

**WASTEWATER TRUNK MAIN LINE EXTENSION CONSTRUCTION
AND REIMBURSEMENT AGREEMENT**

STATE OF TEXAS §
 §
COUNTY OF NUECES §

This Wastewater Collection Line Extension Construction and Reimbursement Agreement ("Agreement") is entered into between the City of Corpus Christi ("City"), a Texas home-rule municipality, and MPM Development, LP, ("Developer/Owner"), a Texas Limited Partnership.

WHEREAS, the Developer/Owner, in compliance with the City's Unified Development Code ("UDC"), has a plat, approved by the Planning Commission on October 16, 2019 to develop a tract of land, to wit approximately 446.408 acres known as Kings Landing, Corpus Christi Texas as shown in the attached **Exhibit 1**, the content of such exhibit being incorporated by reference into this Agreement;

WHEREAS, under the UDC, the Developer/Owner is responsible for construction of the wastewater trunk line extension ("Wastewater Trunk Line");

WHEREAS, under the UDC, the Developer/Owner is eligible for reimbursement of the Developer/Owner's costs for the construction of Wastewater Trunk Line;

WHEREAS, it is to the best interest of the City that the Wastewater Trunk Line be constructed to its ultimate capacity under the City's applicable Master Plan;

WHEREAS, Section 8.5.2.E. of the UDC authorizes the acceptance of applications to be eligible for reimbursement in the future when funds become fully available in the Wastewater Trunk System Trust Fund and are appropriated by the City Council; and

WHEREAS, the Developer/Owner has submitted an application for reimbursement of the costs from the Wastewater Trunk System Trust Fund for installing the Wastewater Trunk Line, as shown in **Exhibit 2**, the content of such exhibit being incorporated by reference into this Agreement.

NOW, THEREFORE, in consideration of the mutual promises and covenants contained in this Agreement, the parties do covenant and agree as follows:

1. TRUSTEE LIABILITY. The City is executing this agreement as trustee of the Wastewater Trust Fund pursuant to UDC §8.5. The City is acting as trustee to further its governmental functions of providing water and sewer service. Texas Constitution Article 11, Section 3 prohibits the City from becoming a subscriber to the capital of any private corporation or association, or make any appropriation or donation to the same, or in anywise loan its credit. As such, the City's participation as Trustee does not create a loan of its credit. Execution of this agreement constitutes a promise to pay only to the extent that the assets and future assets of the trust are sufficient for such purpose and it is expressly agreed that any judgment will only be satisfied out of the assets of the trust and not out of the City's assets. The City is excluded from personal liability.

2. REQUIRED CONSTRUCTION. Developer/Owner shall construct the Wastewater Trunk Line in compliance with the City's UDC, the City's Infrastructure Design Manual, and all local, state and federal laws, codes and regulations, in accordance with the plans and specifications

submitted to the City's Development Services Department and reviewed and approved by the City's Development Services Engineer.

3. PLANS AND SPECIFICATIONS.

- a. Developer/Owner shall contract with a professional engineer licensed in the State of Texas and acceptable to the City's Development Services Engineer to prepare plans and specifications for the Wastewater Trunk Line, as shown in the attached **Exhibit 3**, the content of such exhibit being incorporated by reference into this Agreement, with the following minimum requirements:

ITEM	DESCRIPTION	QUANTITY	UNIT
1	18" PVC PIPE	351	LF
2	DEWATERING FOR 18" PVC PIPE	351	LF
3	MANHOLE	1	EA
4	TRENCH SAFETY FOR 18" PIPE	351	LF

- b. The plan must be in compliance with the City's master plans.
- c. The plans and specifications must comply with the City's Wastewater Standards Detail Sheets and Standard Specifications.
- d. Before the Developer/Owner starts construction, the plans and specifications must be approved by the City's Development Services Engineer.

4. SITE IMPROVEMENTS. Prior to the start of construction of the Wastewater Trunk Line, Developer/Owner shall acquire and dedicate to the City the required additional public utility easements ("Easements"), if any, necessary for the completion of the Wastewater Trunk Line. If any of the property needed for the Easements is owned by a third party and the Developer/Owner is unable to acquire the Easements through reasonable efforts, then the City may use its powers of eminent domain to acquire the Easements. Developer will be responsible for cost of acquisition, payable from the reimbursement agreed to in this agreement.

5. PLATTING FEES. Developer/Owner shall pay to the City the required acreage fees and pro-rata fees as required by the UDC.

6. DEVELOPER/OWNER TO AWARD CONTRACT FOR IMPROVEMENTS. Developer/Owner shall award a contract and complete the Wastewater Trunk Line, under the approved plans and specifications within 18 months of the approval of this Agreement by City Council.

7. TIME IS OF THE ESSENCE. Time is of the essence in the performance of this contract.

8. PROMPT AND GOOD FAITH ACTIONS. The parties shall act promptly and in good faith in performing their duties and obligations under this Agreement. If this Agreement calls for review or inspections by the City, then the City's reviews or inspections must be completed thoroughly and promptly.

9. DEFAULT. The following events shall constitute default:

- a. Developer/Owner fails to engage a professional engineer for the preparation of plans and specifications by the 10th calendar day after the date of approval of this Agreement by the City Council.
- b. Developer/Owner's professional engineer fails to submit the plans and specifications to the City's Director of Engineering Services by the 40th calendar day after the date of approval by City Council.
- c. Developer/Owner fails to award a contract for the construction of the project, according to the approved plans and specifications, by the 70th calendar day after the date of approval by City Council.
- d. Developer/Owner's contractor does not reasonably pursue construction of the Wastewater Trunk Line under the approved plans and specifications.
- e. Developer/Owner's contractor fails to complete construction of the Wastewater Trunk Line, under the approved plans and specifications, within 18 months from the approval of this Agreement by City Council.
- f. Either the City or the Developer/Owner otherwise fails to comply with its duties or obligations under this Agreement.

10. NOTICE AND CURE.

- a. In the event of a default by either party under this Agreement, the non-defaulting party shall deliver notice of the default, in writing, to the defaulting party stating, in sufficient detail, the nature of the default and the requirements to cure such default.
- b. After delivery of the default notice, the defaulting party has 15 business days from the delivery of the default notice ("Cure Period") to cure the default.
- c. In the event the default is not cured by the defaulting party within the Cure Period, then the non-defaulting party may pursue its remedies in this section.
- d. Should Developer/Owner fail to perform any obligation or duty of this Agreement, the City shall give notice to Developer/Owner, at the address stated in section 12, of the need to perform the obligation or duty, and should Developer/Owner fail to perform the required obligation or duty within 15 days of receipt of the notice, the City may perform the obligation or duty, charging the cost of such performance to Developer/Owner by reducing the reimbursement amount due Developer/Owner.
- e. In the event of an uncured default by the Developer/Owner, after the appropriate notice and Cure Period, the City has all its common law remedies and the City may:
 - 1. Terminate this Agreement after the required notice and opportunity to cure the default;

2. Refuse to record a related plat or issue any certificate of occupancy for any structure to be served by the project; and/or

3. Perform any obligation or duty of the Developer/Owner under this Agreement and charge the cost of such performance to the Developer/Owner. The Developer/Owner shall pay to the City the reasonable and necessary cost of the performance within 30 days from the date the Developer/Owner receives notice of the cost of performance. In the event the Developer/Owner pays the City under the preceding sentence and is not otherwise in default under this Agreement, then the Agreement shall be considered in effect and no longer in default.

f. In the event of an uncured default by the City after the appropriate notice and Cure Period, the Developer/Owner has all its remedies at law or in equity for such default.

11. FORCE MAJEURE.

a. The term "force majeure" as employed in this Agreement means and refers to acts of God; strikes, lockouts, or other industrial disturbances; acts of public enemies; insurrections; riots; epidemics; landslides; lightning; earthquakes; fires; hurricanes; storms; floods; washouts; droughts; arrests; civil disturbances; explosions; or other causes not reasonably within the control of the party claiming the inability.

b. If, by reason of force majeure, either party is rendered wholly or partially unable to carry out its obligations under this Agreement, then the party claiming force majeure shall give written notice of the full particulars of the force majeure to the other party within ten (10) business days after the occurrence or waive the right to claim it as a justifiable reason for delay. The obligations of the party giving the required notice, to the extent affected by the force majeure, are suspended during the continuance of the inability claimed but for no longer period, and the party shall endeavor to remove or overcome such inability with all reasonable dispatch.

12. NOTICES.

a. Any notice or other communication required or permitted to be given under this Agreement must be given to the other party in writing at the following address:

1. If to the Developer/Owner:

**MPM Development
Attn: Moses Mostaghasi
PO Box 331308
Corpus Christi, Texas 78463**

2. If to the City:

City of Corpus Christi
Attn: Director, Development Services Department
2406 Leopard Street 78401
P. O. Box 9277
Corpus Christi, Texas 78469-9277

with a copy to:

City of Corpus Christi
Attn: Assistant City Manager, Business Support Services
1201 Leopard Street 78401
P. O. Box 9277
Corpus Christi, Texas 78469-9277

b. Notice must be made by United States Postal Service, First Class mail, certified, return receipt requested, postage prepaid; by a commercial delivery service that provides proof of delivery, delivery prepaid; or by personal delivery.

c. Either party may change the address for notices by giving notice of the change under the provisions of this section.

13. THIRD-PARTY BENEFICIARY. Developer/Owner's contracts with the professional engineer for the preparation of the plans and specifications for the construction of the Wastewater Trunk Line, contracts for testing services, and contracts with the contractor for the construction of the Wastewater Trunk Line must provide that the City is a third-party beneficiary of each contract.

14. PERFORMANCE AND PAYMENT BONDS. Developer/Owner shall, before beginning the work that is the subject of this Agreement, furnish a performance bond payable to the City of Corpus Christi if the contract is in excess of \$100,000 and a payment bond if the contract is in excess of \$50,000. Bonds furnished must meet the requirements of Texas Insurance Code 3503, Texas Government Code 2253, and all other applicable laws and regulations. The performance or payment bond must name the City as an obligee. If the Developer/Owner is not an obligor, then Developer/Owner shall be named as a joint obligee. The bond must clearly and prominently display on the bond or on an attachment to the bond:

(1) the name, mailing address, physical address, and telephone number, including the area code, of the surety company to which any notice of claim should be sent; or

(2) the toll-free telephone number maintained by the Texas Department of Insurance under Subchapter B, Chapter 521, Insurance Code, and a statement that the address of the surety company to which any notice of claim should be sent may be obtained from the Texas Department of Insurance by calling the toll-free telephone number.

15. WARRANTY. Developer/Owner shall fully warranty the workmanship of and function of the Wastewater Trunk Line and the construction thereof for a period of one year from and after the date of acceptance of the facilities by the City's Director of Engineering Services.

16. REIMBURSEMENT.

a. The cost for the Wastewater Trunk Main Line less is \$75,706.88. Subject to the conditions for reimbursement from the Wastewater Trunk Line System Trust Fund and the appropriation of funds, the City will reimburse the developer, the reasonable actual cost of the Wastewater Trunk Line up to an amount not to exceed **\$75,706.88** as shown in the attached **Exhibit 4**, the contents of such exhibit being incorporated by reference into this Agreement.

- b. Subject to the conditions for reimbursement from the Sanitary Sewer Trunk Main Trust Fund and the appropriation of funds, the City agrees to reimburse the Developer/Owner on a monthly basis upon invoicing for work performed. The submitted invoice shall be deemed administratively complete by the City prior to payment. The reimbursement will be made no later than 30 days from the date of the City's administrative approval of the invoice. Developer/Owner shall submit all required performance bonds and proof of required insurance under the provisions of this Agreement.
- c. Cost-supporting documentation to be submitted shall include:
 - 1. Summary of Costs and Work Performed Form provided by the Development Services Department
 - 2. Contractor and professional services invoices detailing work performed
 - 3. The first reimbursement request requires submittal of invoices for work performed. Future disbursements shall provide evidence of payment by the developer/owner through a cancelled check or bank ACH for the previous submittal. The final reimbursement request shall require evidence that all invoices to date have been paid.
- d. To be eligible for reimbursement, the work must be constructed in a good and workmanlike manner and must have been inspected and accepted by the City. The City agrees to conduct periodic inspections and approve the progress of the work at key points during construction.

The final 5% of the total contract reimbursement amount will be held as retainage until such time the City issues acceptance of public infrastructure in accordance with Unified Development Code.

- e. In the event that this Agreement is terminated by the City as a result of an uncured default by the Developer/Owner and at a time when there has been a partial completion and/or partial payment for the improvements, then the City shall only reimburse the Developer/Owner for its costs that were legitimately incurred towards the completion of the improvements that have been inspected and accepted by the City up to the time that the uncured default occurred.

17. PAYMENTS, CREDITS AND DEFERRED REIMBURSEMENT. All payments, credits, priority of reimbursement, and deferred reimbursement shall be made in accordance with UDC §8.5. Developer/Owner understands and agrees that if funds are not available in the Wastewater Trunk System Trust Fund, that reimbursement will not be made until such funds are available, appropriated, and this Agreement has priority per UDC §8.5.2. E.

18. INDEMNIFICATION. Developer/Owner covenants to fully indemnify, save and hold harmless the City of Corpus Christi, its officers, employees, and agents, ("indemnitees") against any and all liability, damage, loss, claims, demands suits and causes of action of any nature whatsoever asserted against or recovered from city on account of injury or damage to person including, without limitation on the foregoing, workers compensation and death claims, or property

loss or damage of any other kind whatsoever, to the extent any injury, damage, or loss may be incident to, arise out of, be caused by, or be in any way connected with, either proximately or remotely, wholly or in part, the Developer/Owner's failure to comply with its obligations under this agreement or to provide city wastewater service to the development, including injury, loss, or damage which arise out of or are in any manner connected with, or are claimed to arise out of or be in any manner connected with the construction, installation, existence, operation, use, maintenance, repair, restoration, or removal of the public improvements associated with the development described above, including the injury, loss or damage caused by the sole or contributory negligence of the indemnitees or any of them, regardless of whether the injury, damage, loss, violation, exercise of rights, act, or omission is caused or is claimed to be caused by the contributing or concurrent negligence of indemnitees, or any of them, but not if caused by the sole negligence of indemnitees, or any of them, unmixed with the fault of any other person or entity, and including all expenses of litigation, court costs, and attorneys fees, which arise, or are claimed to arise, out of or in connection with the asserted or recovered incident.

This indemnity specifically includes all claims, damages, and liabilities of whatever nature, foreseen or unforeseen, under any hazardous substance laws, including but not limited to the following:

(a) all fees incurred in defending any action or proceeding brought by a public or private entity and arising from the presence, containment, use, manufacture, handling, creating, storage, treatment, discharge, release or burial on the property or the transportation to or from the property of any hazardous substance. The fees for which the developer/owner shall be responsible under this subparagraph shall include but shall not be limited to the fees charged by (i) attorneys, (ii) environmental consultants, (iii) engineers, (iv) surveyors, and (v) expert witnesses.

(b) any costs incurred attributable to (i) the breach of any warranty or representation made by Developer/Owner in this agreement, or (ii) any cleanup, detoxification,

remediation, or other type of response action taken with respect to any hazardous substance on or under the property regardless of whether or not that action was mandated by the federal, state or local government.

This indemnity shall survive the expiration or earlier termination of the agreement.

19. ASSIGNMENT OF AGREEMENT. This Agreement or any rights under this Agreement may not be assigned by the Developer/Owner to another without the written approval and consent of the City's City Manager.

20. DISCLOSURE OF INTEREST. Developer/Owner agrees, in compliance with the Corpus Christi Code of Ordinance Sec. 2-349, to complete, as part of this Agreement, the Disclosure of Interest form attached to this Agreement as **Exhibit 5**.

21. EFFECTIVE DATE. This Agreement becomes effective and is binding upon and inures to the benefit of the City and the Developer/Owner and their respective heirs, successors, and assigns from and after the date of final execution by all parties.

22. DEDICATION OF WASTEWATER TRUNK LINE. Upon completion of the construction, dedication of Wastewater Trunk Line will be subject to City inspection and approval.

23. CERTIFICATE OF INTERESTED PARTIES. Developer/Owner agrees to comply with Texas Government Code section 2252.908 and complete Form 1295 Certificate of Interested Parties as part of this agreement.

Form 1295 requires disclosure of "interested parties" with respect to entities that enter contracts with cities. These interested parties include:

- (1) persons with a "controlling interest" in the entity, which includes:
 - a. an ownership interest or participating interest in a business entity by virtue of units, percentage, shares, stock or otherwise that exceeds 10 percent;
 - b. membership on the board of directors or other governing body of a business entity of which the board or other governing body is composed of not more than 10 members; or
 - c. service as an officer of a business entity that has four or fewer officers, or service as one of the four officers most highly compensated by a business entity that has more than four officers.
- (2) a person who actively participates in facilitating a contract or negotiating the terms of a contract with a governmental entity or state agency, including a broker, intermediary, adviser or attorney for the business entity.

Form 1295 must be electronically filed with the Texas Ethics Commission at https://www.ethics.state.tx.us/whatsnew/elf_info_form1295.htm. The form must then be printed, signed, notarized and filed with the City. For more information, please review the Texas Ethics Commission Rules at <https://www.ethics.state.tx.us/legal/ch46.html>.

24. CONFLICT OF INTEREST. Developer/Owner agrees to comply with Chapter 176 of the Texas Local Government Code and file Form CIQ with the City Secretary's Office, if required.

For more information and to determine if you need to file a Form CIQ, please review the information on the City Secretary's website at <http://www.ctexas.com/government/city-secretary/conflict-disclosure/index>

25. AUTHORITY. All signatories signing this Agreement warrant and guarantee that they have the authority to act on behalf of the entity represented and make this Agreement binding and enforceable by their signature.

Remainder of page intentionally left blank; signature page to follow.

EXECUTED IN ONE ORIGINAL this _____ day of _____, 2020.

ATTEST:

CITY OF CORPUS CHRISTI

Rebecca Huerta
City Secretary


Al Raymond III
Director, Development Services

APPROVED AS TO LEGAL FORM:

Buck Brice (Date)
Assistant City Attorney
For City Attorney

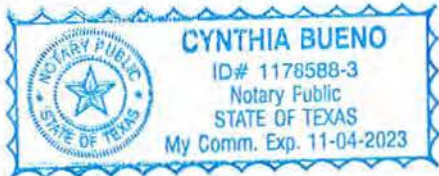
DEVELOPER/OWNER:

MPM Development, LP.
PO Box 331308
Corpus Christi, Texas 78463

By: 
Moses Mostaghasi, General Partner

STATE OF TEXAS §
 §
COUNTY OF Nueces §

This instrument was acknowledged before me on April 16th, 2020, by Moses Mostaghasi, General Partner, MPM Development, LP, a Texas Limited Partnership, on behalf of said corporation.




Notary Public's Signature

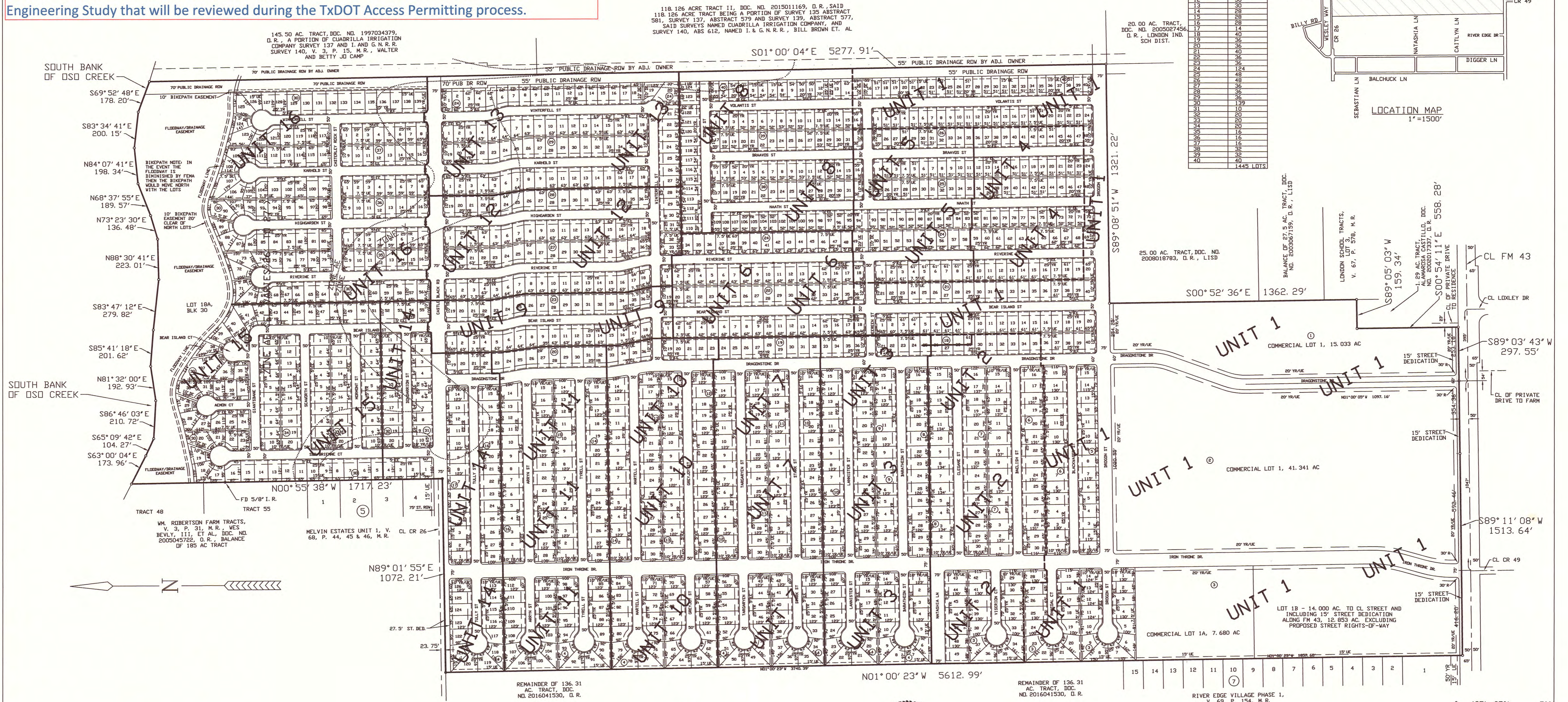
TXDOT Notes:

1. A Traffic Impact Analysis (TIA) shall be required for the ultimate 15 year development forecast for the intersections and access locations within 3500 feet of both sides of the subject property line along FM 43. This TIA shall be required during the public improvement stage of this plat, prior to TxDOT Access Permitting for new streets, or City Site-work Permitting.

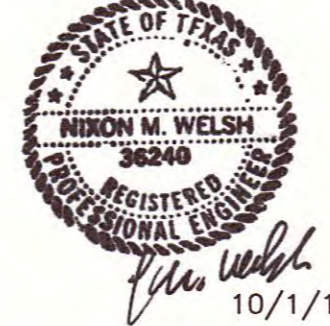
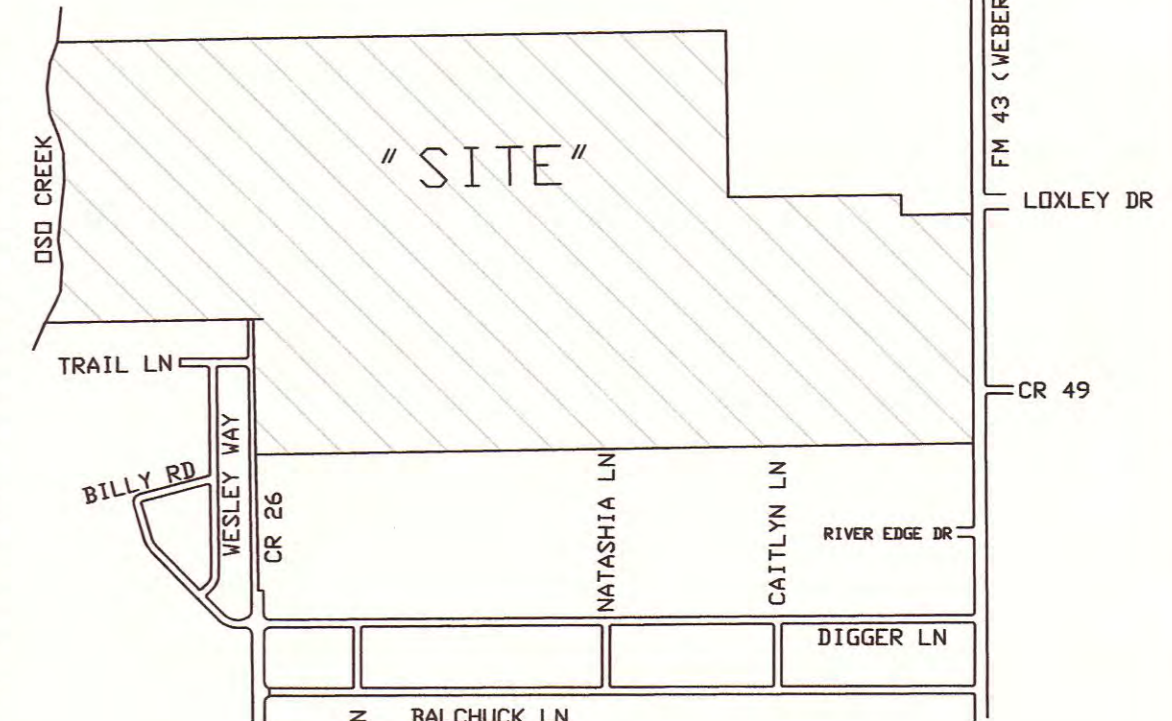
2. No access locations beyond those identified herein shall be authorized for plats or re-plats without a variance for lots adjacent to State Right-Of-Way. A variance may be granted on a case by case basis when the Owner or their agent provides significant justification of a public need for additional access. Justification shall be provided within a site specific Traffic Engineering Study that will be reviewed during the TxDOT Access Permitting process.

LEGEND:

- DE DRAINAGE EASEMENT
- D.R. DEED RECORDS, NUECES CO., TX
- M.R. MAP RECORDS, NUECES CO., TX
- O.R. OFFICIAL RECORDS, NUECES CO., TX
- UE UTILITY EASEMENT



118.126 ACRE TRACT II, DDC. NO. 2015011169, D.R. SAID
 118.126 ACRE TRACT BEING A PORTION OF SURVEY 135 ABSTRACT
 581, SURVEY 137, ABSTRACT 579 AND SURVEY 139, ABSTRACT 577,
 SAID SURVEYS NAMED CUADRILLA IRRIGATION COMPANY, AND
 SURVEY 140, ABS 612, NAMED I. & G. N. R. R., BILL BROWN ET. AL



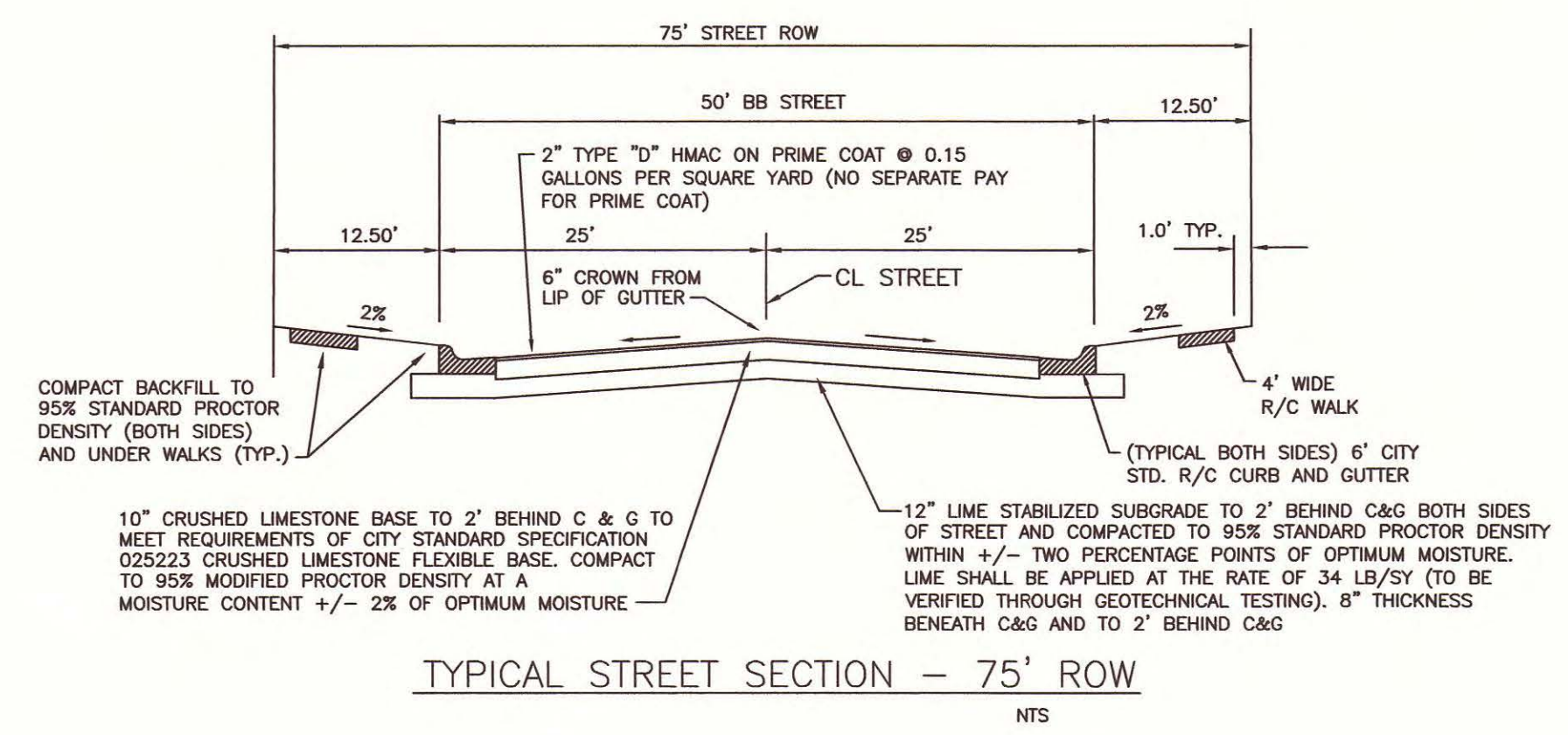
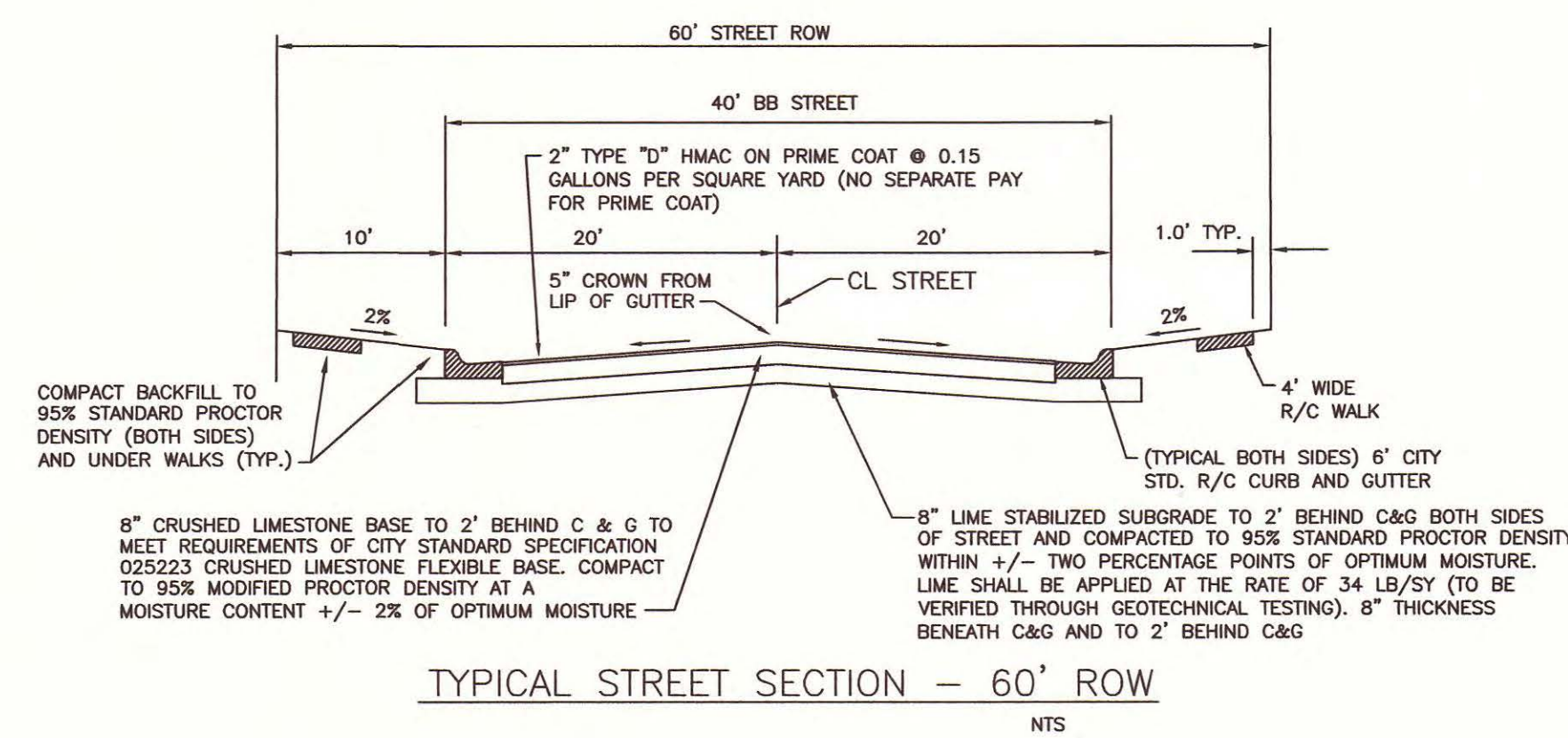
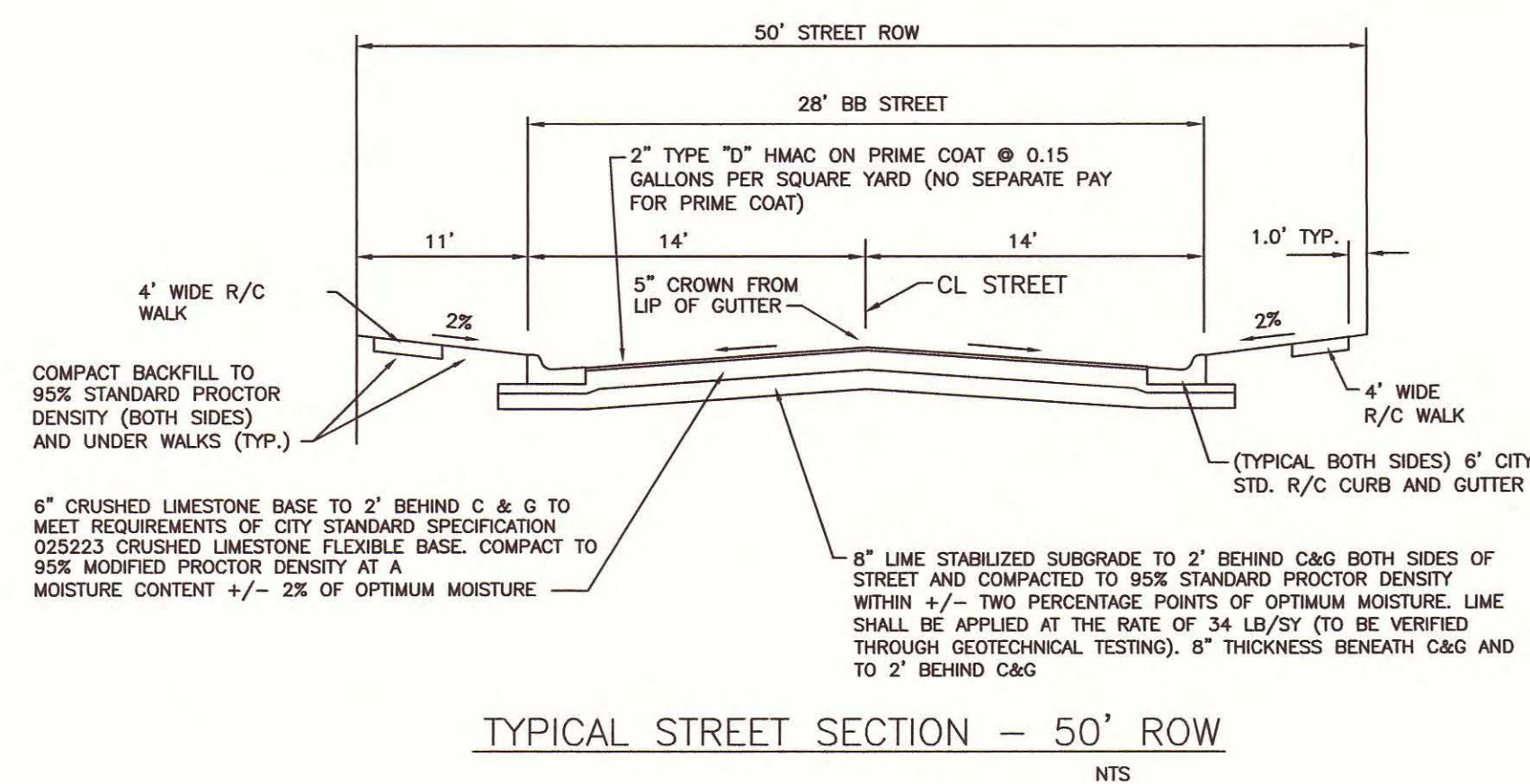
OWNERS:
 THE WILLIAM EARL HENSCH TRUST, WILLIAM EARL HENSCH, TRUSTEE, 5027 HELLY ROAD, PASADENA, TX 77503, 713 417-7122
 ANNA BELLE HENSCH, 1009 PEERMAN PLACE, CORPUS CHRISTI, TX 78411, 361 444-5800
 RETTA MAURINE KASPER, 4805 VELMA, KILLEEN, TX 76542, 254 462-2976
 CORPUS CHRISTI COMMUNITY CHURCH, 4833 SARATOGA BLVD #259, CORPUS CHRISTI, TX 78413, SCOTT MCDONALD 361 420-0022, ALSO JAMES F. DODSON, 4222 FM 665, RD8252WN, TX 76080, 361 977-3222
 WFM DEVELOPMENT, LP, PO BOX 331308, CORPUS CHRISTI, TX 78463, 774-3832

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF INTERIM REVIEW UNDER THE AUTHORITY OF NIXON M. WELSH, P.E. NO. 36240 OF BASS AND WELSH ENGINEERING, F 52. IT IS NOT TO BE USED FOR CONSTRUCTION OR BIDDING PURPOSES.

BASS & WELSH ENGINEERING
 TX SURVEY REG. NO 100027-00, TX ENGINEERING REG. NO. F-52, 3054 S. ALAMEDA STREET, CORPUS CHRISTI, TEXAS 78404

PRELIMINARY PLAT
KINGS LANDING*

OWN: _____	PLAT SCALE: 1" = 250'	COM. NO. _____	PREL AS PREL _____
CHK: N. WELSH	SCALE 0/0: NONE	JOB NO. _____	18068
	DATE PLOTTED: 10/8/19	SHEET 1 OF 2	



NOTES

1. THE SITE IS OCL, PROPOSED ANNEXATION AND ZONED RS-4.5 AND CN-1.
2. THE RECEIVING WATER FOR THE STORM WATER RUNOFF FROM THIS PROPERTY IS THE OSO CREEK. THE TCEQ HAS NOT CLASSIFIED THE AQUATIC LIFE USE FOR THE OSO CREEK, BUT IT IS RECOGNIZED AS AN ENVIRONMENTALLY SENSITIVE AREA. THE OSO CREEK FLOWS DIRECTLY INTO THE OSO BAY. THE TCEQ HAS CLASSIFIED THE AQUATIC LIFE USE FOR THE OSO BAY AS "EXCEPTIONAL" AND "OYSTER WATERS" AND CATEGORIZED THE RECEIVING WATER AS "CONTACT RECREATION" USE.
3. THE BASIS OF BEARINGS IS THE STATE OF TEXAS LAMBERT GRID, SOUTH ZONE, NAD 1983.
4. THE SUBJECT SITE IS DEPICTED IN FEMA MAP 4835500505G (10/23/15) AND CONTAINS ZONE AE-FLOODWAY AREAS, ZONE AE AREAS WITH ELEVATIONS BETWEEN 26' AND 27', ZONE X AREAS OF 0.2 PCT ANNUAL CHANCE FLOOD AND ZONE X AREA (NO DESIGNATION).
5. DESCRIPTION OF SITE DRAINAGE: THE ENTIRE SITE WILL DRAIN VIA UNDERGROUND PIPES AND DITCHES TO THE OSO CREEK AS SHOWN.
6. THERE ARE NO KNOWN NATURAL WATER BODIES, JURISDICTIONAL WETLANDS, ENDANGERED SPECIES HABITAT, STATE SUBMERGED LANDS OR CRITICAL DUNES ON THE SITE.
7. A STORM WATER POLLUTION PREVENTION PLAN WILL BE SUBMITTED WITH THE CONSTRUCTION PLANS FOR ANY PROJECT ONE (1) ACRE OR GREATER OR A STORM WATER POLLUTION CONTROL PLAN IF LESS THAN ONE (1) ACRE.
8. LEGAL DESCRIPTION - SEE RIGHT.

NOTES CONTINUED

9. THIS DEVELOPMENT MEETS THE CITY'S MASTER DRAINAGE PLAN. THE INCREASE IN DISCHARGE RATES, VOLUMES AND DURATIONS OF CONCENTRATED AND NON-CONCENTRATED STORMWATER RUNOFF LEAVING THE PROPOSED DEVELOPMENT DUE TO THE DIVERTED FLOW WILL NOT HAVE AN ADVERSE IMPACT (E.G., SOIL EROSION; SEDIMENTATION; YARD, DWELLING, BUILDING, OR PRIVATE STRUCTURE FLOODING; DURATION OF PONDING WATER; INADEQUATE OVERLAND RELIEF) ON ADJACENT OR DOWNSTREAM PROPERTIES.
10. EACH LOT AREA MUST COMPLY WITH THE APPROPRIATE ZONING DESIGNATION.
11. WATER, WASTEWATER AND PARK FEES SHALL BE PAID PRIOR TO RECORDATION OF THE FINAL PLAT.
12. THE TOTAL PLATTED AREA CONTAINS 446.408 ACRES OF LAND INCLUDING STREET DEDICATIONS.
13. EACH ZONING DISTRICT SHALL CONFORM TO MINIMUM LOT WIDTH (FT.) AND LOT AREA (SF) STANDARDS.
14. THE YARD REQUIREMENT, AS DEPICTED, IS A REQUIREMENT OF THE UNIFIED DEVELOPMENT CODE AND IS SUBJECT TO CHANGE AS THE ZONING MAY CHANGE.
15. STREET CENTER LINES SHALL BE 25' - 25' FOR 50' RIGHTS-OF-WAY, 30' - 30' FOR 60' RIGHTS-OF-WAY AND 37.5' - 37.5' FOR 75' RIGHTS-OF-WAY.
16. CONFORMANCE TO THE VISIBILITY TRIANGLE REQUIREMENTS OF UDC SECTION 4.2.9. TO PREVENT VISION OBSTRUCTIONS AT STREET INTERSECTIONS SHALL BE REQUIRED.
17. ANY ACCESS ONTO FM 43 SHALL HAVE TxDOT APPROVAL.
18. NO DRAINAGE FROM THIS DEVELOPMENT INTO ROW OF FM 43.
19. ALL INSIDE STREET CORNER INTERSECTIONS REQUIRE A RADIUS OF A MINIMUM OF 10' ON LOCAL RESIDENTIAL STREETS, 15' TO 20' ON COLLECTOR/COMMERCIAL/INDUSTRIAL STREETS AND 20' TO 50' ON ARTERIALS. THE RADIUS MAY VARY DEPENDING ON THE CIRCUMSTANCES.
20. RESIDENTIAL DRIVEWAY ACCESS PROHIBITED ONTO IRON THORNE DRIVE, DROGON STREET, AND CASTLE BLACK ROAD.
21. ALL DRIVEWAYS TO PUBLIC STREETS WITHIN THE SUBDIVISION SHALL CONFORM TO ACCESS MANAGEMENT STANDARDS OUTLINED IN ARTICLE 7 OF THE UDC.
22. DRIVEWAY ACCESS TO FM43 SHALL CONFORM TO ACCESS MANAGEMENT STANDARDS OF TEXAS DEPARTMENT OF TRANSPORTATION.
23. ALL LOTS AT STREET INTERSECTIONS SHALL ADHERE TO VISIBILITY TRIANGLE REQUIREMENTS OF UDC SECTION 4.2.9.

LEGAL DESCRIPTION: A 446.408 ACRE TRACT OF LAND, MORE OR LESS, AND CONSISTING OF:

TRACT 1, A 293.041 ACRE TRACT OF LAND DESCRIBED BY DEED, D.C. NO. 2019035726, D.R.

TRACT 2, A 10.08 AC. TRACT OF LAND DESCRIBED BY DEED, D.C. NO. 2017010862, D.R., AND

TRACT 3, A 144.570 ACRE TRACT OF LAND, BEING CALLED 144.30 ACRE FIRST TRACT, VOL. 1066, P. 140, D.R.,

THE ABOVE THREE TRACTS BEING PORTIONS OF ONE OR MORE OF SURVEY 135 ABSTRACT 981, CERTIFICATE 29, SURVEY 137, ABSTRACT 579, CERTIFICATE 31 AND SURVEY 139, ABSTRACT 577, CERTIFICATE 33, SAID SURVEYS NAMED CUADRILLA IRRIGATION COMPANY, NUECES CO., TX



THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF INTERIM REVIEW UNDER THE AUTHORITY OF NIXON M. WELSH, P.E. NO. 36240 OF BASS AND WELSH ENGINEERING, F 52. IT IS NOT TO BE USED FOR CONSTRUCTION OR BIDDING PURPOSES.



BASS & WELSH ENGINEERING TX SURVEY REG. NO 100027-00, TX ENGINEERING REG. NO. F-52, 3054 S. ALAMEDA STREET, CORPUS CHRISTI, TEXAS 78404			
PRELIMINARY PLAT OF KINGS LANDING, CORPUS CHRISTI, NUECES COUNTY, TX			
DWN. _____	PLAT SCALE: 1" = 250'	COM. NO. PREL SH2	
CHK. N. WELSH	SCALE (S): SAME	JOB NO. 18068	
	SCALE (D): NONE		
	DATE PLOTTED: 10/8/19	SHEET 2 OF 2	

APPLICATION FOR WASTE WATER REIMBURSEMENT

We, MPM Development, LP, P.O. Box 331308, Corpus Christi, Texas 78463, owners and developers of proposed King's Landing Unit 1 subdivision, hereby request reimbursement of \$75,706.88 for the installation of the offsite waste water trunk line in conjunction with said subdivision, as provided for by City Ordinance No. 17092. \$75,706.88 is the construction cost, including 7.5% Engineering, Surveying and Testing as shown by the cost supporting documents attached herewith.



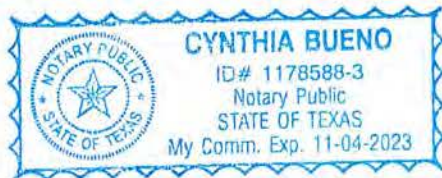
Mossa Mostaghasi, President


4/16/2020
(Date)

THE STATE OF TEXAS §

COUNTY OF NUECES §

This instrument was acknowledged before me on April 16th, 2020, by Mossa Mostaghasi, President of MPM Development, LP, on behalf of the said corporation.





Notary Public in and for Nueces County, Texas

CERTIFICATION

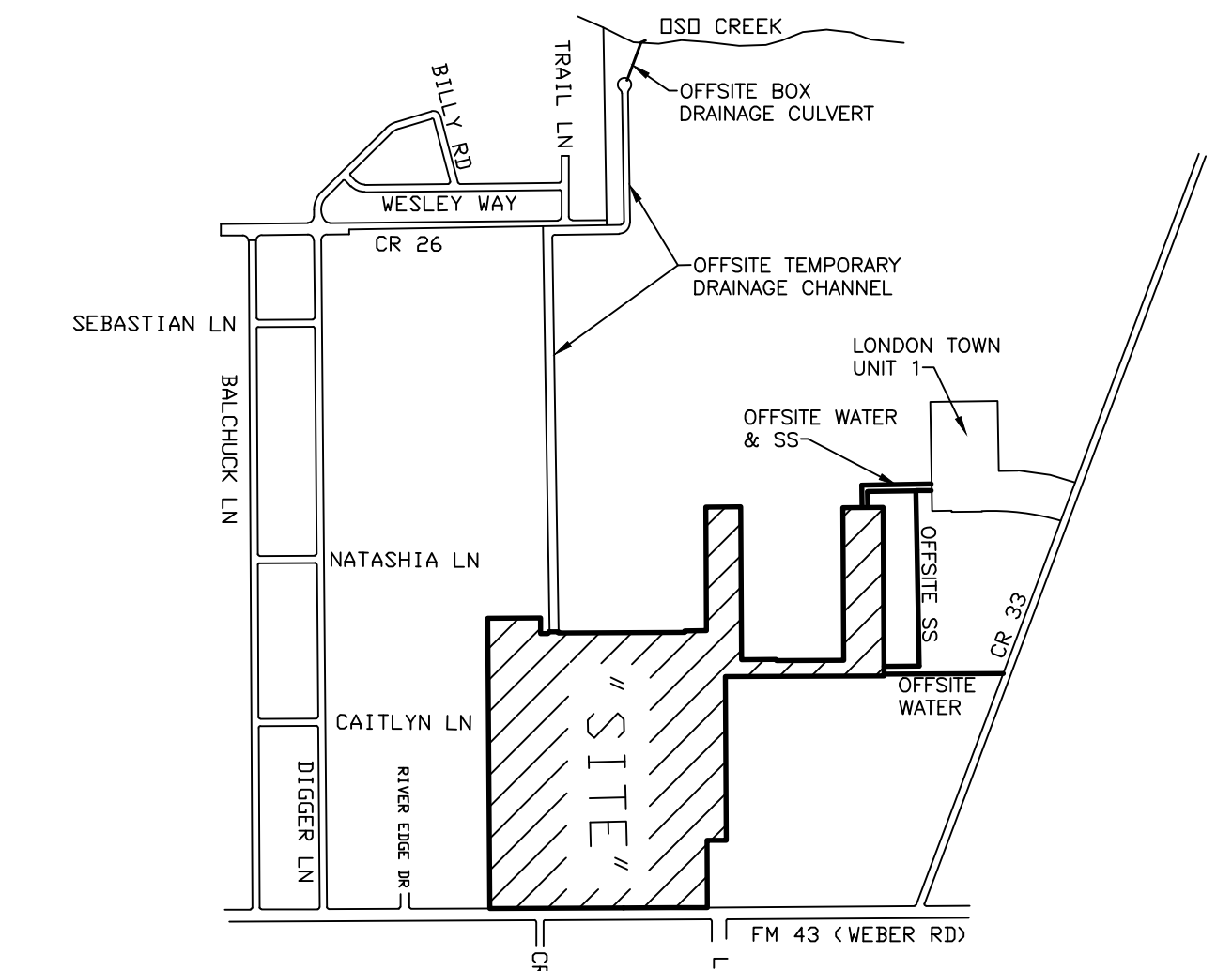
The information submitted with this application for reimbursement has been reviewed and determined to be correct. Reimbursement is subject to:

- (a) Sufficiency of funds in the Trunk Line Trust Fund, and
- (b) Appropriation and approval by the City Council.

Development Services Engineer

(Date)

PUBLIC IMPROVEMENTS TO KING'S LANDING UNIT 1, CORPUS CHRISTI, NUEECES COUNTY, TEXAS



LOCATION MAP SHOWING OFFSITE DRAINAGE, SS AND WATER
1" = 1500'

SHEET INDEX

SHEET 1	COVER SHEET AND MISCELLANEOUS INFORMATION
SHEET 1A	STREET BASE MAP
SHEET 1B	SANITARY SEWER BASE MAP
SHEET 1C	WATER BASE MAP
SHEET 2	PAVING, GRADING AND DRAINAGE PLAN, STREET AND STORM SEWER PROFILES
SHEET 3	PAVING, GRADING AND DRAINAGE PLAN, STREET AND STORM SEWER PROFILES
SHEET 4	PAVING, GRADING AND DRAINAGE PLAN, STREET AND STORM SEWER PROFILES
SHEET 5	PAVING, GRADING AND DRAINAGE PLAN, STREET AND STORM SEWER PROFILES
SHEET 6	PAVING, GRADING AND DRAINAGE PLAN, STREET AND STORM SEWER PROFILES
SHEET 7	PAVING, GRADING AND DRAINAGE PLAN, STREET AND STORM SEWER PROFILES
SHEET 8	SANITARY SEWER AND WATER PLAN AND PROFILE
SHEET 9	SANITARY SEWER AND WATER PLAN AND PROFILE
SHEET 10	SANITARY SEWER AND WATER PLAN AND PROFILE
SHEET 11	SANITARY SEWER AND WATER PLAN AND PROFILE
SHEET 12	SANITARY SEWER AND WATER PLAN AND PROFILE
SHEET 13	SANITARY SEWER AND WATER PLAN AND PROFILE AND OFFSITE SANITARY SEWER AND WATER TO EAST
SHEET 14	WATER PLAN AND PROFILE, AIR RELEASE AND VACUUM VALVE DETAIL, MULTIPLE BOX CULVERT ENLARGED DRAWINGS
SHEET 15	STORM WATER POLLUTION PREVENTION PLAN & ESTIMATE SUMMARY
SHEET 16	STORM WATER POLLUTION PREVENTION PLAN
SHEET 17	STORM WATER POLLUTION PREVENTION PLAN
SHEET 18	STORM WATER POLLUTION PREVENTION PLAN
SHEET 19	STORM WATER POLLUTION PREVENTION PLAN
SHEET 20	STORM WATER POLLUTION PREVENTION PLAN
SHEET 21	OFFSITE DRAINAGE PLAN AND PROFILE
SHEET 22	OFFSITE DRAINAGE PLAN AND PROFILE
SHEET 23	OFFSITE DRAINAGE PLAN AND PROFILE
SHEET 24	STREET & SIDEWALK DETAILS
SHEET 25	TXDOT SINGLE BOX CULVERTS, CIP, SCC-5&6 (SHEET 1)
SHEET 26	TXDOT SINGLE BOX CULVERTS, CIP, SCC-5&6 (SHEET 2)
SHEET 27	TXDOT SINGLE BOX CULVERTS, CIP, SCC-8 (SHEET 1)
SHEET 28	TXDOT SINGLE BOX CULVERTS, CIP, SCC-8 (SHEET 2)
SHEET 29	TXDOT MULTIPLE BOX CULVERTS, CIP, MC-8-13 (SHEET 1)
SHEET 30	TXDOT MULTIPLE BOX CULVERTS, CIP, MC-8-13 (SHEET 2)
SHEET 31	TXDOT CONCRETE WINGWALLS W/PARALLEL WINGS FOR BOX CULVERTS, TYPES PW-1 AND PW-2
SHEET 32	TXDOT PEDESTRIAN RAIL, TYPE PR-2
SHEET 33	TXDOT SINGLE BOX CULVERTS, CAST IN PLACE, MISCELLANEOUS DETAILS, SCC-MD

DEVELOPERS:
MOSES MOSTAGHASI
P.O. BOX 331308, CORPUS CHRISTI, TEXAS 78463 774-3832

CORPUS CHRISTI COMMUNITY CHURCH
4833 SARATOGA BLVD. NO. 259
CORPUS CHRISTI, TX 78413-2213
420-0022

BASS AND WELSH ENGINEERING
TX REGISTRATION NO. F-52, 3054 S. ALAMEDA STREET
CORPUS CHRISTI, TEXAS 78404

PUBLIC IMPROVEMENTS TO
KING'S LANDING UNIT 1
CORPUS CHRISTI, NUEECES CO., TX
COVER SHEET AND MISCELLANEOUS INFORMATION

DWN: _____	CHK: N. WELSH	PLOT SCALE: 1" = 50'	SCALE (H): AS SHOWN	SCALE (V): AS SHOWN	DATE PLOTTED: 02/18/20	COM. NO. CS.DWG	JOB NO. 18068	SHEET 1 OF 33
------------	---------------	----------------------	---------------------	---------------------	------------------------	-----------------	---------------	---------------

CITY STANDARD SPECIFICATIONS
THE FOLLOWING CITY OF CORPUS CHRISTI STANDARD SPECIFICATIONS OF WHICH CAN BE OBTAINED FROM THE CITY OF CORPUS CHRISTI WEBSITE (WWW.CCITEXAS.COM) SHALL BE UTILIZED FOR THIS PROJECT. CONTRACTOR SHALL PRINT AND OBTAIN COPIES OF THESE SPECIFICATIONS PRIOR TO BIDDING THE WORK AND PRIOR TO CONSTRUCTION OF THE WORK. THE WORD "ENGINEER" AS USED IN SAID CITY STANDARD SPECIFICATIONS SHALL REFER TO BASS & WELSH ENGINEERING.

LEGEND - EXISTING FACILITIES AND APPURTENANCES

AP	ASPHALT PAVEMENT
①	BLOCK NO. 1
6" C & G	6" R/C CURB AND GUTTER
4' CW	4' R/C WALK
D.E.	DRAINAGE EASEMENT
EP	EDGE OF PAVEMENT
M.R.	MAP RECORDS
18" RCP	18" REINFORCED CONCRETE PIPE
ROW	RIGHT-OF-WAY LINE
R/W	RIGHT-OF-WAY LINE
8"SS	8" SANITARY SEWER LINE
U.E.	UTILITY EASEMENT
8"W	8" WATER LINE
Y.R.	YARD REQUIREMENT
X	SPOT ELEVATION POINT OF "X"

LEGEND - PROPOSED FACILITIES AND APPURTENANCES

BB	BACK OF CURB TO BACK OF CURB
CL	CENTERLINE
CW	R/C CONCRETE WALK
DCSC	DEEP CUT SERVICE CONNECTION (SAN. SEWER)
→	DRAINAGE DIRECTION OR DIMENSION ARROW
(13.45)	FINISHED GROUND ELEVATION
☼	FIRE HYDRANT SYMBOL
FL	FLOW LINE OR INVERT ELEVATION
FW	FINISHED WALK ELEVATION
GB	GRADE BREAK (CHANGE OF DRAINAGE DIRECTION OR SLOPE)
LT	LEFT
MH	MANHOLE
PC	POINT OF CURVATURE (BEGINNING OF CURVE)
PT	POINT OF TANGENCY (END OF CURVE)
R/C	REINFORCED PORTLAND CEMENT CONCRETE
RCP	REINFORCED CONCRETE PIPE
RT	RIGHT
S	S = 0.3%
SS	SANITARY SEWER
SSF	SEDIMENTATION SCREENING FENCE ALSO KNOWN AS SILT FENCE OR TEMPORARY SEDIMENT CONTROL FENCE
SSMH	SANITARY SEWER MANHOLE
SSS	SANITARY SEWER SERVICE (PIPE & FITTINGS, 4" AND 6")
STL	STREET LIGHT LOCATION
STPS	STOP SIGN
TC	TOP OF CURB
TW	TOP OF WALK
X	WATER VALVE SYMBOL
WSD	DOUBLE WATER SERVICE (1" PIPE, FITTINGS, CORPORATION STOP AND ANGLE METER VALVES)
WSS	SINGLE WATER SERVICE (1" PIPE, FITTINGS, CORPORATION STOP AND ANGLE METER VALVE)

CITY STANDARD DETAIL SHEETS

THE FOLLOWING SHEETS ARE INCLUDED HEREIN BY REFERENCE AND SHALL BE USED ON THIS PROJECT. CONTRACTOR SHALL OBTAIN THESE SHEETS FROM THE CITY OF CORPUS CHRISTI (AT [HTTP://ENGINEERCOCOM/STANDARD-DETAILS](http://ENGINEERCOCOM/STANDARD-DETAILS)) FOR BIDDING AND CONSTRUCTION PURPOSES.
STANDARD WATER DETAILS, 4 SHEETS
WASTE WATER STANDARD DETAILS, 4 SHEETS
STORM WATER STANDARD DETAILS, 3 SHEETS
STORM WATER POLLUTION PREVENTION, 3 SHEETS
CURB, GUTTER AND SIDEWALK STANDARD DETAILS, 1 SHEET
PEDESTRIAN CURB RAMP STANDARD DETAILS, 4 SHEETS

TRAFFIC CONTROL AND STREET LIGHT FEES

- CONTRACTOR SHALL PREPARE A TRAFFIC CONTROL AND BARRICADING PLAN AND SUBMIT IT TO THE CITY TRAFFIC ENGINEERING DEPARTMENT FOR APPROVAL AND SHALL DO NO WORK UNTIL HE HAS RECEIVED WRITTEN APPROVAL FROM THE CITY OF SAID PLAN. ALL TRAFFIC CONTROL AND BARRICADING SHALL BE ACCOMPLISHED IN ACCORDANCE WITH SAID PLAN.
- R.O.W. PERMITS ARE REQUIRED PRIOR TO STARTING WORK IN ANY PUBLIC STREET RIGHT-OF-WAY. THE CONTRACTOR SHALL CONTACT TRAFFIC ENGINEERING TO DETERMINE ALL APPLICABLE REQUIREMENTS (PERMITS, TRAFFIC CONTROL PLAN, FEES, ETC.).
- STREET LIGHT FEES SHALL BE PAID BY THE DEVELOPER TO THE CITY (NOT BY CONTRACTOR)

WATER NOTES

- NO SEPARATE PAY FOR THRUST BLOCKS NOR RESTRAINED JOINTS IN PIPE OR FITTINGS IN PROPOSED 6", 8", 12" AND 16" PVC WATER LINES. CONTRACTOR SHALL INSURE ALL WATER FITTINGS ARE RESTRAINED OR BLOCKED APPROPRIATELY.
- PROVIDE CAST IRON BOXES AND PVC PIPE EXTENSIONS WITH CONCRETE AT GATE VALVES PURSUANT TO CITY STANDARD WATER DETAILS.
- CONSTRUCT WATER RISERS AT END CAPS ON PIPES AND 2" BLOW-OFF VALVES FOR FILLING AND TESTING PURPOSES PURSUANT TO DETAILS AS SHOWN IN CITY STANDARD WATER DETAILS.
- CONSTRUCT WATER SERVICE LINES AND CONNECTIONS PURSUANT TO THE NOTES AND DETAILS AS SHOWN IN CITY STANDARD WATER DETAILS.
- ALL WATER MAINS 6" AND LARGER SHALL BE DR18 PVC WITH DUCTILE IRON MECHANICAL JOINT FITTINGS.
- PROVIDE MINIMUM CLEARANCE BETWEEN WATER AND SANITARY SEWER LINES AND/OR MANHOLES AS REQUIRED BY THE TEXAS ADMINISTRATIVE CODE 317-3, APPENDIX "E" SEPARATION DISTANCE (AS REQUIRED BY TEXAS STATE WATER HYGIENE LAW) AND ACCORDING TO CITY STANDARD DETAILS AND SPECIFICATIONS).
- ALL WATER SERVICE LINES SHALL BE 1" DIAMETER FOR SINGLE AND DOUBLE WATER SERVICES.
- ALL PUBLIC WATER LINE CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH REQUIREMENTS SET FORTH BY THE CITY OF CORPUS CHRISTI WATER DISTRIBUTION STANDARDS, DETAILS, AND PRACTICES. PVC PIPE AND FITTINGS FOR WATER LINES SHALL BE AWWA C-900, CLASS 150, WITH A DR OF 18. FIRE HYDRANTS WILL BE LOCKED ONTO VALVE BY USE OF RETAINER GLANDS ON DIP.

STORM WATER POLLUTION PREVENTION

- PAY FOR ALL STORM WATER POLLUTION PREVENTION MEASURES, SOLID WASTE DISPOSAL, SOIL TRACKING, SEEDING, ETC., AS PART OF "STORM WATER POLLUTION PREVENTION".
- UPON COMPLETION OF IMPROVEMENTS HEREOF, ALL DISTURBED AREAS SHALL BE GRASS SEEDING IN ACCORDANCE WITH CITY STANDARD SPECIFICATION 028020 "SEEDING".
- THE NPDES PERMIT CAN BE FOUND ON THE TCEQ WEB SITE AT [HTTPS://WWW.TCEQ.TEXAS.GOV/ASSETS/PUBLIC/PERMITTING/STORMWATER/TXR150000_CGP.PDF](https://www.tceq.texas.gov/ASSETS/PUBLIC/PERMITTING/STORMWATER/TXR150000_CGP.PDF).

CALL BEFORE YOU DIG!

PARTICIPANTS REQUEST
48 HOURS NOTICE BEFORE YOU DIG,
DRILL, OR BLAST - STOP AND CALL
811
know what's below.
Call before you dig.

THE LONE STAR
NOTIFICATION COMPANY
AT 1-800-669-8344

GENERAL NOTES

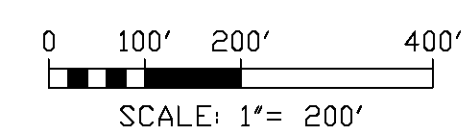
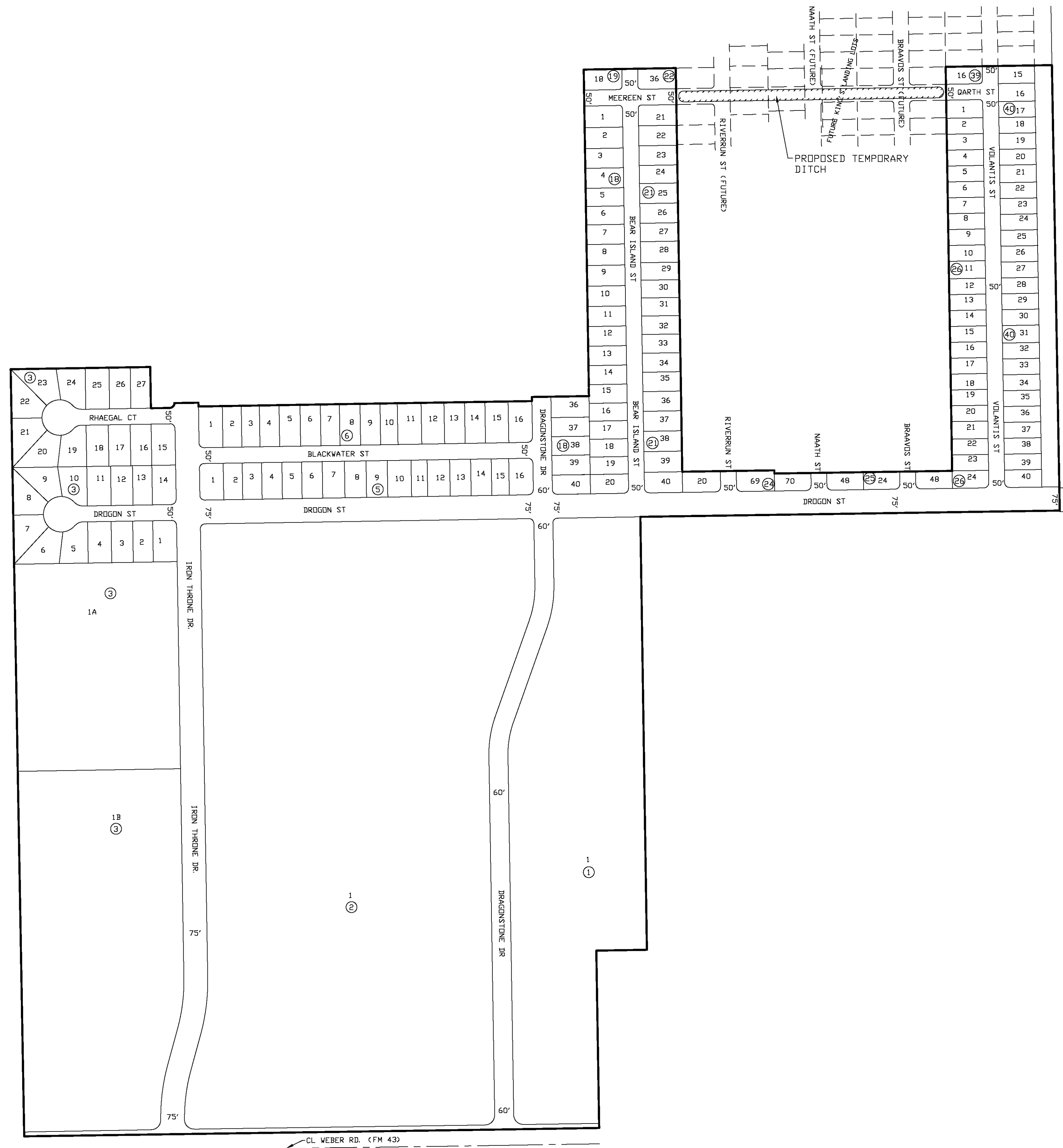
- IF A PARTICIPATION AGREEMENT AND/OR REIMBURSEMENT ARE BEING REQUESTED BY THE DEVELOPER/ENGINEER, THEN PRIOR TO START OF CONSTRUCTION, THE CITY COUNCIL MUST APPROVE SAID AGREEMENT.
- THIS WORK WILL BE INSPECTED BY THE CITY'S CONSTRUCTION INSPECTION DIVISION. CONSTRUCTION INSPECTION SHOULD BE CONTACTED AT LEAST 72 HOURS PRIOR TO START OF CONSTRUCTION. THE NUMBER TO CONTACT CONSTRUCTION INSPECTION IS (361) 826-1738.
- DEVELOPER/DEVELOPER'S AGENT SHALL ENSURE THAT BEST MANAGEMENT PRACTICES TO MINIMIZE EROSION AND SEDIMENTATION ARE BEING USED AND THAT ANY AND ALL TCEQ PERMITS WHERE NEEDED HAVE BEEN OBTAINED.
- DEVELOPER/DEVELOPER'S AGENT SHALL ENSURE THAT TRAFFIC CONTROL MEASURES ARE IMPLEMENTED AS NEEDED. ANY WORK IN CITY RIGHT-OF-WAY REQUIRES A PERMIT FROM THE CITY'S TRAFFIC ENGINEERING DIVISION.
- ANY WORK AFFECTING TXDOT RIGHT-OF-WAY REQUIRES REVIEW, APPROVAL AND/OR PERMIT AS APPLICABLE.
- ALL PUBLIC IMPROVEMENTS SHALL BE WARRANTED BY THE DEVELOPER PER UNIFIED DEVELOPMENT CODE (UDC) SECTION 8.1.6 FROM THE DATE OF ACCEPTANCE OF THOSE IMPROVEMENTS BY THE DIRECTOR OF ENGINEERING.
- APPROVAL FOR PUBLIC IMPROVEMENTS PERTINENT TO PLATTING REQUIREMENTS OF A FINAL PLAT SHALL EXPIRE IF THE FINAL PLAT EXPIRES. A FINAL PLAT EXPIRES SIX (6) MONTHS FROM THE DATE OF ITS APPROVAL BY PLANNING COMMISSION IF IMPROVEMENTS HAVE NOT BEEN INITIATED AND SUBSTANTIAL PROGRESS CONTINUED TOWARDS COMPLETION UNLESS AN EXTENSION HAS BEEN GRANTED BY ENGINEERING SERVICES.
- APPROVAL FOR PUBLIC IMPROVEMENTS ASSOCIATED WITH A BUILDING PERMIT SHALL EXPIRE IF THE BUILDING PERMIT EXPIRES. A BUILDING PERMIT EXPIRES 180 DAYS FROM THE DATE OF ISSUANCE UNLESS AN EXTENSION HAS BEEN GRANTED BY BUILDING INSPECTIONS.
- A PERMIT IS REQUIRED FOR ANY EXCAVATION IN PUBLIC RIGHT OF WAY. EXCAVATION MEANS AN ACTIVITY THAT CUTS, PENETRATES, OR BORES UNDER ANY PORTION OF THE PUBLIC WAY THAT HAS BEEN IMPROVED WITH A PAVED SURFACE FOR STREET, SIDEWALK, SURFACE DRAINAGE, OR RELATED PUBLIC TRANSPORTATION INFRASTRUCTURE PURPOSES. PERMITS WILL NOT BE ISSUED FOR EXCAVATION IN ANY PUBLIC WAY THAT HAS BEEN CONSTRUCTED, RECONSTRUCTED, REPAVED, OR RESURFACED IN THE PRECEDING PERIOD OF FIVE YEARS FROM THE DATE OF ACCEPTANCE BY THE PUBLIC WORKS CONSTRUCTION ENTITY.
- ANY EXCAVATIONS ALLOWED BY THE DIRECTOR OF DEVELOPMENT SERVICES ON CONCRETE STREETS MUST BE PERFORMED IN SUCH A WAY THE ENTIRE CONCRETE PANEL IS REPLACED.
- ELECTRICAL CASING PIPES SHALL BE PVC SCHEDULE 40 PIPE, SOLVENT WELD, CAPPED EACH END (WITHOUT SOLVENT WELD AT END CAPS). CASINGS ARE FOR FUTURE ELECTRICAL WIRE/CABLES TO BE INSERTED BY OTHERS. SIZE OF CASINGS AND PLACEMENT LOCATIONS SHALL BE MADE PURSUANT TO THE REQUIREMENTS OF CPL-PLACE ELECTRICAL CASINGS AND BACKFILL IN ACCORDANCE WITH ALL REQUIREMENTS FOR SANITARY SEWER SERVICE LINES. INSTALL CASING PIPES WITH A MINIMUM OF 4" OF COVER FROM FINISHED SURFACE. CONTRACTOR SHALL CONTACT CPL TO DETERMINE THE LOCATION OF CASINGS REQUIRED BY AEP.
- SUBSIDIARY WORK IN THE COURSE OF FURNISHING OR CONSTRUCTING A COMPLETE WORK OR IMPROVEMENT CERTAIN WORK MAY BE NECESSARY WHICH IS SUBSIDIARY TO THE ITEMS WHICH ARE ESTABLISHED AS PAY ITEMS. SOME SUCH SUBSIDIARY WORK MAY BE SHOWN AND SPECIFIED IN DETAIL IN THE PLANS AND SPECIFICATIONS, OTHER WORK MAY BE LESS COMPLETELY SHOWN, AND OTHER SUCH WORK WHICH IS ENTIRELY NECESSARY FOR THE SATISFACTORY COMPLETION OF THE WORK AS A WHOLE MAY NOT BE NOTED ON THE PLANS OR IN THE SPECIFICATIONS. IT SHALL BE THE DUTY OF THE CONTRACTOR TO CARRY OUT ALL SUCH SUBSIDIARY WORK AS IF FULLY SHOWN, AND THE COST OF SUCH WORK SHALL BE MADE SUBSIDIARY TO THE ESTABLISHED PAY ITEM.

PAVING, GRADING AND DRAINAGE NOTES

- ALL PROPOSED CONCRETE CURBS AND GUTTERS, WALKS, DRAINAGE INLETS AND VALLEY GUTTERS ARE SHOWN POCHED (SHADED).
 - PRIOR TO ANY EARTHWORK, ALL TREES, VEGETATION, ORGANIC MATERIAL AND ANY DELETERIOUS SUBSTANCES SHALL BE REMOVED FROM THE ENTIRE PROJECT SITE EXCEPT TREES 6" DIAMETER AND LARGER OUTSIDE OF PROPOSED STREET PAVING SHALL BE LEFT IN PLACE UNHARMED. AFTER REMOVAL OF ALL VEGETATION, ORGANIC MATERIAL, DELETERIOUS SUBSTANCES, APPROPRIATE TREES, ETC., CONTRACTOR MAY BEGIN EARTHWORK CUT AND FILL OPERATIONS FOR LOT GRADING AND EARTHWORK ASSOCIATED WITH STREETS.
 - CONTRACTOR SHALL PERFORM ALL ROUGH EARTHWORK (FILLING, GRADING, HAULING, CUTTING, LOADING, ETC.) TO VERIFY ADEQUATE EARTH QUANTITY ON-SITE TO ACHIEVE EARTH GRADES AS SHOWN PRIOR TO ANY OTHER CONSTRUCTION AND CONTRACTOR SHALL NOT PROCEED WITH SAID OTHER CONSTRUCTION UNTIL AFTER HE HAS RECEIVED ENGINEER'S PERMISSION. SHOULD THERE NOT BE AVAILABLE EARTH TO MEET GRADES AS SHOWN, CONTRACTOR SHALL HAUL EARTH ON TO THE SITE FROM OFFSITE SOURCES TO ACHIEVE GRADES AS SHOWN (NO SEPARATE PAY). AFTER COMPLETION OF ROUGH GRADING AND AFTER COMPLETION OF STREET, DRAINAGE, SANITARY SEWER AND WATER IMPROVEMENTS, THEN CONTRACTOR SHALL PROVIDE ALL FINAL/FINISH GRADING TO ACHIEVE GRADES AS SHOWN. THIS INCLUDES BACKFILL OF EXISTING DITCH.
 - ALL CONCRETE, EXCEPT FOR PRECAST CONCRETE BOX CULVERTS, SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS AND ALL STEEL REINFORCING SHALL BE GRADE 60 (60,000 PSI YIELD STRENGTH) IN ACCORDANCE WITH ASTM A 615.
 - REINFORCED CONCRETE STORM SEWER PIPE SHALL BE CLASS III, STANDARD STRENGTH. STORM SEWER MANHOLES SHALL BE PRE-CAST CONCRETE.
 - ALL STREET, SANITARY SEWER AND STORM SEWER STATIONING IS MEASURED ALONG THE CENTERLINES OF STREETS.
 - LINEARLY INTERPOLATE BETWEEN GRADES AS SHOWN TO DETERMINE A PROPOSED GRADE AT ANY PARTICULAR POINT.
 - CURB AND GUTTER ALIGNMENT SHALL PARALLEL ADJACENT RIGHT-OF-WAY LINES EXCEPT WHERE INDICATED OTHERWISE.
 - CURB AND GUTTER TO BE CONSTRUCTED 11.0' BACK OF CURB TO PROPERTY LINES FOR 50' STREET RIGHTS-OF-WAY, 10.0' BC TO PROPERTY LINES FOR 60' RIGHT-OF-WAY STREETS AND 12.5' BC TO PROPERTY LINES FOR 75' STREET RIGHTS OF WAY.
 - CONSTRUCT PROPOSED CURB RAMPS AT ALL STREET INTERSECTIONS AND AS SHOWN AND ACCORDING TO CITY CURB RAMP DETAILS AS SHOWN IN PLANS HEREOF. DEPRESS CURBS AS REQUIRED. RAMPS SHALL BE SLOPED NOT EXCEEDING 1" PER FOOT LONGITUDINAL AND 2% TRANSVERSE AND SHALL MEET ALL APPLICABLE GOVERNMENTAL REGULATIONS. NO SEPARATE PAY FOR CURB RAMPS (PAY FOR CURB RAMPS IN THE SQUARE FOOT PRICE OF 4" THICK R/C WALKS).
 - CONTRACTOR SHALL MEET ALL GOVERNMENTAL ONE-CALL AND OTHER REGULATIONS WITH REGARD TO EXISTING UNDERGROUND FACILITIES AND PIPELINES.
 - NO SEPARATE PAY FOR PRIME COAT (PAY FOR IN THE ESTABLISHED UNIT PRICE FOR HMA).
 - ADA CURB RAMPS - THE CITY NO LONGER ALLOWS THE PAVER OPTION AT CURB RAMPS. THE CONTRACTOR SHALL INSTALL COMPOSITE TACTILE WARNING PANELS AT ALL ADA CURB RAMPS.
 - GEOTEXTILE FABRIC MATERIAL IS REQUIRED FOR WRAPPING RCP PIPE JOINTS AND SHALL MEET REQUIREMENTS OF AASHTO M288.
 - COMPACT EARTH FOR ALL DITCH BACKFILL TO 95% STANDARD PROCTOR DENSITY WITHIN THREE PERCENTAGE POINTS OF OPTIMUM MOISTURE.
- SEE FOLLOWING SHEET FOR CONTINUATION OF PAVING, GRADING AND DRAINAGE NOTES.

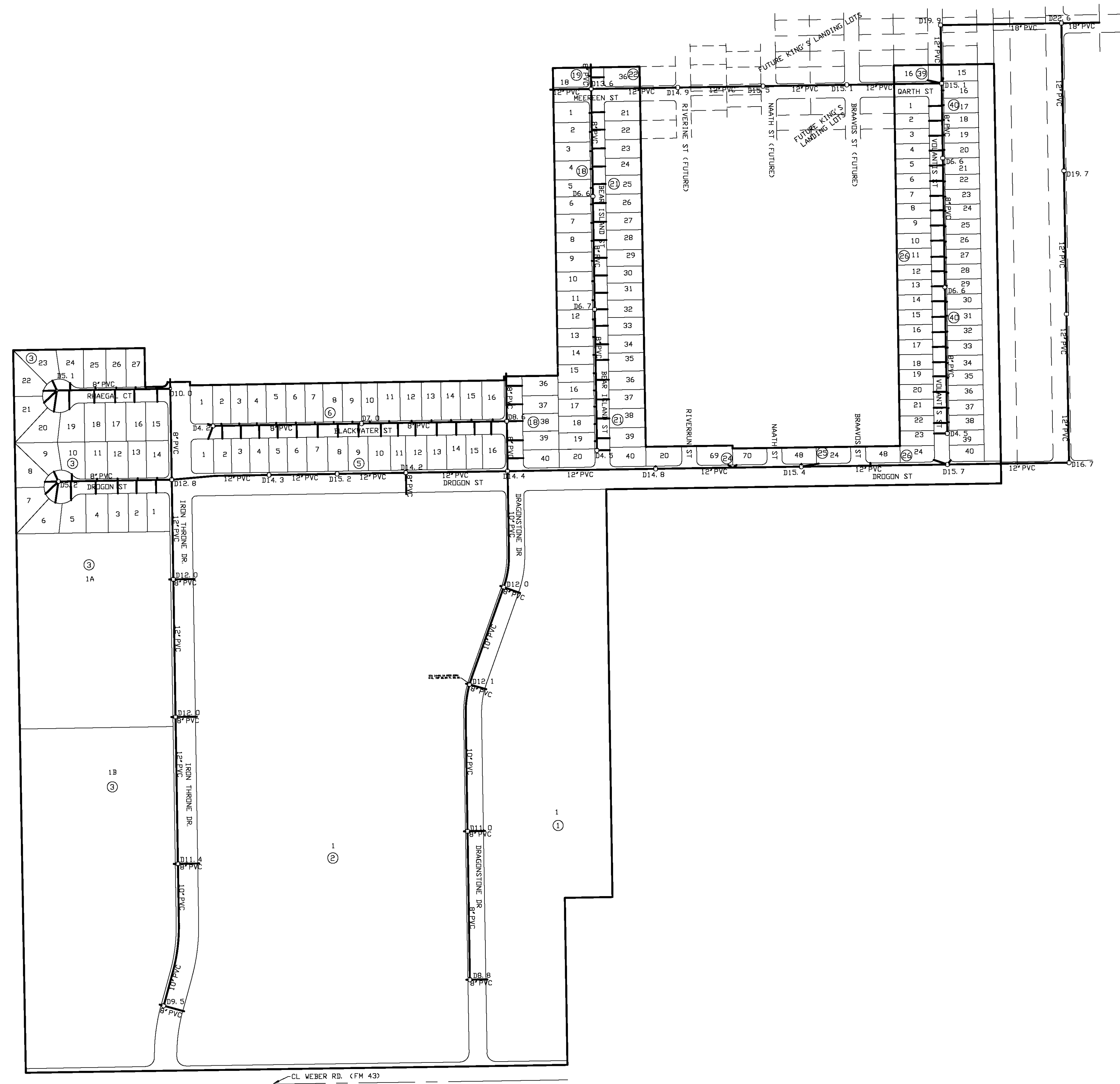
SANITARY SEWER NOTES

- ALL SANITARY SEWER STATIONING IS MEASURED ALONG THE CENTER LINE OF PROPOSED STREETS EXCEPT FOR OFFSITE SANITARY SEWER WHICH IS MEASURED ALONG PIPE. ALL SANITARY SEWER MANHOLES SHALL BE FIBERGLASS, 4" MINIMUM DIAMETER FOR MANHOLES 14" DEEP OR LESS AND 5" DIAMETER FOR MANHOLES OVER 14" IN DEPTH. 0.5" (MINIMUM) WALL AND CONSTRUCTED IN ACCORDANCE WITH CITY STANDARD SPECIFICATIONS.
- ALL GRAVITY SEWER PIPES 8" THRU 18" SHALL BE PVC, SDR 26 AND SHALL BE BEDDED/ENCASD IN ACCORDANCE WITH CITY STANDARD DETAILS AND SPECIFICATIONS (NO SEPARATE PAY). BED 4" AND SMALLER PIPES IN EARTH FROM THE EXCAVATION.
- NO SEPARATE PAY FOR ANY DE-WATERING OR SPECIAL EMBEDEDMENT REQUIRED FOR 8" SANITARY SEWER PIPES AND MANHOLES. PAY FOR DE-WATERING FOR 12" AND 18" PIPE SEPARATELY.
- THE WORDS SANITARY SEWER SHALL MEAN WASTE WATER AND VICE VERSA.

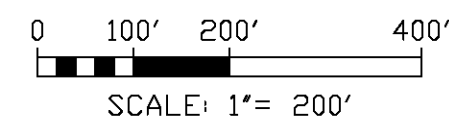


THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF INTERIM REVIEW UNDER THE AUTHORITY OF NIXON M. WELSH, P.E. NO. 36240 OF BASS AND WELSH ENGINEERING, F 52. IT IS NOT TO BE USED FOR CONSTRUCTION OR BIDDING PURPOSES.

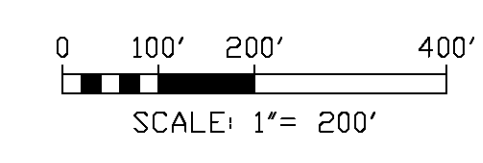
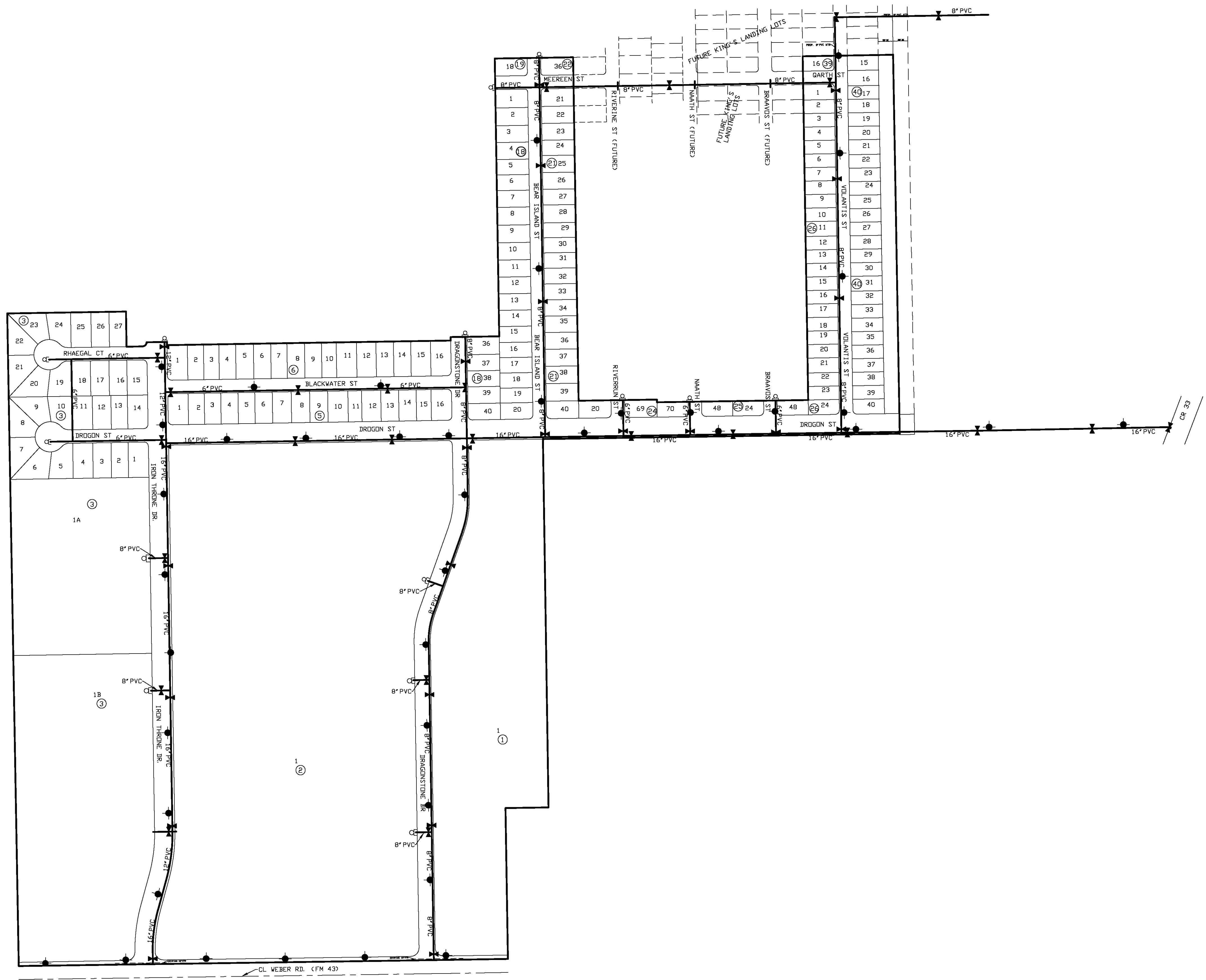
BASS & WELSH ENGINEERING TX SURVEY REG. NO 100027-00, TX ENGINEERING REG. NO. F-52, 3054 S. ALAMEDA STREET, CORPUS CHRISTI, TEXAS 78404		
PUBLIC IMPROVEMENTS TO KING'S LANDING UNIT 1 CORPUS CHRISTI, NUECES CO., TX		
STREET BASE MAP		
DWN. _____ CHK. N. WELSH	PLOT SCALE: 1" = 200' SCALE (P): SAME SCALE (V): NONE DATE PLOTTED: 2/18/20	COM. NO. STR-BASE.DWG JOB NO. 18068 SHEET 1A OF 33



THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF INTERIM REVIEW UNDER THE AUTHORITY OF NIXON M. WELSH, P.E. NO. 36240 OF BASS AND WELSH ENGINEERING, F 52. IT IS NOT TO BE USED FOR CONSTRUCTION OR BIDDING PURPOSES.

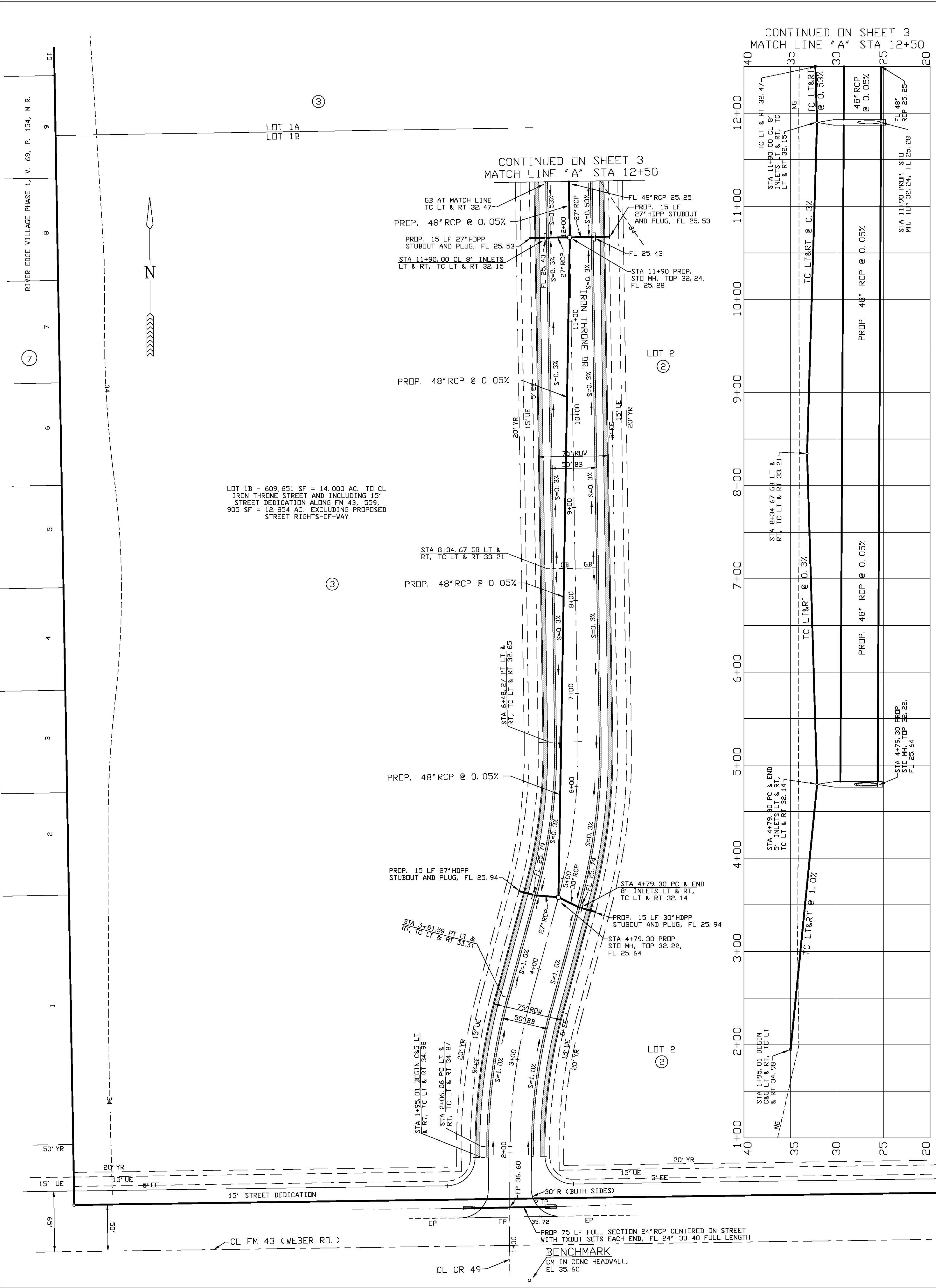


BASS & WELSH ENGINEERING TX SURVEY REG. NO 100027-00, TX ENGINEERING REG. NO. F-52, 3054 S. ALAMEDA STREET, CORPUS CHRISTI, TEXAS 78404		
PUBLIC IMPROVEMENTS TO KING'S LANDING UNIT 1 CORPUS CHRISTI, NUECES CO., TX		
SANITARY SEWER BASE MAP		
OWN. _____	PLOT SCALE: 1" = 200'	COM. NO. SS-BASE.DWG
CHK. N. WELSH	SCALE (H): SAME	JOB NO. 18068
	SCALE (V): NONE	DATE PLOTTED 2/18/20
		SHEET 1B OF 33

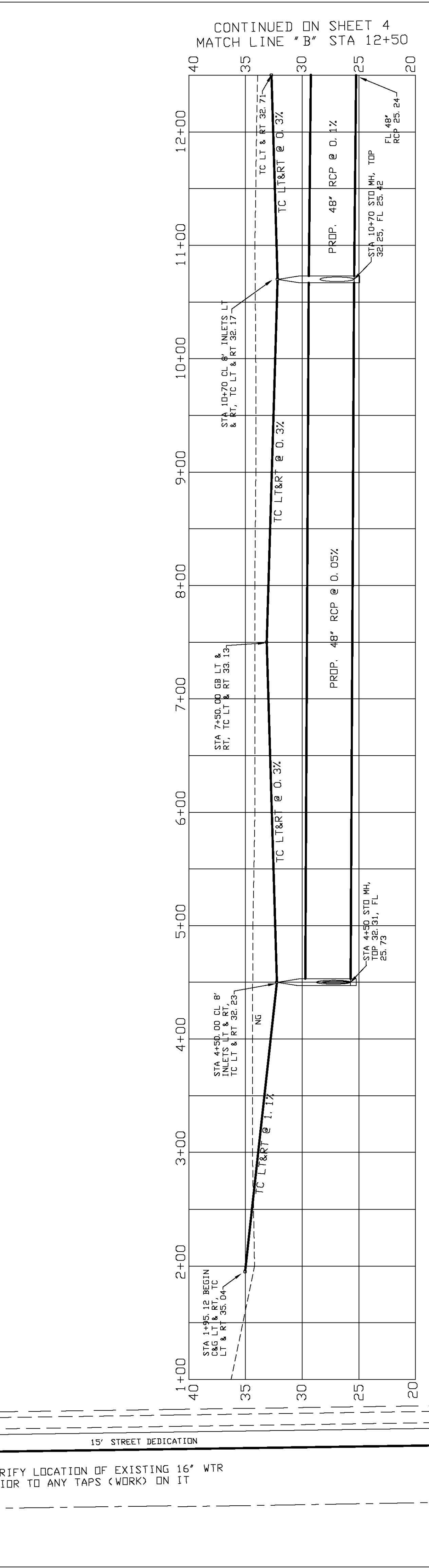


THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF INTERIM REVIEW UNDER THE AUTHORITY OF NIXON M. WELSH, P.E. NO. 36240 OF BASS AND WELSH ENGINEERING, F 52. IT IS NOT TO BE USED FOR CONSTRUCTION OR BIDDING PURPOSES.

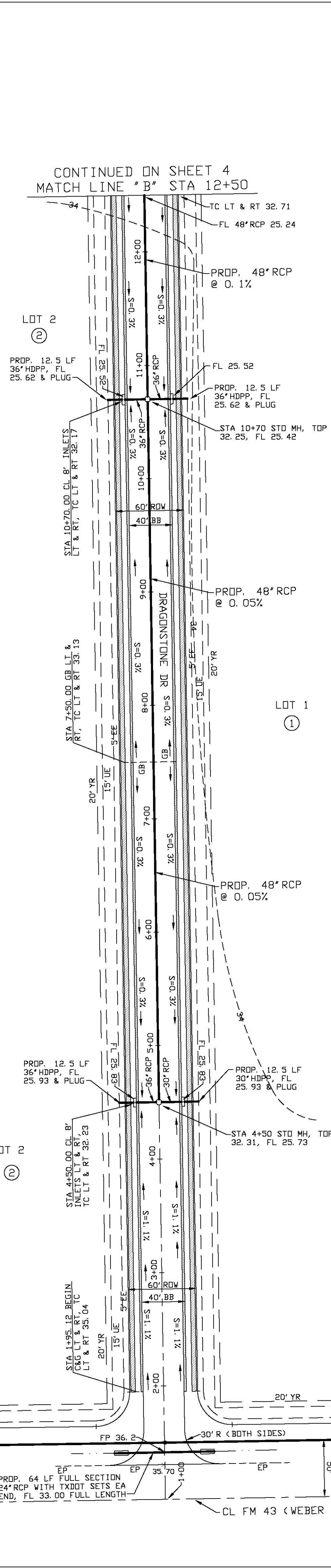
BASS & WELSH ENGINEERING TX SURVEY REG. NO 100027-00, TX ENGINEERING REG. NO. F-52, 3054 S. ALAMEDA STREET, CORPUS CHRISTI, TEXAS 78404			
PUBLIC IMPROVEMENTS TO KING'S LANDING UNIT 1 CORPUS CHRISTI, NUECES CO., TX			
WATER BASE MAP			
OWN. _____	PLOT SCALE: 1" = 200'	COM. NO. WTR-BASE.DWG	
CHK. N. WELSH	SCALE (H): SAME	JOB NO. 18068	
	SCALE (V): NONE	DATE PLOTTED 2/18/20	SHEET 1C OF 33



PROFILE -- IRON THRONE DR



PROFILE -- DRAGONSTONE DR

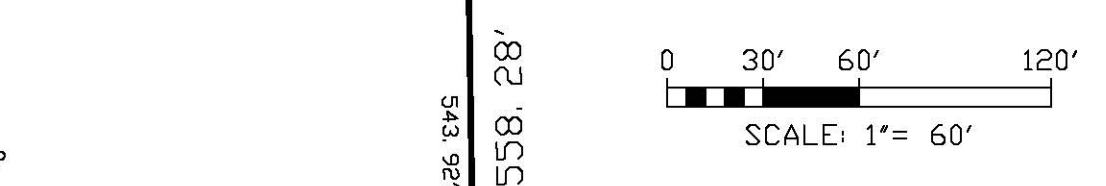


HDDP (HIGH DENSITY POLYETHYLENE PIPE)

CONTRACTOR SHALL USE HDDP WHERE SHOWN IN THE PLANS FOR STORM SEWER. HDDP SHALL BE DUAL WALL, CORRUGATED EXTERIOR WALL WITH SMOOTH INTERIOR WALL WITH MANNING'S HYDRAULIC COEFFICIENT OF 0.12 OR LESS AND SHALL MEET THE REQUIREMENTS OF ASTM F855, D2681, F477, D3212 AND MASH 202 AND M294 TYPE "S". CONTRACTOR SHALL SUBMIT MANUFACTURER'S CATALOG DATA FOR HDDP TO ENGINEER FOR APPROVAL AND SHALL DO NO HDDP CONSTRUCTION UNTIL HE HAS RECEIVED ENGINEER'S WRITTEN APPROVAL. PAY FOR HDDP AS LF OF SAME SIZE RCP.

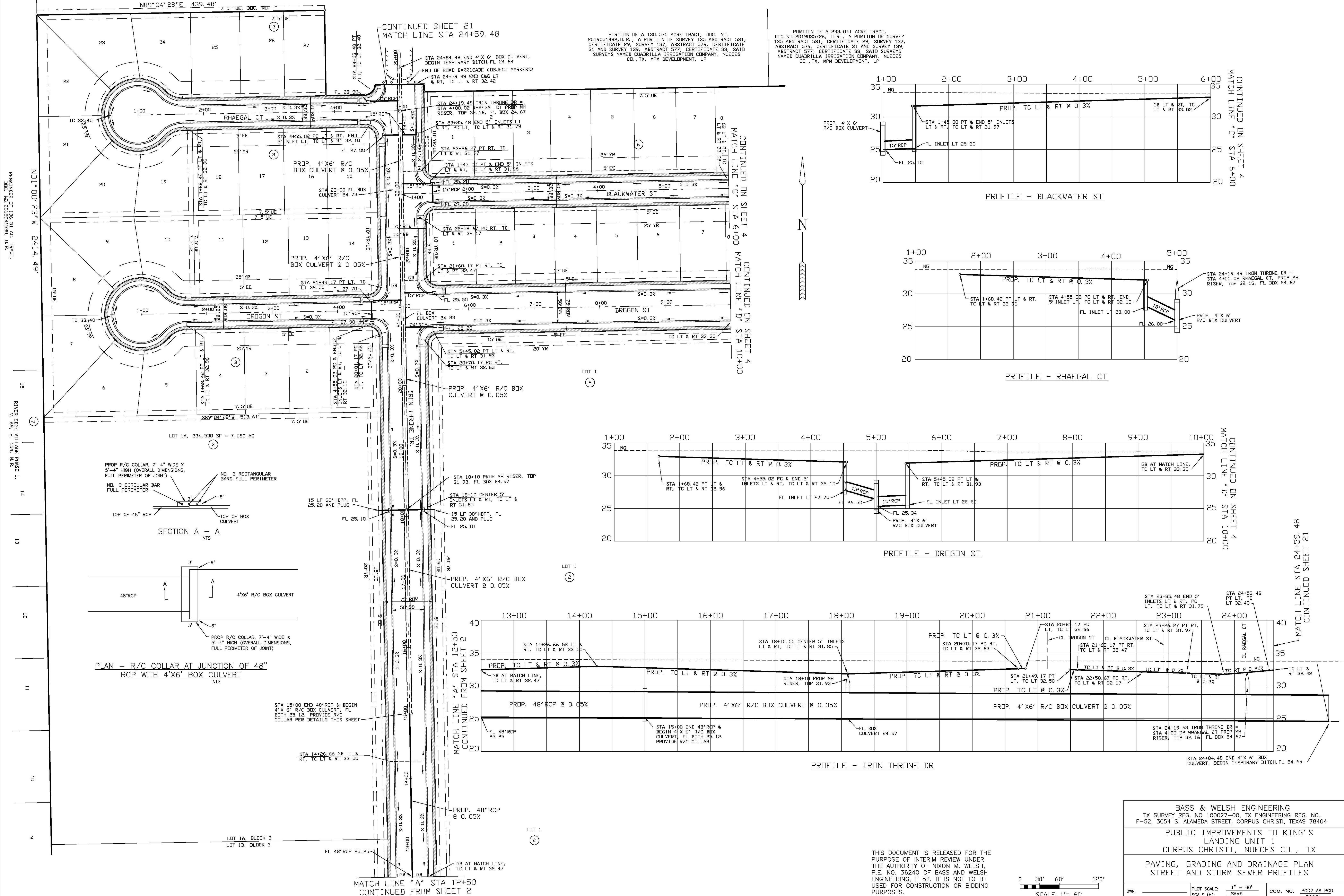
- PAVING, GRADING AND DRAINAGE NOTES, CONTINUED.**
- NO SEPARATE PAY FOR CLEARING AND GRUBBING IN COMMERCIAL LOTS (LOT 1, BLOCK 1, LOT 2 AND LOTS 1A & 1B, BLOCK 3) AND 55' DE ADJACENT TO AND EAST OF BLOCK 40 OF THIS SITE AS SHOWN SHEETS 11 AND 13 IN PLANS HEREOF.
 - PAY FOR CLEARING AND GRUBBING FOR 1) TEMPORARY OFFSITE DRAINAGE CHANNEL RUNNING NORTH IN FUTURE IRON THRONE DRIVE AND ASSOCIATED BOX CULVERT NEAR OSD CREEK AND 2) ALONG THE TEMPORARY DRAINAGE CHANNEL IN THE FUTURE RIGHTS-OF-WAY OF WEEBEE AND DARTH STREETS AS SHOWN SHEETS 12 AND 13 IN PLANS HEREOF ACCORDING TO A 60' WIDE STRIP OF LAND AS MEASURED ALONG THE CENTERLINE OF SAME.
 - PAYMENT FOR "BRIDGE" SHALL INCLUDE DOUBLE 4' X 8' 8" BOX CULVERT AND ASSOCIATED WINGWALLS, HEADWALLS, CONTINUOUS FOOTINGS, GALVANIZED HANDRAILS AND CONTINUOUS FOOTINGS ASSOCIATED THEREWITH. ANY SPECIAL UNDERLAYMENT BENEATH DOUBLE BOX CULVERT, ALL CLEARING AND GRUBBING AND EARTHWORK ASSOCIATED WITH BOX CULVERT AND ALL DEWATERING/WATER DIVERSION ASSOCIATE WITH THE ABOVE "BRIDGE" SHALL NOT INCLUDE CURB AND GUTTER, SIDEWALK, 8" LIME STABILIZED SUBGRADE, 11" CRUSHED LIMESTONE BASE, 4" MAC, ALL OF WHICH SHALL BE PAID FOR SEPARATELY.
 - PAY FOR HDDP SAME AS RCP OF SAME SIZE.
 - NO SEPARATE PAY FOR EARTHWORK, BEDDING, MATERIAL ENCASMENT OR DEWATERING FOR STORM SEWER PIPES, INLETS AND BOX CULVERTS.

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF INTERIM REVIEW UNDER THE AUTHORITY OF NIXON M. WELSH, P.E. NO. 36240 OF BASS AND WELSH ENGINEERING, F 52. IT IS NOT TO BE USED FOR CONSTRUCTION OR BIDDING PURPOSES.



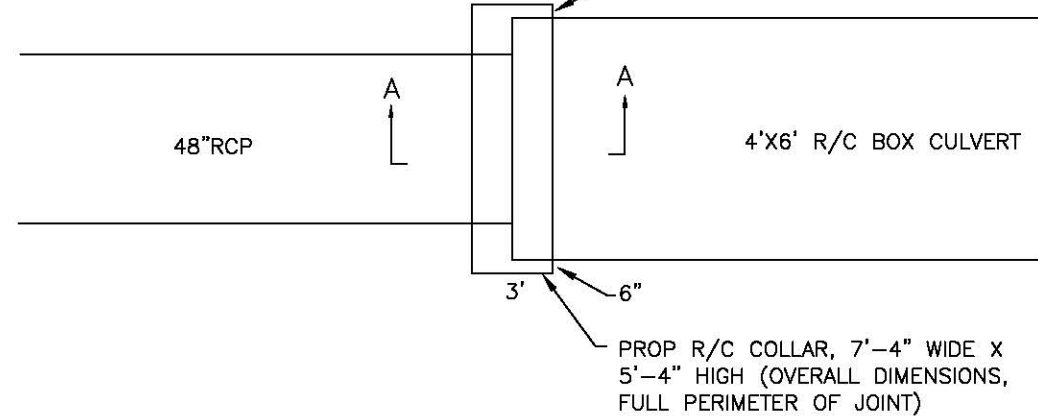
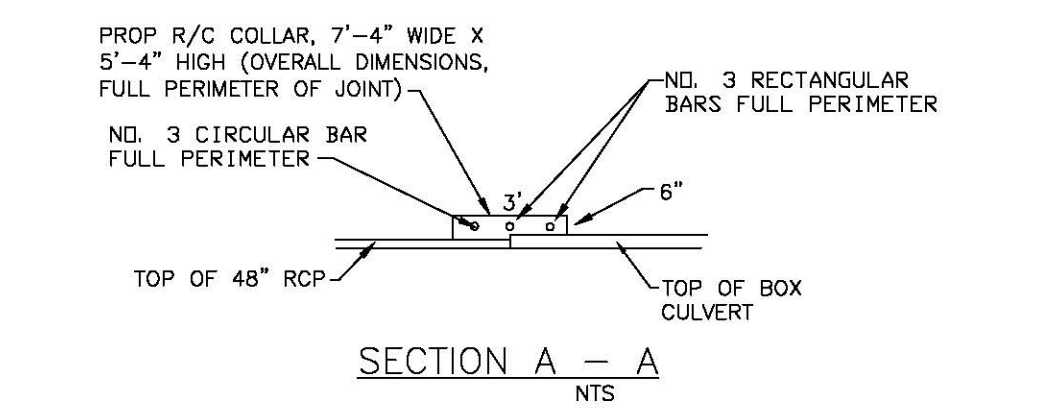
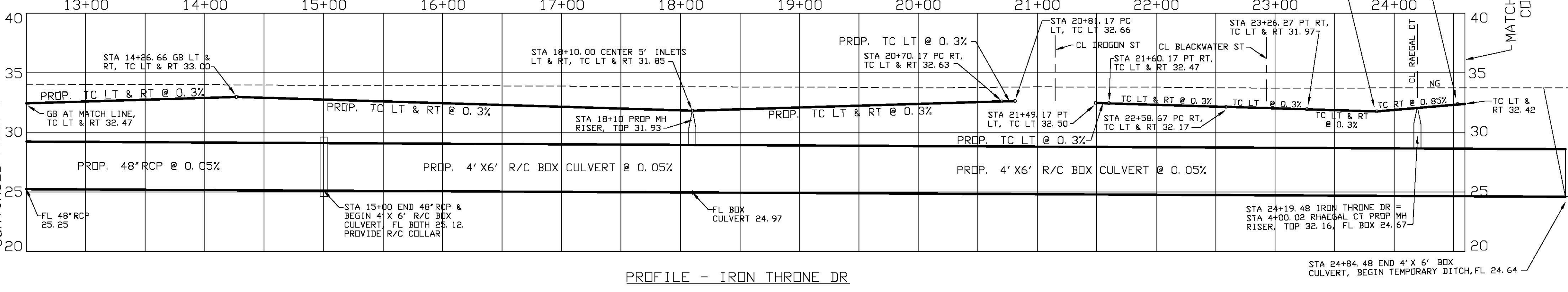
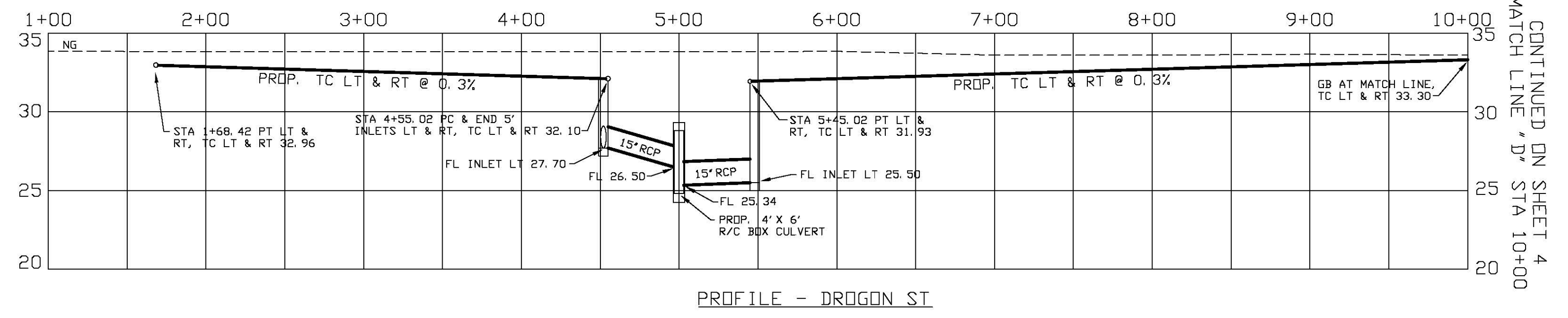
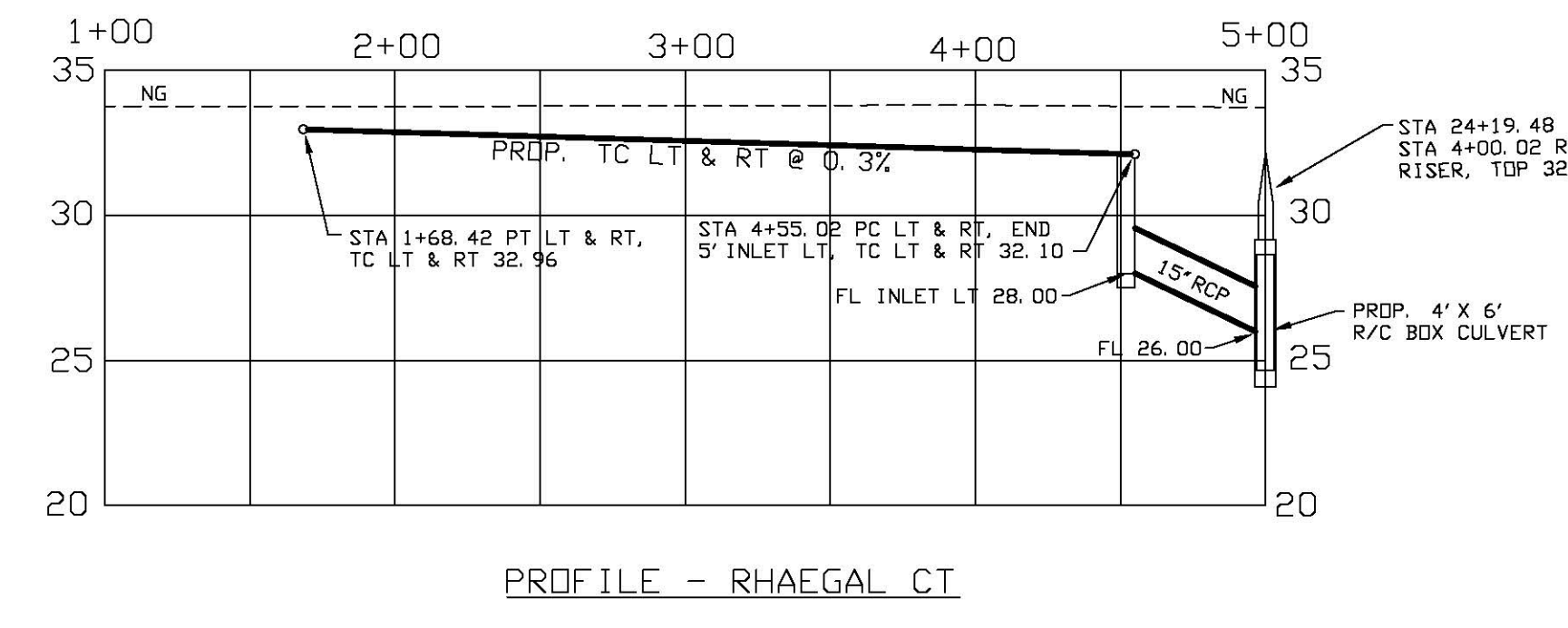
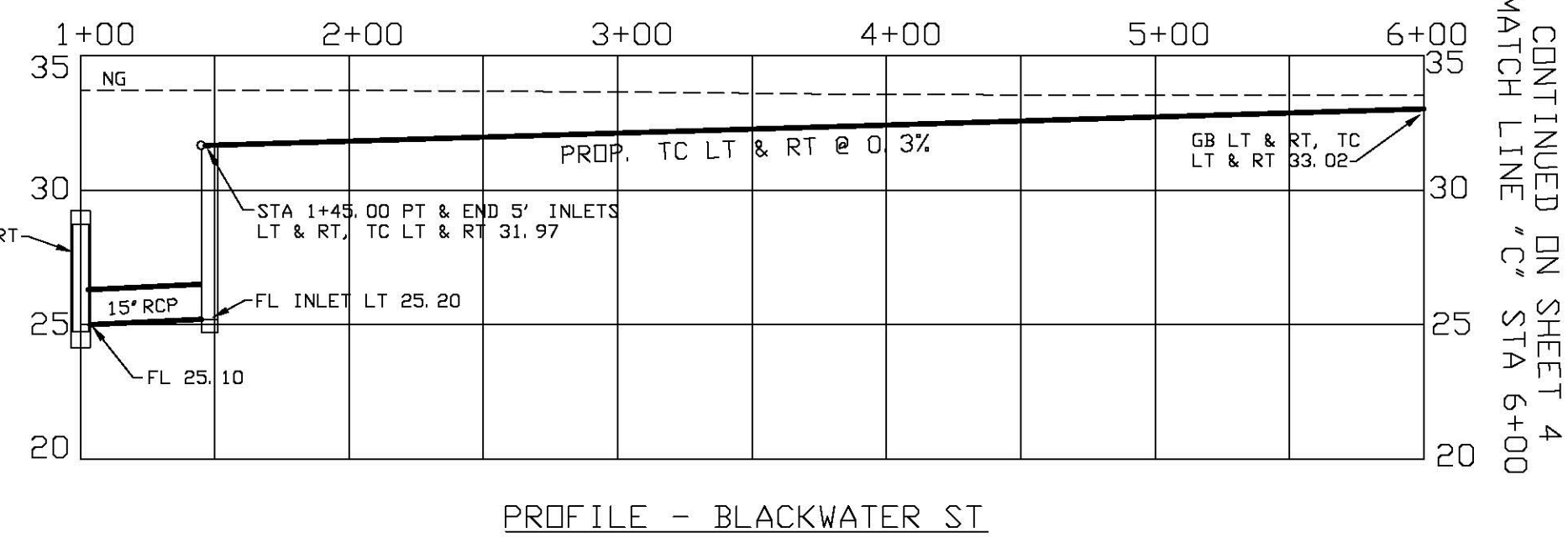
DRAWN	SCALE	DATE	COM. NO.	PROJ. AS RPD
CHECKED	DATE PLOTTED	JOB NO.	SHEET 2 OF 35	18088
PAVING, GRADING AND DRAINAGE PLAN STREET AND STORM SEWER PROFILES				
BASS & WELSH ENGINEERING TX SURVEY REG. NO. 100027-00, TX ENGINEERING REG. NO. F-52, 3054 S. ALAMEDA STREET, CORPUS CHRISTI, TEXAS 78404 PUBLIC IMPROVEMENTS TO KING'S LANDING UNIT 1 CORPUS CHRISTI, NUECES CO., TX				

BALANCE OF 27.5 AC. TRACT, DEC. NO. 2003067159, D.R., L153
LONDON SCHOOL DISTRICT, TRACTS 1, LOT 2, V. 67, P. 576, N. 80



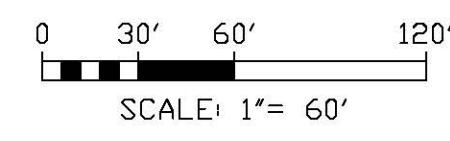
PORTION OF A 130.570 ACRE TRACT, DOC. NO. 2019051482, D.R., A PORTION OF SURVEY 135 ABSTRACT 581, CERTIFICATE 29, SURVEY 137, ABSTRACT 579, CERTIFICATE 31 AND SURVEY 139, ABSTRACT 577, CERTIFICATE 33, SAID SURVEYS NAMED CUADRILLA IRRIGATION COMPANY, NUECES CO., TX, MPM DEVELOPMENT, LP

PORTION OF A 293.041 ACRE TRACT, DOC. NO. 201905726, D.R., A PORTION OF SURVEY 135 ABSTRACT 581, CERTIFICATE 29, SURVEY 137, ABSTRACT 579, CERTIFICATE 31 AND SURVEY 139, ABSTRACT 577, CERTIFICATE 33, SAID SURVEYS NAMED CUADRILLA IRRIGATION COMPANY, NUECES CO., TX, MPM DEVELOPMENT, LP



REMAINDER OF 136.31 AC. TRACT, DOC. NO. 2016041530, D. R. 15
 RIVER EDGE VILLAGE PHASE 1, LOT 15, P. 154, M.P.R.
 LOT 1A, 334,530 SF = 7,680 AC
 LOT 1A, BLOCK 3
 LOT 1B, BLOCK 3
 LOT 1A, BLOCK 3
 LOT 1B, BLOCK 3

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF INTERIM REVIEW UNDER THE AUTHORITY OF NIXON M. WELSH, P.E. NO. 36240 OF BASS AND WELSH ENGINEERING, F 52. IT IS NOT TO BE USED FOR CONSTRUCTION OR BIDDING PURPOSES.



BASS & WELSH ENGINEERING
 TX SURVEY REG. NO. 100027-00, TX ENGINEERING REG. NO. F-52, 3054 S. ALAMEDA STREET, CORPUS CHRISTI, TEXAS 78404

PUBLIC IMPROVEMENTS TO KING'S LANDING UNIT 1
 CORPUS CHRISTI, NUECES CO., TX

PAVING, GRADING AND DRAINAGE PLAN
 STREET AND STORM SEWER PROFILES

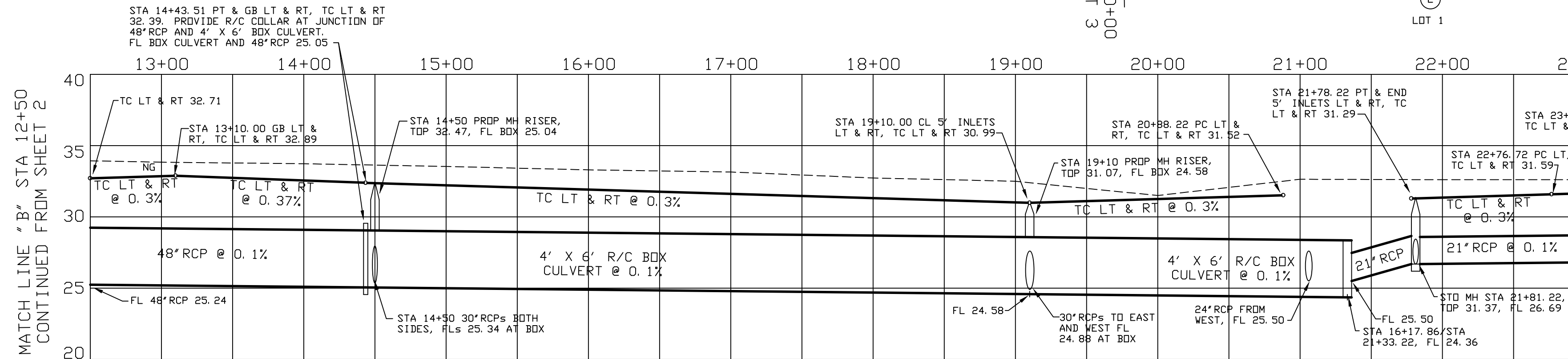
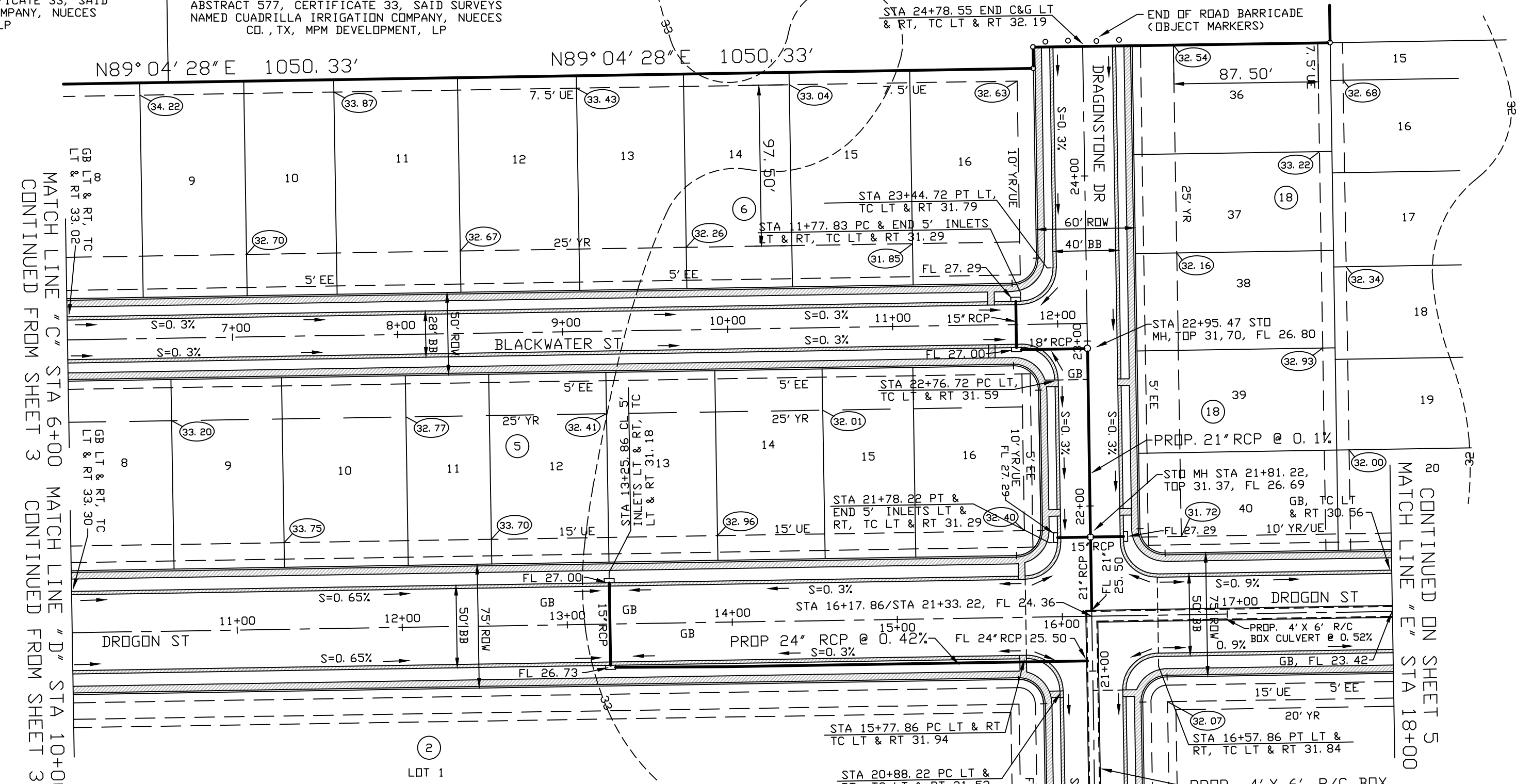
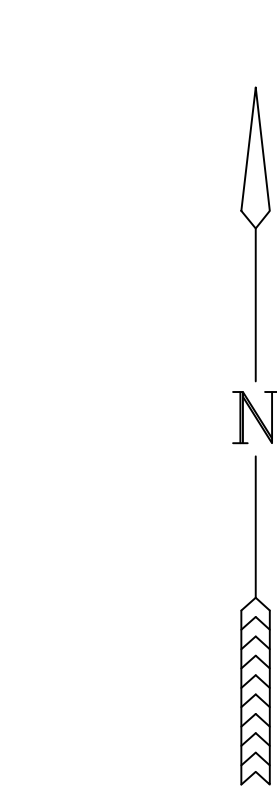
DWN. _____ PLOT SCALE: 1" = 60'
 SCALE (H): _____
 SCALE (V): _____
 DATE PLOTTED: 02/18/20

CHK. N. WELSH

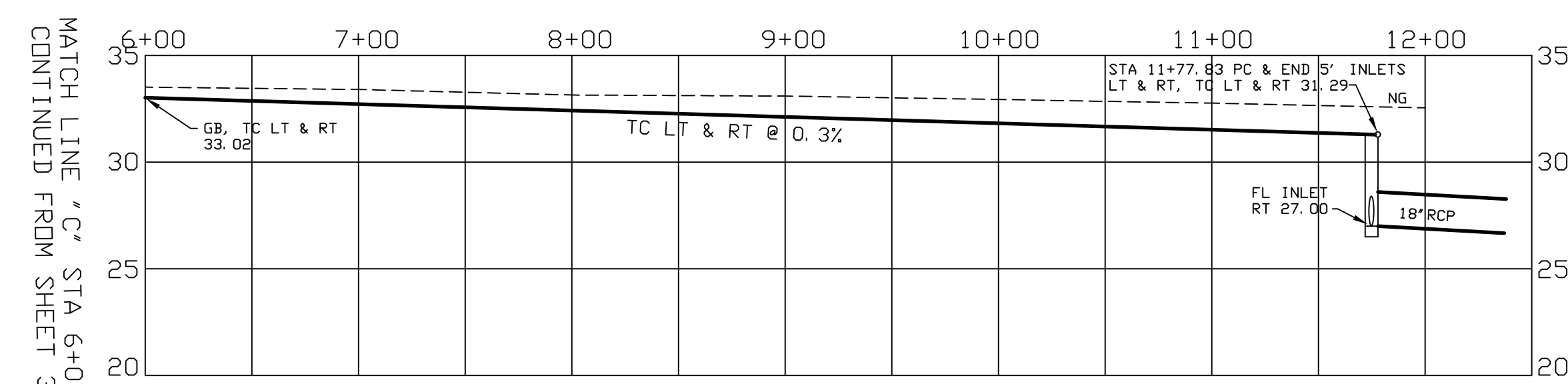
COM. NO. PG02 AS PG0
 JOB NO. 05068
 SHEET 3 OF 33

PORTION OF A 130.570 ACRE TRACT, D.C. NO. 2019051492, D.R., A PORTION OF SURVEY 135 ABSTRACT 581, CERTIFICATE 29, SURVEY 137, ABSTRACT 579, CERTIFICATE 31 AND SURVEY 139, ABSTRACT 577, CERTIFICATE 33, SAID SURVEYS NAMED CUADRILLA IRRIGATION COMPANY, NUECES CO., TX, MPM DEVELOPMENT, LP

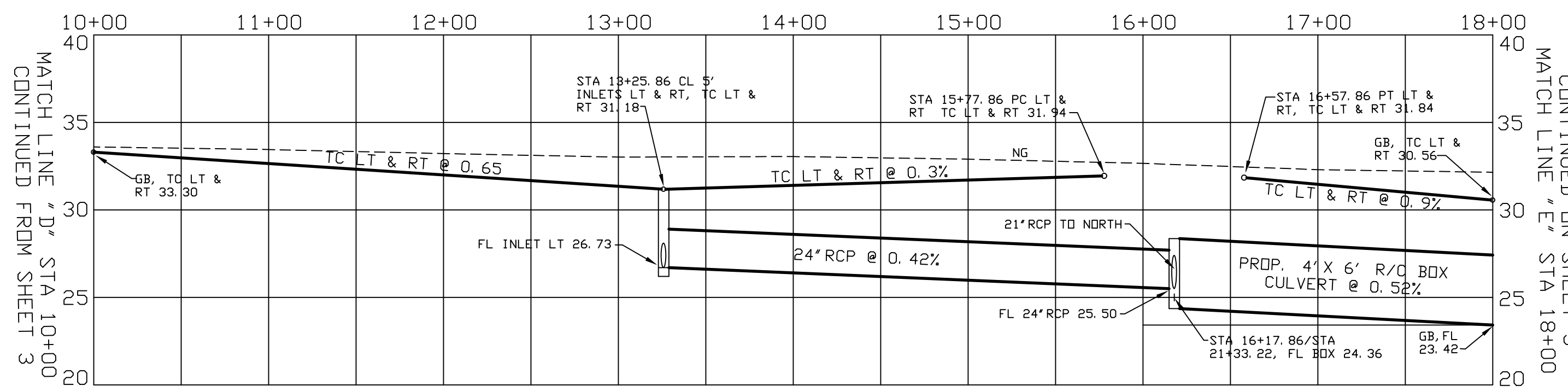
PORTION OF A 293.041 ACRE TRACT, D.C. NO. 2019035726, D.R., A PORTION OF SURVEY 135 ABSTRACT 581, CERTIFICATE 29, SURVEY 137, ABSTRACT 579, CERTIFICATE 31 AND SURVEY 139, ABSTRACT 577, CERTIFICATE 33, SAID SURVEYS NAMED CUADRILLA IRRIGATION COMPANY, NUECES CO., TX, MPM DEVELOPMENT, LP



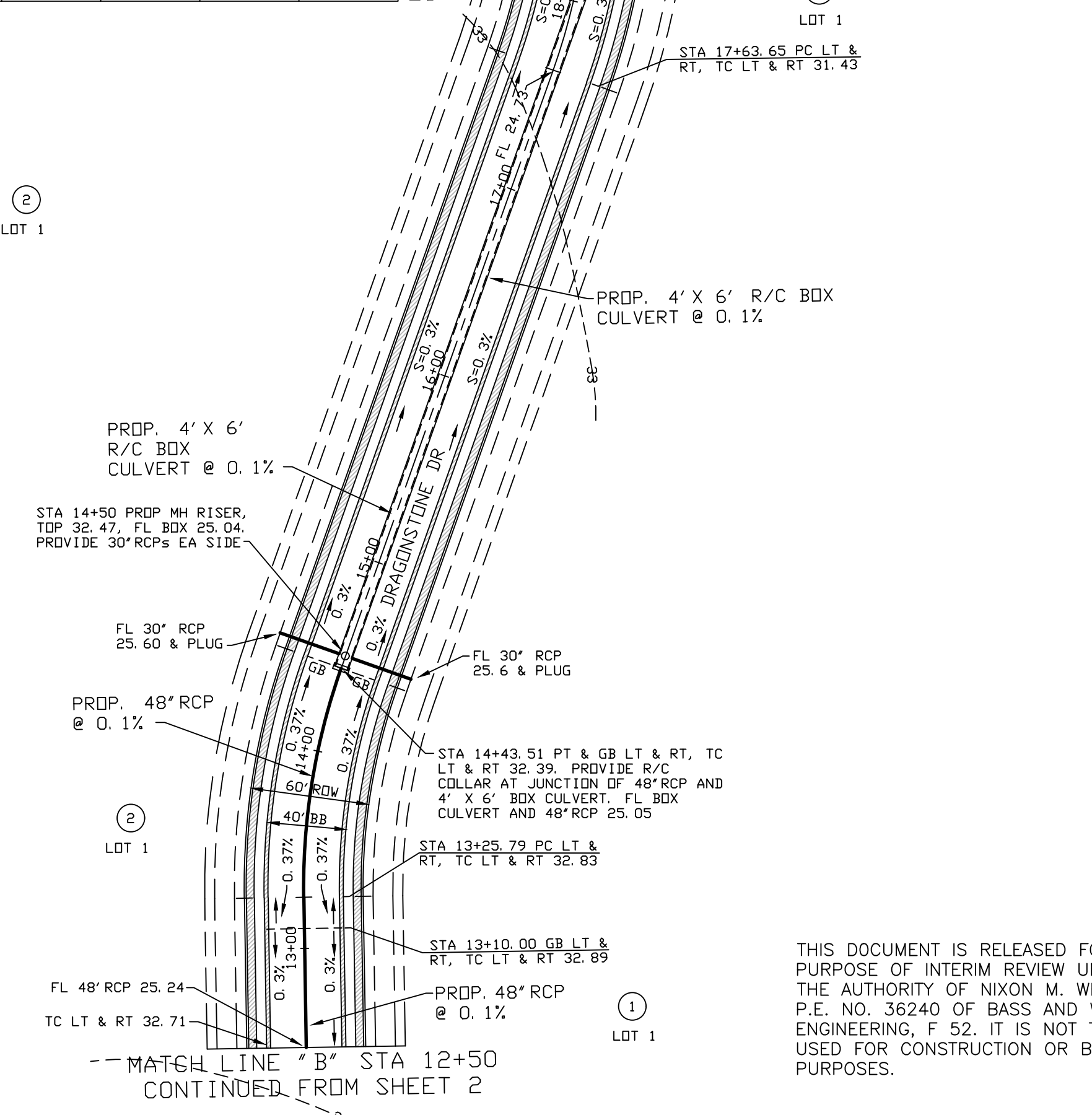
PROFILE - DRAGONSTONE



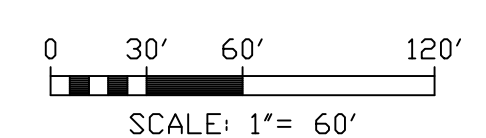
PROFILE - BLACKWATER ST



PROFILE - DROGON ST



THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF INTERIM REVIEW UNDER THE AUTHORITY OF NIXON M. WELSH, P.E. NO. 36240 OF BASS AND WELSH ENGINEERING, F 52. IT IS NOT TO BE USED FOR CONSTRUCTION OR BIDDING PURPOSES.



25.00 AC. TRACT, D.C. NO. 2008018783, D.R., L1SD

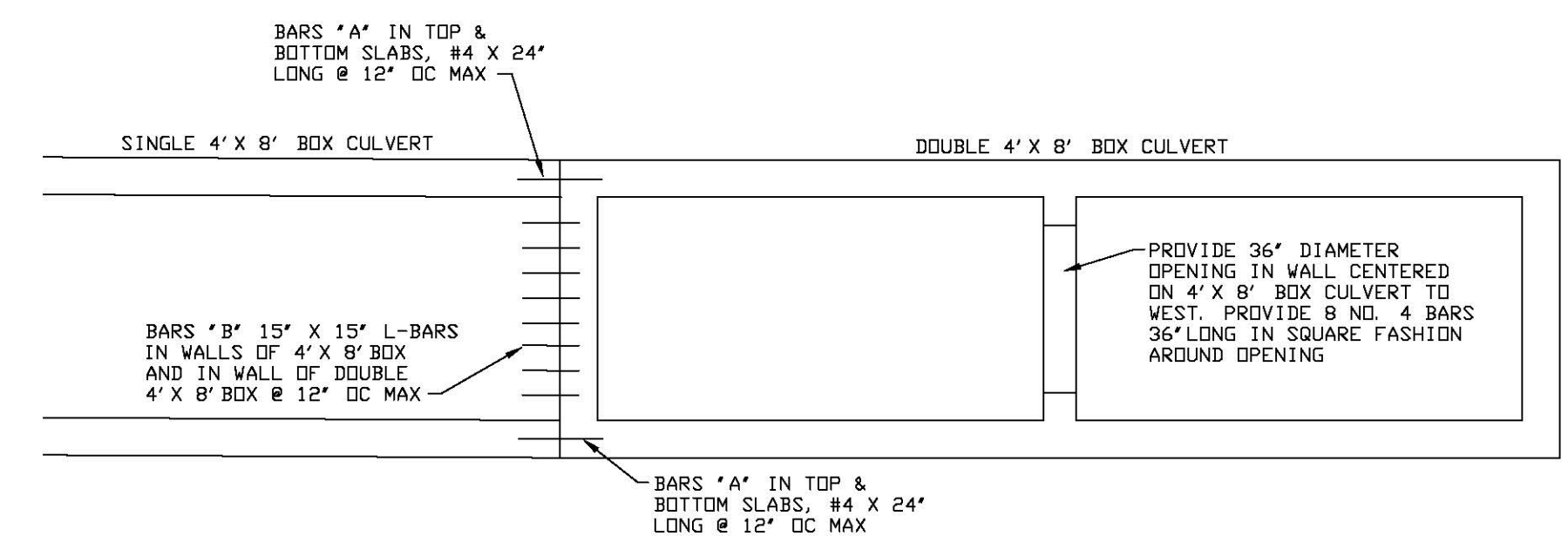
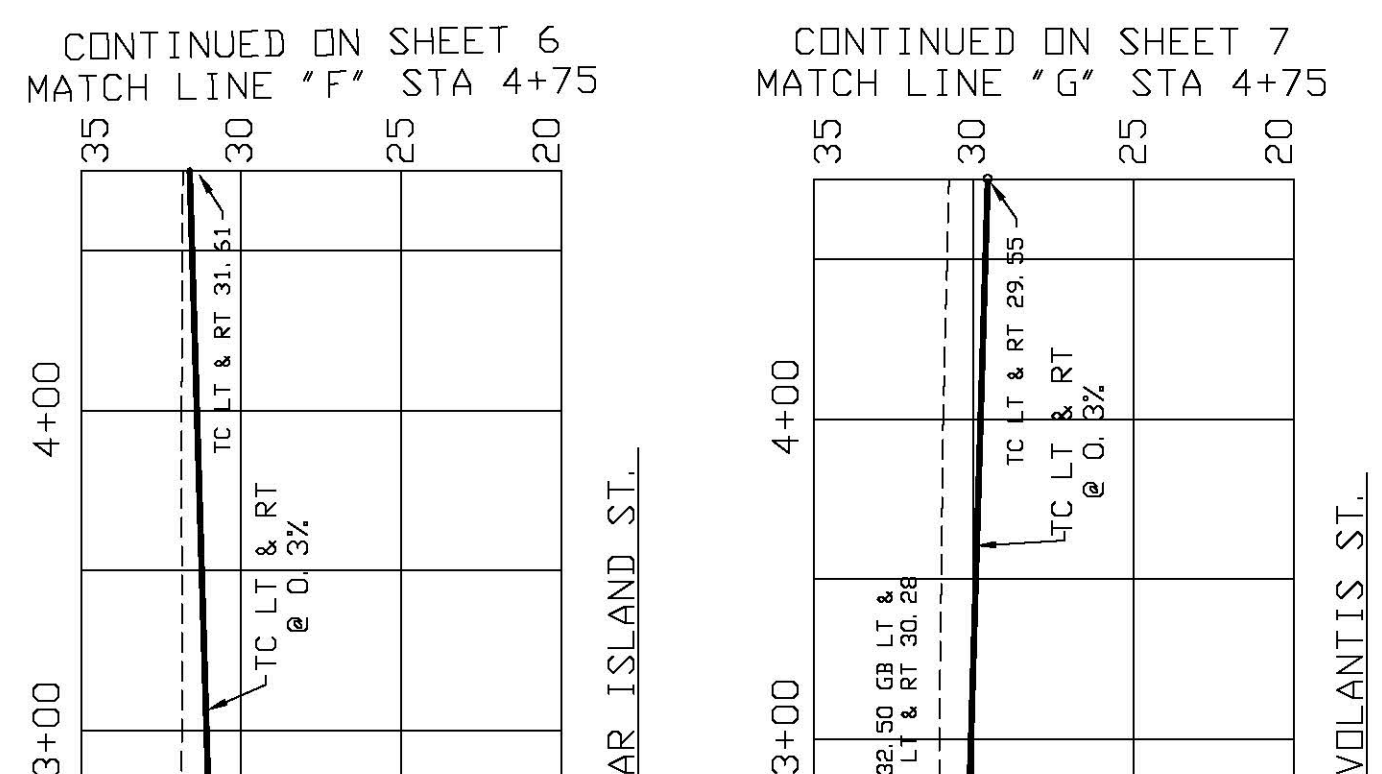
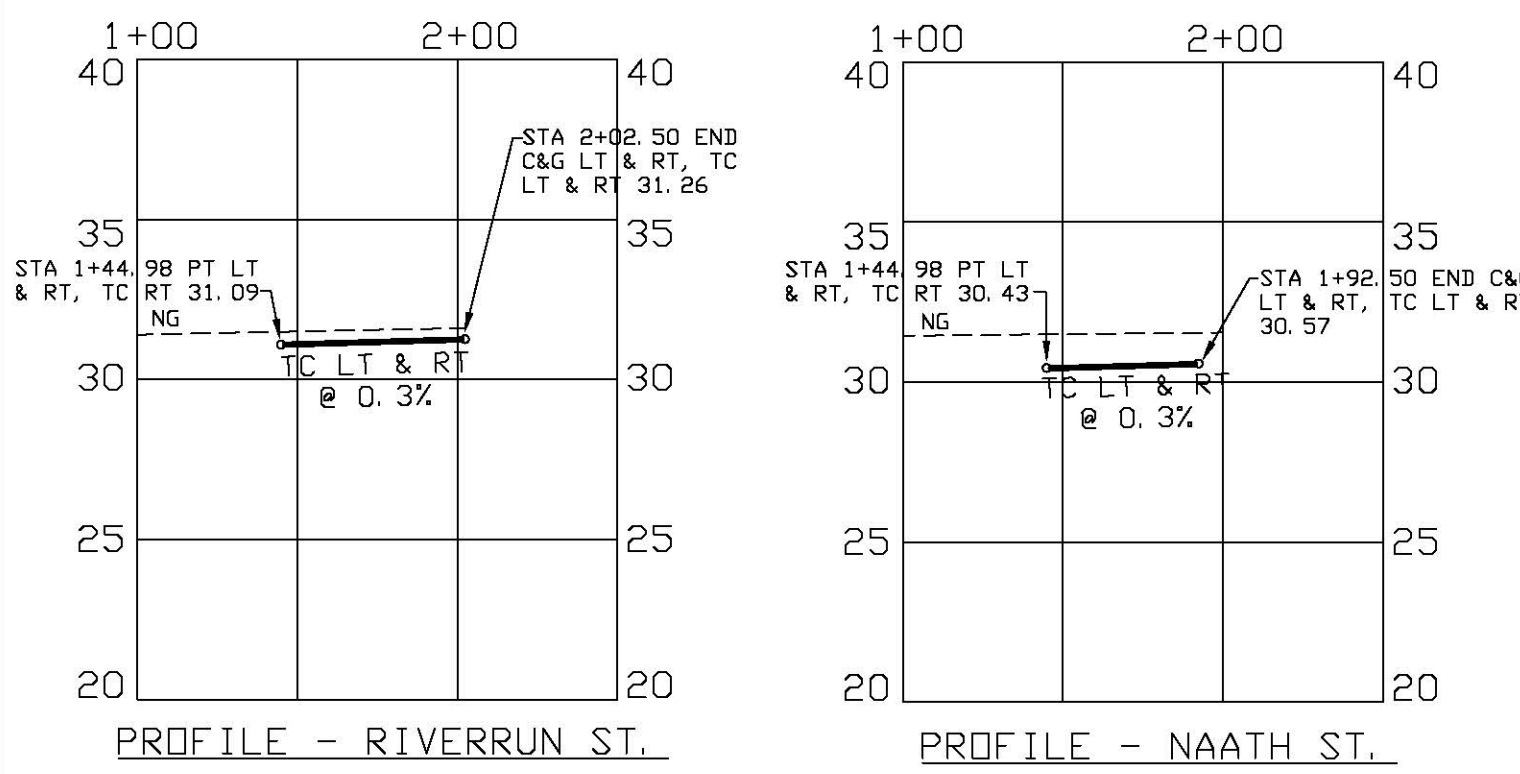
25.00 AC. TRACT, D.C. NO. 2008018783, D.R., L1SD

BASS & WELSH ENGINEERING
 TX SURVEY REG. NO. 100027-00, TX ENGINEERING REG. NO. F-52, 3054 S. ALAMEDA STREET, CORPUS CHRISTI, TEXAS 78404

PUBLIC IMPROVEMENTS TO KING'S LANDING UNIT 1 CORPUS CHRISTI, NUECES CO., TX

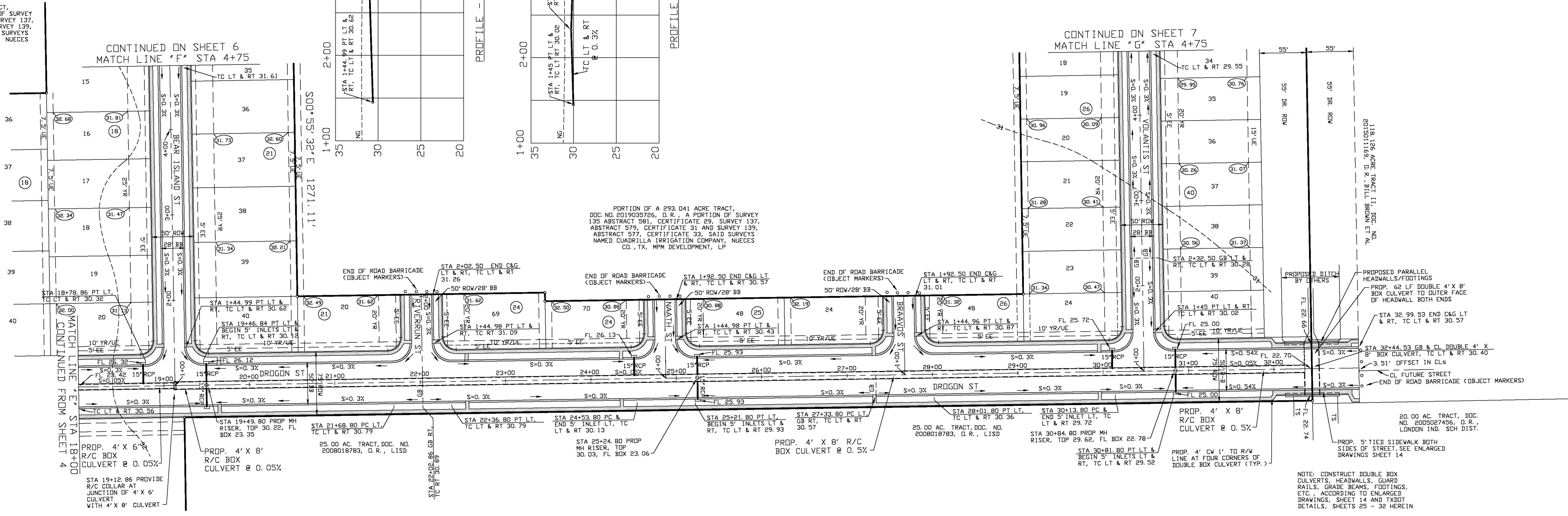
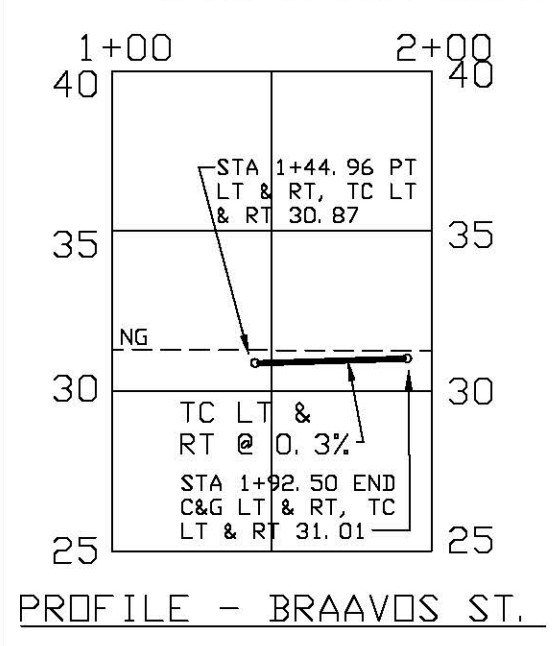
PAVING, GRADING AND DRAINAGE PLAN
 STREET AND STORM SEWER PROFILES

DWN.	PLOT SCALE: 1" = 60'	COM. NO.	PG03 AS PGD
CHK.	SCALE (H): SAME	JOB NO.	08068
	SCALE (V): NONE	DATE PLOTTED	02/18/20
		SHEET	4 OF 33



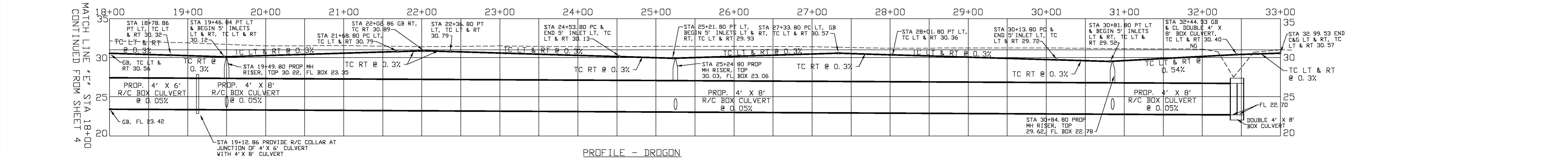
DETAIL - JUNCTION OF SINGLE 4' X 8' BOX CULVERT WITH DOUBLE 4' X 8' BOX CULVERT
(NOT TO SCALE)

PORTION OF A 293.041 ACRE TRACT, D.C. NO. 201903726, D.R. A PORTION OF SURVEY 135 ABSTRACT 981, CERTIFICATE 29, SURVEY 137, ABSTRACT 579, CERTIFICATE 31 AND SURVEY 139, ABSTRACT 577, CERTIFICATE 33, SAID SURVEYS NAMED CUADRILLA IRRIGATION COMPANY, NUECES CO., TX, MPM DEVELOPMENT, LP



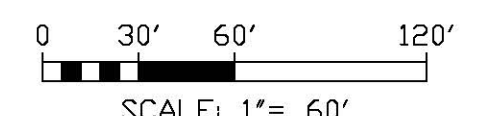
PORTION OF A 293.041 ACRE TRACT, D.C. NO. 201903726, D.R. A PORTION OF SURVEY 135 ABSTRACT 981, CERTIFICATE 29, SURVEY 137, ABSTRACT 579, CERTIFICATE 31 AND SURVEY 139, ABSTRACT 577, CERTIFICATE 33, SAID SURVEYS NAMED CUADRILLA IRRIGATION COMPANY, NUECES CO., TX, MPM DEVELOPMENT, LP

NOTE: CONSTRUCT DOUBLE BOX CULVERTS, HEADWALLS, GUARD RAILS, GRADE BEAMS, FOOTINGS, ETC., ACCORDING TO ENLARGED DRAWINGS, SHEET 14 AND TxDOT DETAILS, SHEETS 25 - 32 HEREIN



PROFILE - DROGDON

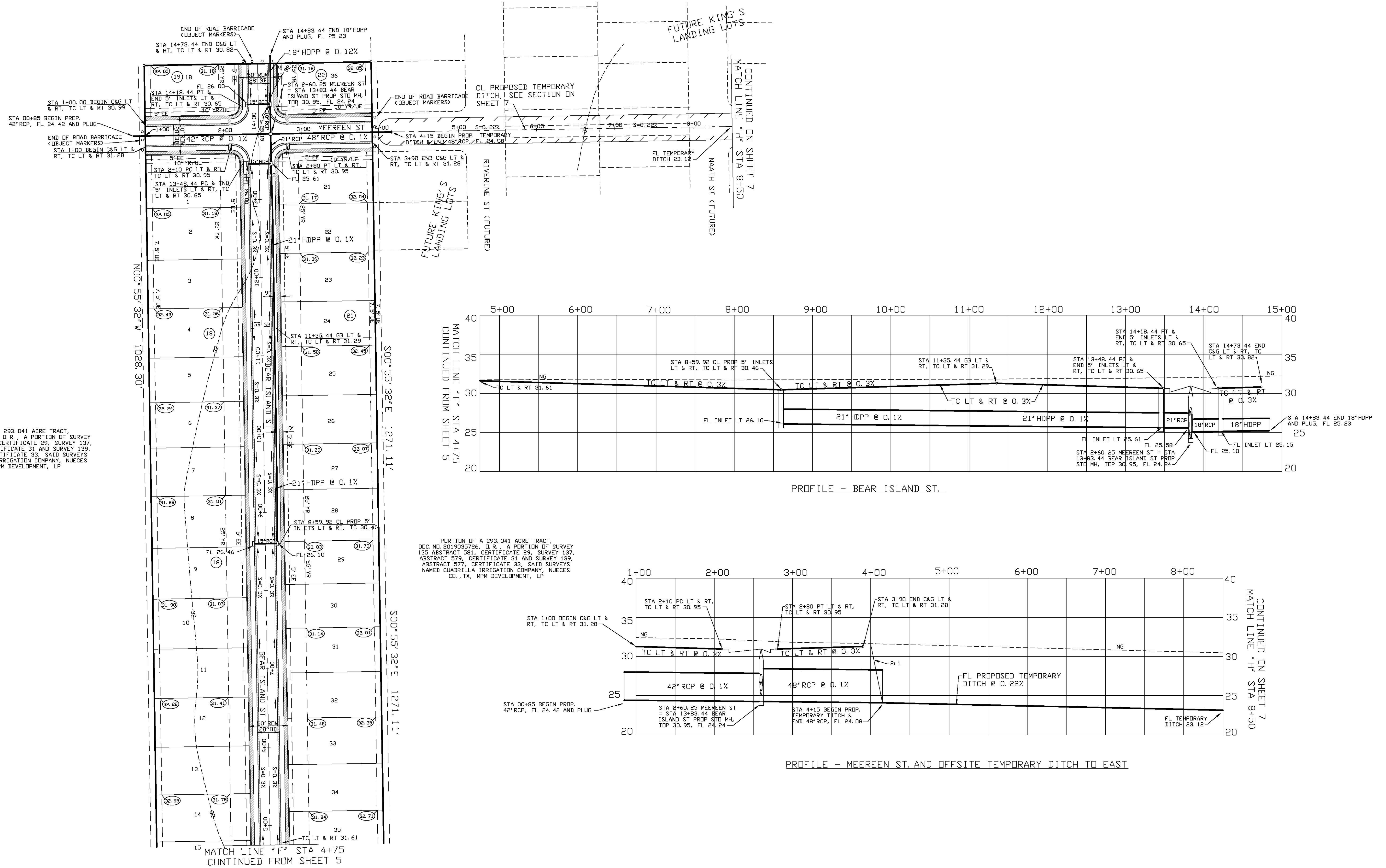
THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF INTERIM REVIEW UNDER THE AUTHORITY OF NIXON M. WELSH, P.E. NO. 36240 OF BASS AND WELSH ENGINEERING, F. 52. IT IS NOT TO BE USED FOR CONSTRUCTION OR BIDDING PURPOSES.



BASS & WELSH ENGINEERING TX SURVEY REG. NO. 100027-00, TX ENGINEERING REG. NO. F-52, 3054 S. ALAMEDA STREET, CORPUS CHRISTI, TEXAS 78404		
PUBLIC IMPROVEMENTS TO KING'S LANDING UNIT 1 CORPUS CHRISTI, NUECES CO., TX		
PAVING, GRADING AND DRAINAGE PLAN STREET AND STORM SEWER PROFILES		
DWN. _____	PLOT SCALE: 1" = 60'	COM. NO. PG04 AS PGD
CHK. N. WELSH	SCALE (H): SAME	JOB NO. 08068
	SCALE (V): NONE	DATE PLOTTED 02/18/20
		SHEET 5 OF 33

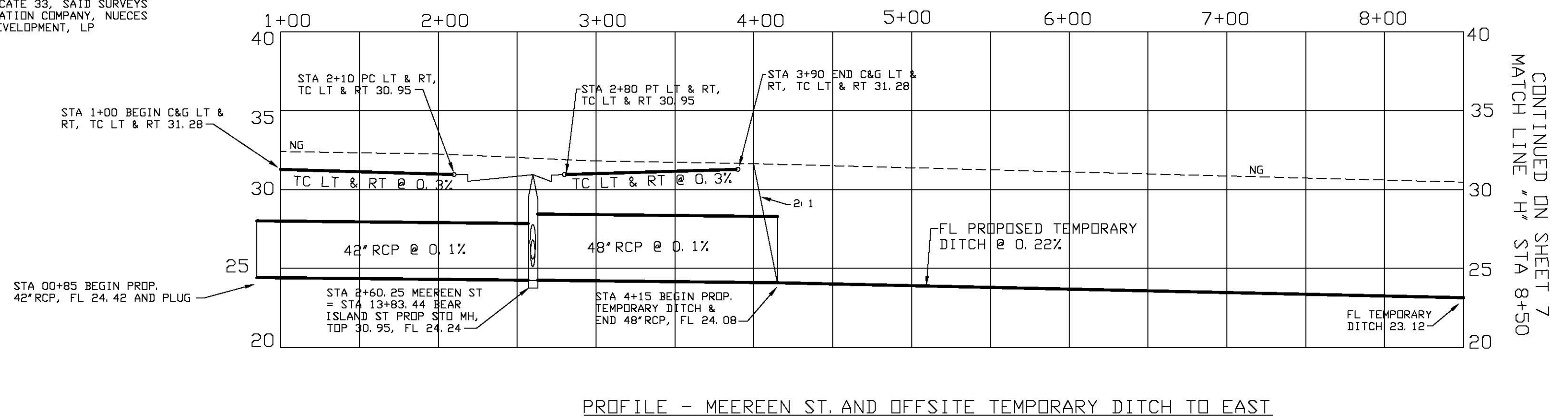
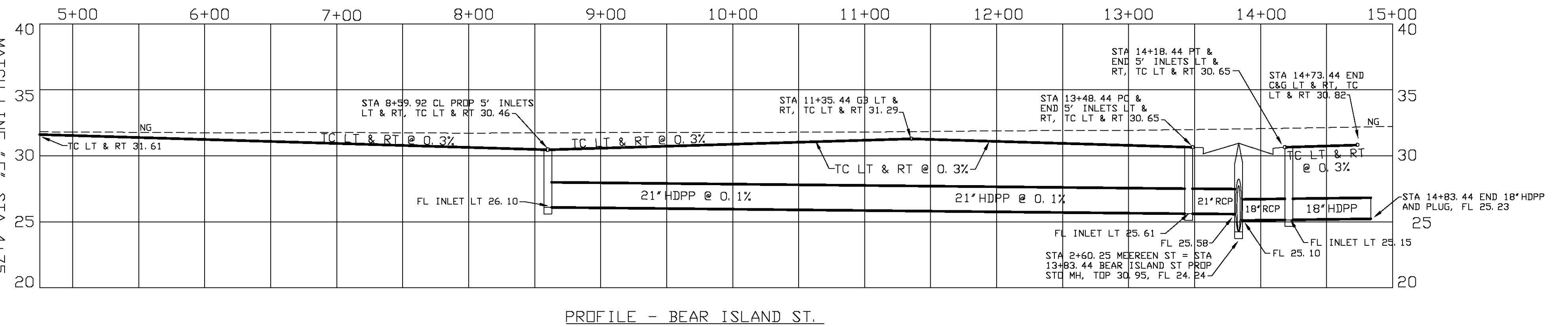


PORTION OF A 293.041 ACRE TRACT,
 DDC NO. 2019035726, D.R., A PORTION OF SURVEY
 135 ABSTRACT 581, CERTIFICATE 29, SURVEY 137,
 ABSTRACT 579, CERTIFICATE 31 AND SURVEY 139,
 ABSTRACT 577, CERTIFICATE 33, SAID SURVEYS
 NAMED CUADRILLA IRRIGATION COMPANY, NUECES
 CO., TX, MPM DEVELOPMENT, LP

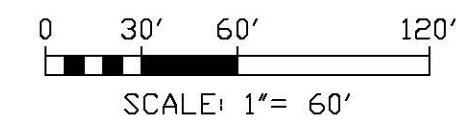


PORTION OF A 293.041 ACRE TRACT,
 DDC NO. 2019035726, D.R., A PORTION OF SURVEY
 135 ABSTRACT 581, CERTIFICATE 29, SURVEY 137,
 ABSTRACT 579, CERTIFICATE 31 AND SURVEY 139,
 ABSTRACT 577, CERTIFICATE 33, SAID SURVEYS
 NAMED CUADRILLA IRRIGATION COMPANY, NUECES
 CO., TX, MPM DEVELOPMENT, LP

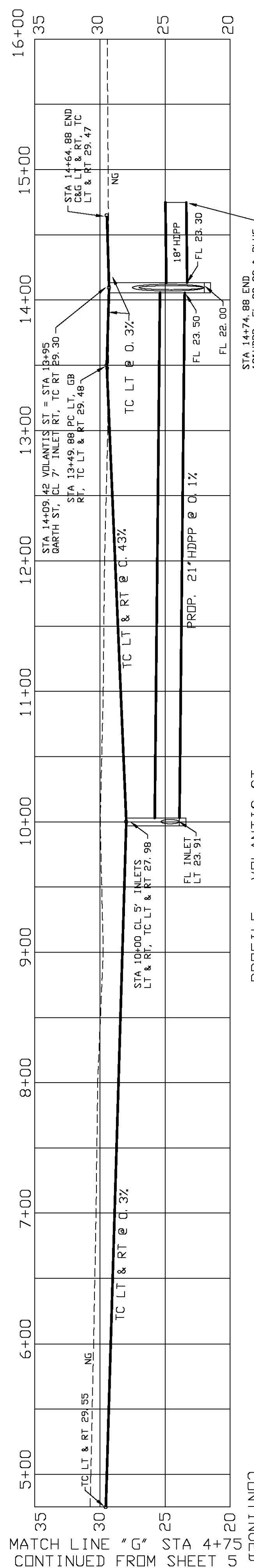
PORTION OF A 293.041 ACRE TRACT,
 DDC NO. 2019035726, D.R., A PORTION OF SURVEY
 135 ABSTRACT 581, CERTIFICATE 29, SURVEY 137,
 ABSTRACT 579, CERTIFICATE 31 AND SURVEY 139,
 ABSTRACT 577, CERTIFICATE 33, SAID SURVEYS
 NAMED CUADRILLA IRRIGATION COMPANY, NUECES
 CO., TX, MPM DEVELOPMENT, LP



THIS DOCUMENT IS RELEASED FOR THE
 PURPOSE OF INTERIM REVIEW UNDER
 THE AUTHORITY OF NIXON M. WELSH,
 P.E. NO. 36240 OF BASS AND WELSH
 ENGINEERING, F. 52. IT IS NOT TO BE
 USED FOR CONSTRUCTION OR BIDDING
 PURPOSES.

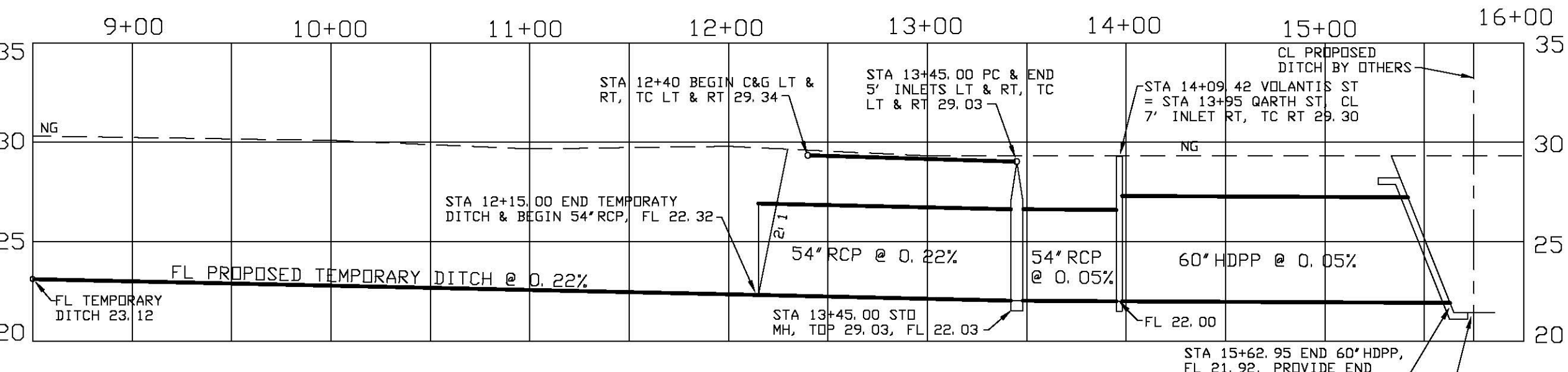


BASS & WELSH ENGINEERING TX SURVEY REG. NO. 100027-00, TX ENGINEERING REG. NO. F-52, 3054 S. ALAMEDA STREET, CORPUS CHRISTI, TEXAS 78404		
PUBLIC IMPROVEMENTS TO KING'S LANDING UNIT 1 CORPUS CHRISTI, NUECES CO., TX		
PAVING, GRADING AND DRAINAGE PLAN STREET AND STORM SEWER PROFILES		
DWN. _____	PLOT SCALE: 1" = 60'	COM. NO. PG05 AS PGD
CHK. N. WELSH	SCALE (H): SAME	JOB NO. 08068
	SCALE (V): NONE	SHEET 6 OF 33
	DATE PLOTTED 02/18/20	



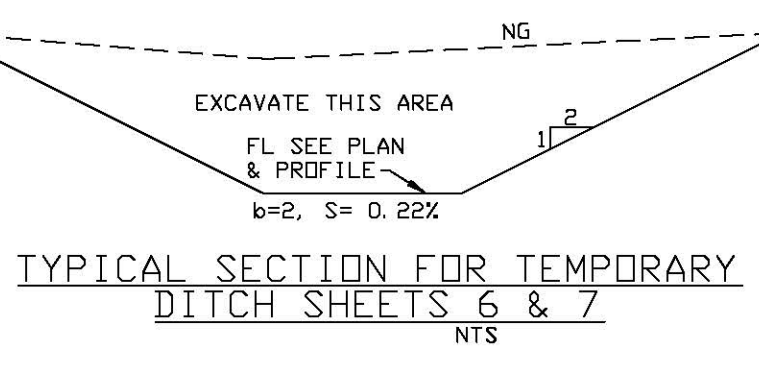
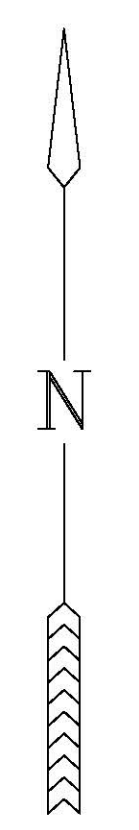
PROFILE - VOLANTIS ST.

MATCH LINE "H" STA 8+50 CONTINUED FROM SHEET 6



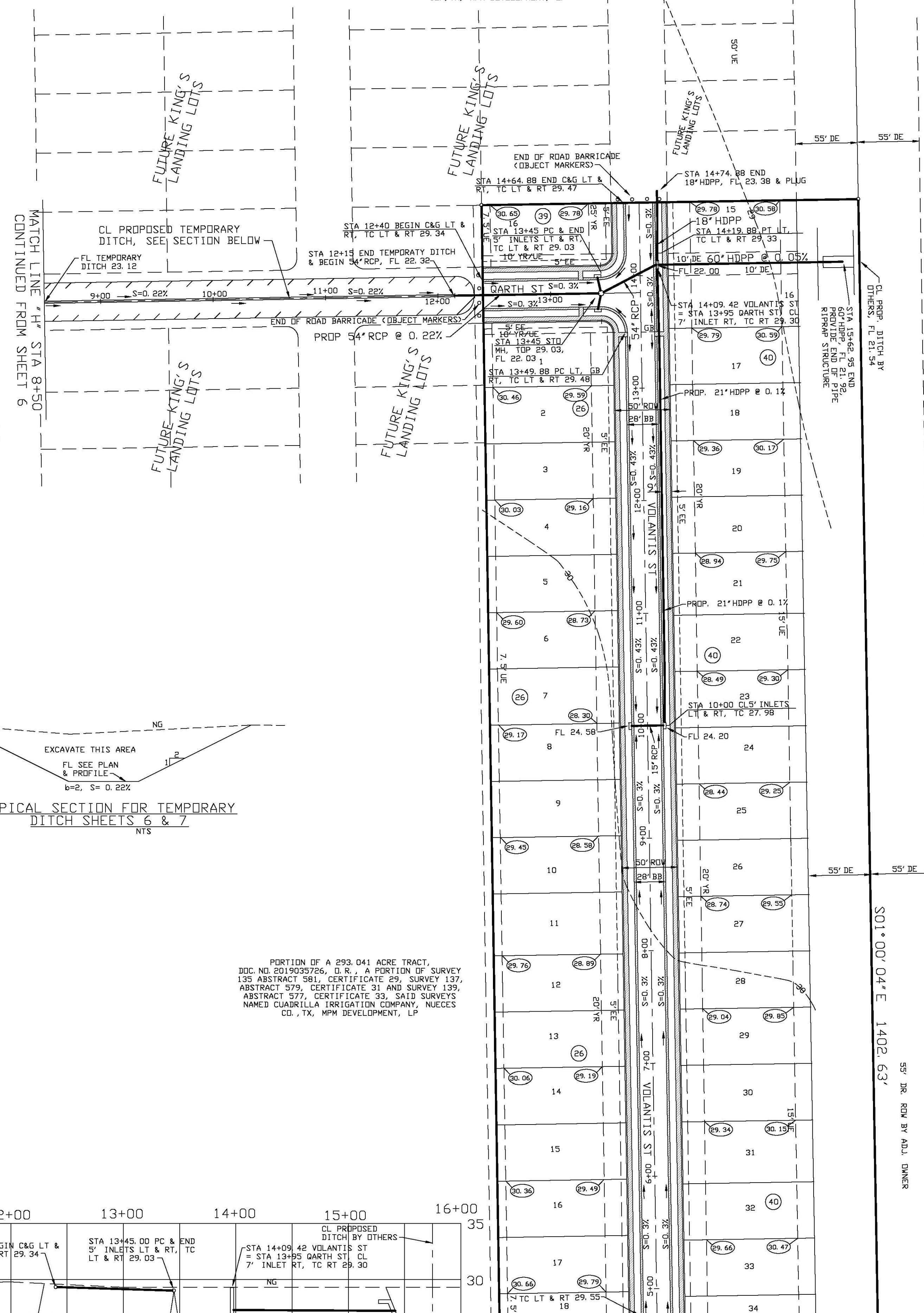
PROFILE - OFFSITE DRAINAGE, GARTH ST. AND 60' HDPP TO DITCH BY OTHERS

PORTION OF A 293.041 ACRE TRACT, DOC. NO. 2019035726, D.R., A PORTION OF SURVEY 135 ABSTRACT 981, CERTIFICATE 29, SURVEY 137, ABSTRACT 579, CERTIFICATE 31 AND SURVEY 139, ABSTRACT 577, CERTIFICATE 33, SAID SURVEYS NAMED CUADRILLA IRRIGATION COMPANY, NUECES CO., TX, MPM DEVELOPMENT, LP

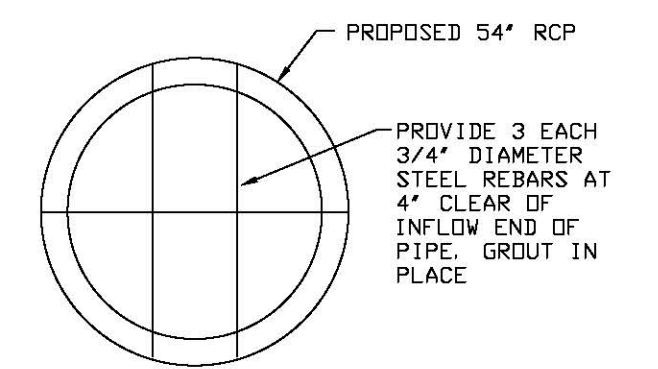


TYPICAL SECTION FOR TEMPORARY DITCH SHEETS 6 & 7

PORTION OF A 293.041 ACRE TRACT, DOC. NO. 2019035726, D.R., A PORTION OF SURVEY 135 ABSTRACT 981, CERTIFICATE 29, SURVEY 137, ABSTRACT 579, CERTIFICATE 31 AND SURVEY 139, ABSTRACT 577, CERTIFICATE 33, SAID SURVEYS NAMED CUADRILLA IRRIGATION COMPANY, NUECES CO., TX, MPM DEVELOPMENT, LP



118.126 ACRE TRACT 11, DOC. NO. 201911199, E. R. STULL, JR. AND ET AL.

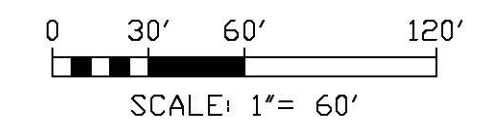


NOTE: USE THIS DETAIL AT FLOW ENTRY INTO 54' RCP GARTH ST. STA 12+15 (THIS SHEET).

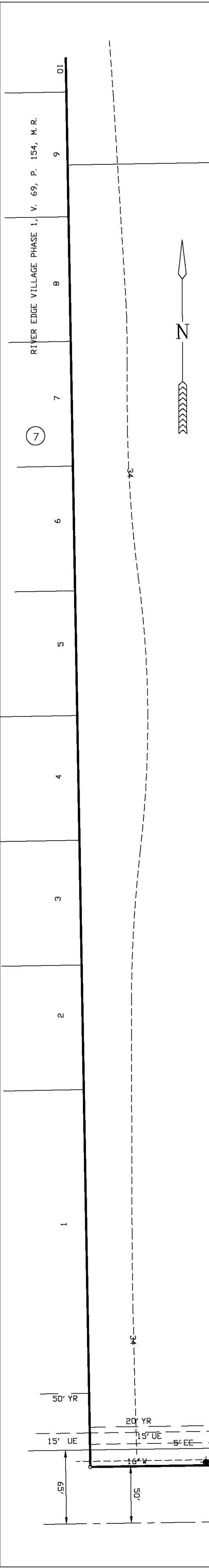
DETAIL - REBAR INSTALLATION AT DRAINAGE ENTRY TO PROPOSED 54' RCP

NTS

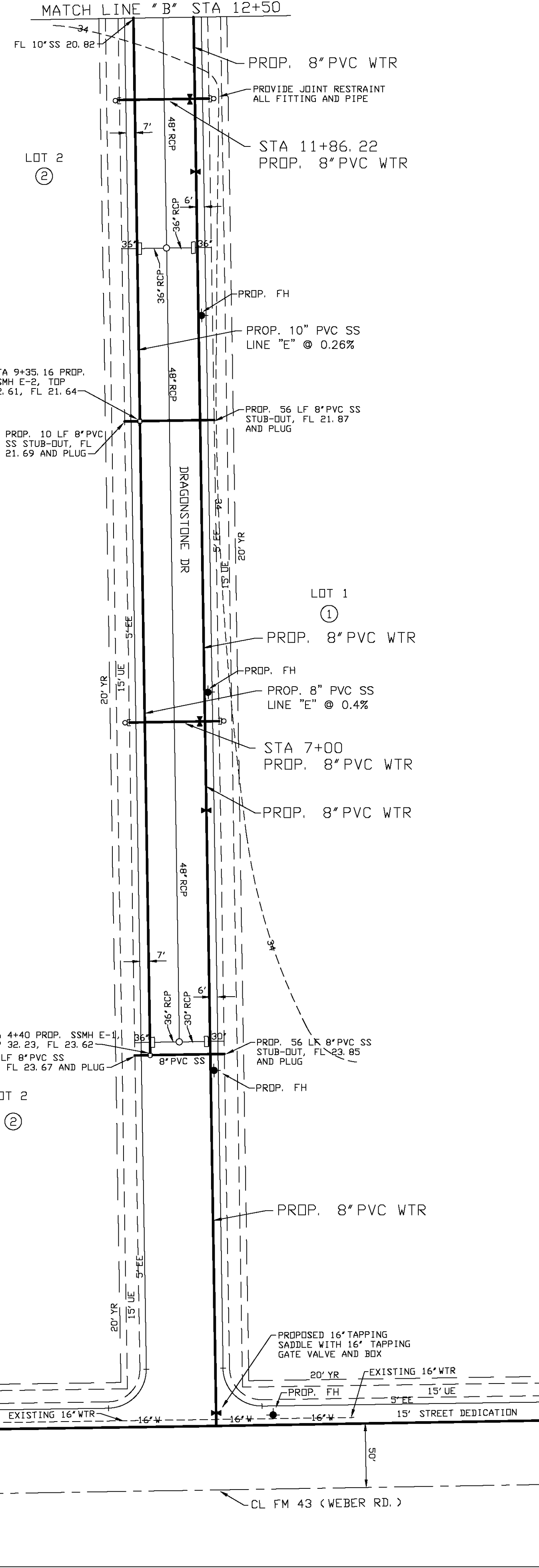
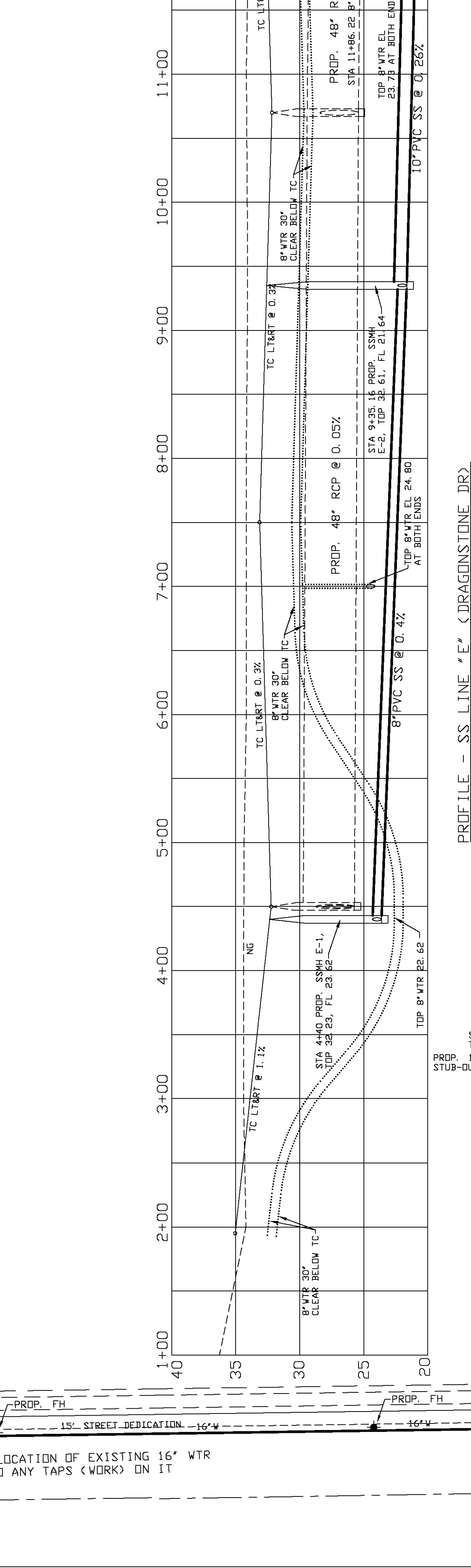
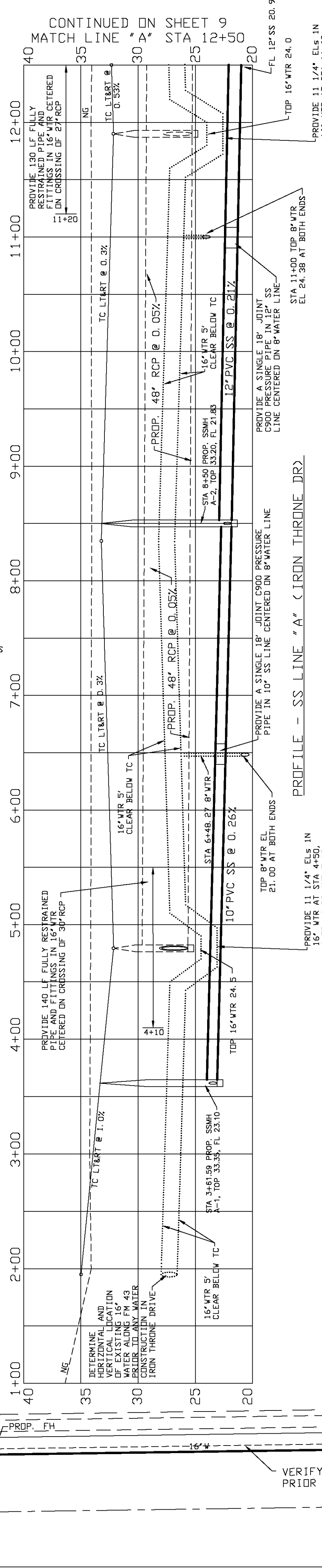
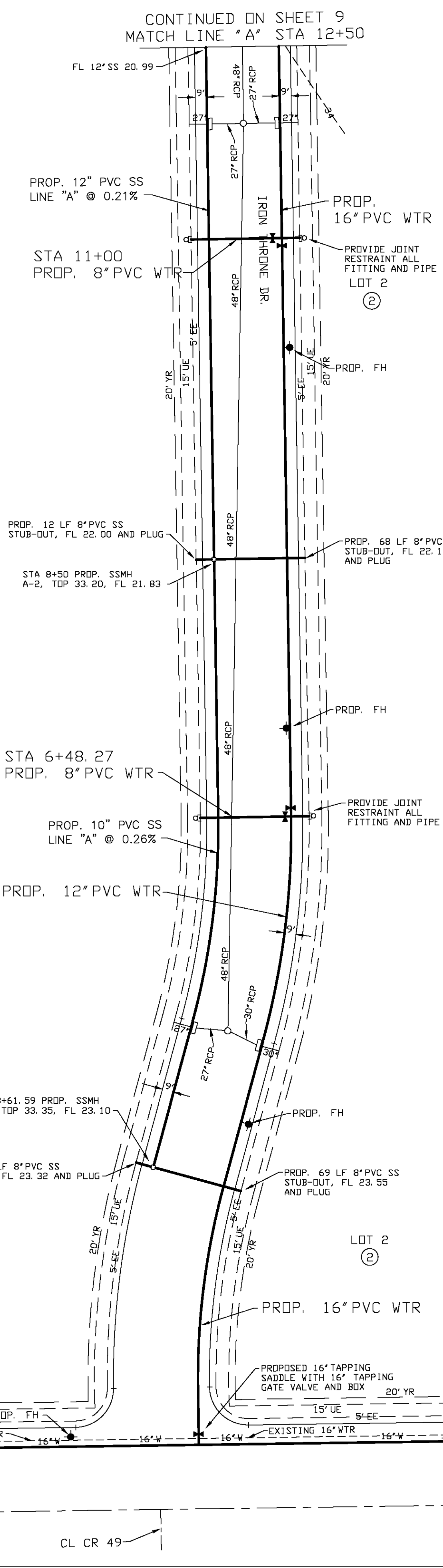
THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF INTERIM REVIEW UNDER THE AUTHORITY OF NIXON M. WELSH, P.E. NO. 36240 OF BASS AND WELSH ENGINEERING, F 52. IT IS NOT TO BE USED FOR CONSTRUCTION OR BIDDING PURPOSES.



BASS & WELSH ENGINEERING TX SURVEY REG. NO 100027-00, TX ENGINEERING REG. NO. F-52, 3054 S. ALAMEDA STREET, CORPUS CHRISTI, TEXAS 78404		
PUBLIC IMPROVEMENTS TO KING'S LANDING UNIT 1 CORPUS CHRISTI, NUECES CO., TX		
PAVING, GRADING AND DRAINAGE PLAN STREET AND STORM SEWER PROFILES		
DWN. _____	PLOT SCALE: 1" = 60'	COM. NO. PG06 AS PGD
CHK: N. WELSH	SCALE (H): SAME	JOB NO. 08068
	SCALE (V): NONE	SHEET 7 OF 33
	DATE PLOTTED: 02/18/20	

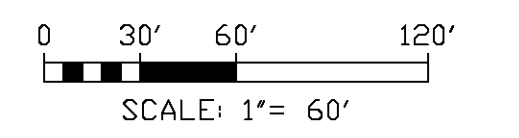


LOT 1B = 609.851 SF = 14.000 AC. TO CL IRON THRONE STREET AND INCLUDING 15' STREET DEDICATION ALONG FM 43, 559, 905 SF = 12.854 AC. EXCLUDING PROPOSED STREET RIGHTS-OF-WAY



DWG. NO.	1" = 60'	COM. NO.	FDDI AS SSW
SCALE 10'		JOB NO.	18088
DATE PLOTTED	02/18/20	SHEET	B OF 35
SANITARY SEWER AND WATER PLAN AND PROFILE			
BASS & WELSH ENGINEERING TX SURVEY REG. NO. 100027-00, TX ENGINEERING REG. NO. F-52, 3054 S. ALAMEDA STREET, CORPUS CHRISTI, TEXAS 78404 PUBLIC IMPROVEMENTS TO KING'S LANDING UNIT 1 CORPUS CHRISTI, NUECES CO., TX			

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF INTERIM REVIEW UNDER THE AUTHORITY OF NIXON M. WELSH, P.E. NO. 36240 OF BASS AND WELSH ENGINEERING, F. 52. IT IS NOT TO BE USED FOR CONSTRUCTION OR BIDDING PURPOSES.



1.422 AC. TRACT ALAMEDA B & ELI, TRACT NO. 2002017331

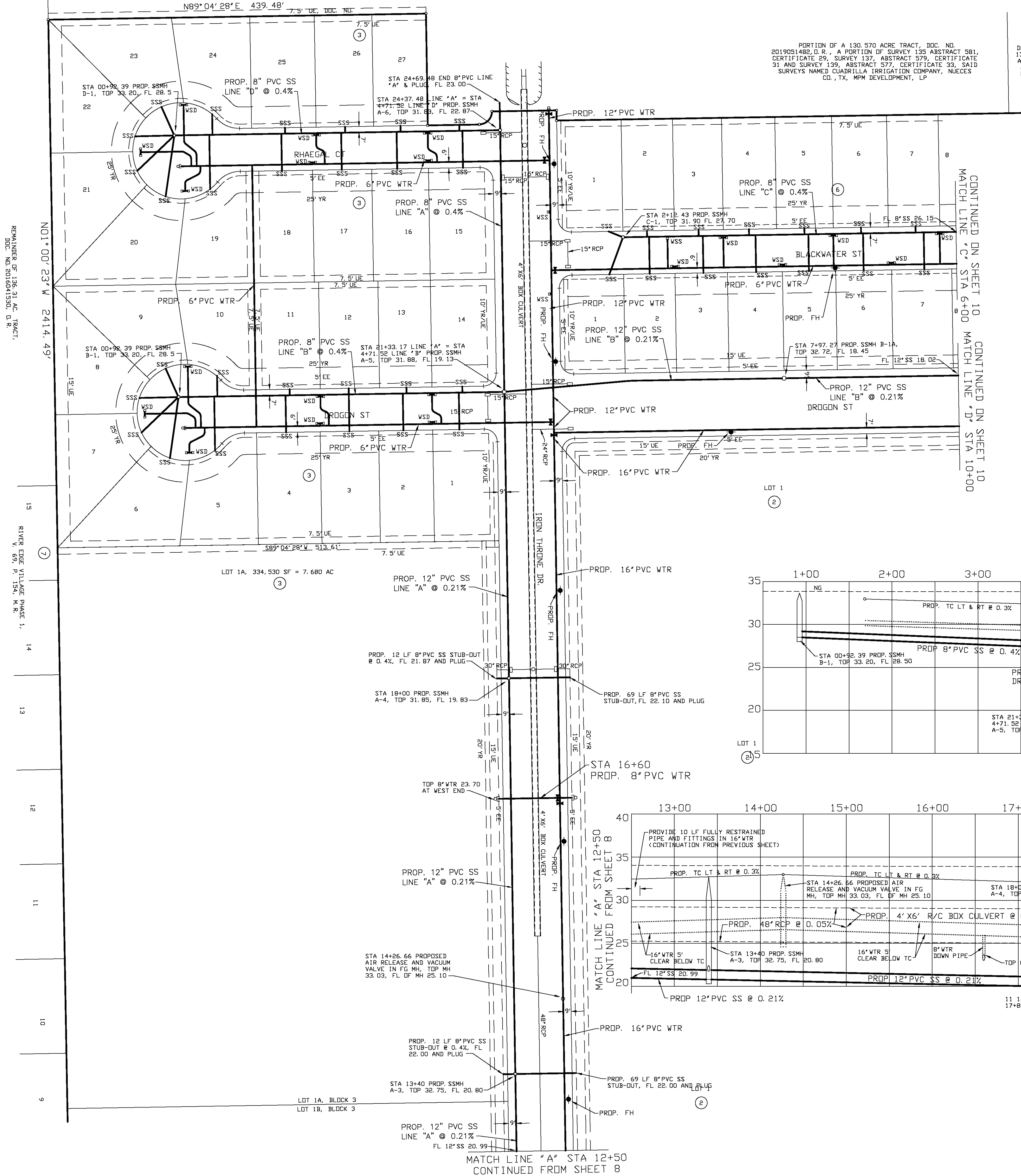
LOT 1
Y. 67, P. 576, M. R.
LOT 2
Y. 67, P. 576, M. R.
BALANCE OF 27.5 AC. TRACT, TRACT NO. 2003067159, D. R., L. 153D

CL FM 43 (WEBER RD.)

CL CR 49

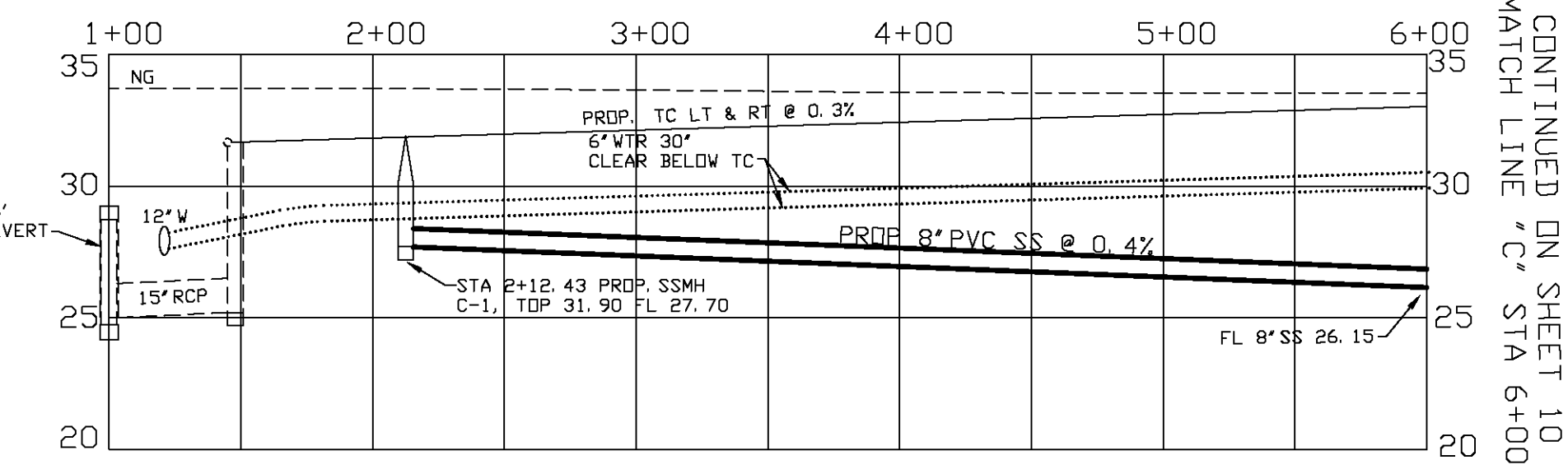
CL FM 43 (WEBER RD.)

VERIFY LOCATION OF EXISTING 16" WTR PRIOR TO ANY TAPS (WORK) ON IT

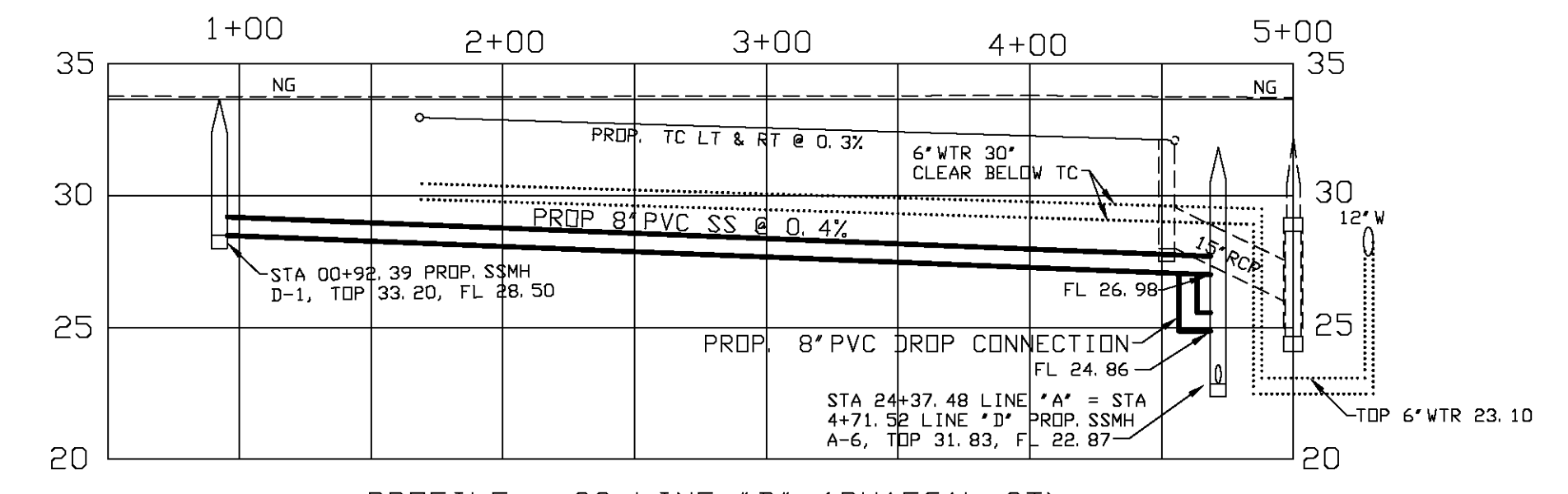


PORTION OF A 130.570 ACRE TRACT, DOC. NO. 2019051482, D.R., A PORTION OF SURVEY 135 ABSTRACT 581, CERTIFICATE 29, SURVEY 137, ABSTRACT 579, CERTIFICATE 31 AND SURVEY 139, ABSTRACT 577, CERTIFICATE 33, SAID SURVEYS NAMED CUADRILLA IRRIGATION COMPANY, NUECES CO., TX, MPM DEVELOPMENT, LP

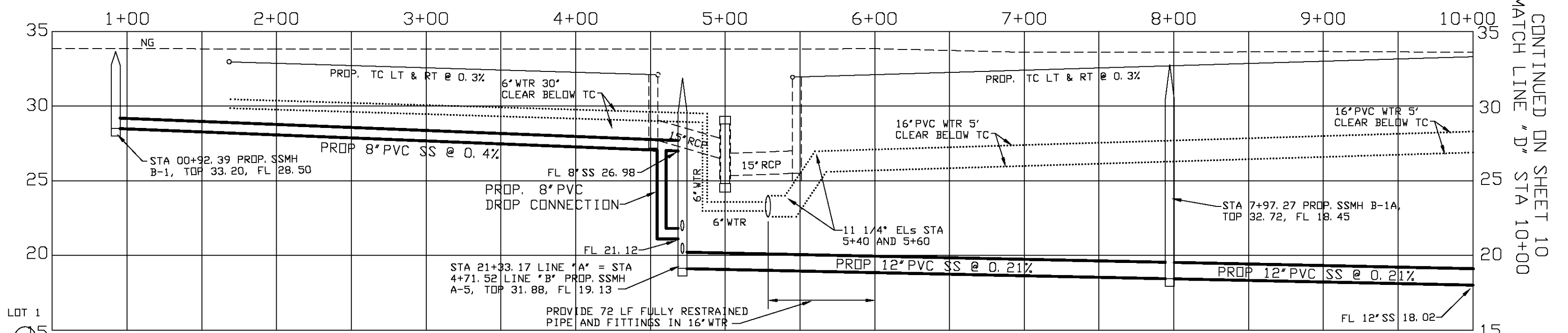
PORTION OF A 293.041 ACRE TRACT, DOC. NO. 2019055726, D.R., A PORTION OF SURVEY 135 ABSTRACT 581, CERTIFICATE 29, SURVEY 137, ABSTRACT 579, CERTIFICATE 31 AND SURVEY 139, ABSTRACT 577, CERTIFICATE 33, SAID SURVEYS NAMED CUADRILLA IRRIGATION COMPANY, NUECES CO., TX, MPM DEVELOPMENT, LP



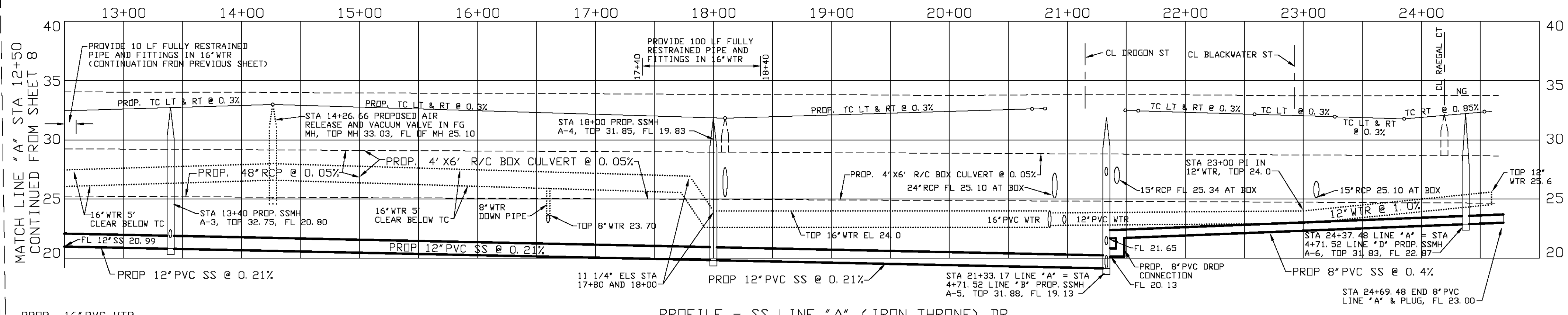
PROFILE - PROP. 8\"/>



PROFILE - SS LINE \"D\" (RHAEGAL CT)



PROFILE - SS LINE \"B\" (DROGON ST)



PROFILE - SS LINE \"A\" (IRON THRONE) DR

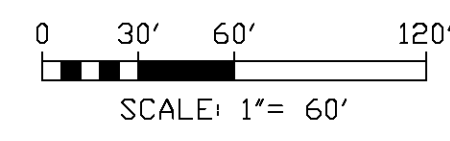
BASS & WELSH ENGINEERING
 TX SURVEY REG. NO 100027-00, TX ENGINEERING REG. NO. F-52, 3054 S. ALAMEDA STREET, CORPUS CHRISTI, TEXAS 78404

PUBLIC IMPROVEMENTS TO KING'S LANDING UNIT 1
 CORPUS CHRISTI, NUECES CO., TX

SANITARY SEWER AND WATER PLAN AND PROFILE

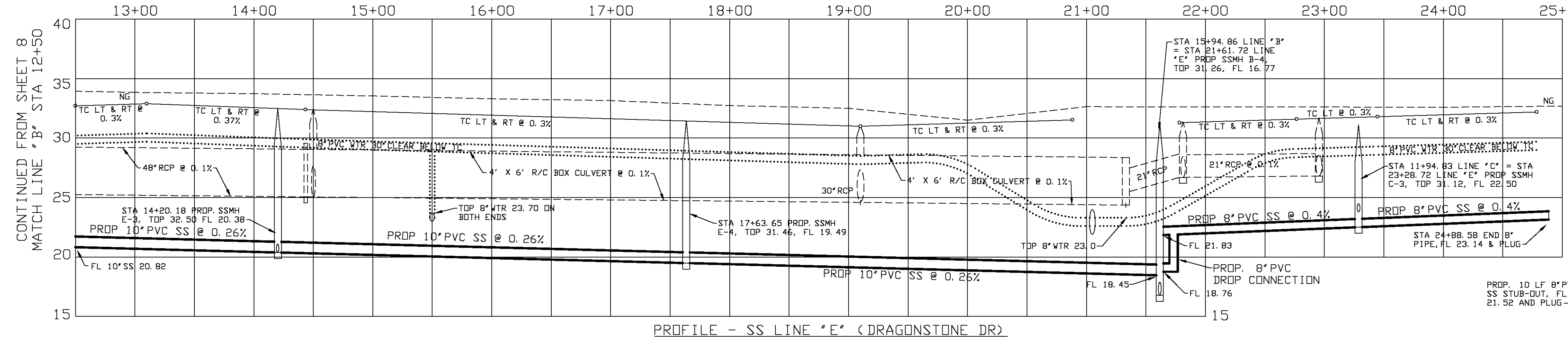
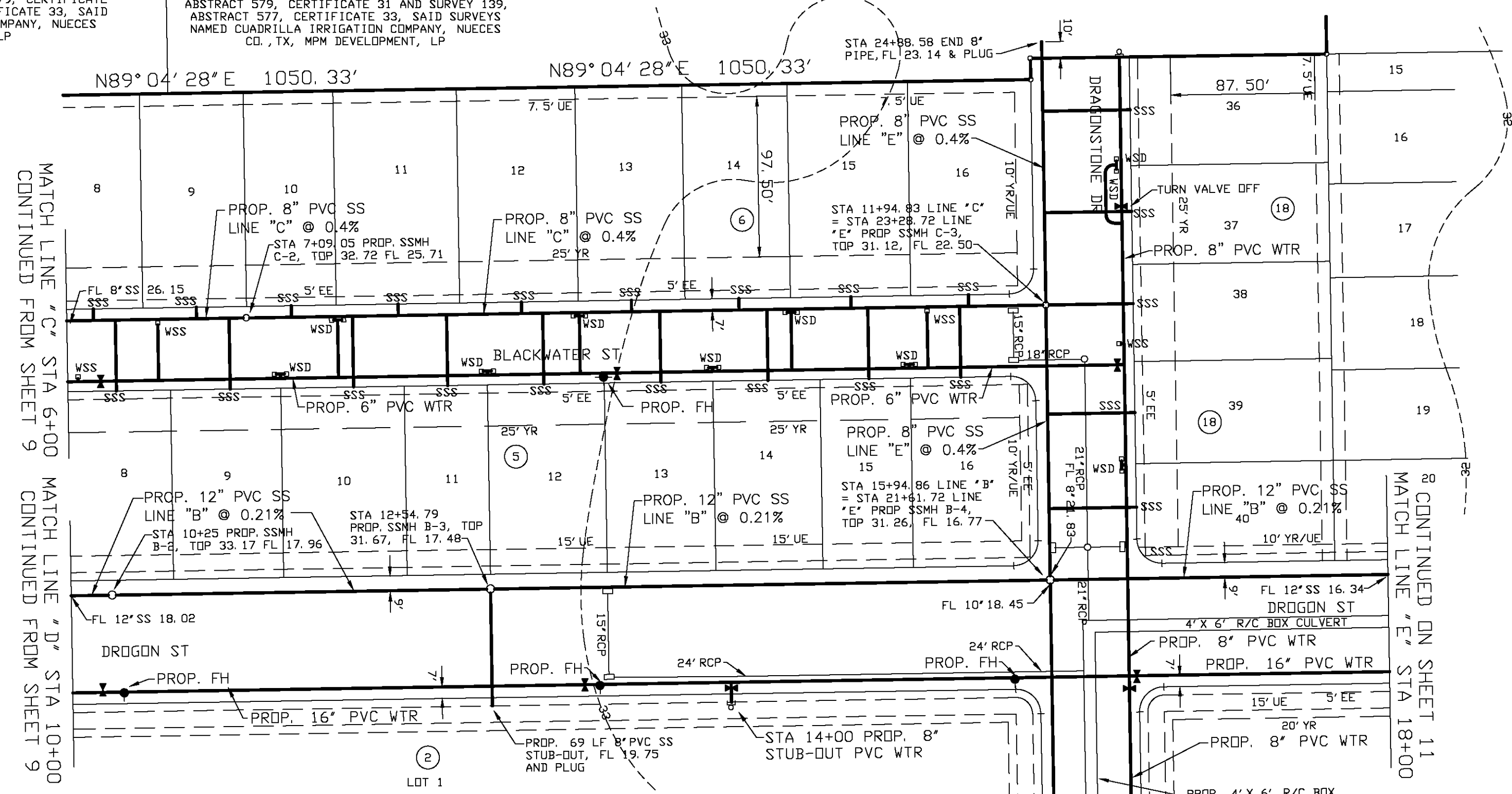
OWN: _____ PLOT SCALE: 1\"/>

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF INTERIM REVIEW UNDER THE AUTHORITY OF NIXON M. WELSH, P.E. NO. 36240 OF BASS AND WELSH ENGINEERING, F 52. IT IS NOT TO BE USED FOR CONSTRUCTION OR BIDDING PURPOSES.

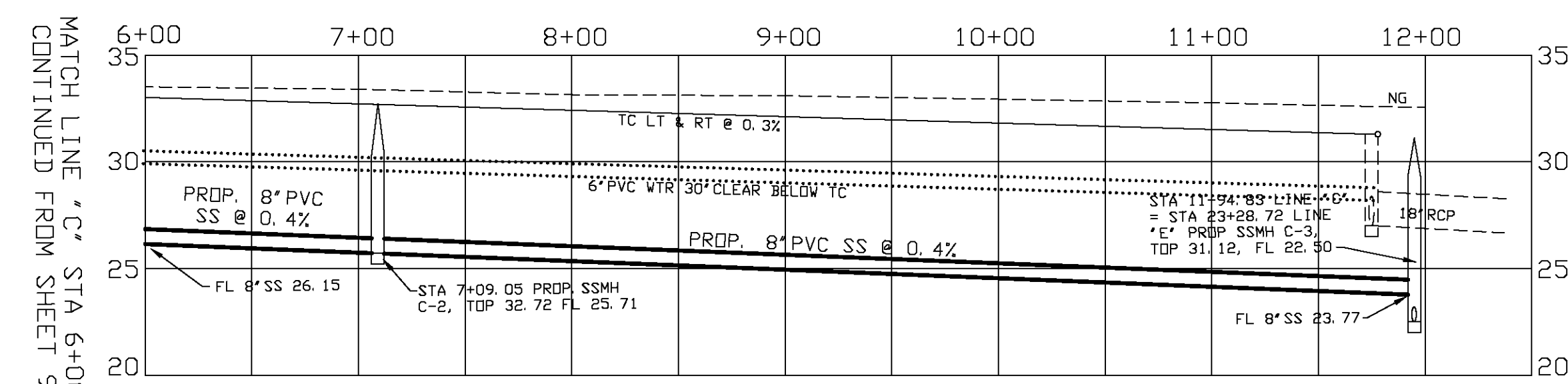


PORTION OF A 120.570 ACRE TRACT, D.C. NO. 2019051482, D.R., A PORTION OF SURVEY 135 ABSTRACT 581, CERTIFICATE 29, SURVEY 137, ABSTRACT 579, CERTIFICATE 31 AND SURVEY 139, ABSTRACT 577, CERTIFICATE 33, SAID SURVEYS NAMED CUADRILLA IRRIGATION COMPANY, NUECES CO., TX, MPM DEVELOPMENT, LP

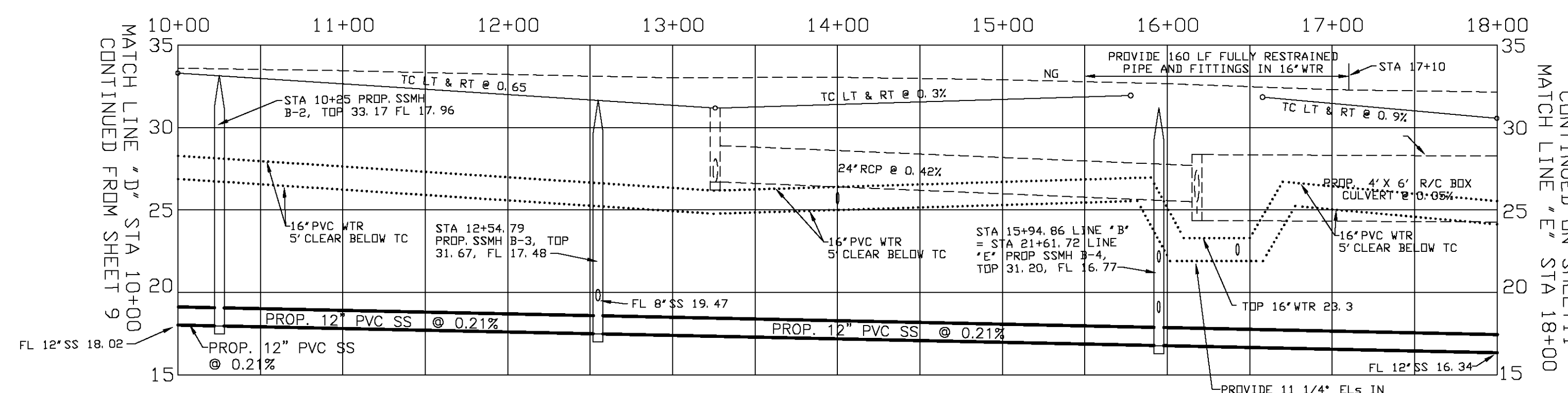
PORTION OF A 293.041 ACRE TRACT, D.C. NO. 2019035726, D.R., A PORTION OF SURVEY 135 ABSTRACT 581, CERTIFICATE 29, SURVEY 137, ABSTRACT 579, CERTIFICATE 31 AND SURVEY 139, ABSTRACT 577, CERTIFICATE 33, SAID SURVEYS NAMED CUADRILLA IRRIGATION COMPANY, NUECES CO., TX, MPM DEVELOPMENT, LP



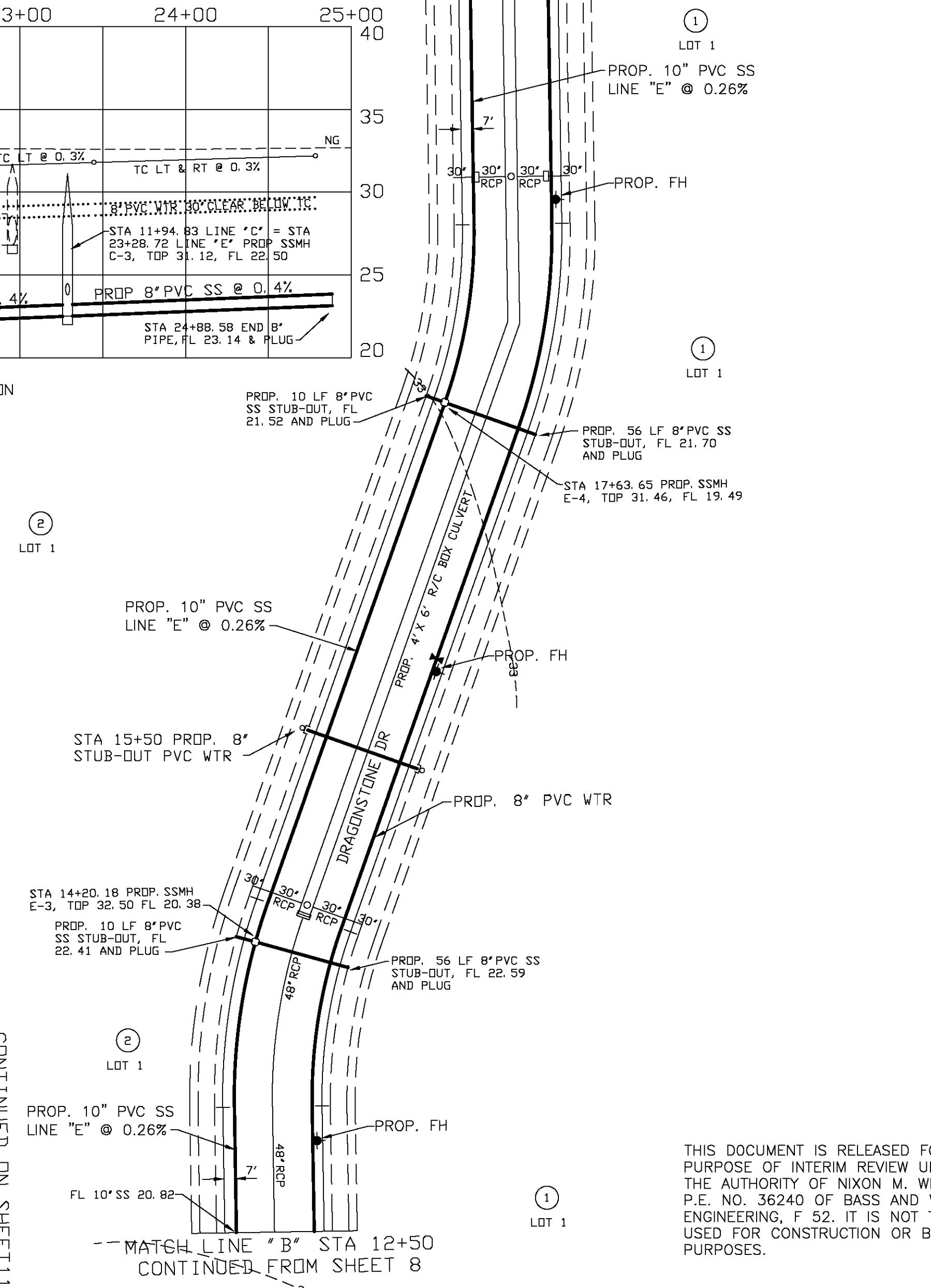
PROFILE - SS LINE "E" (DRAGONSTONE DR)



PROFILE - SS LINE "C" (BLACKWATER ST)

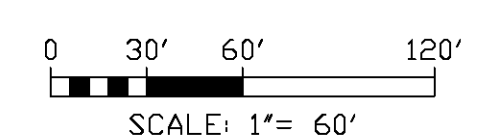


PROFILE - SS LINE "B" (DROGON ST)



CONTINUED DN SHEET 11
MATCH LINE "B" STA 12+50
CONTINUED FROM SHEET 8

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF INTERIM REVIEW UNDER THE AUTHORITY OF NIXON M. WELSH, P.E. NO. 36240 OF BASS AND WELSH ENGINEERING, F 52. IT IS NOT TO BE USED FOR CONSTRUCTION OR BIDDING PURPOSES.



25.00 AC. TRACT, D.C. NO. 2008018783, D.R., L1SD

25.00 AC. TRACT, D.C. NO. 2008018783, D.R., L1SD

BASS & WELSH ENGINEERING
 TX SURVEY REG. NO. 100027-00, TX ENGINEERING REG. NO. F-52, 3054 S. ALAMEDA STREET, CORPUS CHRISTI, TEXAS 78404

PUBLIC IMPROVEMENTS TO KING'S LANDING UNIT 1 CORPUS CHRISTI, NUECES CO., TX

SANITARY SEWER AND WATER PLAN AND PROFILE

DWN.	PLOT SCALE: 1" = 60'	COM. NO.	PG03 AS SSW
CHK.	SCALE (H): SAME	JOB NO.	08068
	SCALE (V): NONE	DATE PLOTTED	02/18/20
		SHEET	10 OF 33

PORTION OF A 293.041 ACRE TRACT, DDC NO. 201903726, D.R., A PORTION OF SURVEY 135 ABSTRACT 581, CERTIFICATE 29, SURVEY 137, ABSTRACT 579, CERTIFICATE 31 AND SURVEY 139, ABSTRACT 577, CERTIFICATE 33, SAID SURVEYS NAMED CUADRILLA IRRIGATION COMPANY, NUECES CO., TX, MPM DEVELOPMENT, LP

PORTION OF A 293.041 ACRE TRACT, DDC NO. 201903726, D.R., A PORTION OF SURVEY 135 ABSTRACT 581, CERTIFICATE 29, SURVEY 137, ABSTRACT 579, CERTIFICATE 31 AND SURVEY 139, ABSTRACT 577, CERTIFICATE 33, SAID SURVEYS NAMED CUADRILLA IRRIGATION COMPANY, NUECES CO., TX, MPM DEVELOPMENT, LP

PORTION OF A 293.041 ACRE TRACT, DDC NO. 201903726, D.R., A PORTION OF SURVEY 135 ABSTRACT 581, CERTIFICATE 29, SURVEY 137, ABSTRACT 579, CERTIFICATE 31 AND SURVEY 139, ABSTRACT 577, CERTIFICATE 33, SAID SURVEYS NAMED CUADRILLA IRRIGATION COMPANY, NUECES CO., TX, MPM DEVELOPMENT, LP

PORTION OF A 293.041 ACRE TRACT, DDC NO. 201903726, D.R., A PORTION OF SURVEY 135 ABSTRACT 581, CERTIFICATE 29, SURVEY 137, ABSTRACT 579, CERTIFICATE 31 AND SURVEY 139, ABSTRACT 577, CERTIFICATE 33, SAID SURVEYS NAMED CUADRILLA IRRIGATION COMPANY, NUECES CO., TX, MPM DEVELOPMENT, LP

PORTION OF A 293.041 ACRE TRACT, DDC NO. 201903726, D.R., A PORTION OF SURVEY 135 ABSTRACT 581, CERTIFICATE 29, SURVEY 137, ABSTRACT 579, CERTIFICATE 31 AND SURVEY 139, ABSTRACT 577, CERTIFICATE 33, SAID SURVEYS NAMED CUADRILLA IRRIGATION COMPANY, NUECES CO., TX, MPM DEVELOPMENT, LP

PORTION OF A 293.041 ACRE TRACT, DDC NO. 201903726, D.R., A PORTION OF SURVEY 135 ABSTRACT 581, CERTIFICATE 29, SURVEY 137, ABSTRACT 579, CERTIFICATE 31 AND SURVEY 139, ABSTRACT 577, CERTIFICATE 33, SAID SURVEYS NAMED CUADRILLA IRRIGATION COMPANY, NUECES CO., TX, MPM DEVELOPMENT, LP

PORTION OF A 293.041 ACRE TRACT, DDC NO. 201903726, D.R., A PORTION OF SURVEY 135 ABSTRACT 581, CERTIFICATE 29, SURVEY 137, ABSTRACT 579, CERTIFICATE 31 AND SURVEY 139, ABSTRACT 577, CERTIFICATE 33, SAID SURVEYS NAMED CUADRILLA IRRIGATION COMPANY, NUECES CO., TX, MPM DEVELOPMENT, LP

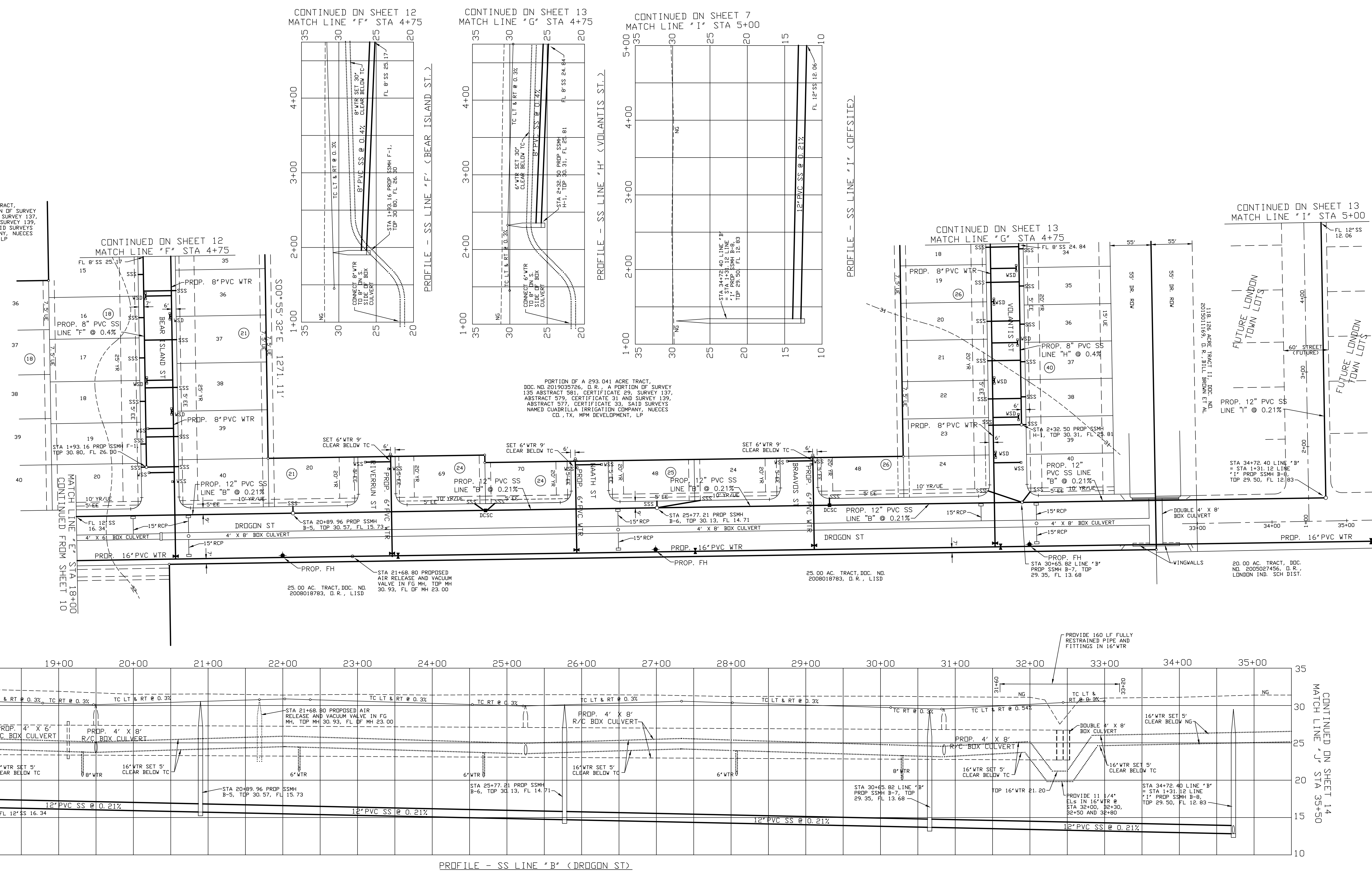
PORTION OF A 293.041 ACRE TRACT, DDC NO. 201903726, D.R., A PORTION OF SURVEY 135 ABSTRACT 581, CERTIFICATE 29, SURVEY 137, ABSTRACT 579, CERTIFICATE 31 AND SURVEY 139, ABSTRACT 577, CERTIFICATE 33, SAID SURVEYS NAMED CUADRILLA IRRIGATION COMPANY, NUECES CO., TX, MPM DEVELOPMENT, LP

PORTION OF A 293.041 ACRE TRACT, DDC NO. 201903726, D.R., A PORTION OF SURVEY 135 ABSTRACT 581, CERTIFICATE 29, SURVEY 137, ABSTRACT 579, CERTIFICATE 31 AND SURVEY 139, ABSTRACT 577, CERTIFICATE 33, SAID SURVEYS NAMED CUADRILLA IRRIGATION COMPANY, NUECES CO., TX, MPM DEVELOPMENT, LP

PORTION OF A 293.041 ACRE TRACT, DDC NO. 201903726, D.R., A PORTION OF SURVEY 135 ABSTRACT 581, CERTIFICATE 29, SURVEY 137, ABSTRACT 579, CERTIFICATE 31 AND SURVEY 139, ABSTRACT 577, CERTIFICATE 33, SAID SURVEYS NAMED CUADRILLA IRRIGATION COMPANY, NUECES CO., TX, MPM DEVELOPMENT, LP

PORTION OF A 293.041 ACRE TRACT, DDC NO. 201903726, D.R., A PORTION OF SURVEY 135 ABSTRACT 581, CERTIFICATE 29, SURVEY 137, ABSTRACT 579, CERTIFICATE 31 AND SURVEY 139, ABSTRACT 577, CERTIFICATE 33, SAID SURVEYS NAMED CUADRILLA IRRIGATION COMPANY, NUECES CO., TX, MPM DEVELOPMENT, LP

PORTION OF A 293.041 ACRE TRACT, DDC NO. 201903726, D.R., A PORTION OF SURVEY 135 ABSTRACT 581, CERTIFICATE 29, SURVEY 137, ABSTRACT 579, CERTIFICATE 31 AND SURVEY 139, ABSTRACT 577, CERTIFICATE 33, SAID SURVEYS NAMED CUADRILLA IRRIGATION COMPANY, NUECES CO., TX, MPM DEVELOPMENT, LP



PROFILE - SS LINE "B" (DROGON ST)

25.00 AC. TRACT, DDC NO. 2008018783, D.R., LISD

25.00 AC. TRACT, DDC NO. 2008018783, D.R., LISD

25.00 AC. TRACT, DDC NO. 2008018783, D.R., LISD

20.00 AC. TRACT, DDC NO. 2005027456, D.R., LONDON IND. SCH. DIST.

BASS & WELSH ENGINEERING
 TX SURVEY REG. NO. 100027-00, TX ENGINEERING REG. NO. F-52, 3054 S. ALAMEDA STREET, CORPUS CHRISTI, TEXAS 78404

PUBLIC IMPROVEMENTS TO KING'S LANDING UNIT 1
 CORPUS CHRISTI, NUECES CO., TX

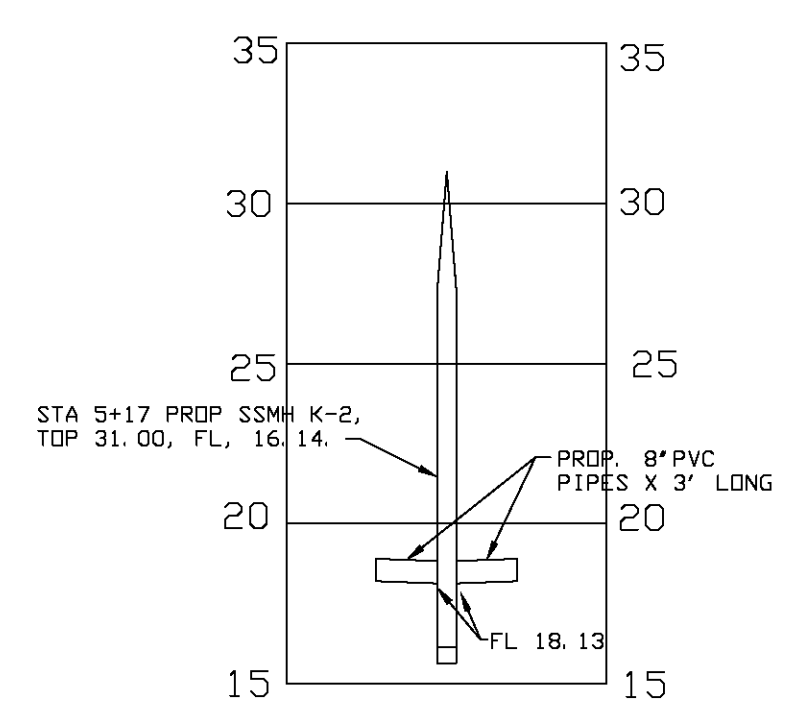
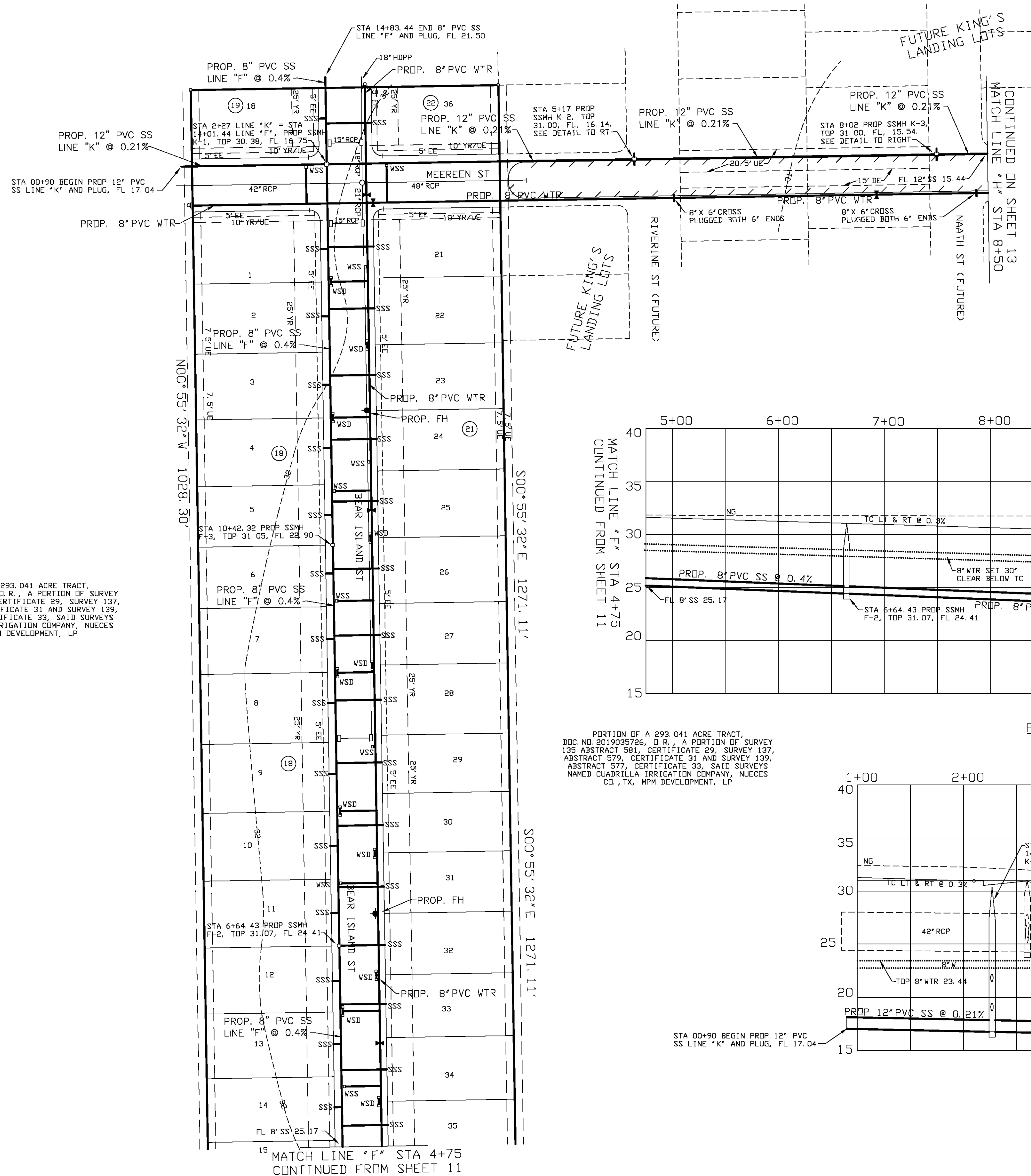
SANITARY SEWER AND WATER PLAN AND PROFILE

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF INTERIM REVIEW UNDER THE AUTHORITY OF NIXON M. WELSH, P.E. NO. 36240 OF BASS AND WELSH ENGINEERING, F. 52. IT IS NOT TO BE USED FOR CONSTRUCTION OR BIDDING PURPOSES.

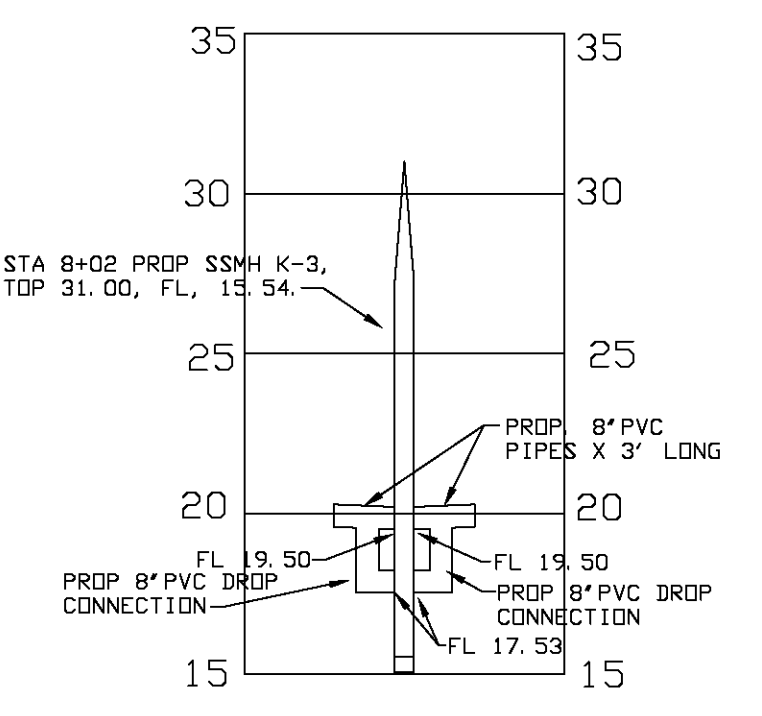
0 30' 60' 120'
 SCALE: 1" = 60'

OWN.	PLOT SCALE: 1" = 60'	COM. NO.	PG04 AS SSW
CHK. N. WELSH	SCALE (H): SAME	JOB NO.	08068
	SCALE (V): NONE	DATE PLOTTED	02/18/20
		SHEET	11 OF 33

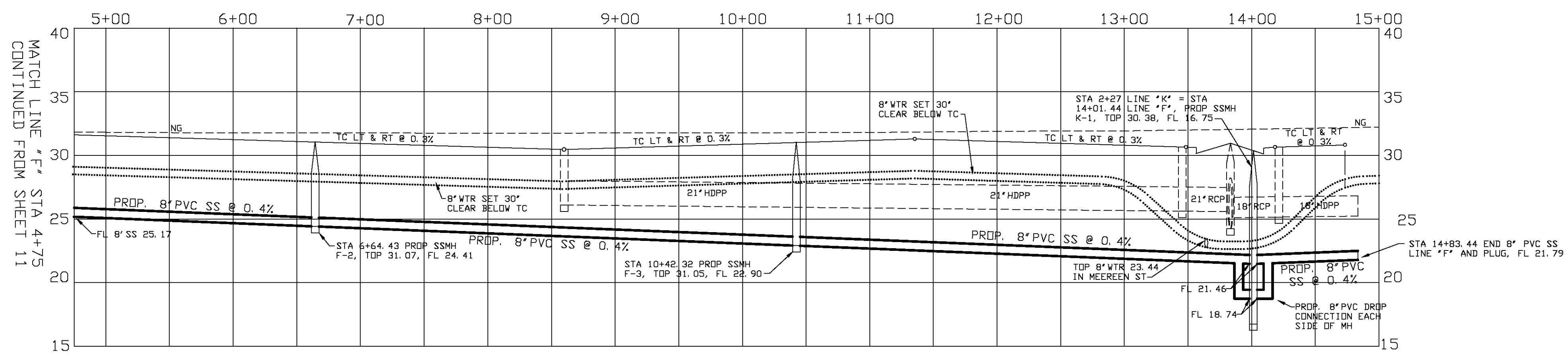
PORTION OF A 293.041 ACRE TRACT,
 DOC. NO. 2019035726, D.R., A PORTION OF SURVEY
 135 ABSTRACT 561, CERTIFICATE 29, SURVEY 137,
 ABSTRACT 579, CERTIFICATE 31 AND SURVEY 139,
 ABSTRACT 577, CERTIFICATE 33, SAID SURVEYS
 NAMED CUADRILLA IRRIGATION COMPANY, NUECES
 CO., TX, MPM DEVELOPMENT, LP



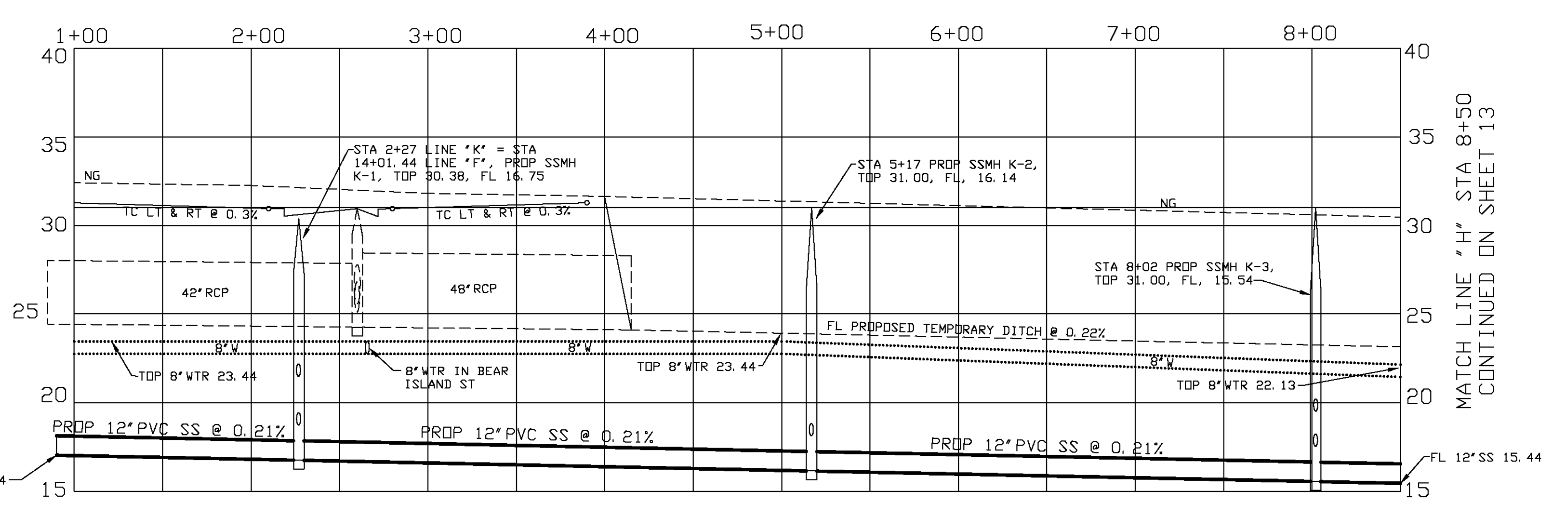
DETAIL - PROPOSED SSMH
 K-2 LOOKING EAST



DETAIL - PROPOSED SSMH
 K-3 LOOKING EAST



PROFILE - SS LINE "F" (BEAR ISLAND ST.)

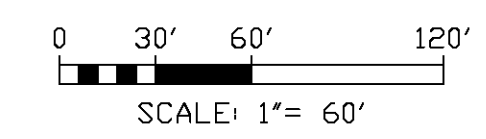


PROFILE - PROP SS LINE "K" (MEERREEN ST. AND OFFSITE TO EAST)

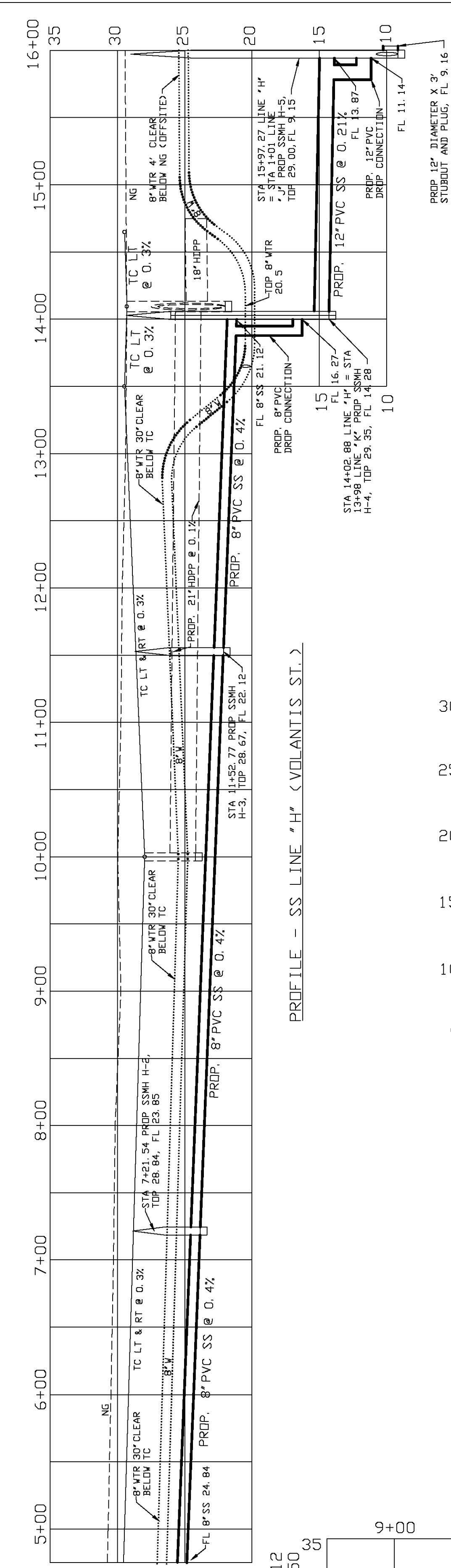
PORTION OF A 293.041 ACRE TRACT,
 DOC. NO. 2019035726, D.R., A PORTION OF SURVEY
 135 ABSTRACT 561, CERTIFICATE 29, SURVEY 137,
 ABSTRACT 579, CERTIFICATE 31 AND SURVEY 139,
 ABSTRACT 577, CERTIFICATE 33, SAID SURVEYS
 NAMED CUADRILLA IRRIGATION COMPANY, NUECES
 CO., TX, MPM DEVELOPMENT, LP

PORTION OF A 293.041 ACRE TRACT,
 DOC. NO. 2019035726, D.R., A PORTION OF SURVEY
 135 ABSTRACT 561, CERTIFICATE 29, SURVEY 137,
 ABSTRACT 579, CERTIFICATE 31 AND SURVEY 139,
 ABSTRACT 577, CERTIFICATE 33, SAID SURVEYS
 NAMED CUADRILLA IRRIGATION COMPANY, NUECES
 CO., TX, MPM DEVELOPMENT, LP

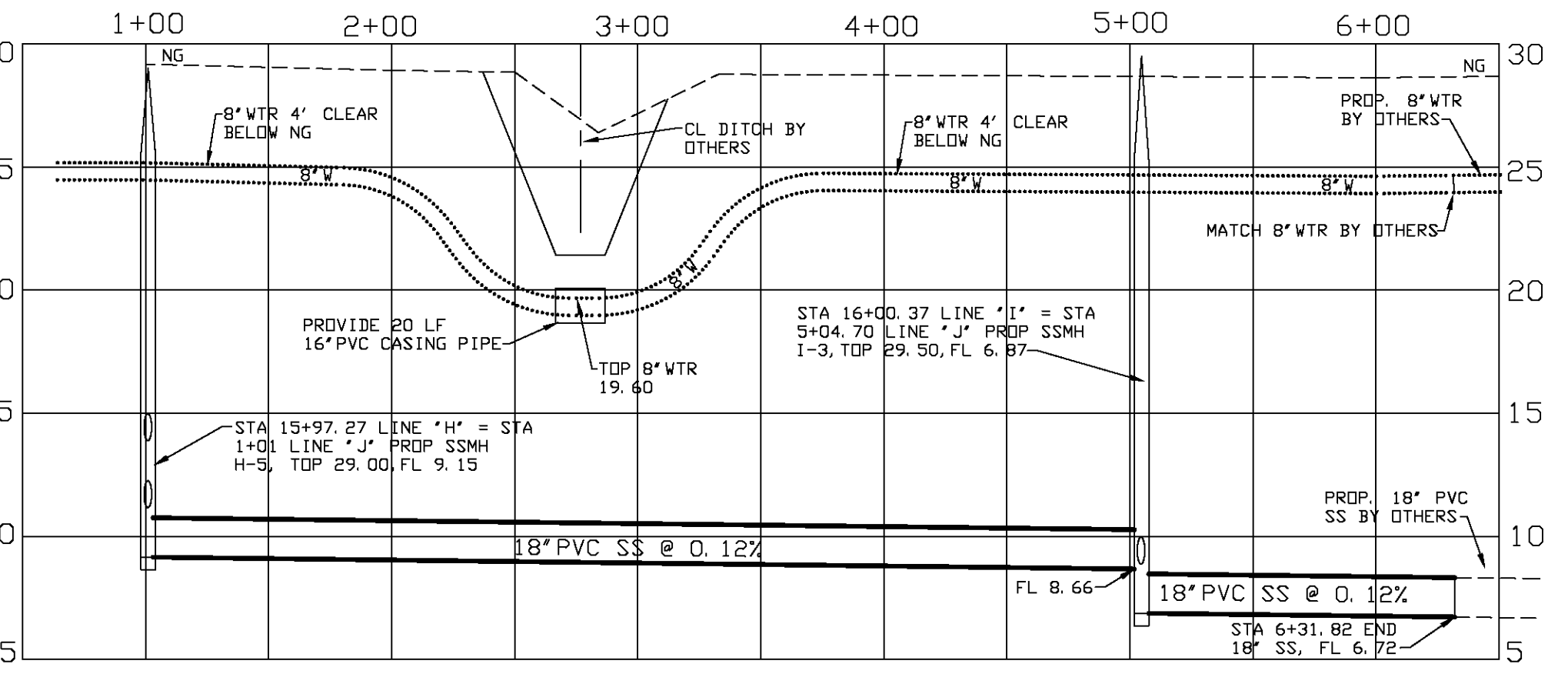
THIS DOCUMENT IS RELEASED FOR THE
 PURPOSE OF INTERIM REVIEW UNDER
 THE AUTHORITY OF NIXON M. WELSH,
 P.E. NO. 36240 OF BASS AND WELSH
 ENGINEERING, F 52. IT IS NOT TO BE
 USED FOR CONSTRUCTION OR BIDDING
 PURPOSES.



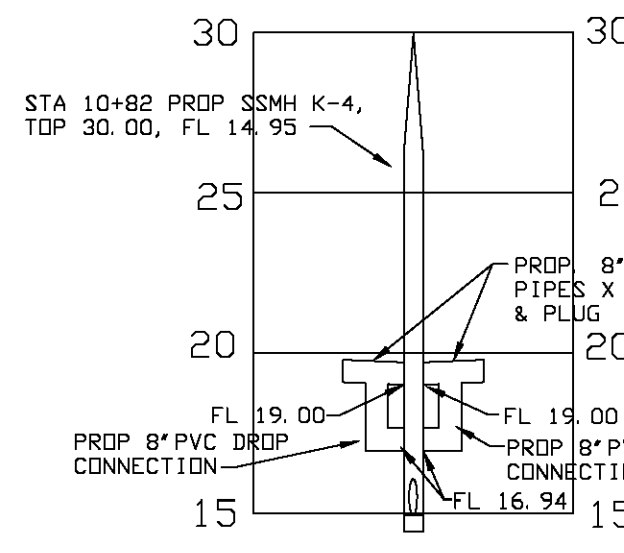
BASS & WELSH ENGINEERING TX SURVEY REG. NO. 100027-00, TX ENGINEERING REG. NO. F-52, 3054 S. ALAMEDA STREET, CORPUS CHRISTI, TEXAS 78404			
PUBLIC IMPROVEMENTS TO KING'S LANDING UNIT 1 CORPUS CHRISTI, NUECES CO., TX			
SANITARY SEWER AND WATER PLAN AND PROFILE			
DWN. _____	PLOT SCALE: 1" = 60'	COM. NO. PG05 AS SSW	
CHK. N. WELSH	SCALE (H): SAME	JOB NO. 08068	
	SCALE (V): NONE	DATE PLOTTED 02/18/20	SHEET 12 OF 33



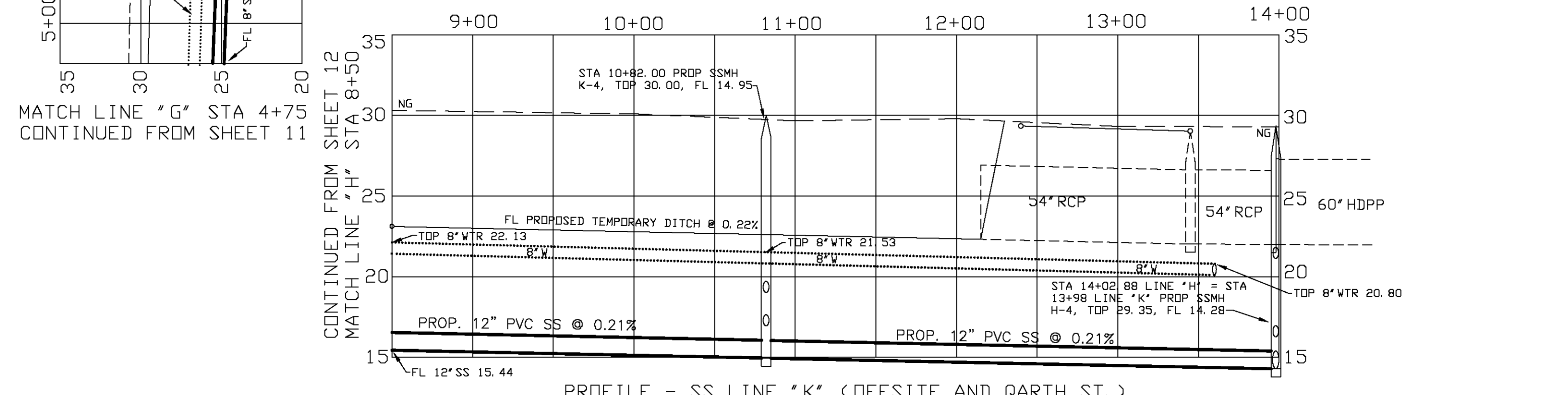
PROFILE - SS LINE 'H' (VOLANTIS ST.)



PROFILE - 18" SS LINE 'J' (OFFSITE, ABOVE RIGHT)



DETAIL - PROPOSED SSMH K-4 LOOKING EAST

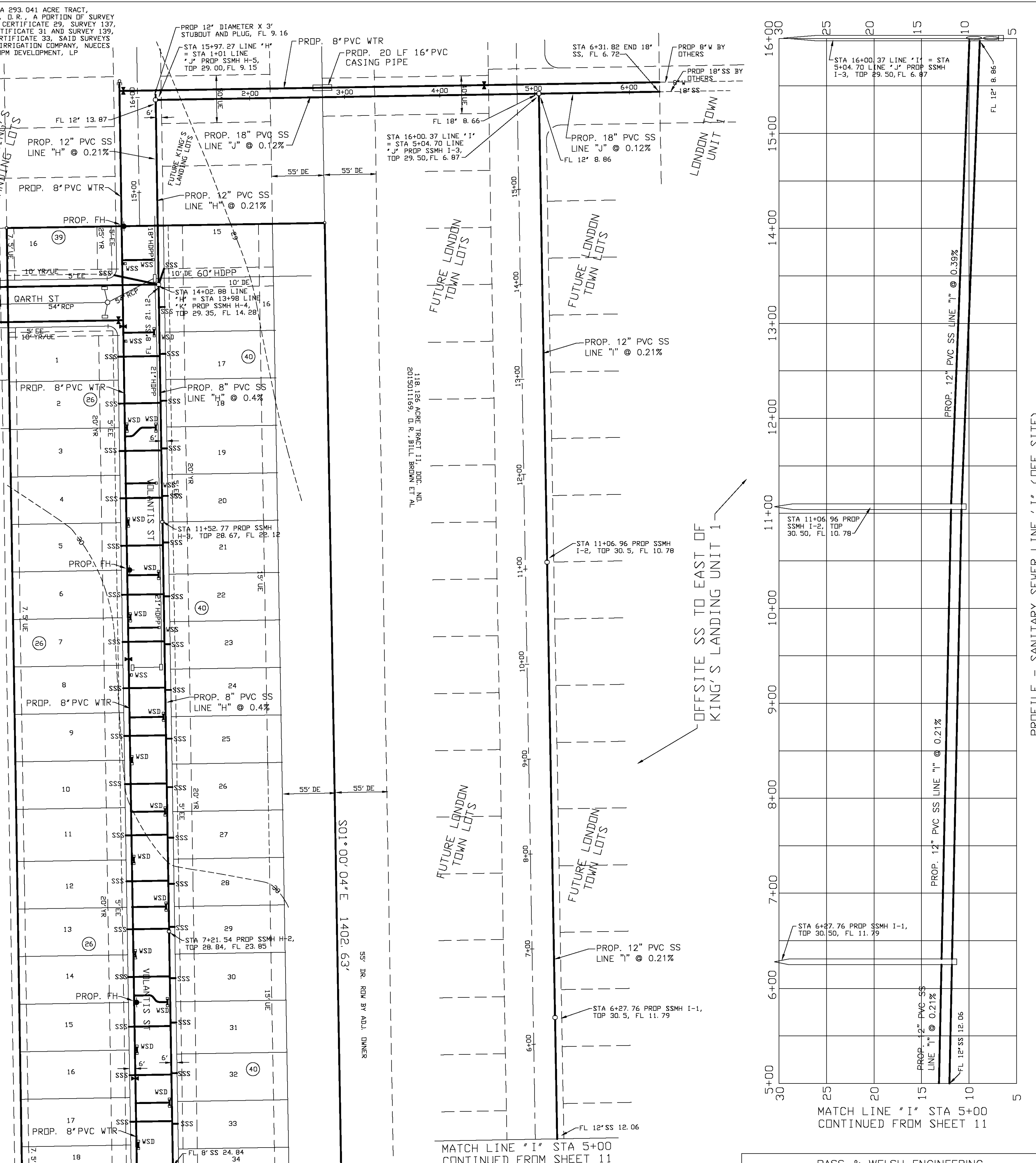


PROFILE - SS LINE 'K' (OFFSITE AND GARTH ST.)

PORTION OF A 293.041 ACRE TRACT, D.C. NO. 2019035726, D.R., A PORTION OF SURVEY 135 ABSTRACT 581, CERTIFICATE 29, SURVEY 137, ABSTRACT 579, CERTIFICATE 31 AND SURVEY 139, ABSTRACT 577, CERTIFICATE 33, SAID SURVEYS NAMED CUADRILLA IRRIGATION COMPANY, NUECES CO., TX, MPM DEVELOPMENT, LP

PORTION OF A 293.041 ACRE TRACT, D.C. NO. 2019035726, D.R., A PORTION OF SURVEY 135 ABSTRACT 581, CERTIFICATE 29, SURVEY 137, ABSTRACT 579, CERTIFICATE 31 AND SURVEY 139, ABSTRACT 577, CERTIFICATE 33, SAID SURVEYS NAMED CUADRILLA IRRIGATION COMPANY, NUECES CO., TX, MPM DEVELOPMENT, LP

PORTION OF A 293.041 ACRE TRACT, D.C. NO. 2019035726, D.R., A PORTION OF SURVEY 135 ABSTRACT 581, CERTIFICATE 29, SURVEY 137, ABSTRACT 579, CERTIFICATE 31 AND SURVEY 139, ABSTRACT 577, CERTIFICATE 33, SAID SURVEYS NAMED CUADRILLA IRRIGATION COMPANY, NUECES CO., TX, MPM DEVELOPMENT, LP



OFFSITE SS TO EAST OF KING'S LANDING UNIT 1

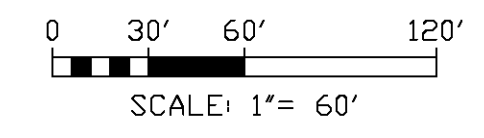
PROFILE - SANITARY SEWER LINE 'I' (OFF SITE)

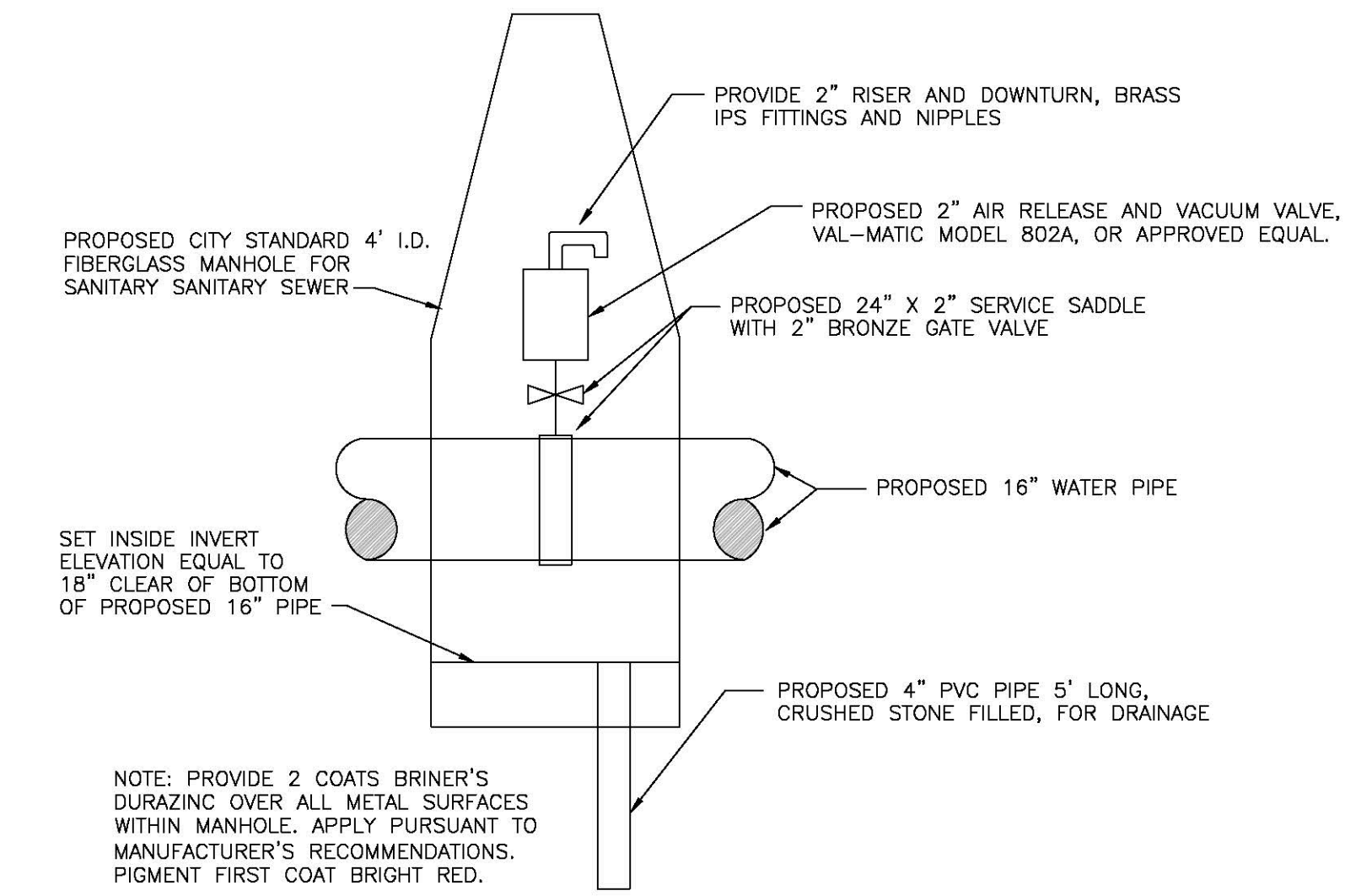
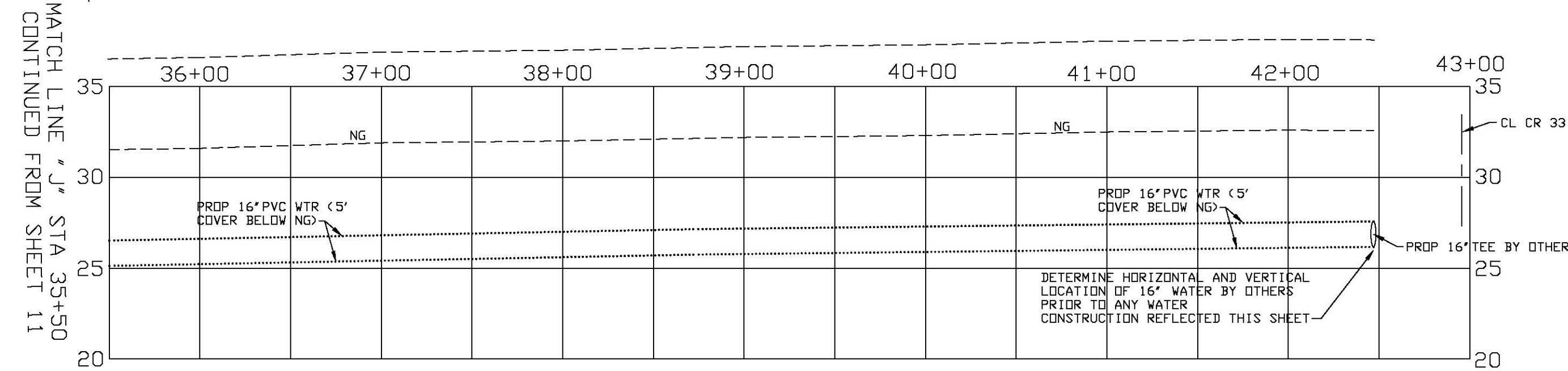
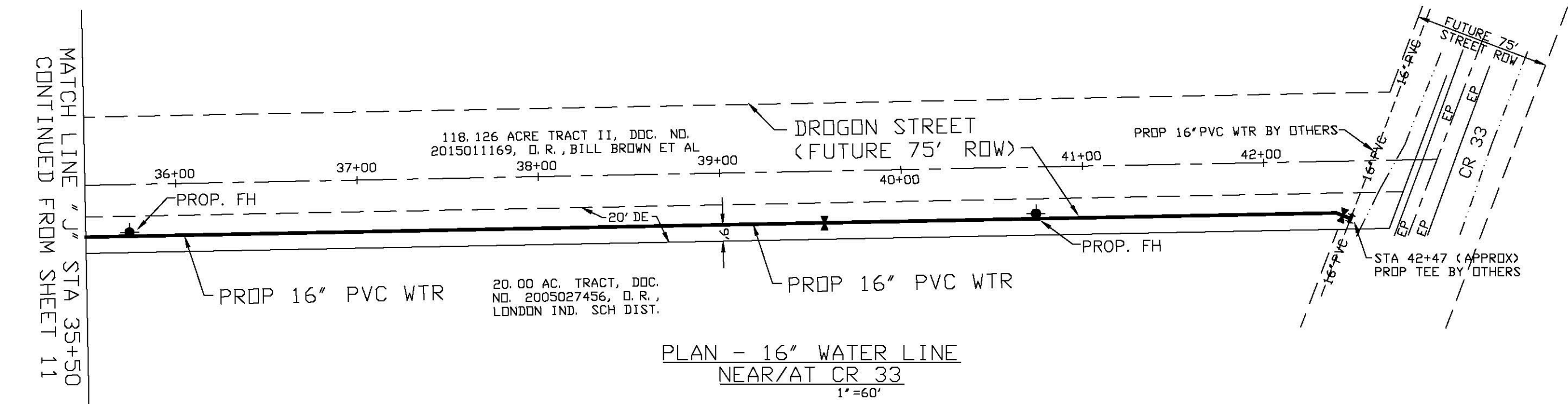
BASS & WELSH ENGINEERING
 TX SURVEY REG. NO 100027-00, TX ENGINEERING REG. NO. F-52, 3054 S. ALAMEDA STREET, CORPUS CHRISTI, TEXAS 78404

PUBLIC IMPROVEMENTS TO KING'S LANDING UNIT 1
 CORPUS CHRISTI, NUECES CO., TX
 SANITARY SEWER AND WATER PLAN AND PROFILE AND OFFSITE SANITARY SEWER AND WATER TO EAST

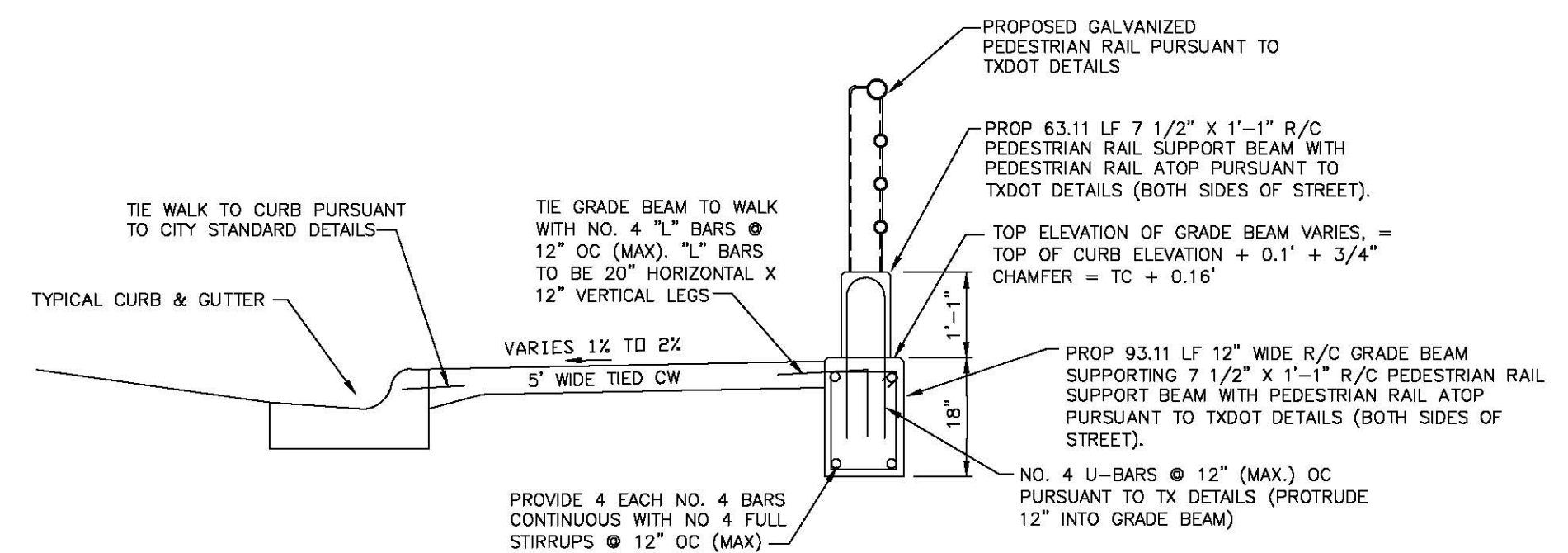
DWN. _____ PLOT SCALE: 1" = 60'
 CHK. N. WELSH SCALE (H): SAME
 DATE PLOTTED: 02/18/20 SCALE (V): NONE
 COM. NO. PG06 AS SSW
 JOB NO. 08068
 SHEET 13 OF 33

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF INTERIM REVIEW UNDER THE AUTHORITY OF NIXON M. WELSH, P.E. NO. 36240 OF BASS AND WELSH ENGINEERING, F. 52. IT IS NOT TO BE USED FOR CONSTRUCTION OR BIDDING PURPOSES.

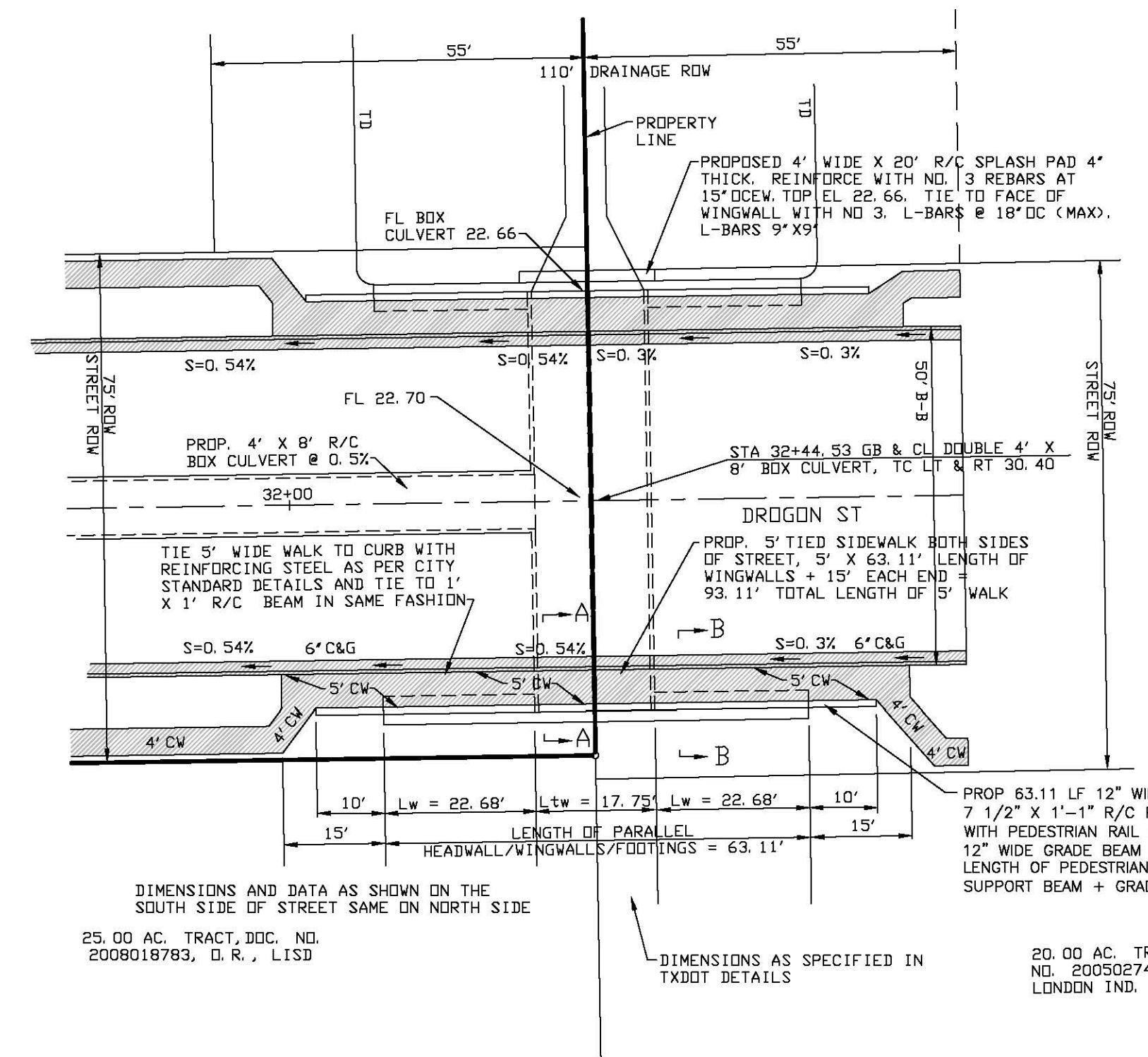




TYPICAL AIR RELEASE VALVE DETAIL
NTS



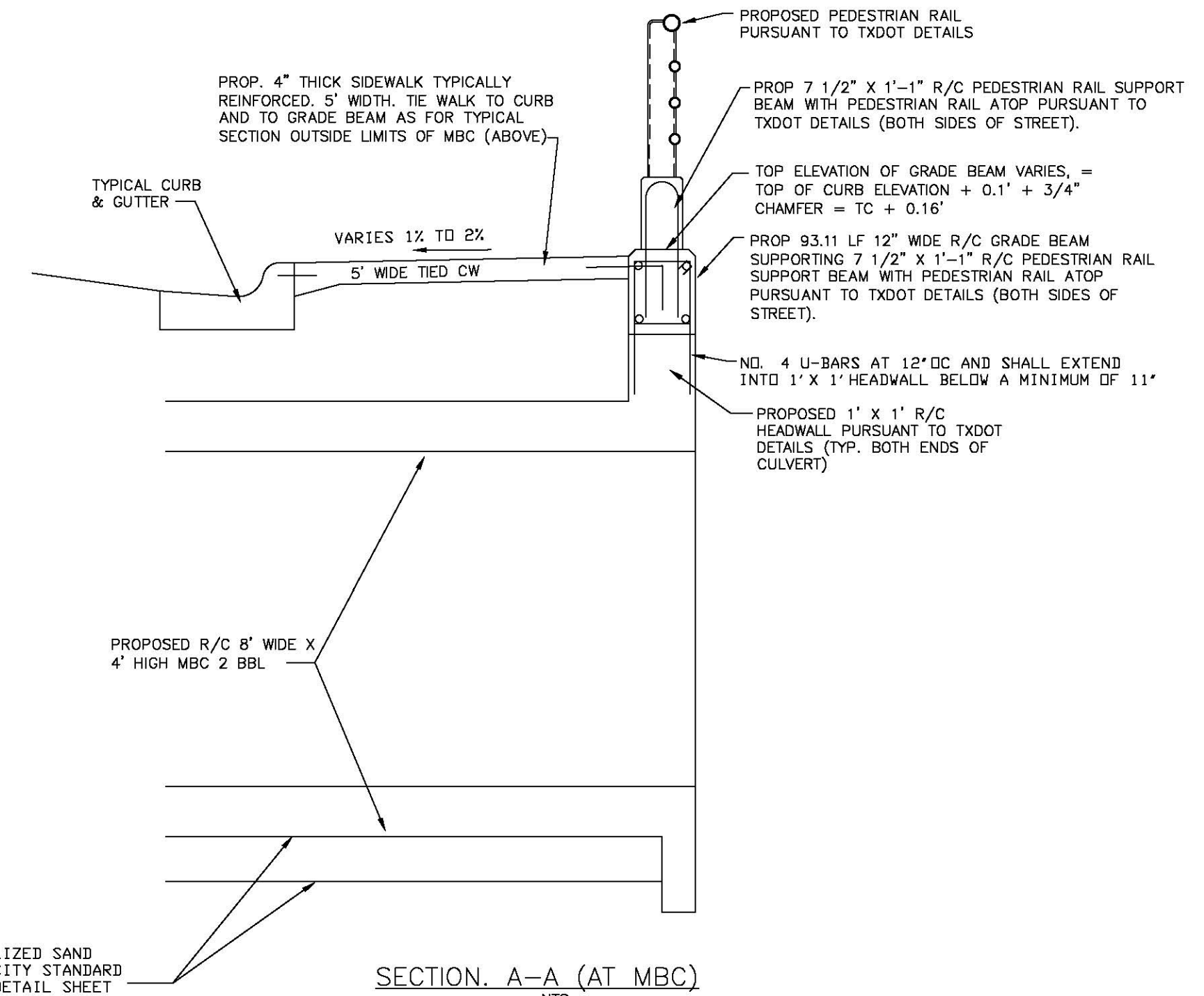
SECTION B-B (OUTSIDE LIMITS OF MBC)
NTS



PLAN - 2 BBL 4' HIGH X 8' WIDE MBC WITH PARALLEL WINGWALLS AT CROSSING OF DROGAN STREET (SHEET 5)
NTS

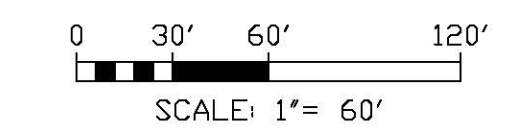
MULTIPLE BOX CULVERT NOTES:

1. THE PROPOSED TWO BARRELL 8' WIDE X 4' HIGH R/C MULTIPLE BOX CULVERT, WINGWALLS AND PEDESTRIAN RAILS SHALL BE CONSTRUCTED PURSUANT TO TXDOT DETAILS SHEETS IN THIS SET OF PLANS. THE PROPOSED MBC SHALL BE CONSTRUCTED WITH A 1' X 1' HEADWALL PROTRUDING ABOVE THE TOP OF THE MBC AND A TOEWALL PROTRUDING BELOW THE MBC, BOTH ENDS OF MULTIPLE BOX CULVERT.
2. THE REINFORCED CONCRETE WINGWALLS SHALL BE CONSTRUCTED WITH A TOEWALL PLUS THE 8" THICK WINGWALL ABOVE.
3. THE TXDOT METAL PEDESTRIAN RAIL ASSEMBLY SHALL BE CONSTRUCTED ON A 1'-1" HIGH X 7-1/2" WIDE REINFORCED CONCRETE CONTINUOUS RAIL SUPPORT BEAM CONSTRUCTED ON TOP OF THE ABOVE DESCRIBED GRADE BEAM ON TOP OF MBC AND CONSTRUCTED ON TOP OF THE PROPOSED 12" WIDE X 18" HIGH GRADE BEAM WHICH EXTENDS BEYOND THE LIMITS OF THE MBC. THE PROPOSED PEDESTRIAN RAIL SHALL TERMINATE ON BOTH SIDES OF THE MBC IN THE 12" X 18" GRADE BEAM.
4. PROVIDE 3/4" CHAMFER ALL EXPOSED EDGES OF CONCRETE STRUCTURES.
5. PAY FOR THE TWO BARRELL 8' WIDE X 4' HIGH R/C MULTIPLE BOX CULVERT, RELATED EARTHWORK, R/C WINGWALLS/FOOTINGS, R/C HEADWALLS, PEDESTRIAN RAILS, R/C BEAMS SUPPORTING PEDESTRIAN RAILS, DE-WATERING ASSOCIATED WITH THESE ITEMS AND CEMENT STABILIZED BEDDING BENEATH THE DOUBLE BOX CULVERT AS "DOUBLE 4' X 8' BOX CULVERT WITH WINGWALLS". THERE SHALL BE NO SEPARATE PAY FOR ANY OTHER WORK ASSOCIATED WITH THE DOUBLE BOX CULVERT.



SECTION A-A (AT MBC)
NTS

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF INTERIM REVIEW UNDER THE AUTHORITY OF NIXON M. WELSH, P.E. NO. 36240 OF BASS AND WELSH ENGINEERING, F. 52. IT IS NOT TO BE USED FOR CONSTRUCTION OR BIDDING PURPOSES.



BASS & WELSH ENGINEERING TX SURVEY REG. NO. 100027-00, TX ENGINEERING REG. NO. F-52, 3054 S. ALAMEDA STREET, CORPUS CHRISTI, TEXAS 78404			
PUBLIC IMPROVEMENTS TO KING'S LANDING UNIT 1 CORPUS CHRISTI, NUECES CO., TX			
WATER PLAN AND PROFILE, AIR RELEASE & VACUUM VALVE DETAIL AND MBC ENLARGED DRAWINGS			
OWN. _____	PLOT SCALE: 1" = 60'	COM. NO. PG07 AS WTR	
CHK. N. WELSH	SCALE (H): SAME	JOB NO. 08068	
	SCALE (V): NONE	DATE PLOTTED 02/18/20	SHEET 14 OF 33

POLLUTION PREVENTION NOTES

- CONSTRUCTION ENTRANCE - CONSTRUCT A PROPOSED 28' X 30' CONSTRUCTION ENTRANCE CONSISTING OF AN AREA SURFACED WITH CRUSH STONE OR GRAVEL OF SIZE 2" TO 4". THE GRAVEL OR CRUSHED STONE SHALL BE PLACED IN A MINIMUM 6" THICK LAYER AND SHALL OVERLAY A LAYER OF FILTER CLOTH MEETING THE SAME REQUIREMENTS AS FOR SILT FENCE. CONTRACTOR SHALL MAINTAIN THE CONSTRUCTION ENTRANCE IN GOOD CONDITION THROUGHOUT THE DURATION OF THE PROJECT AND SHALL REMOVE MUD OR OTHER DEBRIS FROM THE CONSTRUCTION ENTRANCE PERIODICALLY DURING THE PROJECT.
- CONSTRUCTION EQUIPMENT TRACKING - CONTRACTORS SHALL ENSURE THAT NO MUD OR ANY OTHER DEBRIS BE TRACKED ONTO ANY PAVED STREETS IN THE AREA OF THIS PROJECT. SHOULD ANY MUD OR OTHER DEBRIS BE TRACKED ONTO PAVED STREETS, CONTRACTOR SHALL IMMEDIATELY CLEANUP SAME AT HIS OWN EXPENSE.
- SILT SCREENS - CONSTRUCT SILT SCREENS AT LOCATIONS AS SHOWN IN THE PLANS. ALL SILT SCREENS SHALL MEET THE REQUIREMENTS OF CITY STANDARD SPECIFICATION 025460 SILT FENCES. THE SILT FENCES SHALL BE INSPECTED THROUGHOUT THE CONSTRUCTION PERIOD ON A WEEKLY BASIS AND SHALL BE REPAIRED/REPLACED AS NECESSARY.
- SOLID WASTE DISPOSAL - ALL TRASH AND DEBRIS WILL BE HAULLED TO AN APPROVED LANDFILL. NO CONSTRUCTION WASTE MATERIAL WILL BE BURIED ON-SITE. ALL PERSONNEL WILL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL. NOTICES STATING THESE PRACTICES SHALL BE POSTED AT THE JOB SITE.
- HAZARDOUS WASTE - NO HAZARDOUS WASTE IS EXPECTED TO BE GENERATED OR ENCOUNTERED IN THIS PROJECT. IN THE EVENT THAT HAZARDOUS WASTE IS ENCOUNTERED, ALL HAZARDOUS WASTE MATERIALS WILL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATIONS OR BY THE MANUFACTURER.
- SPILL PREVENTION - THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT WILL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES TO STORM WATER RUNOFF. AN EFFORT WILL BE MADE TO STORE ONLY ENOUGH PRODUCT REQUIRED TO DO THIS JOB. ALL MATERIALS STORED ON-SITE WILL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR APPROPRIATE CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE. PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH THE ORIGINAL MANUFACTURER'S LABEL. SUBSTANCES WILL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER. WHENEVER POSSIBLE, ALL OF THE PRODUCT WILL BE USED UP BEFORE DISPOSING THE CONTAINER. MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL WILL BE FOLLOWED. THE SITE SUPERINTENDENT WILL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS ON-SITE. FUELING OF CONSTRUCTION VEHICLES SHALL BE MADE A MINIMUM OF 200' AWAY FROM ANY DRAINAGE INLET OR SWALE.
- PAY FOR SILT SCREEN FENCES, STABILIZED CONSTRUCTION ENTRANCE AND ALL POLLUTION PREVENTION MEASURES OF ALL TYPES IN UNIT PRICE OF "STORM WATER POLLUTION PREVENTION".
- CONTRACTOR SHALL ENSURE DUST ON THE SITE IS CONTROLLED (NOT ALLOWED TO BLOW TO ADJACENT PROPERTY) BY DAMPENING DURING CONSTRUCTION.
- CONCRETE TRUCKS WILL NOT BE ALLOWED TO WASH OUT ANYWHERE ON THE PROJECT SITE UNLESS THE SURPLUS CONCRETE OR DRUM WASH WATER IN CONCRETE TRUCKS IS DISCHARGED AT A FACILITY ON THE CONSTRUCTION SITE THAT WILL RETAIN ALL CONCRETE WASH WATERS OR LEACHATES, INCLUDING ANY WASH WATERS OR LEACHATES MIXED WITH STORM WATER. CONCRETE WASH WATERS AND LEACHATES MAY NOT BE ALLOWED TO ENTER THE MUNICIPAL SEWER SYSTEM, CITY STREETS, THE WATERS OF THE UNITED STATES, OR GROUND WATERS.
- NON-CONCRETE TRUCK VEHICLES SHALL BE WASHED AT THE STABILIZED CONSTRUCTION ENTRANCE IN A MANNER TO REMOVE ALL MUD AND DEBRIS FROM THE TIRES.
- THE TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM (TPDES) GENERAL PERMIT REQUIRES STABILIZATION MEASURES TO BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, AND MUST BE INITIATED IMMEDIATELY AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. CONSTRUCTION TEMPORARILY CEASED - "IMMEDIATELY" MEANS AS SOON AS PRACTICABLE, BUT NO LATER THAN THE END OF THE NEXT WORK DAY. EXCEPT WHERE TEMPORARY STABILIZATION IS INFEASIBLE, BUT TEMPORARY PERIMETER CONTROLS ARE UTILIZED INSTEAD, THE OPERATOR MUST DOCUMENT WHY STABILIZATION IS INFEASIBLE AND DEMONSTRATE THAT PERIMETER CONTROLS WILL RETAIN SEDIMENT ON-SITE. CONSTRUCTION PERMANENTLY CEASED - "IMMEDIATELY" MEANS AS SOON AS PRACTICABLE, BUT NO MORE THAN 14 DAYS AFTER INITIATION, EXCEPT WHERE THE INITIATION OF PERMANENT STABILIZATION MEASURES IS PRECLUDED BY SNOW COVER OR FROZEN GROUND CONDITIONS, STABILIZATION MEASURES MUST BE INITIATED AS SOON AS PRACTICABLE.

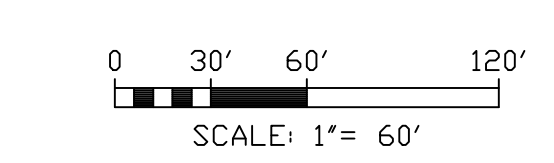
SEDIMENTATION SCREENING FENCE

SEE CITY STANDARD STORM WATER POLLUTION PREVENTION DETAILS FOR CONSTRUCTION

CCR 015700
TEMPORARY CONTROLS

ALL STORM WATER POLLUTION WORK SHALL BE DONE IN ACCORDANCE WITH CCR 015700 "TEMPORARY CONTROLS". THIS SPECIFICATION SHALL BE OBTAINED BY CONTRACTOR FROM THE CITY ENGINEERING SERVICES DEPARTMENT OR ON LINE AT THE CITY'S WEB SITE, ENGINEERING SERVICES DEPARTMENT, PROCESS, STANDARDS AND CONTRACTS, FRONT END CONSTRUCTION CONTRACT DOCUMENTS, DIVISION 01.

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF INTERIM REVIEW UNDER THE AUTHORITY OF NIKON M. WELSH, P.E. NO. 36240 OF BASS AND WELSH ENGINEERING, F 52. IT IS NOT TO BE USED FOR CONSTRUCTION OR BIDDING PURPOSES.



BASS & WELSH ENGINEERING
TX SURVEY REG. NO. 100027-00, TX ENGINEERING REG. NO. F-52, 3054 S. ALAMEDA STREET, CORPUS CHRISTI, TEXAS 78404
PUBLIC IMPROVEMENTS TO KING'S LANDING UNIT 1 CORPUS CHRISTI, TEXAS
NECES CD, TX

STORM WATER POLLUTION PREVENTION PLAN & ESTIMATE SUMMARY

DATE PLOTTED: 02/18/20
SHEET 15 OF 33

COM. NO. P01 AS SWPPP
JOB NO. 18088
SCALE: 1" = 60'
DATE: 02/18/20

ESTIMATE SUMMARY

STREET AND SURFACE ITEMS			
ITEM	DESCRIPTION	QUANTITY	UNIT
1	6" CURB & GUTTER	24361	LF
2	4" THICK R/C WALK	97260	SF
3	4" H/MAC	26158	SY
4	2" H/MAC	24384	SY
5	11" CRUSHED LIMESTONE BASE TO 2'BC	30395	SY
6	8" CRUSHED LIMESTONE BASE TO 2'BC	11330	SY
7	6" CRUSHED LIMESTONE BASE TO 2'BC	19866	SY
8	8" LIME STABILIZED SUBGRADE TO 2'BC	61591	SY
9	END OF ROAD BARRICADE (OBJECT MARKERS)	11	SETS
10	EXCAVATION	1	LS
11	CLEARING & GRUBBING	60	AC
12	STREET SIGNS	17	EA

OVERWIDTH/OVERDEPTH 50'BB STREET FROM 28' BB STREET			
ITEM	DESCRIPTION	QUANTITY	UNIT
1	OVERWIDTH OF 2" H/MAC	12472	SY
2	OVERWIDTH OF 11" CRUSHED LIMESTONE BASE	12472	SY
3	OVERWIDTH OF 8" LIME STABILIZED SUBGRADE	12472	SY
4	OVERDEPTH OF 11" CRUSHED LIMESTONE BASE (11"-6"=5"), HENCE 5" CRUSHED LIMESTONE BASE	13605	SY

STORM SEWER ITEMS			
ITEM	DESCRIPTION	QUANTITY	UNIT
1	15" RCP	710	LF
2	18" RCP	159	LF
3	21" RCP	993	LF
4	24" RCP	515	LF
5	27" RCP	114	LF
6	30" RCP	211	LF
7	36" RCP	99	LF
8	42" RCP	173	LF
9	48" RCP	1796	LF
10	54" RCP	180	LF
11	60" RCP	164	LF
12	4'X6' R/C BOX CULVERT	1971	LF
13	4'X8' R/C BOX CULVERT	1324	LF
14	6'X8' R/C BOX CULVERT	378	LF
15	R/C RIPRAP STRUCTURE AT PIPE END AT DITCH	1	EA
16	R/C COLLAR AT JUNCTION OF PIPE TO BOX CULVERT OR BOX CULVERT TO BOX CULVERT	3	EA
17	5" INLET	38	EA
18	7" OR 8" INLET	9	EA
19	STORM MANHOLE	7	EA
20	SET FOR 24" RCP	4	EA
21	MANHOLE RISER ON BOX CULVERT	7	EA
22	DOUBLE 4'X8' R/C CULVERT W/WINGWALLS	1	LS
23	TEMPORARY DRAINAGE CHANNEL EXCAVATION SHEETS 6 & 7	1	LS
24	REBAR INSTALLATION IN 54" RCP, QARTH ST	1	LS
25	REBAR INSTALLATION IN 6' X 8' BOX CULVERT, SHEET 23	1	LS
26	OFFSITE TEMPORARY DRAINAGE CHANNEL EXCAVATION (CHANNEL RUNNING NORTH FROM IRON THRONE STREET)	1	LS
27	4" THICK R/C CHANNEL LINING	765	SF

SANITARY SEWER ITEMS (DOES NOT INCLUDE ANY OFFSITE SS)			
ITEM	DESCRIPTION	QUANTITY	UNIT
1	18" PVC PIPE	176	LF
2	DEWATERING FOR 18" PVC PIPE	176	LF
3	12" PVC PIPE	5693	LF
4	DEWATERING FOR 12" PVC PIPE	5693	LF
5	10" PVC PIPE	899	LF
6	8" PVC PIPE	4761	LF
7	4" OR 6" PVC PIPE SERVICE	163	EA
8	MANHOLE	31	EA
9	DEEP CUT SERVICE CONNECTION	2	EA
10	8" PVC DROP CONNECTION	31	LF
11	12" PVC DROP CONNECTION	3	LF

WATER GRID MAIN ITEMS REIMBURSABLE BY CITY			
ITEM	DESCRIPTION	QUANTITY	UNIT
1	16" PVC PIPE	5665	LF
2	16" TAPPING SADDLE & 16" TAPPING GATE VALVE W/BOX	2	EA
3	16" TEE	23	EA
4	16" GATE VALVE W/BOX	12	EA
5	16" CROSS	3	EA
6	16" EL, ANY ANGLE	21	EA
7	16" X 12" REDUCER	1	EA
8	DEWATERING FOR 16" PVC PIPE	1150	LF
9	TRENCH SAFETY FOR 12" & 16" PIPES	6041	LF
10	12" GATE VALVE W/BOX	2	EA
11	12" TEE	5	EA
12	12" PVC PIPE	376	LF
13	12" CAP TAPPED FOR 2"	1	EA
14	AIR RELEASE AND VACUUM VALVE IN FG MH	2	EA
15	FIRE HYDRANT ASSEMBLY	17	EA
16	6" X 30" PVC PIPE NIPPLE	54	EA
17	6" 90° EL	17	EA
18	6" GATE VALVE W/BOX	17	EA

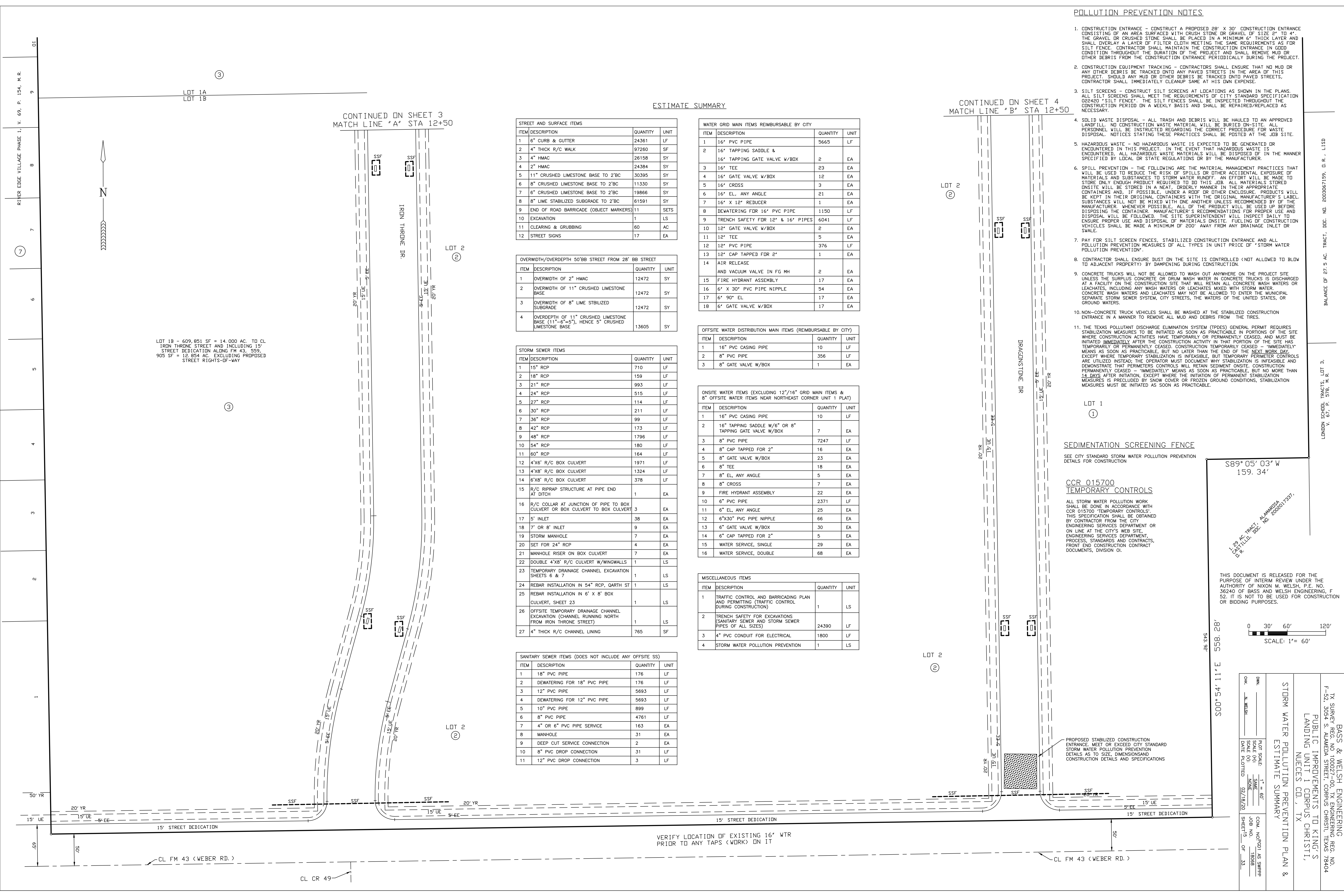
OFFSITE WATER DISTRIBUTION MAIN ITEMS (REIMBURSABLE BY CITY)			
ITEM	DESCRIPTION	QUANTITY	UNIT
1	16" PVC CASING PIPE	10	LF
2	8" PVC PIPE	356	LF
3	8" GATE VALVE W/BOX	1	EA

ONSITE WATER ITEMS (EXCLUDING 12"/16" GRID MAIN ITEMS & 8" OFFSITE WATER ITEMS NEAR NORTHEAST CORNER UNIT 1 PLAT)			
ITEM	DESCRIPTION	QUANTITY	UNIT
1	16" PVC CASING PIPE	10	LF
2	16" TAPPING SADDLE W/6" OR 8" TAPPING GATE VALVE W/BOX	7	EA
3	8" PVC PIPE	7247	LF
4	8" CAP TAPPED FOR 2"	16	EA
5	8" GATE VALVE W/BOX	23	EA
6	8" TEE	18	EA
7	8" EL, ANY ANGLE	5	EA
8	8" CROSS	7	EA
9	FIRE HYDRANT ASSEMBLY	22	EA
10	6" PVC PIPE	2371	LF
11	6" EL, ANY ANGLE	25	EA
12	6"X30" PVC PIPE NIPPLE	66	EA
13	6" GATE VALVE W/BOX	30	EA
14	6" CAP TAPPED FOR 2"	5	EA
15	WATER SERVICE, SINGLE	29	EA
16	WATER SERVICE, DOUBLE	68	EA

MISCELLANEOUS ITEMS			
ITEM	DESCRIPTION	QUANTITY	UNIT
1	TRAFFIC CONTROL AND BARRICADING PLAN AND PERMITTING (TRAFFIC CONTROL DURING CONSTRUCTION)	1	LS
2	TRENCH SAFETY FOR EXCAVATIONS (SANITARY SEWER AND STORM SEWER PIPES OF ALL SIZES)	24390	LF
3	4" PVC CONDUIT FOR ELECTRICAL	1800	LF
4	STORM WATER POLLUTION PREVENTION	1	LS

CONTINUED ON SHEET 4
MATCH LINE "B" STA 12+50

CONTINUED ON SHEET 3
MATCH LINE "A" STA 12+50



VERIFY LOCATION OF EXISTING 16" WTR PRIOR TO ANY TAPS (WORK) ON IT

PROPOSED STABILIZED CONSTRUCTION ENTRANCE, MEET OR EXCEED CITY STANDARD STORM WATER POLLUTION PREVENTION DETAILS AS TO SIZE, DIMENSIONS AND CONSTRUCTION DETAILS AND SPECIFICATIONS

CL FM 43 (WEBER RD.)

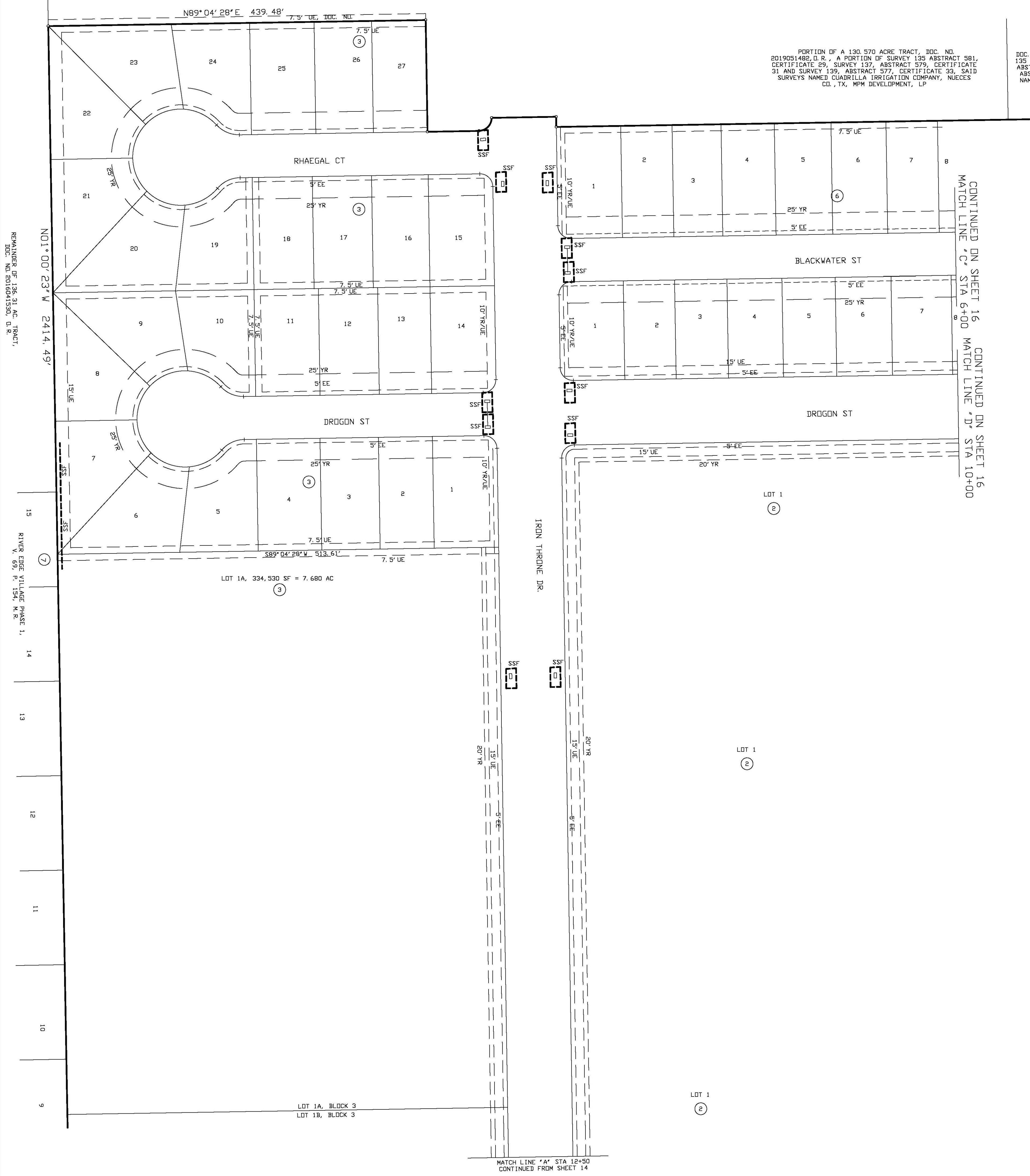
CL FM 43 (WEBER RD.)

CL CR 49

BALANCE OF 27.5 AC. TRACT. DEC. NO. 2003067159, D. R. L. 13SD
LONDON SCHAFFNER TRACTS, N. R. 9,
V. 67, P. 1, 576, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600

PORTION OF A 130.570 ACRE TRACT, DOC. NO. 2019051482, D.R., A PORTION OF SURVEY 135 ABSTRACT 581, CERTIFICATE 29, SURVEY 137, ABSTRACT 579, CERTIFICATE 31 AND SURVEY 139, ABSTRACT 577, CERTIFICATE 33, SAID SURVEYS NAMED CUADRILLA IRRIGATION COMPANY, NUECES CO., TX, MPM DEVELOPMENT, LP

PORTION OF A 293.041 ACRE TRACT, DOC. NO. 201905726, D.R., A PORTION OF SURVEY 135 ABSTRACT 581, CERTIFICATE 29, SURVEY 137, ABSTRACT 579, CERTIFICATE 31 AND SURVEY 139, ABSTRACT 577, CERTIFICATE 33, SAID SURVEYS NAMED CUADRILLA IRRIGATION COMPANY, NUECES CO., TX, MPM DEVELOPMENT, LP

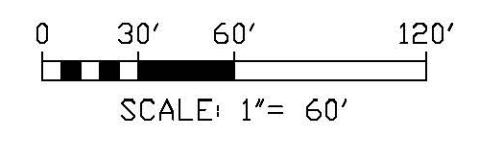


REMAINDER OF 136.31 AC. TRACT, DOC. NO. 2016041530, D.R.

RIVER EDGE VILLAGE PHASE 1, 154' W.R.

9
10
11
12
13
14
15

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF INTERIM REVIEW UNDER THE AUTHORITY OF NIXON M. WELSH, P.E. NO. 36240 OF BASS AND WELSH ENGINEERING, F 52. IT IS NOT TO BE USED FOR CONSTRUCTION OR BIDDING PURPOSES.



BASS & WELSH ENGINEERING TX SURVEY REG. NO. 100027-00, TX ENGINEERING REG. NO. F-52, 3054 S. ALAMEDA STREET, CORPUS CHRISTI, TEXAS 78404			
PUBLIC IMPROVEMENTS TO KING'S LANDING UNIT 1 CORPUS CHRISTI, NUECES CO., TX			
STORM WATER POLLUTION PREVENTION PLAN			
DWN.	PLOT SCALE: 1" = 60'	COM. NO.	PG02 AS SWPPP
CHK. N. WELSH	SCALE (H): SAME	JOB NO.	08068
	SCALE (V): NONE	DATE PLOTTED	02/18/20
			SHEET 18 OF 33

PORTION OF A 120.570 ACRE TRACT, DDC. NO. 2019051482, D.R., A PORTION OF SURVEY 135 ABSTRACT 581, CERTIFICATE 29, SURVEY 137, ABSTRACT 579, CERTIFICATE 31 AND SURVEY 139, ABSTRACT 577, CERTIFICATE 33, SAID SURVEYS NAMED CUADRILLA IRRIGATION COMPANY, NUECES CO., TX, MPM DEVELOPMENT, LP

PORTION OF A 293.041 ACRE TRACT, DDC. NO. 2019035726, D.R., A PORTION OF SURVEY 135 ABSTRACT 581, CERTIFICATE 29, SURVEY 137, ABSTRACT 579, CERTIFICATE 31 AND SURVEY 139, ABSTRACT 577, CERTIFICATE 33, SAID SURVEYS NAMED CUADRILLA IRRIGATION COMPANY, NUECES CO., TX, MPM DEVELOPMENT, LP



MATCH LINE 'C' STA 6+00
CONTINUED FROM SHEET 15

MATCH LINE 'D' STA 10+00
CONTINUED FROM SHEET 15

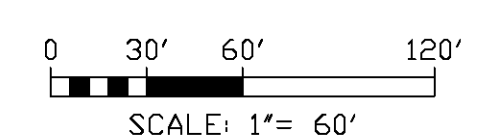
CONTINUED ON SHEET 17
MATCH LINE 'E' STA 18+00

MATCH LINE 'B' STA 12+50
CONTINUED FROM SHEET 14

25.00 AC. TRACT, DDC. NO. 2008018783, D.R., L1SD

25.00 AC. TRACT, DDC. NO. 2008018783, D.R., L1SD

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF INTERIM REVIEW UNDER THE AUTHORITY OF NIXON M. WELSH, P.E. NO. 36240 OF BASS AND WELSH ENGINEERING, F 52. IT IS NOT TO BE USED FOR CONSTRUCTION OR BIDDING PURPOSES.



BASS & WELSH ENGINEERING TX SURVEY REG. NO. 100027-00, TX ENGINEERING REG. NO. F-52, 3054 S. ALAMEDA STREET, CORPUS CHRISTI, TEXAS 78404		
PUBLIC IMPROVEMENTS TO KING'S LANDING UNIT 1 CORPUS CHRISTI, NUECES CO., TX		
STORM WATER POLLUTION PREVENTION PLAN		
DWN. _____	PLOT SCALE: 1" = 60'	COM. NO. PG03 AS SWPPP
CHK. N. WELSH	SCALE (H): SAME	JOB NO. 08068
	SCALE (V): NONE	DATE PLOTTED 02/18/20
		SHEET 17 OF 33

PORTION OF A 293.041 ACRE TRACT,
 DDC NO. 201903726, D.R., A PORTION OF SURVEY
 135 ABSTRACT 581, CERTIFICATE 29, SURVEY 137,
 ABSTRACT 579, CERTIFICATE 31 AND SURVEY 139,
 ABSTRACT 577, CERTIFICATE 33, SAID SURVEYS
 NAMED CUADRILLA IRRIGATION COMPANY, NUECES
 CO., TX, MPM DEVELOPMENT, LP

CONTINUED ON SHEET 18
 MATCH LINE "F" STA 4+75

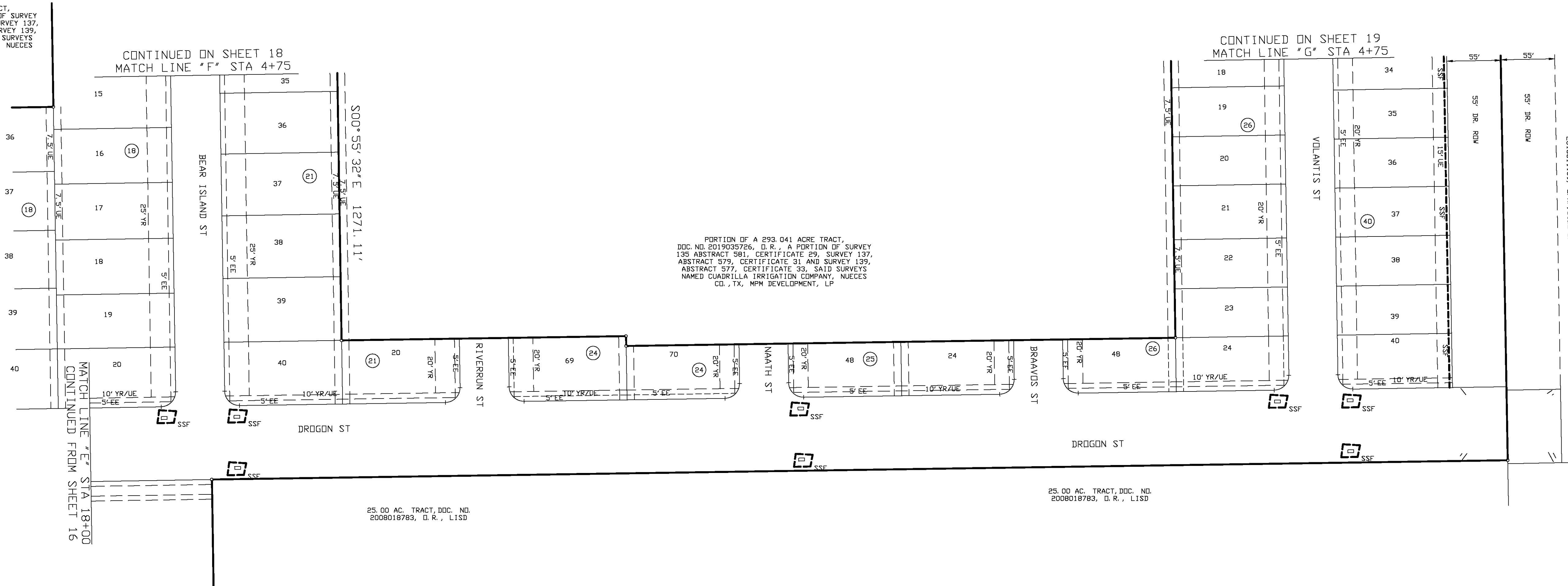
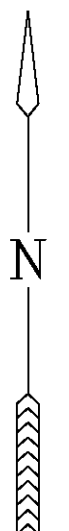
CONTINUED ON SHEET 19
 MATCH LINE "G" STA 4+75

PORTION OF A 293.041 ACRE TRACT,
 DDC NO. 201903726, D.R., A PORTION OF SURVEY
 135 ABSTRACT 581, CERTIFICATE 29, SURVEY 137,
 ABSTRACT 579, CERTIFICATE 31 AND SURVEY 139,
 ABSTRACT 577, CERTIFICATE 33, SAID SURVEYS
 NAMED CUADRILLA IRRIGATION COMPANY, NUECES
 CO., TX, MPM DEVELOPMENT, LP

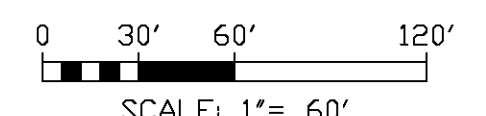
25.00 AC. TRACT, DDC. NO.
 2008018783, D.R., LISD

25.00 AC. TRACT, DDC. NO.
 2008018783, D.R., LISD

20.00 AC. TRACT, DDC.
 NO. 2005027456, D.R.,
 LONDON IND. SCH. DIST.



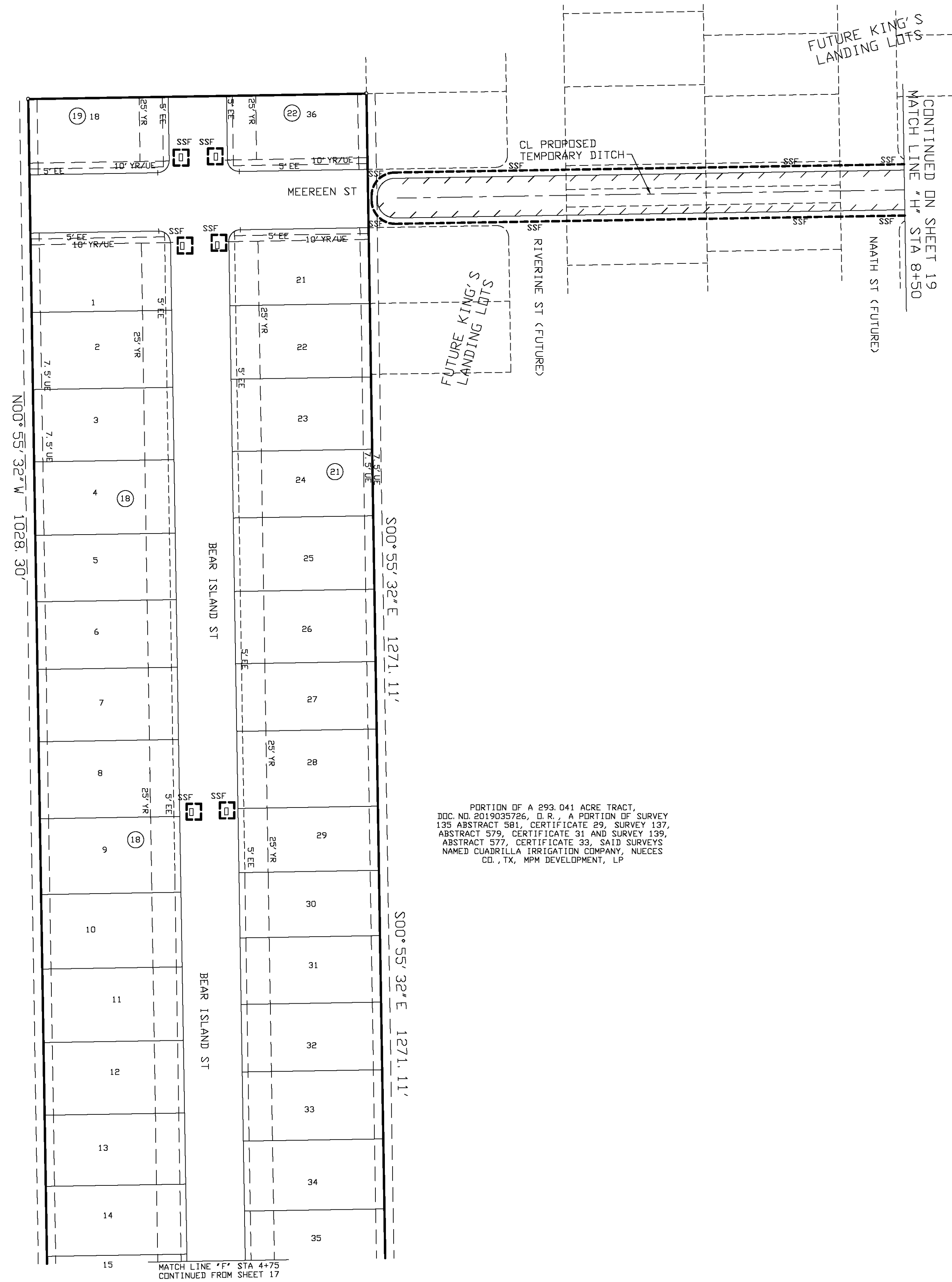
THIS DOCUMENT IS RELEASED FOR THE
 PURPOSE OF INTERIM REVIEW UNDER
 THE AUTHORITY OF NIXON M. WELSH,
 P.E. NO. 36240 OF BASS AND WELSH
 ENGINEERING, F 52. IT IS NOT TO BE
 USED FOR CONSTRUCTION OR BIDDING
 PURPOSES.



BASS & WELSH ENGINEERING TX SURVEY REG. NO. 100027-00, TX ENGINEERING REG. NO. F-52, 3054 S. ALAMEDA STREET, CORPUS CHRISTI, TEXAS 78404			
PUBLIC IMPROVEMENTS TO KING'S LANDING UNIT 1 CORPUS CHRISTI, NUECES CO., TX			
STORM WATER POLLUTION PREVENTION PLAN			
DWN. _____	PLOT SCALE: 1" = 60'	COM. NO. PGD4 AS SWPPP	
CHK. N. WELSH	SCALE (H): SAME	JOB NO. 08068	
	SCALE (V): NONE	DATE PLOTTED 02/18/20	SHEET 18 OF 33



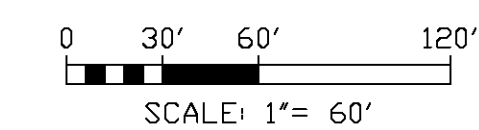
PORTION OF A 293.041 ACRE TRACT,
 DDC NO. 2019035726, D.R., A PORTION OF SURVEY
 135 ABSTRACT 561, CERTIFICATE 29, SURVEY 137,
 ABSTRACT 579, CERTIFICATE 31 AND SURVEY 139,
 ABSTRACT 577, CERTIFICATE 33, SAID SURVEYS
 NAMED CUADRILLA IRRIGATION COMPANY, NUECES
 CO., TX, MPM DEVELOPMENT, LP



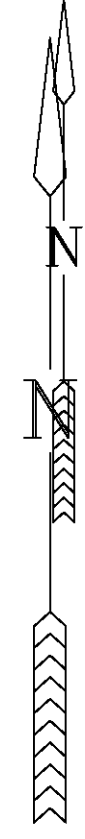
PORTION OF A 293.041 ACRE TRACT,
 DDC NO. 2019035726, D.R., A PORTION OF SURVEY
 135 ABSTRACT 561, CERTIFICATE 29, SURVEY 137,
 ABSTRACT 579, CERTIFICATE 31 AND SURVEY 139,
 ABSTRACT 577, CERTIFICATE 33, SAID SURVEYS
 NAMED CUADRILLA IRRIGATION COMPANY, NUECES
 CO., TX, MPM DEVELOPMENT, LP

PORTION OF A 293.041 ACRE TRACT,
 DDC NO. 2019035726, D.R., A PORTION OF SURVEY
 135 ABSTRACT 561, CERTIFICATE 29, SURVEY 137,
 ABSTRACT 579, CERTIFICATE 31 AND SURVEY 139,
 ABSTRACT 577, CERTIFICATE 33, SAID SURVEYS
 NAMED CUADRILLA IRRIGATION COMPANY, NUECES
 CO., TX, MPM DEVELOPMENT, LP

THIS DOCUMENT IS RELEASED FOR THE
 PURPOSE OF INTERIM REVIEW UNDER
 THE AUTHORITY OF NIXON M. WELSH,
 P.E. NO. 36240 OF BASS AND WELSH
 ENGINEERING, F 52. IT IS NOT TO BE
 USED FOR CONSTRUCTION OR BIDDING
 PURPOSES.



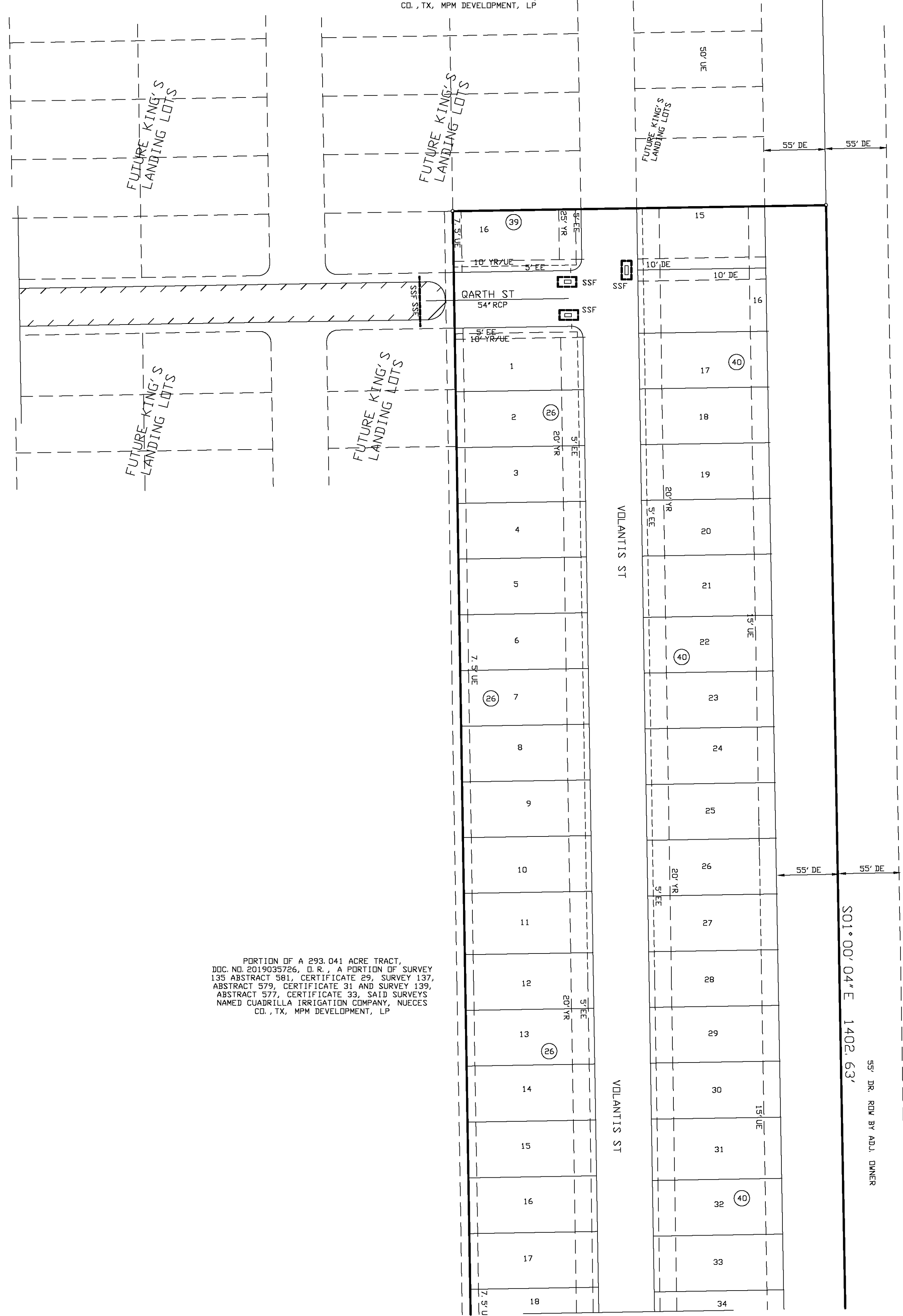
BASS & WELSH ENGINEERING TX SURVEY REG. NO 100027-00, TX ENGINEERING REG. NO. F-52, 3054 S. ALAMEDA STREET, CORPUS CHRISTI, TEXAS 78404			
PUBLIC IMPROVEMENTS TO KING'S LANDING UNIT 1 CORPUS CHRISTI, NUECES CO., TX			
STORM WATER POLLUTION PREVENTION PLAN			
DWN. _____	PLOT SCALE: 1" = 60'	COM. NO. _____	PGS AS SWPPP
CHK. N. WELSH	SCALE (H): SAME	JOB NO. 08068	
	SCALE (V): NONE	DATE PLOTTED 02/18/20	SHEET 19 OF 33



PORTION OF A 293.041 ACRE TRACT,
 DDC NO. 2019035726, D. R., A PORTION OF SURVEY
 135 ABSTRACT 981, CERTIFICATE 29, SURVEY 137,
 ABSTRACT 579, CERTIFICATE 31 AND SURVEY 139,
 ABSTRACT 577, CERTIFICATE 33, SAID SURVEYS
 NAMED CUADRILLA IRRIGATION COMPANY, NUECES
 CO., TX, MPM DEVELOPMENT, LP

PORTION OF A 293.041 ACRE TRACT,
 DDC NO. 2019035726, D. R., A PORTION OF SURVEY
 135 ABSTRACT 981, CERTIFICATE 29, SURVEY 137,
 ABSTRACT 579, CERTIFICATE 31 AND SURVEY 139,
 ABSTRACT 577, CERTIFICATE 33, SAID SURVEYS
 NAMED CUADRILLA IRRIGATION COMPANY, NUECES
 CO., TX, MPM DEVELOPMENT, LP

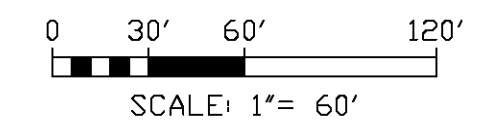
PORTION OF A 293.041 ACRE TRACT,
 DDC NO. 2019035726, D. R., A PORTION OF SURVEY
 135 ABSTRACT 981, CERTIFICATE 29, SURVEY 137,
 ABSTRACT 579, CERTIFICATE 31 AND SURVEY 139,
 ABSTRACT 577, CERTIFICATE 33, SAID SURVEYS
 NAMED CUADRILLA IRRIGATION COMPANY, NUECES
 CO., TX, MPM DEVELOPMENT, LP



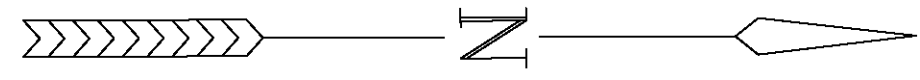
2019011159, D. R., STILL IRON, ET AL

MATCH LINE "G" STA 4+75
 CONTINUED FROM SHEET 17

THIS DOCUMENT IS RELEASED FOR THE
 PURPOSE OF INTERIM REVIEW UNDER
 THE AUTHORITY OF NIXON M. WELSH,
 P.E. NO. 36240 OF BASS AND WELSH
 ENGINEERING, F. 52. IT IS NOT TO BE
 USED FOR CONSTRUCTION OR BIDDING
 PURPOSES.

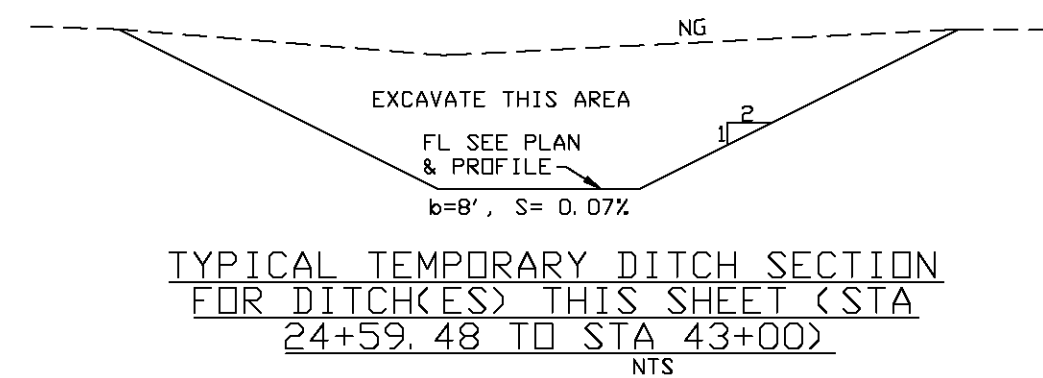
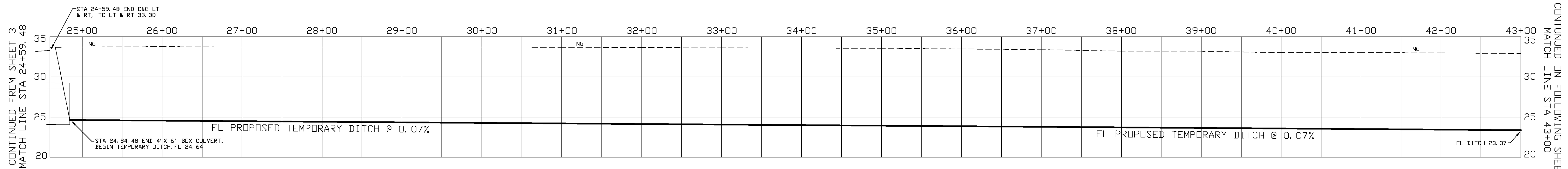
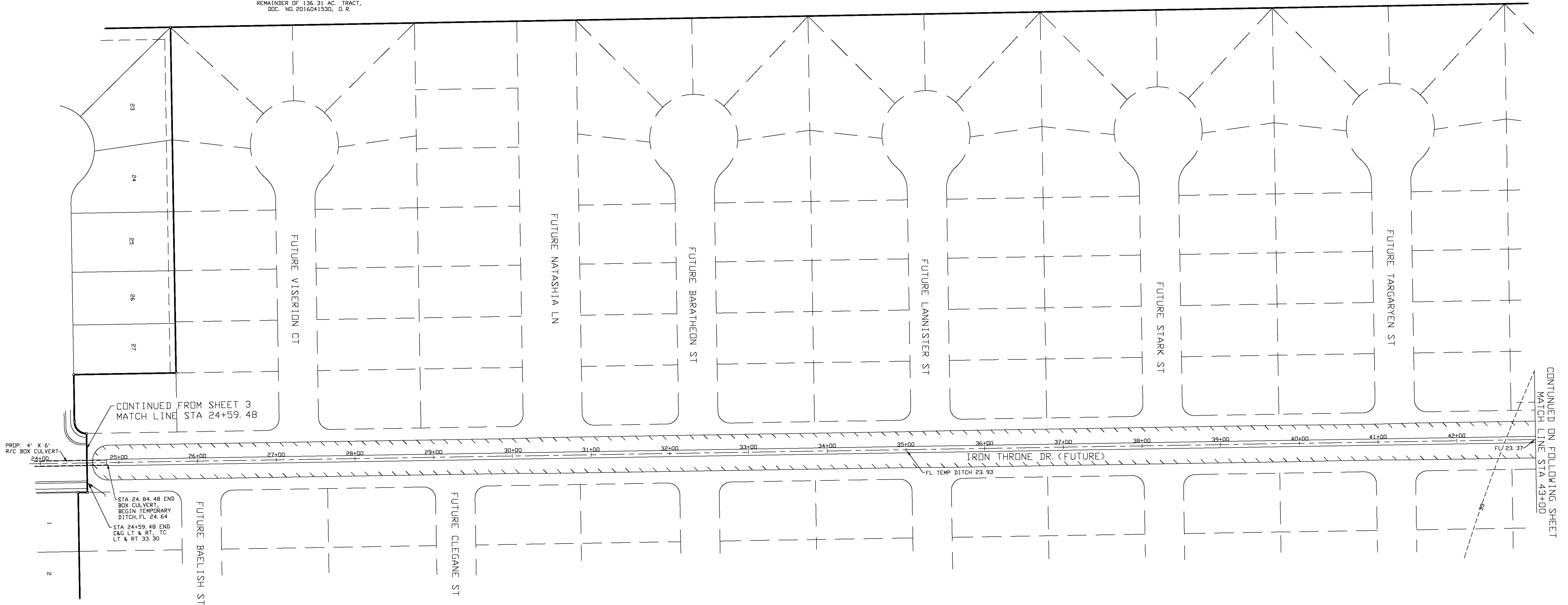


BASS & WELSH ENGINEERING TX SURVEY REG. NO 100027-00, TX ENGINEERING REG. NO. F-52, 3054 S. ALAMEDA STREET, CORPUS CHRISTI, TEXAS 78404		
PUBLIC IMPROVEMENTS TO KING'S LANDING UNIT 1 CORPUS CHRISTI, NUECES CO., TX		
STORM WATER POLLUTION PREVENTION PLAN		
DWN. _____	PLOT SCALE: 1" = 60'	COM. NO. PG06 AS SWPPP
CHK: N. WELSH	SCALE (H): SAME	JOB NO. 08068
	SCALE (V): NONE	SHEET 20 OF 33
	DATE PLOTTED: 02/18/20	



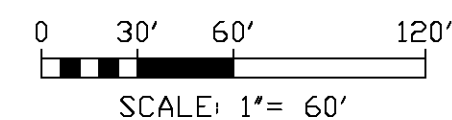
REMAINDER OF 136.31 AC. TRACT,
DOC. NO. 2016041530, D. R.

REMAINDER OF 136.31 AC. TRACT,
DOC. NO. 2016041530, D. R.



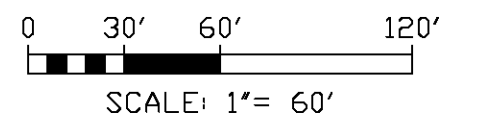
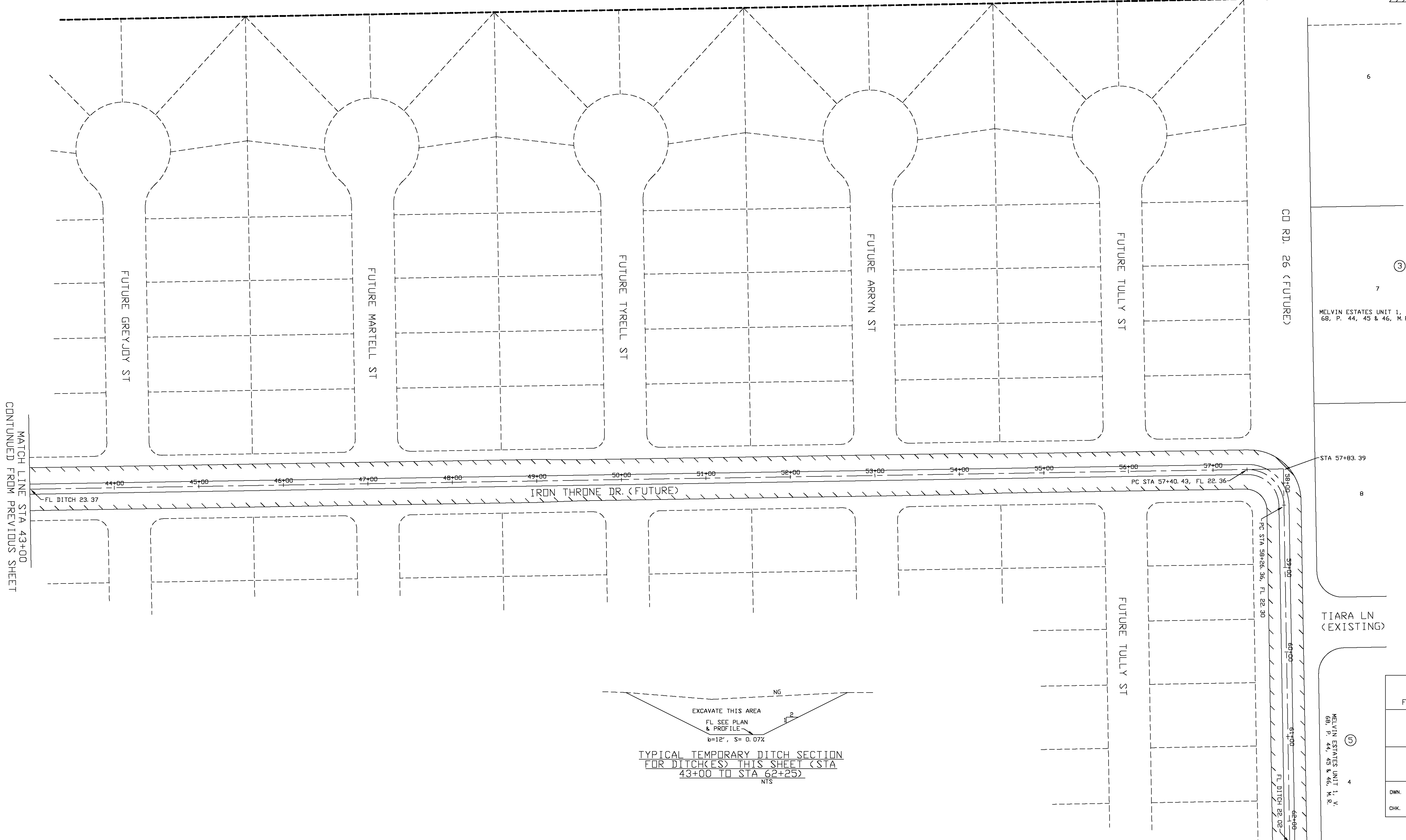
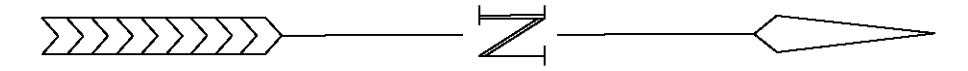
PROFILE - OFFSITE TEMPORARY DRAINAGE CHANNEL

THIS DOCUMENT IS RELEASED FOR THE
PURPOSE OF INTERIM REVIEW UNDER THE
AUTHORITY OF NIXON M. WELSH, P.E. NO.
36240 OF BASS AND WELSH ENGINEERING, F
52. IT IS NOT TO BE USED FOR CONSTRUCTION
OR BIDDING PURPOSES.



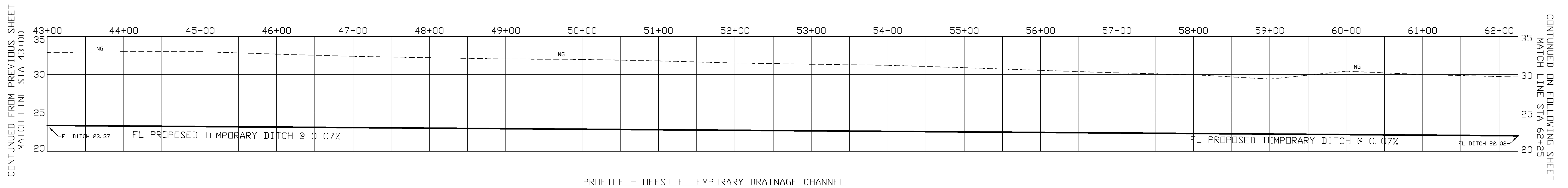
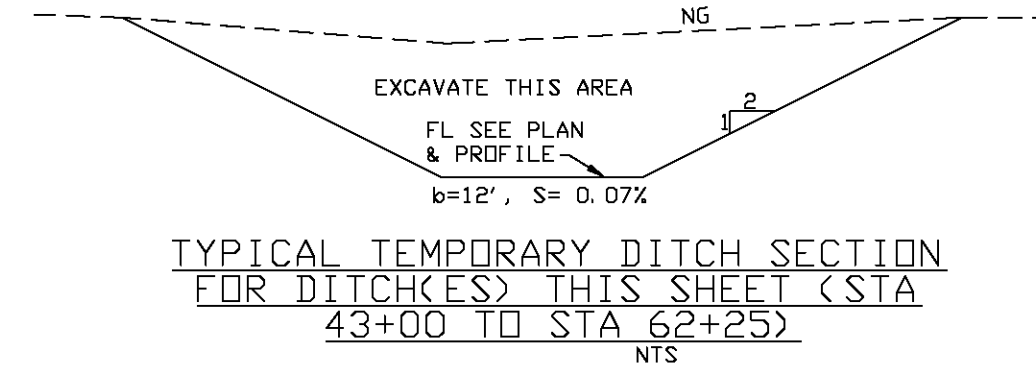
BASS & WELSH ENGINEERING TX SURVEY REG. NO. 100027-00, TX ENGINEERING REG. NO. F-52, 3054 S. ALAMEDA STREET, CORPUS CHRISTI, TEXAS 78404		
PUBLIC IMPROVEMENTS TO KING'S LANDING UNIT 1 CORPUS CHRISTI, NUECES CO., TX		
OFFSITE DRAINAGE PLAN AND PROFILE		
DWN. _____	PLOT SCALE: 1"=60'	COM. NO. OS DR1
CHK. N. WELSH	SCALE (H): SAME	JOB NO. 18068
	SCALE (V): NONE	DATE PLOTTED 02/18/20
		SHEET 21 OF 33

REMAINDER OF 136.31 AC. TRACT,
DOC. NO. 2016041530, D. R.



THIS DOCUMENT IS RELEASED FOR THE
PURPOSE OF INTERIM REVIEW UNDER THE
AUTHORITY OF NIXON M. WELSH, P.E. NO.
36240 OF BASS AND WELSH ENGINEERING, P.
52. IT IS NOT TO BE USED FOR CONSTRUCTION
OR BIDDING PURPOSES.

BASS & WELSH ENGINEERING TX SURVEY REG. NO 100027-00, TX ENGINEERING REG. NO. F-52, 3054 S. ALAMEDA STREET, CORPUS CHRISTI, TEXAS 78404		
PUBLIC IMPROVEMENTS TO KING'S LANDING UNIT 1 CORPUS CHRISTI, NUECES CO., TX		
OFFSITE DRAINAGE PLAN AND PROFILE		
DWN: _____ CHK: N. WELSH	PLOT SCALE: 1"=60' SCALE (P): SAME SCALE (D): NONE	COM. NO. OS DR2 JOB NO. 18068 DATE PLOTTED 02/18/20 SHEET 22 OF 33



PROFILE - OFFSITE TEMPORARY DRAINAGE CHANNEL

CONTINUED FROM PREVIOUS SHEET
MATCH LINE STA 43+00

CONTINUED ON FOLLOWING SHEET
MATCH LINE STA 62+25

MATCH LINE STA 43+00
CONTINUED FROM PREVIOUS SHEET

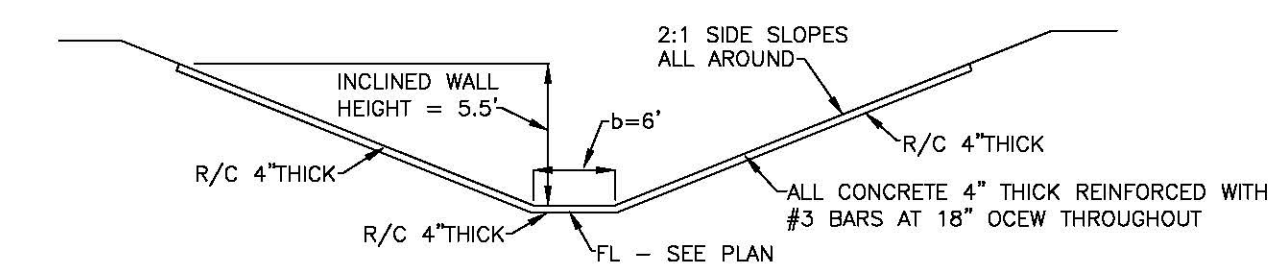
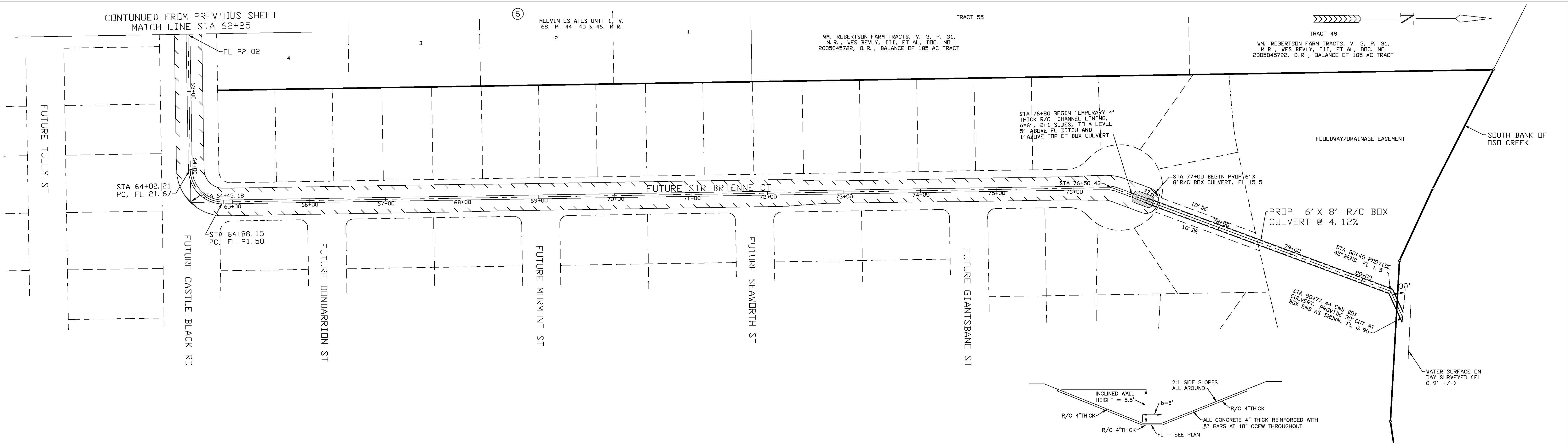
MATCH LINE STA 62+25
CONTINUED ON FOLLOWING SHEET

CONTINUED FROM PREVIOUS SHEET
MATCH LINE STA 62+25

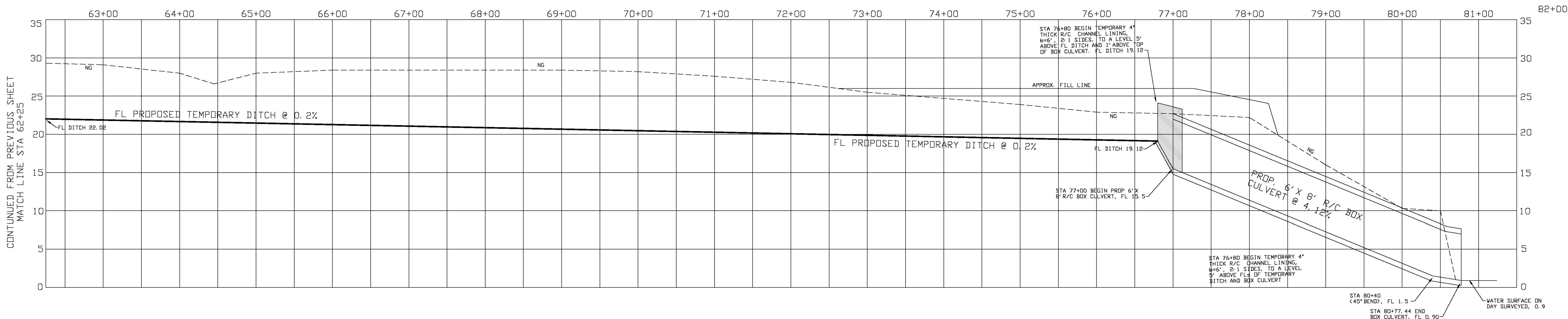
MELVIN ESTATES UNIT 1, V. 68, P. 44, 45 & 46, M.R.

WM. ROBERTSON FARM TRACTS, V. 3, P. 31, M.R., WES BEVLY, III, ET AL., DOC. NO. 2005045722, O.R., BALANCE OF 185 AC TRACT

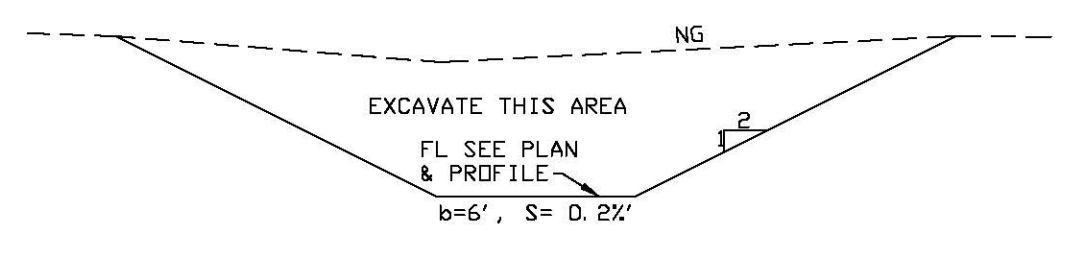
TRACT 48
WM. ROBERTSON FARM TRACTS, V. 3, P. 31, M.R., WES BEVLY, III, ET AL., DOC. NO. 2005045722, O.R., BALANCE OF 185 AC TRACT



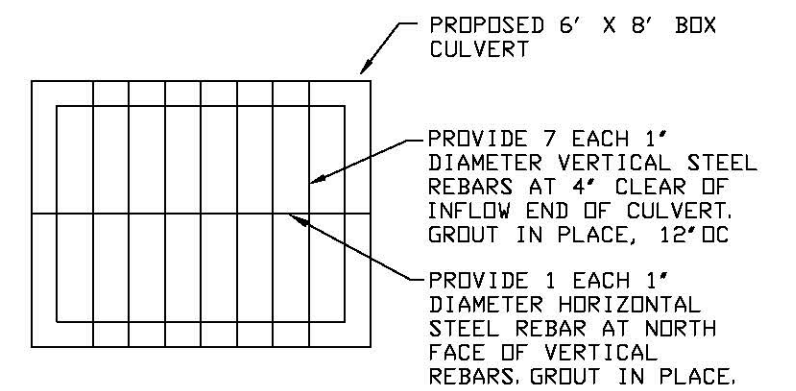
TYPICAL R/C LINED CHANNEL SECTION BEGINNING STA 76+80 AND ENDING STA 77+16
NTS



PROFILE - OFFSITE TEMPORARY DRAINAGE CHANNEL

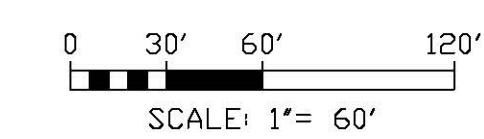


TYPICAL TEMPORARY DITCH SECTION FOR DITCHES THIS SHEET (STA 62+25 TO STA 76+80)
NTS

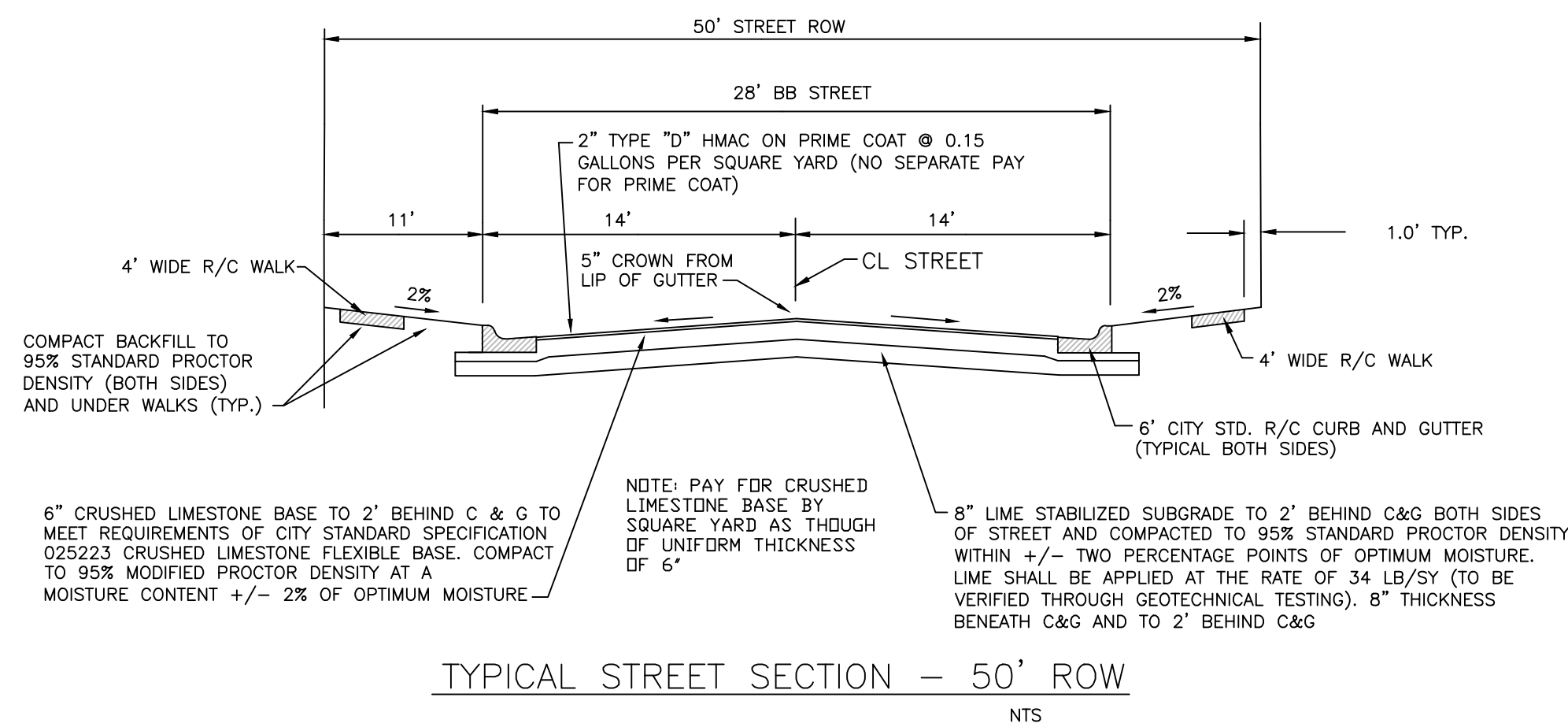
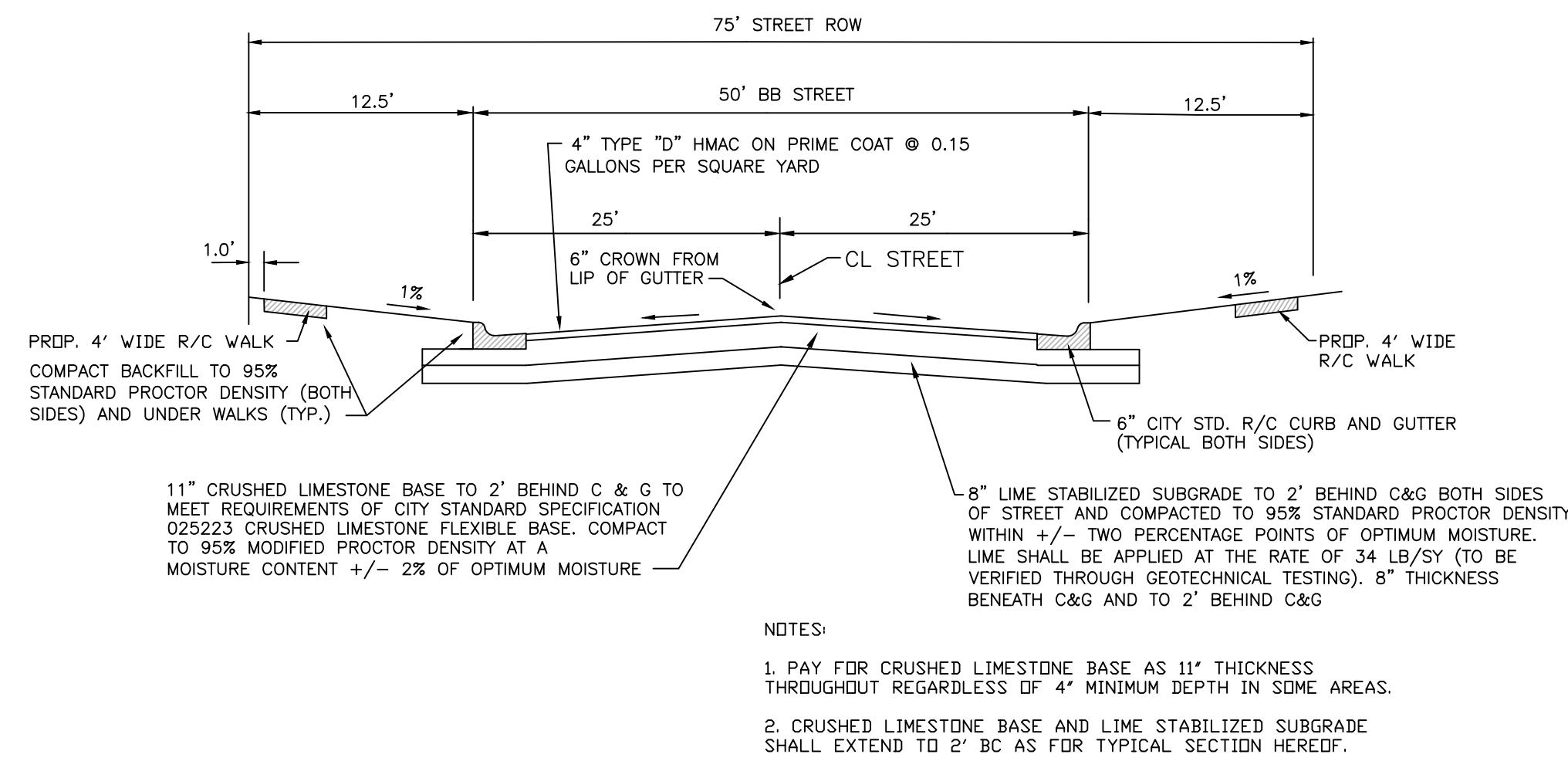
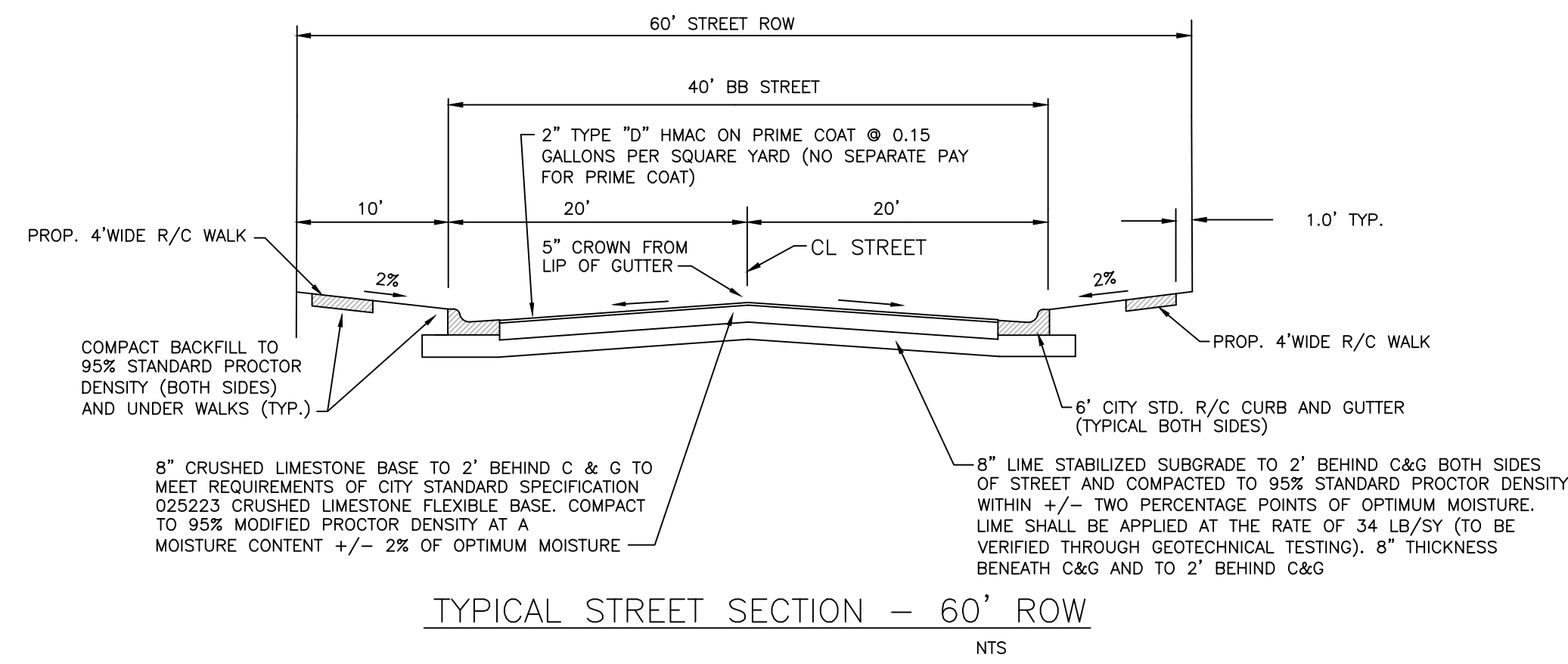


NOTE: USE THIS DETAIL AT DRAINAGE FLOW ENTRY INTO 6' X 8' BOX CULVERT AT OFFSITE DRAINAGE STATION 77+00 (THIS SHEET).
DETAIL - REBAR INSTALLATION AT DRAINAGE ENTRY INTO PROPOSED 6' X 8' BOX CULVERT
NTS

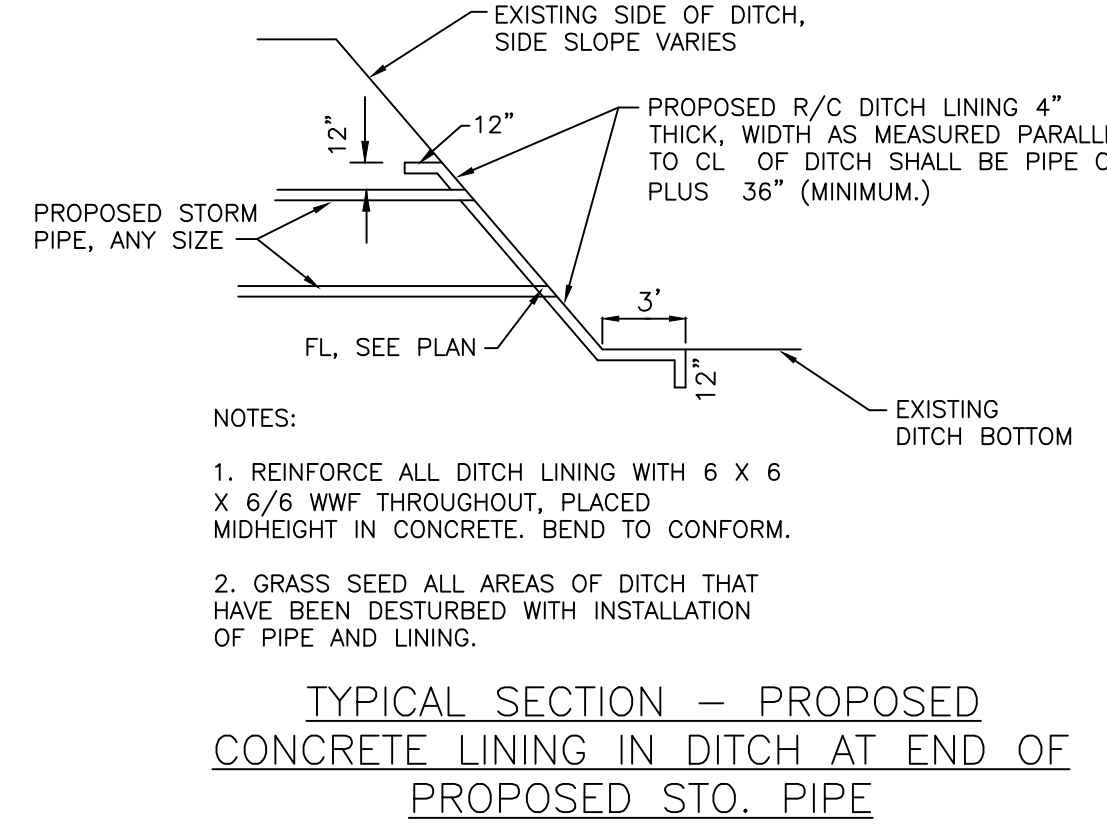
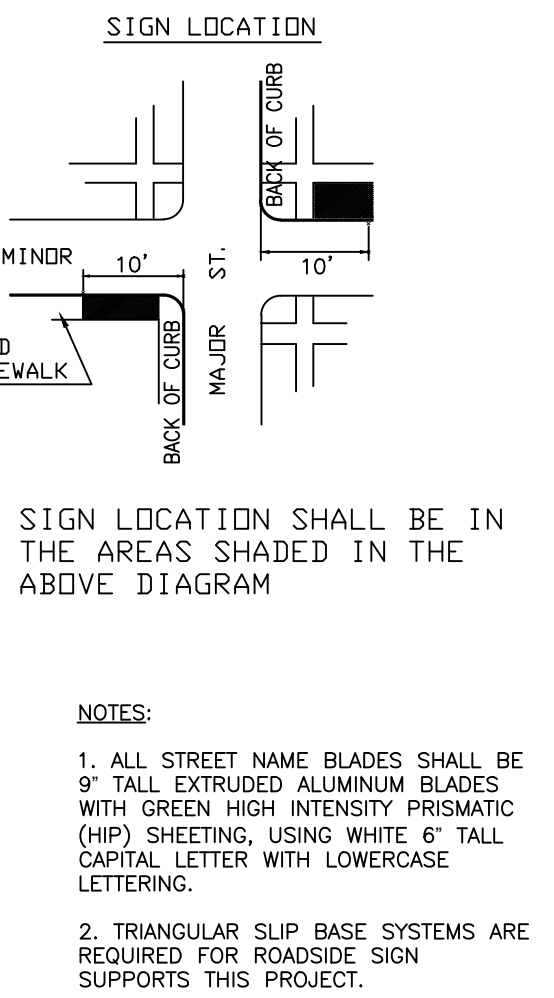
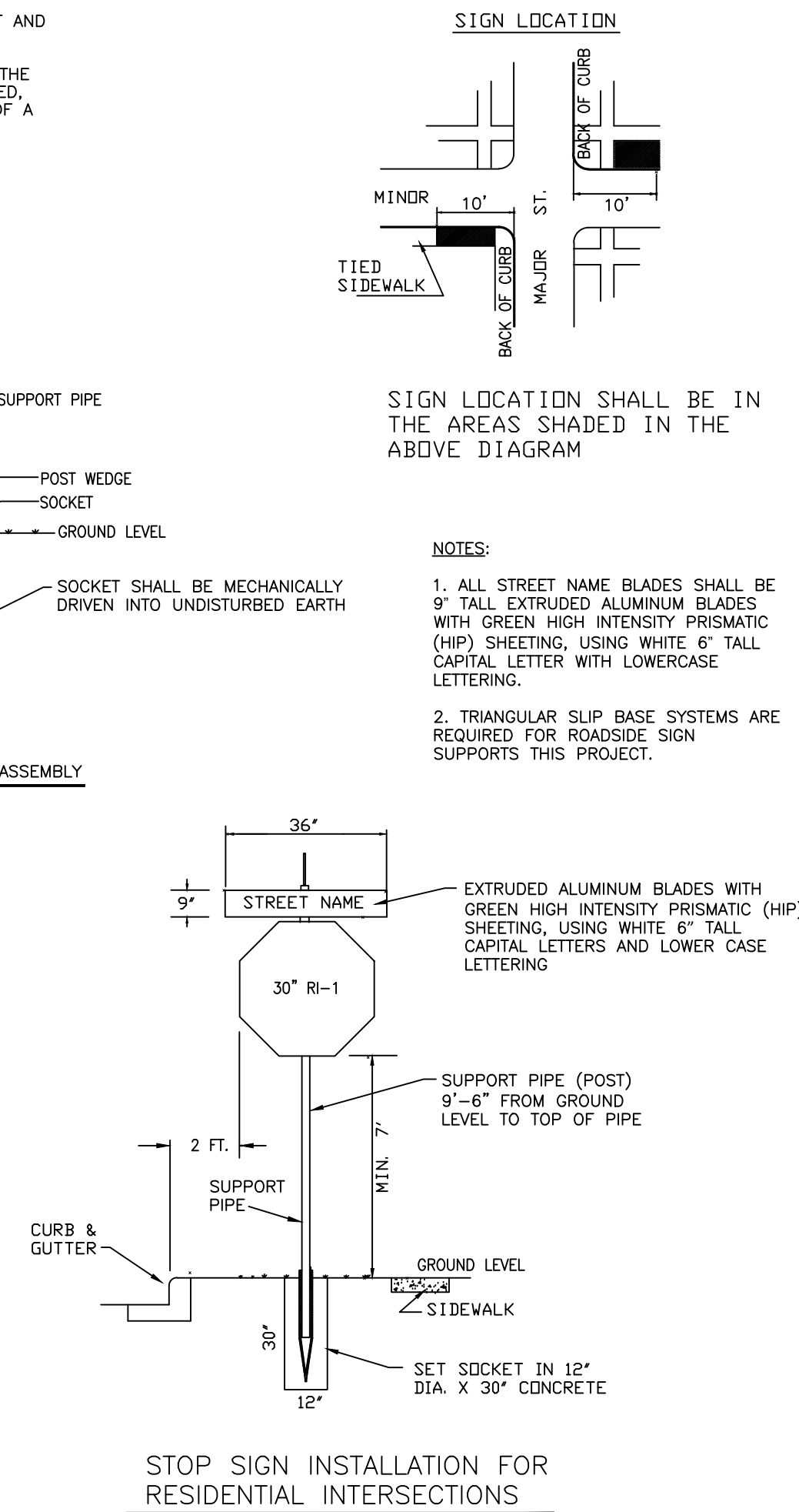
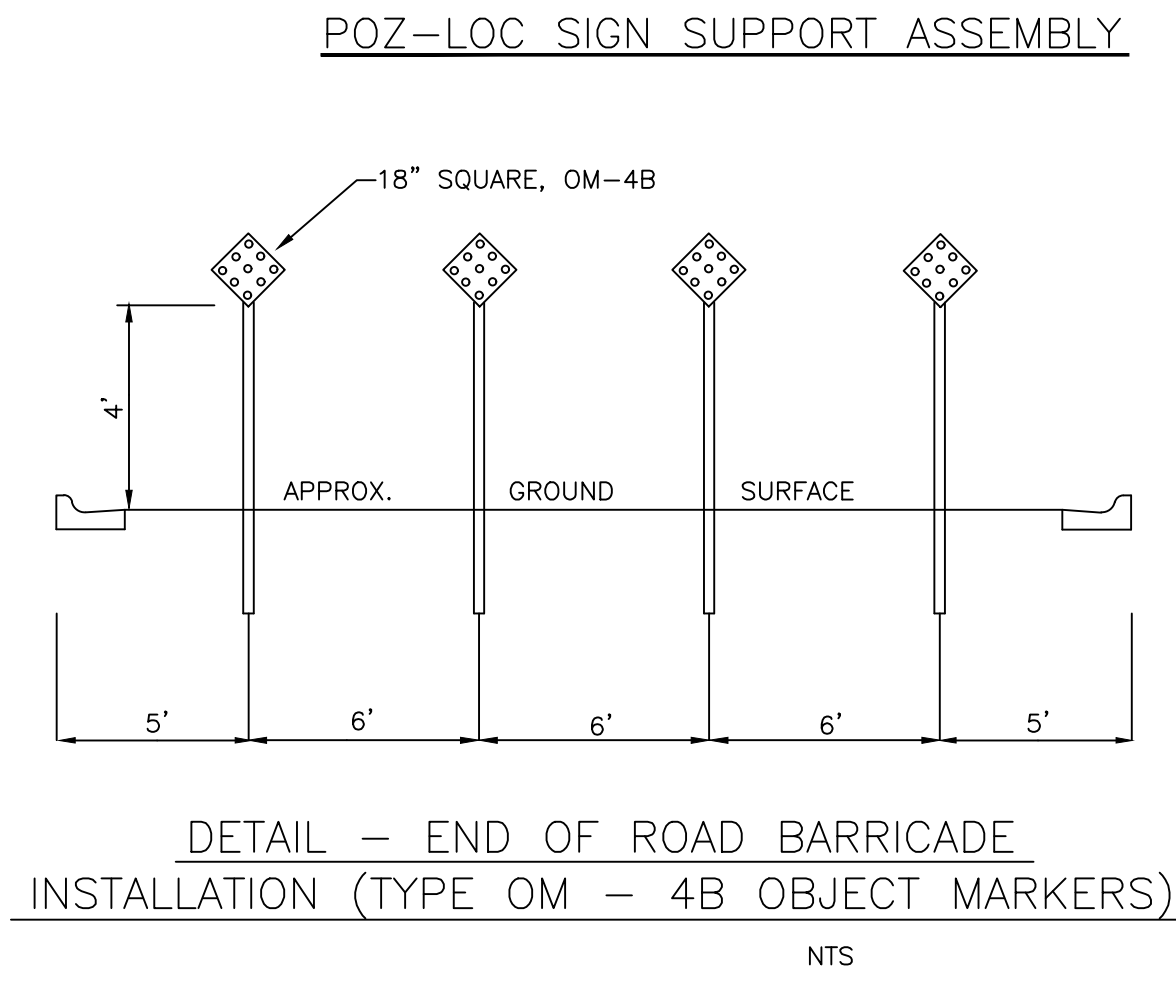
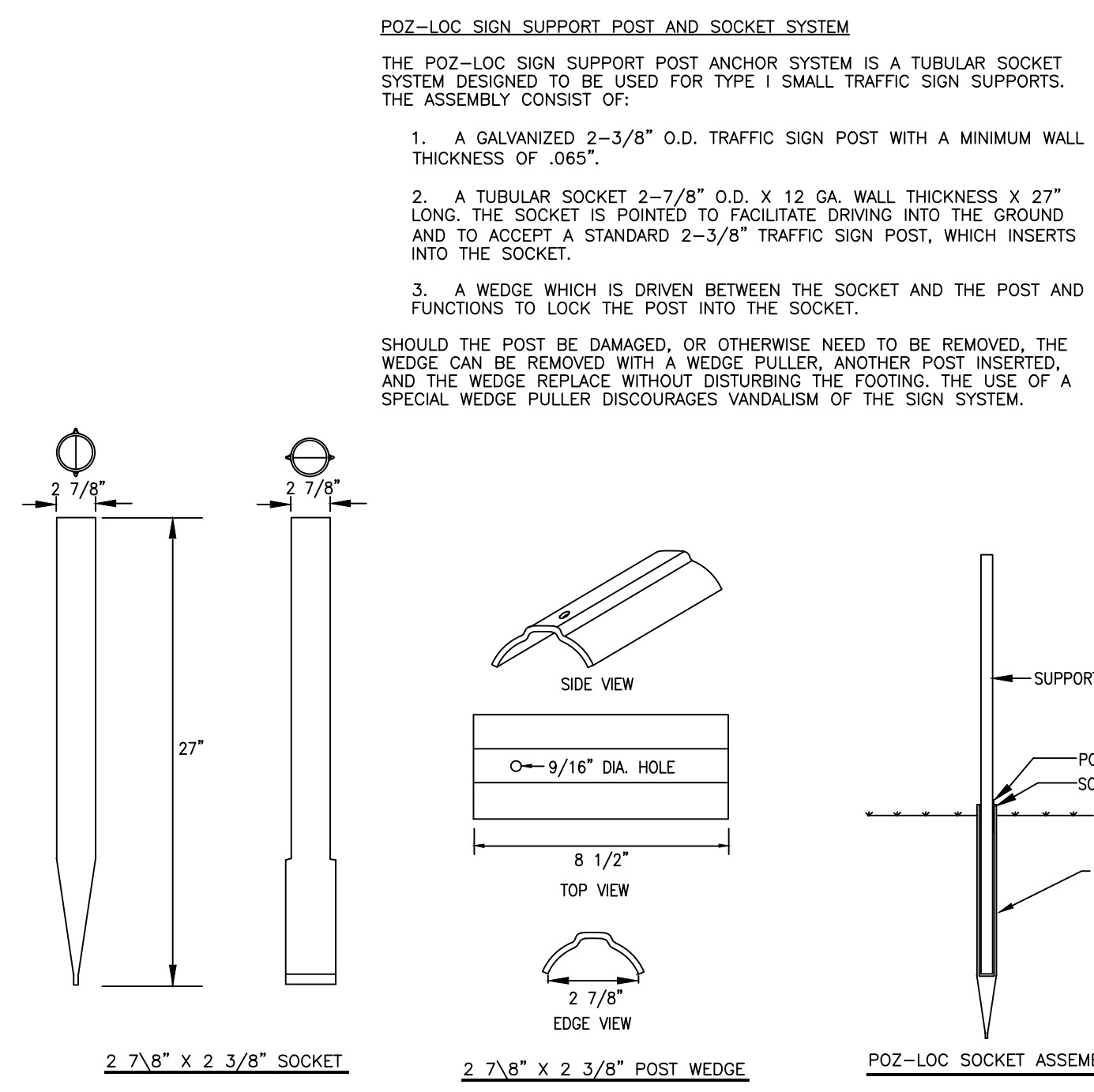
THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF INTERIM REVIEW UNDER THE AUTHORITY OF NIXON M. WELSH, P.E. NO. 36240 OF BASS AND WELSH ENGINEERING, F 52. IT IS NOT TO BE USED FOR CONSTRUCTION OR BIDDING PURPOSES.



BASS & WELSH ENGINEERING TX SURVEY REG. NO. 100027-00, TX ENGINEERING REG. NO. F-52, 3054 S. ALAMEDA STREET, CORPUS CHRISTI, TEXAS 78404		
PUBLIC IMPROVEMENTS TO KING'S LANDING UNIT 1 CORPUS CHRISTI, NUECES CO., TX		
OFFSITE DRAINAGE PLAN AND PROFILE		
OWN: _____	PLOT SCALE: 1"=60'	COM. NO. OS DR2
CHK: N. WELSH	SCALE (H): SAME	JOB NO. 18068
	SCALE (V): NONE	DATE PLOTTED 02/18/20
		SHEET 23 OF 33



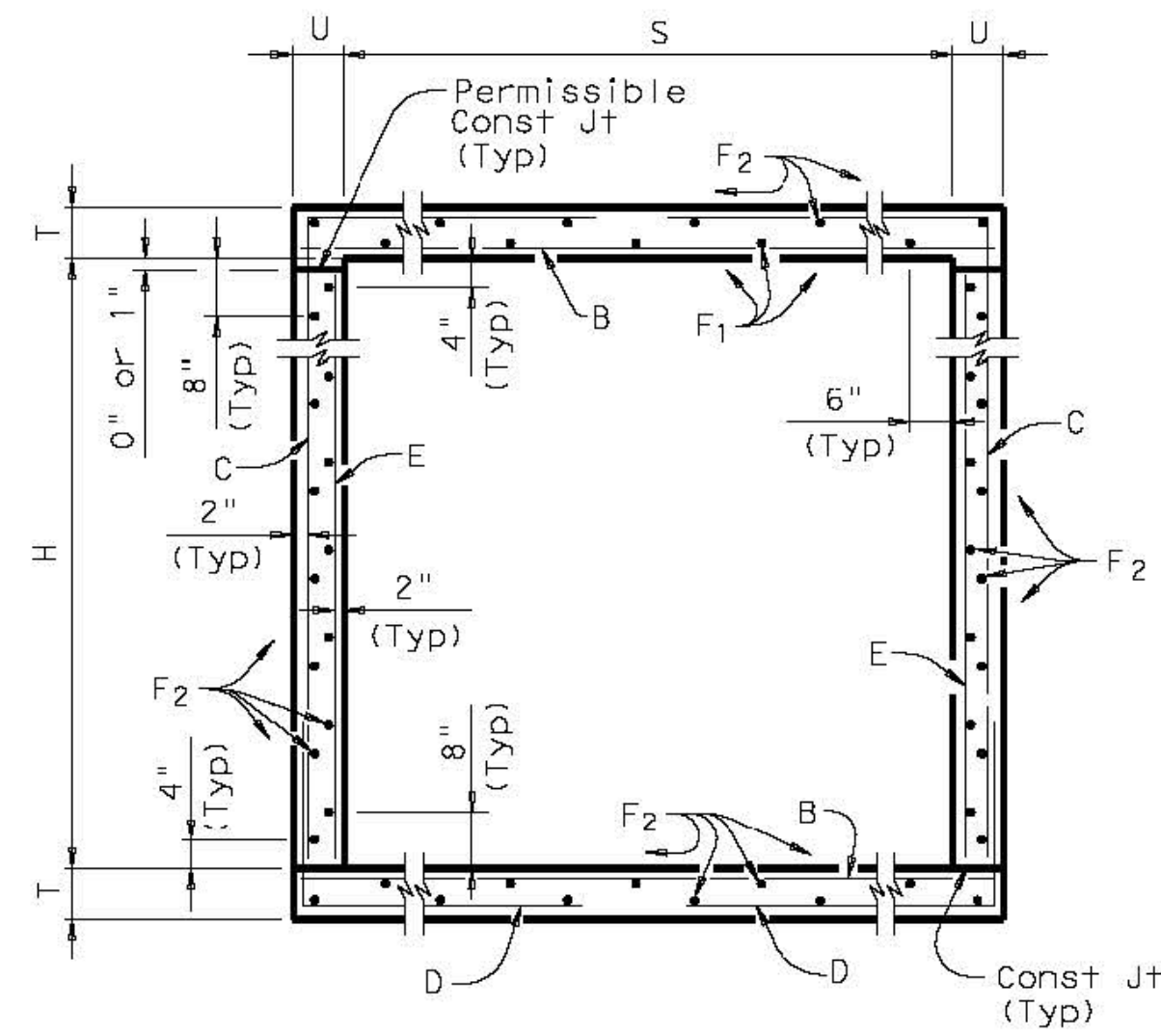
TENSAR GEO GRID
TENSAR GEOGRID TX-5 (OR PRE-APPROVED EQUAL) MAY BE USED IN LIEU OF 8" LIME STABILIZED SUBGRADE. PLACE GEO GRID TO 2' BC AND CONSTRUCT IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. CRUSHED LIMESTONE BASE SHALL OVERLAY GEO GRID. GEO GRID MAY BE SUBSTITUTED FOR (USED IN LIEU OF) 8" LIME STABILIZED SUBGRADE FOR ALL STREET SECTIONS (NO SEPARATE PAY). CONSTRUCT IN ACCORDANCE WITH CITY STANDARD SPECIFICATION 022040 AND THE MANUFACTURER'S RECOMMENDATIONS. IF GEOGRID IS USED PROVIDE 6" (MINIMUM) THICKNESS COMPACTED CRUSHED LIMESTONE BASE IMMEDIATELY ABOVE THE GEOGRID.



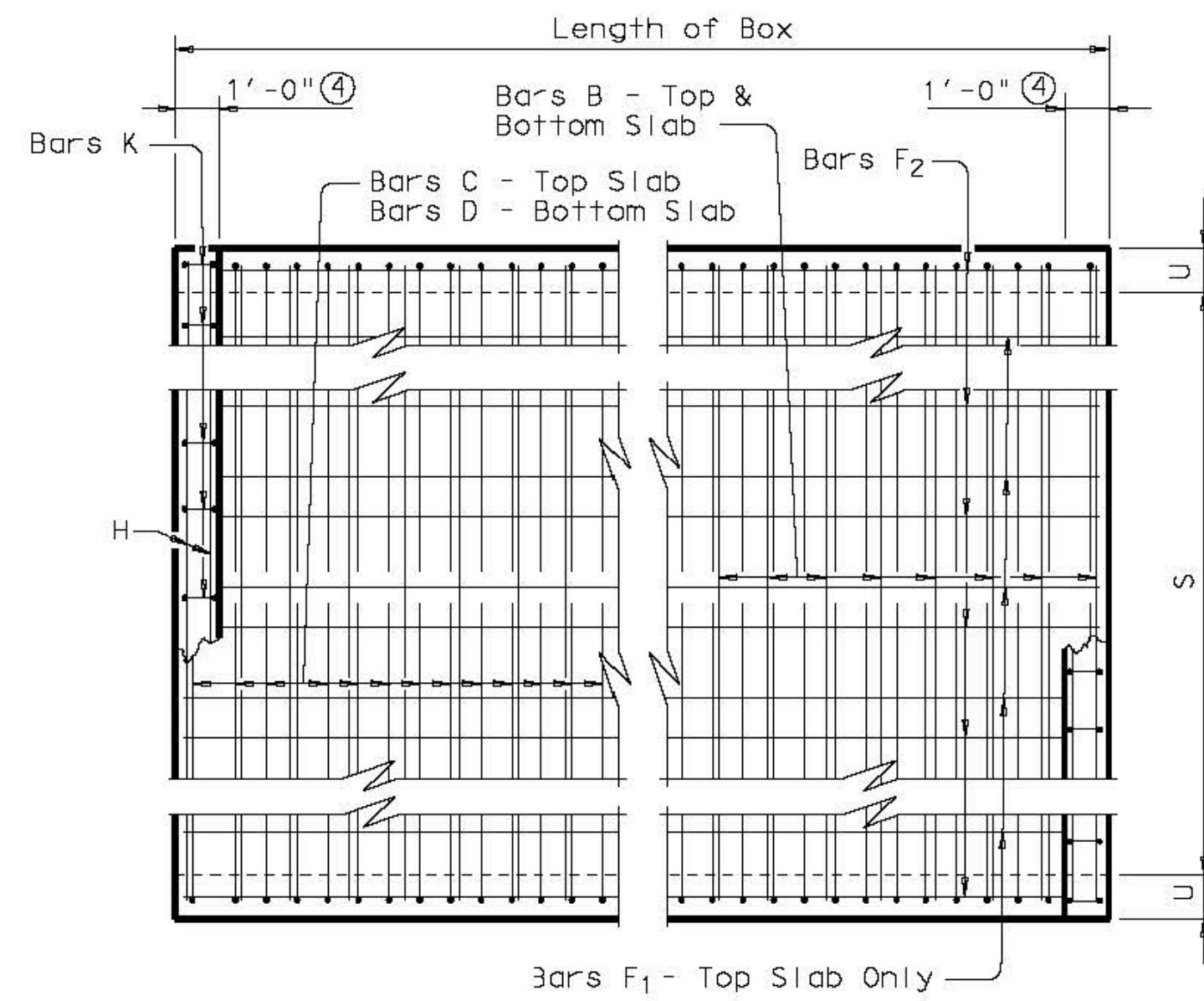
THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF INTERIM REVIEW UNDER THE AUTHORITY OF NIXON M. WELSH, P.E. NO. 36240 OF BASS AND WELSH ENGINEERING, F. 52. IT IS NOT TO BE USED FOR CONSTRUCTION OR BIDDING PURPOSES.

BASS AND WELSH ENGINEERING TX REGISTRATION NO. F-52, 3054 S. ALAMEDA STREET CORPUS CHRISTI, TEXAS 78404		
PUBLIC IMPROVEMENTS TO KING'S LANDING UNIT 1 CORPUS CHRISTI, NUECES CO., TX		
STREET & SIDEWALK DETAILS		
DWN. _____	PLOT SCALE: 1" = 60'	COM. NO. STR-DET
CHK. N. WELSH	SCALE (H): AS SHOWN	JOB NO. 18068
	SCALE (V): AS SHOWN	SHEET 24 OF 33
	DATE PLOTTED 02/18/20	

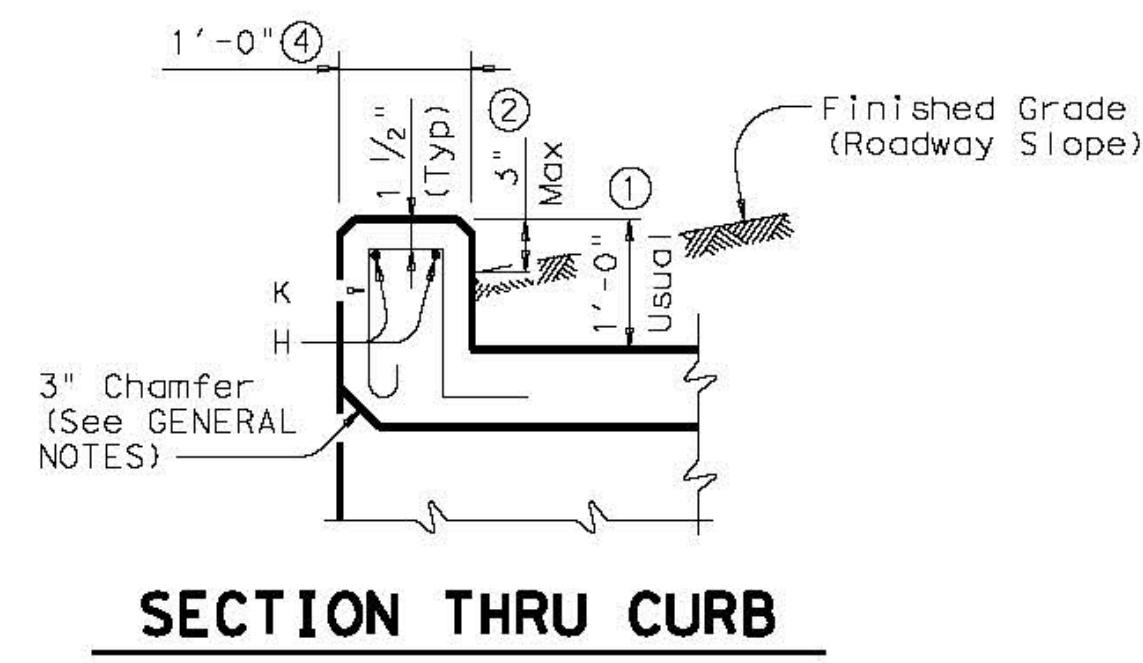
DISCLAIMER: The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.



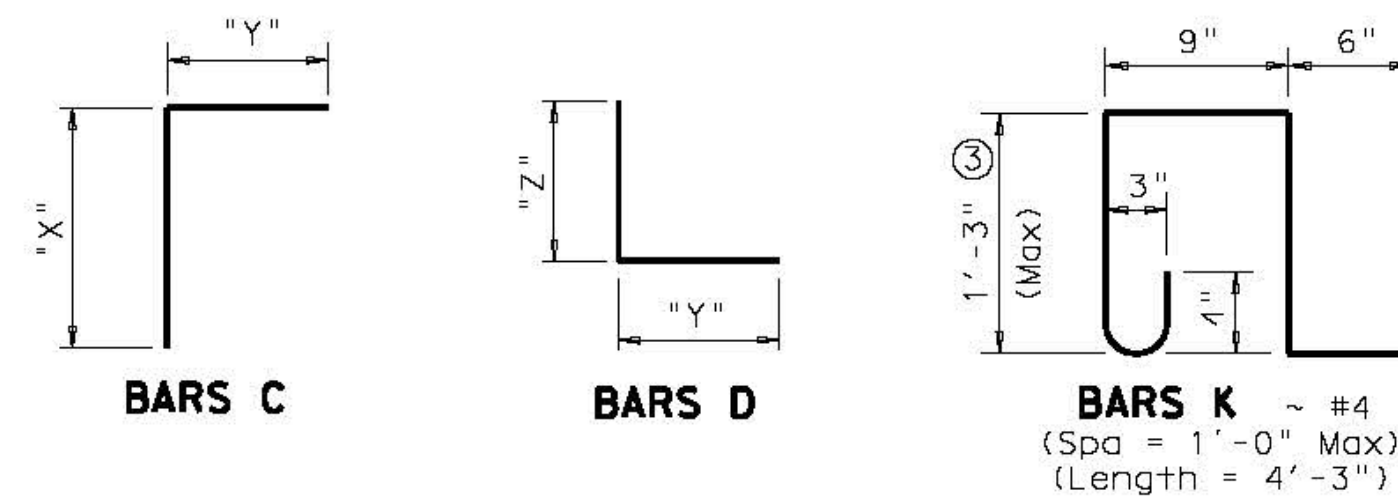
TYPICAL SECTION



PLAN OF REINF STEEL



SECTION THRU CURB



- ① 0" min to 5'-0" max. Estimated curb heights are shown elsewhere in the plans. For structures with pedestrian rail, bicycle rail or curbs taller than 1'-0" refer to ECD standard. For structures with T6 bridge rail, refer to T6-CM standard. For structures with traffic rail, other than T6, refer to RAC standard.
- ② For vehicle safety, the following requirements must be met:
 - For structures without bridge rail, curbs shall project no more than 3" above finished grade.
 - For structures with bridge rail, curbs shall be flush with finished grade.
 Curb heights shall be reduced, if necessary, to meet the above requirements. No changes will be made in quantities and no additional compensation will be allowed for this work.
- ③ For curbs less than 1'-0" high, tilt bars K or reduce bar height as necessary to maintain cover. For curbs less than 3" high, bars K may be omitted.
- ④ 1'-0" typical. 2'-0" when RAC standard is referred to elsewhere in the plans.

Deformed welded wire reinforcement (WWR) meeting the requirements of ASTM A1064 may be used to replace conventional reinforcement shown at the Contractor's option. The area of required reinforcement may be reduced by the ratio of 60 ksi / 70 ksi. Spacing of WWR is limited to 4" Min and 18" Max. When required, provide lap splices in the WWR of the same length required for the equivalent bar size, rounded up for wire sizes between conventional bar sizes.

Example Conversion: Replacement of No. 6 Gr 60 at 6" Spacing with WWR.
 WWR required = (0.44 sq in/ 0.5') x (60 ksi/70 ksi) = 0.754 sq in/ft.
 If D30.6 wire is used to meet the 0.754 sq in/ft requirement in this example, the required spacing = (0.306 sq in/ 0.754 sq in/ft) x 12 in/ft = 4.87" Max spacing.
 Required lap length for the provided D30.6 wire is 2'-2" (Lap required for uncoated No. 5 bars, as shown in Item 440).

GENERAL NOTES:

Designed according to AASHTO LRFD Specifications. Designed to the maximum fill height shown. All reinforcing steel shall be Grade 60. All concrete shall be Class "C" with these exceptions: use Class "S" for top slabs of culverts with overlay, with 1-to-2 course surface treatment, or with the top slab as the final riding surface. Class "C" concrete shall have a minimum compressive strength of 3,600 psi. Class "S" concrete shall have a minimum compressive strength of 4,000 psi. The use of permanent forms is not allowed. The bottom edge of the top slab shall be chamfered 3' at the entrance. Reinforcing bars shall be adjusted to provide a minimum of 1 1/4" clear cover. Construction joints shown at the flow line may be raised a maximum of 6" at the Contractor's option. If this option is used, Bars E may be cut off or raised, and Bars C and D may be reversed. See standard SCC-MD for skewed ends, angle sections and lengthening details.

HL93 LOADING SHEET 1 OF 2

		Bridge Division Standard	
SINGLE BOX CULVERTS CAST-IN-PLACE 0' TO 30' FILL			
SCC-5 & 6			
FILE: scc56ste.dgn	DW: GAF	CK: LMW	DWR: BWH/TxDOT CK: GAF
©TxDOT February 2010	CONT	SECT	JOB HIGHWAY
REVISIONS		DIST	COUNTY SHEET NO.
10-12: Added WWR			

DATE:
FILE:

BASS AND WELSH ENGINEERING TX REGISTRATION NO. F-52, 3054 S. ALAMEDA STREET CORPUS CHRISTI, TEXAS 78404	
PUBLIC IMPROVEMENTS TO KING'S LANDING UNIT 1 CORPUS CHRISTI, NUECES CO., TX TxDOT SINGLE BOX CULVERTS CAST-IN PLACE SCC-5 & 6	
DWN: _____	PLOT SCALE: 1" = 60' SCALE (1): AS SHOWN SCALE (2): AS SHOWN DATE PLOTTED: 02/18/20
CHK: N. WELSH	BOX CULV DET TxDOT 5-6' CIP JOB NO. 18068 SHEET 25 OF 33

BILLS OF REINFORCING STEEL (For Box Length = 40 feet)

QUANTITIES

SECTION DIMENSIONS				FILL HEIGHT	BILLS OF REINFORCING STEEL (For Box Length = 40 feet)																				QUANTITIES																		
					Bars B					Bars C					Bars D					Bars E~#4 at 18" Max		Bars F1 ~#4		Bars F2~#4 at 18" Max		Bars H 4~#4		Bars K	Per foot of Barrel		Curb		Total										
					S	H	T	U	No.	Size	Spa	Length	Weight	No.	Size	Spa	Length	Weight	"X"	"Y"	No.	Size	Spa	Length	Weight	"Y"	"Z"	No.	Length	Wt	No.	Spa	Length	Wt	No.	Length	Wt	Length	Wt	No.	#	Conc (CY)	Reinf (Lb)
5'-0"	2'-0"	7"	7"	26'	194	#5	5"	5'-11"	1,197	162	#5	6"	5'-2"	873	2'-5"	2'-9"	162	#5	6"	5'-4"	901	2'-9"	2'-7"	56	2'-0"	75	8	7"	39'-9"	212	22	39'-9"	584	5'-11"	16	14	40	0.353	96.1	0.5	56	14.6	3,898
5'-0"	2'-0"	8"	7"	30'	194	#5	5"	5'-11"	1,197	194	#4	5"	5'-0"	648	2'-6"	2'-6"	194	#4	5"	4'-9"	616	2'-6"	2'-3"	56	2'-0"	75	4	18"	39'-9"	106	22	39'-9"	584	5'-11"	16	14	40	0.391	80.7	0.5	56	16.1	3,282
5'-0"	3'-0"	7"	7"	26'	194	#5	5"	5'-11"	1,197	194	#4	5"	5'-11"	767	3'-5"	2'-6"	194	#4	5"	4'-8"	605	2'-6"	2'-2"	56	3'-0"	112	8	7"	39'-9"	212	26	39'-9"	690	5'-11"	16	14	40	0.396	89.6	0.5	56	16.3	3,639
5'-0"	3'-0"	8"	7"	30'	194	#5	5"	5'-11"	1,197	194	#4	5"	6'-0"	778	3'-6"	2'-6"	194	#4	5"	4'-9"	616	2'-6"	2'-3"	56	3'-0"	112	4	18"	39'-9"	106	26	39'-9"	690	5'-11"	16	14	40	0.434	87.5	0.5	56	17.9	3,555
5'-0"	4'-0"	7"	7"	26'	194	#5	5"	5'-11"	1,197	194	#4	5"	6'-11"	896	4'-5"	2'-6"	194	#4	5"	4'-8"	605	2'-6"	2'-2"	56	4'-0"	150	8	7"	39'-9"	212	26	39'-9"	690	5'-11"	16	14	40	0.439	93.8	0.5	56	18.1	3,806
5'-0"	4'-0"	8"	7"	30'	194	#5	5"	5'-11"	1,197	194	#4	5"	7'-0"	907	4'-6"	2'-6"	194	#4	5"	4'-9"	616	2'-6"	2'-3"	56	4'-0"	150	4	18"	39'-9"	106	26	39'-9"	690	5'-11"	16	14	40	0.477	91.7	0.5	56	19.6	3,722
5'-0"	5'-0"	7"	7"	26'	194	#5	5"	5'-11"	1,197	194	#4	5"	7'-11"	1,026	5'-5"	2'-6"	194	#4	5"	4'-8"	605	2'-6"	2'-2"	56	5'-0"	187	8	7"	39'-9"	212	30	39'-9"	797	5'-11"	16	14	40	0.483	100.6	0.5	56	19.8	4,080
5'-0"	5'-0"	8"	7"	30'	194	#5	5"	5'-11"	1,197	194	#4	5"	8'-0"	1,037	5'-6"	2'-6"	194	#4	5"	4'-9"	616	2'-6"	2'-3"	56	5'-0"	187	4	18"	39'-9"	106	30	39'-9"	797	5'-11"	16	14	40	0.521	98.5	0.5	56	21.3	3,996
6'-0"	3'-0"	7"	7"	20'	194	#5	5"	6'-11"	1,400	162	#5	6"	6'-6"	1,098	3'-5"	3'-1"	162	#5	6"	5'-8"	957	3'-1"	2'-7"	56	3'-0"	112	10	7"	39'-9"	266	29	39'-9"	770	6'-11"	18	16	45	0.439	115.1	0.5	63	18.1	4,666
6'-0"	3'-0"	8"	7"	26'	162	#6	6"	6'-11"	1,683	162	#5	6"	6'-7"	1,112	3'-6"	3'-1"	162	#5	6"	5'-9"	972	3'-1"	2'-8"	56	3'-0"	112	5	18"	39'-9"	133	29	39'-9"	770	6'-11"	18	16	45	0.484	119.6	0.5	63	19.9	4,845
6'-0"	3'-0"	9"	8"	30'	162	#6	6"	7'-1"	1,724	162	#5	6"	6'-8"	1,126	3'-7"	3'-1"	162	#5	6"	5'-10"	986	3'-1"	2'-9"	56	3'-0"	112	5	18"	39'-9"	133	29	39'-9"	770	7'-1"	19	18	51	0.556	121.3	0.5	70	22.7	4,921
6'-0"	4'-0"	7"	7"	20'	194	#5	5"	6'-11"	1,400	194	#4	5"	7'-3"	940	4'-5"	2'-10"	194	#4	5"	5'-0"	648	2'-10"	2'-2"	56	4'-0"	150	10	7"	39'-9"	266	29	39'-9"	770	6'-11"	18	16	45	0.483	104.4	0.5	63	19.8	4,237
6'-0"	4'-0"	8"	7"	26'	194	#6	5"	6'-11"	2,015	162	#5	6"	7'-7"	1,281	4'-6"	3'-1"	162	#5	6"	5'-9"	972	3'-1"	2'-8"	56	4'-0"	150	5	18"	39'-9"	133	29	39'-9"	770	6'-11"	18	16	45	0.527	133.0	0.5	63	21.6	5,384
6'-0"	4'-0"	9"	8"	30'	162	#6	6"	7'-1"	1,724	162	#5	6"	7'-8"	1,295	4'-7"	3'-1"	162	#5	6"	5'-10"	986	3'-1"	2'-9"	56	4'-0"	150	5	18"	39'-9"	133	29	39'-9"	770	7'-1"	19	18	51	0.605	126.5	0.5	70	24.7	5,128
6'-0"	5'-0"	7"	7"	20'	194	#5	5"	6'-11"	1,400	194	#4	5"	8'-3"	1,069	5'-5"	2'-10"	194	#4	5"	5'-0"	648	2'-10"	2'-2"	56	5'-0"	187	10	7"	39'-9"	266	33	39'-9"	876	6'-11"	18	16	45	0.526	111.2	0.5	63	21.5	4,509
6'-0"	5'-0"	8"	7"	26'	194	#6	5"	6'-11"	2,015	162	#5	6"	8'-7"	1,450	5'-6"	3'-1"	162	#5	6"	5'-9"	972	3'-1"	2'-8"	56	5'-0"	187	5	18"	39'-9"	133	33	39'-9"	876	6'-11"	18	16	45	0.570	140.8	0.5	63	23.3	5,696
6'-0"	5'-0"	9"	8"	30'	194	#6	5"	7'-1"	2,064	162	#5	6"	8'-8"	1,464	5'-7"	3'-1"	162	#5	6"	5'-10"	986	3'-1"	2'-9"	56	5'-0"	187	5	18"	39'-9"	133	33	39'-9"	876	7'-1"	19	18	51	0.654	142.8	0.5	70	26.7	5,780
6'-0"	6'-0"	7"	7"	20'	194	#5	5"	6'-11"	1,400	194	#4	5"	9'-3"	1,199	6'-5"	2'-10"	194	#4	5"	5'-0"	648	2'-10"	2'-2"	56	6'-0"	224	10	7"	39'-9"	266	37	39'-9"	982	6'-11"	18	16	45	0.569	118.0	0.5	63	23.3	4,782
6'-0"	6'-0"	8"	7"	26'	194	#6	5"	6'-11"	2,015	162	#5	6"	9'-7"	1,619	6'-6"	3'-1"	162	#5	6"	5'-9"	972	3'-1"	2'-8"	56	6'-0"	224	5	18"	39'-9"	133	37	39'-9"	982	6'-11"	18	16	45	0.613	148.6	0.5	63	25.0	6,008
6'-0"	6'-0"	9"	8"	30'	194	#6	5"	7'-1"	2,064	162	#5	6"	9'-8"	1,633	6'-7"	3'-1"	162	#5	6"	5'-10"	986	3'-1"	2'-9"	56	6'-0"	224	5	18"	39'-9"	133	37	39'-9"	982	7'-1"	19	18	51	0.704	150.6	0.5	70	28.7	6,092

⑤ For each box size, minimum fill height shown shall be used for all culverts with less than 2'-0" of fill.

Deformed welded wire reinforcement (WWR) meeting the requirements of ASTM A1064 may be used to replace conventional reinforcement shown at the Contractor's option. The area of required reinforcement may be reduced by the ratio of 60 ksi / 70 ksi. Spacing of WWR is limited to 4" Min and 18" Max. When required, provide lap splices in the WWR of the same length required for the equivalent bar size, rounded up for wire sizes between conventional bar sizes.

Example Conversion: Replacement of No. 6 Gr 60 at 6" Spacing with WWR.
WWR required = (0.44 sq in/ 0.5') x (60 ksi/70 ksi) = 0.754 sq in/ft.
If D30.6 wire is used to meet the 0.754 sq in/ft requirement in this example, the required spacing = (0.306 sq in/ 0.754 sq in/ft) x 12 in/ft = 4.87" Max spacing.
Required lap length for the provided D30.6 wire is 2'-2" (Lap required for uncoated No. 5 bars, as shown in Item 440).

DISCLAIMER: This standard is governed by the Texas Engineering Practice Act. No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: _____
FILE: _____

HL93 LOADING SHEET 2 OF 2

Texas Department of Transportation Bridge Division Standard

SINGLE BOX CULVERTS CAST-IN-PLACE 0' TO 30' FILL

SCC-5 & 6

FILE: scc56ste.dgn	DN: GAF	CK: LMW	DW: BWH/TxDOT	CR: GAF
©TxDOT February 2010	CONT	SECT	JOB	HIGHWAY
REVISIONS				
10-12: Added WWR	DIST	COUNTY	SHEET NO.	

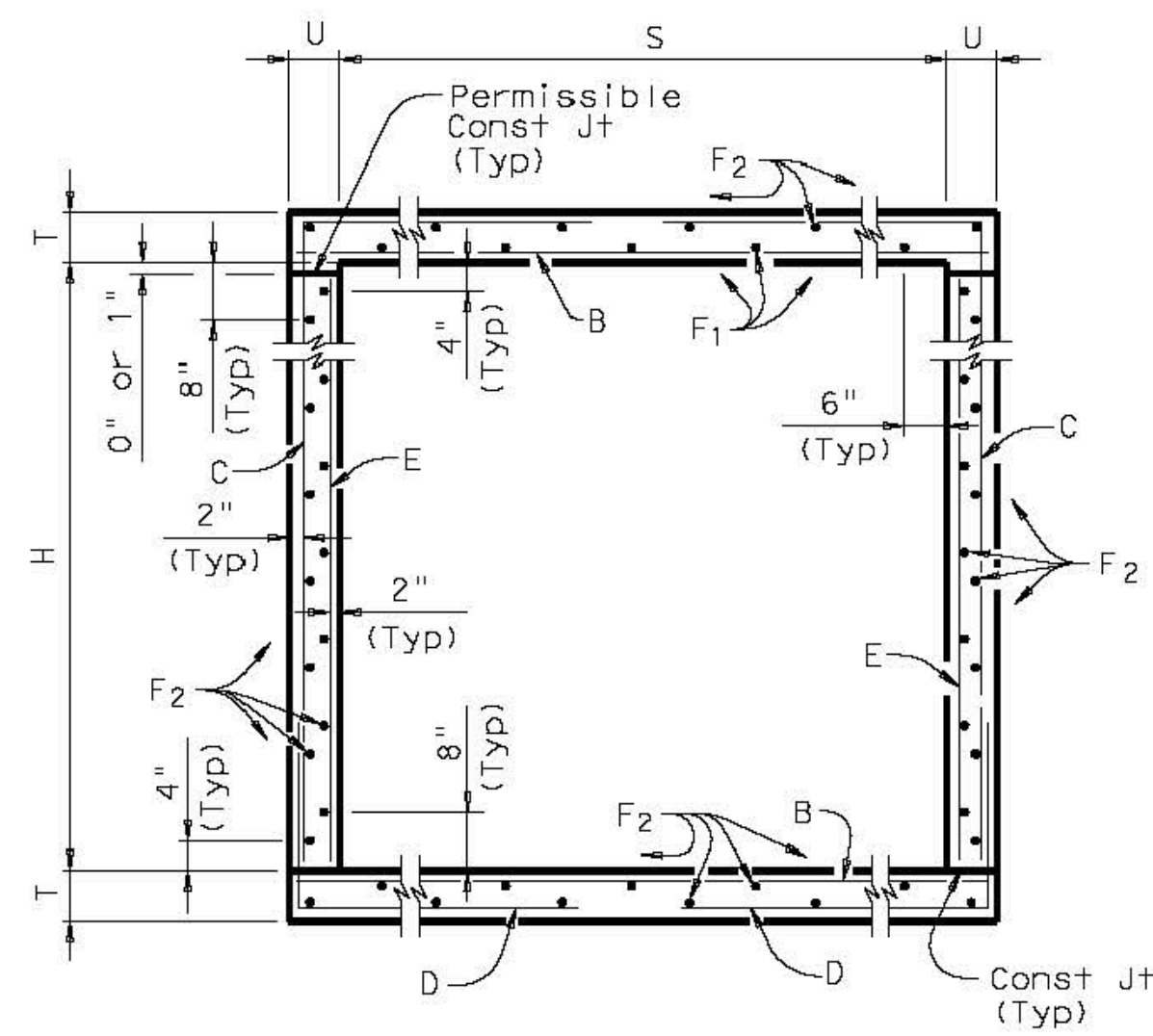
BASS AND WELSH ENGINEERING
TX REGISTRATION NO. F-52, 3054 S. ALAMEDA STREET
CORPUS CHRISTI, TEXAS 78404

PUBLIC IMPROVEMENTS TO
KING'S LANDING UNIT 1
CORPUS CHRISTI, NUECES CO., TX
TXDOT SINGLE BOX CULVERTS CAST-IN PLACE
SCC-5 & 6

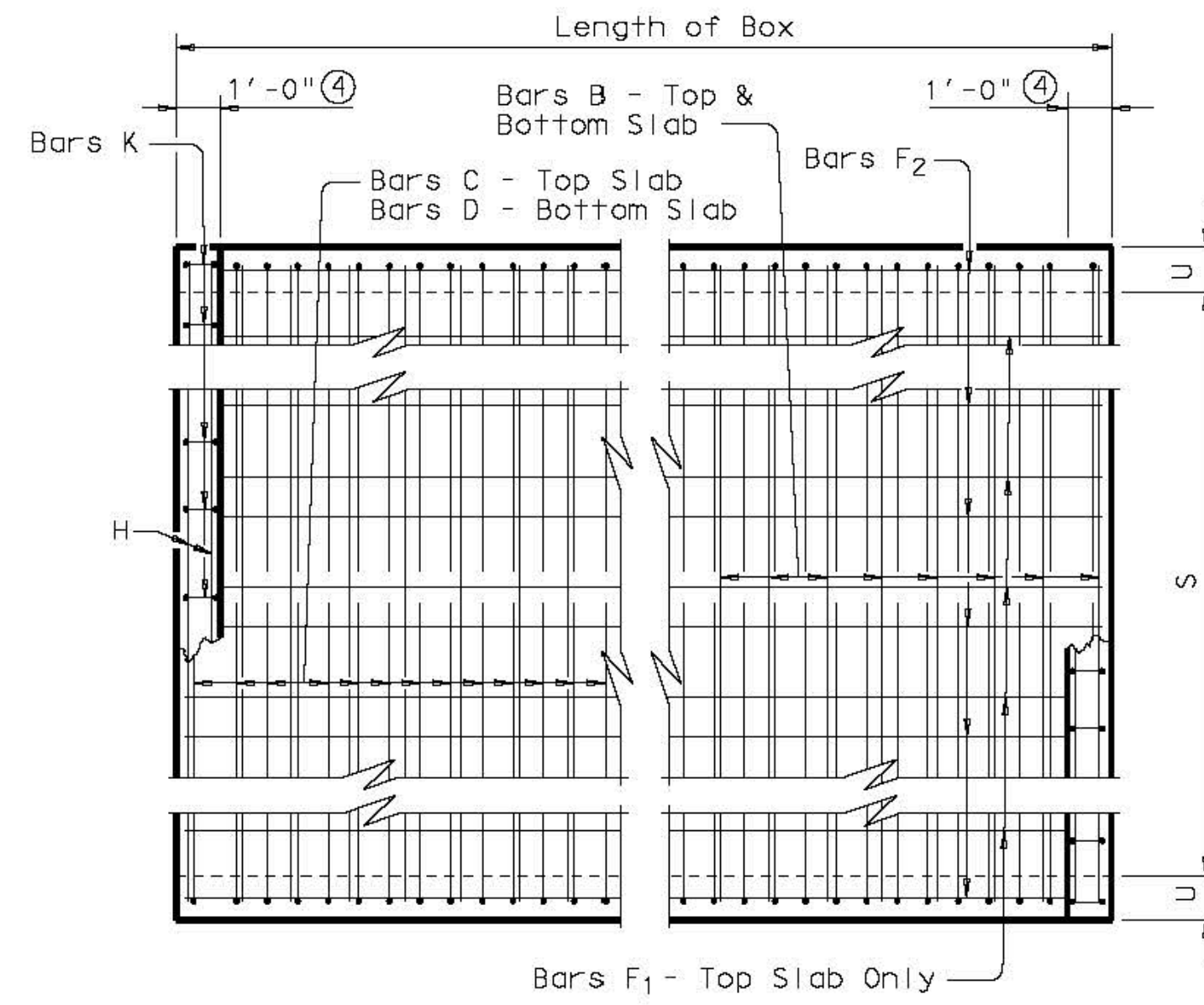
DWN: _____	PLT SCALE: 1" = 50'	COM. NO. TXDOT 5-8' DIP
CHK: N. WELSH	SCALE (H): AS SHOWN	JOB NO. 18088
	SCALE (V): AS SHOWN	SHEET 28 OF 33
	DATE PLOTTED 02/18/20	

DISCLAIMER: The use of this standard is governed by the Texas Engineering Practice Act. No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

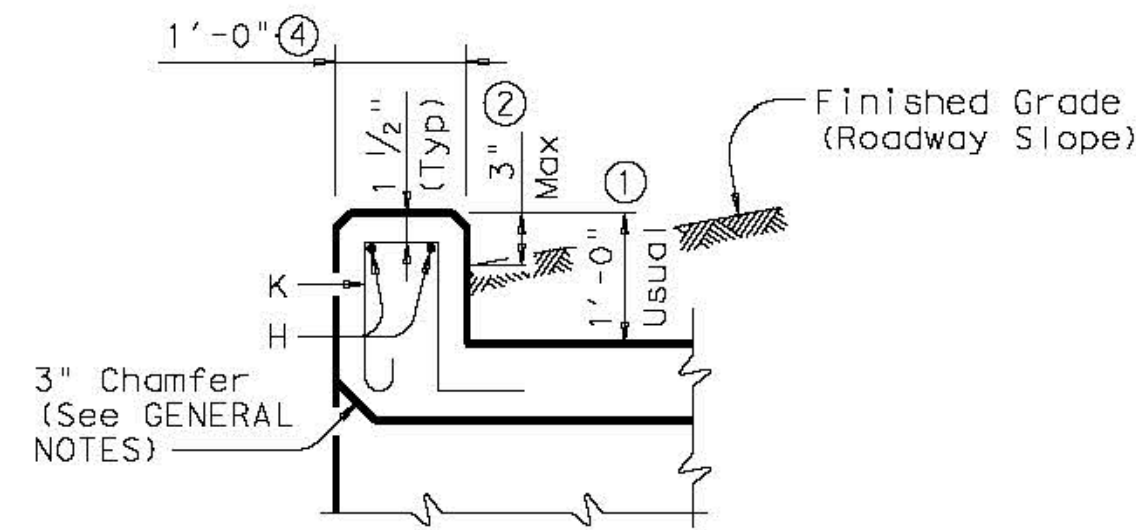
DATE: FILE:



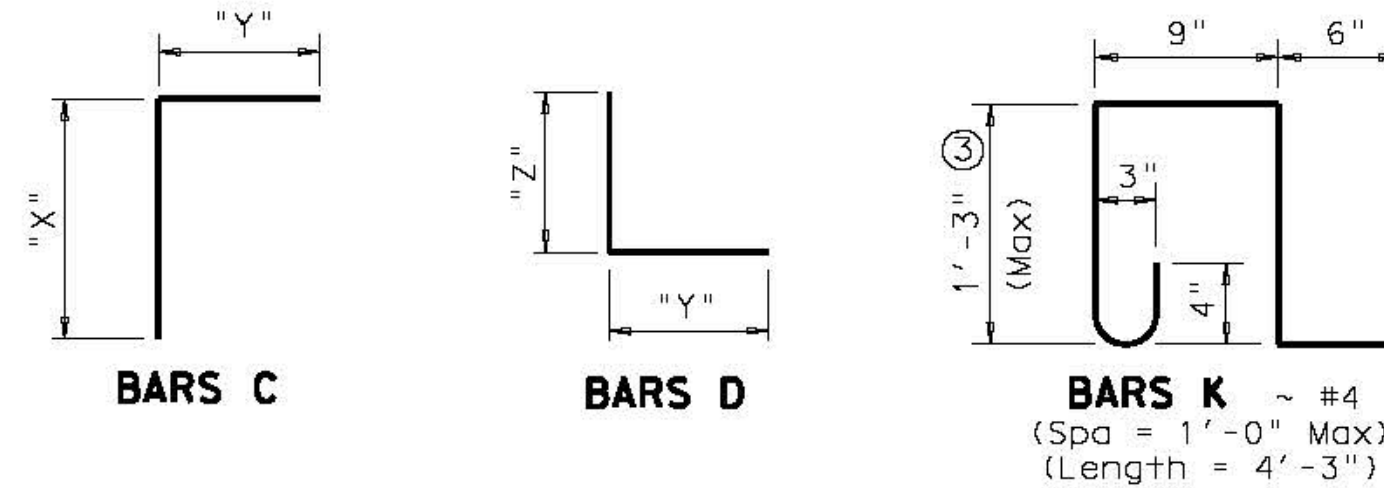
TYPICAL SECTION



PLAN OF REINF STEEL



SECTION THRU CURB



- ① 0" min to 5'-0" max. Estimated curb heights are shown elsewhere in the plans. For structures with pedestrian rail, bicycle rail or curbs taller than 1'-0", refer to ECD standard. For structures with T6 bridge rail, refer to T6-CM standard. For structures with traffic rail, other than T6, refer to RAC standard.
- ② For vehicle safety, the following requirements must be met:
 - For structures without bridge rail, curbs shall project no more than 3" above finished grade.
 - For structures with bridge rail, curbs shall be flush with finished grade.
 Curb heights shall be reduced, if necessary, to meet the above requirements. No changes will be made in quantities and no additional compensation will be allowed for this work.
- ③ For curbs less than 1'-0" high, tilt bars K or reduce bar height as necessary to maintain cover. For curbs less than 3" high, bars K may be omitted.
- ④ 1'-0" typical. 2'-0" when RAC standard is referred to elsewhere in the plans.

Deformed welded wire reinforcement (WWR) meeting the requirements of ASTM A1064 may be used to replace conventional reinforcement shown at the Contractor's option. The area of required reinforcement may be reduced by the ratio of 60 ksi / 70 ksi. Spacing of WWR is limited to 4" Min and 18" Max. When required, provide lap splices in the WWR of the same length required for the equivalent bar size, rounded up for wire sizes between conventional bar sizes.

Example Conversion: Replacement of No. 6 Gr 60 at 6" Spacing with WWR.
 WWR required = (0.44 sq in/ 0.5') x (60 ksi/70 ksi) = 0.754 sq in/ft.
 If D30.6 wire is used to meet the 0.754 sq in/ft requirement in this example, the required spacing = (0.306 sq in/ 0.754 sq in/ft) x 12 in/ft = 4.87" Max spacing.
 Required lap length for the provided D30.6 wire is 2'-2" (Lap required for uncoated No. 5 bars, as shown in Item 440).

GENERAL NOTES:

Designed according to AASHTO LRFD Specifications.
 Designed to the maximum fill height shown.
 All reinforcing steel shall be Grade 60.
 All concrete shall be Class "C" with these exceptions: use Class "S" for top slabs of culverts with overlay, with 1-to-2 course surface treatment, or with the top slab as the final riding surface.
 Class "C" concrete shall have a minimum compressive strength of 3,600 psi. Class "S" concrete shall have a minimum compressive strength of 4,000 psi.
 The use of permanent forms is not allowed.
 The bottom edge of the top slab shall be chamfered 3" at the entrance.
 Reinforcing bars shall be adjusted to provide a minimum of 1 1/4" clear cover.
 Construction joints shown at the flow line may be raised a maximum of 6" at the Contractor's option. If this option is used, Bars E may be cut off or raised, and Bars C and D may be reversed.
 See standard SCC-MD for skewed ends, angle sections and lengthening details.

HL93 LOADING

SHEET 1 OF 2



**SINGLE BOX CULVERTS
 CAST-IN-PLACE
 0' TO 30' FILL**

SCC-8

FILE: scc08ste.dgn	DN: GAF	CK: LMW	DN: BWH/TXDOT	CK: GAF
TXDOT February 2010	CONT	SECT	JOB	HIGHWAY
REVISIONS				
10-12: Added WWR	DIST	COUNTY	SHEET NO.	

Bridge Division Standard

BASS AND WELSH ENGINEERING TX REGISTRATION NO. F-52, 3054 S. ALAMEDA STREET CORPUS CHRISTI, TEXAS 78404	
PUBLIC IMPROVEMENTS TO KING'S LANDING UNIT 1 CORPUS CHRISTI, NUECES CO., TX	
TXDOT SINGLE BOX CULVERTS CAST-IN PLACE SCC-8	
DWN: _____	BOX CULV DET
CHK: N. WELSH	COM. NO. TXDOT 8' CIP
PLOT SCALE: 1" = 50'	JOB NO. 18068
SCALE (1): AS SHOWN	SHEET 27 OF 33
SCALE (2): AS SHOWN	
DATE PLOTTED 02/18/20	

DISCLAIMER: This standard is governed by the Texas Engineering Practice Act. No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: FILE:

SECTION DIMENSIONS				FILL HEIGHT	BILLS OF REINFORCING STEEL (For Box Length = 40 feet)																				QUANTITIES																		
					Bars B					Bars C					Bars D					Bars E-#4 at 18" Max			Bars F1-#4			Bars F2-#4 at 18" Max			Bars H 4-#4		Bars K	Per foot of Barrel		Curb		Total							
					S	H	T	U	No.	Size	Spa	Length	Weight	No.	Size	Spa	Length	Weight	"X"	"Y"	No.	Size	Spa	Length	Weight	"Y"	"Z"	No.	Length	Wt	No.	Length	Wt	No.	Length	Wt	No.	Wt	Conc (CY)	Reinf (Lb)	Conc (CY)	Reinf (Lb)	Conc (CY)
8'-0"	4'-0"	7"	7"	13'	162	#6	6"	8'-11"	2,170	194	#5	5"	8'-8"	1,754	4'-5"	4'-3"	194	#5	5"	6'-10"	1,383	4'-3"	2'-7"	56	4'-0"	150	13	7"	39'-9"	345	32	39'-9"	850	8'-11"	24	20	57	0.569	166.3	0.7	81	23.5	6,733
8'-0"	4'-0"	8"	7"	16'	194	#6	5"	8'-11"	2,598	194	#5	5"	8'-9"	1,770	4'-6"	4'-3"	194	#5	5"	6'-11"	1,400	4'-3"	2'-8"	56	4'-0"	150	6	18"	39'-9"	159	32	39'-9"	850	8'-11"	24	20	57	0.626	173.2	0.7	81	25.7	7,008
8'-0"	4'-0"	9"	8"	20'	194	#6	5"	9'-1"	2,647	194	#5	5"	8'-10"	1,787	4'-7"	4'-3"	194	#5	5"	7'-0"	1,416	4'-3"	2'-9"	56	4'-0"	150	6	18"	39'-9"	159	32	39'-9"	850	9'-1"	24	22	62	0.716	175.2	0.7	86	29.3	7,095
8'-0"	4'-0"	10"	8"	23'	194	#6	5"	9'-1"	2,647	138	#6	7"	8'-11"	1,848	4'-8"	4'-3"	138	#6	7"	7'-6"	1,555	4'-3"	3'-3"	56	4'-0"	150	6	18"	39'-9"	159	32	39'-9"	850	9'-1"	24	22	62	0.774	180.2	0.7	86	31.7	7,295
8'-0"	4'-0"	11"	9"	30'	162	#7	6"	9'-3"	3,063	194	#5	5"	9'-0"	1,821	4'-9"	4'-3"	194	#5	5"	7'-2"	1,450	4'-3"	2'-11"	56	4'-0"	150	6	18"	39'-9"	159	34	39'-9"	903	9'-3"	25	22	62	0.867	188.7	0.7	87	35.4	7,633
8'-0"	5'-0"	7"	7"	13'	162	#6	6"	8'-11"	2,170	194	#5	5"	9'-8"	1,956	5'-5"	4'-3"	194	#5	5"	6'-10"	1,383	4'-3"	2'-7"	56	5'-0"	187	13	7"	39'-9"	345	36	39'-9"	956	8'-11"	24	20	57	0.612	174.9	0.7	81	25.2	7,078
8'-0"	5'-0"	8"	7"	16'	194	#6	5"	8'-11"	2,598	194	#5	5"	9'-9"	1,973	5'-6"	4'-3"	194	#5	5"	6'-11"	1,400	4'-3"	2'-8"	56	5'-0"	187	6	18"	39'-9"	159	36	39'-9"	956	8'-11"	24	20	57	0.669	181.8	0.7	81	27.5	7,354
8'-0"	5'-0"	9"	8"	20'	194	#6	5"	9'-1"	2,647	194	#5	5"	9'-10"	1,990	5'-7"	4'-3"	194	#5	5"	7'-0"	1,416	4'-3"	2'-9"	56	5'-0"	187	6	18"	39'-9"	159	36	39'-9"	956	9'-1"	24	22	62	0.765	183.9	0.7	86	31.3	7,441
8'-0"	5'-0"	10"	8"	23'	194	#6	5"	9'-1"	2,647	194	#5	5"	9'-11"	2,007	5'-8"	4'-3"	194	#5	5"	7'-1"	1,433	4'-3"	2'-10"	56	5'-0"	187	6	18"	39'-9"	159	36	39'-9"	956	9'-1"	24	22	62	0.823	184.7	0.7	86	33.6	7,475
8'-0"	5'-0"	11"	9"	30'	194	#7	5"	9'-3"	3,668	194	#5	5"	10'-0"	2,023	5'-9"	4'-3"	194	#5	5"	7'-2"	1,450	4'-3"	2'-11"	56	5'-0"	187	6	18"	39'-9"	159	38	39'-9"	1,009	9'-3"	25	22	62	0.923	212.4	0.7	87	37.6	8,583
8'-0"	6'-0"	7"	7"	13'	194	#6	5"	8'-11"	2,598	162	#5	6"	10'-8"	1,802	6'-5"	4'-3"	162	#5	6"	6'-10"	1,155	4'-3"	2'-7"	56	6'-0"	224	13	7"	39'-9"	345	40	39'-9"	1,062	8'-11"	24	20	57	0.655	179.7	0.7	81	26.9	7,267
8'-0"	6'-0"	8"	7"	16'	194	#6	5"	8'-11"	2,598	194	#5	5"	10'-9"	2,175	6'-6"	4'-3"	194	#5	5"	6'-11"	1,400	4'-3"	2'-8"	56	6'-0"	224	6	18"	39'-9"	159	40	39'-9"	1,062	8'-11"	24	20	57	0.712	190.5	0.7	81	29.2	7,699
8'-0"	6'-0"	9"	8"	20'	194	#6	5"	9'-1"	2,647	194	#5	5"	10'-10"	2,192	6'-7"	4'-3"	194	#5	5"	7'-0"	1,416	4'-3"	2'-9"	56	6'-0"	224	6	18"	39'-9"	159	40	39'-9"	1,062	9'-1"	24	22	62	0.815	192.5	0.7	86	33.3	7,786
8'-0"	6'-0"	10"	8"	23'	194	#6	5"	9'-1"	2,647	194	#5	5"	10'-11"	2,209	6'-8"	4'-3"	194	#5	5"	7'-1"	1,433	4'-3"	2'-10"	56	6'-0"	224	6	18"	39'-9"	159	40	39'-9"	1,062	9'-1"	24	22	62	0.872	193.4	0.7	86	35.6	7,820
8'-0"	6'-0"	11"	9"	30'	194	#7	5"	9'-3"	3,668	194	#5	5"	11'-0"	2,226	6'-9"	4'-3"	194	#5	5"	7'-2"	1,450	4'-3"	2'-11"	56	6'-0"	224	6	18"	39'-9"	159	42	39'-9"	1,115	9'-3"	25	22	62	0.978	221.1	0.7	87	39.8	8,929
8'-0"	7'-0"	7"	7"	13'	194	#6	5"	8'-11"	2,598	194	#5	5"	11'-8"	2,361	7'-5"	4'-3"	194	#5	5"	6'-10"	1,383	4'-3"	2'-7"	56	7'-0"	262	13	7"	39'-9"	345	40	39'-9"	1,062	8'-11"	24	20	57	0.699	200.3	0.7	81	28.7	8,092
8'-0"	7'-0"	8"	7"	16'	194	#6	5"	8'-11"	2,598	194	#5	5"	11'-9"	2,378	7'-6"	4'-3"	194	#5	5"	6'-11"	1,400	4'-3"	2'-8"	56	7'-0"	262	6	18"	39'-9"	159	40	39'-9"	1,062	8'-11"	24	20	57	0.755	196.5	0.7	81	30.9	7,940
8'-0"	7'-0"	9"	8"	20'	194	#6	5"	9'-1"	2,647	194	#5	5"	11'-10"	2,394	7'-7"	4'-3"	194	#5	5"	7'-0"	1,416	4'-3"	2'-9"	56	7'-0"	262	6	18"	39'-9"	159	40	39'-9"	1,062	9'-1"	24	22	62	0.864	198.5	0.7	86	35.3	8,026
8'-0"	7'-0"	10"	8"	23'	162	#7	6"	9'-1"	3,008	194	#5	5"	11'-11"	2,411	7'-8"	4'-3"	194	#5	5"	7'-1"	1,433	4'-3"	2'-10"	56	7'-0"	262	6	18"	39'-9"	159	40	39'-9"	1,062	9'-1"	24	22	62	0.922	208.4	0.7	86	37.6	8,421
8'-0"	7'-0"	11"	9"	30'	194	#7	5"	9'-3"	3,668	194	#5	5"	12'-0"	2,428	7'-9"	4'-3"	194	#5	5"	7'-2"	1,450	4'-3"	2'-11"	56	7'-0"	262	6	18"	39'-9"	159	42	39'-9"	1,115	9'-3"	25	22	62	1.034	227.1	0.7	87	42.1	9,169
8'-0"	8'-0"	7"	7"	13'	194	#6	5"	8'-11"	2,598	194	#5	5"	12'-8"	2,563	8'-5"	4'-3"	194	#5	5"	6'-10"	1,383	4'-3"	2'-7"	56	8'-0"	299	13	7"	39'-9"	345	44	39'-9"	1,168	8'-11"	24	20	57	0.742	208.9	0.7	81	30.4	8,437
8'-0"	8'-0"	8"	7"	16'	194	#6	5"	8'-11"	2,598	194	#5	5"	12'-9"	2,580	8'-6"	4'-3"	194	#5	5"	6'-11"	1,400	4'-3"	2'-8"	56	8'-0"	299	6	18"	39'-9"	159	44	39'-9"	1,168	8'-11"	24	20	57	0.798	205.1	0.7	81	32.6	8,285
8'-0"	8'-0"	9"	8"	20'	194	#6	5"	9'-1"	2,647	194	#5	5"	12'-10"	2,597	8'-7"	4'-3"	194	#5	5"	7'-0"	1,416	4'-3"	2'-9"	56	8'-0"	299	6	18"	39'-9"	159	44	39'-9"	1,168	9'-1"	24	22	62	0.914	207.2	0.7	86	37.3	8,372
8'-0"	8'-0"	10"	8"	23'	162	#7	6"	9'-1"	3,008	194	#5	5"	12'-11"	2,614	8'-8"	4'-3"	194	#5	5"	7'-1"	1,433	4'-3"	2'-10"	56	8'-0"	299	6	18"	39'-9"	159	44	39'-9"	1,168	9'-1"	24	22	62	0.971	217.0	0.7	86	39.5	8,767
8'-0"	8'-0"	11"	9"	30'	194	#7	5"	9'-3"	3,668	194	#5	5"	13'-0"	2,630	8'-9"	4'-3"	194	#5	5"	7'-2"	1,450	4'-3"	2'-11"	56	8'-0"	299	6	18"	39'-9"	159	46	39'-9"	1,221	9'-3"	25	22	62	1.090	235.7	0.7	87	44.3	9,514

⑤ For each box size, minimum fill height shown shall be used for all culverts with less than 2'-0" of fill.

Deformed welded wire reinforcement (WWR) meeting the requirements of ASTM A1064 may be used to replace conventional reinforcement shown at the Contractor's option. The area of required reinforcement may be reduced by the ratio of 60 ksi / 70 ksi. Spacing of WWR is limited to 4" Min and 18" Max. When required, provide lap splices in the WWR of the same length required for the equivalent bar size, rounded up for wire sizes between conventional bar sizes.

 Example Conversion: Replacement of No. 6 Gr 60 at 6" Spacing with WWR.
 WWR required = (0.44 sq in / 0.5') x (60 ksi / 70 ksi) = 0.754 sq in/ft.
 If D30.6 wire is used to meet the 0.754 sq in/ft requirement in this example, the required spacing = (0.306 sq in / 0.754 sq in/ft) x 12 in/ft = 4.87" Max spacing.
 Required lap length for the provided D30.6 wire is 2'-2" (Lap required for uncoated No. 5 bars, as shown in Item 440).

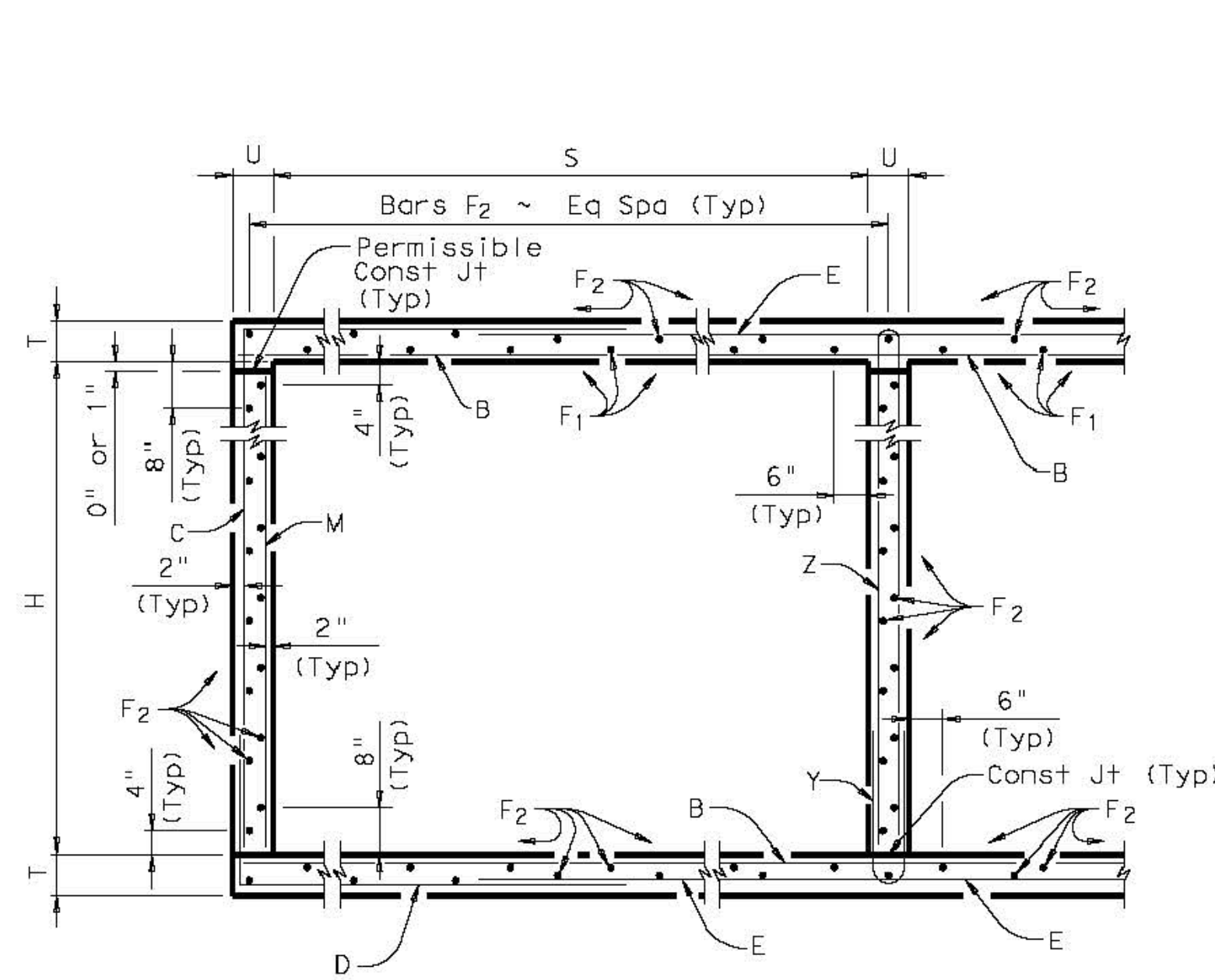
HL93 LOADING SHEET 2 OF 2

SINGLE BOX CULVERTS CAST-IN-PLACE 0' TO 30' FILL			
SCC-8			
FILE: scc08ste.dgn	DN: GAF	CK: LMW	DW: BWH/TXDOT
©TxDOT February 2010	CONT	SECT	JOB
REVISIONS			
10-12: Added WWR	DATE	COUNTY	SHEET NO.

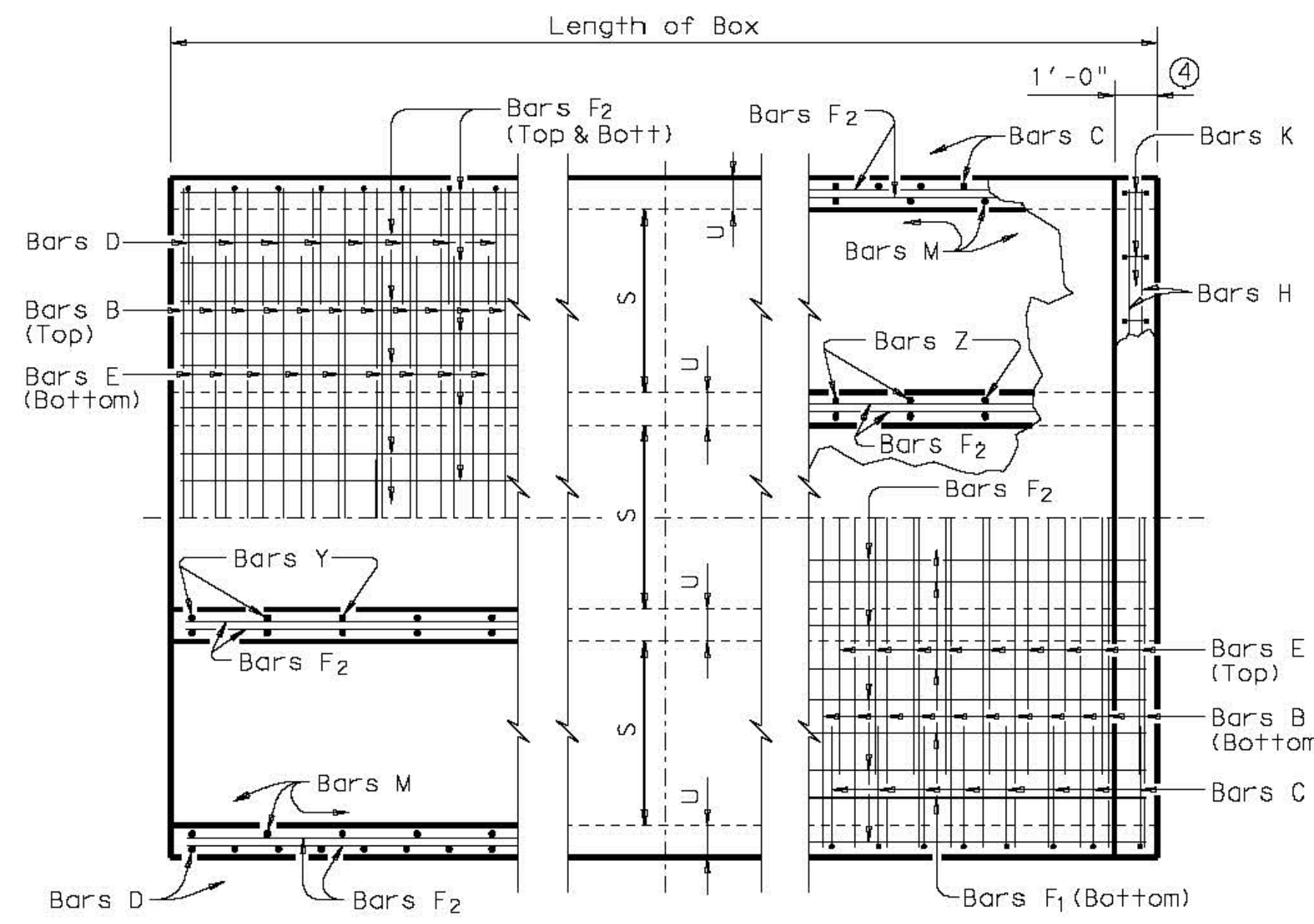
BASS AND WELSH ENGINEERING TX REGISTRATION NO. F-52, 3054 S. ALAMEDA STREET CORPUS CHRISTI, TEXAS 78404			
PUBLIC IMPROVEMENTS TO KING'S LANDING UNIT 1 CORPUS CHRISTI, NUECES CO., TX			
TXDOT SINGLE BOX CULVERTS CAST-IN PLACE SCC-8			
DWN: _____	PLOT SCALE: 1" = 60'	CDM. NO. _____	BOX CULV DET
CHK: N. WELSH	SCALE (H): AS SHOWN	JOB NO. 18068	TXDOT 8' CIP
	SCALE (V): AS SHOWN		
	DATE PLOTTED 02/18/20		SHEET 28 OF 33

DISCLAIMER: The use of this standard is governed by the Texas Engineering Practice Act. No warranty of any kind is made by TxDOT for any purpose, whatsoever, in connection with the use of this standard or for incorrect results or damages resulting from its use.

DATE: FILE:



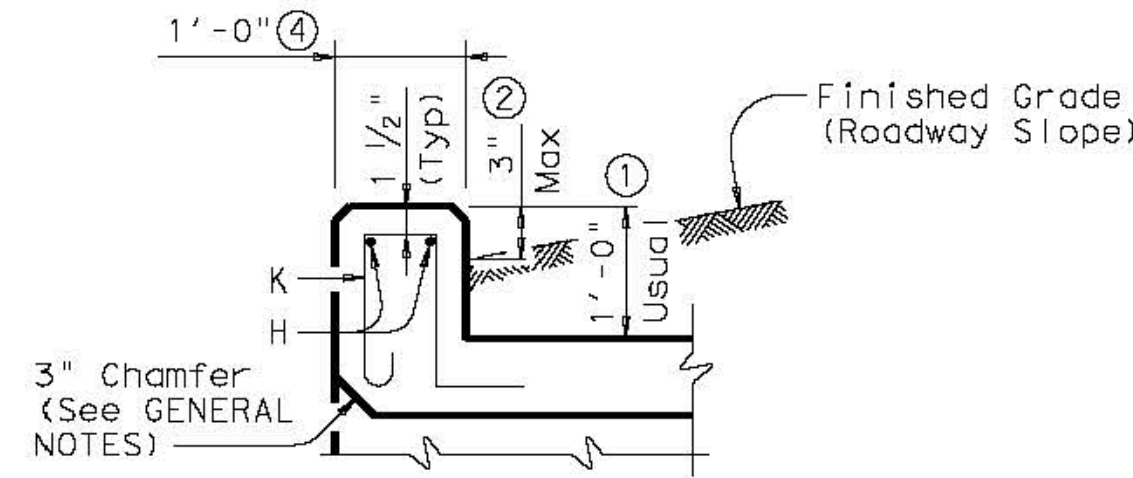
TYPICAL SECTION



BOTTOM SLAB

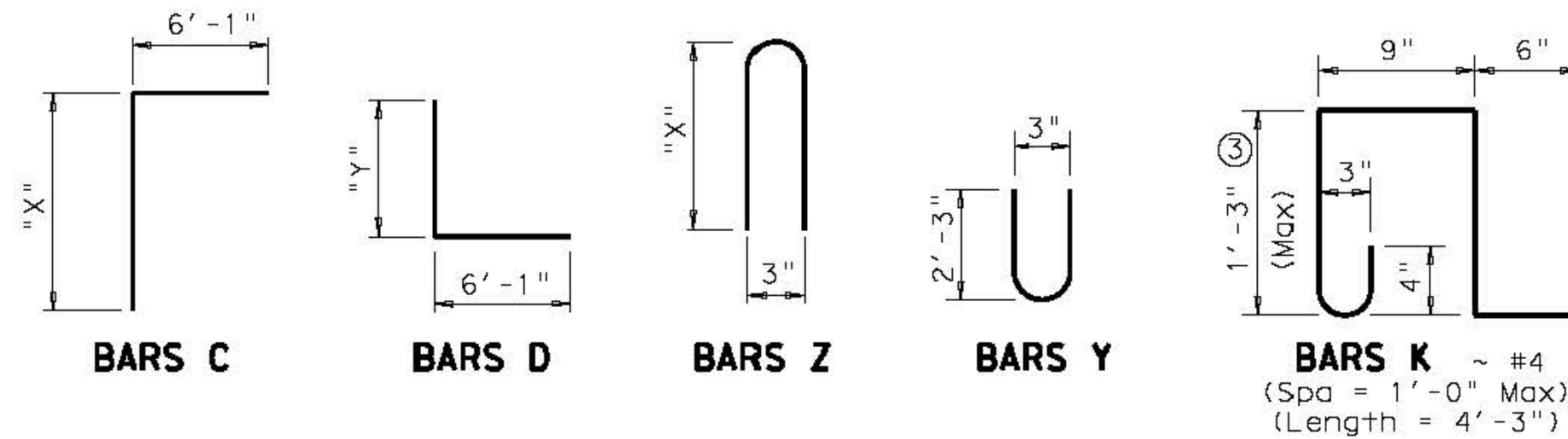
PART PLANS

TOP SLAB



SECTION THRU CURB

H	Bar Dimensions	
	"X"	"Y"
4'-0"	4'-6"	2'-3"
5'-0"	5'-6"	2'-3"
6'-0"	6'-6"	2'-3"
7'-0"	7'-6"	2'-3"
8'-0"	8'-6"	2'-8"



- 0" min to 5'-0" max. Estimated curb heights are shown elsewhere in the plans. For structures with pedestrian rail, bicycle rail or curbs taller than 1'-0", refer to ECD standard. For structures with T6 bridge rail, refer to T6-CM standard. For structures with traffic rail, other than T6, refer to RAC standard.
- For vehicle safety, the following requirements must be met:
 - For structures without bridge rail, curbs shall project no more than 3" above finished grade.
 - For structures with bridge rail, curbs shall be flush with finished grade. Curb heights shall be reduced, if necessary, to meet the above requirements. No changes will be made in quantities and no additional compensation will be allowed for this work.
- For curbs less than 1'-0" high, tilt bars K or reduce bar height as necessary to maintain cover. For curbs less than 3" high, bars K may be omitted.
- 1'-0" typical. 2'-0" when RAC standard is referred to elsewhere in the plans.

Deformed welded wire reinforcement (WWR) meeting the requirements of ASTM A1064 may be used to replace conventional reinforcement shown at the Contractor's option. The area of required reinforcement may be reduced by the ratio of 60 ksi / 70 ksi. Spacing of WWR is limited to 4" Min and 18" Max. When required, provide lap splices in the WWR of the same length required for the equivalent bar size, rounded up for wire sizes between conventional bar sizes.

Example Conversion: Replacement of No. 6 Gr 60 at 6" Spacing with WWR.
 WWR required = (0.44 sq in/ 0.5') x (60 ksi/70 ksi) = 0.754 sq in/ft.
 If D30.6 wire is used to meet the 0.754 sq in/ft requirement in this example, the required spacing = (0.306 sq in/ 0.754 sq in/ft) x 12 in/ft = 4.87" Max spacing.
 Required lap length for the provided D30.6 wire is 2'-2" (Lap required for uncoated No. 5 bars, as shown in Item 440).

GENERAL NOTES:

Designed according to AASHTO LRFD Specifications. Designed to the maximum fill height shown. All reinforcing steel shall be Grade 60. All concrete shall be Class "C" with these exceptions: use Class "S" for top slabs of culverts with overlay, with 1-to-2 course surface treatment, or with the top slab as the final riding surface. Class "C" concrete shall have a minimum compressive strength of 3,600 psi. Class "S" concrete shall have a minimum compressive strength of 4,000 psi. The use of permanent forms is not allowed. The bottom edge of the top slab shall be chamfered 3" at the entrance. Reinforcing bars shall be adjusted to provide a minimum of 1 1/4" clear cover. Construction joints shown at the flow line may be raised a maximum of 6" at the Contractor's option. If this option is used, Bars M may be cut off or raised, Bars C and D may be reversed, and Bars Y and Z may be reversed. See standard MC-MD for skewed ends, angle sections and lengthening details.

HL93 LOADING SHEET 1 OF 2

Texas Department of Transportation Bridge Division Standard

MULTIPLE BOX CULVERTS CAST-IN-PLACE
8'-0" SPAN
0' TO 13' FILL
MC-8-13

FILE: mc813ste.dgn	DN: GAF	CK: LMW	OW: BWH/TxDOT	CK: GAF
TxDOT February 2010	CONT	SECT	JOB	HIGHWAY
REVISIONS				
10-12: Added WWR	DIST	COUNTY	SHEET NO.	

BASS AND WELSH ENGINEERING
 TX REGISTRATION NO. F-52, 3054 S. ALAMEDA STREET
 CORPUS CHRISTI, TEXAS 78404

PUBLIC IMPROVEMENTS TO
 KING'S LANDING UNIT 1
 CORPUS CHRISTI, NUECES CO., TX
 TxDOT MULTIPLE BOX CULVERTS,
 CAST-IN PLACE, MC-8-13

DWN: _____	PLOT SCALE: 1" = 50'	BOX CULV DET
CHK: N. WELSH	SCALE (P): AS SHOWN	COM. NO. TxDOT MC-8-13
	SCALE (V): AS SHOWN	JOB NO. 18068
	DATE PLOTTED 02/18/20	SHEET 29 OF 33

DISCLAIMER: The use of this standard is governed by the Texas Engineering Practice Act. No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.


DATE: FILE:

NUMBER OF SPANS	SECTION DIMENSIONS		BILLS OF REINFORCING STEEL (For Box Length = 40 feet)																								QUANTITIES																			
			Bars B				Bars C & D				Bars E		Bars F1 ~#4		Bars F2 ~#4 at 1'-6" Max		Bars M~#4 at 1'-6" Max		Bars Y & Z~#4 at 10" Max				Bars H 4~#4		Bars K		Per foot of Barrel		Curb		Total															
			S	H	T	U	No.	Size	Spa	Length	Wt	No.	Size	Spa	Bar C		Bar D		No.	Size	Spa	Length	Wt	No.	Spa	Length	Wt	No.	Length	Wt	No.	Length	Wt	No.	Bar Y Length	Bar Y Wt	Bar Z Length	Bar Z Wt	Length	Weight	No.	Weight	Conc (CY)	Reinf (Lb)	Conc (CY)	Reinf (Lb)
2	8'-0"	4'-0"	8"	7"	162	#5	6"	17'-6"	2,957	194	#4	5"	10'-7"	1,372	8'-4"	1,080	194	#6	5"	8'-10"	2,574	22	9"	39'-9"	584	56	39'-9"	1,487	56	4'-0"	150	49	4'-8"	153	9'-2"	300	17'-6"	47	38	108	1.136	266.4	1.3	155	46.7	10,812
3	8'-0"	4'-0"	8"	7"	162	#5	6"	26'-1"	4,407	194	#4	5"	10'-7"	1,372	8'-4"	1,080	194	#6	5"	17'-5"	5,075	36	8"	39'-9"	956	80	39'-9"	2,124	56	4'-0"	150	98	4'-8"	305	9'-2"	600	26'-1"	70	54	153	1.646	401.7	2.0	223	67.8	16,292
4	8'-0"	4'-0"	8"	7"	162	#5	6"	34'-8"	5,857	194	#4	5"	10'-7"	1,372	8'-4"	1,080	194	#6	5"	26'-0"	7,576	48	8"	39'-9"	1,275	104	39'-9"	2,762	56	4'-0"	150	147	4'-8"	458	9'-2"	900	34'-8"	93	72	204	2.156	535.8	2.6	297	88.8	21,727
5	8'-0"	4'-0"	8"	7"	162	#5	6"	43'-3"	7,308	194	#4	5"	10'-7"	1,372	8'-4"	1,080	194	#6	5"	34'-7"	10,077	60	8"	39'-9"	1,593	128	39'-9"	3,399	56	4'-0"	150	196	4'-8"	611	9'-2"	1,200	43'-3"	116	90	256	2.667	669.8	3.2	372	109.9	27,162
6	8'-0"	4'-0"	8"	7"	162	#5	6"	51'-10"	8,758	194	#4	5"	10'-7"	1,372	8'-4"	1,080	194	#6	5"	43'-2"	12,578	72	8"	39'-9"	1,912	152	39'-9"	4,036	56	4'-0"	150	245	4'-8"	764	9'-2"	1,500	51'-10"	138	106	301	3.177	803.8	3.9	439	131.0	32,589
2	8'-0"	5'-0"	8"	7"	194	#5	5"	17'-6"	3,541	194	#4	5"	11'-7"	1,501	8'-4"	1,080	194	#6	5"	8'-10"	2,574	22	9"	39'-9"	584	62	39'-9"	1,646	56	5'-0"	187	49	4'-8"	153	11'-2"	366	17'-6"	47	38	108	1.201	290.8	1.3	155	49.3	11,787
3	8'-0"	5'-0"	8"	7"	194	#5	5"	26'-1"	5,278	194	#4	5"	11'-7"	1,501	8'-4"	1,080	194	#6	5"	17'-5"	5,075	36	8"	39'-9"	956	88	39'-9"	2,337	56	5'-0"	187	98	4'-8"	305	11'-2"	731	26'-1"	70	54	153	1.733	436.3	2.0	223	71.3	17,673
4	8'-0"	5'-0"	8"	7"	194	#5	5"	34'-8"	7,015	194	#4	5"	11'-7"	1,501	8'-4"	1,080	194	#6	5"	26'-0"	7,576	48	8"	39'-9"	1,275	114	39'-9"	3,027	56	5'-0"	187	147	4'-8"	458	11'-2"	1,097	34'-8"	93	72	204	2.264	580.4	2.6	297	93.2	23,513
5	8'-0"	5'-0"	8"	7"	194	#5	5"	43'-3"	8,751	194	#4	5"	11'-7"	1,501	8'-4"	1,080	194	#6	5"	34'-7"	10,077	60	8"	39'-9"	1,593	140	39'-9"	3,717	56	5'-0"	187	196	4'-8"	611	11'-2"	1,462	43'-3"	116	90	256	2.796	724.5	3.2	372	115.0	29,351
6	8'-0"	5'-0"	8"	7"	194	#5	5"	51'-10"	10,488	194	#4	5"	11'-7"	1,501	8'-4"	1,080	194	#6	5"	43'-2"	12,578	72	8"	39'-9"	1,912	166	39'-9"	4,408	56	5'-0"	187	245	4'-8"	764	11'-2"	1,828	51'-10"	138	106	301	3.328	868.7	3.9	439	137.0	35,185
2	8'-0"	6'-0"	8"	7"	194	#5	5"	17'-6"	3,541	194	#4	5"	12'-7"	1,631	8'-4"	1,080	194	#6	5"	8'-10"	2,574	22	9"	39'-9"	584	68	39'-9"	1,806	56	6'-0"	224	49	4'-8"	153	13'-2"	431	17'-6"	47	38	108	1.265	300.6	1.3	155	51.9	12,179
3	8'-0"	6'-0"	8"	7"	194	#5	5"	26'-1"	5,278	194	#4	5"	12'-7"	1,631	8'-4"	1,080	194	#6	5"	17'-5"	5,075	36	8"	39'-9"	956	96	39'-9"	2,549	56	6'-0"	224	98	4'-8"	305	13'-2"	862	26'-1"	70	54	153	1.819	449.0	2.0	223	74.8	18,183
4	8'-0"	6'-0"	8"	7"	194	#5	5"	34'-8"	7,015	194	#4	5"	12'-7"	1,631	8'-4"	1,080	194	#6	5"	26'-0"	7,576	48	8"	39'-9"	1,275	124	39'-9"	3,293	56	6'-0"	224	147	4'-8"	458	13'-2"	1,293	34'-8"	93	72	204	2.372	596.1	2.6	297	97.5	24,142
5	8'-0"	6'-0"	8"	7"	194	#5	5"	43'-3"	8,751	194	#4	5"	12'-7"	1,631	8'-4"	1,080	194	#6	5"	34'-7"	10,077	60	8"	39'-9"	1,593	152	39'-9"	4,036	56	6'-0"	224	196	4'-8"	611	13'-2"	1,724	43'-3"	116	90	256	2.926	743.2	3.2	372	120.2	30,099
6	8'-0"	6'-0"	8"	7"	194	#5	5"	51'-10"	10,488	194	#4	5"	12'-7"	1,631	8'-4"	1,080	194	#6	5"	43'-2"	12,578	72	8"	39'-9"	1,912	180	39'-9"	4,780	56	6'-0"	224	245	4'-8"	764	13'-2"	2,155	51'-10"	138	106	301	3.479	890.3	3.9	439	143.1	36,051
2	8'-0"	7'-0"	8"	7"	194	#5	5"	17'-6"	3,541	194	#4	5"	13'-7"	1,760	8'-4"	1,080	194	#6	5"	8'-10"	2,574	22	9"	39'-9"	584	68	39'-9"	1,806	56	7'-0"	262	49	4'-8"	153	15'-2"	496	17'-6"	47	38	108	1.330	306.4	1.3	155	54.5	12,411
3	8'-0"	7'-0"	8"	7"	194	#5	5"	26'-1"	5,278	194	#4	5"	13'-7"	1,760	8'-4"	1,080	194	#6	5"	17'-5"	5,075	36	8"	39'-9"	956	96	39'-9"	2,549	56	7'-0"	262	98	4'-8"	305	15'-2"	993	26'-1"	70	54	153	1.905	456.5	2.0	223	78.2	18,481
4	8'-0"	7'-0"	8"	7"	194	#5	5"	34'-8"	7,015	194	#4	5"	13'-7"	1,760	8'-4"	1,080	194	#6	5"	26'-0"	7,576	48	8"	39'-9"	1,275	124	39'-9"	3,293	56	7'-0"	262	147	4'-8"	458	15'-2"	1,489	34'-8"	93	72	204	2.480	605.2	2.6	297	101.8	24,505
5	8'-0"	7'-0"	8"	7"	194	#5	5"	43'-3"	8,751	194	#4	5"	13'-7"	1,760	8'-4"	1,080	194	#6	5"	34'-7"	10,077	60	8"	39'-9"	1,593	152	39'-9"	4,036	56	7'-0"	262	196	4'-8"	611	15'-2"	1,986	43'-3"	116	90	256	3.056	753.9	3.2	372	125.4	30,528
6	8'-0"	7'-0"	8"	7"	194	#5	5"	51'-10"	10,488	194	#4	5"	13'-7"	1,760	8'-4"	1,080	194	#6	5"	43'-2"	12,578	72	8"	39'-9"	1,912	180	39'-9"	4,780	56	7'-0"	262	245	4'-8"	764	15'-2"	2,482	51'-10"	138	106	301	3.631	902.7	3.9	439	149.1	36,545
2	8'-0"	8'-0"	8"	7"	194	#5	5"	17'-6"	3,541	162	#5	6"	14'-7"	2,464	8'-9"	1,478	194	#6	5"	8'-10"	2,574	22	9"	39'-9"	584	74	39'-9"	1,965	56	8'-0"	299	49	4'-8"	153	17'-2"	562	17'-6"	47	38	108	1.395	340.5	1.3	155	57.1	13,775
3	8'-0"	8'-0"	8"	7"	194	#5	5"	26'-1"	5,278	162	#5	6"	14'-7"	2,464	8'-9"	1,478	194	#6	5"	17'-5"	5,075	36	8"	39'-9"	956	104	39'-9"	2,762	56	8'-0"	299	98	4'-8"	305	17'-2"	1,124	26'-1"	70	54	153	1.992	493.5	2.0	223	81.7	19,964
4	8'-0"	8'-0"	8"	7"	194	#5	5"	34'-8"	7,015	162	#5	6"	14'-7"	2,464	8'-9"	1,478	194	#6	5"	26'-0"	7,576	48	8"	39'-9"	1,275	134	39'-9"	3,558	56	8'-0"	299	147	4'-8"	458	17'-2"	1,686	34'-8"	93	72	204	2.588	645.2	2.6	297	106.1	26,106
5	8'-0"	8'-0"	8"	7"	194	#5	5"	43'-3"	8,751	162	#5	6"	14'-7"	2,464	8'-9"	1,478	194	#6	5"	34'-7"	10,077	60	8"	39'-9"	1,593	164	39'-9"	4,355	56	8'-0"	299	196	4'-8"	611	17'-2"	2,248	43'-3"	116	90	256	3.185	796.9	3.2	372	130.6	32,248
6	8'-0"	8'-0"	8"	7"	194	#5	5"	51'-10"	10,488	162	#5	6"	14'-7"	2,464	8'-9"	1,478	194	#6	5"	43'-2"	12,578	72	8"	39'-9"	1,912	194	39'-9"	5,151	56	8'-0"	299	245	4'-8"	764	17'-2"	2,809	51'-10"	138	106	301	3.782	948.6	3.9	439	155.2	38,822

Deformed welded wire reinforcement (WWR) meeting the requirements of ASTM A1064 may be used to replace conventional reinforcement shown at the Contractor's option. The area of required reinforcement may be reduced by the ratio of 60 ksi / 70 ksi. Spacing of WWR is limited to 4" Min and 18" Max. When required, provide lap splices in the WWR of the same length required for the equivalent bar size, rounded up for wire sizes between conventional bar sizes.

Example Conversion: Replacement of No. 6 Gr 60 at 6" Spacing with WWR.
WWR required = (0.44 sq in / 0.5') x (60 ksi/70 ksi) = 0.754 sq in/ft.
If D30.6 wire is used to meet the 0.754 sq in/ft requirement in this example, the required spacing = (0.306 sq in / 0.754 sq in/ft) x 12 in/ft = 4.87" Max spacing.
Required lap length for the provided D30.6 wire is 2'-2" (Lap required for uncoated No. 5 bars, as shown in Item 440).

HL93 LOADING SHEET 2 OF 2

 **Bridge Division Standard**

**MULTIPLE BOX CULVERTS
CAST-IN-PLACE
8'-0" SPAN
0' TO 13' FILL
MC-8-13**

FILE: mc813ste.dgn	DN: GAF	CK: LMW	DW: BWH/TxDOT	CK: GAF
©TxDOT February 2010	CONT	SECT	JOB	HIGHWAY
REVISIONS				
10-12: Added WWR	DIST	COUNTY	SHEET NO.	

DISCLAIMER: The use of this standard is governed by the Texas Engineering Practice Act. No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: _____
 FILE: _____

TABLE OF DIMENSIONS & REINFORCING STEEL (Wings for One Structure End)

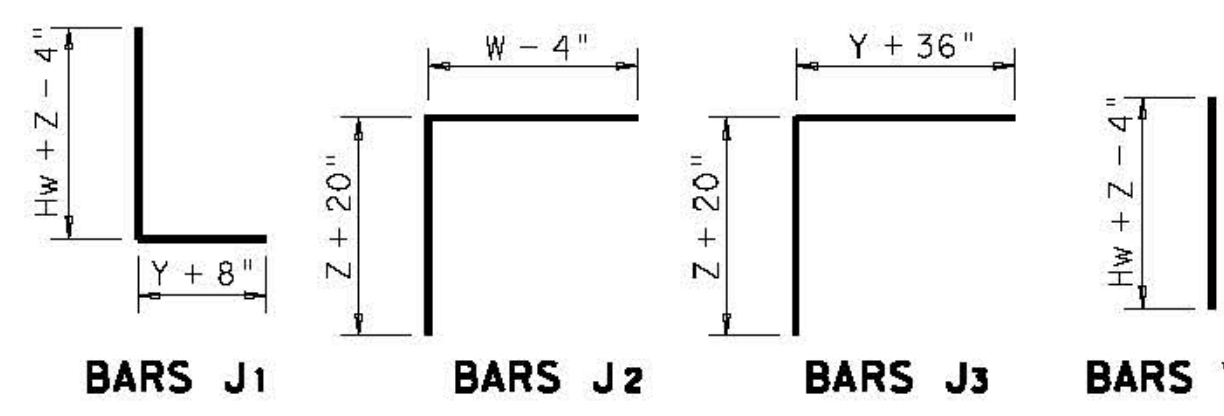
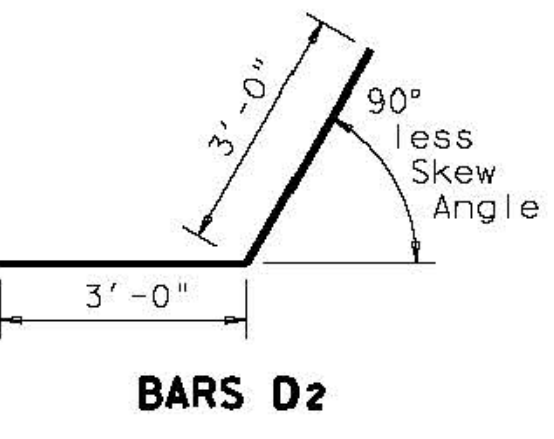
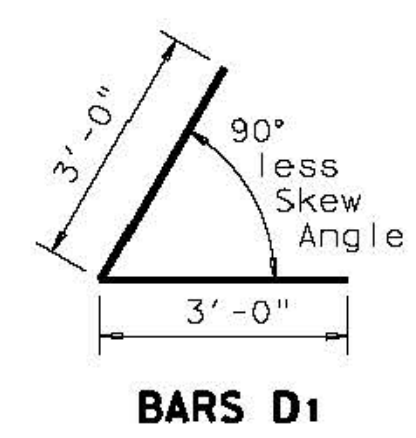
Maximum Wingwall Height Hw	Dimensions				Variable Reinforcing		Estimated Quantities per ft of wing (2-Wings)	Estimated Quantities per ft of Toewall (1-Toewall)				
	W	X	Y	Z	Bars							
					Size	Spa						
2'-6"	2'-10"	10"	1'-0"	7"	#4	1'-0"	#4	1'-0"	48.64	0.406	6.85	0.071
2'-9"	2'-10"	10"	1'-0"	7"	#4	1'-0"	#4	1'-0"	49.31	0.424	6.85	0.071
3'-0"	2'-10"	10"	1'-0"	7"	#4	1'-0"	#4	1'-0"	49.98	0.444	6.85	0.071
3'-3"	2'-10"	10"	1'-0"	7"	#4	1'-0"	#4	1'-0"	53.32	0.462	6.85	0.071
3'-6"	2'-10"	10"	1'-0"	7"	#4	1'-0"	#4	1'-0"	53.98	0.480	6.85	0.071
4'-0"	3'-2"	1'-2"	1'-0"	7"	#4	1'-0"	#4	1'-0"	55.77	0.532	6.85	0.071
4'-6"	3'-2"	1'-2"	1'-0"	7"	#4	1'-0"	#4	1'-0"	59.77	0.568	6.85	0.071
5'-0"	3'-9"	1'-7"	1'-2"	7"	#4	1'-0"	#4	1'-0"	63.45	0.632	6.96	0.075
5'-6"	3'-9"	1'-7"	1'-2"	7"	#4	1'-0"	#4	1'-0"	67.46	0.668	6.96	0.075
6'-0"	4'-4"	2'-0"	1'-4"	7"	#5	1'-0"	#5	1'-0"	80.67	0.730	7.07	0.078
6'-6"	4'-4"	2'-0"	1'-4"	7"	#5	1'-0"	#5	1'-0"	85.05	0.768	7.07	0.078
7'-0"	5'-0"	2'-3"	1'-9"	8"	#5	1'-0"	#5	1'-0"	92.15	0.864	8.07	0.093
7'-6"	5'-0"	2'-3"	1'-9"	8"	#5	1'-0"	#5	1'-0"	96.54	0.902	8.07	0.093
8'-0"	5'-6"	2'-8"	1'-10"	8"	#5	6"	#5	6"	139.04	0.962	8.13	0.095
8'-6"	5'-6"	2'-8"	1'-10"	8"	#5	6"	#5	6"	144.47	1.000	8.13	0.095
9'-6"	6'-0"	2'-10"	2'-2"	9"	#5	6"	#5	6"	156.93	1.136	8.41	0.110
10'-6"	6'-5"	3'-0"	2'-5"	9"	#6	6"	#5	6"	196.27	1.234	8.57	0.117
11'-6"	7'-2"	3'-6"	2'-8"	11"	#6	6"	#6	6"	230.13	1.438	9.52	0.140
12'-6"	7'-8"	3'-9"	2'-11"	1'-0"	#7	6"	#6	6"	283.41	1.592	9.74	0.157
13'-6"	8'-2"	4'-0"	3'-2"	1'-2"	#8	6"	#6	6"	348.72	1.804	10.02	0.186
14'-6"	8'-10"	4'-5"	3'-5"	1'-4"	#9	6"	#6	6"	432.94	2.046	10.30	0.218
15'-6"	9'-6"	4'-10"	3'-8"	1'-6"	#9	6"	#7	6"	489.52	2.302	11.24	0.253
16'-0"	9'-11"	5'-0"	3'-11"	1'-7"	#9	6"	#7	6"	505.72	2.448	11.47	0.279

TABLE OF WINGWALL REINFORCING (2-Wings)

Bar	Size	No.	Spa
D1	#6	~	1'-0"
D2	#6	~	1'-0"
E1	#4	~	1'-0"
F	#4	~	1'-0"
G	#6	~	8"
M1	#4	4	~
P	#4	~	1'-0"
V	#4	~	1'-0"

TABLE OF TOEWALL REINFORCING

Bar	Size	No.	Spa
J3	#4	~	1'-0"
M2	#4	2	~
E2	#4	~	1'-0"



WING DIMENSION CALCULATIONS:

Formulas: (All values are in Feet)

$Hw = H + T + C$
 $Lw = (Hw) (SL) \div \text{Cosine } \theta$ for Ty PW-1
 $= (Hw - 1') (SL) \div \text{Cosine } \theta$ for Ty PW-2 and $Hw \geq 4'$
 $= (Hw - 0.5') (SL) \div \text{Cosine } \theta$ for Ty PW-2 and $Hw < 4'$

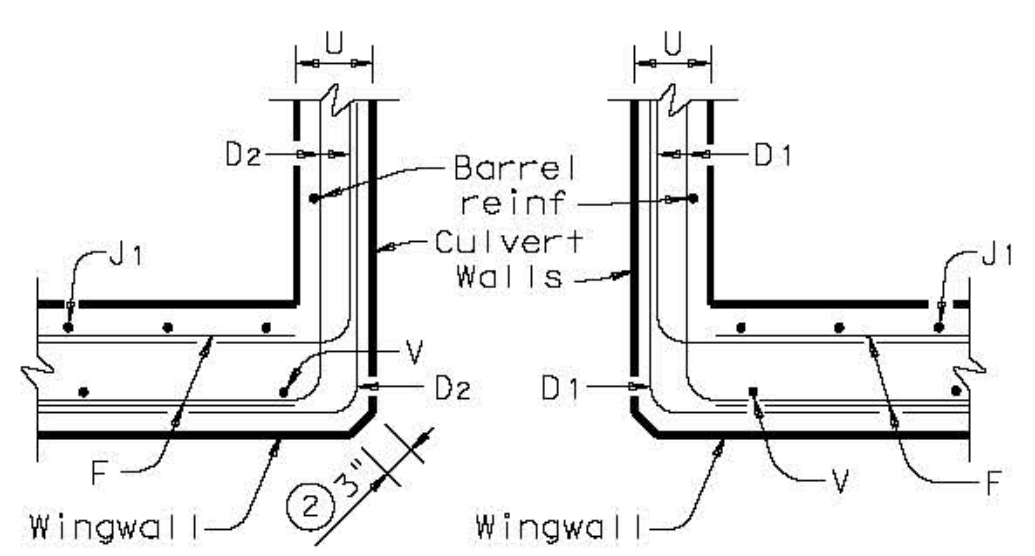
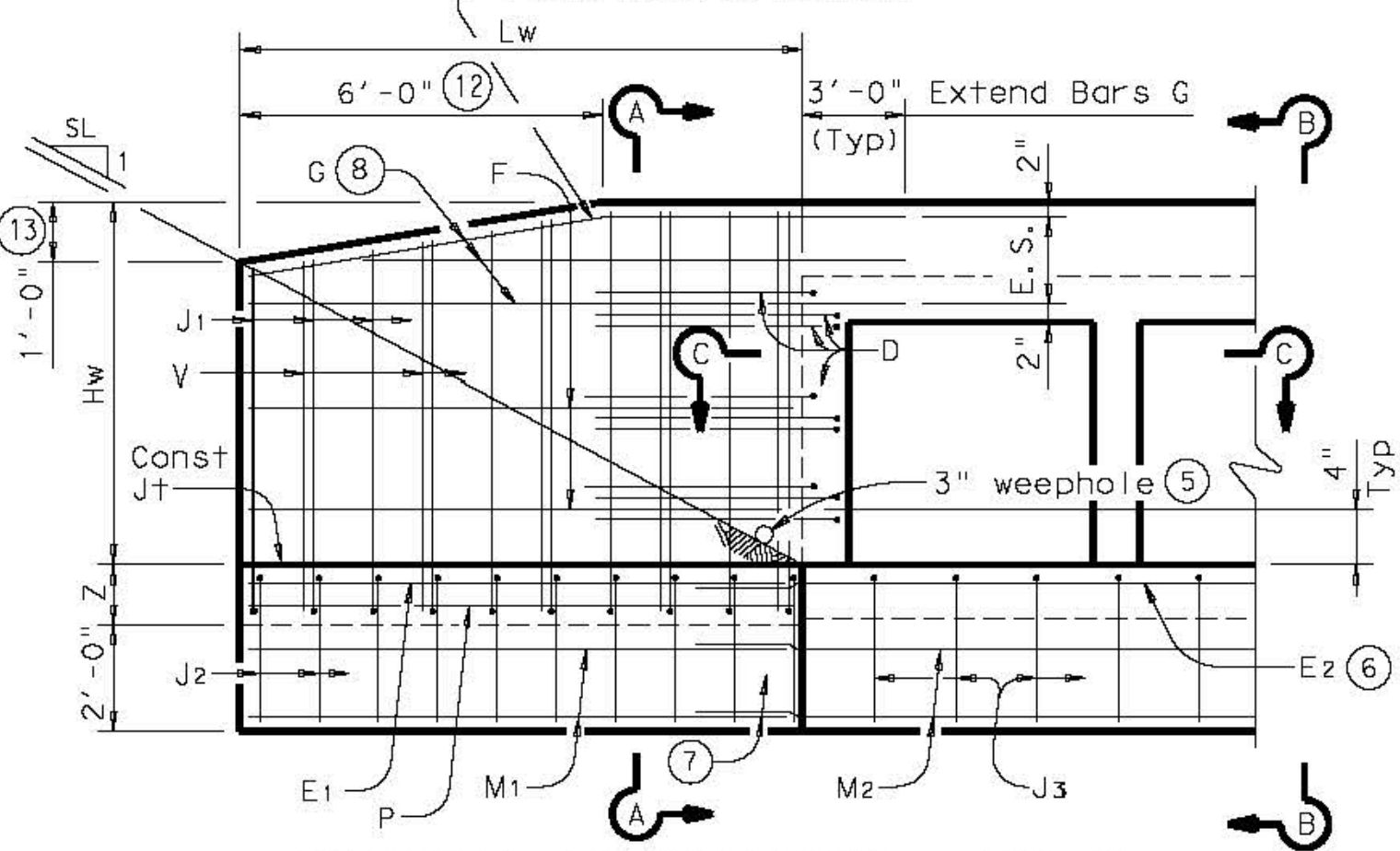
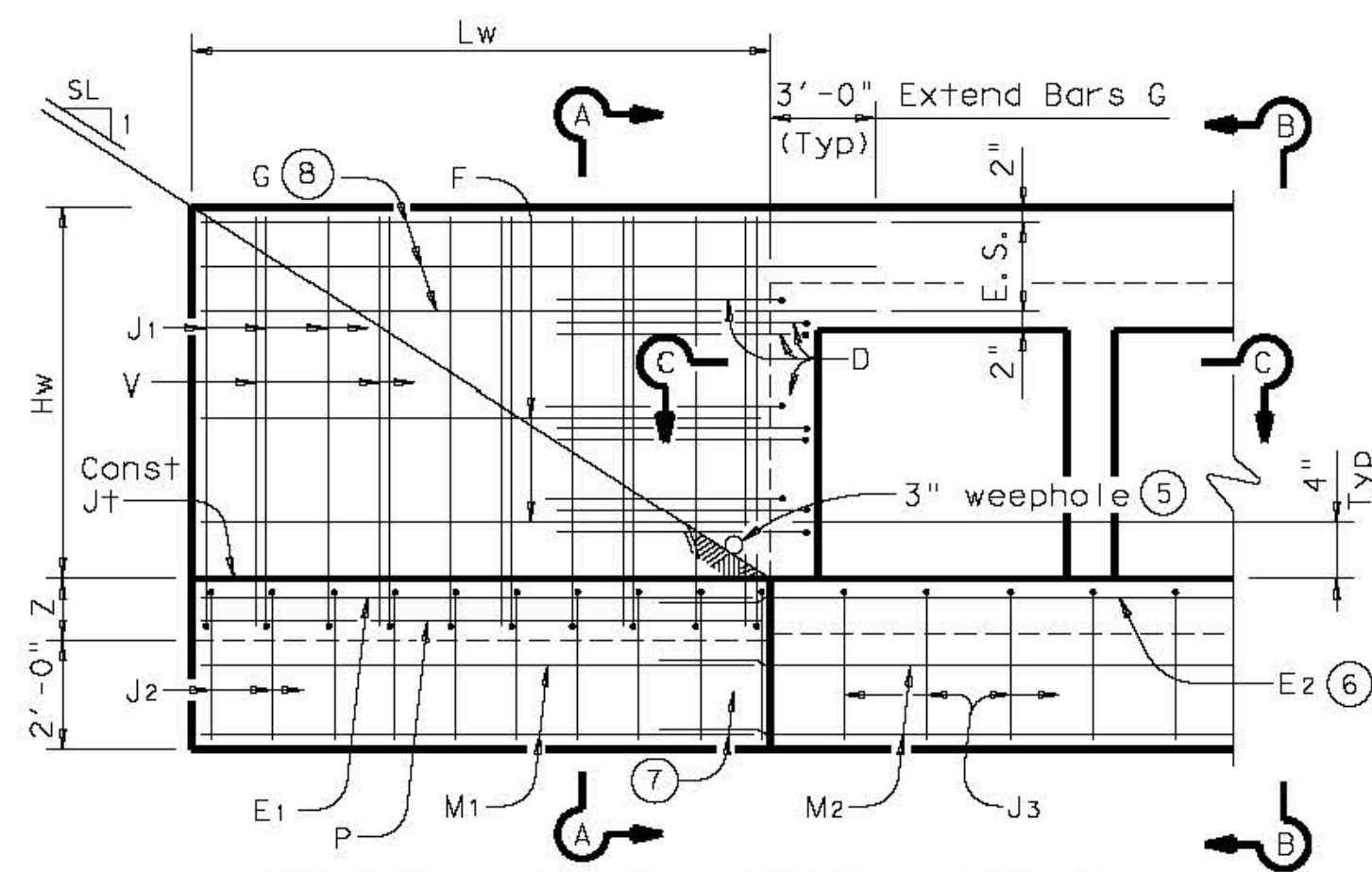
For Cast-in-place culverts:
 $Ltw = [(N) (S) + (N + 1) (U)] \div \text{Cosine } \theta$

For Precast culverts:
 $Ltw = [(N) (2U + S) + (N - 1) (0.5')] \div \text{Cosine } \theta$
 Total Wingwall Area (Two Wings ~ SF)
 $= (2) (Hw) (Lw)$ for Ty PW-1
 $= (2) (Hw) (Lw) - 6 \text{ SF}$ for Ty PW-2 and $Hw \geq 4'$
 $= (2) (Hw) (Lw) - 1.5 \text{ SF}$ for Ty PW-2 and $Hw < 4'$

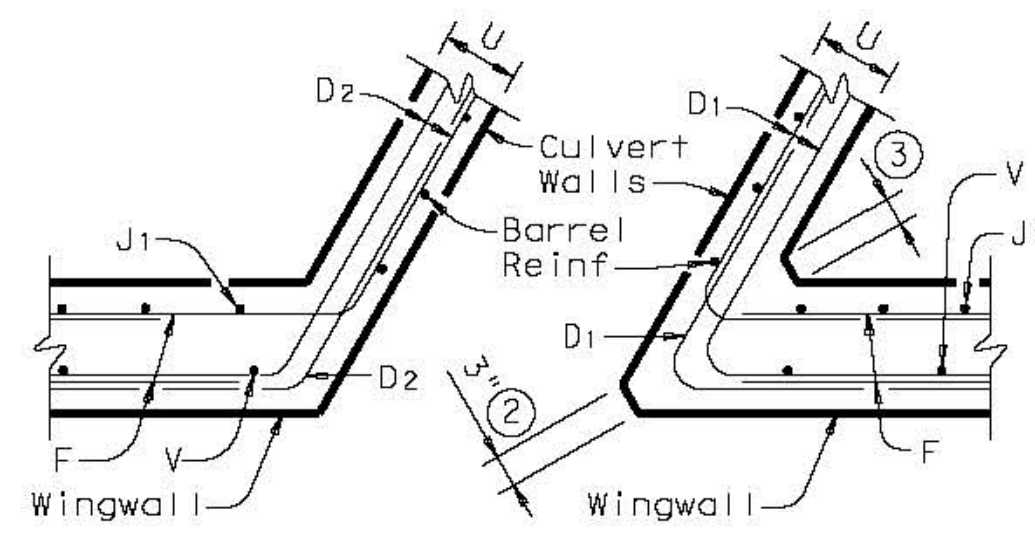
Hw = Height of Wingwall
 Lw = Length of Wingwall
 Ltw = Culvert Toewall Length
 N = Number of Culvert Spans
 $SL:1$ = Channel Slope ratio. (Horizontal: 1 Vertical, Usual value is 2:1)
 θ = Culvert Skew

See applicable box culvert standard for S, H, T and U values.

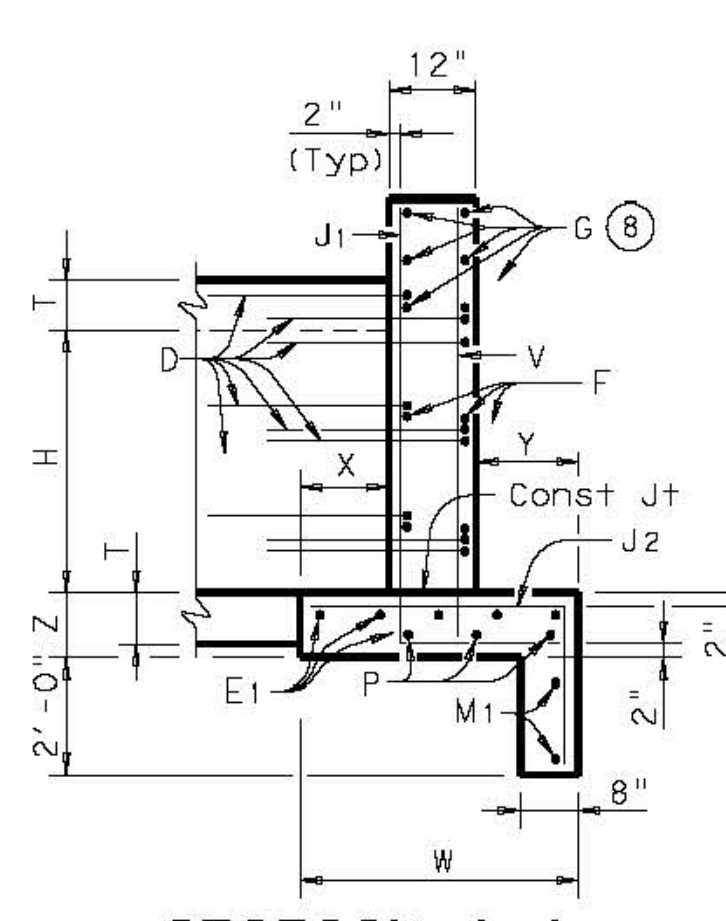
- Skew Angle = 0°
- At discharge end, chamfer may be 3/4".
- For 15° Skew ~ 1"
For 30° Skew ~ 2"
For 45° Skew ~ 3"
- Quantities shown are for two Type PW-1 wings. Adjust concrete volume for Type PW-2 wings. To determine estimated quantities for two wings, multiply the tabulated values by Lw. Quantities shown do not include weight of Bars D.
- Provide weepholes for Hw = 5'-0" and greater. Fill around weepholes with coarse gravel.
- Extend Bars E2 1'-6" minimum into the wingwall footing.
- Lap Bars M1 1'-6" minimum with Bars M2.
- Bars G equally spaced at 8" maximum, place as shown. Provide at least two pair Bars G per wing.
- 0" min to 5'-0" max. Estimated curb heights are shown elsewhere in the plans. For structures with pedestrian rail, bicycle rail or curbs taller than 1'-0", refer to ECD standard. For structures with T6 bridge rail, refer to T6-CM standard. For structures with traffic rail, other than T6, refer to RAC standard.
- For vehicle safety, the following requirements must be met:
 - For structures without bridge rail, curbs cannot project more than 3" above finished grade.
 - For structures with bridge rail, build curbs flush with finished grade.
 Reduce curb heights, if necessary, to meet the above requirements. No changes will be made in quantities and no additional compensation will be allowed for this work.
- 1'-0" typical. 2'-0" typical when RAC standard is referenced elsewhere in the plans.
- 3'-0" for Hw < 4'.
- 6" for Hw < 4'.



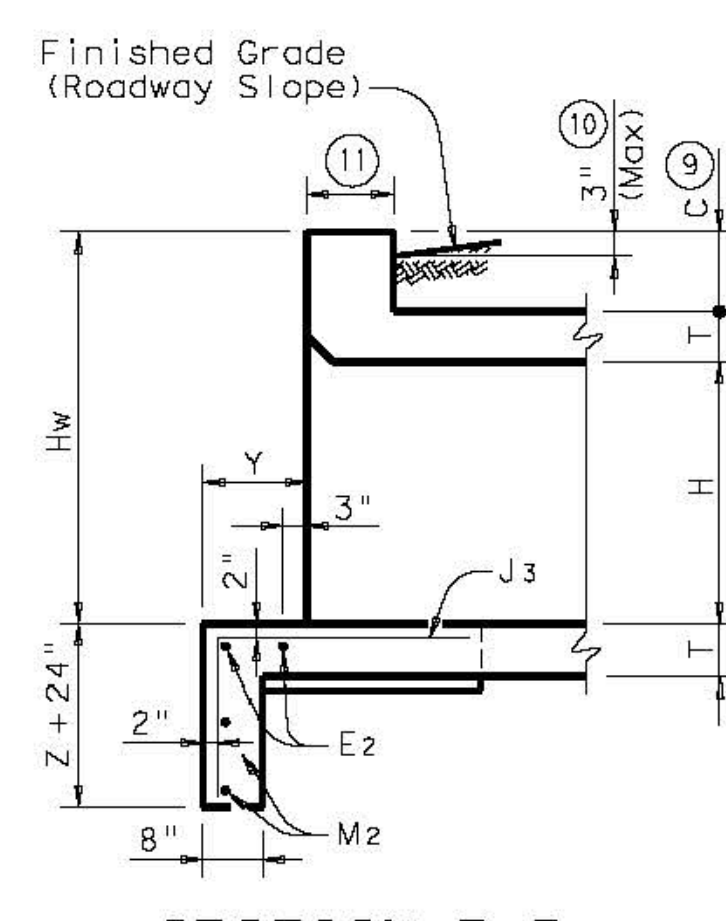
SECTION C-C



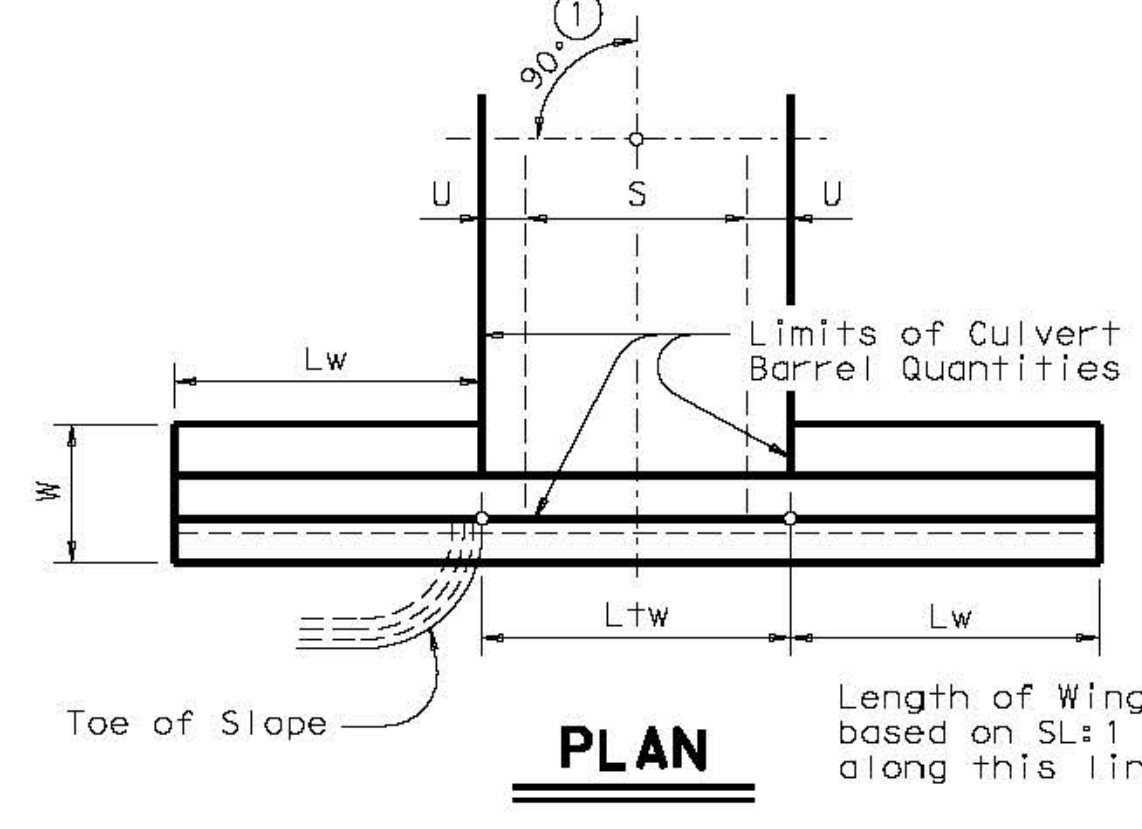
SECTION C-C



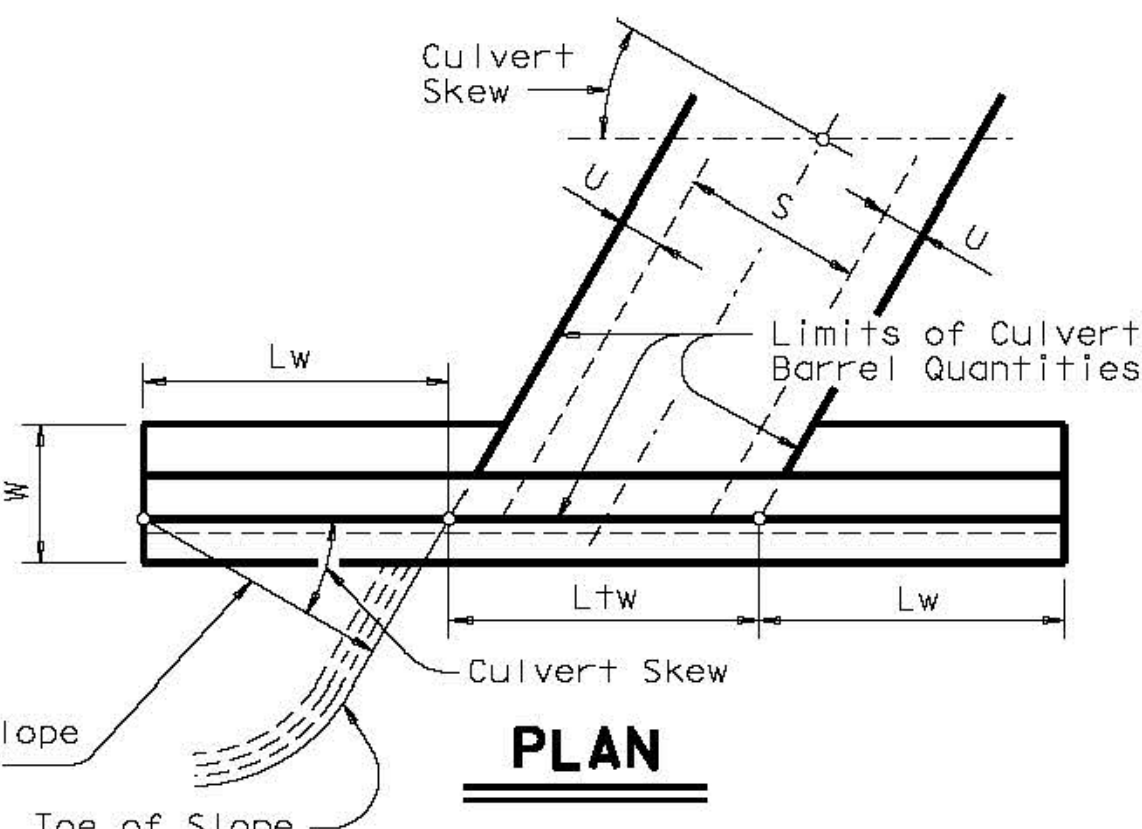
SECTION A-A
(Showing Wing Reinf)



SECTION B-B
(Showing Wing Reinf)



DETAILS FOR NON-SKEWED BOX CULVERTS



DETAILS FOR SKEWED BOX CULVERTS
(Showing 30° Skew)

GENERAL NOTES:

Designed in accordance with AASHTO LRFD Bridge Design Specifications.
 Provide Class "C" Concrete (f'c = 3,600 psi Min) and Grade 60 reinforcing steel.
 Provide 1 1/4" Min clear cover to reinforcing steel.
 Depth of toewalls for wingwalls and culverts may be reduced or eliminated when founded on solid rock, as directed by the Engineer.
 See BCS sheet for wingwall type and additional dimensions and information.
 The quantities for concrete and reinforcing steel resulting from the formulas given on this sheet are for the Contractor's information only.

DESIGNER NOTES:

Type PW-1 can be used for all applications and must be used if railing is to be mounted to the wingwall.
 Type PW-2 can only be used for applications without a railing mounted to the wingwall.

Bridge Division Standard
CONCRETE WINGWALLS WITH PARALLEL WINGS FOR BOX CULVERTS TYPES PW-1 AND PW-2
PW

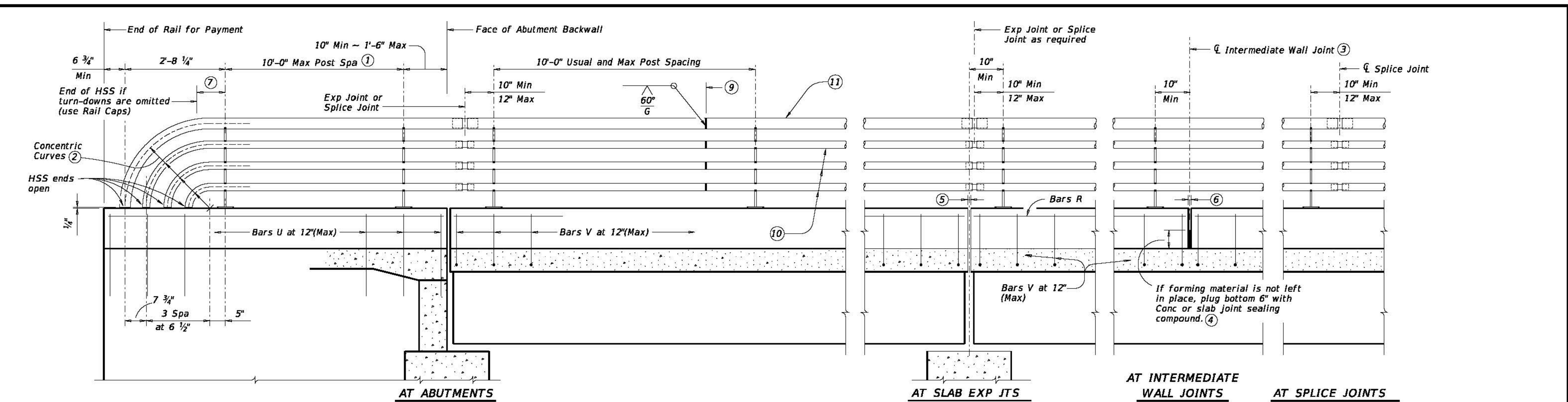
FILE: pws1de01.dgn	DWG: GAF	CHK: CAT	REV: TxDOT	CK: GAF
TxDOT February 2010	CONT	SECT	JOB	HIGHWAY
REVISIONS				
11-10: Reinforcing Quantities.				
01-12: PW-1 & PW-2.				
DIST	COUNTY	SHEET NO.		

BASS AND WELSH ENGINEERING
 TX REGISTRATION NO. F-52, 3054 S. ALAMEDA STREET
 CORPUS CHRISTI, TEXAS 78404
 PUBLIC IMPROVEMENTS TO
 KING'S LANDING UNIT 1
 CORPUS CHRISTI, NUECES CO., TX
 TxDOT CONCRETE WINGWALLS W/PARALLEL WINGS FOR BOX CULVERTS, PW-1 & PW-2

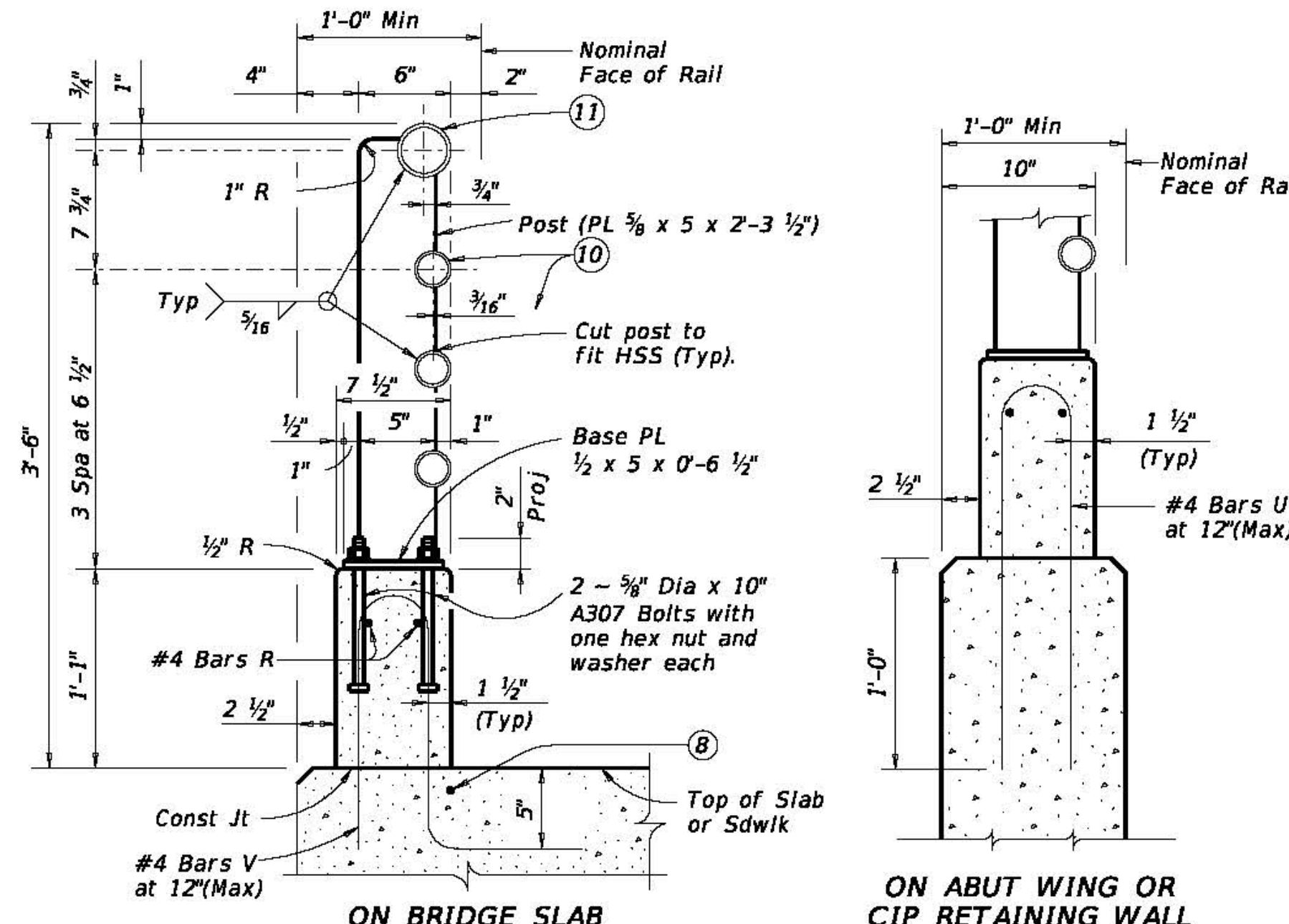
DWN: _____	PLOT SCALE: 1" = 50'	COM. NO. _____
CHK: N. WELSH	SCALE (S): AS SHOWN	JOB NO. 18068
	SCALE (V): AS SHOWN	SHEET 31 OF 33
	DATE PLOTTED 02/18/20	

DISCLAIMER: The use of this standard is governed by the Texas Engineering Practice Act. No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

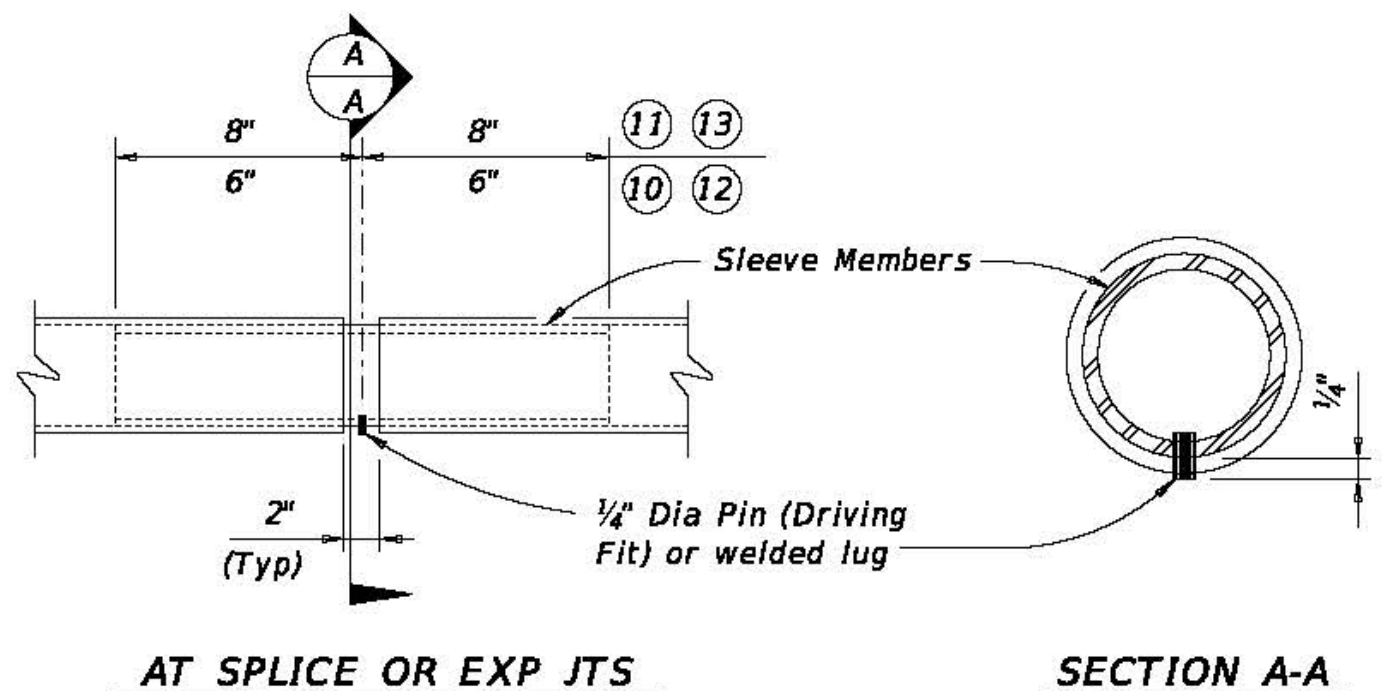
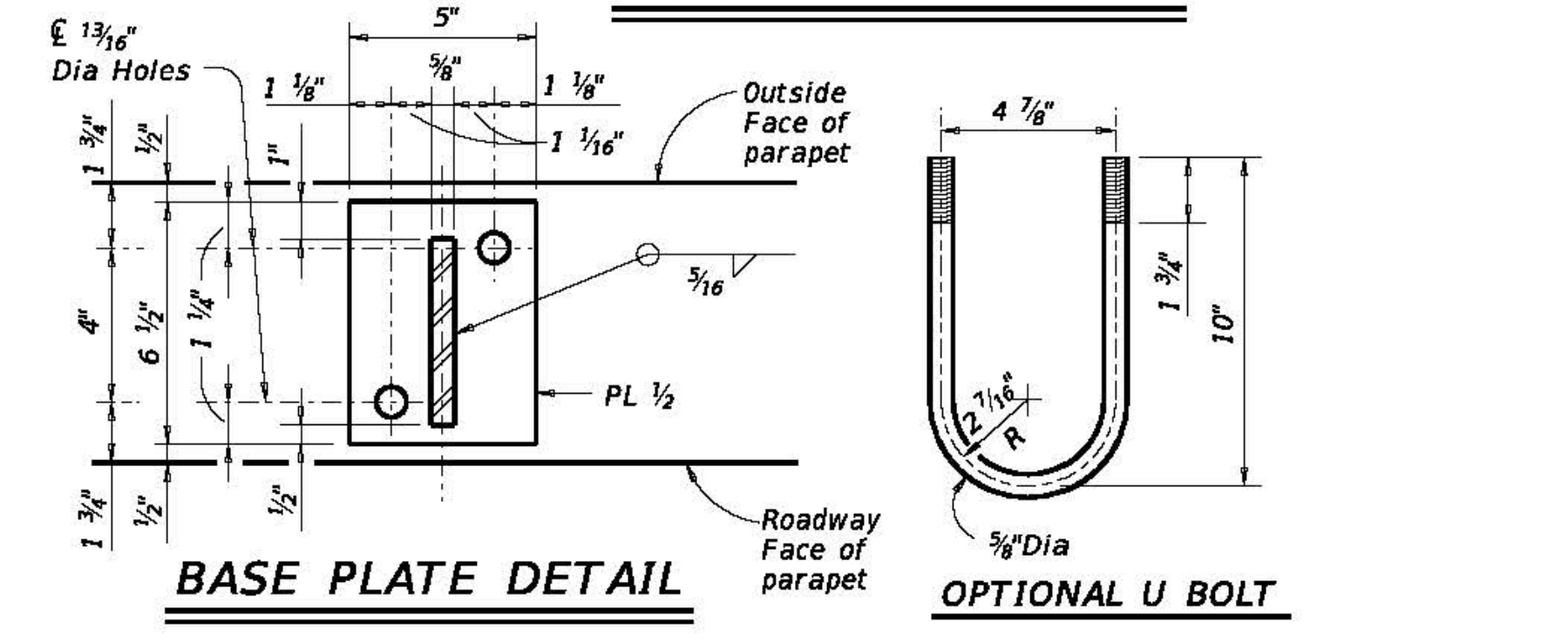
DATE: FILE:



ROADWAY ELEVATION OF RAIL

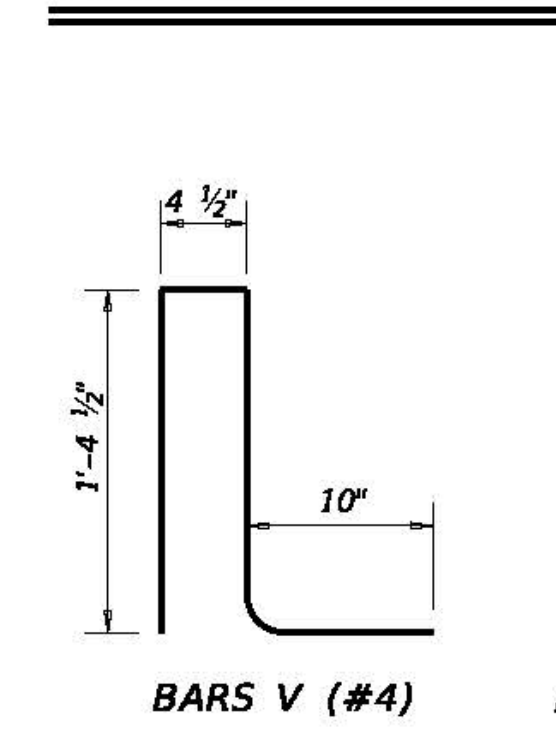


SECTIONS THRU RAIL



PIPE SPICE DETAIL

RAIL CAP DETAIL



CONSTRUCTION NOTES:
 Panel lengths of railing must be attached to a minimum of three posts except on abutment wingwalls. Face of rail, posts and parapet must be vertical transversely unless otherwise approved. Rail posts must be perpendicular to top of adjacent concrete parapet grade. Use Type VIII epoxy mortar under post base plates if gaps larger than 1/16" exist.
 For curved railing applications, fabricate the HSS rail to the radius when the radius is 600' or less. Submit shop drawings for approval when tubes are required to be fabricated to a radius. Shop drawings must be submitted to the Engineer for approval.
 Round or chamfer exposed edges of HSS rail and HSS rail posts to approximately 1/16" by grinding.

MATERIAL NOTES:
 Provide ASTM-A500 Grade B, A1085 or A53 Grade B for all HSS. Provide ASTM-A36 for post and plates.
 Galvanize all steel components unless otherwise shown.
 Anchor bolts must be 3/8" Dia ASTM A307 Grade A bolts (or A36 threaded rods with one tack welded hex nut each) with one hex nut and one hardened steel washer at each bolt. Threaded rods may be 0.557" minimum diameter with rolled threads. Nuts must conform to A563 requirements.
 Provide Class "C" concrete. Provide Class "C" (HPC) if required elsewhere.
 Epoxy coat all reinforcing if slab bars are epoxy coated.
 Provide Grade 60 reinforcing steel.
 Deformed Welded Wire Reinforcement (WWR) (ASTM A1064) of equal size and spacing may be substituted for Bars U, and V unless noted otherwise.
 Provide bar laps, where required, as follows:
 Uncoated ~ #4 = 1'-5"
 Epoxy coated ~ #4 = 2'-1"

GENERAL NOTES:
 Designed according to AASHTO LRFD Specifications.
 Do not use this railing on bridges with expansion joints providing more than 5" movement. Rail anchorage details shown on this standard may require modification for select structure types. See appropriate details elsewhere in plans for these modifications.
 For all rails, submit erection drawings showing section lengths, splice locations, rail post spacing and anchor bolt setting for approval.
 Average weight of railing: 102 plf ~ Conc (with no Overlay)
 23 plf ~ Steel
 Cover dimensions are clear dimensions, unless noted otherwise.
 Reinforcing bar dimensions shown are out-to-out of bar.

- 1 Min of 2 posts required on wingwall.
- 2 Portion of railing with turn-downs to be used or omitted as indicated on Bridge Layout.
- 3 Provide at all interior bents without slab expansion joints. Location independent of HSS rail splices.
- 4 Material used in forming joint may be left in place if it is compressible and light in color such as the following materials: polystyrene, molded cork granules, sponge rubber sheet, etc.
- 5 Same as Slab opening
- 6 1/4" Min ~ 3/4" Max
- 7 10" Min ~ 1'-6" Max if turn-downs are omitted.
- 8 Top longitudinal slab bar may be adjusted laterally 3" plus or minus to tie rail reinforcing.
- 9 One shop splice per panel is permitted (with minimum 85 percent penetration). The weld may be square groove or single vee groove. Grind smooth.
- 10 HSS 2.375 x 0.154
- 11 HSS 3.500 x 0.216
- 12 HSS 1.900 x 0.145
- 13 HSS 2.875 x 0.203

Texas Department of Transportation		Bridge Division Standard	
PEDESTRIAN RAIL			
TYPE PR2			
FILE: r1st0029.dgn	DN: TxDOT	CK: TxDOT	DW: JTR
REV: TxDOT July 2014	COM: SECT	JOB: HIGHWAY	CK: TxDOT
REVISORS	DIST	COUNTY	SHEET NO.

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF INTERIM REVIEW UNDER THE AUTHORITY OF NIXON M. WELSH, P.E. NO. 38240 OF BASS AND WELSH ENGINEERING, F 52. IT IS NOT TO BE USED FOR CONSTRUCTION OR BIDDING PURPOSES.

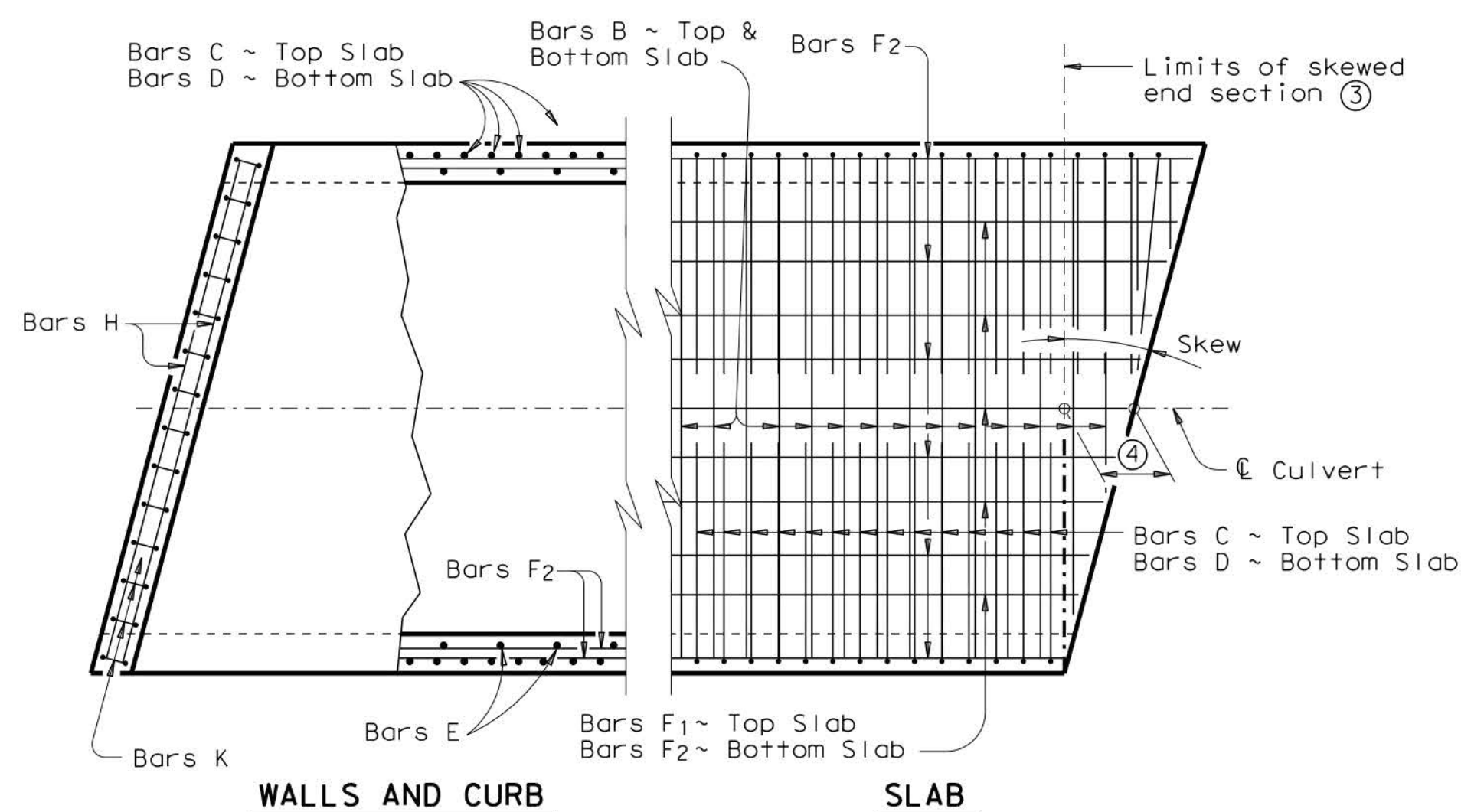
BASS AND WELSH ENGINEERING
 TX REGISTRATION NO. F-52, 3054 S. ALAMEDA STREET
 CORPUS CHRISTI, TEXAS 78404

PUBLIC IMPROVEMENTS TO
 KING'S LANDING UNIT 1
 CORPUS CHRISTI, NUECES CO., TX

TXDOT PEDESTRIAN RAIL, TYPE PR-2

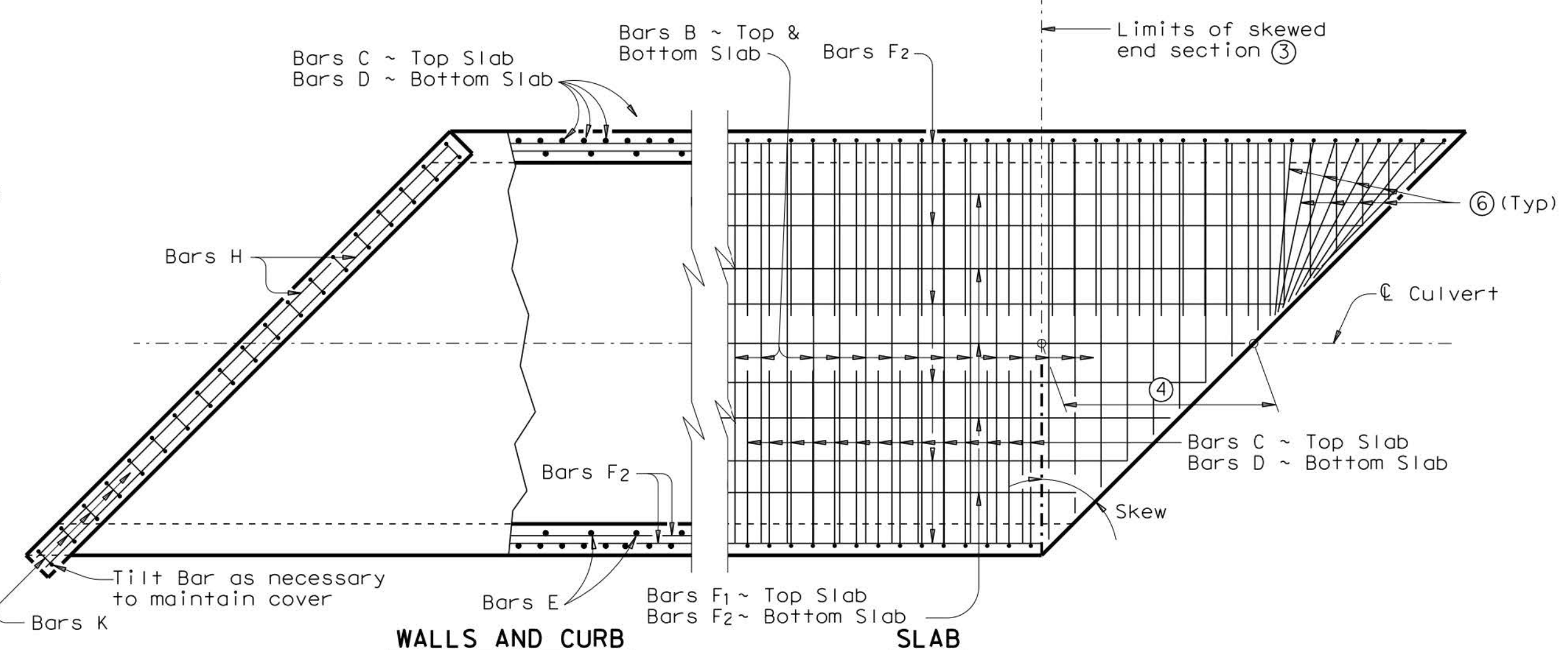
PLOT SCALE: 1" = 60'	DDM. NO. TXDOT PR.DWG
SCALE (H): AS SHOWN	JOB NO. 18068
SCALE (V): AS SHOWN	SHEET 32 OF 33
DATE PLOTTED 02/18/20	

DISCLAIMER: The use of this standard is covered by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

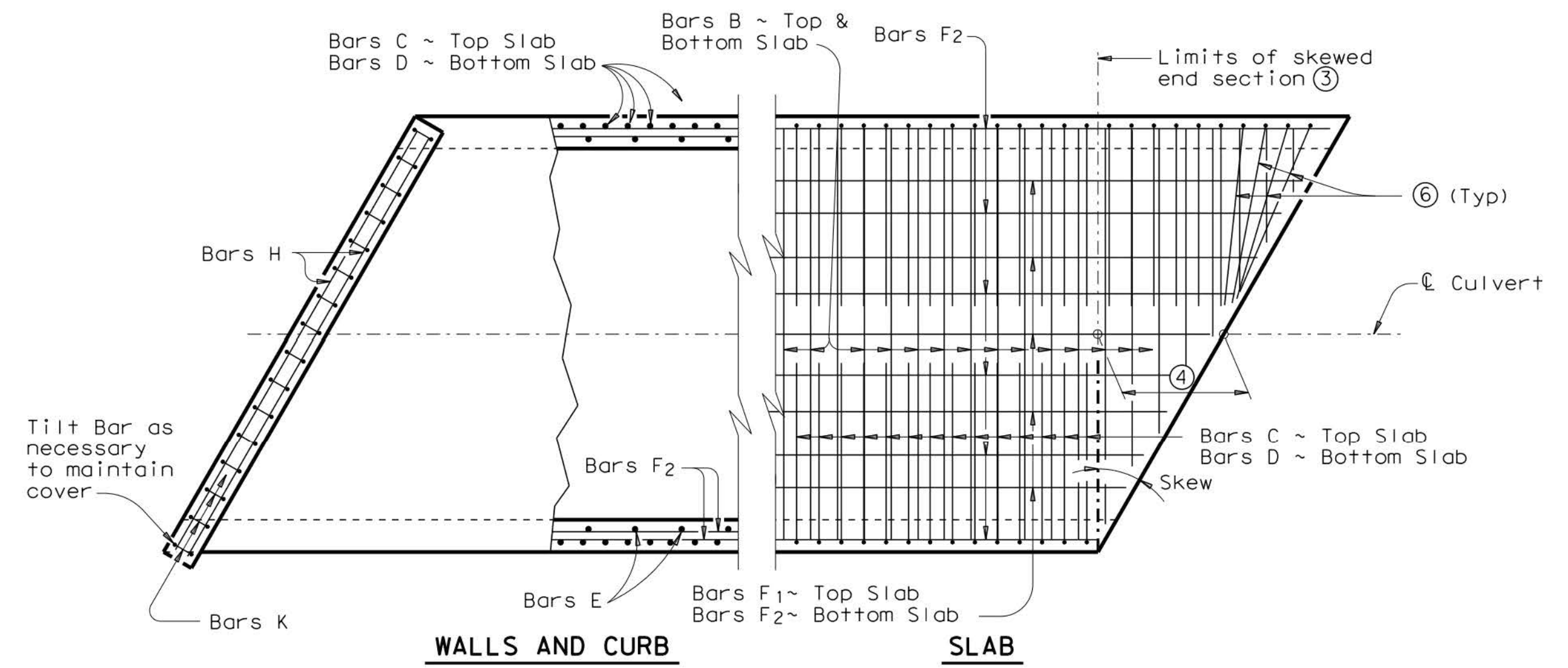


PLAN OF SKEWED ENDS ~ FROM 0° TO 15°

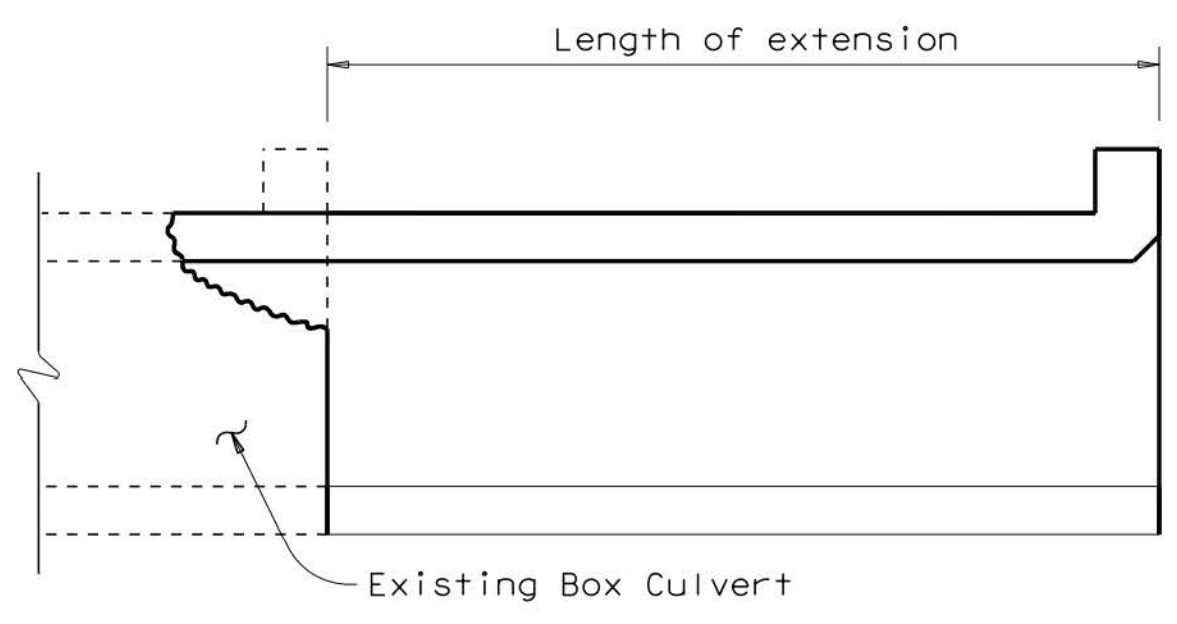
- ② When the spacing between Bars B becomes less than half of the normal spacing, bars shall be cut to avoid fouling.
- ③ The length of Bars B and E will vary in the skewed end sections [One half of overall width] x [Tan of the skew angle].
- ④ Bars F1 and F2 shall be continuous through the angle section. They shall be bent to remain parallel to the walls of the Box Culvert.
- ⑤ When necessary to avoid fouling in acute corners, the slab extension leg of Bars C and Bars D may be shortened to a minimum of 1'-6" for skews of 30° and 45°.
- ⑥ For skews of 15° or less, the contractor has the option of placing Bars B, C and D parallel to the skewed end while maintaining spacing along centerline box. Lengths of Bars B shown on the standards shall be increased to accommodate the skew.



PLAN OF SKEWED ENDS ~ OVER 30° TO 45°



PLAN OF SKEWED ENDS ~ OVER 15° TO 30°

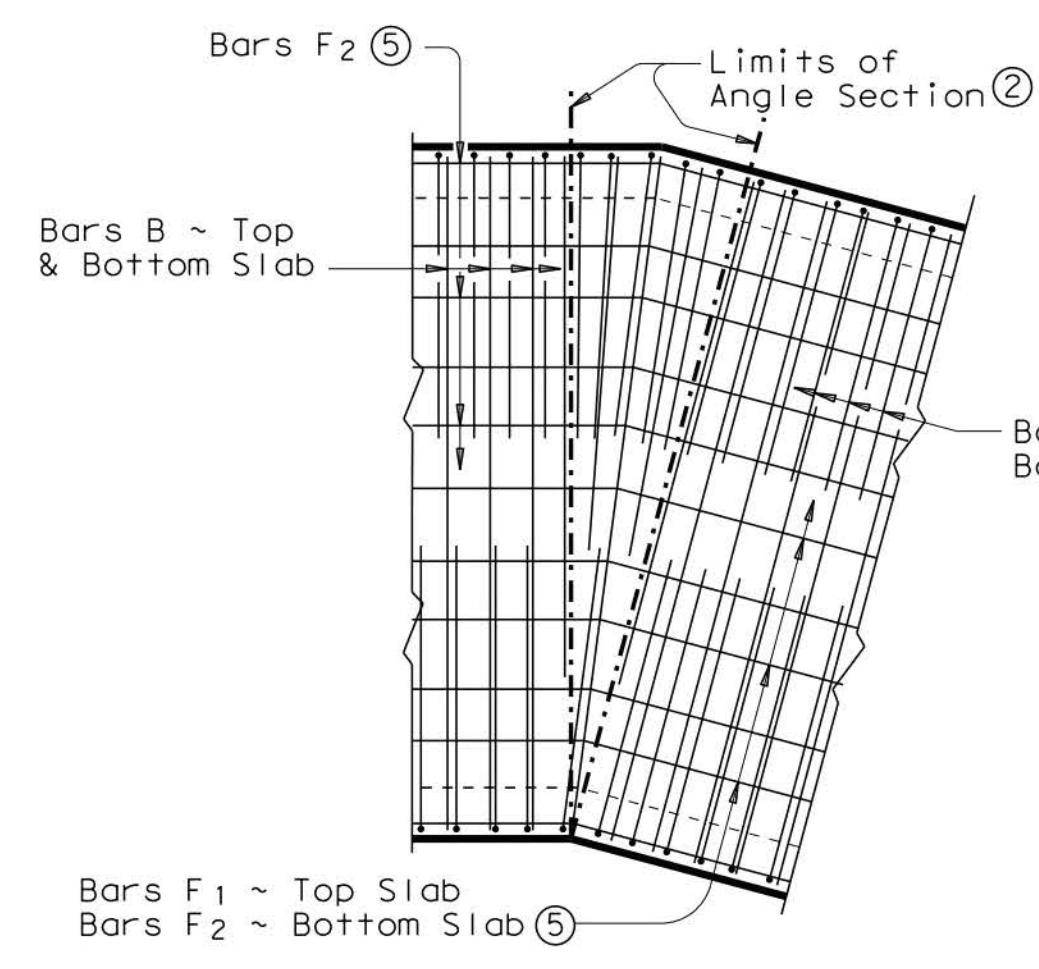


LENGTHENING DETAIL ①

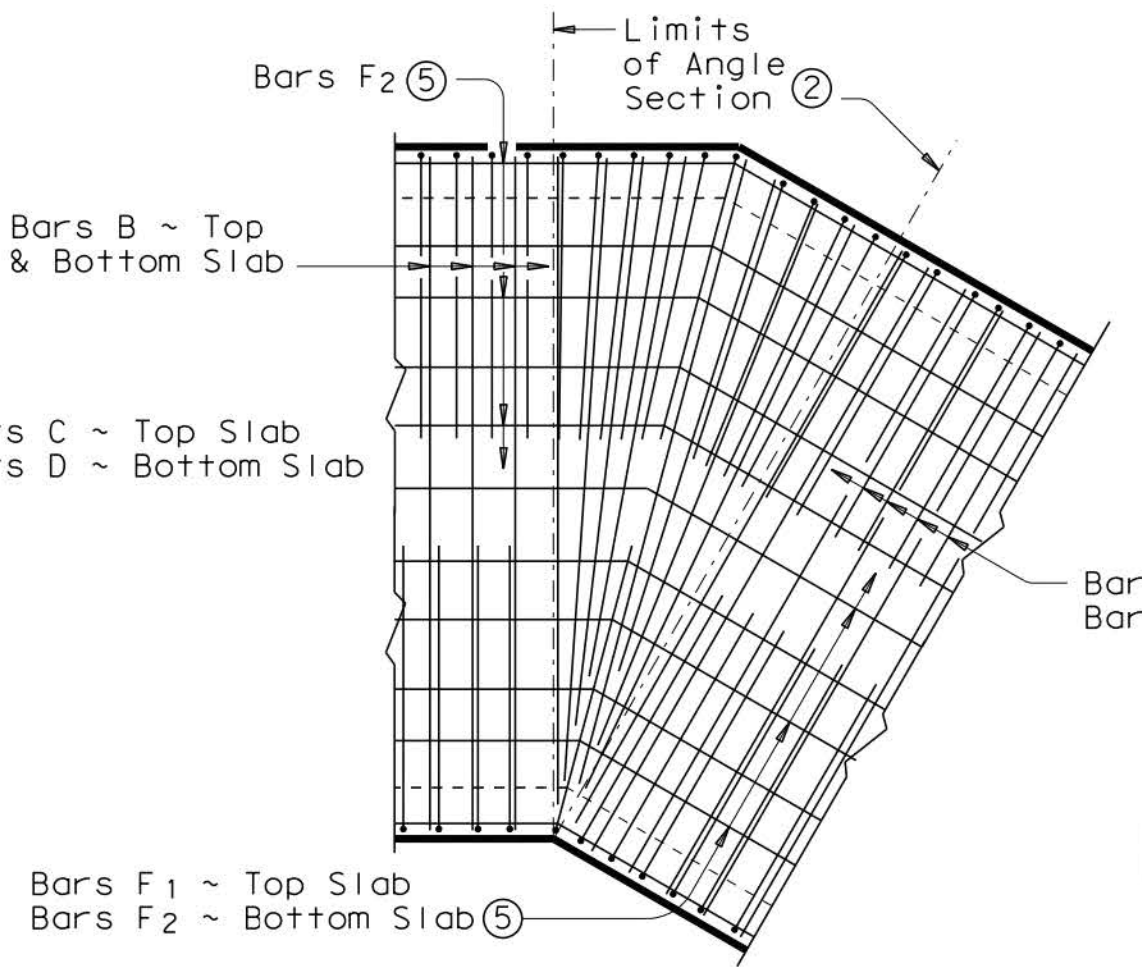
① For box culverts with less than 2'-0" of fill, the top slab shall be broken back to provide a minimum 1'-10" lap of the existing longitudinal bars with the longitudinal bars in the extension. If the depth of fill is 2'-0" or greater, the top slab shall be broken back to provide a 1'-0" minimum embedment of existing longitudinal reinforcing into the extension. Alternatively, if the fill height is greater than 2'-0", the existing curb may be left in place and 2'-0" long #6 bars shall be drilled and grouted 1'-0" into the existing top slab at 1'-6" center to center spacing. Wings and apron shall be broken back as necessary to install the extension. Exposed wingwall and apron reinforcing may be removed or cleaned and included in the extension. When lengthening existing box culverts with dimensions different than current standard dimensions, horizontal and vertical transitions shall be formed as directed by the Engineer. Bottom slabs shall match to maintain an uninterrupted flow line. Existing and new reinforcing shall be field bent into transition maintaining specified cover requirements.

GENERAL NOTES:

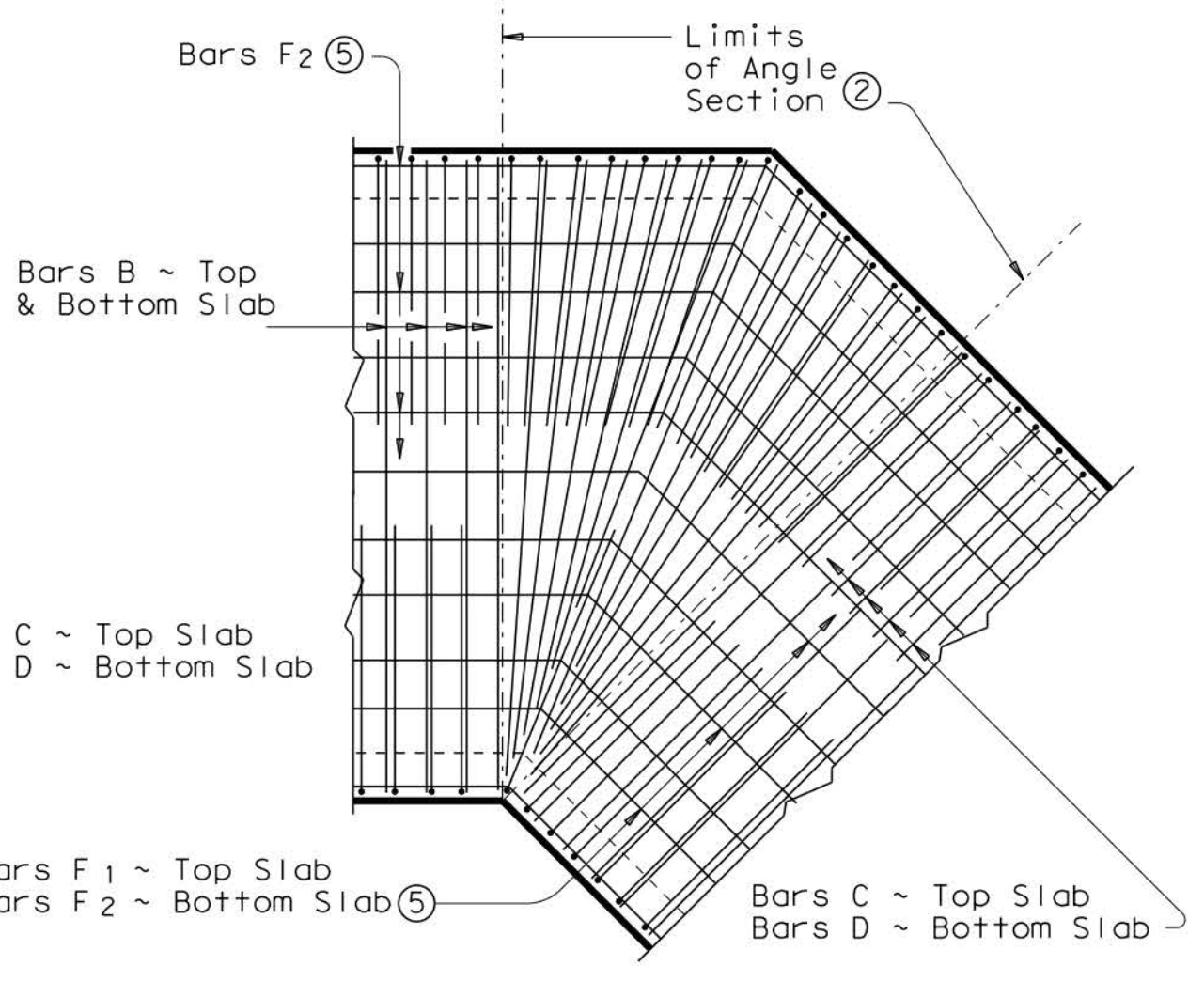
Designed according to AASHTO LRFD Specifications.
 All reinforcing steel shall be Grade 60.
 All concrete shall be Class "C" with these exceptions:
 use Class "S" for top slabs of culverts with overlay, with 1-to-2 course surface treatment, or with the top slab as the final riding surface.
 Class "C" concrete shall have a minimum compressive strength of 3,600 psi. Class "S" concrete shall have a minimum compressive strength of 4,000 psi.
 The use of permanent forms is not allowed.
 Refer to Single Box Culverts Cast-in-Place standard for details of straight sections of culvert. For skewed sections and angle sections refer to Single Box Culverts Cast-in-Place standard for slab and wall dimensions, bar sizes, maximum bar spacing, and any other details not shown. For Skewed ends with curbs, adjust length of Bars H, number of Bars K, curb concrete volume and reinforcing steel weight by dividing the values shown on the culvert standards by the cosine of the skew angle.
 Laps for Bars H, when required, shall be 1'-9" for uncoated bars and 2'-7" for epoxy coated.



PLAN OF ANGLE SECTION ~ FROM 0° TO 15°



PLAN OF ANGLE SECTION ~ OVER 15° TO 30°



PLAN OF ANGLE SECTION ~ OVER 30° TO 45°

HL93 LOADING

		Bridge Division Standard	
SINGLE BOX CULVERTS CAST-IN-PLACE MISCELLANEOUS DETAILS			
SCC-MD			
FILE: sccmdste.dgn	DN: GAF	CK: LMW	DW: BWH/TxDOT/CK: GAF
©TxDOT February 2010	CONT	SECT	JOB HIGHWAY
REVISIONS		DIST	COUNTY SHEET NO.

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF INTERIM REVIEW UNDER THE AUTHORITY OF NIXON M. WELSH, P.E. NO. 36240 OF BASS AND WELSH ENGINEERING, F. 52. IT IS NOT TO BE USED FOR CONSTRUCTION OR BIDDING PURPOSES.

BASS & WELSH ENGINEERING TX SURVEY REG. NO. 100027-00, TX ENGINEERING REG. NO. F-52, 3054 S. ALAMEDA STREET, CORPUS CHRISTI, TEXAS 78404		
PUBLIC IMPROVEMENTS TO KING'S LANDING UNIT 1 CORPUS CHRISTI, NUECES CO., TX		
TxDOT SINGLE BOX CULVERTS, CAST IN PLACE, MISCELLANEOUS DETAILS, SCC-MD		
DWN: _____	PLOT SCALE: 1"=60'	COM. NO. TxDOT-SBC
CHK: N. WELSH	SCALE (H): SAME	JOB NO. 18068
	SCALE (V): NONE	DATE PLOTTED 02/18/20
		SHEET 33 OF 33

NIXON M. WELSH, P.E., R.P.L.S.
Email: NixMW@aol.com

BASS WELSH ENGINEERING
TX Registration No. F-52
Survey Registration No. 100027-00
P.O. Box 6397
Corpus Christi, TX 78466-6397

3054 S. Alameda St.

18068-PCE-SS
TRUNK
03/30/2020

KING'S LANDING UNIT 1
PRELIMINARY COST ESTIMATE
18" TRUNK MAIN
SANITARY SEWER IMPROVEMENTS REIMBURSABLE BY CITY

OFFSITE SANITARY SEWER TRUNK MAIN ITEMS

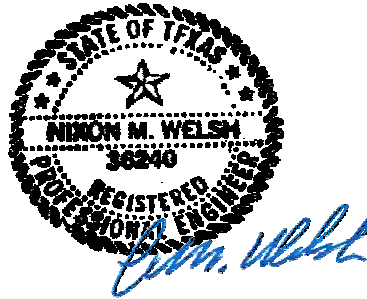
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	18" PVC PIPE	351	LF	125.00	43,875.00
2	DEWATERING FOR 18" PVC PIPE	351	LF	40.00	14,040.00
3	MANHOLE	1	EA	9,000.00	9,000.00
4	TRENCH SAFETY FOR 18" PIPE	351	LF	10.00	3,510.00

SUBTOTAL \$70,425.00

7.5% ENGINEERING, SURVEYING, & TESTING 5,281.88

TOTAL AMOUNT REIMBURSABLE \$75,706.88

NOTE: SANITARY SEWER ACREAGE FEES WERE APPLIED FULLY TO COLLECTION MAIN IMPROVEMENTS, HENCE, NONE APPLY HERE.





City of Corpus Christi, Texas
 Department of Development Services
 P.O. Box 9277
 Corpus Christi, Texas 78469-9277
 (361) 826-3240
 Located at: 2406 Leopard Street
 (Corner of Leopard St. and Port Ave.)

DISCLOSURE OF INTERESTS

City of Corpus Christi Ordinance 17112, as amended, requires all persons or firms seeking to do business with the City to provide the following information. Every question must be answered. If the question is not applicable, answer with "NA".

NAME: SEE ATTACHED SIGNATURE SHEET

STREET: _____ **CITY:** _____ **ZIP:** _____

FIRM is: Corporation Partnership Sole Owner Association Other _____

DISCLOSURE QUESTIONS

If additional space is necessary, please use the reverse side of this page or attach separate sheet.

1. State the names of each "employee" of the City of Corpus Christi having an "ownership interest" constituting 3% or more of the ownership in the above named "firm".

Name	Job Title and City Department (if known)
<u>N/A</u>	<u>N/A</u>
_____	_____
_____	_____

2. State the names of each "official" of the City of Corpus Christi having an "ownership interest" constituting 3% or more of the ownership in the above named "firm".

Name	Title
<u>N/A</u>	<u>N/A</u>
_____	_____
_____	_____

3. State the names of each "board member" of the City of Corpus Christi having an "ownership interest" constituting 3% or more of the ownership in the above named "firm".

Name	Board, Commission, or Committee
<u>N/A</u>	<u>N/A</u>
_____	_____
_____	_____

4. State the names of each employee or officer of a "consultant" for the City of Corpus Christi who worked on any matter related to the subject of this contract and has an "ownership interest" constituting 3% or more of the ownership in the above named "firm".

Name	Consultant
<u>N/A</u>	<u>N/A</u>
_____	_____
_____	_____

CERTIFICATE

I certify that all information provided is true and correct as of the date of this statement, that I have not knowingly withheld disclosure of any information requested; and that supplemental statements will be promptly submitted to the City of Corpus Christi, Texas as changes occur.

Certifying Person: _____ **Title:** _____
 (Print)

Signature of Certifying Person: _____ **Date:** _____

DEFINITIONS

- a. "Board Member". A member of any board, commission or committee appointed by the City Council of the City of Corpus Christi, Texas.
- b. "Employee". Any person employed by the City of Corpus Christi, Texas, either on a full or part time basis, but not as an independent contractor.
- c. "Firm". Any entity operated for economic gain, whether professional, industrial or commercial and whether established to produce or deal with a product or service, including but not limited to, entities operated in the form of sole proprietorship, as self-employed person, partnership, corporation, joint stock company, joint venture, receivership or trust and entities which, for purposes of taxation, are treated as non-profit organizations.
- d. "Official". The Mayor, members of the City Council, City Manager, Deputy City Manager, Assistant City Managers, Department and Division Heads and Municipal Court Judges of the City of Corpus Christi, Texas.
- e. "Ownership Interest". Legal or equitable interest, whether actually or constructively held, in a firm, including when such interest is held through an agent, trust, estate or holding entity. "Constructively held" refers to holding or control established through voting trusts, proxies or special terms of venture or partnership agreements.
- f. "Consultant". Any person or firm, such as engineers and architects, hired by the City of Corpus Christi for the purpose of professional consultation and recommendation.

OWNERS:

The William Earl Hensch Trust
William Earl Hensch, Trustee
5027 Holly Road
Pasadena, Tx 77503
Phone: 713 417-7122

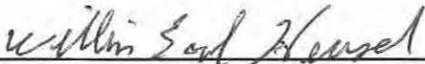
Anna Belle Hensch
1009 Peerman Place
Corpus Christi, Tx 78411
Phone: 361 444-5800

Retta Maurine Kasper
4805 Velma
Killeen, Tx 76542
Phone: 254 462-2976

Corpus Christi Community Church
4833 Saratoga Blvd #259
Corpus Christi, Tx 78413
Scott McDonald 361 420-0022
Also, James F. Dodson
4222 Fm 665, Robstown, Tx 78380
Phone: 361 877-3222

South Texas Children's Home Land Management
Po Box 548
Beeville, Tx 78104-0548

SIGNATURES

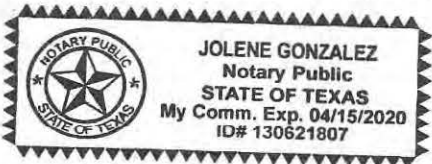


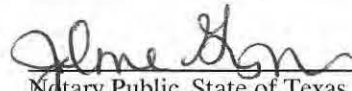
William Earl Hensch, Trustee
The William Earl Hensch Trust

STATE OF TEXAS §

COUNTY OF NUECES §

This instrument was acknowledged before me on the 21st, day of June, 2019, by William Earl Hensch, Trustee, The William Earl Hensch Trust, an owner of the subject tract.





Notary Public, State of Texas



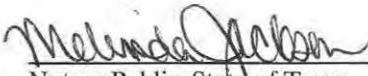
Anna Belle Hensch, Owner

STATE OF TEXAS §

COUNTY OF NUECES §

This instrument was acknowledged before me on the 17th, day of JUNE, 2019, by Anna Belle Hensch, an owner of the subject tract.





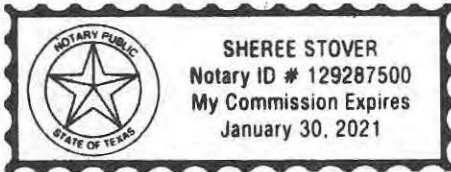
Notary Public, State of Texas

Retta Maurine Kasper
Retta Maurine Kasper, Owner

STATE OF TEXAS §

COUNTY OF NUECES §

This instrument was acknowledged before me on the 26, day of June 2019, by Retta Maurine Kasper, an owner of the subject tract.



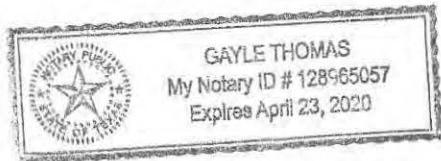
Sheree Stover
Notary Public, State of Texas

x Scott McDonald
Scott McDonald, Agent
Corpus Christi Community Church

STATE OF TEXAS §

COUNTY OF NUECES §

This instrument was acknowledged before me on the 29th, day of June 2019, by Scott McDonald, Agent for Corpus Christi Community Church, an owner of the subject tract.



Gayle Thomas
Notary Public, State of Texas

Eron Green, Registered Agent
South Texas Children's Home Land Management

STATE OF TEXAS §

COUNTY OF NUECES §

This instrument was acknowledged before me on the _____, day of _____ 2019, by Eron Green as Registered Agent of South Texas Children's Home Land Management, owner of the subject tract.

Notary Public, State of Texas



City of Corpus Christi, Texas
 Department of Development Services
 P.O. Box 9277
 Corpus Christi, Texas 78469-9277
 (361) 826-3240
 Located at: 2406 Leopard Street
 (Corner of Leopard St. and Port Ave.)

DISCLOSURE OF INTERESTS

City of Corpus Christi Ordinance 17112, as amended, requires all persons or firms seeking to do business with the City to provide the following information. Every question must be answered. If the question is not applicable, answer with "NA".

NAME: SEE ATTACHED SIGNATURE SHEET

STREET: _____ CITY: _____ ZIP: _____

FIRM is: Corporation Partnership Sole Owner Association Other _____

DISCLOSURE QUESTIONS

If additional space is necessary, please use the reverse side of this page or attach separate sheet.

1. State the names of each "employee" of the City of Corpus Christi having an "ownership interest" constituting 3% or more of the ownership in the above named "firm".

Name	Job Title and City Department (if known)
<u>N/A</u>	<u>N/A</u>
_____	_____
_____	_____

2. State the names of each "official" of the City of Corpus Christi having an "ownership interest" constituting 3% or more of the ownership in the above named "firm".

Name	Title
<u>N/A</u>	<u>N/A</u>
_____	_____
_____	_____

3. State the names of each "board member" of the City of Corpus Christi having an "ownership interest" constituting 3% or more of the ownership in the above named "firm".

Name	Board, Commission, or Committee
<u>N/A</u>	<u>N/A</u>
_____	_____
_____	_____

4. State the names of each employee or officer of a "consultant" for the City of Corpus Christi who worked on any matter related to the subject of this contract and has an "ownership interest" constituting 3% or more of the ownership in the above named "firm".

Name	Consultant
<u>N/A</u>	<u>N/A</u>
_____	_____
_____	_____

CERTIFICATE

I certify that all information provided is true and correct as of the date of this statement, that I have not knowingly withheld disclosure of any information requested; and that supplemental statements will be promptly submitted to the City of Corpus Christi, Texas as changes occur.

Certifying Person: Moss M. Ostertag Title: General Partner
 (Print)

Signature of Certifying Person: _____ Date: _____