DATE PREPARED	DATE REVISION	DESIGNED BY	CHECKED BY	APPROVED BY
18190001-EDUARDO'S SUBDIVISION-1819-WATER-DETAILED SHEET	AUG 2018	01	D.L.G.	D.L.G.	G.A.G.



# EDUARDOS SUBDIVISION No. 18 MAP OF PAVING AND DRAINAGE

A 19.43-ACRE TRACT OF LAND, OUT OF LOT 46-4, WEST ADDITION TO SHARPLAND SUBDIVISION, AS PER THE MAP OR PLAN THEREOF RECORDED IN VOLUME 1, PAGE 56, MAP RECORDS IN THE OFFICE OF THE COUNTY CLERK OF HIDALGO COUNTY, TEXAS.

PROP. FUTURE EDUARDO'S 20 SUBD.

FUTURE MILE 6 1/2 NORTH ROAD (80.00' R.O.W.)

**MASTER DRAINAGE STATEMENT**  
FOR  
EDUARDO'S SUBDIVISIONS NOS. 18, 19, 20, 21, & 22

**I. PROJECT CHARACTER AND LOCATION**  
THE EDUARDO'S SUBDIVISIONS NOS. 18 THRU 22 MASTER DEVELOPMENT TRACT ACRES (REFER TO LOCATION MAP) AND RELATIVE REQUIRED DETENTION VOLUMES IS A COMPILED LIST OF FIVE (5) PROPOSED SINGLE-FAMILY RESIDENTIAL SUBDIVISIONS AS FOLLOWS (REFER TO DRAINAGE CALCULATION SHEETS):

EDUARDO'S SUBDIVISION NO. 18	19.427 AC. NET	77 PROPOSED LOTS	DET. 47,943 CUFT
EDUARDO'S SUBDIVISION NO. 19	17.457 AC. NET	89 PROPOSED LOTS	DET. 43,082 CUFT
EDUARDO'S SUBDIVISION NO. 20	20.328 AC. NET	74 PROPOSED LOTS	DET. 50,080 CUFT
EDUARDO'S SUBDIVISION NO. 21	19.810 AC. NET	75 PROPOSED LOTS	DET. 53,012 CUFT
EDUARDO'S SUBDIVISION NO. 22	16.676 AC. NET	80 PROPOSED LOTS	DET. 44,823 CUFT

**II. FLOOD PLAIN**  
SAID PROPOSED MASTER DEVELOPMENT TRACT IS LOCATED WITHIN THE EXTRATERRITORIAL JURISDICTION OF THE CITY OF MESSON, TEXAS, APPROXIMATELY ONE-QUARTER (1/4) MILE NORTH OF MILE 6 NORTH ROAD AND STRETCHES BETWEEN TROSPER ROAD AND LOS EBANOS ROAD, WITH FRONTAGE ON BOTH OF THOSE ROADS. ALL FIVE (5) PROPOSED SUBDIVISIONS TRACTS CONSIST OF A COMBINED TOTAL OF 83.939 ACRES NET OUT OF LOTS 46-4, 47-3, 47-4, & 46-4 WEST ADDITION TO SHARPLAND SUBDIVISION, HIDALGO COUNTY, TEXAS, AS RECORDED IN VOLUME 1, PAGE 56, MAP RECORDS OF HIDALGO COUNTY, TEXAS.

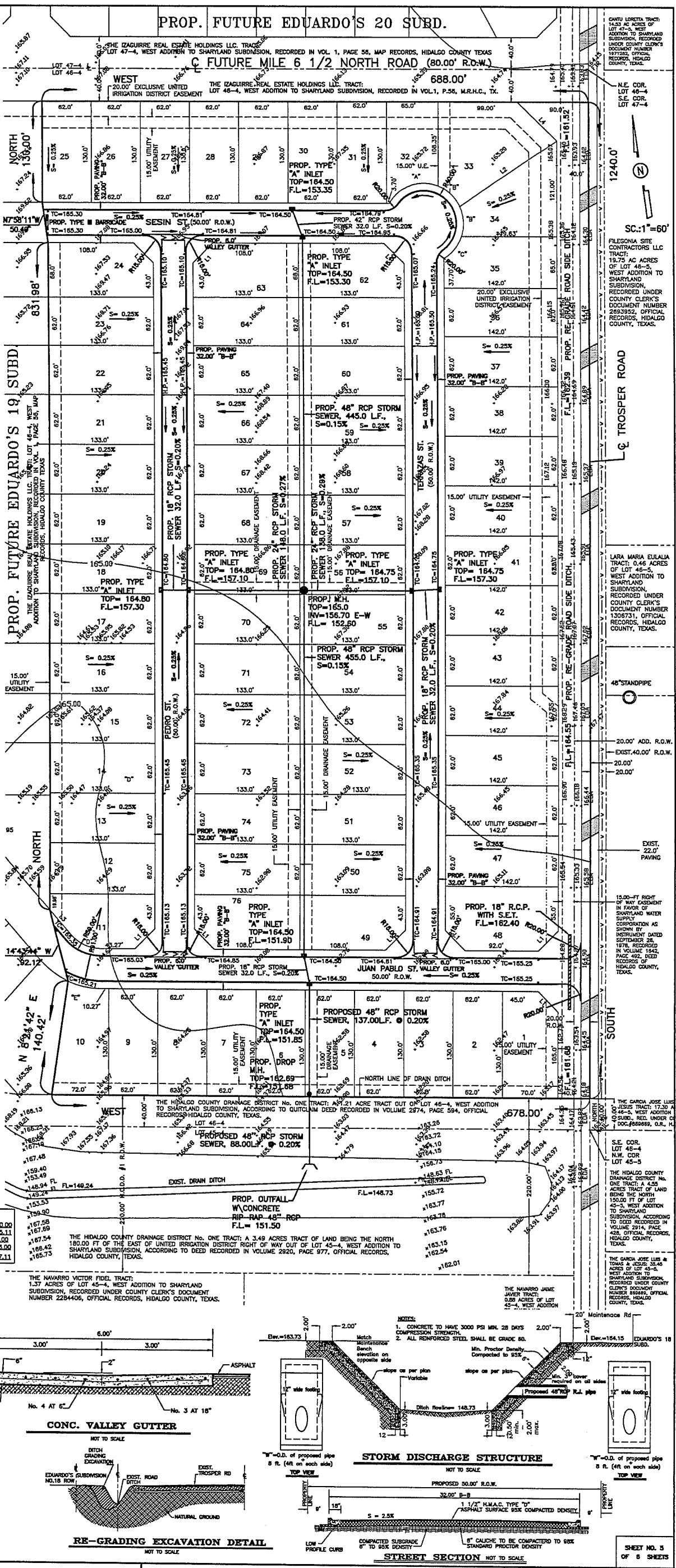
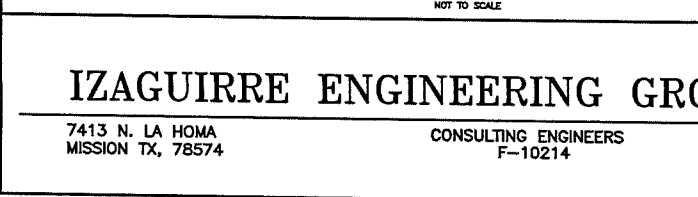
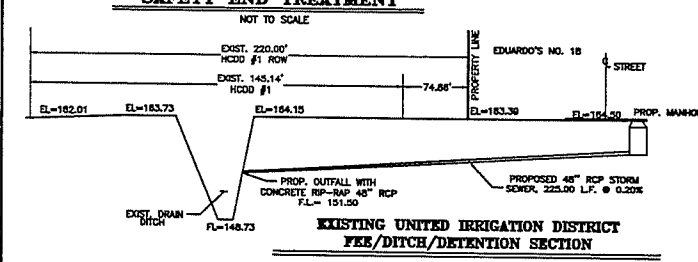
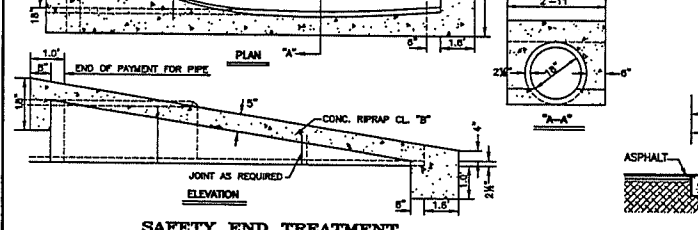
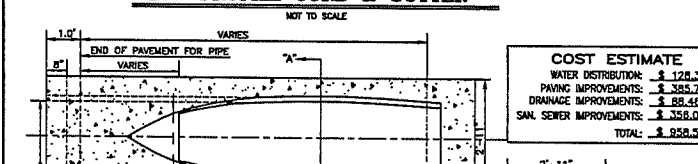
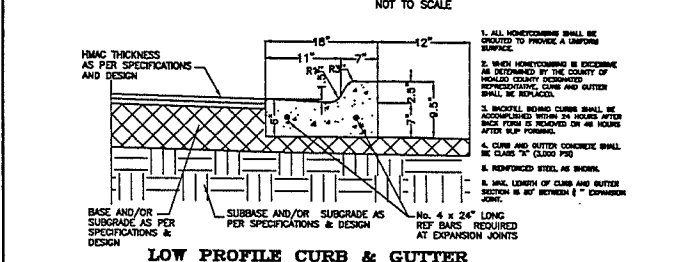
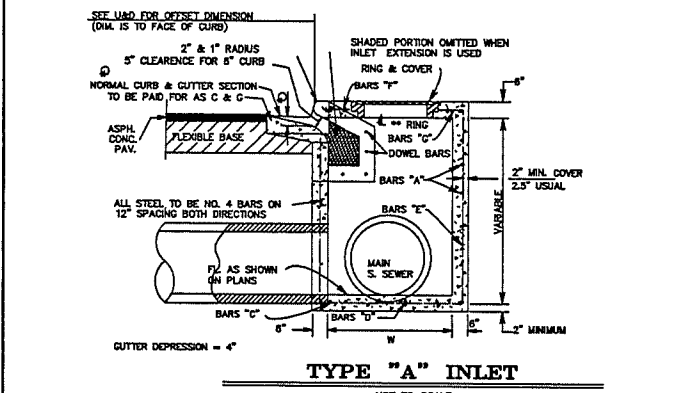
**III. SOIL CONDITIONS**  
REFFER TO THE U.S.D.A. SOIL CONSERVATION SURVEY OF HIDALGO COUNTY (1979) AND ATTACHED USDA NATURAL RESOURCE CONSERVATION SERVICE CUSTOM SOIL REPORT FOR THE MASTER DEVELOPMENT TRACT. THE PRECIPITANT SOILS OF THE MASTER DEVELOPMENT TRACT ARE CLASSIFIED AS COMITAS-9 (LOAMY FINE SAND), HIDALGO-25 (FINE SANDY LOAM), AND HIDALGO-28 (SANDY CLAY LOAM).  
COMITAS-9 SOIL, TYPICALLY FOUND WITH 0-1% SLOPES, CONSISTS OF A SURFACE LAYER OF BROWN LOAMY FINE SAND ABOUT 28 INCHES THICK. THE SOIL FROM 28 TO 80 INCHES DOWN, IS REDDISH YELLOW FINE SANDY LOAM. THIS SOIL (A) IS NONCALCAREOUS TO 48 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, TYPICALLY FOUND WITH 0-1% SLOPES, CONSISTS OF A SURFACE LAYER OF DARK GRAYISH BROWN FINE SANDY LOAM ABOUT 19 INCHES THICK. THE NEXT SOIL LAYER DOWN, FROM 19 TO 30 INCHES, IS BROWN SANDY CLAY LOAM. THE NEXT SOIL LAYER DOWN, FROM 30 TO 39 INCHES, IS PALE BROWN SANDY CLAY LOAM. THE SOIL DOWN THEREAFTER TO APPROXIMATELY 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-28 SOIL, TYPICALLY FOUND WITH 0-1% SLOPES, CONSISTS OF A SURFACE LAYER OF DARK GRAYISH 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 39 INCHES, IS 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 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 (0.30%). 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 TROSPER ROAD. SAID ROADSIDE DITCH FLOWS SOUTH AND OUTFALLS INTO THE HIDALGO COUNTY DRAINAGE DISTRICT NO. 1 (HCCD#1) DRAIN DITCH WHICH AS THE WEST MAIN IN OUTFALL, WHICH IS LOCATED PARALLEL AND ADJACENT TO THE SOUTH PERIMETER OF THE SUBJECT MASTER DEVELOPMENT TRACT. SAID WEST MAIN IN OUTFALL DRAIN DITCH IS SERVICED BY THE HCCD#1 DRAIN DITCH NETWORK WHICH WILL ULTIMATELY OUTFALL INTO THE ARROYO COLORADO.

**V. PROPOSED CONDITIONS**  
ON-SITE DRAINAGE IMPROVEMENTS WILL BE CONSTRUCTED IN ACCORDANCE WITH THE DRAINAGE STANDARDS AND REQUIREMENTS OF HCCD#1. THE DEVELOPMENT SURFACE IS TO BE GRADED TO DIRECT STORM WATER SURFACE RUNOFF TOWARDS PROPOSED PAVED CURB AND CUTTER STREETS. SAID STORM WATER SURFACE RUNOFF WILL BE INTERCEPTED BY PROPOSED TYPE "A" CURB INLETS TO BE INSTALLED AT APPROPRIATE LOCATIONS. SAID CURB INLETS WILL BE CONNECTED TO AN APPROPRIATELY SIZED DRAIN PIPELINE SYSTEM (REFER TO ATTACHED WINDSTORM CALCULATIONS), WHICH WILL BE SERVICED BY THE PREVIOUSLY DESCRIBED EXISTING HCCD#1 WEST MAIN IN OUTFALL DRAIN DITCH.  
**VI. RUNOFF CALCULATIONS**  
IN ACCORDANCE WITH THE DRAINAGE POLICIES OF HCCD#1, THE STORM WATER SURFACE RUNOFF WAS DETERMINED UTILIZING THE RATIONAL METHOD AS FOLLOWS (REFER TO DRAINAGE CALCULATION SHEETS):  
A) THE 10-YR STORM FOR PRE-DEVELOPMENT SURFACE WATER RUNOFF, QEXIST = 20.98 CFS; AND  
B) THE 25-YR STORM FOR POST-DEVELOPMENT SURFACE WATER RUNOFF, QPROP = 105.98 CFS  
AFTER-DEVELOPMENT STORM WATER SURFACE RUNOFF OF THE ENTIRE MASTER DEVELOPMENT TRACT, WILL BE INCREASED BY Q = 80.02 CFS. IN ACCORDANCE WITH HCCD#1, DRAINAGE REQUIREMENTS, THE TOTAL DETENTION REQUIREMENT FOR THE MASTER DEVELOPMENT TRACT IS 236,322 CUFT. (5,423 ACRES FEET) AS OUTLINED PREVIOUSLY IN SECTION I ABOVE AND WILL BE PROVIDED FOR THE MASTER DEVELOPMENT TRACT BY WIDENING THE NORTH SIDE OF THE HCCD#1 WEST MAIN IN OUTFALL DRAIN DITCH ALONG ITS FRONTAGE WITH SAID MASTER DEVELOPMENT TRACT.



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



**COST ESTIMATE**

WATER DISTRIBUTION	\$ 128,310.00
PAVING IMPROVEMENTS	\$ 335,285.11
DRAINAGE IMPROVEMENTS	\$ 28,456.00
SAN. SEWER IMPROVEMENTS	\$ 358,056.00
<b>TOTAL:</b>	<b>\$ 850,107.11</b>

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 SHARPLAND SUBDIVISION, ACCORDING TO DEED RECORDED IN VOLUME 2920, PAGE 977, OFFICIAL RECORDS, HIDALGO COUNTY, TEXAS.

THE NAVARRO VICTOR FIDEL TRACT: 1.37 ACRES OF LOT 45-4, WEST ADDITION TO SHARPLAND SUBDIVISION, RECORDED UNDER COUNTY CLERK'S DOCUMENT NUMBER 2284406, OFFICIAL RECORDS, HIDALGO COUNTY, TEXAS.

THE NAVARRO JAMES JAVIER TRACT: 0.58 ACRES OF LOT 45-4, WEST ADDITION TO SHARPLAND SUBDIVISION, RECORDED UNDER COUNTY CLERK'S DOCUMENT NUMBER 2284406, OFFICIAL RECORDS, HIDALGO COUNTY, TEXAS.

THE GARCIA JOSE LUIS TRACT: 4.55 ACRES TRACT OF LAND BEING THE NORTH 50.00 FT OF LOT 45-3, WEST ADDITION TO SHARPLAND SUBDIVISION, ACCORDING TO DEED RECORDED IN VOLUME 2914, PAGE 428, OFFICIAL RECORDS, HIDALGO COUNTY, TEXAS.

THE GARCIA JOSE LUIS & TOMAS & JESSIE TRACT: 3.45 ACRES TRACT OF LAND BEING THE NORTH 50.00 FT OF LOT 45-4, WEST ADDITION TO SHARPLAND SUBDIVISION, ACCORDING TO DEED RECORDED IN VOLUME 2914, PAGE 428, OFFICIAL RECORDS, HIDALGO COUNTY, TEXAS.

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**IZAGUIRRE ENGINEERING GROUP, LLC.**  
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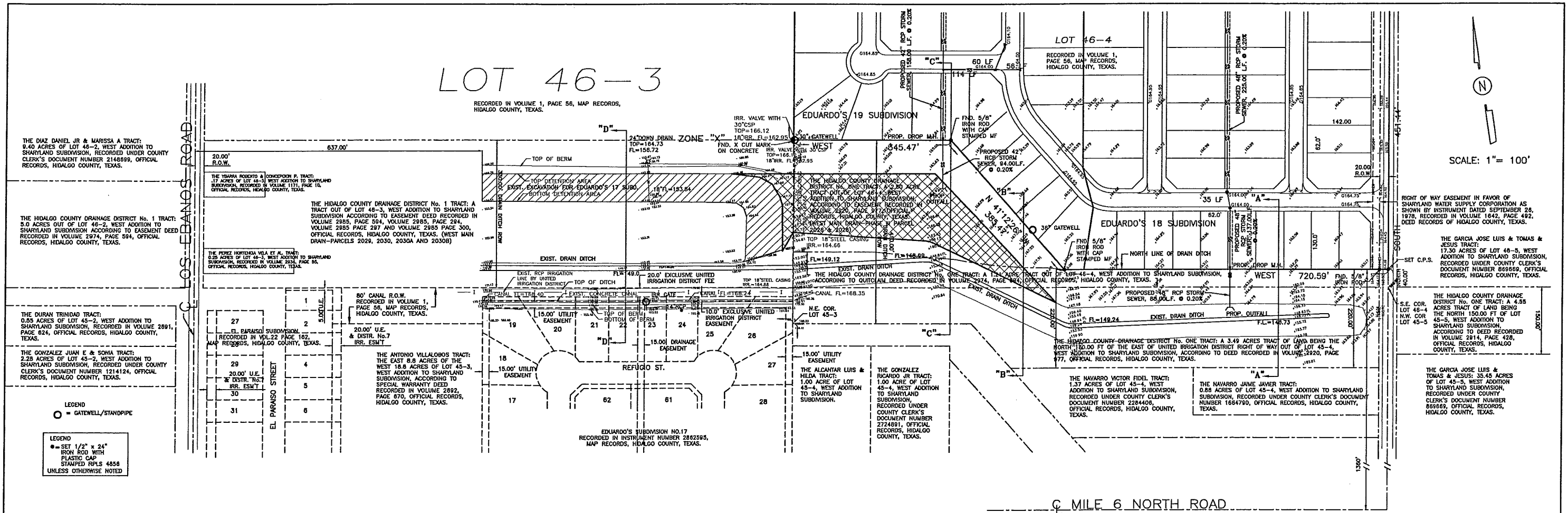
**EDUARDO'S SUBDIVISION No. 18**  
**PAVING AND DRAINAGE LAYOUT**



SHEET NO. 5 OF 6 SHEETS

# LOT 46-3

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



SCALE: 1" = 100'



THE DIAZ DANIEL JR & MARISSA A TRACT: 8.40 ACRES OF LOT 46-2, WEST ADDITION TO SHARYLAND SUBDIVISION, RECORDED UNDER COUNTY CLERK'S DOCUMENT NUMBER 2148599, OFFICIAL RECORDS, HIDALGO COUNTY, TEXAS.

THE HIDALGO COUNTY DRAINAGE DISTRICT No. 1 TRACT: 5.0 ACRES OUT OF LOT 46-2, WEST ADDITION TO SHARYLAND SUBDIVISION ACCORDING TO EASEMENT DEED RECORDED IN VOLUME 2974, PAGE 594, OFFICIAL RECORDS, HIDALGO COUNTY, TEXAS.

THE YARRA ROBERTO & CONCEPCION P. TRACT: 17 ACRES OF LOT 46-3, WEST ADDITION TO SHARYLAND SUBDIVISION, RECORDED IN VOLUME 1171, PAGE 10, OFFICIAL RECORDS, HIDALGO COUNTY, TEXAS.

THE HIDALGO COUNTY DRAINAGE DISTRICT No. 1 TRACT: A TRACT OUT OF LOT 46-3, WEST ADDITION TO SHARYLAND SUBDIVISION ACCORDING TO EASEMENT DEED RECORDED IN VOLUME 2985, PAGE 584, VOLUME 2985, PAGE 294, VOLUME 2985 PAGE 287 AND VOLUME 2985 PAGE 300, OFFICIAL RECORDS, HIDALGO COUNTY, TEXAS. (WEST MAIN DRAIN-PARCELS 2029, 2030, 2030A AND 2030B)

THE POZOS HORTENCIA VELA ET AL. TRACT: 2.56 ACRES OF LOT 46-3, WEST ADDITION TO SHARYLAND SUBDIVISION, RECORDED IN VOLUME 2933, PAGE 53, OFFICIAL RECORDS, HIDALGO COUNTY, TEXAS.

80' CANAL R.O.W. RECORDED IN VOLUME 1, PAGE 56, MAP RECORDS, HIDALGO COUNTY, TEXAS.

THE DURAN TRINIDAD TRACT: 0.59 ACRES OF LOT 45-2, WEST ADDITION TO SHARYLAND SUBDIVISION, RECORDED IN VOLUME 2891, PAGE 624, OFFICIAL RECORDS, HIDALGO COUNTY, TEXAS.

THE GONZALEZ JUAN E & SONIA TRACT: 2.28 ACRES OF LOT 45-2, WEST ADDITION TO SHARYLAND SUBDIVISION, RECORDED UNDER COUNTY CLERK'S DOCUMENT NUMBER 1214124, OFFICIAL RECORDS, HIDALGO COUNTY, TEXAS.

THE ANTONIO VILLAGOS TRACT: THE EAST 8.8 ACRES OF THE WEST 18.8 ACRES OF LOT 45-3, WEST ADDITION TO SHARYLAND SUBDIVISION, ACCORDING TO SPECIAL WARRANTY DEED RECORDED IN VOLUME 2892, PAGE 670, OFFICIAL RECORDS, HIDALGO COUNTY, TEXAS.

15.00' UTILITY EASEMENT

15.00' UTILITY EASEMENT

15.00' UTILITY EASEMENT

15.00' UTILITY EASEMENT

15.00' UTILITY EASEMENT

15.00' UTILITY EASEMENT

15.00' UTILITY EASEMENT

15.00' UTILITY EASEMENT

15.00' UTILITY EASEMENT

15.00' UTILITY EASEMENT

15.00' UTILITY EASEMENT

LEGEND  
○ = GATEWELL/STANDPIPE

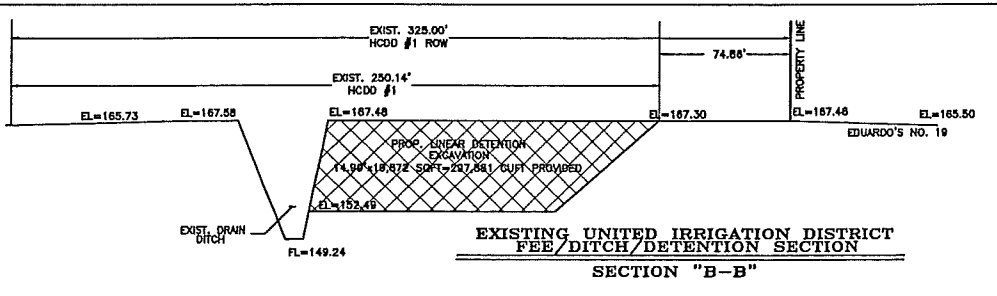
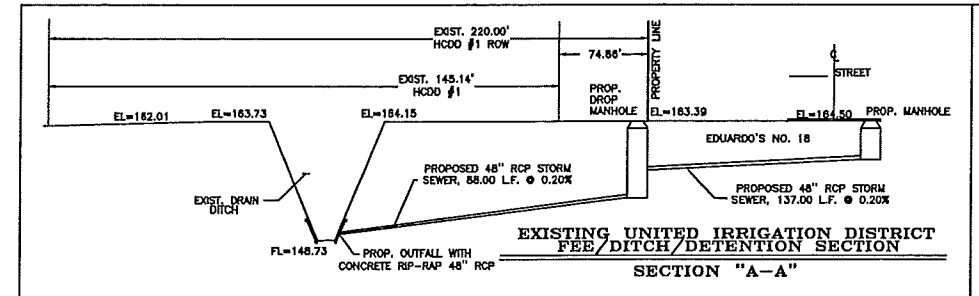
LEGEND  
● = SET 1/2" x 24" IRON ROD WITH PLASTIC CAP STAMPED RPLS 4858 UNLESS OTHERWISE NOTED

RIGHT OF WAY EASEMENT IN FAVOR OF SHARYLAND WATER SUPPLY CORPORATION AS SHOWN BY INSTRUMENT DATED SEPTEMBER 28, 1978, RECORDED IN VOLUME 1642, PAGE 492, DEED RECORDS OF HIDALGO COUNTY, TEXAS.

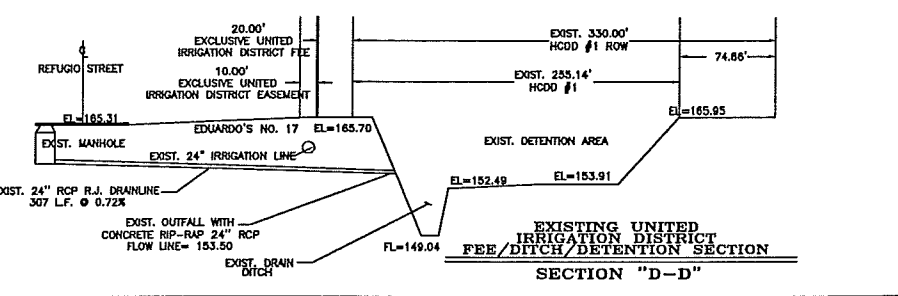
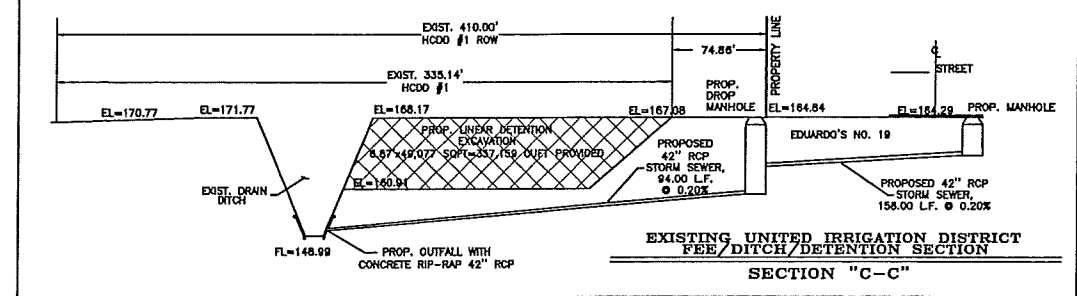
THE GARCIA JOSE LUIS & TOMAS & JESUS TRACT: 17.30 ACRES OF LOT 46-5, WEST ADDITION TO SHARYLAND SUBDIVISION, RECORDED UNDER COUNTY CLERK'S DOCUMENT NUMBER 859569, OFFICIAL RECORDS, HIDALGO COUNTY, TEXAS.

THE HIDALGO COUNTY DRAINAGE DISTRICT No. ONE TRACT: A 4.55 ACRES TRACT OF LAND BEING THE NORTH 150.00 FT OF LOT 46-5, WEST ADDITION TO SHARYLAND SUBDIVISION, ACCORDING TO DEED RECORDED IN VOLUME 2814, PAGE 428, 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 859569, OFFICIAL RECORDS, HIDALGO COUNTY, TEXAS.



VOL. = 236,322 CUFT REQUIRED  
 VOL. = 635,040 CUFT TOTAL PROVIDED  
 SECCION B-B VOL.=297,881 CUFT  
 SECCION C-C VOL.=337,159 CUFT



SHEET NO. 6  
OF 6 SHEETS

## IZAGUIRRE ENGINEERING GROUP, LLC.

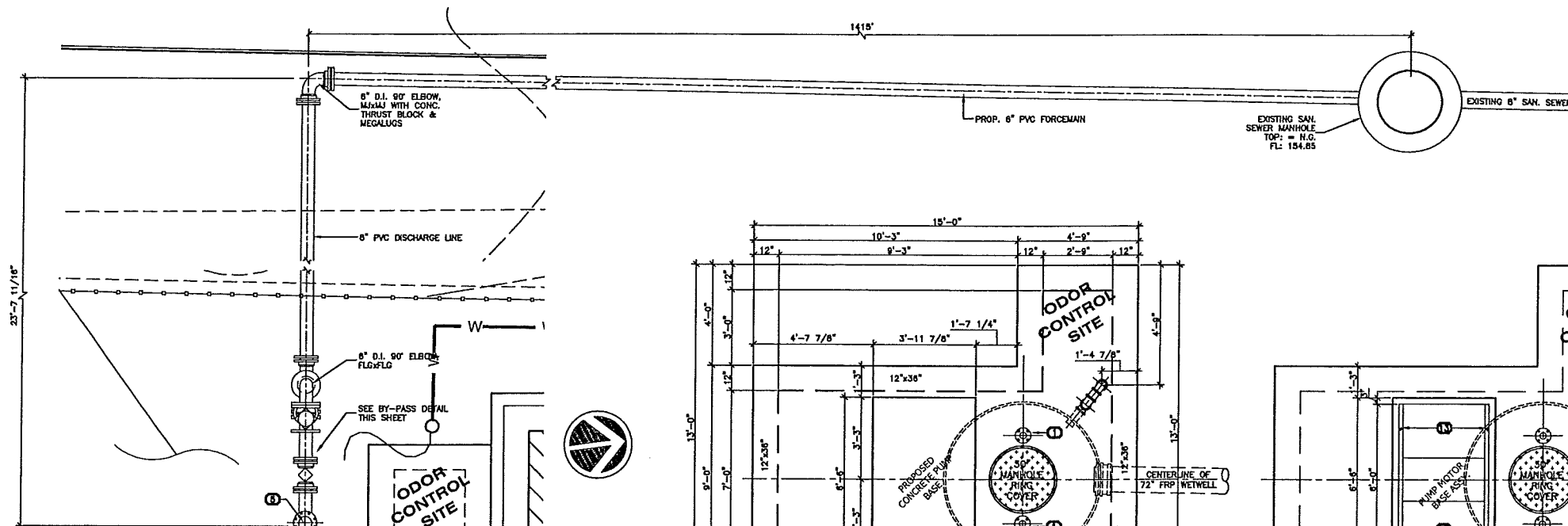
7413 N. LA HOMA  
MISSION TX, 78574

CONSULTING ENGINEERS  
F-10214

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

## EXCAVATION MAP H.C.D.D. #1 WEST MAIN DRAIN-PHASE III PARCEL 2026 & 2028



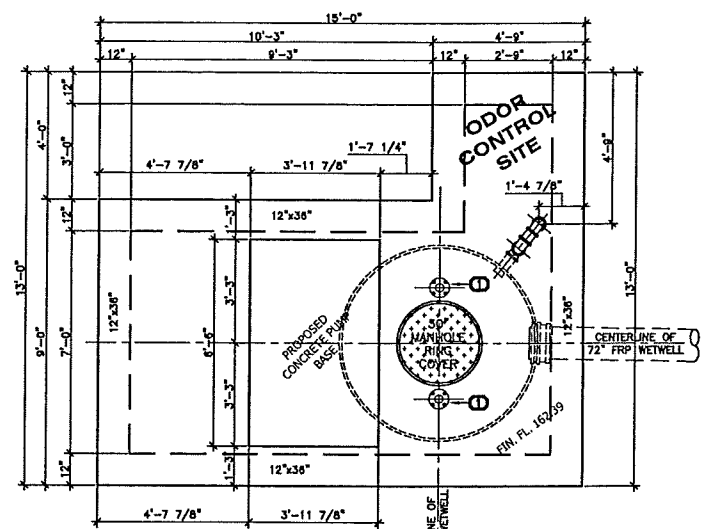


NOTES:  
 \*\*ALL D.I. PIPE AND FITTINGS INSIDE WETWELL SHALL RECEIVE A PROTECTIVE COATING AS PER SPECIFICATIONS.  
 PLAN SCALE: AS SHOWN

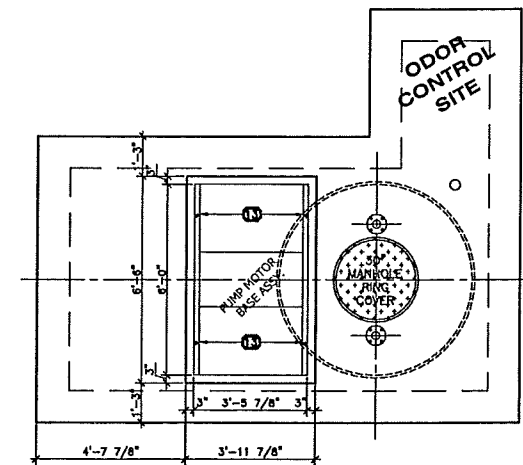
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**Texas811**  
 Know what's below.  
 Call before you dig. 811  
 PARTICIPANTS REQUEST 48 HOURS NOTICE BEFORE YOU DIG, DRILL, OR BLAST - STOP AND CALL CONSTRUCTION  
 THE LONE STAR NOTIFICATION COMPANY  
 AT 1-800-669-8344

PREPARED BY \_\_\_\_\_  
 CHECKED BY \_\_\_\_\_  
 SHEET \_\_\_\_\_

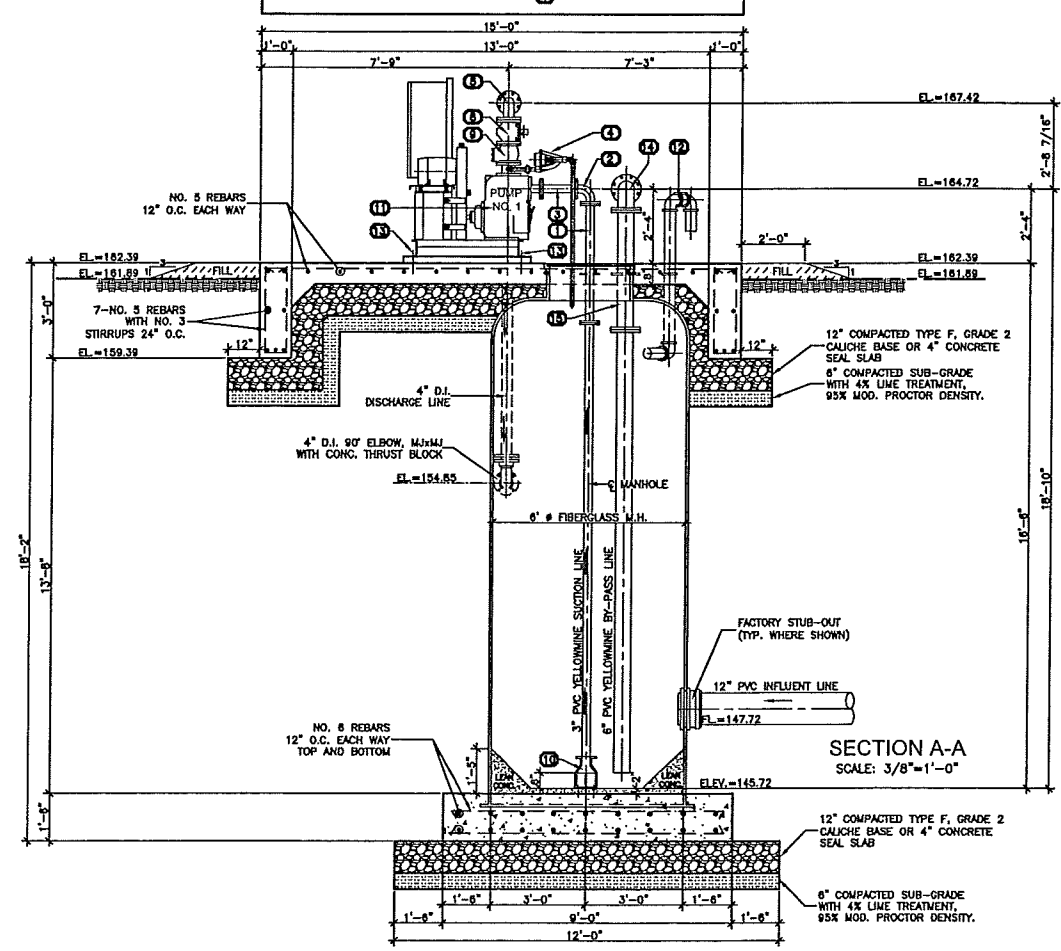
EDUARDO'S SUBDIVISION  
 No. 18, 19, 20, 21 & 22  
 LIFT STATION  
 MECHANICAL, STRUCTURAL  
 & TYPICAL DETAILS



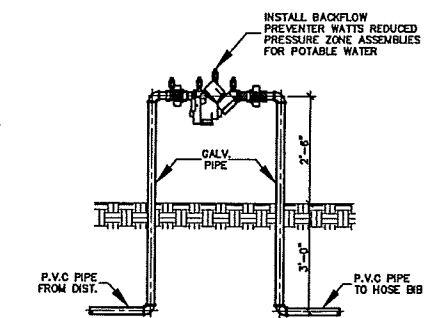
**FOUNDATION PLAN - STRUCTURAL**  
 3/8" = 1'-0"



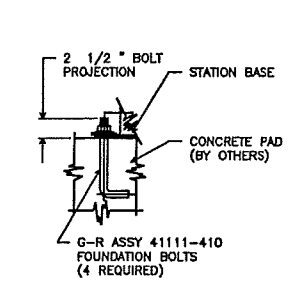
**PUMP and MOTOR BASE MOUNTING DETAIL**  
 3/8" = 1'-0"



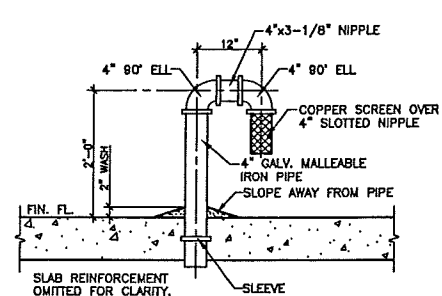
**SECTION A-A**  
 SCALE: 3/8" = 1'-0"



**BACKFLOW PREVENTER DETAIL**  
 Not to Scale



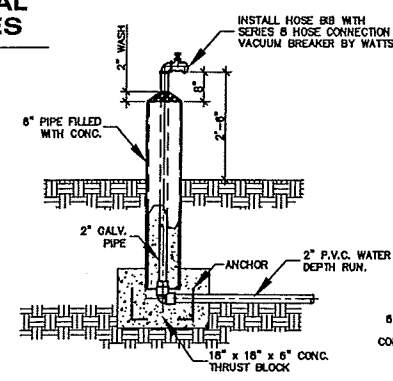
**FOUNDATION BOLTS DETAIL**  
 Not to Scale



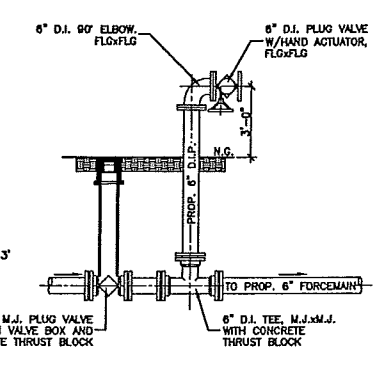
**VENT DETAIL**  
 Not to Scale

**LIFT STATION MECHANICAL, STRUCTURAL CONSTRUCTION KEYNOTES**

- 1 3"x45" DI. WALL PIPE, FLGxFLG.
- 2 3" D.I. 90° ELBOW, FLGxFLG.
- 3 3" D.I. PIPE, FLGxFLG.
- 4 AIR RELEASE VALVE, WITH A 1" STAINLESS STEEL LINE FROM AIR/VALVE DISCHARGE INTO THE WELL
- 5 6" D.I. 90° ELBOW, FLGxFLG.
- 6 4"x4" D.I. TEE, FLGxFLG.
- 7 6"x4" D.I. REDUCER, FLGxFLG.
- 8 4" PLUG VALVE, FLGxFLG, ONE FOR EACH PUMP
- 9 4" CHECK VALVE, FLGxFLG, ONE FOR EACH PUMP
- 10 3" FLANGE SLUDGE SHOE TO BE SECURED AGAINST CONCRETE WITH 4-4"x5/8" STAINLESS STEEL BOLTS.
- 11 2 - 3 X 4 X 4 PUMPS
- 12 4" GALVANIZED VENT (SEE DETAIL THIS SHEET).
- 13 G-R ASSY 41111-410 FOUNDATION BOLTS (4 REQUIRED).
- 14 6" D.I. BY-PASS 90° ELBOW, WITH BLIND FLANGE.
- 15 6"x45" D.I. WALL PIPE FLGxFLG (FOR BY-PASS LINE)



**HOSE BIB DETAIL**  
 Not to Scale

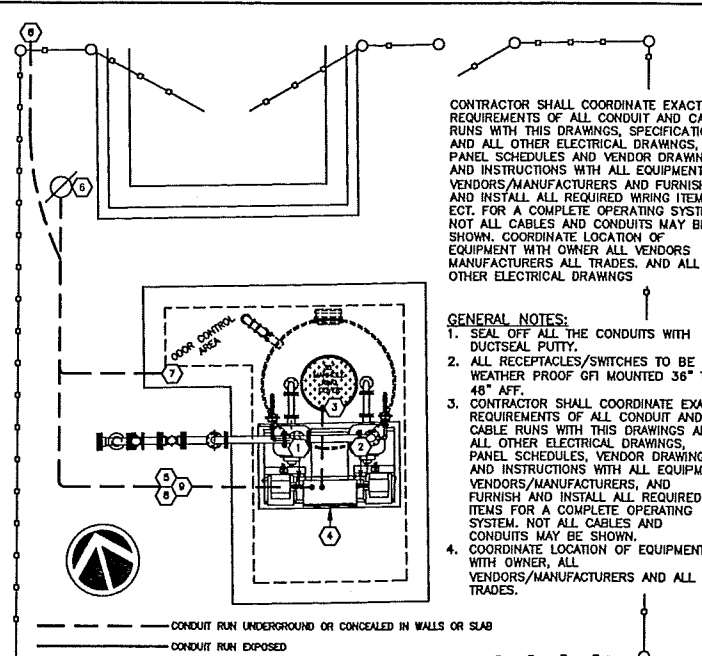
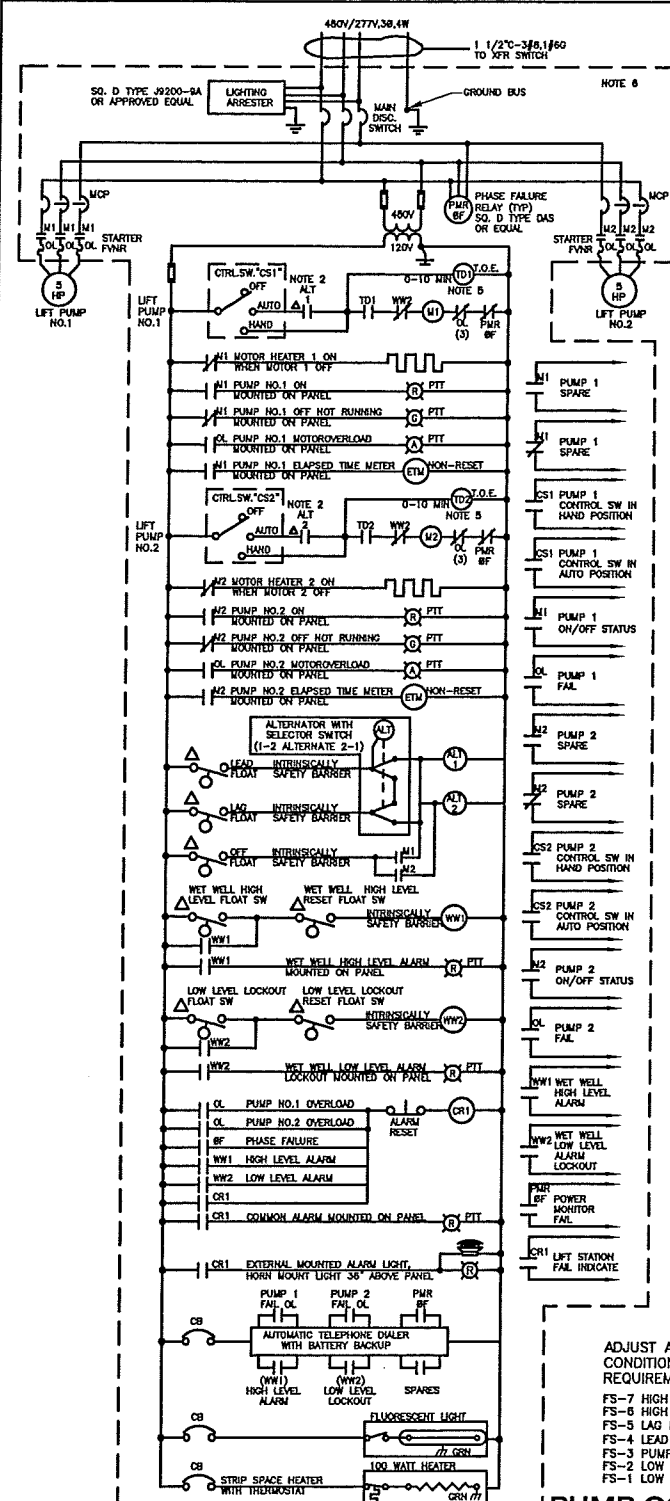


**BYPASS DETAIL**  
 Not to Scale



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 7413 N. LA HOMA  
 MISSION, TX 78574



- GENERAL ELECTRICAL NOTES**
- REQUIREMENTS THE CONTRACTOR SHALL PROVIDE ELECTRICAL WORK COMPLETE AND OPERABLE IN ACCORDANCE WITH CONTRACT DOCUMENTS. THE CONTRACTOR IS TO COORDINATE WITH THE UTILITY COMPANY FOR THE SERVICE POINTS AND THE SPECIFICATIONS OF THESE SPECIFICATIONS.
  - ALL WORK NOT CALLED FOR IN THE SPECIFICATIONS BUT NOT SHOWN ON THE DRAWINGS OR WORK THAT MAY BE SHOWN ON THE DRAWINGS BUT NOT CALLED FOR IN THE SPECIFICATIONS SHALL BE PERFORMED BY THE CONTRACTOR AS IF DESCRIBED IN BOTH SHOULD WORK BE REQUIRED WHICH IS NOT SET FORTH IN EITHER DOCUMENT, BUT WHICH WORK IS NECESSARY FOR THE PROPER INSTALLATION OF THE INTENT THEREOF; THEN THE CONTRACTOR SHALL PROVIDE ALL WORK AS FULLY AS IF IT WERE SPECIFICALLY SET FORTH IN THE CONTRACT DOCUMENTS. TYPICAL CONNECTIONS ARE TYPICAL UNLESS NOTED OTHERWISE WITH VENDOR SUPPLIED EQUIPMENT. CONNECTIONS FOR CABLES, SPLICES, JUNCTIONS AND TERMINAL BOXES, AND CONTROL WIRING REQUIRED BY VENDOR FURNISHED EQUIPMENT TO CONNECT WITH OTHER EQUIPMENT INDICATED IN THE CONTRACT DOCUMENTS.
  - UTILITY REQUIREMENTS THE CONTRACTOR SHALL CONTACT THE SERVING UTILITY AND VERIFY COMPLIANCE WITH REQUIREMENTS BEFORE CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE, SCHEDULES AND PERMITS FOR WORK BY ALL UTILITIES.
  - THE CONTRACTOR IS RESPONSIBLE FOR BRINGING ELECTRICAL SERVICE TO THE LIFT STATION IF IT IS NOT AVAILABLE.
  - THE CONTRACTOR SHALL VERIFY AND PROVIDE ALL SERVICE CONDUITS (PRIMARY AND SECONDARY) FITTINGS, GROUNDING DEVICES, METER CAN AND ALL SERVICE WIRING NOT PROVIDED BY THE SERVING UTILITY.
  - THE CONTRACTOR SHALL VERIFY WITH THE UTILITY THE EXACT LOCATION OF EACH SERVICE POINT AND TYPE OF SERVICE 240 OR 480 VOLT 3 PHASE AND PAY ALL CHARGES LEVIED BY THE SERVING UTILITY WITHOUT ADDITIONAL COST TO THE OWNER.
  - THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE PUMP PANEL AND MOTOR REQUIREMENTS WITH THE PROPOSED TYPE OF SERVICE 240 OR 480 VOLT 3 PHASE.
  - PERMITS AND INSPECTIONS PERMITS SHALL BE OBTAINED AND INSPECTION FEES SHALL BE PAID BY THE CONTRACTOR. THE CONTRACTOR SHALL PAY ALL CONNECTION AND TURN-ON SERVICE CHARGES REQUIRED BY THE SERVING UTILITY COMPANY.
  - CONTRACTOR IS TO COORDINATE WITH THE ELECTRIC UTILITY TO BRING ELECTRICAL SERVICE TO THE LIFT STATION. ALL COORDINATION WILL BE YOUR RESPONSIBILITY, AS PART OF YOUR BID, YOU ARE TO INCLUDE A \$8000.00 ALLOWANCE TO COVER THE COST IF ANY THAT THE ELECTRIC UTILITY MAY CHARGE. SHOULD NO COST BE CHARGED FOR THE SERVICE OR ONLY A PORTION OF THE \$8000 ALLOWANCE FOR REQUIRED THEN A DEDUCTIVE CHANGE ORDER WILL BE ISSUED RETURNING THE APPROPRIATE AMOUNT TO THE OWNER. IF THE COST IS MORE THAN \$8000 THEN THE OWNER WILL MAKE UP THE DIFFERENCE. CONTRACTOR WILL BE REQUIRED TO PROVIDE A COPY OF THE INVOICE FROM THE ELECTRIC SERVING UTILITY FOR ANY REQUIRED NEW SERVICE NOTE THAT THIS \$8000 ALLOWANCE CANNOT BE USED FOR ANY COSTS ASSOCIATED WITH PERMITS, COORDINATION, ETC. CONTRACTOR WILL NOT BE ALLOWED ANY PRECONTRACT COPY OF THE INVOICE FOR ADMINISTRATIVE OVERSIGHT, ETC. ALLOWANCE IS STRICTLY FOR ANY CHARGES BROUGHT BY ELECTRIC UTILITY IF IT IS NEEDED NECESSARY FOR PROPOSED NEW SERVICE TO THE LIFT STATION.
  - THE CONTRACTOR SHALL PAY AND IS RESPONSIBLE FOR BRINGING TELEPHONE SERVICE TO THE LIFT STATION FOR THE TELEPHONE AUTOCALLER.
  - SUBMITTALS: THE CONTRACTOR SHALL SUBMIT FOR REVIEW 6-COPIES OF SUBMITTALS SHOWING DIMENSIONS, DETAILED DRAWINGS, CATALOGS WITH GENERAL DESCRIPTIVE INFORMATION, CATALOG NUMBERS AND MANUFACTURER'S NAME ON ALL EQUIPMENT AND MATERIALS TO BE USED ON THIS PROJECT. APPROVAL OF SUBMITTALS SHALL BE OBTAINED BY THE CONTRACTOR OR HIS REPRESENTATIVE IN COMPLIANCE WITH THE PERMITS AND THEREAFTER, THE CONTRACTOR UPON COMPLETION SHALL SUBMIT 3 SETS OF A COMPREHENSIVE 1/2" X 11" BOUND INSTRUCTION INSTALLATION OPERATIONS MAINTENANCE MANUAL THAT INCLUDES AS BUILT WIRING DIAGRAMS, LAYOUT DIAGRAMS, AND OUTFIT DIMENSIONS. THIS MANUAL MUST BE 3-HOLE PUNCH FOR POSITION IN A SHOP MANUAL SUPPLIED BY THE INSTALLING CONTRACTOR.
  - PVC CONDUIT BELOW GRADE CONDUIT SHALL BE RIGID NON-METALLIC SCHEDULE 40 PVC, UL-RATED RESISTANT TO 90 DEGREES CELSIUS AND SHALL BE MANUFACTURED IN ACCORDANCE WITH NEMA 2-2 AND UL-651 STANDARDS FOR RIGID NON-METALLIC CONDUIT STANDARDS AND SHALL BE GREEN, CONDUIT, UNLESS NOTED OTHERWISE.
  - PVC COATED RIGID CONDUIT, BELOW-GRADE TO ABOVE-GRADE LIFTLINES, TRANSITIONS FROM PVC NON-METALLIC TO RIGID CONDUIT AND ALL ABOVE-GRADE CONDUIT SHALL BE MADE WITH PVC COATED RIGID DUPLEX RIGID STEEL CONDUIT A PVC COATING SHALL BE BOND TO THE EXTERIOR AND INTERIOR SURFACE OF THE CONDUIT EXTERIOR PVC COATING THICKNESS SHALL NOT BE LESS THAN 40 MILS. INTERIOR PVC COATING THICKNESS SHALL NOT BE LESS THAN 2 MILS. SHALL BE MANUFACTURED IN ACCORDANCE WITH UL-4 AND ANSI CR61 AND SHALL BE BROWN, OCEAN-BLUE, PINK-ORANGE OR EQUAL.
  - CABLE WIRING: ALL CONDUCTORS SHALL BE PER ASTM B-3 OR ASTM B-8 AND UL-44 AND UL-854. INSULATION FOR ALL 480-VOLT CONDUCTORS SHALL BE CROSS-LINKED POLYETHYLENE (XLPE) TYPE R90, R90C, USE RATED ABOVE THE SERVICE OR ALL 120/240 VOLT CONDUCTORS SHALL BE CROSS-LINKED POLYETHYLENE (XLPE) TYPE R90M-3 RATED 90V AND SHALL BE HOUSTON WIRE CABLE, AMERICAN INSULATED WIRE, ROBE CABLE, SOUTHWEST OR EQUAL.

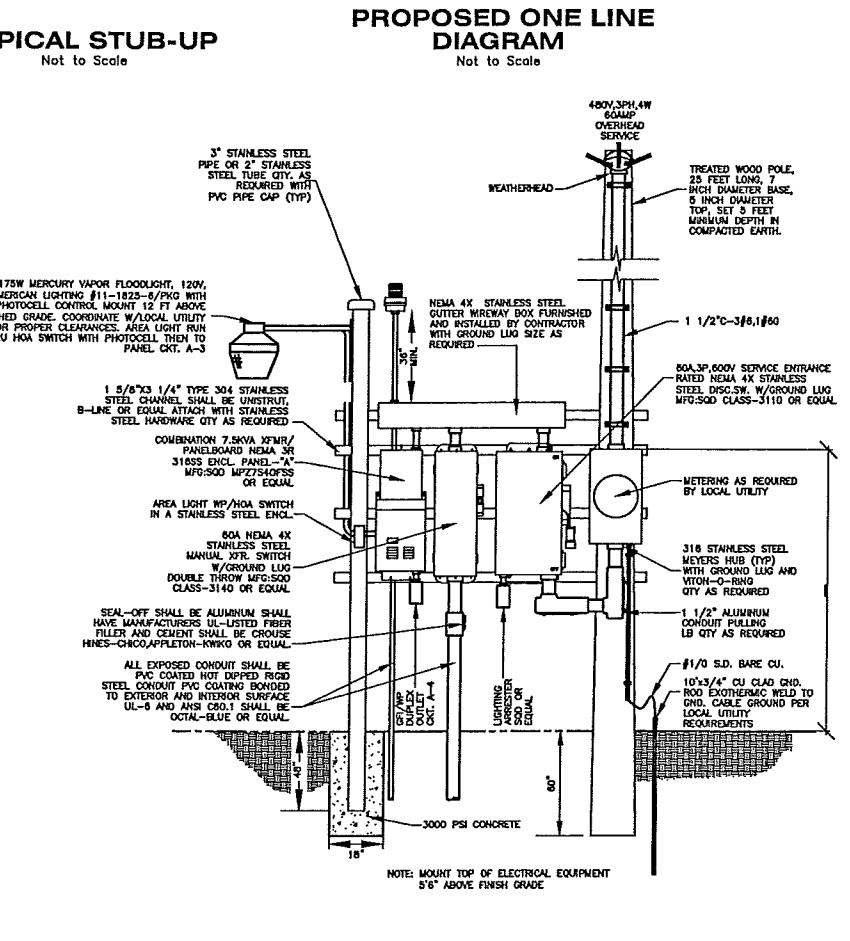
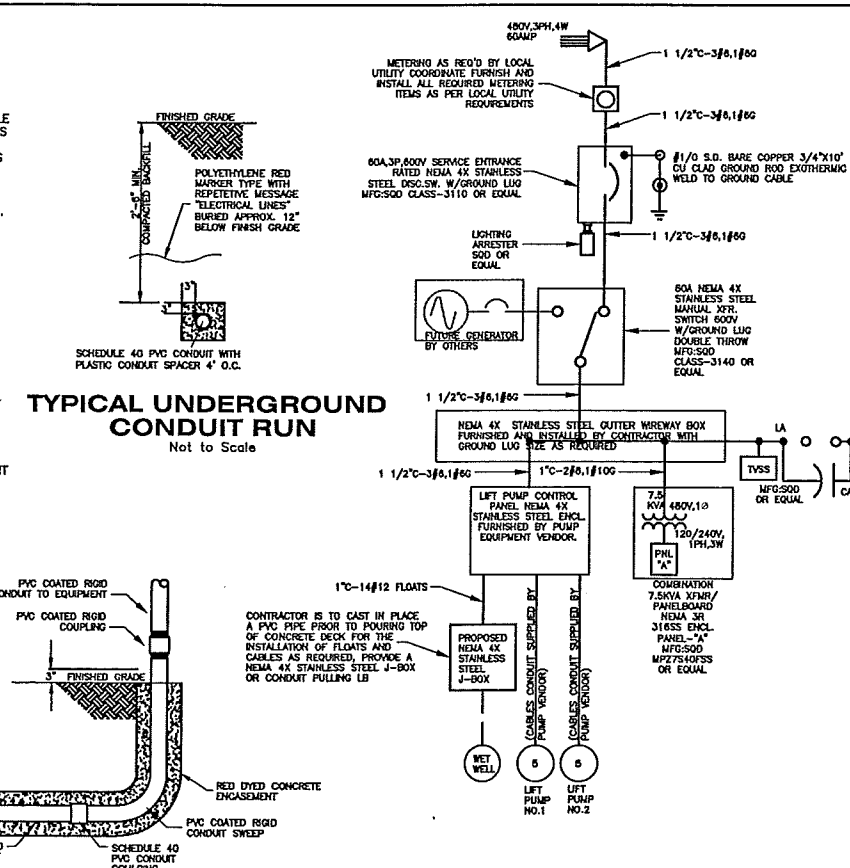
**PUMP CONTROL FLOAT ELEVATIONS**

ADJUST ALL FLOAT SETTINGS ACCORDING TO ACTUAL FIELD CONDITIONS COORDINATE THE MINIMUM PUMP SUBMERGENCE REQUIREMENTS WITH THE PUMP EQUIPMENT SUPPLIER

FS-7 HIGH ALARM TO CONTROLS.....	EL.95.00
FS-8 HIGH ALARM RESET TO CONTROLS.....	EL.94.50
FS-9 LAD PUMP NO.2 ON TO (ALT).....	EL.93.50
FS-4 LEAD PUMP NO.1 ON TO (ALT).....	EL.93.00
FS-3 PUMP OFF TO (ALT).....	EL.91.75
FS-2 LOW LEVEL LOCKOUT RESET TO CONTROLS.....	EL.91.75
FS-1 LOW LEVEL LOCKOUT TO CONTROLS.....	EL.91.42

**"TB-1" CONNECTIONS**

(CS1) LIFT PUMP NO.1 CONTROL SW IN HAND	Ø
(CS1) LIFT PUMP NO.1 CONTROL SW IN AUTO	Ø
(M1) LIFT PUMP NO.1 ON/OFF STATUS	Ø
(CS2) LIFT PUMP NO.1 MOTOR FAIL	Ø
(CS2) LIFT PUMP NO.2 CONTROL SW IN HAND	Ø
(CS2) LIFT PUMP NO.2 CONTROL SW IN AUTO	Ø
(M2) LIFT PUMP NO.2 ON/OFF STATUS	Ø
(OL) LIFT PUMP NO.2 MOTOR FAIL	Ø
(HW1) WET WELL HIGH LEVEL ALARM	Ø
(HW2) WET WELL LOW LEVEL ALARM LOCKOUT	Ø
(PWR) PF POWER FAIL	Ø
(CR1) LIFT STATION FAIL ALARM	Ø



PLAN SCALE: AS SHOWN

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AT 1-800-669-8344

**ELECTRICAL LOAD CHART @ 480/277V, 3Ø, 4W SERVICE**

LOAD DESCRIPTION	LOAD CURRENT IN AMPERES
MOTORS, FLA 2 Ø BA EA.	16.0
25% LARGEST MOTOR	2.0
PANEL BOARD TRANSFORMER 7.5 KVA	9.0
AMPS	27
<b>TOTAL</b>	<b>KVA</b>
	23

PREPARED BY \_\_\_\_\_ CHECKED BY \_\_\_\_\_ SHEET \_\_\_\_\_

**EDUARDO'S SUBDIVISION**  
No.18, 19, 20, 21 & 22  
LIFT STATION  
ELECTRICAL PLAN  
& TYPICAL DETAILS

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