

**CITY OF SAN ANTONIO
TRANSPORTATION & CAPITAL IMPROVEMENTS**

RECEIPT OF ADDENDUM NUMBER(S) #1 IS HEREBY ACKNOWLEDGED FOR PLANS AND
SPECIFICATIONS FOR CONSTRUCTION OF BLANCO ROAD PHASE II

FOR WHICH BIDS WILL BE OPENED ON 01/13/15

THIS ACKNOWLEDGEMENT MUST BE SIGNED AND RETURNED WITH THE BID
PACKAGE.

Company Name: _____

Address: _____

City/State/Zip Code: _____

Date: _____

Signature

Print Name/Title

ADDENDUM NO. 1

**CITY OF SAN ANTONIO
TRANSPORTATION & CAPITAL IMPROVEMENTS**

**PROJECT NAME:
BLANCO ROAD PHASE II**

DATE: DECEMBER 4, 2014

ADDENDUM NO. 1

This addendum should be included in and be considered part of the plans and specifications for the name of the project. The contractor shall be required to sign an acknowledgement of the receipt of this addendum and submit with their bid. Where provisions of the following supplementary data differ from those of the original Construction Documents, the Addendum shall govern and take precedence.

CIMS PROJECT NO.: 40-00004



D. Costales
12/4/14

CHANGES TO BID DOCUMENTS:

1. Substitute and utilize the revised "FORM 025 UNIT PRICING FORM"
 - a. Revised Description for Item 110.5.2 CONSTRUCTION MONITORING AND OVERSIGHT OF AOCS 6 AND 7
 - b. Revised Description for Item 110.6.1 PREPARATION AND SUBMITTAL OF A SPECIFIC WASTE MANAGEMENT PLAN
 - c. Revised Description for Item 110.7.1 PREPARATION AND SUBMITTAL OF ENVIRONMENTAL OVERSIGHT REPORT
2. Substitute and utilize the attached revised "SPECIAL ENVIRONMENTAL SPECIFICATIONS FOR THE WASTE MANAGEMENT PLAN"

CHANGES TO BID DOCUMENTS:

1. Revised Plan Sheet 12
 - a. Revised Description for Item 110.5.2 CONSTRUCTION MONITORING AND OVERSIGHT OF AOCS 6 AND 7
 - b. Revised Description for Item 110.6.1 PREPARATION AND SUBMITTAL OF A SPECIFIC WASTE MANAGEMENT PLAN
 - c. Revised Description for Item 110.7.1 PREPARATION AND SUBMITTAL OF ENVIRONMENTAL OVERSIGHT REPORT
-

**SPECIAL ENVIRONMENTAL SPECIFICATIONS FOR
THE WASTE MANAGEMENT PLAN**

***For Blanco Road (Edison to Jackson Keller), Phase 2
San Antonio, Bexar County, Texas***

WBS# 40-00290

Environmental Project Code: 01-582C7-033CIPI

* * *

Prepared by:

**City of San Antonio
Transportation and Capital Improvements Department
Environmental Management Division
San Antonio, Texas**

* * *

December 3, 2014

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SPECIAL ENVIRONMENTAL SPECIFICATIONS

Introduction

As part of the 2012-2017 Bond Program, Proposition I, the City of San Antonio (City), San Antonio Water System (SAWS), and City Public Service (CPS) are in the process of constructing drainage (storm water), sanitary sewer, water, gas, street and sidewalk improvements along Blanco Road. For the purpose of this bid document, the project and specifications have been divided into two segments: 1) **Segment 2** from STA 42+00 to 76+00 (Edison Street to Lovera Blvd. East) and 2) **Segment 4** from STA 110+42.03 to 138+90.25 (Olmos Creek North Bank to Gilbert Lane). [See Figure 1].

From May to November 2010, an environmental site investigation was performed by the City of San Antonio's environmental consultant, to determine the presence or absence of impacted media from known or suspect historical releases in the vicinities of adjacent fueling stations, automotive body shops, dry cleaners, etc. within the project limits (Blanco, from Hildebrand to Jackson Keller). Results of this investigation identified several areas of known impacted soils within the project area. However, for the purpose of this bid document, five (5) areas of concern (AOC) were identified in **Segment 2** and two (2) in **Segment 4**, totaling seven (7) areas of concern (see Figures 2 through 11), where affected soils and groundwater may be potentially encountered. *Please note, the areas of concern listed in these specifications numerically do not correlate with the areas of concern included in the Environmental Consultant's Phase II Environmental Site Assessment (ESA). For clarifications purposes, the figures exhibits showing the areas of concern in these specifications are numbered different from the areas of concern depicted in the Phase II ESA report.*

A review of the subsurface investigations and final design plans dated August 2014, revealed several areas where subsurface soils might have been impacted by metals, hydrocarbons and volatile organic compounds. For the purpose of this project, The Contractor shall make every effort to reuse impacted soils at the station limits described in these specifications. Excess soils from the areas identified in Table 1 and not reused on the project are classified as Class 2 non-hazardous soils, based on the laboratory results and should be disposed of to a TCEQ authorized landfill. In the event, that the Contractor cannot reuse the impacted soils, the Contractor will be required to provide documentation to support this justification.

Soils excavated from areas not addressed in this document and that do not exhibit signs of contamination (i.e., odor, discoloration, visual observation of

fuel, etc.) shall be handled as non-impacted material and staged separately from suspect impacted soils. Soils from the suspected impacted areas identified in this document will require management in accordance with a Waste Management Plan (WMP) to be prepared by the Contractor's Environmental Consultant.

Construction practices must comply with all applicable regulations concerning the prevention of stormwater pollution, as detailed in City's Storm Water Pollution Prevention Plan (SWP₃) Manual. New fill materials, such as topsoil placed in City right-of-way (ROW) must be obtained from a certified clean source outside the project limits. The Contractor shall provide documentation to the City's inspector to support this requirement.

Decontamination of equipment must be conducted prior to moving from a suspected impacted area to a non-impacted area. It is highly recommended to start first with the non-impacted areas and to move to the potentially impacted areas. The Contractor shall be required to document decontamination procedures and waste generated as part of decontaminating of heavy equipment and trucks. Soils from potentially impacted areas shall not be tracked on roadways. Any soils tracked onto roadways shall be immediately removed.

Appropriate decontamination shall be conducted within a designated area where it is possible to contain and collect decontamination-generated fluids and solids. These decontamination wastes shall be placed into appropriate containers for characterization and profiling prior to final disposal. The Contractor may, at their discretion, place the decontamination waste with the suspect impacted soil. It is acceptable to use dry methods to decontaminate the heavy equipment (remove the dry soil from the equipment tires).

Copies of the subsurface investigation report titled "Phase II Environmental Site Assessment for Blanco Road (Jackson Keller to Hildebrand)," dated September, 2011, is available for review and may be obtained from the TCI Sr. Environmental Project Manager, Ms. Lety Arzate at (210) 207-1408 or by email at: Leticia.Arzate@sanantonio.gov. **Only electronic copies will be provided.**

ITEM 110
ENVIRONMENTAL AND SAFETY CONCERNS
HANDLING OF IMPACTED MEDIA

110.1 DESCRIPTION

This item consists of the evaluation, management, transportation, and disposal of excavated impacted soils; site safety and hazardous materials training; development and implementation of a Site Specific Health and Safety Plan and a Waste Management Plan, in accordance with the specification requirements outlined below.

ITEM 110.2
MANAGEMENT, TRANSPORTATION AND DISPOSAL OF IMPACTED
SOILS

Soils at locations identified in Table 1 "Environmental Project Data Summary" may contain or have the potential to contain petroleum hydrocarbons, heavy metals and volatile organic compounds (VOCs) contamination. Tables 2 through 8 provide the maximum detected contaminant concentrations associated with the impacted locations for each area of concern. Management of the affected soil shall be governed at a minimum by the following management procedures and guidelines.

In Areas of Concern (AOCs) 1 through 5, low levels of hydrocarbons, VOCs or heavy metals (below regulatory levels for construction worker exposure), were encountered during the subsurface assessment. Information from the previous construction activities of Blanco Road (Phase 1 of the project), indicate that once the excavation trench is open, even with low levels of hydrocarbons, the potential for vapor migration into the trench is high, requiring air monitoring and environmental oversight for the workers. For the purpose of this project, the City's environmental consultant will be mobilized during the first day of the excavation activities at AOCs 1 through 5. If the City's consultant detects vapors in the excavation, the Contractor's environmental consultant will be required to mobilize immediately to provide environmental oversight and air monitoring activities for their construction workers (item 110.8.1). The Contractor's environmental consultant should be in a stand-by mode for this work. If City's environmental consultant determines that no vapors or contaminants are migrating to the trench, the Contractor's environmental consultant will not be required to provide oversight for that specific area of concern. This determination will be assessed on each Area of Concern from 1 through 5.

Also, the Contractor's environmental consultant will be responsible for providing environmental oversight and air monitoring activities for their construction workers in **Areas of Concern (AOCs) 6 and 7 at any proposed depth of the improvements.** The environmental consultant must be on-site to perform air-monitoring activities for workers working in AOC 6 and 7 since the beginning when the Contractor cuts the trench. **It is the Contractor's responsibility to ensure that environmental oversight is provided during construction for AOCs 6 and 7 at all times.**

The purpose of the monitoring is to assess the potential vapors or dust arising from construction activities and potential exposure to construction workers in the affected areas. Additionally, the City or its representative will provide environmental oversight to ensure the Contractor complies with the Health and Safety Plan and the Waste Management Plan in accordance with Federal, State, and Local regulations.

The specific areas, station numbers and cross-sections, and locations of the impacted areas in ***Segments 2 and 4*** are provided in Table 1 and Figures 2 through 11. Specific procedures required for handling impacted media from the different areas of concern (AOC 1 through AOC 7) are listed below:

Areas of Concern 1 through 7

The Contractor should reuse all impacted soil within the affected areas to minimize waste volume during construction. The City strongly recommends the Contractor to manage affected soils by reusing potentially impacted soils in all areas of concern (AOC). The proposed improvements located in these affected areas are described in Table 1.

The impacted media generated during construction in all Areas of Concern (AOCs), for both ***Segments 2 and 4***, shall be managed by reusing as much as the impacted material as possible. Excess soils that cannot be reused (the Contractor must provide a justification for this situation) must be disposed of at a licensed TCEQ landfill. The Contractor will be required to coordinate and notify the City's representative/consultant 48 hours in advance prior to beginning work in the different Areas of Concern.

The soils suspected to be clean (deemed by the City's environmental consultant) will be segregated separate from the impacted soils. It is acceptable to store impacted soils in roll-off containers, or at a staging facility designated by the Contractor until the excavation is ready to be filled again. After the installation of the different utilities and the required backfill media, impacted soil should be used first to fill the excavation before clean soil is utilized. This procedure only applies to areas described in Table 1.

Excess clean soils should be handled as they are handled in a non-impacted project.

Contaminants that would be potentially encountered in the project from the areas included in Table 1 can be classified as Class 2 Non-hazardous waste. All potentially impacted soils must be managed in accordance with applicable Federal, State, and Local regulations. Management of these wastes is governed by the Texas Commission for Environmental Quality (TCEQ) waste requirements.

If impacted soils cannot be reused; then, the Contractor must properly excavate, remove, and dispose of the soils. The impacted media shall be transported and disposed of at a facility authorized by the TCEQ to accept such materials. The Contractor's consultant should be also obtaining a preliminary waste disposal authorization from the disposal facility selected by the Contractor for disposal of approximately 4,700 loose or truck cubic yards of impacted media. **However, the City anticipates most of the soils, if not all the soils, to be reused in the project.** The City's consultant will be responsible for signing waste manifest.

In some instances, the disposal facility may require additional sampling of the excavated soils for waste characterization purposes. It will be the Contractor's consultant responsibility to conduct additional soil sampling and analyses, if necessary. The selected disposal facility shall be approved by the City, prior to beginning work in affected areas.

If the Contractor needs to store temporarily the impacted soils in roll-off containers before landfill approval, payment of line items 110.2.15 through 110.2.18 will be paid based on a daily rate of one container. If one or more containers are needed, this line item will be paid according to factual quantities. The City will only pay one extra day after the landfill has approved the soil disposal. If Contractor chooses to leave the soils in the container for future transportation, the Contractor will be responsible for the additional days.

When transporting the impacted soils, it is the Contractor's responsibility to ensure all dump trucks used to transport this waste are equipped with operating tarps. If the tarps are not effective, the City's inspector or City's representative will remove trucks from this project. The City inspector or City's representative will also determine if trucks need to be lined with polyethylene sheeting or not.

The Contractor will be required to obtain all necessary permits to transport and waste manifest to dispose of affected media at a licensed landfill. Specifically, the trucks transporting the affected material will be required to

have a solid waste haulers permit. This permit is a local requirement and will be verified prior to beginning work in the affected area. In the event the permit is not obtained or available, the inspector will immediately remove the truck from the construction project. Additionally, trucks hauling affected media to a licensed landfill without this permit are subject to a fine by the City of San Antonio, Code Enforcement Department. The Contractor will be required to provide documentation of truck information, such as company, truck numbers, permit numbers, etc.

If necessary, the Contractor shall notify the City's Inspector or City's representative at least 48 hours in advance of hauling impacted soil to the approved landfill. Waste manifests shall be used to transport impacted materials from the impacted areas to the final disposal site(s). The City's Inspector or City's representative will obtain and sign the waste manifests as the generator for the impacted soils. Copies of the disposal records for the soils shall be provided to the Contractor's Environmental Consultant and waste manifest not used for this project must be returned to the City Inspector. The Contractor's environmental consultant will be responsible for preparing a final report documenting the air monitoring, oversight activities, copies of the waste manifest and a log of the quantities transported to the landfill on daily basis.

The City shall be notified immediately when impacted soils and/or groundwater are encountered at locations not identified in this document. The notification should include the station numbers, specific points, exact locations, type of impacted media, evidence of impact, and measures taken to contain the impacted media and prevent public access. The contaminated soil and/or groundwater shall not be removed from the location without prior City's approval. The notification must be done to the TCI Inspector **and** the TCI Environmental Project Manager.

The total estimated quantity of impacted soil to be excavated for all areas of concern (*Segment 2 and Segment 4*) is approximately 4,700 loose or truck cubic yards. The excavation of soils will not be paid for separately, but it will be subsidiary to the various bid items governing the excavation for the project, and the installation of storm drain and utilities.

The bid proposal estimated quantities for transportation and disposal (if needed) is based on the best information available as a result of the environmental investigation and in no way correlates to actual payment made for Bid Item 110.2. Final payment for Bid Item 110.2 will be based entirely on actual quantities of materials verified by the City's Inspector or City's representative, or if the soils are disposed by the quantities accepted by, the TCEQ certified landfill facility and approved by the City. If the final

quantities are higher than the figures provided in this document, the amounts will be prorated based on the line items submitted by the Contractor on their bid document. Five percent of the total amounts of pay Item 110.2 will be withheld until all disposal documentation is received by the City.

110.2 Contractor Bid Items – Transportation and Disposal of Impacted Soils

110.2.1 Transportation to Disposal Facility [COSA, *Segment 2, includes storm drainage and roadway*] (Estimated Quantity: 2,777 loose or truck cubic yards) Refer to Bid Item 110.2.1

110.2.2 Transportation to Disposal Facility [SAWS Water, *Segment 2*] (Estimated Quantity: 183 loose or truck cubic yards) Refer to Bid Item 110.2.2

110.2.3 Transportation to Disposal Facility [CPS, *Segment 2*] (Estimated Quantity: 43 loose or truck cubic yards) Refer to Bid Item 110.2.3

110.2.4 Transportation to Disposal Facility [COSA, *Segment 4, includes storm drainage and roadway*] (Estimated Quantity: 1,377 loose or truck cubic yards) Refer to Bid Item 110.2.4

110.2.5 Transportation to Disposal Facility [SAWS Water, *Segment 4,*] (Estimated Quantity: 123 loose or truck cubic yards) Refer to Bid Item 110.2.5

110.2.6 Transportation to Disposal Facility [SAWS Sewer, *Segment 4*] (Estimated Quantity: 156 loose or truck cubic yards) Refer to Bid Item 110.2.6

110.2.7 Transportation to Disposal Facility [CPS, *Segment 4*] (Estimated Quantity: 39 loose or truck cubic yards) Refer to Bid Item 110.2.7

110.2.8 Landfill Disposal [COSA, *Segment 2, includes storm drainage and roadway*] (Estimated Quantity: 2,777 loose or truck cubic yards, Class 2 Non-hazardous) Refer to Bid Item 110.2.9

110.2.9 Landfill Disposal [SAWS Water, *Segment 2*] (Estimated Quantity: 183 loose or truck cubic yards, Class 2 Non-hazardous) Refer to Bid Item 110.2.9

110.2.10 Landfill Disposal [CPS, *Segment 2*] (Estimated Quantity: 43 loose or truck cubic yards, Class 2 Non-hazardous) Refer to Bid Item 110.2.10

110.2.11 Landfill Disposal [COSA, *Segment 4, includes storm drainage and roadway*] (Estimated Quantity: 1,377 loose or truck cubic yards, Class 2 Non-hazardous) Refer to Bid Item 110.2.11

110.2.12 Landfill Disposal [SAWS Water, *Segment 4*] (Estimated Quantity: 123 loose or truck cubic yards, Class 2 Non-hazardous) Refer to Bid Item 110.2.12

110.2.13 Landfill Disposal [SAWS Sewer, *Segment 4*] (Estimated Quantity: 156 loose or truck cubic yards, Class 2 Non-hazardous) Refer to Bid Item 110.2.13

110.2.14 Landfill Disposal [CPS, *Segment 4*] (Estimated Quantity: 39 loose or truck cubic yards, Class 2 Non-hazardous) Refer to Bid Item 110.2.14

110.2.15 Roll-off Containers [COSA, *Segments 2 and 4, includes storm drainage and roadway*] (Estimated Quantity: Rental of one container for a daily rate for 90 days) Refer to Bid Item 110.2.15

110.2.16 Roll-off Containers [SAWS Water, *Segments 2 and 4*] (Estimated Quantity: Rental of one container for a daily rate for 90 days) Refer to Bid Item 110.2.16

110.2.17 Roll-off Containers [SAWS Sewer, *Segments 2 and 4*] (Estimated Quantity: Rental of one container for a daily rate for 90 days) Refer to Bid Item 110.2.17

110.2.18 Roll-off Containers [CPS, *Segments 2 and 4*] (Estimated Quantity: Rental of one container for a daily rate for 90 days) Refer to Bid Item 110.2.18

**ITEM 110.3
SITE SAFETY AND HAZARDOUS MATERIALS TRAINING**

Because of the potential for exposure to hazardous materials, all contractors, employees, and subcontractors working in or near the areas of suspected or known impacted media shall be required to have successfully completed a 40-hour Hazardous Waste Operations and Emergency Response (HAZWOPER) course in accordance with the Occupational Safety and Health

Administration (OSHA) guidelines contained in 29 Code of Federal Regulations 1910.120 and retain current certification in such. The site health and safety supervisor shall have completed the 8-hour HAZWOPER Supervisory Training course.

The Contractor shall be responsible for providing this training to their employees and subcontractors' employees. The Contractor shall make current completion certifications available for inspection at any time during the project. **All workers laboring in the Areas of Concern 1 through 7 must have obtained a HAZWOPER certification. There is no payment item for this training.**

ITEM 110.4
REMOVAL, STORAGE, TREATMENT AND/OR DISPOSAL OF IMPACTED
AND NON-IMPACTED GROUNDWATER

During the course of the project, water, either stormwater or groundwater, may accumulate in the excavations in the different Areas of Concern. It is in the best interest of the Contractor to provide soil berms or other protective measures around the excavated trench to prevent water intrusion. A figure depicting protective measures for stormwater intrusion is shown on Figure 12, "Open Excavation Run-on Prevention."

During the course of the Phase II ESA, Subsurface Investigation, they were areas where groundwater was encountered, and other areas did not exhibit any moisture. Since the assessment was performed on 2010, the conditions of the transportation/drainage project might have changed. Groundwater at locations identified in Table 1 (AOCs 1 through 7), have the potential to contain contamination, if the groundwater has been in contact with the impacted soils. Tables 2 through 8 provide the maximum detected contaminant concentrations associated with the impacted soils and groundwater locations. Management of this waste shall be governed at a minimum by the following management procedures and guidelines.

Groundwater sampling results in the Area of Concern 7 indicate that the concentrations encountered are above levels for direct disposal into the stormwater or sanitary sewer system. As necessary for construction, groundwater in this area shall be removed, stored (if necessary), and properly disposed of. It will be the Contractor's responsibility to determine appropriate handling practices. In the event that the Contractor decides to store the groundwater in a temporary frac tank, the Contractor will be required to provide a certification that the tank is free of contaminants and to identify a staging area that is approved by the City Inspector. The

contractor shall comply with all Federal, State, and local regulations governing the disposal of contaminated water.

Appropriate methods for disposal of this groundwater may include: (a) Disposal at an authorized disposal facility. This facility must be authorized by all applicable Federal, State, and local agencies to accept such waste. This option would require the contractor to remove, containerize, test, transport, and dispose of the water at an authorized Texas Commission on Environmental Quality (TCEQ) disposal facility; or (b) Pre-treatment and subsequent disposal via San Antonio Water System (SAWS). This option would require the contractor to remove, treat the water to below SAWS pretreatment standards, test, and dispose of the water through the sanitary sewer system. Coordination with the San Antonio Water System (SAWS) would be required for this option. A permit must be obtained prior starting this task; or (c) The impacted water can be pumped into a vacuum truck and properly disposed at a licensed treatment facility accepting this waste.

The Contractor shall notify the City's Inspector or City's representative at least 48 hours in advance of hauling impacted groundwater to the disposal site. Waste manifests shall be used to transport impacted groundwater from the impacted areas to the final disposal site(s). The City's Inspector or City's representative will sign the manifests as the generator for the impacted groundwater. Copies of the disposal records for the groundwater shall be submitted to the City's Inspector. The City's inspector will forward these documents to the Transportation and Capital Improvements Department, Environmental Management Division.

The estimated quantity of suspect impacted groundwater to be disposed of is approximately 10,000 gallons. This item shall govern the removal, storage, testing, transport, treatment, and/or disposal of impacted groundwater removed from the area of concern (**for Segments 2 and 4**). Removal and disposal of impacted groundwater shall be measured by the gallon of water actually disposed by manifest or by meter. Under no circumstances shall the Contractor exceed the unit quantity without first obtaining authorization from the City. In the event that the Contractor exceeds the unit quantity, the City will retest and/or re-evaluate the water to determine if it is still contaminated. In the event that the water is non-contaminated, the Contractor shall dispose of the water as clean and no additional compensation will be given to the contractor. Payment for this item will be made at the contract unit price for Removal and Disposal of Impacted Groundwater. Final payment for bid Item 110.4 will be based entirely on actual quantities of materials verified by the City Inspector or City environmental consultant, or accepted by the TCEQ certified landfill facility and approved by the City. Five percent of the total amounts of pay Item

110.4 will be withheld until all disposal documentation are received by the City.

110.4. Contractor Bid Items

110.4.1 Removal, Storage and Treatment of Impacted Groundwater (COSA, Segments 2 and 4, Estimated Quantity: 2,500 gallons) Refer to Bid Item 110.4.1

110.4.2 Disposal of Impacted Groundwater (COSA, Segments 2 and 4, Estimated Quantity: 2,500 gallons) Refer to Bid Item 110.4.2

110.4.3 Removal, Storage and Treatment of Impacted Groundwater (SAWS Sewer, Segments 2 and 4, Estimated Quantity: 2,500 gallons) Refer to Bid Item 110.4.3

110.4.4 Disposal of Impacted Groundwater (SAWS Sewer, Segments 2 and 4, Estimated Quantity: 2,500 gallons) Refer to Bid Item 110.4.4

110.4.5 Removal, Storage and Treatment of Impacted Groundwater (SAWS Water, Segments 2 and 4, Estimated Quantity: 2,500 gallons) Refer to Bid Item 110.4.5

110.4.6 Disposal of Impacted Groundwater (SAWS Water, Segments 2 and 4, Estimated Quantity: 2,500 gallons) Refer to Bid Item 110.4.6

110.4.7 Removal, Storage and Treatment of Impacted Groundwater (CPS, Segments 2 and 4, Estimated Quantity: 2,500 gallons) Refer to Bid Item 110.4.7

110.4.8 Disposal of Impacted Groundwater (CPS, Segments 2 and 4, Estimated Quantity: 2,500 gallons) Refer to Bid Item 110.4.8

ITEM 110.5 SITE SPECIFIC HEALTH AND SAFETY PLAN

The Contractor shall prepare and implement a Site Specific Health and Safety (H&S) Plan. The Contractor shall also provide a competent environmental consultant who will comply and implement the Site Specific H&S Plan. The Contractor's environmental consultant shall also be responsible for providing environmental oversight, air monitoring and aiding

the Contractor, City Inspector(s), and/or City's representative to coordinate handling and disposition of impacted soils at the construction site.

The Contractor's H&S Plan must comply with applicable regulations contained in 29 CFR 1910.120. The Contractor should review and apply the standards found in Section 1910.120 (Hazardous Waste Operations), Subsection M (Personal Protective Equipment), and Subsection Z (Toxic and Hazardous Substances). Additionally, the Contractor should review and incorporate into the H&S Plan all relevant construction procedures, which are regulated by Section 1926. The H&S Plan shall be submitted to the City of San Antonio, Environmental Management Division for approval, and to the attention of the Environmental Project Manager prior beginning construction activities in the impacted areas. **Once the Contractor H&S Plan is complete and acknowledged by TCI Environmental, the Contractor may begin construction activities in the affected areas.**

Where the various sections of the Occupational Safety and Health Administration (OSHA) regulations require specific subplans/programs, such as Confined Space, Lockout/Tagout, Hazard Communication, Excavation and Trenching, etc., written documentation shall be developed by the Contractor that is specific for the potential hazards associated with this construction effort. This is in addition to standard OSHA requirements for this type of construction project. Appropriate traffic control devices and location access and limitation devices shall be utilized according to applicable regulations and the approved H&S Plan.

The H&S Plan shall include at a minimum the following information:

- 1) A health and safety risk analysis for each location, task, or operation to be performed by the Contractor.
- 2) A description of the training to be provided to location workers to comply with 29 CFR 1910.120(f).
- 3) List of engineering controls, work practices, and personal protective equipment to be provided by the Contractor to the Contractor's employees for each task or operation to be performed. These must comply with 29 CFR 1910.120(g).
- 4) A description of the frequency and type of air monitoring to be provided to comply with 29 CFR 1910.120(h), including the concentrations of contaminants or air constituents that will cause the Contractor to take actions to increase or decrease protective measures.
- 5) A description of location control measures to be used to comply with 29 CFR 1910.120(d).

- 6) A decontamination plan to comply with requirements of 29 CFR 1910.120(k). This plan must address both personnel and equipment decontamination and disposal of decontamination-generated fluids and materials.
- 7) An emergency response and spill containment plan to comply with 29 CFR 1910.120(i and j).
- 8) A confined space entry program to comply with 29 CFR 1910.146.
- 9) An excavation safety program to comply with 29 CFR 1926, Subpart P.
- 10) A location map, with a route and phone number, to the nearest emergency medical facility.
- 11) Personal Protective Equipment (PPE) levels shall be defined as appropriate to location contaminant concentrations in order to maintain worker safety.
- 12) A route map showing the closest medical facility to the site.
- 13) A truck route map showing the designated route from the project site to the closest medical facility.

The Contractor shall add additional elements to the H&S Plan, as required, for the safe execution of the project. The Contractor must include a written statement that they are committed to employing/enforcing the H&S Plan and will be implemented for all project operations. All workers and visitors to the site shall be informed of the H&S Plan and shall sign a statement acknowledging their commitment to following the procedures of the H&S Plan. The Contractor will be required to submit a finalized copy of the H&S Plan, a copy of the 40-hour HAZWOPER training certifications, and a copy of the 8 hour supervisory training certificates of all employees qualified to work within the impacted areas to the City of San Antonio, Environmental Management Division (EMD), prior to beginning construction. TCI EMD will review the submittals and determine whether the contractor meets the requirements or not.

The following tables should be used by the Contractor to develop the H&S Plan. Table 1 provides the stations numbers where impacted media might be encountered, the type of media impacted and the type of contaminant to be encountered.

Tables 2 through 8 provide a summary of impacted soil and groundwater locations identified by specific points within the project limits in the different Areas of Concern. The table also presents the maximum detected level of contaminants concentrations (TPH, BTEX, VOC, SVOC, etc.) identified at the sampled locations within the project limits within the AOCs.

There is the possibility that other contaminants could be encountered within the project limits. If the Contractor suspects additional contamination or impacted media outside the designated areas, the Contractor shall notify immediately the City's inspector, and/or City's representative.

This work will be paid under Item 110.5.1, "Site Specific Health and Safety Plan," and includes all time, materials, and labor required to prepare the required document. This document must be prepared with specific information for the project. Generic documents will not be accepted.

In addition, under this bid item, the contractor will be required to have an environmental consultant to provide air monitoring for their construction workers, as required in the H&S Plan, for AOCs 6 and 7. Oversight is required for the installation of **all** utilities, independently of the depth, in all the areas included in Segment 4 outlined in Table 1. This work will be paid under Item 110.5.2, "Construction Monitoring and Oversight for AOCs 6 and 7", and includes all time, materials and labor required to provide air monitoring and environmental oversight services for construction workers. Please note that this bid item must be billed on a daily rate basis. The total estimated days for construction monitoring and oversight in both areas is 50 days.

110.5 Contractor Bid Items

110.5.1 Development of a Site Specific Health and Safety Plan (Segments 2 and 4, Lump Sum) - - Refer to Bid Item 110.5.1

110.5.2 Construction Monitoring and Oversight for AOCs 6 & 7 (Daily Rate – Estimated days – 50 days - - Refer to Bid Item 110.5.2

ITEM 110.6 WASTE MANAGEMENT PLAN

The Contractor is required to prepare a Waste Management Plan outlining a description on how the impacted media would be handled during construction. With information provided in Tables 1 through 8, the Contractor's Consultant shall provide a plan to reuse the impacted soils and

a description of how the groundwater will be removed, treated and/or disposed.

If treatment of the groundwater is the selected method prior to disposal, the Contractor's Consultant must obtain a permit from SAWS prior beginning the project. Cost associated with the permit should be included in the different line items of Item 110.4 Removal, Storage, Treatment and/or Disposal of Impacted and Non-impacted Groundwater.

All potentially impacted soils and groundwater must be managed in accordance with applicable Federal, State, and Local regulations. Management of these wastes is governed by the Texas Commission for Environmental Quality (TCEQ) waste requirements.

The Contractor is required to submit their Waste Management Plan to TCI Environmental Project Manager for approval prior beginning work in the known and potential impacted areas.

110.6 Contractor Bid Item

110.6.1 Preparation and Submittal of a specific Waste Management Plan, refer to Bid Item 110.6.1

Item 110.7 ENVIRONMENTAL OVERSIGHT REPORT

Upon completion of the project, the Contractor's environmental consultant is required to submit a final report for this project. The environmental report shall include but not be limited to: number of environmental oversight days, air monitoring frequency and results, total cubic yards of impacted media removed and disposed (if needed), total number of gallons of impacted water, and a summary of the environmental activities.

This report will be paid under Item 110.7.1, "Preparation and Submittal of Environmental Oversight Report", and will be paid once the report is received and approved by TCI Environmental Project Manager.

110.7 Contractor Bid Item

110.7.1 Preparation and Submittal of Environmental Oversight Report – Refer to Bid Item 110.7.1

Item 110.8 ALLOWANCE

In the event that air monitoring and environmental oversight services is needed in AOC 1 through 5, the Contractor is required to have an environmental consultant on a standby mode for the five AOCs located in Segment 2. The City's environmental consultant will be present when excavation activities start in any of the areas of concern located in Segment 2 of the project. If the City's environmental consultant determines that vapors and/or dust are meeting the regulatory levels for worker exposure in any AOCs in Segment 2, the Contractor will be required to mobilize their environmental consultant immediately to the area where the vapor/dust is being detected. Contractor must meet OSHA Code of Federal Regulations 1910.120, when personnel are working in the presence of hazardous materials.

In the event that the City's representative discovers an area of concern requiring construction monitoring and oversight, the Contractor will mobilize their environmental consultant to provide oversight and air monitoring. Cost to perform this function must be submitted on a time and material basis, and completed under force account requirements. The City will negotiate the daily rate of consultant services. Since not all areas may require monitoring and oversight services, costs will be handled separately for each AOC.

Each contractor shall include an allocation of \$100,000 for this allowance item. **This allocation is not to exceed \$100,000 and payment will be contingent upon time Contractor consultant spent on the different Areas of Concern.**

110.8.1 Allowance – Refer to Bid Item 110.8.1 and include \$100,000.

TABLES

**TABLE 1
ENVIRONMENTAL PROJECT DATA SUMMARY
Blanco Road (Jackson Keller to Hildebrand), Phase 2
Areas of Concern 1 through 7**

AOC No.	Project Design Data				Environmental Data			On-Site Monitoring Required
	Nearest Cross Street	From Station No.	To Station No.	Improvements Of Concern	Impacted Media		Contaminant Type	
					Groundwater	Soil		
1	Edison St. and Lee Hall St.	43+50 (Blanco Rd., west side of the street)	45+40	Water, gas, storm drainage, sidewalks, street	Not encountered, but potential to be impacted	No, but potential to be impacted Soils generated from the excavation from the surface to the proposed utility excavation depth are considered class 2, non-hazardous and must be reused.	Petroleum Hydrocarbons	Potentially ¹
2	Clower and W. Hermosa Drive	53+00 (Blanco Rd., west side of the street)	54+00	Water, gas, storm drainage, sidewalks, and street	Not encountered, but potential to be impacted	No, but potential to be impacted Soils generated from the excavation from the surface to the proposed utility excavation depth are considered class 2, non-hazardous and must be reused.	Volatile Organic Compounds (VOCs) and heavy metals	Potentially ¹

3	Clower and W. Hermosa Drive	54+00 (Blanco Rd., west side of the street) 10+00 (Hermosa Drive west)	55+30 10+74	Water, storm drainage, sidewalks, and street	Not encountered, but potential to be impacted	Yes, low levels of impacts Soils generated from the excavation from the surface to the proposed utility excavation depth are considered class 2, non-hazardous and must be reused.	Heavy Metals and potentially petroleum hydrocarbons	Potentially ¹
4	W. Mariposa and W. Mandalay Drive	61+10 (Blanco Rd., west and east sides of the street) 10+00 (Mariposa Drive east)	63+50 10+93.00	Water, gas, storm drainage, sidewalks, and street	Not encountered, but potential to be impacted	Low levels of impacts Soils generated from the excavation from the surface to the proposed utility excavation depth are considered class 2, non-hazardous and must be reused.	Volatile Organic Compounds (VOCs) and heavy metals	Potentially ¹
5	Lovera Blvd. West and Lovera Blvd. East	73+20 (Blanco Rd., east side the street)	74+60	Water, gas, sidewalks, and street	Not encountered, but potential to be impacted	No, but potential to be impacted Soils generated from the excavation from the surface to the proposed utility excavation depth are considered class 2, non-hazardous and must be reused.	Potentially Petroleum Hydrocarbons	Potentially ¹

6	North bank of Olmos Creek and Gilbert Lane	110+42.03 (Blanco Rd., west side of the street) 10+00 (Burnwood Lane)	113+00 11+50	Sewer, water, gas, storm drainage, and sidewalks, and street	No, but potential to be impacted	Yes Soils generated from the excavation from the surface to the proposed utility excavation depth are considered class 2, non-hazardous and must be reused.	Volatile Organic Compounds (VOCs) and heavy metals	Yes ²
7	North bank of Olmos Creek and Gilbert Lane	115+00 (Blanco Rd., east side of the street)	116+50	Sewer, water, gas, storm drainage, and sidewalks, and street	Yes	Yes Soils generated from the excavation from the surface to the proposed utility excavation depth are considered class 2, non-hazardous and must be reused.	Petroleum hydrocarbons	Yes ²

AOC – Areas of concern

1. On site monitoring will be provided if the City's environmental consultant determines that vapors are coming into the trench excavation. For these AOCs, the Contractor's environmental consultant must be on a standby mode. If vapors are detected in the excavation, the City's environmental consultant will contact the Contractor to mobilize immediately their environmental consultant to the project site.
2. Onsite monitoring must be provided by Contractor's environmental consultant for workers handling impacted materials. COSA's environmental consultant is responsible for providing environmental oversight and monitoring to ensure that impacted media is properly excavated, transported, and disposed of to a licensed landfill and contractor is in compliance with the waste management plan to be prepared for this project.

**TABLE 2
 MAXIMUM MEDIA CONTAMINATION RESULTS
 Blanco Road (Jackson Keller to Hildebrand), Phases 2 and 4
 Areas of Concern 1 through 7**

	AOC No. 1 Soil (mg/kg)	AOC No. 1 Soil (mg/kg)	AOC No. 1 Groundwater (mg/L)	TRRP Tier 1 PCLs TotSoil _{comb} (mg/kg)*	Texas Specific Background Levels (mg/kg)*	TRRP Tier 1 PCLs GWSoil _{lnq} (mg/kg)*	TRRP Tier 1 PCLs GW _{GW_{lnq}} (mg/kg)	TRRP Tier 1 PCLs air _{air} GW _{GW_{lnq-v}} (mg/kg)
Depth bgs	3 to 5 feet (AOC55-1)	5 to 10 feet (AOC55-2)						
Chemicals of Concern								
TPH, TX1005, C6- C12	BRL	BRL	NE	1,600	NL	65	0.98	1,800
TPH, TX1005, >C12- C28	BRL	BRL	NE	2,300	NL	200	0.98	7,500
TPH, TX1005, >C28- C35	BRL	BRL	NE	2,300	NL	200	0.98	7,500
TPH, TX1005, >C6- C35	BRL	BRL	NE	NL	NL	NL	NL	NL
FID Readings	2,400	2,400	NE	NA	NA	NA	NA	NA

Bolded value indicated that concentration has exceeded the PCL for that chemical.

PCLs: Protective Concentration Levels

bgs: below ground surface

ND: non-detect

NL: No listed

BRL: Below Reporting Limits

NA: Non-Applicable

NE: Not encountered

FID: Flame Ionization Detector

**TABLE 3
MAXIMUM MEDIA CONTAMINATION RESULTS
Blanco Road (Jackson Keller to Hildebrand), Phases 2 and 4
Areas of Concern 1 through 7**

	AOC No. 2 Soil (mg/kg)	AOC No. 2 Soil (mg/kg)	AOC No. 2 Groundwater (mg/L)	TRRP Tier 1 PCLs TotSoil _{comb} (mg/kg)*	Texas Specific Background Levels (mg/kg)*	TRRP Tier 1 PCLs GW _{Soil_{ing}} (mg/kg)*	TRRP Tier 1 PCLs GW _{GW_{ing}} (mg/kg)	TRRP Tier 1 PCLs air _{GW_{Inh-V}} (mg/kg)
Depth bgs	1 to 2.5 feet (AOC53-1)	2.5 to 5 feet (AOC53-1)						
Chemicals of Concern								
TPH, TX1005, C6- C12	BRL	BRL	NE	1,600	NL	65	0.98	1,800
TPH, TX1005, >C12- C28	BRL	BRL	NE	2,300	NL	200	0.98	7,500
TPH, TX1005, >C28- C35	BRL	BRL	NE	2,300	NL	200	0.98	7,500
Toluene	0.002	0.002		5,900	NL	8.2	1.0	64,000
1,2,4- Trimethylbenzene	0.001	BRL	NE	150	NL	145	1.22	190
Arsenic	3.64	3.58	NE	24	5.9	5	0.01	NL
Barium	258	235	NE	8,100	300	440	2.0	NL
Lead	14.9	13	NE	500	15	3	0.015	NL
Selenium	0.633	0.519	NE	310	0.3	2.3	0.05	NL

Bolded value indicated that concentration has exceeded the PCL for that chemical.

PCLs: Protective Concentration Levels

bgs: below ground surface

ND: non-detect

NL: No listed

BRL: Below Reporting Limits

NA: Non-Applicable

NE: Not encountered

TABLE 4
MAXIMUM MEDIA CONTAMINATION RESULTS
Blanco Road (Jackson Keller to Hildebrand), Phases 2 and 4
Areas of Concern 1 through 7

	AOC No. 3 Soil (mg/kg)	AOC No. 3 Soil (mg/kg)	AOC No. 3 Groundwater (mg/L)	TRRP Tier 1 PCLs TotSoil _{comb} (mg/kg)*	Texas Specific Background Levels (mg/kg)*	TRRP Tier 1 PCLs GWSoil _{lnq} (mg/kg)*	TRRP Tier 1 PCLs GW _{GW_{lnq}} (mg/kg)	TRRP Tier 1 PCLs air _{air} GW _{Inh-V} (mg/kg)
Depth bgs	2.5 to 5 feet (AOC52-1)	5 to 7.5 feet (AOC52-2)						
Chemicals of Concern								
TPH, TX1005, C6- C12	BRL	BRL	NE	1,600	NL	65	0.98	1,800
TPH, TX1005, >C12- C28	BRL	BRL	NE	2,300	NL	200	0.98	7,500
TPH, TX1005, >C28- C35	BRL	BRL	NE	2,300	NL	200	0.98	7,500
TPH, TX1005, >C6- C35	BRL	BRL	NE	NL	NL	NL	NL	NL
Arsenic	9.91	6.6	NE	24	5.9	5	0.01	NL
Barium	450	908	NE	8,100	300	440	2.0	NL
Lead	25.5	15.8	NE	500	15	3	0.015	NL
Selenium	0.524	0.423	NE	310	0.3	2.3	0.05	NL

Bolded value indicated that concentration has exceeded the PCL for that chemical.

PCLs: Protective Concentration Levels

bgs: below ground surface

ND: non-detect

NL: No listed

BRL: Below Reporting Limits

NA: Non-Applicable

NE: Not encountered

**TABLE 5
MAXIMUM MEDIA CONTAMINATION RESULTS
Blanco Road (Jackson Keller to Hildebrand), Phases 2 and 4
Areas of Concern 1 through 7**

	AOC No. 4 Soil (mg/kg)	AOC No. 4 Soil (mg/kg)	AOC No. 4 Groundwater (mg/L)	TRRP Tier 1 PCLs TotSoil _{comb} (mg/kg)*	Texas Specific Background Levels (mg/kg)*	TRRP Tier 1 PCLs GWSoil _{ing} (mg/kg)*	TRRP Tier 1 PCLs GW _{ing} (mg/kg)	TRRP Tier 1 PCLs airGW _{Inh-V} (mg/kg)
Depth bgs	1 to 2.5 feet (AOC51-3)	1 to 2.5 feet (AOC50-1)						
Chemicals of Concern								
TPH, TX1005, C6- C12	BRL	BRL	NE	1,600	NL	65	0.98	1,800
TPH, TX1005, >C12- C28	BRL	BRL	NE	2,300	NL	200	0.98	7,500
TPH, TX1005, >C28- C35	BRL	42.8	NE	2,300	NL	200	0.98	7,500
TPH, TX1005, >C6- C35	BRL	42.8	NE	NL	NL	NL	NL	NL
1,2,4- Trimethylbenzene	0.002	NT	NE	130	NL	9.7	1.22	190
m, p-Xylenes	0.003	BRL	NE	8,900	NL	110	10	10,225
n-propylbenzene	0.002	NT	NE	2,200	NL	45	0.98	6,046
Selenium	0.537	NT	NE	310	0.3	2.3	0.05	NL

Bolded value indicated that concentration has exceeded the PCL for that chemical.

PCLs: Protective Concentration Levels

bgs: below ground surface

ND: non-detect

NL: No listed

BRL: Below Reporting Limits

NA: Non-Applicable

NE: Not encountered

TABLE 6
MAXIMUM MEDIA CONTAMINATION RESULTS
Blanco Road (Jackson Keller to Hildebrand), Phases 2 and 4
Areas of Concern 1 through 7

	AOC No. 5 Soil (mg/kg)	AOC No. 5 Soil (mg/kg)	AOC No. 5 Groundwater (mg/L)	TRRP Tier 1 PCLs TotSoil _{comb} (mg/kg)*	Texas Specific Background Levels (mg/kg)*	TRRP Tier 1 PCLs GW _{Soil_{ing}} (mg/kg)*	TRRP Tier 1 PCLs GW _{GW_{ing}} (mg/kg)	TRRP Tier 1 PCLs air _{GW_{Inh-V}} (mg/kg)
Depth bgs	2.5 to 5 feet (AOC47-2)	2.5 to 5 feet (AOC47-3)						
Chemicals of Concern								
TPH, TX1005, C6- C12	BRL	BRL	NE	1,600	NL	65	0.98	1,800
TPH, TX1005, >C12- C28	BRL	BRL	NE	2,300	NL	200	0.98	7,500
TPH, TX1005, >C28- C35	BRL	BRL	NE	2,300	NL	200	0.98	7,500
TPH, TX1005, >C6- C35	BRL	BRL	NE	NL	NL	NL	NL	NL
FID Readings	260	140	NE					

Bolded value indicated that concentration has exceeded the PCL for that chemical.

PCLs: Protective Concentration Levels

bgs: below ground surface

ND: non-detect

NL: No listed

BRL: Below Reporting Limits

NA: Non-Applicable

NE: Not encountered

FID: Flame Ionization Detector

**TABLE 7
MAXIMUM MEDIA CONTAMINATION RESULTS
Blanco Road (Jackson Keller to Hildebrand), Phases 2 and 4
Areas of Concern 1 through 7**

	AOC No. 6 Soil (mg/kg)	AOC No. 6 Soil (mg/kg)	AOC No. 6 Groundwater (mg/L)	TRRP Tier 1 PCLs TotSoil_{comb} (mg/kg)*	Texas Specific Background Levels (mg/kg)*	TRRP Tier 1 PCLs GWSoil_{ing} (mg/kg)*	TRRP Tier 1 PCLs GW_{ing} (mg/kg)	TRRP Tier 1 PCLs GW_{inh-v} (mg/kg)
Depth bgs	2.5 to 5.0 feet (AOC16-3)	1.5 to 2.5 feet (AOC16-2)						
Chemicals of Concern					These levels are for the VOCs			
1,2,4- Trimethylbenzene	0.003	0.002	NT*	130	NL	9.7	1.22	190
1,3,5- Trimethylbenzene	0.003	6.67 (arsenic)	NT*	110	NL	53	1.22	126
1,4- Dichlorobenzene	0.001	330 (barium)	NT*	250	NL	2.1	0.75	3,586
Ethylbenzene	0.002	0.652 (selenium)	NT*	5,300	NL	7.6	0.7	29,732
Isopropylbenzene	0.003	0.0582 (mercury)	NT*	4,300	NL	350	NL	NL
Napthalene	0.004	116 (lead)	NT*	220	NL	31	0.49	316
n-propylbenzene	0.008	0.002 (toluene)	NT*	2,200	NL	45	0.98	6,046
Sec-butylbenzene	0.004		NT*	2,100	NL	85	0.98	NL

Bolded value indicated that concentration has exceeded the PCL for that chemical.

PCLs: Protective Concentration Levels

bgs: below ground surface

ND: non-detect

NL: No listed

NA: Non-Available

NE: Not encountered

NT*: Water was not tested for these constituents, but TPH analyses were ND.

BRL: Below Reporting Limits

TABLE 8
MAXIMUM MEDIA CONTAMINATION RESULTS
Blanco Road (Jackson Keller to Hildebrand), Phases 2 and 4
Areas of Concern 1 through 7

	AOC No. 7 Soil (mg/kg)	AOC No. 7 Soil (mg/kg)	AOC No. 7 Groundwater (mg/L)	TRRP Tier 1 PCLs ^{Tot} Soil _{comb} (mg/kg)*	Texas Specific Background Levels (mg/kg)*	TRRP Tier 1 PCLs ^{GW} Soil _{ing} (mg/kg)*	TRRP Tier 1 PCLs ^{GW} GW _{ing} (mg/kg)	TRRP Tier 1 PCLs ^{air} GW _{Inh-V} (mg/kg)
Depth bgs	7.5 to 10 feet (AOC11-1)	10 to 12.5 feet (AOC12-1)						
Chemicals of Concern								
TPH, TX1005, C6- C12	77.5	228	7	1,600	NL	65	0.98	1,800
TPH, TX1005, >C12- C28	23	161	4.06	2,300	NL	200	0.98	7,500
TPH, TX1005, >C28- C35	BRL	BRL	0.0056 (ethylbenzene)	2,300	NL	200	0.98	7,500
TPH, TX1005, >C6- C35	100.5	389	0.0223 (xylenes)	NL	NL	NL	NL	NL

Bolded value indicated that concentration has exceeded the PCL for that chemical.

PCLs: Protective Concentration Levels

bgs: below ground surface

ND: non-detected

NL: No listed

NA: Non-Applicable

NE: Not encountered

NT: No tested

BRL: Below Reporting Limits

FIGURES

FIGURE 1

PROJECT LIMITS

FIGURES 2 THROUGH 11
CROSS SECTIONS OF ENVIRONMENTAL AREAS OF CONCERN
1 THROUGH 7

FOR LOCATION OF UNDERGROUND ELECTRIC AND GAS FACILITIES, TELEPHONE CABLES, AND TIME WARNER CABLE TV, CALL TEXAS STATE WIDE ONE CALL LOCATOR NUMBER 1-800-545-5885-48 HOURS PRIOR TO BEGINNING ANY EXCAVATION.

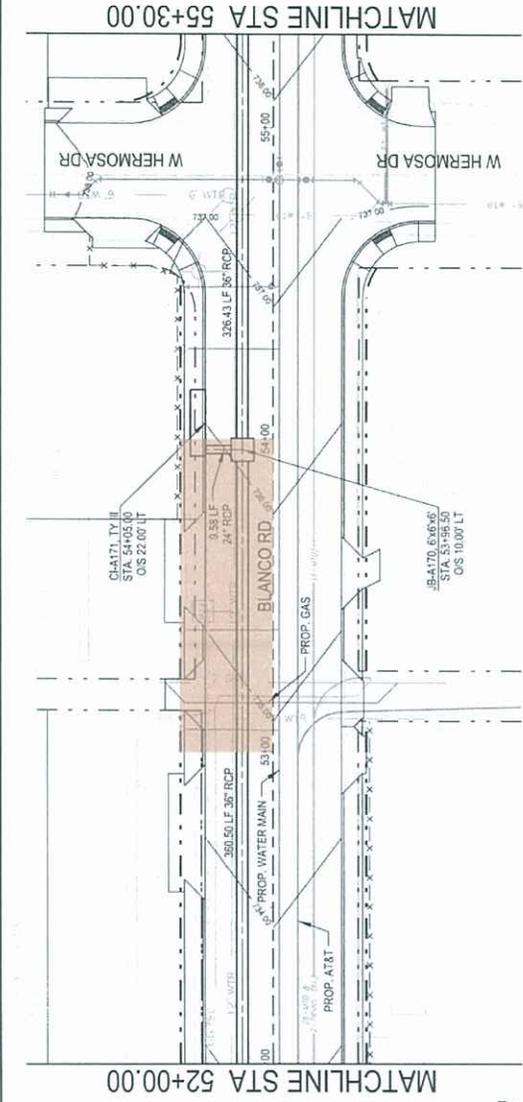
DUE TO FEDERAL REGULATION TITLE 49, PART 192.181, C.P.S. MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.

THE CONTRACTOR WILL BE RESPONSIBLE FOR PROTECTING C.P.S. OVERHEAD AND UNDERGROUND ELECTRIC FACILITIES IF ADJACENT TO WORK AREAS.

THE CONTRACTOR WILL HAVE RESPONSIBILITY TO PROTECT AND SUPPORT CABLE TV AND TELEPHONE COMPANY PLANT DURING CONSTRUCTION.

THE EXISTENCE AND LOCATION OF UTILITIES INDICATED ON THE PLAN ARE TAKEN FROM AVAILABLE RECORDS AND ARE NOT GUARANTEED TO BE ACCURATE.

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL SAFETY EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND SIGN AND DATE ANTICIPATED INSTALLATION SITES IN ORDER TO DEVELOP THE CONTRACTOR'S PLANS TO IMPLEMENT THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S PLANS SHALL PROVIDE FOR ADEQUATE TRENCH SHIELDING FOR TRENCH EXCAVATIONS, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL DEVELOP AND IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION



- PLAN VIEW LEGEND**
- CI = CURB INLET
 - JB = JUNCTION BOX
 - MH = MANHOLE
 - TI = TRAFFIC INLET
 - PROPOSED STRUCTURE
 - PROPOSED 1 FT CONTOURS
 - EXIST EDGE OF ROADWAY
 - EXISTING FEATURES
 - EXISTING RIGHT OF WAY
 - PROPOSED RIGHT OF WAY
 - UNDER TELEPHONE CABLE
 - SANITARY SEWER LINE
 - WATER LINE
 - UNDER ELECTRIC FENCE

SCALE
HORIZ: 1" = 40'
VERT: 1" = 10'

FINAL	EST	UNIT	DESCRIPTION
558.4		CY	Excavation Trenching 36" Dia. 100' LT
9.58		LF	Reinforced Concrete Pipe (RCP) Class III
324.08		LF	Reinforced Concrete Pipe (RCP) Class III
1		EA	Manhole Box 60" Dia
1		EA	Manhole Box 48" Dia
35.0		CY	Gravel Subgrade Filler
333.84		LF	Trench Excavation Safety Protection

PROPOSED WATER, SANITARY SEWER, TELEPHONE, AND GAS UTILITIES SHOWN ARE APPROXIMATE. SEE RELEVANT PLANS FOR DETAILS.

SYSTEM A

PROPOSED STRUCTURE
EXISTING CENTERLINE
PGL @ CENTER OF PIPE

PROPOSED STRUCTURE
EXISTING CENTERLINE
PGL @ CENTER OF PIPE

PROPOSED STRUCTURE
EXISTING CENTERLINE
PGL @ CENTER OF PIPE

PROPOSED STRUCTURE
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PROPOSED STRUCTURE
EXISTING CENTERLINE
PGL @ CENTER OF PIPE

PROPOSED STRUCTURE
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PROPOSED STRUCTURE
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PGL @ CENTER OF PIPE

PROPOSED STRUCTURE
EXISTING CENTERLINE
PGL @ CENTER OF PIPE

PROPOSED STRUCTURE
EXISTING CENTERLINE
PGL @ CENTER OF PIPE

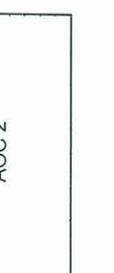
PROPOSED STRUCTURE
EXISTING CENTERLINE
PGL @ CENTER OF PIPE

PROPOSED STRUCTURE
EXISTING CENTERLINE
PGL @ CENTER OF PIPE

PROPOSED STRUCTURE
EXISTING CENTERLINE
PGL @ CENTER OF PIPE

PROPOSED STRUCTURE
EXISTING CENTERLINE
PGL @ CENTER OF PIPE

PROPOSED STRUCTURE
EXISTING CENTERLINE
PGL @ CENTER OF PIPE



PROPOSED STRUCTURE
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PGL @ CENTER OF PIPE

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PROPOSED STRUCTURE
EXISTING CENTERLINE
PGL @ CENTER OF PIPE

PROPOSED STRUCTURE
EXISTING CENTERLINE
PGL @ CENTER OF PIPE



CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS
MANAGEMENT SERVICES
DEPARTMENT

BLANCO ROAD PHASE II

FIGURE 3
AOC 2

FOR LOCATION OF UNDERGROUND ELECTRIC AND GAS FACILITIES, TELEPHONE CABLES, AND TIME WARNER CABLE TV CALL TEXAS STATE WIDE ONE CALL LOCATOR NUMBER 800-485-6889 24 HOURS PRIOR TO BEGINNING ANY EXCAVATION.

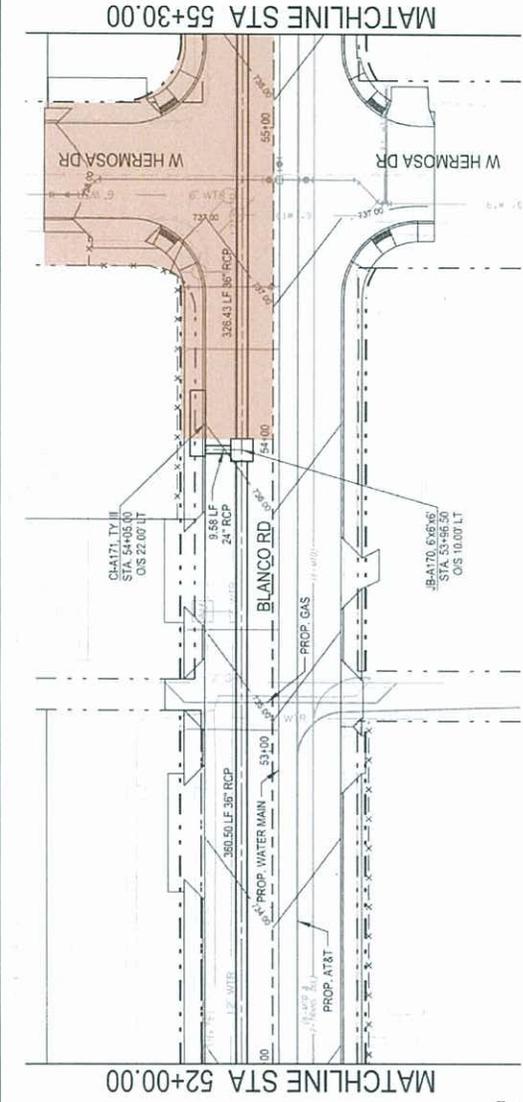
DUE TO FEDERAL REGULATION TITLE 49 PART 192.181, C.P.S. MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.

THE CONTRACTOR WILL BE RESPONSIBLE FOR PROTECTING C.P.S. OVERHEAD AND UNDERGROUND ELECTRIC FACILITIES IF ADJACENT TO WORK AREAS.

THE CONTRACTOR WILL HAVE RESPONSIBILITY TO PROTECT AND SUPPORT CABLE TV AND TELEPHONE COMPANY PLANT DURING CONSTRUCTION.

THE EXISTENCE AND LOCATION OF UTILITIES INDICATED ON THE PLAN ARE THOSE FROM RECORD DRAWINGS AND FIELD SURVEY. THEY ARE NOT GUARANTEED TO BE ACCURATE.

CONTRACTOR AND/OR CONTRACTORS INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL SAFETY EQUIPMENT CONSULTANT, IF ANY, SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY GEOTECHNICAL INFORMATION AND THE ORDER TO DEVELOP THE CONTRACTOR'S PLANS TO IMPLEMENT THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S PLANS SHALL PROVIDE FOR ADEQUATE TRENCH PROTECTION AND SHIELDING TO MEET ALL OSHA STANDARDS FOR TRENCH EXCAVATIONS. CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL DEVELOP AND IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.



PLAN VIEW LEGEND

- CI = CURB INLET
- JB = JUNCTION BOX
- MH = MANHOLE
- TI = TRAFFIC INLET
- PROPOSED STRUCTURE
- PROPOSED CURB
- PROPOSED FT CONTOURS
- EXIST EDGE OF ROADWAY
- EXISTING FEATURES
- EXISTING RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- INDOR TELEPHONE
- GAS LINE
- WATER SEWER LINE
- WATER ELECTRIC
- UNDER ELECTRIC
- FENCE



FINAL	EST	UNIT	DESCRIPTION
568.8		CY	Excavation Trenching 30" Dia. 100'
9.58		LF	Reinforced Concrete Pipe (24" Class II)
324.00		LF	Reinforced Concrete Pipe (36" Class II)
1		EA	Junction Box 8" x 8" x 8"
1		EA	Junction Box 8" x 8" x 8"
35.0		CY	Gravel Subgrade Filler
333.56		LF	Trench Excavation Safety Protection

PROPOSED WATER, SANITARY SEWER, TELEPHONE, AND GAS UTILITIES SHOWN ARE APPROXIMATE. SEE RELEVANT PLANS FOR DETAILS.

PROFILE VIEW LEGEND

- PROPOSED STRUCTURE
- EXISTING CENTERLINE
- PGL @ CENTER OF PIPE

*NOT PAID FOR DIRECTLY, SUBSIDIARY TO VARIOUS BID ITEMS

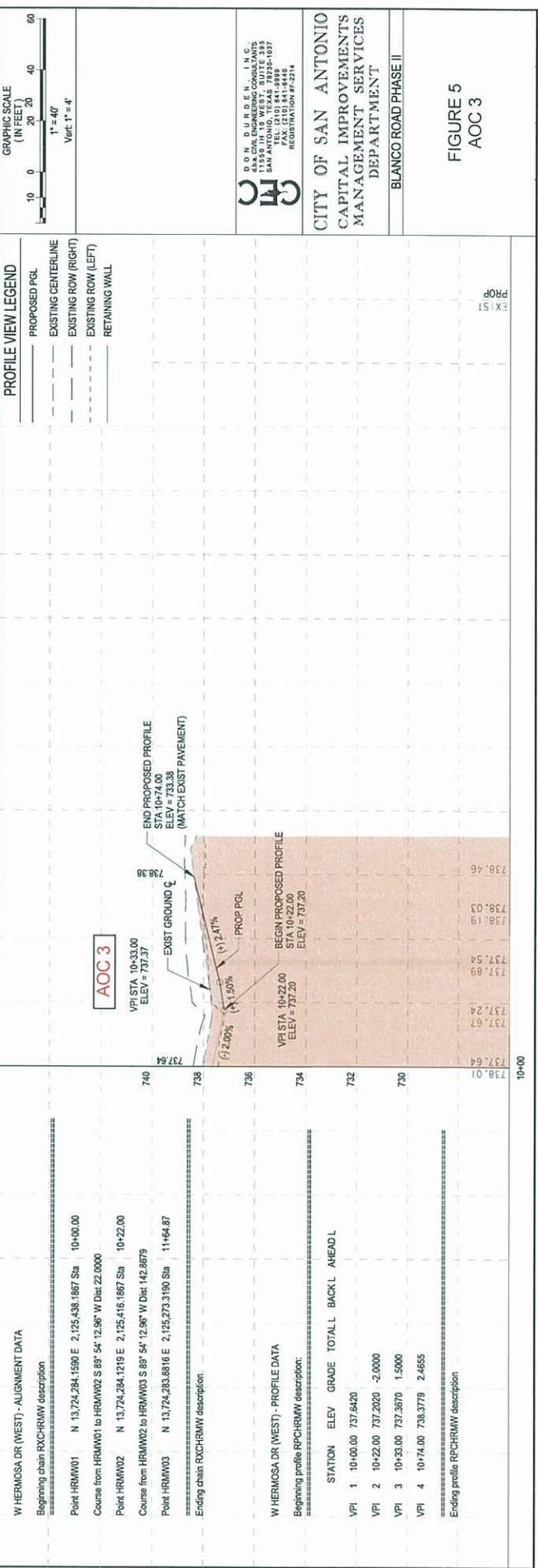
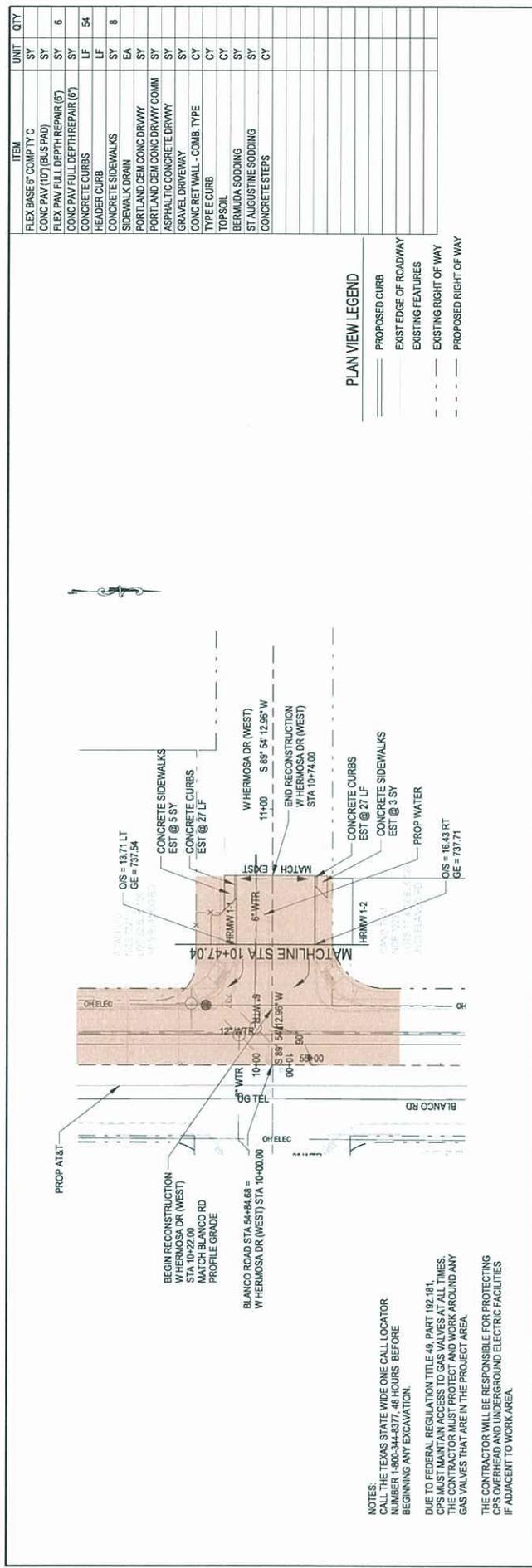


MAESTAS
 1515 N. W. 19th Street, Suite 326, San Antonio, TX 78219
 (210) 342-1188 (210) 342-1189 Fax (210) 342-1191

CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS
MANAGEMENT SERVICES
DEPARTMENT

BLANCO ROAD PHASE II

FIGURE 4
AOC 3



FOR LOCATION OF UNDERGROUND ELECTRIC AND GAS FACILITIES, TELEPHONE CABLES, AND TIME WARNER CABLE TV CALL TEXAS STATE WIDE ONE CALL LOCATIONS PRIOR TO BEGINNING ANY EXCAVATION.

DUE TO FEDERAL REGULATION TITLE 49, PART 192.181, C.P.S. MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT ALL EXISTING GAS VALVES THAT ARE IN THE PROJECT AREA.

THE CONTRACTOR WILL BE RESPONSIBLE FOR PROTECTING C.P.S. OVERHEAD AND UNDERGROUND ELECTRIC FACILITIES IF ADJACENT TO WORK AREAS.

THE CONTRACTOR WILL HAVE RESPONSIBILITY TO PROTECT AND SUPPORT CABLE TV AND TELEPHONE COMPANY PLANT DURING CONSTRUCTION.

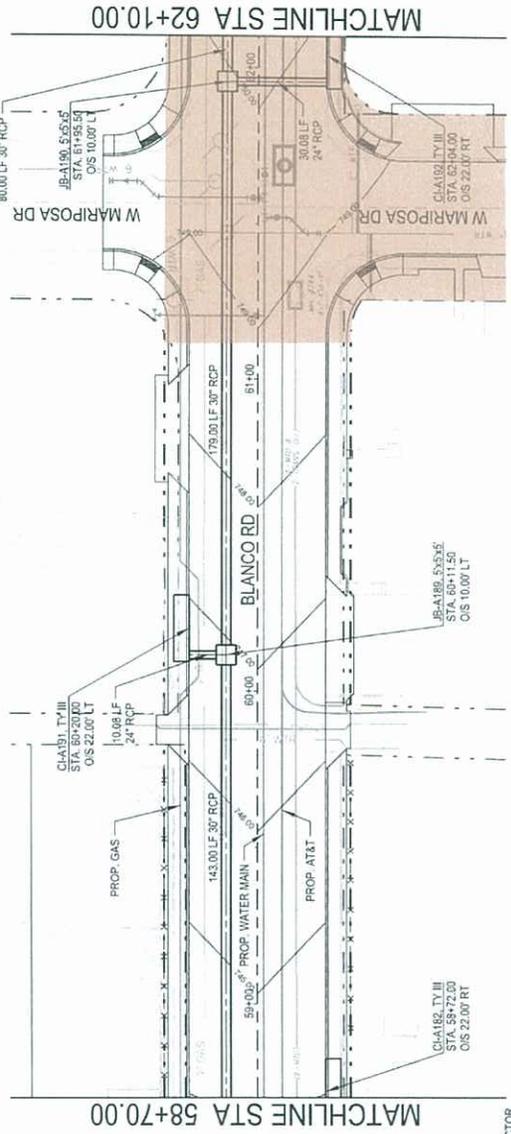
THE EXISTENCE AND LOCATION OF UTILITIES SHALL BE DETERMINED FROM AVAILABLE RECORDS AND ARE NOT GUARANTEED TO BE ACCURATE.

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGNER TECHNICAL SAFETY REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) IN ORDER TO DEVELOP THE CONTRACTOR'S PLANS TO IMPLEMENT THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S OSHA STANDARDS FOR TRENCH EXCAVATIONS. CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL DEVELOP AND IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

PLAN VIEW LEGEND
 CI = CURB INLET
 JB = JUNCTION BOX
 MH = MANHOLE
 TI = TRAFFIC INLET

PROPOSED STRUCTURE
 PROPOSED CURB
 EXIST EDGE OF ROADWAY
 EXISTING FEATURES
 EXISTING RIGHT-OF-WAY
 PROPOSED RIGHT-OF-WAY
 GAS LINE
 TELEPHONE
 SANITARY SEWER LINE
 WATER LINE
 UNDERGROUND ELECTRIC
 FENCE

SCALE
 HORIZ: 1" = 40'
 VERT: 1" = 10'



FINAL	EST	UNIT	DESCRIPTION
855.0	CY	Excavation, Trenching and Backfilling	
40.16	LF	Reinforced Concrete Pipe (24" Class B)	
330.00	LF	Reinforced Concrete Pipe (30" Class B)	
3	EA	Manhole Box 535X5	
37.0	CY	Gravel Subgrade Filler	
379.16	LF	Trench Excavation Safety Protection	

PROPOSED WATER, SANITARY SEWER, TELEPHONE, AND GAS UTILITIES SHOWN ARE APPROXIMATE. SEE RELEVANT PLANS FOR DETAILS.

SYSTEM A



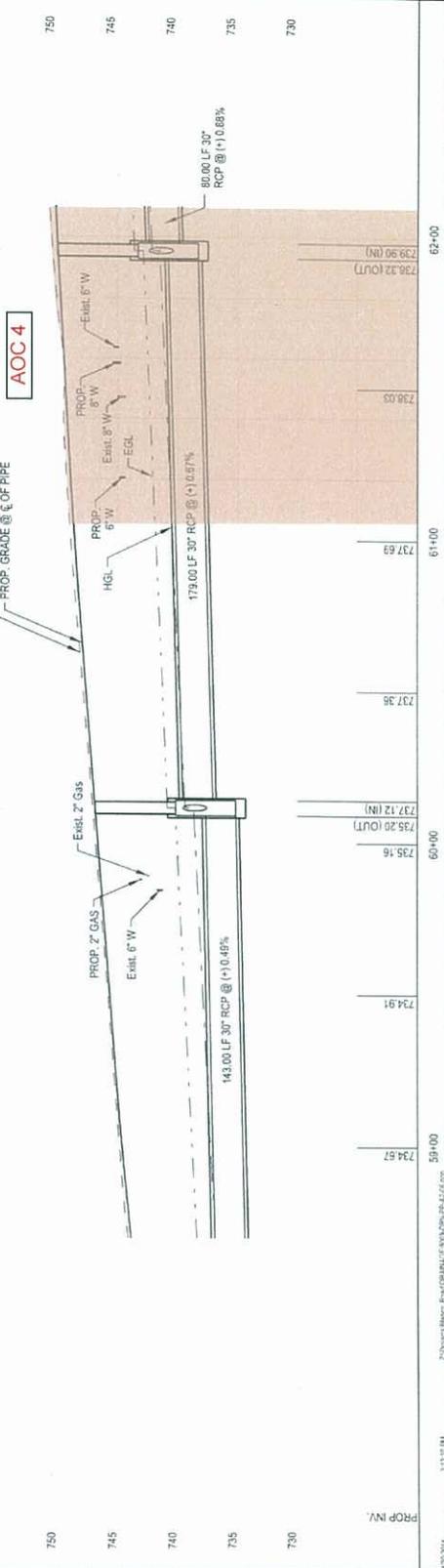
PROFILE VIEW LEGEND
 PROPOSED STRUCTURE
 EXISTING CENTERLINE
 PGL @ CENTER OF PIPE



*NOT PAID FOR DIRECTLY, SUBSIDIARY TO VARIOUS BID ITEMS
 1" = 40'

STA 61+95.50 JB-A196
 TOP ELEV = 749.92

STA 60+11.50 JB-A189
 TOP ELEV = 746.89



CITY OF SAN ANTONIO
 CAPITAL IMPROVEMENTS
 MANAGEMENT SERVICES
 DEPARTMENT

BLANCO ROAD PHASE II

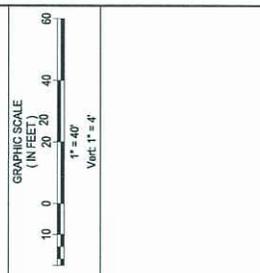
FIGURE 6
 AOC 4

ITEM	UNIT	CITY
FLEX BASE 6" COMPTCY C	SY	
FLEX PAV (10") (BUS PAD)	SY	
FLEX PAV FULL DEPTH REPAIR (6")	SY	
CONC PAV FULL DEPTH REPAIR (6")	SY	
CONCRETE CURBS	LF	101
HEADER CURB	LF	
CONCRETE SIDEWALKS	SY	23
SIDEWALK DRAIN	EA	
PORTLAND CEM CONC DRWAY	SY	
PORTLAND CEM CONC DRWAY COMM	SY	
ASPHALTIC CONCRETE DRWAY	SY	
GRAVEL DRAINWAY	SY	
CONC RET WALL - COMB. TYPE	CY	
TYPE E CURB	CY	
TOPSOIL	CY	
BERMUDA SODDING	SY	13
ST AUGUSTINE SODDING	SY	13
CONCRETE STEPS	CY	



PLAN VIEW LEGEND

- PROPOSED CURB
- EXIST EDGE OF ROADWAY
- EXISTING FEATURES
- EXISTING RIGHT OF WAY
- PROPOSED RIGHT OF WAY



PROFILE VIEW LEGEND

- PROPOSED PGL
- EXISTING CENTERLINE
- EXISTING ROW (RIGHT)
- EXISTING ROW (LEFT)
- RETAINING WALL

GC
 DON DUBREIN, INC.
 434 COLLEGE CONSULTANTS
 SAN ANTONIO, TEXAS 78255-1037
 TEL: (210) 841-9400
 FAX: (210) 841-9400
 REGISTRATION #2214

CITY OF SAN ANTONIO
 CAPITAL IMPROVEMENTS
 MANAGEMENT SERVICES
 DEPARTMENT

BLANCO ROAD PHASE II

FIGURE 7
AOC 4

NOTES:
 CALL THE TEXAS STATE WIDE ONE CALL LOCATOR NUMBER (800) 485-5177 48 HOURS BEFORE BEGINNING ANY EXCAVATION.
 DUE TO FEDERAL REGULATION TITLE 49, PART 192.181, CPS MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.
 THE CONTRACTOR WILL BE RESPONSIBLE FOR PROTECTING CPS OVERHEAD AND UNDERGROUND ELECTRIC FACILITIES IF ADJACENT TO WORK AREA.

BLANCO ROAD STA 61+55.44 = W MARIPOSA DR (EAST) STA 10+00.00

PROF WATER
 PROP GAS
 BEGIN RECONSTRUCTION W MARIPOSA DR (EAST) STA 10+22.00 MATCH BLANCO RD PROFILE GRADE

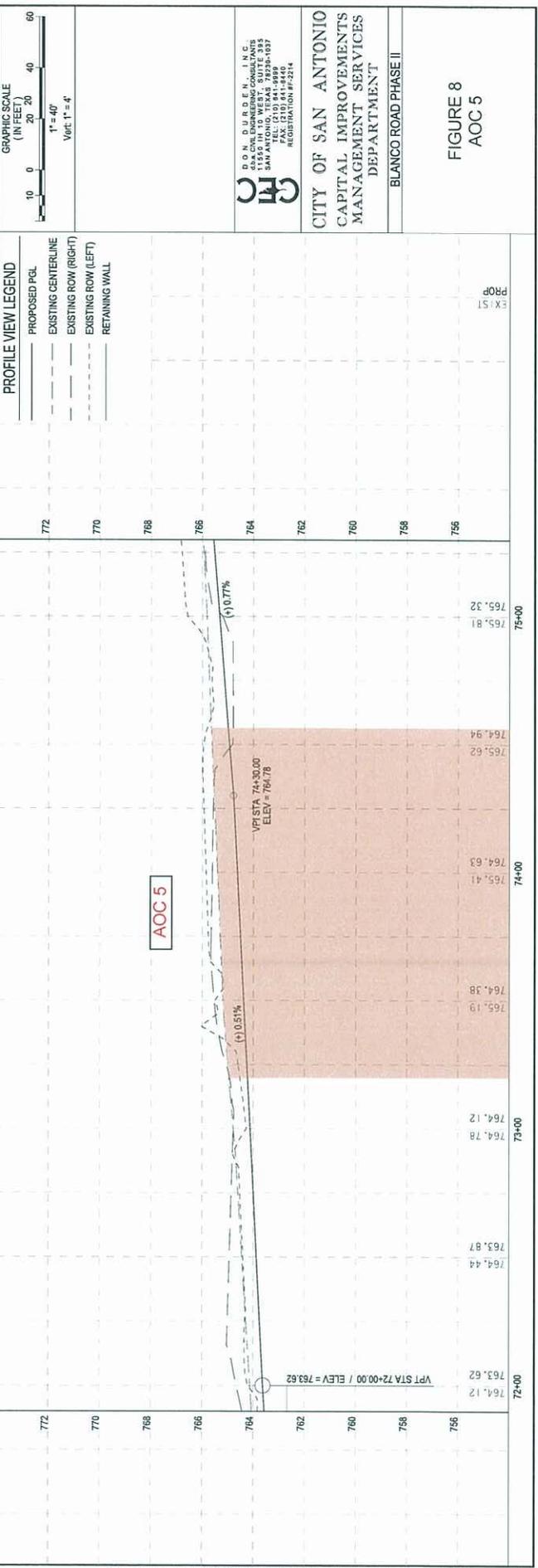
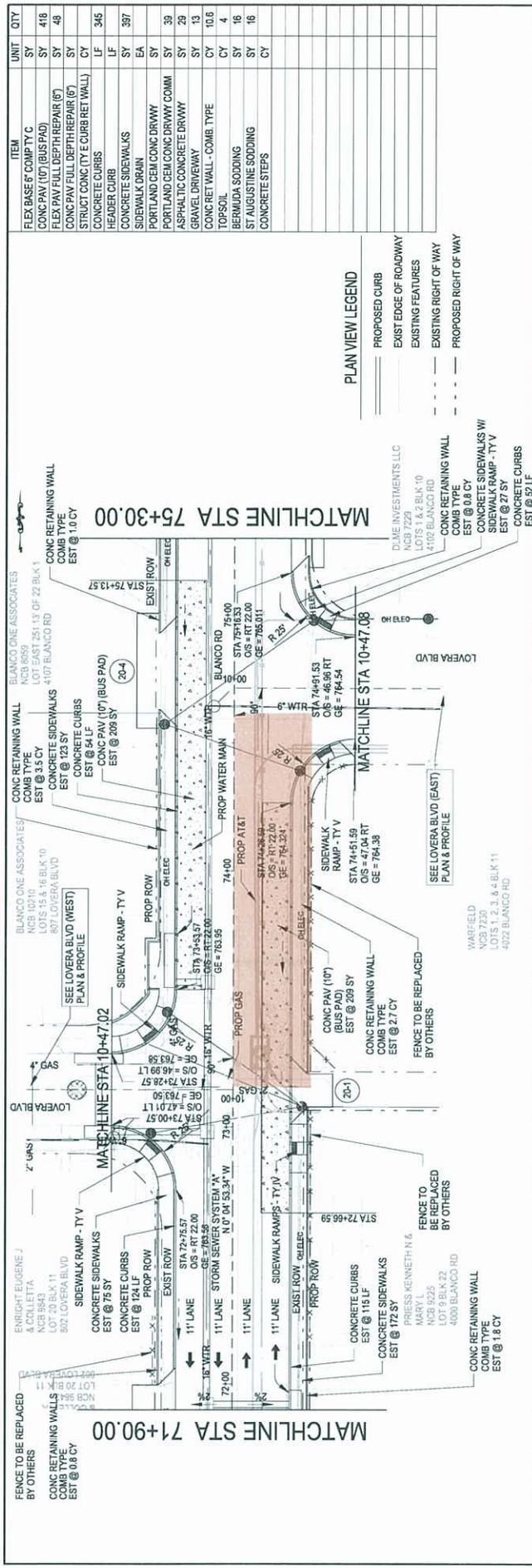
CONCRETE SIDEWALKS EST @ 8 SY
 CONCRETE CURBS EST @ 46 LF
 W MARIPOSA DR (EAST)
 END RECONSTRUCTION W MARIPOSA DR (EAST) STA. 10+93.00
 CONCRETE CURBS EST @ 55 LF
 CONCRETE SIDEWALKS EST @ 15 SY
 CONCRETE SIDEWALKS EST @ 14.83 LT
 GE = 748.80
 MARE 1:1
 N 89° 49' 08.84" E
 MARE 1:2
 CONCRETE CURBS EST @ 15.14 RT
 GE = 748.55

STATION	ELEV	GRADE	TOTAL	BACK L	HEAD L
VPI 1	10+00.00	748.5000			
VPI 2	10+22.00	748.1200	-2.0000		
VPI 3	10+93.00	748.1702	-1.3377		

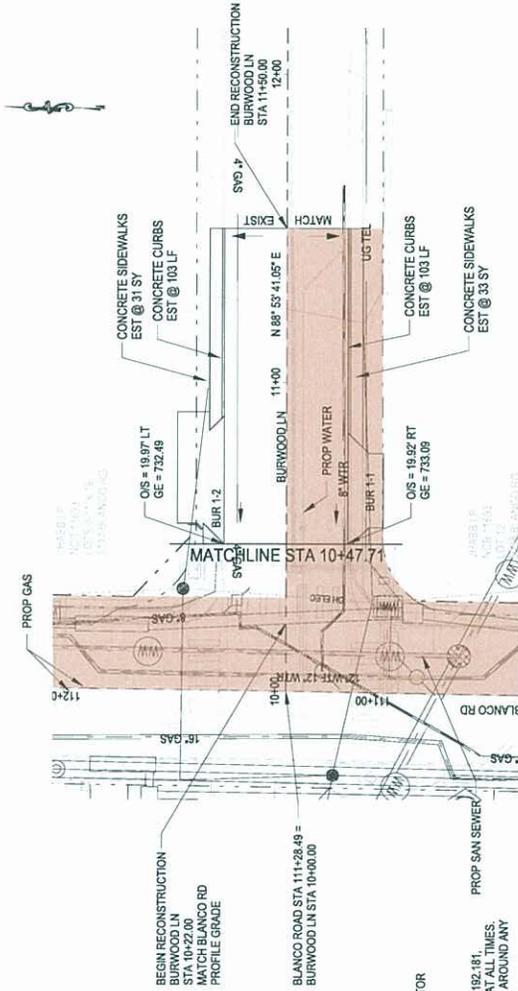
Ending profile RPC/MARE description

W MARIPOSA DR (EAST) - ALIGNMENT DATA
 Beginning chain RPC/MARE description
 Point MARE01 N 13,724,954.9263 E 2,125,438.9259 Sta 10+00.00
 Course from MARE01 to MARE02 N 89° 49' 08.84" E Dist: 150.0000
 Point MARE02 N 13,724,955.3988 E 2,125,566.9251 Sta 11+50.00
 Course from MARE02 to MARE03 N 89° 49' 08.84" E Dist: 50.0000
 Point MARE03 N 13,724,955.5576 E 2,125,638.9249 Sta 12+00.00
 Ending chain RPC/MARE description

W MARIPOSA DR (EAST) - PROFILE DATA
 Beginning profile RPC/MARE description:
 STATION ELEV GRADE TOTAL BACK L HEAD L
 VPI 1 10+00.00 748.5000
 VPI 2 10+22.00 748.1200 -2.0000
 VPI 3 10+93.00 748.1702 -1.3377



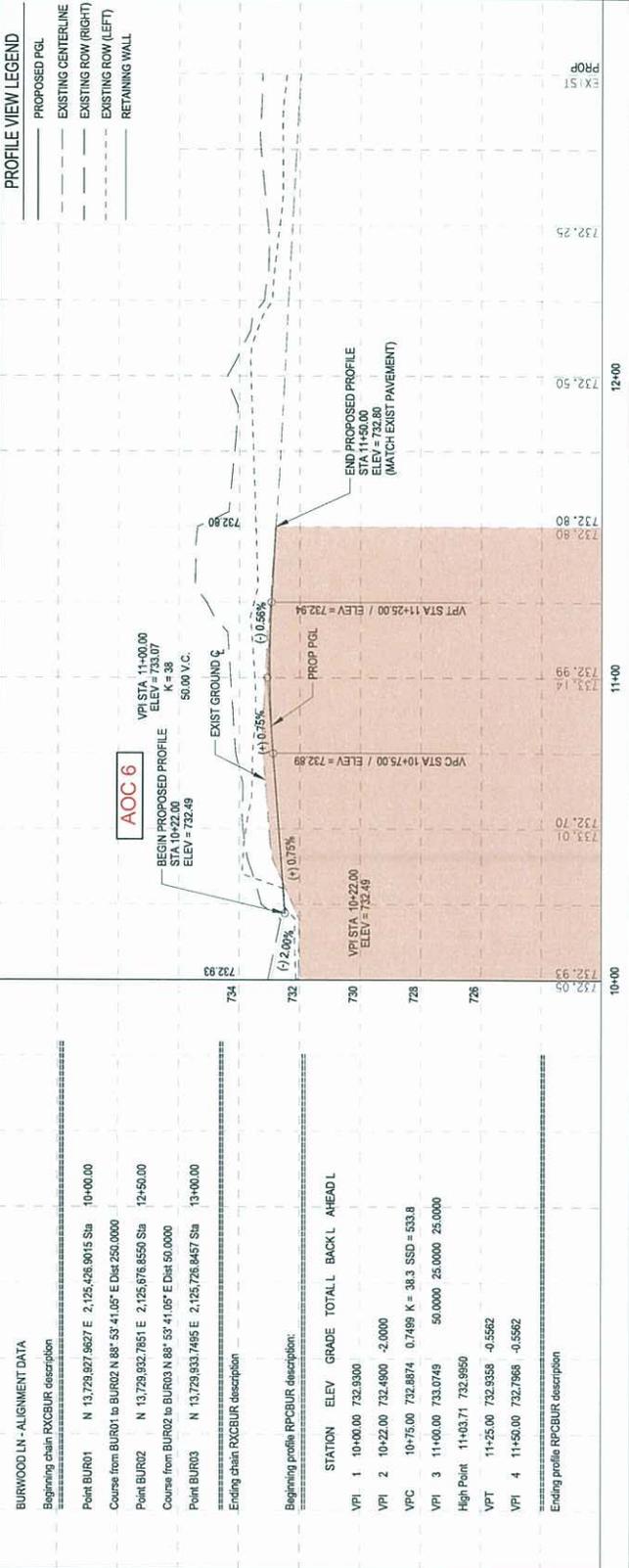
ITEM	UNIT	QTY
FLEX BASE & COMPT Y C	SY	
FLEX PAV (10') (BUS PAD)	SY	
FLEX PAV FULL DEPTH REPAIR (6')	SY	43
FLEX PAV FULL DEPTH REPAIR (6')	SY	
CONCRETE CURBS	LF	206
HEADER CURB	LF	
CONCRETE SIDEWALKS	SY	64
CONCRETE DRAIN	EA	
PORTLAND CEM CONC DRIVEWAY	SY	
PORTLAND CEM CONC DRIVEWAY COMM	SY	
ASPHALTIC CONCRETE DRIVEWAY	SY	
GRAVEL DRIVEWAY	SY	
CONC RET WALL - COMB TYPE	CY	
TYPE E CURB	CY	
TOP SOIL	CY	
BERMUDA SODDING	SY	
ST AUGUSTINE SODDING	SY	
CONCRETE STEPS	CY	



PLAN VIEW LEGEND

- PROPOSED CURB
- EXISTING EDGE OF ROADWAY
- EXISTING FEATURES
- EXISTING RIGHT OF WAY
- PROPOSED RIGHT OF WAY

ITEM	UNIT	QTY
FLEX BASE & COMPT Y C	SY	
FLEX PAV (10') (BUS PAD)	SY	
FLEX PAV FULL DEPTH REPAIR (6')	SY	43
FLEX PAV FULL DEPTH REPAIR (6')	SY	
CONCRETE CURBS	LF	206
HEADER CURB	LF	
CONCRETE SIDEWALKS	SY	64
CONCRETE DRAIN	EA	
PORTLAND CEM CONC DRIVEWAY	SY	
PORTLAND CEM CONC DRIVEWAY COMM	SY	
ASPHALTIC CONCRETE DRIVEWAY	SY	
GRAVEL DRIVEWAY	SY	
CONC RET WALL - COMB TYPE	CY	
TYPE E CURB	CY	
TOP SOIL	CY	
BERMUDA SODDING	SY	
ST AUGUSTINE SODDING	SY	
CONCRETE STEPS	CY	



NOTES:

- CALL THE TEXAS STATE WIDE ONE CALL LOCATOR AT LEAST 48 HOURS BEFORE BEGINNING ANY EXCAVATION.
- DUE TO FEDERAL REGULATION TITLE 49, PART 192.181, CIPS MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.
- THE CONTRACTOR WILL BE RESPONSIBLE FOR PROTECTING CIPS OVERHEAD AND UNDERGROUND ELECTRIC FACILITIES IF ADJACENT TO WORK AREA.

BURWOOD LN - ALIGNMENT DATA	STATION	ELEV	GRADE	TOTAL	BACKL	AHEADL
Beginning chain PCBCUR description						
Point BUR01 N 13,729.927 8627 E 2,125,426.9015 Sta	10+00.00	732.93				
Course from BUR01 to BUR02 N 88° 53' 41.05" E Dist 250.0000						
Point BUR02 N 13,729.932 7851 E 2,125,676.8550 Sta	12+50.00	732.80				
Course from BUR02 to BUR03 N 88° 53' 41.05" E Dist 50.0000						
Point BUR03 N 13,729.933 7495 E 2,125,726.8457 Sta	13+00.00	732.80				
Ending chain PCBCUR description						
Beginning profile RPCBCUR description:						
VPI 1 10+00.00 732.9300						
VPI 2 10+22.00 732.4900 -2.0000						
VPC 10+75.00 732.8874 0.7499 K = 38.3 SSD = 533.8						
VPI 3 11+00.00 732.9479 50.0000 25.0000 25.0000						
High Point 11+03.71 732.9550						
VPT 11+25.00 732.9358 -0.5562						
VPI 4 11+50.00 732.7965 -0.5562						
Ending profile RPCBCUR description						

FIGURE 10
AOC 6

CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS
MANAGEMENT SERVICES
DEPARTMENT

BLANCO ROAD PHASE II



FOR LOCATION OF UNDERGROUND ELECTRIC AND GAS FACILITIES, TELEPHONE CABLES, AND TIME WARNER CABLE TV CALL TEXAS STATE WIDE ONE CALL LOCATOR NUMBER 1-800-545-5005 48 HOURS PRIOR TO BEGINNING ANY EXCAVATION.

DUE TO FEDERAL REGULATION TITLE 49 PART 192.181, C.P.S. MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.

THE CONTRACTOR WILL BE RESPONSIBLE FOR PROTECTING C.P.S. OVERHEAD AND UNDERGROUND ELECTRIC FACILITIES IF ADJACENT TO WORK AREAS.

THE CONTRACTOR WILL HAVE RESPONSIBILITY TO PROTECT ALL SUPPORT CABLE TV AND TELEPHONE COMPANY PLANT DURING CONSTRUCTION.

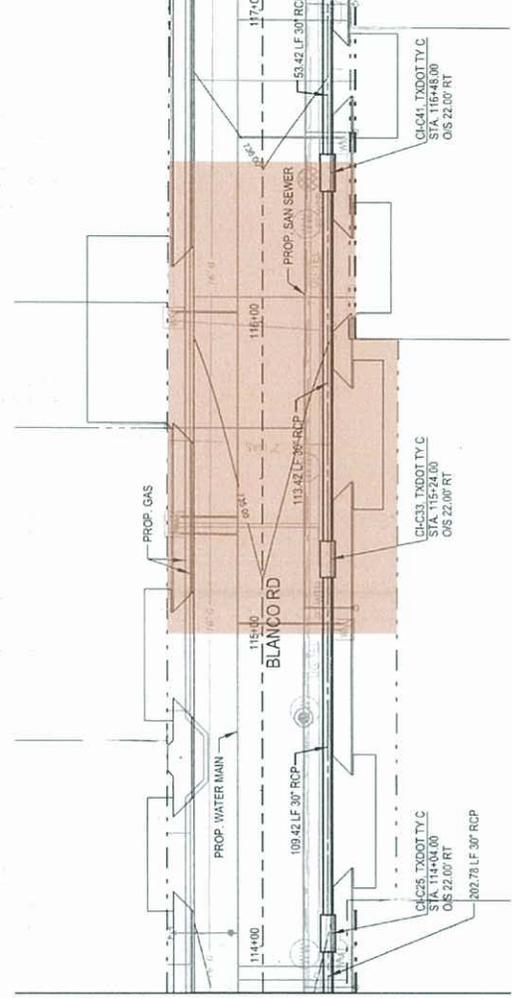
THE EXISTENCE AND LOCATION OF UTILITIES INDICATED ON THE PLAN ARE TAKEN FROM AVAILABLE RECORDS AND ARE NOT GUARANTEED TO BE ACCURATE.

CONTRACTOR AND/OR CONTRACTORS INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE ANTICIPATED INSTALLATION SITES IN ORDER TO DEVELOP THE CONTRACTORS PLANS TO IMPLEMENT THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTORS PLANS SHALL PROVIDE FOR ADEQUATE TRENCH SAFETY SYSTEMS THAT COMPLY WITH ALL APPLICABLE AND/OR CONTRACTORS INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL DEVELOP AND IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.



SCALE
HORIZ: 1" = 40'
VERT: 1" = 10'

MATCHLINE STA 113+85.00



MATCHLINE STA 117+05.00

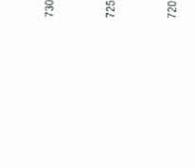
FINAL	EST	UNIT	DESCRIPTION
352.3		CY	Excavation, Trenching and Backfilling
289.26		LS	18" Dia. 30' RCP
29.4		CY	Gravel Subgrade Fill
288.26		LF	Trench Excavation Safety Protection

PROPOSED WATER, SANITARY SEWER, TELEPHONE AND GAS UTILITIES SHOWN ARE APPROXIMATE. SEE RELEVANT PLANS FOR DETAILS.

PROFILE VIEW LEGEND
PROPOSED STRUCTURE
EXISTING CENTERLINE
PGL @ CENTER OF PIPE



PROP INV.	STATION	TYPE	ELEVATION
740	114+00	CLC25	734.56
735	115+00	CLC33	735.18
730	116+00	CLC41	738.13
725	117+00	CLC34	731.89



PROP INV.	STATION	TYPE	ELEVATION
740	114+00	CLC25	734.56
735	115+00	CLC33	735.18
730	116+00	CLC41	738.13
725	117+00	CLC34	731.89



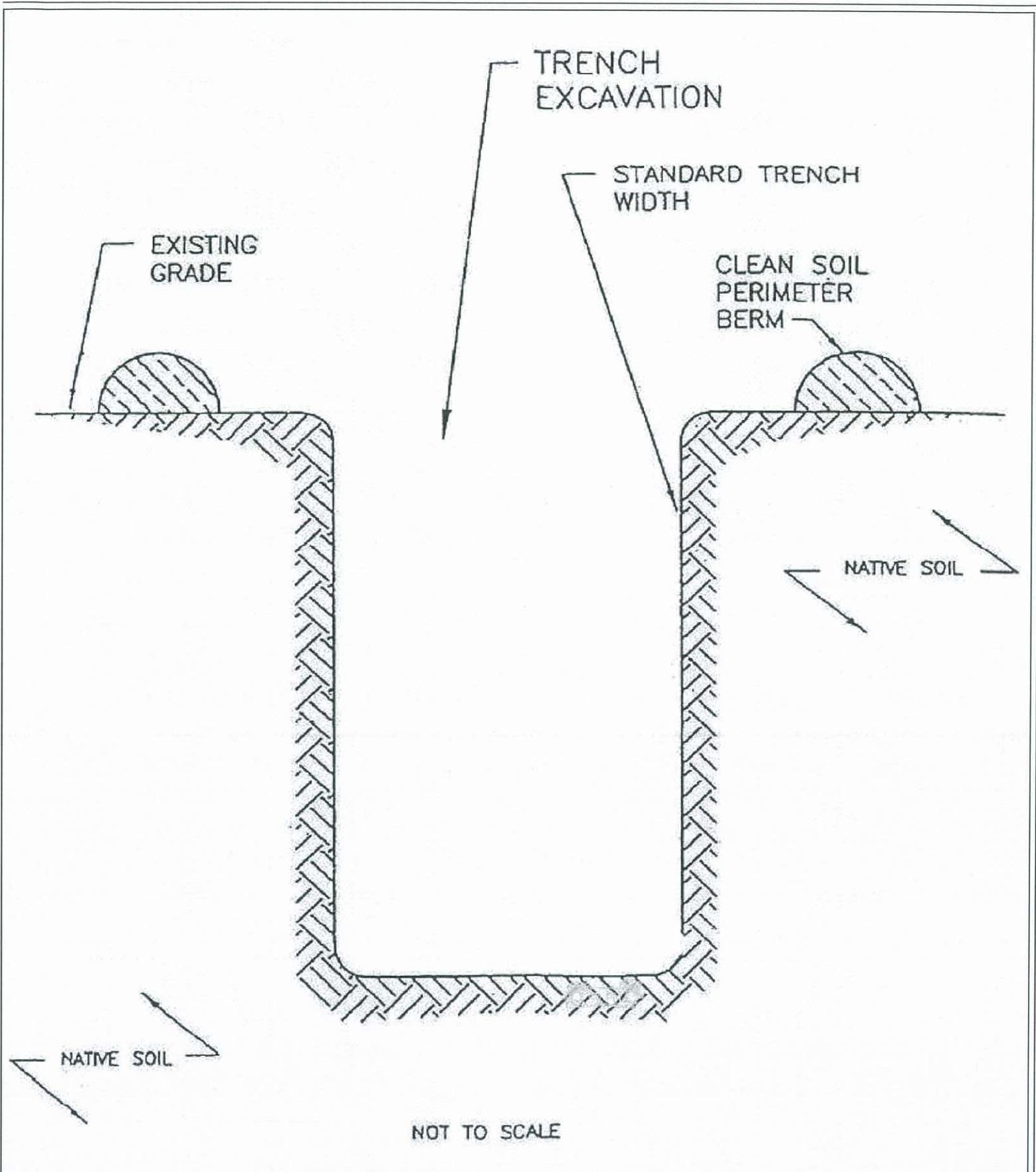
PROP INV.	STATION	TYPE	ELEVATION
740	114+00	CLC25	734.56
735	115+00	CLC33	735.18
730	116+00	CLC41	738.13
725	117+00	CLC34	731.89



CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS
MANAGEMENT SERVICES
DEPARTMENT

FIGURE 11
AOC 7

FIGURE 12
OPEN EXCAVATION RUN-ON PREVENTION



NOT TO SCALE

City of San Antonio

Open Excavation Run-On Prevention

City of San Antonio
 Transportation and Capital
 Improvements Department
 Environmental Management
 Division
 Municipal Plaza
 114 W. Commerce, 2nd Floor
 San Antonio, Texas 78204



