

**PARTICIPATION AGREEMENT  
For the Subdivision of King's Landing Unit 9  
Subject to Pilot Program for Roller  
Compacted Concrete Roadway Improvements**

This PARTICIPATION AGREEMENT ("Agreement") is entered into between the City of Corpus Christi (referred to in this Agreement as "City"), a Texas home-rule municipal corporation, acting by and through its City Manager, or designee, and MPM Development LP, (referred to in this Agreement as "Developer"), a Texas Limited Partnership.

**WHEREAS**, Developer desires to develop and plat the Property designated on **Exhibit 1** of this Agreement, which exhibit is attached to and incorporated in this Agreement by reference, to be known as King's Landing Unit 9 ("Unit 9");

**WHEREAS**, as a condition of the Plat for Unit 9, the Developer is required to expand, extend, and construct Lady Alexa Drive (formerly Iron Throne Drive) as depicted on and following the improvement requirements outlined in **Exhibit 2**, which exhibit is attached to and incorporated in this Agreement by reference;

**WHEREAS**, the Developer is oversizing by constructing Lady Alexa Drive (formerly Iron Throne Drive) as a C-3 collector street in lieu of 28' residential local streets;

**WHEREAS**, the Developer desires to utilize Roller Compacted Concrete (referred to in this Agreement as "RCC pavement") for the Roadway Improvements within the King's Landing Subdivision pursuant to the Pilot Program for Roller Compacted Concrete Roadway Improvements Agreement (referred to in this Agreement as "Pilot Program") executed July 25, 2022, as may be amended;

**WHEREAS**, the Developer is willing to warranty Roller Compacted Concrete Roadway Improvement for 10 years;

**WHEREAS**, it is in the best interests of the City to have the public street infrastructure installed by the Developer in conjunction with the final Plat;

**WHEREAS**, Section 212.071 of the Texas Local Government Code authorizes a municipality to make a contract with a developer of a subdivision or land in the municipality to construct public improvements related to the subdivision or land; and

**WHEREAS**, this Agreement is made pursuant to Section 212.071 & 212.072 of the Texas Local Government Code and Article 8, Section 8.4.1, of the Unified Development Code of the City of Corpus Christi.

**NOW, THEREFORE**, in order to provide a coordinated public street construction and improvement project, the City and the Developer agree as follows:

Section 1. RECITALS. The parties agree that the language contained in the preamble of this Agreement is substantive in nature, is incorporated into this Agreement by reference, and has been relied on by both parties in entering and executing this Agreement.

Section 2. ROLLER COMPACTED CONCRETE PAVEMENT. Per this Pilot Program, the City agrees that it will authorize the use of roller compacted concrete pavement (as that term is defined by the RCC Pavement Council) for the King's Landing Unit 9 per the terms of the Pilot Program.

(a) Developer agrees to construct all roadway improvements within Kings Landing Subdivision Unit 9 with roller compacted concrete pavement (RCC pavement), except those portions of the roadways that are cul-de-sacs, in which case traditional rebar-reinforced portland cement concrete pavement shall be utilized in conformance with the City's Unified Development Code and City Design Standards.

(b) For King's Landing Unit 9, Developer shall construct the RCC pavement in accordance with the site-specific geotechnical report as depicted in **Exhibit 3** and engineering plans and specifications as depicted in **Exhibit 2**. Concrete curb and gutter construction shall be constructed to City Design Standards.

(d) Developer will construct collector streets with at least 8 inches thick roller compacted concrete. All residential local streets smaller than a collector street will be constructed with at least 7 inches thick roller compacted concrete.

(e) Prior to installation of the RCC pavement, the Engineer of Record and the Geotechnical Engineer must review and approve all material submittals associated with RCC pavement prepared by the general contractor, and provide reviewed and approved submittal copies to the City.

(f) Prior to installation of the RCC pavement, Developer shall submit the experience record of the RCC pavement operators and installers to the City Engineer for review. All contractors involved with the construction operations of the RCC pavement, including maintenance, repair, and replacement, must have at least five (5) years' experience in the day-to-day installation, field management, and oversight of RCC pavement projects and meet all insurance and indemnification requirements of the City Contract under which the original RCC pavement was constructed, unless modified by mutual agreement. Associated Insurance Certificates shall be submitted to the City prior to beginning work

(g) Prior to installation of RCC pavement, Developer shall obtain approval of construction engineering plans from the City Engineer.

(h) Prior to the acceptance of roadway improvements, the Developer's Engineer of Record must submit record drawings to the City certifying that the RCC pavement was constructed in strict accordance with the approved construction drawings and technical specifications.

The authorization to utilize RCC pavement per this Agreement and the Pilot Program is limited to the King's Landing Subdivision. The City may terminate this Authorization to use RCC pavement at any time for any reason and require future streets within Kings Landing subdivision be constructed with rebar-reinforced portland cement concrete pavement meeting City Design Standards.

Section 3. TERM. This Agreement becomes effective, is binding upon, and inures to the benefit of the City and the Developer from and after the date of the last signatory to this Agreement. Within King's Landing Unit 9, the Developer must complete the Lady Alexa Drive (formerly Iron Throne Drive) within 24 calendar months from the date this document is executed by the City. Time is of the essence in the performance of this contract.

Section 4. DEVELOPER PARTICIPATION. Subject to the terms of this Agreement, the Developer will construct Lady Alexa Drive (formerly Iron Throne Drive) C-3 collector streets with at least 8-inch thick RCC pavement per **Exhibit 2** and **Exhibit 3**, for and on behalf of the City in accordance with the plans

and specifications approved in advance of construction by the City Engineer on behalf of the City. The parties acknowledge and confirm the total cost estimate for construction of the Roadway Improvements, which estimate is attached to and incorporated in this Agreement as **Exhibit 4** (the "Cost Estimate"). Subject to the limitations set forth below, the Developer shall pay a portion of the construction costs of Lady Alexa Drive (formerly Iron Throne Drive). Further, subject to the limitations set forth below, the City shall pay for a portion of the construction costs of Lady Alexa Drive (formerly Iron Throne Drive) to \$415,460.61.

Section 5. CITY PARTICIPATION. Notwithstanding any other provision of this Agreement, the total amount that the City shall pay for the City's agreed share of the actual costs of the Lady Alexa Drive (formerly Iron Throne Drive) shall not exceed \$415,460.61.

Section 6. REIMBURSEMENT. The Developer shall be responsible for the entire up-front expenses of the Roadway Improvements for Lady Alexa Drive (formerly Iron Throne Drive). The City shall reimburse the Developer upon completion of all Roadway Improvements within Kings Landing Unit 9 contingent upon the certificate of acceptance issued by the City Engineer, sworn certification on City form that the Developer has paid all contractors and subcontractors in full, and presentment of the maintenance bond. Such reimbursement will be payable to the Developer at the address in the Notice Section of this Agreement.

Section 7. PERFORMANCE AND PAYMENT BOND.

Before beginning the work that is the subject of this Agreement, Developer shall provide (or cause its Contractor to provide) the City with a performance bond and a payment bond on City's approved Performance and Payment Bond forms, said forms attached hereto and labeled as **Exhibit 5** and **Exhibit 6**, in accordance with and in satisfaction of Section 212.073 of the Texas Local Government Code in the estimated amount of the construction costs for Lady Alexa Drive (formerly Iron Throne Drive), reflecting City as Obligee thereunder. Bonds furnished must meet the requirements of Texas Insurance Code 3503, Texas Government Code 2253, and all other applicable laws and regulations. The amount of the performance and payment bonds shall be the full cost of to construct Lady Alexa Drive (formerly Iron Throne Drive) to ensure the completion of the project.

Section 8. MAINTENANCE.

(a) During the period of at least 7 years following acceptance of roadway improvements, all maintenance and repairs of the Roadway Improvements in the King's Landing subdivision Unit 9 will be performed entirely and exclusively by Developer. Failure of the Developer to promptly complete all maintenance and repairs of all streets in this subdivision will be a violation and breach of this agreement. The Developer shall complete all such maintenance or repairs of the streets within 120 days after being requested in writing to do so by the City Engineer.

(b) Any deficiencies occurring during the Maintenance Period shall be immediately repaired at Developer's sole expense in accordance with the repair and replacement descriptions below and in accordance with the Pilot Program.

Deficiencies requiring repair shall include:

1. Minor Cracks. any crack greater than 1/8-inch and less than 1/4-inch other than cut joints;
2. Minor Differential Vertical Separation. any differential vertical separation between RCC pavement panels equal to or less than 1/8-inch across the joint;

3.Minor Spalling. any spalling, honeycombing, or other defects less than 2 square feet or less than 1-inch deep;

4. Minor Curb Separation. any separation of RCC pavement from curb and gutter equal to or less than-1/8 inch; and

5.Joint Sealant. any separated, cracked, or missing joint sealants.

(c) Repairs shall include:

1.Minor Cracks. Any crack greater than 1/8-inch and less than ¼-inch width shall be sealed with a City-approved flowable elastomeric pavement crack sealant (Sikaflex or equal). Minor cracks will not include any differential vertical movement (up-down) greater than 1/8-inch across the joint.

2.Minor Differential Vertical Separation. Any differential vertical separation between RCC pavement panels equal to or less than 1/8-inch across the joint shall be diamond grinded to eliminate differential vertical separation.

3.Minor Spalling. Any surface spalling of areas less than 2 square feet or less than 1-inch deep shall be high-pressure wash prepared to remove all dirt, debris, and loose material, prepared with a bonding agent, and filled with a low-shrink epoxy modified grout.

4. Minor Curb Separation. Any separation of RCC pavement from curb and gutter equal to or less than 1/8-inch shall be sealed with a City-approved flowable elastomeric pavement crack sealant (Sikaflex or equal).

5.Joint Sealant. Any separated, cracked, or missing joint sealants shall be cut out and replaced with new elastomeric joint sealant (Sikaflex or equal) following high-pressure wash joint cleaning.

(d) During the first 7 years following acceptance of RCC pavement roadway improvements, the City will not complete any maintenance or repairs of RCC pavement Roadway Improvements. The City Manager is prohibited from authorizing city staff from making any repairs during the first 7 years following acceptance of RCC pavement roadway improvements.

(e) Developer shall notify the City Engineer prior to repair to allow for inspection and approval of repair work.

(f) The City Engineer will be the final authority in determining deficiencies and level of deficiencies of RCC pavement.

## Section 9. REPLACEMENT.

(a) During the period of at least 10 years following acceptance of roadway improvements, the Developer shall replace RCC panels with deficiencies identified in this section. All replacement of RCC panels in the Kings Landing subdivision will be performed entirely and exclusively by Developer at Developer's sole expense. The Developer shall complete all such replacement of the street panels within 120 days after being requested in writing to do so by the City Engineer.

(b) Deficiencies requiring replacement shall include:

1. Major Cracks. any panel with a crack across 50% of the length or width of the panel and greater than 1/4-inch at any point in the crack;
2. Major Differential Vertical Separation. any differential vertical separation between panels greater than 1/8-inch;
3. Major Curb Separation. separation of RCC pavement panel from curb and gutter greater than 1/8-inch;
- 4.. Uncontrolled Cracking. a RCC pavement panel with more than one uncontrolled crack; and
5. Major Spalling. any spalling, honeycombing, or other defects greater than 2 square feet or more than 1-inch deep.

(c) Replacements shall include:

1. Major Cracks. Any RCC pavement panel with a crack greater than 1/4-inch width across 50% of the length or width of the panel will be replaced with new RCC pavement panel or traditional rebar-reinforced portland cement concrete pavement with sealed perimeter construction joints.
2. Major Differential Vertical Separation. Any differential vertical separation between RCC panels at any location with differential movement (up-down) greater than 1/8-inch across shall be replaced with new RCC pavement panel or traditional rebar-reinforced portland cement concrete pavement with sealed perimeter construction joints.
3. Major Curb Separation. Any RCC pavement panel with separation from curb and gutter more than 1/8-inch shall be replaced with RCC pavement panel or traditional rebar-reinforced portland cement concrete pavement with sealed perimeter construction joints in a manner that keeps the original alignment of the curb and gutter.
4. Uncontrolled Cracking. Any RCC pavement panel with more than one uncontrolled crack will be replaced with new RCC pavement panel or traditional rebar-reinforced portland cement concrete pavement with sealed perimeter construction joints.
5. Major Spalling. Any RCC pavement panel with surface spalling of areas greater than 2 square feet or more than 1-inch deep shall be replaced with RCC pavement panel or traditional rebar-reinforced portland cement concrete pavement with sealed perimeter construction joints.

(d). Saw cut. Any panel being replaced shall be saw cut out to the nearest adjacent contraction or expansion joints and replaced.

(e) RCC Pavement System Failure. In the event of major cracking or major spalling deficiencies of more than 30% of RCC pavement panels on a street within the first 7 years, the City may in its sole determination and discretion require the removal and replacement of all RCC pavement panels within the subject street, both deficient and non-deficient RCC pavement panels, with traditional rebar-

reinforced portland cement concrete pavement meeting City specifications. Any such roadway segment replacement will be at the Developer's cost.

(f) Developer shall notify the City Engineer prior to replacement of RCC pavement panels to allow for inspection and approval of replacement work.

(g) The City Engineer will be the final authority in determining deficiencies and level of deficiencies of RCC pavement.

Section 10. WARRANTY. The Developer shall fully warrant the workmanship and construction of the Roadway Improvements within the King Landing Subdivision for a period of 10 years from and after the date of acceptance of the Roadway Improvements by the City Engineer. Upon notice by City of any defects and faults in materials, workmanship and design, Developer shall promptly, but no later than 120 days after notice, correct such defects and/or faults to the satisfaction of the City.

Section 11. CONSTRUCTION. The planned Roadway Improvements shall be constructed in accordance with the Pilot Program, approved Plans, Geotechnical Engineering Reports, and related specifications and industry standard practices.

#### Section 12. INSPECTIONS.

(a) Throughout construction, the City may conduct periodic inspections and either approve the progress of the Roadway Improvements or promptly notify the Developer of any defect, deficiency, or other non-approved condition in the progress of the Roadway Improvements.

(b) Following completion of the Roadway Improvements, the City may conduct periodic inspections of the Roadway Improvements and will promptly notify the Developer of any defects and faults in materials, workmanship, and design.

(c) The Developer or its representative shall attend quarterly site inspections with the City during the first 3 years of the warranty period to observe the RCC pavement and identify and document any needed repairs or replacements. After the first 3 years of quarterly inspections, inspections shall be every 6 months thereafter until the 10 year of warranty is met. The City will develop an associated Required Repair or Replacement plan following inspection, provided to the Developer for execution. All identified repairs or replacements shall be completed within 120 days of that plan unless the Developer and its approved contractor are delayed by force majeure or other events beyond its control.

#### Section 13. INDEMNIFICATION.

**Developer 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 indemnitees 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 construction, installation, existence, operation, use, maintenance, repair, restoration, or removal of the public improvements associated with Roadway Improvements within the Kings Landing Subdivision, including the injury, loss, or damage caused by the 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 attorney's fees which arise, or are claimed to arise, out of or in connection with the asserted or recovered incident. This indemnity survives the termination of this Agreement.**

Section 14. DEFAULT. The following events shall constitute default:

- (a). Developer fails to submit plans and specifications for the Roadway Improvements to the City Engineer in advance of construction.
- (b). Developer does not reasonably pursue construction of the Roadway Improvements under the approved plans and specifications.
- (c). Developer fails to complete construction of the Lady Alexa Drive (formerly Iron Throne Drive, under the approved plans and specifications within 24 months.
- (d). Developer fails to perform warranty work.
- (e). Either the City or the Developer fails to comply with its duties or obligations under this Agreement.

Section 15. 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 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 the Developer fail to perform any obligation or duty of this Agreement, the City shall give notice to the Developer, at the address stated in Notice Section of this agreement, of the need to perform the obligation or duty and, should the Developer 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 the Developer.
- (e). In the event of an uncured default by the Developer, 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. Bring Suit to enforce any provision of this agreement including the obligations to repair and replace.

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

Section 16. FORCE MAJEURE.

(a). The term “force majeure” as employed in this Agreement means and refers to acts of God; acts of a public enemy; insurrections; riots; epidemics; landslides; earthquakes; fires; hurricanes; explosions; or other causes not reasonably within the control of the party claiming the inability.

(b). If, by reason of force majeure that is not known or reasonably anticipated at the time of this agreement, 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 10 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.

Section 17. 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:

If to the City:

City of Corpus Christi  
Attn: Director, Development Services  
2406 Leopard Street  
Corpus Christi, TX 78401

If to the Developer:

MPM Development, L.P.  
Attn: Moses Mostaghasi  
PO Box 331308  
Corpus Christi, TX 78401

with a copy to:

City of Corpus Christi  
Attn: City Engineer  
P. O. Box 9277  
Corpus Christi, TX 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, in accordance with the provisions of this section, within five business days of the change.

Section 18. PROJECT CONTRACTS. Developer’s contracts with the professional engineer for the preparation of the plans and specifications for the construction of the Roadway Improvements, contracts for testing services, and contracts with the contractor for the construction of the Roadway Improvements must provide that the City is a third-party beneficiary of each contract.

Section 19. DISCLOSURE OF INTEREST. In compliance with Corpus Christi Code Sec. 2-249, the Developer agrees to complete the Disclosure of Interests form attached to this Agreement and incorporated by reference as **Exhibit 7**.

Section 20. CERTIFICATE OF INTERESTED PARTIES. Developer 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](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>.

Section 21. CONFLICT OF INTEREST. Developer 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.cctexas.com/government/city-secretary/conflict-disclosure/index>

Section 22. SEVERABILITY. The provisions of this Agreement are severable and, if any provision of this Agreement is held to be invalid for any reason by a court or agency of competent jurisdiction, the remainder of this Agreement shall not be affected, and this Agreement shall be construed as if the invalid portion had never been contained herein.

Section 23. COOPERATION. The Parties agree to cooperate at all times in good faith to effectuate the purposes and intent of this Agreement.

Section 24. ENTIRE AGREEMENT. Except as otherwise expressly provided herein, this Agreement contains the entire agreement of the Parties regarding the sharing of costs for the Roadway Improvements. It supersedes all prior or contemporaneous understandings or oral or written representations regarding the subject matter hereof.

Section 25. AMENDMENTS. Any amendment of this Agreement must be in writing and shall be effective if signed by the authorized representatives of both Parties.

Section 26. APPLICABLE LAW; VENUE. This Agreement shall be construed in accordance with the laws of the State of Texas. Venue for any action arising hereunder shall be in Nueces County, Texas.

Section 27. AUTHORITY. Each Party represents and warrants that it has the full right, power, and authority to execute this Agreement.

Section 28. INDEPENDENT CONTRACTOR. Developer covenants and agrees that it is an independent contractor, not an officer, agent, servant, or employee of the City. Developer shall have exclusive control of and exclusive right to control the details of the work performed hereunder and all persons performing same, and shall be liable for the acts and omissions of its officers, agents, employees, contractors, subcontractors, and consultants. The doctrine of respondent superior shall not apply between City and Developer, its officers, agents, employees, contractors, subcontractors, and consultants. Nothing herein shall be construed as creating a partnership or joint enterprise between City and Developer.

Section 29. NON-APPROPRIATION. The continuation of this Agreement after the close of any fiscal year of the City, which fiscal year ends on September 30th annually, is subject to appropriations and budget approval specifically covering this Agreement as an expenditure in the said budget. It is within the sole discretion of the City's City Council to determine whether to fund this Agreement. The City does not represent that this budget item will be adopted, as said determination is within the City Council's sole discretion when adopting each budget.

Section 30. WAIVER OF TRIAL BY JURY. City and Developer agree that they have knowingly waived and do hereby waive the right to trial by jury and have instead agreed, in the event of any litigation arising out of or connected to this Contract, to proceed with a trial before the court, unless both parties subsequently agree otherwise in writing.

Section 31. ATTORNEY FEES. In the event that any action is instituted by City to enforce or interpret any of the terms hereof, City shall be entitled to be paid all court costs and expenses, including reasonable attorneys' fees, incurred by City with respect to such action, unless as a part of such action, the court of competent jurisdiction determines that each of the material assertions made by City as a basis for such action were not made in good faith or were frivolous. In the event of an action instituted by or in the name of the Developer under this Agreement or to enforce or interpret any of the terms of this Agreement, City shall be entitled to be paid all court costs and expenses, including attorneys' fees, incurred by City in defense of such action (including with respect to City's counterclaims and cross-claims made in such action), unless as a part of such action the court determines that each of City's material defenses to such action were made in bad faith or were frivolous.

Section 32. NO WAIVER. The failure of the City to insist upon strict adherence to any term of this agreement on any occasion shall not be considered a waiver of any of the City's rights under this agreement or deprive the City of the right thereafter to insist upon strict adherence to that term or any other term of this agreement.

Section 33. PILOT PROGRAM FOR RCC ROADWAY IMPROVEMENTS  
Public Improvements shall be designed and constructed in compliance with Pilot Program for Roller Compacted Concrete Roadway Improvements Agreement, as amended. Maintenance and warranty for Public Improvements will be provided in accordance with the Pilot Program for Roller Compacted Concrete Roadway Improvements agreement, as amended. Any conflict between this agreement and the Pilot Program for Roller Compacted Concrete Roadway Improvements agreement, the Pilot Program for Roller Compacted Concrete Roadway Improvements agreement shall control.

**Exhibits Attached and Incorporated by Reference:**

- Exhibit 1 – Plat – King’s Landing Unit 9
- Exhibit 2 – Public Improvement Plans – King Landing Unit 9
- Exhibit 3 – Geotechnical Report (Specific to Kings Landing Unit 9)
- Exhibit 4 – Cost Estimate
- Exhibit 5 – Performance Bond
- Exhibit 6 – Payment Bond
- Exhibit 7 – Disclosure of Interest

**Incorporated by Reference Only:**

Pilot Program for Roller Compacted Concrete Roadway Improvements Agreement (referred to in this Agreement as “Pilot Program”)

**DEVELOPER:** MPM Development, LP

\_\_\_\_\_  
Moses Mostaghani  
General Partner

\_\_\_\_\_  
Date

**ATTEST:**

**CITY OF CORPUS CHRISTI**

\_\_\_\_\_  
Rebecca Huerta  
City Secretary

\_\_\_\_\_  
Michael Dice  
Director of Development Services

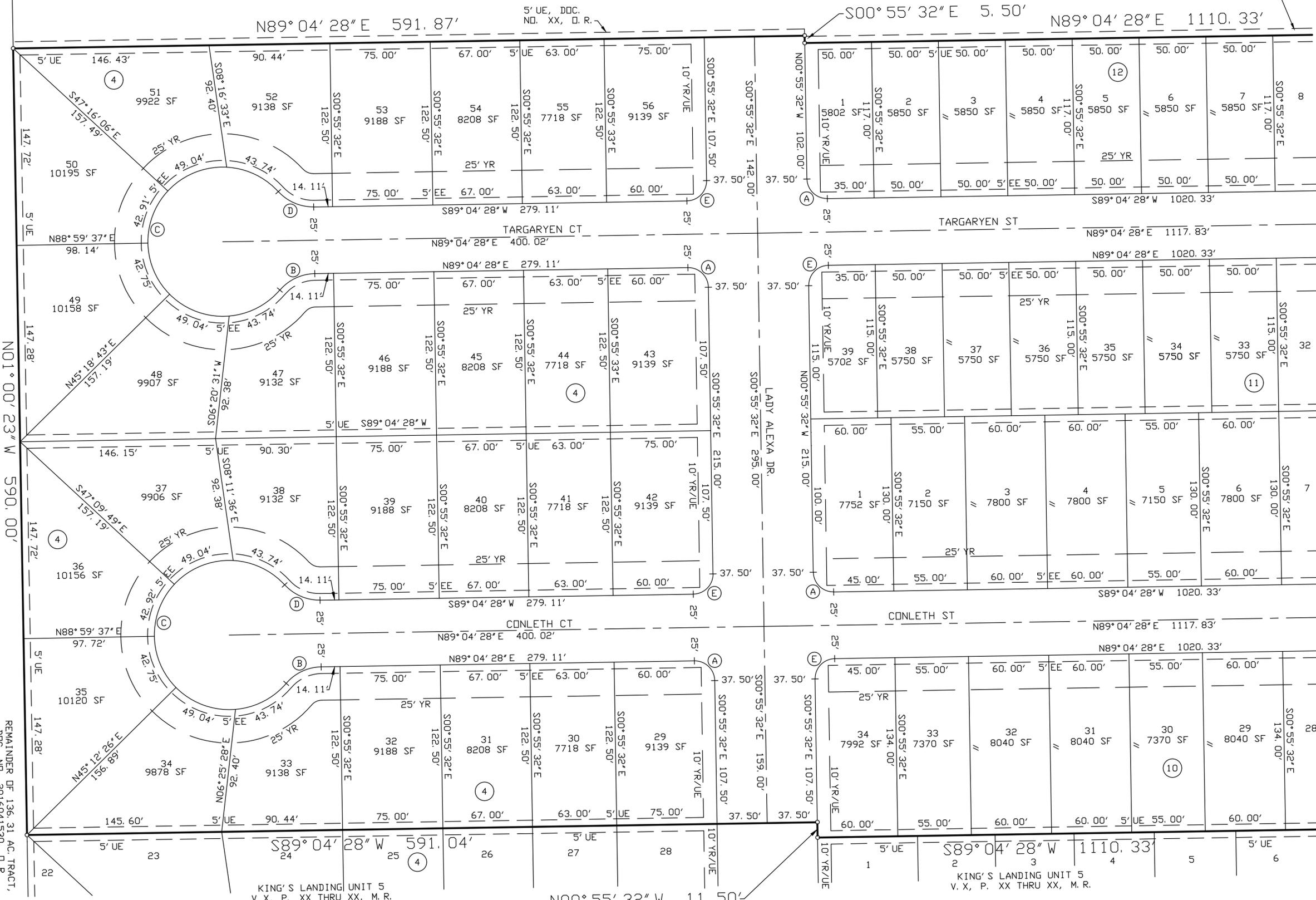
APPROVED AS TO LEGAL FORM:

\_\_\_\_\_  
Buck Brice (Date)  
Deputy City Attorney  
For City Attorney

# EXHIBIT 1

PORTION OF A 130.570 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, MFM DEVELOPMENT, LP

5' UE, DDC. NO. XX, D.R.



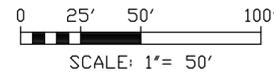
- CURVE DATA**
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R=15.00'  
T=15.00'  
L=23.56'  
CB=S45° 55' 32" E  
CH=21.21'
  - (B) D=48° 45' 01"  
R=35.00'  
T=15.86'  
L=29.78'  
CB=N64° 41' 57" E  
CH=28.89'
  - (C) D=277° 30' 03"  
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L=29.78'  
CB=N66° 33' 01" W  
CH=28.89'
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CB=N45° 55' 32" W  
CH=21.21'
  - (G) D=90° 00' 00"  
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L=23.56'  
CB=N44° 04' 28" E  
CH=21.21'

REMAINDER OF 136.31 AC. TRACT, DDC. NO. 2016041530, D.R., SARATOGA APARTMENTS, LLC

CONTINUED ON SHEET 3

KING'S LANDING UNIT 5  
V. X, P. XX THRU XX, M. R.

KING'S LANDING UNIT 5  
V. X, P. XX THRU XX, M. R.



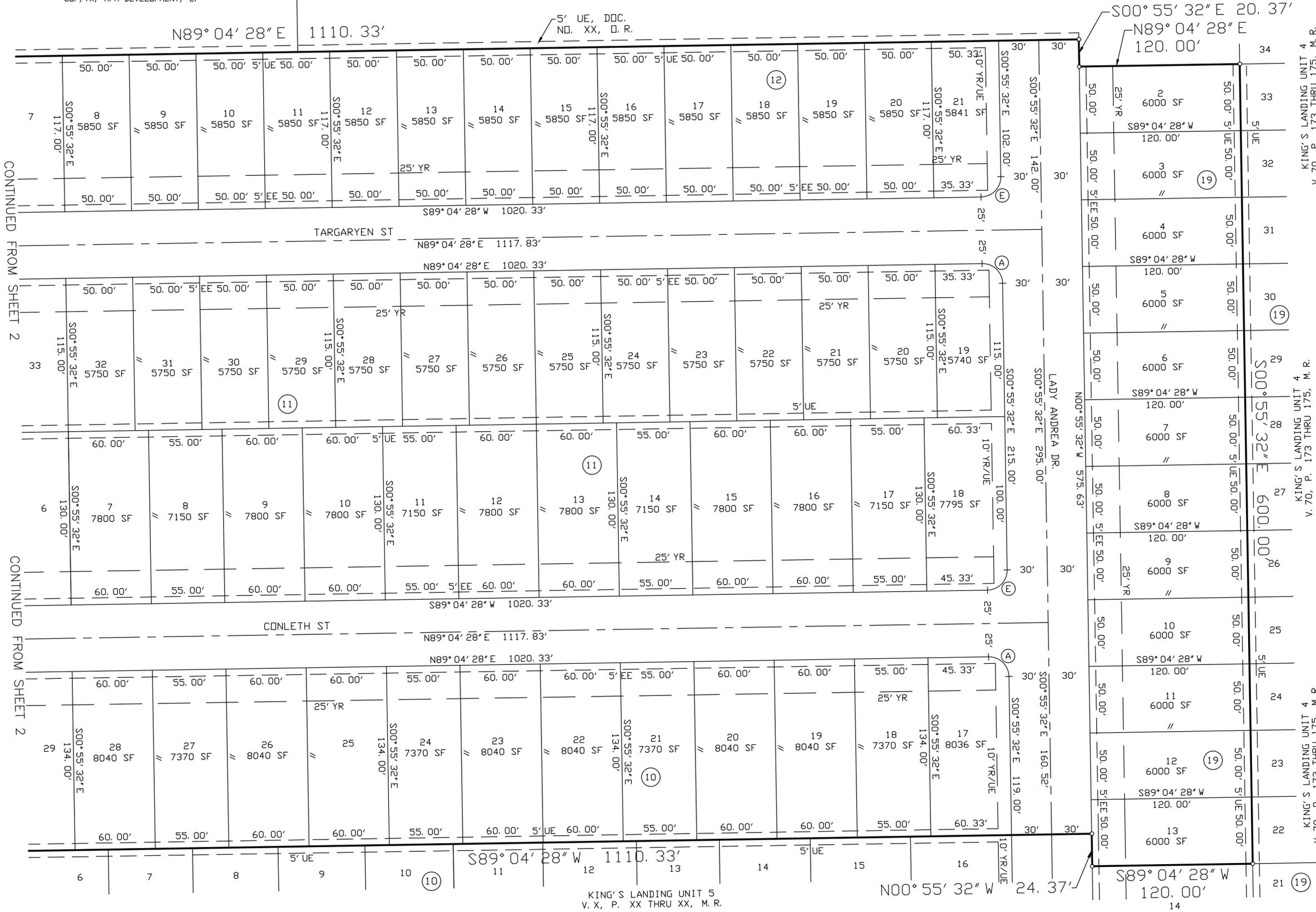
PLAT OF  
KING'S LANDING UNIT 9  
CORPUS CHRISTI, NUECES COUNTY, TEXAS

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

DATE PLOTTED: 05/20/24  
CMP. NO. PLAT-SHT2  
JOB NO.: 23014  
SCALE: 1" = 50'  
PLAT SCALE: SAME  
SHEET 2 OF 3

PORTION OF A 130.570 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



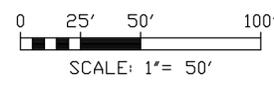
KING'S LANDING UNIT 4  
V. 70, P. 173 THRU 175, M. R.

KING'S LANDING UNIT 4  
V. 70, P. 173 THRU 175, M. R.

KING'S LANDING UNIT 4  
V. 70, P. 173 THRU 175, M. R.

**CURVE DATA**  
 (A) D=90° 00' 00"  
 R=15.00'  
 T=15.00'  
 L=23.56'  
 CB=S45° 55' 32" E  
 CH=21.21'  
 (E) D=90° 00' 00"  
 R=15.00'  
 T=15.00'  
 L=23.56'  
 CB=S44° 04' 28" W  
 CH=21.21'

PLAT OF  
 KING'S LANDING UNIT 9  
 CORPUS CHRISTI, NUECES COUNTY, TEXAS

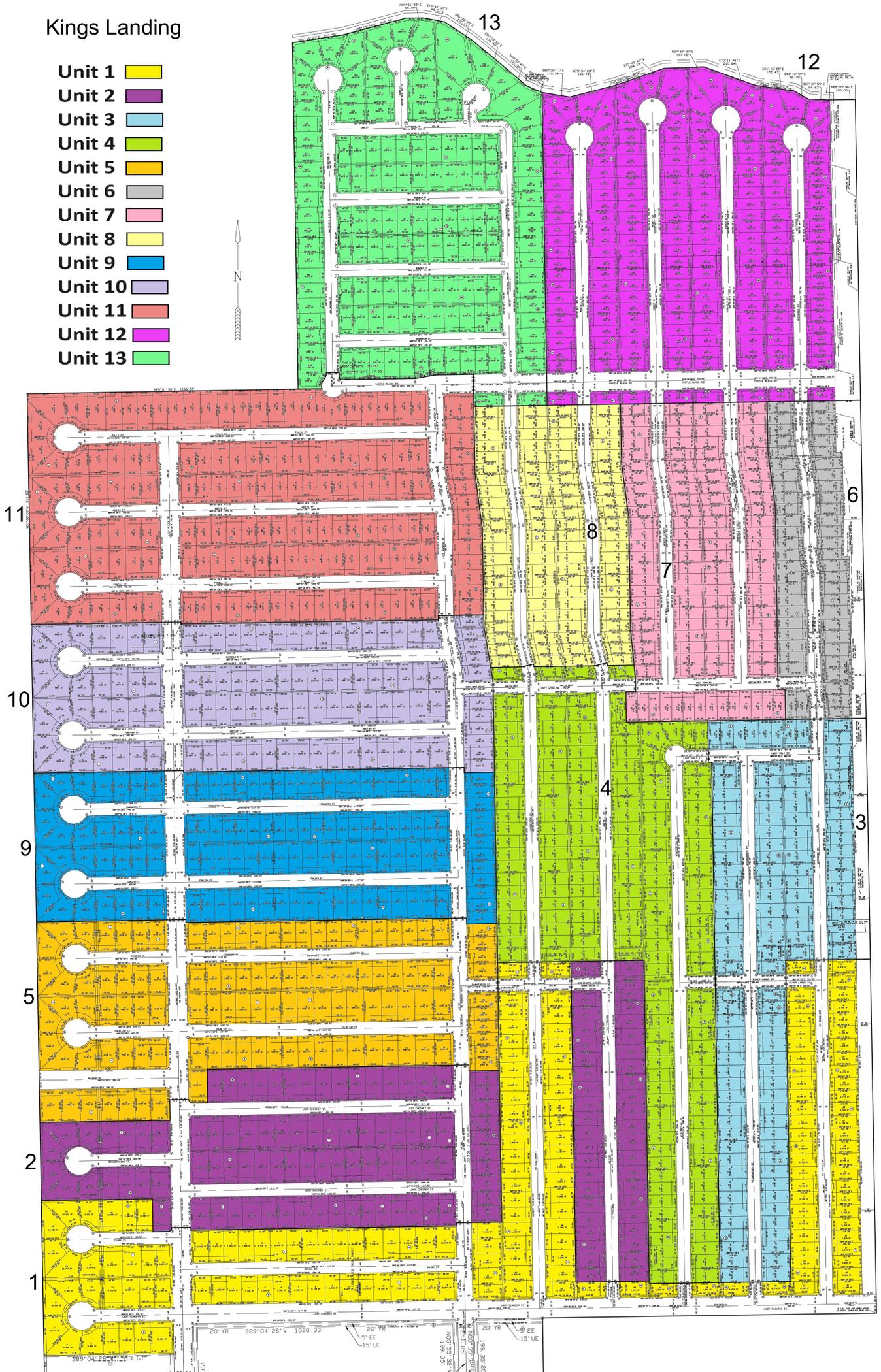


BASS & WELSH ENGINEERING  
 TX SURVEY REG. NO. 100027-00, TX ENGINEERING  
 REG. NO. F-52, 3054 S. ALAMEDA STREET,  
 CORPUS CHRISTI, TEXAS 78404

DATE PLOTTED: 05/20/24  
 COMP. NO.: PLAT-SHT3  
 JOB NO.: 23014  
 SCALE: 1" = 50'  
 PLAT SCALE: SAME  
 SHEET 3 OF 3

# Kings Landing

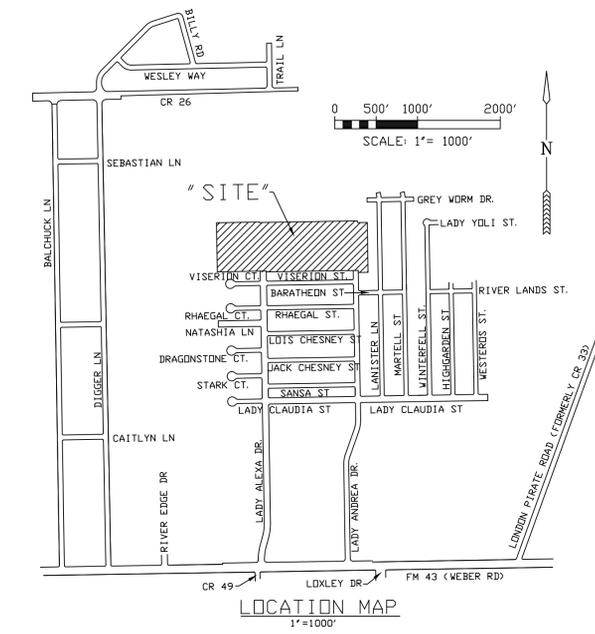
- Unit 1
- Unit 2
- Unit 3
- Unit 4
- Unit 5
- Unit 6
- Unit 7
- Unit 8
- Unit 9
- Unit 10
- Unit 11
- Unit 12
- Unit 13



20' YR S89°04'28"W 1020.33'  
20' YR 9° EE  
15' UE  
20' YR 9° EE  
15' UE

# EXHIBIT 2

# PUBLIC IMPROVEMENTS TO KING'S LANDING UNIT 9, CORPUS CHRISTI, NUEECES COUNTY, TEXAS



## CITY STANDARD SPECIFICATIONS

THE FOLLOWING CITY OF CORPUS CHRISTI STANDARD SPECIFICATIONS OF WHICH CAN BE OBTAINED FROM THE CITY OF CORPUS CHRISTI WEBSITE ([WWW.CCTEXAS.COM](http://WWW.CCTEXAS.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.

021202	SITE CLEARING AND STRIPPING
021040	SITE GRADING
022020	EXCAVATION AND BACKFILL FOR UTILITIES
022021	CONTROL OF GROUND WATER
022022	CONTROL OF GROUND WATER
022040	STREET EXCAVATION
022060	CHANNEL EXCAVATION
022080	EMBANKMENT
022100	SELECT MATERIAL
022420	SELECT MATERIAL
025210	LIME STABILIZATION
025223	CRUSHED LIMESTONE FLEXIBLE BASE
025404	ASPHALTS, OILS AND EMULSIONS
025412	PRIME COAT
025424	HOT MIX ASPHALTIC CONCRETE PAVEMENT
025608	INLETS
025610	CONCRETE CURB AND GUTTER
025612	CONCRETE SIDEWALKS AND DRIVEWAYS
025614	CONCRETE CURB RAMPS
025802	TEMPORARY TRAFFIC CONTROLS DURING CONSTRUCTION
026201	WATER LINE RISER ASSEMBLIES
026202	HYDROSTATIC TESTING OF PRESSURE SYSTEMS
026409	TAPPING SLEEVES AND TAPPING VALVES
026206	DUCTILE IRON PIPE AND FITTINGS
026210	PVC PIPE - AWWA C900/C905 PRESSURE PIPE FOR MUNICIPAL WATER MAINS AND WASTEWATER FORCE MAINS
026402	WATER LINES
026404	WATER SERVICE LINES
026411	GATE VALVES FOR WATER LINES
026416	FIRE HYDRANTS
027202	MANHOLES
027203	VACUUM TESTING OF WASTE WATER MANHOLES AND STRUCTURES
027205	FIBERGLASS MANHOLES
027402	REINFORCED CONCRETE PIPE CULVERTS
027404	CONCRETE BOX CULVERTS
027602	GRAVITY WASTE WATER LINES
027606	WASTE WATER SERVICE LINES
028020	SEEDING
030020	PORTLAND CEMENT CONCRETE
032020	REINFORCING STEEL
038000	CONCRETE STRUCTURES
055420	FRAMES, GRATES, RINGS AND COVERS

## PAVING, GRADING AND DRAINAGE NOTES

- THE OUTER 2' OF ALL STREET PAVING AND WALKS ARE SHOWN POCHED (SHADED), EXISTING C&G AND/OR PAVING SHOWN WITH DASHED LINES (TYPICAL).
- 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 MATTER, 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, EARTH FILL FOR LOTS, WHERE REQUIRED, SHALL BE PLACED IN 8" (MAX.) LIFTS AND COMPACTED TO 95% STANDARD PROCTOR DENSITY WITHIN 3% +/- OF OPTIMUM MOISTURE.
- ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS FOR PCCP, RCCP AND WALKS. 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 OR CONTRACTOR MAY SUBSTITUTE HIGH PIPE THROUGHOUT SUBJECT WITH DIRECTOR OF PUBLIC WORKS APPROVAL. 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 ALIGNMENT SHALL PARALLEL ADJACENT RIGHT-OF-WAY LINES EXCEPT WHERE INDICATED OTHERWISE.
- ALL CURBS RETURNS AT STREET INTERSECTIONS SHALL BE 20' RBC EXCEPT FOR THE RETURNS AT THE WEST SIDE OF LADY ALEXA DRIVE WHICH SHALL BE 22' RBC.
- CONSTRUCT PROPOSED CURB RAMPS AT ALL STREET INTERSECTIONS AND AS SHOWN AND ACCORDING TO CITY CURB RAMP STANDARD 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.
- 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.
- THE ENTIRE SUBJECT SITE IS IN FEMA ZONE X. OTHER AREAS, MAP NO. 48355C0505G (10/13/2022).
- PAY FOR TIED SIDEWALK AS "SIDEWALK" (NO SEPARATE PAY FOR TIED SIDEWALK).

## SANITARY SEWER NOTES

- SET ENDS OF SERVICE LINES MD LOT FRONTAGE UNLESS SHOWN OTHERWISE. SANITARY SEWER STATIONING IS MEASURED ALONG THE CENTER LINE OF PROPOSED STREETS. EXISTING SS LINES ARE SHOWN LIGHT/DASHED, PROPOSED SS LINES ARE SHOWN CONTINUOUS/HEAVY.
- ALL SANITARY SEWER MANHOLES SHALL BE FIBERGLASS, 48" MINIMUM DIAMETER UNLESS SHOWN OTHERWISE, 0.5" (MINIMUM) WALL AND CONSTRUCTED IN ACCORDANCE WITH CITY STANDARD SPECIFICATIONS. MANHOLE RINGS AND COVERS SHALL NOT BE IN THE CURB LINE. MANHOLES IN ROADWAYS TO BE HS-20 TRAFFIC RATED.
- ALL GRAVITY SEWER PIPES 8" THRU 18" SHALL BE PVC SDR 26 PER CITY CONSTRUCTION SPECS AND SHALL BE BEDDED IN SAND WITH 10 TO 12" BELOW AND 6" TO SIDES OF PIPE (FULL HEIGHT OF PIPE), IN ACCORDANCE WITH CITY STANDARD SPECIFICATIONS. BED 4" AND SMALLER PIPES IN EARTH FROM THE EXCAVATION.
- NO SEPARATE PAY FOR ANY DE-WATERING OR SPECIAL EMBEDMENT REQUIRED FOR 8", 10" & 12" SANITARY SEWER PIPES AND MANHOLES.
- THE WORDS SANITARY SEWER SHALL MEAN WASTE WATER AND VICE VERSA.
- WW USE 104 LOTS X 3.5 PERS/LOT X 80 GPCPD X PF 4 = 0.12 MGD.

## 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
	SPOT ELEVATION POINT OF "X"

## LEGEND - PROPOSED FACILITIES AND APPURTENANCES

BB	BACK OF CURB TO BACK OF CURB	RBPM	RAISED BLUE PAVEMENT MARKER, SEE WATER NOTES BELOW.
CL	CENTERLINE	RCC	ROLLER COMPACTED CONCRETE
CW	R/C CONCRETE WALK	7" RCCP	ROLLER COMPACTED CONCRETE PAVING 7" THICK
DCSC	DEEP CUT SERVICE CONNECTION (SAN. SEWER)	RCP	REINFORCED CONCRETE PIPE
→	DRAINAGE DIRECTION OR DIMENSION ARROW	RT	RIGHT
⑬.45	FINISHED GROUND ELEVATION	S = 0.3%	LONGITUDINAL SLOPE
◆	FIRE HYDRANT SYMBOL	SS	SANITARY SEWER
FL	FLOW LINE OR INVERT ELEVATION	SSF	SEDIMENTATION SCREENING FENCE ALSO KNOWN AS SILT FENCE OR TEMPORARY SEDIMENT CONTROL FENCE
FW	FINISHED WALK ELEVATION	SSMH	SANITARY SEWER MANHOLE
GB	GRADE BREAK (CHANGE OF DRAINAGE DIRECTION OR SLOPE)	SSS	SANITARY SEWER SERVICE (PIPE & FITTINGS, 4" AND 6")
HDPP	HIGH DENSITY POLYETHYLENE PIPE	STPS	STOP SIGN
LT	LEFT	TC	TOP OF CURB
MCB	MULTIPLE BOX CULVERT (R/C)	TSW	TIED SIDEWALK
MH	MANHOLE	I	WATER VALVE SYMBOL
PC	POINT OF CURVATURE (BEGINNING OF CURVE)	WSD	DOUBLE WATER SERVICE (1" PIPE, FITTINGS, CORPORATION STOP AND ANGLE METER VALVES)
PT	POINT OF TANGENCY (END OF CURVE)	WSS	SINGLE WATER SERVICE (1" PIPE, FITTINGS, CORPORATION STOP AND ANGLE METER VALVE)
R/C	REINFORCED PORTLAND CEMENT CONCRETE		
7" PCCP	PORTLAND CEMENT CONCRETE PAVING, CAST IN PLACE, STEEL REINFORCED, 7" THICK		

## 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

- EXISTING WATER LINES ARE SHOWN DASHED/LIGHT. PROPOSED WATER LINES ARE SHOWN CONTINUOUS/HEAVY IN PLAN AND DOTTED/HEAVY IN PROFILE.
- 2" TEMPORARY WATER LINES SHALL BE SCHEDULE 40 PVC SOLVENT WELDED JOINTS. NO SEPARATE PAY FOR 2" FITTINGS NOR 2" X 6" CONNECTOR STRAPS.
- 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 C900 DR18 PVC WITH DUCTILE IRON MECHANICAL JOINT FITTINGS AND SHALL BE BEDDED IN (ENCASED IN) SAND TO 6" ALL AROUND PIPE.
- 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 INFRASTRUCTURE DESIGN MANUAL. FIRE HYDRANTS WILL BE LOCKED ONTO VALVE BY USE OF RETAINER GLANDS ON DIP.
- CONTRACTOR SHALL VERIFY ADEQUATE JOINT RESTRAINT FOR ALL PIPE, FITTINGS AND VALVES PRIOR TO ANY WATER CONSTRUCTION.
- WATER USE 3 GPM/LOT X 104 LOTS X 60 MIN/HR X 24 HR/DAY = 0.45 MGD.
- LINE LOCATOR TAPE AND TRACER WIRE ARE TO BE INSTALLED WITH PROPOSED WATER LINES PER ID# 4.09A-B.
- RAISED BLUE PAVEMENT MARKERS IN ACCORDANCE WITH THE LATEST VERSION OF THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)" SHALL BE INSTALLED IN THE CENTER OF STREETS AT FHS AS SHOWN (NO SEPARATE PAY)

## 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\\_GGP.PDF](https://www.tceq.texas.gov/assets/public/permitting/stormwater/TXR150000_GGP.PDF).

## STREET LIGHTS - MOUNTING HEIGHT 25' TO 28'

**CALL BEFORE YOU DIG!**



Know your location.  
Call before you dig.

PARTICIPANTS REQUEST  
48 HOURS NOTICE BEFORE YOU DIG.  
DRILL, OR BLAST - STOP AND CALL  
811

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, 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) 826-3240.
- 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 INSPECTORS.
- 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.
- ALL CONSTRUCTION PROCEDURES, TESTING PROCEDURES AND CONSTRUCTION MATERIALS AND APPURTENANCES SHALL ADHERE AND BE IN COMPLIANCE OF THE LATEST REVISIONS OF THE CITY OF CORPUS CHRISTI INFRASTRUCTURE DESIGN MANUAL, UNIFIED DEVELOPMENT CODE, CODE OF ORDINANCES, TCEQ AND ANY OTHER LOCAL, STATE AND FEDERAL CODE OFF JURISDICTION OF THIS PROJECT FOR THE DURATION OF THE PROJECT.
- THESE PLANS HAVE BEEN DEVELOPED AND ENGINEERED TO MEET ALL LOCAL, STATE AND FEDERAL CODES INCLUDING BUT NOT LIMITED TO THE LATEST ADOPTION OF THE ID# CODE OF ORDINANCES CODE, ICC, TCEQ TO THE BEST OF THE EOR'S KNOWLEDGE AT THE TIME OF SIGNING AND SEALING. THESE PLANS HAVE ALSO BEEN THOROUGHLY REVIEWED BY CITY ENGINEERS.

## SHEET INDEX

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SHEET 3	PAVING, GRADING AND DRAINAGE PLAN AND PROFILE
SHEET 4	SANITARY SEWER AND WATER PLAN AND PROFILE
SHEET 5	SANITARY SEWER AND WATER PLAN AND PROFILE
SHEET 6	STREET SIGN AND LIGHT POLE PLAN, ESTIMATE SUMMARY AND BARRICADE DETAILS
SHEET 7	STREET SIGN AND LIGHT POLE PLAN
SHEET 8	PCCP AND RCCP PAVEMENT DETAILS AND SIDEWALK DETAILS
SHEET 9	PCCP AND RCCP JOINTING PLAN
SHEET 10	PCCP AND RCCP JOINTING PLAN
SHEET 11	STORM WATER POLLUTION PREVENTION PLAN, SHEET 1 OF 3
SHEET 12	STORM WATER POLLUTION PREVENTION PLAN, SHEET 2 OF 3
SHEET 13	STORM WATER POLLUTION PREVENTION PLAN, SHEET 3 OF 3
SHEET 14	TXDOT AND CITY SIGN AND PAVEMENT MARKING REQUIREMENTS AND DETAILS
SHEET 15	TXDOT SINGLE BOX CULVERTS, CAST IN PLACE, SCC-10, 1 OF 2
SHEET 16	TXDOT SINGLE BOX CULVERTS, CAST IN PLACE, SCC-10, 2 OF 2
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SHEET 18	CITY WASTE WATER STANDARD DETAILS
SHEET 19	CITY WATER STANDARD DETAILS
SHEET 20	CITY CURB RAMP STANDARDS
SHEET 21	OFFSITE DRAINAGE PLAN AND PROFILE
SHEET 22	OFFSITE DRAINAGE PLAN AND PROFILE

**RELEASED FOR CONSTRUCTION**





Bria A. Whitmire, P.E., CFM, CPM  
Development Services  
City of Corpus Christi

Note: Construction Plans will expire based on the conditions stated in UDC 3.8.5.F.

STATE OF TEXAS  
REGISTERED PROFESSIONAL ENGINEER  
36240  
NIXON M. WELSH  
11/26/24

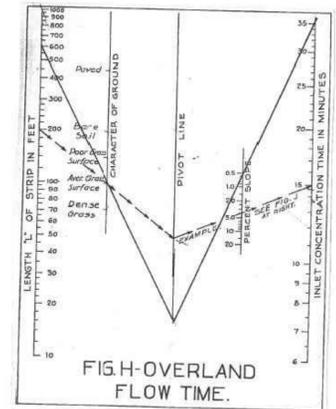
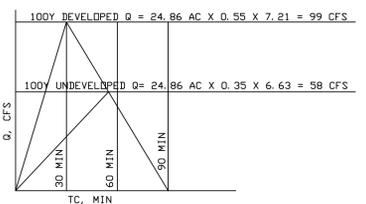
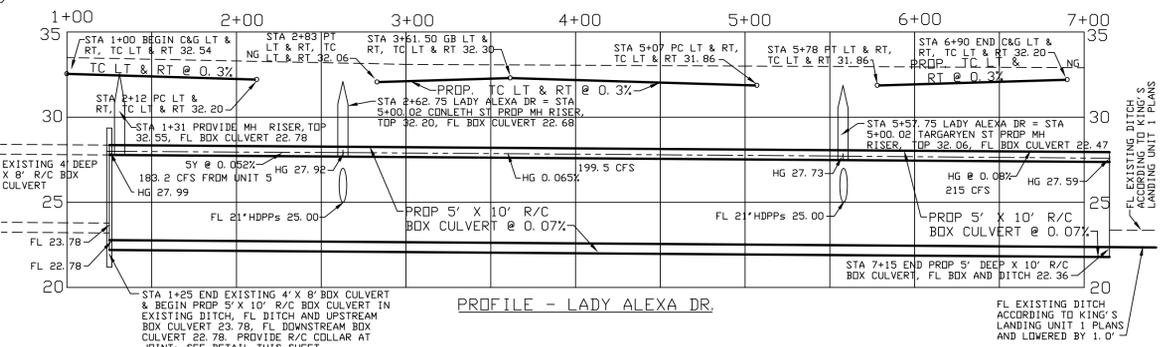
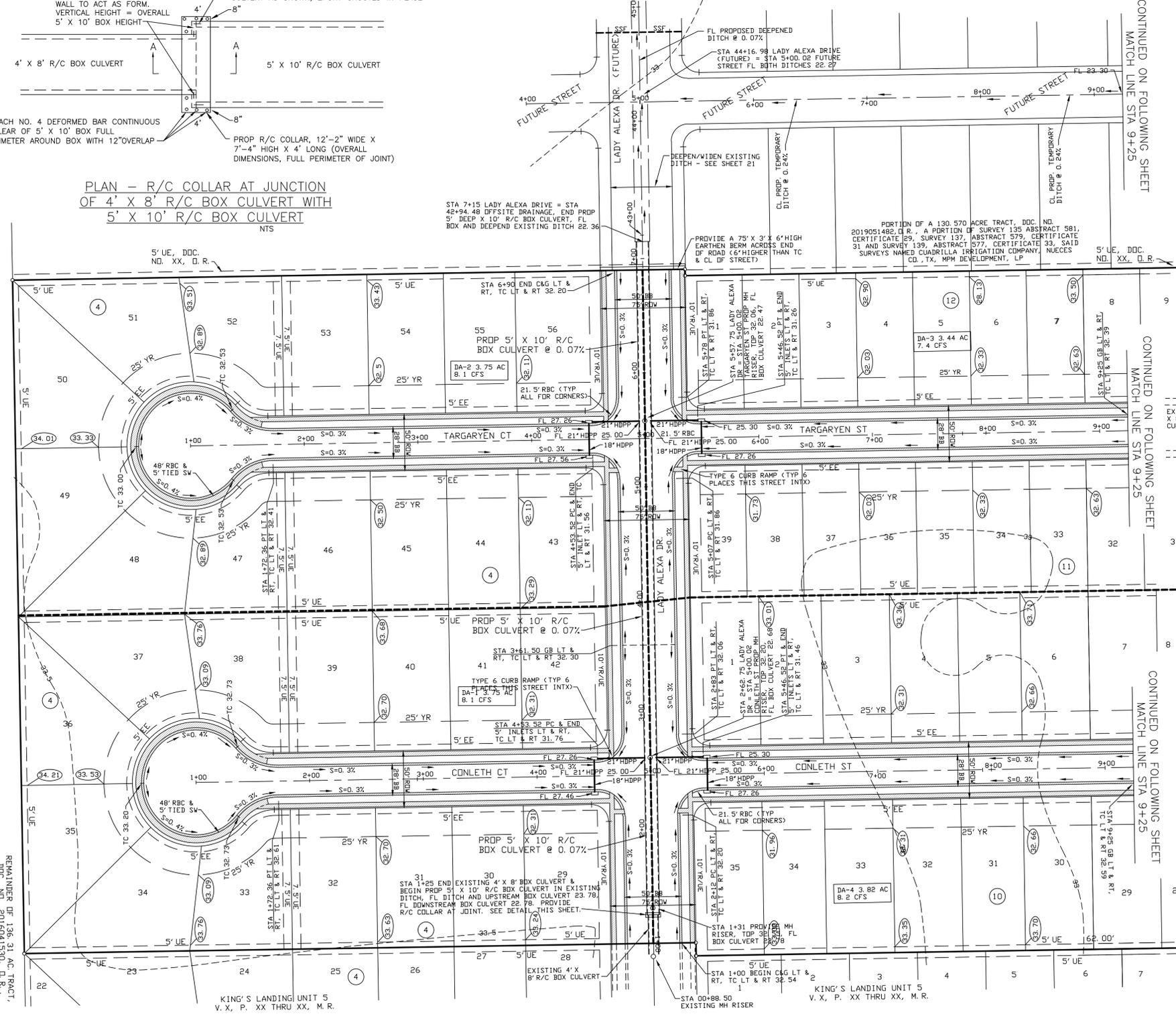
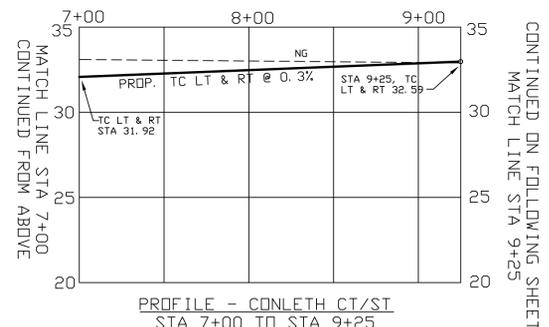
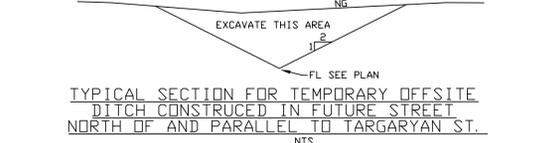
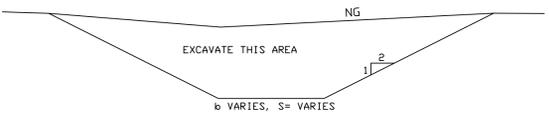
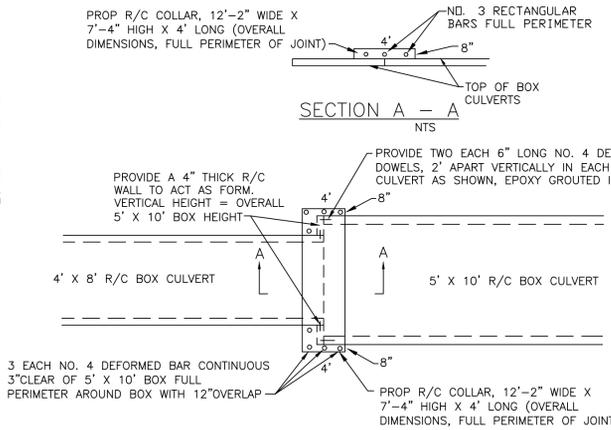
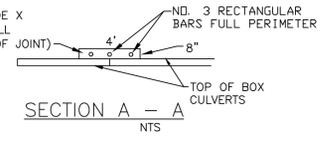
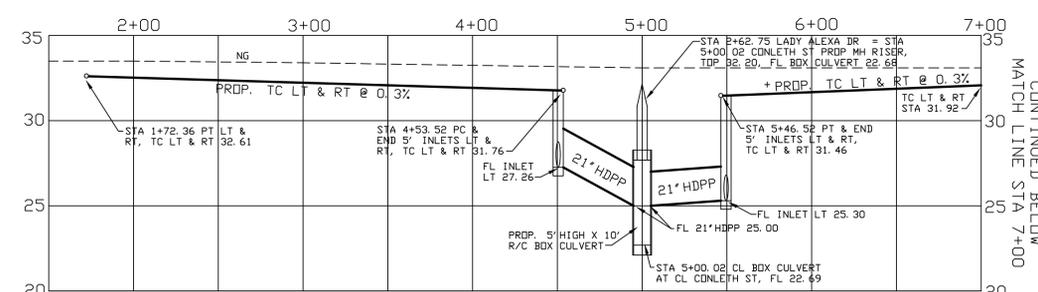
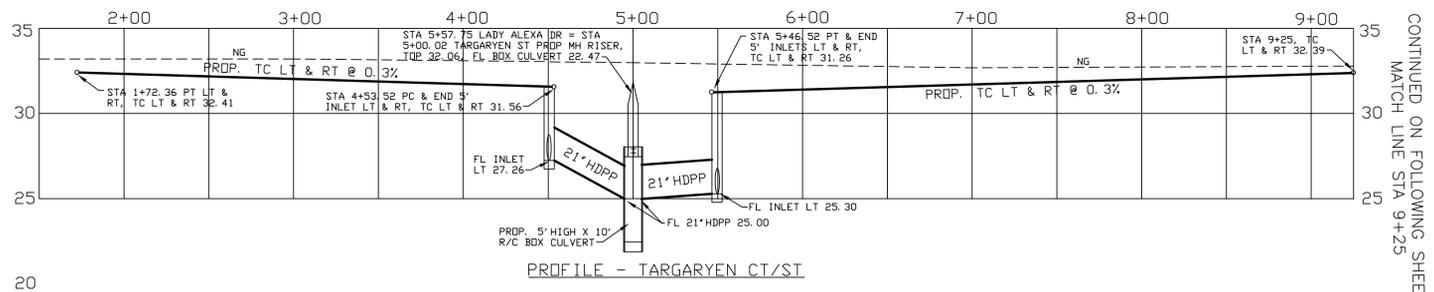
DEVELOPER:  
MOSES MOSTAGHANI  
P.O. BOX 331308, CORPUS CHRISTI, TEXAS  
78463  
774-3832

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

PUBLIC IMPROVEMENTS TO  
KING'S LANDING UNIT 9  
CORPUS CHRISTI, NUEECES CO., TX

COVER SHEET AND MISCELLANEOUS INFORMATION

DWN.		PLOT SCALE: 1" = 50'	COM. NO.	CS.DWG
		SCALE (H): AS SHOWN	JOB NO.	23014
CHK.	N. WELSH	SCALE (V): AS SHOWN	SHEET	1 OF 22
		DATE PLOTTED	11/26/24	



UNIT 9 FLOWS  
 5Y DEVELOPED FLOW TC 30 MIN, Q = 24.86 AC X 0.35 X 3.93 = 54 CFS  
 100Y UNDEVELOPED FLOW 35 MIN TC, Q = 24.86 AC X 0.35 X 6.63 = 58 CFS  
 100Y DEVELOPED FLOW 30 MIN TC, Q = 24.86 AC X 0.55 X 7.21 = 99 CFS

LAYERS SHOWING

CLAY	X	X	X	X	X	X	X	X	X
GRAVEL	X	X	X	X	X	X	X	X	X
CONCRETE	X	X	X	X	X	X	X	X	X
ASPHALT	X	X	X	X	X	X	X	X	X
PAVEMENT	X	X	X	X	X	X	X	X	X
UTILITY	X	X	X	X	X	X	X	X	X
PROPOSED	X	X	X	X	X	X	X	X	X
EXISTING	X	X	X	X	X	X	X	X	X
TOP	X	X	X	X	X	X	X	X	X
FINISH	X	X	X	X	X	X	X	X	X
PROPOSED	X	X	X	X	X	X	X	X	X
EXISTING	X	X	X	X	X	X	X	X	X



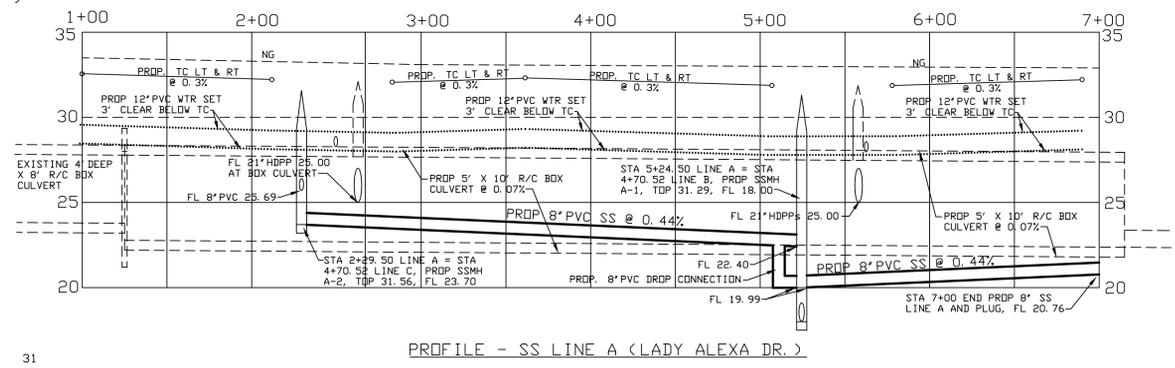
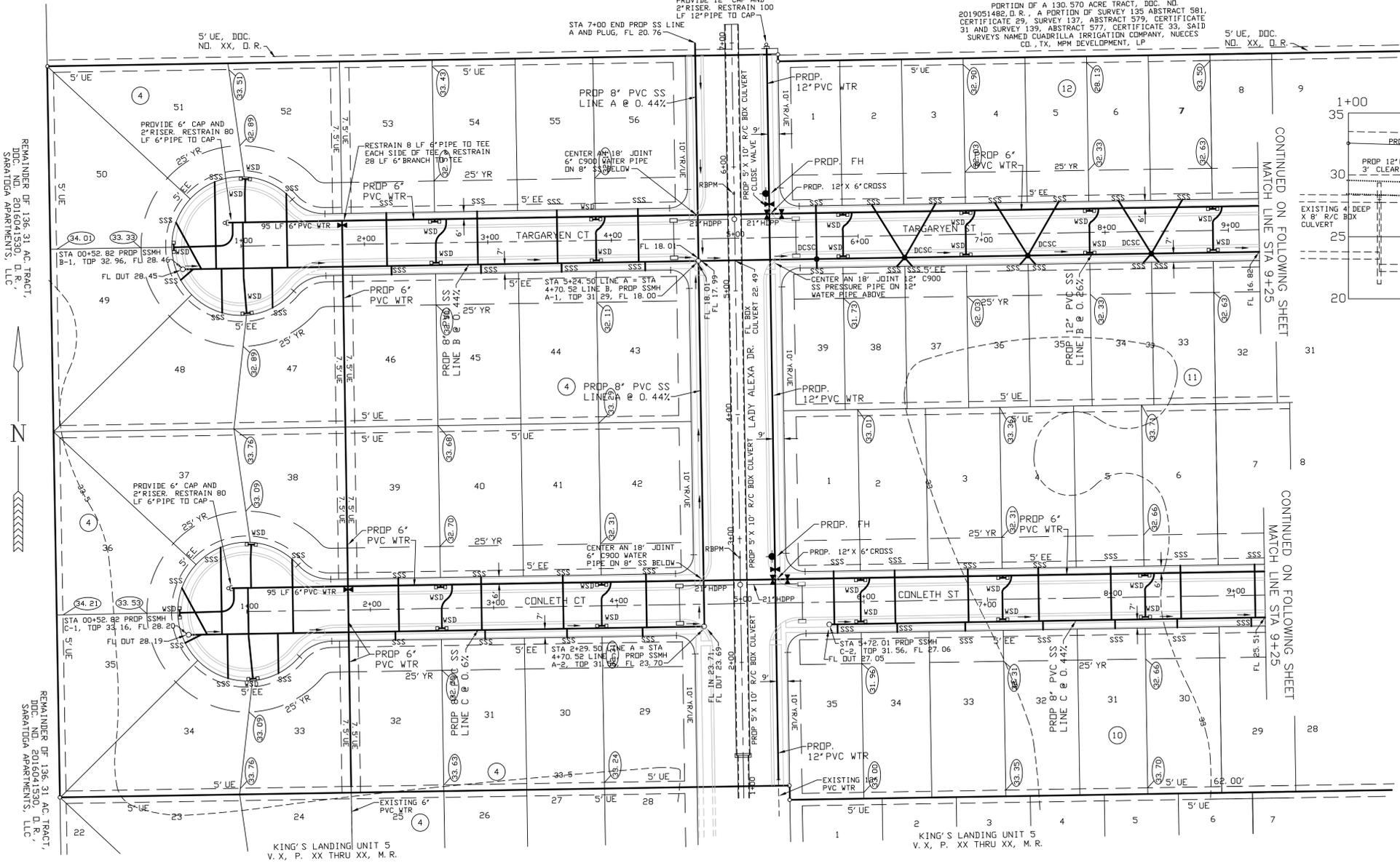
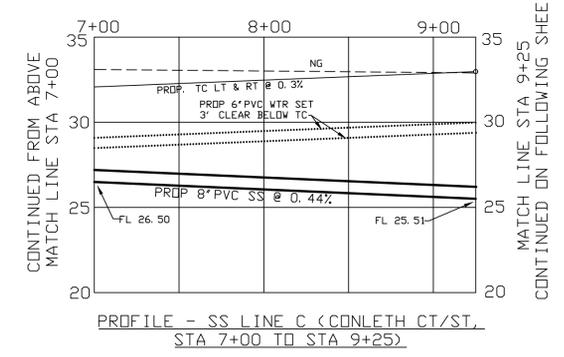
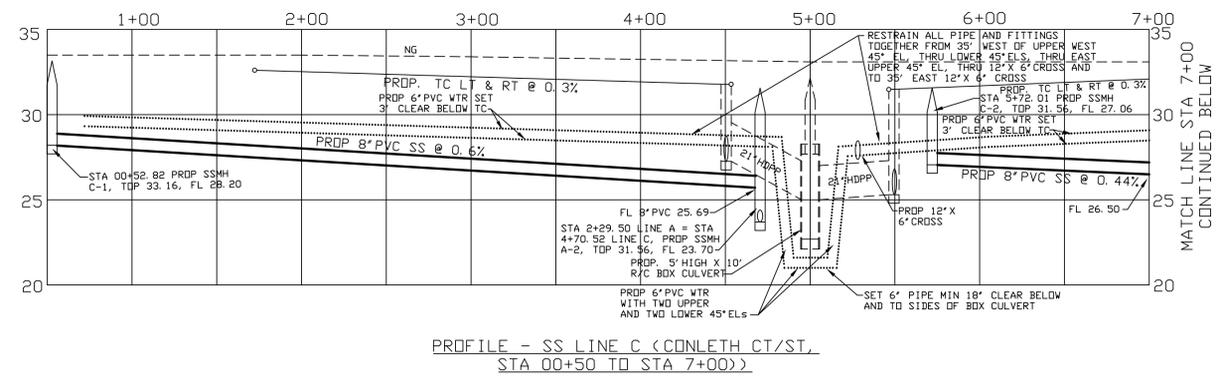
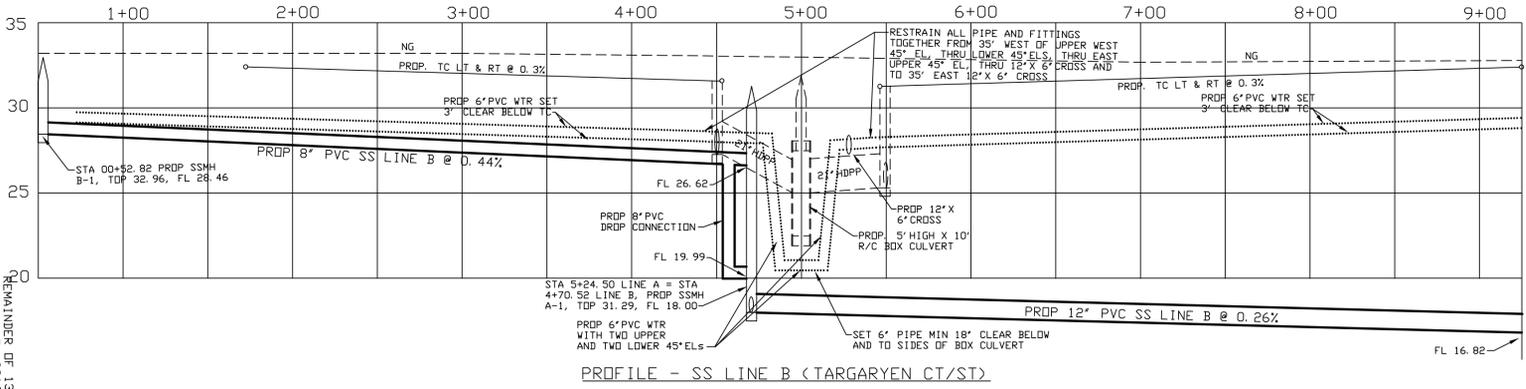
BASS & WELSH ENGINEERING  
 TX SURVEY REG. NO. 100227-00, TX ENGINEERING REG. NO. F-52, 3054 S. ALAMEDA STREET, CORPUS CHRISTI, TEXAS 78404  
 PUBLIC IMPROVEMENTS TO KING'S LANDING UNIT 9 CORPUS CHRISTI, NUECES CO., TX  
 PAVING, GRADING AND DRAINAGE PLAN AND PROFILE, SWQMP

DATE PLOTTED 11/28/24 SHEET 2 OF 22

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

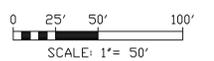
RELEASED FOR CONSTRUCTION  
 BriA A. Whitmore, P.E., CFM, CPM  
 Development Services  
 City of Corpus Christi  
 Note: Construction Plans will expire based on the conditions stated in UDC 3.8.5.F.





**RESTRAINT FOR WATER PIPES AND FITTINGS**

- PIPE TO PIPE JOINT RESTRAINT - IF CALLED FOR IN PLANS USE EBBA IRON SERIES 1900 SPLIT SERRATED HARNESS TO CONNECT SPIGGOT TO BELL FOR LENGTHS SPECIFIED.
- PIPE TO FITTING JOINT RESTRAINT - IF CALLED FOR IN PLANS USE EBBA IRON EBAA MEGALUG MECHANICAL JOINT RESTRAINTS.
- RESTRAIN FIRE HYDRANTS TO ADJACENT NIPPLES, EL FITTINGS, VALVES AND TEE FITTINGS IN MAINS. PROVIDE MINIMUM 8" OF PIPE EACH SIDE OF TEE FITTING IN MAIN AND RESTRAINED TO TEE FITTING. PROVIDE CONCRETE THRUST BLOCKS AT ALL TEE FITTINGS IN MAINS FOR FIRE HYDRANTS.



LAYERS SHOWN	FOR AS SHOWN ON SHEET			
CLEAR	x	x	x	x
CONCRETE	x	x	x	x
PIPE	x	x	x	x
MANHOLE	x	x	x	x
VALVE	x	x	x	x
HYDRANT	x	x	x	x
WTR	x	x	x	x



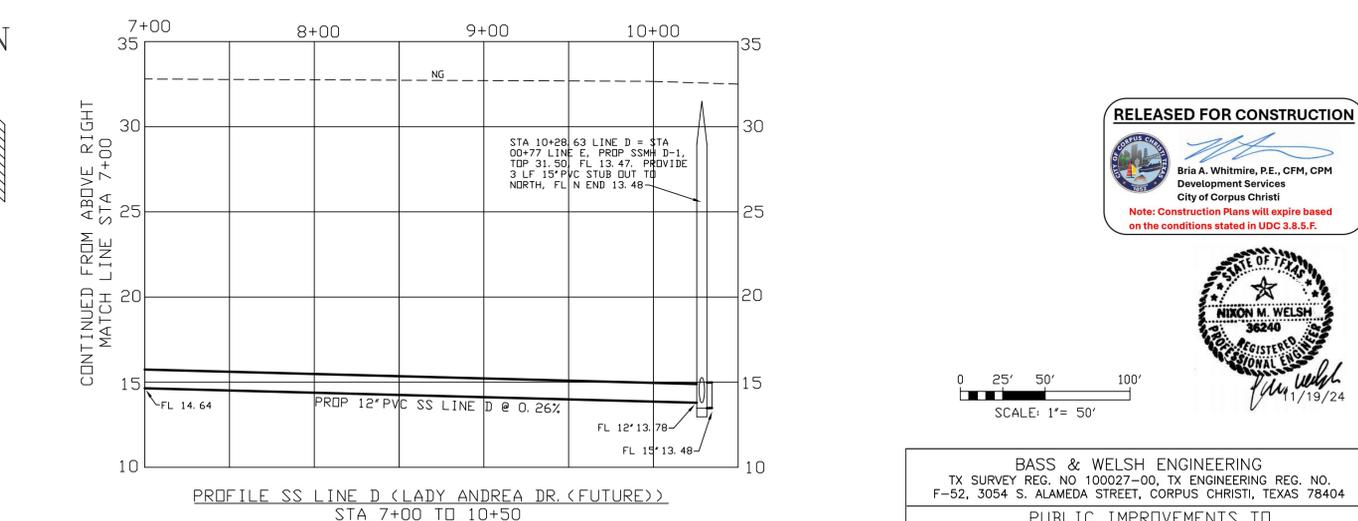
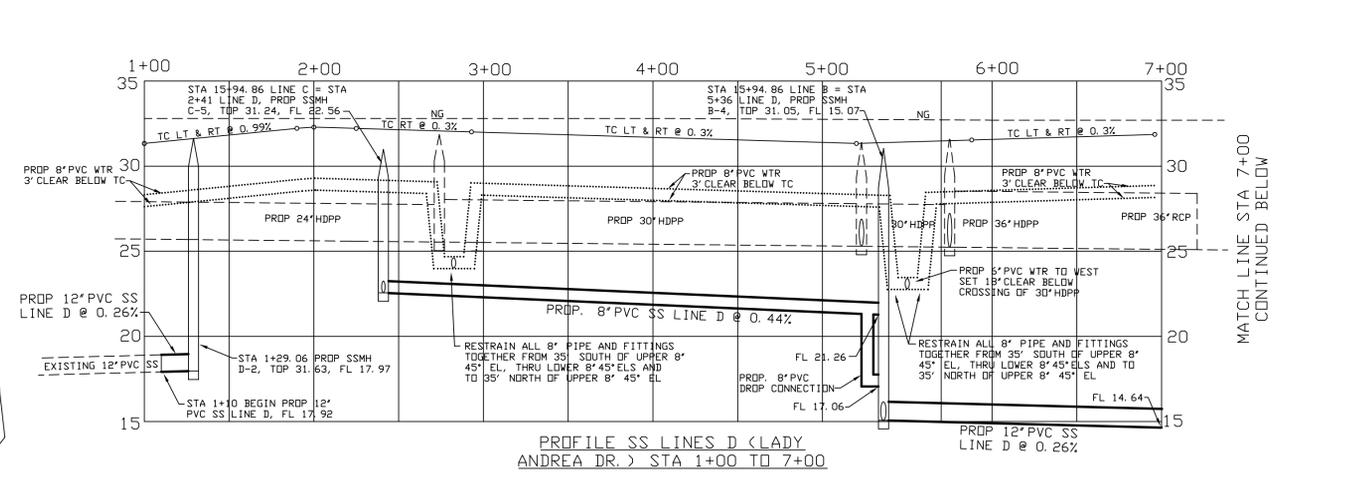
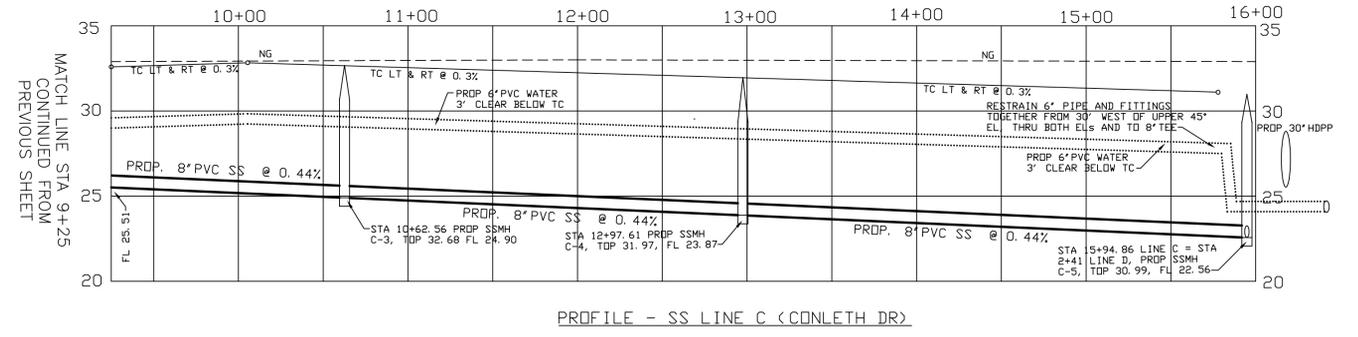
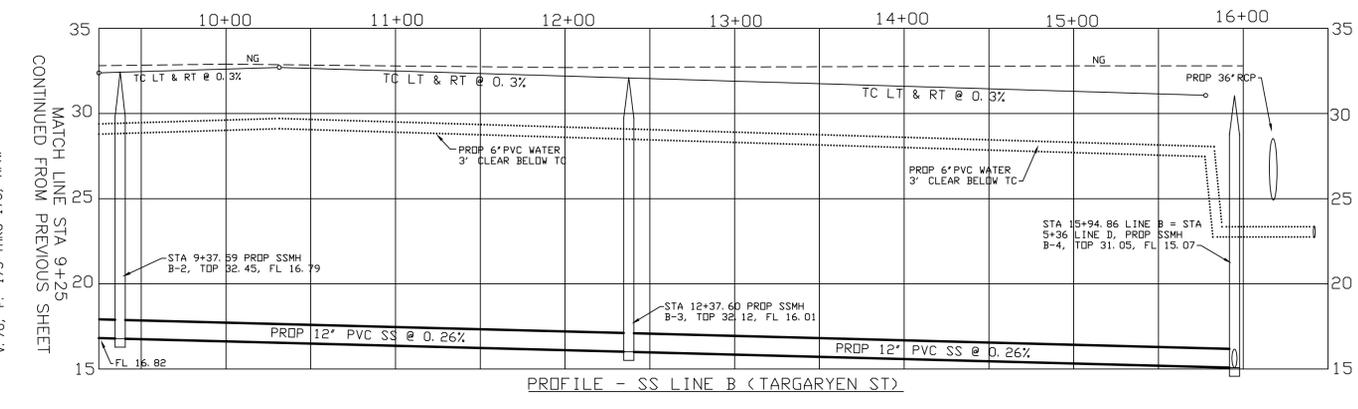
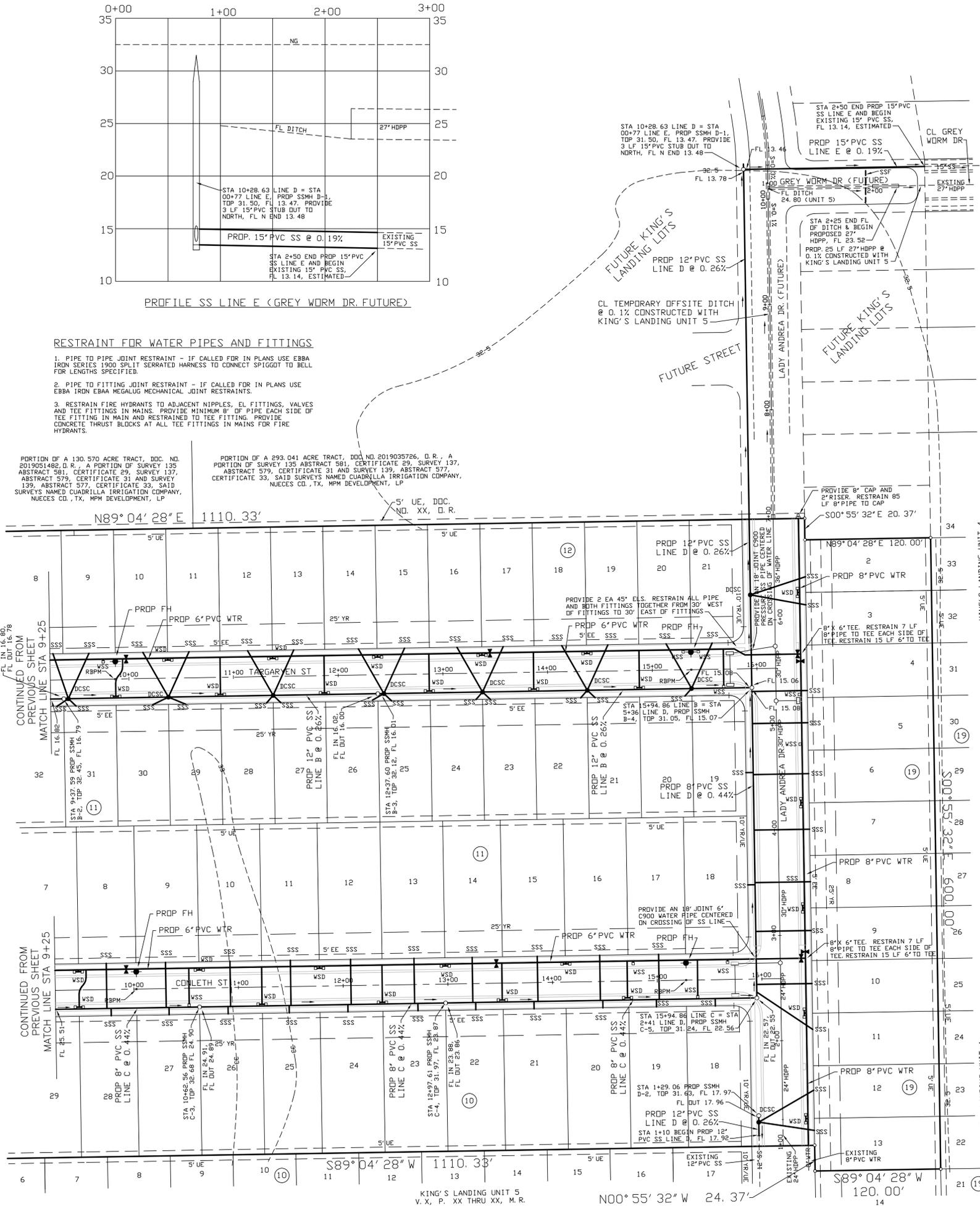
NOTE: AT DEEP CUT SERVICE CONNECTIONS PROVIDE TWO EACH DOUBLE WYE FITTINGS, ONE STACKED ABOVE THE OTHER

**RELEASED FOR CONSTRUCTION**

Bria A. Whitmire, P.E., CFM, CPM  
Development Services  
City of Corpus Christi  
Note: Construction Plans will expire based on the conditions stated in UDC 3.8.5.F.

**BASS & WELSH ENGINEERING**  
TX SURVEY REG. NO. 10027-00, TX ENGINEERING REG. NO. F-52, 3054 S. ALAMEDA STREET, CORPUS CHRISTI, TEXAS 78404  
**PUBLIC IMPROVEMENTS TO KING'S LANDING UNIT 9 CORPUS CHRISTI, NUECES CO., TX**  
**SANITARY SEWER AND WATER PLAN AND PROFILE**

DWN. \_\_\_\_\_ PLOT SCALE: 1" = 50'  
SCALE (V): SAME  
DATE PLOTTED: 11/19/24  
COM. NO. PGDI AS SSW  
JOB NO. 23014  
SHEET 4 OF 22



- RESTRAINT FOR WATER PIPES AND FITTINGS**
- PIPE TO PIPE JOINT RESTRAINT - IF CALLED FOR IN PLANS USE EBBA IRON SERIES 1900 SPLIT SERRATED HARNESS TO CONNECT SPIGGOT TO BELL FOR LENGTHS SPECIFIED.
  - PIPE TO FITTING JOINT RESTRAINT - IF CALLED FOR IN PLANS USE EBBA IRON EBAA MEGALUG MECHANICAL JOINT RESTRAINTS.
  - RESTRAIN FIRE HYDRANTS TO ADJACENT NIPPLES, EL FITTINGS, VALVES AND TEE FITTINGS IN MAINS. PROVIDE MINIMUM 8" OF PIPE EACH SIDE OF TEE FITTING IN MAIN AND RESTRAINED TO TEE FITTING. PROVIDE CONCRETE THRUST BLOCKS AT ALL TEE FITTINGS IN MAINS FOR FIRE HYDRANTS.

LATEST REVISION	DATE	BY	CHKD
1. LAYERS SHOWN			
2. CHECK BY			
3. DATE			
4. REVISIONS			
5. DATE			
6. REVISIONS			
7. DATE			
8. REVISIONS			
9. DATE			
10. REVISIONS			
11. DATE			
12. REVISIONS			
13. DATE			
14. REVISIONS			
15. DATE			
16. REVISIONS			
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25. DATE			
26. REVISIONS			
27. DATE			
28. REVISIONS			
29. DATE			
30. REVISIONS			
31. DATE			
32. REVISIONS			
33. DATE			
34. REVISIONS			
35. DATE			

**RELEASED FOR CONSTRUCTION**

Bria A. Whitmire, P.E., CFM, CPM  
Development Services  
City of Corpus Christi

Note: Construction Plans will expire based on the conditions stated in UDC 3.8.5.F.

**STATE OF TEXAS**  
NIXON M. WELSH  
36240  
REGISTERED PROFESSIONAL ENGINEER  
11/19/24

0 25' 50' 100'  
SCALE: 1" = 50'

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

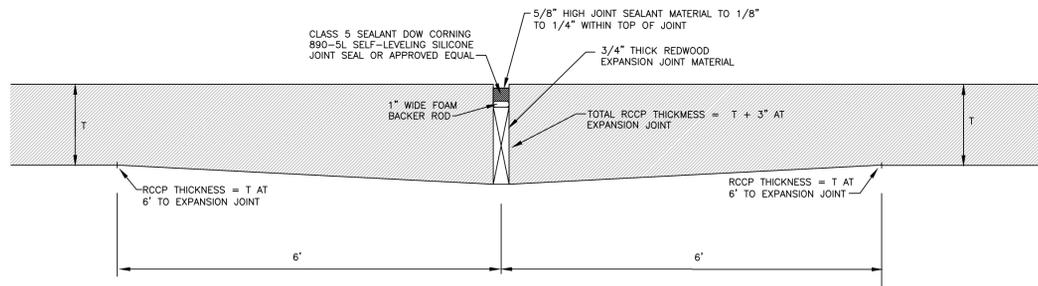
PUBLIC IMPROVEMENTS TO KING'S LANDING UNIT 9 CORPUS CHRISTI, NUECES CO., TX

SANITARY SEWER AND WATER PLAN AND PROFILE

DWN. \_\_\_\_\_ PLOT SCALE: 1" = 50' COM. NO. PGD 2 AS SSW  
SCALE (V): SAME JOB NO. 23014  
SCALE (H): NONE SHEET 5 OF 22  
DATE PLOTTED 11/19/24



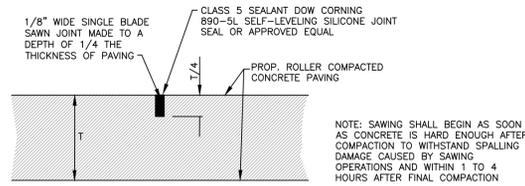




**EXPANSION JOINT NOTES:**

1. EXPANSION JOINTS SHALL BE PLACED FULL LENGTH ACROSS STREETS AT JOINT LOCATIONS AS SHOWN IN FOLLOWING JOINTING PLAN SHEETS.
2. AT STREET INTERSECTIONS RCCP SHALL BE PLACED IN A THRU, CONTINUOUS MANNER IN ONE DIRECTION ("THRU STREET") AND IN THE OTHER DIRECTION ("CROSS STREET") RCCP SHALL BE PLACED IN A MANNER BEGINNING OR ENDING WITH THE THRU STREET AT AN EXPANSION JOINT.
3. WHERE RCCP ABUTS RCCP AT AN RCCP EXPANSION JOINT, THICKEN RCCP TO SAME EXTENT AS THICKENING OF RCCP (1+3" AT RCCP EXPANSION JOINT PLUS TAPERED THICKENING OVER 6', ETC.).

**EXPANSION JOINT DETAIL - RCCP**  
NTS



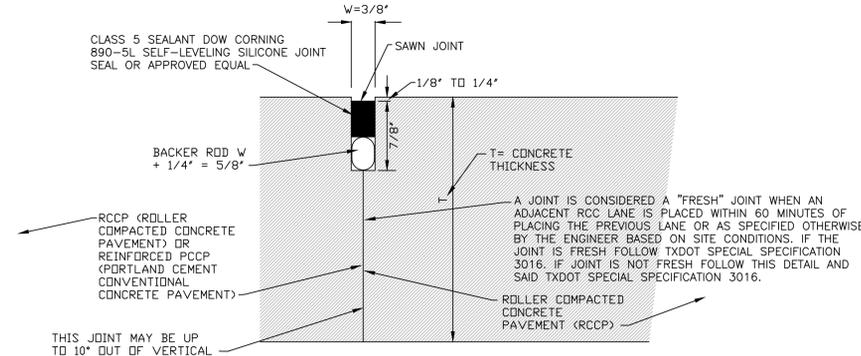
**CONTRACTION (SAWN) JOINT DETAIL - RCCP**  
NTS

**RCCP (ROLLER COMPACTED CONCRETE PAVING) NOTES**

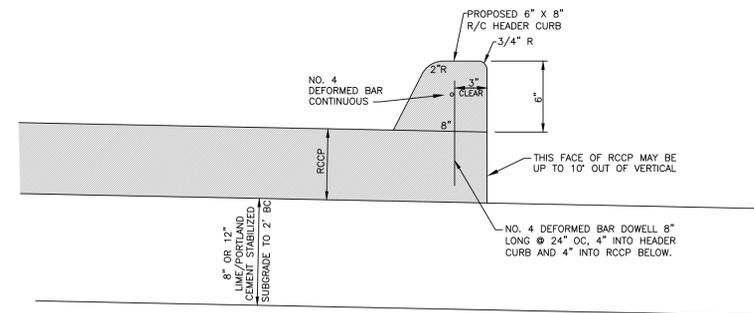
1. ALL PROPOSED RCCP SHALL BE PORTLAND CEMENT CONCRETE PAVING OF THICKNESS ACCORDING TO TYPICAL STREET SECTIONS, 7" FOR 28' BB STREETS, 7" FOR 40' BB STREETS AND 8" FOR 50' BB STREETS. ALL PROPOSED PUBLIC STREETS SHALL BE PAVED WITH 4,000 PSI COMPRESSIVE STRENGTH PCCP AND RCCP AT 28 DAYS.
2. ALL PROPOSED RCCP SHALL BE CONSTRUCTED IN ACCORDANCE WITH RECOMMENDATIONS AS PROVIDED IN GEOTECHNICAL ENGINEERING REPORT FOR KING'S LANDING UNIT 5 BY PROFESSIONAL SERVICE INDUSTRIES, INC., DATED JANUARY 24, 2024. THE COVER SHEET OF WHICH REPORT IS SHOWN BELOW IN SHEET HEREOF. IN ADDITION CONTRACTOR SHALL MEET ALL REQUIREMENTS OF TXDOT SPECIAL SPECIFICATION 3016 "ROLLER COMPACTED CONCRETE". CONTRACTOR SHALL OBTAIN A COMPLETE COPY OF SAID GEOTECHNICAL ENGINEERING REPORT AND SAID TXDOT SPECIAL SPECIFICATION 3016 PRIOR TO BIDDING OR NEGOTIATING FOR THE WORK AND PRIOR TO ANY CONSTRUCTION.
3. ALL PROPOSED 7" THICK RCCP SHALL OVERLAY PROPOSED 8" LIME/PORTLAND CEMENT STABILIZED AND COMPACTED NATURAL SOIL AT THE SITE. ALL PROPOSED 8" THICK RCCP SHALL OVERLAY PROPOSED 12" LIME/PORTLAND CEMENT STABILIZED AND COMPACTED NATURAL SOIL AT THE SITE.
4. CONTRACTION JOINTS SHALL BE PLACED PARALLEL OR PERPENDICULAR TO THE LONG AXIS (CENTER LINE) OF ALL PROPOSED STREETS EXCEPT WHERE SHOWN OTHERWISE AT MANHOLES AND STREET INTERSECTIONS. JOINTS ARE SHOWN IN THE FOLLOWING TWO SHEETS. ALL JOINTS SHALL BE SAWN UNLESS INDICATED OTHERWISE. SAWN JOINTS SHALL BE SINGLE BLADE WIDTH TO A DEPTH OF 1/4 THE PAVING THICKNESS UNLESS INDICATED OTHERWISE. SAWN JOINTS SHALL BE GREEN CUT WITHIN ONE TO FOUR HOURS OF FINAL COMPACTION FOR RCCP.
5. LONGITUDINAL JOINTS SHALL BE PLACED THE FULL LENGTH ALONG STREET CENTER LINES FOR 28' BB STREETS EXCEPT WHERE SHOWN OTHERWISE AT STREET INTERSECTIONS AND AT MANHOLES. LONGITUDINAL JOINTS FOR 40' AND 50' BB STREETS SHALL BE PLACED AS INDICATED IN JOINTING PLAN EXCEPT WHERE SHOWN OTHERWISE AT STREET INTERSECTIONS AND AT MANHOLES. LONGITUDINAL JOINTS SHALL BE SAWN CONTRACTION JOINTS.
6. COMPACTION AND ROLLING: MEET REQUIREMENTS OF TXDOT SPECIAL SPECIFICATION 3016 4.7, 4.7.1, 4.7.2, 4.7.3, 4.7.4, AND 4.7.5.
7. FINISHING AND CURING: MEET REQUIREMENTS OF TXDOT SPECIAL SPECIFICATION 3016 4.10, 4.11, 4.11.1, AND 4.11.2.
8. ROLLER COMPACTED CONCRETE PAVING OPERATIONS SHALL BE DONE IN ONE DIRECTION ONLY AND THRU THRU STREET INTERSECTIONS AS SPECIFIED IN NOTES AS SHOWN IN JOINTING PLAN SHEETS.

**PCCP (PORTLAND CEMENT CONCRETE PAVING CAST-IN-PLACE, STEEL REINFORCED)**

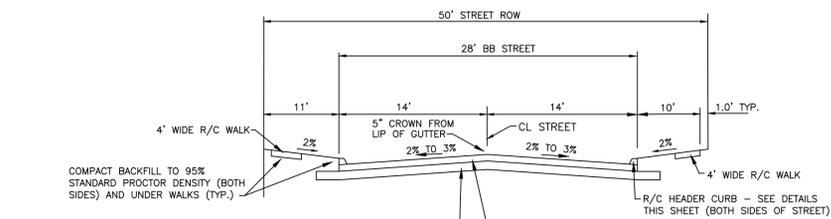
SHALL BE CONSTRUCTED ACCORDING TO DETAILS SHOWN BELOW RIGHT AND IN ACCORDANCE WITH CITY OF CORPUS CHRISTI STANDARD SPECIFICATIONS 030020 PORTLAND CEMENT CONCRETE, 032020 REINFORCING STEEL AND 038000 CONCRETE STRUCTURES.



**LONGITUDINAL OR TRANSVERSE SAWN CONSTRUCTION JOINT**  
NTS



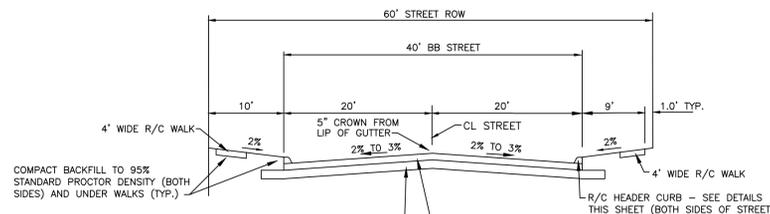
**TYPICAL PAVING SECTION SHOWING HEADER CURB DETAILS**  
NTS



PROPOSED 8" LIME/PORTLAND CEMENT STABILIZED NATURAL SITE MATERIAL TO 2' BACK OF CURB BOTH SIDES OF STREET; PERFORMED IN ACCORDANCE WITH TXDOT ITEM 260. SUBGRADE TREATED WITH LIME SHALL ACHIEVE A PH OF 12.4 OR GREATER. A LIME SERIES TEST SHALL BE PERFORMED AT THE TIME OF CONSTRUCTION AFTER THE PAVEMENT SUBGRADE SOILS ARE ESTABLISHED TO DETERMINE THE LIME REQUIREMENT. SULFATE TESTING SHALL ALSO BE CONDUCTED BEFORE PLACEMENT OF LIME TO EVALUATE THE POTENTIAL FOR SULFATE INDUCED HEAVE FROM THE LIME STABILIZATION. THE ORGANIC CONTENT OF THE SUBGRADE SHALL NOT EXCEED 3%. ONCE THE MIN. 24 HOUR MELLOWING PERIOD FOR LIME IS COMPLETE, THE LIME STABILIZED SUBGRADE SHALL BE CEMENT STABILIZED WITH 5% PORTLAND CEMENT PER TXDOT ITEM 275. COMPACT THE LIME/CEMENT STABILIZED MIXTURE TO 98% MODIFIED PROCTOR DENSITY WITHIN THREE PERCENTAGE POINTS OF OPTIMUM MOISTURE

PROPOSED 7" THICK RCCP (ROLLER COMPACTED PORTLAND CEMENT CONCRETE PAVING) COMPACTED TO A MINIMUM DRY DENSITY OF AT LEAST 98% MODIFIED PROCTOR DENSITY (ASTM D-1557) WITHIN 2% OF OPTIMUM MOISTURE CONTENT

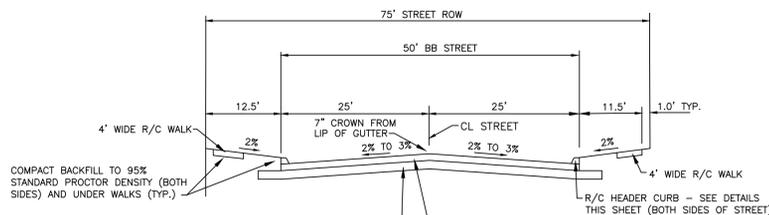
**TYPICAL RCCP STREET SECTION - 50' ROW**  
NTS



PROPOSED 8" LIME/PORTLAND CEMENT STABILIZED NATURAL SITE MATERIAL TO 2' BACK OF CURB BOTH SIDES OF STREET; PERFORMED IN ACCORDANCE WITH TXDOT ITEM 260. SUBGRADE TREATED WITH LIME SHALL ACHIEVE A PH OF 12.4 OR GREATER. A LIME SERIES TEST SHALL BE PERFORMED AT THE TIME OF CONSTRUCTION AFTER THE PAVEMENT SUBGRADE SOILS ARE ESTABLISHED TO DETERMINE THE LIME REQUIREMENT. SULFATE TESTING SHALL ALSO BE CONDUCTED BEFORE PLACEMENT OF LIME TO EVALUATE THE POTENTIAL FOR SULFATE INDUCED HEAVE FROM THE LIME STABILIZATION. THE ORGANIC CONTENT OF THE SUBGRADE SHALL NOT EXCEED 3%. ONCE THE MIN. 24 HOUR MELLOWING PERIOD FOR LIME IS COMPLETE, THE LIME STABILIZED SUBGRADE SHALL BE CEMENT STABILIZED WITH 5% PORTLAND CEMENT PER TXDOT ITEM 275. COMPACT THE LIME/CEMENT STABILIZED MIXTURE TO 98% MODIFIED PROCTOR DENSITY WITHIN THREE PERCENTAGE POINTS OF OPTIMUM MOISTURE

PROPOSED 7" THICK RCCP (ROLLER COMPACTED PORTLAND CEMENT CONCRETE PAVING) COMPACTED TO A MINIMUM DRY DENSITY OF AT LEAST 98% MODIFIED PROCTOR DENSITY (ASTM D-1557) WITHIN 2% OF OPTIMUM MOISTURE CONTENT

**TYPICAL RCCP STREET SECTION - 60' ROW**  
NTS



PROPOSED 12" LIME/PORTLAND CEMENT STABILIZED NATURAL SITE MATERIAL TO 2' BACK OF CURB BOTH SIDES OF STREET; PERFORMED IN ACCORDANCE WITH TXDOT ITEM 260. SUBGRADE TREATED WITH LIME SHALL ACHIEVE A PH OF 12.4 OR GREATER. A LIME SERIES TEST SHALL BE PERFORMED AT THE TIME OF CONSTRUCTION AFTER THE PAVEMENT SUBGRADE SOILS ARE ESTABLISHED TO DETERMINE THE LIME REQUIREMENT. SULFATE TESTING SHALL ALSO BE CONDUCTED BEFORE PLACEMENT OF LIME TO EVALUATE THE POTENTIAL FOR SULFATE INDUCED HEAVE FROM THE LIME STABILIZATION. THE ORGANIC CONTENT OF THE SUBGRADE SHALL NOT EXCEED 3%. ONCE THE MIN. 24 HOUR MELLOWING PERIOD FOR LIME IS COMPLETE, THE LIME STABILIZED SUBGRADE SHALL BE CEMENT STABILIZED WITH 5% PORTLAND CEMENT PER TXDOT ITEM 275. COMPACT THE LIME/CEMENT STABILIZED MIXTURE TO 98% MODIFIED PROCTOR DENSITY WITHIN THREE PERCENTAGE POINTS OF OPTIMUM MOISTURE

PROPOSED 8" THICK RCCP (ROLLER COMPACTED PORTLAND CEMENT CONCRETE PAVING) COMPACTED TO A MINIMUM DRY DENSITY OF AT LEAST 98% MODIFIED PROCTOR DENSITY (ASTM D-1557) WITHIN 2% OF OPTIMUM MOISTURE CONTENT

**TYPICAL RCCP STREET SECTION - 75' ROW**  
NTS

**GEOTECHNICAL ENGINEERING REPORT**

**King's Landing Unit 5 Pavement Study**

**Baratheon and Lois Chesney Streets  
Corpus Christi, Nueces County, Texas**

**PSI Project No. 03123040**

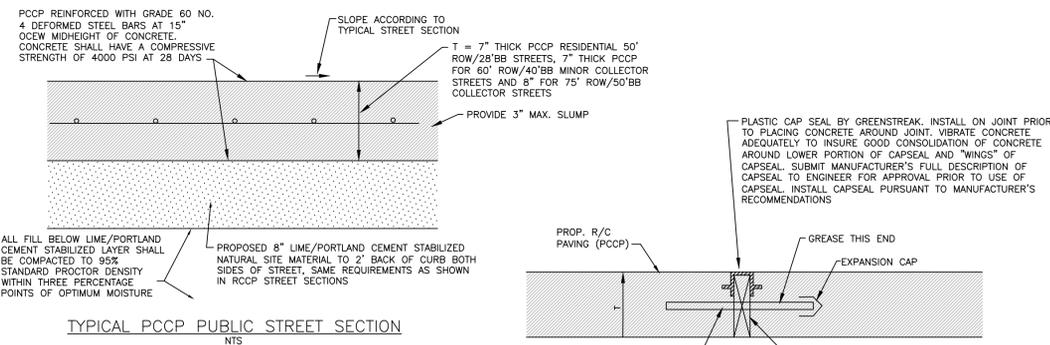
**PREPARED FOR:**

**MPM Homes  
P.O. Box 331308  
Corpus Christi, Texas, 78463**

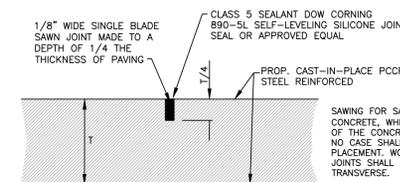
**January 24, 2024**

**BY:**

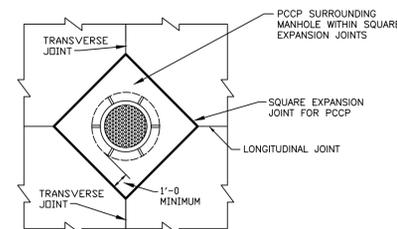
**PROFESSIONAL SERVICE INDUSTRIES, INC.  
810 S. Padre Island Dr.  
Corpus Christi, Texas 78416  
Phone: (361) 854-4801**



**TYPICAL PCCP PUBLIC STREET SECTION**  
NTS



**PCCP CONTRACTION (SAWN) JOINT DETAIL**  
NTS



**TYPICAL ISOLATION DETAIL FOR MANHOLES**  
NTS

**RELEASED FOR CONSTRUCTION**

**BRIS A. WHITMIRE, P.E., CFM, CPM**  
Development Services  
City of Corpus Christi

Note: Construction Plans will expire based on the conditions stated in UDC 3.8.5.F.

**NIXON M. WELSH**  
36240  
REGISTERED PROFESSIONAL ENGINEER  
1/19/24

<b>BASS AND WELSH ENGINEERING</b> TX REGISTRATION NO. F-52, 3054 S. ALAMEDA STREET CORPUS CHRISTI, TEXAS 78404		
<b>IMPROVEMENTS TO KING'S LANDING UNIT 9 CORPUS CHRISTI, NUECES CO., TX PCCP AND RCCP PAVEMENT DETAILS AND SIDEWALK DETAILS</b>		
DWN. _____	PLOT SCALE: 1" = 50'	COM. NO. 8 STR DET RCC
CHK. N. WELSH	SCALE (H): AS SHOWN	JOB NO. 23014
	SCALE (V): AS SHOWN	SHEET 8 OF 22
	DATE PLOTTED 11/19/24	









SITE DESCRIPTION

NOT TO SCALE

PROJECT LIMITS: KING'S LANDING UNIT 9

PROJECT DESCRIPTION: CONSTRUCTION OF SINGLE-FAMILY RESIDENTIAL SUBDIVISION. THE PRIMARY ACTIVITIES WILL BE PAVEMENT CONSTRUCTION, EARTHWORK CONSTRUCTION, STORM SEWER AND UTILITY CONSTRUCTION AND LOT GRADING AND CLEARING AND GRUBBING

MAJOR SOIL DISTURBING ACTIVITIES: PAVEMENT AND EARTHWORK CONSTRUCTION, LOT GRADING & STORM SEWER AND UTILITY CONSTRUCTION

TOTAL PROJECT AREA: 24.9 ACRES

TOTAL AREA TO BE DISTURBED: 30 ACRES

WEIGHTED RUNOFF COEFFICIENT (AFTER CONSTRUCTION): 55%

EXISTING CONDITION OF SOIL & VEGETATIVE COVER AND % OF EXISTING VEGETATIVE COVER: SOIL CLASSIFICATION (USDA) - SOILS AT THE SUBJECT SITE ARE VICTORIA CLAY, 0 TO 1% SLOPES, VcA. SITE IS UNDER CULTIVATION, INTERMITTENT VEGETATIVE COVER

NAME OF RECEIVING WATERS: OSO CREEK

NARRATIVE - SEQUENCE OF CONSTRUCTION (STORM WATER MANAGEMENT) ACTIVITIES:

- THE ORDER OF ACTIVITIES WILL BE AS FOLLOWS:
1. CONSTRUCT "SILT FENCE", CLEAR WORK AREA, INSTALL UTILITIES (WASTE WATER, STORM WATER AND POTABLE WATER), STREET EARTHWORK AND PAVING AND LOT GRADING
  2. GRADE PROPOSED PAVEMENT TO SUBGRADE ELEVATION, COMPACT SUBGRADE CONSTRUCT PAVEMENT.
  3. UPON COMPLETION OF CONSTRUCTION, TEMPORARY CONTROL STRUCTURES WILL REMAIN IN PLACE UNTIL LANDSCAPING OR GRASSES ARE IN PLACE.

EROSION AND SEDIMENT CONTROLS

STORM WATER MANAGEMENT: STORM WATER DRAINAGE WILL BE PROVIDED BY THE STREET SECTION, INLETS AND PIPES. CURB & GUTTER WILL CARRY THE RUNOFF TO THE COLLECTION POINTS (INLETS).

SOIL STABILIZATION PRACTICES:

- TEMPORARY SEEDING
- PERMANENT PLANTING, SODDING, OR SEEDING
- MULCHING
- SOIL RETENTION BLANKET
- BUFFER ZONES
- PRESERVATION OF NATURAL RESOURCES

OTHER: DISTURBED AREAS ON WHICH CONSTRUCTION ACTIVITY HAS CEASED (TEMPORARILY OR PERMANENT) SHALL BE STABILIZED WITHIN 14 DAYS UNLESS ACTIVITIES ARE SCHEDULED TO RESUME AND DO WITHIN 21 DAYS.

STRUCTURAL PRACTICES:

- SILT FENCES
- HAY BALE DAM
- ROCK BERMS
- DIVERSION, INTERCEPTOR, OR PERIMETER DIKES
- DIVERSION, INTERCEPTOR, OR PERIMETER SWALES
- DIVERSION, DIKE AND SWALE COMBINATIONS
- PIPE SLOPE DRAINS
- PAVED FLUMES
- ROCK BEDDING AT CONSTRUCTION EXIT
- TIMBER MATTING AT CONSTRUCTION EXIT
- CHANNEL LINERS
- SEDIMENT TRAPS
- SEDIMENT BASINS
- STORM INLET SEDIMENT TRAP
- STONE OUTLET STRUCTURES
- CURBS AND GUTTERS
- STORM SEWERS
- VELOCITY CONTROL DEVICES

MAINTENANCE: ALL EROSION AND SEDIMENT CONTROLS WILL BE MAINTAINED IN GOOD WORKING ORDER. IF A REPAIR IS NECESSARY, IT WILL BE DONE AT THE EARLIEST DATE POSSIBLE, BUT NO LATER THAN 7 CALENDER DAYS AFTER THE SURROUNDING EXPOSED GROUND HAS DRIED SUFFICIENTLY TO PREVENT FURTHER DAMAGE FROM HEAVY EQUIPMENT. THE AREAS ADJACENT TO CREEKS AND DRAINAGEWAYS SHALL HAVE PRIORITY FOLLOWED BY BY DEVICES PROTECTING STORM SEWER INLETS.

INSPECTION: ALL INSPECTION WILL BE PERFORMED BY AN INSPECTOR EVERY WEEK AS WELL AS AFTER EVERY HALF INCH OR MORE OF RAIN (AS RECORDED ON A NON-FREEZING RAIN GAUGE TO BE LOCATED AT THE PROJECT SITE). AN INSPECTION AND MAINTENANCE REPORT WILL BE MADE PER EACH INSPECTION. BASED ON THE INSPECTION RESULTS, THE CONTROLS SHALL BE REVISED PER THE INSPECTION REPORT.

WASTE MATERIALS: CONTRACTOR SHALL PROVIDE A WASH OUT AREA FOR CONCRETE TRUCKS. THIS AREA SHALL BE AT A LOCATION THAT WILL NOT ALLOW ANY DEBRIS OR CONTAMINATION TO ENTER THE INLETS OR STORM SEWER SYSTEM. ALL MEASURES SHALL BE TAKEN TO PROTECT THE SURROUNDING AREA FROM CONTAMINATION. WASH OUT AREA SHALL BE RESTORED UPON PROJECT COMPLETION. ALL WASTE MATERIAL SHALL BE COLLECTED AND SECURELY STORED UNTIL REMOVAL FROM JOBSITE. NO CONSTRUCTION WASTE MATERIAL SHALL BE BURIED ONSITE.

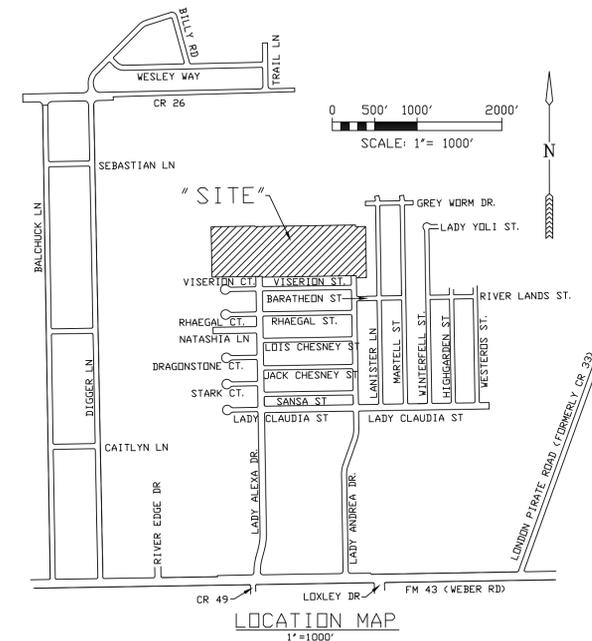
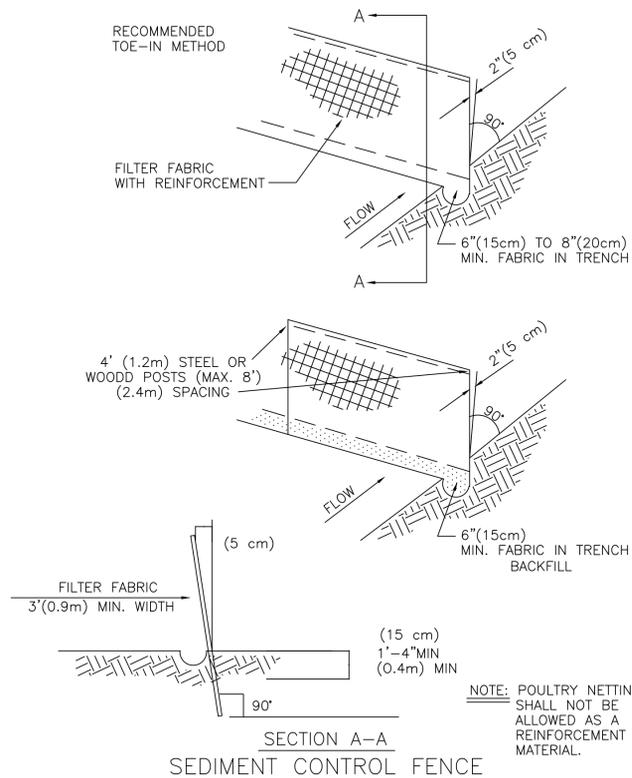
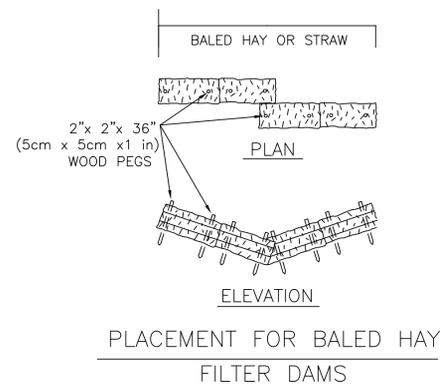
SANITARY WASTE: ALL SANITARY WASTE WILL BE COLLECTED FROM THE PORTABLE UNITS AS NECESSARY.

OFFSITE VEHICLE TRACKING:

- HAUL ROADS DAMPENED FOR DUST CONTROL
- LOADED HAUL TRUCKS TO BE COVERED WITH TARPULIN
- EXCESS DIRT ON ROAD REMOVED DAILY
- STABILIZED CONSTRUCTION ENTRANCE

REMARKS: DISPOSAL AREAS, STOCKPILES, AND HAUL ROADS SHALL BE CONSTRUCTED IN A MANNER THAT WILL MINIMIZE AND CONTROL THE AMOUNT OF SEDIMENT THAT MAY ENTER RECEIVING WATERS. DISPOSAL AREAS SHALL NOT BE LOCATED IN ANY WETLAND, WATER BODY OR STREAMBED. CONSTRUCTION STAGING AREAS AND VEHICLE MAINTENANCE AREAS SHALL BE CONSTRUCTED BY THE CONTRACTOR IN A MANNER TO MINIMIZE THE RUNOFF OF POLLUTANTS. ALL WATERWAYS SHALL BE CLEARED AS SOON AS POSSIBLE OF TEMPORARY EMBANKMENT, TEMPORARY BRIDGES, MATTING, FALSEWORK, PILING, DEBRIS OR OTHER OBSTRUCTIONS PLACED DURING CONSTRUCTION OPERATIONS THAT ARE NOT A PART OF THE FINISHED WORK.

CONTRACTOR SHALL PROVIDE ALL PERMITS AND INSPECTIONS AS MAY BE REQUIRED BY TCEQ AND EPA. CONTRACTOR SHALL PROVIDE NOI AND NOT.



**RELEASED FOR CONSTRUCTION**

Bria A. Whitmire, P.E., CFM, CPM  
Development Services  
City of Corpus Christi

Note: Construction Plans will expire based on the conditions stated in UDC 3.8.5.F.

STATE OF TEXAS  
NIXON M. WELSH  
REGISTERED PROFESSIONAL ENGINEER  
11/19/24

BASS AND WELSH ENGINEERING TX REGISTRATION NO. F-52, 3054 S. ALAMEDA STREET CORPUS CHRISTI, TEXAS 78404			
PUBLIC IMPROVEMENTS TO KING'S LANDING UNIT 9 CORPUS CHRISTI, NUECES CO., TX			
STORM WATER POLLUTION PREVENTION PLAN SHEET 3 OF 3			
DWN:	PLOT SCALE: 1" = 50'	COM. NO.:	13 SWPPP
CHK. N. WELSH	SCALE (H): AS SHOWN	JOB NO.:	23014
	SCALE (V): AS SHOWN	SHEET 13 OF 22	
	DATE PLOTTED: 11/19/24		

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### TRIANGULAR SLIPBASE INSTALLATION GENERAL REQUIREMENTS

**NOTE**

There are various devices approved for the Triangular Slipbase System. Please reference the Material Producer List for approved slip base systems. The devices shall be installed per manufacturer's recommendations. Installation procedures shall be provided to the Engineer by Contractor.

**GENERAL NOTES:**

- Slip base shall be permanently marked to indicate manufacturer, method, design, and location of marking as subject to approval of the TxDOT Traffic Standards Engineer.
- Material used as part of this system shall conform to the following specifications:
  - 10 88G Tubing (2.875" outside diameter)
  - 0.134" nominal wall thickness
  - Seamless or electric-resistance welded steel tubing or pipe
  - Steel shall be HSLA 50 or 55 per ASTM A501 or ASTM A508
  - Other steels may be used if they meet the following:
    - 55,000 PSI minimum yield strength
    - 70,000 PSI minimum tensile strength
    - 20% minimum elongation in 2"
  - Wall thickness (uncoated) shall be within the range of 0.122" to 0.138"
  - Outside diameter (uncoated) shall be within the range of 2.867" to 2.887"
  - Galvanization per ASTM A153 or ASTM A653 G15. For galvanized steel tubing (ASTM A653), recent tube outside diameter weld seam by metalizing with zinc wire per ASTM B833.
  - Schedule 80 Type (2.875" outside diameter)
  - 0.236" nominal wall thickness
  - Steel tubing per ASTM A500 or C
  - Other seamless or electric-resistance welded steel tubing or pipe with equivalent outside diameter and wall thickness may be used if they meet the following:
    - 48,000 PSI minimum yield strength
    - 62,000 PSI minimum tensile strength
    - 21% minimum elongation in 2"
  - Wall thickness (uncoated) shall be within the range of 0.248" to 0.304"
  - Outside diameter (uncoated) shall be within the range of 2.892" to 2.895"
  - Galvanization per ASTM A153
- See the Traffic Operations Division website for detailed drawings of sign clamps and Texas Universal Triangular Slipbase System components. The website address is: <http://www.txdot.gov/business/traffic/traffic.htm>
- Sign supports shall not be applied except where shown. Sign support posts shall not be applied.

**ASSEMBLY PROCEDURE**

**Foundation**

- Prepare 12-inch diameter by 42-inch deep hole. If solid rock is encountered, the depth of the foundation may be reduced such that it is embedded a minimum of 18 inches into the solid rock.
- The Engineer may permit batches of concrete less than 2 cubic yards to be mixed with a portable, motor-driven concrete mixer. For small quantities, less than 0.5 cubic yards, hand mixing in a suitable container may be allowed by Engineer. Concrete shall be Class A.
- Pump the concrete into the slip base stub into the center of the concrete. Rotate the stub back and forth while pouring it down into the concrete to assure good contact between the concrete and stub. Continue to work the stub into the concrete until it is between 2 to 4 inches above the ground.
- Pipe the stub. Allow a minimum of 4 days to set, unless otherwise directed by the Engineer.
- The triangular slipbase system is multifunctional and is designed to release when struck from any direction.

**Support**

- Cut support so that the bottom of the sign will be 7 to 7.5 feet above the edge of the roadway (i.e., edge of the closest lane) and slip plate is below the edge of pavement or 7 to 7.5 feet above slip plate when the slip plate is above the edge of the roadway. The cut shall be blunt and straight.
- Attach sign to support using connections shown. When multiple signs are installed on the same support ensure the minimum clearance between each sign is maintained. See SMD(SLIP-2) for clearances based on sign types.

**CONCRETE ANCHOR**

Concrete anchor consists of 5/8" diameter stud bolt with UNC series bolt threads on the upper end. Heavy nut per ASTM F436, and hardened washer per ASTM F436. The stud bolt shall have a minimum yield and ultimate tensile strength of 50 and 75 ksi, respectively. Nuts, bolts and washers shall be galvanized per Item 445, "Galvanizing." Adhesive type anchors shall have stud bolts installed with Type III epoxy per DMS-6100, "Epoxy and Adhesives." Adhesive anchors may be tested after concrete cure time per the manufacturer's recommendations. Top of bolt shall extend at least flush with top of the nut when installed. The anchor, when installed in 4000 psi normal-weight concrete with a 1/2" minimum embedment, shall have a minimum of 1000 psi tensile and shear of 3000 and 3100 psi, respectively.

**SM RD SIGN ASSEMBLY XXXXX(1)S(1)X(XXXX)**

### CROSSWALK PAVEMENT MARKINGS

**PLAN**

SCALE: N.T.S.

**LONGITUDINAL CROSSWALK - DETAIL FOR ASPHALT ROADWAYS - SCALE: N.T.S.**

**HIGH CONTRAST CROSSWALK - DETAIL FOR CONCRETE ROADWAYS - SCALE: N.T.S.**

**NOTES:**

- ALL STOP BAR AND CROSSWALK PAVEMENT MARKINGS SHALL BE 24" SOLID WHITE, TYPE C HEAT APPLIED, 125 MIL PREFORMED THERMOPLASTIC. HIGH CONTRAST CROSSWALKS INCLUDE 24" SOLID WHITE WITH 6" SOLID BLACK ON BOTH SIDES (TYPE C HEAT APPLIED, 125 MIL PREFORMED THERMOPLASTIC).
- CONTRACTOR SHALL PREMARK STRIPING LAYOUT FOR CITY APPROVAL PRIOR TO THE PLACEMENT OF ANY FINAL PAVEMENT MARKINGS.
- THE PLACEMENT OF CROSSWALK BARS SHALL START BY PLACING THE FIRST CROSSWALK BAR AT THE CENTER OF THE ROADWAY, AND THEN 4' TO THE NEXT CROSSWALK BAR.
- DO NOT STRIPE STREET WITH ROADWAY SURFACE TEMPERATURE LESS 55F.
- ALL CROSSWALK AND STOP BARS SHALL BE IN ACCORDANCE WITH THIS DETAIL AND THE 2011 TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

### STREET NAME BLADE SIGN

**NOTES:**

- STREET NAME BLADE MATERIAL SHALL CONSIST OF EXTRUDED ALUMINUM. THE HEIGHT OF NAME BLADES SHALL BE 9" AND THE HEIGHT OF LETTERING SHALL BE 6". STREET NAME BLADES SHALL CONSIST OF MINIMUM FOUR (4) ON STREET NAME BLADES SHALL BE SERIES B. WHEN TWO STREET NAME BLADES WILL BE ON THE SAME ASSEMBLY, THESE TWO STREET NAME BLADES SHALL HAVE THE SAME WIDTH.
- ANTI-GRAFFITI COATING ON FRONT OF THE SIGN PLAQUE IS APPLICABLE TO ALL SIGNS EXCEPT FOR NAME BLADES.
- REPLACEMENT OF SIGNS SHALL MEET 2011 TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), AND TxDOT STANDARDS.

**APPROVED:** \_\_\_\_\_ DATE: \_\_\_\_\_

**CITY PROJECT #** \_\_\_\_\_

**RECORD DRAWING NO.** \_\_\_\_\_

**SHEET 7 OF 7**

### REQUIREMENTS FOR RED BACKGROUND REGULATORY SIGNS (STOP, YIELD, DO NOT ENTER AND WRONG WAY SIGNS)

**TYPICAL EXAMPLES**

**GENERAL NOTES:**

- Signs to be furnished shall be as detailed elsewhere in the plans and/or as shown on a sign regulation sheet. Standard sign designs and arrow dimensions can be found in the "Standard Highway Sign Designs for Texas" (SHSD).
- Sign legend shall use the Federal Highway Administration (FHWA) Standard Highway Alphabet (S, C, D, E, Em, or F).
- Lateral spacing between letters and numerals shall conform with the SHSD, and any approved changes thereto. Lateral spacing of legend shall provide a balanced appearance when spacing is not shown.
- Black legend and borders shall be applied by screening process or out-cut acrylic non-reflective black film to background sheeting, or combination thereof.
- White legend and borders shall be applied by screening process with transparent colored ink, transparent colored overlay film to white background sheeting or out-cut white sheeting to colored background sheeting, or combination thereof.
- Colored legend shall be applied by screening process with transparent colored ink, transparent colored overlay film or colored sheeting to background sheeting, or combination thereof.
- Sign substrate shall be any material that meets the Departmental Material Specification requirements of DMS-7110 or approved alternative.
- Mounting details for roadside mounted signs are shown in the "SMD series" Standard Plan Sheets.

**REQUIREMENTS FOR WHITE BACKGROUND REGULATORY SIGNS (EXCLUDING STOP, YIELD, DO NOT ENTER AND WRONG WAY SIGNS)**

**TYPICAL EXAMPLES**

USAGE	COLOR	SIGN FACE MATERIAL
BACKGROUND	RED	TYPE B OR C SHEETING
BACKGROUND	WHITE	TYPE B OR C SHEETING
LEGEND & BORDERS	WHITE	TYPE B OR C SHEETING
LEGEND	RED	TYPE B OR C SHEETING

USAGE	COLOR	SIGN FACE MATERIAL
BACKGROUND	WHITE	TYPE A SHEETING
BACKGROUND	ALL OTHERS	TYPE B OR C SHEETING
LEGEND, BORDERS AND SYMBOLS	BLACK	ACRYLIC NON-REFLECTIVE FILM
LEGEND, BORDERS AND SYMBOLS	ALL OTHER	TYPE B OR C SHEETING

### REQUIREMENTS FOR WARNING SIGNS

**TYPICAL EXAMPLES**

**GENERAL NOTES:**

- Signs to be furnished shall be as detailed elsewhere in the plans and/or as shown on a sign regulation sheet. Standard sign designs and arrow dimensions can be found in the "Standard Highway Sign Designs for Texas" (SHSD).
- Sign legend shall use the Federal Highway Administration (FHWA) Standard Highway Alphabet (S, C, D, E, Em, or F).
- Lateral spacing between letters and numerals shall conform with the SHSD, and any approved changes thereto. Lateral spacing of legend shall provide a balanced appearance when spacing is not shown.
- Black legend and borders shall be applied by screening process or out-cut acrylic non-reflective black film to background sheeting, or combination thereof.
- White legend and borders shall be applied by screening process with transparent colored ink, transparent colored overlay film to white background sheeting or out-cut white sheeting to colored background sheeting, or combination thereof.
- Colored legend shall be applied by screening process with transparent colored ink, transparent colored overlay film or colored sheeting to background sheeting, or combination thereof.
- Sign substrate shall be any material that meets the Departmental Material Specification requirements of DMS-7110 or approved alternative.
- Mounting details for roadside mounted signs are shown in the "SMD series" Standard Plan Sheets.

**REQUIREMENTS FOR SCHOOL SIGNS**

**TYPICAL EXAMPLES**

USAGE	COLOR	SIGN FACE MATERIAL
BACKGROUND	FLUORESCENT YELLOW	TYPE B <sub>1</sub> OR C <sub>1</sub> SHEETING
LEGEND & BORDERS	BLACK	ACRYLIC NON-REFLECTIVE FILM
LEGEND & SYMBOLS	ALL OTHER	TYPE B OR C SHEETING

USAGE	COLOR	SIGN FACE MATERIAL
BACKGROUND	WHITE	TYPE A SHEETING
BACKGROUND	FLUORESCENT YELLOW GREEN	TYPE B <sub>1</sub> OR C <sub>1</sub> SHEETING
LEGEND, BORDERS AND SYMBOLS	BLACK	ACRYLIC NON-REFLECTIVE FILM
SYMBOLS	RED	TYPE B OR C SHEETING

### 9" D3 - STREET NAME SIGN

**9" D3 - STREET NAME SIGN**

**NEW 9" D3 W / DEAD END OR NO OUTLET SIGNAGE**

**TABLE - D3 SIGNS**

A	B	C	D	E	F	T
24"	9"	1/2"	3/4"	8"	12"	0.125"
30"	9"	1/2"	3/4"	8"	15"	0.125"
36"	9"	1/2"	3/4"	8"	18"	0.125"
42"	9"	1/2"	3/4"	8"	21"	0.125"
48"	9"	1/2"	3/4"	8"	24"	0.125"
54"	9"	1/2"	3/4"	8"	27"	0.125"

NOTE: A 30" LONG OR GREATER PLATE SHALL BE USED WHEN A "DEAD END" OR "NO OUTLET" SUPPLEMENT IS REQUIRED.

**TYPICAL GROUND MOUNTED SIGN PLACEMENT**

**D3 SIGN TO POLE INSTALLATION**

**DEPARTMENTAL MATERIAL SPECIFICATIONS**

ALUMINUM SIGN BLANKS	DMS-7110
ALUMINUM SIGN BLANKS	DMS-7110
SIGN FACE MATERIALS	DMS-8300

The Standard Highway Sign Designs for Texas (SHSD) can be found at the following website:  
<http://www.txdot.gov/>

### STREET SIGN ASSEMBLY EXAMPLES

STREET SIGN ASSEMBLY EXAMPLES	ITEM	UNIT	DESCRIPTION	QUANTITY
STOP SIGN WITH 2 STREET NAMES	531.3	EA.	R1-1 STOP	1
	531.57-P	EA.	8-IN STREET NAME PLATE (4 PLATES)	2
YIELD SIGN WITH 1 STREET NAME	531.4	EA.	R1-2 YIELD	1
	531.57-P	EA.	8-IN STREET NAME PLATE (2 PLATES)	1
2 STREET SIGNS	531.57	EA.	8-IN STREET NAME SIGN (2 PLATES)	1
	531.57-P	EA.	8-IN STREET NAME PLATE (2 PLATES)	1

**RELEASED FOR CONSTRUCTION**

Bria A. Whitmore, P.E., CFM, CPM  
Development Services  
City of Corpus Christi

Note: Construction Plans will expire based on the conditions stated in UDC 3.8.5.F.

**STATE OF TEXAS**

**NIKON M. WELSH**  
36246  
REGISTERED PROFESSIONAL ENGINEER

11/19/24

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

**PUBLIC IMPROVEMENTS TO KING'S LANDING UNIT 9**  
CORPUS CHRISTI, NUECES CO., TX

TxDOT & CITY SIGN AND PAVEMENT MARKING REQUIREMENTS AND DETAILS

DWN:	PLOT SCALE:	1" = 50'	COM. NO.:	14 TxDOT CITY
CHK: N. WELSH	SCALE (H):	AS SHOWN	JOB NO.:	23014
	SCALE (V):	AS SHOWN	SHEET NO.:	14 OF 22
	DATE PLOTTED:	11/19/24		

**CITY OF SAN ANTONIO**  
DEPARTMENT OF PUBLIC WORKS

TRAFFIC SIGN STANDARDS  
D3 STREET NAME SIGN AND SIGN MOUNTING  
SHEET 2 OF 4

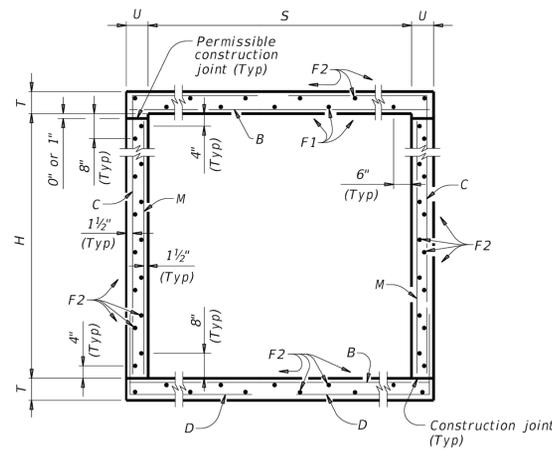
JULY 2010

DATE: \_\_\_\_\_

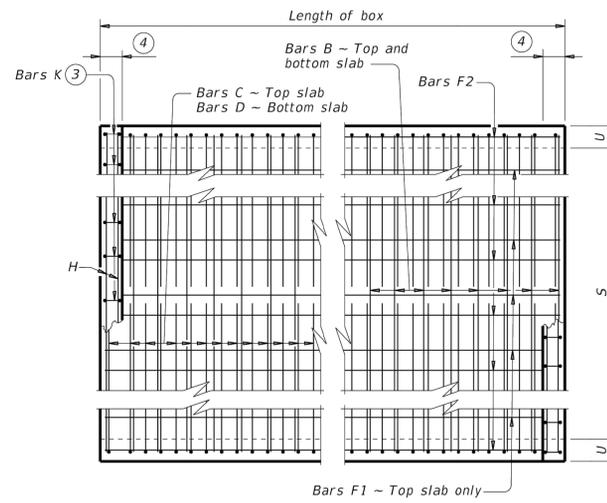
DRWN BY: N.WELSH, DESGN BY: N.WELSH, CHKD BY: JEE/ELM, SHEET NO. \_\_\_\_\_ OF \_\_\_\_\_

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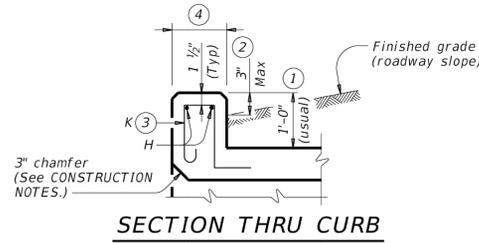
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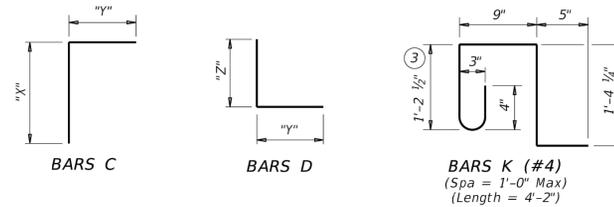
**TYPICAL SECTION**



**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 or curbs taller than 1'-0", refer to the Extended Curb Details (ECD) standard sheet. For structures with T631 or T631LS bridge rail, refer to the Mounting Details for T631 & T631LS Rails (T631-CM) standard sheet. Refer to the Rail Anchorage Curb (RAC) standard sheet for structures with bridge rail other than T631 or T631LS.
- 2 For vehicle safety, the following requirements must be met:
  - For structures without bridge rail, construct curbs no more than 3" above finished grade.
  - For structures with bridge rail, construct 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.
- 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'-3" when the Rail Anchorage Curb (RAC) standard sheet is referred to elsewhere in the plans.

The Contractor may replace Bars B, C, D, E, F1, F2, M, Y, and/or Z with deformed welded wire reinforcement (WWR) meeting the requirements of ASTM A1064. 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. The lap length required for WWR is never less than the lap length required for uncoated #4 bars.

Example conversion: Replacing No. 6 Gr 60 at 6" Spacing with WWR.  
 Required WWR = (0.44 sq. in. per 0.5 ft.) x (60 ksi / 70 ksi) = 0.755 sq. in. per ft.  
 If D30.6 wire is used to meet the 0.755 sq. in. per ft. requirement in this example, the required spacing = (0.306 sq. in.) / (0.755 sq. in. per ft.) x (12 in. per ft.) = 4.86" Max spacing. Required lap length for the provided D30.6 wire is 2'-1" (the same minimum lap length required for uncoated #5 bars, as listed under MATERIAL NOTES).

**CONSTRUCTION NOTES:**

Do not use permanent forms.  
 Chamfer the bottom edge of the top slab 3" at the entrance.  
 Optionally, raise construction joints shown at the flow line by a maximum of 6". If this option is taken, Bars M may be cut off or raised, Bars C and D may be reversed.

**MATERIAL NOTES:**

Provide Grade 60 reinforcing steel.  
 Provide galvanized reinforcing steel if required elsewhere in the plans.  
 Provide Class C concrete ( $f'_c = 3,600$  psi) for culvert barrel and curb, with the following exceptions: provide Class S concrete ( $f'_c = 4,000$  psi) for top slabs of:
 

- culverts with overlay,
- culverts with 1-to-2 course surface treatment, or
- culverts with the top slab as the final riding surface.

 Provide bar laps, where required, as follows:
 

- Uncoated or galvanized - #4 = 1'-8" Min
- Uncoated or galvanized - #5 = 2'-1" Min
- Uncoated or galvanized - #6 = 2'-6" Min
- Uncoated or galvanized - #7 = 3'-3" Min

**GENERAL NOTES:**

Designed according to AASHTO LRFD Bridge Design Specifications for the range of fill heights shown.  
 See the Single Box Culverts Cast-In-Place Miscellaneous Detail (SCC-MD) standard sheet for details pertaining to skewed ends, angle sections, and lengthening.

Cover dimensions are clear dimensions, unless noted otherwise.  
 Reinforcing bar dimensions shown are out-to-out of bar.

HL93 LOADING SHEET 1 OF 3

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

**SCC-10**

FILE: CD-SCC10-21.dgn	DN: TBE	CK: BMP	DW: TxDOT	CK: TxDOT
© TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS				
04/2021 Updated X values.	DIST	COUNTY	SHEET NO.	

**RELEASED FOR CONSTRUCTION**

Bria A. Whitmire, P.E., CFM, CPM  
Development Services  
City of Corpus Christi

Note: Construction Plans will expire based on the conditions stated in UDC 3.8.5.F.



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

PUBLIC IMPROVEMENTS TO  
KING'S LANDING UNIT 9  
CORPUS CHRISTI, NUECES CO., TX

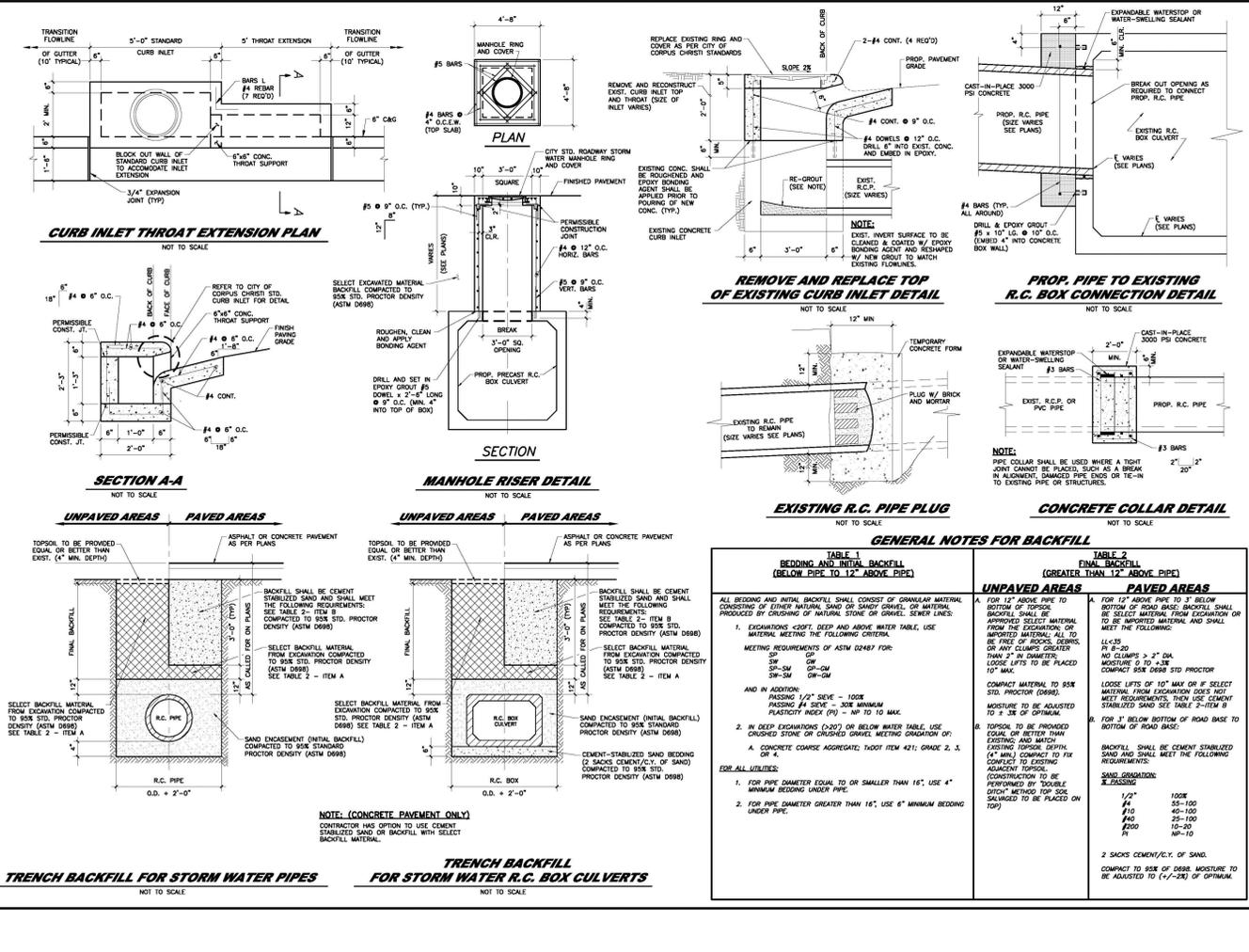
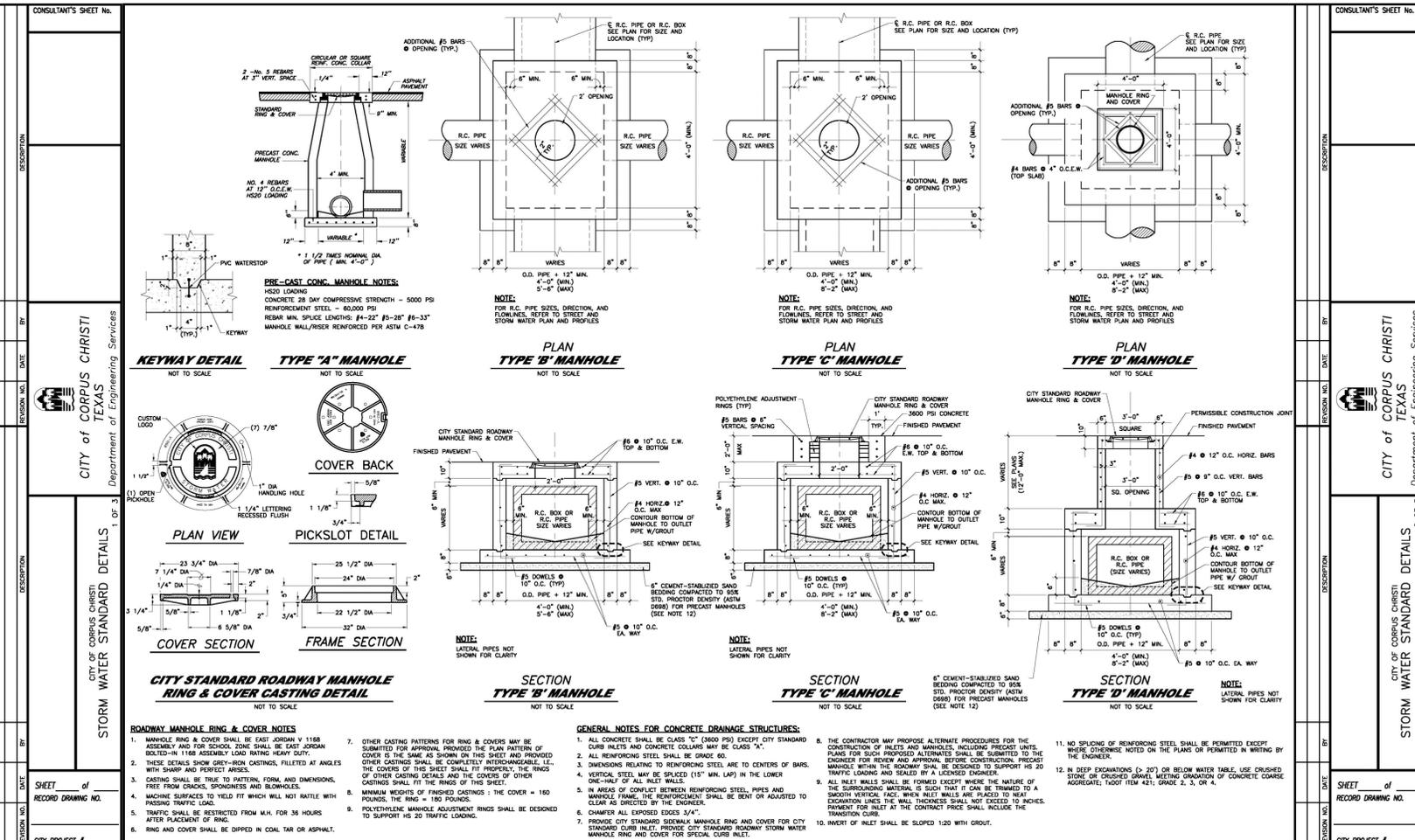
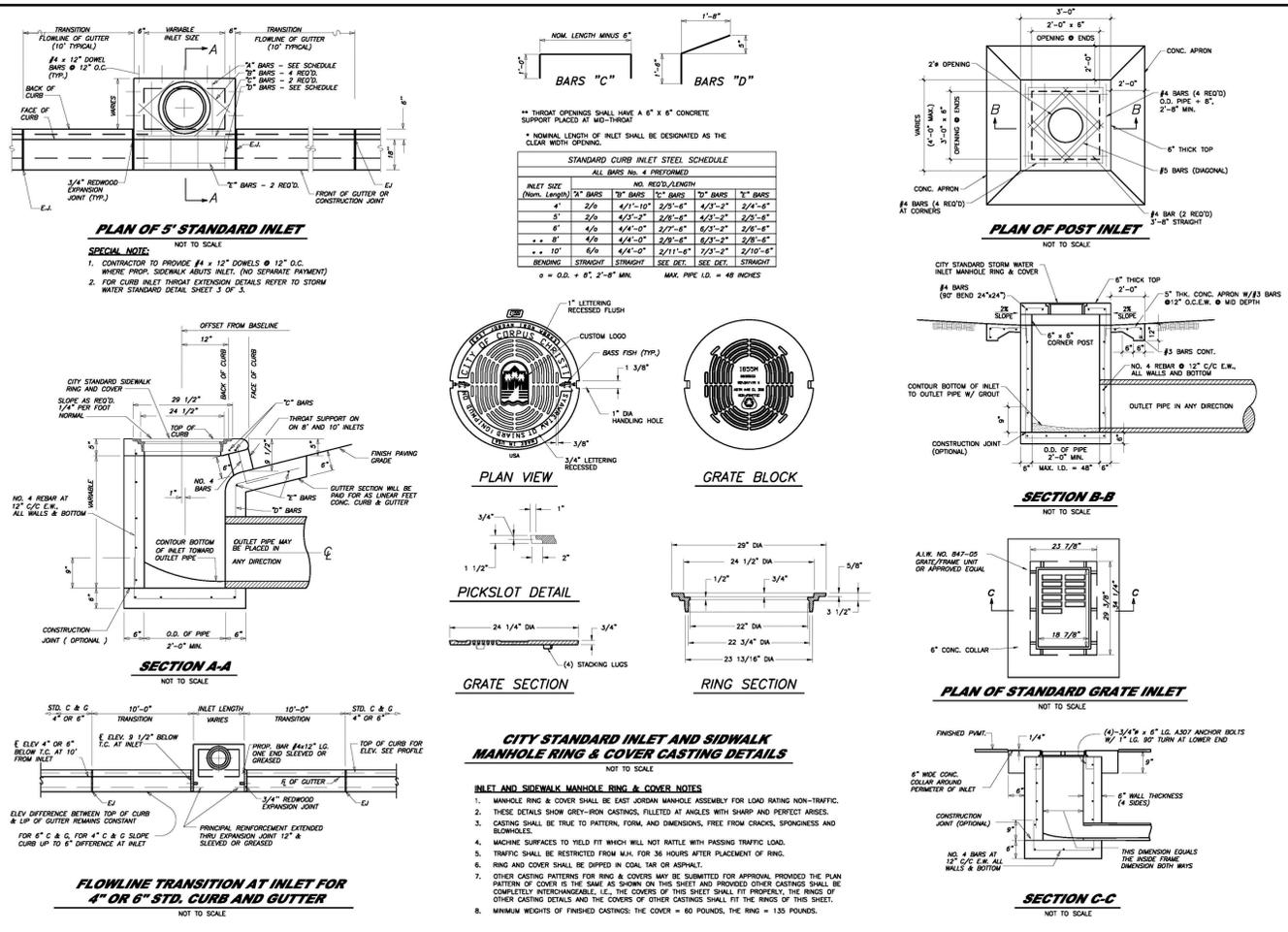
TXDOT SINGLE BOX CULVERTS CAST-IN PLACE SCC-10,  
SHEET 1 OF 2 (TXDOT SHEET 3 NOT INCLUDED)

DWN: _____	PLOT SCALE: 1" = 50'	COM. NO. 15 BOX CULV DET
CHK: N. WELSH	SCALE (H): AS SHOWN	TXDOT 10' GIP
	SCALE (V): AS SHOWN	JOB NO. 23014
	DATE PLOTTED 11/19/24	SHEET 15 OF 22

DISCLAIMER: This design 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 (5)	BILLS OF REINFORCING STEEL (For Box Length = 40 feet)																								QUANTITIES														
					Bars B				Bars C				Bars D				Bars M ~ #4			Bars F1 ~ #4 at 18" Spa			Bars F2 ~ #4 at 18" Spa			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.	Spa	Length	Wt	No.	Length	Wt	No.	Length	Weight	Length	Wt	No.	Wt	Conc (CY)	Reinf (Lb)	Conc (CY)	Reinf (Lb)	Conc (CY)	Reinf (Lb)
10'-0"	4'-0"	8"	7"	7'	162	#6	6"	10'-11"	2,656	162	#6	6"	10'-4"	2,514	4'-6"	5'-10"	162	#6	6"	8'-11"	2,170	5'-10"	3'-1"	108	9"	4'-0"	289	7	39'-9"	186	37	39'-9"	982	10'-11"	29	24	67	0.724	219.9	0.8	96	29.8	8,893
10'-0"	4'-0"	9"	7"	10'	162	#6	6"	10'-11"	2,656	162	#6	6"	10'-5"	2,535	4'-7"	5'-10"	162	#6	6"	9'-0"	2,190	5'-10"	3'-2"	108	9"	4'-0"	289	7	39'-9"	186	37	39'-9"	982	10'-11"	29	24	67	0.793	221.0	0.8	96	32.5	8,934
10'-0"	4'-0"	10"	8"	13'	162	#6	6"	11'-1"	2,697	162	#6	6"	10'-7"	2,575	4'-8"	5'-11"	162	#6	6"	9'-2"	2,230	5'-11"	3'-3"	82	12"	4'-0"	219	7	39'-9"	186	37	39'-9"	982	11'-1"	30	26	72	0.897	222.2	0.8	102	36.7	8,991
10'-0"	4'-0"	11"	8"	16'	162	#6	6"	11'-1"	2,697	162	#6	6"	10'-8"	2,595	4'-9"	5'-11"	162	#6	6"	9'-3"	2,251	5'-11"	3'-4"	82	12"	4'-0"	219	7	39'-9"	186	37	39'-9"	982	11'-1"	30	26	72	0.967	223.3	0.8	102	39.5	9,032
10'-0"	4'-0"	12"	9"	20'	162	#6	6"	11'-3"	2,737	162	#6	6"	10'-10"	2,636	4'-10"	6'-0"	162	#6	6"	9'-5"	2,291	6'-0"	3'-5"	108	9"	4'-0"	289	7	39'-9"	186	37	39'-9"	982	11'-3"	30	26	72	1.074	228.0	0.8	102	43.8	9,223
10'-0"	4'-0"	13"	10"	23'	162	#6	6"	11'-5"	2,778	162	#6	6"	10'-11"	2,656	4'-11"	6'-0"	162	#6	6"	9'-6"	2,312	6'-0"	3'-6"	108	9"	4'-0"	289	7	39'-9"	186	37	39'-9"	982	11'-5"	31	26	72	1.183	230.1	0.9	103	48.2	9,306
10'-0"	4'-0"	14"	11"	26'	162	#6	6"	11'-7"	2,819	162	#6	6"	11'-1"	2,697	5'-0"	6'-1"	162	#6	6"	9'-8"	2,352	6'-1"	3'-7"	108	9"	4'-0"	289	7	39'-9"	186	37	39'-9"	982	11'-7"	31	26	72	1.294	233.1	0.9	103	52.6	9,428
10'-0"	4'-0"	15"	12"	30'	162	#6	6"	11'-9"	2,859	162	#6	6"	11'-3"	2,737	5'-1"	6'-2"	162	#6	6"	9'-10"	2,393	6'-2"	3'-8"	108	9"	4'-0"	289	7	39'-9"	186	37	39'-9"	982	11'-9"	31	26	72	1.407	236.2	0.9	103	57.2	9,549
10'-0"	5'-0"	8"	7"	7'	162	#6	6"	10'-11"	2,656	162	#6	6"	11'-4"	2,758	5'-6"	5'-10"	162	#6	6"	8'-11"	2,170	5'-10"	3'-1"	108	9"	5'-0"	361	7	39'-9"	186	41	39'-9"	1,089	10'-11"	29	24	67	0.767	230.5	0.8	96	31.5	9,316
10'-0"	5'-0"	9"	7"	10'	162	#6	6"	10'-11"	2,656	162	#6	6"	11'-5"	2,778	5'-7"	5'-10"	162	#6	6"	9'-0"	2,190	5'-10"	3'-2"	108	9"	5'-0"	361	7	39'-9"	186	41	39'-9"	1,089	10'-11"	29	24	67	0.836	231.5	0.8	96	34.3	9,356
10'-0"	5'-0"	10"	8"	13'	162	#6	6"	11'-1"	2,697	162	#6	6"	11'-7"	2,819	5'-8"	5'-11"	162	#6	6"	9'-2"	2,230	5'-11"	3'-3"	82	12"	5'-0"	274	7	39'-9"	186	41	39'-9"	1,089	11'-1"	30	26	72	0.947	232.4	0.8	102	38.7	9,397
10'-0"	5'-0"	11"	8"	16'	162	#6	6"	11'-1"	2,697	162	#6	6"	11'-8"	2,839	5'-9"	5'-11"	162	#6	6"	9'-3"	2,251	5'-11"	3'-4"	82	12"	5'-0"	274	7	39'-9"	186	41	39'-9"	1,089	11'-1"	30	26	72	1.016	233.4	0.8	102	41.5	9,438
10'-0"	5'-0"	12"	9"	20'	162	#6	6"	11'-3"	2,737	162	#6	6"	11'-10"	2,879	5'-10"	6'-0"	162	#6	6"	9'-5"	2,291	6'-0"	3'-5"	108	9"	5'-0"	361	7	39'-9"	186	41	39'-9"	1,089	11'-3"	30	26	72	1.130	238.6	0.8	102	46.0	9,645
10'-0"	5'-0"	13"	10"	23'	162	#6	6"	11'-5"	2,778	162	#6	6"	11'-11"	2,900	5'-11"	6'-0"	162	#6	6"	9'-6"	2,312	6'-0"	3'-6"	108	9"	5'-0"	361	7	39'-9"	186	41	39'-9"	1,089	11'-5"	31	26	72	1.245	240.7	0.9	103	50.7	9,729
10'-0"	5'-0"	14"	11"	26'	162	#6	6"	11'-7"	2,819	162	#6	6"	12'-1"	2,940	6'-0"	6'-1"	162	#6	6"	9'-8"	2,352	6'-1"	3'-7"	108	9"	5'-0"	361	7	39'-9"	186	41	39'-9"	1,089	11'-7"	31	26	72	1.362	243.7	0.9	103	55.4	9,850
10'-0"	5'-0"	15"	12"	30'	162	#7	6"	11'-9"	3,891	162	#6	6"	12'-3"	2,981	6'-1"	6'-2"	162	#6	6"	9'-10"	2,393	6'-2"	3'-8"	108	9"	5'-0"	361	7	39'-9"	186	41	39'-9"	1,089	11'-9"	31	26	72	1.481	272.5	0.9	103	60.1	11,004
10'-0"	6'-0"	8"	7"	7'	162	#6	6"	10'-11"	2,656	162	#6	6"	12'-4"	3,001	6'-6"	5'-10"	162	#6	6"	8'-11"	2,170	5'-10"	3'-1"	108	9"	6'-0"	433	7	39'-9"	186	45	39'-9"	1,195	10'-11"	29	24	67	0.811	241.0	0.8	96	33.3	9,737
10'-0"	6'-0"	8"	7"	10'	162	#6	6"	10'-11"	2,656	162	#6	6"	12'-4"	3,001	6'-6"	5'-10"	162	#6	6"	8'-11"	2,170	5'-10"	3'-1"	108	9"	6'-0"	433	7	39'-9"	186	45	39'-9"	1,195	10'-11"	29	24	67	0.811	241.0	0.8	96	33.3	9,737
10'-0"	6'-0"	9"	8"	13'	162	#6	6"	11'-1"	2,697	162	#6	6"	12'-6"	3,042	6'-7"	5'-11"	162	#6	6"	9'-1"	2,210	5'-11"	3'-2"	82	12"	6'-0"	329	7	39'-9"	186	45	39'-9"	1,195	11'-1"	30	26	72	0.926	241.5	0.8	102	37.9	9,761
10'-0"	6'-0"	10"	8"	16'	162	#6	6"	11'-1"	2,697	162	#6	6"	12'-7"	3,062	6'-8"	5'-11"	162	#6	6"	9'-2"	2,230	5'-11"	3'-3"	82	12"	6'-0"	329	7	39'-9"	186	45	39'-9"	1,195	11'-1"	30	26	72	0.996	242.5	0.8	102	40.7	9,801
10'-0"	6'-0"	12"	9"	20'	162	#6	6"	11'-3"	2,737	162	#6	6"	12'-10"	3,123	6'-10"	6'-0"	162	#6	6"	9'-5"	2,291	6'-0"	3'-5"	108	9"	6'-0"	433	7	39'-9"	186	45	39'-9"	1,195	11'-3"	30	26	72	1.185	249.1	0.8	102	48.2	10,067
10'-0"	6'-0"	13"	10"	23'	162	#6	6"	11'-5"	2,778	162	#6	6"	12'-11"	3,143	6'-11"	6'-0"	162	#6	6"	9'-6"	2,312	6'-0"	3'-6"	108	9"	6'-0"	433	7	39'-9"	186	45	39'-9"	1,195	11'-5"	31	26	72	1.307	251.2	0.9	103	53.1	10,150
10'-0"	6'-0"	14"	11"	26'	162	#6	6"	11'-7"	2,819	162	#6	6"	13'-1"	3,183	7'-0"	6'-1"	162	#6	6"	9'-8"	2,352	6'-1"	3'-7"	108	9"	6'-0"	433	7	39'-9"	186	45	39'-9"	1,195	11'-7"	31	26	72	1.430	254.2	0.9	103	58.1	10,271
10'-0"	6'-0"	15"	12"	30'	162	#7	6"	11'-9"	3,891	162	#6	6"	13'-3"	3,224	7'-1"	6'-2"	162	#6	6"	9'-10"	2,393	6'-2"	3'-8"	108	9"	6'-0"	433	7	39'-9"	186	45	39'-9"	1,195	11'-9"	31	26	72	1.556	283.1	0.9	103	63.1	11,425
10'-0"	7'-0"	8"	7"	7'	162	#6	6"	10'-11"	2,656	162	#6	6"	13'-4"	3,244	7'-6"	5'-10"	162	#6	6"	8'-11"	2,170	5'-10"	3'-1"	108	9"	7'-0"	505	7	39'-9"	186	45	39'-9"	1,195	10'-11"	29	24	67	0.854	248.9	0.8	96	35.0	10,052
10'-0"	7'-0"	8"	7"	10'	162	#6	6"	10'-11"	2,656	162	#6	6"	13'-4"	3,244	7'-6"	5'-10"	162	#6	6"	8'-11"	2,170	5'-10"	3'-1"	108	9"	7'-0"	505	7	39'-9"	186	45	39'-9"	1,195	10'-11"	29	24	67	0.854	248.9	0.8	96	35.0	10,052
10'-0"	7'-0"	9"	8"	13'	162	#6	6"	11'-1"	2,697	162	#6	6"	13'-6"	3,285	7'-7"	5'-11"	162	#6	6"	9'-1"	2,210	5'-11"	3'-2"	82	12"	7'-0"	383	7	39'-9"	186	45	39'-9"	1,195	11'-1"	30	26	72	0.975	248.9	0.8	102	39.8	10,058
10'-0"	7'-0"	10"	8"	16'	162	#6	6"	11'-1"	2,697	162	#6	6"	13'-7"	3,305	7'-8"	5'-11"	162	#6	6"	9'-2"	2,230	5'-11"	3'-3"	82	12"	7'-0"	383	7	39'-9"	186	45	39'-9"	1,195	11'-1"	30	26	72	1.045	249.9	0.8	102	42.6	10,098
10'-0"	7'-0"	12"	9"	20'	162	#6	6"	11'-3"	2,737	162	#6	6"	13'-10"	3,366	7'-10"	6'-0"	162	#6	6"	9'-5"	2,291	6'-0"	3'-5"	108	9"	7'-0"	505	7	39'-9"	186	45	39'-9"	1,195	11'-3"	30	26	72	1.241	257.0	0.8	102	50.5	10,382
10'-0"	7'-0"	13"	10"	23'	162	#6	6"	11'-5"	2,778	162	#6	6"	13'-11"	3,386	7'-11"	6'-0"	162	#6	6"	9'-6"	2,312	6'-0"	3'-6"	108	9"	7'-0"	505	7	39'-9"	186	45	39'-9"	1,195	11'-5"	31	26	72	1.368	259.1	0.9	103	55.6	10,465
10'-0"	7'-0"	14"	11"	26'	162	#6	6"	11'-7"	2,819	162	#6	6"	14'-1"	3,427	8'-0"	6'-1"	162	#6	6"	9'-8"	2,352	6'-1"	3'-7"	108	9"	7'-0"	505	7	39'-9"	186	45	39'-9"	1,195	11'-7"	31	26	72	1.498	262.1	0.9	103	60.8	10,587
10'-0"	7'-0"	15"	12"	30'	162	#7	6"	11'-9"	3,891	162	#6	6"	14'-3"	3,467	8'-1"	6'-2"	162	#6	6"	9'-10"	2,393	6'-2"	3'-8"	108	9"	7'-0"	505	7	39'-9"	186	45	39'-9"	1,195	11'-9"	31	26	72	1.630	290.9	0.9	103	66.1	11,740
10'-0"	8'-0"	8"	7"	7'	162	#6	6"	10'-11"	2,656	162	#6	6"	14'-4"	3,488	8'-6"	5'-10"	162	#6	6"	8'-11"	2,170	5'-10"	3'-1"	108	9"	8'-0"	577	7	39'-9"	186	49	39'-9											



CONSULTANT'S SHEET No. \_\_\_\_\_

CITY OF CORPUS CHRISTI, TEXAS

Department of Engineering Services

STORM WATER STANDARD DETAILS

CITY PROJECT # \_\_\_\_\_

SHEET \_\_\_\_\_ of \_\_\_\_\_

RECORD DRAWING NO. \_\_\_\_\_

DATE \_\_\_\_\_

RELEASED FOR CONSTRUCTION

Bria A. Whitmore, P.E., CFM, CPM  
Development Services  
City of Corpus Christi

Note: Construction Plans will expire based on the conditions stated in UDC 3.8.5.f.

11/19/24

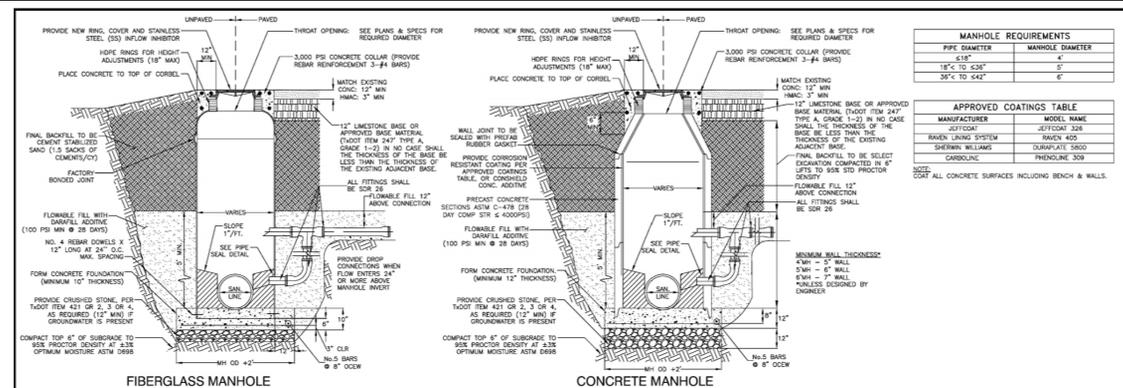
BASS AND WELSH ENGINEERING  
TX REGISTRATION NO. F-52, 3054 S. ALAMEDA STREET  
CORPUS CHRISTI, TEXAS 78404

PUBLIC IMPROVEMENTS TO  
KING'S LANDING UNIT 9  
CORPUS CHRISTI, NUECES CO., TX

CITY STORM WATER STANDARD DETAILS

DWN: \_\_\_\_\_ PLOT SCALE: 1" = 50'  
SCALE (H): AS SHOWN  
SCALE (V): AS SHOWN  
DATE PLOTTED: 11/19/24

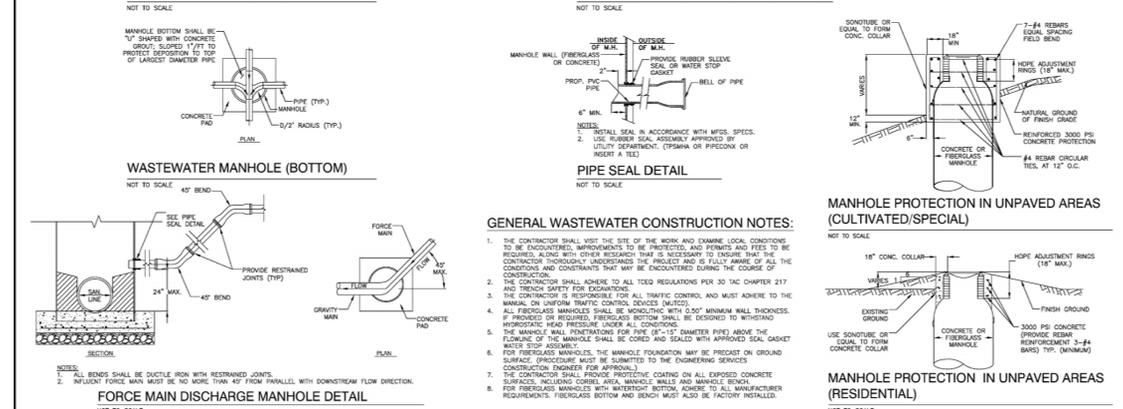
COM. NO. 17 STD DET  
JOB NO. 23014  
SHEET 17 OF 22



MANHOLE REQUIREMENTS	
PIPE DIAMETER	MANHOLE DIAMETER
6\"/>	

APPROVED COATINGS TABLE	
MANUFACTURER	MODEL NAME
GENCO	GENCO 208
SHAWNEE	SHAWNEE 309
SHAWNEE	SHAWNEE 309
SHAWNEE	SHAWNEE 309



CONSULTANT'S SHEET NO. \_\_\_\_\_

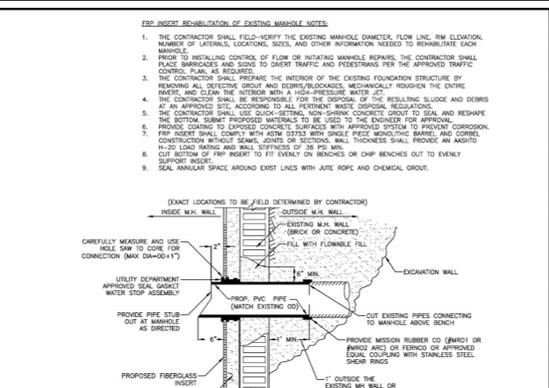
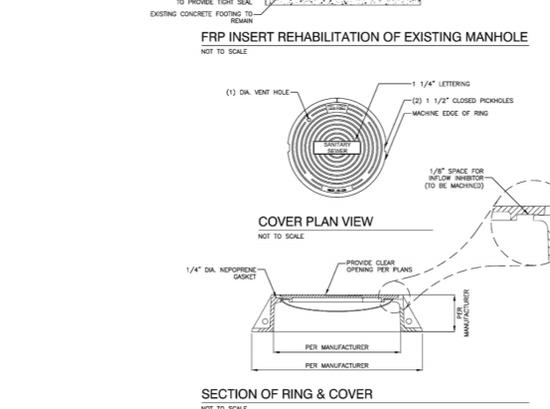
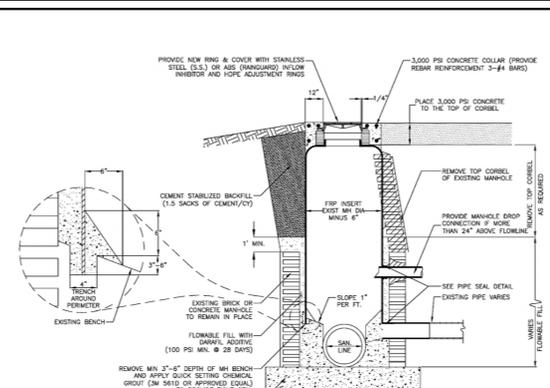
CITY OF CORPUS CHRISTI, TEXAS  
Department of Engineering Services

WASTEWATER MANHOLE DETAILS  
MANHOLE REPAIRS

SHEET \_\_\_\_\_ OF \_\_\_\_\_

RECORD DRAWING NO. \_\_\_\_\_

CITY PROJECT # \_\_\_\_\_



ROADWAY MANHOLE RING AND COVER

- CONTRACTOR SHALL PROVIDE STAINLESS STEEL (S.S.) INFLOW INHIBITOR FLUSH WITH THE OUTER LID.
- CONTRACTOR SHALL PROVIDE STAINLESS STEEL (S.S.) INFLOW INHIBITOR FLUSH WITH THE OUTER LID.
- CONTRACTOR SHALL PROVIDE STAINLESS STEEL (S.S.) INFLOW INHIBITOR FLUSH WITH THE OUTER LID.
- CONTRACTOR SHALL PROVIDE STAINLESS STEEL (S.S.) INFLOW INHIBITOR FLUSH WITH THE OUTER LID.

CLEAR OPENING	MANUFACTURER (1)	MODEL NUMBER*	INFLOW INHIBITOR
24"	U.S. FOUNDRY	COVER-#801938 FRAME-#802247	REQUIRED ON ALL INSTALLATIONS PER CITY SPECIFICATIONS
30" (2)	U.S. FOUNDRY	COVER-#801938 FRAME-#802247	REQUIRED ON ALL INSTALLATIONS PER CITY SPECIFICATIONS
	NEHRMAN FOUNDRY	R-1935-24	REQUIRED ON ALL INSTALLATIONS PER CITY SPECIFICATIONS
	NEHRMAN FOUNDRY	R-1935-30	REQUIRED ON ALL INSTALLATIONS PER CITY SPECIFICATIONS
	NEHRMAN FOUNDRY	DF-1274	REQUIRED ON ALL INSTALLATIONS PER CITY SPECIFICATIONS

(1) ON APPROVED FORM, MADE IN THE USA  
(2) UNLESS NOTED IN THE PLANS, ALL COVERS SHALL BE 24" DIAMETER

CONSULTANT'S SHEET NO. \_\_\_\_\_

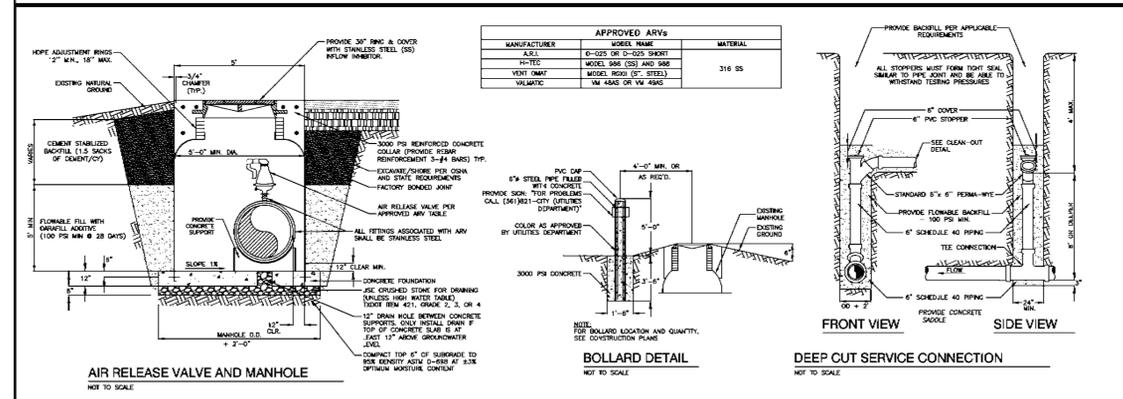
CITY OF CORPUS CHRISTI, TEXAS  
Department of Engineering Services

WASTEWATER MANHOLE DETAILS  
MANHOLE REPAIRS

SHEET \_\_\_\_\_ OF \_\_\_\_\_

RECORD DRAWING NO. \_\_\_\_\_

CITY PROJECT # \_\_\_\_\_



CONSULTANT'S SHEET NO. \_\_\_\_\_

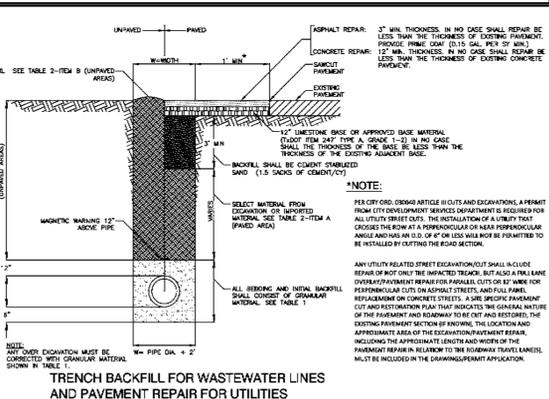
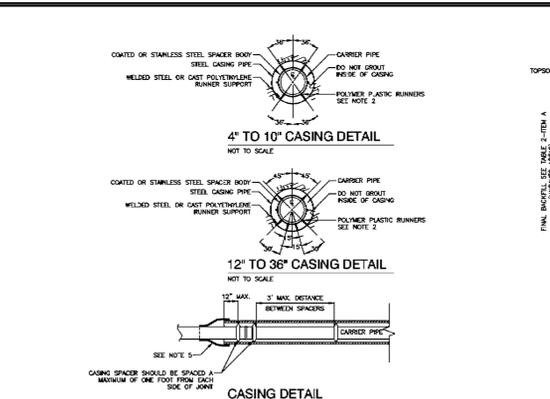
CITY OF CORPUS CHRISTI, TEXAS  
Department of Engineering Services

WASTEWATER MANHOLE DETAILS  
MANHOLE REPAIRS

SHEET \_\_\_\_\_ OF \_\_\_\_\_

RECORD DRAWING NO. \_\_\_\_\_

CITY PROJECT # \_\_\_\_\_



GENERAL NOTES FOR BACKFILL

TABLE 1 BEDDING AND INITIAL BACKFILL (BELOW PIPE TO 12\"/>	
ALL BEDDING AND INITIAL BACKFILL SHALL CONSIST OF THE FOLLOWING OR BETTER TO MEET ENGINEER REQUIREMENTS: UNPAVED AREAS SHALL BE BEDDING PRODUCED BY CRUSHING OF NATURAL STONE OR GRAVEL.	TABLE 2 FINAL BACKFILL (GREATER THAN 12\"/>

CONSULTANT'S SHEET NO. \_\_\_\_\_

CITY OF CORPUS CHRISTI, TEXAS  
Department of Engineering Services

WASTEWATER MANHOLE DETAILS  
MANHOLE REPAIRS

SHEET \_\_\_\_\_ OF \_\_\_\_\_

RECORD DRAWING NO. \_\_\_\_\_

CITY PROJECT # \_\_\_\_\_

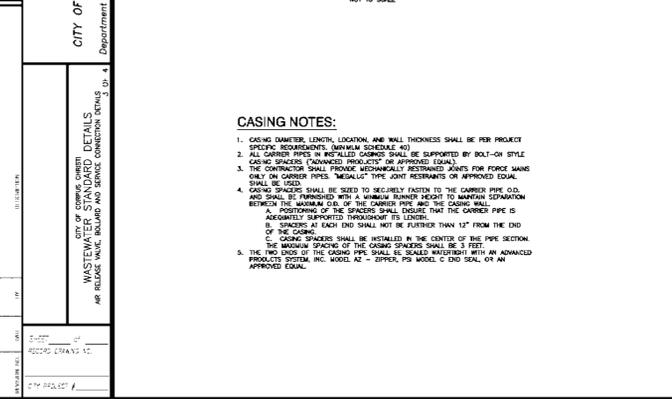
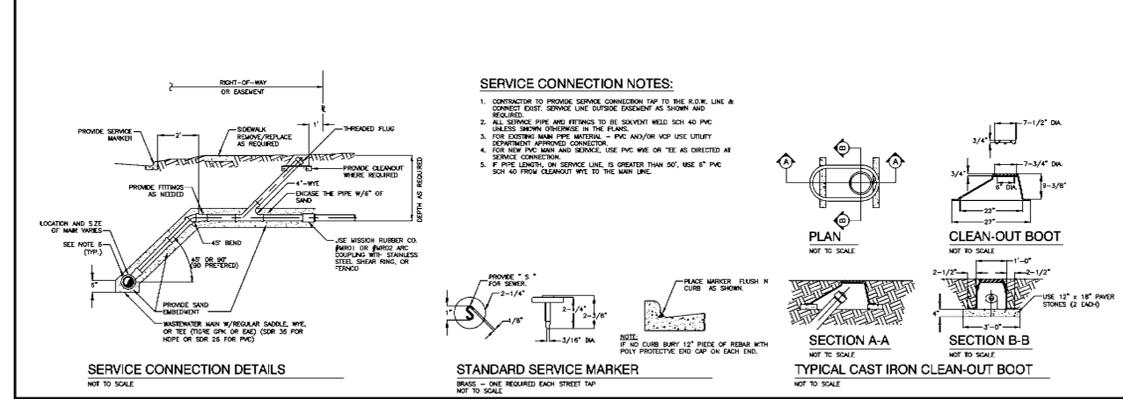


TABLE 1  
BEDDING AND INITIAL BACKFILL  
(BELOW PIPE TO 12\"/>

TABLE 2  
FINAL BACKFILL  
(GREATER THAN 12\"/>

CONSULTANT'S SHEET NO. \_\_\_\_\_

CITY OF CORPUS CHRISTI, TEXAS  
Department of Engineering Services

WASTEWATER MANHOLE DETAILS  
MANHOLE REPAIRS

SHEET \_\_\_\_\_ OF \_\_\_\_\_

RECORD DRAWING NO. \_\_\_\_\_

CITY PROJECT # \_\_\_\_\_

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

PUBLIC IMPROVEMENTS TO  
KING'S LANDING UNIT 9  
CORPUS CHRISTI, NUECES CO., TX

CITY WASTE WATER STANDARD DETAILS

DWN. \_\_\_\_\_ PLOT SCALE: 1" = 50'  
SCALE (H): AS SHOWN COM. NO. 18\_WW STD DET  
CHK. N. WELSH DATE PLOTTED: 11/19/24 SHEET 18 OF 22

RELEASED FOR CONSTRUCTION  
Bria A. Whitmore, P.E., CFM, CPM  
Development Services  
City of Corpus Christi  
Note: Construction Plans will expire based on the conditions stated in UDC 3.8.5.F.

### WATER DISTRIBUTION SYSTEM GENERAL NOTES

- PROPOSED WATER DISTRIBUTION SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH CITY OF CORPUS CHRISTI WATER DIVISION DISTRIBUTION SYSTEM STANDARDS.
- THE CITY RESERVES THE RIGHT TO ACCEPT THE SYSTEM FOR OPERATION AT ANY TIME, BUT THE DATE OF OFFICIAL ACCEPTANCE OF THE SYSTEM WILL BE UPON COMPLETION OF THE PROJECT AND SATISFACTORY TEST RESULTS.
- THE EXISTING SYSTEM SHALL REMAIN IN SERVICE UNTIL THE PROPOSED SYSTEM IS PUT INTO SERVICE. THE CONTRACTOR SHALL PROTECT THE EXISTING SYSTEM UNTIL IT IS TAKEN OUT OF SERVICE.
- THE CONTRACTOR SHALL FURNISH ALL MATERIAL, LABOR AND EQUIPMENT REQUIRED TO INSTALL THE PROPOSED SYSTEM.
- TESTING OF LINES (STERILIZATION AND PRESSURE) SHALL BE DONE BY THE CONTRACTOR UNDER THE SUPERVISION OF THE WATER DIVISION. WATER FOR FILLING THE NEW WATER LINE AND PERFORMING TESTS WILL BE FURNISHED TO THE CONTRACTOR BY THE CITY OF CORPUS CHRISTI THROUGH A STANDARD WATER CONSTRUCTION METER CONNECTION. STANDARD WATER CONSTRUCTION METER AND GAUGE WILL BE SUPPLIED BY THE CITY AFTER THE CONTRACTOR HAS PAID ALL APPLICABLE FEES FOR THE WATER CONSTRUCTION METER. ALL WATER DISCHARGE MUST BE DECONTAMINATED IN ACCORDANCE WITH THRC & NPDES REGULATIONS.
- THE CONTRACTOR SHALL RECOVER AND STOCK-PILE AT A LOCATION DESIGNATED BY THE WATER DIVISION INSPECTOR ALL FIRE HYDRANTS, VALVES, AND FITTINGS THAT ARE TAKEN OUT OF SERVICE. THESE MATERIALS MAY BE SALVAGED BY THE CITY. HOWEVER, ALL ITEMS NOT CLAIMED BY THE CITY PRIOR TO THE FINAL INSPECTION SHALL BE DISPOSED OF BY THE CONTRACTOR.
- THE CONTRACTOR SHALL BEAR ALL COST ASSOCIATED WITH WATERLINE REPAIRS (WHICH RESULT FROM DAMAGE CAUSED BY THE CONTRACTOR) UPON COMPLETION OF PROJECTS. ALL WATER LINES SHALL BE FREE OF ALL PATCHES AND SPLICES.
- ALL PHYSICAL TIES OF THE PROPOSED SYSTEM INTO THE EXISTING WATERLINE SHALL BE RECONNECTED AND BE MADE UNDER SUPERVISION OF THE WATER DIVISION INSPECTOR. THE CONTRACTOR SHALL FURNISH ALL MATERIALS AND ALL EQUIPMENT THAT IS REQUIRED TO MAKE TIE-INS. CITY WATER DIVISION ENGINEERS WILL MAKE TAPS ON CITY MAINS ARRANGED THROUGH WATER DIVISION INSPECTOR (72 HOUR NOTIFICATION).
- ALL EXISTING SERVICE CONNECTIONS TIED ONTO THE EXISTING WATERLINE SHALL BE RECONNECTED BY THE CONTRACTOR, INCLUDING RELOCATING EXISTING WATER METERS. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO NOTIFY AND COORDINATE WITH THE WATER DIVISION INSPECTOR SUD RECONNECTIONS / RELOCATIONS IN ADVANCE OF CONSTRUCTION TO AVOID DELAYS. (NO SEPARATE COSTS)
- MAJOR LENGTH OF DUCTILE IRON PIPE ADJACENT TO FITTINGS MAY BE REQUIRED AS DIRECTED BY THE WATER DIVISION INSPECTOR BASED ON CONDITIONS ENCOUNTERED IN THE FIELD. THE CONTRACTOR SHALL USE D.I.P. AS DIRECTED AND SHALL BE AD AT THE UNIT PRICE BID FOR THE APPROPRIATE SIZE WATERLINE. A MAJOR LENGTH IS DEFINED AS A SINGLE LOCATION REQUIRING THE USE OF TWO JOINTS OR LESS.
- MAJOR ADJUSTMENTS IN THE LOCATIONS OF FITTINGS, VALVES, FIRE HYDRANTS, ETC. CAN BE AUTHORIZED. THE CONTRACTOR SHALL MAKE MAJOR ADJUSTMENTS AS DIRECTED BY THE ENGINEER AND/OR WATER DIVISION INSPECTOR AT NO INCREASE OF CONTRACT PRICE. WATER DIVISION WILL BE NOTIFIED PRIOR TO ALL CHANGES.
- ALL NIPPLES BETWEEN FITTINGS AND VALVES ALONG MAINS SHALL BE DUCTILE IRON.
- ALL DUCTILE IRON PIPES, VALVES, AND FITTINGS SHALL BE WRAPPED WITH (2) THICKNESSES OF 8 MIL. POLYETHYLENE AND SHALL BE RESTRAINED WITH "MEGALOC", MECHANICAL JOINT RESTRAINT OR ENGINEER APPROVED EQUAL. AT ALL FITTINGS, CONCRETE THRUST BLOCKS SHALL BE PLACED BEHIND ALL FITTINGS EXCEPT WHERE LOCKING OR SWIVEL FITTINGS ARE UTILIZED, UNLESS OTHERWISE SPECIFIED BY THE WATER DIVISION ENGINEERS.
- ALL OFFSETS ARE TO BE DUCTILE IRON PIPE ASSEMBLIES LOCKED TOGETHER BY RETAINER GLANDS. DUCTILE IRON BENDS SHALL BE UTILIZED FOR ANY CHANGES IN ALIGNMENT OR GRADE.
- IF A WATER LINE IS TO BE ABANDONED, THE CONTRACTOR WILL FILL WITH CONTROLLED LOW STRENGTH MATERIAL, "DAMPFILL" BRAND OR ENGINEER APPROVED EQUAL. VALVES WILL BE REMOVED OR FILED AS REQUIRED BY WATER DIVISION INSPECTOR.
- CONTRACTOR SHALL COORDINATE WITH WATER DIVISION INSPECTOR AND NOTIFY ALL AFFECTED CUSTOMERS 24 HOURS PRIOR TO KILLOUT OF EXISTING WATER SYSTEM.
- WATER DISTRIBUTION SYSTEM STANDARDS CALL FOR MAXIMUM 48" COVER ON WATERLINES. WHEN DEPTHS EXCEED 48" COVER TO MAJOR OBSTRUCTION, THE USES OF BENDS COULD BE REQUIRED.
- CONTRACTOR SHALL KEEP ALL EXISTING VALVES ACCESSIBLE DURING ALL PHASES OF CONSTRUCTION.
- ALL NEW WATER MAINS SHALL BE INSTALLED SO THAT PIPE IDENTIFICATION MARKINGS ARE LOCATED ON THE TOP OF THE PIPE.
- ALL SERVICE LINES UNDER PAVEMENT SHALL BE ONE INCH INSIDE DIAMETER, MINIMUM.

**SPECIAL NOTE:**  
ENGINEER SHALL CONTACT THE UTILITY DEPARTMENT FOR WATER VAULT DESIGN COORDINATION.

### SEPARATION OF WATER AND WASTEWATER LINES

1. THE SEPARATION OF WATER AND WASTEWATER LINES AND THE MATERIAL USED SHALL BE IN ACCORDANCE WITH THE RULES & REGULATIONS FOR PUBLIC WATER SYSTEMS OF TEXAS NATURAL RESOURCE CONSERVATION COMMISSION AND THE CITY WATER DETAILS.

2. WHENEVER WATER & WASTEWATER LINES CROSS, ONE JOINT OF 4000 PVC WATER LINE SHALL BE CENTERED OVER THE WASTEWATER LINE IN ADDITION TO ANY REQUIREMENTS AS DICTATED BY ITEM 1 ABOVE.

**NOTES:**  
CONTRACTOR MAY BE REQUIRED BY THE WATER DIVISION INSPECTOR TO INSTALL CENTERED JOINTS OF DUCTILE IRON PIPE AT WATERLINE CROSSINGS OF EXISTING HAZARDOUS PRODUCT FLOWLINES.

### UNPAVED AREAS PAVED AREAS

**TYP. PIPE TRENCHING, BEDDING AND BACKFILL FOR WATERLINE**

**NOTE: (CONCRETE PAVEMENT ONLY)**  
CONCRETE HAS TO BE REMOVED TO USE GEMEN SHOULDER MATERIAL OR BACKFILL WITH SELECT SHOULDER MATERIAL.

### GENERAL NOTES FOR BACKFILL

TABLE 1 BEDDING AND INITIAL BACKFILL (BELOW PIPE TO 12" ABOVE PIPE)	TABLE 2 FINAL BACKFILL (GREATER THAN 12" ABOVE PIPE)
<p>ALL BEDDING AND INITIAL BACKFILL SHALL CONSIST OF THE FOLLOWING OR MATERIAL MEETING THE FOLLOWING CRITERIA:</p> <p>CONCRETE SAND (2) SANDS (CONCRETE SAND) SHALL BE COMPACTED TO 95% PROCTOR DENSITY (ASTM D1557) - SEE TABLE 2 - ITEM B</p> <p>WATER LINES:</p> <ol style="list-style-type: none"> <li>EXCAVATIONS 30" DEEP AND ABOVE WATER TABLE USE MEETING REQUIREMENTS OF ASTM D2427 FOR:           <ul style="list-style-type: none"> <li>SP-10</li> <li>SP-15</li> <li>SP-20</li> <li>SP-25</li> </ul> </li> <li>IN ADDITION, PAVING 1/2" SLOPE - 100% PORTLAND CEMENT (PV) - 40 TO 100% MOISTURE TO BE ADJUSTED TO 3% TO 4% (PER DESIGN ENGINEER)</li> <li>FOR 12" ABOVE PIPE TO 3" BELOW BOTTOM OF ROAD BASE, BACKFILL SHALL BE SELECT MATERIAL FROM EXCAVATION OR D.I.P. APPROVED SELECT MATERIAL OR D.I.P. APPROVED EQUAL SHALL BE PLACED 10' MAX. COMPACT MATERIAL TO SIZE 5/8" PROCTOR (DMS). LOOSE LOTS OF 10' MAX OR IF SELECT MATERIAL FROM EXCAVATION DOES NOT MEET REQUIREMENTS, THEN USE (CONCRETE SAND) SAND TABLE 2 - ITEM B (PER DESIGN ENGINEER)</li> <li>FOR 3" BELOW BOTTOM OF ROAD BASE TO BOTTOM OF ROAD BASE:           <ul style="list-style-type: none"> <li>BACKFILL SHALL BE CEMENT STABILIZED SAND (2) SANDS (CONCRETE SAND) AND SHALL MEET THE FOLLOWING REQUIREMENTS:               <ul style="list-style-type: none"> <li>SAND GRADES:                   <ul style="list-style-type: none"> <li>55-100</li> <li>F10</li> <li>F15</li> <li>F20</li> <li>MP-10</li> </ul> </li> <li>(OR AS PER DESIGN ENGINEER)</li> <li>COMPACT TO SIZE OF ROAD MOISTURE TO BE ADJUSTED TO (C.V.-2) OF OPTIMUM.</li> </ul> </li> </ul> </li></ol>	<p>FOR 12" ABOVE PIPE TO 3" BELOW BOTTOM OF ROAD BASE, BACKFILL SHALL BE SELECT MATERIAL FROM EXCAVATION OR D.I.P. APPROVED SELECT MATERIAL OR D.I.P. APPROVED EQUAL SHALL MEET THE FOLLOWING CRITERIA:</p> <p>CONCRETE SAND (2) SANDS (CONCRETE SAND) SHALL BE COMPACTED TO 95% PROCTOR DENSITY (ASTM D1557) - SEE TABLE 2 - ITEM B</p> <p>FOR 3" BELOW BOTTOM OF ROAD BASE TO BOTTOM OF ROAD BASE:</p> <p>BACKFILL SHALL BE CEMENT STABILIZED SAND (2) SANDS (CONCRETE SAND) AND SHALL MEET THE FOLLOWING REQUIREMENTS:</p> <p>SAND GRADES:</p> <ul style="list-style-type: none"> <li>55-100</li> <li>F10</li> <li>F15</li> <li>F20</li> <li>MP-10</li> </ul> <p>(OR AS PER DESIGN ENGINEER)</p> <p>COMPACT TO SIZE OF ROAD MOISTURE TO BE ADJUSTED TO (C.V.-2) OF OPTIMUM.</p>

### PIPE INSULATION DETAIL

NOT TO SCALE

### INSULATOR SPACING DETAIL

NOT TO SCALE

### WATERLINE ADJUSTMENT DETAIL

NOT TO SCALE

**NOTE:**  
ALL FITTINGS SHALL BE RESTRAINED BY MECHANICAL JOINT RESTRAINT DEVICE AND CONCRETE THRUST BLOCK AS SPECIFIED BY ENGINEER APPROVED EQUAL AND CONCRETE THRUST BLOCK AS DESIGNATED BY WATER DIVISION INSPECTOR.

### TYPICAL CASING DETAIL

NOT TO SCALE

**NOTE:**  
CASING SHALL BE STEEL.

### TYPICAL VALVE INSTALLATION AT INTERSECTIONS

NOT TO SCALE

**NOTE:**  
VALVES SHALL BE INSTALLED AT THE POINT OF CURVATURE (C.V.) OF THE CURB WHENEVER POSSIBLE.

### THREE TO SIX WATER CONNECTIONS

NOT TO SCALE

**NOTE:**  
MANIFOLD LARGER THAN 6" CONNECTIONS WILL REQUIRE APPROVAL FROM THE CITY OF CORPUS CHRISTI WATER DIVISION INSPECTOR FOR WATER TAP AND SERVICE.

### DETAIL "A" TEST RISER ASSEMBLY CONNECTION

NOT TO SCALE

### DETAIL "B" TEST RISER ASSEMBLY

NOT TO SCALE

**NOTE:**  
AFTER HYDROLOGICAL SAMPLE PASSES TEST, CONTRACTOR WILL REMOVE RISER ASSEMBLY AND INSTALL 2" BRASS OR 2" BRASS STREET ELBOW.

### DETAIL "C" TEST RISER ASSEMBLY

NOT TO SCALE

**NOTE:**  
CONTRACTOR WILL REMOVE RISER ASSEMBLY AND INSTALL 2" BRASS OR 2" BRASS STREET ELBOW.

### FIRE HYDRANT ASSEMBLY DETAIL (TYPE 1)

NOT TO SCALE

### VALVE BOX DETAIL @ PAVEMENT

NOT TO SCALE

### VALVE BOX DETAIL @ NATURAL GROUND

NOT TO SCALE

ALL VALVES SHALL BE HOUSED IN APPROVED VALVE BOXES

### PICK NOTCH

NOT TO SCALE

TO BE CITY OF CORPUS CHRISTI PATTERN

### LID DETAIL

NOT TO SCALE

### FIRE HYDRANT ASSEMBLY DETAIL (TYPE 2)

NOT TO SCALE

### FIRE HYDRANT ASSEMBLY DETAIL (TYPE 2)

NOT TO SCALE

WATER LINE BEHIND CURB

### SERVICE WITH SIDEWALK

NOT TO SCALE

### TYPICAL CUL-DE-SAC SERVICE

NOT TO SCALE

### SERVICE WITHOUT SIDEWALK

NOT TO SCALE

### SERVICE WITH SIDEWALK TIED TO CURB

NOT TO SCALE

### TYPICAL CONNECTION DETAIL

NOT TO SCALE

### TYPICAL CONNECTION DETAIL

NOT TO SCALE

### BOLLARD DETAIL

NOT TO SCALE

**NOTE:**  
DO NOT PLACE BOLLARD IN FRONT OF HOUSE OUTLETS

CONSULTANT'S SHEET NO. \_\_\_\_\_

CITY OF CORPUS CHRISTI, TEXAS  
Department of Engineering Services

WATER STANDARD DETAILS  
MAN TO SERVICE DETAILS AND OTHERS

3 OF 4

SHEET \_\_\_\_\_ OF \_\_\_\_\_ RECORD DRAWING NO. \_\_\_\_\_

CITY PROJECT # \_\_\_\_\_

CONSULTANT'S SHEET NO. \_\_\_\_\_

CITY OF CORPUS CHRISTI, TEXAS  
Department of Engineering Services

WATER STANDARD DETAILS  
MAN TO SERVICE DETAILS AND OTHERS

4 OF 4

SHEET \_\_\_\_\_ OF \_\_\_\_\_ RECORD DRAWING NO. \_\_\_\_\_

CITY PROJECT # \_\_\_\_\_

RELEASED FOR CONSTRUCTION

Bria A. Whitmire, P.E., CFM, CPM  
Development Services  
City of Corpus Christi

Note: Construction Plans will expire based on the conditions stated in UDC 3.8.5.F.

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

PUBLIC IMPROVEMENTS TO  
KING'S LANDING UNIT 9  
CORPUS CHRISTI, NUECES CO., TX

CITY WATER STANDARD DETAILS

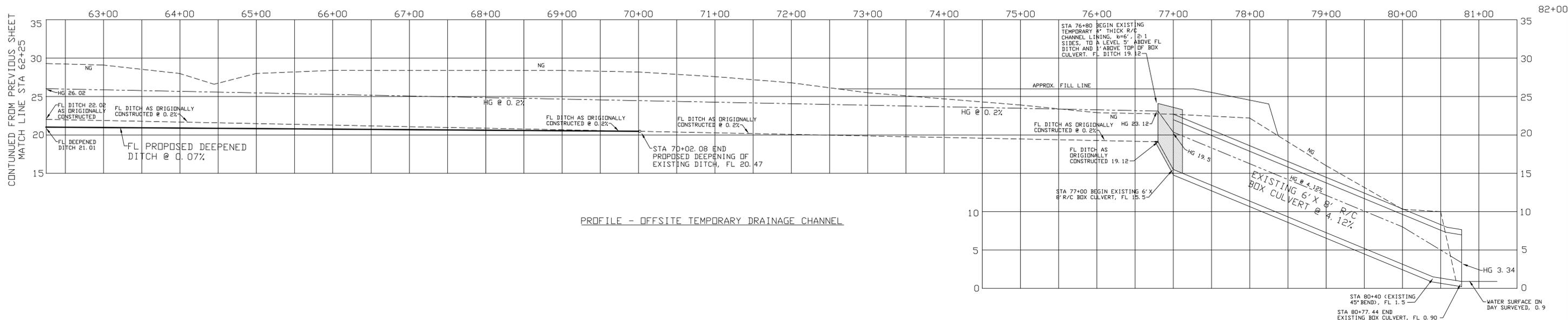
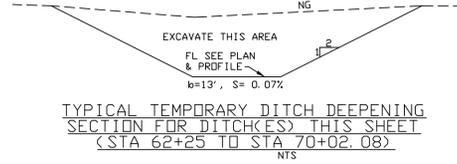
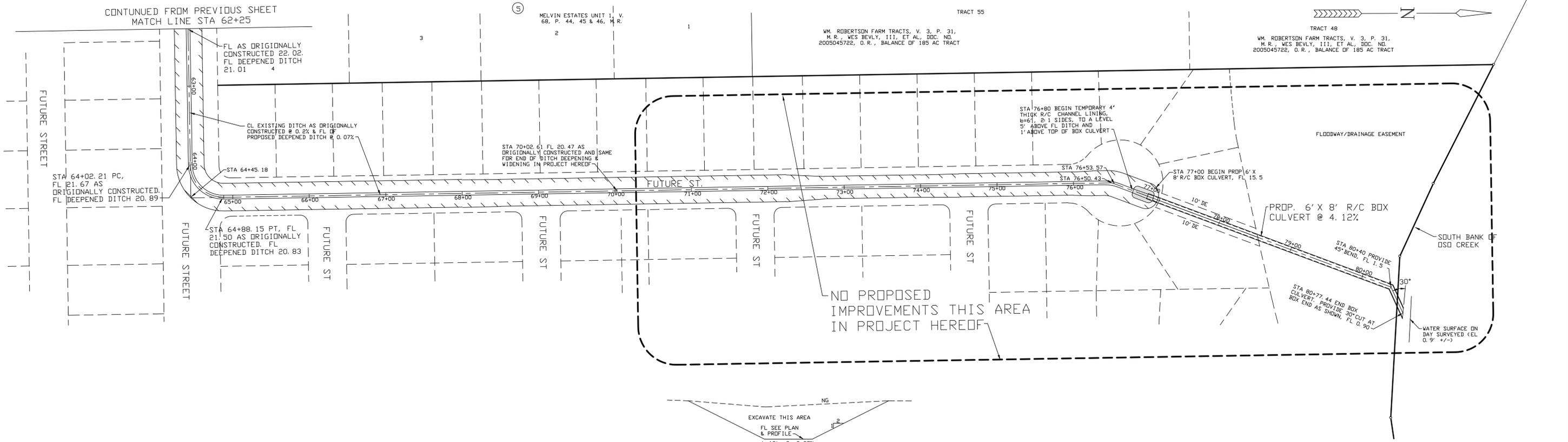
DWN. \_\_\_\_\_ PLOT SCALE: 1" = 50'  
SCALE (H): AS SHOWN  
SCALE (V): AS SHOWN  
DATE PLOTTED: 11/19/24

COM. NO. 19 WTR STD DET  
JOB NO. 23014  
SHEET 19 OF 22

11/19/24

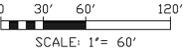






CONTINUED FROM PREVIOUS SHEET  
MATCH LINE STA 62+25

82+00



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 9 CORPUS CHRISTI, NUECES CO., TX		
OFFSITE DRAINAGE PLAN AND PROFILE		
DWN. _____ SCALE (H): _____ SCALE (V): _____ DATE PLOTTED: 11/26/24	PLOT SCALE: 1"=60' SCALE (H): SAME SCALE (V): NONE	COM. NO. OS DR2 JOB NO. 23014 SHEET 22 OF 22

# EXHIBIT 3

**GEOTECHNICAL ENGINEERING REPORT**

**Proposed King's Landing Units 9  
Various Streets  
Corpus Christi, Texas**

**PSI Project No. 03123143-23**

**PREPARED FOR:**

**MPM Homes, Inc.  
P.O. Box 331308  
Corpus Christi, TX 78463**

**BY:**

**PROFESSIONAL SERVICE INDUSTRIES, INC.  
810 S. Padre Island Dr.  
Corpus Christi, Texas 78416  
Phone: (361) 854-4801**





Professional Service Industries, Inc.  
810 S. Padre Island Drive  
Corpus Christi, Texas 78416  
Office (361) 854-4801

**MPM Homes, Inc.**  
P.O. Box 331308  
Corpus Christi, TX 78463

Attn: Mr. Moses Mostaghasi

**RE: GEOTECHNICAL ENGINEERING REPORT  
PROPOSED KING'S LANDING UNIT 9  
VARIOUS STREETS  
CORPUS CHRISTI, TEXAS  
PSI Project No. 03122734-23**

Mr. Mostaghasi:

Professional Service Industries, Inc. (PSI), an Intertek company, is pleased to submit this Geotechnical Engineering Report for the referenced project. This report includes the results from the field and laboratory investigation along with recommendations for use in preparation of the appropriate design and construction documents for this project.

PSI appreciates the opportunity to provide this Geotechnical Engineering Report and looks forward to continuing participation during the design and construction phases of this project. PSI also has great interest in providing materials testing and inspection services during the construction of this project and will be glad to meet with you to further discuss how we can be of assistance as the project advances.

If there are questions pertaining to this report, or if PSI may be of further service, please contact us at your convenience.

Respectfully submitted,

**PROFESSIONAL SERVICE INDUSTRIES, INC.**

*Texas Board of Professional Engineers Certificate of Registration # F003307*

Philip L. Johnson, P.E.  
Principal Consultant  
Senior Geotechnical Engineer



Dexter Bacon, P.E.  
Chief Engineer



Corpus Christi, Texas

## 1.0 PROJECT INFORMATION

### 1.1 PROJECT AUTHORIZATION

Professional Service Industries, Inc. (PSI), an Intertek company, has completed a field exploration and geotechnical evaluation for the proposed King's Landing Unit 9 project. Mr. Bobak Mostaghasi representing MPM Development, authorized PSI's services on 10/6/2024 by signing PSI Proposal No. 384522. PSI's proposal contained a proposed scope of work, lump sum fee, and PSI's General Conditions.

### 1.2 PROJECT DESCRIPTION

Based on information provided by the Client, PSI's review of a site plan entitled Public Improvements to King's Landing, and prepared by Bass and Welch Engineering, and the results of this geotechnical investigation, a summary of our understanding of the proposed project is provided in the following General Project Description table.

**TABLE 1.1: GENERAL PROJECT DESCRIPTION**

Project Items	<b>New streets for a new King's Landing Unit 9 residential development</b>
Existing Grade Change within Building Pad Area	Relatively Flat
Existing Grade Change within Project Site Area	± 2 feet (estimated from Google Earth)
Finished Floor Elevation	Not Provided
Pavement for Parking and Drives	RCC Pavement

The geotechnical recommendations presented in this report are based on the available project information, structure locations, and the subsurface materials encountered during the field investigation. If the noted information or assumptions are incorrect, please inform PSI so that the recommendations presented in this report can be amended, as necessary. PSI will not be responsible for the implementation of provided recommendations if not notified of changes in the project.

### 1.3 PURPOSE AND SCOPE OF SERVICES

The purpose of this study is to evaluate the subsurface conditions at the site and develop geotechnical engineering recommendations and guidelines for use in preparing the design and other related construction documents for the proposed project. The scope of services included drilling soil borings, performing laboratory testing, and preparing this geotechnical engineering report.

This report briefly outlines the available project information, describes the site and subsurface conditions, and presents the recommendations regarding the following:



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Corpus Christi, Texas

- General site development and subgrade preparation recommendations;
- Estimated potential soil movements associated with collapsing, shrinking and swelling soils and methods to reduce these movements to acceptable levels;
- Recommendations for site excavation, fill compaction, and the use of on-site and imported fill material under pavements;
- Recommendations for the design and construction considerations for roller compacted concrete (RCC) pavement for the proposed streets; and
- Utility design and construction considerations.

The scope of services for this geotechnical exploration did not include an environmental, mold nor detailed seismic/fault assessment for determining the presence or absence of wetlands, or hazardous or toxic materials in the soil, bedrock, surface water, groundwater, or air on or below, or around this site. Statements in this report or on the boring logs regarding odors, colors, and unusual or suspicious items or conditions are strictly for informational purposes.



Corpus Christi, Texas

## 2.0 SITE AND SUBSURFACE CONDITIONS

### 2.1 SITE DESCRIPTION

The following table provides a generalized description of the existing site conditions based on visual observations during the field activities, as well as other available information.

**TABLE 2.1: SITE DESCRIPTION**

<b>Site Location</b>	CR 49 and FM 43, Corpus Christi, Nueces County, Texas
<b>Site History</b>	Farm Land, New Residential Construction
<b>Existing Site Ground Cover</b>	Grass, weeds
<b>Existing Grade/Elevation Changes</b>	± 2 feet (estimated from Google Earth)
<b>Site Boundaries/Neighboring Development</b>	North: Undeveloped Cultivated Fields East: London School South: Weber Road West: Residential Subdivision
<b>Ground Surface Soil Support Capability</b>	Good enough for construction vehicles when dry; Poor when wet

### 2.2 FIELD EXPLORATION

Field exploration for the project consisted of drilling a total of 15 borings. The boring design element, boring labels, approximate depths and drilling footage are provided in the following table.

**TABLE 2.2: FIELD EXPLORATION SUMMARY**

<b>Design Element</b>	<b>Number of Borings</b>	<b>Boring Depth (ft)</b>	<b>Drilling Footage (feet)</b>
<b>Pavement</b>	13	10	130
<b>Pavement/Utilities</b>	2	20	40
<b>TOTAL:</b>	<b>15</b>		<b>170</b>

The boring locations were selected by PSI personnel and located in the field using a recreational-grade GPS system. Elevations of the ground surface at the boring locations were not provided and should be surveyed by others prior to construction. The references to elevations of various subsurface strata are based on depths below existing grade at the time of drilling. The approximate boring locations are depicted on the Boring Location Plan provided in the Appendix.



Corpus Christi, Texas

**TABLE 2.3: FIELD EXPLORATION DESCRIPTION**

<b>Drilling Equipment</b>	Truck-Mounted Drilling Rig
<b>Drilling Method</b>	Continuous Flight Augers
<b>Drilling Procedure</b>	Applicable ASTM and PSI Safety Manual
<b>Field Testing</b>	Hand Penetrometer, Standard Penetration Test (ASTM D1586)
<b>Sampling Procedure</b>	ASTM D1587/1586
<b>Sampling Frequency</b>	Continuously to a Depth of 10 Feet and at 5-foot Intervals Thereafter
<b>Frequency of Groundwater Level Measurements</b>	During and After Drilling
<b>Boring Backfill Procedures</b>	Soil Cuttings

During field activities, the encountered subsurface conditions were observed, logged, and visually classified (in general accordance with ASTM D2487). Field notes were maintained to summarize soil types and descriptions, water levels, changes in subsurface conditions, and drilling conditions.

### 2.3 LABORATORY TESTING PROGRAM

PSI supplemented the field exploration with a laboratory testing program to determine additional engineering characteristics of the subsurface soils encountered. The laboratory testing program included:

**TABLE 2.4: LABORATORY TESTING PROGRAM**

<b>Laboratory Test</b>	<b>Procedure Specification</b>
<b>Visual Classification</b>	ASTM D2488
<b>Moisture Content</b>	ASTM D2216
<b>Atterberg Limits</b>	ASTM D4318
<b>Material Finer than No. 200 Sieve</b>	ASTM D1140

The laboratory testing program was conducted in general accordance with applicable ASTM Test Methods. The results of the laboratory tests are provided on the Boring Logs in the Appendix. Portions of samples not altered or consumed by laboratory testing will be discarded 60 days from the date shown on this report.

### 2.4 SITE GEOLOGY

As shown on the Geologic Atlas of Texas, Corpus Christi Sheet, reprinted in 1975, the site is located in an area where the **Beaumont Formation (Qb)** is present at or near the ground surface. The Beaumont



Corpus Christi, Texas

Formation consists mostly of clay and sand intermixed with gravel. The Beaumont Formation thickness varies from 3 to 10 meters to over 100 meters toward the southeast.

## 2.5 SUBSURFACE CONDITIONS

The results of the field and laboratory investigation have been used to generalize a subsurface profile at the project site. The following subsurface descriptions provide a highlighted generalization of the major subsurface stratification features and material characteristics.

**TABLE 2.5: GENERALIZED SOIL PROFILE**

Stratum	Top (ft)	Bot. (ft)	Soil Type	LL (%)	PI	% Passing #200 Sieve	PP (Avg)
1	0	20	Fat Clay	75	43	88	2.3

Where: LL= Liquid limit (%)  
 PI = Plasticity Index  
 PP – Hand Penetrometer (tsf)

The boring logs included in the Appendix should be reviewed for specific information at individual boring locations. The boring logs include soil descriptions, stratifications, locations of the samples, and field and laboratory test data. The descriptions provided on the logs only represent the conditions at that actual boring location; the stratifications represent the approximate boundaries between subsurface materials. The actual transitions between strata may be more gradual and less distinct. Variations will occur and should be expected across the site.

### 2.5.1 GROUNDWATER INFORMATION

Water level measurements were performed during drilling and after completion of drilling. Specific information concerning groundwater is noted on each boring log presented in the Appendix of this report. Groundwater **was not** encountered during the field investigation of this site. Groundwater levels fluctuate seasonally as a function of rainfall, proximity to creeks, rivers and lakes, the infiltration rate of the soil, seasonal and climatic variations and land usage. In relatively pervious soils, such as sandy soils, the indicated depths are a relatively reliable indicator of groundwater levels. In relatively impervious soils, water levels observed in the borings may not provide a reliable indication of groundwater elevations, even after several days. If a detailed water level evaluation is required, observation wells or piezometers can be installed at the site to monitor water levels.

The groundwater levels presented in this report were measured at the time of PSI field activities. The contractor should determine the actual groundwater levels at the site before construction activities.

## 3.0 GEOTECHNICAL EVALUATION AND RECOMMENDATIONS



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Corpus Christi, Texas

### 3.1 GEOTECHNICAL DISCUSSION

The following design recommendations have been developed based on the previously described project characteristics and subsurface conditions encountered. If there are changes in the project criteria, PSI should be retained to determine if modifications in the recommendations will be required. The findings of such a review would be presented in a supplemental report. Once final design plans and specifications are available, a general review by PSI is recommended to observe that the conditions assumed in the project description are correct and to verify that the earthwork and foundation recommendations are properly interpreted and implemented within the construction documents.

### 3.2 POTENTIAL VERTICAL MOVEMENT OF EXPANSIVE SOILS

The soils encountered at the soil boring locations exhibit a **high** potential for volumetric changes, due to fluctuations in soil moisture content. PSI has conducted laboratory testing on the soils to estimate the expansive soil potential with soil moisture variations. These soil moisture variations are based on historical climate change data for a particular site. Determining the soil potential for shrinking and swelling, combined with historical climate variation, aids the engineer in quantifying the soil movement potential of the soils supporting the floor slab and shallow foundations. Shrink/swell movement procedures using two soil modeling systems, the Post Tensioning Institute's (PTI) "Design of Post-Tensioned Slabs-on-Ground, 3rd Edition" and Texas Department of Transportation (TxDOT) method TEX-124-E, were utilized to approximate the Potential Vertical Movement (PVM) for this location.

#### 3.2.1 SHRINK/SWELL MOVEMENT (PVM) ESTIMATE

Based on laboratory testing results and the TEX-124-E and the PTI methods, the potential vertical movement (PVM) within the proposed project area is estimated to be approximately **4 inches**.

It is not possible to accurately quantify actual soil moisture changes and resulting shrink/swell movements. The PVM (*often referred to as PVR*) and referenced structural movements values provided should not be considered absolute values that could occur in the field, but approximate values based on industry standard practice and experience. Extreme soil moisture variations could occur due to unusual drought severity, leaking water or sewer lines, , perched groundwater infiltration, or seasonal springs. Also, soil desiccation from trees located adjacent to or previously underneath the building, downspouts directing roof discharge under the foundation, poor drainage or irrigation line breaks could lead to moisture content changes greater than accounted for from normal climate variations and result in excessive foundation movements.

The unknown factors previously mentioned cannot be determined at the time of the geotechnical study. Therefore, estimated shrink/swell movements are calculated only in consideration of historical climate data related to soil moisture variations. Movements in excess of these assumed variations should be anticipated and regular maintenance should be provided to address these issues throughout the life of the structure.



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### **3.3 UTILITY EXCAVATION AND LATERAL EARTH PRESSURE CONSIDERATIONS**

New utility lines may be installed below the pavement. The pipe designer should account for sustained loads due to the soil overburden pressures and potential surcharge loads that may be applied to the pipe. The load due to the soil overburden pressures can be estimated using the total and effective unit weights of the soil and depths of each layer of soil. A total unit weight of 110 pcf or buoyant weight of 64 pcf may be assumed for on-site clayey material. In addition, hydrostatic pressures and/or surcharge loads, if present, should also be accounted for in the design.

Unbalanced thrust forces could also be developed in the pipeline due to changes in direction, cross-sectional areas, or if the pipe is terminated. These forces may cause joints to disengage if not adequately restrained. To resist movement and overstressing the pipe, suitable buttressing should be provided. In general, thrust blocks and/or concrete encasement are common methods of providing reaction for the thrust restraint design. For design of thrust blocks and similar other thrust restraints may be designed in consideration of an allowable passive resistance of **1,200 psf**.

Unbalanced forces produced by grade and alignment changes can be resisted by friction on the pipe. The frictional resisting force can be computed by multiplying the pressure produced by the combined weight of the pipe, contained water, and soil overburden by a coefficient of friction between the pipe and underlying bedding material. Based upon the recommended pipe installation and bedding, the unfactored coefficient of friction is anticipated to be approximately 0.3.

The Occupational Safety and Health Administration (OSHA) Safety and Health Standards (29 CFR Part 1926, Revised October 1989), require that excavations be constructed in accordance with the current OSHA guidelines. Furthermore, the State of Texas requires that detailed plans and specifications meeting OSHA standards be prepared for trench and excavation retention systems used during construction.

Most soils at this site consist primarily of clays that would be classified as OSHA Type "B" soils requiring a temporary excavation slope no steeper than 1H:1V. However, any soils below the groundwater table would be classified as Type "C" soils requiring temporary slopes no steeper than 1 ½ H: 1V.

Groundwater was not encountered in the test borings during our field exploration. We recommend that the contractor perform an investigation to establish groundwater levels prior to construction to evaluate sloping and dewatering requirements prior to construction.

### **3.4 DISCUSSION OF BEDDING AND BACKFILL MATERIALS**

Typically, the bedding and initial backfill around a buried pipeline is designed to support and protect the pipe. Secondary backfill is then placed over the initial backfill and pipe to help protect the pipe, reestablish the ground surface at the trench, and provide support to structures overlying the trench.

Generally, the bedding and initial backfill materials for piping consist of a graded gravel. The existing soils at the pipe bearing levels should be removed to a minimum depth of six (6) inches below the bottom of the pipe and replaced with gravel bedding. The bedding material should embed the lower quadrant or to the midpoint of the pipe at a minimum and should be compacted in maximum compacted thickness of eight (8) inches with mechanical hand compaction equipment. The initial backfill should extend from the



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surface of the bedding to a point one (1) foot above the top of the pipe and should be compacted in maximum compacted thickness of eight (8) inches with mechanical hand compaction equipment.

The secondary backfill may consist of material excavated from the trench. The secondary backfill should be free of debris and should not contain stones greater than three (3) inches in diameter. The secondary backfill should be placed at moisture contents between optimum and plus four (+4) percentage points of optimum and compacted to at least 95 percent of the maximum dry density as determined by ASTM D698. Each lift should be placed with a maximum compacted thickness of six (6) inches. Care should be taken during backfill compaction to prevent structural damage to the pipe.

### 3.5 EXCAVATION AND SHORING CONSIDERATIONS

Lateral earth pressures from the soils will be applied to the trench shoring. Additionally, hydrostatic pressures and any equipment loads, and other surcharges should be considered for trench shoring design. The follow table should be utilized for the design of the allowable temporary slopes and trench shoring.

**TABLE 3.1: EXCAVATION AND SHORING DATA**

Material Type	OSHA Soil Type	At-Rest Condition, Ko
Fat and Lean Clay (CH and CL)	"B"	0.60
Fat and Lean Clay below GWT (CH and CL), Clayey Sands (SC)	"C"	0.60

A lateral earth pressure of  $120 \text{ pcf} \cdot \text{Ko} \cdot \text{depth}(\text{ft})$  should be used to evaluate lateral earth pressures applied to the shoring in a rectangular distribution. These values do not consider hydrostatic pressures. We recommend that the hydrostatic pressure be added to the lateral earth pressure in a triangular distribution of  $62.4 \text{ pcf} \cdot (X)$  for that portion of the shoring below the groundwater table.

### 3.6 SITE SEISMIC DESIGN RECOMMENDATIONS

For the purposes of seismic design, based on the encountered site conditions and local geology, PSI interpreted the subsurface conditions to satisfy the **Site Class D** criteria for use at this site as defined by the International Building Code (IBC). The site class is based on the subsurface conditions encountered at the soil borings, the results of field and laboratory testing, experience with similar projects in this area, and considering the site prepared as recommended herein. The table below provides recommended seismic parameters for the project based on the 2018 edition of the IBC.

**TABLE 3.2: RECOMMENDED DESIGN SEISMIC PARAMETERS**

Seismic Parameter	IBC 2018
0.2 sec ( $S_s$ )	0.064g



Corpus Christi, Texas

1.0 sec ( $S_1$ )	0.033g
Site Coefficient 0.2sec, $F_a$	1.6
Site Coefficient 1.0 sec, $F_v$	2.4
0.2 sec ( $S_{DS}$ )	0.068g
1.0 sec ( $S_{D1}$ )	0.053g

## 4.0 PAVEMENT DESIGN RECOMMENDATIONS

### 4.1 PAVEMENT DESIGN PARAMETERS

PSI understands that Roller Compacted Concrete pavements are being considered for this project. Pavement design recommendations based on the City of Corpus Christi IDM pavement design requirements for the various planned street types as outlined in Table 4.1 below are provided. In addition, PSI utilized the "AASHTO Guide for Design of Pavement Structures" published by the American Association of State Highway and Transportation Officials to evaluate the pavement thickness recommendations in this report. This method of design considers pavement performance, traffic, roadbed soil, pavement materials, environment, drainage and reliability. Each of these items is incorporated into the design methodology. PSI is available to provide laboratory testing and engineering evaluation to refine the site-specific design parameters and sections, upon request. Details regarding the basis for this design are presented in the table below.

**TABLE 4.1: PAVEMENT DESIGN PARAMETERS AND ASSUMPTIONS**

<b>Reliability, percent</b>	70 for Residential Street 75 for Local Residential Collector 80 for Minor Residential Collector (C1) 90 for Secondary Collector Street (C2)
<b>Design Life</b>	30 Years
<b>Initial Serviceability Index</b>	4.5
<b>Terminal Serviceability Index</b>	2.5
<b>Traffic Load</b>	Residential Street: 50,000 ESALs Local Residential Collector: 200,000 ESALs Minor Residential Collector (C1): 1,200,000 ESALs Secondary Collector Street (C2): 2,000,000 ESALs
<b>Standard Deviation</b>	0.39
<b>Concrete Compressive Strength</b>	4,000 psi



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<b>Estimated Subgrade California Bearing Ratio (CBR)</b>	2.0 for high plasticity clay subgrade
<b>Estimated Subgrade Modulus of Subgrade Reaction, k in pci</b>	200 for lime/cement stabilized subgrade

Pavements supported on expansive soils will be subject to PVM previously presented (approximately 4 inches  $\pm$  ½ inch). These soil movements typically occur to some degree over the life of the pavement. Consequently, pavements can be expected to crack and require periodic maintenance. The pavement section thickness of approximately 15 to 16 inches would reduce the anticipated PVR to approximately 2 ½ inches. It is our opinion that this magnitude of PVR can be primarily resisted considering a concrete or RCC pavement section.

During the paving life, maintenance to seal surface cracks within concrete pavement and to reseal joints within concrete pavement should be undertaken to achieve the desired paving life. Perimeter drainage should be controlled to prevent or retard influx of surface water from areas surrounding the paving. Water penetration leads to paving degradation. Water penetration into subgrade materials, sometimes due to irrigation or surface water infiltration, leads to pre-mature paving degradation. Curbs should be used in conjunction with concrete paving to reduce potential for infiltration of moisture into the subgrade. Clay type compacted materials (12-25) or flowable fill should be placed on top of the base and beneath the sidewalk so that a path for moisture infiltration under the curb and into the pavement section is mitigated.

The City of Corpus Christi requires the base and subgrade to be extended beneath the curb and gutter and to 2 feet behind the Curb. In accordance with City Standard Spec 025612 (Concrete Curb and Gutter) there is a requirement for compaction behind the Curb within 48 hours of removing forms.

Material specifications, construction considerations, and thickness section requirements are presented in following sections.

The presented recommended pavement sections are based on the field and laboratory test results for the project, City of Corpus Christi pavement design practice, design assumptions presented herein and previous experience with similar projects. The project Civil Engineer should verify that the design values are appropriate for the expected traffic and design life of the project. PSI should be notified in writing if the assumptions or design parameters are incorrect or require modification.

## **4.2 PAVEMENT SECTION RECOMMENDATIONS**

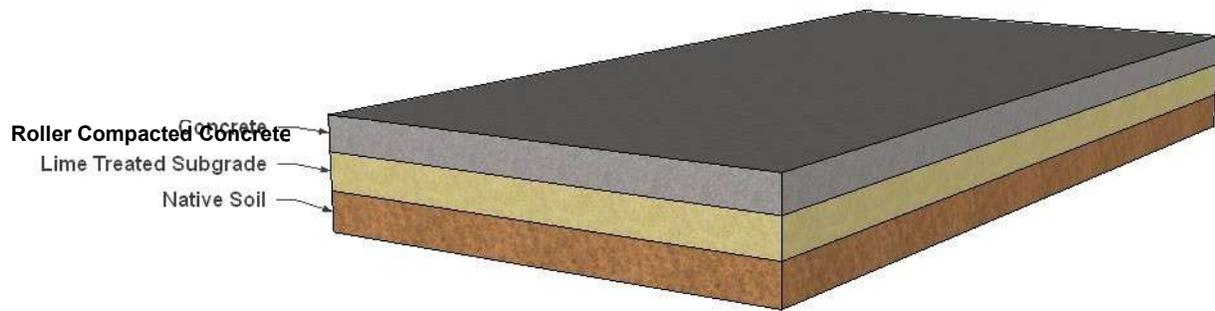
PSI anticipated that the roadways will be used primarily by typical residential traffic primarily consisting of passenger vehicles, pickup trucks, school buses, delivery vehicles, and garbage trucks. PSI is providing thickness sections based on experience with similar facilities constructed on similar soil conditions for the design traffic loading anticipated.

### **4.2.1 ROLLER COMPACTED CONCRETE PAVEMENT**

Thickness recommendations for roller compacted concrete (RCC) pavement are provided below.



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**FIGURE 4.1: ROLLER COMPACTED CONCRETE PAVEMENT TYPICAL SECTION****TABLE 4.2: ROLLER COMPACTED CONCRETE PAVEMENT DESIGN THICKNESS**

Material	Thickness (in)			
	Residential Street	Local Residential Collector	Minor Residential Collector (C1)	Secondary Collector (C2)
RCC Pavements	7.0	7.0	7.0	8.0
Lime/Cement Treated Subgrade	8	8	12	12

The AASHTO design calculation spreadsheets for these various street classifications are included in the Appendix.

#### 4.2.2 GENERAL PAVEMENT DESIGN AND CONSTRUCTION RECOMMENDATIONS

Roller compacted concrete pavement should be constructed in general accordance with TxDOT Special Specification 3016, Roller Compacted Concrete (included in the Appendix). Recommendations based upon the TxDOT specification are presented in the following table.

**TABLE 4.3: PAVEMENT PROFILE DESIGN AND CONSTRUCTION RECOMMENDATIONS**

Minimum Undercut Depth	6 inches or as needed to remove roots
Reuse Excavated Soils	Free of roots and debris and meet material requirements of intended use
Undercut Extent	2 feet beyond back of curb
Exposed Subgrade Treatment	Proof-roll with rubber-tired vehicle weighing at least 20 tons. A representative of the Geotechnical Engineer should be present during proof-roll.



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Proof-Rolled Pumping and Rutting Areas	Excavate to firmer materials and replace with compacted general or select fill under direction of a representative of the Geotechnical Engineer
General Fill	Materials free of roots, debris, and other deleterious materials with a maximum rock size of 4 inches with a CBR greater than 3. This will be confirmed by CMT.
Minimum General Fill Thickness	As required to achieve grade
Maximum General Fill Loose Lift Thickness	9 Inches
Lime/Cement Treatment	Performed in general accordance with TxDOT Item 260. Subgrade treated with lime should achieve a pH of 12.4 or greater. A lime series test should be performed at the time of construction after the pavement subgrade soils are established to determine the lime requirement. For estimating purposes, use 3% lime by dry weight. Sulfate testing should also be conducted before placement of lime to evaluate the potential for sulfate induced heave from the lime stabilization. The organic content of the subgrade should not exceed 1%. Once the min. 24 hour mellowing period for lime is complete, the lime stabilized subgrade should be cement stabilized with 5% cement per TxDOT Item 275.
RCC Mix Design	Proposed RCC Mix Design should be reviewed by City of Portland and PSI prior to construction. A trial batch is required to ensure workability and compressive strength.
Concrete Compressive Strength (28 days)	Minimum 4,000 psi
Concrete Cement and Aggregates	Cement: TxDOT Item 421. Aggregates: RCC Combined Aggregates Gradation for RCC Surface Course. Materials Passing the No. 40 Sieve should have a Plasticity Index of less than 4.



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Quality Control of RCC Pavements	<p>The RCC should be compacted to a min. dry density of at least 95% of the Modified Proctor (ASTM D-1557) maximum dry density within 2% of optimum moisture content.</p> <p>Molding compressive strength: Per ASTM C1435, 1 set of 4 of cylinders for 2@7 days, 2@28 days compression testing for every 1,500 cy of RCC with a minimum of 2 sets per day.</p>
Placement of RCC Pavements	The concrete batch plant should be within 30 minutes from point of placement. Production of RCC must be adequate to mitigate the potential of unplanned cold joints. The pavement should be placed and compacted as required by TxDOT Special Specification 3016.
Compaction Testing of RCC Pavements	ASTM C1040 - In-Place Density of Unhardened and Hardened Concrete, Including Roller Compacted Concrete, By Nuclear Methods. Single Lift and a minimum of 2 tests per day or per 500 CY. Testing should be completed within 30 minutes after rolling.
RCC Crack Control	<p>Transverse Joints: Maximum 15-foot intervals. Joints should be saw blade width to a depth of at least ¼ the pavement thickness and filled and sealed with approved joint sealants and fillers.</p> <p>Expansion and Control Joints: As required. Filled and sealed with approved joint sealants and fillers.</p>

**TABLE 4.4: COMPACTION AND TESTING RECOMMENDATIONS FOR PAVEMENT AREAS**

Location	Material	Test Method for Density Determination	Percent Compaction	Optimum Moisture Content	Testing Frequency
<b>Pavement Areas</b>	Scarified Onsite Soil (Subgrade)	ASTM D698	≥ 95%	0 to +4%	1 per 7,500 SF; min. 3 tests
	General Fill (Onsite Material)	ASTM D698	≥ 95%	0 to +4%	1 per 10,000 SF; min. 3 per lift
	RCC Pavement	ASTM D1557	≥ 95%	---	Single Lift 1 per 500 CY or
	RCC Pavement	ASTM 1170	≥ 98%		Single Lift 1 per 500 CY



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## 5.0 CONSTRUCTION CONSIDERATIONS

PSI should be retained to provide observation and testing of construction activities involved in the earthwork, pavements and related activities of this project. PSI cannot accept any responsibility for any conditions which deviate from those described in this report, nor for the performance of the pavements if not engaged to also provide construction observation and materials testing for this project. The PSI geotechnical engineer of record should be retained to provide continuing geotechnical consulting services and construction document review, even if periodic on-call testing is contracted with PSI Construction Services.

### 5.1 INITIAL SITE PREPARATION CONSIDERATIONS

#### 5.1.1 SUBGRADE PREPARATION FOR SITE WORK OUTSIDE PAVEMENT AREAS

Grade adjustments outside of the pavement areas can be made using select or general fill materials. The clean excavated onsite soils may also be reused in areas not sensitive to movement.

**TABLE 5.1: SUBGRADE PREPARATION FOR NON-STRUCTURAL - GENERAL FILL**

Minimum Undercut Depth	6 inches or as needed to remove roots, organic and/or deleterious materials
Exposed Subgrade Treatment	Proof-roll with rubber-tired vehicle weighing at least 20 tons. A representative of the Geotechnical Engineer should be present during proof-roll.
Proof-Rolled Pumping and Rutting Areas	Excavate to firmer materials and replace with compacted general or select fill under direction of a representative of the Geotechnical Engineer
General Fill Type	Clean material free of roots, debris and other deleterious material with a maximum particle size of 4 inches
Maximum General Fill Loose Lift Thickness	8 inches

**TABLE 5.2: FILL COMPACTION RECOMMENDATIONS OUTSIDE OF PAVEMENT AREAS**

Location	Material	Test Method for Density Determination	Percent Compaction	Optimum Moisture Content	Testing Frequency
Outside of Pavement Areas	General Fill	ASTM D698	≥ 95%	0 to +4%	1 per 10,000



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SF; min. 3 per lift
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## 5.2 MOISTURE SENSITIVE SOILS/WEATHER RELATED CONCERNS

The soils encountered are sensitive to disturbances caused by construction traffic and changes in moisture content. During wet weather periods, increases in the moisture content of the soil can cause significant reduction in the soil strength and support capabilities. In addition, soils which become wet may be slow to dry and thus significantly retard the progress of grading and compaction activities. It will, therefore, be advantageous to perform earthwork, foundation, and construction activities during dry weather.

## 5.3 SULFATES EVALUATION

As indicated previously, the pavement subgrade soils and imported embankment fills should be regularly screened for sulfates during construction. When soluble sulfates are detected above 500 ppm TxDOT Guidelines for Treatment of Sulfate Rich Soils shall be followed. TxDOT has identified mitigation procedures of sulfate bearing soils into three categories, Traditional Treatment, Modified Treatment, and an Alternative Treatment.

The Contractor shall follow the mitigation procedures outlined above when high sulfate concentrations (above 3000 ppm) are encountered along the alignment. The amount of mellowing time and moisture content required shall be determined during the mix design process using Tex-145-E, Part II as outlined in TxDOT Guidelines. Furthermore, the sulfate content and the treatment shall be verified in the field in accordance with project Quality Assurance Procedures and TxDOT specifications.

## 5.4 EXCAVATION OBSERVATIONS

The excavations should be observed by a representative of PSI prior to concrete placement to assess that the materials are consistent with the materials discussed in this report. This is especially important to identify the condition and acceptability of the exposed subgrades under the pavements. Soft or loose soil zones encountered at the bottom of the beam excavations should be removed to the level of competent soils as directed by the Geotechnical Engineer. Cavities formed as a result of excavation of soft or loose soil zones should be backfilled with compacted select fill or lean concrete.

After opening, excavations should be observed, and concrete placed as quickly as possible to avoid exposure to wetting and drying. Surface run-off water should be drained away from the excavations and not be allowed to pond. If excavations must be left open an extended period, they should be protected to reduce evaporation or entry of moisture.

## 5.5 DRAINAGE CONSIDERATIONS

Water should not be allowed to collect in or adjacent to excavations or on prepared subgrades within the construction area either during or after construction. Proper drainage around grade supported sidewalks and flatwork is also important to reduce potential movements. Excavated areas should be sloped toward one corner to facilitate removal of collected rainwater, groundwater, or surface runoff.



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## 5.6 EXCAVATIONS AND TRENCHES

Excavation equipment capabilities and field conditions may vary. Geologic processes are erratic and large variations can occur in small vertical and/or lateral distances. Details regarding "means and methods" to accomplish the work (such as excavation equipment and technique selection) are the sole responsibility of the project contractor. The comments contained in this report are based on small diameter borehole observations. The performance of large excavations may differ.

The Occupational Safety and Health Administration (OSHA) Safety and Health Standards (29 CFR Part 1926, Revised October 1989), require that excavations be constructed in accordance with the current OSHA guidelines. Furthermore, the State of Texas requires that detailed plans and specifications meeting OSHA standards be prepared for trench and excavation retention systems used during construction. PSI understands that these regulations are being strictly enforced, and if they are not closely followed, the owner and the contractor could be liable for substantial penalties.

The contractor is solely responsible for designing and constructing stable, temporary excavations and should shore, slope, or bench the sides of the excavations as required to maintain stability of both the excavation sides and bottom. The contractor's "responsible person", as defined in 29 CFR Part 1926, should evaluate the soil exposed in the excavations as part of the contractor's safety procedures. In no case should slope height, slope inclination, or excavation depth, including utility trench excavation depth, exceed those specified in local, state, and Federal safety regulations.

PSI is providing this information solely as a service to the client. PSI does not assume responsibility for construction site safety or the contractor's or other parties' compliance with local, state, and Federal safety or other regulations. A trench safety plan was outside the scope of this project.



## 6.0 REPORT LIMITATIONS

The recommendations submitted in this report are based on the available subsurface information obtained by PSI and design details furnished by the client for the proposed project. If there are revisions to the plans for this project, or if deviations from the subsurface conditions noted in this report are encountered during construction, PSI should be notified immediately to determine if changes in the foundation recommendations are required. If PSI is not notified of such changes, PSI will not be responsible for the impact of those changes on the project.

The Geotechnical Engineer warrants that the findings, recommendations, specifications, or professional advice contained herein have been made in accordance with generally accepted professional Geotechnical Engineering practices in the local area. No other warranties are implied or expressed. This report may not be copied without the expressed written permission of PSI.

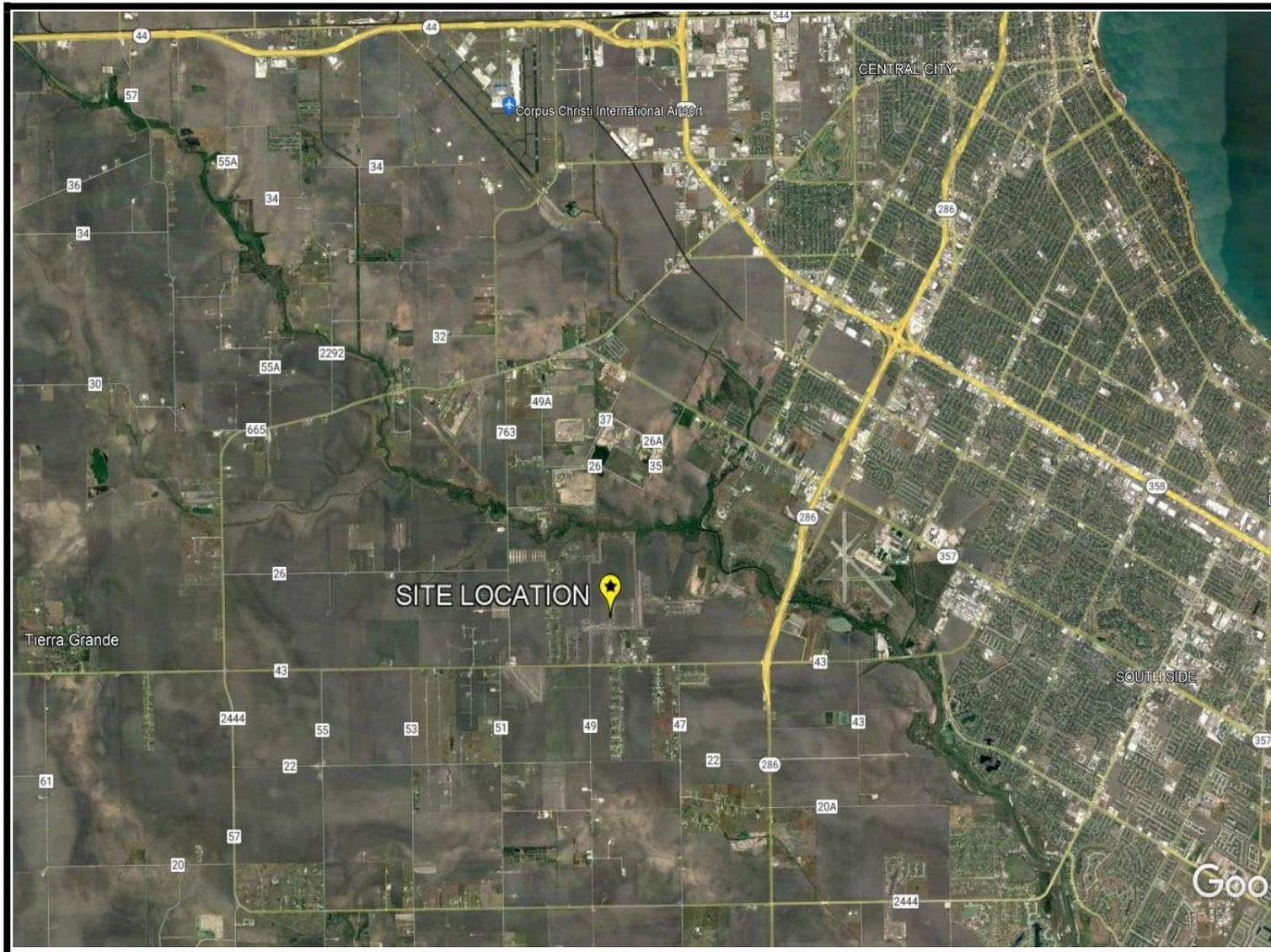
After the plans and specifications are more complete, the Geotechnical Engineer should be retained and provided the opportunity to review the final design plans and specifications to check that the engineering recommendations have been properly incorporated in the design documents. At this time, it may be necessary to submit supplementary recommendations. If PSI is not retained to perform these functions, PSI will not be responsible for the impact of those conditions on the project.

This report has been prepared for the exclusive use of MPM Homes, Inc. for specific application to the proposed King's Landing Unit 9 in Corpus Christi, Texas.



## APPENDIX





# EXHIBIT 4

NIXON M. WELSH, P.E., R.P.L.S.  
Email: NixMW1@gmail.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.  
Corpus Christi, TX 78404

9/19/2024

**KING'S LANDING UNIT 9 - REIMBURSEMENT COST ESTIMATE**  
**LADY ALEXA DR. (C3 TO RESIDENTIAL 28'BB)**

**LADY ALEXA DR.**

<b>COST OF 50' BB ASPHALT STREET (C3)</b>					
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>QUANTITY</b>	<b>UNIT</b>	<b>COST</b>	<b>TOTAL</b>
1	8" PCCP/RRCP TO LIP OF GUTTER	3283	SY	90.00	295,471.20
2	12" LIME STABILIZED SUBGRADE TO 2' BC	3549	SY	42.00	149,038.73
3	12" PORTLAND CEMENT STABILIZED SUBGRADE TO 2' BC	3549	SY	30.00	106,456.23
4	EXCAVATION TO 2' BC	3549	SY	3.00	10,645.62
					<b>\$561,611.78</b>

<b>COST OF 28' BB STREET</b>					
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>QUANTITY</b>	<b>UNIT</b>	<b>COST</b>	<b>TOTAL</b>
1	7" PCCP/RRCP TO LIP OF GUTTER	1765	SY	69.00	121,756.56
2	8" LIME STABILIZED SUBGRADE TO 2' BC	2027	SY	26.00	52,697.09
3	8" PORTLAND CEMENT STABILIZED SUBGRADE TO 2' BC	2027	SY	20.00	40,536.22
4	EXCAVATION TO 2' BC	2027	SY	3.00	6,080.43
					<b>\$221,070.30</b>

CITY PORTION EQUALS DIFFERENCE IN CONSTRUCTION COST	\$340,541.48
13% ENGINEERING, SURVEYING, & TESTING	\$44,270.39
7% CONTINGENCY	\$23,837.90
2% BOND	<u>\$6,810.83</u>
<b>TOTAL AMOUNT REIMBURSABLE</b>	<b>\$415,460.61</b>

# EXHIBIT 5

**PERFORMANCE BOND**

**BOND NO.** \_\_\_\_\_

<p><b>Developer as Principal</b> Name: Mailing address (<i>principal place of business</i>):</p>	<p><b>Surety</b> Name: Mailing address (<i>principal place of business</i>):  Physical address (<i>principal place of business</i>):</p>
<p><b>City as Obligee</b> Name: City of Corpus Christi Mailing address (<i>principal place of business</i>): City of Corpus Christi Attn: Director, Development Services Department 2406 Leopard Street Corpus Christi, Texas 78401</p>	<p>Surety is a corporation organized and existing under the laws of the state of: _____  <i>By submitting this Bond, Surety affirms its authority to do business in the State of Texas and its license to execute bonds in the State of Texas.</i></p>
<p><b>Contract</b> Title of Agreement:  For Subdivision:  Award Date of the Contract: Total Project Cost/Bond Sum:</p>	<p>Telephone (<i>main number</i>):  Telephone (<i>for notice of claim</i>):</p>
<p><b>Bond</b>  Date of Bond:  <i>(Date of Bond cannot be earlier than Award Date of the Contract)</i></p>	<p>Local Agent for Surety Name: Address:  Telephone: E-Mail Address: <b><i>The address of the surety company to which any notice of claim should be sent may be obtained from the Texas Dept. of Insurance by calling the following toll-free number: 1-800-252-3439</i></b></p>

***Surety and Developer, intending to be legally bound and obligated to Obligee do each cause this Performance Bond to be duly executed on its behalf by its authorized officer, agent or representative. The Principal and Surety bind themselves, and their heirs, administrators, executors, successors and assigns, jointly and severally to this bond. The condition of this obligation is such that if the Developer as Principal faithfully performs the Work required by the Contract, then this obligation shall be null and void; otherwise the obligation is to remain in full force and effect. The Contract between Obligee and Developer is incorporated by reference into this Statutory Performance Bond, pursuant to Chapter 2253 of the Texas Government Code. Provisions of the bond shall be pursuant to the terms and provisions of Texas Insurance Code 3503, Texas Government Code 2253, and all other applicable laws and regulations., and all liabilities on this bond shall be determined in accordance with the provisions of said Chapters to the same extent as if it were copied at length herein.***

***If Developer does not faithfully construct and complete said Work under its contract with Obligee, and Obligee invokes its contractual rights and declares Developer in default, Surety shall promptly remedy the default, and at Obligee's sole option, Surety shall:***

- 1. Within a reasonable time (but not later than 30 days after Surety receives written notice of Developer's default), with written notice to Obligee, step into and assume the role, all rights and all obligations of the defaulting Developer under the Contract. Upon assumption of this role, Surety directly shall contract with a Completion Contractor hired/engaged by Surety to complete the Work. The selection of the Completion Contractor must be approved in writing by Obligee. Surety shall be responsible for any and all costs incurred, up to the Bond Sum, to complete the Work; or***
- 2. In the event Surety fails to contract with a Completion Contractor within 90 days of receipt of Obligee's written notice of Default, Obligee may, at Obligee's sole discretion, select a Completion Contractor in accordance with Texas law to complete the Work. In this event, Surety shall pay Obligee any and all costs, up to the Bond Sum, for Obligee's selected Completion Contractor to complete the Work; or***
- 3. At Obligee's sole discretion, Surety shall pay Obligee the estimated amount for Obligee to execute a Project Completion Contract with a Completion Contractor, selected by Obligee in accordance with Texas Law, solely to complete the Work. Surety shall pay Obligee any and all costs, up to the Bond Sum, for Obligee-selected Completion Contractor to complete the Work.***

***The obligations of the parties under this Bond shall be performable in Nueces County, Texas. If legal action, such as civil litigation, is necessary in connection with this Bond, venue shall lie exclusively in Nueces County, Texas.***

<b>Developer as Principal</b> Signature: _____ Name: _____ Title: _____ Email Address: _____	<b>Surety</b> Signature: _____ Name: _____ Title: _____ Email Address: _____ <i>(Attach Power of Attorney and place surety seal below)</i>
--	---

**END OF SECTION**

# EXHIBIT 6

**PAYMENT BOND**

**BOND NO.** \_\_\_\_\_

<p><b>Developer as Principal</b> Name: Mailing address (<i>principal place of business</i>):</p>	<p><b>Surety</b> Name: Mailing address (<i>principal place of business</i>):</p>
<p><b>City</b> Name: City of Corpus Christi, Texas Mailing address (<i>principal place of business</i>): City of Corpus Christi Attn: Director, Development Services Department 2406 Leopard Street Corpus Christi, Texas 78401</p>	<p>Physical address (<i>principal place of business</i>):</p>
<p><b>Contract</b> Title of Agreement:  For Subdivision:  Award Date of the Contract: Total Project Cost/Bond Sum:</p>	<p>Surety is a corporation organized and existing under the laws of the state of: _____  <i>By submitting this Bond, Surety affirms its authority to do business in the State of Texas and its license to execute bonds in the State of Texas.</i></p>
<p><b>Bond</b> Date of Bond: (<i>Date of Bond cannot be earlier than Award Date of Contract</i>)</p>	<p>Telephone (<i>main number</i>):  Telephone (<i>for notice of claim</i>):</p>
	<p>Local Agent for Surety Name: Address:  Telephone: E-Mail Address:</p>
	<p><b><i>The address of the surety company to which any notice of claim should be sent may be obtained from the Texas Dept. of Insurance by calling the following toll-free number: 1-800-252-3439</i></b></p>

***Surety and Developer, intending to be legally bound and obligated to City, do each cause this Payment Bond to be duly executed on its behalf by its authorized officer, agent or representative. The Principal and Surety bind themselves, and their heirs, administrators, executors, successors and assigns, jointly and severally to this bond. The condition of this obligation is such that if the Developer as Principal pays all claimants providing labor or materials to him or to a Subcontractor in the prosecution of the Work required by the Contract then this obligation shall be null and void; otherwise the obligation is to remain in full force and effect. Provisions of the bond shall be pursuant to the terms and provisions of Chapter 2253 and Chapter 2269 of the Texas Government Code as amended and all liabilities on this bond shall be determined in accordance with the provisions of said Chapter to the same extent as if it were copied at length herein. This Bond is made and entered into solely for the protection of all claimants supplying labor and material in the prosecution of the Work provided for in said Contract, and all such claimants shall have a direct right of action under the Bond as provided in Chapter 2253, Texas Government Code. The Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the Work to be performed under the Contract shall in any wise affect its obligation on this Bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the Work to be performed under the Contract.***

***Venue shall lie exclusively in Nueces County, Texas for any legal action.***

<p><b>Developer as Principal</b></p> <p>Signature: _____</p> <p>Name: _____</p> <p>Title: _____</p> <p>Email Address: _____</p>	<p><b>Surety</b></p> <p>Signature: _____</p> <p>Name: _____</p> <p>Title: _____</p> <p>Email Address: _____</p> <p><i>(Attach Power of Attorney and place surety seal below)</i></p>
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**END OF SECTION**

# EXHIBIT 7



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: MPM DEVELOPMENT, LP  
 STREET: P.O. BOX 331308 CITY: CORPUS CHRISTI ZIP: 78463  
 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>Mossa Mostaghassi</u>	<u>Capital Improvement Advisory Committee</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: MOSSA MOSTAGHASI Title: GENERAL PARTNER  
 (Print)

Signature of Certifying Person:  Date: 11-14-23

## 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.