PARTICIPATION AGREEMENT
For the Subdivision of King's Landing Unit 11
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 11 (Unit 11");

WHEREAS, as a condition of the Plat for Unit 11, the Developer is required to expand, extend, and construct Lady Alexa Drive (formerly Iron Throne Drive) and Castle Black Drive as depicted on and following the improvement requirements outlined in **Exhibit 2**, which exhibit is attached to and incorporated in this Agreement by reference;

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

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

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

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

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

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

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

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

Section 2. ROLLER COMPACTED CONCRETE PAVEMENT. Per this Pilot Program, the City agrees that it will authorize the use of roller compacted concrete pavement (as that term is defined by the RCC Pavement Council) for the King's Landing Unit 11 per the terms of the Pilot Program.

(a) Developer agrees to construct all roadway improvements within Kings Landing Subdivision Unit 11 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 11, 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 11, the Developer must complete the Lady Alexa Drive (formerly Iron Throne Drive) and Castle Black Drive within 24 calendar months from the date this document is executed by the City. Time is of the essence in the performance of this contract.

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

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

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) and Castle Black Drive shall not exceed **$944,506.80**.

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 Castle Black Drive. The City shall reimburse the Developer upon completion of all Roadway Improvements within Kings Landing Unit 11 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) and Castle Black 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 Castle Black Drive to ensure the completion of the project.

Section 8. MAINTENANCE.

(a) During the period of at least 7 years following acceptance of roadway improvements, all maintenance and repairs of the Roadway Improvements in the King's Landing subdivision Unit 11 will be performed entirely and exclusively by Developer. Failure of the Developer to promptly complete all maintenance and repairs of all streets in this subdivision will be a violation and breach of this agreement. The Developer shall complete all such maintenance or repairs of the streets within 120 days after being requested in writing to do so by the City Engineer.

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

Deficiencies requiring repair shall include:

1.Minor Cracks. any crack greater than 1/8-inch and less than 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 9. REPLACEMENT.

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

(b) Deficiencies requiring replacement shall include:

1. Major Cracks. any panel with a crack across 50% of the length or width of the panel and greater than 1/4-inch at any point in the crack;

2. Major Differential Vertical Separation. any differential vertical separation between panels greater than 1/8-inch;

3. Major Curb Separation. separation of RCC pavement panel from curb and gutter greater than 1/8-inch;

4.. Uncontrolled Cracking. a RCC pavement panel with more than one uncontrolled crack; and

5. Major Spalling. any spalling, honeycombing, or other defects greater than 2 square feet or more than 1-inch deep.

(c) Replacements shall include:

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

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

Section 12. INSPECTIONS.

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

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

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

Section 13. INDEMNIFICATION.
Developer covenants to fully indemnify, save and hold harmless the City of Corpus Christi, its officers, employees, and agents, ("indemnitees") against any and all liability, damage, loss, claims, demands, suits, and causes of action of any nature whatsoever asserted against or recovered from indemnitees on account of injury or damage to person including, without limitation on the foregoing, workers' compensation and death claims, or property loss or damage of any other kind whatsoever, to the extent any injury, damage, or loss may be incident to, arise out of, be caused by, or be in any way connected with, either proximately or remotely, wholly or in part, the construction, installation, existence, operation, use, maintenance, repair, restoration, or removal of the public improvements associated with Roadway Improvements within the Kings Landing Subdivision, including the injury, loss, or damage caused by the contributory negligence of the indemnitees or any of them, regardless of whether the injury, damage, loss, violation, exercise of rights, act, or omission is caused or is claimed to be caused

by the contributing or concurrent negligence of indemnitees, or any of them, but not if caused by the sole negligence of indemnitees, or any of them, unmixed with the fault of any other person or entity, and including all expenses of litigation, court costs, and attorney's fees which arise, or are claimed to arise, out of or in connection with the asserted or recovered incident. This indemnity survives the termination of this Agreement.

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

(a). Developer fails to submit plans and specifications for the Roadway Improvements to the City Engineer in advance of construction.

(b). Developer does not reasonably pursue construction of the Roadway Improvements under the approved plans and specifications.

(c). Developer fails to complete construction of the Lady Alexa Drive (formerly Iron Throne Drive) and Castle Black Drive under the approved plans and specifications within 24 months.

(d). Developer fails to perform warranty work.

(e). Either the City or the Developer fails to comply with its duties or obligations under this Agreement.

Section 15. NOTICE AND CURE.

(a). In the event of a default by either party under this Agreement, the non-defaulting party shall deliver notice of the default, in writing, to the defaulting party stating, in sufficient detail, the nature of the default and the requirements to cure such default.

(b). After delivery of the default notice, the defaulting party has 15 days from the delivery of the default notice ("Cure Period") to cure the default.

(c). In the event the default is not cured by the defaulting party within the Cure Period, then the non-defaulting party may pursue its remedies in this section.

(d). Should the Developer fail to perform any obligation or duty of this Agreement, the City shall give notice to the Developer, at the address stated in Notice Section of this agreement, of the need to perform the obligation or duty and, should the Developer fail to perform the required obligation or duty within 15 days of receipt of the notice, the City may perform the obligation or duty, charging the cost of such performance to the Developer.

(e). In the event of an uncured default by the Developer, after the appropriate notice and Cure Period, the City has all its common law remedies and the City may:

1. Terminate this Agreement after the required notice and opportunity to cure the default;

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

3. Bring Suit to enforce any provision of this agreement including the obligations to repair and replace.

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

Section 16. FORCE MAJEURE.

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

(b). If, by reason of force majeure that is not known or reasonably anticipated at the time of this agreement, either party is rendered wholly or partially unable to carry out its obligations under this Agreement, then the party claiming force majeure shall give written notice of the full particulars of the force majeure to the other party within 10 days after the occurrence or waive the right to claim it as a justifiable reason for delay. The obligations of the party giving the required notice, to the extent affected by the force majeure, are suspended during the continuance of the inability claimed but for no longer period, and the party shall endeavor to remove or overcome such inability with all reasonable dispatch.

Section 17. NOTICES.

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

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

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

with a copy to:

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

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

(c). Either party may change the address for notices by giving notice of the change, in accordance with the provisions of this section, within five business days of the change.

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

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

Section 20. CERTIFICATE OF INTERESTED PARTIES. Developer agrees to comply with Texas Government Code section 2252.908 and complete Form 1295 Certificate of Interested Parties as part of this agreement.

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

(1) persons with a "controlling interest" in the entity, which includes:

a. an ownership interest or participating interest in a business entity by virtue of units, percentage, shares, stock or otherwise that exceeds 10 percent;

b. membership on the board of directors or other governing body of a business entity of which the board or other governing body is composed of not more than 10 members; or

c. service as an officer of a business entity that has four or fewer officers, or service as one of the four officers most highly compensated by a business entity that has more than four officers.

(2) a person who actively participates in facilitating a contract or negotiating the terms of a contract with a governmental entity or state agency, including a broker, intermediary, adviser, or attorney for the business entity.

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

Section 21. CONFLICT OF INTEREST. Developer agrees to comply with Chapter 176 of the Texas Local Government Code and file Form CIQ with the City Secretary's Office, if required. For more information and to determine if you need to file a Form CIQ, please review the information on the City Secretary's website at http://www.cctexas.com/government/city-secretary/conflict-disclosure/index

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

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

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

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

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

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

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

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

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

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

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

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

Exhibits Attached and Incorporated by Reference:
Exhibit 1 – Plat – King's Landing Unit 11
Exhibit 2 – Public Improvement Plans – King Landing Unit 11
Exhibit 3 – Geotechnical Report (Specific to Kings Landing Unit 11)
Exhibit 4 – Cost Estimate
Exhibit 5 – Performance Bond
Exhibit 6 – Payment Bond
Exhibit 7 – Disclosure of Interest

Incorporated by Reference Only:
Pilot Program for Roller Compacted Concrete Roadway Improvements Agreement (referred to in this Agreement as "Pilot Program")

DEVELOPER: MPM Development, LP

Moses Mostaghasi
General Partner

Date

ATTEST:

Rebecca Huerta
City Secretary

CITY OF CORPUS CHRISTI:

Michael Dice
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 11

A 38.072 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 38.072 ACRE TRACT BEING A PORTION OF SURVEY 137, ABSTRACT 579 AND SURVEY 139, ABSTRACT 577, 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: 06/19/25
COMP. NO.: PLAT-SH1
JOB NO.: 24008
SCALE: 1" = 60'
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, RPLS NO. 2211

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

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____.

_____
CHAIRMAN
MICHAEL YORK

_____
SECRETARY
MICHAEL DICE

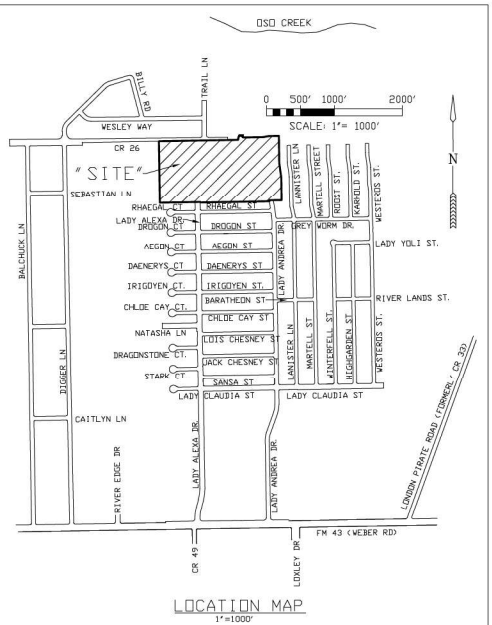
STATE OF TEXAS §

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



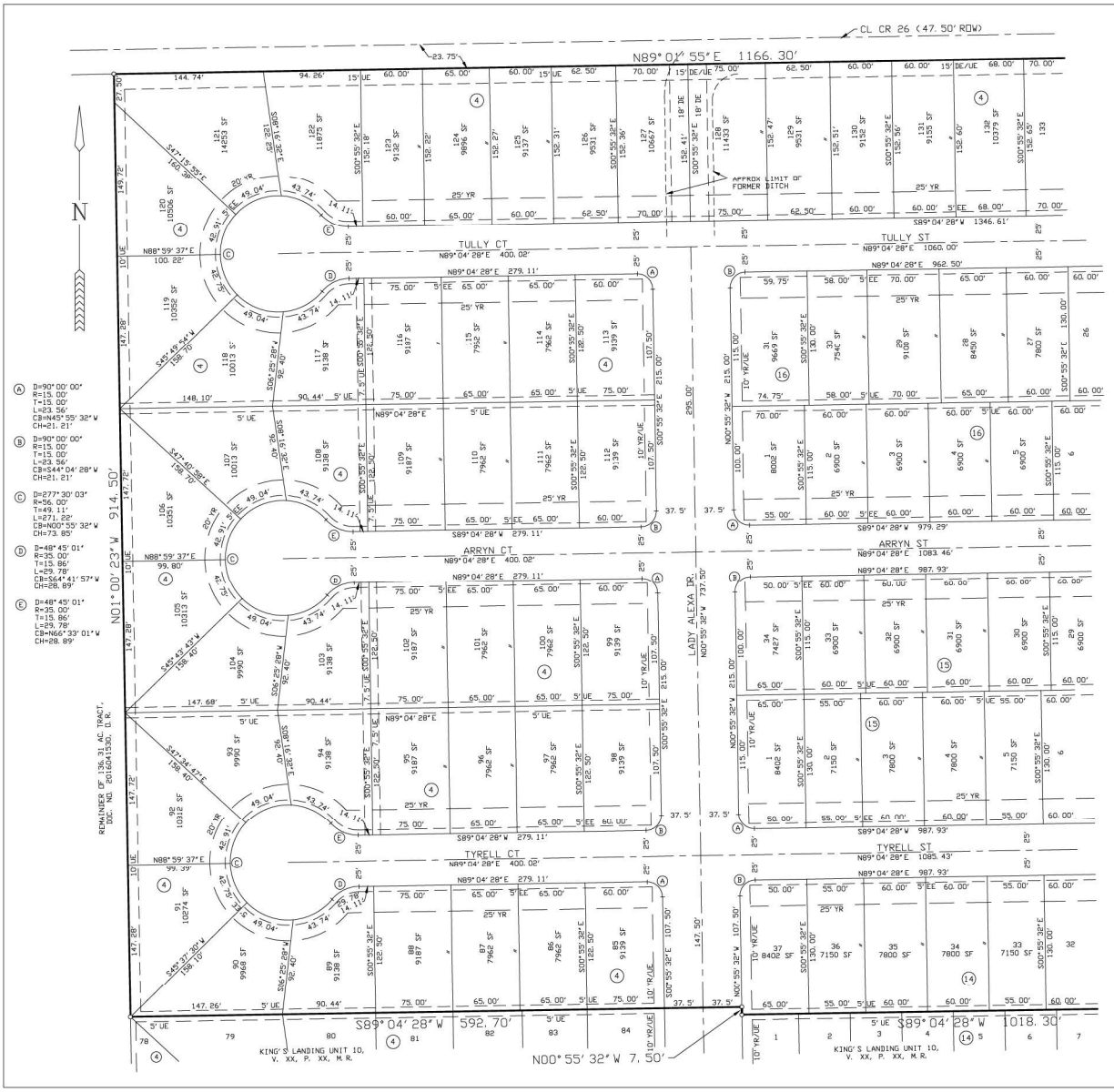
LOCATION MAP
1"=1000'

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

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 AND FEMA ZONE X OTHER FLOOD AREAS AS SHOWN, MAP NO. 48355C0505G (10/13/2022).
5. LEGAL DESCRIPTION: A 38.072 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 38.072 ACRE TRACT BEING A PORTION OF SURVEY 137, ABSTRACT 579 AND SURVEY 139, ABSTRACT 577, SAID SURVEYS NAMED CUADRILLA IRRIGATION COMPANY, NUECES CO., TX.
5. THE TOTAL PLATTED AREA CONTAINS 38.072 ACRES OF LAND INCLUDING STREET DEDICATIONS.
6. THE YARD REQUIREMENT, AS DEPICTED, IS A REQUIREMENT OF THE UNIFIED DEVELOPMENT CODE AND IS SUBJECT TO CHANGE AS THE ZONING MAY CHANGE.
7. ALL DRIVEWAYS TO RESIDENTIAL AND COLLECTOR PUBLIC STREETS WITHIN THE SUBDIVISION SHALL CONFORM TO ACCESS MANAGEMENT STANDARDS OUTLINED IN ARTICLE 7 OF THE UDC.



PLAT OF
KING'S LANDING UNIT 11
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: 6/19/25
COMP. NO.: PLAT-SHT2
JOB NO.: 24008
SCALE: 1" = 60'
PLAT SCALE: SAME
SHEET 2 OF 3

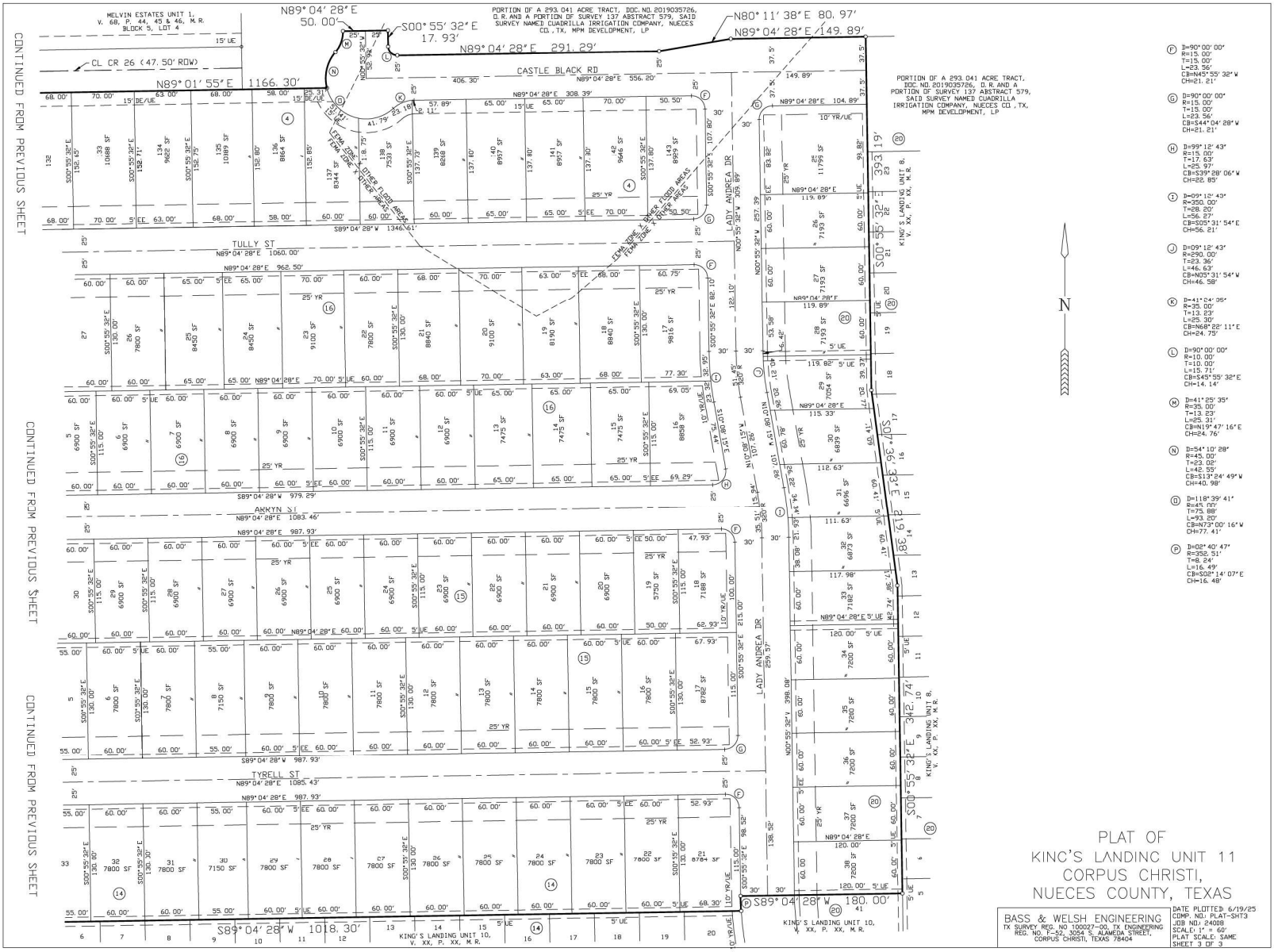
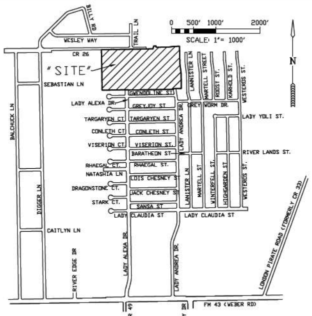

CONTINUED FROM PREVIOUS SHEET
CONTINUED FROM PREVIOUS SHEET
CONTINUED FROM PREVIOUS SHEET
MELVIN ESTATES UNIT 1, V. 68, P. 44, 45 & 46, M.R. BLOCK 5, LOT 4
N89° 04' 28" E 50. 00'
S00° 55' 32" E 17. 93'
PORTION OF A 293.041 ACRE TRACT, DOC. NO. 2019035726, O.R. AND A PORTION OF SURVEY 137 ABSTRACT 579, SAID SURVEY NAMED CUADRILLA IRRIGATION COMPANY, NUECES CO., TX, MPM DEVELOPMENT, LP
N80° 11' 38" E 80. 97'
N89° 04' 28" E 149. 89'
N89° 04' 28" E 291. 29'
CL CR 26 (47. 50' ROW)
N89° 01' 55" E 1166. 30'
CASTLE BLACK RD
N89° 04' 28" E 556. 20'
N89° 04' 28" E 308. 39'
406. 30'
PORTION OF A 293.041 ACRE TRACT, DOC. NO. 2019035726, O.R. AND A PORTION OF SURVEY 137 ABSTRACT 579, SAID SURVEY NAMED CUADRILLA IRRIGATION COMPANY, NUECES CO., TX, MPM DEVELOPMENT, LP
TULLY ST
N89° 04' 28" E 1060. 00'
N89° 04' 28" E 962. 50'
S89° 04' 28" W 1346. 61'
S89° 04' 28" W 979. 29'
AKMYN ST
N89° 04' 28" E 1083. 46'
N89° 04' 28" E 987. 93'
S89° 04' 28" W 987. 93'
TYRELL ST
N89° 04' 28" E 1085. 43'
N89° 04' 28" E 987. 93'
S89° 04' 28" W 1018. 30'
S89° 04' 28" W 180. 00'
LADY ANDREA DR
N00° 55' 32" W 257. 79'
N00° 55' 32" W 305. 89'
S00° 55' 32" E 393. 19'
S00° 55' 32" E 342. 74'
S00° 55' 32" E 398. 08'
S00° 55' 32" E 259. 37'
KING'S LANDING UNIT 8, V. XX, P. XX, M.R.
KING'S LANDING UNIT 10, V. XX, P. XX, M.R.
KING'S LANDING UNIT 11, V. XX, P. XX, M.R.
FEMA ZONE X OTHER FLOOD AREAS
FEMA ZONE X OTHER FLOOD AREAS
FEMA ZONE X OTHER FLOOD AREAS
N
F D=90° 00' 00" R=15. 00' T=15. 00' L=23. 56' CB=N45° 55' 32" W CH=21. 21'
G D=90° 00' 00" R=15. 00' T=15. 00' L=23. 56' CB=S44° 04' 28" W CH=21. 21'
H D=99° 12' 43" R=15. 00' T=17. 63' L=25. 97' CB=S39° 28' 06" W CH=22. 85'
I D=09° 12' 43" R=350. 00' T=28. 20' L=56. 27' CB=S05° 31' 54" E CH=56. 21'
J D=09° 12' 43" R=290. 00' T=23. 36' L=46. 63' CB=N05° 31' 54" W CH=46. 58'
K D=41° 24' 05" R=35. 00' T=13. 23' L=25. 30' CB=N68° 22' 11" E CH=24. 75'
L D=90° 00' 00" R=10. 00' T=10. 00' L=15. 71' CB=S45° 55' 32" E CH=14. 14'
M D=41° 25' 35" R=35. 00' T=13. 23' L=25. 31' CB=N19° 47' 16" E CH=24. 76'
N D=54° 10' 28" R=45. 00' T=23. 02' L=42. 55' CB=S13° 24' 49" W CH=40. 98'
O D=118° 39' 41" R=45. 00' T=75. 88' L=93. 20' CB=N72° 00' 16" W CH=77. 41'
P D=02° 40' 47" R=352. 51' T=8. 24' L=16. 49' CB=S02° 14' 07" E CH=16. 48'
PLAT OF
KINC'S LANDINC UNIT 11
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: 6/19/25
COMP. NO.: PLAT-SHT3
JOB NO: 24008
SCALE: 1" = 60'
PLAT SCALE: SAME
SHEET 3 OF 3

EXHIBIT 2

PUBLIC IMPROVEMENTS TO KING'S LANDING UNIT 11, CORPUS CHRISTI, NUECES COUNTY, TEXAS

As stated upon the approval of Units 7, 9, 10 and now 11, the Developer shall agree to show storm water detention requirements are satisfied for all future Units of the King's Landing development and include volume retroactively for Units 7, 9, 10 and 11. A Storm Water Quality Management Plan (SWQMP) shall be prepared to City's standards and submitted to document the ultimate detention requirements are met with calculations to support the computations.



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 WITH DIRECTOR OF PUBLIC WORKS APPROVAL. 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 CURB RETURNS AT STREET INTERSECTIONS SHALL BE 20' RBC EXCEPT FOR THE RETURNS AT 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).
15. BACKFILL EXISTING DITCHES IN STREETS OF THIS SITE IN 8" MAXIMUM LIFTS AND COMPACT TO 95% STANDARD PROCTOR DENSITY WITHIN THREE PERCENTAGE POINTS OF OPTIMUM MOISTURE. SAID EXISTING DITCHES IN STREETS OF THIS SITE ARE GENERALLY NOT SHOWN IN PLANS HEREOF. NO SEPARATE PAY FOR DITCH BACKFILL.

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 PER CITY CONSTRUCTION SPECS 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 157 LOTS X 3.5 PERS/LOT X 80 GPCPD X PF 4 = 0.18 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
CL	CENTERLINE
CW	R/C CONCRETE WALK
DCSC	DEEP CUT SERVICE CONNECTION (SAN. SEWER)
→	DRAINAGE DIRECTION OR DIMENSION ARROW
(13.45)	FINISHED GROUND ELEVATION
	FIRE HYDRANT SYMBOL
FL	FLOW LINE OR INVERT ELEVATION
FW	FINISHED WALK ELEVATION
GB	GRADE BREAK (CHANGE OF DRAINAGE DIRECTION OR SLOPE)
HDPP	HIGH DENSITY POLYETHELENE PIPE
LT	LEFT
MBC	MULTIPLE BOX CULVERT (R/C)
MH	MANHOLE
PC	POINT OF CURVATURE (BEGINNING OF CURVE)
PT	POINT OF TANGENCY (END OF CURVE)
R/C	REINFORCED PORTLAND CEMENT CONCRETE
7" PCCP	PORTLAND CEMENT CONCRETE PAVING, CAST IN PLACE, STEEL REINFORCED, 7" THICK
RBPM	RAISED BLUE PAVEMENT MARKER, SEE WATER NOTES BELOW.
RCC	ROLLER COMPACTED CONCRETE
7" RCCP	ROLLER COMPACTED CONCRETE PAVING 7" THICK
RCP	REINFORCED CONCRETE PIPE
RT	RIGHT
S = 0.3%	LONGITUDINAL SLOPE
SS	SANITARY SEWER
SSF	SEDIMENTATION SCREENING FENCE ALSO KNOWN AS SILT FENCE OR TEMPORARY SEDIMENT CONTROL FENCE
SSMH	SANITARY SEWER MANHOLE
SSS	SANITARY SEWER SERVICE (PIPE & FITTINGS, 4" AND 6")
STPS	STOP SIGN
TC	TOP OF CURB
TSW	TIED SIDEWALK
	WATER VALVE SYMBOL
WSD	DOUBLE WATER SERVICE (1" PIPE, FITTINGS, CORPORATION STOP AND ANGLE METER VALVES)
WSS	SINGLE WATER SERVICE (1" PIPE, FITTINGS, CORPORATION STOP AND ANGLE METER VALVE)

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 C900 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 INFRASTRUCTURE 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 157 LOTS X 60 MIN/HR X 24 HR/DAY = 0.68 MGD.
12. LINE LOCATOR TAPE AND TRACER WIRE ARE TO BE INSTALLED WITH PROPOSED WATER LINES PER IDM 4.06K.A-B.
13. RAISED BLUE PAVEMENT MARKERS IN ACCORDANCE WITH THE LATEST VERSION OF THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD)" SHALL BE INSTALLED IN THE CENTER OF STREETS AT FHs AS SHOWN (NO SEPARATE PAY)

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.

STREET LIGHTS – MOUNTING HEIGHT 25' TO 28'

CALL BEFORE YOU DIG!
Texas 811 — 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

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

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

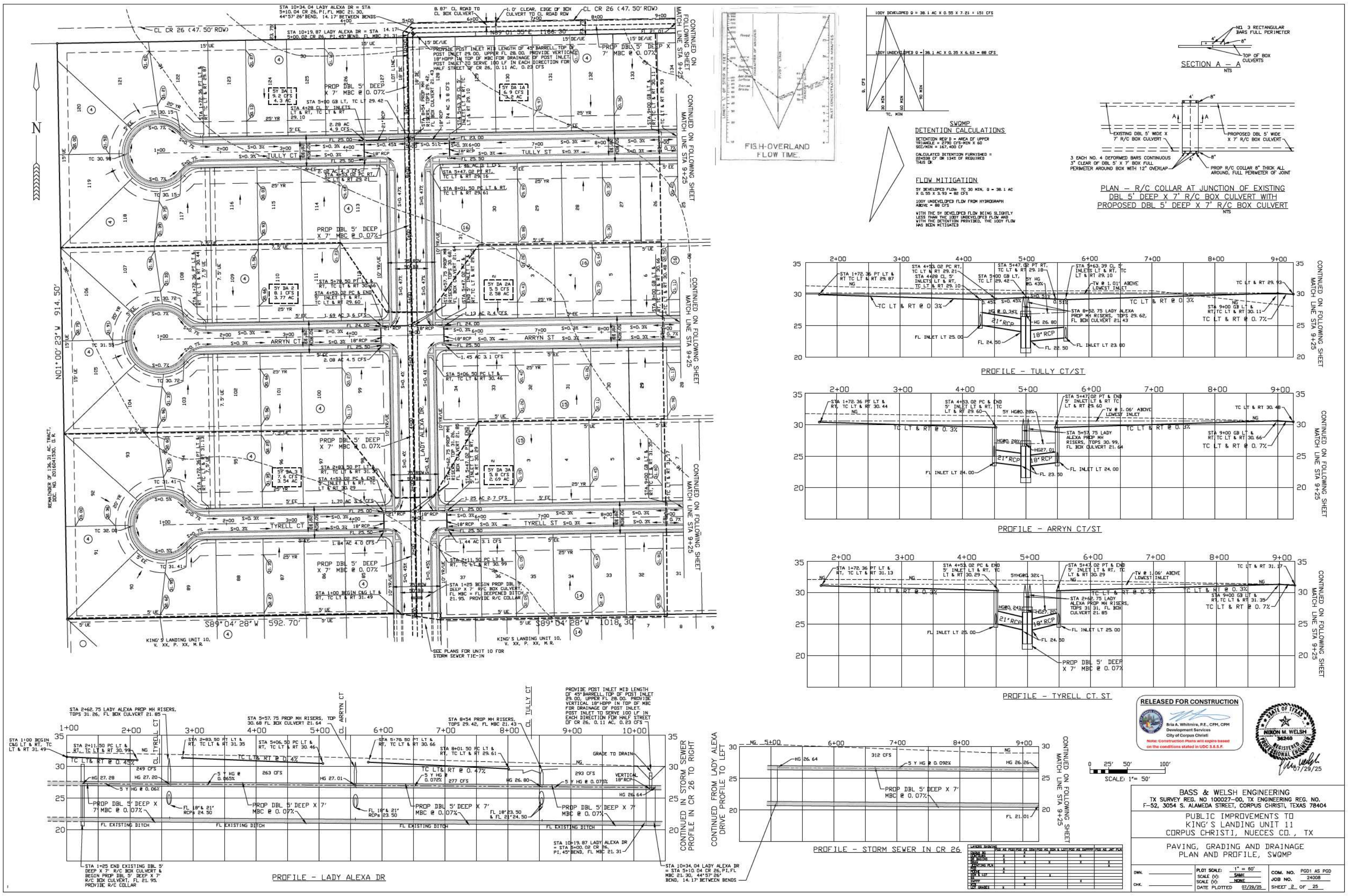
STATE OF TEXAS — NIXON M. WELSH — 36240 — REGISTERED PROFESSIONAL ENGINEER
07/29/25

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

PUBLIC IMPROVEMENTS TO
KING'S LANDING UNIT 11
CORPUS CHRISTI, NUECES CO., TX

COVER SHEET AND MISCELLANEOUS INFORMATION

DWN.		PLOT SCALE: 1" = 60'	COM. NO. CS.DWG
		SCALE (H): AS SHOWN	JOB NO. 24008
CHK.	N. WELSH	SCALE (V): AS SHOWN	
		DATE PLOTTED 07/29/25	SHEET 1 OF 25



RELEASED FOR CONSTRUCTION

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

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

STATE OF TEXAS
NIXON M. WELSH
36240
REGISTERED PROFESSIONAL ENGINEER
07/29/25

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
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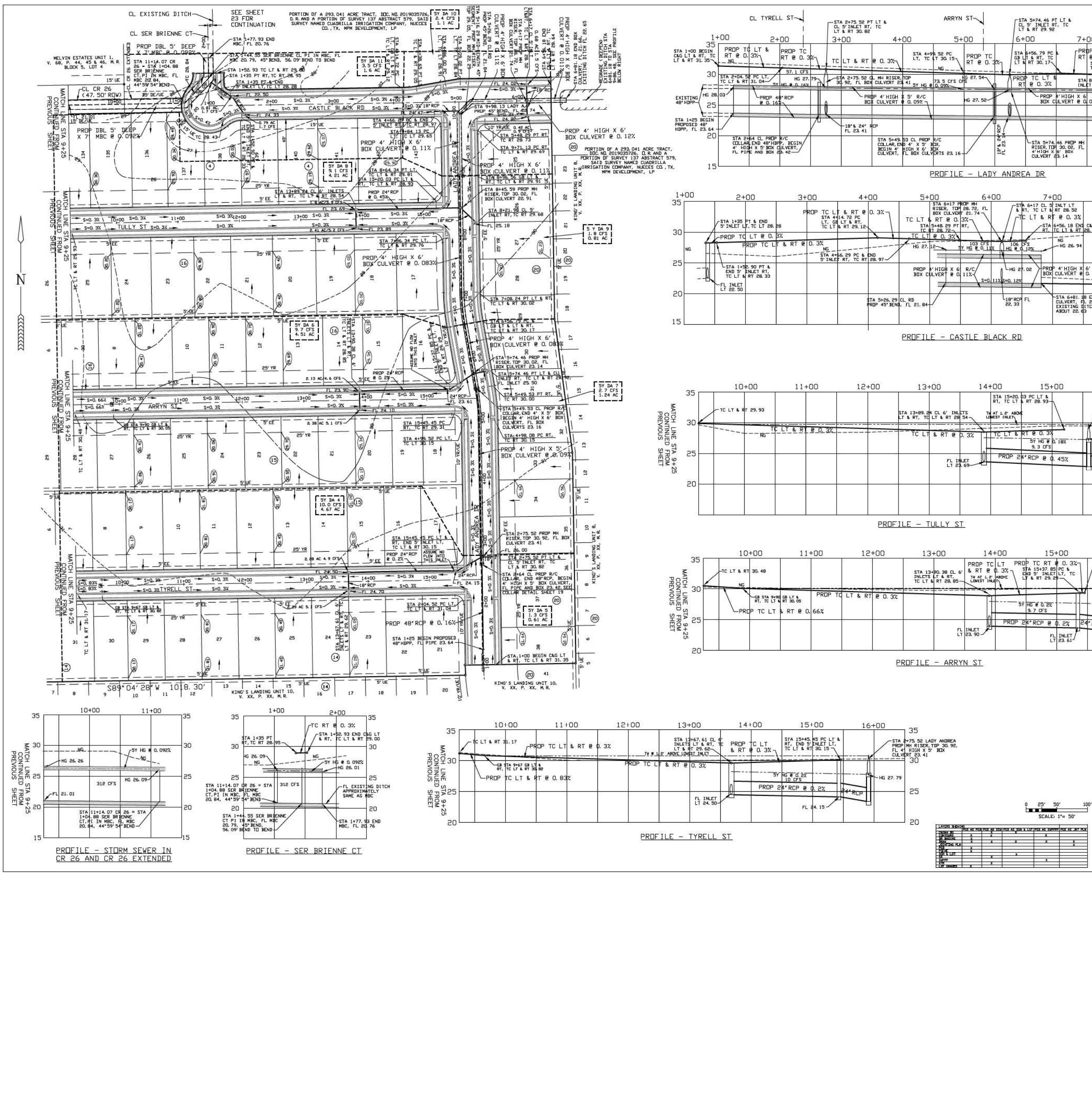
CORPUS CHRISTI, NUECES CO., TX

PAVING, GRADING AND DRAINAGE
PLAN AND PROFILE, SWQMP

DWN.	PLOT SCALE: 1" = 60'	COM. NO.	PGD1 AS PGD
CHK.	SCALE (V): SAME	JOB NO.	24008
	SCALE (V): NONE	SHEET	2 OF 25
	DATE PLOTTED 07/29/25		



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PAVING, GRADING AND DRAINAGE
PLAN AND PROFILE

DWN.		PLOT SCALE:	1" = 60'	COM. NO.	PGD2 AS PGD
CHK.		SCALE (V):	SAME	JOB NO.	24008
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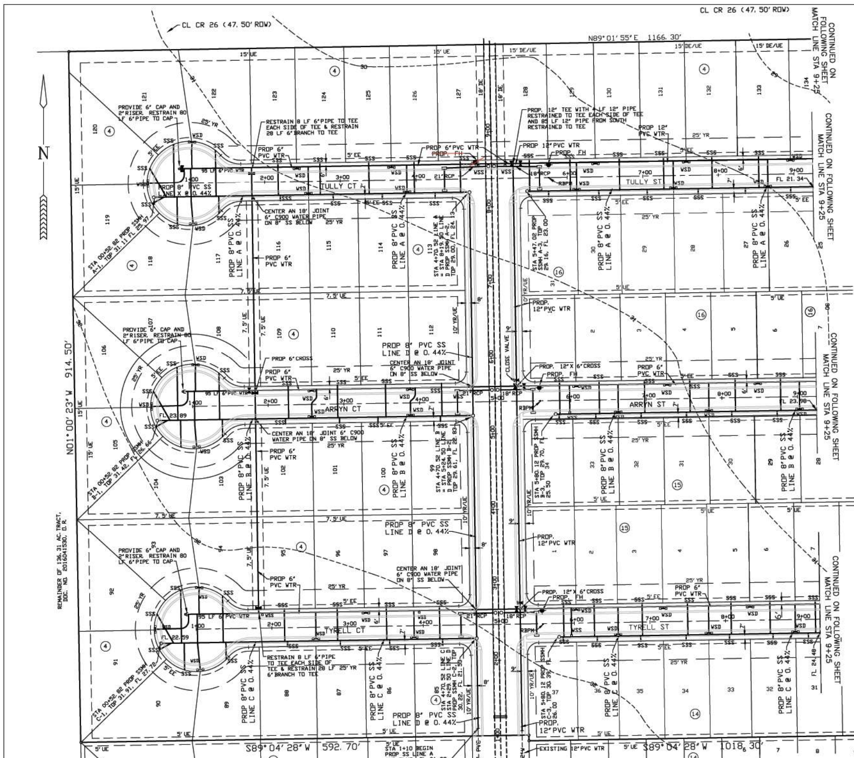

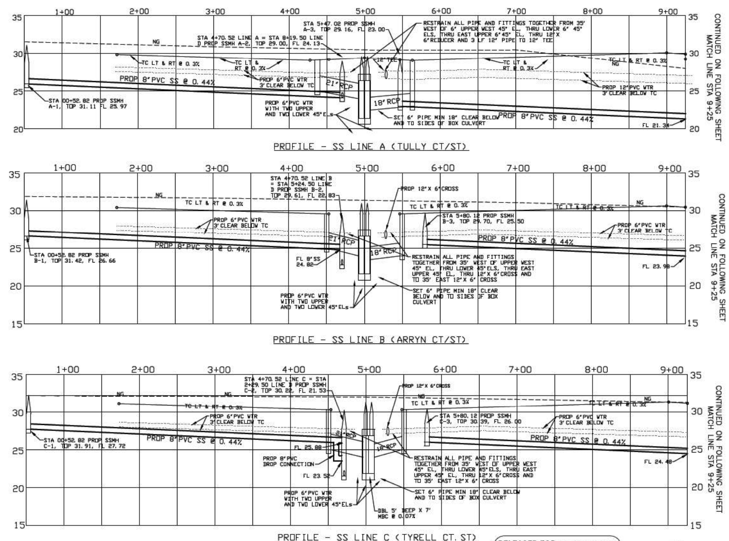

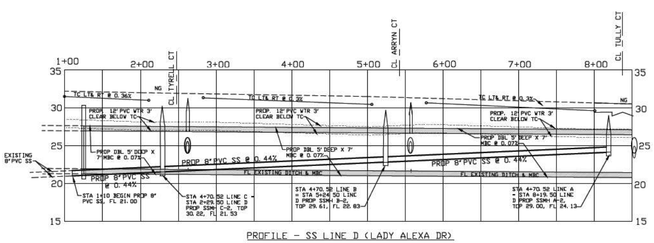

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City of Corpus Christi
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STATE OF TEXAS
NIXON M. WELSH
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REGISTERED
PROFESSIONAL ENGINEER
06/19/25

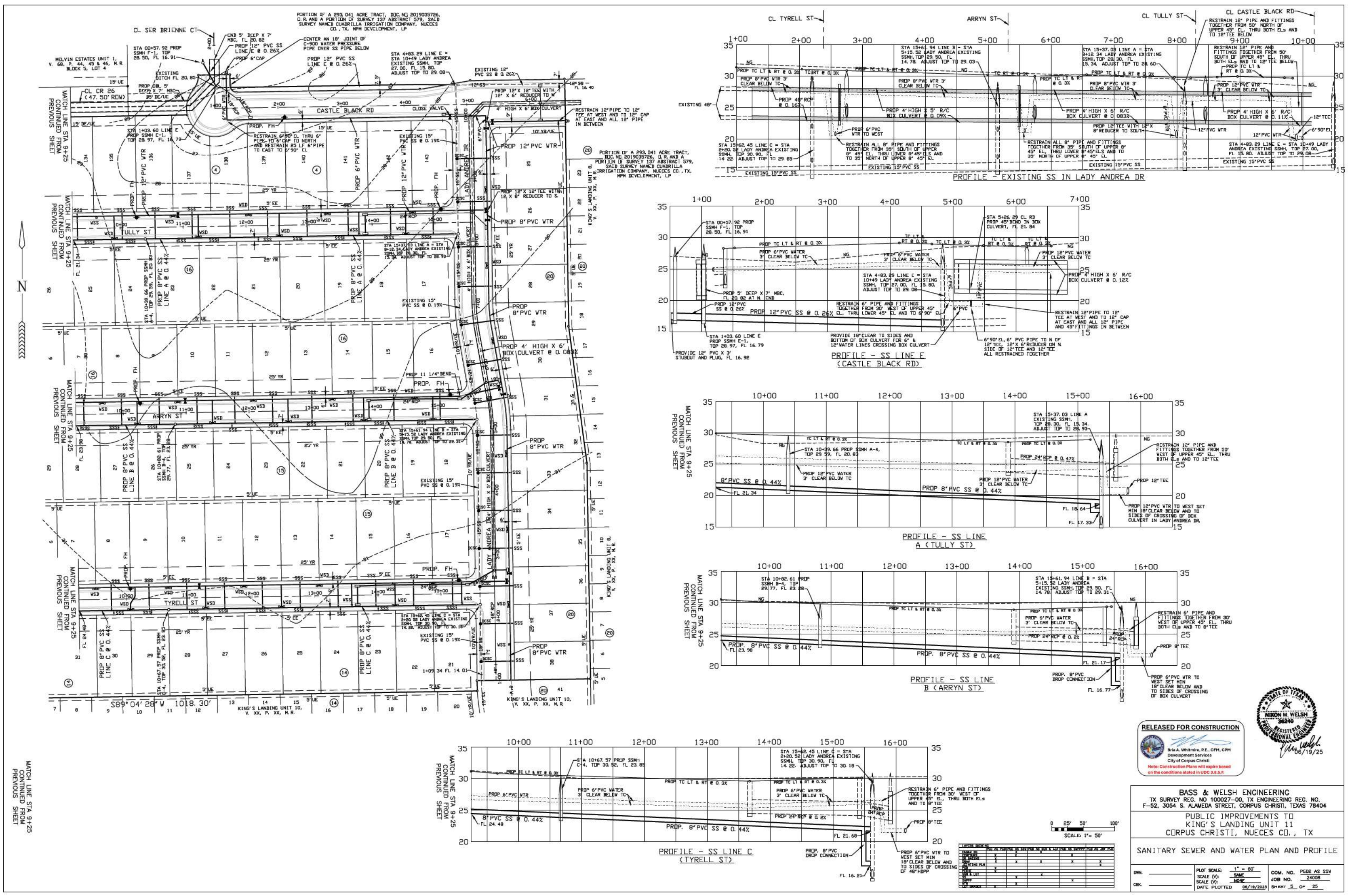
0 25' 50' 100'
SCALE: 1"= 50'

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 11
CORPUS CHRISTI, NUECES CO., TX

SANITARY SEWER AND
WATER PLAN AND PROFILE

DWN. ______	PLOT SCALE: 1" = 60'	COM. NO.	PGD1 AS SSW
CHK. ______	SCALE (V): SAME	JOB NO.	24008
	SCALE (V): NONE	SHEET	4 OF 25
	DATE PLOTTED 06/19/2025		


CASTLE BLACK RD
TULLY ST
ARRYN ST
TYRELL ST
LADY ANDREA DR
CL SER BRIENNE CT
CL CR 26 (47.50' ROW)
MATCH LINE STA 9+25 CONTINUED FROM PREVIOUS SHEET
KING'S LANDING UNIT 10, V. XX, P. XX, M.R.
S89°04'28"W 1018.30'
N
CL TYRELL ST
ARRYN ST
CL TULLY ST
CL CASTLE BLACK RD
PROFILE - EXISTING SS IN LADY ANDREA DR
PROFILE - SS LINE E (CASTLE BLACK RD)
PROFILE - SS LINE A (TULLY ST)
PROFILE - SS LINE B (ARRYN ST)
PROFILE - SS LINE C (TYRELL ST)
SCALE: 1"= 50'
RELEASED FOR CONSTRUCTION
Bria A. Whitmire, P.E., CFM, CPM
Development Services
City of Corpus Christi
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STATE OF TEXAS
NIXON M. WELSH
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06/19/25

BASS & WELSH ENGINEERING
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PUBLIC IMPROVEMENTS TO
KING'S LANDING UNIT 11
CORPUS CHRISTI, NUECES CO., TX

SANITARY SEWER AND WATER PLAN AND PROFILE

DWN.		PLOT SCALE:	1" - 60'	COM. NO.	PGD2 AS SSW
		SCALE (V):	SAME	JOB NO.	24008
CHK.		SCALE (V):	NONE		
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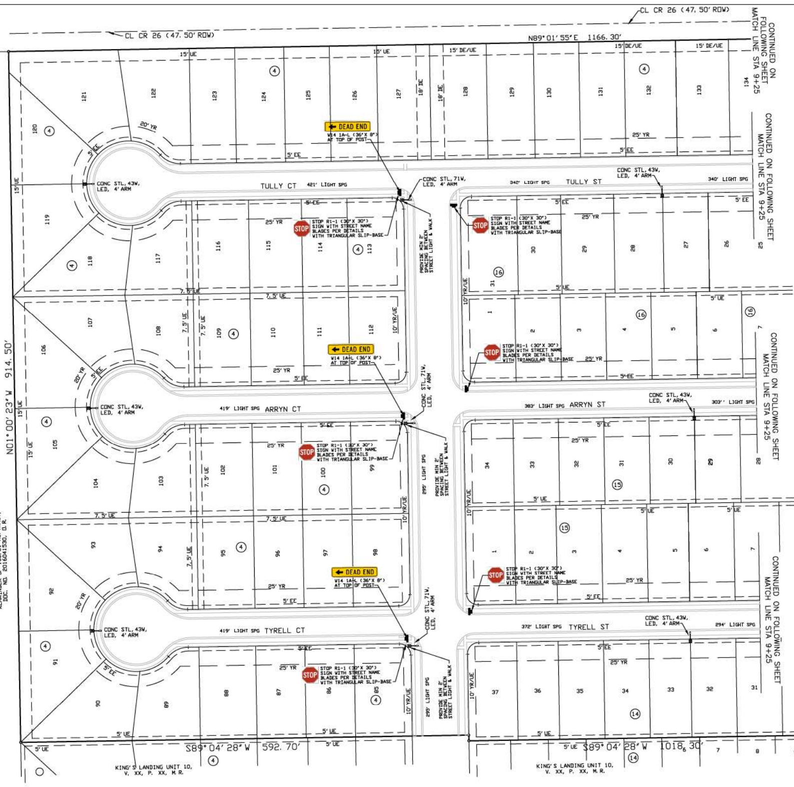
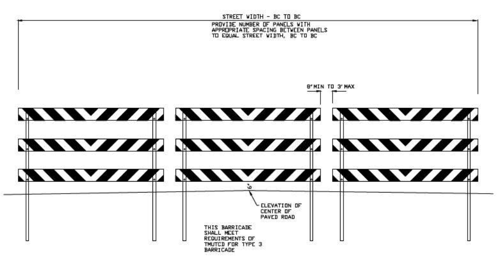
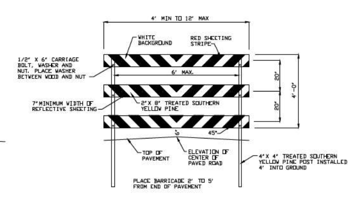




TYPE A END-OF-ROAD BARRICADE
NTS



TYPICAL BARRICADE PANEL DETAIL
NTS

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.

ESTIMATE SUMMARY

STREET AND SURFACE ITEMS

ITEM	DESCRIPTION	QUANTITY	UNIT
1	6" R/C HEADER CURB	13088	LF
2	4" THICK R/C WALK	53519	SF
3	7" THICK PCCP AND RCCP	21335	SY
4	8" THICK PCCP AND RCCP	4733	SY
5	8" THICK LIME/PORTLAND CEMENT STABILIZED SUBGRADE	23925	SY
6	12" THICK LIME/PORTLAND CEMENT STABILIZED SUBGRADE	5046	SY
7	POLE WITH SIGNS	10	EA
8	CLEARING AND GRUBBING	40	AC
9	BARRICADE, TYPE "A"	2	EA
10	EXCAVATION	1	LS

STORM SEWER ITEMS

ITEM	DESCRIPTION	QUANTITY	UNIT
1	DBL 5' HIGH X 7' WIDE R/C BOX CULVERT	1605	LF
2	SINGLE 4' HIGH X 5' WIDE BOX CULVERT	286	LF
3	SINGLE 4' HIGH X 6' WIDE BOX CULVERT	632	LF
4	R/C COLLAR FOR DOUBLE BOX CULVERTS	1	EA
5	R/C COLLAR FOR SINGLE BOX CULVERTS	1	EA
6	48" RCP	140	LF
7	30" RCP	10	LF
8	24" RCP	569	LF
9	21" RCP	133	LF
10	18" RCP	604	LF
11	MANHOLE RISER FOR BOX CULVERT	11	EA
12	5' INLET	23	EA
13	6' INLET	6	EA
14	POST INLET	2	EA
15	ADJUST EXISTING R/C DITCH LINING VICINITY OFFSITE DITCH STA 76+83.40	1	LS
16	OFFSITE DITCH EXCAVATION (DEEPENING)	1	LS
17	4" THICK R/C DITCH LINING AT END OF DOUBLE BOX CULVERT AS SHOWN SHEET 23	1	LS

SANITARY SEWER ITEMS

ITEM	DESCRIPTION	QUANTITY	UNIT
1	8" PVC PIPE	4885	LF
2	12" PVC PIPE	421	LF
3	ADJUST MANHOLE TOP IN ELEVATION	4	EA
4	MANHOLE	13	EA
5	4" OR 6" PVC PIPE SERVICE	157	EA
6	DEEP CUT SERVICE CONNECTION	14	EA

WATER ITEMS

ITEM	DESCRIPTION	QUANTITY	UNIT
1	12" PVC PIPE	2074	LF
2	12" CAP TAPPED FOR 2"	1	EA
3	12" CROSS	2	EA
4	12" GATE VALVE WITH BOX	4	EA
5	12" TEE	6	EA
6	12" REDUCER	3	EA
7	8" PVC PIPE	750	LF
8	8" GATE VALVE W/BOX	3	EA
9	8" TEE	3	EA
10	8" EL, ANY ANGLE	10	EA
11	6" PVC PIPE	3993	LF
12	6" CAP TAPPED FOR 2"	4	EA
13	6" GATE VALVE W/BOX	20	EA
14	6" TEE	10	EA
15	6" EL, ANY ANGLE	31	EA
16	FIRE HYDRANT ASSY	11	EA
17	6" DIA X 30" PVC PIPE NIPPLE	33	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 CULVERTS)	14016	LF
3	4" PVC CONDUIT FOR NEC	600	LF
4.	STORM WATER POLLUTION PREVENTION	1	LS

NOTE:

PER TEXAS MUTCD BASED ON CC UDC ARTICLE 8.1.3.A. ALL TRAFFIC SIGNS SHALL BE FURNISHED AND INSTALLED BY THE DEVELOPER IN ACCORDANCE TO SPECIFICATIONS OF, AND SUBJECT TO, LATEST VERSION OF THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD), PUBLIC IMPROVEMENT PLAN REVIEWS AND INSPECTIONS, BY THE CITY. THIS INCLUDES FURNISHING AND INSTALLING 'STOP' SIGNS.

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

STATE OF TEXAS
NIXON M. WELSH
36240
REGISTERED PROFESSIONAL ENGINEER
07/09/25

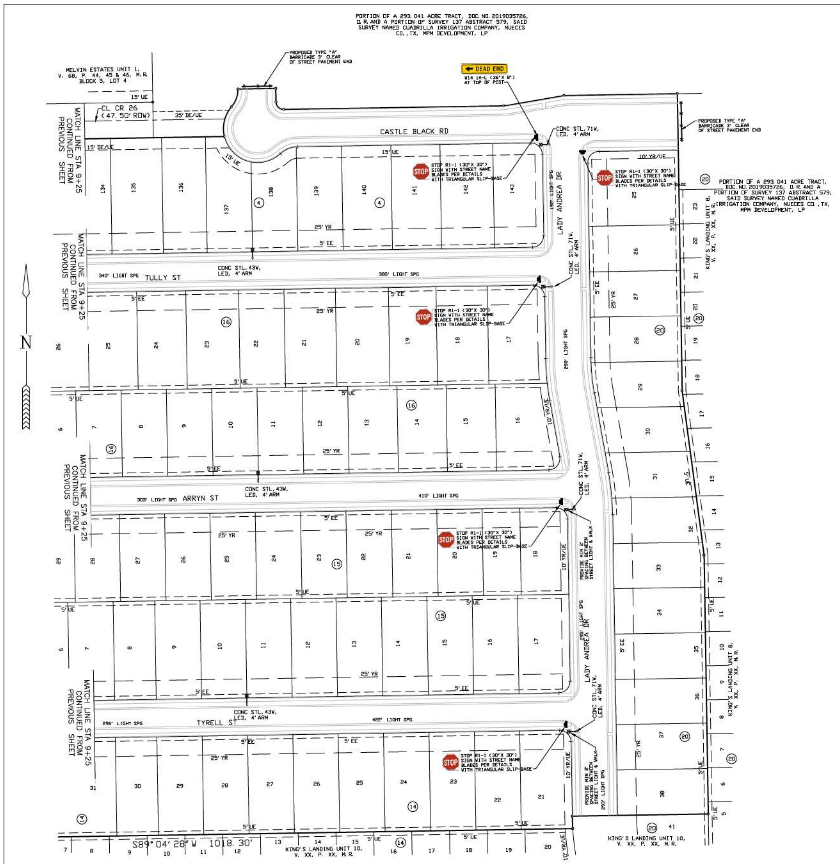
0 25' 50' 100'
SCALE: 1"= 50'

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 11
CORPUS CHRISTI, NUECES CO., TX

STREET SIGN AND LIGHT POLE PLAN
ESTIMATE SUMMARY AND BARRICADE DETAILS

DWN.		PLOT SCALE:	1" = 60'	COM. NO.	PGD1 AS S & L
		SCALE (V):	SAME	JOB NO.	24008
CHK.		SCALE (V):	NONE		
		DATE PLOTTED	07/09/2025	SHEET	6 OF 25



MATCH LINE STA 9+25 CONTINUED FROM PREVIOUS SHEET

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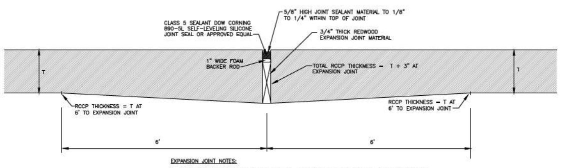
CHK.		SCALE (V): SAME	JOB NO. 24008
		SCALE (V): NONE	SHEET 7 OF 25
		DATE PLOTTED 06/19/2025	



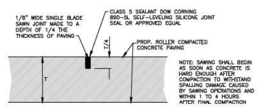
EXPANSION JOINT NOTES:

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



NOTE: SAWING SHALL BEGIN AS SOON AS CONCRETE IS HARD ENOUGH AFTER COMPACTION TO WITHSTAND SPALLING DAMAGE CAUSED BY SAWING OPERATIONS AND WITHIN 1 TO 4 HOURS AFTER FINAL COMPACTION

CONTRACTION (SAWN) JOINT DETAIL – RCCP
NTS

RCCP (ROLLER COMPACTED CONCRETE PAVING) NOTES

1. ALL PROPOSED RCCP SHALL BE PORTLAND CEMENT CONCRETE PAVING OF THICKNESS ACCORDING TO TYPICAL STREET SECTIONS, 7" FOR 28' BB STREETS, 7" FOR 40' BB STREETS AND 8" FOR 50' BB STREETS. ALL PROPOSED PUBLIC STREETS SHALL BE PAVED WITH 4,000 PSI COMPRESSIVE STRENGTH PCCP AND RCCP AT 28 DAYS.

2. ALL PROPOSED RCCP SHALL BE CONSTRUCTED IN ACCORDANCE WITH RECOMMENDATIONS AS PROVIDED IN GEOTECHNICAL ENGINEERING REPORT FOR KING'S LANDING UNIT 5 BY PROFESSIONAL SERVICE INDUSTRIES, INC., DATED JANUARY 24, 2024, THE COVER SHEET OF WHICH REPORT IS SHOWN BELOW IN SHEET HEREOF. IN ADDITION CONTRACTOR SHALL MEET ALL REQUIREMENTS OF TXDOT SPECIAL SPECIFICATION 3016 "ROLLER COMPACTED CONCRETE". CONTRACTOR SHALL OBTAIN A COMPLETE COPY OF SAID GEOTECHNICAL ENGINEERING REPORT AND SAID TXDOT SPECIAL SPECIFICATION 3016 PRIOR TO BIDDING OR NEGOTIATING FOR THE WORK AND PRIOR TO ANY CONSTRUCTION.

3. ALL PROPOSED 7" THICK RCCP SHALL OVERLAY PROPOSED 8" LIME/PORTLAND CEMENT STABILIZED AND COMPACTED NATURAL SOIL AT THE SITE. ALL PROPOSED 8" THICK RCCP SHALL OVERLAY PROPOSED 12" LIME/PORTLAND CEMENT STABILIZED AND COMPACTED NATURAL SOIL AT THE SITE.

4. CONTRACTION JOINTS SHALL BE PLACED PARALLEL OR PERPENDICULAR TO THE LONG AXIS (CENTER LINE) OF ALL PROPOSED STREETS EXCEPT WHERE SHOWN OTHERWISE AT MANHOLES AND STREET INTERSECTIONS. JOINTS ARE SHOWN IN THE FOLLOWING TWO SHEETS. ALL JOINTS SHALL BE SAWN UNLESS INDICATED OTHERWISE. SAWN JOINTS SHALL BE SINGLE BLADE WIDTH TO A DEPTH OF 1/4 THE PAVING THICKNESS UNLESS INDICATED OTHERWISE. SAWN JOINTS SHALL BE GREEN CUT WITHIN ONE TO FOUR HOURS OF FINAL COMPACTION FOR RCCP.

5. LONGITUDINAL JOINTS SHALL BE PLACED THE FULL LENGTH ALONG STREET CENTER LINES FOR 28' BB STREETS EXCEPT WHERE SHOWN OTHERWISE AT STREET INTERSECTIONS AND AT MANHOLES. LONGITUDINAL JOINTS FOR 40' AND 50' BB STREETS SHALL BE PLACED AS INDICATED IN JOINTING PLAN EXCEPT WHERE SHOWN OTHERWISE AT STREET INTERSECTIONS AND AT MANHOLES. LONGITUDINAL JOINTS SHALL BE SAWN CONTRACTION JOINTS.

6. COMPACTION AND ROLLING: MEET REQUIREMENTS OF TXDOT SPECIAL SPECIFICATION 3016 4.7, 4.7.1, 4.7.2, 4.7.3, 4.7.4, AND 4.7.5.

7. FINISHING AND CURING: MEET REQUIREMENTS OF TXDOT SPECIAL SPECIFICATION 3016 4.10., 4.11., 4.11.1. AND 4.11.2.

8. ROLLER COMPACTED CONCRETE PAVING OPERATIONS SHALL BE DONE IN ONE DIRECTION ONLY AND THRU THRU STREET INTERSECTIONS AS SPECIFIED IN NOTES AS SHOWN IN JOINTING PLAN SHEETS.

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

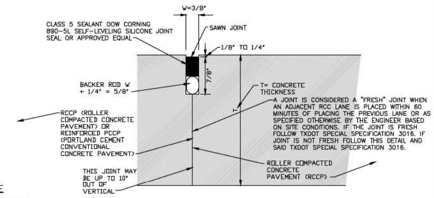
SHALL BE CONSTRUCTED ACCORDING TO DETAILS SHOWN BELOW RIGHT AND IN ACCORDANCE WITH CITY OF CORPUS CHRISTI STANDARD SPECIFICATIONS 030020 PORTLAND CEMENT CONCRETE, 032020 REINFORCING STEEL AND 038000 CONCRETE STRUCTURES.

SUPPLEMENTAL REQUIREMENTS REGARDING LIME/PORTLAND CEMENT STABILIZED SUBGRADE

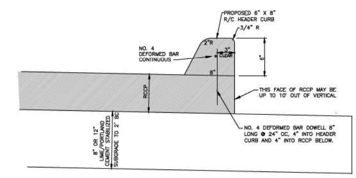
1. LIME STABILIZATION REQUIREMENTS - TXDOT ITEM 260: LIME STABILIZATION IS TO BE PERFORMED UTILIZING THE % LIME SPECIFIED BY DRY WEIGHT FOR THE STABILIZATION THICKNESS REQUIRED. SULFATE TESTING SHALL BE CONDUCTED INITIALLY BEFORE PLACEMENT OF LIME TO EVALUATE THE POTENTIAL FOR SULFATE INDUCED HEAVE FROM THE LIME STABILIZATION. ONCE SULFATE TESTING HAS BEEN PERFORMED INDICATING A SULFATE CONTENT LESS THAN 3,000 PPM, THE LIME SHALL BEMIXED AS REQUIRED AND ALLOWED TO MELLOW FOR AT LEAST 24 HOURS. SULFATE VALUES OF 3,000 TO 7,000PPM REQUIRE A MINIMUM THREE DAY MELLOWING PERIOD. PULVERIZATION OPERATIONS SHOULD RESULT IN SOIL PARTICLES MEETING THE GRADATION REQUIREMENTS AS OUTLINED IN TXDOT ITEM 260. THE ORGANIC CONTENT OF THE SUBGRADE SHOULD NOT EXCEED 3%. THE MOISTURE CONTENT OF THE LIME STABILIZED SUBGRADE SHOULD BE MAINTAINED AT OPTIMUM MOISTURE CONTENT OR GREATER DURING THE MIXING AND MELLOWING PERIOD BEFORE THE CEMENT STABILIZATION.

2. CEMENT STABILIZATIONREQUIREMENTS - TXDOT ITEM 275: ONCE THE MELLOWING TIME FOR THE LIME IS COMPLETE, THE LIME STABILIZED SUBGRADE SHOULD THEN BE CEMENT STABILIZED PER TXDOT ITEM 275 INCORPORATING THE % CEMENT SPECIFIED IN THE PLANS AND IN THE GEOTECHNICAL REPORT. CEMENT SHALL BE SPREAD ONLY IN THAT AREA WHERE THE MIXING, COMPACTINGAND FINISHING OPERATIONS CAN BE COMPLETED WITHIN 6 HOURS OF ADDITION OF WATER TO THE CEMENT.IMMEDIATELY AFTER CEMENT SLURRY APPLICATION, THOROUGHLY MIX THE SLURRY INTO THE SUBGRADE UNTIL A HOMOGENOUS, FRIABLE MIXTURE IS ACHIEVED. THE GRADATION SHALL HAVE A MINIMUM 100% PASSING THE1 $^{1}/_{2}$ INCH SIEVE AND A MINIMUM 60% PASSING THE #4 SIEVE. THE STABILIZED SUBGRADE SHOULD THEN BE MIXED, SPRINKLED IF NECESSARY AND COMPACTED TO AT LEAST 95% OF THE MODIFIED PROCTOR (ASTM-D1557) MAXIMUM DRY DENSITY WITHIN 2% OF OPTIMUM MOISTURE CONTENT.

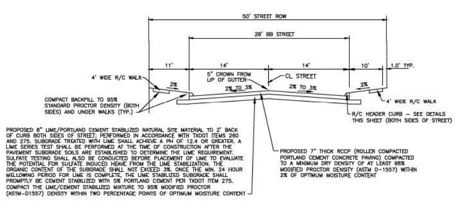
ALL OTHER GEOTECHNICAL RECOMMENDATIONS PROVIDED IN THE ORIGINAL GEOTECHNICAL REPORT (KING'S LANDING UNIT 5, AS INDICATED TO LEFT) NOT SPECIFICALLY CHANGED BY PARAGRAPHS 1 AND 2 ABOVE SHALL STILL APPLY.



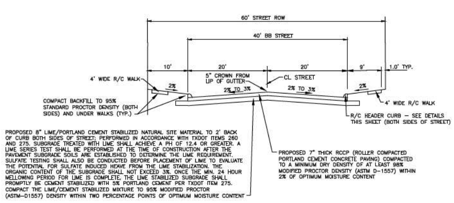
LONGITUDINAL OR TRANSVERSE SAWN CONSTRUCTION JOINT
NTS



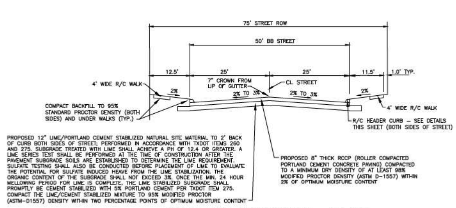
TYPICAL PAVING SECTION SHOWING HEADER CURB DETAILS
NTS



TYPICAL RCCP STREET SECTION – 50' ROW
NTS



TYPICAL RCCP STREET SECTION – 60' ROW
NTS



TYPICAL RCCP STREET SECTION – 75' ROW
NTS

GEOTECHNICAL ENGINEERING REPORT

King's Landing Unit 5 Pavement Study

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

PSI Project No. 03123040

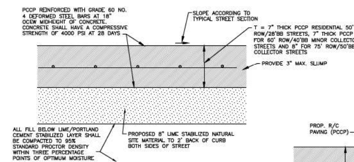
PREPARED FOR:

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

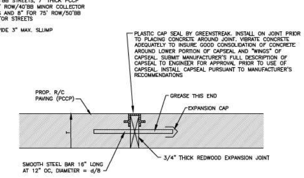
January 24, 2024

BY:

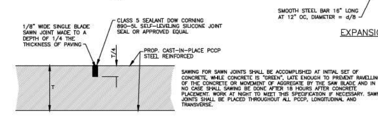
PROFESSIONAL SERVICE INDUSTRIES, INC.
810 S. Padre Island Dr.
Corpus Christi, Texas 78416
Phone: (361) 854-4801



TYPICAL PCCP PUBLIC STREET SECTION
NTS

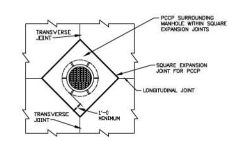


EXPANSION JOINT FOR PCCP
NTS



SAWING FOR SAWN JOINTS SHALL BE ACCOMPLISHED AT INITIAL SET OF CONCRETE, WHILE CONCRETE IS "GREEN", LATE ENOUGH TO PREVENT RAVELLING OF THE CONCRETE OR MOVEMENT OF AGGREGATE BY THE SAW BLADE AND IN NO CASE SHALL SAWING BE DONE AFTER 18 HOURS AFTER CONCRETE PLACEMENT. WORK AT NIGHT TO MEET THIS SPECIFICATION IF NECESSARY. SAWN JOINTS SHALL BE PLACED THROUGHOUT ALL PCCP, LONGITUDINAL AND TRANSVERSE.

PCCP CONTRACTION (SAWN) JOINT DETAIL
NTS

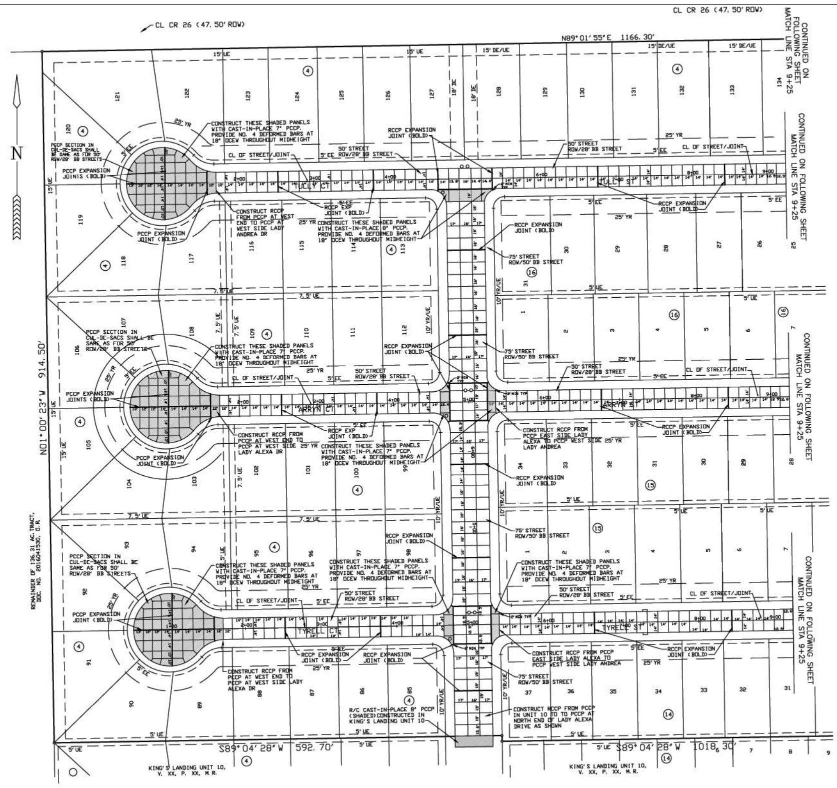


TYPICAL ISOLATION DETAIL FOR MANHOLES
NTS

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

STATE OF TEXAS
NIXON M. WELSH
36240
REGISTERED PROFESSIONAL ENGINEER
06/03/25

BASS AND WELSH ENGINEERING TX REGISTRATION NO. F-52, 3054 S. ALAMEDA STREET CORPUS CHRISTI, TEXAS 78404		
PUBLIC IMPROVEMENTS TO KING'S LANDING UNIT 11 CORPUS CHRISTI, NUECES CO., TX		
PCCP AND RCCP PAVEMENT DETAILS AND SIDEWALK DETAILS		
DWN. ____	PLOT SCALE: 1" = 50'	COM. NO. 8 STR DET RCC
CHK. N. WELSH	SCALE (H): AS SHOWN	JOB NO. 24008
	SCALE (V): AS SHOWN	
	DATE PLOTTED 06/03/25	SHEET 8 OF 25



NOTE: LONGITUDINAL AND TRANSVERSE LINES IN STREETS AS SHOWN ARE JOINTS

RELEASED FOR CONSTRUCTION
Bria A. Whitmire, P.E., CFM, CPM
Development Services
City of Corpus Christi
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STATE OF TEXAS
NIXON M. WELSH
36240
REGISTERED PROFESSIONAL ENGINEER
06/19/25

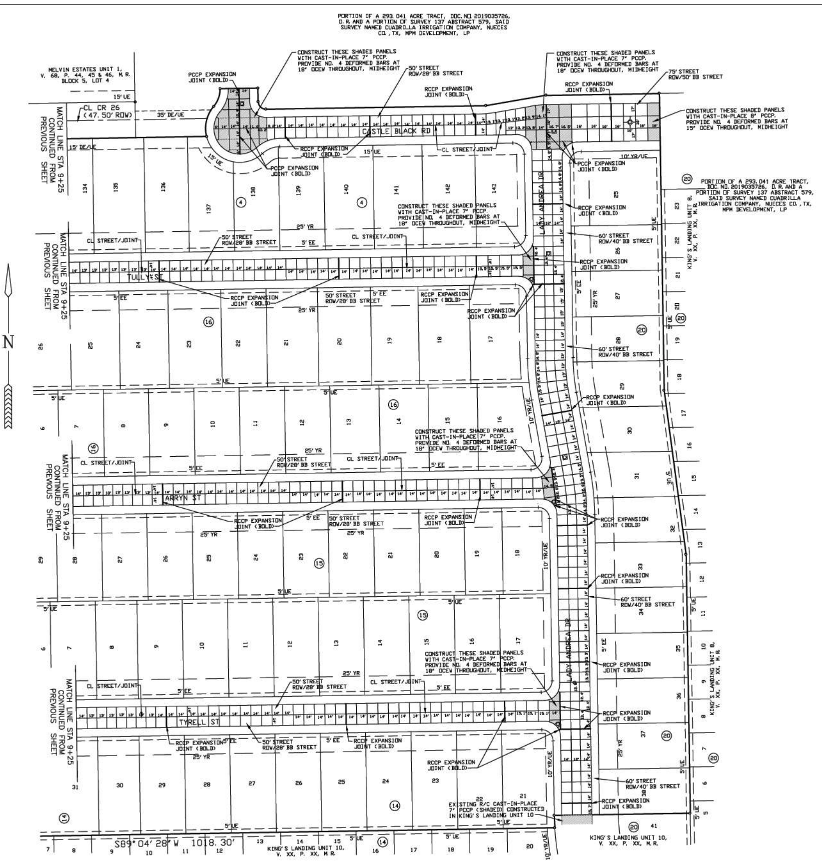
0 25' 50' 100'
SCALE: 1"= 50'

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 11
CORPUS CHRISTI, NUECES CO., TX

PCCP AND RCCP JOINTING PLAN

DWN. ______
CHK. ______
PLOT SCALE: 1" = 60'
SCALE (V): SAME
SCALE (V): NONE
DATE PLOTTED 06/19/2025
COM. NO. PGD1 AS JOINTING PLN
JOB NO. 24008
SHEET 9 OF 25



MATCH LINE STA 9+25
CONTINUED FROM
PREVIOUS SHEET

NOTE: LONGITUDINAL AND
TRANSVERSE LINES IN STREETS
AS SHOWN ARE JOINTS

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Development Services
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STATE OF TEXAS
NIXON M. WELSH
36240
REGISTERED
PROFESSIONAL ENGINEER
06/19/25

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

LAYERS SHOWING	PGD AS PGD	PGD AS SSV	PGD AS SGN & LGT	PGD AS SWPPP	PGD AS JNT PLN
DRAW BD		X	X		
CONTOURS	X	X		X	
DR BASINS	X				
DRAW	X	X	X	X	X
JOINTING PLN					X
PGD	X				
PGDHE	X				
SGN & LGT			X		
SS		X			
SWPPP				X	
WTR		X			
LOT GRADES	X				

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

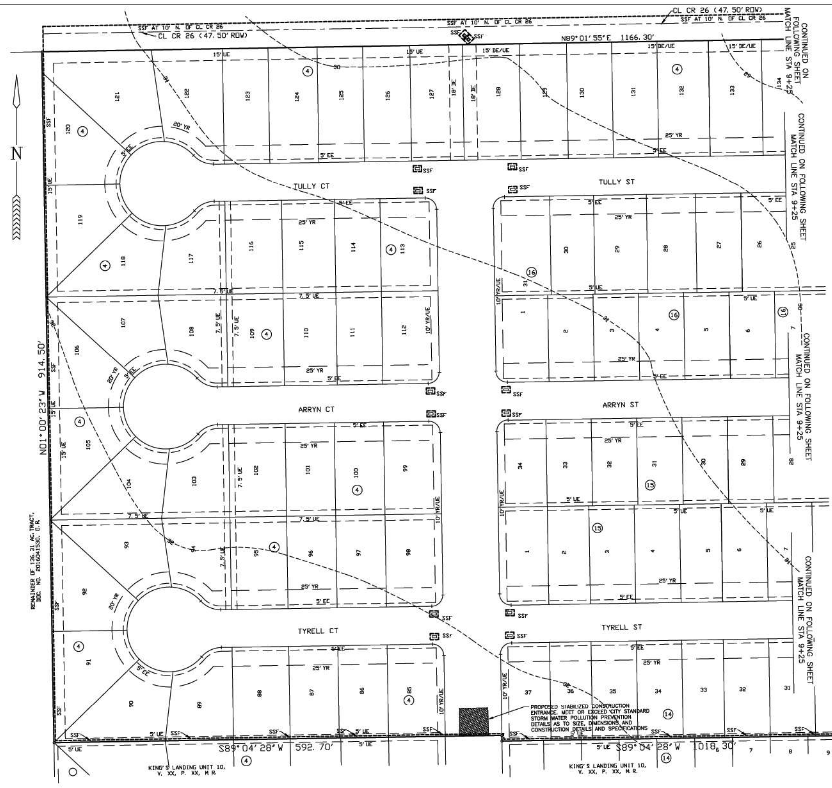
PUBLIC IMPROVEMENTS TO
KING'S LANDING UNIT 11
CORPUS CHRISTI, NUECES CO., TX

PCCP AND RCCP JOINTING PLAN

DWN. ________
CHK. ________

PLOT SCALE: 1" = 60'
SCALE (V): SAME
SCALE (V): NONE
DATE PLOTTED 06/19/2025

COM. NO. PGD2 AS JOINTING PLAN
JOB NO. 24008
SHEET 10 OF 25



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.
12. CONTRACTOR SHALL DETERMINE THE LOCATION OF SITE NOTICE FOR STORM WATER POLLUTION PREVENTION PLAN (SWPPP).

SEDIMENTATION SCREENING FENCE

SEE CITY STANDARD STORM WATER POLLUTION PREVENTION DETAILS FOR CONSTRUCTION

CCR 015700 TEMPORARY CONTROLS

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

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

STATE OF TEXAS
NIXON M. WELSH
36240
REGISTERED PROFESSIONAL ENGINEER
07/09/25

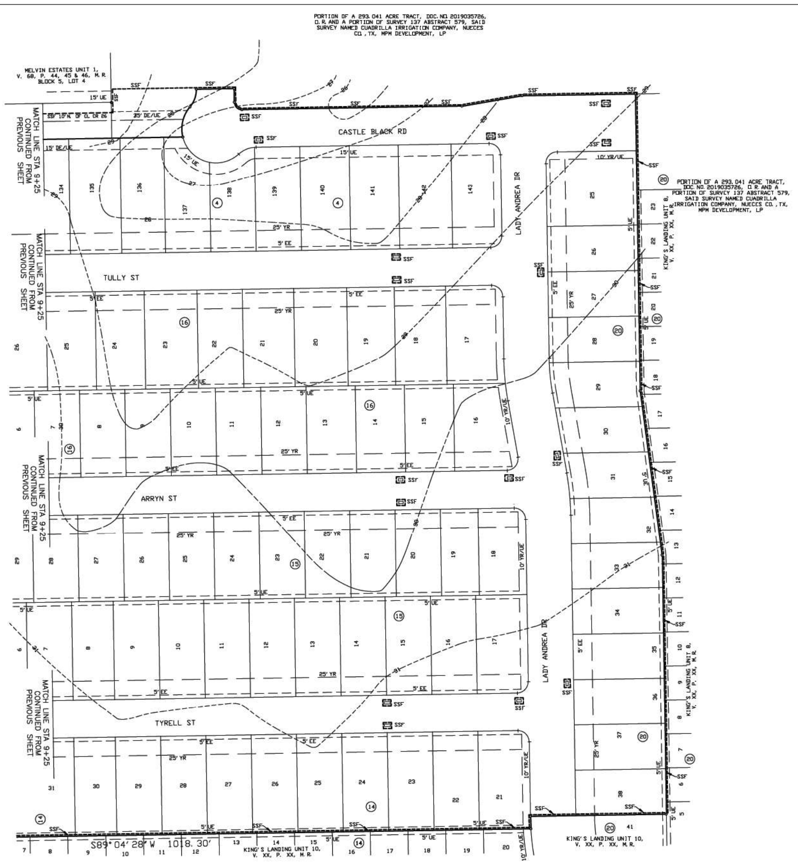
0 25' 50' 100'
SCALE: 1"= 50'

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 11
CORPUS CHRISTI, NUECES CO., TX

STORM WATER POLLUTION PREVENTION PLAN
SHEET 1 OF 3

DWN. ____	PLOT SCALE: 1" = 60'	COM. NO. PGD1 AS SWPPP
CHK. ____	SCALE (V): SAME	JOB NO. 24008
	SCALE (V): NONE	SHEET 11 OF 25
	DATE PLOTTED 07/09/2025	



MATCH LINE STA 9+25 CONTINUED FROM PREVIOUS SHEET

RELEASED FOR CONSTRUCTION

Bria A. Whitmire, P.E., CFM, CPM
Development Services
City of Corpus Christi
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STATE OF TEXAS
NIXON M. WELSH
36240
REGISTERED PROFESSIONAL ENGINEER
07/18/25

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 11
CORPUS CHRISTI, NUECES CO., TX

STORM WATER POLLUTION PREVENTION PLAN
SHEET 2 OF 3

DWN. ______	PLOT SCALE: 1" = 60'	COM. NO. PGD2 AS SWPPP
CHK. ______	SCALE (V): SAME	JOB NO. 24008
	SCALE (V): NONE	SHEET 12 OF 25
	DATE PLOTTED 07/18/2025	

SITE DESCRIPTION

NOT TO SCALE

PROJECT LIMITS: KING'S LANDING UNIT 11

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: 38.1 ACRES

TOTAL AREA TO BE DISTURBED: 38.1 ACRES

WEIGHTED RUNOFF COEFFICIENT (AFTER CONSTRUCTION): 55%

EXISTING CONDITION OF SOIL & VEGETATIVE COVER AND % OF EXISTING VEGETATIVE COVER:
SOIL CLASSIFICATION (USDA) – SOILS AT THE SUBJECT SITE ARE VICTORIA CLAY, 0 TO 2% 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.

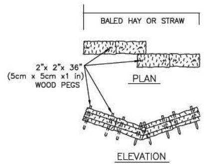
SANITARY WASTE: ALL SANITARY WASTE WILL BE COLLECTED FROM THE PORTABLE UNITS AS NECESSARY.

OFFSITE VEHICLE TRACKING:

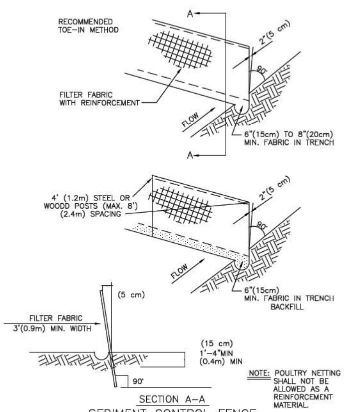
- ___ HAUL ROADS DAMPENED FOR DUST CONTROL
- ___ LOADED HAUL TRUCKS TO BE COVERED WITH TARPAULIN
- X EXCESS DIRT ON ROAD REMOVED DAILY
- ___ STABILIZED CONSTRUCTION ENTRANCE

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.

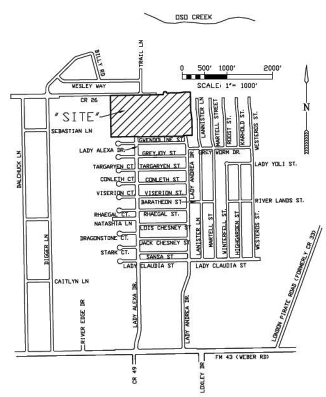


PLACEMENT FOR BALED HAY FILTER DAMS



SECTION A–A

SEDIMENT CONTROL FENCE



LOCATION MAP

1"=1000'

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

STATE OF TEXAS
NIXON M. WELSH
36240
REGISTERED
PROFESSIONAL ENGINEER
06/03/25

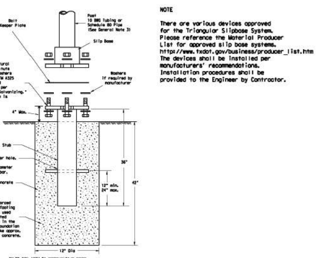
BASS AND WELSH ENGINEERING
TX REGISTRATION NO. F-52, 3054 S. ALAMEDA STREET
CORPUS CHRISTI, TEXAS 78404

PUBLIC IMPROVEMENTS TO
KING'S LANDING UNIT 11
CORPUS CHRISTI, NUECES CO., TX

STORM WATER POLLUTION PREVENTION PLAN
SHEET 3 OF 3

DWN.		PLOT SCALE:	1" = 60'	COM. NO.	13 SWPPP
		SCALE (H):	AS SHOWN	JOB NO.	24008
CHK.	N. WELSH	SCALE (V):	AS SHOWN	SHEET 13 OF 25	
		DATE PLOTTED	06/03/25		

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

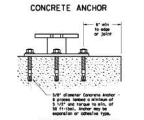
Foundation

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



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.

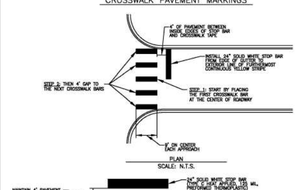
Texas Department of Transportation
Traffic Operations Division

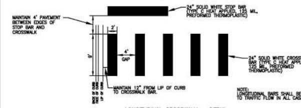
SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS TRIANGULAR SLIPBASE SYSTEM

SMD(SLIP-1)-08

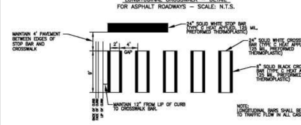
© TxDOT July 2002 | 9-08

CROSSWALK PAVEMENT MARKINGS



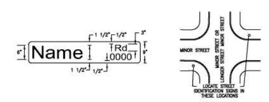


LONGITUDINAL CROSSWALK – DETAIL
FOR ASPHALT ROADWAYS – SCALE: N.T.S.



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:

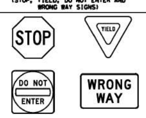
1. ALL STOP BAR AND CROSSWALK PAVEMENT MARKINGS SHALL BE 24" SOLID WHITE, TYPE C HEAT APPLIED, 125 MIL, PREFORMED THERMOPLASTIC. HIGH CONTRAST CROSSWALK INCLUDES 24" SOLID WHITE WITH 6" SOLID BLACK ON BOTH SIDES (TYPE C HEAT AP HEAT APPLIED, 125 MIL, PREFORMED THERMOPLASTIC).
2. CONTRACTOR SHALL PREMARK 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

SHEET 1 of 1
RECORD DRAWING NO. —
CITY PROJECT #

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

FILE: tsr4-13.dgn | © TxDOT October 2003 | REVISIONS 12-03 7-13 9-08

9" D3 – STREET NAME SIGN

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

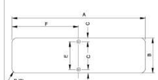
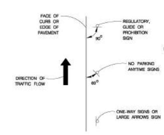


TABLE – D3 SIGNS

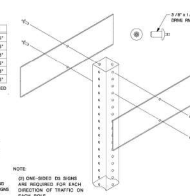
A	B	C	D	E	F	T
24"	9"	1/2"	3/4"	8"	12"	0.125"
30"	9"	1/2"	3/4"	8"	15"	0.125"
36"	9"	1/2"	3/4"	8"	18"	0.125"
42"	9"	1/2"	3/4"	8"	21"	0.125"
48"	9"	1/2"	3/4"	8"	24"	0.125"
54"	9"	1/2"	3/4"	8"	27"	0.125"

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

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%



TYPICAL GROUND MOUNTED SIGN PLACEMENT



NOTE:
(2) ONE-SIDED D3 SIGNS ARE REQUIRED FOR EACH DIRECTION OF TRAFFIC ON EACH POLE.

D3 SIGN TO POLE INSTALLATION

STREET SIGN ASSEMBLY EXAMPLES	PAY ITEMS			
	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 02.06.06 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
SHEET 2 OF 4
DRAWN BY: A.F.G. | DSGN BY: E.N.M. | CHKD BY: J.D.F./E.N.M.

STATE OF TEXAS
NIXON M. WELSH
36240
REGISTERED PROFESSIONAL ENGINEER
06/03/25

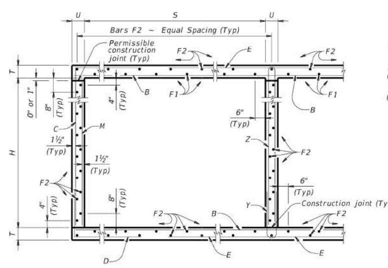
RELEASED FOR CONSTRUCTION
Bria A. Whitmire, P.E., CFM, CPM
Development Services
City of Corpus Christi
Note: Construction Plans will expire based on the conditions stated in UDC 3.8.5.F.

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

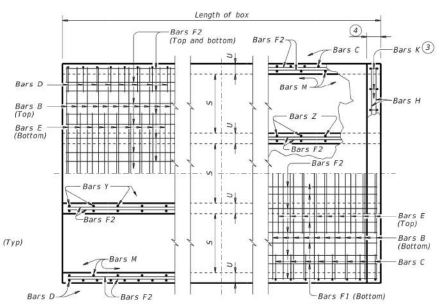
PUBLIC IMPROVEMENTS TO
KING'S LANDING UNIT 11
CORPUS CHRISTI, NUECES CO., TX

TXDOT & CITY SIGN AND PAVEMENT MARKING REQUIREMENTS AND DETAILS

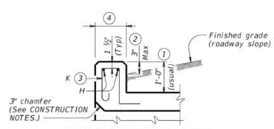
DWN.		PLOT SCALE:	1" = 60'	COM. NO.	14 TXDOT CITY PVMT MARKINGS
		SCALE (H):	AS SHOWN	JOB NO.	24008
CHK.	N. WELSH	SCALE (V):	AS SHOWN		
		DATE PLOTTED	06/03/25	SHEET	14 OF 25



TYPICAL SECTION



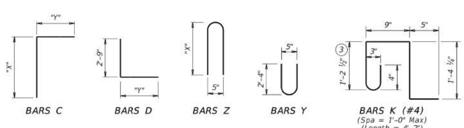
PART PLANS



SECTION THRU CURB

TABLE OF BAR DIMENSIONS

H	"X"	"Y"
3'-0"	3'-8 ½"	4'-6"
4'-0"	4'-8 ½"	4'-6"
5'-0"	5'-8 ½"	4'-6"
6'-0"	6'-8 ½"	4'-6"
7'-0"	7'-8 ½"	4'-6"



(1) 0" Min to 5'-0" Max. Estimated curb heights are shown elsewhere in the plans. For structures with pedestrian rail or curbs taller than 1'-0", refer to the Extended Curb Details (ECD) standard sheet. For structures with T631 or T631LS bridge rail, refer to the Mounting Details for T631 & T631LS Rails (T631-CM) standard sheet. Refer to the Rail Anchorage Curb (RAC) standard sheet for structures with bridge rail other than T631 or T631LS.

(2) For vehicle safety, the following requirements must be met:
- For structures without bridge rail, construct curbs no more than 3" above finished grade.
- For structures with bridge rail, construct curbs flush with finished grade.

Reduce curb heights, if necessary, to meet the above requirements. No changes will be made in quantities and no additional compensation will be allowed for this work.

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

(4) 1'-0" typical. 2'-3" when the Rail Anchorage Curb (RAC) standard sheet is referred to elsewhere in the plans.

The Contractor may replace Bars B, C, D, E, F1, F2, M, Y, and/or Z with deformed welded wire reinforcement (WWR) meeting the requirements of ASTM A1064. The area of required reinforcement may be reduced by the ratio of 60 ksi / 70 ksi. Spacing of WWR is limited to 4" Min and 18" Max. When required, provide lap splices in the WWR of the same length required for the equivalent bar size, rounded up for wire sizes between conventional bar sizes. The lap length required for WWR is never less than the lap length required for uncoated #4 bars.

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

CONSTRUCTION NOTES:

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

MATERIAL NOTES:

Provide Grade 60 reinforcing steel.
Provide galvanized reinforcing steel if required elsewhere in the plans.
Provide Class C concrete (f'c = 3,600 psi) for culvert barrel and curb.
Provide bar laps, where required, as follows:
- Uncoated or galvanized ~ #4 = 1'-8" Min
- Uncoated or galvanized ~ #5 = 2'-1" Min
- Uncoated or galvanized ~ #6 = 2'-6" Min

GENERAL NOTES:

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

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

HL93 LOADING SHEET 1 OF 2

Texas Department of Transportation — Bridge Division Standard

MULTIPLE BOX CULVERTS CAST-IN-PLACE

7'-0" SPAN
2' TO 23' FILL

MC-7-23

FILE: CD-MC723-20.dgn | DN: TBE | CK: BMP | DW: TxDOT | CK: TxDOT

REVISIONS | CONT | SECT | JOB | HIGHWAY | DIST | COUNTY | SHEET NO.

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

STATE OF TEXAS — NIXON M. WELSH — 36240 — REGISTERED PROFESSIONAL ENGINEER
06/03/25

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

PUBLIC IMPROVEMENTS TO
KING'S LANDING UNIT 11
CORPUS CHRISTI, NUECES CO., TX

TXDOT MULTIPLE BOX CULVERT DETAILS
SHEET 1 OF 2

DWN.		PLOT SCALE:	1" = 50'	COM. NO.	15 TXDOT MBC 1 OF 2
		SCALE (H):	AS SHOWN	JOB NO.	24008
CHK.	N. WELSH	SCALE (V):	AS SHOWN		
		DATE PLOTTED	06/03/25	SHEET	15 OF 25

DATE:
FILE:

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

NUMBER OF SPANS	SECTION DIMENSIONS				Bars B					Bars C & D							Bars E					Bars F1 ~ #4			
	S	H	T	U	No.	Size	Spa	Length	Wt	No.	Size	Spa	Bars C Length	Bars C Wt	Bars D Length	Bars D Wt	No.	Size	Spa	Length	Wt	No.	Spa	Length	Wt
2	7' - 0"	3' - 0"	10"	8"	108	#6	9"	15' - 9"	2,555	162	#5	6"	8' - 2"	1,380	7' - 3"	1,225	108	#6	9"	7' - 6"	1,217	10	18"	39' - 9"	266
3	7' - 0"	3' - 0"	10"	8"	108	#6	9"	23' - 5"	3,799	162	#5	6"	8' - 2"	1,380	7' - 3"	1,225	108	#6	9"	14' - 6"	2,352	15	18"	39' - 9"	398
4	7' - 0"	3' - 0"	10"	8"	108	#6	9"	31' - 1"	5,042	162	#5	6"	8' - 2"	1,380	7' - 3"	1,225	108	#6	9"	21' - 6"	3,488	20	18"	39' - 9"	531
5	7' - 0"	3' - 0"	10"	8"	108	#6	9"	38' - 9"	6,286	162	#5	6"	8' - 2"	1,380	7' - 3"	1,225	108	#6	9"	28' - 6"	4,623	25	18"	39' - 9"	664
6	7' - 0"	3' - 0"	10"	8"	108	#6	9"	46' - 5"	7,530	162	#5	6"	8' - 2"	1,380	7' - 3"	1,225	108	#6	9"	35' - 6"	5,759	30	18"	39' - 9"	797
2	7' - 0"	4' - 0"	10"	8"	108	#6	9"	15' - 9"	2,555	162	#5	6"	9' - 2"	1,549	7' - 3"	1,225	108	#6	9"	7' - 6"	1,217	10	18"	39' - 9"	266
3	7' - 0"	4' - 0"	10"	8"	108	#6	9"	23' - 5"	3,799	162	#5	6"	9' - 2"	1,549	7' - 3"	1,225	108	#6	9"	14' - 6"	2,352	15	18"	39' - 9"	398
4	7' - 0"	4' - 0"	10"	8"	108	#6	9"	31' - 1"	5,042	162	#5	6"	9' - 2"	1,549	7' - 3"	1,225	108	#6	9"	21' - 6"	3,488	20	18"	39' - 9"	531
5	7' - 0"	4' - 0"	10"	8"	108	#6	9"	38' - 9"	6,286	162	#5	6"	9' - 2"	1,549	7' - 3"	1,225	108	#6	9"	28' - 6"	4,623	25	18"	39' - 9"	664
6	7' - 0"	4' - 0"	10"	8"	108	#6	9"	46' - 5"	7,530	162	#5	6"	9' - 2"	1,549	7' - 3"	1,225	108	#6	9"	35' - 6"	5,759	30	18"	39' - 9"	797
2	7' - 0"	5' - 0"	10"	8"	108	#6	9"	15' - 9"	2,555	162	#5	6"	10' - 2"	1,718	7' - 3"	1,225	108	#6	9"	7' - 6"	1,217	10	18"	39' - 9"	266
3	7' - 0"	5' - 0"	10"	8"	108	#6	9"	23' - 5"	3,799	162	#5	6"	10' - 2"	1,718	7' - 3"	1,225	108	#6	9"	14' - 6"	2,352	15	18"	39' - 9"	398
4	7' - 0"	5' - 0"	10"	8"	108	#6	9"	31' - 1"	5,042	162	#5	6"	10' - 2"	1,718	7' - 3"	1,225	108	#6	9"	21' - 6"	3,488	20	18"	39' - 9"	531
5	7' - 0"	5' - 0"	10"	8"	108	#6	9"	38' - 9"	6,286	162	#5	6"	10' - 2"	1,718	7' - 3"	1,225	108	#6	9"	28' - 6"	4,623	25	18"	39' - 9"	664
6	7' - 0"	5' - 0"	10"	8"	108	#6	9"	46' - 5"	7,530	162	#5	6"	10' - 2"	1,718	7' - 3"	1,225	108	#6	9"	35' - 6"	5,759	30	18"	39' - 9"	797
2	7' - 0"	6' - 0"	10"	8"	108	#6	9"	15' - 9"	2,555	162	#5	6"	11' - 2"	1,887	7' - 3"	1,225	108	#6	9"	7' - 6"	1,217	10	18"	39' - 9"	266
3	7' - 0"	6' - 0"	10"	8"	108	#6	9"	23' - 5"	3,799	162	#5	6"	11' - 2"	1,887	7' - 3"	1,225	108	#6	9"	14' - 6"	2,352	15	18"	39' - 9"	398
4	7' - 0"	6' - 0"	10"	8"	108	#6	9"	31' - 1"	5,042	162	#5	6"	11' - 2"	1,887	7' - 3"	1,225	108	#6	9"	21' - 6"	3,488	20	18"	39' - 9"	531
5	7' - 0"	6' - 0"	10"	8"	108	#6	9"	38' - 9"	6,286	162	#5	6"	11' - 2"	1,887	7' - 3"	1,225	108	#6	9"	28' - 6"	4,623	25	18"	39' - 9"	664
6	7' - 0"	6' - 0"	10"	8"	108	#6	9"	46' - 5"	7,530	162	#5	6"	11' - 2"	1,887	7' - 3"	1,225	108	#6	9"	35' - 6"	5,759	30	18"	39' - 9"	797
2	7' - 0"	7' - 0"	10"	8"	108	#6	9"	15' - 9"	2,555	162	#5	6"	12' - 2"	2,056	7' - 3"	1,225	108	#6	9"	7' - 6"	1,217	10	18"	39' - 9"	266
3	7' - 0"	7' - 0"	10"	8"	108	#6	9"	23' - 5"	3,799	162	#5	6"	12' - 2"	2,056	7' - 3"	1,225	108	#6	9"	14' - 6"	2,352	15	18"	39' - 9"	398
4	7' - 0"	7' - 0"	10"	8"	108	#6	9"	31' - 1"	5,042	162	#5	6"	12' - 2"	2,056	7' - 3"	1,225	108	#6	9"	21' - 6"	3,488	20	18"	39' - 9"	531
5	7' - 0"	7' - 0"	10"	8"	108	#6	9"	38' - 9"	6,286	162	#5	6"	12' - 2"	2,056	7' - 3"	1,225	108	#6	9"	28' - 6"	4,623	25	18"	39' - 9"	664
6	7' - 0"	7' - 0"	10"	8"	108	#6	9"	46' - 5"	7,530	162	#5	6"	12' - 2"	2,056	7' - 3"	1,225	108	#6	9"	35' - 6"	5,759	30	18"	39' - 9"	797

NUMBER OF SPANS	H	Bars F2 ~ #4				Bars M ~ #4				Bars Y & Z ~ #4						Bars H 4 ~ #4		Bars K		QUANTITIES Per Foot of Barrel		Curb		Total	
		No.	Spa	Length	Wt	No.	Spa	Length	Wt	No.	Spa	Bars Y Length	Bars Y Wt	Bars Z Length	Bars Z Wt	Length	Wt	No.	Wt	Conc (CY)	Renf (Lb)	Conc (CY)	Renf (Lb)	Conc (CY)	Renf (Lb)
2	3' - 0"	54	18"	39' - 9"	1,434	82	12"	3' - 0"	164	41	12"	5' - 0"	137	7' - 8"	210	15' - 9"	42	34	102	1.210	214.7	1.2	144	49.6	8,732
3	3' - 0"	77	18"	39' - 9"	2,045	82	12"	3' - 0"	164	82	12"	5' - 0"	274	7' - 8"	420	23' - 5"	63	50	150	1.757	301.4	1.7	213	72.0	12,270
4	3' - 0"	100	18"	39' - 9"	2,655	82	12"	3' - 0"	164	123	12"	5' - 0"	411	7' - 8"	630	31' - 1"	83	66	198	2.305	388.2	2.3	281	94.5	15,807
5	3' - 0"	123	18"	39' - 9"	3,266	82	12"	3' - 0"	164	164	12"	5' - 0"	548	7' - 8"	840	38' - 9"	104	80	240	2.852	474.9	2.9	344	117.0	19,340
6	3' - 0"	146	18"	39' - 9"	3,877	82	12"	3' - 0"	164	205	12"	5' - 0"	685	7' - 8"	1,050	46' - 5"	124	96	289	3.399	561.7	3.4	413	139.4	22,880
2	4' - 0"	54	18"	39' - 9"	1,434	82	12"	4' - 0"	219	41	12"	5' - 0"	137	9' - 8"	265	15' - 9"	42	34	102	1.284	221.7	1.2	144	52.5	9,011
3	4' - 0"	77	18"	39' - 9"	2,045	82	12"	4' - 0"	219	82	12"	5' - 0"	274	9' - 8"	530	23' - 5"	63	50	150	1.856	309.8	1.7	213	76.0	12,604
4	4' - 0"	100	18"	39' - 9"	2,655	82	12"	4' - 0"	219	123	12"	5' - 0"	411	9' - 8"	794	31' - 1"	83	66	198	2.428	397.9	2.3	281	99.4	16,195
5	4' - 0"	123	18"	39' - 9"	3,266	82	12"	4' - 0"	219	164	12"	5' - 0"	548	9' - 8"	1,059	38' - 9"	104	80	240	3.000	486.0	2.9	344	122.9	19,783
6	4' - 0"	146	18"	39' - 9"	3,877	82	12"	4' - 0"	219	205	12"	5' - 0"	685	9' - 8"	1,324	46' - 5"	124	96	289	3.572	574.1	3.4	413	146.3	23,378
2	5' - 0"	60	18"	39' - 9"	1,593	82	12"	5' - 0"	274	41	12"	5' - 0"	137	11' - 8"	320	15' - 9"	42	34	102	1.358	232.6	1.2	144	55.5	9,449
3	5' - 0"	85	18"	39' - 9"	2,257	82	12"	5' - 0"	274	82	12"	5' - 0"	274	11' - 8"	639	23' - 5"	63	50	150	1.955	323.4	1.7	213	79.9	13,149
4	5' - 0"	110	18"	39' - 9"	2,921	82	12"	5' - 0"	274	123	12"	5' - 0"	411	11' - 8"	959	31' - 1"	83	66	198	2.551	414.2	2.3	281	104.4	16,850
5	5' - 0"	135	18"	39' - 9"	3,585	82	12"	5' - 0"	274	164	12"	5' - 0"	548	11' - 8"	1,278	38' - 9"	104	80	240	3.148	505.0	2.9	344	128.8	20,545
6	5' - 0"	160	18"	39' - 9"	4,248	82	12"	5' - 0"	274	205	12"	5' - 0"	685	11' - 8"	1,598	46' - 5"	124	96	289	3.745	595.9	3.4	413	153.2	24,247
2	6' - 0"	66	18"	39' - 9"	1,752	82	12"	6' - 0"	329	41	12"	5' - 0"	137	13' - 8"	374	15' - 9"	42	34	102	1.432	243.6	1.2	144	58.5	9,886
3	6' - 0"	93	18"	39' - 9"	2,469	82	12"	6' - 0"	329	82	12"	5' - 0"	274	13' - 8"	749	23' - 5"	63	50	150	2.053	337.1	1.7	213	83.9	13,695
4	6' - 0"	120	18"	39' - 9"	3,186	82	12"	6' - 0"	329	123	12"	5' - 0"	411	13' - 8"	1,123	31' - 1"	83	66	198	2.675	430.6	2.3	281	109.3	17,503
5	6' - 0"	147	18"	39' - 9"	3,903	82	12"	6' - 0"	329	164	12"	5' - 0"	548	13' - 8"	1,497	38' - 9"	104	80	240	3.296	524.1	2.9	344	134.7	21,306
6	6' - 0"	174	18"	39' - 9"	4,620	82	12"	6' - 0"	329	205	12"	5' - 0"	685	13' - 8"	1,872	46' - 5"	124	96	289	3.918	617.6	3.4	413	160.2	25,117
2	7' - 0"	66	18"	39' - 9"	1,752	82	12"	7' - 0"	383	41	12"	5' - 0"	137	15' - 8"	429	15' - 9"	42	34	102	1.506	250.5	1.2	144	61.4	10,164
3	7' - 0"	93	18"	39' - 9"	2,469	82	12"	7' - 0"	383	82	12"	5' - 0"	274	15' - 8"	858	23' - 5"	63	50	150	2.152	345.4	1.7	213	87.8	14,027
4	7' - 0"	120	18"	39' - 9"	3,186	82	12"	7' - 0"	383	123	12"	5' - 0"	411	15' - 8"	1,287	31' - 1"	83	66	198	2.798	440.2	2.3	281	114.2	17,890
5	7' - 0"	147	18"	39' - 9"	3,903	82	12"	7' - 0"	383	164	12"	5' - 0"	548	15' - 8"	1,716	38' - 9"	104	80	240	3.444	535.1	2.9	344	140.6	21,748
6	7' - 0"	174	18"	39' - 9"	4,620	82	12"	7' - 0"	383	205	12"	5' - 0"	685	15' - 8"	2,145	46' - 5"	124	96	289	4.091	630.0	3.4	413	167.1	25,613

HL93 LOADING SHEET 2 OF 2

Texas Department of Transportation — Bridge Division Standard

MULTIPLE BOX CULVERTS CAST-IN-PLACE

7'-0" SPAN
2' TO 23' FILL

MC-7-23

FILE: CD-MC723-20.dgn | DN: TBE | CK: BMP | DW: TxDOT | CK: TxDOT
 | CONT | SECT | JOB | HIGHWAY
REVISIONS | DIST | COUNTY | SHEET NO.

DATE:
FILE:

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

STATE OF TEXAS
NIXON M. WELSH
36240
REGISTERED PROFESSIONAL ENGINEER
06/03/25

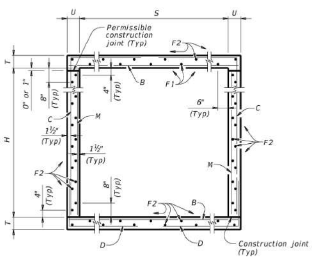
BASS AND WELSH ENGINEERING
TX REGISTRATION NO. F-52, 3054 S. ALAMEDA STREET
CORPUS CHRISTI, TEXAS 78404

PUBLIC IMPROVEMENTS TO
KING'S LANDING UNIT 11
CORPUS CHRISTI, NUECES CO., TX

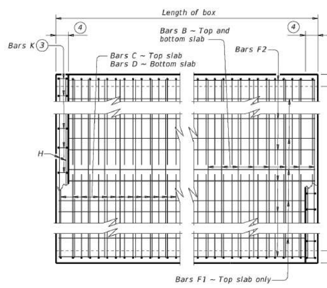
TXDOT MULTIPLE BOX CULVERT DETAILS
SHEET 2 OF 2

DWN:
CHK: N. WELSH
PLOT SCALE: 1" = 60'
SCALE (H): AS SHOWN
SCALE (V): AS SHOWN
DATE PLOTTED 06/03/25
COM. NO. 16 TXDOT MBC 2 OF 2
JOB NO. 2400B
SHEET 16 OF 25

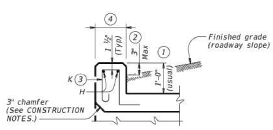
DATE:
FILE:



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 or curbs taller than 1'-0", refer to the Extended Curb Details (ECD) standard sheet. For structures with T631 or T631LS bridge rail, refer to the Mounting Details for T631 & T631LS Rails (T631-CM) standard sheet. Refer to the Rail Anchorage Curb (RAC) standard sheet for structures with bridge rail other than T631 or T631LS.

2) For vehicle safety, the following requirements must be met:
- For structures without bridge rail, construct curbs no more than 3" above finished grade.
- For structures with bridge rail, construct curbs flush with finished grade.

Reduce curb heights, if necessary, to meet the above requirements. No changes will be made in quantities and no additional compensation will be allowed for this work.

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

4) 1'-0" typical. 2'-3" when the Rail Anchorage Curb (RAC) standard sheet is referred to elsewhere in the plans.

The Contractor may replace Bars B, C, D, E, F1, F2, M, Y, and/or Z with deformed welded wire reinforcement (WWR) meeting the requirements of ASTM A1064. The area of required reinforcement may be reduced by the ratio of 60 ksi / 70 ksi. Spacing of WWR is limited to 4" Min and 18" Max. When required, provide lap splices in the WWR of the same length required for the equivalent bar size, rounded up for wire sizes between conventional bar sizes. The lap length required for WWR is never less than the lap length required for uncoated #4 bars.

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

CONSTRUCTION NOTES:

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

MATERIAL NOTES:

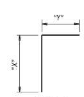
Provide Grade 60 reinforcing steel.
Provide galvanized reinforcing steel if required elsewhere in the plans.
Provide Class C concrete (f'c = 3,600 psi) for culvert barrel and curb, with the following exceptions: provide Class S concrete (f'c = 4,000 psi) for top slabs of:
- culverts with overlay,
- culverts with 1-to-2 course surface treatment, or
- culverts with the top slab as the final riding surface.

Provide bar laps, where required, as follows:
- Uncoated or galvanized ~ #4 = 1'-8" Min
- Uncoated or galvanized ~ #5 = 2'-1" Min
- Uncoated or galvanized ~ #6 = 2'-6" Min

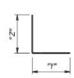
GENERAL NOTES:

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

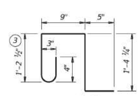
Cover dimensions are clear dimensions, unless noted otherwise.
Reinforcing bar dimensions shown are out-to-out of bar.



BARS C



BARS D



BARS K (#4)
(Spa = 1'-0" Max)
(Length = 4'-2")

HL93 LOADING SHEET 1 OF 2

Texas Department of Transportation | Bridge Division Standard

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

SCC-5 & 6

FILE: CD-SCC56-21.dgn	DN: TBE		CK: BMP	DW: TxDOT	CK: TxDOT
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY	
REVISIONS					
04/2021 Updated X values.	DIST	COUNTY		SHEET NO.	

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

STATE OF TEXAS
NIXON M. WELSH
36240
REGISTERED PROFESSIONAL ENGINEER
06/03/25

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

PUBLIC IMPROVEMENTS TO
KING'S LANDING UNIT 11
CORPUS CHRISTI, NUECES CO., TX

TXDOT SINGLE BOX CULVERT DETAILS
SHEET 1 OF 2

DWN.		PLOT SCALE:	1" = 60'	COM. NO.	17 TXDOT SBC 1 OF 2
		SCALE (H):	AS SHOWN	JOB NO.	24008
CHK.	N. WELSH	SCALE (V):	AS SHOWN		
		DATE PLOTTED	06/03/25	SHEET 17 OF 25	

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

DATE:
FILE:

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

SECTION DIMENSIONS				FILL HEIGHT ⑤	Bars B					Bars C							Bars D							Bars M ~ #4				Bars F1 ~ #4 at 18" Spa			Bars F2 ~ #4 at 18" Spa			Bars H 4 ~ #4		Bars K		QUANTITIES: Per Foot of Barrel		Curb		Total	
S	H	T	U	FILL HEIGHT ⑤	No.	Size	Spa	Length	Weight	No.	Size	Spa	Length	Weight	" X "	" Y "	No.	Size	Spa	Length	Weight	" Y "	" Z "	No.	Spa	Length	Weight	No.	Length	Wt	No.	Length	Weight	Length	Wt	No.	Wt	Conc (CY)	Reinf (Lb)	Conc (CY)	Reinf (Lb)	Conc (CY)	Reinf (Lb)
5' - 0"	2' - 0"	8"	7"	26'	108	#6	9"	5' - 11"	960	108	#5	9"	6' - 3"	704	2' - 6"	3' - 9"	108	#5	9"	6' - 5"	723	3' - 9"	2' - 8"	108	9"	2' - 0"	144	4	39' - 9"	106	22	39' - 9"	584	5' - 11"	16	14	39	0.391	80.5	0.5	55	16.1	3,276
5' - 0"	2' - 0"	9"	7"	30'	108	#6	9"	5' - 11"	960	108	#5	9"	6' - 4"	713	2' - 7"	3' - 9"	108	#5	9"	6' - 6"	732	3' - 9"	2' - 9"	108	9"	2' - 0"	144	4	39' - 9"	106	22	39' - 9"	584	5' - 11"	16	14	39	0.429	81.0	0.5	55	17.6	3,294
5' - 0"	3' - 0"	8"	7"	26'	108	#6	9"	5' - 11"	960	108	#5	9"	7' - 3"	817	3' - 6"	3' - 9"	108	#5	9"	6' - 5"	723	3' - 9"	2' - 8"	108	9"	3' - 0"	216	4	39' - 9"	106	26	39' - 9"	690	5' - 11"	16	14	39	0.434	87.8	0.5	55	17.8	3,567
5' - 0"	3' - 0"	9"	7"	30'	108	#6	9"	5' - 11"	960	108	#5	9"	7' - 4"	826	3' - 7"	3' - 9"	108	#5	9"	6' - 6"	732	3' - 9"	2' - 9"	108	9"	3' - 0"	216	4	39' - 9"	106	26	39' - 9"	690	5' - 11"	16	14	39	0.472	88.3	0.5	55	19.3	3,585
5' - 0"	4' - 0"	8"	7"	26'	108	#6	9"	5' - 11"	960	108	#5	9"	8' - 3"	929	4' - 6"	3' - 9"	108	#5	9"	6' - 5"	723	3' - 9"	2' - 8"	108	9"	4' - 0"	289	4	39' - 9"	106	26	39' - 9"	690	5' - 11"	16	14	39	0.477	92.4	0.5	55	19.5	3,752
5' - 0"	4' - 0"	9"	7"	30'	108	#6	9"	5' - 11"	960	108	#5	9"	8' - 4"	939	4' - 7"	3' - 9"	108	#5	9"	6' - 6"	732	3' - 9"	2' - 9"	108	9"	4' - 0"	289	4	39' - 9"	106	26	39' - 9"	690	5' - 11"	16	14	39	0.515	92.9	0.5	55	21.1	3,771
5' - 0"	5' - 0"	8"	7"	26'	108	#6	9"	5' - 11"	960	108	#5	9"	9' - 3"	1,042	5' - 6"	3' - 9"	108	#5	9"	6' - 5"	723	3' - 9"	2' - 8"	108	9"	5' - 0"	361	4	39' - 9"	106	30	39' - 9"	797	5' - 11"	16	14	39	0.521	99.7	0.5	55	21.3	4,044
5' - 0"	5' - 0"	9"	7"	30'	108	#6	9"	5' - 11"	960	108	#5	9"	9' - 4"	1,051	5' - 7"	3' - 9"	108	#5	9"	6' - 6"	732	3' - 9"	2' - 9"	108	9"	5' - 0"	361	4	39' - 9"	106	30	39' - 9"	797	5' - 11"	16	14	39	0.559	100.2	0.5	55	22.8	4,062
6' - 0"	2' - 0"	8"	7"	20'	108	#6	9"	6' - 11"	1,122	108	#5	9"	6' - 7"	742	2' - 6"	4' - 1"	108	#5	9"	6' - 9"	760	4' - 1"	2' - 8"	108	9"	2' - 0"	144	5	39' - 9"	133	25	39' - 9"	664	6' - 11"	18	16	45	0.440	89.1	0.5	63	18.1	3,628
6' - 0"	2' - 0"	9"	7"	26'	108	#6	9"	6' - 11"	1,122	162	#5	6"	6' - 8"	1,126	2' - 7"	4' - 1"	162	#5	6"	6' - 10"	1,155	4' - 1"	2' - 9"	108	9"	2' - 0"	144	5	39' - 9"	133	25	39' - 9"	664	6' - 11"	18	16	45	0.485	108.6	0.5	63	19.9	4,407
6' - 0"	2' - 0"	10"	8"	30'	108	#6	9"	7' - 1"	1,149	162	#5	6"	6' - 10"	1,155	2' - 8"	4' - 2"	162	#5	6"	7' - 0"	1,183	4' - 2"	2' - 10"	82	12"	2' - 0"	110	5	39' - 9"	133	25	39' - 9"	664	7' - 1"	19	18	50	0.551	109.9	0.5	69	22.6	4,463
6' - 0"	3' - 0"	8"	7"	20'	108	#6	9"	6' - 11"	1,122	108	#5	9"	7' - 7"	854	3' - 6"	4' - 1"	108	#5	9"	6' - 9"	760	4' - 1"	2' - 8"	108	9"	3' - 0"	216	5	39' - 9"	133	29	39' - 9"	770	6' - 11"	18	16	45	0.484	96.4	0.5	63	19.9	3,918
6' - 0"	3' - 0"	9"	7"	26'	108	#6	9"	6' - 11"	1,122	162	#5	6"	7' - 8"	1,295	3' - 7"	4' - 1"	162	#5	6"	6' - 10"	1,155	4' - 1"	2' - 9"	108	9"	3' - 0"	216	5	39' - 9"	133	29	39' - 9"	770	6' - 11"	18	16	45	0.528	117.3	0.5	63	21.6	4,754
6' - 0"	3' - 0"	10"	8"	30'	108	#6	9"	7' - 1"	1,149	162	#5	6"	7' - 10"	1,324	3' - 8"	4' - 2"	162	#5	6"	7' - 0"	1,183	4' - 2"	2' - 10"	82	12"	3' - 0"	164	5	39' - 9"	133	29	39' - 9"	770	7' - 1"	19	18	50	0.601	118.1	0.5	69	24.6	4,792
6' - 0"	4' - 0"	8"	7"	20'	108	#6	9"	6' - 11"	1,122	108	#5	9"	8' - 7"	967	4' - 6"	4' - 1"	108	#5	9"	6' - 9"	760	4' - 1"	2' - 8"	108	9"	4' - 0"	289	5	39' - 9"	133	29	39' - 9"	770	6' - 11"	18	16	45	0.527	101.0	0.5	63	21.6	4,104
6' - 0"	4' - 0"	9"	7"	26'	108	#6	9"	6' - 11"	1,122	162	#5	6"	8' - 8"	1,464	4' - 7"	4' - 1"	162	#5	6"	6' - 10"	1,155	4' - 1"	2' - 9"	108	9"	4' - 0"	289	5	39' - 9"	133	29	39' - 9"	770	6' - 11"	18	16	45	0.571	123.3	0.5	63	23.4	4,996
6' - 0"	4' - 0"	10"	8"	30'	108	#6	9"	7' - 1"	1,149	162	#5	6"	8' - 10"	1,493	4' - 8"	4' - 2"	162	#5	6"	7' - 0"	1,183	4' - 2"	2' - 10"	82	12"	4' - 0"	219	5	39' - 9"	133	29	39' - 9"	770	7' - 1"	19	18	50	0.650	123.7	0.5	69	26.5	5,016
6' - 0"	5' - 0"	8"	7"	20'	108	#6	9"	6' - 11"	1,122	108	#5	9"	9' - 7"	1,080	5' - 6"	4' - 1"	108	#5	9"	6' - 9"	760	4' - 1"	2' - 8"	108	9"	5' - 0"	361	5	39' - 9"	133	33	39' - 9"	876	6' - 11"	18	16	45	0.570	108.3	0.5	63	23.3	4,395
6' - 0"	5' - 0"	9"	7"	26'	108	#6	9"	6' - 11"	1,122	162	#5	6"	9' - 8"	1,633	5' - 7"	4' - 1"	162	#5	6"	6' - 10"	1,155	4' - 1"	2' - 9"	108	9"	5' - 0"	361	5	39' - 9"	133	33	39' - 9"	876	6' - 11"	18	16	45	0.614	132.0	0.5	63	25.1	5,343
6' - 0"	5' - 0"	10"	8"	30'	108	#6	9"	7' - 1"	1,149	162	#5	6"	9' - 10"	1,661	5' - 8"	4' - 2"	162	#5	6"	7' - 0"	1,183	4' - 2"	2' - 10"	82	12"	5' - 0"	274	5	39' - 9"	133	33	39' - 9"	876	7' - 1"	19	18	50	0.700	131.9	0.5	69	28.5	5,345
6' - 0"	6' - 0"	8"	7"	20'	108	#6	9"	6' - 11"	1,122	108	#5	9"	10' - 7"	1,192	6' - 6"	4' - 1"	108	#5	9"	6' - 9"	760	4' - 1"	2' - 8"	108	9"	6' - 0"	433	5	39' - 9"	133	37	39' - 9"	982	6' - 11"	18	16	45	0.613	115.6	0.5	63	25.0	4,685
6' - 0"	6' - 0"	9"	7"	26'	108	#6	9"	6' - 11"	1,122	162	#5	6"	10' - 8"	1,802	6' - 7"	4' - 1"	162	#5	6"	6' - 10"	1,155	4' - 1"	2' - 9"	108	9"	6' - 0"	433	5	39' - 9"	133	37	39' - 9"	982	6' - 11"	18	16	45	0.657	140.7	0.5	63	26.8	5,690
6' - 0"	6' - 0"	10"	8"	30'	108	#6	9"	7' - 1"	1,149	162	#5	6"	10' - 10"	1,830	6' - 8"	4' - 2"	162	#5	6"	7' - 0"	1,183	4' - 2"	2' - 10"	82	12"	6' - 0"	329	5	39' - 9"	133	37	39' - 9"	982	7' - 1"	19	18	50	0.749	140.2	0.5	69	30.5	5,675

⑤ For direct tra c culverts (H height ≤ 2 ft.), identify the required box size and select the option with the minimum H height.

HL93 LOADING SHEET 2 OF 2

Texas Department of Transportation — Bridge Division Standard

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

SCC-5 & 6

FILE: CD-SCC56-21.dgn	DN: TxDOT	CK: BMP	DW: TxDOT	CK: TxDOT
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS				
04/2021: Updated K values.	DIST	COUNTY		SHEET NO.

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

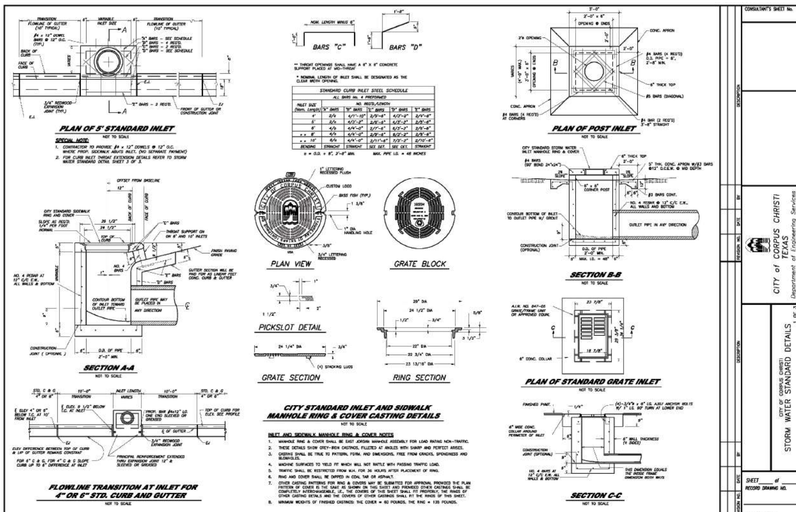
STATE OF TEXAS — NIXON M. WELSH — 96540 — REGISTERED PROFESSIONAL ENGINEER — 08/03/25

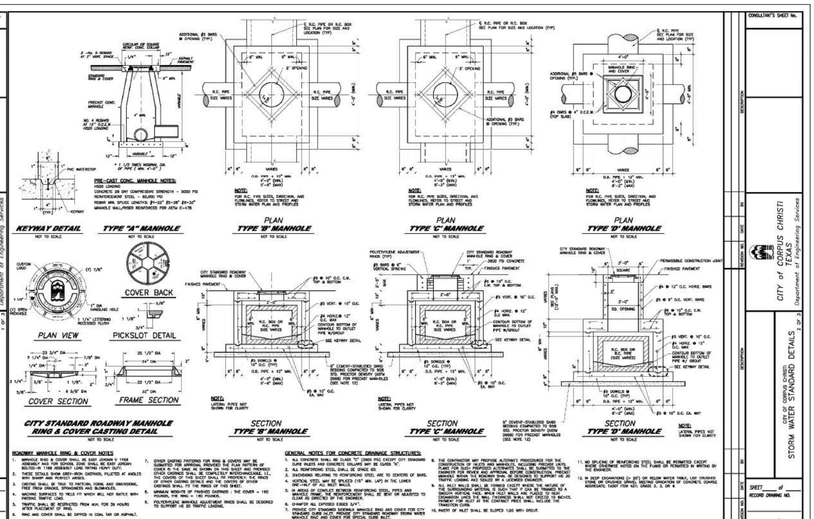
BASS AND WELSH ENGINEERING
TX REGISTRATION NO. F-52, 3054 S. ALAMEDA STREET
CORPUS CHRISTI, TEXAS 78404

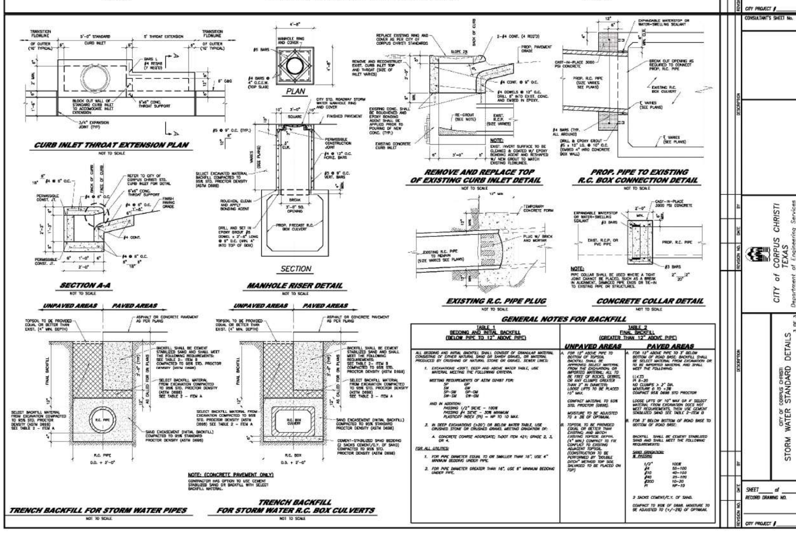
PUBLIC IMPROVEMENTS TO
KING'S LANDING UNIT 11
CORPUS CHRISTI, NUECES CO., TX

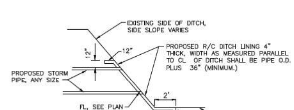
IXUO1 SINGLE BOX CULVERT DETAILS
SHEET 2 OF 2

DWN:	PLOT SCALE: 1" = 40'	COM. NO.	18 TXDOT SBC
CHK: N. WELSH	SCALE (H): AS SHOWN		2 OF 2
	SCALE (V): AS SHOWN	JOB NO.	24008
	DATE PLOTTED 08/03/25	SHEET JB OF 25	







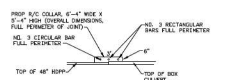


NOTES:

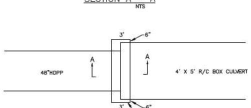
1. REINFORCE ALL DITCH LINING WITH 6 X 6 X 6/6 WWF THROUGHOUT, PLACED MIDHEIGHT IN CONCRETE. BEND TO CONFORM.

2. GRASS SEED ALL AREAS OF DITCH THAT HAVE BEEN DESTURBED WITH INSTALLATION OF PIPE AND LINING.

TYPICAL SECTION – PROPOSED CONCRETE LINING AT END OF PROPOSED STO. PIPE
NTS



SECTION A – A
NTS



HDPPLAN – R/C COLLAR AT JUNCTION OF 48" HDPP WITH 4' X 5' BOX CULVERT
NTS

STATE OF TEXAS
NIXON M. WELSH
36240
REGISTERED PROFESSIONAL ENGINEER
06/03/25

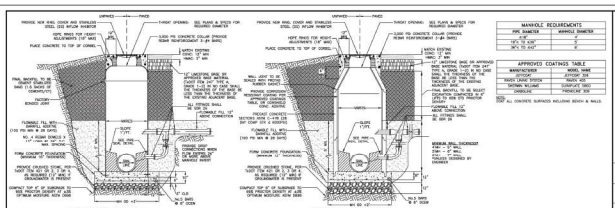
RELEASED FOR CONSTRUCTION
Bria A. Whitmire, P.E., CFM, CPM
Development Services
City of Corpus Christi
Note: Construction Plans will expire based on the conditions stated in UDC 3.8.5.F.

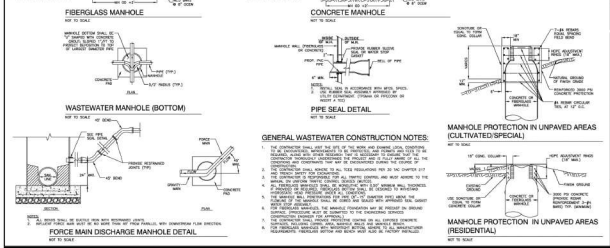
BASS AND WELSH ENGINEERING
TX REGISTRATION NO. F-52, 3054 S. ALAMEDA STREET
CORPUS CHRISTI, TEXAS 78404

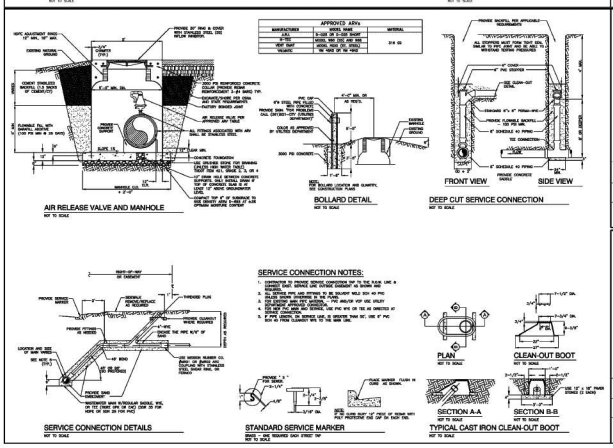
PUBLIC IMPROVEMENTS TO
KING'S LANDING UNIT 11
CORPUS CHRISTI, NUECES CO., TX

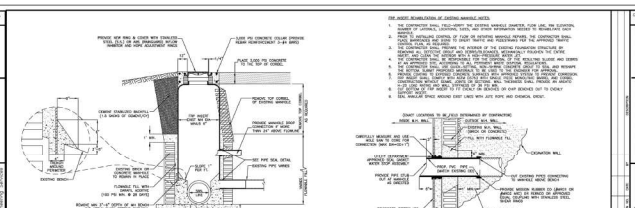
CITY STORM WATER STANDARD DETAILS

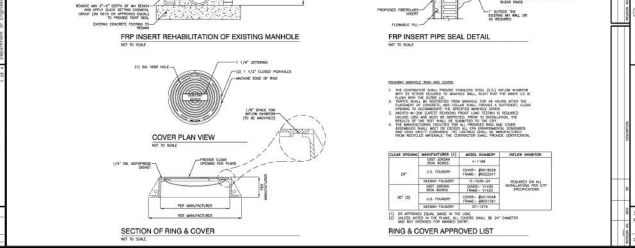
DWN.		PLOT SCALE:	1" = 60'	COM. NO.	19 STO STD DET
		SCALE (H):	AS SHOWN	JOB NO.	24008
CHK.	N. WELSH	SCALE (V):	AS SHOWN		
		DATE PLOTTED	06/03/25	SHEET	19 OF 25

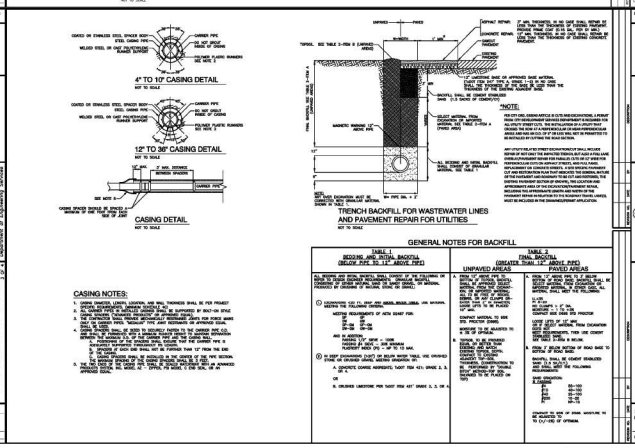


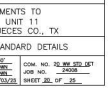












BASS AND WELSH ENGINEERING
TX REGISTRATION NO. F-52, 3054 S. ALAMEDA STREET
CORPUS CHRISTI, TEXAS 78404

PUBLIC IMPROVEMENTS TO
KING'S LANDING UNIT 11
CORPUS CHRISTI, NUECES CO., TX

CITY WASTE WATER STANDARD DETAILS

DWN:		PLOT SCALE:	1" = 80'
		SCALE (H):	AS SHOWN
DWN:	H. WELSH	SCALE (V):	AS SHOWN
		DATE PLOTTED:	06/03/25

COM. NO. TO WW STD DET
JOB NO. 24008
SHEET 20 OF 28

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 ACCEPTANCE FOR OPERATIONS 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 SWITCH OUT OF SERVICE.
4. THE CONTRACTOR SHALL FURNISH ALL MATERIAL, LABOR AND EQUIPMENT REQUIRED TO INSTALL THE PROPOSED SYSTEM.
5. TESTING OF LINES (CHLORINATION AND PRESSURES) SHALL BE DONE BY THE CONTRACTOR UNDER THE SUPERVISION OF THE WATER DIVISION INSPECTOR. ALL TEST RESULTS SHALL BE SUBMITTED TO THE ENGINEER AND 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 FURNISHED BY THE CONTRACTOR. ALL WATER USED FOR TESTING SHALL BE METERED THROUGH A WATER CONSTRUCTION METER. ALL WATER DISCHARGE MUST BE DECHLORINATED IN ACCORDANCE WITH TNRCC #1 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 SHALL BE CLEANED AND STORED AT A LOCATION DESIGNATED BY THE CITY PRIOR TO THE FINAL INSPECTION SHALL BE DISPOSED OF BY THE CONTRACTOR.
7. THE CONTRACTOR SHALL SHOW ALL COST ASSOCIATED WITH WATERLINE REPAIRS (WHICH RESULT FROM CONSTRUCTION) AS INCIDENTAL UPON COMPLETION OF PROJECTS. ALL WATER LINES SHALL BE FREE OF ALL PIECES AND SPLINTERS.
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 OPERATE ALL VALVES ON EXISTING WATERLINES. CONTRACTOR SHALL NOTIFY 24 HOURS IN ADVANCE.
9. ALL EXISTING SERVICE CONNECTIONS TIED DATE 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, CAU SEPARATE COSTS.
10. ALL VALVES SHALL BE OPERATED BY THE CONTRACTOR UNDER THE DIRECTION AND SUPERVISION OPERATED BY THE WATER DIVISION INSPECTOR BASED ON CONDITIONS ENCOUNTERED IN THE FIELD. THE CONTRACTOR SHALL USE SUCH AS DIRECTED AND SHALL BE FREE OF THE UNIT PRICE BID FOR THE APPROPRIATE SIZE WATERLINE. A WHICH UNDER 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 CONSTRUCTION.
12. ALL ANGLES 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 AND VALVES. ALL FITTINGS OR SHALL FITTINGS NOT INCLUDED UNLESS OTHERWISE SPECIFIED BY THE WATER DIVISION ENGINEER.
14. ALL OFFSETS ARE TO BE DUCTILE IRON PIPE ASSEMBLIES LOCATED TOGETHER BY RETAINER GLANDS. DUCTILE IRON BENDS SHALL BE CAULKED 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 (CLSM) OR OTHER ENGINEER APPROVED EQUAL. VALVES WILL BE REMOVED OR FILLED AS DIRECTED BY WATER DIVISION INSPECTOR.
16. CONTRACTOR SHALL COORDINATE WITH WATER DIVISION INSPECTOR AND NOTIFY ALL AFFECTED CUSTOMERS 24 HOURS PRIOR TO VALVOF OF EXISTING WATER SYSTEM.
17. WATER DISTRIBUTION SYSTEM STANDARDS CALL FOR MINIMUM 48" COVER ON WATERLINES. WHEN DEPTHS EXCEED 48" COVER TO AVOID OBSTRUCTION, THE USES OF SPOOLS SHALL BE REQUIRED.
18. CONTRACTOR SHALL KEEP ALL EXISTING VALVES ACCESSIBLE DURING ALL PHASES OF CONSTRUCTION.
19. ALL NEW METER BANKS 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 VALVE 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 (TNRCC) #1 NPDES.
2. WHENEVER WATER & WASTEWATER LINES CROSS, ONE JOINT OF CAST, DUCTILE IRON PIPE SHALL BE CENTERED OVER THE WASTEWATER LINE IN ADDITION TO ANY REQUIREMENTS AS DICTATED BY ITEM 1 ABOVE.

NOTE:
CONTRACTOR MAY BE REQUIRED BY THE WATER DIVISION INSPECTOR TO INSTALL CONCRETE JOINTS BY EXCISE, FROM TYPE OF WATERLINE ENCROACHED OF EXISTING HAZARDOUS PRODUCT PIPELINES.

WATERLINE MINIMUM COVER REQUIREMENTS
NOT TO SCALE

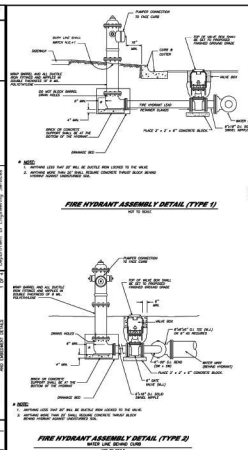
NOTES:
1. ALL MAINS IN THE STREET SHALL HAVE A MINIMUM OF 36" OF COVER AT ALL POINTS, UNLESS OTHERWISE NOTED ON PLANS AND HAVE VALVE CLEARANCES IN ACCORDANCE WITH THE VALVE DETAIL.
2. ALL TRANSMISSION MAINS (12" DIAMETER & ABOVE) NO STREET SHALL HAVE A MINIMUM OF 48" OF COVER AT ALL POINTS.
3. ALL MAINS NOT LOCATED IN THE STREET SHALL HAVE A MINIMUM OF 36" OF COVER AT ALL POINTS.

TYP. PIPE TRENCHING, BEDDING AND BACKFILL FOR WATERLINE
NOT TO SCALE

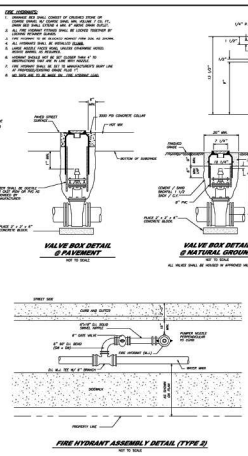
NOTE: CONCRETE PAVEMENT ONLY
CONTRACTOR MAY OPTION TO USE STRONG, STABILIZED SAND OR BACKFILL WITH SELECT GRANULAR MATERIAL

GENERAL NOTES FOR BACKFILL

UNPAVED AREAS (ROAD, DRIVE, WALK, DIGHTS) (MEANS PIPE TO 12" ABOVE TOP)	PAVED AREAS (INCLUDING 12" ABOVE PIPE)
ALL BEDDING AND INITIAL BACKFILL SHALL CONSIST OF THE FOLLOWING OR EQUAL, AS APPROVED BY THE ENGINEER: SAND, OR SANDY GRAVEL, CONSISTING OF FOOD MATERIAL FREE OF ORGANIC MATERIAL, VEGETABLE MATERIALS OR DEBRIS, OR ORGANIC MATERIAL, OR CHEMICAL OR MINERAL WASTE OR DEBRIS. WATER LINES: 1. CRUSHABLE, LIGHT, SPOIL AND MINE WASTE SMALL NOT EXCEED 1" IN DIAMETER FOLLOWING SIEVE SIZE: MEETING REQUIREMENTS OF ASTM C33/C33M FOR: #4 - 100 #8 - 95-100 #16 - 45-80 AND AS ADDITIONAL: PASSING 1/2" SIEVE - 10-30 PASSING #200 SIEVE - 0 TO 3 MAX. 2. IN ROCK FOUNDATION LAYER, OR WHERE MORE SMALL LIKE CRUSHED STONE OR CRUSHED GRAVEL MEETING GRADATION OF: A. CRUSHED GRAVEL MATERIALS, FROM #57 TO #67, SIEVES 2, 1, 3/4, 1/2, 3/8, #4, #8, #16, #30, #50, #100, #200.	A. FOR 12" GRADE PAVE TO BE INSTALLED, FILL IN TRENCH SHALL BE PLACED IN 6" LIFTS AND COMPACTED TO 95% STANDARD DENSITY (ASTM D698) FOR THE FIRST 12" ABOVE TOP OF PIPE, AND 95% STANDARD DENSITY (ASTM D698) FOR THE REMAINING 12" BELOW TOP OF PIPE. COMPACT MATERIAL TO 95% STD. PROCTOR DENSITY. REFERENCE TO BE ADJUSTED TO 1% / 2% OF OPTIMAL. B. EXCESS, TO BE SPREADED EVENLY ON ADJACENT AREAS OR HAULED AWAY AS DIRECTED BY THE ENGINEER. C. ALL BACKFILL MATERIALS SHALL BE FREE OF ROCKS, CLODS, OR STONES LARGER THAN 6" IN ANY DIMENSION. D. ALL BACKFILL MATERIALS SHALL BE PLACED IN LIFTS NOT EXCEEDING 6" IN LOOSE THICKNESS.
	A. FOR 12" GRADE PAVE TO BE INSTALLED, FILL IN TRENCH SHALL BE PLACED IN 6" LIFTS AND COMPACTED TO 95% STANDARD DENSITY (ASTM D698) FOR THE FIRST 12" ABOVE TOP OF PIPE, AND 95% STANDARD DENSITY (ASTM D698) FOR THE REMAINING 12" BELOW TOP OF PIPE. B. TOP 12" IN BACKFILL SHALL BE COMPACTED TO 95% STANDARD DENSITY (ASTM D698) FOR THE FOLLOWING REQUIREMENTS: **SOIL CONDITION** CL CH SM SC (OR AS PER SOILS ENGINEER) C. ALL BACKFILL MATERIALS SHALL BE PLACED IN LIFTS NOT EXCEEDING 6" IN LOOSE THICKNESS. CONTRACT TO USE OF SOIL MOISTURE TO BE ADJUSTED TO (+/-3%) OF OPTIMAL.

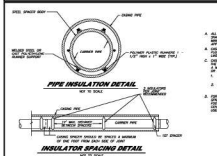


FIRE HYDRANT ASSEMBLY DETAIL (TYPE 2)
WATER LINE BEHIND CURB
NOT TO SCALE



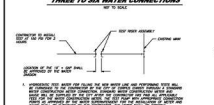
FIRE HYDRANT ASSEMBLY DETAIL (TYPE 2)
NOT TO SCALE

ONE HYDRANTS:
1. DRAINAGE MUST NOT CONSIST OF CRUSHED STONE OR GRAVEL. USE CLEAN SAND, SPIL, SOLVENT, OR CLAY. DRAIN MUST DRAIN SYSTEM 5 MIN. AT MINIMUM DRAIN OUTLET.
2. ALL HYDRANTS SHALL BE PAINTED WITH TWO COATS OF YELLOW ENAMEL PAINT.
3. FIRE HYDRANTS TO BE LOCATED AS SHOWN ON THE PLANS AND AS DIRECTED BY THE ENGINEER.
4. LARGE NUMBER PAINTED WHITE, INCLUDE ORDINANCE NUMBER.
5. ADDRESS NUMBERS ARE NOT TO BE PLACED ON THE HYDRANT.
6. FOR HYDRANT PAINTING SEE SECTION 09900 PART 3.01
7. FOR HYDRANT PAINTING SEE SECTION 09900 PART 3.01
8. ALL BOLTS AND NUTS SHALL BE MADE OF "CORTEN" STEEL.



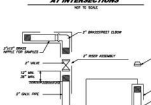
PIPE INSULATION DETAIL
NOT TO SCALE

INSULATOR SPACING DETAIL
NOT TO SCALE



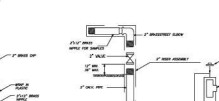
THREE TO SIX WATER CONNECTIONS
NOT TO SCALE

DETAIL "A"
TEST RISER ASSEMBLY CONNECTION
NOT TO SCALE



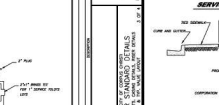
TYPICAL VALVE INSTALLATION AT INTERSECTIONS
NOT TO SCALE

DETAIL "B"
TEST RISER ASSEMBLY
NOT TO SCALE
TURNOVER AND INSTALLED BY CONTRACTOR

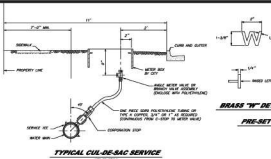


WATERLINE ADJUSTMENT DETAIL
NOT TO SCALE

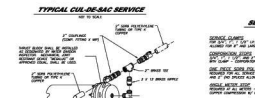
TYPICAL CASING DETAIL
NOT TO SCALE



DETAIL "C"
TEST RISER ASSEMBLY
NOT TO SCALE
TURNOVER AND INSTALLED BY CONTRACTOR



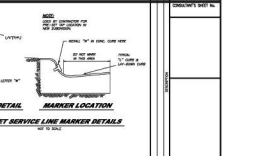
SERVICE WITH SIDEWALK
NOT TO SCALE



SERVICE WITHOUT SIDEWALK
NOT TO SCALE

TYPICAL CONNECTION DETAIL
NOT TO SCALE

SERVICE WITH SIDEWALK TIED TO CURB
NOT TO SCALE



BRASS "W" DETAIL MARKER LOCATION
NOT TO SCALE

PRE-SET SERVICE LINE MARKER DETAILS
NOT TO SCALE

SERVICE LINE MATERIALS

SERVICE CLAMPS
FOR 1" SERVICE USE 1" DOUBLE BAND TYPE 6" BRASS, 1" I.P. TAPING CLAMP TAP CONNECTION PLUMBER CAP # 600 LARGE BAND.

CORPORATION STOPS
FOR 1" SERVICE USE MUELLER B-25000 OR EQUAL 1" I.P. THREAD INLET FOR COPPER COMPRESSION OUTLET FOR 1" COPPER TUBE (CUT TO FIT) MUELLER H-15000 OR EQUAL.

ONE PIECE SCORE POLYETHYLENE TUBING (NO TYPE K COPPER)
REQUIRED ON ALL SERVICE LINES BETWEEN MAIN TO METER - SIZED REQUIRED 3/4", 1", 1 1/2", AND 2", SEE DETAILS ALSO.

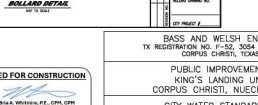
ANGLE METER VALVE
FOR 1" SERVICE USE MUELLER B-24258 3/4" X 1" - MANUAL 3/4" VALVES DIRECTED DYNAMIC - COPPER COMPRESSION W/ CLOSE NUT OR METER COUPLING NUT OUTLET.

METER TEST COUPLING
METER INSPECTOR AND CHECK VALVE UNIT COMPLETE
FOR 1" SERVICE USE MUELLER B-24258 3/4" X 1" - MANUAL 3/4" VALVES DIRECTED DYNAMIC - METER NUT AND 90° 3/4" NUT AT OUTLET.

ADAPTER COUPLING (NO COVERS)
REQUIRED AT ALL METERS - 3/4" X 1" - FEMALE I.P. TO PVC COMPRESSION.

METER BOX
FOR 1" SERVICE USE 3/4" DIA OR SMALL BE PROVIDED BY THE CONTRACTOR FOR 3/4" METER SETTINGS, 1" OUTSIDE DIAMETER (OUTSIDE AND HOME ONE). BOXES FOR LARGER (1" & UP) METER SETTINGS SHALL BE PROVIDED BY THE CITY.

BRASS FITTINGS
BRASS FITTINGS SHALL COMPLY WITH ALWWA C800-96 AND BE MARKED IN POLYETHYLENE.



BOLLARD DETAIL
NOT TO SCALE

RELEASED FOR CONSTRUCTION

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

Note: Construction Plans will expire based on the conditions stated in UDC 3.6.5.F.

STATE OF TEXAS
AARON M. WELSH
96240
REGISTERED PROFESSIONAL ENGINEER
06/03/25

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

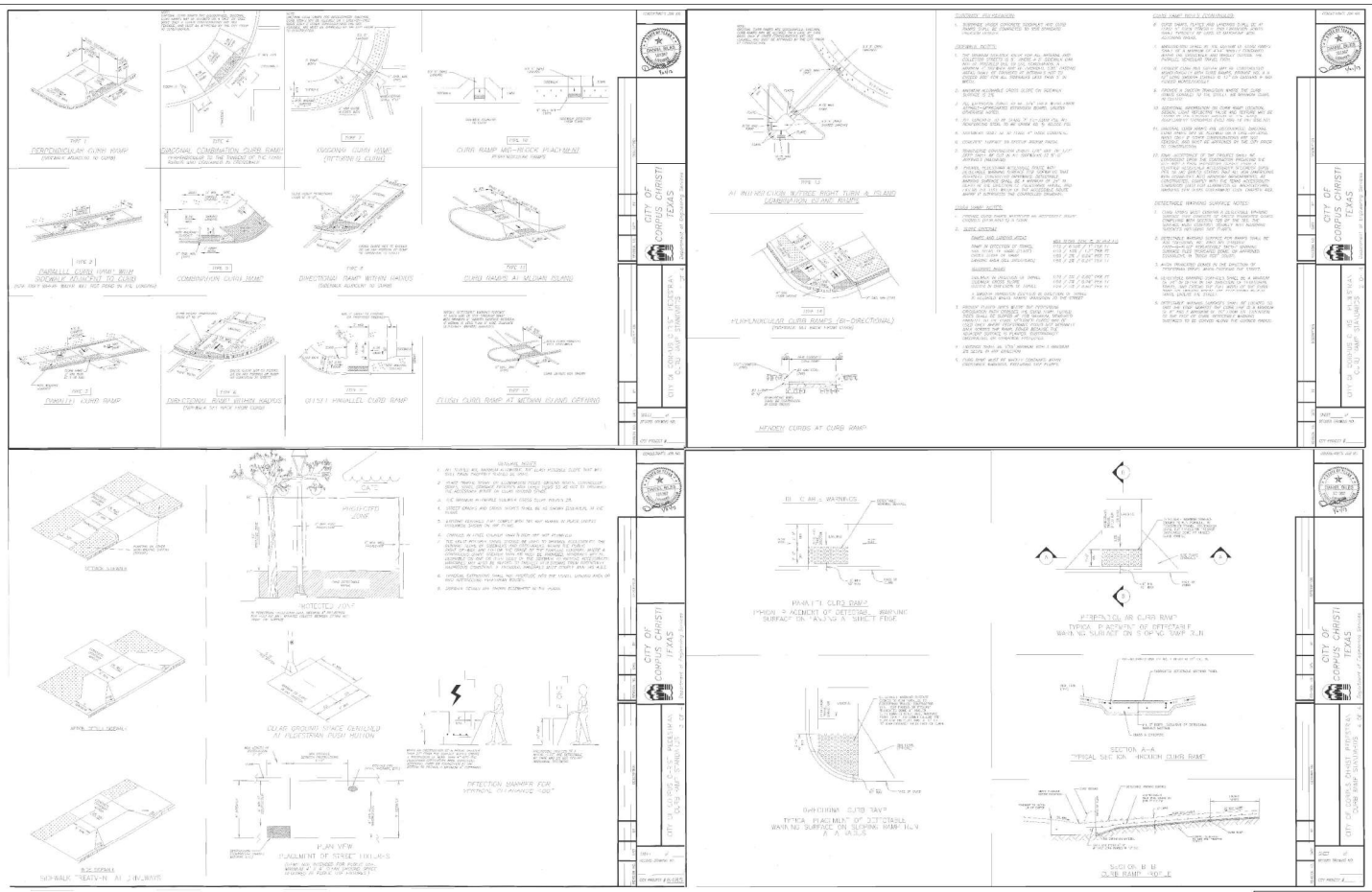
PUBLIC IMPROVEMENTS TO
KING'S LANDING UNIT 11
CORPUS CHRISTI, NUECES CO., TX

CITY WATER STANDARD DETAILS

DWN: _____
CHK: N. WELSH

PLOT SCALE: 1" = 60'
SCALE (V): AS SHOWN
SCALE (H): AS SHOWN
DATE PLOTTED: 06/03/25

COM. NO. 21 WTR STD DET
JOB NO. 24008
SHEET 21 OF 25



RELEASED FOR CONSTRUCTION

Eric A. Whitmire, P.E., CPM, CPM

City of Corpus Christi

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

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

PUBLIC IMPROVEMENTS TO
KING'S LANDING UNIT 11
CORPUS CHRISTI, NUECES CO., TX

CITY CURB RAMP STANDARDS

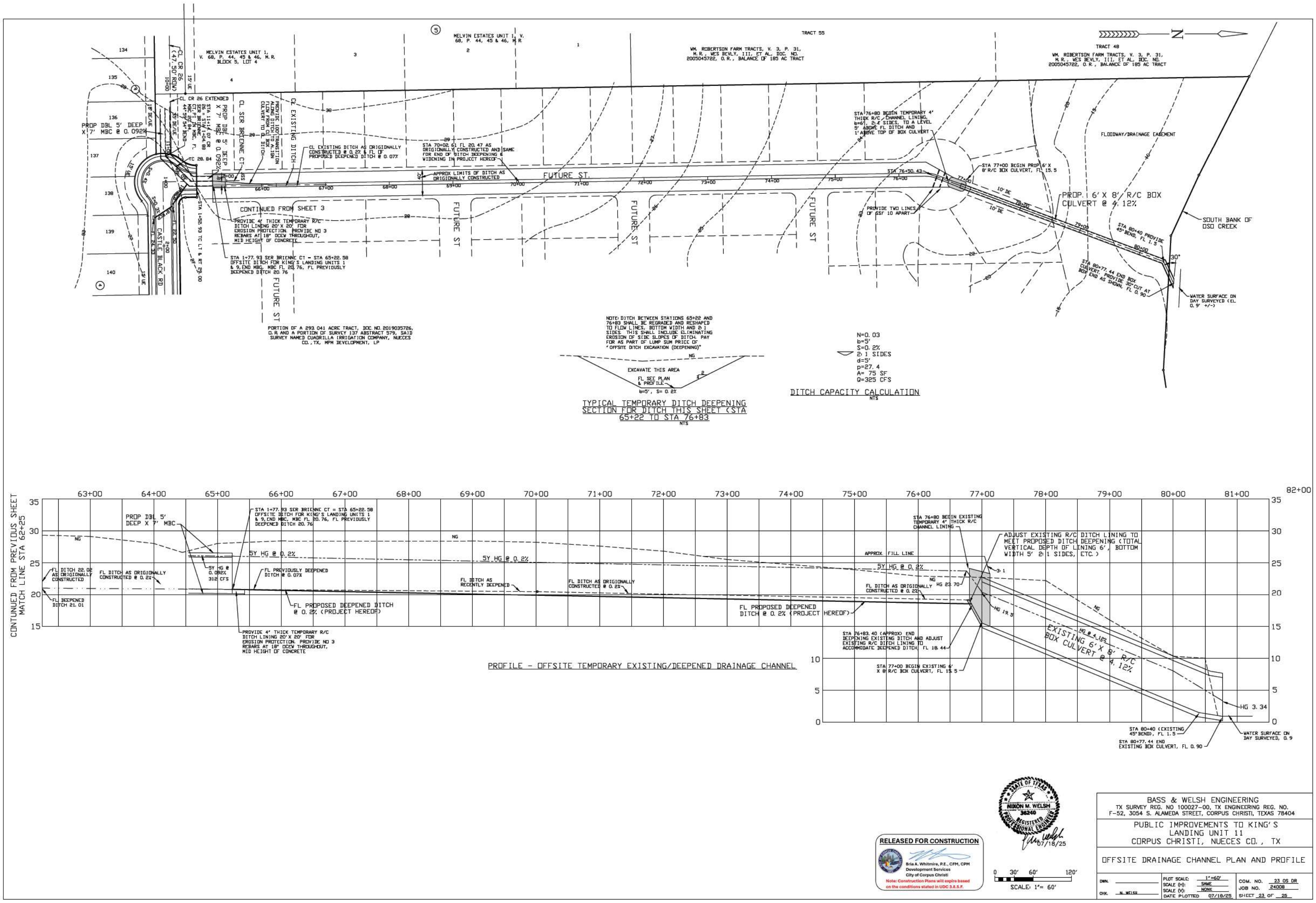
DWN. —
CHK. N. WELSH

PLOT SCALE 1" = 40'
SCALE (H): AS SHOWN
SCALE (V): AS SHOWN
DATE PLOTTED 06/03/25

COM. NO. 22 CURB RAMP STD
JOB NO. 24008
SHEET 22 OF 23

STATE OF TEXAS
NIXON M. WELSH
36240
REGISTERED
PROFESSIONAL ENGINEER

06/03/25

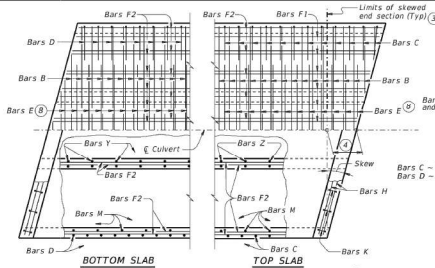

PROFILE - OFFSITE TEMPORARY EXISTING/DEEPENED DRAINAGE CHANNEL
TYPICAL TEMPORARY DITCH DEEPENING SECTION FOR DITCH THIS SHEET (STA 65+22 TO STA 76+83
DITCH CAPACITY CALCULATION
N=0.03
b=5'
S=0.2%
2:1 SIDES
d=5'
p=27.4
A= 75 SF
Q=325 CFS
PROP. 6' X 8' R/C BOX CULVERT @ 4.12%
SOUTH BANK OF OSO CREEK
FUTURE ST.
CONTINUED FROM SHEET 3
CONTINUED FROM PREVIOUS SHEET MATCH LINE STA 62+25
FLOODWAY/DRAINAGE EASEMENT
SCALE: 1"= 60'
RELEASED FOR CONSTRUCTION

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

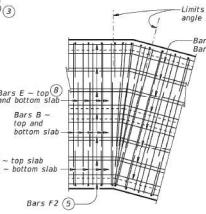
PUBLIC IMPROVEMENTS TO KING'S LANDING UNIT 11
CORPUS CHRISTI, NUECES CO., TX

OFFSITE DRAINAGE CHANNEL PLAN AND PROFILE

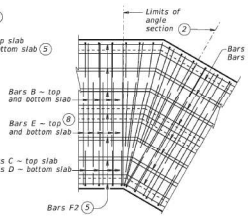
DATE:
FILE:



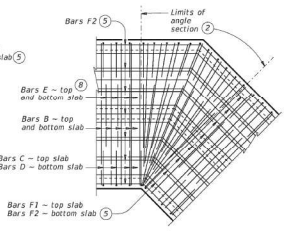
PLAN OF SKEWED ENDS ~ FROM 0° TO 15° (7)



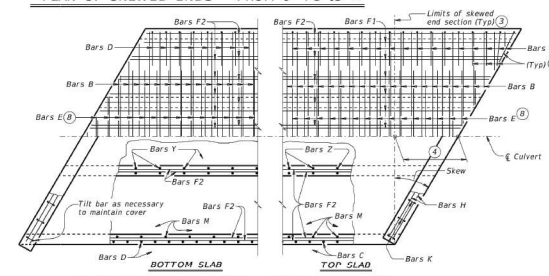
PLAN OF ANGLE SECTION ~ FROM 0° TO 15°



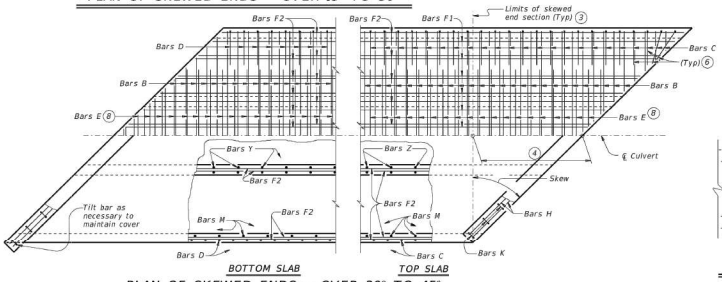
PLAN OF ANGLE SECTION ~ OVER 15° TO 30°



PLAN OF ANGLE SECTION ~ OVER 30° TO 45°



PLAN OF SKEWED ENDS ~ OVER 15° TO 30°



PLAN OF SKEWED ENDS ~ OVER 30° TO 45°

(1) For skewed box culverts with less than 2'-0" of fill, break back the top slab to provide a 1'-10" minimum lap of the existing longitudinal bars with the longitudinal bars in the extension.
For non-skewed box culverts with less than 2'-0" of fill and for skewed or non-skewed culverts with a fill depth of 2'-0" or greater, break back the top slab to provide a 1'-10" minimum lap of the existing longitudinal bars with the longitudinal bars in the extension. Alternatively, if the box is non-skewed, embed #6 anchor bars with a Type III, Class C, D, E, or F anchor adhesive into the existing walls, top and bottom slab at 1'-6" center-to-center spacing. Minimum embedment depth is 8". Anchor adhesive chosen must be able to achieve a basic bond strength in tension, Nba, of 26.4 kips. Submit signed and sealed calculations or the manufacturer's published literature showing the proposed anchor adhesive's ability to develop this load to the Engineer for approval prior to use. Anchor installation, including hole size, drilling, and clean out, must be in accordance with Item 450, "Railing." Test adhesive anchors in accordance with Item 450.3.3, "Tests." Test 3 anchors per 100 anchors installed.
Break back wings and apron as necessary to install the extension. Clean and extend the exposed wingwall and apron reinforcing into the extension. When lengthening existing box culverts with dimensions different than current standard dimensions, form horizontal and vertical transitions as directed by the Engineer. Match bottom slabs to maintain an uninterrupted flow line. Field bend existing and new reinforcing into transitions and maintain specified cover requirements. For top slabs of culverts with overlay, with 1-to-2 course surface treatment, or with the top slab as the final riding surface, adjust the "H" dimension to provide a smooth riding surface.

(2) When the spacing between Bars B or Bars E becomes less than half of the normal spacing, cut bars to avoid conflict.

(3) The length of Bars B and Bars E will vary in the skewed end sections.

(4) [One half of overall width] x [tangent of the skew angle]

(5) Place Bars F1 and F2 continuously through the angle section. Bend Bars F1 and F2 to remain parallel to the walls of the box culvert.

(6) When necessary to avoid conflict in acute corners, shorten the slab extension leg of Bars C and Bars D to a minimum of 1'-6" for skews of 30° thru 45°.

(7) At the Contractor's option, for skews of 15° or less, place Bars B, C, D, and E parallel to the skewed end while maintaining spacing along centerline of box. Increase lengths of Bars B and Bars E shown on the Multiple Box Culverts Cast-in-Place (MC) standard sheets to accommodate the skew.

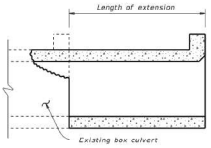
(8) Extend Bars E as shown on the MC standard sheet for direct traffic culverts.

CONSTRUCTION NOTES:
Do not use permanent forms.
When required, lap Bars H 1'-8" for uncoated or galvanized bars.
Provide a minimum of 1 ½" clear cover.

MATERIAL NOTES:
Provide Grade 60 reinforcing steel.
Provide galvanized reinforcing steel, if required elsewhere in the plans.
Provide Class S concrete (f'_c = 3,600 psi) with these exceptions:
provide Class S concrete (f'_c = 4,000 psi) for top slabs of culverts with overlay, with 1-to-2 course surface treatment, or with the top slab as the final riding surface.

GENERAL NOTES:
Designed according to AASHTO LRFD Bridge Design Specifications.
Refer to Multiple Box Culverts Cast-in-Place (MC) standard sheets for details of straight sections of culvert.
For skewed sections and angle sections, refer to Multiple Box Culverts Cast-in-Place (MC) standard sheets for slab and wall dimensions, bar sizes, maximum bar spacing, and any other details not shown.
For skewed ends with curbs, adjust length of Bars H, number of Bars K, curb concrete volume, and reinforcing steel weight by dividing the values shown on the Multiple Box Culverts Cast-in-Place (MC) standard sheets by the cosine of the skew angle.

Cover dimensions are clear dimensions, unless noted otherwise.



LENGTHENING DETAIL (1)

HL93 LOADING

Texas Department of Transportation — Bridge Division Standard

MULTIPLE BOX CULVERTS CAST-IN-PLACE MISCELLANEOUS DETAILS

MC-MD

FILE: CD-MC-MD-20.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS	DIST	COUNTY		SHEET NO.

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

STATE OF TEXAS
NIXON M. WELSH
36240
REGISTERED
PROFESSIONAL
ENGINEER
06/03/25

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

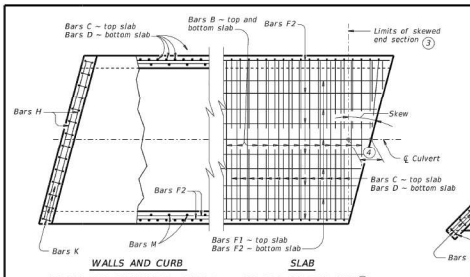
PUBLIC IMPROVEMENTS TO
KING'S LANDING UNIT 11
CORPUS CHRISTI, NUECES CO., TX

TXDOT MULTIPLE BOX CULVERT MISC DETAILS

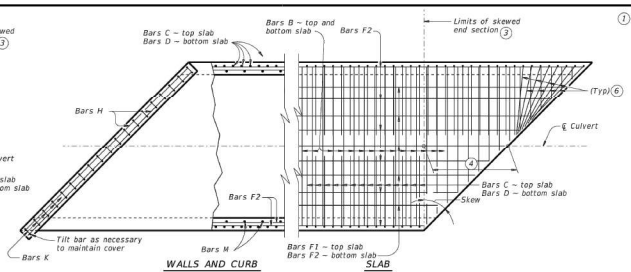
DWN: ____ PLOT SCALE: 1" = 60'
CHK: N. WELSH SCALE (H): AS SHOWN
SCALE (V): AS SHOWN
DATE PLOTTED: 06/03/25
COM. NO. TXDOT MISC MISC
JOB NO. 24008
SHEET 25 OF 25

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

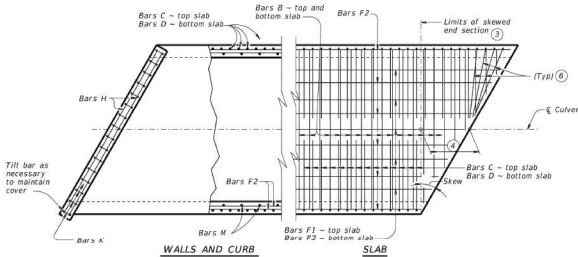
DATE:
FILE:



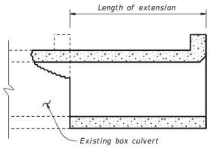
PLAN OF SKEWED ENDS ~ FROM 0° TO 15° (1)



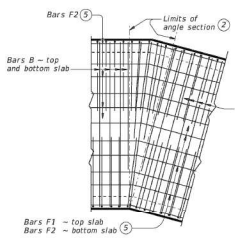
PLAN OF SKEWED ENDS ~ OVER 30° TO 45°



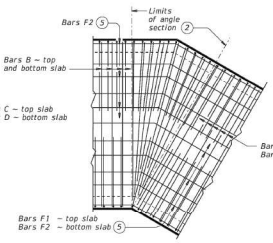
PLAN OF SKEWED ENDS ~ OVER 15° TO 30°



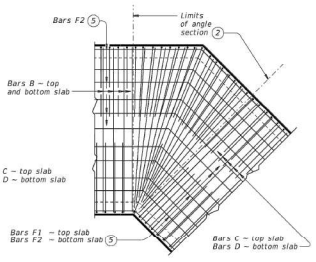
LENGTHENING DETAIL (1)



PLAN OF ANGLE SECTION ~ FROM 0° TO 15°



PLAN OF ANGLE SECTION ~ OVER 15° TO 30°



PLAN OF ANGLE SECTION ~ OVER 30° TO 45°

(1) For skewed box culverts with less than 2'-0" of fill, break back the top slab to provide a 1'-10" minimum lap of the existing longitudinal bars with the longitudinal bars in the extension.
For non-skewed box culverts with less than 2'-0" of fill and for skewed or non-skewed culverts with a fill depth of 2'-0" or greater, break back the top slab to provide a 1'-10" minimum lap of the existing longitudinal bars with the longitudinal bars in the extension. Alternatively, if the box is non-skewed, embed #6 anchor bars with a Type II, C, D , E, or F anchor adhesive into the existing walls, top and bottom slab at 1'-6" center-to-center spacing. Minimum embedment depth is 8". Anchor adhesive chosen must be able to achieve a basic bond strength in tension, Nba, of 26.4 kips. Submit signed and sealed calculations or the manufacturer's published literature showing the proposed anchor adhesive's ability to develop this load to the Engineer for approval prior to use. Anchor installation, including hole size, drilling, and clean out, must be in accordance with Item 450, "Railing." Test adhesive anchors in accordance with Item 450.3.3, "Tests." Test 3 anchors per 100 anchors installed.
Break back wings and apron as necessary to install the extension. Clean and extend the exposed wingwall and apron reinforcing into the extension. When lengthening existing box culverts with dimensions different than current standard dimensions, form horizontal and vertical transitions as directed by the Engineer. Match bottom slabs to maintain an uninterrupted flow line. Field bend existing and new reinforcing into transitions and maintain specified cover requirements. For top slabs of culverts with overlay, with 1-to-2 course surface treatment, or with the top slab as the final riding surface, adjust the "H" dimension to provide a smooth riding surface.

(2) When the spacing between Bars B becomes less than half of the normal spacing, cut bars to avoid conflict.

(3) The length of Bars B vary in the skewed end sections.

(4) [One half of overall width] x [tangent of the skew angle]

(5) Place Bars F1 and F2 continuously through the angle section. Bend Bars F1 and F2 to remain parallel to the walls of the box culvert.

(6) When necessary to avoid conflict in acute corners, shorten the slab extension leg of Bars C and Bars D to a minimum of 1'-6" for skews of 30° thru 45°.

(7) At the Contractor's option, for skews of 15° or less, place Bars B, C, and D parallel to the skewed end while maintaining spacing along centerline of box. Increase lengths of Bars B shown on the Single Box Culverts Cast-In-Place (SCC) standards sheets to accommodate the skew.

CONSTRUCTION NOTES:
Do not use permanent forms.
When required, lap Bars H 1'-8" for uncoated or galvanized bars.
Provide a minimum of 1 ½" clear cover.

MATERIAL NOTES:
Provide Grade 60 reinforcing steel.
Provide galvanized reinforcing steel, if required elsewhere in the plans.
Provide Class C concrete (f'_c = 3,600 psi) with these exceptions: provide Class S concrete (f'_c = 4,000 psi) for top slabs of culverts with overlay, with 1-to-2 course surface treatment, or with the top slab as the final riding surface.

GENERAL NOTES:
Designed according to AASHTO LRFD Bridge Design Specifications.
Refer to Single Box Culverts Cast-in-Place (SCC) standard sheets for details of straight sections of culvert.
For skewed sections and angle sections, refer to Single Box Culverts Cast-in-Place (SCC) standard sheets for slab and wall dimensions, bar sizes, maximum bar spacing, and any other details not shown.
For skewed ends with curbs, adjust length of Bars H, number of Bars K, curb concrete volume, and reinforcing steel weight by dividing the values shown on the culvert Single Box Culverts Cast-In-Place (SCC) standard sheets by the cosine of the skew angle.

Cover dimensions are clear dimensions, unless noted otherwise.

HL93 LOADING

Texas Department of Transportation | Bridge Division Standard

SINGLE BOX CULVERTS CAST-IN-PLACE MISCELLANEOUS DETAILS

SCC-MD

FILE: CD-SCC-MD-20.dgn	DW: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS	DIST	COUNTY		SHEET NO.

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

STATE OF TEXAS
NIXON M. WELSH
36240
REGISTERED
PROFESSIONAL
ENGINEER
06/03/25

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

PUBLIC IMPROVEMENTS TO
KING'S LANDING UNIT 11
CORPUS CHRISTI, NUECES CO., TX

TXDOT SINGLE BOX CULVERT MISCELLANEOUS DETAILS

DWN: ____ CHK: N. WELSH
PLOT SCALE: 1" = 60'
SCALE (X): AS SHOWN
SCALE (Y): AS SHOWN
DATE PLOTTED: 06/03/25
COM. NO: TXDOT SBC MISC
JOB NO: 24008
SHEET 25 OF 25

EXHIBIT 3

GEOTECHNICAL ENGINEERING REPORT

Proposed King's Landing Unit 11
Various Streets
Corpus Christi, Texas

PSI Project No. 03123568-3

PREPARED FOR:

MPM Development, LP
P.O. Box 331308
Corpus Christi, TX 78463

BY:

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

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

MPM Development, LP
P.O. Box 331308
Corpus Christi, TX 78463

Attn: Mr. Moses Mostaghasi

RE: GEOTECHNICAL ENGINEERING REPORT
PROPOSED KING'S LANDING UNIT 11
VARIOUS STREETS
CORPUS CHRISTI, TEXAS
PSI Project No. 03123568-3

Mr. Mostaghasi:

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

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

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

Respectfully submitted,

PROFESSIONAL SERVICE INDUSTRIES, INC.
Texas Board of Professional Engineers Certificate of Registration # F003307

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

Dexter Bacon, P.E.
Chief Engineer

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 11 project. Mr. Moses Mostaghasi representing MPM Development, authorized PSI's services on 6/9/2025 by signing PSI Proposal No. 384952. PSI's proposal contained a proposed scope of work, lump sum fee, and PSI's General Conditions.

1.2 PROJECT DESCRIPTION

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

TABLE 1.1: GENERAL PROJECT DESCRIPTION

Project Items	**New streets for a new King's Landing Unit 11 residential development**
Existing Grade Change within Building Pad Area	Relatively Flat
Existing Grade Change within Project Site Area	± 2 feet (estimated from Google Earth)
Finished Floor Elevation	Not Provided
Pavement for Parking and Drives	RCC Pavement

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

1.3 PURPOSE AND SCOPE OF SERVICES

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

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

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

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

2.0 SITE AND SUBSURFACE CONDITIONS

2.1 Site Description

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

Table 2.1: Site Description

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

2.2 Field Exploration

Field exploration for the project consisted of drilling a total of 17 borings. The boring design element, boring labels, approximate depths and drilling footage are provided in the following table.

Table 2.2: Field Exploration Summary

Design Element	Number of Borings	Boring Depth (ft)	Drilling Footage (feet)
Pavement	15	10	130
Pavement/Utilities	2	20	40
TOTAL:	**17**		**170**

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

TABLE 2.3: FIELD EXPLORATION DESCRIPTION

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

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

2.3 LABORATORY TESTING PROGRAM

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

TABLE 2.4: LABORATORY TESTING PROGRAM

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

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

2.4 SITE GEOLOGY

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

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

2.5 Subsurface Conditions

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

Table 2.5: Generalized Soil Profile

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

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

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

2.5.1 Groundwater Information

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

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

3.0 GEOTECHNICAL EVALUATION AND RECOMMENDATIONS

3.1 Geotechnical Discussion

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

3.2 Potential Vertical Movement of Expansive Soils

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

3.2.1 Shrink/Swell Movement (PVM) Estimate

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

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

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

3.3 Utility Excavation and Lateral Earth Pressure Considerations

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

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

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

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

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

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

3.4 Discussion of Bedding and Backfill Materials

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

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

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

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

3.5 EXCAVATION AND SHORING CONSIDERATIONS

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

TABLE 3.1: EXCAVATION AND SHORING DATA

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

A lateral earth pressure of 120 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.

3.6 SITE SEISMIC DESIGN RECOMMENDATIONS

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

TABLE 3.2: RECOMMENDED DESIGN SEISMIC PARAMETERS

Seismic Parameter	IBC 2018
0.2 sec (S_S)	0.064g

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

4.0 PAVEMENT DESIGN RECOMMENDATIONS

4.1 Pavement Design Parameters

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

Table 4.1: Pavement Design Parameters and Assumptions

Reliability, percent	70 for Residential Street 75 for Local Residential Collector 80 for Minor Residential Collector (C1) 90 for Secondary Collector Street (C2)
Design Life	30 Years
Initial Serviceability Index	4.5
Terminal Serviceability Index	2.5
Traffic Load	Residential Street: 50,000 ESALs Local Residential Collector: 200,000 ESALs Minor Residential Collector (C1): 1,200,000 ESALs Secondary Collector Street (C2): 2,000,000 ESALs
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	200 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. The pavement section thickness of approximately 15 to 16 inches would reduce the anticipated PVR to approximately 2 ½ inches. It is our opinion that this magnitude of PVR can be primarily resisted considering a concrete or RCC pavement section.

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

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

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

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

4.2 Pavement Section Recommendations

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

4.2.1 Roller Compacted Concrete Pavement

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

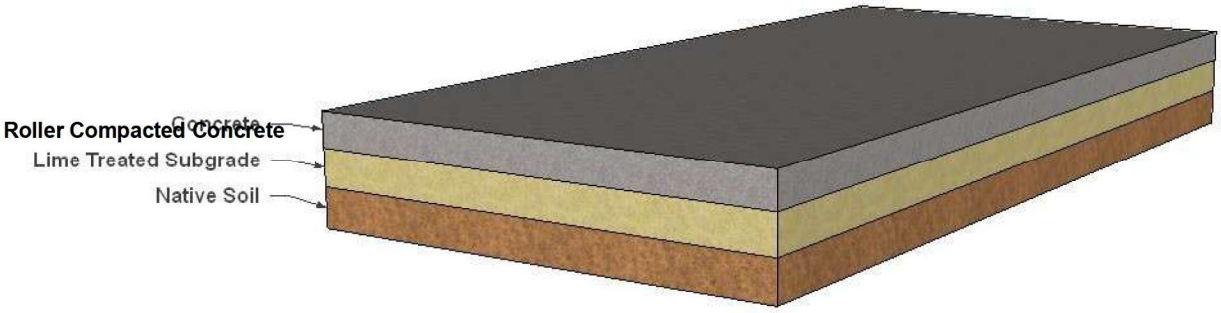


FIGURE 4.1: ROLLER COMPACTED CONCRETE PAVEMENT TYPICAL SECTION

TABLE 4.2: ROLLER COMPACTED CONCRETE PAVEMENT DESIGN THICKNESS

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

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

4.2.2 GENERAL PAVEMENT DESIGN AND CONSTRUCTION RECOMMENDATIONS

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

TABLE 4.3: PAVEMENT PROFILE DESIGN AND CONSTRUCTION RECOMMENDATIONS

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

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

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 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 Onsite Soil (Subgrade)	ASTM D698	≥ 95%	0 to +4%	1 per 7,500 SF; min. 3 tests
	General Fill (Onsite Material)	ASTM D698	≥ 95%	0 to +4%	1 per 10,000 SF; min. 3 per lift
	RCC Pavement	ASTM D1557	≥ 95%	---	Single Lift 1 per 500 CY or
	RCC Pavement	ASTM 1170	≥ 98%		Single Lift 1 per 500 CY

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 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 revisions to the plans for this project, or if deviations from the subsurface conditions noted in this report are encountered during construction, PSI should be notified immediately to determine if changes in the foundation recommendations are required. If PSI is not notified of such changes, PSI will not be responsible for the impact of those changes on the project.

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

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

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

APPENDIX

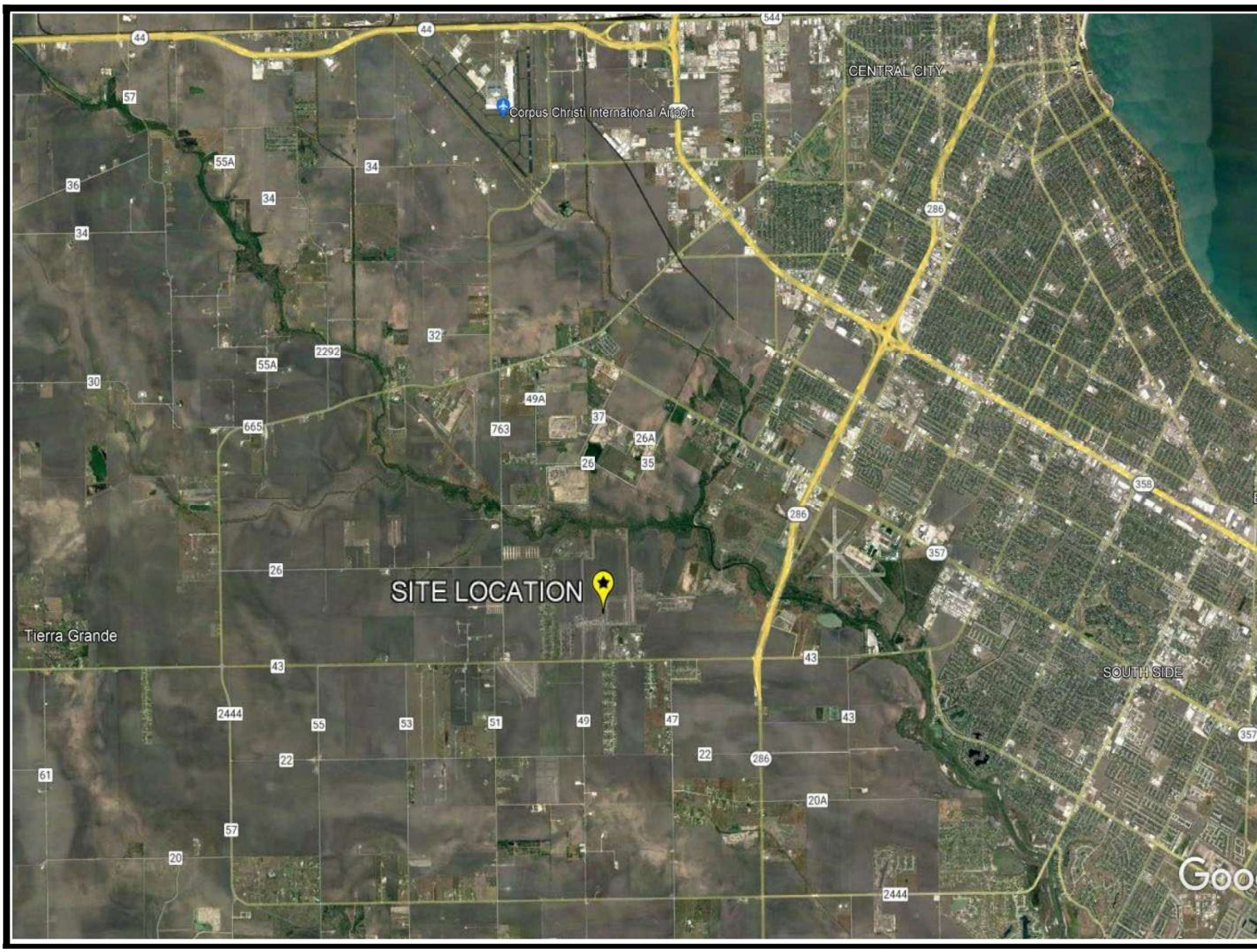

CENTRAL CITY
Corpus Christi International Airport
SITE LOCATION
Tierra Grande
SOUTH SIDE

EXHIBIT 4

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

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

3054 S. Alameda St.

9/8/2025

Kings Landing Unit 11 - Cost
Oversize Lady Alexa Dr. & Castle Black Dr.

Lady Alexa Dr

Cost of Oversized Street

ITEM	DESCRIPTION	QUANTITY	UNIT	COST	TOTAL
1	8" PCCP/ RCCP TO LIP OF GUTTER	4011	SY	$ 95.00	$ 381,045.00
2	12" LIME STABILIZED SUBGRADE TO 2'BC	4332	SY	$ 45.00	$ 194,940.00
3	12" PORTLAND CEMENT STABILIZED SUBGRADE TO 2'BC	4332	SY	$ 35.00	$ 151,620.00
4	EXCAVATION TO 2' BC	4332	SY	$ 4.00	$ 17,328.00
					$ 744,933.00

Cost of Residential Street

ITEM	DESCRIPTION	QUANTITY	UNIT	COST	TOTAL
1	7" PCCP/RCCP TO LIP OF GUTTER	2246	SY	$ 72.00	$ 161,712.00
2	8" LIME STABILIZED SUBGRADE TO 2'BC	2567	SY	$ 28.00	$ 71,876.00
3	8" PORTLAND CEMENT STABILIZED SUBGRADE TO 2'BC	2567	SY	$ 22.00	$ 56,474.00
4	EXCAVATION TO 2' BC	2567	SY	$ 4.00	$ 10,268.00
					$ 300,330.00

CITY PORTION EQUALS DIFFERENCE IN CONSTRUCTION COST $ 444,603.00

Castle Black Dr

Cost of Oversized Street

ITEM	DESCRIPTION	QUANTITY	UNIT	COST	TOTAL
1	8" PCCP/ RCCP TO LIP OF GUTTER	3090	SY	$ 95.00	$ 293,550.00
2	12" LIME STABILIZED SUBGRADE TO 2'BC	3337	SY	$ 45.00	$ 150,165.00
3	12" PORTLAND CEMENT STABILIZED SUBGRADE TO 2'BC	3337	SY	$ 35.00	$ 116,795.00
4	EXCAVATION TO 2' BC	3337	SY	$ 4.00	$ 13,348.00
					$ 573,858.00

Cost of Residential Street

ITEM	DESCRIPTION	QUANTITY	UNIT	COST	TOTAL
1	7" PCCP/RCCP TO LIP OF GUTTER	1730	SY	$ 72.00	$ 124,560.00
2	8" LIME STABILIZED SUBGRADE TO 2'BC	1978	SY	$ 28.00	$ 55,384.00
3	8" PORTLAND CEMENT STABILIZED SUBGRADE TO 2'BC	1978	SY	$ 22.00	$ 43,516.00
4	EXCAVATION TO 2' BC	1978	SY	$ 4.00	$ 7,912.00
					$ 231,372.00

CITY PORTION EQUALS DIFFERENCE IN CONSTRUCTION COST $ 342,486.00

TOTAL OF LADY ANDREA DIFFERENCE AND CASTLE BLACK DIFFERENCE	$ 787,089.00
11% ENGINEERING, SURVERYING, & TESTING	$ 86,579.79
7% CONTINGENCY	$ 55,096.23
2% BOND	$ 15,741.78
TOTAL AMOUNT REIMBURSABLE	**$ 944,506.80**

EXHIBIT 5

PERFORMANCE BOND **BOND NO.**_____

Developer as Principal

Name:

Mailing 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

Contract

Title of Agreement:

For Subdivision:

Award Date of the Contract:

Total Project Cost/Bond Sum:

Bond

Date of Bond:

(Date of Bond cannot be earlier than Award Date of the Contract)

Surety

Name:

Mailing address *(principal place of business)*:

Physical address *(principal place of business)*:

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.

Telephone *(main number)*:

Telephone *(for notice of claim)*:

Local Agent for Surety

Name:

Address:

Telephone:

E-Mail Address:

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)*:

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

Contract

Title of Agreement:

For Subdivision:

Award Date of the Contract:

Total Project Cost/Bond Sum:

Bond

Date of Bond:

(Date of Bond cannot be earlier than Award Date of Contract)

Surety

Name:

Mailing address *(principal place of business)*:

Physical address *(principal place of business)*:

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.

Telephone *(main number)*:

Telephone *(for notice of claim)*:

Local Agent for Surety

Name:

Address:

Telephone:
E-Mail Address:

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

City of Corpus Christi

CITY OF CORPUS CHRISTI

DISCLOSURE OF INTEREST

Corpus Christi Code § 2-349, 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". See next page for Filing Requirements, Certification and Definitions.

COMPANY NAME: MPM Development, LP

STREET ADDRESS: 2301 Airline Rd Ste 209 **P.O. BOX:** 331308

CITY: Corpus Christi **STATE:** Texas **ZIP:** 78463

FIRM IS: 1. Corporation ☐ 2. Partnership ☒ 3. Sole Owner ☐
4. Association ☐ 5. Other ☐ _____

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)

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

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 (Moses) Mostaghasi	Capital Improvement Advisory Commity

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

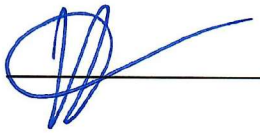
FILING REQUIREMENTS

If a person who requests official action on a matter knows that the requested action will confer an economic benefit on any City official or employee that is distinguishable from the effect that the action will have on members of the public in general or a substantial segment thereof, you shall disclose that fact in a signed writing to the City official, employee or body that has been requested to act in the matter, unless the interest of the City official or employee in the matter is apparent. The disclosure shall also be made in a signed writing filed with the City Secretary. [Ethics Ordinance Section 2-349 (d)].

CERTIFICATION

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 (Moses) Mostaghasi Title: General Partner

Signature of Certifying Person:  Date:

DEFINITIONS

a. "Board member." A member of any board, commission, or committee of the city, including the board of any corporation created by the city.

b. "Economic benefit". An action that is likely to affect an economic interest if it is likely to have an effect on that interest that is distinguishable from its effect on members of the public in general or a substantial segment thereof.

c. "Employee." Any person employed by the city, whether under civil service or not, including part-time employees and employees of any corporation created by the city.

d. "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.

e. "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.

f. "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 holdings or control established through voting trusts, proxies, or special terms of venture or partnership agreements.

g. "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.