PARTICIPATION AGREEMENT
For the Subdivision of King's Landing Unit 5
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 5 ("Unit 5");

WHEREAS, as a condition of the Plat for Unit 5, the Developer is required to expand, extend, and construct Lady Alexa Drive (formerly Iron Throne Drive) and Natasha Lane 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) and Natasha Lane 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 5 per the terms of the Pilot Program.

(a) Developer agrees to construct all roadway improvements within Kings Landing Subdivision Unit 5 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 5, 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 5, the Developer must complete the Lady Alexa Drive (formerly Iron Throne Drive) and Natasha Lane 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) and Lady Natasha as 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) and Natasha Lane. 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) up to $846,528.72.

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 $846,528.72.

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) and Natasha Lane. The City shall reimburse the Developer upon completion of all Roadway Improvements within Kings Landing Unit 5 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) and Natasha Lane to ensure the completion of the project.

Section 8. MAINTENANCE BONDS.

(a) For King's Landing Unit 5, the Developer shall provide a Maintenance Bond with a term of 7 years following completion of the Roadway Improvements within King's Landing Unit 5. The maintenance bond will be renewable biennially for the first six years and annual for the last year. The surety must give 60 days' notice of their intention not to renew the bond and failure to renew the bond is not a basis for claim on the expiring instrument. If the surety declines to renew the bond, the Developer must provide an acceptable replacement maintenance bond, irrevocable letter of credit, or cash deposit before the expiration of the maintenance bond. It is a breach of this agreement if Developer fails to provide a maintenance bond, irrevocable letter of credit, or cash deposit for the full 7-year term. The maintenance bonds, irrevocable letter of credit, or cash deposit will cover 100 percent of the replacement cost for Lady Alexa Drive (formerly Iron Throne Drive) and Roadway Improvements within the King's Landing Unit 5 with traditional rebar-reinforced portland cement concrete pavement. In addition, before any reimbursement to the Developer for the construction of Lady Alexa Drive (formerly Iron Throne Drive), the developer shall submit the maintenance bond for King's Landing Unit 5 and associated power of attorney to the City Engineer in forms approved by the City Attorney, said form attached hereto and labeled as **Exhibit 7**.

(b) If a letter of credit is utilized as financial security under this Agreement, the content of the irrevocable letter of credit must be pre-approved by the City's Chief Financial Officer and City Attorney, be issued by a banking institution having a local branch office within the State of Texas, be valid for a period of 12 months from the date of issuance or longer. The Developer must ensure that the letter of credit is kept valid at all times during the maintenance period. The letter of credit must be renewed by the Developer before expiration, and proof of such renewal must be received by the City at least thirty days prior to the expiration of the then current letter of credit. If timely renewal is not received by the City, or cash in lieu thereof is not deposited as financial security with the City, the City may, after ten days prior written notice to the Developer, call (redeem) the letter of credit for failure to timely renew. If the letter of credit is called for failure to timely renew, the funds will be held in an account as if cash had been posted by the Developer for this Agreement in lieu of the letter of credit. The City shall not be liable for interest on any letter of credit so called nor shall the City be liable to the Developer for the accrual or payment of interest on any type of financial security posted by the Developer pursuant to this Agreement.

(c) If financial security is provided and the Developer fails to maintain and repair streets as stated in this Agreement, the Developer agrees that the City, after notice in writing to the Developer, may transfer the cash funds received or call (redeem) the letter of credit and transfer the funds (if the financial security provided was in the form of a letter of credit) to the appropriate City account. If the maintenance and repair cost exceed the irrevocable letter of credit or cash deposit, the Developer shall reimburse the City for

any additional costs related to maintenance and repair within 30 days after the City invoices.

Section 9. 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 5 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 60 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 ¼-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 10. 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 60 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 ¼-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 o0f 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 11. 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 60 days after notice, correct such defects and/or faults to the satisfaction of the City.

Section 12. INSURANCE. Insurance requirements are as stated in **Exhibit 8**, the content incorporated by reference into this Agreement as if fully set out here in its entirety.
Before performance can begin under this Agreement, the Developer must deliver a certificate of insurance ("COI"), as proof of the required insurance coverages, to the City's Risk Manager and Development Services Department. Additionally, the COI must state that the City will be given at least 30 days' advance written notice of cancellation, material change in coverage, or intent not to renew any of the policies. The City must be named as an additional insured. The City Attorney must be given copies of all insurance policies within 10 days of the written request.

Section 13. 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 14. 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 60 days of that plan unless the Developer and its approved contractor are delayed by force majeure or other events beyond its control.

Section 15. 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 16. 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 17. 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 18. 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 19. 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:	If to the Developer:
City of Corpus Christi	MPM Development, L.P.

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

Attn: Moses Mostaghasi
PO Box 331308
Corpus Christi, Tx 78401

with a copy to:

City of Corpus Christi
Attn: City Engineer
1201 Leopard Street / 78401
P. O. Box 9277 / 78469-9277
Corpus Christi, Texas

(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 20. 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 21. 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 9**.

Section 22. 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. 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 23. 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 24. 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 25. COOPERATION. The Parties agree to cooperate at all times in good faith to effectuate the purposes and intent of this Agreement.

Section 26. 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 27. AMENDMENTS. Any amendment of this Agreement must be in writing and shall be effective if signed by the authorized representatives of both Parties.

Section 28. 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 29. AUTHORITY. Each Party represents and warrants that it has the full right, power, and authority to execute this Agreement.

Section 30. 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 31. 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 32. 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 33. 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 34. 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 35. 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 5
Exhibit 2 – Public Improvement Plans – King Landing Unit 5
Exhibit 3 – Geotechnical Report (Specific to Kings Landing Unit 5)
Exhibit 4 – Cost Estimate
Exhibit 5 – Performance Bond
Exhibit 6 – Payment Bond
Exhibit 7 – Maintenance Bond
Exhibit 8 – Insurance
Exhibit 9 – 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 Mostaghasi
General Partner

Date

STATE OF TEXAS §
§
COUNTY OF NUECES §

This instrument was acknowledged before me on _____, 2024, by Moses Mostaghasi, General Partner of MPM Development, LP, on behalf of said company.

Notary Public's Signature

EXECUTED IN ONE ORIGINAL this _____ day of _____, 20____.

ATTEST:

_____
Rebecca Huerta
City Secretary

CITY OF CORPUS CHRISTI

_____
Albert J. Raymond III
Director of Development Services

APPROVED AS TO LEGAL FORM:

_____
Buck Brice (Date)
Deputy City Attorney
For City Attorney

EXHIBIT 1

PLAT OF
KING'S LANDING UNIT 5

A 27.311 ACRE TRACT OF LAND, MORE OR LESS, A PORTION OF A 293.041 ACRE TRACT, DOC. NO. 2019035726, O.R. AND A PORTION OF A 130.570 ACRE TRACT, DOC. NO. 2019051482, O.R., SAID 27.311 ACRE TRACT BEING A PORTION OF SURVEY 135 ABSTRACT 581, CERTIFICATE 29 AND SURVEY 139, ABSTRACT 577, CERTIFICATE 33, SAID SURVEYS NAMED CUADRILLA IRRIGATION COMPANY, NUECES CO., TX

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: 07/07/23
COMP. NO.: PLAT-SH1
JOB NO.: 23007
SCALE: 1" = 50'
PLOT SCALE: SAME
SHEET 1 OF 3

STATE OF TEXAS §

COUNTY OF NUECES §

WE, MPM DEVELOPMENT, LP, HEREBY CERTIFY THAT WE ARE THE OWNERS OF THE LAND EMBRACED WITHIN THE BOUNDARIES OF THE FOREGOING PLAT, SUBJECT TO A LIEN IN FAVOR OF _____, THAT WE HAVE HAD SAID LAND SURVEYED AND SUBDIVIDED AS SHOWN, THAT STREETS AND EASEMENTS AS SHOWN HAVE BEEN HERETOFORE DEDICATED, OR IF NOT PREVIOUSLY DEDICATED, ARE HEREBY DEDICATED TO THE PUBLIC USE FOREVER AND THAT THIS PLAT WAS MADE FOR THE PURPOSES OF DESCRIPTION AND DEDICATION.

THIS THE _____ DAY OF _____, 20____.

_____
MOSSA MOSTAGHASI, GENERAL PARTNER

STATE OF TEXAS §

COUNTY OF NUECES §

THIS INSTRUMENT WAS ACKNOWLEDGED BEFORE ME BY MOSSA MOSTAGHASI, GENERAL PARTNER OF MPM DEVELOPMENT, LP.

THIS THE _____ DAY OF _____, 20____.

_____
NOTARY PUBLIC, IN AND FOR THE
STATE OF TEXAS

STATE OF TEXAS §

COUNTY OF NUECES §

I, NIXON M. WELSH, REGISTERED PROFESSIONAL LAND SURVEYOR OF BASS & WELSH ENGINEERING, HEREBY CERTIFY THAT THE FOREGOING PLAT WAS PREPARED FROM A SURVEY MADE ON THE GROUND UNDER MY DIRECTION.

THIS THE _____ DAY OF _____, 20____.

_____
NIXON M. WELSH, R.P.L.S.

STATE OF TEXAS §

COUNTY OF NUECES §

WE, _____(NAME), HEREBY CERTIFY THAT WE ARE THE HOLDERS OF A LIEN ON THE LAND EMBRACED WITHIN THE BOUNDARIES OF THE FOREGOING MAP AND THAT WE APPROVE THE SUBDIVISION AND DEDICATION FOR THE PURPOSES AND CONSIDERATIONS THEREIN EXPRESSED.

BY: _____

TITLE: _____

STATE OF TEXAS §

COUNTY OF NUECES §

THIS INSTRUMENT WAS ACKNOWLEDGED BEFORE ME BY _____ (NAME),

_____ (TITLE), OF _____.

THIS THE _____ DAY OF _____, 20____.

_____
NOTARY PUBLIC, IN AND FOR
THE STATE OF TEXAS

LEGEND:

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

STATE OF TEXAS §

COUNTY OF NUECES §

THE FINAL PLAT OF THE HEREIN DESCRIBED PROPERTY WAS APPROVED BY THE DEPARTMENT OF DEVELOPMENT SERVICES OF THE CITY OF CORPUS CHRISTI, TEXAS

_____
BRIA A. WHITMIRE, P.E., CFM, CPM
DEVELOPMENT SERVICES ENGINEER

_____
DATE

STATE OF TEXAS §

COUNTY OF NUECES §

THE FINAL PLAT OF THE HEREIN DESCRIBED PROPERTY WAS APPROVED ON BEHALF OF THE CITY OF CORPUS CHRISTI, TEXAS BY THE PLANNING COMMISSION.

THIS THE _____ DAY OF _____, 20____.

_____
KAMRAN ZARGHOUNI
CHAIRMAN

_____
AL RAYMOND, III, AIA
SECRETARY

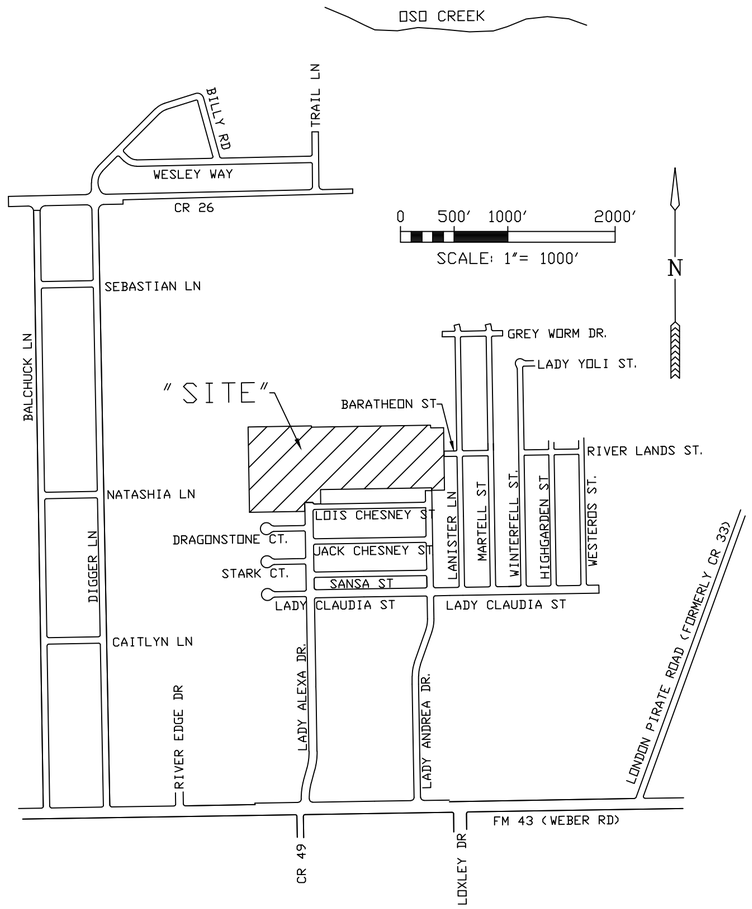
STATE OF TEXAS §

COUNTY OF NUECES §

I, KARA SANDS, CLERK OF THE COUNTY COURT IN AND FOR SAID COUNTY, DO HEREBY CERTIFY THAT THE FOREGOING INSTRUMENT DATED THE _____ DAY OF_____, 20_____ WITH ITS CERTIFICATE OF AUTHENTICATION, WAS FILED FOR RECORD IN MY OFFICE THE _____ DAY OF _____, 20_____ AT _____ O'CLOCK _____,M., AND DULY RECORDED THE _____ DAY OF _____, 20_____ AT _____ O'CLOCK _____,M. IN THE MAP RECORDS OF SAID COUNTY IN VOLUME ___PAGE ____INSTRUMENT NUMBER _____, WITNESS MY HAND AND SEAL OF THE COUNTY COURT IN AND FOR SAID COUNTY AT OFFICE IN CORPUS CHRISTI, NUECES COUNTY, TEXAS, THE DAY AND YEAR LAST WRITTEN.

BY: _____
DEPUTY

_____
KARA SANDS, CLERK
COUNTY COURT
NUECES COUNTY, TEXAS



LOCATION MAP
1"=1000'

NOTES

1. SET 5/8" IRON RODS WHERE POSSIBLE AT ALL LOT CORNERS; WHERE NOT POSSIBLE TO SET 5/8" IRON RODS, SET NAILS OR CHISEL MARKS AT LOT CORNERS IF POSSIBLE. ALL IRON RODS SET CONTAIN PLASTIC CAPS LABELED BASS AND WELSH ENGINEERING.
2. THE RECEIVING WATER FOR THE STORM WATER RUNOFF FROM THIS PROPERTY IS THE OSO CREEK. THE TCEQ HAS NOT CLASSIFIED THE AQUATIC LIFE USE FOR THE OSO CREEK, BUT IT IS RECOGNIZED AS AN ENVIRONMENTALLY SENSITIVE AREA. THE OSO CREEK FLOWS DIRECTLY INTO THE OSO BAY. THE TCEQ HAS CLASSIFIED THE AQUATIC LIFE USE FOR THE OSO BAY AS "EXCEPTIONAL" AND "OYSTER WATERS" AND CATEGORIZED THE RECEIVING WATER AS "CONTACT RECREATION" USE.
3. THE BASIS OF BEARINGS IS THE STATE OF TEXAS LAMBERT GRID, SOUTH ZONE, NAD 1983.
4. THE ENTIRE SUBJECT SITE IS IN FEMA ZONE X, OTHER AREAS, MAP NO. 48355C0505G (10/13/2022).
5. LEGAL DESCRIPTION: A 27.311 ACRE TRACT OF LAND, MORE OR LESS, A PORTION OF A 293.041 ACRE TRACT, DOC. NO. 2019035726, O.R. AND A PORTION OF A 130.570 ACRE TRACT, DOC. NO. 2019051482, O.R., SAID 27.311 ACRE TRACT BEING A PORTION OF SURVEY 135 ABSTRACT 581, CERTIFICATE 29 AND SURVEY 139, ABSTRACT 577, CERTIFICATE 33, SAID SURVEYS NAMED CUADRILLA IRRIGATION COMPANY, NUECES CO., TX
6. THE TOTAL PLATTED AREA CONTAINS 27.311 ACRES OF LAND INCLUDING STREET DEDICATIONS.
7. THE YARD REQUIREMENT, AS DEPICTED, IS A REQUIREMENT OF THE UNIFIED DEVELOPMENT CODE AND IS SUBJECT TO CHANGE AS THE ZONING MAY CHANGE.
5. ALL DRIVEWAYS TO RESIDENTIAL AND COLLECTOR PUBLIC STREETS WITHIN THE SUBDIVISION SHALL CONFORM TO ACCESS MANAGEMENT STANDARDS OUTLINED IN ARTICLE 7 OF THE UDC.

CURVE DATA

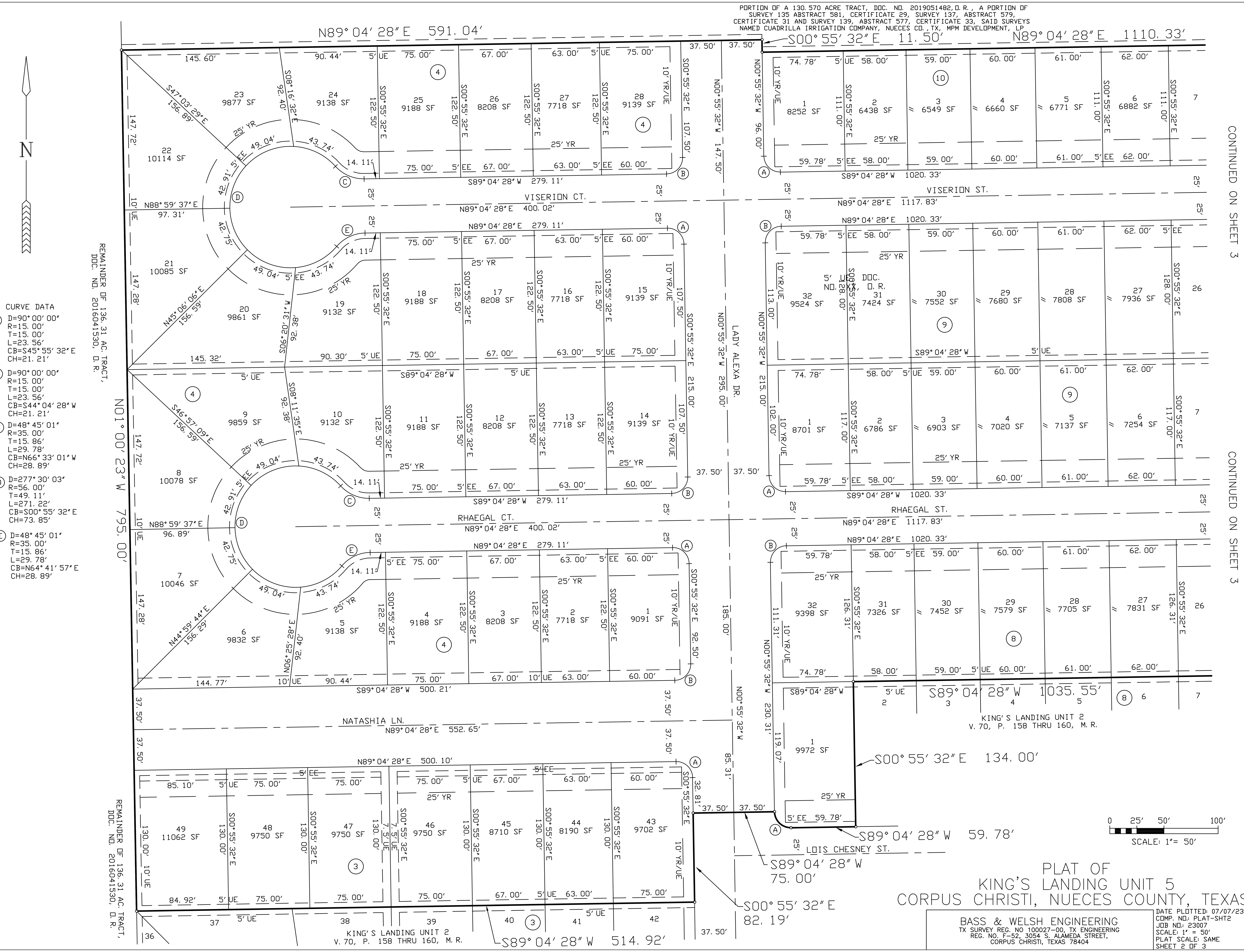
(A) D=90°00'00"
R=15.00'
T=15.00'
L=23.56'
CB=S45°55'32"E
CH=21.21'

(B) D=90°00'00"
R=15.00'
T=15.00'
L=23.56'
CB=S44°04'28"W
CH=21.21'

(C) D=48°45'01"
R=35.00'
T=15.86'
L=29.78'
CB=N66°33'01"W
CH=28.89'

(D) D=277°30'03"
R=56.00'
T=49.11'
L=271.22'
CB=S00°55'32"E
CH=73.85'

(E) D=48°45'01"
R=35.00'
T=15.86'
L=29.78'
CB=N64°41'57"E
CH=28.89'



PLAT OF KING'S LANDING UNIT 5
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: 07/07/23
COMP. NO.: PLAT-SHT2
JOB NO.: 23007
SCALE: 1" = 50'
PLAT SCALE: SAME
SHEET 2 OF 3

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

PORTION OF A 293.041 ACRE TRACT, DOC. NO. 2019035726, O.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

N89° 04' 28" E 1110.33'

5' UE, DOC. NO. XX, O.R.

S00° 55' 32" E 24.37'

N89° 04' 28" E 120.00'

CONTINUED FROM SHEET 2

CONTINUED FROM SHEET 2

N

VISERION ST.

BARATHEON ST.

RHAEGAL ST.

LADY ANDREA DR.

S00° 55' 32" E 582.15'

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

KING'S LANDING UNIT 1 V. 69, P. 785 THRU 791, M.R.

KING'S LANDING UNIT 2 V. 70, P. 158 THRU 160, 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'

(B) D=90° 00' 00"
R=15.00'
T=15.00'
L=23.56'
CB=S44° 04' 28" W
CH=21.21'

S89° 04' 28" W 1020.33'

N89° 04' 28" E 1117.83'

N89° 04' 28" E 1020.33'

S89° 04' 28" W 1085.55'

N00° 55' 32" W 24.21'

S89° 04' 28" W 120.00'

0 25' 50' 100'

SCALE: 1"= 50'

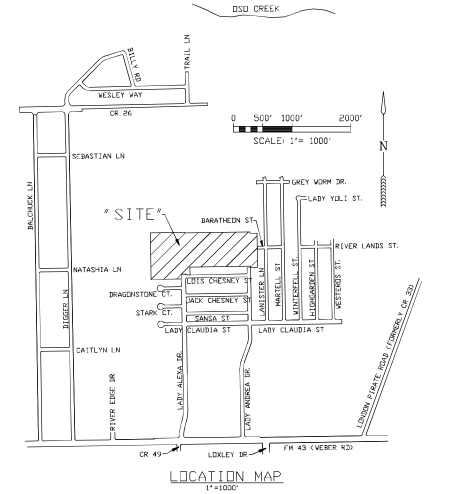
PLAT OF KING'S LANDING UNIT 5 CORPUS CHRISTI, NUECES COUNTY, TEXAS

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: 07/07/23
COMP. NO.: PLAT-SHT3
JOB NO.: 23007
SCALE: 1" = 50'
PLAT SCALE: SAME
SHEET 3 OF 3

EXHIBIT 2

PUBLIC IMPROVEMENTS TO KING'S LANDING UNIT 5, CORPUS CHRISTI, NUECES COUNTY, TEXAS



LOCATION MAP
1"=1000'

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 SLEEVS 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

1. THE OUTER 2' OF ALL STREET PAVING AND WALKS ARE SHOWN POCHED (SHADED). EXISTING C&G AND/OR PAVING SHOWN WITH DASHED LINES (TYPICAL).
2. 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, DELETERIOUS SUBSTANCES, APPROPRIATE TREES, ETC., CONTRACTOR MAY BEGIN EARTHWORK CUT AND FILL OPERATIONS FOR LOT GRADING AND EARTHWORK ASSOCIATED WITH STREETS.
3. 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.
4. 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.
5. REINFORCED CONCRETE STORM SEWER PIPE SHALL BE CLASS III, STANDARD STRENGTH OR CONTRACTOR MAY SUBSTITUTE HDPP PIPE THROUGHOUT PROJECT. STORM SEWER MANHOLES SHALL BE PRE-CAST CONCRETE.
6. ALL STREET, SANITARY SEWER AND STORM SEWER STATIONING IS MEASURED ALONG THE CENTERLINES OF STREETS.
7. LINEARLY INTERPOLATE BETWEEN GRADES AS SHOWN TO DETERMINE A PROPOSED GRADE AT ANY PARTICULAR POINT.
8. CURB ALIGNMENT SHALL PARALLEL ADJACENT RIGHT-OF-WAY LINES EXCEPT WHERE INDICATED OTHERWISE.
9. 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.
10. 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).
11. CONTRACTOR SHALL MEET ALL GOVERNMENTAL ONE-CALL AND OTHER REGULATIONS WITH REGARD TO EXISTING UNDERGROUND FACILITIES AND PIPELINES.
12. ADA CURB RAMPS – THE CITY NO LONGER ALOWS THE PAVER OPTION AT CURB RAMPS. THE CONTRACTOR SHALL INSTALL COMPOSITE TACTILE WARNING PANELS AT ALL ADA CURB RAMPS.
13. THE ENTIRE SUBJECT SITE IS IN FEMA ZONE X, OTHER AREAS, MAP NO. 48355C0505G (10/13/2022).
14. PAY FOR TIED SIDEWALK AS "SIDEWALK" (NO SEPARATE PAY FOR TIED SIDEWALK).

SANITARY SEWER NOTES

1. SET ENDS OF SERVICE LINES MID 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/
3. 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.
3. ALL GRAVITY SEWER PIPES 8" THRU 18" SHALL BE PVC, SDR 26 AND SHALL BE BEDDED IN SAND WITH PI LESS THAN 10 TO 6" 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.
4. NO SEPARATE PAY FOR ANY DE-WATERING OR SPECIAL EMBEDMENT REQUIRED FOR 8", 10" & 12" SANITARY SEWER PIPES AND MANHOLES.
5. THE WORDS SANITARY SEWER SHALL MEAN WASTE WATER AND VICE VERSA.
6. WW USE 109 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	RCC	ROLLER COMPACTED CONCRETE
CL	CENTERLINE	7" RCCP	ROLLER COMPACTED CONCRETE PAVING 7" THICK
CW	R/C CONCRETE WALK	RCP	REINFORCED CONCRETE PIPE
DCSC	DEEP CUT SERVICE CONNECTION (SAN. SEWER)	RT	RIGHT
→	DRAINAGE DIRECTION OR DIMENSION ARROW	S = 0.3%	LONGITUDINAL SLOPE
(13.45)	FINISHED GROUND ELEVATION	SS	SANITARY SEWER
●	FIRE HYDRANT SYMBOL	SSF	SEDIMENTATION SCREENING FENCE ALSO KNOWN AS SILT FENCE OR TEMPORARY SEDIMENT CONTROL FENCE
FL	FLOW LINE OR INVERT ELEVATION	SSMH	SANITARY SEWER MANHOLE
FW	FINISHED WALK ELEVATION	SSS	SANITARY SEWER SERVICE (PIPE & FITTINGS, 4" AND 6")
GB	GRADE BREAK (CHANGE OF DRAINAGE DIRECTION OR SLOPE)	STPS	STOP SIGN
HDPP	HIGH DENSITY POLYETHELENE PIPE	TC	TOP OF CURB
LT	LEFT	TSW	TIED SIDEWALK
MBC	MULTIPLE BOX CULVERT (R/C)	⧗	WATER VALVE SYMBOL
MH	MANHOLE		
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)		
R/C	REINFORCED PORTLAND CEMENT CONCRETE	WSS	SINGLE WATER SERVICE (1" PIPE, FITTINGS, CORPORATION STOP AND ANGLE METER VALVE)
7" PCCP	PORTLAND CEMENT CONCRETE PAVING, CAST IN PLACE, STEEL REINFORCED, 7" THICK		

TRAFFIC CONTROL AND STREET LIGHT FEES

1. 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.
2. 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.).
3. STREET LIGHT FEES SHALL BE PAID BY THE DEVELOPER TO THE CITY (NOT BY CONTRACTOR)

WATER NOTES

1. EXISTING WATER LINES ARE SHOWN DASHED/LIGHT. PROPOSED WATER LINES ARE SHOWN CONTINUOUS/HEAVY IN PLAN AND DOTTED/HEAVY IN PROFILE.
2. 2" TEMPORARY WATER LINES SHALL BE SCHEDULE 40 PVC SOLVENT WELDED JOINTS. NO SEPARATE PAY FOR 2" FITTINGS NOR 2" X 6" CONNECTOR STRAPS.
3. PROVIDE CAST IRON BOXES AND PVC PIPE EXTENSIONS WITH CONCRETE AT GATE VALVES PURSUANT TO CITY STANDARD WATER DETAILS.
4. 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.
5. CONSTRUCT WATER SERVICE LINES AND CONNECTIONS PURSUANT TO THE NOTES AND DETAILS AS SHOWN IN CITY STANDARD WATER DETAILS.
6. ALL WATER MAINS 6" AND LARGER SHALL BE DR18 PVC WITH DUCTILE IRON MECHANICAL JOINT FITTINGS AND SHALL BE BEDDED IN (ENCASED IN) SAND TO 6" ALL AROUND PIPE.
7. ALL WATER SERVICE LINES SHALL BE 1" DIAMETER FOR SINGLE AND DOUBLE WATER SERVICES.
8. ALL PUBLIC WATER LINE CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH REQUIREMENTS SET FORTH BY THE CITY OF CORPUS CHRISTI INDRASTRUCTURE DESIGN MANUAL. FIRE HYDRANTS WILL BE LOCKED ONTO VALVE BY USE OF RETAINER GLANDS ON DIP.
10. CONTRACTOR SHALL VERIFY ADEQUATE JOINT RESTRAINT FOR ALL PIPE, FITTINGS AND VALVES PRIOR TO ANY WATER CONSTRUCTION.
11. WATER USE 3 GPM/LOT X 109 LOTS X 60 MIN/HR X 24 HR/DAY = 0.47 MGD.
12. LINE LOCATOR TAPE AND TRACER WIRE ARE TO BE INSTALLED WITH PROPOSED WATER LINES PER IDM 4.06K.A–B.

STORM WATER POLLUTION PREVENTION

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

CALL BEFORE YOU DIG!

Texas811 Know what's below. 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

1. 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.
2. 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.
3. 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.
4. 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.
5. ANY WORK AFFECTING TXDOT RIGHT-OF-WAY REQUIRES REVIEW, APPROVAL AND/OR PERMIT AS APPLICABLE.
6. 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.
7. 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.
8. APPROVAL FOR PUBLIC IMPROVEMENTS ASSOCIATED WITH A BUILDING PERMIT SHALL EXPIRE IF THE BUILDING PERMIT EXPIRES. A BUILDING PERMIT EXPIRES 180 DAYS FROM THE DATE OF ISSUANCE UNLESS AN EXTENSION HAS BEEN GRANTED BY BUILDING INSPECTIONS.
9. 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.
10. 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.
11. 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.
12. 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.
13. 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.
14. 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 IDM, CODE OF ORDINANCES COCC, 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

DEVELOPER:

MOSES MOSTAGHASI
P.O. BOX 331308, CORPUS CHRISTI, TEXAS 78463
774–3832

Bria A. Whitmire, P.E., CFM, CPM
Digitally signed by Bria A. Whitmire, P.E., CFM, CPM
Date: 2023.12.04 17:01:16 -06'00'

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

STATE OF TEXAS
NIXON M. WELSH
36240
REGISTERED PROFESSIONAL ENGINEER

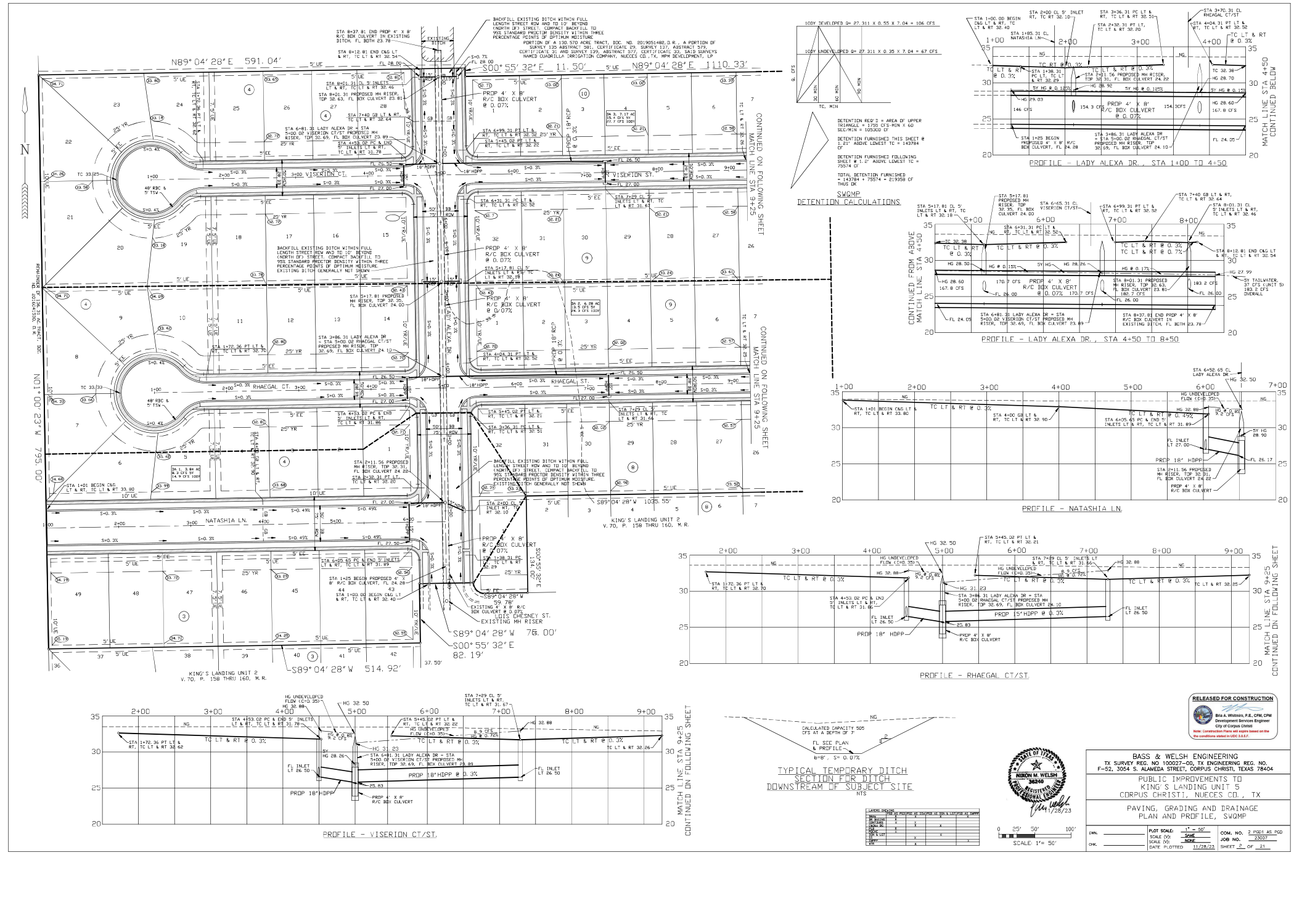
[illegible]
11/28/23

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

PUBLIC IMPROVEMENTS TO
KING'S LANDING UNIT 5
CORPUS CHRISTI, NUECES CO., TX

COVER SHEET AND MISCELLANEOUS INFORMATION

DWN.		PLOT SCALE:	1" = 50'	COM. NO.	CS.DWG
		SCALE (H):	AS SHOWN	JOB NO.	23007
		SCALE (V):	AS SHOWN		
CHK.	N. WELSH	DATE PLOTTED	11/28/23	SHEET 1 OF 21	

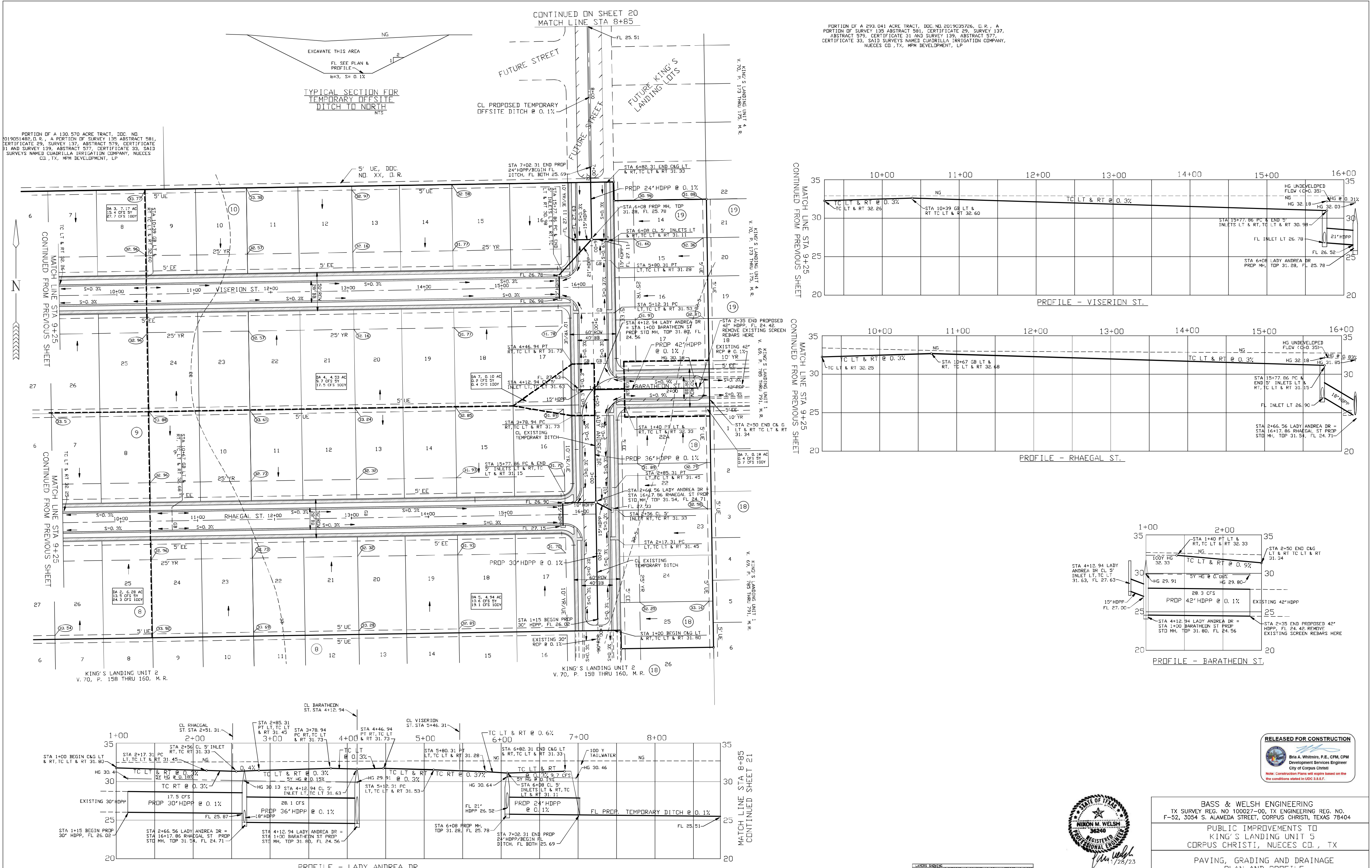


BASS & WELSH ENGINEERING
TX SURVEY REG. NO 100027-00, TX ENGINEERING REG. NO. F-52, 3054 S. ALAMEDA STREET, CORPUS CHRISTI, TEXAS 78404

PUBLIC IMPROVEMENTS TO
KING'S LANDING UNIT 5
CORPUS CHRISTI, NUECES CO., TX

PAVING, GRADING AND DRAINAGE
PLAN AND PROFILE, SWQMP

DWN. ____
CHK. ____
PLOT SCALE: 1" = 50'
SCALE (V): SAME
SCALE (V): NONE
DATE PLOTTED 11/28/23
COM. NO. 2 PGD1 AS PGD
JOB NO. 23007
SHEET 2 OF 21

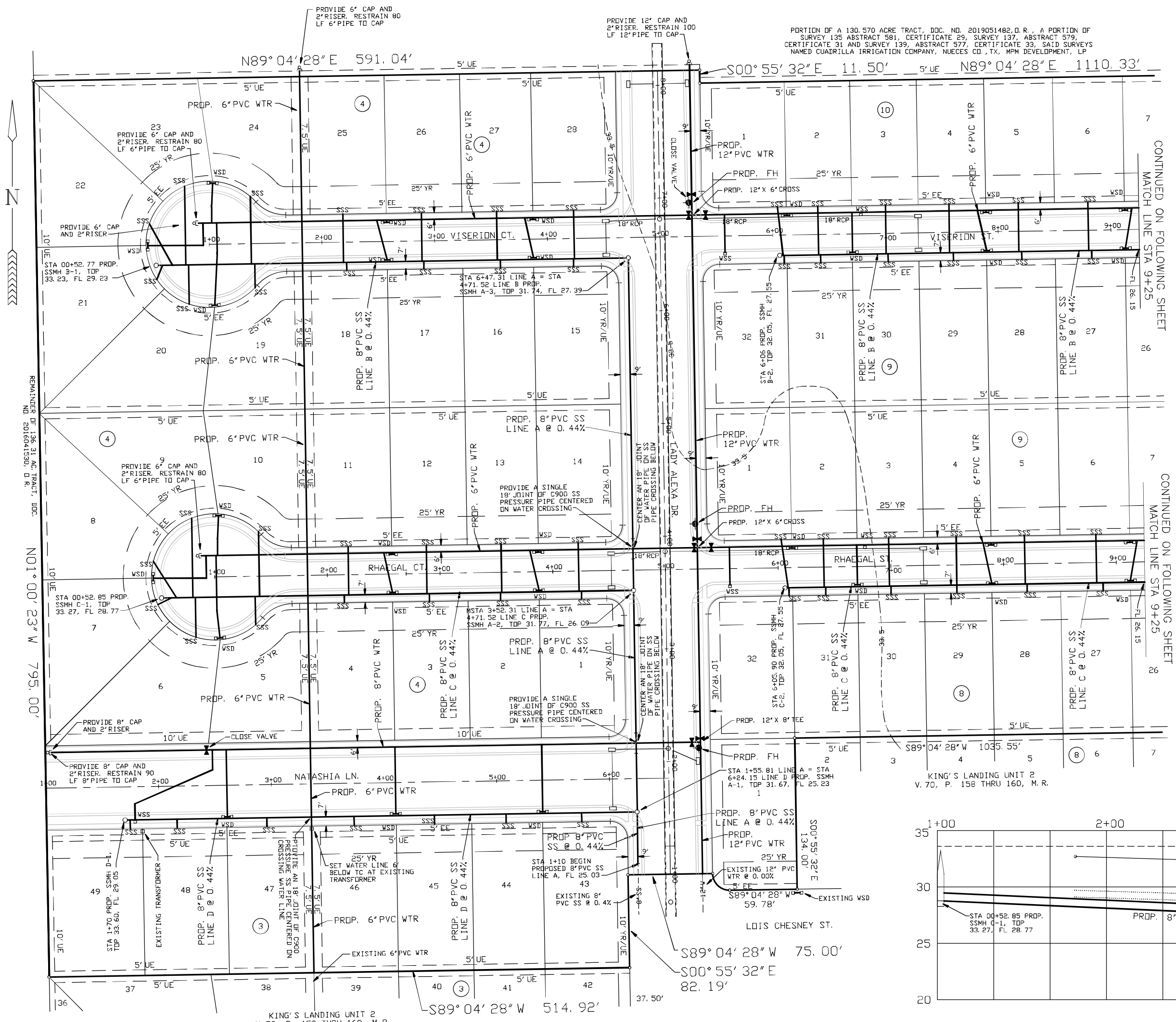


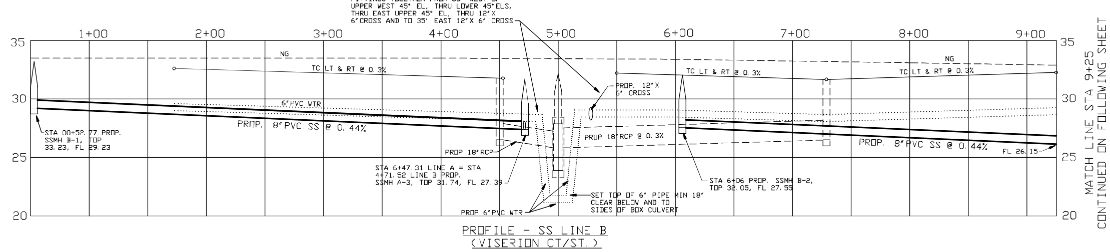
BASS & WELSH ENGINEERING
TX SURVEY REG. NO 100027-00, TX ENGINEERING REG. NO.
F-52, 3054 S. ALAMEDA STREET, CORPUS CHRISTI, TEXAS 78404

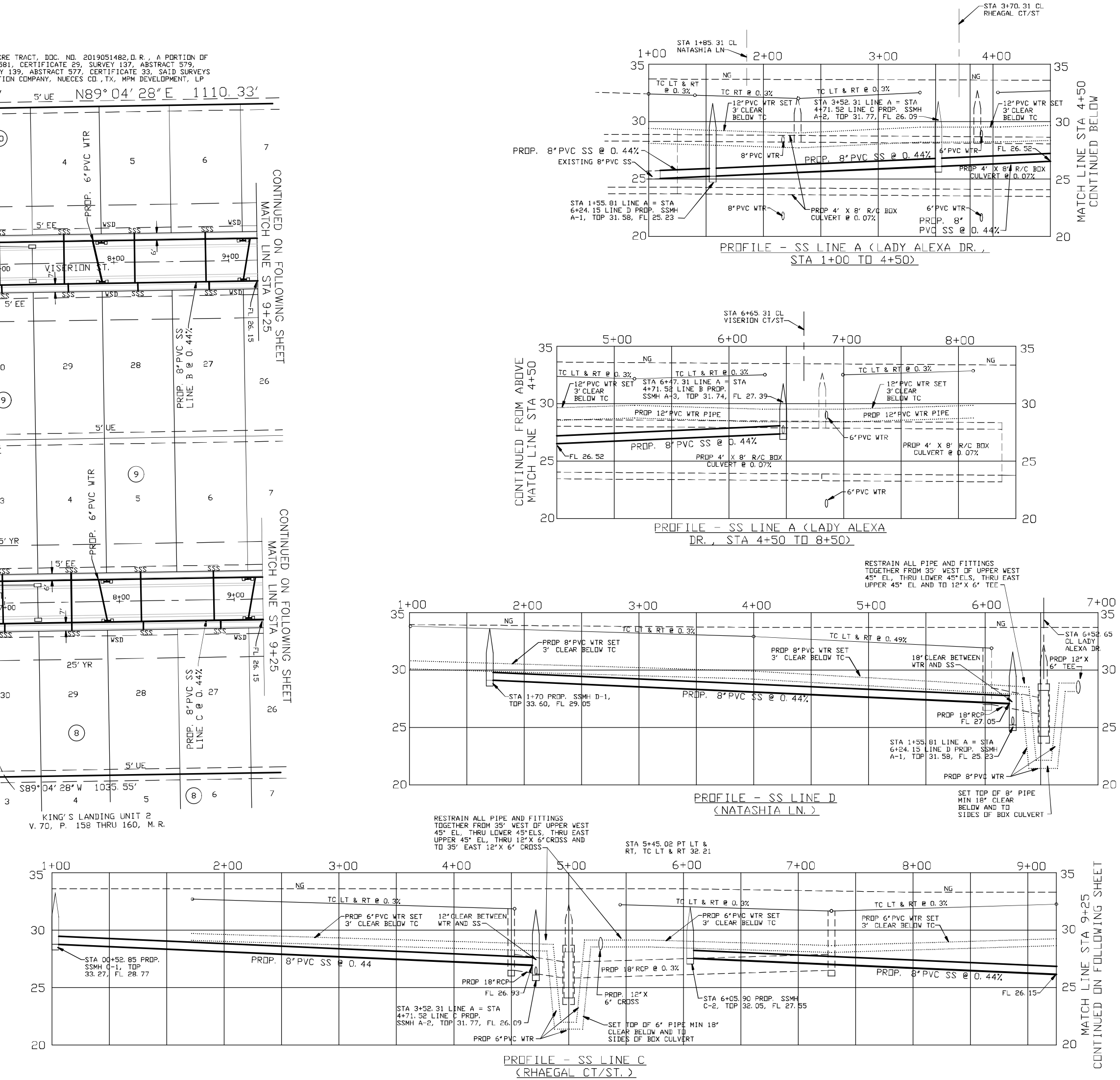
PUBLIC IMPROVEMENTS TO
KING'S LANDING UNIT 5
CORPUS CHRISTI, NUECES CO., TX

PAVING, GRADING AND DRAINAGE
PLAN AND PROFILE

DWN.	PLOT SCALE: 1" = 50'	COM. NO.	3_PGD2_AS_PCD
CHK.	SCALE (V): SAME	JOB NO.	23007
	SCALE (V): NONE		
	DATE PLOTTED 11/28/23	SHEET 3 OF 21	







RESTRAINT FOR WATER PIPES AND FITTINGS

1. 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.

2. PIPE TO FITTING JOINT RESTRAINT - IF CALLED FOR IN PLANS USE EBBA IRON EBAA MEGALUG MECHANICAL JOINT RESTRAINTS.

3. 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.

RELEASED FOR CONSTRUCTION

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

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

STATE OF TEXAS
NIXON M. WELSH
36240
REGISTERED PROFESSIONAL ENGINEER
11/28/23

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

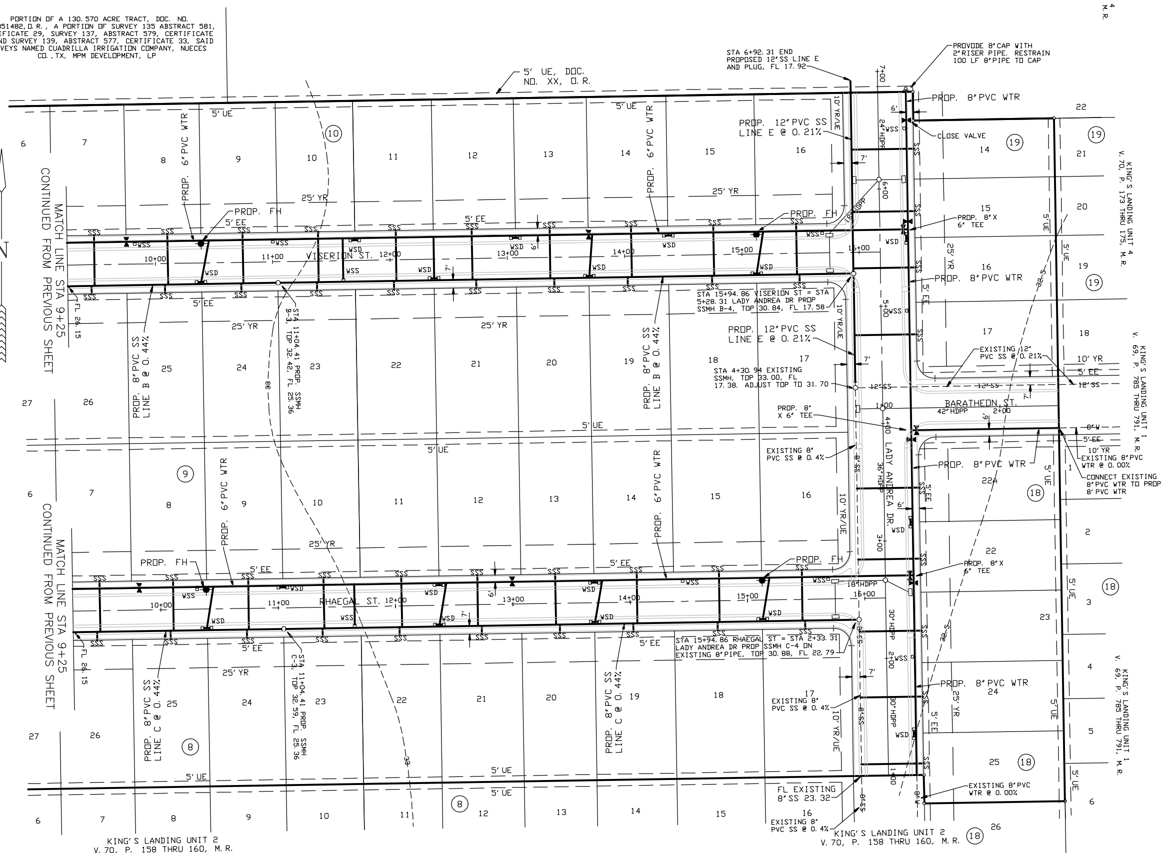
PUBLIC IMPROVEMENTS TO
KING'S LANDING UNIT 5
CORPUS CHRISTI, NUECES CO., TX

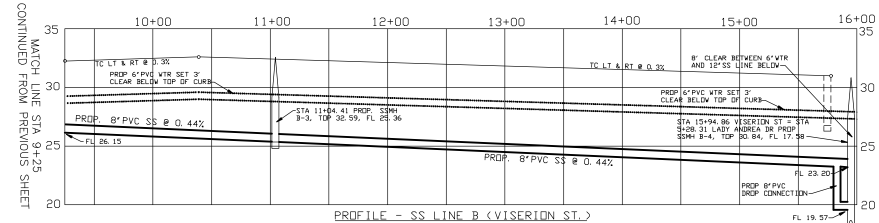
SANITARY SEWER AND WATER PLAN AND PROFILE

DWN.	PLOT SCALE: 1" = 50'	COM. NO. 4 PGD1 AS SSW	
CHK.	SCALE (V): SAME	JOB NO. 23007	
	SCALE (V): NONE		
	DATE PLOTTED 11/28/23	SHEET 4 OF 21	

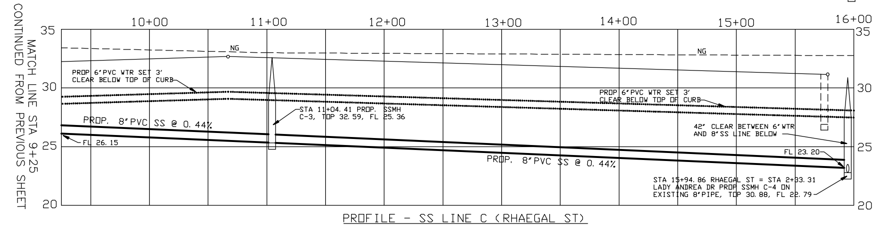
PORTION OF A 293.041 ACRE TRACT, DOC.NO.2019035726, O.R., A PORTION OF SURVEY 135 ABSTRACT 581, CERTIFICATE 29, SURVEY 137, ABSTRACT 579, CERTIFICATE 31 AND SURVEY 139, ABSTRACT 577, CERTIFICATE 33, SAID SURVEYS NAMED CUADRILLA IRRIGATION COMPANY, NUECES CO., TX, MPM DEVELOPMENT, LP

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





PROFILE - SS LINE B (VISERION ST.)



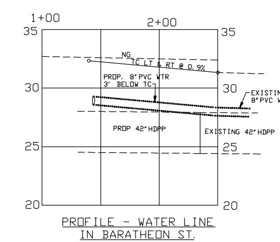
PROFILE - SS LINE C (RHAEGAL ST)

RESTRAINT FOR WATER PIPES AND FITTINGS

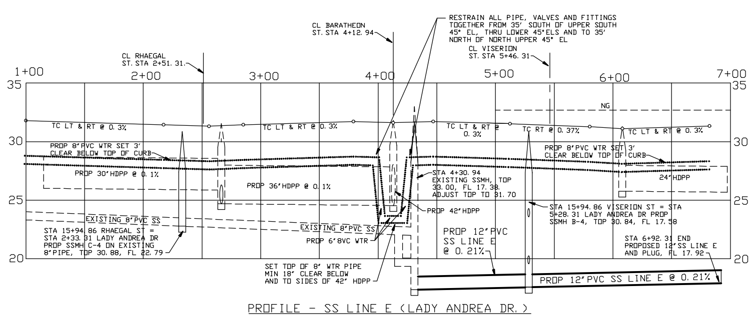
1. PIPE TO PIPE JOINT RESTRAINT - IF CALLED FOR IN PLANS USE EBBA IRON SERIES 1900 SPLIT SERRATED HARNESS TO CONNECT SPIGGOT TO BELL FOR LENGTHS SPECIFIED.

2. PIPE TO FITTING JOINT RESTRAINT - IF CALLED FOR IN PLANS USE EBBA IRON EBAA MEGALUG MECHANICAL JOINT RESTRAINTS.

3. 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.



PROFILE - WATER LINE IN BARATHEON ST.



PROFILE - SS LINE E (LADY ANDREA DR.)

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

STATE OF TEXAS
NIXON M. WELSH
38240
REGISTERED PROFESSIONAL ENGINEER
12/4/23

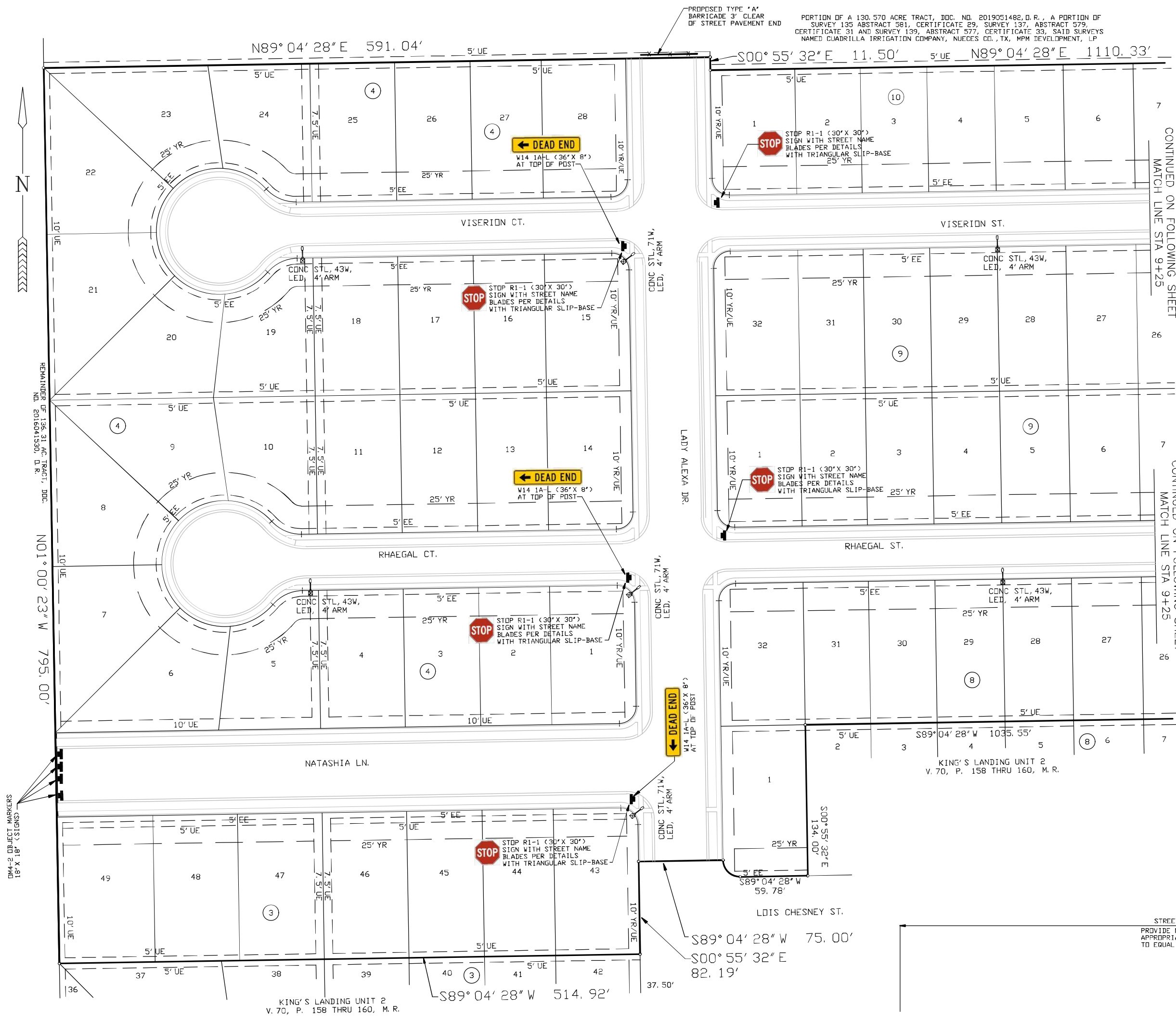
SCALE: 1"= 50'

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 5
CORPUS CHRISTI, NUECES CO., TX

SANITARY SEWER AND WATER PLAN AND PROFILE

DWN.	PLOT SCALE: 1" = 50'	COM. NO.	5 PGD2 AS SSW
CHK.	SCALE (V): SAME	JOB NO.	23007
	SCALE (V): NONE	SHEET	5 OF 21
	DATE PLOTTED 12/4/23		



ESTIMATE SUMMARY

STREET AND SURFACE ITEMS

ITEM	DESCRIPTION	QUANTITY	UNIT
1	R/C HEADER CURB	9650	LF
2	7" PCCP AND RCCP	13499	SY
3	8" PCCP AND RCCP	6909	SY
4	8" LIME AND PORTLAND CEMENT STABILIZED SUBGRADE	15166	SY
5	12" LIME AND PORTLAND CEMENT STABILIZED SUBGRADE	7444	SY
6	CLEARING AND GRUBBING	29	AC
7	EXCAVATION	1	LS
8	POLE WITH SIGNS	8	EA
9	OBJECT MARKERS, SET OF 4	2	EA
10	BARRICADE, TYPE "A"	2	EA
11	BACKFILL EXISTING DITCH	1	LS

STORM SEWER ITEMS

ITEM	DESCRIPTION	QUANTITY	UNIT
1	4' HIGH X 8' WIDE R/C BOX CULVERT	713	LF
2	15" HDPP	428	LF
3	18" HDPP	613	LF
4	21" HDPP	61	LF
5	24" HDPP	92	LF
6	27" HDPP	25	LF
7	30" HDPP	150	LF
8	36" HDPP	143	LF
9	42" HDPP	133	LF
10	MH RISER ON BOX CULVERT	5	EA
11	5' INLET	23	EA
12	MANHOLE	2	EA
13	TEMPORARY OFFSITE DRAINAGE CHANNEL EXCAVATION	1	LS
14	REBAR INSTALATION IN 27" HDPP	1	LS

SANITARY SEWER ITEMS

ITEM	DESCRIPTION	QUANTITY	UNIT
1	8" PVC PIPE	3771	LF
2	12" PVC PIPE	253	LF
3	MANHOLE	12	EA
4	4" OR 6" PVC PIPE SERVICE	109	EA
5	ADJUST MANHOLE TOP IN ELEVATION	1	EA

GRID MAIN WATER ITEMS REIMBURSABLE BY CITY

ITEM	DESCRIPTION	QUANTITY	UNIT
1	12" PVC PIPE	718	LF
2	12" CROSS	2	EA
3	12" TEE	4	EA
4	12" CAP TAPPED FOR 2"	1	EA
5	12" GATE VALVE WITH BOX	3	EA
6	6" 90° EL	2	EA
7	6" GATE VALVE W/BOX	2	EA
8	6" DIA X 30" PVC PIPE NIPPLE	6	EA
9	FIRE HYDRANT	2	EA

WATER ITEMS

ITEM	DESCRIPTION	QUANTITY	UNIT
1	8" PVC PIPE	1285	LF
2	8" GATE VALVE W/BOX	5	EA
3	8" CAP TAPPED FOR 2"	2	EA
4	8" TEE	3	EA
5	6" CAP TAPPED FOR 2"	2	EA
6	6" PVC PIPE	3106	LF
7	6" GATE VALVE W/BOX	8	EA
8	6" 90° EL	2	EA
9	6" DIA X 30" PVC PIPE NIPPLE	6	EA
10	FIRE HYDRANT	2	EA

MISCELLANEOUS ITEMS

ITEM	DESCRIPTION	QUANTITY	UNIT
1	TRAFFIC CONTROL AND BARRICADING PLAN AND PERMITTING (TRAFFIC CONTROL DURING CONSTRUCTION)	1	LS
2	TRENCH SAFETY FOR EXCAVATIONS (SANITARY SEWER AND STORM SEWER PIPES OF ALL SIZES & BOX CULVERT)	9008	LF
3	4" PVC CONDUIT FOR AEP	500	LF
4	STORM WATER POLLUTION PREVENTION	1	LS

BARRICADE NOTES:

1. BARRICADES SHALL MEET REQUIREMENTS OF THE LATEST EDITION OF TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD) UNDER PARAGRAPH 2B.67 BARRICADES AND 6F.68 TYPE 1, 2 OR 3 BARRICADES.

2 BARRICADE MATERIALS AND INSTALLATION:

A. WOOD SHALL BE PRESSURE TREATED SOUTHERN YELLOW PINE (SYP) THAT MEETS OR EXCEEDS THE SOUTHERN PINE INSPECTION BUREAU (SPIB) GRADE 2 WHICH TREATED TO AMERICAN WOOD PRESERVERS ASSOCIATION (AWPA) UC4B, FREE OF SUBSTANTIAL KNOTS, DEFECTS THAT PREVENT THE MATERIAL FROM SUPPORTING ITSELF, SUBSTANTIAL EDGE DAMAGE THAT REDUCED THE WIDE FLAT SURFACE WIDTH BY MORE THAN ½-INCH, DELETERIOUS MATERIAL THAT WILL PREVENT THE TREATMENT, PAINT, OR DECALS FROM PENETRATING OR ADHERING TO THE WOOD MATERIAL.

B. FASTENERS: ALL FASTENERS SHALL BE HOT-DIPPED GALVANIZED FASTENERS AND CONNECTORS, OR BETTER OF SIZE AND LENGTHS AS INDICATED, UNLESS OTHERWISE NOTED OR INDICATED.

C. PAINT AND SHEET MATERIAL:

C.1 NOTICE: THE WOOD MATERIAL WILL BE REQUIRED TO DRY IN A MANNER THAT PREVENTS THE MATERIALS FROM WARPING AND/OR CRACKING TO A POINT THAT THE WOOD MEMBER EASILY ACCEPTS WATER WHEN IT IS POURED ON IT. TEST OF SMALL AREAS IS REQUIRED PRIOR TO PAINTING AND WILL REQUIRE AREA TO DRY PRIOR TO PROCEEDING WITH PAINTING.

C.2 INSTALL AN EXTERIOR GRADE LATEX WHITE PRIMER THAT IS RECOMMENDED FOR TREATED WOOD IN ACCORDANCE WITH PAINT MANUFACTURER RECOMMENDATIONS. IF PAINTED PRIOR TO INSTALLATION THE CONTRACTOR WILL BE REQUIRED TO PRIME ANY CUT EDGES.

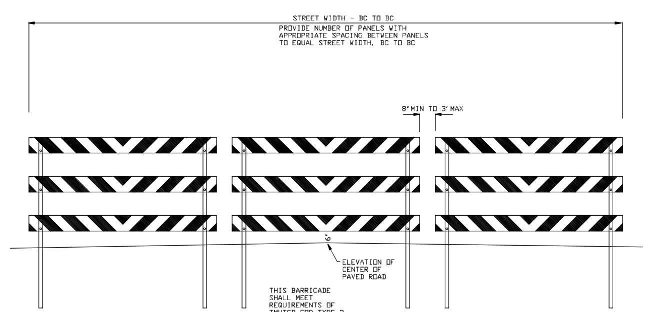
C.3 INSTALL TWO (2) COATS OF EXTERIOR SEMI-GLOSS LATEX WHITE PAINT THAT IS RECOMMENDED FOR TREATED WOOD IN ACCORDANCE WITH PAINT MANUFACTURER RECOMMENDATIONS ON ALL WOOD MATERIAL. IF PAINTED PRIOR TO INSTALLATION THE CONTRACTOR SHALL INSTALL ONE (1) COAT OF THIS PAINT ON ANY SCRATCHES AND ACROSS ALL JOINTS, TWO (2) COATS ACROSS ALL FASTENERS AND PRIMED EDGES, ONCE INSTALLATION IS COMPLETE.

C.4 SHEETING SHALL BE RETROREFLECTIVE TYPE A CONFORMING TO TXDOT DMS-8300 UNLESS OTHERWISE INDICATED BY THE OAR.

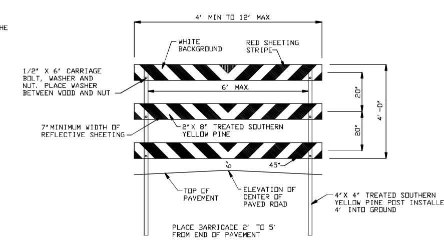
C.5 CLEAN-UP OF PAINT SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION.

3. BARRICADE(S) SHALL BE CONSTRUCTED AND INSTALLED TO THE SATISFACTION OF THE CITY.

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



TYPE A END-OF-ROAD BARRICADE
NTS



TYPICAL BARRICADE PANEL DETAIL
NTS

NIXON M. WELSH 36240 REGISTERED PROFESSIONAL ENGINEER
11/28/23

SCALE: 1" = 50'

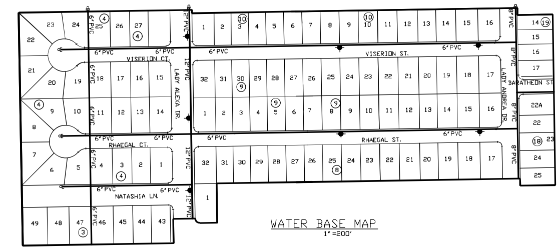
BASS & WELSH ENGINEERING
TX SURVEY REG. NO 100027-00, TX ENGINEERING REG. NO. F-52, 3054 S. ALAMEDA STREET, CORPUS CHRISTI, TEXAS 78404

PUBLIC IMPROVEMENTS TO
KING'S LANDING UNIT 5
CORPUS CHRISTI, NUECES CO., TX

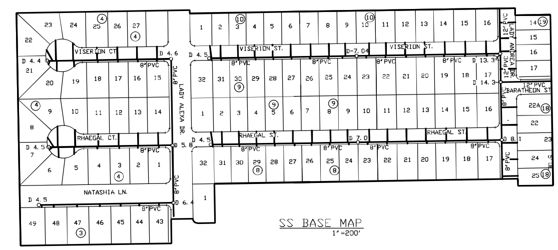
STREET SIGN AND LIGHT POLE PLAN
ESTIMATE SUMMARY AND BARRICADE DETAILS

DWN. ____ CHK. ____
PLOT SCALE: 1" = 50'
SCALE (V): SAME
SCALE (V): NONE
DATE PLOTTED 11/28/23
COM. NO. 6 PGD1 AS SGN & LP
JOB NO. 23007
SHEET 6 OF 21

PORTION OF A 293.041 ACRE TRACT, DOC. 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



WATER BASE MAP
1"=200'



SS BASE MAP
1"=200'

STATE OF TEXAS
NIXON M. WELSH
36240
REGISTERED PROFESSIONAL ENGINEER
11/28/23

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

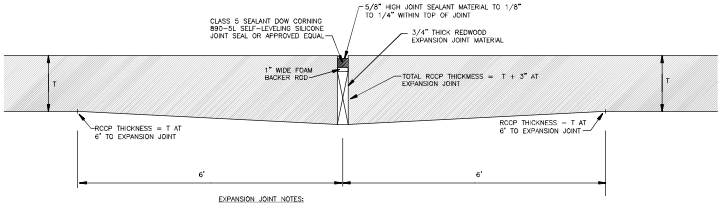
RELEASED FOR CONSTRUCTION
Bria A. Whitmire, P.E., CFM, CPM
Development Services Engineer
City of Corpus Christi
Note: Construction Plans will expire based on the the conditions stated in UDC 3.8.5.F.

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 5
CORPUS CHRISTI, NUECES CO., TX

STREET SIGN AND LIGHT POLE PLAN
AND BASE MAPS

DWN.	PLOT SCALE: 1" = 50'	COM. NO.	7 PG02 AS SGN & LP
CHK.	SCALE (V): SAME	JOB NO.	23007
	SCALE (V): NONE		
	DATE PLOTTED 11/28/23	SHEET 7 OF 21	



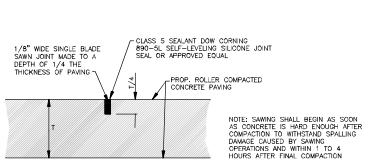
EXPANSION JOINT NOTES:

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 PCCP ABUTS RCCP AT AN RCCP EXPANSION JOINT, THICKEN PCCP TO SAME EXTENT AS THICKENING OF RCCP (T+3" AT RCCP EXPANSION JOINT PLUS TAPERED THICKENING OVER 6', ETC.).

EXPANSION JOINT DETAIL – RCCP
NTS



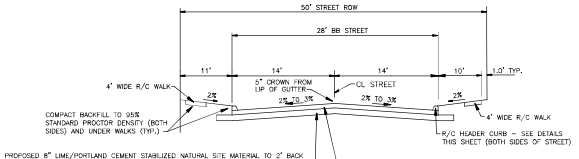
CONTRACTION (SAWN) JOINT DETAIL – RCCP
NTS

RCCP (ROLLER COMPACTED CONCRETE PAVING) NOTES

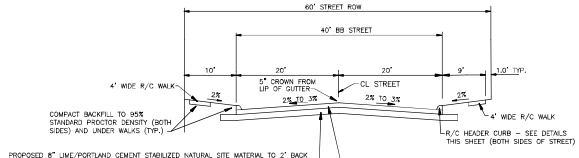
1. ALL PROPOSED RCCP SHALL BE PORTLAND CEMENT CONCRETE PAVING OF THICKNESSES ACCORDING TO TYPICAL STREET SECTIONS (7" AND 8"). ALL PROPOSED PUBLIC STREETS SHALL BE PAVED WITH 4,000 PSI COMPRESSIVE STRENGTH RCCP AT 28 DAYS.
2. ALL PROPOSED RCCP SHALL BE CONSTRUCTED IN ACCORDANCE WITH RECOMMENDATIONS AS PROVIDED IN GEOTECHNICAL ENGINEERING REPORT FOR DAVID ESTATES UNITS 2 & 3 BY PROFESSIONAL SERVICE INDUSTRIES, INC., DATED NOVEMBER 9, 2022. 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 FOR 28' BB AND 40' BB STREETS. ALL PROPOSED 8" THICK RCCP SHALL OVERLAY PROPOSED 12" LIME/PORTLAND CEMENT STABILIZED AND COMPACTED NATURAL SOIL AT THE SITE FOR 50' BB STREETS.
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 JOINTING PLAN 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 PLANS 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)

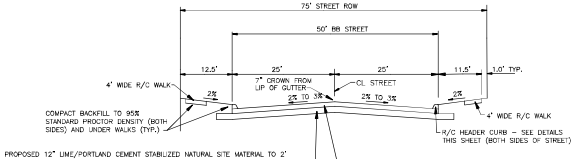
SHALL BE CONSTRUCTED ACCORDING TO DETAILS SHOWN BELOW RIGHT AND IN ACCORDANCE WITH CITY OF CORPUS CHRISTI STANDARD SPECIFICATIONS 030020 PORTLAND CEMENT CONCRETE, 032020 REINFORCING STEEL AND 038000 CONCRETE STRUCTURES.



TYPICAL RCCP STREET SECTION – 50' ROW
NTS



TYPICAL RCCP STREET SECTION – 60' ROW
NTS



TYPICAL RCCP STREET SECTION – 80' ROW
NTS

GEOTECHNICAL ENGINEERING REPORT

Proposed King's Landing Units 2 & 3
Various Streets
Corpus Christi, Texas

PSI Project No. 03122734-23

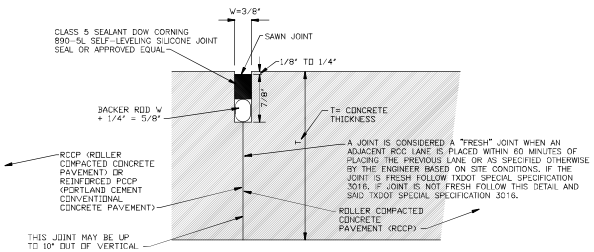
PREPARED FOR:

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

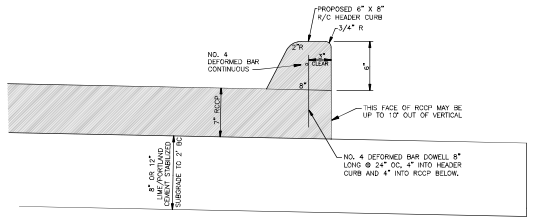
November 9, 2022

BY:

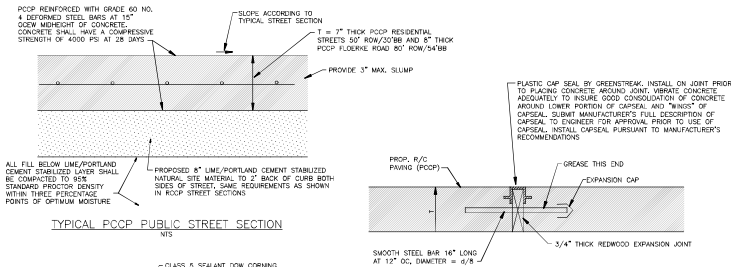
PROFESSIONAL SERVICE INDUSTRIES, INC.
810 S. Padre Island Dr.
Corpus Christi, Texas 78416
Phone: (361) 854-4801



LONGITUDINAL OR TRANSVERSE SAWN CONSTRUCTION JOINT
NTS

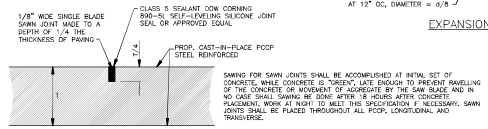


TYPICAL PAVING SECTION SHOWING HEADER CURB DETAILS
NTS

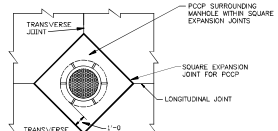


TYPICAL PCCP PUBLIC STREET SECTION
NTS

EXPANSION JOINT FOR PCCP
NTS



PCCP CONTRACTION (SAWN) JOINT DETAIL
NTS



TYPICAL ISOLATION DETAIL FOR MANHOLES
NTS

RELEASED FOR CONSTRUCTION

Bria A. Whitnah, P.E., CPM, CPM
Development Services Engineer
City of Corpus Christi

Note: Construction Plans will expire based on the the conditions stated in UDC 3.6.6.F.

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

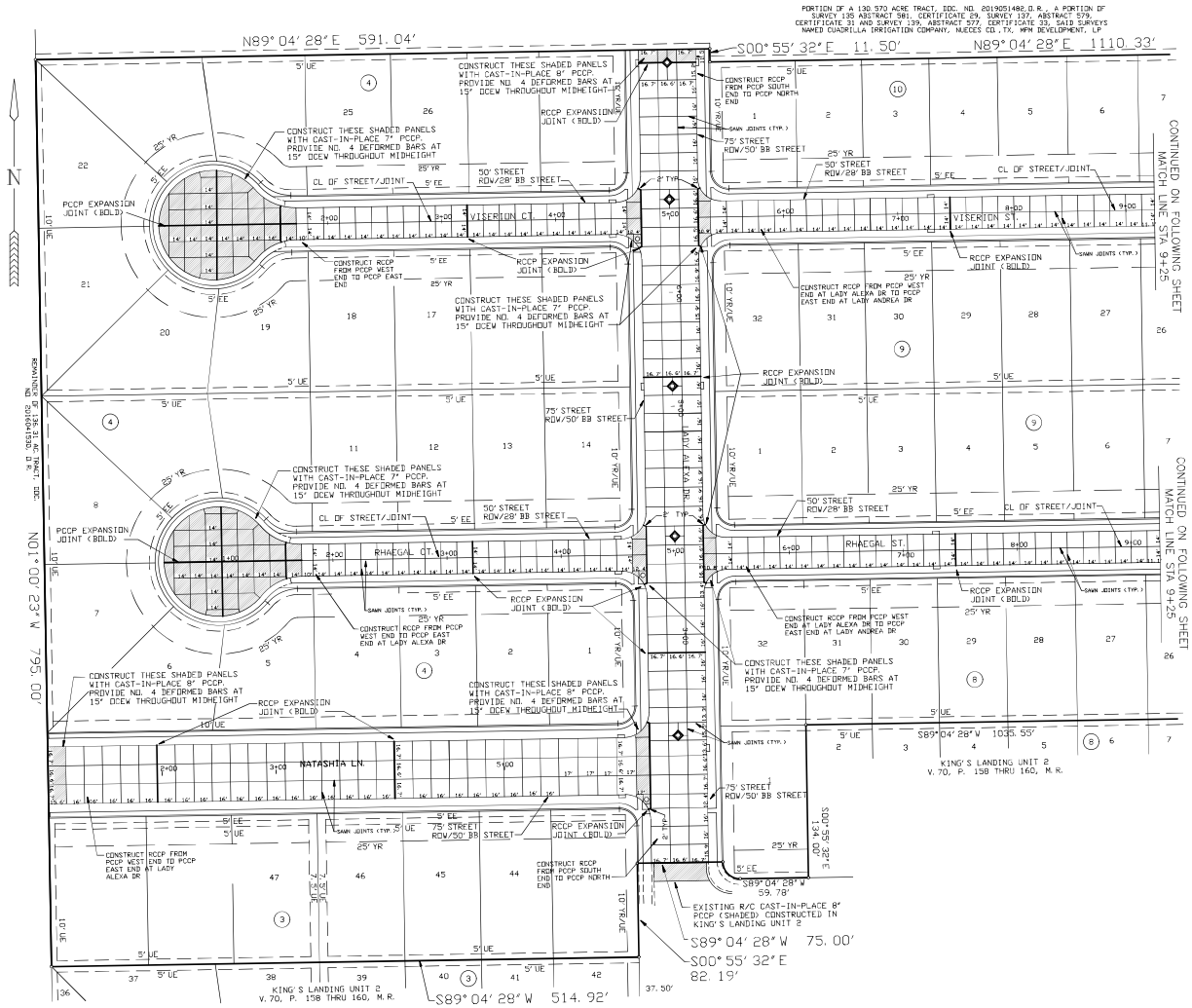
IMPROVEMENTS TO
KING'S LANDING UNIT 5
CORPUS CHRISTI, NUECES CO., TX

PCCP AND RCCP PAVEMENT DETAILS AND SIDEWALK DETAILS

DWN. _____
CHK. N. WELSH

PLOT SCALE: 1" = 50'
SCALE (H): AS SHOWN
SCALE (V): AS SHOWN
DATE PLOTTED 11/28/23

COM. NO. 8 STR DET RCC
JOB NO. 23007
SHEET 8 OF 21



RELEASED FOR CONSTRUCTION

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

Note: Construction Plans will expire based on the the conditions stated in UDC 3.5.6.F.

STATE OF TEXAS
NIXON M. WELSH
36240
REGISTERED PROFESSIONAL ENGINEER
11/28/23

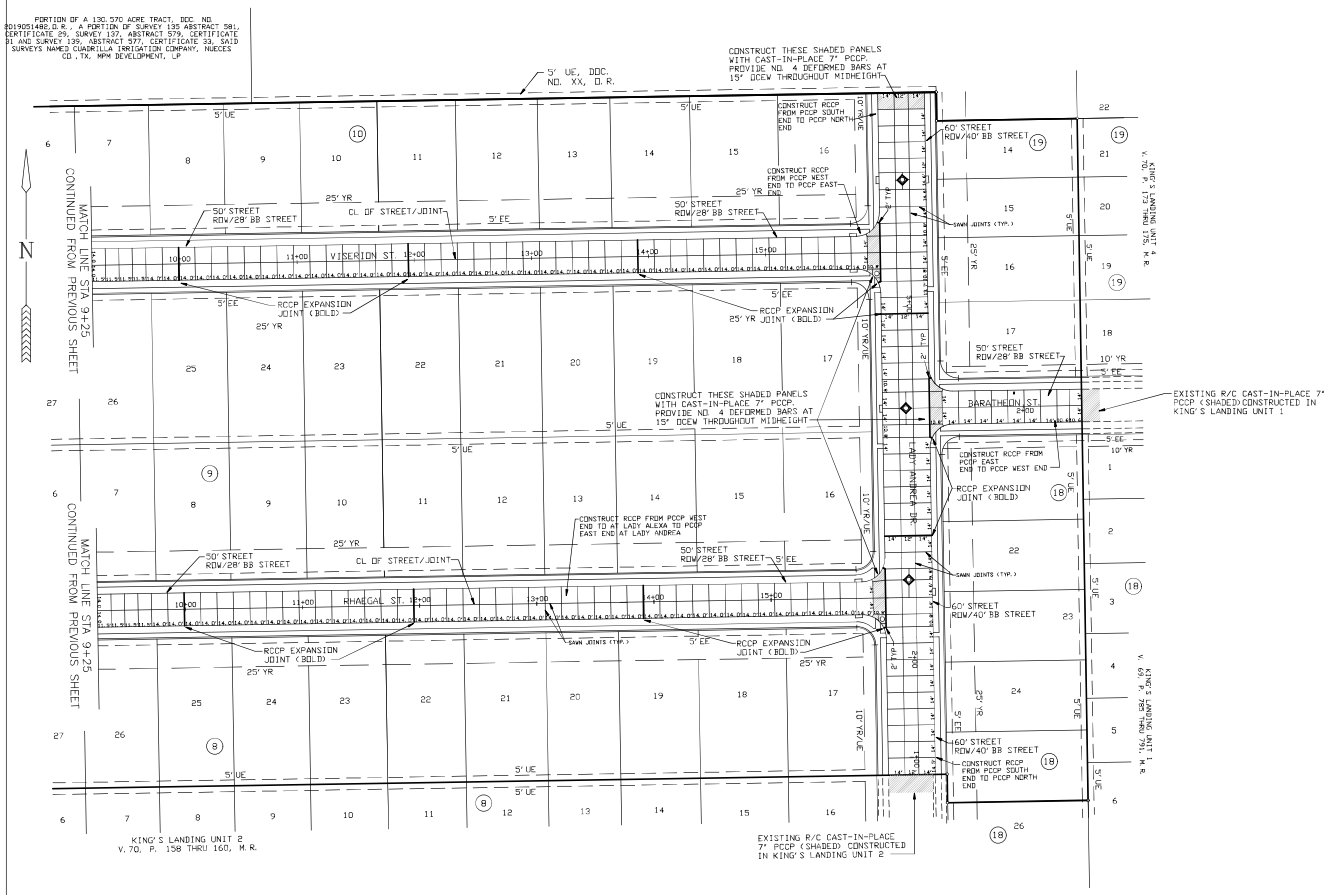
0 25' 50' 100'
SCALE: 1" = 50'

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 5
CORPUS CHRISTI, NUECES CO., TX

PCCP AND RCCP JOINTING PLAN

DWN. ____
CHK. ____
PLOT SCALE: 1" = 50'
SCALE (V): SAME
SCALE (V): NONE
DATE PLOTTED 11/28/23
COM. NO. 9 JOINTING PLAN 1
JOB NO. 23007
SHEET 5 OF 21



RELEASED FOR CONSTRUCTION

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

Note: Construction Plans will expire based on the the conditions stated in UDC 3.5.E.F.

NIXON M. WELSH
36240
REGISTERED
PROFESSIONAL ENGINEER
STATE OF TEXAS
11/28/23

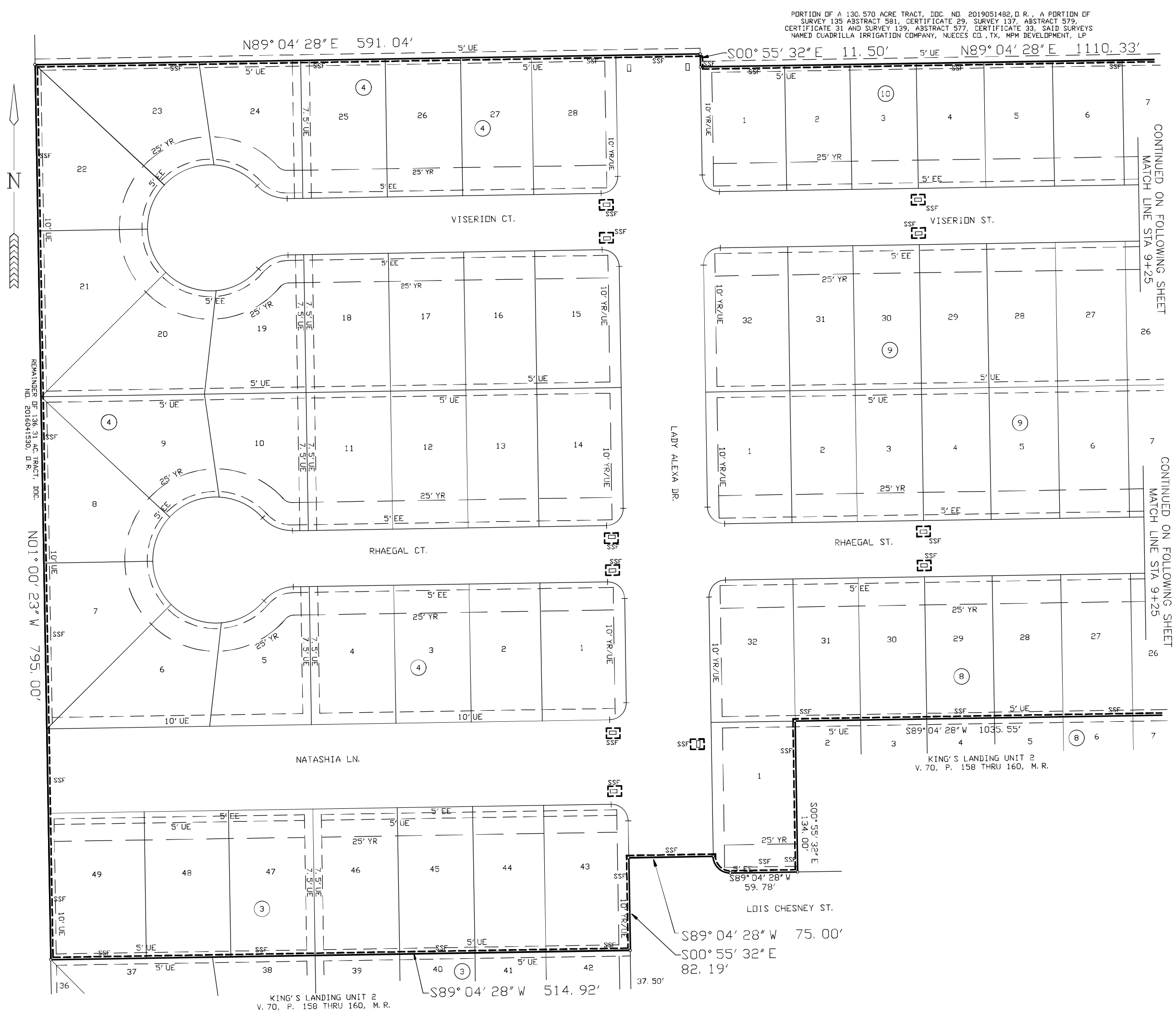
0 25' 50' 100'
SCALE: 1"= 50'

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 5
CORPUS CHRISTI, NUECES CO., TX

PCCP AND RCCP JOINTING PLAN

DWN. _____
CHK. _____
PLOT SCALE: 1" = 50'
SCALE (V): SAME
SCALE (V): NONE
DATE PLOTTED 11/28/23
COM. NO. 10 JOINTING PLAN 2
JOB NO. 23007
SHEET 10 OF 21



CCR 015700 TEMPORARY CONTROLS

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

POLLUTION PREVENTION NOTES

1. CONSTRUCTION ENTRANCE - CONSTRUCT A PROPOSED 28′ X 30′ CONSTRUCTION ENTRANCE CONSISTING OF AN AREA SURFACED WITH CRUSH STONE OR GRAVEL OF SIZE 2″ TO 4″. THE GRAVEL OR CRUSHED STONE SHALL BE PLACED IN A MINIMUM 6″ THICK LAYER AND SHALL OVERLAY A LAYER OF FILTER CLOTH MEETING THE SAME REQUIREMENTS AS FOR SILT FENCE. CONTRACTOR SHALL MAINTAIN THE CONSTRUCTION ENTRANCE IN GOOD CONDITION THROUGHOUT THE DURATION OF THE PROJECT AND SHALL REMOVE MUD OR OTHER DEBRIS FROM THE CONSTRUCTION ENTRANCE PERIODICALLY DURING THE PROJECT.
2. CONSTRUCTION EQUIPMENT TRACKING - CONTRACTORS SHALL ENSURE THAT NO MUD OR ANY OTHER DEBRIS BE TRACKED ONTO ANY PAVED STREETS IN THE AREA OF THIS PROJECT. SHOULD ANY MUD OR OTHER DEBRIS BE TRACKED ONTO PAVED STREETS, CONTRACTOR SHALL IMMEDIATELY CLEANUP SAME AT HIS OWN EXPENSE.
3. SILT SCREENS - CONSTRUCT SILT SCREENS AT LOCATIONS AS SHOWN IN THE PLANS. ALL SILT SCREENS SHALL MEET THE REQUIREMENTS OF CITY STANDARD SPECIFICATION 022420 "SILT FENCE". THE SILT FENCES SHALL BE INSPECTED THROUGHOUT THE CONSTRUCTION PERIOD ON A WEEKLY BASIS AND SHALL BE REPAIRED/REPLACED AS NECESSARY.
4. SOLID WASTE DISPOSAL - ALL TRASH AND DEBRIS WILL BE HAULED TO AN APPROVED LANDFILL. NO CONSTRUCTION WASTE MATERIAL WILL BE BURIED ON-SITE. ALL PERSONNEL WILL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL. NOTICES STATING THESE PRACTICES SHALL BE POSTED AT THE JOB SITE.
5. HAZARDOUS WASTE - NO HAZARDOUS WASTE IS EXPECTED TO BE GENERATED OR ENCOUNTERED IN THIS PROJECT. IN THE EVENT THAT HAZARDOUS WASTE IS ENCOUNTERED, ALL HAZARDOUS WASTE MATERIALS WILL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATIONS OR BY THE MANUFACTURER.
6. SPILL PREVENTION - THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT WILL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES TO STORM WATER RUNOFF. AN EFFORT WILL BE MADE TO STORE ONLY ENOUGH PRODUCT REQUIRED TO DO THIS JOB. ALL MATERIALS STORED ONSITE WILL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR APPROPRIATE CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE. PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH THE ORIGINAL MANUFACTURER'S LABEL. SUBSTANCES WILL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY OF THE MANUFACTURER. WHENEVER POSSIBLE, ALL OF THE PRODUCT WILL BE USED UP BEFORE DISPOSING THE CONTAINER. MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL WILL BE FOLLOWED. THE SITE SUPERINTENDENT WILL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS ONSITE. FUELING OF CONSTRUCTION VEHICLES SHALL BE MADE A MINIMUM OF 200′ AWAY FROM ANY DRAINAGE INLET OR SWALE.
7. PAY FOR SILT SCREEN FENCES, STABILIZED CONSTRUCTION ENTRANCE AND ALL POLLUTION PREVENTION MEASURES OF ALL TYPES IN UNIT PRICE OF "STORM WATER POLLUTION PREVENTION".
8. CONTRACTOR SHALL ENSURE DUST ON THE SITE IS CONTROLLED (NOT ALLOWED TO BLOW TO ADJACENT PROPERTY) BY DAMPENING DURING CONSTRUCTION.
9. CONCRETE TRUCKS WILL NOT BE ALLOWED TO WASH OUT ANYWHERE ON THE PROJECT SITE UNLESS THE SURPLUS CONCRETE OR DRUM WASH WATER IN CONCRETE TRUCKS IS DISCHARGED AT A FACILITY ON THE CONSTRUCTION SITE THAT WILL RETAIN ALL CONCRETE WASH WATERS OR LEACHATES, INCLUDING ANY WASH WATERS OR LEACHATES MIXED WITH STORM WATER. CONCRETE WASH WATERS AND LEACHATES MAY NOT BE ALLOWED TO ENTER THE MUNICIPAL SEPARATE STORM SEWER SYSTEM, CITY STREETS, THE WATERS OF THE UNITED STATES, OR GROUND WATERS.
10. NON-CONCRETE TRUCK VEHICLES SHALL BE WASHED AT THE STABILIZED CONSTRUCTION ENTRANCE IN A MANNER TO REMOVE ALL MUD AND DEBRIS FROM THE TIRES.
11. THE TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM (TPDES) GENERAL PERMIT REQUIRES STABILIZATION MEASURES TO BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, AND MUST BE INITIATED IMMEDIATELY AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. CONSTRUCTION TEMPORARILY CEASED – "IMMEDIATELY" MEANS AS SOON AS PRACTICABLE, BUT NO LATER THAN THE END OF THE NEXT WORK DAY, EXCEPT WHERE TEMPORARY STABILIZATION IS INFEASIBLE, BUT TEMPORARY PERIMETER CONTROLS ARE UTILIZED INSTEAD; THE OPERATOR MUST DOCUMENT WHY STABILIZATION IS INFEASIBLE AND DEMONSTRATE THAT PERIMETERS CONTROLS WILL RETAIN SEDIMENT ONSITE. CONSTRUCTION PERMANENTLY CEASED – "IMMEDIATELY" MEANS AS SOON AS PRACTICABLE, BUT NO MORE THAN 14 DAYS AFTER INITIATION, EXCEPT WHERE THE INITIATION OF PERMANENT STABILIZATION MEASURES IS PRECLUDED BY SNOW COVER OR FROZEN GROUND CONDITIONS, STABILIZATION MEASURES MUST BE INITIATED AS SOON AS PRACTICABLE.

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

STATE OF TEXAS — NIXON M. WELSH — 36240 — REGISTERED PROFESSIONAL ENGINEER — 11/28/23

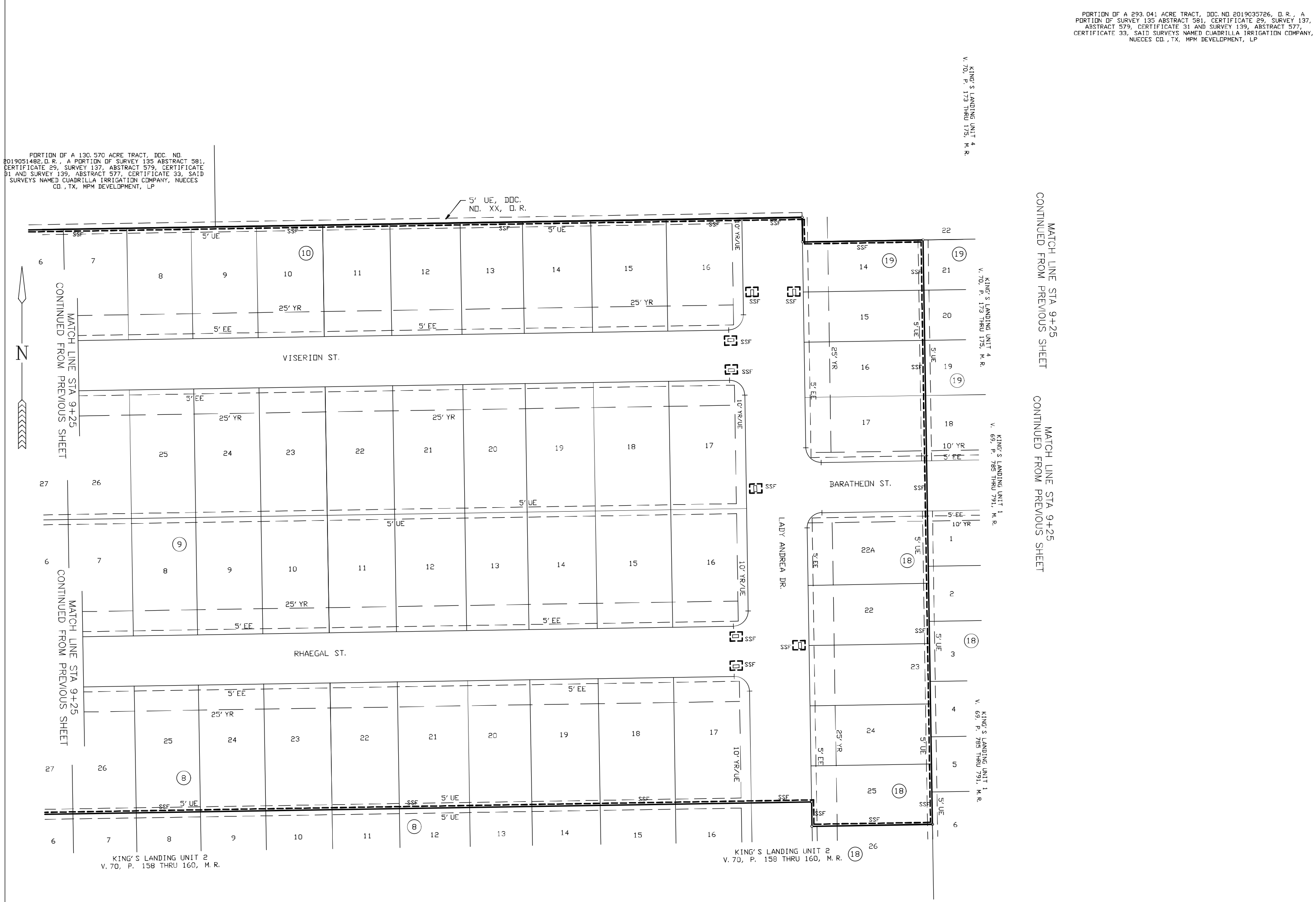
0 25′ 50′ 100′
SCALE: 1″= 50′

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 5
CORPUS CHRISTI, NUECES CO., TX

STORM WATER POLLUTION PREVENTION PLAN
SHEET 1 OF 3

DWN.		PLOT SCALE:	1″ = 50′	COM. NO.	PGD1 AS SWPPP
		SCALE (V):	SAME	JOB NO.	23007
CHK.		SCALE (V):	NONE		
		DATE PLOTTED	11/28/23	SHEET	11 OF 21



RELEASED FOR CONSTRUCTION

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

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

NIXON M. WELSH 36240 11/28/23

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 5
CORPUS CHRISTI, NUECES CO., TX

STORM WATER POLLUTION PREVENTION PLAN
SHEET 2 OF 3

DWN.	PLOT SCALE: 1" = 50'	COM. NO.	PGB2 AS SVPPP
CHK.	SCALE (V): SAME	JOB NO.	23007
	SCALE (V): NONE	SHEET 12 OF 21	
	DATE PLOTTED 11/28/23		

SITE DESCRIPTION

NOT TO SCALE

PROJECT LIMITS: KING'S LANDING UNIT 5

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: 27.311 ACRES

TOTAL AREA TO BE DISTURBED: 29 ACRES

WEIGHTED RUNOFF COEFFICIENT (AFTER CONSTRUCTION): 55%

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

- [X] 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:

- [X] SILT FENCES
- [ ] HAY BALE DAM
- [ ] ROCK BERMS
- [ ] DIVERSION, INTERCEPTOR, OR PERIMETER DIKES
- [ ] DIVERSION, INTERCEPTIOR, 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.

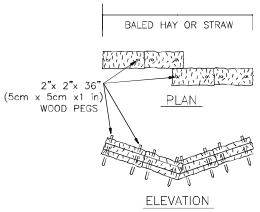
SANITARY WASTE: ALL SANITARY WASTE WILL BE COLLECTED FROM THE PORTABLE UNITS AS NECESSARY.

OFFSITE VEHICLE TRACKING:

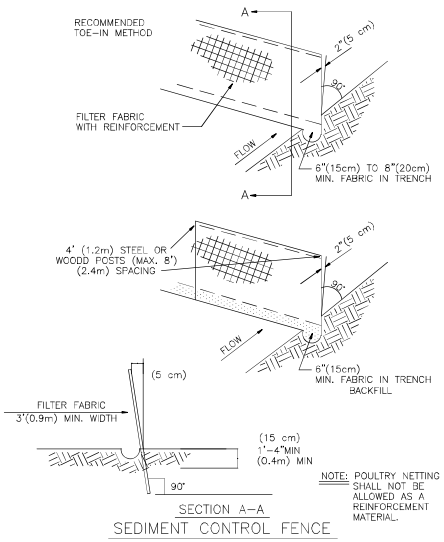
- [ ] HAUL ROADS DAMPENED FOR DUST CONTROL
- [ ] LOADED HAUL TRUCKS TO BE COVERED WITH TARPAULIN
- [X] EXCESS DIRT ON ROAD REMOVED DAILY
- [ ] STABILIZED CONSTRUCTION ENTRANCE

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.

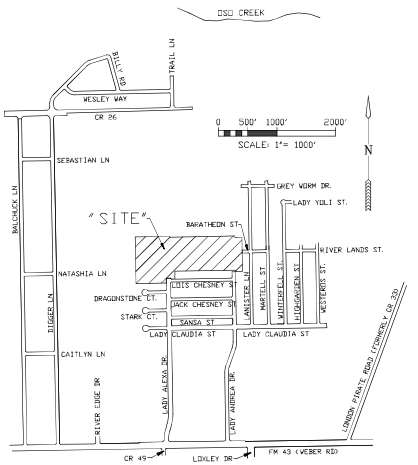
CONTRACTOR SHALL PROVIDE ALL PERMITS AND INSPECTIONS AS MAY BE REQUIRED BY TCEQ AND EPA. CONTRACTOR SHALL PROVIDE NOI AND NOT.



PLACEMENT FOR BALED HAY FILTER DAMS



SEDIMENT CONTROL FENCE



LOCATION MAP
1"=1000'

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

STATE OF TEXAS
NIKON M. WELSH
36240
REGISTERED PROFESSIONAL ENGINEER
11/28/23

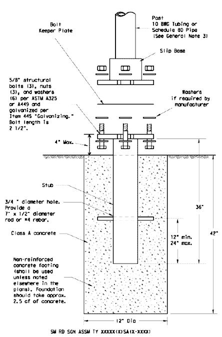
BASS AND WELSH ENGINEERING
TX REGISTRATION NO. F-52, 3054 S. ALAMEDA STREET
CORPUS CHRISTI, TEXAS 78404

PUBLIC IMPROVEMENTS TO
KING'S LANDING UNIT 5
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.	23007
	SCALE (V): AS SHOWN	SHEET 13 OF 21	
	DATE PLOTTED 11/28/23		

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. http://www.txdot.gov/business/producer_list.htm The devices shall be installed per manufacturers' recommendations. Installation procedures shall be provided to the Engineer by Contractor.

GENERAL NOTES:

1. Slip base shall be permanently marked to indicate manufacturer. Method, design, and location of marking are subject to approval of the TxDOT Traffic Standards Engineer.
2. Material used as post with this system shall conform to the following specifications:
   10 BWG Tubing (2.875" outside diameter)
   - 0.134" nominal wall thickness
   - Seamless or electric-resistance welded steel tubing or pipe
   - Steel shall be HSLAS Gr 55 per ASTM A1011 or ASTM A1008
   - 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 2.883"
   - Galvanization per ASTM A123 or ASTM A653 G210. For precoated steel tubing (ASTM A653), recoat tube outside diameter weld seam by metallizing with zinc wire per ASTM B833.

   Schedule 80 Pipe (2.875" outside diameter)
   - 0.276" nominal wall thickness
   - Steel tubing per ASTM A500 Gr 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:
     - 46,000 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 2.855" to 2.895"
   - Galvanization per ASTM A123
3. 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/publications/traffic.htm
4. Sign supports shall not be spliced except where shown. Sign support posts shall not be spliced.

ASSEMBLY PROCEDURE

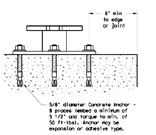
Foundation

1. 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.
2. The Engineer may permit batches of concrete less than 2 cubic yards to be mixed with a portable, motor-driven concrete mixer. For small placements less than 0.5 cubic yards, hand mixing in a suitable container may be allowed by Engineer. Concrete shall be Class A.
3. Push the pipe end of the slip base stub into the center of the concrete. Rotate the stub back and forth while pushing 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.
4. Plumb the stub. Allow a minimum of 4 days to set, unless otherwise directed by the Engineer.
5. The triangular slipbase system is multidirectional and is designed to release when struck from any direction.

Support

1. Cut support so that the bottom of the sign will be 7 to 7.5 feet above the edge of the travelway (i.e., edge of the closest lane) when 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 travelway. The cut shall be plumb and straight.
2. 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



SW RD SGN ASSM TY XXXXX(X)SB(X-XXXX)

Concrete anchor consists of 5/8" diameter stud bolt with UNC series bolt threads on the upper end. Heavy hex nut per ASTM A563, 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, "Epoxies and Adhesives." Adhesive anchors may be loaded after adequate epoxy 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 5 1/2" minimum embedment, shall have a minimum allowable tension and shear of 3900 and 3100 psi, respectively.

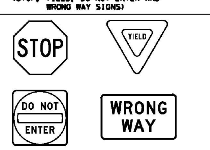
Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS
SMALL ROADSIDE SIGNS
TRIANGULAR SLIPBASE SYSTEM
SMD(SLIP-1)-08

© TxDOT July 2002 | DN: TxDOT | CK: TxDOT | DW: TxDOT | CK: TxDOT
9-08 REVISIONS | CONT | SECT | JOB | HIGHWAY | DIST | COUNTY | SHEET NO.

26B

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



REQUIREMENTS FOR FOUR SPECIFIC SIGNS ONLY

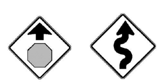
SHEETING REQUIREMENTS		
USAGE	COLOR	SIGN FACE MATERIAL
BACKGROUND	RED	TYPE B OR C SHEETING
BACKGROUND	WHITE	TYPE B OR C SHEETING
LEGEND & BORDERS	WHITE	TYPE B OR C SHEETING
LEGEND	RED	TYPE B OR C SHEETING

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

TYPICAL EXAMPLES

SHEETING REQUIREMENTS		
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

SHEETING REQUIREMENTS		
USAGE	COLOR	SIGN FACE MATERIAL
BACKGROUND	FLOURESCENT YELLOW	TYPE B_{FL} OR C_{FL} SHEETING
LEGEND & BORDERS	BLACK	ACRYLIC NON-REFLECTIVE FILM
LEGEND & SYMBOLS	ALL OTHER	TYPE B OR C SHEETING

REQUIREMENTS FOR SCHOOL SIGNS

TYPICAL EXAMPLES

SHEETING REQUIREMENTS		
USAGE	COLOR	SIGN FACE MATERIAL
BACKGROUND	WHITE	TYPE A SHEETING
BACKGROUND	FLOURESCENT YELLOW GREEN	TYPE B_{FL} OR C_{FL} SHEETING
LEGEND, BORDERS AND SYMBOLS	BLACK	ACRYLIC NON-REFLECTIVE FILM
SYMBOLS	RED	TYPE B OR C SHEETING

GENERAL NOTES

1. Signs to be furnished shall be as detailed elsewhere in the plans and/or as shown on sign tabulation sheet. Standard sign designs and arrow dimensions can be found in the "Standard Highway Sign Designs for Texas" (SHSD).
2. Sign legend shall use the Federal Highway Administration (FHWA) Standard Highway Alphabets (B, C, D, E, Emod or F).
3. 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.
4. Black legend and borders shall be applied by screening process or cut-out acrylic non-reflective black film to background sheeting, or combination thereof.
5. White legend and borders shall be applied by screening process with transparent colored ink, transparent colored overlay film to white background sheeting or cut-out white sheeting to colored background sheeting, or combination thereof.
6. 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.
7. Sign substrate shall be any material that meets the Departmental Material Specification requirements of DMS-7110 or approved alternative.
8. Mounting details for roadside mounted signs are shown in the "SMD series" Standard Plan Sheets.

ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
Less than 7.5	0.080
7.5 to 15	0.100
Greater than 15	0.125

DEPARTMENTAL MATERIAL SPECIFICATIONS	
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/

Texas Department of Transportation — Traffic Operations Division Standard

TYPICAL SIGN REQUIREMENTS
TSR(4)-13

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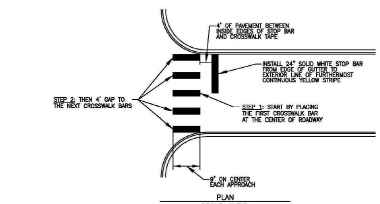
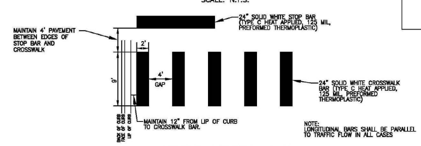
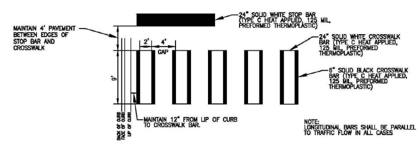
CROSSWALK PAVEMENT MARKINGS



PLAN
SCALE: N.T.S.

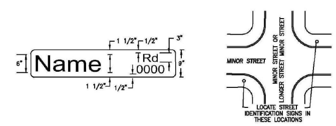


LONGITUDINAL CROSSWALK – DETAIL
FOR ASPHALT ROADWAYS – SCALE: N.T.S.



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

STREET NAME BLADE SIGN



NOTES:

1. STREET NAME BLADE MATERIAL SHALL CONSIST OF EXTRUDED ALUMINUM. THE HEIGHT OF NAME BLADES SHALL BE 9" AND THE HEIGHT OF LETTERING SHALL 6". STREET NAME LEGEND SHALL CONSIST OF INITIAL CASE. FONT 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.
2. ANTI-GRAFFITI COATING ON FRONT OF THE SIGN PLAQUE IS APPLICABLE TO ALL SIGNS EXCEPT FOR NAME BLADES.
3. REPLACEMENT OF SIGNS SHALL MEET 2011 TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD), AND TXDOT STANDARDS. CROSSWALK BARS.

NOTES:

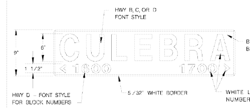
1. ALL STOP BAR AND CROSSWALK PAVEMENT MARKINGS SHALL BE 24" SOLID WHITE, TYPE C HEAT APPLIED, 125 MIL, PREFORMED THERMOPLASTIC. HIGH CONTRAST CROSSWALK INCLUDES 24" SOLID WHITE WITH 6" SOLID BLACK ON BOTH SIDES (TYPE C HEAT AP HEAT APPLIED, 125 MIL, PREFORMED THERMOPLASTIC).
2. CONTRACTOR SHALL PREMARK STRIPING LAYOUT FOR CITY APPROVAL PRIOR TO THE PLACEMENT OF ANY FINAL PAVEMENT MARKINGS.
3. 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 BARS.
4. DO NOT STRIPE STREET WITH ROADWAY SURFACE TEMPERATURE LESS 55°F.
5. ALL CROSSWALK AND STOP BARS SHALL BE IN ACCORDANCE WITH THIS DETAIL AND THE 2011 TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD).

CITY of CORPUS CHRISTI
TEXAS
Department of Public Works
Traffic Engineering Division

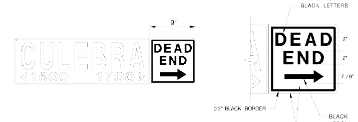
CITY STANDARD SHEET
CROSSWALK PAVEMENT MARKINGS AND STREET NAME BLADE SIGN DETAILS

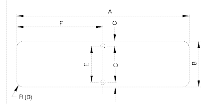
APPROVED: CITY TRAFFIC ENGINEER | DATE:
SHEET 1 of 1
RECORD DRAWING NO. —
CITY PROJECT #
CONSULTANT'S SHEET NO.

9" D3 – STREET NAME SIGN



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



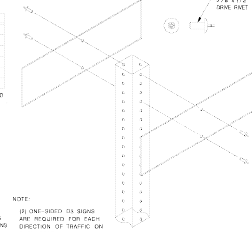


HEIGHT	9" (228 mm)
LENGTH	24" (600 MM) MIN. 54 (1350 MM) MAX. 6" (150 MM) INCREMENTS OF LENGTH
THICKNESS	0.125" (3MM)
SUBSTRATE	ALUMINUM ALLOY, 5052-H38 (ASTM B-209) GOLD CHROMATE FINISH
SIGN FACE MATERIALS	BLUE FILM OVER HIGH INTENSITY FP-85, SECTION 718 AND L-S-300C
LEGENDS AND SYMBOLS	SERIES D (USUAL) SERIES C OR B FOR MAXIMUM LENGTH SIGN BLANK, IF NECESSARY
COLOR	WHITE LEGEND ON BLUE BACKGROUND
LETTER TRACKING	10%

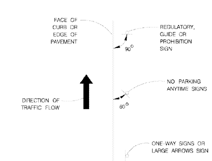
TABLE – D3 SIGNS

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.



D3 SIGN TO POLE INSTALLATION



TYPICAL GROUND MOUNTED SIGN PLACEMENT

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.	9-IN STREET NAME PLATE (4 PLATES)	2
YIELD SIGN WITH 1 STREET NAME	531.4	EA.	R1-2 YIELD	1
	531.57-P	EA.	9-IN STREET NAME PLATE (2 PLATES)	1
2 STREET SIGNS	531.57	EA.	9-IN STREET NAME SIGN (2 PLATES)	1
	531.57-P	EA.	9-IN STREET NAME PLATE (2 PLATES)	1

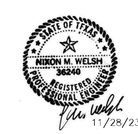
NOTE:

* ITEM 531.57 "9-INCH STREET NAME" SIGN (1-EA.) INCLUDES THE INSTALLATION OF (2) ONE-SIDED D3 SIGNS. THIS SHALL BE FULL COMPENSATION FOR MATERIALS AND LABOR AS DESCRIBED IN C.O.S.A. STANDARD SPECIFICATIONS AND GROUND SIGN MOUNTING STANDARD DETAIL.
* ITEM 531.57-P "9-INCH STREET NAME PLATE" (1-EA.) INCLUDES THE INSTALLATION OF (2) ONE-SIDED D3 SIGNS ON TOP OF EXISTING SIGN (I.E., STOP SIGN OR YIELD SIGN). EXTRA LENGTH POLE AND APPURTENANCES REQUIRED TO MEET SPECIFICATIONS.

THE ORIGINAL OF THIS DRAWING WAS SIGNED AND SEALED BY EDWARD N. MERY, P.E., #58698 ON [illegible] AND IS ON FILE WITH THE TRAFFIC ENGINEERING DIVISION OF THE PUBLIC WORKS DEPARTMENT, CITY OF SAN ANTONIO.

JULY 2010
CITY OF SAN ANTONIO
DEPARTMENT OF PUBLIC WORKS
TRAFFIC SIGN STANDARDS
D3 STREET NAME SIGN AND SIGN MOUNTING

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



11/28/23

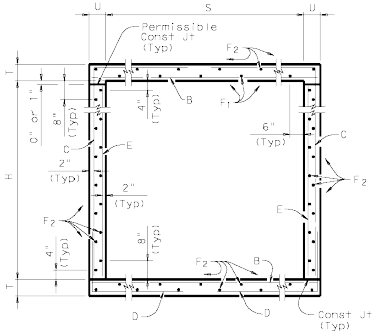
BASS AND WELSH ENGINEERING
TX REGISTRATION NO. F-52, 3054 S. ALAMEDA STREET
CORPUS CHRISTI, TEXAS 78404

PUBLIC IMPROVEMENTS TO
KING'S LANDING UNIT 5
CORPUS CHRISTI, NUECES CO., TX

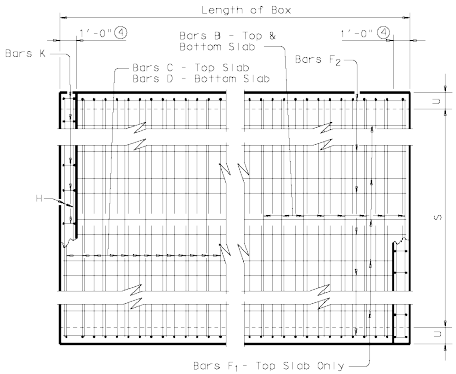
TXDOT & CITY SIGN AND PAVEMENT MARKING REQUIREMENTS AND DETAILS

DWN.		PLOT SCALE:	1" = 50'	COM. NO.	14 TXDOT CITY PVMT MARKINGS
CHK.	N. WELSH	SCALE (H):	AS SHOWN	JOB NO.	23007
		SCALE (V):	AS SHOWN	SHEET	14 OF 21
		DATE PLOTTED	11/28/23		

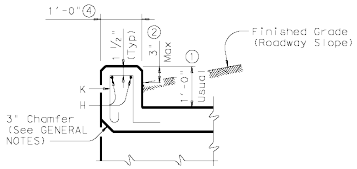
DATE:
FILE:



TYPICAL SECTION



PLAN OF REINF STEEL



SECTION THRU CURB

① 0" min to 5'-0" max. Estimated curb heights are shown elsewhere in the plans. For structures with pedestrian rail, bicycle rail or curbs taller than 1'-0", refer to ECD standard. For structures with T6 bridge rail, refer to T6-CM standard. For structures with traffic rail, other than T6, refer to RAC standard.

② For vehicle safety, the following requirements must be met:
- For structures without bridge rail, curbs shall project no more than 3" above finished grade.
- For structures with bridge rail, curbs shall be flush with finished grade.
Curb heights shall be reduced, if necessary, to meet the above requirements. No changes will be made in quantities and no additional compensation will be allowed for this work.

③ For curbs less than 1'-0" high, tilt bars K or reduce bar height as necessary to maintain cover. For curbs less than 3" high, bars K may be omitted.

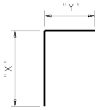
④ 1'-0" typical. 2'-0" when RAC standard is referred to elsewhere in the plans.

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

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

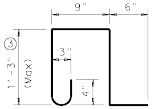
GENERAL NOTES:

Designed according to AASHTO LRFD Specifications.
Designed for the maximum fill height shown.
All reinforcing steel shall be Grade 60.
All concrete shall be Class "C" with these exceptions: use Class "S" for top slabs of culverts with overlay, with 1-to-2 course surface treatment, or with the top slab as the final riding surface.
Class "C" concrete shall have a minimum compressive strength of 3,600 psi. Class "S" concrete shall have a minimum compressive strength of 4,000 psi.
The use of permanent forms is not allowed.
The bottom edge of the top slab shall be chamfered 3" at the entrance.
Reinforcing bars shall be adjusted to provide a minimum of 1 ¼" clear cover.
Construction joints shown at the flow line may be raised a maximum of 6" at the Contractor's option. If this option is used, Bars E may be cut off or raised, and Bars C and D may be reversed.
See standard SCC-MD for skewed ends, angle sections and lengthening details.



BARS C

BARS D



BARS K ~ #4
(Spa = 1'-0" Max)
(Length = 4'-3")

HL93 LOADING

SHEET 1 OF 2

Texas Department of Transportation — Bridge Division Standard

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

SCC-8

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

RELEASED FOR CONSTRUCTION
Bria A. Whitmire, P.E., CPM, CPM
Development Services Engineer
City of Corpus Christi
Note: Construction Plans will expire based on the the conditions stated in UDC 3.5.5.F.

STATE OF TEXAS — NIXON M. WELSH — 36240 — REGISTERED PROFESSIONAL ENGINEER
1/28/23

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

PUBLIC IMPROVEMENTS TO
KING'S LANDING UNIT 5
CORPUS CHRISTI, NUECES CO., TX

TXDOT SINGLE BOX CULVERTS CAST-IN PLACE
SCC-8, SHEET 1 OF 2

DWN.	PLOT SCALE: 1" = 50'	COM. NO.	15 BOX CULV DET TXDOT 8' DP
CHK. N. WELSH	SCALE (H): AS SHOWN	JOB NO.	23007
	SCALE (V): AS SHOWN		
	DATE PLOTTED 1/28/23	SHEET 15 OF 21	

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

SECTION DIMENSIONS				FILL HEIGHT ⑤	Bars B					Bars C							Bars D							Bars E~#4 at 18" Max			Bars F_1~#4			Bars F_2~#4 at 18" Max			Bars H 4~#4		Bars K		QUANTITIES Per foot of Barrel		Curb		Total	
S	H	T	U		No.	Size	Spa	Length	Weight	No.	Size	Spa	Length	Weight	"X"	"Y"	No.	Size	Spa	Length	Weight	"Y"	"Z"	No.	Length	Wt	No.	Spa	Length	Wt	No.	Length	Wt	Length	#	No.	Wt	Conc (CY)	Reinf (LB)	Conc (CY)	Reinf (LB)	Conc (CY)	Reinf (LB)
8'-0"	4'-0"	7"	7"	13"	162	#6	6"	8'-11"	2,170	194	#5	5"	8'- 8"	1,754	4'- 5"	4'- 3"	194	#5	5"	6'-10"	1,383	4'- 3"	2'- 7"	56	4'-0"	150	13	7"	39'-9"	345	32	39'-9"	850	8'-11"	24	20	57	0.569	166.3	0.7	81	23.5	6,733
8'-0"	4'-0"	8"	7"	16"	194	#6	5"	8'-11"	2,598	194	#5	5"	8'- 9"	1,770	4'- 6"	4'- 3"	194	#5	5"	6'-11"	1,400	4'- 3"	2'- 8"	56	4'-0"	150	6	18"	39'-9"	159	32	39'-9"	850	8'-11"	24	20	57	0.626	173.2	0.7	81	25.7	7,008
8'-0"	4'-0"	9"	8"	20"	194	#6	5"	9'- 1"	2,647	194	#5	5"	8'-10"	1,787	4'- 7"	4'- 3"	194	#5	5"	7'- 0"	1,416	4'- 3"	2'- 9"	56	4'-0"	150	6	18"	39'-9"	159	32	39'-9"	850	9'- 1"	24	22	62	0.716	175.2	0.7	86	29.3	7,095
8'-0"	4'-0"	10"	8"	23"	194	#6	5"	9'- 1"	2,647	138	#6	7"	8'-11"	1,848	4'- 8"	4'- 3"	138	#6	7"	7'- 6"	1,555	4'- 3"	3'- 3"	56	4'-0"	150	6	18"	39'-9"	159	32	39'-9"	850	9'- 1"	24	22	62	0.774	180.2	0.7	86	31.7	7,295
8'-0"	4'-0"	11"	9"	30"	162	#7	6"	9'- 3"	3,063	194	#5	5"	9'- 0"	1,821	4'- 9"	4'- 3"	194	#5	5"	7'- 2"	1,450	4'- 3"	2'-11"	56	4'-0"	150	6	18"	39'-9"	159	34	39'-9"	903	9'- 3"	25	22	62	0.867	188.7	0.7	87	35.4	7,633
8'-0"	5'-0"	7"	7"	13"	162	#6	6"	8'-11"	2,170	194	#5	5"	9'- 8"	1,956	5'- 5"	4'- 3"	194	#5	5"	6'-10"	1,383	4'- 3"	2'- 7"	56	5'-0"	187	13	7"	39'-9"	345	36	39'-9"	956	8'-11"	24	20	57	0.612	174.9	0.7	81	25.2	7,078
8'-0"	5'-0"	8"	7"	16"	194	#6	5"	8'-11"	2,598	194	#5	5"	9'- 9"	1,973	5'- 6"	4'- 3"	194	#5	5"	6'-11"	1,400	4'- 3"	2'- 8"	56	5'-0"	187	6	18"	39'-9"	159	36	39'-9"	956	8'-11"	24	20	57	0.669	181.8	0.7	81	27.5	7,354
8'-0"	5'-0"	9"	8"	20"	194	#6	5"	9'- 1"	2,647	194	#5	5"	9'-10"	1,990	5'- 7"	4'- 3"	194	#5	5"	7'- 0"	1,416	4'- 3"	2'- 9"	56	5'-0"	187	6	18"	39'-9"	159	36	39'-9"	956	9'- 1"	24	22	62	0.765	183.9	0.7	86	31.3	7,441
8'-0"	5'-0"	10"	8"	23"	194	#6	5"	9'- 1"	2,647	194	#5	5"	9'-11"	2,007	5'- 8"	4'- 3"	194	#5	5"	7'- 1"	1,433	4'- 3"	2'-10"	56	5'-0"	187	6	18"	39'-9"	159	36	39'-9"	956	9'- 1"	24	22	62	0.823	184.7	0.7	86	33.6	7,475
8'-0"	5'-0"	11"	9"	30"	194	#7	5"	9'- 3"	3,668	194	#5	5"	10'- 0"	2,023	5'- 9"	4'- 3"	194	#5	5"	7'- 2"	1,450	4'- 3"	2'-11"	56	5'-0"	187	6	18"	39'-9"	159	38	39'-9"	1,009	9'- 3"	25	22	62	0.923	212.4	0.7	87	37.6	8,583
8'-0"	6'-0"	7"	7"	13"	194	#6	5"	8'-11"	2,598	162	#5	6"	10'- 8"	1,802	6'- 5"	4'- 3"	162	#5	6"	6'-10"	1,155	4'- 3"	2'- 7"	56	6'-0"	224	13	7"	39'-9"	345	40	39'-9"	1,062	8'-11"	24	20	57	0.655	179.7	0.7	81	26.9	7,267
8'-0"	6'-0"	8"	7"	16"	194	#6	5"	8'-11"	2,598	194	#5	5"	10'- 9"	2,175	6'- 6"	4'- 3"	194	#5	5"	6'-11"	1,400	4'- 3"	2'- 8"	56	6'-0"	224	6	18"	39'-9"	159	40	39'-9"	1,062	8'-11"	24	20	57	0.712	190.5	0.7	81	29.2	7,699
8'-0"	6'-0"	9"	8"	20"	194	#6	5"	9'- 1"	2,647	194	#5	5"	10'-10"	2,192	6'- 7"	4'- 3"	194	#5	5"	7'- 0"	1,416	4'- 3"	2'- 9"	56	6'-0"	224	6	18"	39'-9"	159	40	39'-9"	1,062	9'- 1"	24	22	62	0.815	192.5	0.7	86	33.3	7,786
8'-0"	6'-0"	10"	8"	23"	194	#6	5"	9'- 1"	2,647	194	#5	5"	10'-11"	2,209	6'- 8"	4'- 3"	194	#5	5"	7'- 1"	1,433	4'- 3"	2'-10"	56	6'-0"	224	6	18"	39'-9"	159	40	39'-9"	1,062	9'- 1"	24	22	62	0.872	193.4	0.7	86	35.6	7,820
8'-0"	6'-0"	11"	9"	30"	194	#7	5"	9'- 3"	3,668	194	#5	5"	11'- 0"	2,226	6'- 9"	4'- 3"	194	#5	5"	7'- 2"	1,450	4'- 3"	2'-11"	56	6'-0"	224	6	18"	39'-9"	159	42	39'-9"	1,115	9'- 3"	25	22	62	0.978	221.1	0.7	87	39.8	8,929
8'-0"	7'-0"	7"	7"	13"	194	#6	5"	8'-11"	2,598	194	#5	5"	11'- 8"	2,361	7'- 5"	4'- 3"	194	#5	5"	6'-10"	1,383	4'- 3"	2'- 7"	56	7'-0"	262	13	7"	39'-9"	345	40	39'-9"	1,062	8'-11"	24	20	57	0.699	200.3	0.7	81	28.7	8,092
8'-0"	7'-0"	8"	7"	16"	194	#6	5"	8'-11"	2,598	194	#5	5"	11'- 9"	2,378	7'- 6"	4'- 3"	194	#5	5"	6'-11"	1,400	4'- 3"	2'- 8"	56	7'-0"	262	6	18"	39'-9"	159	40	39'-9"	1,062	8'-11"	24	20	57	0.755	196.5	0.7	81	30.9	7,940
8'-0"	7'-0"	9"	8"	20"	194	#6	5"	9'- 1"	2,647	194	#5	5"	11'-10"	2,394	7'- 7"	4'- 3"	194	#5	5"	7'- 0"	1,416	4'- 3"	2'- 9"	56	7'-0"	262	6	18"	39'-9"	159	40	39'-9"	1,062	9'- 1"	24	22	62	0.864	198.5	0.7	86	35.3	8,026
8'-0"	7'-0"	10"	8"	23"	162	#7	6"	9'- 1"	3,008	194	#5	5"	11'-11"	2,411	7'- 8"	4'- 3"	194	#5	5"	7'- 1"	1,433	4'- 3"	2'-10"	56	7'-0"	262	6	18"	39'-9"	159	40	39'-9"	1,062	9'- 1"	24	22	62	0.922	208.4	0.7	86	37.6	8,421
8'-0"	7'-0"	11"	9"	30"	194	#7	5"	9'- 3"	3,668	194	#5	5"	12'- 0"	2,428	7'- 9"	4'- 3"	194	#5	5"	7'- 2"	1,450	4'- 3"	2'-11"	56	7'-0"	262	6	18"	39'-9"	159	42	39'-9"	1,115	9'- 3"	25	22	62	1.034	227.1	0.7	87	42.1	9,169
8'-0"	8'-0"	7"	7"	13"	194	#6	5"	8'-11"	2,598	194	#5	5"	12'- 8"	2,563	8'- 5"	4'- 3"	194	#5	5"	6'-10"	1,383	4'- 3"	2'- 7"	56	8'-0"	299	13	7"	39'-9"	345	44	39'-9"	1,168	8'-11"	24	20	57	0.742	208.9	0.7	81	30.4	8,437
8'-0"	8'-0"	8"	7"	16"	194	#6	5"	8'-11"	2,598	194	#5	5"	12'- 9"	2,580	8'- 6"	4'- 3"	194	#5	5"	6'-11"	1,400	4'- 3"	2'- 8"	56	8'-0"	299	6	18"	39'-9"	159	44	39'-9"	1,168	8'-11"	24	20	57	0.798	205.1	0.7	81	32.6	8,285
8'-0"	8'-0"	9"	8"	20"	194	#6	5"	9'- 1"	2,647	194	#5	5"	12'-10"	2,597	8'- 7"	4'- 3"	194	#5	5"	7'- 0"	1,416	4'- 3"	2'- 9"	56	8'-0"	299	6	18"	39'-9"	159	44	39'-9"	1,168	9'- 1"	24	22	62	0.914	207.2	0.7	86	37.3	8,372
8'-0"	8'-0"	10"	8"	23"	162	#7	6"	9'- 1"	3,008	194	#5	5"	12'-11"	2,614	8'- 8"	4'- 3"	194	#5	5"	7'- 1"	1,433	4'- 3"	2'-10"	56	8'-0"	299	6	18"	39'-9"	159	44	39'-9"	1,168	9'- 1"	24	22	62	0.971	217.0	0.7	86	39.5	8,767
8'-0"	8'-0"	11"	9"	30"	194	#7	5"	9'- 3"	3,668	194	#5	5"	13'- 0"	2,630	8'- 9"	4'- 3"	194	#5	5"	7'- 2"	1,450	4'- 3"	2'-11"	56	8'-0"	299	6	18"	39'-9"	159	46	39'-9"	1,221	9'- 3"	25	22	62	1.090	235.7	0.7	87	44.3	9,514

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

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

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

HL93 LOADING

SHEET 2 OF 2

Texas Department of Transportation

Bridge Division Standard

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

SCC-8

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

RELEASED FOR CONSTRUCTION
Bria A. Whitmire, P.E., CPM, CPM
Development Services Engineer
City of Corpus Christi
Note: Construction Plans will expire based on the the conditions stated in UDC 3.5.E.F.

NIXON M. WELSH 86240 REGISTERED PROFESSIONAL ENGINEER STATE OF TEXAS
1/25/23

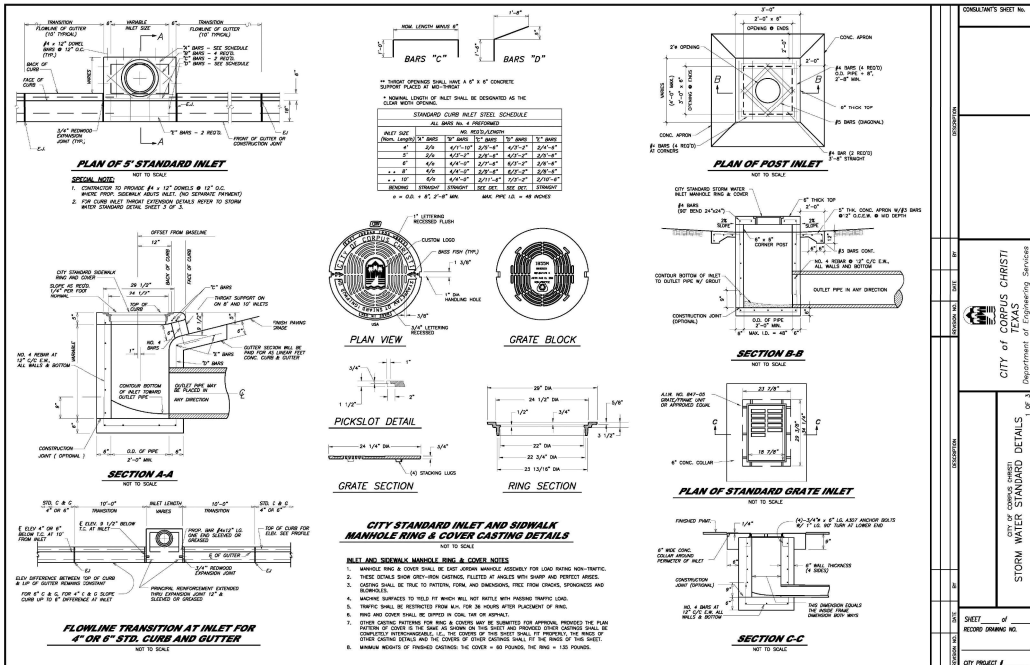
BASS AND WELSH ENGINEERING
TX REGISTRATION NO. F-52, 3054 S. ALAMEDA STREET
CORPUS CHRISTI, TEXAS 78404

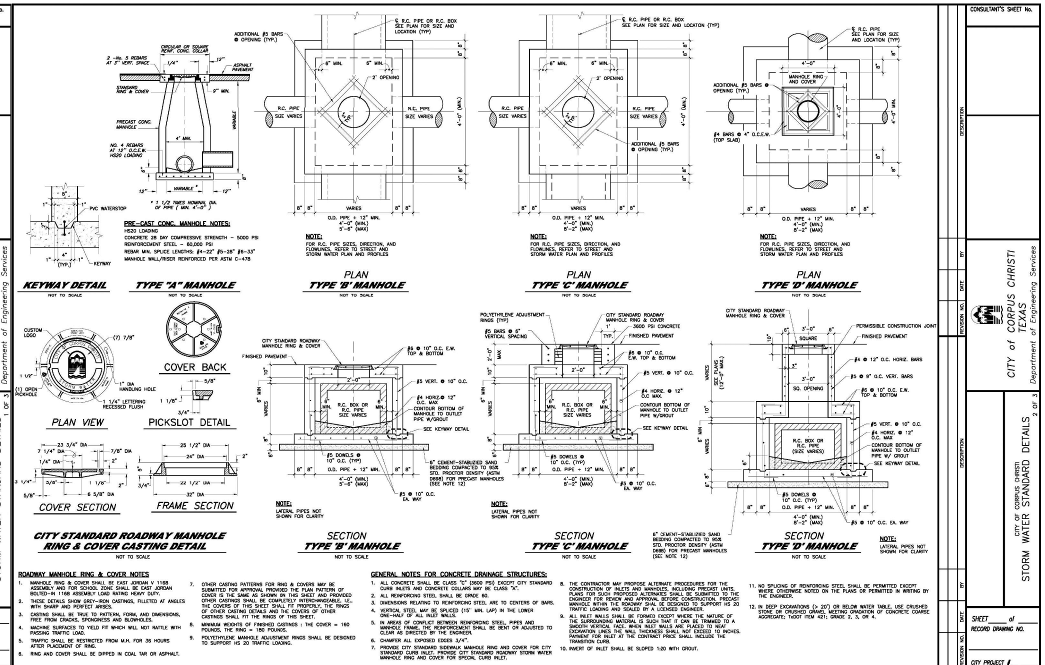
PUBLIC IMPROVEMENTS TO
KING'S LANDING UNIT 5
CORPUS CHRISTI, NUECES CO., TX

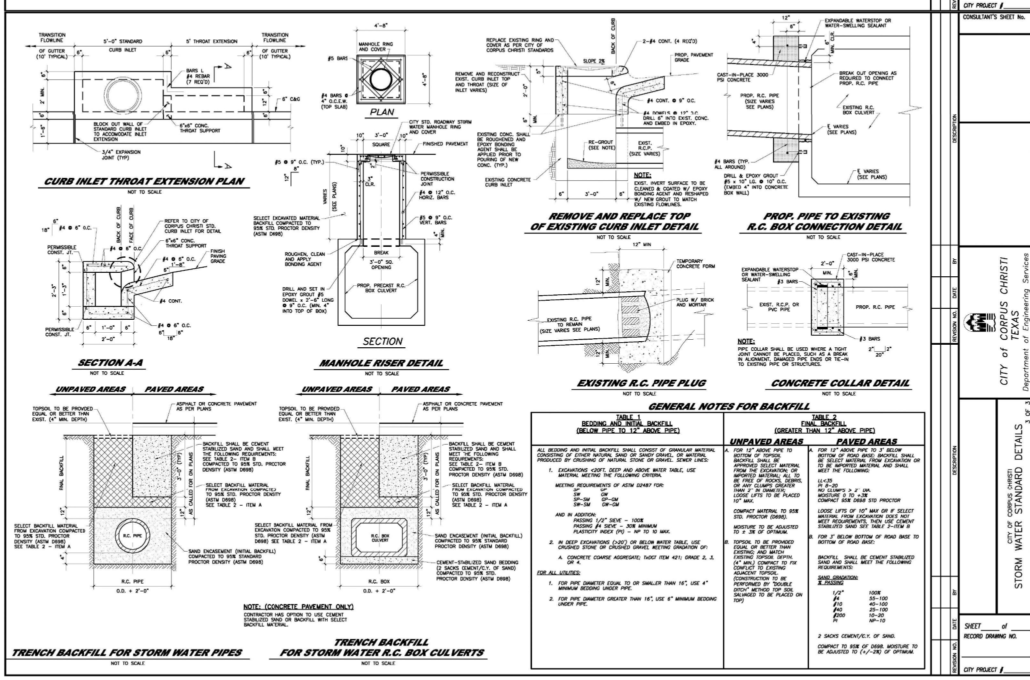
TXDOT SINGLE BOX CULVERTS CAST-IN PLACE
SCC-8, SHEET 2 OF 2

DWN. ____ PLOT SCALE: 1" = 50'
SCALE (H): AS SHOWN
SCALE (V): AS SHOWN
CHK. N. WELSH DATE PLOTTED 11/28/23
COM. NO. TXDOT 8' CIP
JOB NO. 23007
SHEET 16 OF 21
16 BOX CULV DET

DATE:
FILE:


PLAN OF 5' STANDARD INLET
SECTION A-A
FLOWLINE TRANSITION AT INLET FOR 4" OR 6" STD. CURB AND GUTTER
BARS "C"
BARS "D"
STANDARD CURB INLET STEEL SCHEDULE
PLAN VIEW
GRATE BLOCK
PICKSLOT DETAIL
GRATE SECTION
RING SECTION
CITY STANDARD INLET AND SIDWALK MANHOLE RING & COVER CASTING DETAILS
PLAN OF POST INLET
SECTION B-B
PLAN OF STANDARD GRATE INLET
SECTION C-C
CITY of CORPUS CHRISTI TEXAS
Department of Engineering Services
STORM WATER STANDARD DETAILS
1 of 3


KEYWAY DETAIL
TYPE "A" MANHOLE
PLAN VIEW
COVER BACK
PICKSLOT DETAIL
COVER SECTION
FRAME SECTION
CITY STANDARD ROADWAY MANHOLE RING & COVER CASTING DETAIL
PLAN TYPE 'B' MANHOLE
SECTION TYPE 'B' MANHOLE
PLAN TYPE 'C' MANHOLE
SECTION TYPE 'C' MANHOLE
PLAN TYPE 'D' MANHOLE
SECTION TYPE 'D' MANHOLE
GENERAL NOTES FOR CONCRETE DRAINAGE STRUCTURES:
CITY of CORPUS CHRISTI TEXAS
Department of Engineering Services
STORM WATER STANDARD DETAILS
2 of 3


CURB INLET THROAT EXTENSION PLAN
SECTION A-A
PLAN
SECTION
MANHOLE RISER DETAIL
REMOVE AND REPLACE TOP OF EXISTING CURB INLET DETAIL
PROP. PIPE TO EXISTING R.C. BOX CONNECTION DETAIL
EXISTING R.C. PIPE PLUG
CONCRETE COLLAR DETAIL
TRENCH BACKFILL FOR STORM WATER PIPES
TRENCH BACKFILL FOR STORM WATER R.C. BOX CULVERTS
GENERAL NOTES FOR BACKFILL
CITY of CORPUS CHRISTI TEXAS
Department of Engineering Services
STORM WATER STANDARD DETAILS
3 of 3

RELEASED FOR CONSTRUCTION

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

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

STATE OF TEXAS
NIXON M. WELSH
36240
REGISTERED PROFESSIONAL ENGINEER

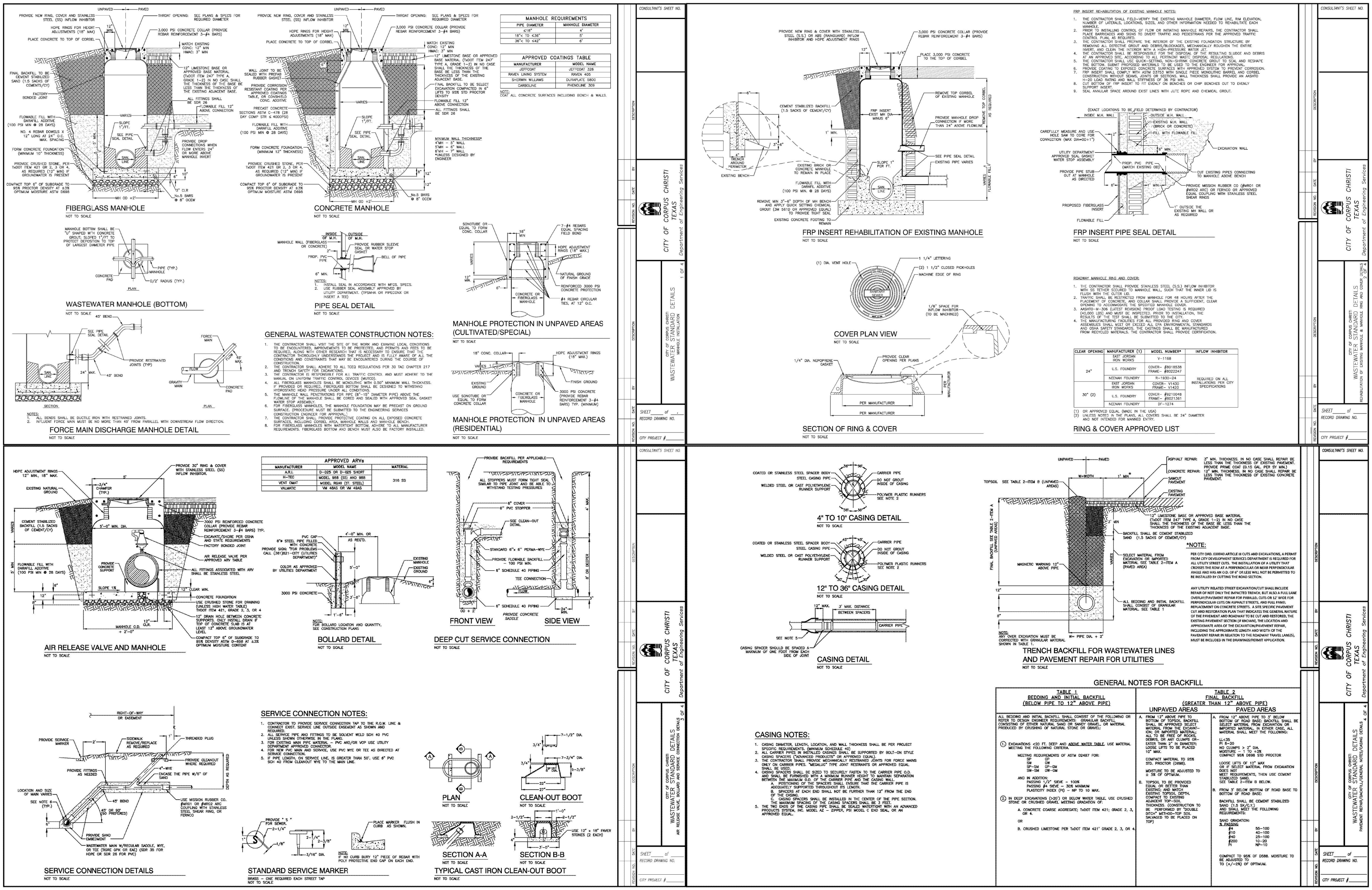
11/28/23

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

PUBLIC IMPROVEMENTS TO
KING'S LANDING UNIT 5
CORPUS CHRISTI, NUECES CO., TX

CITY STORM WATER STANDARD DETAILS

DWN.		PLOT SCALE: 1" = 50'	COM. NO. 17 STD STD DET
		SCALE (H): AS SHOWN	JOB NO. 23007
CHK.	N. WELSH	SCALE (V): AS SHOWN	SHEET 17 OF 21
		DATE PLOTTED 11/28/23	



RELEASED FOR CONSTRUCTION

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

Note: Construction Plans will expire based on the the conditions stated in UDC 3.5.5.F.

STATE OF TEXAS
NIXON M. WELSH
36240
REGISTERED PROFESSIONAL ENGINEER

11/28/23

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

PUBLIC IMPROVEMENTS TO
KING'S LANDING UNIT 5
CORPUS CHRISTI, NUECES CO., TX

CITY WASTE WATER STANDARD DETAILS

DWN.		PLOT SCALE:	1" = 50'	COM. NO.	18 WW STD DET
		SCALE (H):	AS SHOWN	JOB NO.	23007
CHK.	N. WELSH	SCALE (V):	AS SHOWN		
		DATE PLOTTED	11/28/23	SHEET	18 OF 21

WATER DISTRIBUTION SYSTEM GENERAL NOTES

1. PROPOSED WATER DISTRIBUTION SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH CITY OF CORPUS CHRISTI WATER DIVISION DISTRIBUTION SYSTEM STANDARDS.
2. 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.
3. 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.
4. THE CONTRACTOR SHALL FURNISH ALL MATERIAL, LABOR AND EQUIPMENT REQUIRED TO INSTALL THE PROPOSED SYSTEM.
5. TESTING OF LINES (STERILIZATION AND PRESSURED) 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 DECHLORINATED IN ACCORDANCE WITH TNRCC & NPDES REGULATIONS.
6. 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.
7. 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.
8. 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 CREWS WILL MAKE TAPS ON CITY MAINS ARRANGED THROUGH WATER DIVISION INSPECTOR (72 HOUR NOTIFICATION).
9. 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 SAID RECONNECTIONS / RELOCATIONS IN ADVANCE OF CONSTRUCTION TO AVOID DELAYS. (NO SEPARATE COSTS)
10. MINOR 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 PAID AT THE UNIT PRICE BID FOR THE APPROPRIATE SIZE WATERLINE. A MINOR LENGTH IS DEFINED AS A SINGLE LOCATION REQUIRING THE USE OF TWO JOINTS OR LESS.
11. MINOR ADJUSTMENTS IN THE LOCATIONS OF FITTINGS, VALVES, FIRE HYDRANTS, ETC. CAN BE ANTICIPATED. THE CONTRACTOR SHALL MAKE SAID MINOR 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.
12. ALL NIPPLES BETWEEN FITTINGS AND VALVES ALONG MAINS SHALL BE DUCTILE IRON.
13. ALL DUCTILE IRON PIPES, VALVES, AND FITTINGS SHALL BE WRAPPED WITH (2) THICKNESSES OF 8 MIL. POLYETHYLENE AND SHALL BE RESTRAINED WITH "MEGALUG", 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 ENGINEER.
14. 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.
15. IF A WATER LINE IS TO BE ABANDONED, THE CONTRACTOR WILL FILL WITH CONTROLLED LOW STRENGTH MATERIAL, "DARAFILL" BRAND OR ENGINEER APPROVED EQUAL. VALVES WILL BE REMOVED OR FILLED AS REQUIRED BY WATER DIVISION INSPECTOR.
16. CONTRACTOR SHALL COORDINATE WITH WATER DIVISION INSPECTOR AND NOTIFY ALL AFFECTED CUSTOMERS 24 HOURS PRIOR TO KILLOUT OF EXISTING WATER SYSTEM.
17. WATER DISTRIBUTION SYSTEM STANDARDS CALL FOR MAXIMUM 48" COVER ON WATERLINES. WHEN DEPTHS EXCEED 48" COVER TO AVOID OBSTRUCTION, THE USES OF BENDS COULD BE REQUIRED.
18. CONTRACTOR SHALL KEEP ALL EXISTING VALVES ACCESSIBLE DURING ALL PHASES OF CONSTRUCTION.
19. ALL NEW WATER MAINS SHALL BE INSTALLED SO THAT PIPE IDENTIFICATION MARKINGS ARE LOCATED ON THE TOP OF THE PIPE.
20. ALL SERVICE LINES UNDER PAVEMENT SHALL BE ONE INCH, INSIDE DIAMETER, MINIMUM.

SPECIAL NOTE:

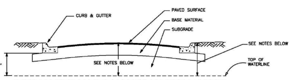
ENGINEER SHALL CONTACT THE UTILITY DEPARTMENT FOR WATER VAULT DESIGN COORDINATION.

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 C900 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.

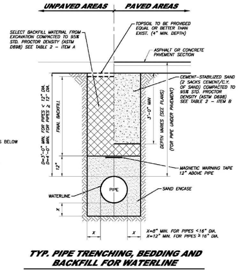


WATERLINE MINIMUM COVER REQUIREMENTS

NOT TO SCALE

NOTES:

1. ALL MAINS IN THE STREET SHALL HAVE A MINIMUM OF 36" OF COVER AND BE 12" MINIMUM BELOW SUBGRADE AT ALL POINTS AND HAVE VALVE CLEARANCES IN ACCORDANCE WITH THE VALVE DETAIL.
2. ALL TRANSMISSION MAINS (12" DIAMETER & ABOVE) IN THE STREET SHALL HAVE 48" OF COVER AT ALL POINTS.
3. ALL MAINS NOT UNDER THE STREET SHALL HAVE A MINIMUM OF 36" OF COVER AT ALL POINTS.



TYP. PIPE TRENCHING, BEDDING AND BACKFILL FOR WATERLINE

NOT TO SCALE

NOTE: (CONCRETE PAVEMENT ONLY)
CONTRACTOR HAS OPTION TO USE CEMENT STABILIZED SAND OR BACKFILL WITH SELECT BACKFILL MATERIAL

GENERAL NOTES FOR BACKFILL

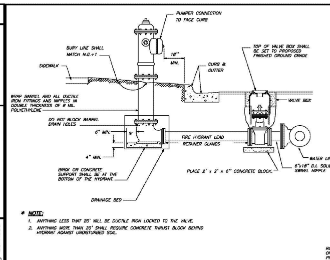
TABLE 1 BEDDING AND INITIAL BACKFILL (BELOW PIPE TO 12" ABOVE PIPE)	TABLE 2 FINAL BACKFILL (GREATER THAN 12" ABOVE PIPE) UNPAVED AREAS	PAVED AREAS
ALL BEDDING AND INITIAL BACKFILL SHALL CONSIST OF THE FOLLOWING OR REFER TO DESIGN ENGINEER REQUIREMENTS: GRANULAR BACKFILL CONSISTING OF EITHER NATURAL SAND OR SANDY GRAVEL, OR MATERIAL PRODUCED BY CRUSHING OF NATURAL STONE OR GRAVEL. WATER LINES: 1. EXCAVATIONS <20FT. DEEP AND ABOVE WATER TABLE, USE MATERIAL MEETING THE FOLLOWING CRITERIA. MEETING REQUIREMENTS OF ASTM D2487 FOR: SP GP SW GW SP-SM GP-GM SW-SM GW-GM AND IN ADDITION: PASSING 1/2" SIEVE - 100% PASSING #4 SIEVE - 30% MINIMUM PLASTICITY INDEX (PI) - NP TO 10 MAX. 2. IN DEEP EXCAVATIONS (>20') OR BELOW WATER TABLE, USE CRUSHED STONE OR CRUSHED GRAVEL MEETING GRADATION OF: A. CONCRETE COARSE AGGREGATE; TxDOT ITEM 421; GRADE 2, 3, OR 4.	A. FOR 12" ABOVE PIPE TO BOTTOM OF TOPSOIL BACKFILL SHALL BE APPROVED SELECT MATERIAL FROM THE EXCAVATION; OR IMPORTED MATERIAL; ALL TO BE FREE OF ROCKS, DEBRIS, OR ANY CLUMPS GREATER THAN 2" IN DIAMETER; LOOSE LIFTS TO BE PLACED 10" MAX. COMPACT MATERIAL TO 95% STD. PROCTOR (D698). MOISTURE TO BE ADJUSTED TO ± 3% OF OPTIMUM. B. TOPSOIL TO BE PROVIDED EQUAL OR BETTER THAN EXISTING; AND MATCH EXISTING TOPSOIL DEPTH. COMPACT TO FIX CONFLICT TO EXISTING ADJACENT TOPSOIL (CONSTRUCTION TO BE PERFORMED BY "DOUBLE DITCH" METHOD TOP SOIL SALVAGED TO BE PLACED ON TOP)	A. FOR 12" ABOVE PIPE TO 3" BELOW BOTTOM OF ROAD BASE; BACKFILL SHALL BE SELECT MATERIAL FROM EXCAVATION OR TO BE IMPORTED MATERIAL IN EITHER CASE, ALL MATERIAL SHALL MEET THE FOLLOWING: LL<35 PI 8-20 NO CLUMPS > 2" DIA. MOISTURE 0 TO +3% COMPACT 95% D698 STD PROCTOR LOOSE LIFTS OF 10" MAX OR IF SELECT MATERIAL FROM EXCAVATION DOES NOT MEET REQUIREMENTS, THEN USE CEMENT STABILIZED SAND SEE TABLE 2-ITEM B BELOW (OR PER DESIGN ENGINEER) B. FOR 3' BELOW BOTTOM OF ROAD BASE TO BOTTOM OF ROAD BASE: BACKFILL SHALL BE CEMENT STABILIZED SAND (2 SK/C.Y.) AND SHALL MEET THE FOLLOWING REQUIREMENTS: SAND GRADATION: % PASSING #4 55-100 #10 40-100 #40 25-100 #200 10-20 PI NP-10 (OR AS PER DESIGN ENGINEER) COMPACT TO 95% OF D698. MOISTURE TO BE ADJUSTED TO (+/-2%) OF OPTIMUM.

CITY of CORPUS CHRISTI
TEXAS
Department of Engineering Services

CITY OF CORPUS CHRISTI
WATER STANDARD DETAILS
WATER DISTRIBUTION SYSTEM GENERAL NOTES & BACKFILL AND EMBEDMENT DETAILS
1 OF 4

REVISION NO.	DATE	BY	DESCRIPTION

SHEET ___ of ___
RECORD DRAWING NO.
CITY PROJECT # ___
CONSULTANT'S SHEET No.

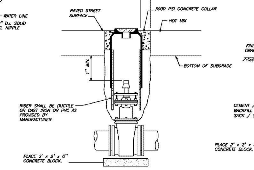


* NOTE:
1. ANYTHING LESS THAT 20' WILL BE DUCTILE IRON LOCKED TO THE VALVE.
2. ANYTHING MORE THAN 20' SHALL REQUIRE CONCRETE THRUST BLOCK BEHIND HYDRANT AGAINST UNDISTURBED SOIL.

FIRE HYDRANT ASSEMBLY DETAIL (TYPE 1)

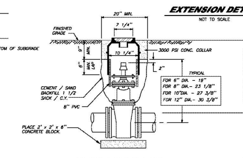
NOT TO SCALE

FIRE HYDRANTS:
1. DRAINAGE BED SHALL CONSIST OF CRUSHED STONE OR COARSE GRAVEL W/ COARSE SAND, MIN. VOLUME 7 CU. FT., DRAIN BED SHALL EXTEND A MIN. 6" ABOVE DRAIN OUTLET.
2. ALL FIRE HYDRANT FITTINGS SHALL BE LOCKED TOGETHER BY LOCKING RETAINER GLANDS.
3. FIRE HYDRANT TO BE BLOCKED AGAINST FIRM SOIL AS SHOWN.
4. ALL HYDRANTS SHALL BE INSTALLED PLUMB.
5. LARGE NOZZLE FACES ROAD, UNLESS OTHERWISE NOTED. ROTATE BARREL AS REQUIRED.
6. HYDRANT SHOULD NOT BE SET CLOSER THAN 4' TO OBSTRUCTIONS THAT ARE IN LINE WITH NOZZLE.
7. FIRE HYDRANT SHALL BE SET TO MANUFACTURER'S BURY LINE AT PROPOSED/EXISTING GRADE PLUS 1".
8. NO TAPS ARE TO BE MADE ON FIRE HYDRANT LEAD.



VALVE BOX DETAIL @ PAVEMENT

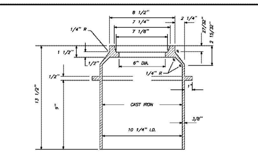
NOT TO SCALE



VALVE BOX DETAIL @ NATURAL GROUND

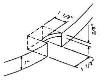
NOT TO SCALE

ALL VALVES SHALL BE HOUSED IN APPROVED VALVE BOXES



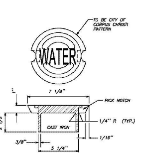
EXTENSION DETAIL

NOT TO SCALE



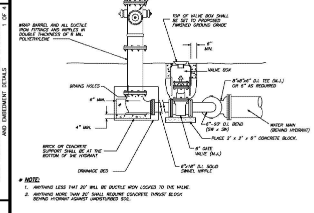
PICK NOTCH

NOT TO SCALE



LID DETAIL

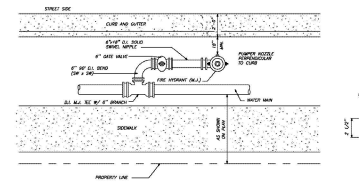
NOT TO SCALE



* NOTE:
1. ANYTHING LESS THAT 20' WILL BE DUCTILE IRON LOCKED TO THE VALVE.
2. ANYTHING MORE THAN 20' SHALL REQUIRE CONCRETE THRUST BLOCK BEHIND HYDRANT AGAINST UNDISTURBED SOIL.

FIRE HYDRANT ASSEMBLY DETAIL (TYPE 2)

WATER LINE BEHIND CURB
NOT TO SCALE



FIRE HYDRANT ASSEMBLY DETAIL (TYPE 2)

NOT TO SCALE

CITY of CORPUS CHRISTI
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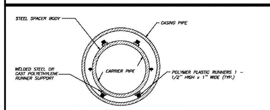
Department of Engineering Services

CITY OF CORPUS CHRISTI
WATER STANDARD DETAILS
FIRE HYDRANT, VALVE BOX AND LID
2 OF 4

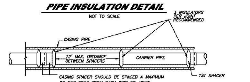
REVISION NO.	DATE	BY	DESCRIPTION

SHEET ___ of ___
RECORD DRAWING NO.
CITY PROJECT # ___
CONSULTANT'S SHEET No.



PIPE INSULATION DETAIL

NOT TO SCALE

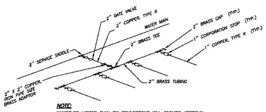


INSULATOR SPACING DETAIL

NOT TO SCALE

CASING SPACERS

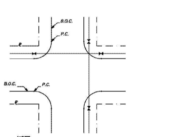
A. ALL CARRIER PIPE IN CASING INSTALLED BY JACKING OR BORING SHALL BE SUPPORTED BY BOLT-ON STYLE CASING SPACERS, AS MANUFACTURED BY ADVANCE PRODUCTS INC. OR ENGINEER APPROVED EQUAL.
B. CASING SPACERS FOR PIPE INSTALLED IN CASING SHALL HAVE A FUSION BONDED EPOXY CARBON STEEL BODY, NEOPRENE OR PVC LINER, STEEL SUPPORTS AND U.H.M.W. POLYETHYLENE RUNNERS.
C. CASING SPACERS SHALL BE SIZED TO SECURELY FASTEN ON TO THE CARRIER PIPE BARRIER O.D. AND SHALL BE FURNISHED WITH A MINIMUM RUNNER HEIGHT TO PREVENT THE PIPE FROM RESTING OR SLIDING ON ITS JOINTS DURING THE INSTALLATION.
   1. POSITIONING OF SPACERS SHOULD ENSURE THAT THE CARRIER PIPE IS ADEQUATELY SUPPORTED THROUGHOUT ITS LENGTH.
   2. SPACERS AT EACH END SHALL NOT BE FURTHER THAN 6" FROM THE END OF CASING REGARDLESS OF SIZE OF CASING AND CARRIER PIPE OR TYPE OF SPACER USED.
D. FOR PIPE WITH MECHANICAL JOINTS, FLANGES OR BELL AND SPIGOT JOINTS, CASING SPACERS SHALL BE INSTALLED WITHIN ONE FOOT ON EACH SIDE OF THE BELL OR FLANGE AND ONE IN THE CENTER OF THE JOINT WHEN 18 TO 20 FOOT LONG JOINTS ARE USED. MAXIMUM SPACING FOR SPACERS IS 12 FEET.



NOTE:
MANIFOLDS LARGER THAN SIX CONNECTIONS WILL REQUIRE APPROVAL FROM THE CITY OF CORPUS CHRISTI WATER DEPARTMENT FOR ANOTHER WATER TAP AND SERVICE.

THREE TO SIX WATER CONNECTIONS

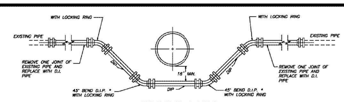
NOT TO SCALE



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

TYPICAL VALVE INSTALLATION AT INTERSECTIONS

NOT TO SCALE

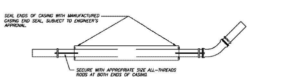


* ALL FITTINGS SHALL BE RESTRAINED BY MECHANICAL JOINT RESTRAINT DEVICE "MEGALUG" AS INDICATED BY PLANS AND SPECS., OR ENGINEER APPROVED EQUAL, AND CONCRETE THRUST BLOCK, AS DESIGNATED BY WATER DIVISION INSPECTOR

WATERLINE ADJUSTMENT DETAIL

NOT TO SCALE

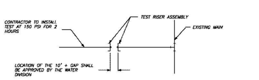
NOTE:
SEE #18 UNDER GENERAL NOTES



NOTE:
CASING SHALL BE STEEL.

TYPICAL CASING DETAIL

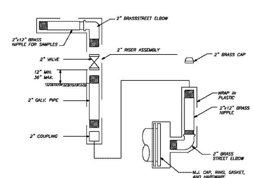
NOT TO SCALE



1. HYDROSTATIC TEST: 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 WATER CONSTRUCTION METER. THE TEST PUMP WITH APPROPRIATE CONNECTION POINTS AS APPROVED BY THE WATER SUPERINTENDENT FOR THE INSTALLATION OF METER AND GAUGE SHALL BE FURNISHED BY THE CONTRACTOR. THE METER SHALL BE DIRECTLY CONNECTED TO THE MAIN OR PIPE BEING TESTED BY THE USE OF COPPER TUBING OR AN APPROVED REINFORCED HOSE. THE METER SHALL BE PROTECTED AGAINST EXTREME PRESSURES BY THE USE OF A ONE (1") INCH SAFETY RELIEF VALVE SET AT THE TEST PRESSURE PLUS TEN POUNDS PER SQUARE INCH AND FURNISHED BY THE CITY (48 HOURS NOTIFICATION).
2. BACTERIOLOGICAL TEST: CONTRACTOR SHALL FURNISH AND INSTALL TEST RISER ASSEMBLY. AFTER BACTERIOLOGICAL SAMPLE PASSES TEST, CONTRACTOR SHALL REMOVE TEST RISER ASSEMBLIES AND TIE NEW SYSTEM TO EXISTING UNDER THE SUPERVISION OF THE WATER DIVISION INSPECTOR. CONTRACTOR SHALL FURNISH ALL MATERIALS, LABOR AND EQUIPMENT THAT IS REQUIRED TO MAKE TIE / CONNECTION. CONTRACTOR WILL SCHEDULE & COORDINATE WITH WATER DIVISION INSPECTOR ON DATE & TIME OF TIE-IN. (24 HOURS NOTIFICATION)
3. CONTRACTOR SHALL FURNISH AND INSTALL TAPPING SLEEVE OR SADDLE AND TAPPING GATE VALVE AND VALVE BOX COMPLETE. CITY TO MAKE TAP (72 HOURS NOTIFICATION)

DETAIL "A"
TEST RISER ASSEMBLY CONNECTION

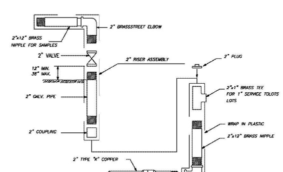
NOT TO SCALE



NOTE:
AFTER BACTERIOLOGICAL SAMPLE PASSES TEST, CONTRACTOR WILL REMOVE RISER ASSEMBLY AND INSTALL 2" BRASS CAP

DETAIL "B"
TEST RISER ASSEMBLY

NOT TO SCALE
FURNISHED AND INSTALLED BY CONTRACTOR



NOTE:
CONTRACTOR WILL REMOVE RISER ASSEMBLY AND INSTALL 2" BRASS PLUG ON 2"x1" BRASS TEE AFTER SAMPLE PASSES

DETAIL "C"
TEST RISER ASSEMBLY

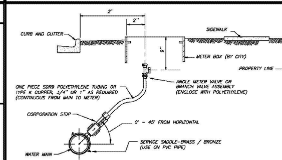
NOT TO SCALE
FURNISHED AND INSTALLED BY CONTRACTOR

CITY of CORPUS CHRISTI
TEXAS
Department of Engineering Services

CITY OF CORPUS CHRISTI
WATER STANDARD DETAILS
ADJUSTMENTS, CASING DETAILS, RISER DETAILS & TYP. VALVE LAYOUT
3 OF 4

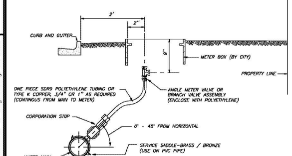
REVISION NO.	DATE	BY	DESCRIPTION

SHEET ___ of ___
RECORD DRAWING NO.
CITY PROJECT # ___
CONSULTANT'S SHEET No.



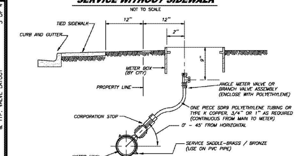
SERVICE WITH SIDEWALK

NOT TO SCALE



SERVICE WITHOUT SIDEWALK

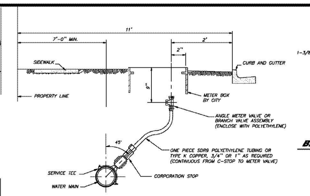
NOT TO SCALE



SERVICE WITH SIDEWALK TIED TO CURB

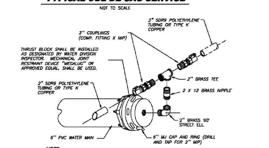
NOT TO SCALE

NOTES:
1. IF THERE IS LESS THAN 2' FROM BACK OF SIDEWALK TO PROPERTY LINE, THE METER BOX SHALL BE PLACED 1' BEHIND PROPERTY LINE AND UTILITY EASEMENT WILL BE REQUIRED.
2. IF THERE IS MORE THAN 2' FROM BACK OF SIDEWALK TO PROPERTY LINE, THE METER BOX SHALL BE PLACED BEHIND SIDEWALK.
3. THE WATER DIVISION WILL APPROVE ANY PLACEMENT OF A SERVICE LINE IN A TIED/SIDEWALK SITUATION.



TYPICAL CUL-DE-SAC SERVICE

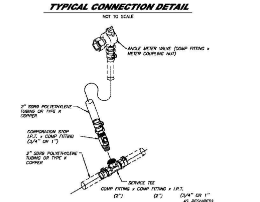
NOT TO SCALE



NOTE:
NO MORE THAN 3 LOTS SHALL BE SERVED PER LEG.

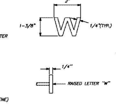
TYPICAL CONNECTION DETAIL

NOT TO SCALE

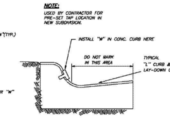


TYPICAL CONNECTION DETAIL

NOT TO SCALE



BRASS "W" DETAIL



NOTE:
USED BY CONTRACTOR FOR PRE-SET TAP LOCATION IN NEW SUBDIVISION.

MARKER LOCATION

PRE-SET SERVICE LINE MARKER DETAILS

NOT TO SCALE

SERVICE LINE MATERIALS

SERVICE CLAMPS
FOR 3/4", 1", 1 1/2" I.P. THREAD TAPS FOR 6" MAINS; 2" I.P. THREAD CLAMP TAP CONNECTION ALLOWED FOR 8" AND LARGER MAINS.

CORPORATION STOPS
3/4", 1", 1 1/2", AND 2" REQUIRED WITH I.P. THREAD INLET BY COPPER COMPRESSION OUTLET WITH CLAMP - CORPORATION STOP REQUIRED AT ALL SERVICE TAPS.

ONE PIECE SDR9 POLYETHYLENE TUBING OR TYPE K COPPER
REQUIRED FOR ALL SERVICE LINES BETWEEN MAIN TO METER - SIZES REQUIRED 3/4", 1", 1 1/2", AND 2" (NO SPLICES ALLOWED)

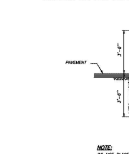
ANGLE METER STOP
REQUIRED AT ALL METERS - SIZES 3/4" & 1" - INSTALL 3/4" UNLESS DIRECTED OTHERWISE - COPPER COMPRESSION W/ CLAMP INLET BY METER COUPLING NUT OUTLET.

METER (BY OTHERS)
METER ADAPTER AND CHECK VALVE (BY OTHERS)
REQUIRED AT ALL METERS - SIZES 3/4" & 1" - INSTALL 3/4" UNLESS DIRECTED OTHERWISE - METER NUT INLET BY 3/4" MALE I.P. OUTLET.

ADAPTER COUPLING (BY OTHERS)
REQUIRED AT ALL METERS - 3/4" & 1" - FEMALE I.P. BY PVC COMPRESSION.

METER BOX
CAST IRON W/ HOT TAR DIP SHALL BE PROVIDED BY THE CONTRACTOR FOR 3/4" METER SETTINGS, IF EXISTING STRUCTURE DOES NOT HAVE ONE. BOXES FOR LARGER (1" & UP) METER SETTINGS SHALL BE FURNISHED BY THE CITY.

BRASS FITTINGS
BRASS FITTINGS SHALL COMPLY WITH A.W.W.A. C800-66 AND BE WRAPPED IN POLYETHYLENE.



NOTE:
DO NOT PLACE BOLLARD IN FRONT OF HOSE OUTLETS

BOLLARD DETAIL

NOT TO SCALE

CITY of CORPUS CHRISTI
TEXAS
Department of Engineering Services

CITY OF CORPUS CHRISTI
WATER STANDARD DETAILS
MAIN TO SERVICE DETAILS AND OTHERS
4 OF 4

REVISION NO.	DATE	BY	DESCRIPTION

SHEET ___ of ___
RECORD DRAWING NO.
CITY PROJECT # ___
CONSULTANT'S SHEET No.

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

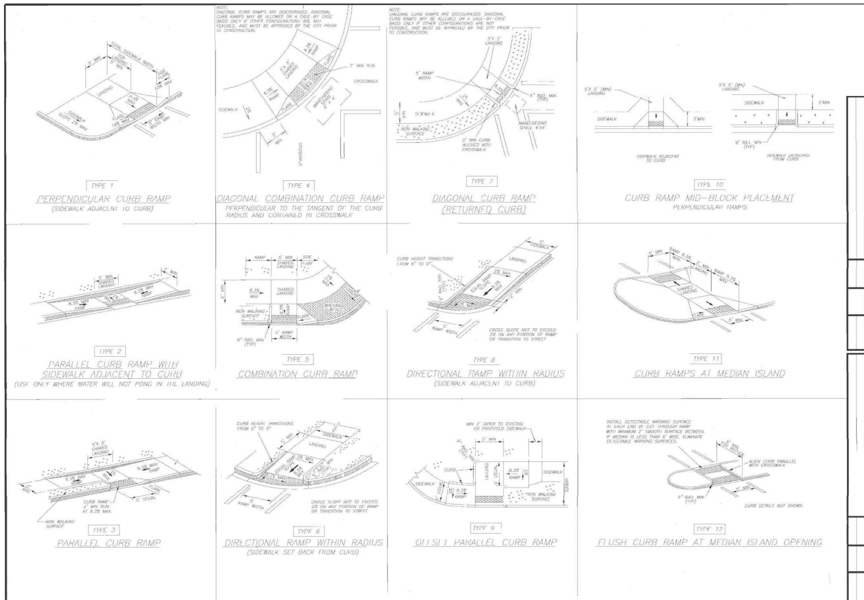
STATE OF TEXAS
NIXON M. WELSH
36240
REGISTERED PROFESSIONAL ENGINEER
11/28/23

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

PUBLIC IMPROVEMENTS TO
KING'S LANDING UNIT 5
CORPUS CHRISTI, NUECES CO., TX

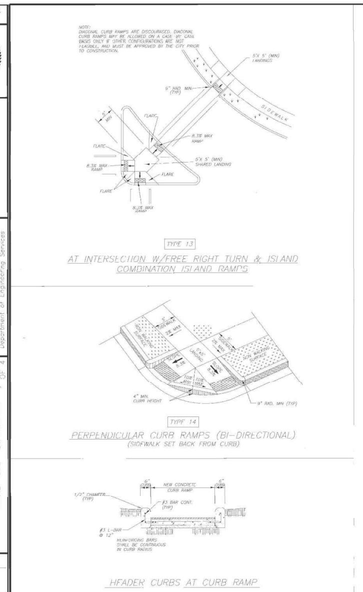
CITY WATER STANDARD DETAILS

DWN.		PLOT SCALE: 1" = 50'	COM. NO. 19 WTR STD DET
CHK.	N. WELSH	SCALE (H): AS SHOWN	JOB NO. 23007
		SCALE (V): AS SHOWN	SHEET 19 OF 21
		DATE PLOTTED 11/28/23	



CITY OF CORPUS CHRISTI TEXAS
Department of Engineering Services

CITY OF CORPUS CHRISTI PEDESTRIAN CURB RAMP STANDARDS 1 OF 4



SUBGRADE PREPARATION:

1. SUBGRADE UNDER CONCRETE SIDEWALKS AND CURB RAMPS SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY.

SIDEWALK NOTES:

1. THE MINIMUM SIDEWALK WIDTH FOR ALL ARTERIAL AND COLLECTOR STREETS IS 5'. WHERE A 5' SIDEWALK CAN NOT BE PROVIDED DUE TO SITE CONSTRAINTS, A MINIMUM 4' SIDEWALK MAY BE PROVIDED. 5'X5' PASSING AREAS SHALL BE PROVIDED AT INTERVALS NOT TO EXCEED 200' FOR ALL SIDEWALKS LESS THAN 5' IN WIDTH.
2. MAXIMUM ALLOWABLE CROSS SLOPE ON SIDEWALK SURFACE IS 2%.
3. ALL EXPANSION JOINTS TO BE 3/4" THICK WOOD FIBER ASPHALT-IMPREGNATED EXPANSION BOARD, UNLESS OTHERWISE NOTED.
4. ALL CONCRETE TO BE CLASS 'A' f'c=3,000 PSI. ALL REINFORCING STEEL TO BE GRADE 60, fy=60,000 PSI.
5. SIDEWALKS SHALL BE AT LEAST 4" THICK CONCRETE.
6. CONCRETE SURFACE TO RECEIVE BROOM FINISH.
7. TRANSVERSE CONTRACTION JOINTS 1/8" WIDE BY 1/2" DEEP SHALL BE CUT IN ALL SIDEWALKS AT 5'-0" INTERVALS (MAXIMUM).
8. PROVIDE PEDESTRIAN ACCESSIBLE ROUTE WITH DETECTABLE WARNING SURFACE FOR SIDEWALKS THAT INTERSECT CONTROLLED DRIVEWAYS. DETECTABLE WARNING SURFACE SHALL BE A MINIMUM OF 24" IN DEPTH IN THE DIRECTION OF PEDESTRIAN TRAVEL, AND EXTEND THE FULL WIDTH OF THE ACCESSIBLE ROUTE WHERE IT INTERSECTS THE CONTROLLED DRIVEWAY.

CURB RAMP NOTES:

1. PROVIDE CURB RAMPS WHEREVER AN ACCESSIBLE ROUTE CROSSES (PENETRATES) A CURB.
2. SLOPE CRITERIA2

RAMPS AND LANDING AREAS	MAX SLOPE (V:H, %, IN PER FT)
RAMP IN DIRECTION OF TRAVEL	1:12 / 8.03% / 1" PER FT
SIDE SLOPE OF RAMP (FLARE)	1:10 / 10% / 1.2" PER FT
CROSS SLOPE OF RAMP	1:50 / 2% / 0.24" PER FT
LANDING AREA (ALL DIRECTIONS)	1:50 / 2% / 0.24" PER FT
ADJOINING AREAS	
SIDEWALK IN DIRECTION OF TRAVEL	1:20 / 5% / 0.60" PER FT
SIDEWALK CROSS SLOPE	1:50 / 2% / 0.24" PER FT
GUTTER IN DIRECTION OF TRAVEL	1:20 / 5% / 0.60" PER FT

A SMOOTH TRANSITION (S≤1:50) IN DIRECTION OF TRAVEL IS REQUIRED WHERE RAMPS TRANSITION TO THE STREET

3. PROVIDE FLARED SIDES WHERE THE PEDESTRIAN CIRCULATION PATH CROSSES THE CURB RAMP. FLARED SIDES SHALL BE SLOPED AT 10% MAXIMUM, MEASURED PARALLEL TO THE CURB. RETURNED CURBS MAY BE USED ONLY WHERE PEDESTRIANS WOULD NOT NORMALLY WALK ACROSS THE RAMP, EITHER BECAUSE THE ADJACENT SURFACE IS PLANTED, SUBSTANTIALLY OBSTRUCTED, OR OTHERWISE PROTECTED.
4. LANDINGS SHALL BE 5'X5' MINIMUM WITH A MAXIMUM 2% SLOPE IN ANY DIRECTION.
5. CURB RAMP MUST BE WHOLLY CONTAINED WITHIN CROSSWALK MARKINGS, EXCLUDING SIDE FLARES.

CURB RAMP NOTES (CONTINUED):

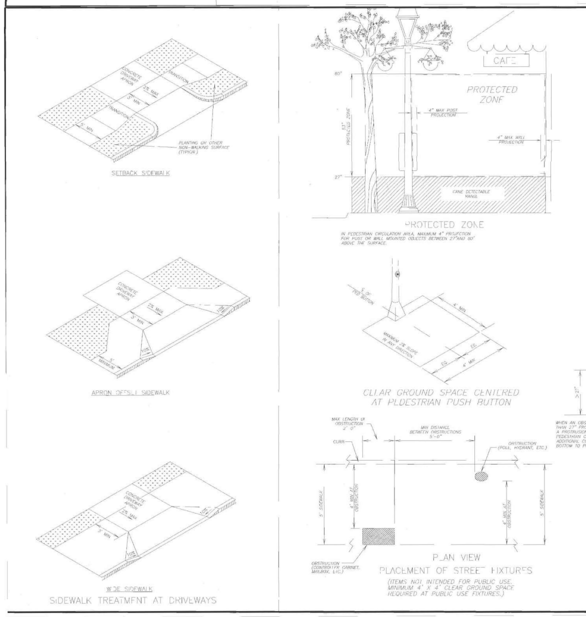
6. CURB RAMPS, FLARES AND LANDINGS SHALL BE AT LEAST 5" THICK CONCRETE AND EXPANSION JOINTS SHALL TYPICALLY BE USED AT MATCHLINE WITH ADJOINING AREAS.
7. MANEUVERING SPACE AT THE BOTTOM OF CURB RAMPS SHALL BE A MINIMUM OF 4'X4' WHOLLY CONTAINED WITHIN THE CROSSWALK AND WHOLLY OUTSIDE THE PARALLEL VEHICULAR TRAVEL PATH.
8. LAYBACK CURB AND GUTTER MAY BE CONSTRUCTED MONOLITHICALLY WITH CURB RAMPS. PROVIDE NO. 4 X 12" LONG SMOOTH DOWELS @ 12" ON CENTERS IF NOT PLACED MONOLITHICALLY.
9. PROVIDE A SMOOTH TRANSITION WHERE THE CURB RAMPS CONNECT TO THE STREET. 5% MAXIMUM SLOPE IN GUTTER.
10. ADDITIONAL INFORMATION ON CURB RAMP LOCATION, DESIGN, LIGHT REFLECTIVE VALUE AND TEXTURE MAY BE FOUND IN THE CURRENT EDITION OF THE TEXAS ACCESSIBILITY STANDARDS (TAS) AND 16 TAC §68.102.
11. DIAGONAL CURB RAMPS ARE DISCOURAGED. DIAGONAL CURB RAMPS MAY BE ALLOWED ON A CASE-BY-CASE BASIS ONLY IF OTHER CONFIGURATIONS ARE NOT FEASIBLE, AND MUST BE APPROVED BY THE CITY PRIOR TO CONSTRUCTION.
12. FINAL ACCEPTANCE OF THE PROJECT SHALL BE CONTINGENT UPON THE CONTRACTOR PROVIDING THE CITY WITH A FINAL INSPECTION REPORT FROM A CERTIFIED REGISTERED ACCESSIBILITY SPECIALIST (RAS) PER 16 TAC §68.52 STATING THAT ALL ADA (AMERICANS WITH DISABILITIES ACT) HANDICAP IMPROVEMENTS, AS CONSTRUCTED, COMPLY WITH THE TEXAS ACCESSIBILITY STANDARDS (TAS) FOR ELIMINATION OF ARCHITECTURAL BARRIERS PER TEXAS GOVERNMENT CODE CHAPTER 469.

DETECTABLE WARNING SURFACE NOTES:

1. CURB RAMPS MUST CONTAIN A DETECTABLE WARNING SURFACE THAT CONSISTS OF RAISED TRUNCATED DOMES COMPLYING WITH SECTION 705 OF THE TAS. THE SURFACE MUST CONTRAST VISUALLY WITH ADJOINING SURFACES INCLUDING SIDE FLARES.
2. DETECTABLE WARNING SURFACE FOR RAMPS SHALL BE ADA SOLUTIONS, INC. PART NO. 2460REP CAST-IN-PLACE REPLACEABLE TACTILE WARNING SURFACE TILES TRUNCATED DOME, OR APPROVED EQUIVALENT, IN "BRICK RED" COLOR.
3. ALIGN TRUNCATED DOMES IN THE DIRECTION OF PEDESTRIAN TRAVEL WHEN ENTERING THE STREET.
4. DETECTABLE WARNING SURFACES SHALL BE A MINIMUM OF 24" IN DEPTH IN THE DIRECTION OF PEDESTRIAN TRAVEL, AND EXTEND THE FULL WIDTH OF THE CURB RAMP OR LANDING WHERE THE PEDESTRIAN ACCESS ROUTE ENTERS THE STREET.
5. DETECTABLE WARNING SURFACES SHALL BE LOCATED SO THAT THE EDGE NEAREST THE CURB LINE IS A MINIMUM OF 6" AND A MAXIMUM OF 10" FROM THE EXTENSION OF THE FACE OF CURB. DETECTABLE WARNING SURFACES TO BE CURVED ALONG THE CORNER RADIUS.

CITY OF CORPUS CHRISTI TEXAS
Department of Engineering Services

CITY OF CORPUS CHRISTI PEDESTRIAN CURB RAMP STANDARDS 2 OF 4



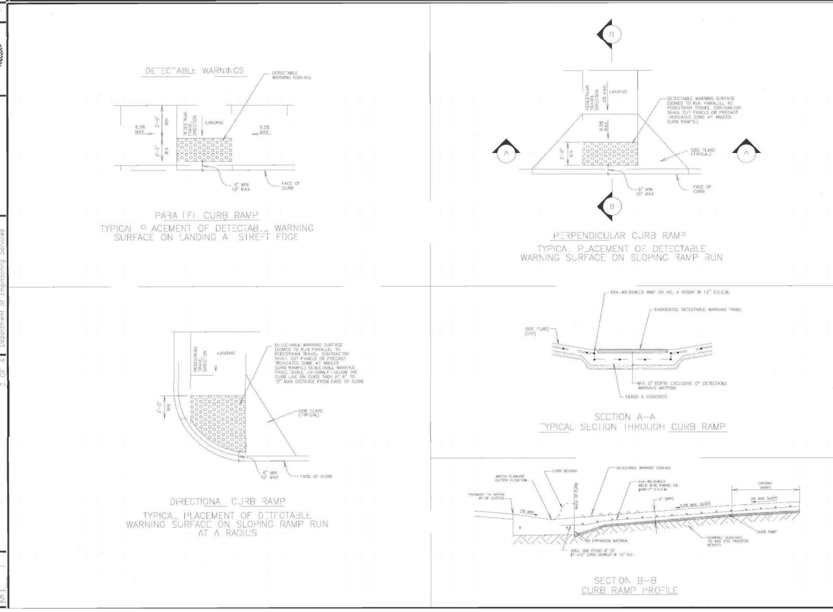
GENERAL NOTES

1. ALL SLOPES ARE MAXIMUM ALLOWABLE. THE LEAST POSSIBLE SLOPE THAT WILL STILL DRAIN PROPERLY SHOULD BE USED.
2. PLACE TRAFFIC SIGNAL OR ILLUMINATION POLES, GROUND BOXES, CONTROLLER BOXES, SIGNS, DRAINAGE FACILITIES AND OTHER ITEMS SO AS NOT TO OBSTRUCT THE ACCESSIBLE ROUTE OR CLEAR GROUND SPACE.
3. THE MAXIMUM ALLOWABLE SIDEWALK CROSS SLOPE EQUALS 2%.
4. STREET GRADES AND CROSS SLOPES SHALL BE AS SHOWN ELSEWHERE IN THE PLANS.
5. EXISTING FEATURES THAT COMPLY WITH TAS MAY REMAIN IN PLACE UNLESS OTHERWISE SHOWN ON THE PLANS.
6. CHANGES IN LEVEL GREATER THAN ¼ INCH ARE NOT PERMITTED.
7. THE LEAST POSSIBLE GRADE SHOULD BE USED TO MAXIMIZE ACCESSIBILITY. THE RUNNING SLOPE OF SIDEWALKS AND CROSSWALKS, WITHIN THE PUBLIC RIGHT-OF-WAY, MAY FOLLOW THE GRADE OF THE PARALLEL ROADWAY. WHERE A CONTINUOUS GRADE GREATER THAN 5% MUST BE PROVIDED, HANDRAILS MAY BE DESIRABLE ON ONE OR BOTH SIDES OF THE SIDEWALK TO IMPROVE ACCESSIBILITY. HANDRAILS MAY ALSO BE NEEDED TO PROTECT PEDESTRIANS FROM POTENTIALLY HAZARDOUS CONDITIONS. IF PROVIDED, HANDRAILS MUST COMPLY WITH TAS 4.8.5.
8. HANDRAIL EXTENSIONS SHALL NOT PROTRUDE INTO THE USABLE LANDING AREA OR INTO INTERSECTING PEDESTRIAN ROUTES.
9. SIDEWALK DETAILS ARE SHOWN ELSEWHERE IN THE PLANS.

CITY OF CORPUS CHRISTI TEXAS
Department of Engineering Services

CITY OF CORPUS CHRISTI PEDESTRIAN CURB RAMP STANDARDS 3 OF 4

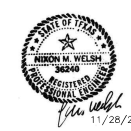
CITY PROJECT # 6485



CITY OF CORPUS CHRISTI TEXAS
Department of Engineering Services

CITY OF CORPUS CHRISTI PEDESTRIAN CURB RAMP STANDARDS 4 OF 4

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



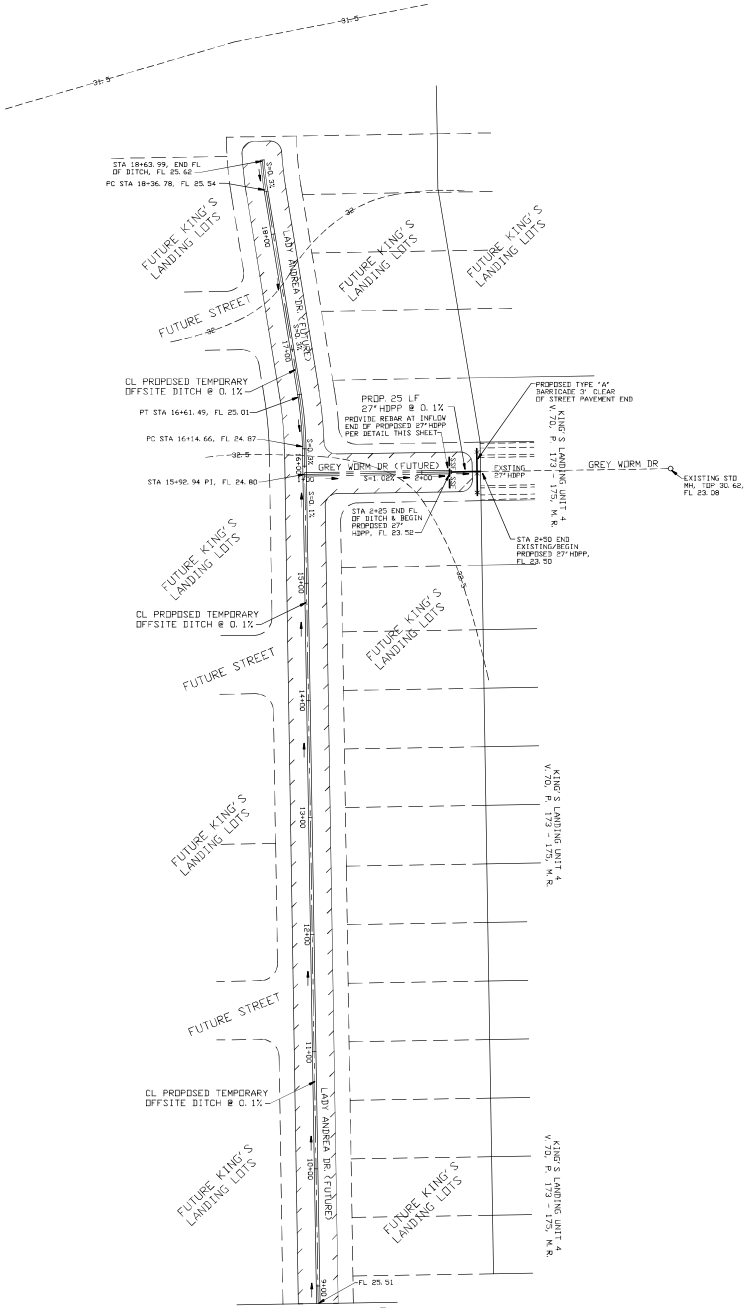
11/28/23

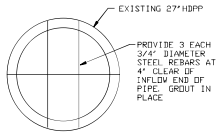
BASS AND WELSH ENGINEERING
TX REGISTRATION NO. F-52, 3054 S. ALAMEDA STREET
CORPUS CHRISTI, TEXAS 78404

PUBLIC IMPROVEMENTS TO
KING'S LANDING UNIT 5
CORPUS CHRISTI, NUECES CO., TX

CITY CURB RAMP STANDARDS

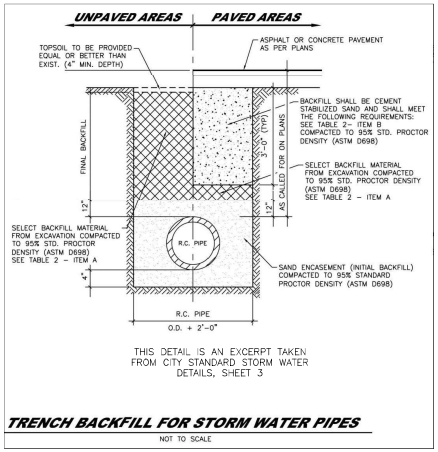
DWN.	PLOT SCALE: 1" = 50'	COM. NO. 20 CURB RAMP STD
	SCALE (H): AS SHOWN	JOB NO. 23007
CHK. N. WELSH	SCALE (V): AS SHOWN	SHEET 20 OF 21
	DATE PLOTTED 11/28/23	





DETAIL - REBAR INSTALLATION AT DRAINAGE ENTRY INTO EXISTING 27" HDPP THIS SHEET

NTS



THIS DETAIL IS AN EXCERPT TAKEN FROM CITY STANDARD STORM WATER DETAILS, SHEET 3

TRENCH BACKFILL FOR STORM WATER PIPES

NOT TO SCALE

EXHIBIT FOR USE OF HDPP (HIGH DENSITY POLYETHELENE PIPE) FOR STORM WATER

NTS

HDPP NOTES:

1. HDPP (HIGH DENSITY POLYETHYLENE PIPE) IS APPROVED FOR USE THROUGHOUT THIS PROJECT, BENEATH STREETS AS WELL AS OUTSIDE OF STREETS.

2. HDPP SHALL BE CONSTRUCTED ACCORDING TO THE ABOVE CITY STANDARD STORM WATER DETAIL EXCEPT THAT SAND ENCASEMENT FOR 30" & LARGER HDPPs SHALL EXTEND TO 6" BELOW THE PIPE IN LIEU OF 4" AS SHOWN IN SAID STANDARD DETAIL.

3. PIPE SPECIFICATION FOR HDPP IS SHOWN THIS SHEET.

HDPP (HIGH DENSITY POLYETHELENE PIPE)

HDPP SHALL BE DUAL WALL, CORRUGATED EXTERIOR WALL WITH SMOOTH INTERIOR WALL WITH MANNING'S HYDRAULIC COEFFICIENT OF 0.12 OR LESS AND SHALL MEET THE REQUIREMENTS OF ASTM F2306, D2321, F477, D3212 AND AASHTO M252 AND M294 TYPE "S". CONTRACTOR SHALL SUBMIT MANUFACTURER'S CATALOG DATA FOR HDPP TO ENGINEER FOR APPROVAL.

RELEASED FOR CONSTRUCTION

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

Note: Construction Plans will expire based on the the conditions stated in UDC 3.5.5.F.

STATE OF TEXAS
NIXON M. WELSH
96240
REGISTERED PROFESSIONAL ENGINEER
11/28/23

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 5
CORPUS CHRISTI, NUECES CO., TX

OFFSITE DRAINAGE PLAN AND PROFILE
EXHIBIT FOR USE OF HDPP

DWN. ____ CHK. ____

PLOT SCALE: 1" = 50'
SCALE (V): SAME
SCALE (V): NONE
DATE PLOTTED 11/28/23

COM. NO. 21 05 DR
JOB NO. 23007
SHEET 21 OF 21

EXHIBIT 3

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

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

January 24, 2024

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

Attn: Mr. Moses Mostaghasi

RE: GEOTECHNICAL ENGINEERING REPORT
KING'S LANDING UNIT 5 PAVEMENT STUDY
BARATHEON AND LOIS CHESNEY STREETS
CORPUS CHRISTI, NUECES COUNTY, TEXAS
PSI Project No. 03123040

Dear 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 of field and laboratory testing 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. If there are any questions pertaining to this report, or if PSI may be of further service, please contact our office.

PSI also has great interest in providing materials testing and inspection services during the construction of this project. If you will advise us of the appropriate time to discuss these engineering services, we will be pleased to meet with you 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

1/22/2024

Dexter Bacon, P.E.
Chief Engineer

.

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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 5 Pavement Study project to be constructed at Baratheon and Lois Chesney Streets in Corpus Christi, Texas. Mr. Mossa Mostaghasi, representing MPM Homes, authorized PSI's services on November 20, 2023, by signing PSI Proposal No. 412319 dated November 9, 2023. PSI's proposal contained a proposed scope of work, 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 Kings Landing Unit 5 Construction Plans, dated 10/19/2023, and prepared by Bass & Welsh Engineering, a summary of our understanding of the proposed project is provided in the following table.

TABLE 1.1: GENERAL PROJECT DESCRIPTION

Project Description	Kings Landing Unit 5 Geotechnical Study for RCC Pavement Design
Existing Grade Change within Project Site	Approximately 3 feet
Design Traffic Load	50,000 for Local Residential Section L-1 (A-B) 1,200,000 for Minor Residential Collector (RC1) 1,200,000 for Collector (C1)

The geotechnical recommendations presented in this report are based on the available project information, structure locations, and the subsurface materials described in this report. If any of the noted information given is 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 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:

- Desktop review of generally available public information; i.e., NRCS, USGS databases.
- Field exploration consisting of drilling and sampling of the subsurface materials and observation of current groundwater levels at the site.
- Laboratory testing of the subsurface materials.

- Performing engineering analysis and providing geotechnical recommendations in written report format.

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. Any statements in this report or on the boring logs regarding odors, colors, and unusual or suspicious items or conditions are strictly for informational purposes.

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 and other available information.

TABLE 2.1: SITE DESCRIPTION

Site Location	Baratheon St. and Lois Chesney Street, Corpus Christi, Nueces County, Texas
Site History	Agricultural Land
Existing Site Ground Cover	Cultivated Fields
Site Boundaries/Neighboring Development	Kings Landing Subdivision and farmland

2.2 FIELD EXPLORATION

Field exploration for the project consisted of drilling a total of 13 borings. The boring design element, boring labels, and approximate depths are provided in the following table.

TABLE 2.2: FIELD EXPLORATION SUMMARY

Design Element	Boring Label	Approx. Depth of Boring
Residential Streets	B-1 thru B-13	10 feet

The boring locations were selected by PSI personnel and were located in the field using available landmarks and GPS coordinates using a recreational-grade device. Elevations of the ground surface at the boring locations were not provided to PSI and should be surveyed by others, if required. Therefore, 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.

TABLE 2.3: FIELD EXPLORATION DESCRIPTION

Drilling Equipment	Truck-Mounted Drilling Equipment
Drilling Method	Continuous-Flight Auger
Drilling Procedure	Applicable ASTM and PSI Safety Manual
Field Testing Procedures	Hand Penetrometer Standard Penetration Testing (ASTM D1586)
Sampling Procedure	Split-Barrel Sampling of Soils (ASTM D1586) Thin-Walled Tube Sampling of Soils (ASTM D1587)
Frequency of Groundwater Level Measurements	Initial Reading and After Drilling Reading

Boring Backfill Procedures	Soil Cuttings
Sample Preservation and Transportation Procedure	General accordance with ASTM D4220

During the field activities, the encountered subsurface conditions were observed, logged, and visually classified (in general accordance with ASTM D2488). 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:

- Moisture Content Tests (ASTM D2216)
- Atterberg Limits (ASTM D4318)
- Material Finer than No. 200 (ASTM D1140)
- Unconfined Compression Strength Test (ASTM D2166)

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

2.4 SITE GEOLOGY

As shown on the Geologic Atlas of Texas, Corpus Christi Sheet, reprinted in 1979, the site is located in an area where the **Beaumont Formation (Qb)** is mapped at or near the ground surface. The formation is from the Quaternary Period and Holocene Epoch. This formation consists of mostly clay, silt, sand and gravel with stream channels, point bars, natural levees and backswamp deposits.

2.5 SUBSURFACE CONDITIONS

The results of the field and laboratory testing have been used to develop a generalized surface profile of the project site. The following subsurface descriptions highlight the major subsurface stratification features and material characteristics. This soil profile description has been summarized in the following table.

TABLE 2.4: GENERALIZED SOIL PROFILE

Layer	Depth of Layer (ft) Top	Bot.	Soil Type	LL (%)	PI	% Pass. #200	Range Hand Pen (tsf)	Avg. Hand Pen. (tsf)
1	0	10	Fat Clay	79	55	91	1.0 – 3.0	1.9

Note: ω: Moisture Content
LL: Liquid Limit
PI: Plasticity Index
% Pass. #200: Percent Passing the No. 200 Sieve by Wash
Hand Pen: Field Hand Penetrometer (tons per square foot)

The boring logs included in the Appendix should be reviewed for information at the boring locations. The boring logs include soil descriptions, stratifications, locations of the samples, and field and laboratory test data. The stratifications shown on the boring logs only represent the conditions the specific boring location and represent the approximate boundaries between subsurface materials. The actual transitions between strata may be more gradual or more 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. **No groundwater was encountered** during our drilling and sampling activities.

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. If more detailed water level information is required, observation wells or piezometers should be installed at the site, and water levels monitored.

The groundwater levels presented in this report are the levels that were measured at the time of our field activities. The contractor should be prepared to control groundwater, if encountered, during construction.

3.0 GEOTECHNICAL EVALUATION AND RECOMMENDATIONS

3.1 GEOTECHNICAL DISCUSSION

PSI understands that the City of Corpus Christi pavement design requirements for the new pavements within the subdivision be designed for 50,000 18-kip Equivalent Single Axle Loads with a 30-year design life.

Based upon the information obtained from the soil borings and laboratory testing, the clay soils encountered at this site within the seasonally active zone, estimated to be 10 feet below existing grade, have a **high potential** for expansion. The expansive potential (i.e. "Potential Vertical Movement" or PVM) of these soils should be addressed in the design and construction of this project.

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 review the changes to determine if modifications of the recommendations presented in this report will be required. The findings of such a review will be presented in a supplemental report. Once final design plans and specifications are available, a general review by PSI is recommended to verify that the earthwork and pavement recommendations presented in this report have been 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. 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 pavement systems. Various shrink/swell movement procedures and the Texas Department of Transportation (TxDOT) test method TEX-124-E, were used to estimate the Potential Vertical Movement (PVM) for this location.

3.2.1 SHRINK/SWELL MOVEMENT (PVM) ESTIMATE

Based on laboratory testing results and our analyses, the potential vertical movement was estimated to be approximately **4 inches ± ½ inch**.

It is not possible to accurately quantify actual soil moisture changes and resulting shrink/swell movements. The PVM and referenced structural movement values provided should be considered 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, poor drainage (possibly due to landscape changes after construction), perched groundwater infiltration, springs, etc. Therefore, because of these unknown factors, the shrink/swell potential of soils can often be significantly underestimated using the previously mentioned methods of evaluating PVM.

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 exceeding those estimated should be anticipated and routine maintenance should be provided to address these issues throughout the life of the pavements.

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 be embedded in 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 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 following 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 Clay (CH and CL)	"B"	0.60
Fat and Lean Clay below 10 feet (CH and CL), Clayey Sands (SC)	"C"	0.60

A lateral earth pressure of 120 pcf*Ko*depth(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 pcf * (X) for that portion of the shoring below the groundwater table.

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 pavement design requirements of 50,000 18-kip Equivalent Single Axle Loads (ESALs) and a 30-year design life. 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

Reliability, percent	70 for Local Residential Section L-1 (A-B) 70 for Minor Residential Collector (RC1) 80 for Collector (C1)
Design Life	30 Years
Initial Serviceability Index	4.5
Terminal Serviceability Index	2.5
Traffic Load (ESALs) from IDM	50,000 for Local Residential Section L-1 (A-B) 1,200,000 for Minor Residential Collector (RC1) 1,200,000 for Collector (C1)
Standard Deviation	0.39
Concrete Compressive Strength	4,000 psi
Estimated Subgrade California Bearing Ratio (CBR)	2.0 for high plasticity clay subgrade
Estimated Subgrade Modulus of Subgrade Reaction, k in pci	110 for lime/cement stabilized subgrade

Pavements supported on expansive soils will be subject to PVM previously presented (approximately 4 inches ± 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.

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 1 foot 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 the 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.

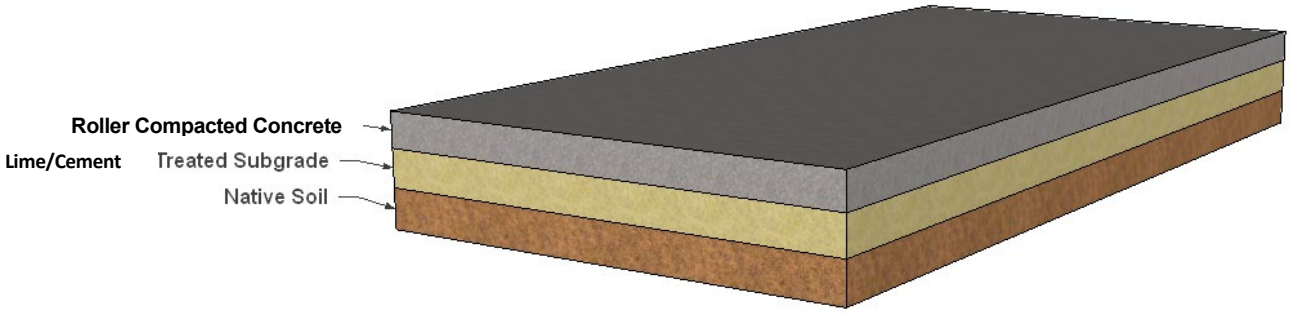

FIGURE 4.1: ROLLER COMPACTED CONCRETE PAVEMENT TYPICAL SECTION

TABLE 4.2: ROLLER COMPACTED CONCRETE PAVEMENT DESIGN THICKNESS

Material	Thickness (in)		
	Local Residential (Section L-1 (A-B))	Minor Residential Collector (RC1)	Collector (C1)
RCC Pavements	6.5	7.0	7.5
Lime/Cement Treated Subgrade	8	8	12

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 the paving limits
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	Materials free of roots, debris, and other deleterious materials with a maximum rock size of 4 inches with a CBR greater than 3
Minimum General Fill Thickness	As required to achieve grade
Maximum General Fill Loose Lift Thickness	9 Inches
Lime/Cement Treatment (3% lime/5% Cement)	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 3%. 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 Corpus Christi 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.
Quality Control of RCC Pavements	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. 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.

Placement of RCC Pavements	The concrete batch plant should be within 30 minutes from the 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	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. Expansion and Control Joints: As required. Filled and sealed with approved joint sealants and fillers.

TABLE 4.4: COMPACTION AND TESTING RECOMMENDATIONS FOR PAVEMENT AREAS

Location	Material	Test Method for Density Determination	Percent Compaction	Optimum Moisture Content	Testing Frequency
Pavement Areas	Scarified On-site 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

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 SF; min. 3 per lift

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 for 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.

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 any 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 for specific application to the proposed King's Landing Unit 5 Pavement Study to be constructed at CR 49 at FM 43 (Weber Road), Corpus Christi, Nueces County, Texas.

APPENDIX

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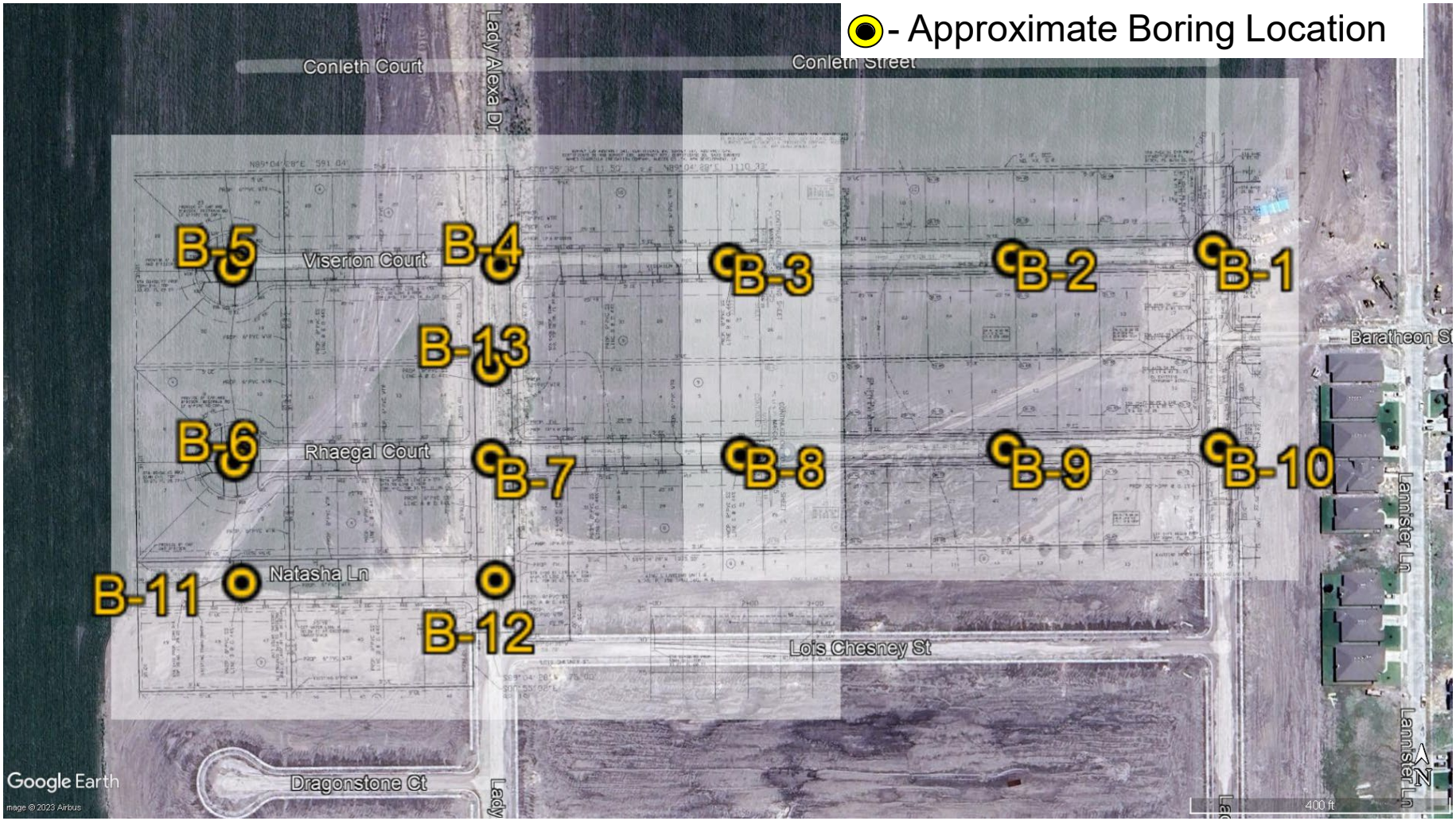
2020 N Loop 499, Ste 302, Harlingen, Texas
(956) 423-6826

Site Vicinity Map

Proposed Kings Landing Unit 5
Baratheon St.
Nueces county, Texas
PSI Project No.: 0312-3040

NOT TO SCALE

N



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2020 N Loop 499, Ste 302, Harlingen, Texas
(956) 423-6826

Boring Location Plan

Proposed Kings Landing Unit 5
Baratheon St.
Nueces county, Texas
PSI Project No.: 0312-3040

NOT TO SCALE

N

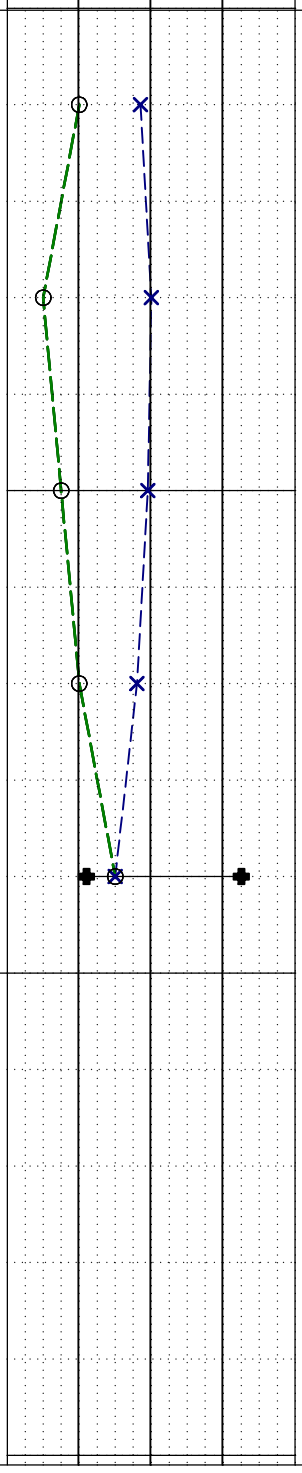
Kings Landing Unit 5 Pavement
Baratheon Street
Project No. 0312-3040

BORING B-1

LOCATION: See Boring Location Plan

DEPTH, FT.	SYMBOL	SAMPLES	WATER	SOIL DESCRIPTION	MOISTURE CONTENT	% RETAINED #4	% PASSING #200	SPT (N) & TCP (T) VALUES	% REC	%RQD	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	UNCONF. COMP. (TSF)	TOTAL DRY WT. (LB/CU FT)
				Elevation:											
				FAT CLAY (CH) brown, stiff to very stiff	37										
					40										
5					39										
					36										
					30		91				65	22	43		
10				Boring terminated at approximate 10 feet											
15															

HAND PEN (TSF) ○ UNC CMP (TSF) ●
2.0 4.0 6.0
PL WC LL
20 40 60



COMPLETION DEPTH: 10.0 Feet
DATE: 12/14/23-12/14/23

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DEPTH TO GROUND WATER
SEEPAGE (ft.): NONE ENCOUNTERED
END OF DRILLING (ft.): N/A
DELAYED WATER LEVEL (FT): N/A

Kings Landing Unit 5 Pavement
Baratheon Street
Project No. 0312-3040

BORING B-2

LOCATION: See Boring Location Plan

DEPTH, FT.	SYMBOL	SAMPLES	WATER	SOIL DESCRIPTION	MOISTURE CONTENT	% RETAINED #4	% PASSING #200	SPT (N) & TCP (T) VALUES	% REC	%RQD	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	HAND PEN (TSF) / UNC CMP (TSF) 2.0 4.0 6.0 PL WC LL 20 40 60	UNCONF. COMP. (TSF)	TOTAL DRY WT. (LB/CU FT)
				Elevation:												
				FAT CLAY (CH) brown, stiff to very stiff	35											
					40		92				88	24	64			
5					39											
					30											
					31											
10				Boring terminated at approximate 10 feet												
15																

COMPLETION DEPTH: 10.0 Feet
DATE: 12/14/23-12/14/23

DEPTH TO GROUND WATER
SEEPAGE (ft.): NONE ENCOUNTERED
END OF DRILLING (ft.): N/A
DELAYED WATER LEVEL (FT): N/A

Kings Landing Unit 5 Pavement
Baratheon Street
Project No. 0312-3040

BORING B-3

LOCATION: See Boring Location Plan

DEPTH, FT.	SYMBOL	SAMPLES	WATER	SOIL DESCRIPTION	MOISTURE CONTENT	% RETAINED #4	% PASSING #200	SPT (N) & TCP (T) VALUES	% REC	%RQD	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	HAND PEN (TSF) / UNC CMP (TSF) 2.0 4.0 6.0 PL 20 WC 40 LL 60	UNCONF. COMP. (TSF)	TOTAL DRY WT. (LB/CU FT)
				Elevation:												
				FAT CLAY (CH) brown, stiff to very stiff	39											
					42											
5					38											
					31	2	89				74	21	53			
					30											
10				Boring terminated at approximate 10 feet												
15																

COMPLETION DEPTH: 10.0 Feet
DATE: 12/14/23-12/14/23

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DEPTH TO GROUND WATER
SEEPAGE (ft.): NONE ENCOUNTERED
END OF DRILLING (ft.): N/A
DELAYED WATER LEVEL (FT): N/A

Kings Landing Unit 5 Pavement
Baratheon Street
Project No. 0312-3040

BORING B-4

LOCATION: See Boring Location Plan

DEPTH, FT.	SYMBOL	SAMPLES	WATER	SOIL DESCRIPTION	MOISTURE CONTENT	% RETAINED #4	% PASSING #200	SPT (N) & TCP (T) VALUES	% REC	%RQD	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	UNCONF. COMP. (TSF)	TOTAL DRY WT. (LB/CU FT)
				Elevation:											
				FAT CLAY (CH) brown, stiff to very stiff	38		90				82	25	57		
					40										
5					40										
					34										
					31										
10				Boring terminated at approximate 10 feet											
15															

HAND PEN (TSF) ○ UNC CMP (TSF) ●
2.0 4.0 6.0
PL 20 WC 40 LL 60

COMPLETION DEPTH: 10.0 Feet
DATE: 12/14/23-12/14/23

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DEPTH TO GROUND WATER
SEEPAGE (ft.): NONE ENCOUNTERED
END OF DRILLING (ft.): N/A
DELAYED WATER LEVEL (FT): N/A

Kings Landing Unit 5 Pavement
Baratheon Street
Project No. 0312-3040

BORING B-5

LOCATION: See Boring Location Plan

DEPTH, FT.	SYMBOL	SAMPLES	WATER	SOIL DESCRIPTION	MOISTURE CONTENT	% RETAINED #4	% PASSING #200	SPT (N) & TCP (T) VALUES	% REC	%RQD	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	HAND PEN (TSF) / UNC CMP (TSF) 2.0 4.0 6.0 PL 20 WC 40 LL 60	UNCONF. COMP. (TSF)	TOTAL DRY WT. (LB/CU FT)
				Elevation:												
				FAT CLAY (CH) brown, stiff	37											
					41											
5					33		93				80	24	56			
					28											
					30											
10				Boring terminated at approximate 10 feet												
15																

COMPLETION DEPTH: 10.0 Feet
DATE: 12/14/23-12/14/23

intertek psi

DEPTH TO GROUND WATER
SEEPAGE (ft.): NONE ENCOUNTERED
END OF DRILLING (ft.): N/A
DELAYED WATER LEVEL (FT): N/A

Kings Landing Unit 5 Pavement
Baratheon Street
Project No. 0312-3040

BORING B-6

LOCATION: See Boring Location Plan

DEPTH, FT.	SYMBOL	SAMPLES	WATER	SOIL DESCRIPTION	MOISTURE CONTENT	% RETAINED #4	% PASSING #200	SPT (N) & TCP (T) VALUES	% REC	%RQD	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	UNCONF. COMP. (TSF)	TOTAL DRY WT. (LB/CU FT)
				Elevation:											
				FAT CLAY (CH) brown, stiff to very stiff	36										
					41		92				97	28	69		
5					38										
					31										
					30										
10				Boring terminated at approximate 10 feet											
15															

HAND PEN (TSF) ○ UNC CMP (TSF) ●
2.0 4.0 6.0
PL 20 WC 40 LL 60

COMPLETION DEPTH: 10.0 Feet
DATE: 12/14/23-12/14/23

DEPTH TO GROUND WATER
SEEPAGE (ft.): NONE ENCOUNTERED
END OF DRILLING (ft.): N/A
DELAYED WATER LEVEL (FT): N/A

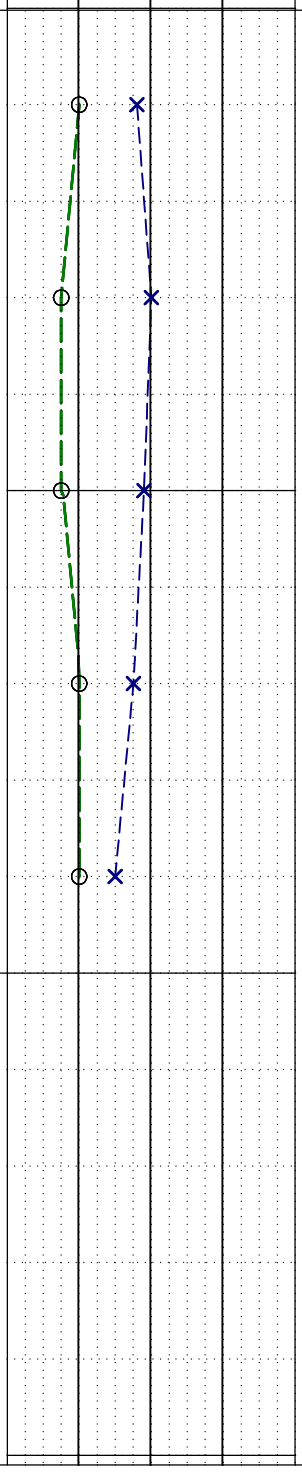
Kings Landing Unit 5 Pavement
Baratheon Street
Project No. 0312-3040

BORING B-7

LOCATION: See Boring Location Plan

DEPTH, FT.	SYMBOL	SAMPLES	WATER	SOIL DESCRIPTION	MOISTURE CONTENT	% RETAINED #4	% PASSING #200	SPT (N) & TCP (T) VALUES	% REC	%RQD	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	UNCONF. COMP. (TSF)	TOTAL DRY WT. (LB/CU FT)
				Elevation:											
				FAT CLAY (CH) brown, stiff	36		89								
					40										
5					38										
					35										
					30										
10				Boring terminated at approximate 10 feet											
15															

HAND PEN (TSF) ○ UNC CMP (TSF) ●
2.0 4.0 6.0
PL WC LL
20 40 60



COMPLETION DEPTH: 10.0 Feet
DATE: 12/14/23-12/14/23

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DEPTH TO GROUND WATER
SEEPAGE (ft.): NONE ENCOUNTERED
END OF DRILLING (ft.): N/A
DELAYED WATER LEVEL (FT): N/A

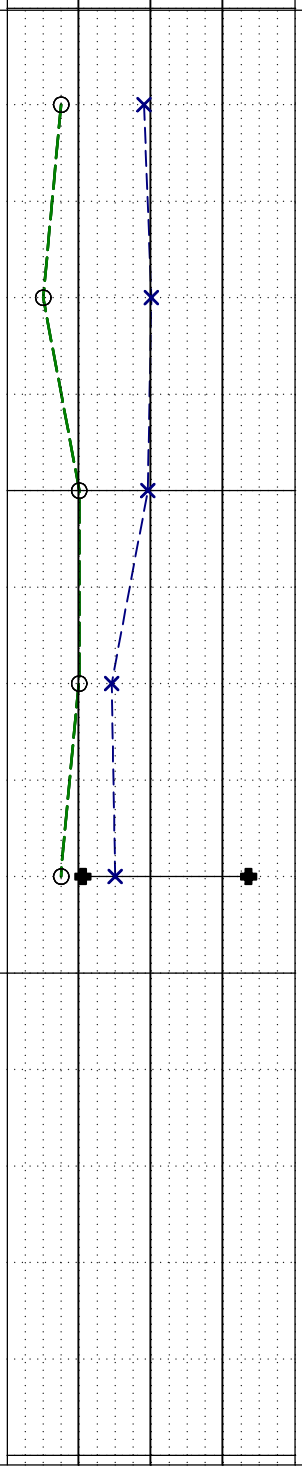
Kings Landing Unit 5 Pavement
Baratheon Street
Project No. 0312-3040

BORING B-8

LOCATION: See Boring Location Plan

DEPTH, FT.	SYMBOL	SAMPLES	WATER	SOIL DESCRIPTION	MOISTURE CONTENT	% RETAINED #4	% PASSING #200	SPT (N) & TCP (T) VALUES	% REC	%RQD	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	UNCONF. COMP. (TSF)	TOTAL DRY WT. (LB/CU FT)
				Elevation:											
				FAT CLAY (CH) brown, stiff	38										
					40										
5					39										
					29										
					30	1	89				67	21	46		
10				Boring terminated at approximate 10 feet											
15															

HAND PEN (TSF) ○ UNC CMP (TSF) ●
2.0 4.0 6.0
PL WC LL
20 40 60



COMPLETION DEPTH: 10.0 Feet
DATE: 12/14/23-12/14/23

intertek psi

DEPTH TO GROUND WATER
SEEPAGE (ft.): NONE ENCOUNTERED
END OF DRILLING (ft.): N/A
DELAYED WATER LEVEL (FT): N/A

Kings Landing Unit 5 Pavement
Baratheon Street
Project No. 0312-3040

BORING B-9

LOCATION: See Boring Location Plan

DEPTH, FT.	SYMBOL	SAMPLES	WATER	SOIL DESCRIPTION	MOISTURE CONTENT	% RETAINED #4	% PASSING #200	SPT (N) & TCP (T) VALUES	% REC	%RQD	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	UNCONF. COMP. (TSF)	TOTAL DRY WT. (LB/CU FT)
				Elevation:											
				FAT CLAY (CH) brown, stiff to very stiff	36										
					42										
5					39										
					31	1	91				78	23	55		
					32										
10				Boring terminated at approximate 10 feet											
15															

HAND PEN (TSF) ● UNC CMP (TSF)
2.0 4.0 6.0
PL WC LL
20 40 60

COMPLETION DEPTH: 10.0 Feet
DATE: 12/14/23-12/14/23

intertek psi

DEPTH TO GROUND WATER
SEEPAGE (ft.): NONE ENCOUNTERED
END OF DRILLING (ft.): N/A
DELAYED WATER LEVEL (FT): N/A

Kings Landing Unit 5 Pavement
Baratheon Street
Project No. 0312-3040

BORING B-10

LOCATION: See Boring Location Plan

DEPTH, FT.	SYMBOL	SAMPLES	WATER	SOIL DESCRIPTION	MOISTURE CONTENT	% RETAINED #4	% PASSING #200	SPT (N) & TCP (T) VALUES	% REC	%RQD	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	UNCONF. COMP. (TSF)	TOTAL DRY WT. (LB/CU FT)
				Elevation:											
				FAT CLAY (CH) brown, stiff to very stiff	38										
					42										
5					37		94				79	25	54		
					35										
					36										
10				Boring terminated at approximate 10 feet											
15															

HAND PEN (TSF) ○ UNC CMP (TSF) ●
2.0 4.0 6.0
PL WC LL
20 40 60

COMPLETION DEPTH: 10.0 Feet
DATE: 12/14/23-12/14/23

intertek psi

DEPTH TO GROUND WATER
SEEPAGE (ft.): NONE ENCOUNTERED
END OF DRILLING (ft.): N/A
DELAYED WATER LEVEL (FT): N/A

Kings Landing Unit 5 Pavement
Baratheon Street
Project No. 0312-3040

BORING B-11

LOCATION: See Boring Location Plan

DEPTH, FT.	SYMBOL	SAMPLES	WATER	SOIL DESCRIPTION	MOISTURE CONTENT	% RETAINED #4	% PASSING #200	SPT (N) & TCP (T) VALUES	% REC	%RQD	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	UNCONF. COMP. (TSF)	TOTAL DRY WT. (LB/CU FT)
				Elevation:											
				FAT CLAY (CH) brown, stiff to very stiff	38		90				74	22	52		
					40										
5					39										
					30										
					29										
10				Boring terminated at approximate 10 feet											
15															

HAND PEN (TSF) ○ UNC CMP (TSF) ●
2.0 4.0 6.0
PL WC LL
20 40 60

COMPLETION DEPTH: 10.0 Feet
DATE: 12/14/23-12/14/23

intertek psi

DEPTH TO GROUND WATER
SEEPAGE (ft.): NONE ENCOUNTERED
END OF DRILLING (ft.): N/A
DELAYED WATER LEVEL (FT): N/A

Kings Landing Unit 5 Pavement
Baratheon Street
Project No. 0312-3040

BORING B-12

LOCATION: See Boring Location Plan

DEPTH, FT.	SYMBOL	SAMPLES	WATER	SOIL DESCRIPTION	MOISTURE CONTENT	% RETAINED #4	% PASSING #200	SPT (N) & TCP (T) VALUES	% REC	%RQD	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	HAND PEN (TSF) / UNC CMP (TSF) 2.0 4.0 6.0 PL 20 WC 40 LL 60	UNCONF. COMP. (TSF)	TOTAL DRY WT. (LB/CU FT)
				Elevation:												
				FAT CLAY (CH) brown, stiff to very stiff	35											
					40		90				87	24	63			
5					40											
					34											
					30											
10				Boring terminated at approximate 10 feet												
15																

COMPLETION DEPTH: 10.0 Feet
DATE: 12/14/23-12/14/23

DEPTH TO GROUND WATER
SEEPAGE (ft.): NONE ENCOUNTERED
END OF DRILLING (ft.): N/A
DELAYED WATER LEVEL (FT): N/A

Kings Landing Unit 5 Pavement
Baratheon Street
Project No. 0312-3040

BORING B-13

LOCATION: See Boring Location Plan

DEPTH, FT.	SYMBOL	SAMPLES	WATER	SOIL DESCRIPTION	MOISTURE CONTENT	% RETAINED #4	% PASSING #200	SPT (N) & TCP (T) VALUES	% REC	%RQD	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	UNCONF. COMP. (TSF)	TOTAL DRY WT. (LB/CU FT)
				Elevation:											
				FAT CLAY (CH) brown, stiff to very stiff	35										
					35		88				78	24	54		
5					39										
					42										
					30		92				73	22	51		
10				Boring terminated at approximate 10 feet											
15															

HAND PEN (TSF) ○ UNC CMP (TSF) ●
2.0 4.0 6.0
PL 20 WC × 40 LL 60

COMPLETION DEPTH: 10.0 Feet
DATE: 12/14/23-12/14/23

intertek psi

DEPTH TO GROUND WATER
SEEPAGE (ft.): NONE ENCOUNTERED
END OF DRILLING (ft.): N/A
DELAYED WATER LEVEL (FT): N/A

KEY TO TERMS AND SYMBOLS USED ON LOGS

ROCK CLASSIFICATION

RECOVERY

DESCRIPTION OF RECOVERY	% CORE RECOVERY
Incompetent	< 40
Competent	40 TO 70
Fairly Continuous	70 TO 90
Continuous	90 TO 100

ROCK QUALITY DESIGNATION (RQD)

DESCRIPTION OF ROCK QUALITY	RQD
Very Poor (VPo)	0 TO 25
Poor (Po)	25 TO 50
Fair (F)	50 TO 75
Good (Gd)	75 TO 90
Excellent (ExInt)	90 TO 100

CONSISTENCY OF COHESIVE SOILS

CONSISTENCY	N-VALUE (Blows/Foot)	SHEAR STRENGTH (tsf)	HAND PEN VALUE (tsf)
Very Soft	0 TO 2	0 TO 0.125	0 TO 0.25
Soft	2 TO 4	0.125 TO 0.25	0.25 TO 0.5
Firm	4 TO 8	0.25 TO 0.5	0.5 TO 1.0
Stiff	8 TO 15	0.5 TO 1.0	1.0 TO 2.0
Very Stiff	15 TO 30	1.0 TO 2.0	2.0 TO 4.0
Hard	>30	>2.0 OR 2.0+	>4.0 OR 4.0+

SOIL DENSITY OR CONSISTENCY

DENSITY (GRANULAR)	CONSISTENCY (COHESIVE)	THD (BLOWS/FT)	FIELD IDENTIFICATION
Very Loose (VLo)	Very Soft (VSo)	0 TO 8	Core (height twice diameter) sags under own weight
Loose (Lo)	Soft (So)	8 TO 20	Core can be pinched or imprinted easily with finger
Slightly Compact (SlCmpt)	Stiff (St)	20 TO 40	Core can be imprinted with considerable pressure
Compact (Cmpt)	Very Stiff (VSt)	40 TO 80	Core can only be imprinted slightly with fingers
Dense (De)	Hard (H)	80 TO 5"/100	Core cannot be imprinted with fingers but can be penetrated with pencil
Very Dense (VDe)	Very Hard (VH)	5"/100 to 0"/100	Core cannot be penetrated with pencil

DEGREE OF PLASTICITY OF COHESIVE SOILS

DEGREE OF PLASTICITY	PLASTICITY INDEX (PI)	SWELL POTENTIAL
None or Slight	0 to 4	None
Low	4 to 20	Low
Medium	20 to 30	Medium
High	30 to 40	High
Very High	>40	Very High

BEDROCK HARDNESS

MORHS' SCALE	CHARACTERISTICS	EXAMPLES	APPROXIMATE THD PEN TEST	
5.5 to 10	Rock will scratch knife	Sandstone, Chert, Schist, Granite, Gneiss, some Limestone	Very Hard (VH)	0" to 2"/100
3 to 5.5	Rock can be scratched with knife blade	Siltstone, Shale, Iron Deposits, most Limestone	Hard (H)	1" to 5"/100
1 to 3	Rock can be scratched with fingernail	Gypsum, Calcite, Evaporites, Chalk, some Shale	Soft (So)	4" to 6"/100

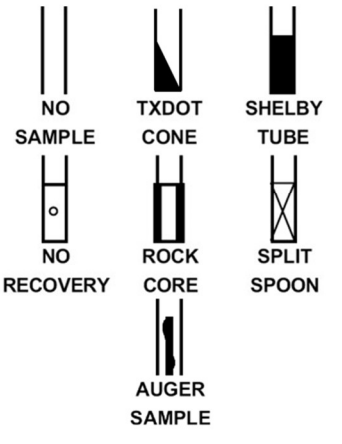
MOISTURE CONDITION OF COHESIVE SOILS

DESCRIPTION	CONDITION
Absence of moisture, dusty, dry to touch	DRY
Damp but no visible water	MOIST
Visible free water	WET

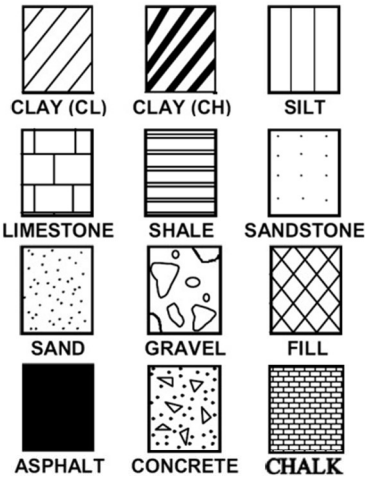
RELATIVE DENSITY FOR GRANULAR SOILS

APPARENT DESNITY	SPT (BLOWS/FT)	CALIFORNIA SAMPLER (BLOWS/FT)	MODIFIED CA. SMAPLER (BLOWS/FT)	RELATIVE DENSITY (%)
Very Loose	0 to 4	0 to 5	0 to 4	0 to 15
Loose	4 to 10	5 to 15	5 to 12	15 to 35
Medium Dense	10 to 30	15 to 40	12 to 35	35 to 65
Dense	30 to 50	40 to 70	35 to 60	65 to 85
Very Dense	>50	>70	>60	85 to 100

SAMPLER TYPES



SOIL TYPES



ABBREVIATIONS

PL – Plastic Limit
LL – Liquid Limit
WC – Percent Moisture

Q_P – Hand Penetrometer
Q_U – Unconfined Compression Test
UU – Unconsolidated Undrained Triaxial

Note: Plot Indicates Shear Strength as Obtained By Above Tests

WATER SEEPAGE

WATER LEVEL AT END OF DRILLING

CLASSIFICATION OF GRANULAR SOILS

U.S. STANDARD SIEVE SIZE(S)

6"	3"	3/4"	4	10	40	200

BOULDERS	COBBLES	GRAVEL		SAND			SILT OR CLAY	CLAY
		COARSE	FINE	COARSE	MEDIUM	FINE		

A COMPLETE BUILDING SOLUTION

Everything you need from start to finish – Assurance, Testing, Inspection, and Certification

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Environmental Consulting & Geotechnical Services

Assuring site and subsurface conditions meet the criteria for purchase, development and construction.

Building Systems Consulting

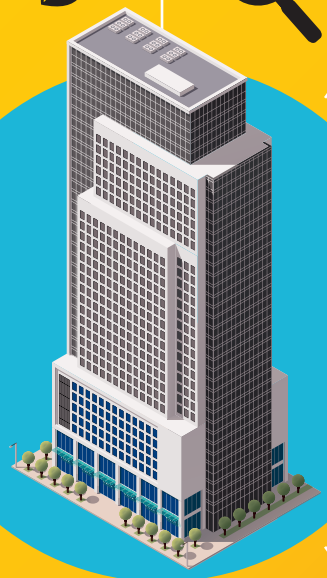
Industry professionals provide a variety of acoustic, fire, AV, roofing system and enclosure consulting services to ensure proper design and installation of a building's critical systems.

Decommissioning & Due Diligence

Supporting the redevelopment and transfer of property assets via environmental and property assessments and engineering services.

Building Product & Construction Materials Testing

Providing testing for virtually all types of building products, construction materials, and systems for safety, retail, code, and performance purposes.



Property Management Support Services

Providing a variety of building systems testing, inspection, and consulting services to optimize the value and life of the property asset.

Product Certification & Code Evaluation

The ETL and Warnock Hersey Marks show a product or system's conformance to code and ensures the on-going verification of compliance.

Mock-Up & Field Testing

On-site (air infiltration, water leakage, and structural performance for fenestration) or in lab validation of a curtain wall's design, workmanship, and material selection to ensure its performance.

Field Labeling

Providing on-site services of opening systems that need to be re-labeled or making recommendations for upgraded materials.

Building Enclosure Commissioning

Design and construction professionals provide solutions to reduce the potential for premature building failure, increase a building's energy efficiency, and expected life cycle.

Industrial Hygiene Services

Assessing a building or facility for a variety of sources (air, asbestos, lead, mold) to minimize the risk of factors adverse to human health.

BCFSNA030-2P

TOTAL QUALITY. ASSURED.

The ever increasing challenges of designing, constructing, and maintaining a building can be difficult for any organization to navigate. From compliance to local and national codes, to ensuring an efficient design, to property management, Intertek-PSI's team of architects, engineers, scientists, and technicians understand firsthand the complexities of successfully constructing a commercial building. Our full suite of services give us unique insight into all phases of a project. Regardless of the project size or complexity, Intertek-PSI delivers engineering, consulting, and testing services to support site selection, design, construction, and property management.

As a leader in providing comprehensive solutions to industries around the globe, Intertek-PSI prides itself on bringing the expertise and services necessary for our clients to meet all of their needs across their entire operation. **Our Assurance, Testing, Inspection, and Certification (A.T.I.C.)** suite of services ensures that whatever your needs may be – assurance, testing, inspection, certification, or all of the above, that those needs will be met by Intertek-PSI.

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icenter@intertek.com

intertek.com/building

Site Selection
A diverse range of services from geotechnical investigations, due diligence, industrial hygiene, and site surveys, for your building environment.

Design Phase
Our expertise offers engineering, consulting, evaluation, and peer review to ensure a well designed project.

Building Product & Construction Materials
The most comprehensive suite of testing and certification services for construction materials and building products.

Construction Project
Vital services throughout the construction process including inspection, testing, monitoring, mock-ups, and consulting.

Building Maintenance
Evaluation of a building's condition through inspection and testing, investigation, and remediation plan development.

Decommissioning & Transfer
Services that expedite and ensure compliance of the transfer or decommissioning of property or building.

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 5 - REIMBURSEMENT COST ESTIMATE
LADY ALEXA DR. & NATASHA DR. (C3 TO RESIDENTIAL 28'BB)

LADY ALEXA DR.

COST OF 50' BB ASPHALT STREET (C3)					
ITEM	**DESCRIPTION**	**QUANTITY**	**UNIT**	**COST**	**TOTAL**
1	8" PCCP/RRCP TO LIP OF GUTTER	3968	SY	90.00	357,119.60
2	12" LIME STABILIZED SUBGRADE TO 2' BC	4289	SY	42.00	180,125.68
3	12" PORTLAND CEMENT STABILIZED SUBGRADE TO 2' BC	4289	SY	30.00	128,661.20
4	EXCAVATION TO 2' BC	4280	SY	3.00	12,840.00
					$678,746.48

COST OF 28' BB STREET					
ITEM	**DESCRIPTION**	**QUANTITY**	**UNIT**	**COST**	**TOTAL**
1	7" PCCP/RRCP TO LIP OF GUTTER	2218	SY	69.00	153,047.06
2	8" LIME STABILIZED SUBGRADE TO 2' BC	2535	SY	26.00	65,910.75
3	8" PORTLAND CEMENT STABILIZED SUBGRADE TO 2' BC	2535	SY	20.00	50,700.58
4	EXCAVATION TO 2' BC	2535	SY	3.00	7,605.09
					$277,263.48

DIFFERENCE IN CONSTRUCTION COST OF LADY ALEXA DR **$401,483.00**

NATASHIA DR.

COST OF 50' BB ASPHALT STREET (C3)					
ITEM	**DESCRIPTION**	**QUANTITY**	**UNIT**	**COST**	**TOTAL**
1	8" PCCP/RRCP TO LIP OF GUTTER	2755	SY	90.00	247,950.00
2	12" LIME STABILIZED SUBGRADE TO 2' BC	3165	SY	42.00	132,930.00
3	12" PORTLAND CEMENT STABILIZED SUBGRADE TO 2' BC	3165	SY	30.00	94,950.00
4	EXCAVATION TO 2' BC	3165	SY	3.00	9,495.00
					$485,325.00

COST OF 28' BB STREET					
ITEM	**DESCRIPTION**	**QUANTITY**	**UNIT**	**COST**	**TOTAL**
1	7" PCCP/RRCP TO LIP OF GUTTER	1465	SY	69.00	101,085.00
2	8" LIME STABILIZED SUBGRADE TO 2' BC	1875	SY	26.00	48,750.00
3	8" PORTLAND CEMENT STABILIZED SUBGRADE TO 2' BC	1875	SY	20.00	37,500.00
4	EXCAVATION TO 2' BC	1875	SY	3.00	5,625.00
					$192,960.00

DIFFERENCE IN CONSTRUCTION COST OF NATASHA DR **$292,365.00**

TOTAL FOR CITY PORTION OF LADY ALEXA AND NATASHA	$693,848.00
13% ENGINEERING, SURVEYING, & TESTING	$90,200.24
7% CONTINGENCY	$48,569.36
2% BOND	$13,876.96
TOTAL AMOUNT REIMBURSABLE	**$846,494.57**

EXHIBIT 5

PERFORMANCE BOND **BOND NO._____**

Developer as Principal Name: Mailing address *(principal place of business)*:	**Surety** Name: Mailing address *(principal place of business)*: Physical address *(principal place of business)*:
City as Obligee Name: City of Corpus Christi Mailing address *(principal place of business)*: City of Corpus Christi Attn: Director, Development Services Department 2406 Leopard Street Corpus Christi, Texas 78401	Surety is a corporation organized and existing under the laws of the state of: _____ *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.*
Contract Title of Agreement: For Subdivision: Award Date of the Contract: Total Project Cost/Bond Sum:	Telephone *(main number)*: Telephone *(for notice of claim)*: Local Agent for Surety Name: Address: Telephone: E-Mail Address:
Bond Date of Bond: *(Date of Bond cannot be earlier than Award Date of the Contract)*	***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***

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.

Developer as Principal	**Surety**
Signature: _____	Signature: _____
Name: _____	Name: _____
Title: _____	Title: _____
Email Address: _____	Email Address: _____
	(Attach Power of Attorney and place surety seal below)

END OF SECTION

EXHIBIT 6

PAYMENT BOND **BOND NO.**_____

Developer as Principal Name: Mailing address *(principal place of business)*:	**Surety** Name: Mailing address *(principal place of business)*: Physical address *(principal place of business)*:
City Name: City of Corpus Christi, Texas Mailing address *(principal place of business)*: City of Corpus Christi Attn: Director, Development Services Department 2406 Leopard Street Corpus Christi, Texas 78401	Surety is a corporation organized and existing under the laws of the state of: _____ *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.*
Contract Title of Agreement: For Subdivision: Award Date of the Contract: Total Project Cost/Bond Sum:	Telephone *(main number)*: Telephone *(for notice of claim)*: Local Agent for Surety Name: Address: Telephone: E-Mail Address:
Bond Date of Bond: *(Date of Bond cannot be earlier than Award Date of Contract)*	***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***

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.

Developer as Principal	**Surety**
Signature: _____	Signature: _____
Name: _____	Name: _____
Title: _____	Title: _____
Email Address: _____	Email Address: _____
	(Attach Power of Attorney and place surety seal below)

END OF SECTION

EXHIBIT 7

MAINTENANCE BOND

KNOW ALL MEN BY THESE PRESENTS:

THAT MPM Development, LP, a Texas Limited Partnership, whose address is 426 S. Staples, Corpus Christi, TX 78401, as Principal and _____, a corporation organized under the laws of _____, and fully authorized to transact business in the State of Texas, as Surety, do hereby expressly acknowledge themselves to be held and bound to pay unto the City of Corpus Christi, a municipal corporation, of the County of Nueces and the State of Texas, the sum of _____ dollars ($_____ in lawful money of the United States, for the payment of which sum will truly be made unto said City of Corpus Christi, and its successors, and said Principal and Surety do hereby bind themselves, their assigns and successors jointly and severally. This bond shall automatically be increased by the amount of any increase in the work to be performed, but in no event shall there be a decrease in the sum of this Bond.

THIS obligation is conditioned; however, that whereas, said MPM Development, LP has this ____ day of _____, 202__ entered into a written contract with the said City of Corpus Christi to build and construct all Roadway Improvements within Kings Landing Unit 5 subdivision with Roller Compacted Concrete pavement in conformance with the standards established by the PILOT PROGRAM FOR ROLLER COMPACTED CONCRETE ROADWAY IMPROVEMENTS AND PARTICIPATION AGREEMENT FOR KINGS LANDING SUBDIVISION, which contract and the plans and specifications therein mentioned is hereby expressly made a part of this bond as though the same were written embodied herein.

WHEREAS, Principal binds itself to use of materials and methods of construction such that all roadway improvements will be initially completed free of perceptible defects and will remain in good repair and condition and free of perceptible defects for and during the period of seven (7) years after the date of acceptance of the completed improvements by the City of Corpus Christi, and

WHEREAS, said Principal binds itself to construct said improvements in such a manner and obtain inspection approvals in proper sequence as are required to obtain acceptance by the City of Corpus Christi and to repair or reconstruct the said improvements in whole or in part at any time within said seven (7) years period to such an extent as the City of Corpus Christi deems necessary to properly correct all defects except those which have been caused by circumstances and conditions occurring after the time of construction over which the Principal had no control and which are other than those arising from defect of construction by the Principal; and,

WHEREAS, under the plans, specifications, and contract, it is provided that the Principal will maintain and keep in good repair, the work herein contracted to be done and performed, for a period of seven (7) year from the date of the acceptance of said work, and to do all necessary maintenance, repairing, reconstructing and/or replacement in whole or in part of said improvements that should be occasioned by settlement of foundation, defective workmanship or materials furnished in the construction or any part thereof or any of the accessories thereto constructed by the Principal. It being understood that the purpose of this section is to cover all defective conditions arising by reason of defective material and charge the same against the said Principal, and Surety on this obligation, and the said Principal Surety hereon shall be subject to the liquidation damages mentioned in said contract for each day's failure on its part to comply with the terms of said provisions of said contract.

NOW THEREFORE, if the said Principal shall keep and perform its said agreement to maintain said work and keep the same in repair for the said maintenance period of seven (7) year, as provided, then these presents shall be null and void, and have not further effect, but if default shall be made by said Principal in the performance of its contract to so maintain, repair, reconstruct, and/or replace said work, then these presents shall have full force and effect, and said City of Corpus Christi shall have and recover from the said Principal and its Principal and Surety damages in the premises, as provided; and it is further agreed that this obligation shall be continuing one against the Principal and Surety, hereon, and that successive recoveries may be and had hereon for successive breaches until the full amount shall have been exhausted; and it is further understood that the obligation herein to maintain said work shall continue throughout said maintenance period, and the same shall not be changed, diminished or in any manner affected from any cause during said time.

PROVIDED FURTHER, that if any legal action be filed upon this Bond, exclusive venue shall lie in Nueces County, State of Texas. The construction of this agreement and the rights remedies, and obligations arising there under are governed by the laws of the State of Texas. Both Principal and Surety hereby agree that the Texas conflicts of law rules do not control this agreement and will not be used to cause the application of the laws of a jurisdiction other than the State of Texas. The obligations performable by both Principal and Surety are performable in Corpus Christi, Nueces County, Texas.

AND PROVIDED FURTHER, that the said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms the Work to be performed thereunder or the specifications accompanying the same shall in anyway 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 work or to the specifications.

IN WITNESS WHEREOF, said _____has caused these presents to be executed by and the said _____has caused these presents to be executed by its attorney in fact and the said attorney in fact, _____, has hereunto set his hand, the _____ day of _____, 20___.

_____	_____
Principal	Surety
By: _____	By: _____
Title: _____	Title: Attorney-in-Fact
Address: _____	Address: _____
_____	_____

The name, address, and phone number of the Resident Agent of Surety is: (must be Texas office):

_____

_____

_____

*Power of Attorney attached

EXHIBIT 8

INSURANCE REQUIREMENTS

I. DEVELOPER'S AND OR CONTRACTOR'S LIABILITY INSURANCE

A. Developer and or Contractor shall not commence work under this agreement until all insurance required herein has been obtained and approved by the City's Risk Manager or designee. Developer and or Contractor must not allow any subcontractor to commence work until all similar insurance required of the subcontractor has been so obtained.

B. Developer and or Contractor shall furnish to the Risk Manager or designee two (2) copies of Certificates of Insurance, with applicable policy endorsements showing the following minimum coverage by an insurance company(s) acceptable to the Risk Manager or designee. The City must be named as an additional insured for the General Liability policy, and a waiver of subrogation is required on all applicable policies.

TYPE OF INSURANCE	**MINIMUM INSURANCE COVERAGE**
30-Day Notice of Cancellation required on all certificates or by policy endorsement(s)	Bodily injury and Property Damage Per Occurrence / aggregate
Commercial General Liability including: 1. Broad Form 2. Premises – Operations 3. Products/Completed Operations Hazard 4. Contractual Liability 5. Broad Form Property Damage 6. Independent Developer and or Contractors 7. Underground Hazard (if applicable)	$1,000,000 Per Occurrence
AUTO LIABILITY (including) 1. Owned 2. Hired and Non-Owned 3. Rented/Leased	$500,000 Combined Single Limit
WORKERS' COMPENSATION EMPLOYER'S LIABILITY	Statutory $500,000 /$500,000 /$500,000
POLLUTION LEGAL LIABILITY Including: Sudden and Accidental Pollution Coverage. Cleanup and Remediation.	$1,000,000 Per Claim (Defense costs not included in face value of the policy) If claims made policy, retro date must be prior to inception of agreement, have extended reporting period provisions and identify any limitations regarding who is insured.

C. In the event of accidents of any kind related to this project, Developer and or Contractor shall furnish the Risk Manager with copies of all reports of such accidents within ten (10) days of the accident.

II. ADDITIONAL REQUIREMENTS

A. Developer and or Contractor must obtain workers' compensation coverage through a licensed insurance company in accordance with Texas law. The contract for coverage must be written on a policy and endorsements approved by the Texas Department of Insurance. The coverage provided must be in amounts sufficient to assure that all workers' compensation obligations incurred will be promptly met.

B. Developer and or Contractor shall obtain and maintain in full force and effect for the duration of this Contract, and any extension hereof, at Developer and or Contractor's sole expense, insurance coverage written on an occurrence basis, by companies authorized and admitted to do business in the State of Texas and with an A.M. Best's rating of no less than A- VII.

C. The City shall be entitled, upon request and without expense, to receive copies of the policies, declarations page and all endorsements thereto as they apply to the limits required by the City. Developer and or Contractor shall be required to comply with any such requests and shall submit a copy of the replacement certificate of insurance to City at the address provided below within 10 days of the requested change. Developer and or Contractor shall pay any costs incurred resulting from said changes. All notices under this Article shall be given to City at the following address:

City of Corpus Christi
Attn: Risk Manager
P.O. Box 9277
Corpus Christi, TX 78469-9277

D. Developer and or Contractor agrees that with respect to the above required insurance, all insurance policies are to contain or be endorsed to contain the following required provisions:

- Name the City and its officers, officials, employees, volunteers, and elected representatives as additional insured by endorsement, as respects operations and activities of, or on behalf of, the named insured performed under contract with the City, with the exception of the workers' compensation policy;

- Provide for an endorsement that the "other insurance" clause shall not apply to the City of Corpus Christi where the City is an additional insured shown on the policy;

- Workers' compensation and employers' liability policies will provide a waiver of subrogation in favor of the City; and

- Provide thirty (30) calendar days advance written notice directly to City of any suspension, cancellation, non-renewal or material change in coverage, and not less than ten (10) calendar days advance written notice for nonpayment of premium.

E. Within five (5) calendar days of a suspension, cancellation, or non-renewal of coverage, Successful Bidder shall provide a replacement Certificate of Insurance and applicable endorsements to City. City shall have the option to suspend Developer and or Contractor's performance should there be a lapse in coverage at any time during this contract. Failure to provide and to maintain the required insurance shall constitute a material breach of this contract.

F. In addition to any other remedies the City may have upon Developer and or Contractor's failure to

provide and maintain any insurance or policy endorsements to the extent and within the time herein required, the City shall have the right to order Developer and or Contractor to stop work hereunder, and/or withhold any payment(s) which become due to Developer and or Contractor hereunder until Developer and or Contractor demonstrates compliance with the requirements hereof.

G. Nothing herein contained shall be construed as limiting in any way the extent to which Developer and or Contractor may be held responsible for payments of damages to persons or property resulting from Developer and or Contractor's or its subDeveloper and or Contractor's performance of the work covered under this agreement.

H. It is agreed that Developer and or Contractor's insurance shall be deemed primary and non-contributory with respect to any insurance or self insurance carried by the City of Corpus Christi for liability arising out of operations under this agreement.

I. It is understood and agreed that the insurance required is in addition to and separate from any other obligation contained in this agreement.

EXHIBIT 9

City of Corpus Christi

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)
N/A	N/A

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
N/A	N/A

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
Mossa Mostaghasi	Capital Improvement Advisory Committee

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
N/A	N/A

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 (Print) Title: GENERAL PARNTER

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.