

AN ORDINANCE 2008-09-04-0748

APPROPRIATING FUNDS, AND AUTHORIZING THE EXECUTION OF A DEVELOPER PARTICIPATION CONTRACT IN THE AMOUNT OF \$8,215,000.00 WITH HRS, LLC TO OVERSIZE THE CONSTRUCTION OF THE CULEBRA CREEK REGIONAL STORM WATER FACILITY AT LOOP 1604 PHASE I PROJECT, A 2007 – 2012 BOND PROGRAM PROJECT, LOCATED IN COUNCIL DISTRICT 6.

* * * * *

WHEREAS, HRS, LLC, hereinafter “Developer”, plans to develop certain properties that contribute stormwater to the Leon Creek watershed, and certain public drainage improvements are needed on City property in connection with such development and other similar development within the area; and

WHEREAS, in order to accommodate other contemplated future development within the Leon Creek watershed, the City desires oversizing of the public drainage improvements to be constructed by Developer; and

WHEREAS, in order to alleviate flooding and drainage problems downstream of the properties to be developed by Developer and others, drainage improvements are proposed to be constructed and oversized by Developer on property to be provided by Developer; and

WHEREAS, floodplain analyses have demonstrated that said drainage improvements will benefit the City by reducing the existing Leon Creek 100-year floodplain area; and

WHEREAS, the proposed improvements will effectively increase the capacity of other existing drainage systems and thereby accommodate the City of San Antonio regulatory storm event; and

WHEREAS, this Contract benefits the Developer by allowing development of the Developer Property without the construction cost and loss of developable land area associated with on-site detention systems; and

WHEREAS, loss of developable land area from land contributing stormwater to the Leon Creek watershed would negatively impact the City by reducing property values and associated property tax revenues and also reducing the Regional Storm Water Management Participation funds available from fee-in-lieu payments; and

WHEREAS, the construction of the Project is in the City’s interest; and

WHEREAS, Developer and City have previously entered into the Culebra Road/Helotes Creek Stormwater Drainage Agreement authorized by Ordinance 99030 which was approved on April 1, 2004, whereby Developer has previously conveyed 144 acres of land, more or less, to the City to assist the City in reducing flooding in the area of Leon Creek and downstream from Developer’s Property and Developer has paid for the cost associated with the development of engineering plans and specifications associated with the proposed improvements; and

WHEREAS, Section 212.071 of the TEXAS LOCAL GOVERNMENT CODE authorizes the City to make a contract with a developer of a subdivision or land to construct public improvements related to the development; and

WHEREAS, Developer has expressed a willingness to perform the construction of infrastructure improvements specified for the Project; and

WHEREAS, construction of the Project will benefit the City because, among other things: (i) the Project will reduce flooding in the area of the Leon Creek watershed and will increase public safety in the area adjacent to the property owned by the City; (ii) the Project will enable economic development of the areas surrounding the property owned by the City, and (iii) fees-in-lieu of on-site detention for developable land within the Leon Creek watershed are anticipated to substantially exceed the City's share of the Project Costs; **NOW THEREFORE**,

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF SAN ANTONIO:

SECTION 1. The City Manager or her designee is hereby authorized to execute a Developer Participation Contract between the City of San Antonio and **HRS, LLC** to provide for the construction of a regional storm water facility at the confluence of Culebra and Helotes Creek near Culebra Road at Loop 1604. A copy of said Contract is attached hereto as **Attachment I**. This Contract qualifies as a Developer Participation Contract pursuant to Section 212.071 et. seq. of the Texas Local Government Code.

SECTION 2. The following financial adjustments are hereby approved:

- a) The amount of \$3,075,000.00 is appropriated in SAP Fund 29071000, Drainage Detention Project, SAP Internal Order # 390000000370, SAP GL account 6102100 – Interfund Transfer out entitled From 29071000 to Wbs 40-00051-90-02. The amount of \$3,075,000.00 is authorized to be transferred to SAP Fund 45099000, General Obligation Capital Projects.
- b) The budget in fund 45099000, General Obligation Capital Projects, SAP Project Definition 40-00051, Culebra Creek RSWF, shall be revised by increasing SAP WBS Element 40-00051-90-02 entitled Trf from I/O 390000000370, SAP GL Account 6101100 – Interfund Transfer In, by the amount \$3,075,000.00.
- c) The amount of \$3,075,000.00 is appropriated in SAP Fund 45099000, General Obligation Capital Projects, SAP Project Definition 40-00051, Culebra Creek RSWF and the budget shall be revised by decreasing/increasing the SAP WBS Elements as follows:

WBS NO.	WBS NAME	G/L	G/L NAME	CURRENT PLAN VERSION 0 (Optional)	PLAN VERSION 0 REVISION/ Appropriation	REVISED PLAN VERSION 0 (Optional)
40-00051-01-05	Program Management	5201040	Fees to Prof Contractors	\$102,800.00	-\$102,800.00	\$0.00
40-00051-04-01	Environmental Capital Administrative Costs	5402010	Cap Prog Admin Cost	\$2,500.00	-\$2,500.00	\$0.00
40-00051-04-02	Environmental Costs	5201040	Fees to Prof Contractors	\$2,500.00	-\$2,500.00	\$0.00

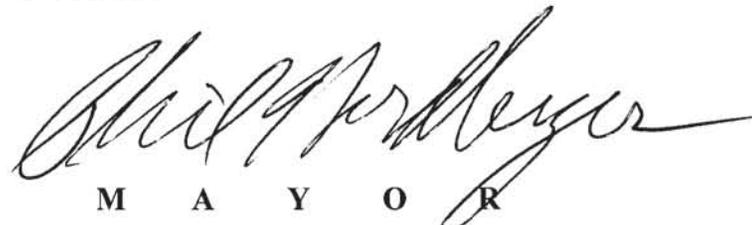
40-00051-05-02-01	Construction Costs	5201140	Construction Cost	\$3,563,111.11	\$4,501,888.89	\$8,065,000.00
40-00051-05-04	Construction Capital Administrative Costs	5402010	Cap Prog Admin Cost	\$249,417.78	-\$99,417.78	\$150,000.00
40-00051-05-06	Project Contingency	5201140	Construction Cost	\$1,219,671.11	-\$1,219,671.11	\$0.00
TOTALS				\$5,140,000.00	\$3,075,000.00	\$8,215,000.00

d) A contract has been awarded to **HRS, LLC** in the amount of \$8,065,000.00 for the Culebra Creek Regional Storm Water Facility project. In addition to the \$3,075,000.00 appropriation included in this ordinance, funds in the amount of \$5,140,000.00 are available from previously appropriated funding on Ordinance No. 2008-01-31-0066, dated January 31, 2008. The amount of \$8,065,000.00 is authorized to be encumbered and made payable **HRS, LLC** for construction services.

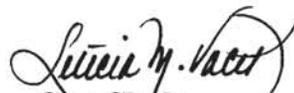
SECTION 3. The financial allocations in this Ordinance are subject to approval by the Director of Finance, City of San Antonio. The Director of Finance may, subject to concurrence by the City Manager, or the City Manager's designee, correct allocation to specific SAP Fund Numbers, SAP Project Definitions, SAP WBS Elements, SAP Internal Orders, SAP Fund Centers, SAP Cost Centers, SAP Functional Areas, SAP Funds Reservation Document Numbers, and SAP GL Accounts as necessary to carry out the purpose of this Ordinance.

SECTION 4. This Ordinance shall be effective immediately if it receives eight affirmative votes, otherwise, it shall be effective on the tenth day after passage.

PASSED AND APPROVED this 4th day of September, 2008.


 M A Y O R
PHIL HARDBERGER

ATTEST:


 City Clerk

APPROVED AS TO FORM:


 City Attorney



Agenda Voting Results - 11

Name:	6, 7, 9, 10, 11, 12, 13, 14, 16, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 29, 30, 32A, 32B, 32D
Date:	09/04/2008
Time:	10:15:15 AM
Vote Type:	Motion to Approve
Description:	An Ordinance appropriating funds, and authorizing the execution of a Developer Participation Contract in the amount of \$8,215,000.00 with HRS, LLC to oversize the construction of the Culebra Creek Regional Storm Water Facility at Loop 1604 Phase I Project, a 2007 – 2012 Bond Program Project, located in Council District 6. [Penny Postoak Ferguson, Assistant City Manager; Mike Frisbie, Director, Capital Improvements Management Services]
Result:	Passed

Voter	Group	Not Present	Yea	Nay	Abstain	Motion	Second
Phil Hardberger	Mayor		x				
Mary Alice P. Cisneros	District 1		x				x
Sheila D. McNeil	District 2		x			x	
Jennifer V. Ramos	District 3		x				
Philip A. Cortez	District 4		x				
Lourdes Galvan	District 5		x				
Delicia Herrera	District 6		x				
Justin Rodriguez	District 7		x				
Diane G. Cibrian	District 8		x				
Louis E. Rowe	District 9		x				
John G. Clamp	District 10		x				

**DEVELOPER PARTICIPATION CONTRACT
LEON CREEK WATERSHED
CULEBRA REGIONAL STORMWATER FACILITY PHASE I**

THIS DEVELOPER PARTICIPATION CONTRACT (“Contract”) entered into as of _____, 2008, (hereinafter the “Effective Date”) by and between **THE CITY OF SAN ANTONIO, TEXAS**, a Texas municipal corporation, (“City”) and **HRS LLC**, a Texas limited liability company (“Developer”), pursuant to Ordinance No. 2008-09-04-0748 passed by the City of San Antonio City Council on September 4, 2008.

RECITALS

Whereas, Developer plans to develop certain properties that contribute stormwater to the Leon Creek watershed (the “Development,” as is further described below), and certain public drainage improvements are needed on City property in connection with such development and other similar development within the area; and

Whereas, in order to accommodate other contemplated future development within the Leon Creek watershed, the City desires oversizing of the public drainage improvements to be constructed by Developer; and

Whereas, in order to alleviate flooding and drainage problems downstream of the properties to be developed by Developer and others, drainage improvements are proposed to be constructed and oversized by Developer on property (including all necessary permits for the construction of such improvements) to be provided by Developer (the “Project,” as is further defined below); and

Whereas, floodplain analyses have demonstrated that said drainage improvements will benefit the City by reducing the existing Culebra Creek 100-year floodplain area; and

Whereas, the proposed improvements will effectively increase the capacity of other existing drainage systems and thereby accommodate the City of San Antonio regulatory storm event; and

Whereas, this Contract benefits the Developer by allowing development of the Developer Property (hereinafter described) without the construction cost and loss of developable land area associated with on-site detention systems; and

Whereas, loss of developable land area from land contributing stormwater to the Leon Creek watershed would negatively impact the City by reducing property values and associated property tax revenues and also reducing the Regional Storm Water Management Participation funds available from fee-in-lieu payments; and

Whereas, the construction of the Project is in the City’s interest and obtaining the Construction Documents (as defined below) will further the Project; and

Whereas, Developer and City have previously entered into the Culebra Road/Helotes Creek Stormwater Drainage Agreement, whereby Developer has previously conveyed 144 acres of land, more or less, to the City to assist the City in reducing flooding in the area of Culebra Creek and downstream from Developer's Property and Developer has paid for the cost associated with the development of engineering plans and specifications associated with the proposed improvements; and

Whereas, Section 212.071 of the TEXAS LOCAL GOVERNMENT CODE authorizes the City to make a contract with a developer of a subdivision or land to construct public improvements related to the development; and

Whereas, Developer has expressed a willingness to perform the construction of infrastructure improvements specified for the Project; and

Whereas, construction of the Project will benefit the City because, among other things: (i) the Project will reduce flooding in the area of the Leon Creek watershed and will increase public safety in the area adjacent to the property owned by the City; (ii) the Project will enable economic development of the areas surrounding the property owned by the City, and (iii) fees-in-lieu of on-site detention for developable land within the Leon Creek watershed are anticipated to substantially exceed the City's share of the Project Costs.

NOW, THEREFORE, in consideration of the mutual covenants contained herein and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto, intending to be legally bound, do hereby covenant and agree as follows:

A. DEFINITIONS:

Certain terms used in this Contract (defined below) shall have the meanings set forth as follows:

1. "City" means the City of San Antonio, Texas, a Texas municipal corporation.
2. "City Property" means that certain 144 acre tract of land previously conveyed to the City by Developer and which are situated in the City of San Antonio, Texas, and more fully described in **Exhibit A**, attached hereto.
3. "City's Representative" means the Director, Capital Improvements Management Services or such other person as the City Manager may designate.
4. "City Share" means One Hundred Percent (100%) of total Project Costs which pertain to oversizing of improvements required by the City, as authorized by Section 212.072(c) of the TEXAS LOCAL GOVERNMENT CODE.
5. "Contract" means this Developer Participation Contract between the City of San Antonio, Texas and HRS CULEBRA, LLC.

6. “Contract Documents” means this Contract and **Exhibit A** through **Exhibit F** attached hereto and made a part hereof for all purposes.

7. “Construction Documents” means the plans, specifications and estimates for the Project which have been or will be prepared by Project Engineer pursuant to the terms of this Contract. The Construction Documents shall illustrate the dimensions, materials, methods of construction, methods of excavation, and other details of the Project. A description of the Construction Documents is provided in **Exhibit C**.

8. “Developer” means HRS CULEBRA, LLC, a Texas limited liability company.

9. “Developer Property” means that certain 121.5 acre tract of land which is situated in the City of San Antonio, Texas and more fully described in **Exhibit B** attached hereto.

10. “Developer’s Representative” means Johnny Stevens, or such other person as Developer may designate.

11. “Developer’s Share” means One Hundred Percent(100%) of the total Project Costs less City’s Share Eight Million, Two Hundred and Fifteen Thousand Dollars and No Cents (\$8,215,000.00).

12. “Development” means Culebra Regional Stormwater Facility Phase I and any and all improvements and infrastructure to be constructed on Developer’s or City’s Property, now or in the future.

13. “Director” means the Director of Public Works, City of San Antonio.

14. “Project” means the public improvements consisting of the storm water drainage facility and associated improvements to be constructed on the City Property by Developer pursuant to the Construction Documents, as more fully described in **Exhibit E** attached hereto and made a part hereof for all purposes.

15. “Project Cost(s)” means all costs and expenses incurred by Developer with respect to the Project in conjunction with this Contract (regardless of whether incurred prior to or after the Effective Date), including without limitation all costs (i) for the preparation of the Construction Documents, including but not limited to (a) all engineering fees and expenses for all studies, estimates of probable costs and other work performed by the Project Engineer (b) all environmental reports; (c) all title work; (d) all legal fees; and (e) all other fees and expenses relating to the Project; and (ii) all costs and expenses to construct the Project.

16. “Project Engineer” means Pape-Dawson Consulting Engineers, Inc.

17. “UDC” means Chapter 35 of the City Code of the City of San Antonio entitled Unified Development Code.

18. “Work” means the installation and construction of the Project by Developer on the City Property in substantial accordance with the Construction Documents and as provided herein.

B. CONTRACT PROVISIONS

1. Background. Based on the following facts, this Contract qualifies as a “Developer Participation Contract” pursuant to Sections 212.071-212.072 et. seq. of the TEXAS LOCAL GOVERNMENT CODE. In order to adequately carry the onsite water resulting from a 100-year storm event, a drainage facility would need to be constructed by Developer for the Development and sized to carry storm water runoff generated by approximately 121.5 acres of future ultimate development runoff from the Developer Property, at a cost of \$364,500.00. To accommodate City needs, Developer has agreed to oversize the facility by constructing the Project on the City Property in order to convey 16,640 acres of future ultimate development storm water runoff generated within the overall Leon Creek watershed. Based on the foregoing, Developer has paid for the cost for the non-oversized drainage facilities needed for Developer’s Development (“Developer’s Share” of the Project Costs) by its (i) prior or future contributions of property, and (ii) its payment (either through direct monetary contribution or payment of engineering costs for the Construction Documents or other Project Costs), City shall pay the cost for oversizing the original facility by paying the City Share. Notwithstanding the foregoing, Developer and City hereby recognize and agree that Developer’s prior donation of land and payment of engineering cost associated with development of the Project engineering plans and specifications and the Project Construction Documents shall be counted towards its Project Cost contribution under this Agreement. The total Project Cost is estimated to be 8,215,000.00. A detailed estimate of the Project Cost is attached hereto as Exhibit D. A calculation of the City Share is also illustrated in Exhibit D. Notwithstanding anything in this Contract to the contrary, either party will have the right to terminate this Contract if any situation is discovered during the final engineering and design phases of the Project or at any time prior to Developer entering into the Construction Contract for the Project that materially increases the Project Costs over the cost estimates as set forth on Exhibit D hereto. For purposes hereof, an increase of more than ten (10%) in the Project Cost will be deemed to be material. Notice of any such termination must be given prior to Developer entering into the Construction Contract for the Project.

2. Temporary Construction Easement and Other Easements and Permits.

(a) City shall grant the Temporary Construction Easement to Developer pursuant to and in the form of Exhibit E. The Temporary Construction Easement Document shall be executed by City, as Grantor, and delivered to Developer simultaneously with execution of this Contract by City.

(b) Developer shall provide or be responsible for obtaining, prior to Developer’s execution of the Construction Contract, any and all easements or the necessary permission required to construct the Project, including third-party permits, consents and approvals, subject to any other governmental requirements or controls. In addition, Developer shall be responsible for obtaining any permission required to relocate any utilities in connection with the construction of the Project. Developer will use its best efforts to obtain any and all third party consents and approvals in a timely manner so as not to cause Project construction delays.

(c) Developer shall, within thirty (30) days after completion of the construction of the Project and its acceptance of ownership of such improvements by City, as contemplated below, take all necessary steps to initiate an application to FEMA for a Letter of Map Revision

("LOMR") for the area encompassing both the City Property and Developer's Property, to the extent permitted or made necessary by the Project, and thereafter diligently pursue approval of such LOMR and thereafter promptly provide City with a copy of such LOMR upon receipt.

3. Construction.

(a). Developer shall enter into a Construction Contract for construction of the Project and commence construction of the Project within ten days after the later of (i) approval of the Construction Documents by the Director, and (ii) receipt by Developer of all governmental and regulatory permits and approvals required in connection with the construction of the Project (the "Permits"). Developer's obligation to commence construction of the Project is conditioned upon the receipt by Developer of the Permits on such terms and conditions as Developer may deem to be acceptable in Developer's reasonable discretion. City agrees to use its best efforts (without cost or expense to City) to assist Developer in obtaining the Permits (all costs associated with obtaining such Permits being Project Costs). Without limiting the foregoing, City agrees to use its best efforts (without cost or expense to City) to assist Developer in obtaining all requisite approvals from any regulatory authority in connection with the construction of the Project. Construction of the Project shall at all times be performed in a good and workmanlike manner in accordance with the Construction Documents using only new, first class materials as specified in the Construction Documents. Any material variations from the Construction Documents shall require approval by City's Representative not to be unreasonably withheld or delayed. In the event change orders are necessary in connection with the construction of the Project, Developer shall submit the same to City's Representative for its review and approval, not to be unreasonably withheld or delayed. Upon written approval of any change order by both Developer and City's Representative, the Project Costs shall be adjusted accordingly. The Project may be designed and built in stages as Developer may determine subject to City's reasonable approval.

(b). Developer may, at its option, submit periodic draw requests to City no more often than once per month during engineering or construction of the Project, for payment of that portion of City Share as may be attributable to the completed engineering or construction of the Project since the last periodic draw request. Any such draw request shall be accompanied by a certificate from the Project Engineer certifying the amount of the Work performed to date on a percentage of completion basis, separately as to Work relating to oversizing of improvements required by the City and Work which does not pertain to oversizing of improvements required by the City, confirming that such portions of the Work were performed in accordance with the Construction Documents, stating the amount of the City Share attributable thereto based upon the stated percentage in **Exhibit D**, based on percentage of completion basis, and including a breakdown of labor, names of contractors and materials used. City shall pay the City Share within twenty (20) days following City's receipt of each such periodic draw request. Developer shall pay all costs incurred from time to time with respect to the non-oversizing Work.

(c). Notwithstanding anything in this Contract to the contrary, it is understood and agreed that (i) Developer shall pay the entire cost of the non-oversizing portion of the project, regardless of the amount, whether more or less than the Developer's Share, (ii) Developer has through its previous (1) donation of land, (2) payment of engineering fees associated with development of the Project and the Construction Documents, and (3) assuming project

supervision duties related to Projects Construction, paid the entire cost of the non-oversizing portion of the Project, regardless of amount, whether more or less than the Developer's Share as estimated herein, and (iii) City shall pay the entire cost of oversizing the Project.

(d) Developer shall enter into a contract (the "Construction Contract") for construction of the Project with a licensed contractor selected by Developer (the "Contractor") subject to City's approval, which approval shall not be unreasonably withheld provided such contractor has the proven capacity, solvency and expertise to construct the Project. Once commenced, Developer shall use commercially reasonable efforts to cause construction of the Project to be prosecuted diligently and continuously by the Contractor in accordance with the Construction Contract until completion in accordance with the Construction Documents as certified jointly by the Project Engineer and the Director. The Director shall have the authority to accept the Project on behalf of City, and City may accept ownership and maintenance of the Project upon substantial completion of the Project and shall accept ownership and maintenance of the Project upon approval of the completed Project by Director in accordance with the requirements of the Construction Contract.

(e). The Project may be designed and built in stages as Developer may determine, subject to City's reasonable approval.

(f). Developer shall provide construction schedules in accordance with the City's Specification Item 700, Cost Loaded Project Schedules.

(g). PREVAILING WAGE RATE. The Provisions of Chapter 2258 and 5159a, Texas Government Code, shall expressly be made a part of the Construction Contract. In accordance therewith, the City will provide Developer / Contractor with a schedule of the general prevailing rate of per diem wages in this locality for each craft or type of workman needed to perform the Construction Contract and this schedule will become a part of the Construction Contract. The Contractor shall forfeit as a penalty to the City sixty dollars (\$60.00) for each laborer, workman, or mechanic employed, for each calendar day, or portion thereof, that such laborer, workman or mechanic is paid less than the said stipulated rates for any work done under said contract, by the Contractor or any sub-contractor under it. The establishment of prevailing wage rates pursuant to Chapter 2258, Texas Government Code shall not be construed to relieve the Contractor from its obligation under any Federal or State Law regarding the wages to be paid to or hours worked by laborers, workmen or mechanics insofar as applicable to the work to be performed under the Construction Contract.

(h). Prior to the commencement of construction, Developer shall cause the Contractor to provide City with (i) a performance bond in accordance with and in satisfaction of Section 112.073 of the TEXAS LOCAL GOVERNMENT CODE, and a payment bond insuring the payment of all subcontractors, materialmen and suppliers, each reflecting the City and Developer as beneficiary thereunder (it being understood and agreed that Developer itself shall have no obligation to provide any bonds other than the bonds to be provided by Contractor), and (ii) insurance certificates showing the City and Developer as a named insured in types and amounts reasonably required by Developer and the City's Risk Management Department. The foregoing shall remain in force and effect throughout the course of construction of the Project.

(i). The Construction Contract shall prohibit third party beneficiaries other than City which shall be specifically designated as a third party beneficiary, shall not be assignable by the Contractor and shall provide City access to the Project at all reasonable times for inspection purposes. The Contractor shall acknowledge therein that it has read this Contract and understands that City has certain rights hereunder and pursuant to the Construction Contract. The Construction Contract shall provide for "As Built" Plans to be provided to the City no later than 60 days after completion of the Project, as jointly certified by the Project Engineer and the Director.

(j). During construction of the Project, Developer shall direct to Project Engineer to provide the Director with status reports showing the percentage of completion of the Work and expenditures incurred in connection with the construction of the Project all in accordance with current project management practices using the City's Web Portal. In all cases it is the Developer's sole responsibility to connect to the City's Web Portal System at no cost to the City.

4. Inspections. The Project shall be accessible at all reasonable times to the Director or his designee for inspection. The Developer acknowledges that any inspections performed by City during the course of construction for the sole purposes of this Contract (as opposed to routine building and construction inspections performed by City for permitting and acceptance purposes common to all similar construction projects) are for the benefit of City only and may not be relied upon by others, be claimed by Developer as an approval by City, a permit granted by City, a waiver by City, or used for any purpose by Developer, the Contractor or any third party. Developer further acknowledges that Developer and Contractor are required to perform their own inspections and inspections by City do not address any obligations of Developer or others under this Contract. Subject to the foregoing, City shall promptly notify Developer of any defects or non-conformances discovered during any City inspection.

5. Construction Documents. Developer will cause Project Engineer to provide City, for the City's review and approval, with a complete set of Construction Documents meeting the requirements of this Contract and in conformance with all applicable local, state and federal codes and regulations and customary engineering practices. The Construction Documents shall be prepared by and bear the seal of the individual engineer working on behalf of the Project Engineer. Construction of any part of the Project shall in no event commence prior to City approval of the Construction Documents for that part of the Project. Developer shall provide City with copies of the Project Engineer's invoices for preparation of the Construction Documents and its other duties pursuant to the Project, and City shall pay the City Share thereof. City shall own the Construction Documents upon payment by City of the City Share of the total Project Engineer charges and Developer shall thereupon diligently seek to obtain and provide Project Engineer's assignment of its interest to City. Developer hereby assigns its interest in the Construction Documents to City, to become effective upon receipt by Developer of the total City Share. City shall own the Construction Documents for all purposes and may duplicate them, license them, use them and re-use them for any and all purposes.

6. Warranty. Developer shall require a twelve (12) month Contractor's warranty for all Work performed on the Project under the Construction Contract. If the Work is found to be defective, either wholly or in part, and/or found to be non-conforming with the Contract Documents and/or the Construction Documents during the 12-month period following

completion of the Project as defined in the Construction Contract, City shall immediately give Developer written notice thereof; specifying the defect and/or non-conforming Work with particularity. Developer shall notify Contractor of such defect or non-conformance and thereafter use commercial due diligence to require Contractor to correct such defective or non-conforming Work within thirty (30) days of notice thereof given by City, or within such longer time as may be reasonably necessary, provided Contractor is working diligently and continuously towards a cure. If Contractor fails to so cure such defective or non-conforming Work, then City may, at its own expense, correct such defective or non-conforming Work by City's own crews or by outside contractors, at City's option, and the reasonable cost of such correction shall be deemed to be sums due City by Contractor, and Developer agrees to assign to City all of its contractual rights under the Construction Contract, or any contractor warranties, so that City may pursue all rights and remedies under the Construction Contract or construction warranty. At the end of said 12-month period, all available product and workmanship material warranties, including all warranties given by Contractor, shall be assigned to City, to the extent assignable. NOTWITHSTANDING ANYTHING ELSE CONTAINED IN THIS CONTRACT TO THE CONTRARY, CITY HEREBY ACKNOWLEDGES THAT DEVELOPER SHALL HAVE NO LIABILITY UNDER THIS CONTRACT FOR ANY DEFECTS OR DEFICIENCIES IN THE CONSTRUCTION DOCUMENTS OR WORK THAT MAKE UP THE PROJECT, IT BEING UNDERSTOOD BY THE PARTIES HERETO THAT THE PRODUCTION OF SUCH DOCUMENTS AND THE CONSTRUCTION OF SUCH WORK IS BEING UNDERTAKEN BY INDEPENDENT THIRD PARTY CONTRACTORS AND THAT DEVELOPER'S SOLE RESPONSIBILITY UNDER THIS CONTRACT IS TO USE REASONABLE COMMERCIAL DUE DILIGENCE IN ITS ADMINISTRATION OF SUCH DOCUMENT PREPARATION AND PROJECT CONSTRUCTION AND DEVELOPER SHALL ONLY BE LIABLE FOR ACTS OF GROSS NEGLIGENCE AND INTENTIONAL MISCONDUCT AND NOT FOR ANY ACTS OF SIMPLE (AS OPPOSED TO GROSS) NEGLIGENCE BY DEVELOPER, ITS PARTNERS, PRINCIPALS, AGENTS, REPRESENTATIVES, OR EMPLOYEES. The provisions of this Section 6 shall survive termination of this Contract.

7. Fee-in-Lieu. The City agrees that from and after the Effective Date, subdivision plats shall be released for recording and building permits released for properties within the Leon Creek watershed, including Developer's Property, on a "fee-in-lieu" basis instead of a requirement for on or off-site storm water detention. It is understood and agreed that Developer's Share represents prepayment of the entire fee-in-lieu of on-site detention payments for Developer's entire 121 acres at \$3,000.00 per acre. Accordingly, while the Developer Property shall remain subject to fee-in-lieu payment requirements for recording of subdivision plats and issuance of building permits to any third parties, City agrees that it shall, within five (5) business days following Developer's requests from time to time, issue to Developer, at no further cost or expense to Developer or any owner or purchaser of all or any part of the Developer Property, a written waiver or certificate for the benefit of Developer or any owner or purchaser of all or any part of the Developer Property specified by Developer, certifying that the City unconditionally deems the specified property and any and all initial development which may be constructed thereon by the particular purchaser or owner or its assigns to have satisfied the requirements of Section 35.504 (b)(1)(B)(1) of the San Antonio City Code and/or any other successor or related provision of such Code, such that all such initial development on the specified property (regardless of the scope and nature thereof) will be permitted and approved by the City without the necessity of any further fee-in-lieu payment and without requirement for construction of any

on or off-site detention facilities, whether under this Contract or otherwise; provided that each particular applicant for a subdivision plat and building permit shall remain responsible for complying with on-site development design requirements of the City relating to the on-site distribution of storm water, such as providing drainage easements and rights of way, streets, gutters, drainage channels and water courses necessary to convey such stormwater into Leon Creek. If any purchaser, for whatever reason, pays its fee-in-lieu payment directly to the City, the City will remit such direct payment to Developer so that the City does not receive a double fee-in-lieu payment for any part of the Developer Property.

8. Default. Upon the occurrence of a default by Developer in the performance of its obligations hereunder and the failure of Developer to cure such default within thirty (30) days following receipt of written notice of default from City (or such reasonably longer time as may be necessary provided the Developer commences the cure within thirty (30) days and continuously and diligently pursues the cure to completion) (a "Default"), City shall have the right to terminate this Contract.

In the event of Default by Developer, City may require Developer to cease construction and City may, at its option, take over construction of the Project with its own contractor. This Contract shall operate as an agreement by Developer to allow City access to all Construction Documents as necessary to complete the Project in accordance with the Contract Documents. These remedies are in addition to any money damages and/or legal, equitable and/or other contract rights City may have in the event of a Default; provided that it is expressly agreed that neither party shall have the right to seek consequential, special or punitive damages against the other for any default under this Contract.

9. Record. This Contract, at City's option, may be filed and recorded in the real property records of Bexar County, Texas, as to the City Property only. This Contract is a covenant that shall be and is binding on subsequent owners of the City Property or any part thereof, and operates as a covenant that runs with the land as to the City Property. Except as otherwise specifically provided herein, the obligations of this Contract shall be binding upon Developer, but not be binding upon purchasers of the Developer's Property and shall not run with Developer's Land.

10. Representations and Warranties. Developer and City represent, warrant, certify and agree that neither this Contract, nor the Contract Documents, nor any part of the relationship between the parties hereto shall be construed in any way or operate as creating a joint venture, partnership or other business entity between Developer and City.

11. Assignment. Except for Developer's right to deliver written City waivers of fees-in-lieu pursuant to Section 7 hereof, Developer may not assign its rights or obligations under this Contract without the prior written consent of City. Any such assignment, whether voluntary or involuntary, by operation of law, under legal process or proceedings, by receivership, in bankruptcy or otherwise, without the prior written consent of City shall, at City's option, be of no force and effect whatsoever. Any consent to any such assignment or transfer shall not constitute a waiver of any of the restrictions of this section and the provisions of this section shall apply to each successive assignment or other transfer hereunder, if any.

12. **Indemnity.** Developer covenants and agrees to FULLY REIMBURSE, INDEMNIFY, and HOLD HARMLESS, City and the elected officials, agents, employees, officers, directors, volunteers, contractors, subcontractors, consultants, subconsultants and representatives of City individually or collectively, (collectively, the “City Parties”) from and against any and all costs, claims, liens, damages, losses, expenses, fees, fines, proceedings, actions, demands, causes of action, liability and suits of any kind and nature, including, but not limited to, personal injury, death and property damage, (the “Damages”) made upon City, arising out of or resulting from Developer’s negligent activities or omissions under this Contract, including any negligent acts or omissions of any agent, officer, director, representative, employee, consultant, subconsultant, licensee, sublicensee, contractor or subcontractor of Developer, and their respective officers, agents, employees, directors and representatives (collectively, “Developer Parties”) while in the exercise of the performance of the rights or duties under this Contract, all without, however, waiving any governmental immunity available to City under Texas law and without waiving any defenses of the parties under Texas law. THE INDEMNITY PROVIDED FOR IN THIS PARAGRAPH SHALL NOT APPLY TO ANY LIABILITY RESULTING FROM THE NEGLIGENCE OF CITY, OR THE CITY PARTIES IN SUCH INSTANCE WHERE SUCH NEGLIGENCE CAUSES PERSONAL INJURY, DEATH OR PROPERTY DAMAGE. IN THE EVENT DEVELOPER AND CITY ARE FOUND JOINTLY LIABLE BY A COURT OF COMPETENT JURISDICTION, LIABILITY SHALL BE APPORTIONED COMPARATIVELY IN ACCORDANCE WITH THE LAWS OF THE STATE OF TEXAS, WITHOUT, HOWEVER, WAIVING ANY GOVERNMENTAL IMMUNITY AVAILABLE TO CITY UNDER TEXAS LAW AND WITHOUT WAIVING ANY DEFENSES OF THE PARTIES UNDER TEXAS LAW. The provisions of this INDEMNITY are solely for the benefit of the parties hereto and not intended to create or grant any rights, contractual or otherwise, to any other person or entity. Developer shall promptly advise City in writing of any claim or demand against City or Developer known to Developer and related to or arising out of Developer’s negligent activities or omissions under this Contract, and shall see to the investigation and defense of such claim or demand at Developer’s cost. Notwithstanding any condition imposed by a policy of insurance to which Developer and City are named, City shall retain the right, at its option and at its own expense, to participate in such defense provided by any insurance or self-insurance of Developer under this paragraph without relieving Developer of any of its obligations under this paragraph.

To the extent provided by law, City shall be responsible for all claims, demands, and causes of action against City arising in favor of any person, because of personal injuries or death or damage to property, occurring, growing out of, or incident to, related to or resulting directly or indirectly from, the occurrence of activities or omission of activities contemplated by this Contract, caused by the negligence of City and/or any of the City Parties.

Notwithstanding anything in this Agreement to the contrary, the Project does not include, and Developer shall have no responsibility for, the remediation of (or the cost of the remediation of) archaeological materials or any hazardous materials or substances (as defined in applicable environmental laws or regulations) which are discovered on City Property (excluding hazardous

materials or substances released by Developer, or their respective agents, employees or contractors). The City agrees to allocate up to Seventy-Five Thousand Dollars and No Cents (\$75,000.00) for the removal of any trash, hazardous materials or substances (as defined in applicable environmental laws or regulations) which are discovered on City Property.

13. Entire Agreement. The terms of this Contract are intended to be a final expression of the parties agreement and may not be contradicted by evidence of any prior or contemporaneous statements, representations, agreements or understandings, whether written or oral. The parties expressly agree that no such statements, representations, agreements or understandings exist. The parties further intend that this Contract constitutes the complete and exclusive statement of the parties' intent and that no extrinsic evidence may be introduced in any proceeding involving the Contract Documents. No addition to, deletion from, or modification of any term or provision of this Contract shall be effective unless it is made in a writing signed by the parties hereto. Notwithstanding the foregoing, City and Developer hereby agree and acknowledge the continuing validity and existence of those rights and privileges accruing to Developer pursuant to the Culebra Road/Helotes Creek Stormwater Drainage Agreement entered into between City and Developer, dated April 11, 2004.

14. Conflicts Between Documents. In the event of any conflict between the Exhibits hereto and the terms and provisions of this Contract, the terms and provisions of this Contract shall control.

15. Waiver. It is understood and acknowledged that City exercises no control over the means of accomplishing the Work. No approval by City shall impose any liability on City for any risk or damage to persons or property or the City Property or shall imply or guarantee any drainage implications or the operation of the drainage facilities to the parties, any other party or otherwise.

16. Attorneys' Fees. If either party commences an action against the other to enforce any of the terms of this Contract or for damage relative to this Contract, the losing party shall pay to the prevailing party the costs and expenses incurred in connection with the prosecution or defense of such action, including reasonable attorneys' fees and all other costs of suit.

17. Notices. Any notice required or permitted to be given under this Contract shall be in writing and shall be (1) mailed by certified mail, postage prepaid, return receipt requested, or (2) delivered by a nationally recognized overnight air or ground courier service, at its address set forth as follows:

If to Developer: HRS CULEBRA, LLC
 Attn: Herb Krumsick and Johnny Stevens
 1223 N. Rock Rd., Bldg. H, Suite 200
 Wichita, KS 67206
 Telephone No.: (316) 636-2100

With copy to:
Brown P.C.
Attn: Kenneth W. Brown

112 E. Pecan Street, Suite 1490
San Antonio, Texas 78205
(210) 299-3704-Phone

If to City: City of San Antonio
Attn: Mike Frisbie, Director of Capital Improvements Management Services
P.O. Box 839966
San Antonio, Texas 78283-3966
Telephone No.: (210) 207-8024

City of San Antonio
Attn: City Clerk
P.O. Box 839966
San Antonio, Texas 78283-3966
Telephone No.: (210) 207-8940

Any communication so addressed and mailed shall be deemed to be given on the earliest of: (a) when actually received or delivered; (b) when proof of return of certified mail is received; or (c) on the first business day after deposit with an overnight air courier service, if proof to the address of the intended addressee is provided. A change of address may be given by written notice as provided herein.

18. Third Party Beneficiaries. There shall be no third party beneficiaries to this Contract.

19. Partial Invalidity. Any provisions or part of this Contract held to be void or unenforceable under any law or regulation shall be deemed stricken and all remaining provisions shall continue to be valid and binding upon the parties and construed as close as reasonably possible to their original intent.

20. Authority of Signatory. The persons signing on behalf of each of the parties to this Contract represent that they each have the authority to bind their respective party to this Contract. The signature on this Contract or any document on behalf of City is subject to passage of an ordinance approving the authority of such signatory.

21. Gender and Number, Other Terms. Where the context of this Contract permits, the singular shall include the plural, the plural the singular, and the masculine shall include the neuter and feminine.

22. Governing Law and Venue. This Contract shall be construed and interpreted under and shall be governed and enforced according to the laws of the State of Texas. Venue for any legal proceeding arising out of or in connection with this Contract shall be in Bexar County, Texas.

23. No Oral Modification. This Contract shall not be modified orally or by course of conduct or dealing. Any modification of this Contract shall be in writing and signed by the authorized party.

24. Counterparts. The Contract Documents may be executed in counterparts, each of which shall be deemed an original and together shall constitute a single instrument.

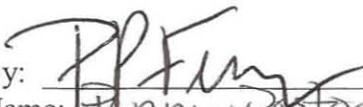
25. Force Majeure. In the event Developer or City is unable in whole or in part by force majeure to carry out any covenant, agreement, obligation or undertaking to be kept or performed under this Contract, the time for the performance of such covenant, agreement, obligation or undertaking so delayed shall be extended for the period of such delay, and such default shall be remedied with all reasonable dispatch. The term "force majeure" as employed in this section shall include acts of God, acts of terrorism, strikes, lockouts, or other industrial disturbances, acts of a public enemy, war, blockades, riots, epidemics, earthquakes, explosions, accidents, or repairs to machinery or pipes, the delays of carriers, or inability by reason of governmental regulation to obtain materials, acts of public authorities, or other causes, whether or not of the same kind as specifically enumerated, not within the control of the party claiming suspension and which by the exercise of due diligence such party is unable to overcome. If the Contractor suffers any event of "force majeure", such event shall likewise constitute force majeure with respect to Developer.

[Signatures on next page]

IN WITNESS WHEREOF, this Contract is entered into as of the day and year set forth above.

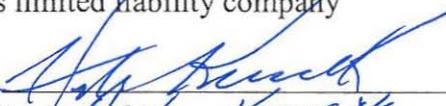
CITY:

CITY OF SAN ANTONIO,
a Texas Municipal Corporation

By: 
Name: Penny Post oak Ferguson
Title: Assistant City manager

DEVELOPER:

HRS CULEBRA, LLC, a
Texas limited liability company

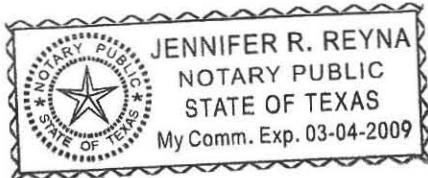
By: 
Name: Herb Kammick
Title: Member

STATE OF TEXAS

§
§
§

COUNTY OF BEXAR

This instrument was acknowledged before me on this 13th day of October, 2008, by Penny Post oak Ferguson, Assist. City Manager of the **CITY OF SAN ANTONIO**, a Texas municipal corporation, on behalf of said corporation.



Jennifer R. Reyna
Notary Public, State of Texas

STATE OF Texas

§
§
§

COUNTY OF BEXAR

This instrument was acknowledged before me on this 1st day of October, 2008, by Herb Kromsick, the Member of **HRS CULEBRA, LLC**, a Texas limited liability company, on behalf of said limited liability company.



Evelyn M. Aguilar
Notary Public, State of _____

Schedule of Exhibits:

- Exhibit A – City Property Description
- Exhibit B – Developer Property
- Exhibit C – Construction Documents
- Exhibit D – Cost Estimates
- Exhibit E – Depiction of Project
- Exhibit F – Temporary Easement

**EXHIBIT A
TO
DEVELOPER PARTICIPATION CONTRACT**

PROPERTY DESCRIPTION

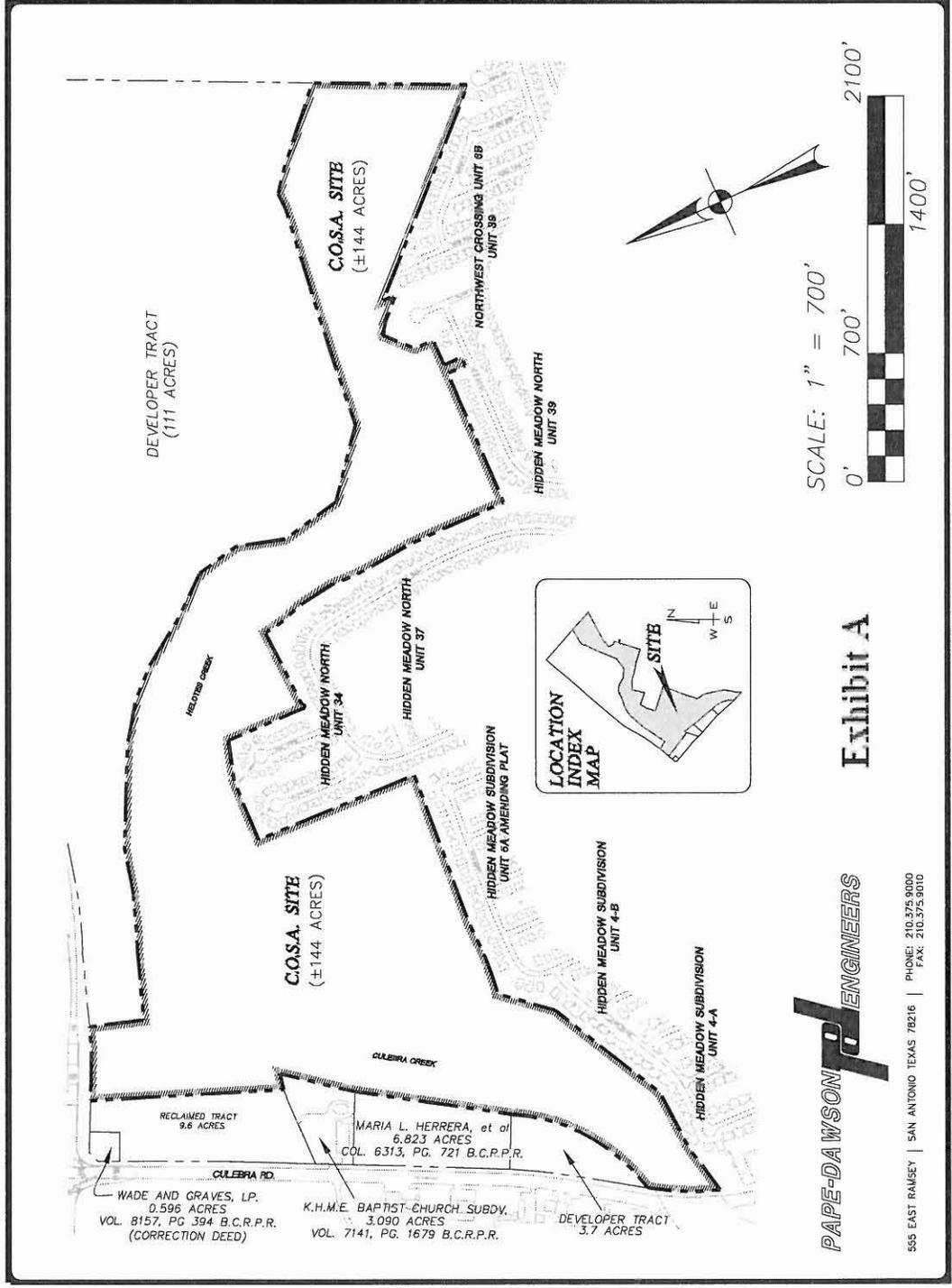


Exhibit A

PAPE-DAWSON ENGINEERS

555 EAST RAMSEY | SAN ANTONIO TEXAS 78216 | PHONE: 210.575.9000
 FAX: 210.575.9010

**EXHIBIT B
TO
DEVELOPER PARTICIPATION CONTRACT**

DEVELOPER PROPERTY DESCRIPTION

See Attached.

LOOP 1604

DEVELOPER TRACT
(±111 ACRES)

DEVELOPER TRACT
(±9.6 ACRES)

C.O.S.A. SITE
(±144 ACRES)

HIDDEN MEADOW NORTH
UNIT 34

HIDDEN MEADOW NORTH
UNIT 37

C.O.S.A. SITE
(±144 ACRES)

HIDDEN MEADOW SUBDIVISION
UNIT 5A AMENDING PLAT

NORTHWEST CROSSING UNIT 3B
UNIT 39

HIDDEN MEADOW NORTH
UNIT 39

HIDDEN MEADOW SUBDIVISION
UNIT 4-B

DEVELOPER TRACT
(±111 ACRES)

WADE AND GRAVES, LP.
0.596 ACRES
VOL. 8157, PG. 334 B.C.R.P.R.
(CORRECTION DEED)

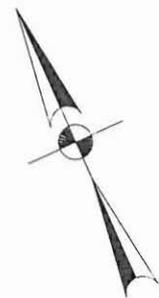
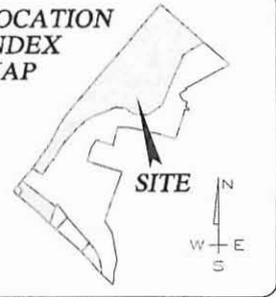
CULEBRA RD.

CULEBRA CREEK

HELOTES CREEK

0.823 ACRES

LOCATION
INDEX
MAP



SCALE: 1" = 700'



1400'

PAPE-DAWSON **PD** ENGINEERS

555 EAST RAMSEY | SAN ANTONIO TEXAS 78216 | PHONE: 210.375.9000
FAX: 210.375.9010

FILL EASEMENT PROPERTIES
FOR CULEBRA CREEK
REGIONAL STORM WATER
FACILITY

**EXHIBIT C
TO
DEVELOPER PARTICIPATION CONTRACT**

DESCRIPTION OF CONSTRUCTION DOCUMENTS

See Attached.



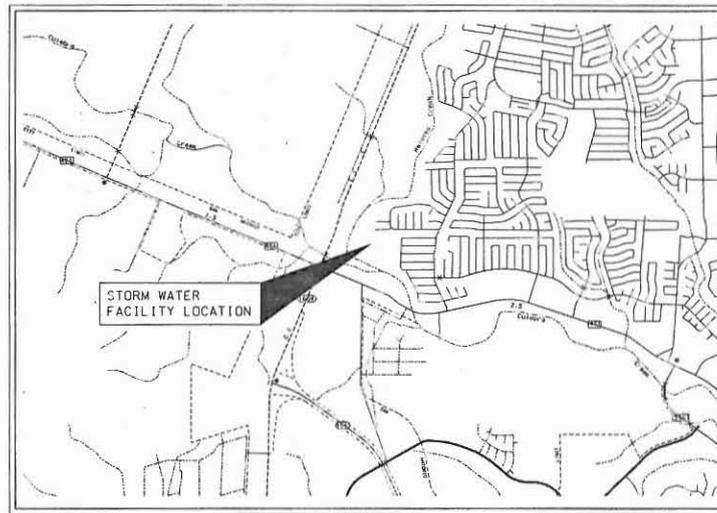
CITY OF SAN ANTONIO

DEPARTMENT OF CAPITAL IMPROVEMENTS MANAGEMENT SERVICES

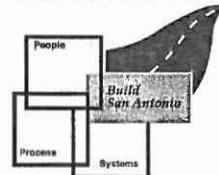
CULEBRA ROAD/LOOP 1604 REGIONAL STORM WATER FACILITY

LEGEND

- DI □ DRAINAGE INLET
- MH ○ MANHOLE
- GUY WIRE
- ⊙ FIRE HYDRANT
- ⊕ LIGHT POLE
- ⊖ POWER POLE
- S ○ SANITARY SEWER MANHOLE
- PROPOSED EASEMENT
- x — BARBED WIRE FENCE
- ⋯ EXISTING UNPAVED ROAD
- — — PROPOSED UNPAVED ROAD
- FLOW LINE
- — — EXISTING SANITARY SEWER LINE
- W — EXISTING WATER LINE
- G — EXISTING GAS LINE
- OH — EXISTING OVERHEAD UTILITY
- ○ CONSTRUCTION FENCE
- LOC — LIMITS OF CONSTRUCTION
- SCF — SILT CONTROL FENCE
- CONCRETE
- LOW AREAS/CUT AREAS
- FLEXBASE PAVEMENT
- ROAD STABILIZATION
- HIGH PERFORMANCE TURF REINFORCEMENT MAT (HPTRM)
- WOVEN TURF REINFORCEMENT MAT (WTRM)
- FLEXIBLE GROWTH MEDIUM (FGM)
- GABION MATTRESS
- ⊕ PRELIMINARY PHASE SAMPLE LOCATION
- ⊖ FINAL DESIGN SAMPLE LOCATION
- — — PROPERTY LINE
- ⊗ PROPERTY IDENTIFICATION
- ⊔ PROPERTY LINE



LOCATION MAP



INDEX OF SHEETS

1	TITLE SHEET
2	GENERAL NOTES & QUANTITY TAKE OFFS
3	KEY PLANS
3	DIMENSION CONTROL/HORIZONTAL CONTROL
4,5	MASS GRADING PLAN
6	UTILITY PLAN
7	STORMWATER POLLUTION PREVENTION PLAN (SWPPP) NARRATIVE
8	STORMWATER POLLUTION PREVENTION CONTROL PLAN
9	STOCKPILE PLAN
10	TEMPORARY EROSION CONTROL DETAILS
11-13	CULEBRA CREEK CHANNEL MODIFICATIONS PLAN & PROFILE
14,15	HELOTES CREEK CHANNEL MODIFICATIONS PLAN & PROFILE
16-18	BERM PLAN & PROFILE
19	ACCESS ROAD PLAN, PROFILE & CROSS SECTIONS
20	POND PLAN
21	DRAINAGE SWALE PLAN
22	WEIR LAYOUT SHEET PLAN & PROFILE
23-31	STRUCTURAL DETAILS
32-37	CULEBRA CREEK CROSS SECTIONS
38-41	HELOTES CREEK CROSS SECTIONS
42-47	BERM/ACCESS ROAD CROSS SECTIONS
48-54	MISCELLANEOUS DETAILS
55	CULEBRA CREEK CHANNEL FLOODPLAIN LIMITS

Submitted by Page-Dawson Engineers	Date
Director of Public Works	Date
Michael Erell, P.E. City Engineer	Date
William E. Krause Capital Programs Manager	Date
Erwin Burden, P.E. CFM Storm Water Utility Administrator	Date
Other Utility	Date

Note:
City signature void if construction not commenced within one year of signature.

OUR MISSION: TOGETHER. DEDICATED TO OUR COMMUNITY... BUILDING A GREAT SAN ANTONIO

- PHASING AND STAGING NOTES - STREET AND DRAINAGE CONSTRUCTION**
- ANY QUESTIONS REGARDING PHASING OR STAGING WILL BE STRICTLY HANDLED BY THE DEPARTMENT OF PUBLIC WORKS WHICH HAS COMPLETE AUTHORITY TO MAKE THE PHASING AND STAGING DECISIONS. THE PHASING AND STAGING SHALL BE IN ACCORDANCE WITH THE CITY'S CONSTRUCTION HIERARCHY 48 HOURS IN ADVANCE, NOT INCLUDING WEEKENDS OR HOLIDAYS OF ANY HIGH STREET CLOSURE. IT WILL BE THE CONTRACTOR'S BURDEN TO ADVISE THE CITY OF ANY STREET CLOSURE. THIS WORK TIME IS NECESSARY TO INSTALL ADVISORY STREET SIGNS AND GIVE THE AUTHORITIES A MINIMUM OF SEVEN (7) DAYS NOTICE BEFORE STREET CLOSURE. THE CONTRACTOR'S OFFICE MUST BE AVAILABLE TO MAKE THE NECESSARY ARRANGEMENTS. THE TEMPORARY BARRICADES AND WARNING SIGNS SHALL BE LOCATED SO AS TO AVOID THE MAXIMUM PROTECTION TO THE PUBLIC AS WELL AS TO BE AVAILABLE TO ALL TIMES DURING CONSTRUCTION.
 - IF THERE ARE TWO (2) OR MORE PHASES IN THE PROJECT, NO MORE THAN TWO (2) PHASES OF CONSTRUCTION MAY BE WORKED AT ONE TIME. PARTIAL CONSTRUCTION AT DIFFERENT SCATTERED LOCATIONS WITHIN THE PROJECT WILL NOT BE ALLOWED. CONSTRUCTION AT THE SAME TIME WITH AN APPROVED FIELD ALLOCATION. ALL REMAINING STREET WITHIN THE PROJECT OR SEPARATE WALK SHALL REMAIN OPEN AT ALL TIMES.
 - UNLESS OTHERWISE INDICATED IN THE PLANS, TWO (2) PHASES IN SEQUENCE MAY BE WORKED AT THE SAME TIME. IN PROJECTS WHERE THERE ARE AT LEAST THREE (3) PHASES, THE CONTRACTOR SHALL BE REQUIRED TO PHASE CONSTRUCTION AS FOLLOWS: 1. MUST BE COMPLETED 100% WITH BASE MATERIAL AND APPROVED DRAINILES (PAVING COATED IF BASE MATERIAL IS 1 1/2" OR 2" FLEXIBLE BASE) BEFORE BEGINNING CONSTRUCTION FROM WITHIN BASE MATERIAL, AND APPROVED DRAINILES (PAVING COATED IF BASE MATERIAL IS 1 1/2" OR 2" FLEXIBLE BASE) BEFORE PROCEEDING TO PHASE 2. 4. IF THE PROJECT HAS MORE THAN SIXTEEN (16) PHASES, BEFORE THE CONTRACTOR CAN BEGIN PHASE 17, HE MUST COMPLETELY FINISH WITH THE "P" OR THE "C" ASPHALT PRODUCT HAS 20 PASSES BEFORE THE CONTRACTOR CAN START CONSTRUCTION OF PHASE 17. HE MUST FINISH THE "P" OR THE "C" ASPHALT UP TO PHASE 8.1.
 - THE PLANS ARE PHASED FOR STREET AND STORM DRAINAGE CONSTRUCTION. NO STORM SEWER CONSTRUCTION WILL TAKE PLACE OUTSIDE OF THE PHASING LIMITS UNDER WRITING BY THE TRAFFIC DIVISION.
 - ALL STORM DRAINAGE PHASES ARE NOT CONSIDERED UTILITIES, REGARDLESS OF SIZE. THIS WORK SHALL BE PART OF THE PHASE.
 - UNLESS OTHERWISE INDICATED IN THE PLANS, INTERSECTING SHEETS SHALL BE CONSIDERED TO BE PART OF THE SAME PHASE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INTERSECTING SHEETS TO BE CONSTRUCTED SIMULTANEOUSLY, WITH APPROVAL FROM THE ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONNECTION OF THE SHEETS TO THE DRAINAGE SYSTEM TO PROVIDE A SEAMLESS FLOW FROM ONE PHASE TO THE NEXT FOR APPROVAL.
- TRAFFIC NOTES AND SPECIAL CONDITIONS**
- IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO SEE THAT ALL TRAFFIC CONTROL DEVICES ARE PROPERLY INSTALLED AND MAINTAINED AT THE JOB SITE IN ACCORDANCE WITH THE CITY'S CONSTRUCTION HIERARCHY 48 HOURS IN ADVANCE, NOT INCLUDING WEEKENDS OR HOLIDAYS OF ANY HIGH STREET CLOSURE. IT WILL BE THE CONTRACTOR'S BURDEN TO ADVISE THE CITY OF ANY STREET CLOSURE. THIS WORK TIME IS NECESSARY TO INSTALL ADVISORY STREET SIGNS AND GIVE THE AUTHORITIES A MINIMUM OF SEVEN (7) DAYS NOTICE BEFORE STREET CLOSURE. THE CONTRACTOR'S OFFICE MUST BE AVAILABLE TO MAKE THE NECESSARY ARRANGEMENTS. THE TEMPORARY BARRICADES AND WARNING SIGNS SHALL BE LOCATED SO AS TO AVOID THE MAXIMUM PROTECTION TO THE PUBLIC AS WELL AS TO BE AVAILABLE TO ALL TIMES DURING CONSTRUCTION.
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- TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE INSTALLED TO THE CITY'S TRAFFIC SIGNAL AND BARRICADE STANDARDS. SIGNS AND TO THE TRUCK SIGNAL ON HIGHWAY TRAFFIC CONTROL DEVICES.
- THE CONTRACTOR MUST MAINTAIN ALL STREETS WITHIN PROJECT LIMITS OPEN TO THROUGH TRAFFIC BY REPAIRING HOLEDS, PATCHES, LEVELING OR OTHER MEANS, ETC. AT NO DIRECT PAYMENT, WITH THE COST TO BE INCLUDED IN OTHER ITEMS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING SUITABLE ACCESS ACCOMMODATIONS FOR SCHOOL, OUTDOOR AND RECREATION.
- THE CONTRACTOR SHALL PROVIDE ACCESS FOR DELIVERY OF MAIL BY THE U.S. POSTAL SERVICE.
- THE CONTRACTOR SHALL PROVIDE FOR ACCESS TO RESIDENCES AND ALL BUSINESSES AT ALL TIMES WITHIN ALL THE PHASES OF THE WORK.
- WHEN CONSTRUCTION WORK NECESSITATES THE UTILIZATION OF VEHICLE PAVING OTHER THAN THE LANE NORMALLY USED, TRAFFIC CONTROL MARKINGS NO LONGER APPLICABLE SHALL BE REMOVED AND APPROPRIATE TEMPORARY PAVEMENT MARKINGS AND SIGNS SHALL BE INSTALLED WITHIN THE PHASES OF THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING SUITABLE ACCESS ACCOMMODATIONS FOR SCHOOL, OUTDOOR AND RECREATION.
- ALL TEMPORARY TRAFFIC CONTROL DEVICES, ETC. SHALL BE PROVIDED BY THE CONTRACTOR WITHOUT DIRECT PAYMENT, UNLESS OTHERWISE NOTED ON STATE.
- THE CITY WILL MAINTAIN THE CONTRACTOR'S TRAFFIC CONTROL DEVICES AND WILL BE RESPONSIBLE TO FURNISH ALL RESIDENTS AND BUSINESSES WITH AN INFORMATION FLYER ON ALL JOBS DURING CONSTRUCTION.
- ANY ORDER TO REINSTATE TRAFFIC SIGNALS, THE CONTRACTOR'S BILLS, LOGS OR CONVOYS DURING OR UPON COMPLETION OF THE PROJECT SHALL BE REPELLED, AS OPPOSED TO INCLUDING, THE DATED ORDER SHALL BE MADE BY THE CITY'S TRAFFIC ENGINEER.
- IF THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ALL STREETS OUTSIDE OF THE PROJECT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF THE STREETS. THIS WILL BE NO DIRECT PAYMENT FOR THIS WORK. THE COST IS TO BE INCLUDED IN OTHER ITEMS.
- OFF-ROAD POLICE OFFICERS WILL BE REQUIRED AS DIRECTED BY THE TRAFFIC ENGINEER AT A DIRECT PAYMENT. COST TO BE INCLUDED IN OTHER ITEMS. THIS WILL BE NO DIRECT PAYMENT FOR THIS WORK. THE COST IS TO BE INCLUDED IN OTHER ITEMS.
- IF PART CONSTRUCTION IS STOPPED, THEN THE SIGNAGE SHALL BE COMPLETED TO THE POINT OF THE STOPPAGE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF THE SIGNAGE. THERE WILL BE NO ADDITIONAL PAYMENT FOR THE MAINTENANCE OF TRAFFIC OR OTHER DEVICES.
- THE CONTRACTOR SHALL PROVIDE THE CITY AN EMERGENCY TELEPHONE NUMBER FOR EMERGENCIES, INCLUDING, BUT NOT LIMITED TO, THE CITY'S TRAFFIC ENGINEER. THIS TELEPHONE NUMBER MUST BE A COMMERCIAL EMERGENCY SERVICE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF THE TELEPHONE NUMBER. THIS WILL BE NO DIRECT PAYMENT FOR THIS WORK. THE COST IS TO BE INCLUDED IN OTHER ITEMS.
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PHASE 1 - Quantity Takeoffs

Item	Description	Unit	Quantity
100.00	Mobilization	L.S.	
100.10	Insurance & Bond	L.S.	
101.00	SW3P	L.S.	
105.00	Prepping ROW	AC	173.00
107.00	Channel & Pond Excavation	CY	686,000.00
107.10	Channel & Pond Fill	CY	747,500.00
200.20	Flex Base (6" Compacted Depth),	CY	3,075.00
300.10	Concrete Class A (Weir)	CY	1,165.00
300.10	Concrete Class A (Channel Protection)	CY	550.00
300.20	Concrete Class A (D/Op)	CY	3,216.00
300.30	Concrete Class "B"	CY	139.00
301.00	Concrete Class "C"	CY	16.00
401.10	Reinforcing Steel	LB	424,000.00
459.00	36" Storm Drainage Pipe, RCP,	LF	3,500.00
507.20	140T Gabion Mattress (12")	SY	9,550.00
507.50	Chain Link Wire Fence (6' High)	LF	4,000.00
512.00	Vehicle Gate	EA	2.00
520.00	Manhole Adjust.	EA	7.00
542.00	Flexible Growth Medium	SY	66,070.00
544.30	Hydro mulching/ Seeding	SY	48,100.00
	High Performance Turf Reinf. Mat	SY	18,050.00
	Woven Turf Reinf. Mat	SY	9,220.00
	Erosion Control/Matting Installation	SY	27,280.00
	Temporary Sediment Control	LF	13,350.00
	Rock Filter Dams (Type III)	LF	1,405.00
	Check Valves	EA	2.00
	Flowable Fill	CY	695.00

PHASE 2 - Quantity Takeoffs

Item	Description	Unit	Quantity
101.00	Prepping ROW	AC	20.00
105.10	Channel & Pond Excavation	CY	553,000.00
300.10	Removal of Excess Material	CY	102.00
301.00	Concrete Class A (Access Road)	CY	7,310.00
301.00	Reinforcing Steel	LB	22,950.00
301.00	Flexible Growth Medium	SY	

GENERAL NOTES & QUANTITY TAKE OFFS

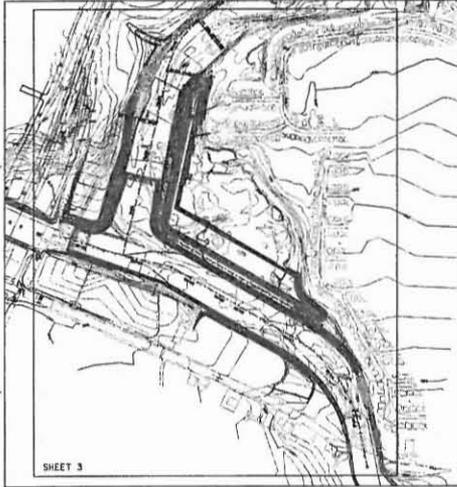
CULEBRA ROAD/LOOP 1604 REGIONAL STORM WATER FACILITY SAN ANTONIO, TEXAS

PAPE-DAWSON ENGINEERS

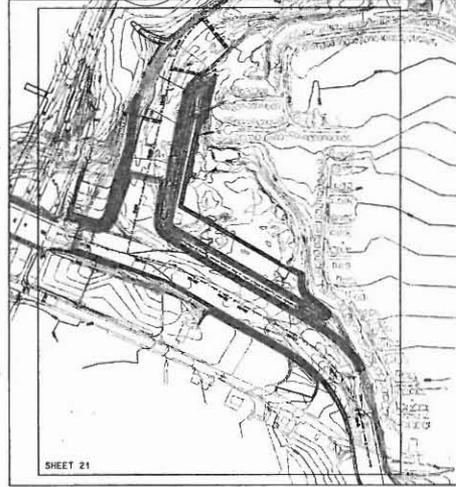
110 EAST MARKET | SAN ANTONIO, TEXAS 78214 | PHONE: 214-375-1000



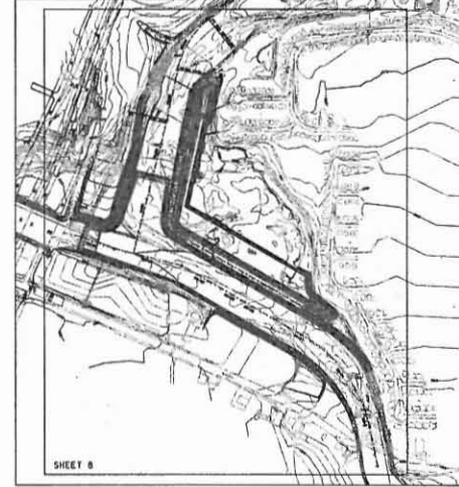
SCALE: N, T, S.	NO.	REVISION	DATE
DATE: 11/12/07	1	UPDATED POND DESIGN, DIVIDED INTO 2 PHASES	11/09/07
DESIGNER: TMO	2	UPDATED MATERIAL DESCRIPTIONS	02/27/08
DRAWN: KFK	3	UPDATED QUANTITIES	05/12/08
CHECKED: RW			
JOB NO.: 5117.04			



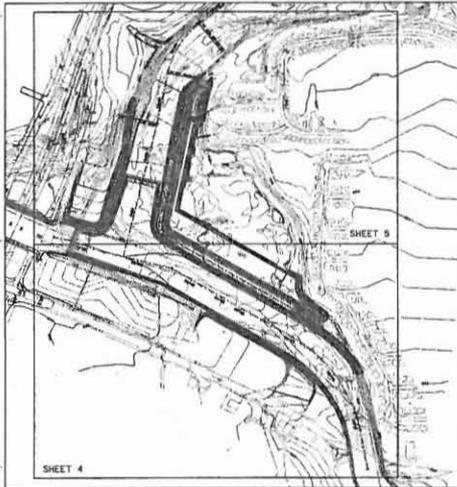
DIMENSION CONTROL PLAN KEY MAP



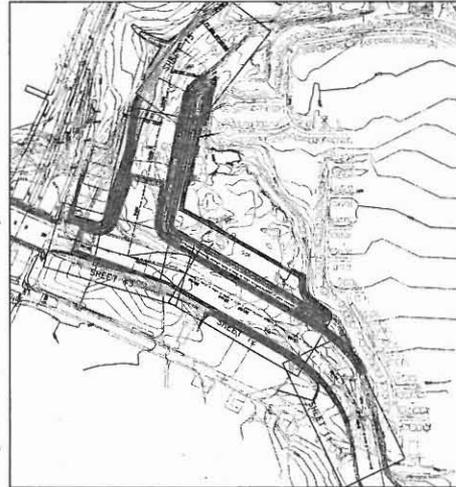
DRAINAGE SWALE PLAN KEY MAP



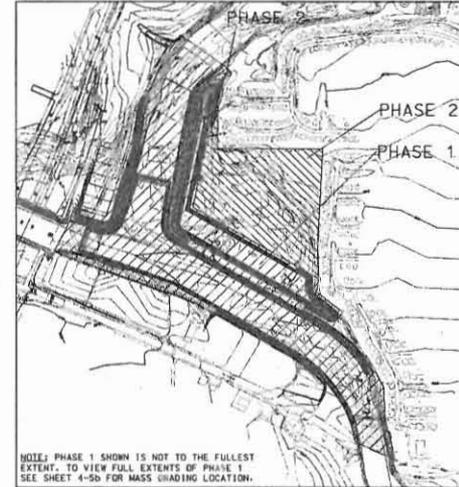
EROSION AND SEDIMENTATION CONTROL PLANS KEY MAP



MASS GRADING PLANS KEY MAP



PLAN AND PROFILE PLANS KEY MAP



PHASING PLAN KEY MAP

DATE:	11/09/07	REVISION:	
NO.:	3	ADDED PHASING PLAN KEY MAP	
DATE:	11/12/07	UPDATED PHASING PLAN KEY MAP	
DESIGNED BY:	KFA		
DRAWN BY:	KFA		
CHECKED BY:	RM		
JOB NO.:	1604.1, 5717.04		

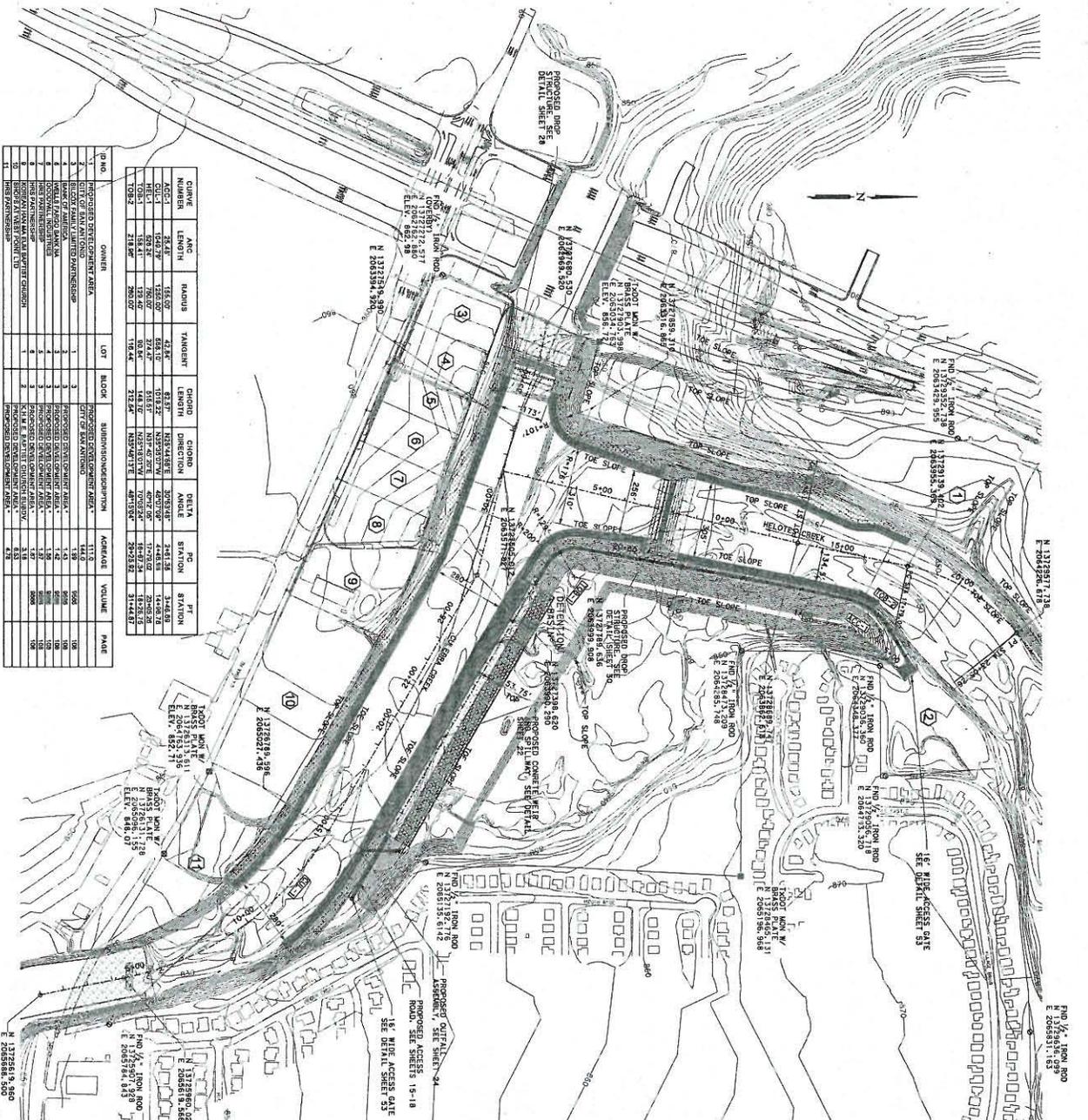
PAPE-DAWSON ENGINEERS

 1604 CULEBRA ROAD, SUITE 100, SAN ANTONIO, TEXAS 78201

KEY PLANS

CULEBRA ROAD/LOOP 1604 REGIONAL STORM WATER FACILITY SAN ANTONIO, TEXAS

SHEET NO. 2 of 55

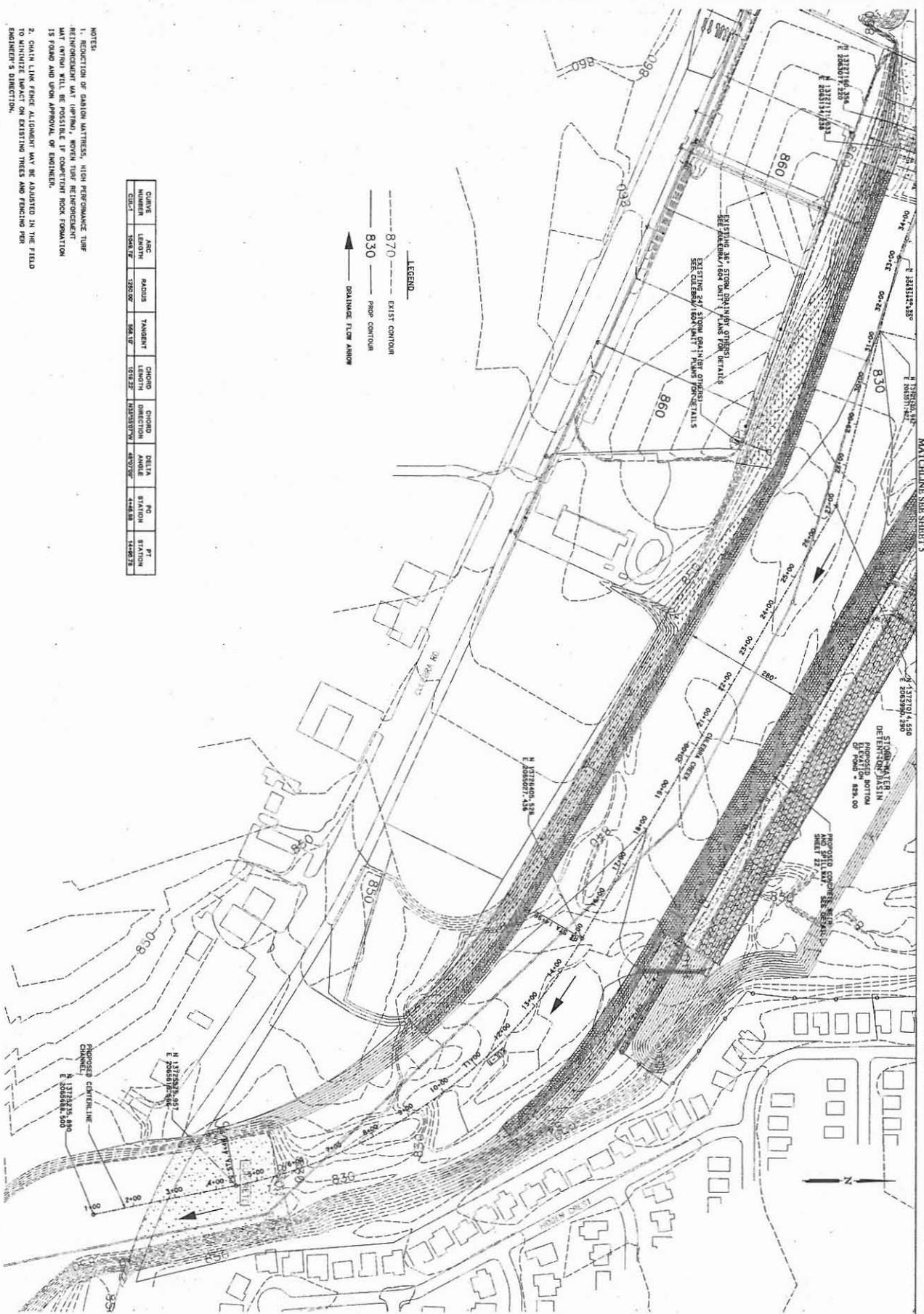


OWNER	LOT	BLOCK	SUBDIVISION/DEVELOPMENT	ACREAGE	VOLUME	DATE
PROPOSED DEVELOPMENT AREA	1	2	PROPOSED DEVELOPMENT AREA	111.9	506	10/1/07
CITY OF SAN ANTONIO	2	2	CITY OF SAN ANTONIO	144.0	506	10/1/07
PROPOSED DEVELOPMENT AREA	3	2	PROPOSED DEVELOPMENT AREA	1.41	100	10/1/07
PROPOSED DEVELOPMENT AREA	4	2	PROPOSED DEVELOPMENT AREA	1.56	100	10/1/07
PROPOSED DEVELOPMENT AREA	5	2	PROPOSED DEVELOPMENT AREA	1.87	100	10/1/07
PROPOSED DEVELOPMENT AREA	6	2	PROPOSED DEVELOPMENT AREA	1.87	100	10/1/07
PROPOSED DEVELOPMENT AREA	7	2	PROPOSED DEVELOPMENT AREA	1.87	100	10/1/07
PROPOSED DEVELOPMENT AREA	8	2	PROPOSED DEVELOPMENT AREA	1.87	100	10/1/07
PROPOSED DEVELOPMENT AREA	9	2	PROPOSED DEVELOPMENT AREA	1.87	100	10/1/07
PROPOSED DEVELOPMENT AREA	10	2	PROPOSED DEVELOPMENT AREA	1.87	100	10/1/07
PROPOSED DEVELOPMENT AREA	11	2	PROPOSED DEVELOPMENT AREA	1.87	100	10/1/07
PROPOSED DEVELOPMENT AREA	12	2	PROPOSED DEVELOPMENT AREA	1.87	100	10/1/07
PROPOSED DEVELOPMENT AREA	13	2	PROPOSED DEVELOPMENT AREA	1.87	100	10/1/07
PROPOSED DEVELOPMENT AREA	14	2	PROPOSED DEVELOPMENT AREA	1.87	100	10/1/07
PROPOSED DEVELOPMENT AREA	15	2	PROPOSED DEVELOPMENT AREA	1.87	100	10/1/07
PROPOSED DEVELOPMENT AREA	16	2	PROPOSED DEVELOPMENT AREA	1.87	100	10/1/07
PROPOSED DEVELOPMENT AREA	17	2	PROPOSED DEVELOPMENT AREA	1.87	100	10/1/07
PROPOSED DEVELOPMENT AREA	18	2	PROPOSED DEVELOPMENT AREA	1.87	100	10/1/07
PROPOSED DEVELOPMENT AREA	19	2	PROPOSED DEVELOPMENT AREA	1.87	100	10/1/07
PROPOSED DEVELOPMENT AREA	20	2	PROPOSED DEVELOPMENT AREA	1.87	100	10/1/07

*AS SHOWN IN THE DEVELOPMENT AGREEMENT

- NOTES:
- 1-7 ALL EXISTING FEATURES ARE SHOWN SCREENED BACK, I.e. FADED.
 - 2) ALL DIMENSIONS ARE TO TOP OF SLOPE, TOE OF SLOPE OR EDGE.
 - 3) FOR GEOMETRIC DATA SEE MASS SHADING PLANS SHEETS 4 AND 5.
 - 4) PRELIMINARY LOCATION AT 978-3500. 76 HOURS BEFORE BEGINNING ANY CONSTRUCTION.
 - 5) THE EXISTENCE AND LOCATION OF UNDERGROUND CABLES IS INDICATED BY THE SHADING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL CABLES AND SHALL BE RESPONSIBLE FOR PROTECTING AND SUPPORTING ALL CABLES DURING CONSTRUCTION.

<p>3 of 55</p> <p>SHEET NO.</p> <p>CULEBRA ROAD/LOOP 1604 REGIONAL STORM WATER FACILITY</p> <p>SAN ANTONIO, TEXAS</p>	<p>DIMENSION CONTROL/HORIZONTAL CONTROL</p>	<p>PAPE-DAWSON ENGINEERS</p> <p>2722</p> <p>1100 EAST HANLEY SAN ANTONIO TEXAS 78214 PHONE: 210-371-3000 FAX: 210-371-3111</p>	SCALE: 1" = 200'	NO.	REVISION:	DATE:
			DATE: 11/12/07	1	UPDATED BASIN DESIGN, QUANTITIES, TURF MAT	11/09/07
			DESIGNER: TMD			
			DRAWN: KFK			
CHECKED: RW						
JOB NO.: 5717.04						



- NOTES:
1. REDUCTION OF GRASS MATTERS, HIGH PERFORMANCE TURF REINFORCEMENT MAT (OPTION), MESH TURF REINFORCEMENT MAT (WHEN AVAILABLE) WILL BE POSSIBLE IF COMPETENT ROCK FORMATION IS FOUND AND UPON APPROVAL OF ENGINEER.
 2. CHAIN LINK FENCE ALIGNMENT MAY BE ADJUSTED IN THE FIELD TO MINIMIZE IMPACT ON EXISTING TREES AND TRACING FOR DRAINAGE'S DIRECTION.

CHAIN LINK FENCE	TYPE	HEIGHT	POSTS PER FOOT	SPACING	WIDTH	DEPTH	AREA	STATION	STATION
CL-1	4x4	42"	12	12.00'	4.00'	4.00'	168.00	1148.00	1148.00

LEGEND

--- 870 --- EXIST. CONTOUR

— 830 — PROPOSED CONTOUR

→ DRAINAGE FLOW ARROW

SHEET NO. 4 OF 55

CULEBRA ROAD/LOOP 1604 REGIONAL STORM WATER FACILITY SAN ANTONIO, TEXAS

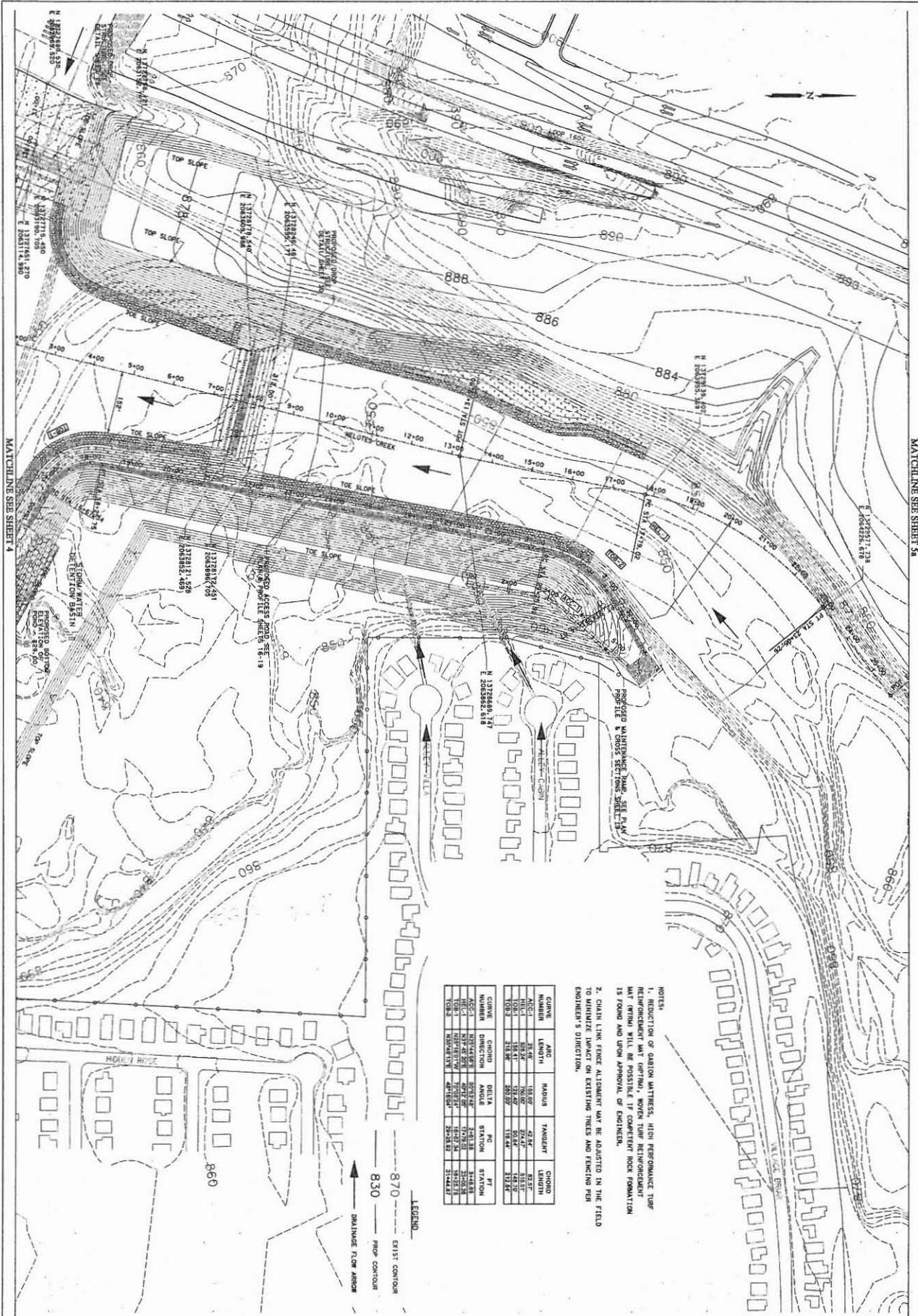
MASS GRADING PLAN SHEET 1 OF 4

PAPE-DAWSON ENGINEERS

100 EAST RAINBOW | SAN ANTONIO, TEXAS 78204 | PHONE: 512.371.5500 | FAX: 512.371.5011



SCALE:	1" = 100'	NO.	REVISION	DATE
DATE:	11/12/07	1	UPDATED BASIN DESIGN, QUANTITIES, TURF MAT	11/09/07
DESIGNER:	TMD	4	UPDATED NOTES	07/08/08
DRAWN:	KFK			
CHECKED:	RW			
JOB NO.:	5717.04			



MATCHLINE SEE SHEET 4

MATCHLINE SEE SHEET 5A

NOTES:

1. REDUCTION OF GABION MATRESS, HIGH PERFORMANCE TURF REINFORCEMENT MAT (OPTION), MOVEN TURF REINFORCEMENT MAT (OPTION) WILL BE POSSIBLE IF COMPETENT ROCK FOUNDATION IS FOUND AND UPON APPROVAL OF ENGINEER.
2. CHAIN LINK FENCE ALIGNMENT MAY BE ADJUSTED IN THE FIELD TO MINIMIZE IMPACT ON EXISTING TREES AND FENCING PER ENGINEER'S DIRECTION.

CURVE NUMBER	ARC LENGTH	CHORD	ANGLE	STATION	PT
101.1	218.84	198.00	42.34	10+00	10+42.34
101.2	156.41	138.00	50.84	10+42.34	10+93.18
101.3	156.41	138.00	50.84	10+93.18	11+44.02
101.4	218.84	198.00	42.34	11+44.02	11+95.86

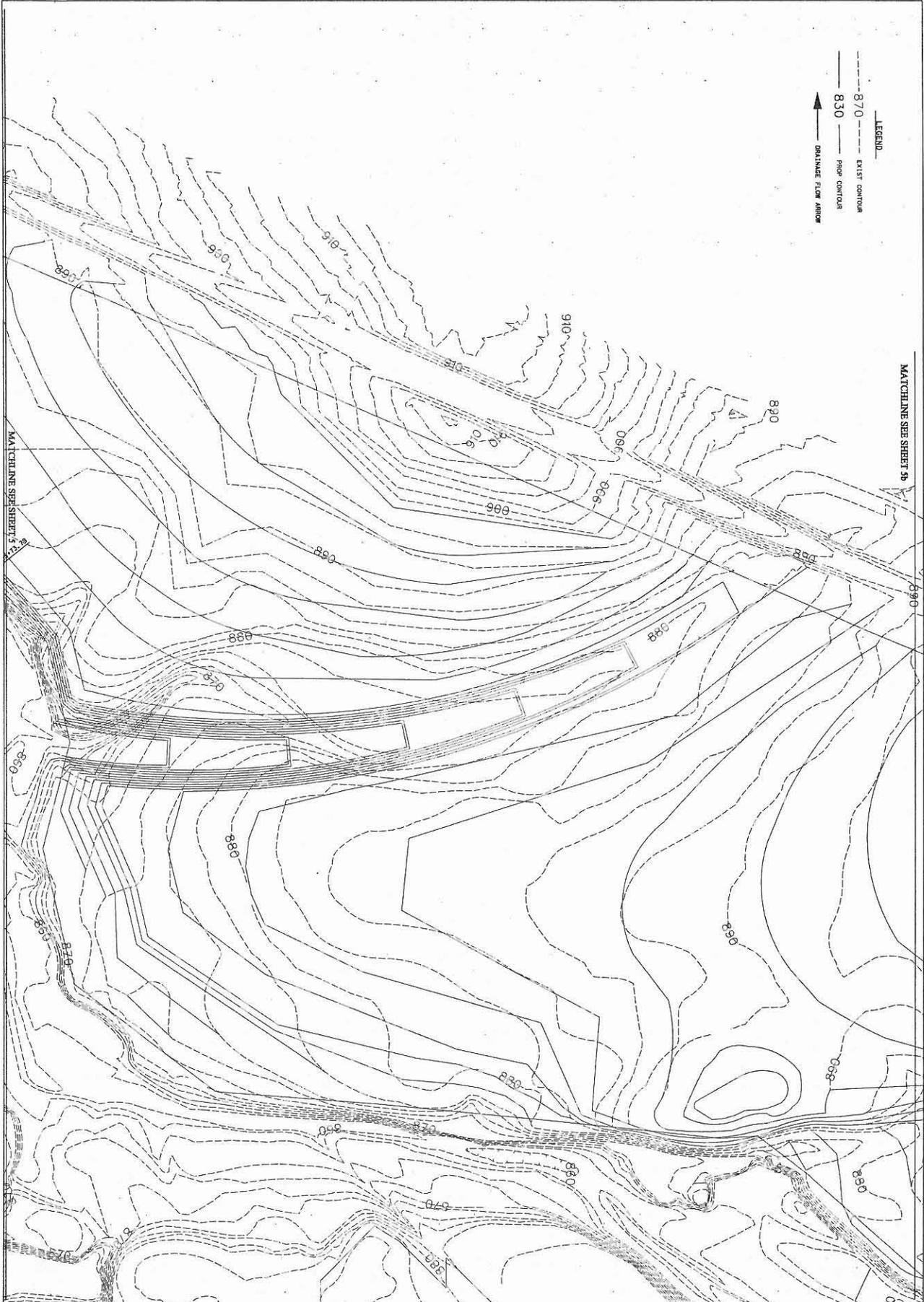
LEGEND
 --- 870 --- EXIST CONTOUR
 --- 830 --- PROPOSED CONTOUR
 --- DRAINAGE FLOW ARROW

SHEET NO. 5 of 55
CULEBRA ROAD/LOOP 1604 REGIONAL STORM WATER FACILITY
 SAN ANTONIO, TEXAS

MASS GRADING PLAN
 SHEET 2 OF 4

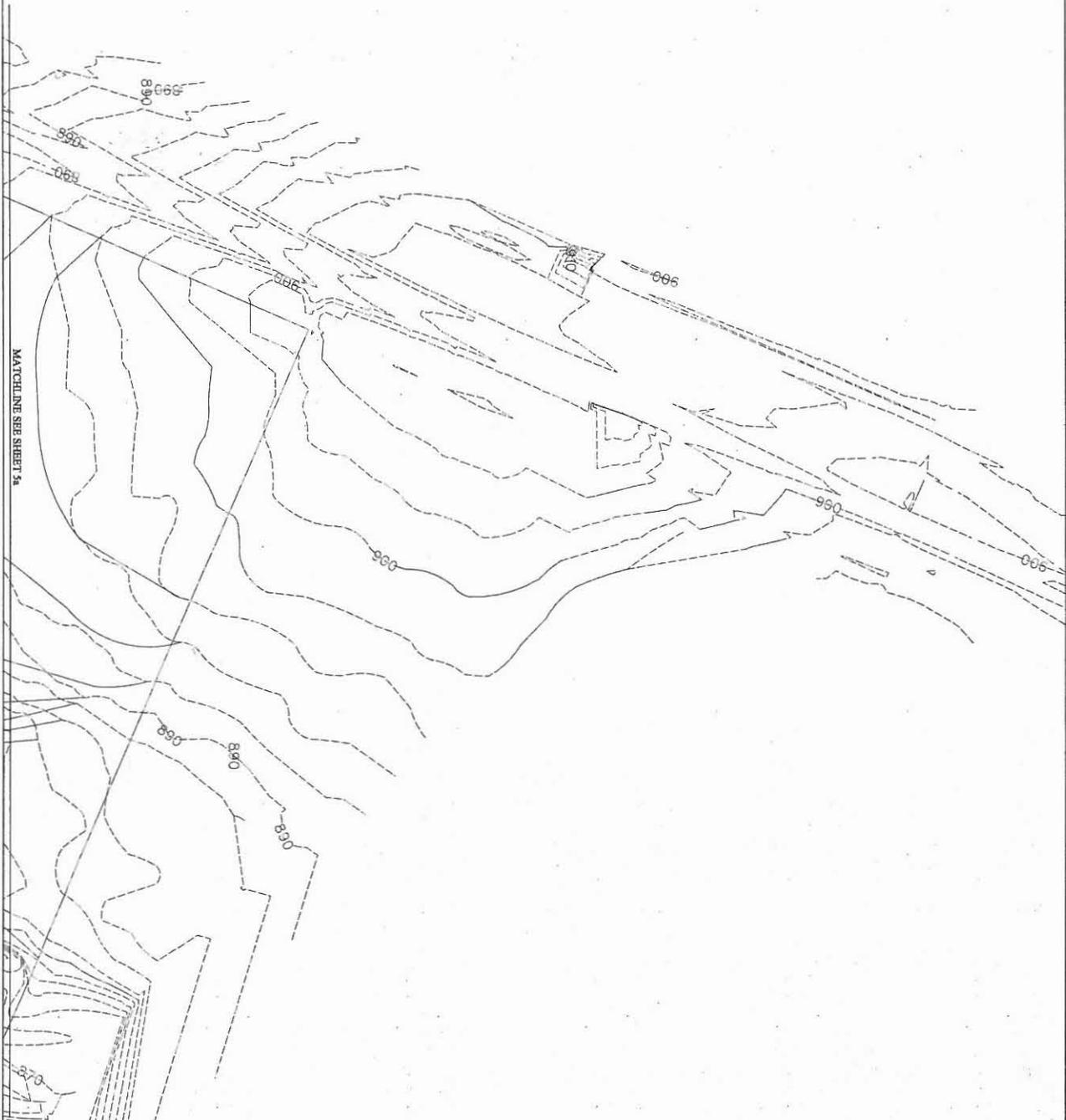
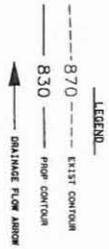


SCALE:	1" = 100'	NO.	REVISION:	DATE:
DATE:	11/12/07	1	UPDATED BASIN DESIGN, QUANTITIES, TURF MAT	11/09/07
DESIGNER:	TMD	4	UPDATED NOTES	07/08/08
DRAWN:	KEK			
CHECKED:	RW			
JOB NO.:	5717.04			

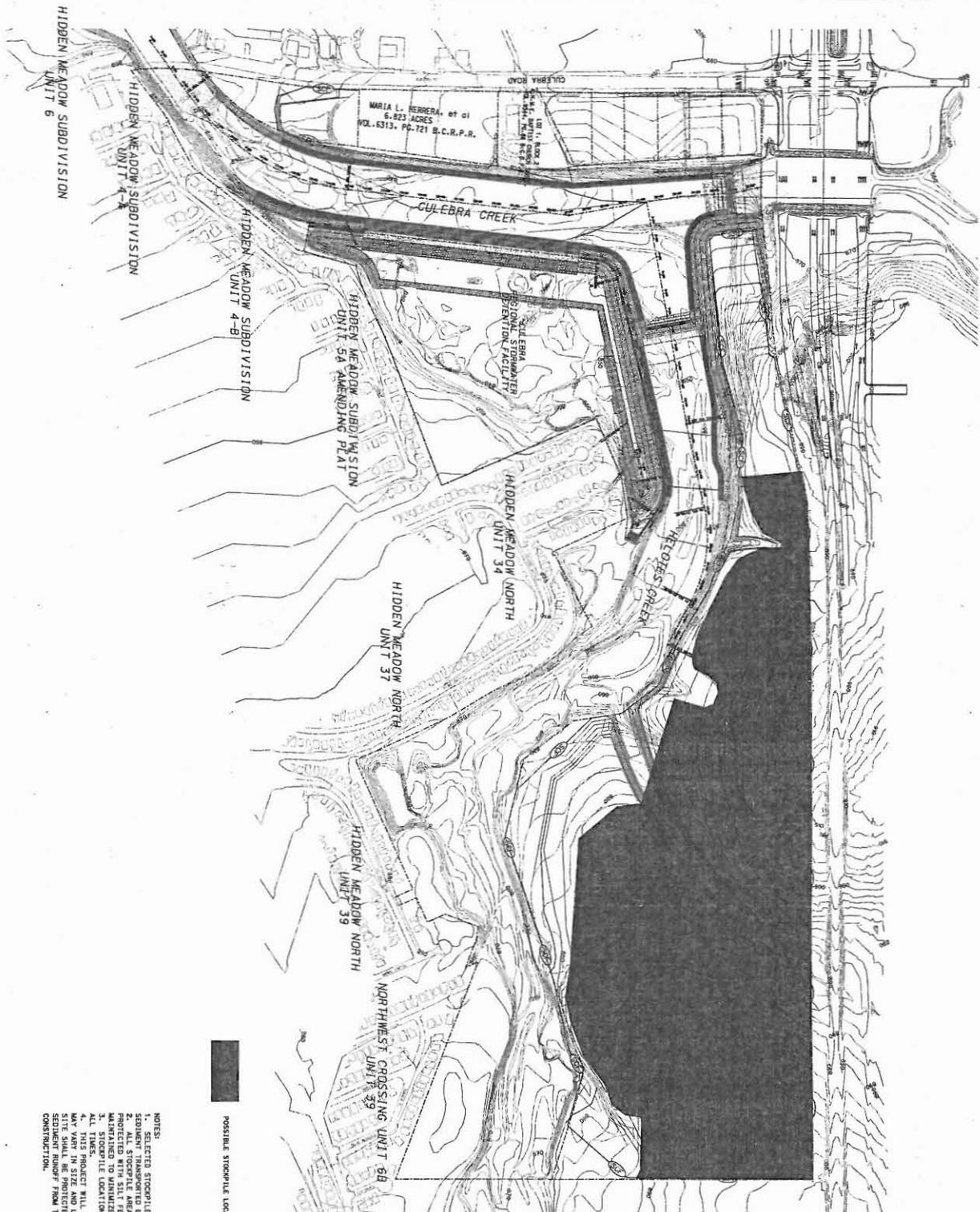


LEGEND
 - - - - - 870 - - - - - EXIST. CONTOUR
 - - - - - 830 - - - - - PIPE CONTOUR
 ———> DRAINAGE FLOW ARROW

SHEET NO. 54 of 55	CULEBRA ROAD/LOOP 1604 REGIONAL STORM WATER FACILITY SAN ANTONIO, TEXAS	MASS GRADING PLAN SHEET 3 OF 4	PAPE-DAWSON ENGINEERS <small>995 EAST PARKWAY SAN ANTONIO, TEXAS 78211 PHONE: 210-379-5000 FAX: 210-379-2012</small>		SCALE:	NO.	REVISION:	DATE:
				DATE:	3	ADDED NEW SHEET TO SHOW EXTENTS OF MASS GRADING	03/12/08	
				DESIGNER:	TMD			
				DRAWN:	KFK			
				CHECKED:	RW			
JOB NO.:	5717.04							



SHEET NO. 5b of 55	CULEBRA ROAD/LOOP 1604 REGIONAL STORM WATER FACILITY SAN ANTONIO, TEXAS		MASS GRADING PLAN SHEET 4 OF 4		<p>PAPE-DAWSON ENGINEERS 105 EAST PARKWAY SAN ANTONIO, TEXAS 78214 PHONE: 210-351-9000 FAX: 210-351-9005</p>		SCALE:	NO.	REVISION:	DATE:		

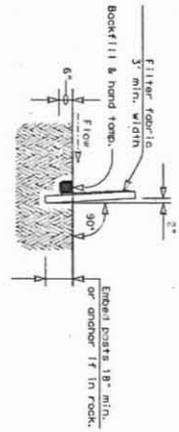


- NOTES:
1. SELECTED STOCKPILE AREAS SHALL BE INSTALLED TO PREVENT SEDIMENT FROM ENTERING THE FACILITY.
 2. STOCKPILE AREAS SHALL BE CONFINED BY A PERIMETER OF SLOTTED STEEL PILING WITH SLOTTING ORIENTED UPSTREAM AND MAINTAINED TO MINIMIZE IMPACT TO SURFACE WATERS.
 3. STOCKPILE LOCATIONS MUST MAINTAIN POSITIVE DRAINAGE AT ALL TIMES.
 4. THIS PROJECT WILL BE CONSTRUCTED IN PHASES. STOCKPILES MAY VARY IN SIZE AND LOCATION. HOWEVER, EACH STOCKPILE SHALL BE MAINTAINED TO PREVENT SEDIMENT FROM ENTERING THE FACILITY FROM THE SITE DURING ALL PHASES OF CONSTRUCTION.

POSSIBLE STOCKPILE LOCATIONS



SHEET NO. 9 OF 155	CULEBRA ROAD/LOOP 1604 REGIONAL STORM WATER FACILITY SAN ANTONIO, TEXAS	STOCKPILE PLAN	 210 EAST HUNNEY SAN ANTONIO, TEXAS 78214 PHONE: 210.515.9000 FAX: 210.515.9005	 Prot W. Dorman	SCALE: 1" = 250'	NO.	REVISION	DATE
					DATE: 11/12/07	1	UPDATED BASIN DESIGN	11/09/07
					DESIGNER: TMD			
					DRAWN: KFK			
					CHECKED: RW			
					JOB NO.: 5717.04			



SECTION A-A

SEDIMENT CONTROL FENCE USAGE GUIDELINES

A sediment control fence may be constructed near the downstream perimeter of a disturbed area along a contour to intercept sediment from overland runoff. A 2 year storm frequency may be used to calculate the flow rate to be filtered.

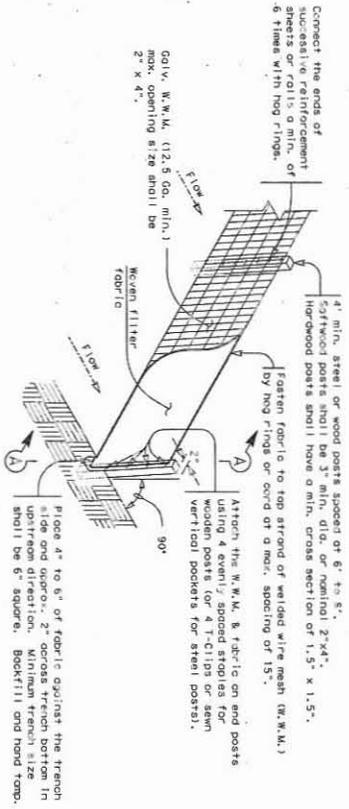
Sediment control fence should be sized to filter a max. flow through rate of 100 gpm/ft. Sediment control fence should be installed to filter erosion from a drainage area larger than 2 acres.

PLAN SHEET LEGEND

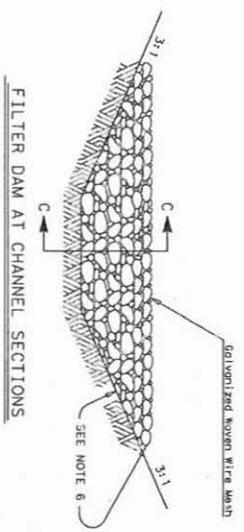


GENERAL NOTES

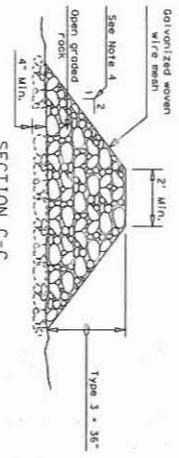
- The guidelines shown herein are suggestions only and may be modified by the Engineer.



TEMPORARY SEDIMENT CONTROL FENCE



FILTER DAM AT CHANNEL SECTIONS



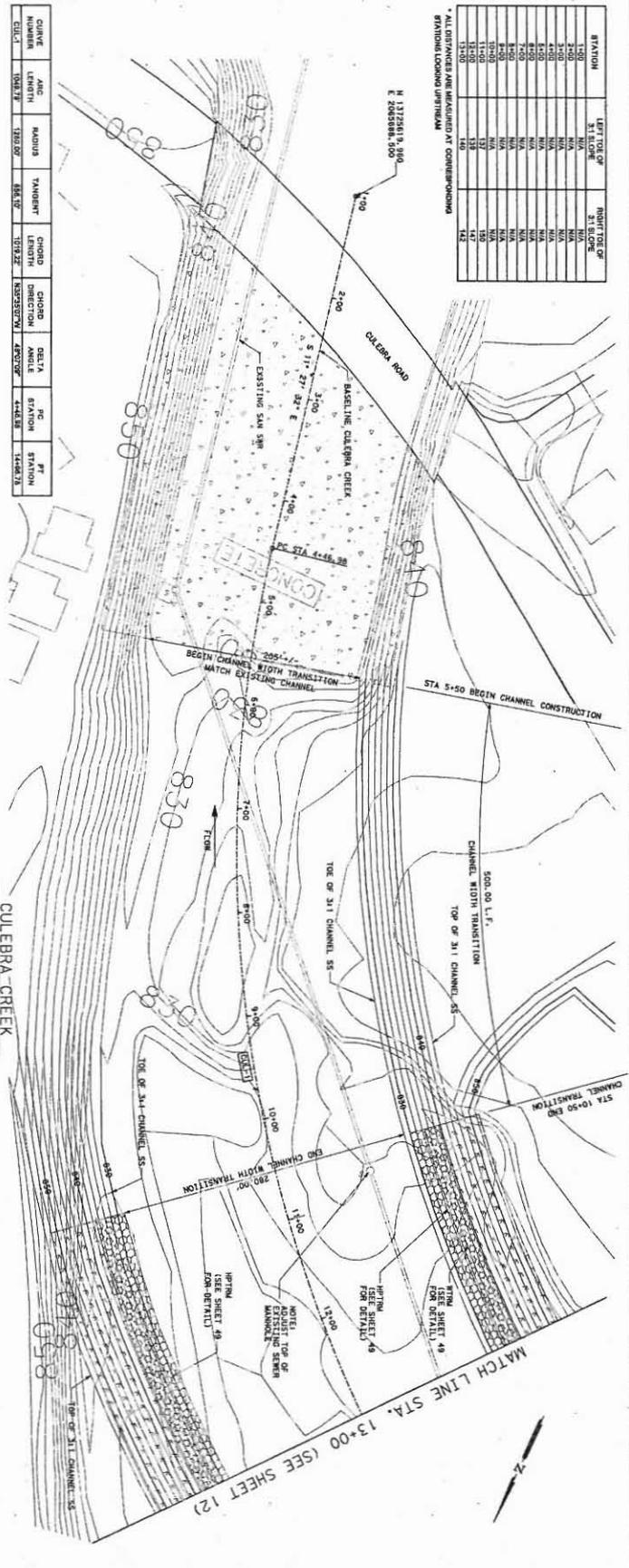
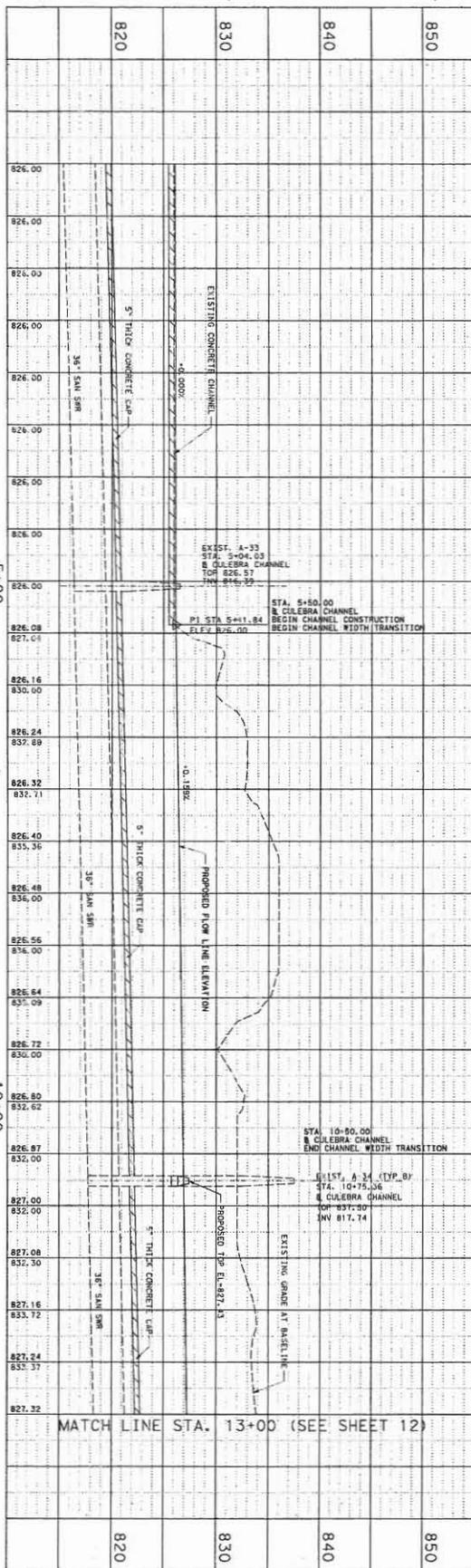
SECTION C-C

ROCK FILTER DAM USAGE GUIDELINES

GENERAL NOTES

- If shown on the plans or directed by the Engineer, filter dams should be placed near the top of slopes where erosion is anticipated, upstream end/or downstream of drainage structures, and in rocky ditches and channels to collect sediment.
- Materials (aggregate, wire mesh, geotextile, etc.) shall be as indicated by the specification for "Rock Filter Dams for Erosion and Sedimentation Control".
- The rock filter dam dimensions shall be as indicated on the 3/8\"/>

<p>10-55</p>	<p>CULEBRA ROAD/LOOP 1604 REGIONAL STORM WATER FACILITY SAN ANTONIO, TEXAS</p>	<p>TEMPORARY EROSION CONTROL DETAILS</p>	<p>PAPE-DAWSON ENGINEERS</p>		SCALE: N. T. S.	NO.	REVISION:	DATE:
					<p>DATE: 11/12/07</p> <p>DESIGNER: TMO</p> <p>DRAWN: KFK</p> <p>CHECKED: RW</p> <p>JOB NO.: 5717.04</p>			

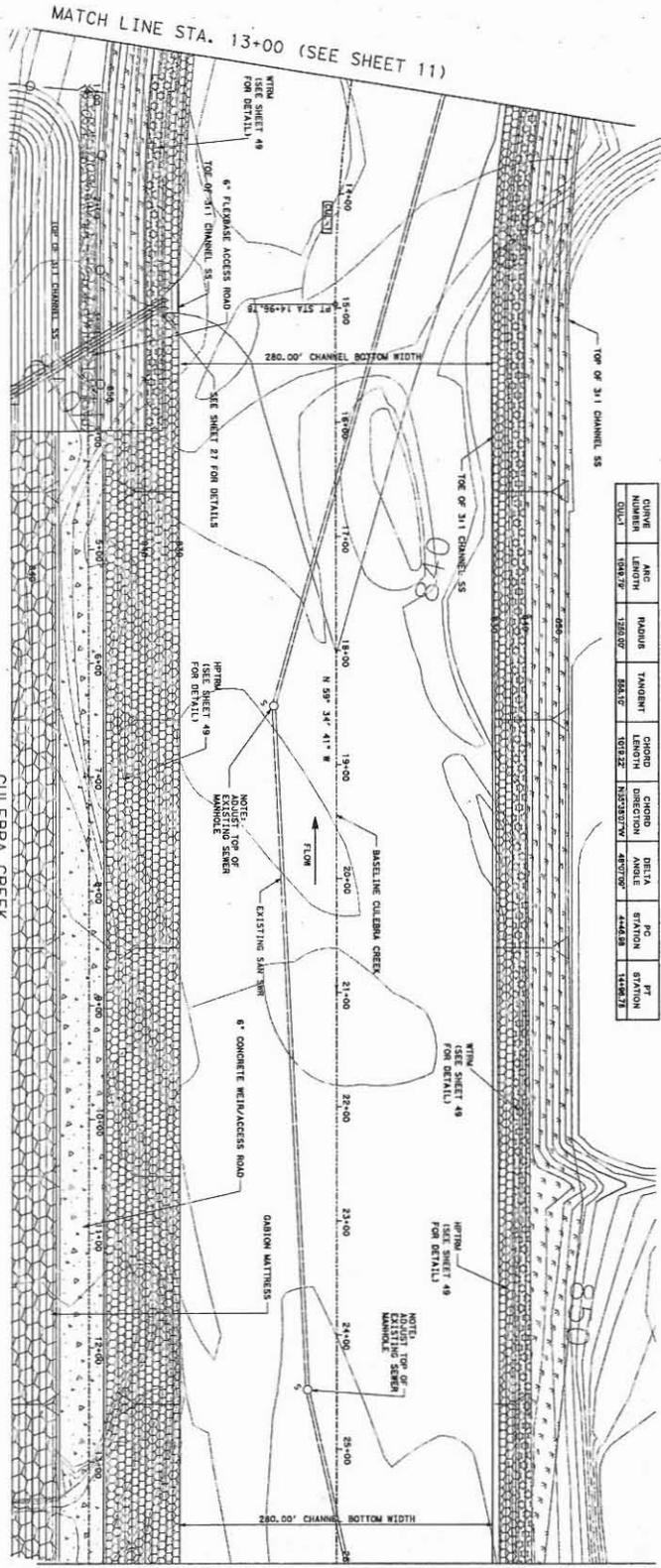
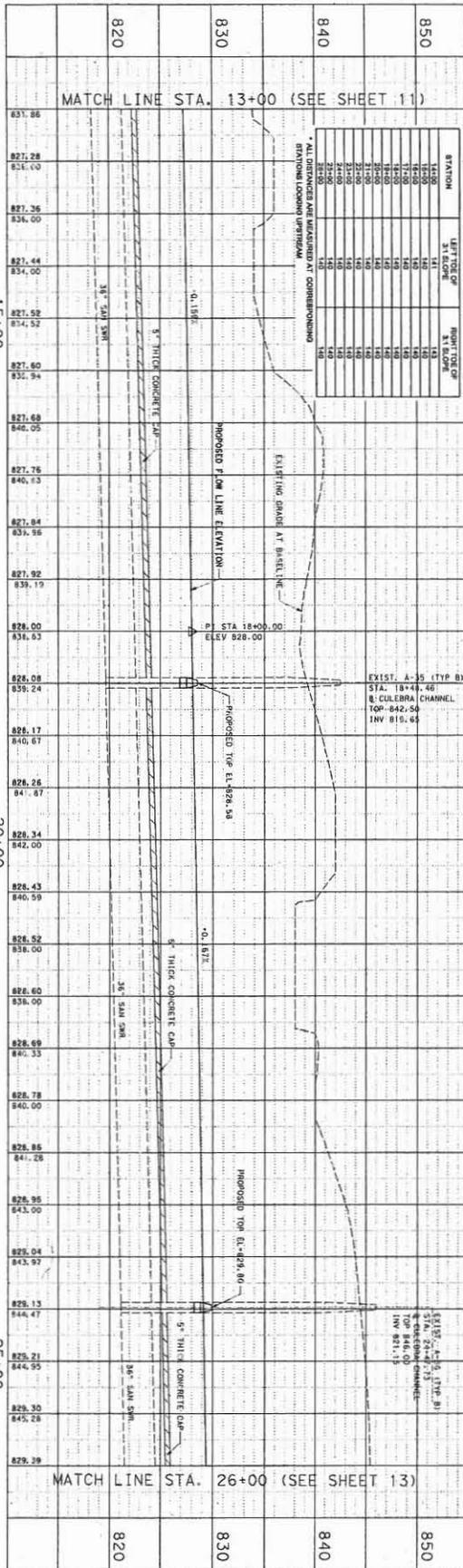


STATION	LEFT TOE OF 3:1 SLOPE	RIGHT TOE OF 3:1 SLOPE
1+00	N/A	N/A
2+00	N/A	N/A
3+00	N/A	N/A
4+00	N/A	N/A
5+00	N/A	N/A
6+00	N/A	N/A
7+00	N/A	N/A
8+00	N/A	N/A
9+00	N/A	N/A
10+00	N/A	N/A
11+00	N/A	N/A
12+00	N/A	N/A
13+00	N/A	N/A

CHORD	ARC	CHORD	CHORD	DELTA	PC	PT
NUMBER	LENGTH	MODULUS	LENGTH	ANGLE	STATION	STATION
CURVE	DATA	DATA	DATA	DATA	DATA	DATA
1	104.73	120.00	104.73	103.32°	4+42.38	14+06.73

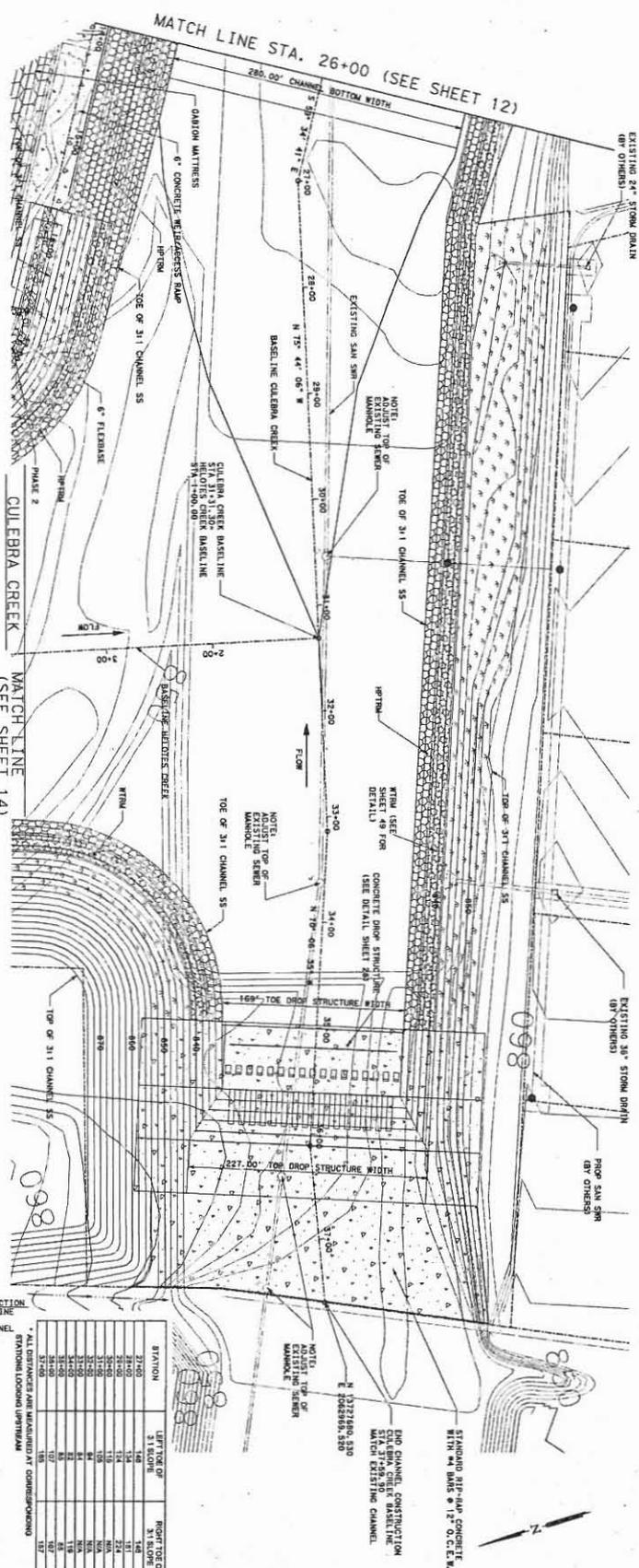
* ALL DISTANCES ARE MAINTAINED AT CORNER/ENDING STATION LOCATIONS UNLESS NOTED

SHEET NO. 11 of 15	CULEBRA ROAD/LOOP 1604 REGIONAL STORM WATER FACILITY SAN ANTONIO, TEXAS	CULEBRA CREEK CHANNEL MODIFICATIONS PLAN & PROFILE STA. 1+00 TO 13+00	PAPE-DAWSON ENGINEERS 803 EAST MARKET SAN ANTONIO TEXAS 78214 PHONE: 214-271-0000 FAX: 214-271-0001	SCALE: 1" = 50' DATE: 11/12/07 DESIGNER: TMD DRAWN: KFK CHECKED: RW JOB NO.: 5717.04	REVISION:	DATE:



SHEET NO. 12 of 55	CULEBRA ROAD/LOOP 1604 REGIONAL STORM WATER FACILITY SAN ANTONIO, TEXAS	CULEBRA CREEK CHANNEL MODIFICATIONS PLAN & PROFILE STA. 13+00 TO 26+00	PAPE-DAWSON ENGINEERS 303 EAST GARDNER SAN ANTONIO, TEXAS 78211 PHONE: 214-375-5000 FAX: 214-375-5005		SCALE: 1" = 50'	NO.	REVISION:	DATE:
					DATE: 11/12/07	3	UPDATED PROPOSED TOP OF MH ELEVATIONS	03/12/08
					DESIGNER: TMD			
					DRAWN: KFK			
					CHECKED: RW			
					JOB NO.: 5717.04			

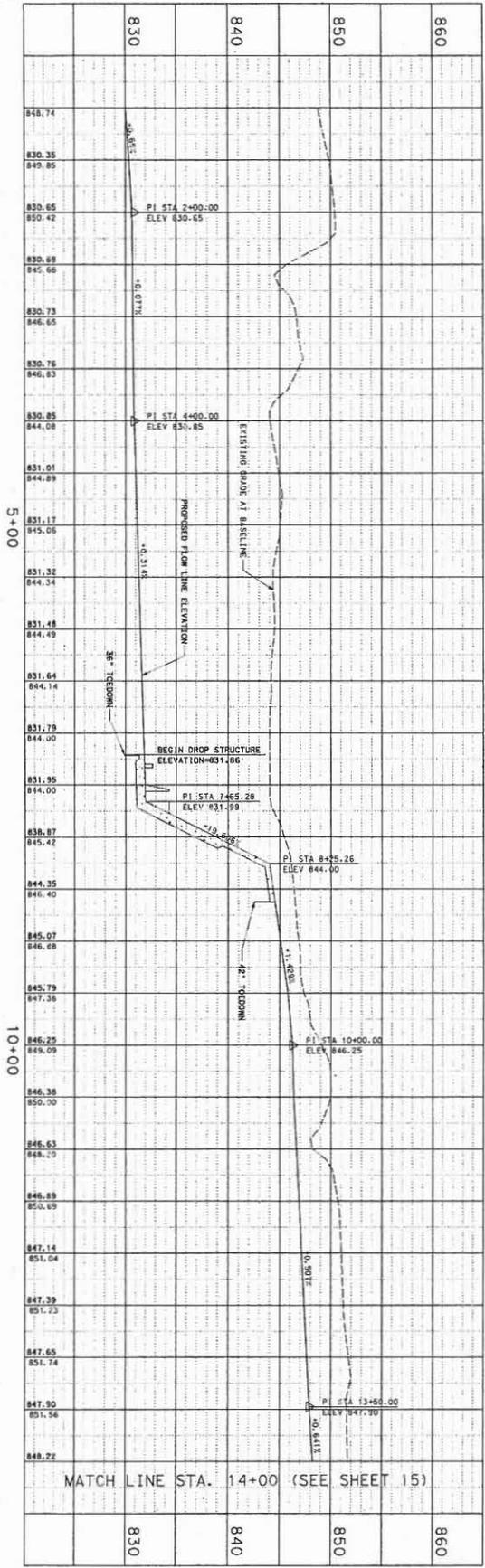
850	841.42	MATCH LINE STA. 26+00 (SEE SHEET 12)
850	828.47	
850	845.69	
850	825.56	
850	845.33	
850	825.61	
850	844.60	
850	829.66	
850	841.67	
850	825.71	
850	845.45	
850	821.76	
850	848.20	
850	825.82	
850	846.42	
850	825.87	
850	849.43	
850	824.92	
850	845.59	
850	826.97	
850	845.94	
850	830.09	
850	849.77	
850	830.32	
850	846.90	
850	830.55	
850	848.60	
850	830.78	
850	847.80	
850	831.01	
850	847.23	
850	831.25	
850	847.55	
850	831.48	
850	847.43	
850	831.71	
850	847.20	
850	831.95	
850	847.00	
850	832.64	
850	847.18	
850	842.13	
850	846.40	
850	842.30	
850	843.82	
850	842.47	
850	842.52	
840	842.47	
840	842.52	
830	842.47	
830	842.52	
820	842.47	
820	842.52	



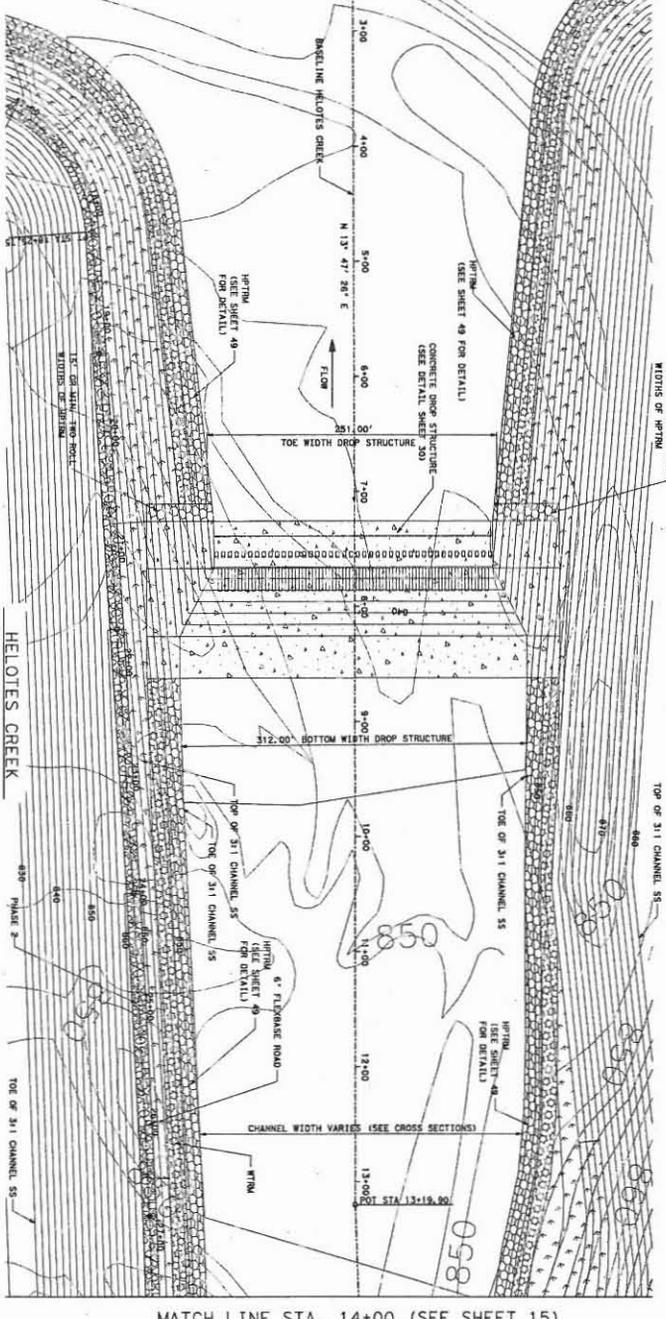
ALL DIMENSIONS UNLESS INDICATED IN CONCRETE WORK SHALL BE IN FEET AND INCHES (ROUNDED UP).

STATION	LEFT TOP OF	RIGHT TOP OF
27+00	1.148	1.148
27+10	1.148	1.148
27+20	1.148	1.148
27+30	1.148	1.148
27+40	1.148	1.148
27+50	1.148	1.148
27+60	1.148	1.148
27+70	1.148	1.148
27+80	1.148	1.148
27+90	1.148	1.148
28+00	1.148	1.148
28+10	1.148	1.148
28+20	1.148	1.148
28+30	1.148	1.148
28+40	1.148	1.148
28+50	1.148	1.148
28+60	1.148	1.148
28+70	1.148	1.148
28+80	1.148	1.148
28+90	1.148	1.148
29+00	1.148	1.148
29+10	1.148	1.148
29+20	1.148	1.148
29+30	1.148	1.148
29+40	1.148	1.148
29+50	1.148	1.148
29+60	1.148	1.148
29+70	1.148	1.148
29+80	1.148	1.148
29+90	1.148	1.148
30+00	1.148	1.148
30+10	1.148	1.148
30+20	1.148	1.148
30+30	1.148	1.148
30+40	1.148	1.148
30+50	1.148	1.148
30+60	1.148	1.148
30+70	1.148	1.148
30+80	1.148	1.148
30+90	1.148	1.148
31+00	1.148	1.148
31+10	1.148	1.148
31+20	1.148	1.148
31+30	1.148	1.148
31+40	1.148	1.148
31+50	1.148	1.148
31+60	1.148	1.148
31+70	1.148	1.148
31+80	1.148	1.148
31+90	1.148	1.148
32+00	1.148	1.148
32+10	1.148	1.148
32+20	1.148	1.148
32+30	1.148	1.148
32+40	1.148	1.148
32+50	1.148	1.148
32+60	1.148	1.148
32+70	1.148	1.148
32+80	1.148	1.148
32+90	1.148	1.148
33+00	1.148	1.148
33+10	1.148	1.148
33+20	1.148	1.148
33+30	1.148	1.148
33+40	1.148	1.148
33+50	1.148	1.148
33+60	1.148	1.148
33+70	1.148	1.148
33+80	1.148	1.148
33+90	1.148	1.148
34+00	1.148	1.148
34+10	1.148	1.148
34+20	1.148	1.148
34+30	1.148	1.148
34+40	1.148	1.148
34+50	1.148	1.148
34+60	1.148	1.148
34+70	1.148	1.148
34+80	1.148	1.148
34+90	1.148	1.148
35+00	1.148	1.148
35+10	1.148	1.148
35+20	1.148	1.148
35+30	1.148	1.148
35+40	1.148	1.148
35+50	1.148	1.148
35+60	1.148	1.148
35+70	1.148	1.148
35+80	1.148	1.148
35+90	1.148	1.148
36+00	1.148	1.148
36+10	1.148	1.148
36+20	1.148	1.148
36+30	1.148	1.148
36+40	1.148	1.148
36+50	1.148	1.148
36+60	1.148	1.148
36+70	1.148	1.148
36+80	1.148	1.148
36+90	1.148	1.148
37+00	1.148	1.148
37+10	1.148	1.148
37+20	1.148	1.148
37+30	1.148	1.148
37+40	1.148	1.148
37+50	1.148	1.148
37+60	1.148	1.148
37+70	1.148	1.148
37+80	1.148	1.148
37+90	1.148	1.148
38+00	1.148	1.148

SHEET NO. 13 OF 15	CULEBRA ROAD/LOOP 1604 REGIONAL STORM WATER FACILITY SAN ANTONIO, TEXAS	CULEBRA CREEK CHANNEL MODIFICATIONS PLAN & PROFILE STA. 26+00 TO 37+59.90	<p>PAPE-DAWSON ENGINEERS</p> <p>305 EAST RAINBOW SAN ANTONIO, TEXAS 78214 PHONE: 512.335.9900 FAX: 512.335.9910</p>	SCALE: 1" = 50'	NO.	REVISION	DATE
	DATE: 11/12/07	3		UPDATED PROPOSED TOP OF M ELEVATIONS	03/17/08		
DESIGNER: TMD	DRAWN: KFK	CHECKED: RW	JOB NO.: 5717.04				



STATION	ELEVATION OF 31' CHANNEL	ELEVATION OF 31' CHANNEL
1+00	N/A	N/A
2+00	830.65	830.65
3+00	830.65	830.65
4+00	835.85	835.85
5+00	835.85	835.85
6+00	835.85	835.85
7+00	831.59	831.59
8+00	831.59	831.59
9+00	831.59	831.59
10+00	846.25	846.25
11+00	846.25	846.25
12+00	846.25	846.25
13+00	847.90	847.90
14+00	847.90	847.90
15+00	847.90	847.90
16+00	847.90	847.90
17+00	847.90	847.90
18+00	847.90	847.90
19+00	847.90	847.90
20+00	847.90	847.90



MATCH LINE STA. 14+00 (SEE SHEET 15)

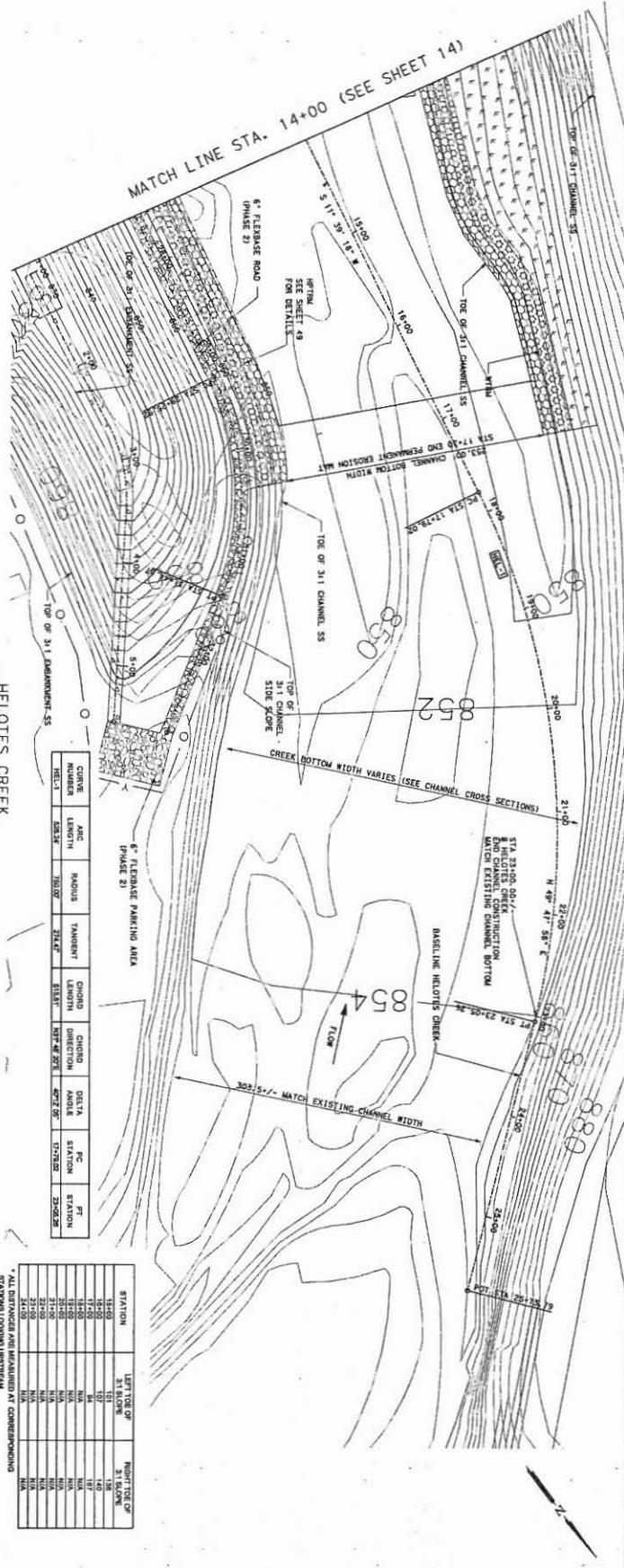
SHEET NO. 14 of 55
 CULEBRA ROAD/LOOP 1604
 REGIONAL STORM
 WATER FACILITY
 SAN ANTONIO, TEXAS

HELOTES CREEK CHANNEL
 MODIFICATIONS
 PLAN & PROFILE
 STA. 1+00 TO 14+00



SCALE: 1" = 50'	NO.	REVISION:	DATE:
DATE: 11/12/07	3	UPDATED HPTRM ON DROP STRUCTURE	03/12/08
DESIGNER: TMD			
DRAWN: KFR			
CHECKED: RW			
JOB NO.: 5717.04			

860	851.67	MATCH LINE STA. 14+00 (SEE SHEET 14)	860
860	848.54		860
860	851.47		860
860	848.86		860
860	851.62		860
860	849.18		860
860	851.33		860
860	849.50		860
860	852.40		860
860	849.83		860
860	853.78		860
860	850.15		860
860	854.37		860
860	850.47		860
860	853.4		860
860	850.79		860
860	852.7		860
860	851.11		860
860	852.0		860
860	851.43		860
860	851.5		860
860	851.75		860
860	852.7		860
860	852.07		860
860	853.0		860
860	852.39		860
860	853.2		860
860	852.71		860
860	853.4		860
860	853.03		860
860	853.7		860
860	853.25		860
860	854.0		860
860	853.67		860
860	854.0		860
860	854.00		860
860	854.0		860
860	856.0		860
860	856.3		860
860	857.5		860
860	856.2		860
860	854.0		860
830			830



CURVE NUMBER	ARC LENGTH	ANGLE	PC STATION	PNT STATION	PT STATION
HELT 1	583.2	162.0°	852.00	853.67	854.00

STATION	LEFT TOP OF ST. ELEVATION	RIGHT TOP OF ST. ELEVATION
852.00	852.00	852.00
853.00	853.00	853.00
854.00	854.00	854.00
855.00	855.00	855.00
856.00	856.00	856.00
857.00	857.00	857.00
858.00	858.00	858.00
859.00	859.00	859.00
860.00	860.00	860.00

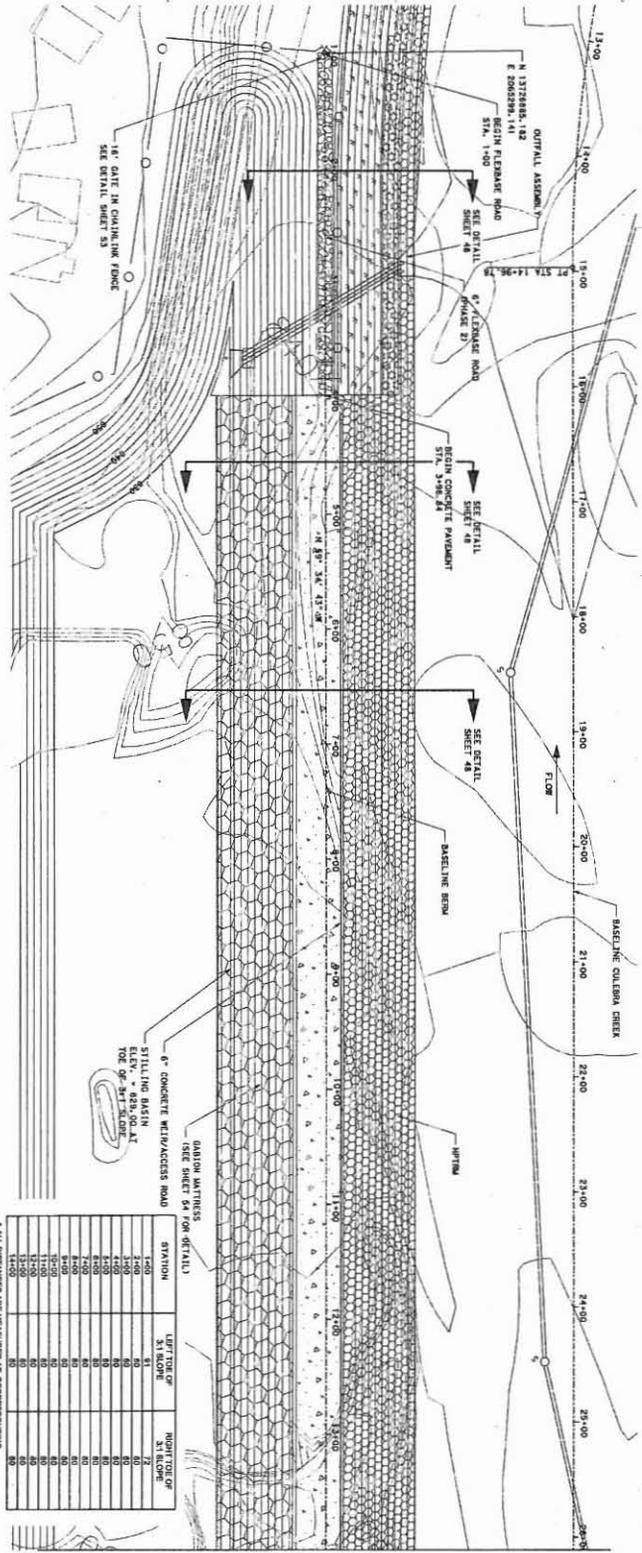
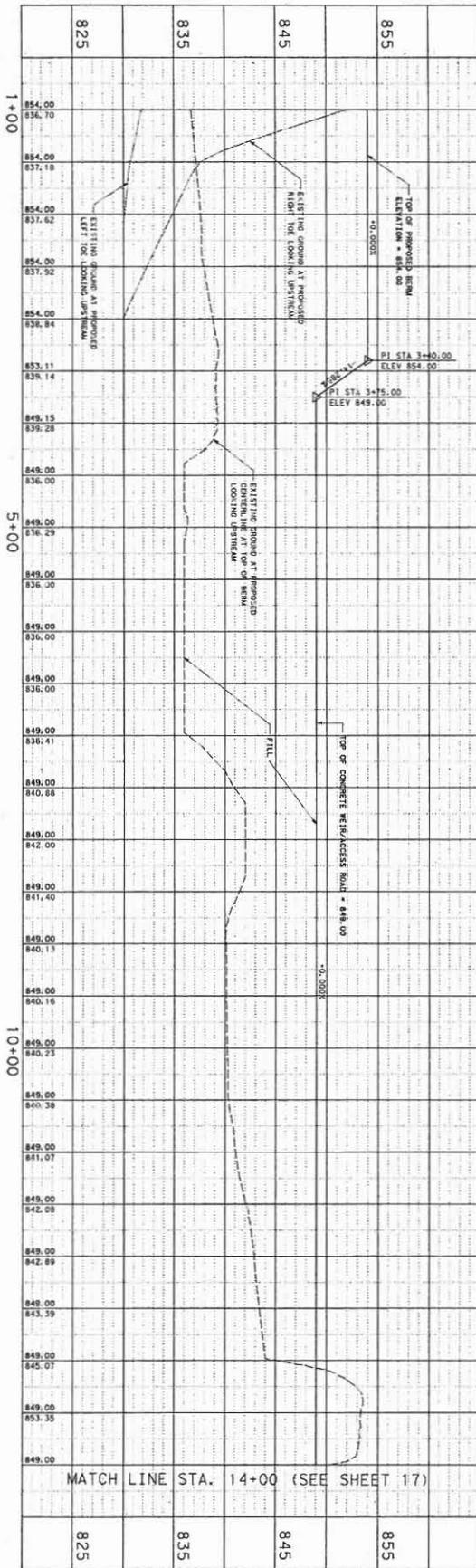
ALL DIMENSIONS ARE UNLESS OTHERWISE SPECIFIED IN COMPASS BEARING STATIONING (LOOKING UPSTREAM)

SHEET NO. 15 of 55
 CULEBRA ROAD/LOOP 1604 REGIONAL STORM WATER FACILITY
 SAN ANTONIO, TEXAS

HELOTES CREEK CHANNEL MODIFICATIONS
 PLAN & PROFILE
 STA. 14+00 TO 24+98.80



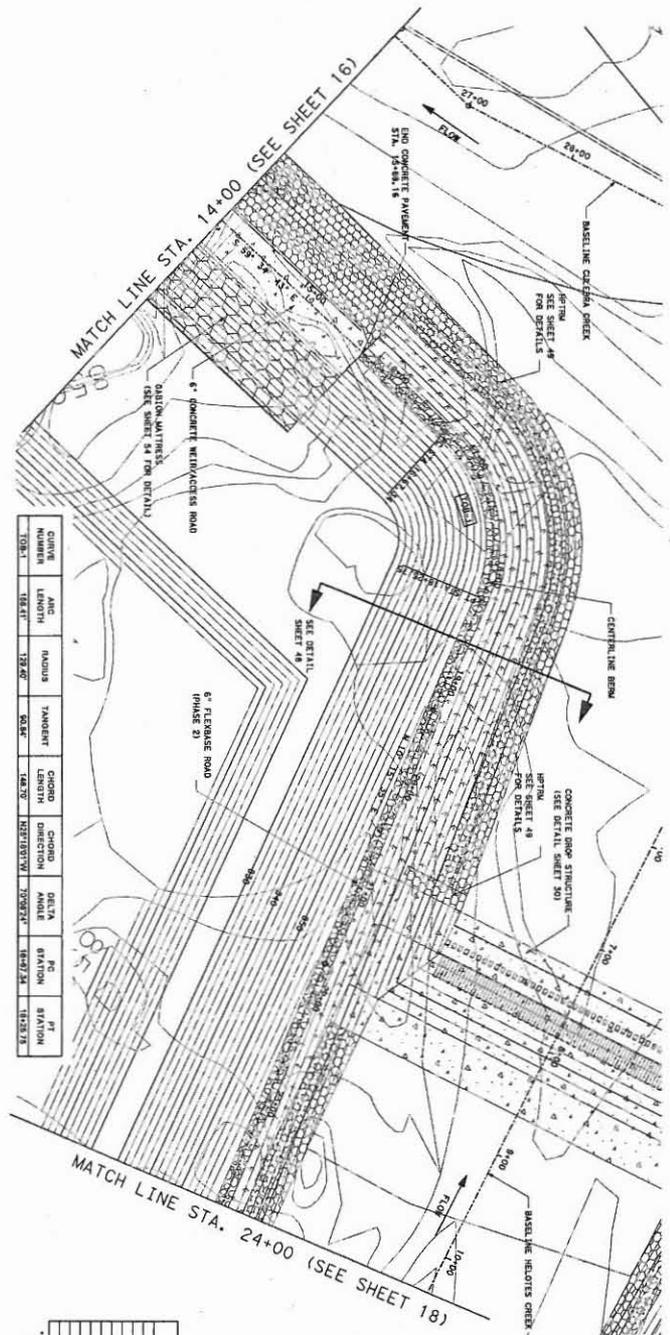
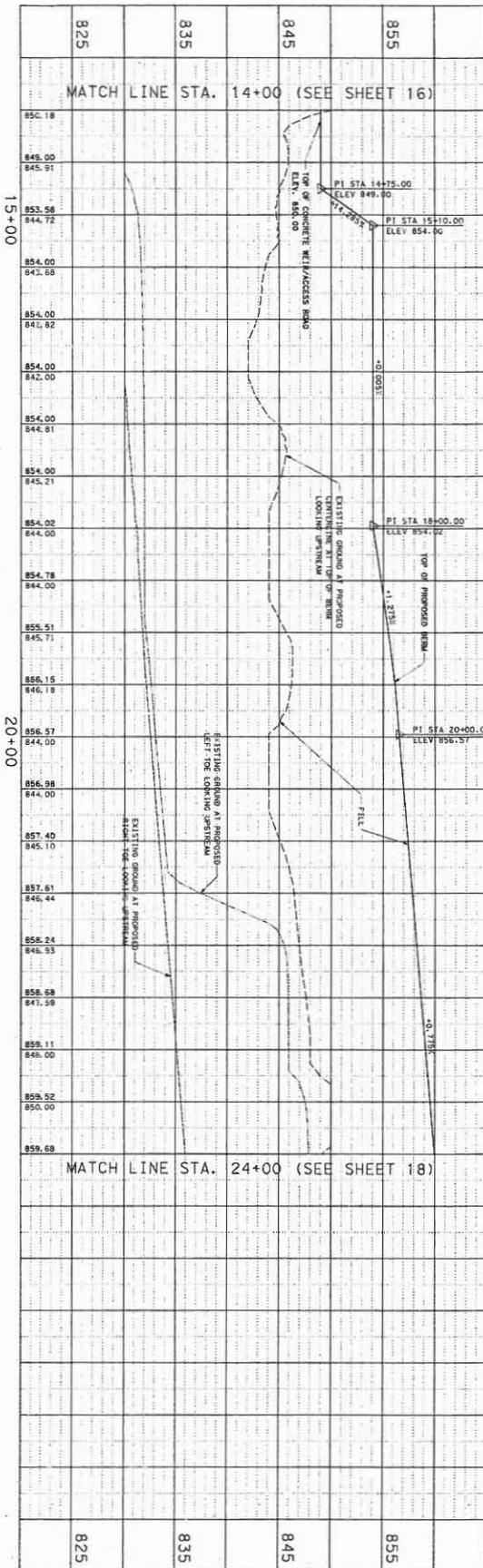
SCALE:	NO.	REVISION:	DATE:
1" = 50'	3	UPDATED HELOTES CREEK PROFILE	05/12/08
DATE:	11/12/07		
DESIGNER:	TMD		
DRAWN:	KFK		
CHECKED:	RW		
JOB NO.:	5717.04		



* ALL DISTANCES ARE MEASURED AT CORRESPONDING STATION LOOKING UPSTREAM

STATION	LEFT TOP OF 3:1 SLOPE	RIGHT TOP OF 3:1 SLOPE
1+00	81	72
1+100	80	80
1+200	80	80
1+300	80	80
1+400	80	80
1+500	80	80
1+600	80	80
1+700	80	80
1+800	80	80
1+900	80	80
2+000	80	80
2+100	80	80
2+200	80	80
2+300	80	80
2+400	80	80
2+500	80	80
2+600	80	80
2+700	80	80
2+800	80	80
2+900	80	80
3+000	80	80
3+100	80	80
3+200	80	80
3+300	80	80
3+400	80	80
3+500	80	80
3+600	80	80
3+700	80	80
3+800	80	80
3+900	80	80
4+000	80	80
4+100	80	80
4+200	80	80
4+300	80	80
4+400	80	80
4+500	80	80
4+600	80	80
4+700	80	80
4+800	80	80
4+900	80	80
5+000	80	80
5+100	80	80
5+200	80	80
5+300	80	80
5+400	80	80
5+500	80	80
5+600	80	80
5+700	80	80
5+800	80	80
5+900	80	80
6+000	80	80
6+100	80	80
6+200	80	80
6+300	80	80
6+400	80	80
6+500	80	80
6+600	80	80
6+700	80	80
6+800	80	80
6+900	80	80
7+000	80	80
7+100	80	80
7+200	80	80
7+300	80	80
7+400	80	80
7+500	80	80
7+600	80	80
7+700	80	80
7+800	80	80
7+900	80	80
8+000	80	80
8+100	80	80
8+200	80	80
8+300	80	80
8+400	80	80
8+500	80	80
8+600	80	80
8+700	80	80
8+800	80	80
8+900	80	80
9+000	80	80
9+100	80	80
9+200	80	80
9+300	80	80
9+400	80	80
9+500	80	80
9+600	80	80
9+700	80	80
9+800	80	80
9+900	80	80
10+000	80	80

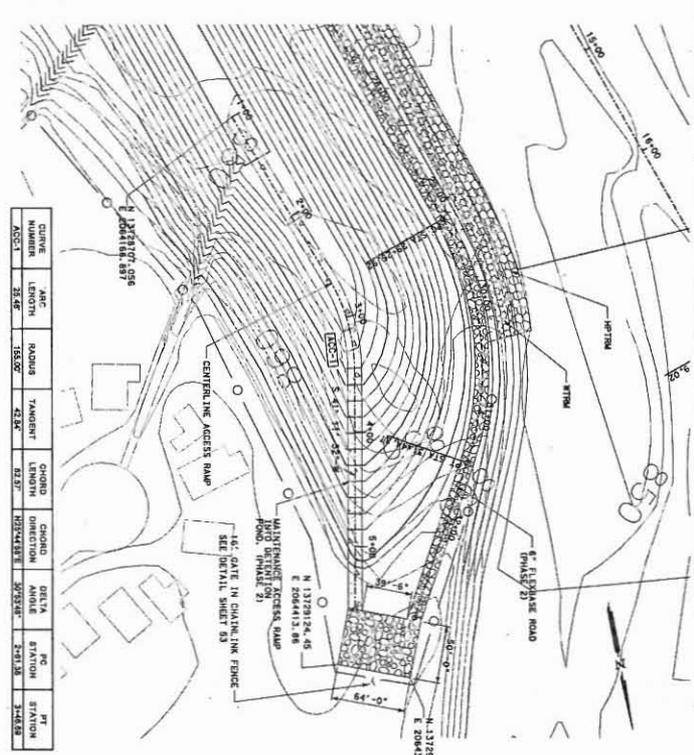
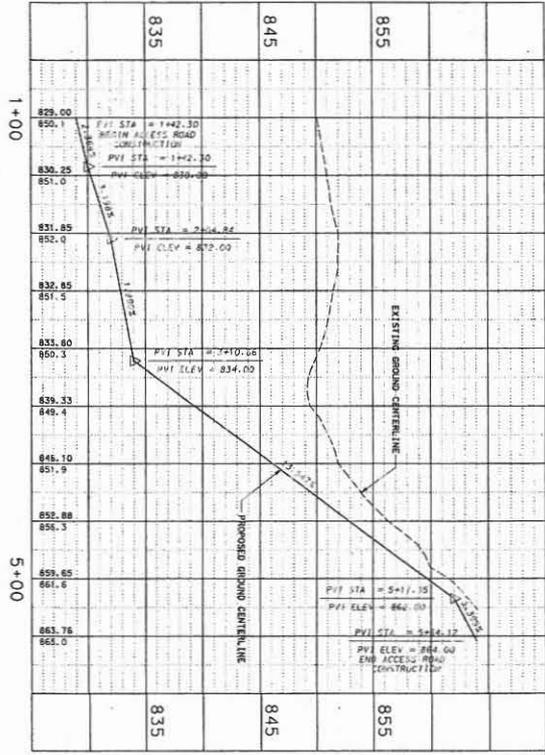
SHEET NO. 16 of 55	CULEBRA ROAD/LOOP 1604 REGIONAL STORM WATER FACILITY SAN ANTONIO, TEXAS	BERM PLAN & PROFILE STA. 1+00 TO 14+00			SCALE: 1" = 50'	NO.	REVISION	DATE
					DATE: 11/12/07	DESIGNER: TMO	DRAWN: KFK	CHECKED: RW



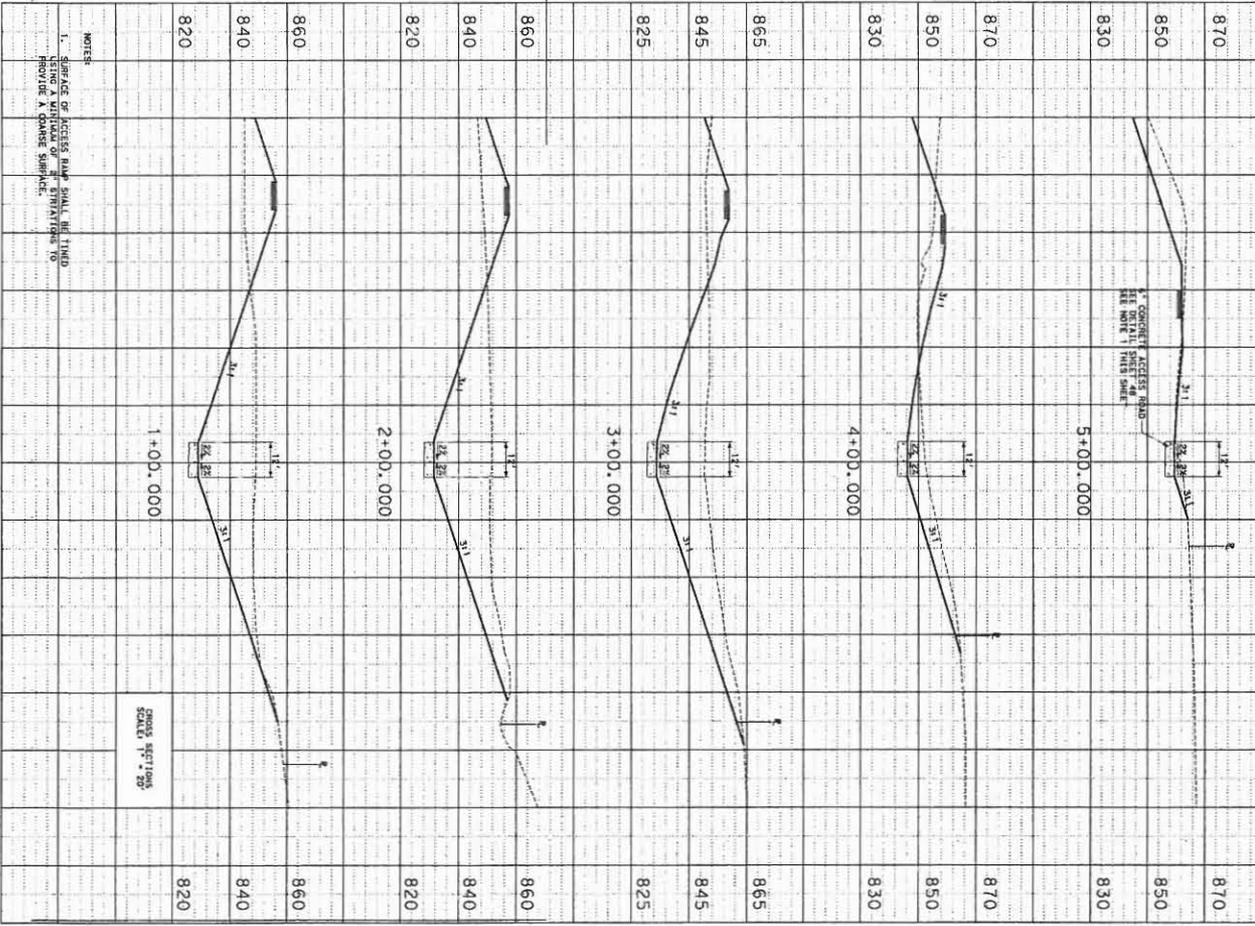
CURVE NUMBER	ARC LENGTH	RADIUS	TANGENT	CHORD LENGTH	CHORD DIRECTION	DELTA ANGLE	PC STATION	PT STATION
1001	184.41	173.67	54.56	148.75	142.87°	107.24°	14+75.00	15+10.00
1002	173.67	173.67	54.56	148.75	142.87°	107.24°	15+10.00	15+10.00
1003	173.67	173.67	54.56	148.75	142.87°	107.24°	15+10.00	15+10.00
1004	173.67	173.67	54.56	148.75	142.87°	107.24°	15+10.00	15+10.00
1005	173.67	173.67	54.56	148.75	142.87°	107.24°	15+10.00	15+10.00
1006	173.67	173.67	54.56	148.75	142.87°	107.24°	15+10.00	15+10.00
1007	173.67	173.67	54.56	148.75	142.87°	107.24°	15+10.00	15+10.00
1008	173.67	173.67	54.56	148.75	142.87°	107.24°	15+10.00	15+10.00
1009	173.67	173.67	54.56	148.75	142.87°	107.24°	15+10.00	15+10.00
1010	173.67	173.67	54.56	148.75	142.87°	107.24°	15+10.00	15+10.00

STATION	LEFT TOE OF CURVE	RIGHT TOE OF CURVE
14+00	14+00.00	14+00.00
14+25	14+25.00	14+25.00
14+50	14+50.00	14+50.00
14+75	14+75.00	14+75.00
15+00	15+00.00	15+00.00
15+25	15+25.00	15+25.00
15+50	15+50.00	15+50.00
15+75	15+75.00	15+75.00
16+00	16+00.00	16+00.00
16+25	16+25.00	16+25.00
16+50	16+50.00	16+50.00
16+75	16+75.00	16+75.00
17+00	17+00.00	17+00.00
17+25	17+25.00	17+25.00
17+50	17+50.00	17+50.00
17+75	17+75.00	17+75.00
18+00	18+00.00	18+00.00
18+25	18+25.00	18+25.00
18+50	18+50.00	18+50.00
18+75	18+75.00	18+75.00
19+00	19+00.00	19+00.00
19+25	19+25.00	19+25.00
19+50	19+50.00	19+50.00
19+75	19+75.00	19+75.00
20+00	20+00.00	20+00.00
20+25	20+25.00	20+25.00
20+50	20+50.00	20+50.00
20+75	20+75.00	20+75.00
21+00	21+00.00	21+00.00
21+25	21+25.00	21+25.00
21+50	21+50.00	21+50.00
21+75	21+75.00	21+75.00
22+00	22+00.00	22+00.00
22+25	22+25.00	22+25.00
22+50	22+50.00	22+50.00
22+75	22+75.00	22+75.00
23+00	23+00.00	23+00.00
23+25	23+25.00	23+25.00
23+50	23+50.00	23+50.00
23+75	23+75.00	23+75.00
24+00	24+00.00	24+00.00

* ALL DISTANCES ARE MEASURED AT CORNER POINTS
STATIONING LOOKING UPSTREAM



CURVE NUMBER	ARC LENGTH	RADIUS	TANGENT	CHORD LENGTH	CHORD DIRECTION	ORIENT ANGLE	PC STATION	PT STATION
ASCT 1	28.46'	153.00'	42.84°	82.57'	82.57°	281.38°	3+48.38	3+76.84



SHEET NO. 19 of 55
CULEBRA ROAD/LOOP 1604 REGIONAL STORM WATER FACILITY
 SAN ANTONIO, TEXAS

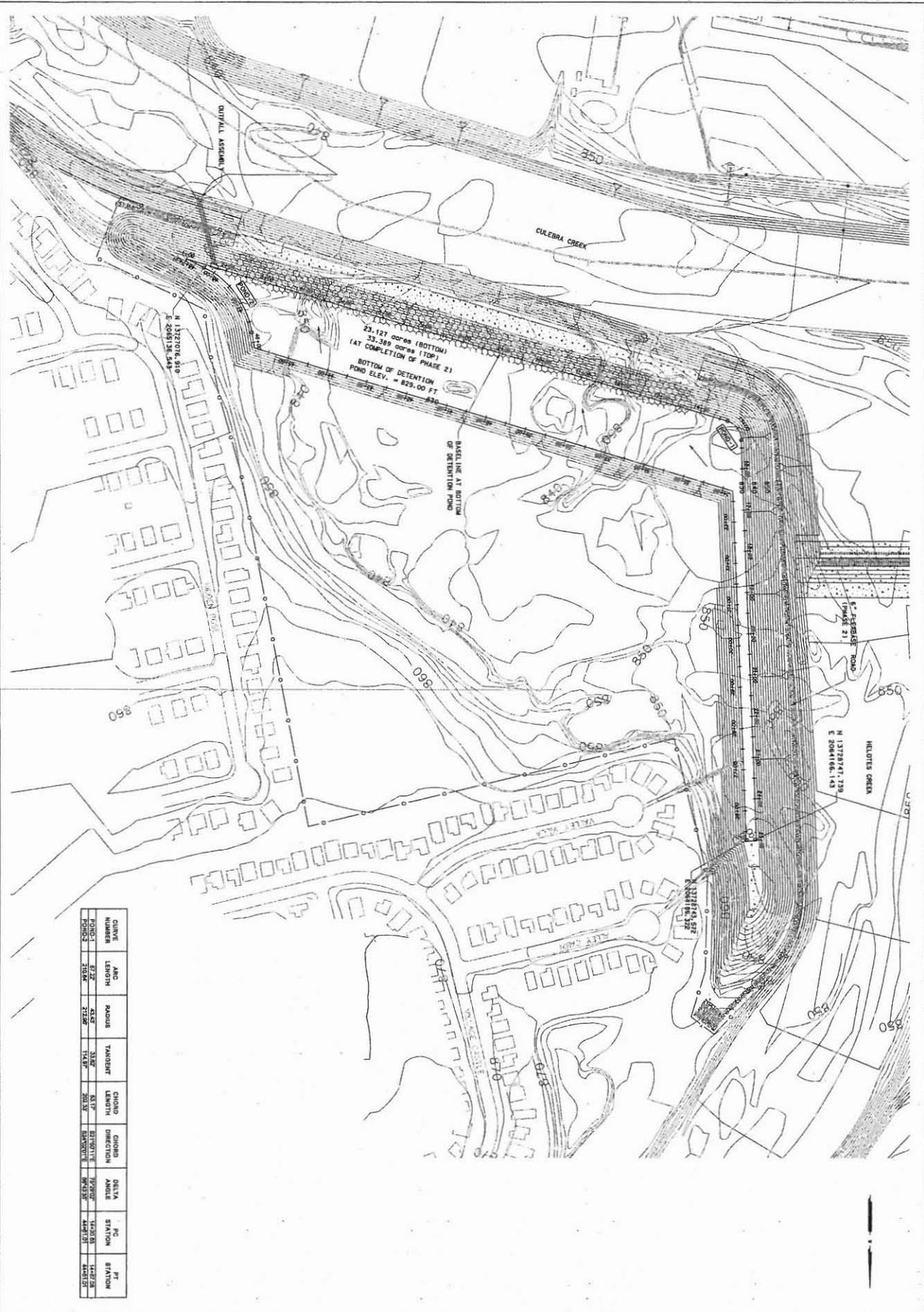
ACCESS ROAD PLAN, PROFILE & CROSS SECTIONS
 STA. 1+00 TO 5+55.49

PAPE-DAWSON ENGINEERS
 603 EAST RUCKEL | SAN ANTONIO TEXAS 78214 | PHONE: 214-371-9900 FAX: 214-371-9100



SCALE: 1" = 50'
 DATE: 11/12/07
 DESIGNER: TMD
 DRAWN: KFK
 CHECKED: RW
 JOB NO.: 5717.04

REVISION	DATE



CURVE NUMBER	ARC LENGTH	RADIUS	TANGENT	CHORD LENGTH	CHORD DIRECTION	DELTA ANGLE	PC STATION	PT STATION
POD-C-1	67.2'	43.6'	33.6'	63.1'	88.9°/11.1°	15.9°/16.1°	1428.01'	1495.01'
POD-C-2	210.8'	213.8'	154.8'	303.3'	84.2°/15.8°	9.8°/16.2°	1428.01'	1428.01'

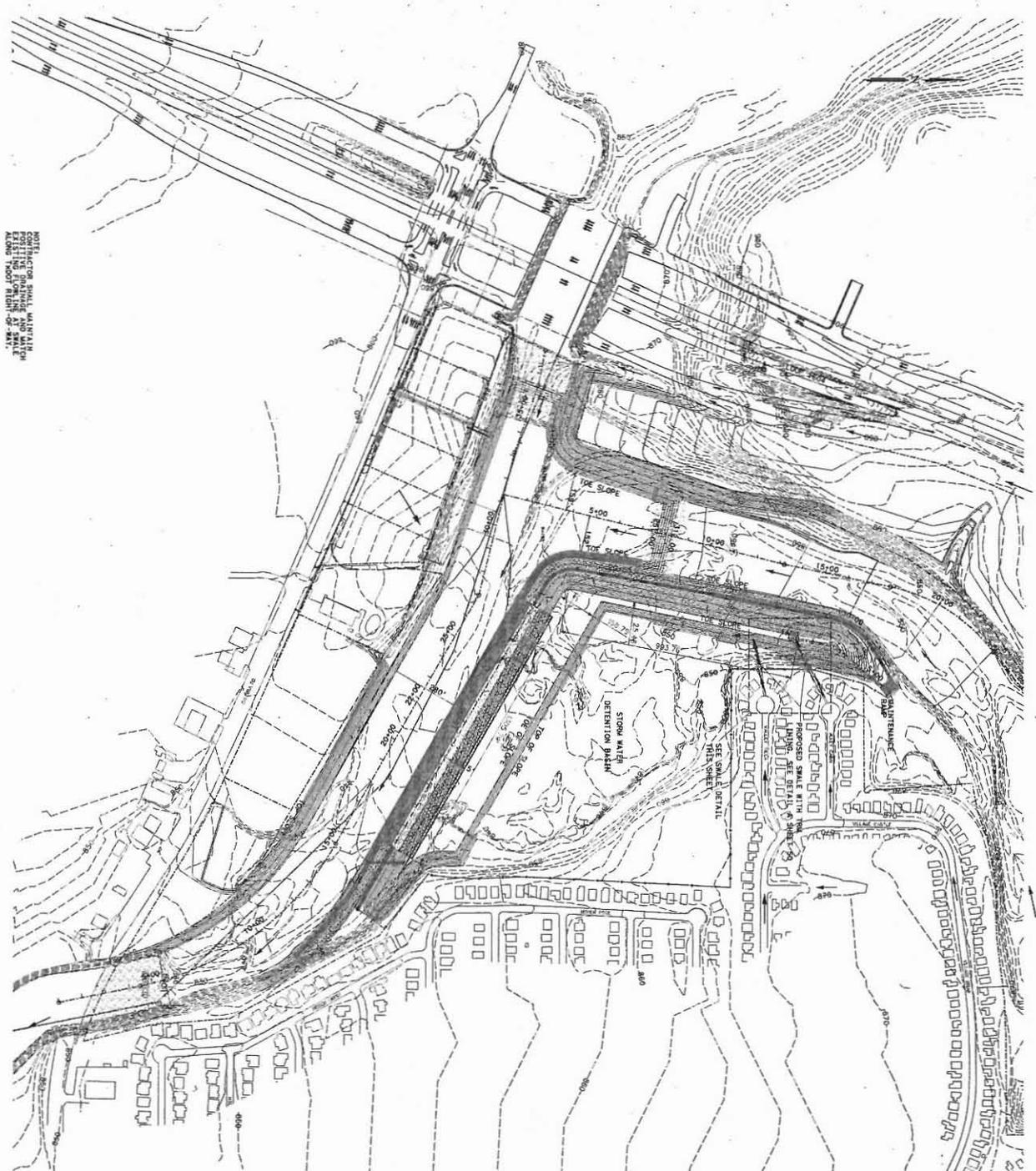
20 of 55
 SHEET NO.
 CULEBRA ROAD/LOOP 1604
 REGIONAL STORM
 WATER FACILITY
 SAN ANTONIO, TEXAS

POND PLAN

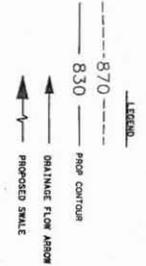
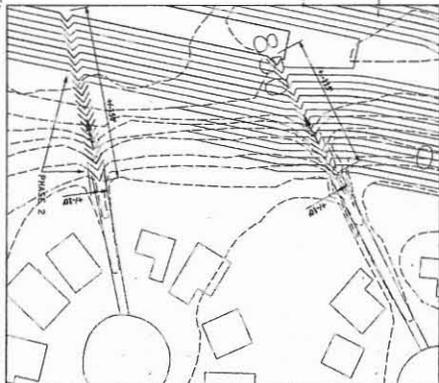
PAPE-DAWSON ENGINEERS
 830 EAST RAINBOW | SAN ANTONIO TEXAS 78214 | PHONE 214-375-9300
 FAX 214-375-9310



SCALE:	1" = 100'	NO.	REVISION	DATE
DATE:	11/12/07	1	UPDATED BASIN DESIGN	11/09/07
DESIGNER:	TMD	3	UPDATED BASIN DESIGN AND POND ELEVATION	09/12/08
DRAWN:	KFK			
CHECKED:	RW			
JOB NO.:	5717.04			



NORTH
 LOCATION SWALE, MAINTAIN
 EXISTING SWALE AND WATER
 ALIGNED THROUGH PLANT OF SWALE



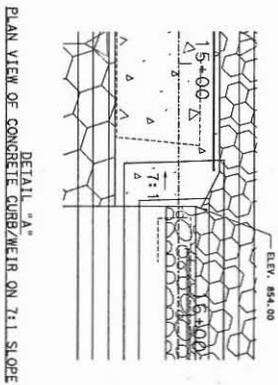
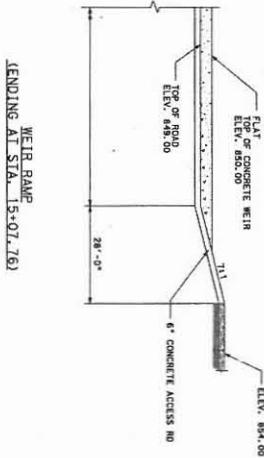
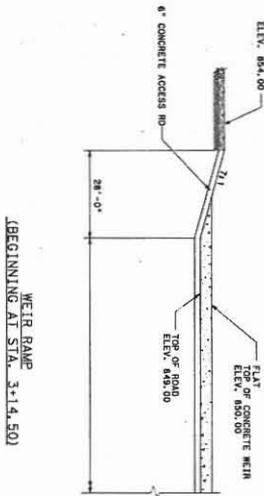
SHEET NO. 21 of 55
 CULEBRA ROAD/LOOP 1604
 REGIONAL STORM
 WATER FACILITY
 SAN ANTONIO, TEXAS

DRAINAGE SWALE PLAN

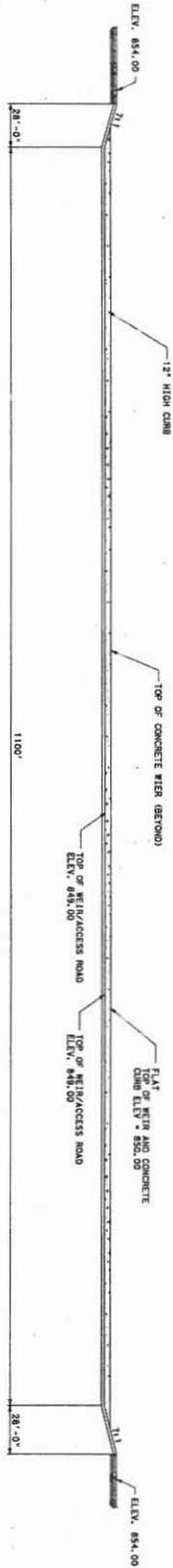
PAPE-DAWSON ENGINEERS
 508 EAST RAINLEY | SAN ANTONIO, TEXAS 78214 | PHONE: 512.371.9000
 FAX: 512.371.9002



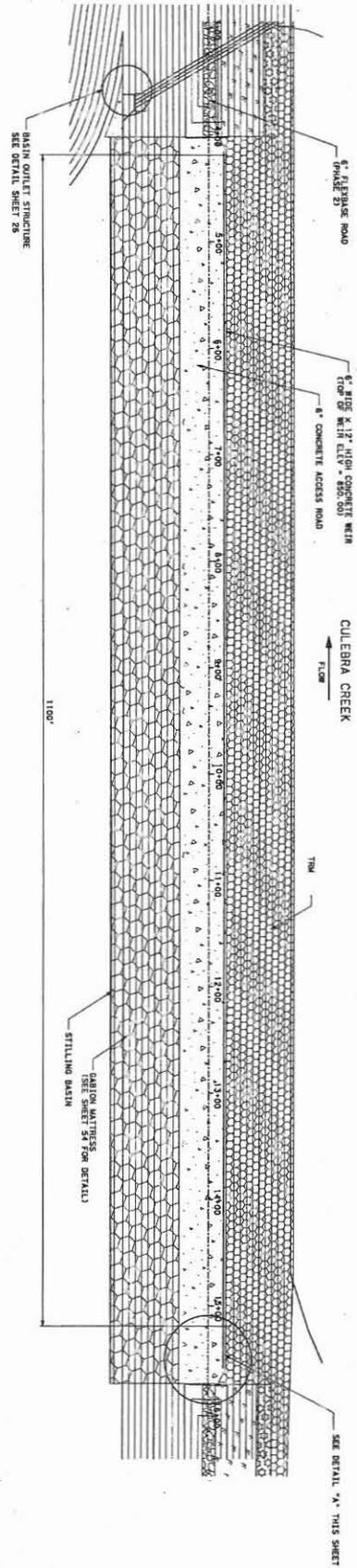
SCALE:	1" = 200'	NO.	REVISION:	DATE:
DATE:	11/12/07	1	UPDATED BASIN DESIGN	11/09/07
DESIGNER:	TMD	3	UPDATED BASIN DESIGN AND LEGEND	03/12/08
DRAWN:	KFK	4	ADDED SWALE DETAIL	03/31/08
CHECKED:	RW			
JOB NO.:	5717.04			



WEIR PROFILE
NTS



WEIR PLAN
NTS



CULEBRA ROAD/LOOP 1604
REGIONAL STORM
WATER FACILITY
SAN ANTONIO, TEXAS

WEIR LAYOUT SHEET
PLAN & PROFILE

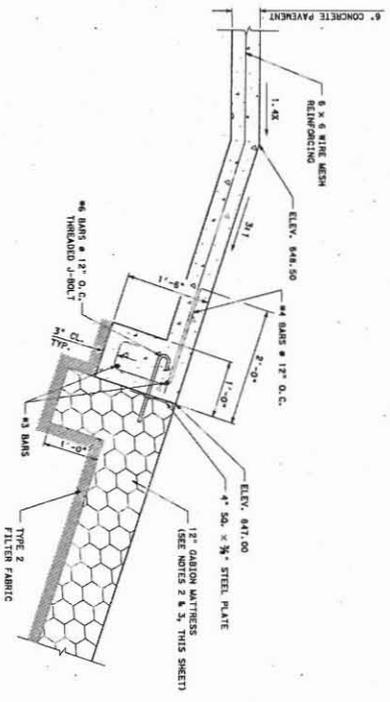
PAPE-DAWSON ENGINEERS
200 EAST MARNEY | SAN ANTONIO TEXAS 78214 | PHONE: 210.512.9100 FAX: 210.512.9000



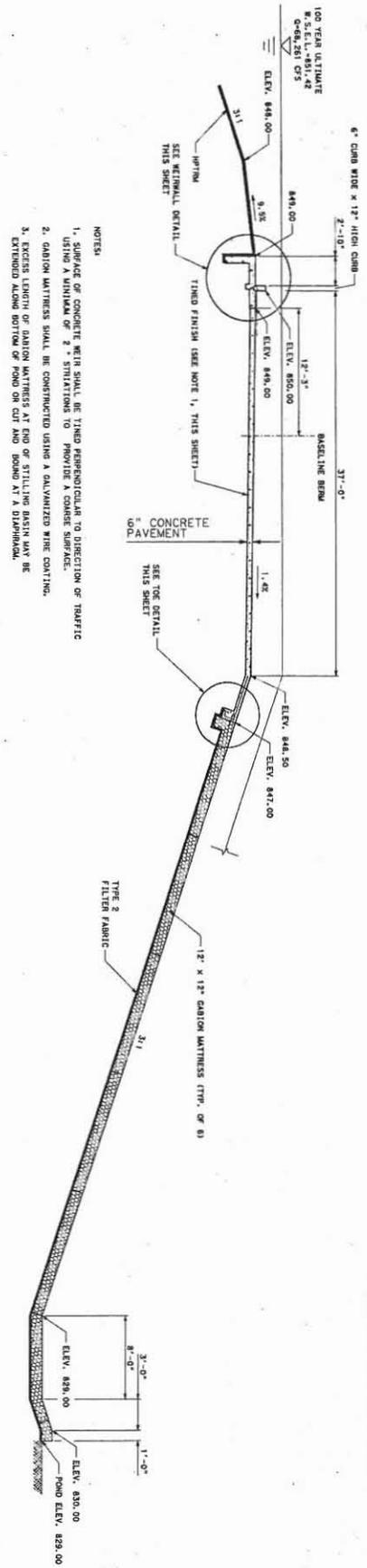
SCALE: 1" = 50'	NO. 3	REVISIONS: UPDATED DETAILS	DATE: 03/12/08
DATE: 11/12/07	DESIGNER: TMO		
DRAWN: KFK	CHECKED: RW		
JOB NO. 5717.04			

SHEET NO. 22 OF 55

WEIR TOE SECTION
1"=1'



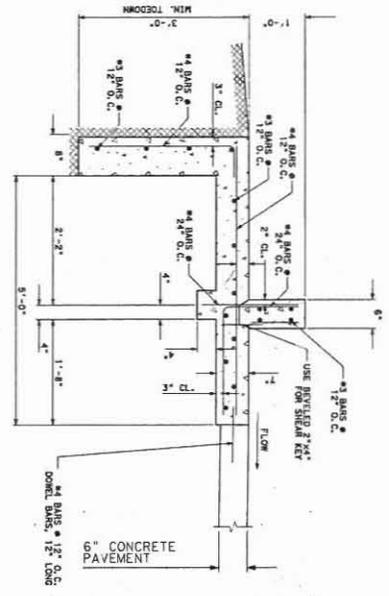
WEIR TYPICAL SECTION
(LOOKING UPSTATION)



- NOTES:
1. SURFACE OF CONCRETE WEIR SHALL BE TYPED PERPENDICULAR TO DIRECTION OF TRAFFIC USING A MINIMUM OF 2" STIPPLES TO PROVIDE A COARSE SURFACE.
 2. GABION MATRESS SHALL BE CONSTRUCTED USING A GALVANIZED WIRE COATING.
 3. EXPOSED LENGTH OF GABION MATRESS AT END OF STILLING BASIN MAY BE EXTENDED ALONG BOTTOM OF POND OR CUT AND BOUND AT A DIAPHRAGM.

NOTES:
INDICATION OF GABION MATRESS, HIGH PERFORMANCE FIBER REINFORCED CONCRETE (HPC) OR OTHER ALTERNATIVE MATERIALS WILL BE POSSIBLE IF COMPETENT ROCK FORMATION IS FOUND AND UPON APPROVAL OF ENGINEER.

WEIR WALL SECTION
1"=1'



SHEET NO. 23 of 55	CULEBRA ROAD/LOOP 1604 REGIONAL STORM WATER FACILITY SAN ANTONIO, TEXAS	WEIR DETAILS	 939 EAST HANCOCK SAN ANTONIO TEXAS 78214 PHONE: 214-372-2000 FAX: 214-372-2005	8-26-08 	SCALE: 1" = 50' DATE: 11/12/07 DESIGNER: TMD DRAWN: KFK CHECKED: RW JOB NO.: 5717.04	NO. 3 UPDATED DETAILS UPDATED NOTES	REVISION: DATE: 05/12/04 DATE: 07/08/08

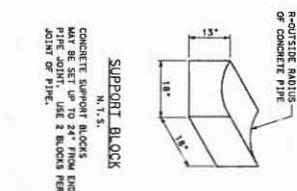
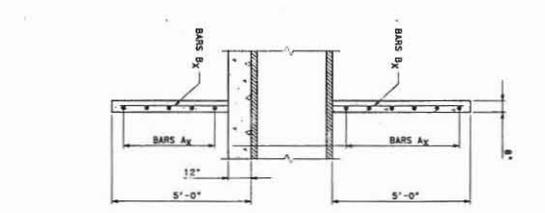
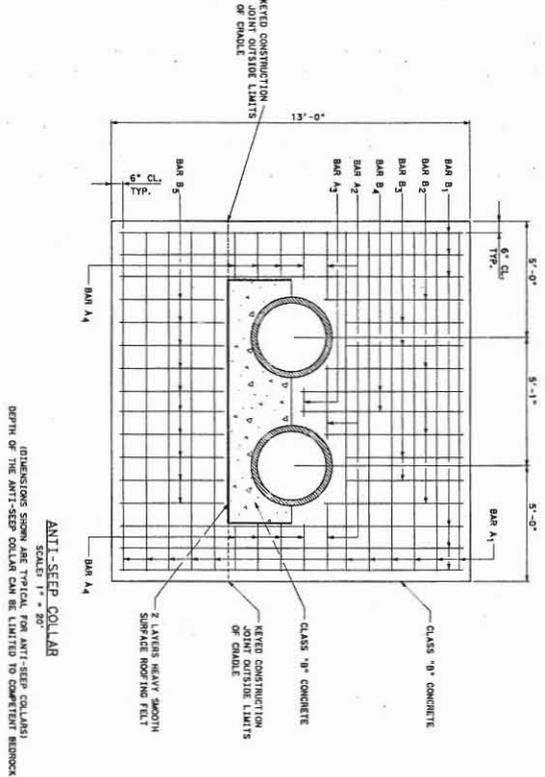
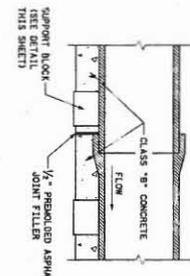
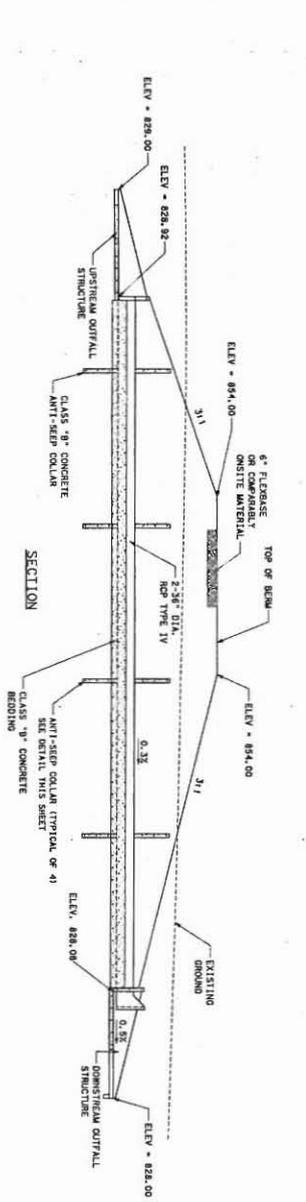
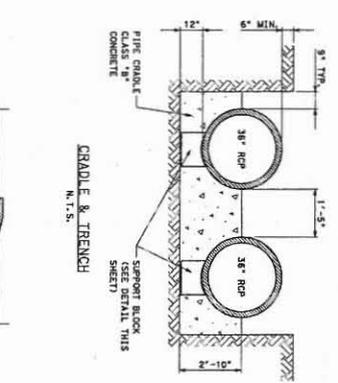
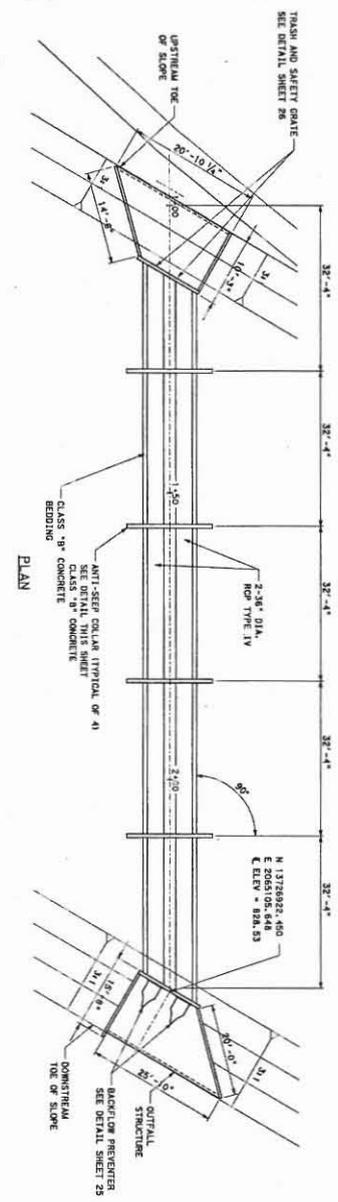
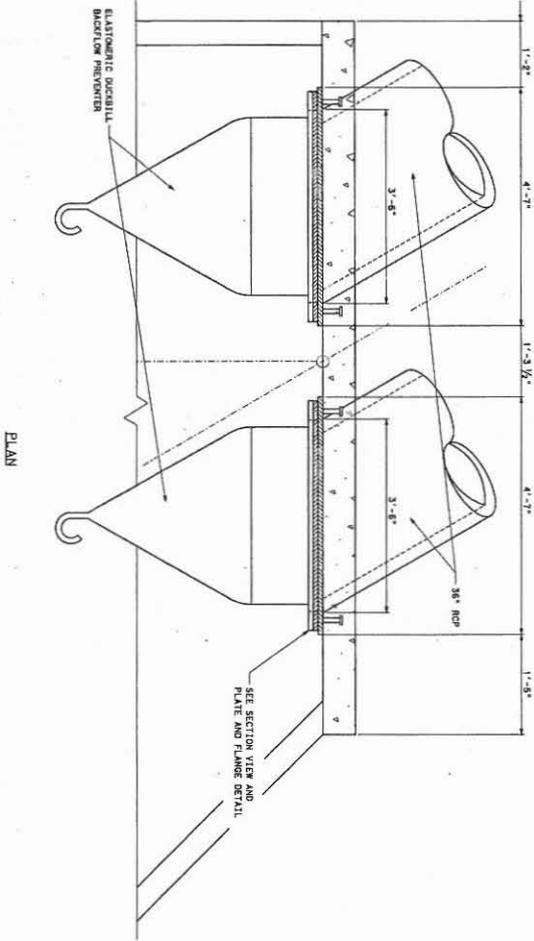


TABLE OF REINFORCING STEEL

BAR	SIZE	SPACING	NO.
A1	#4	1'-0"	11
A2	#4	1'-0"	11
A3	#4	1'-0"	11
A4	#4	1'-0"	11
B1	#4	1'-0"	4
B2	#4	1'-0"	4
B3	#4	1'-0"	4
B4	#4	1'-0"	4
C1	#4	1'-0"	10
C2	#4	1'-0"	10
C3	#4	1'-0"	10
C4	#4	1'-0"	10
C5	#4	1'-0"	10

GENERAL NOTES:
 DESIGNED ACCORDING TO CURRENT AASHTO STANDARD AND INTERMEDIATE SPECIFICATIONS.
 REINFORCING STEEL SHALL BE PLACED WITH THE CENTER OF THE OUTSIDE LAYER OF BARS 6" FROM THE SURFACE OF THE CONCRETE WHEN SHOWN ON DETAILS.
 ALL REINFORCING STEEL SHALL BE GRADE 60.



PLAN

ELEVATION AT CULVERT OUTFALL

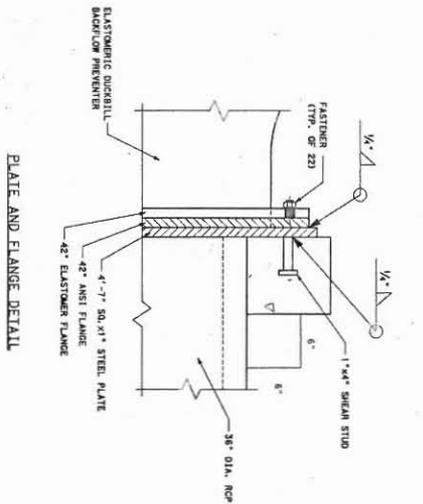
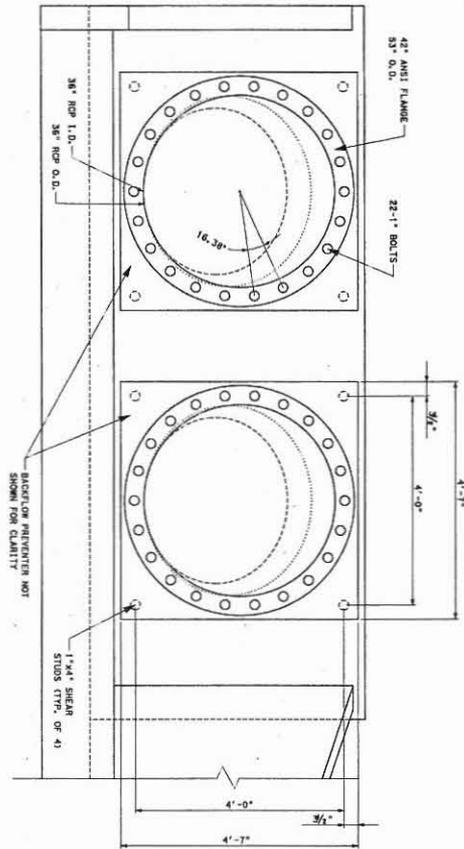
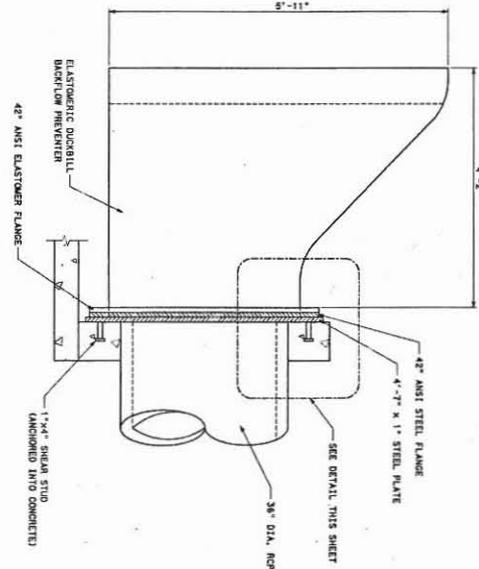
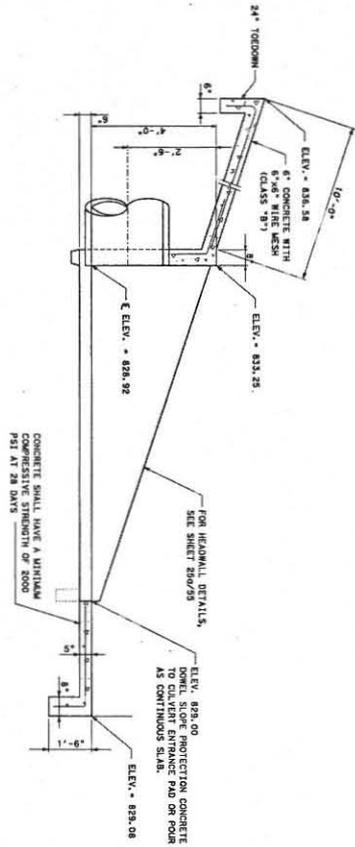


PLATE AND FLANGE DETAIL

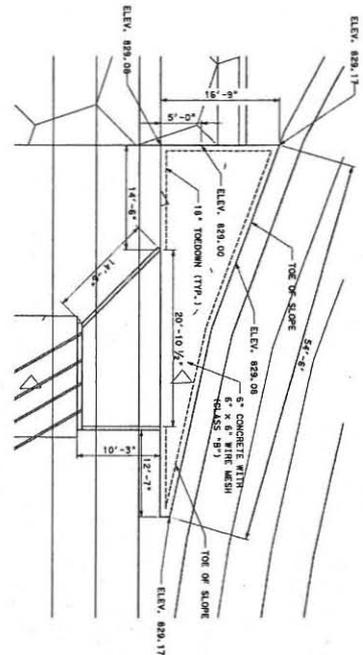
SECTION VIEW



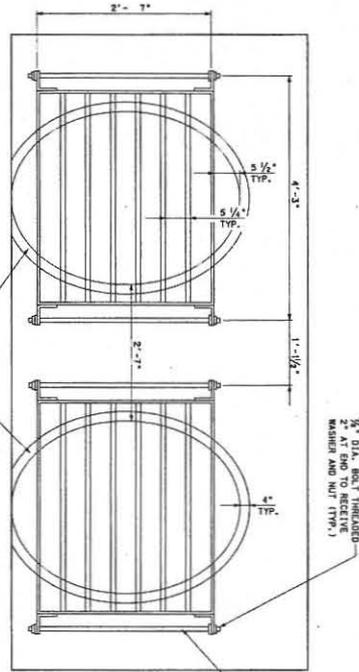
SHEET NO. 26 of 55	CULEBRA ROAD/LOOP 1604 REGIONAL STORM WATER FACILITY SAN ANTONIO, TEXAS	ELASTOMERIC CHECK VALVE AND FLANGE DETAILS	PAPE-DAWSON ENGINEERS 355 EAST BRIDGE SAN ANTONIO, TEXAS 78214 PHONE: 214-517-1000 FAX: 214-517-1004		SCALE: 1" = 1"	NO. 3	REVISION Updated details	DATE: 3/12/08
					DESIGNER: TMO	CHECKED: RW	JOB NO.: 5717.04	
					DATE: 11/12/07	DRAWN: KFK	REVISION	
					CHECKED: RW	JOB NO.: 5717.04	DATE:	
					JOB NO.: 5717.04	DATE:	REVISION	



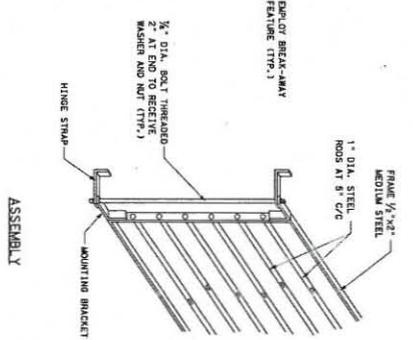
SLOPE PROTECTION AT CULVERT ENTRANCE SECTION



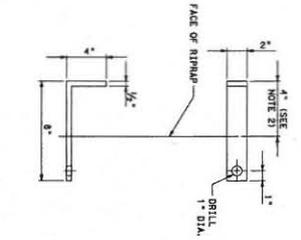
RIPRAP PAD AT CULVERT ENTRANCE



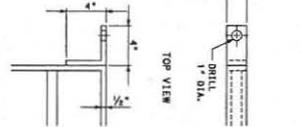
SECURITY GRADE DETAIL



ASSEMBLY



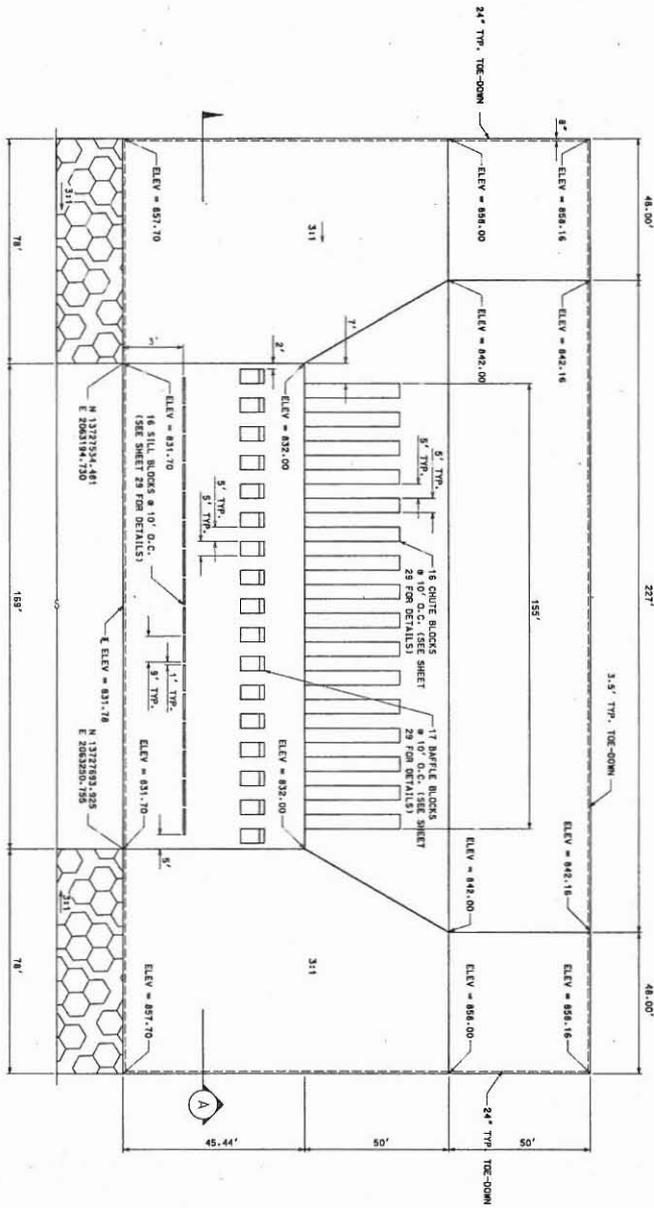
HINGE STRAP



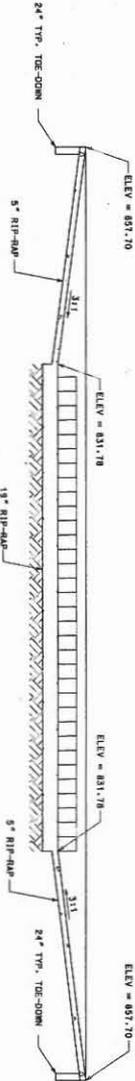
MOUNTING BRACKET

- NOTES:
 1. FRAME AND 1 1/2" COMPONENTS SHALL BE HOT DIP GALVANIZED AFTER FABRICATION.
 2. FRAME ANCHOR SHALL HAVE A MINIMUM EMBEDMENT DEPTH OF 4" INTO RIPRAP.

SHEET NO. 27 of 55	CULEBRA ROAD/LOOP 1604 REGIONAL STORM WATER FACILITY SAN ANTONIO, TEXAS	CULVERT ENTRANCE STRUCTURAL DETAILS	PAPE-DAWSON ENGINEERS 555 EAST PARLEY SAN ANTONIO TEXAS 78214 PHONE: 210.513.9000 FAX: 210.513.9001		SCALE: 1" = 2' NO.	REVISION:	DATE:
					DATE: 11/12/07 3	Updated details	3/12/08
					DESIGNER: TMD		
					DRAWN: KFR		
					CHECKED: RW		
					JOB NO.: 5717.04		

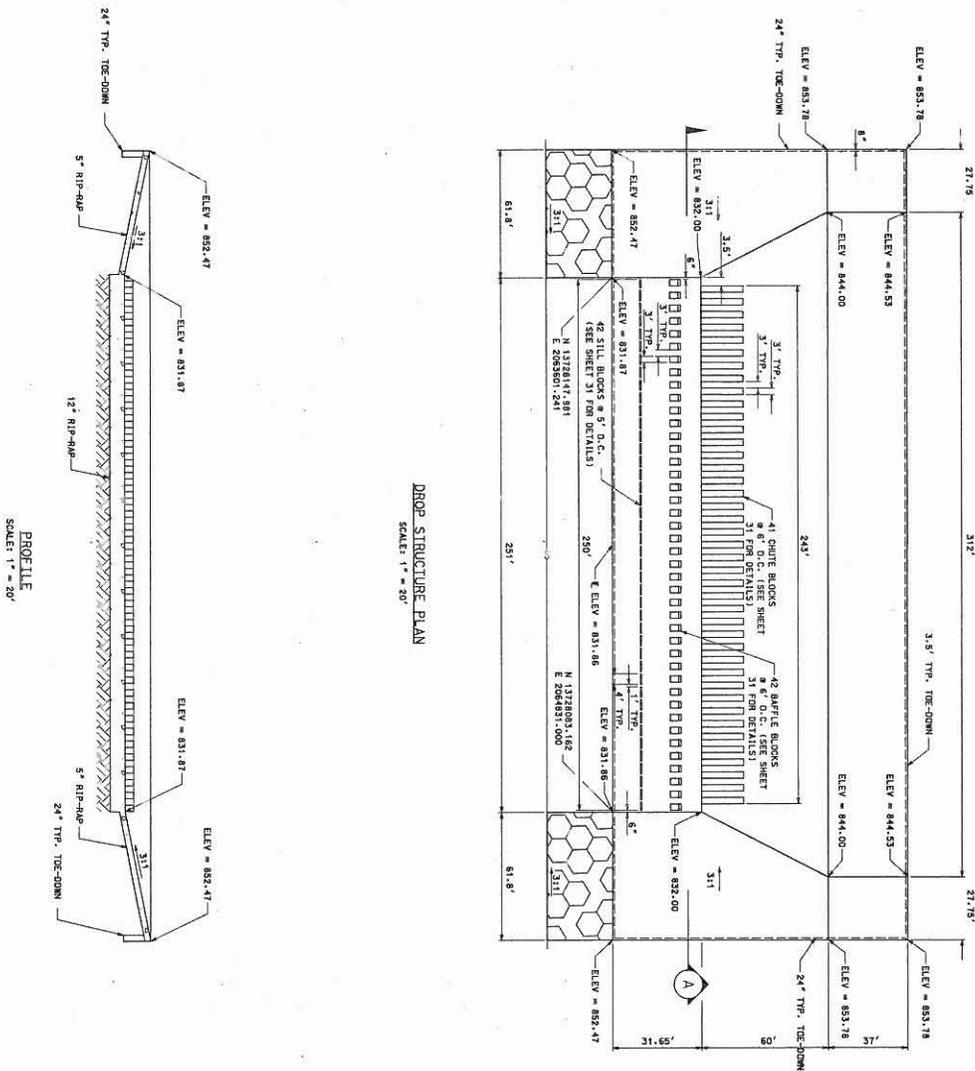


DROP STRUCTURE PLAN
NTS



PROFILE "A-A"
NTS

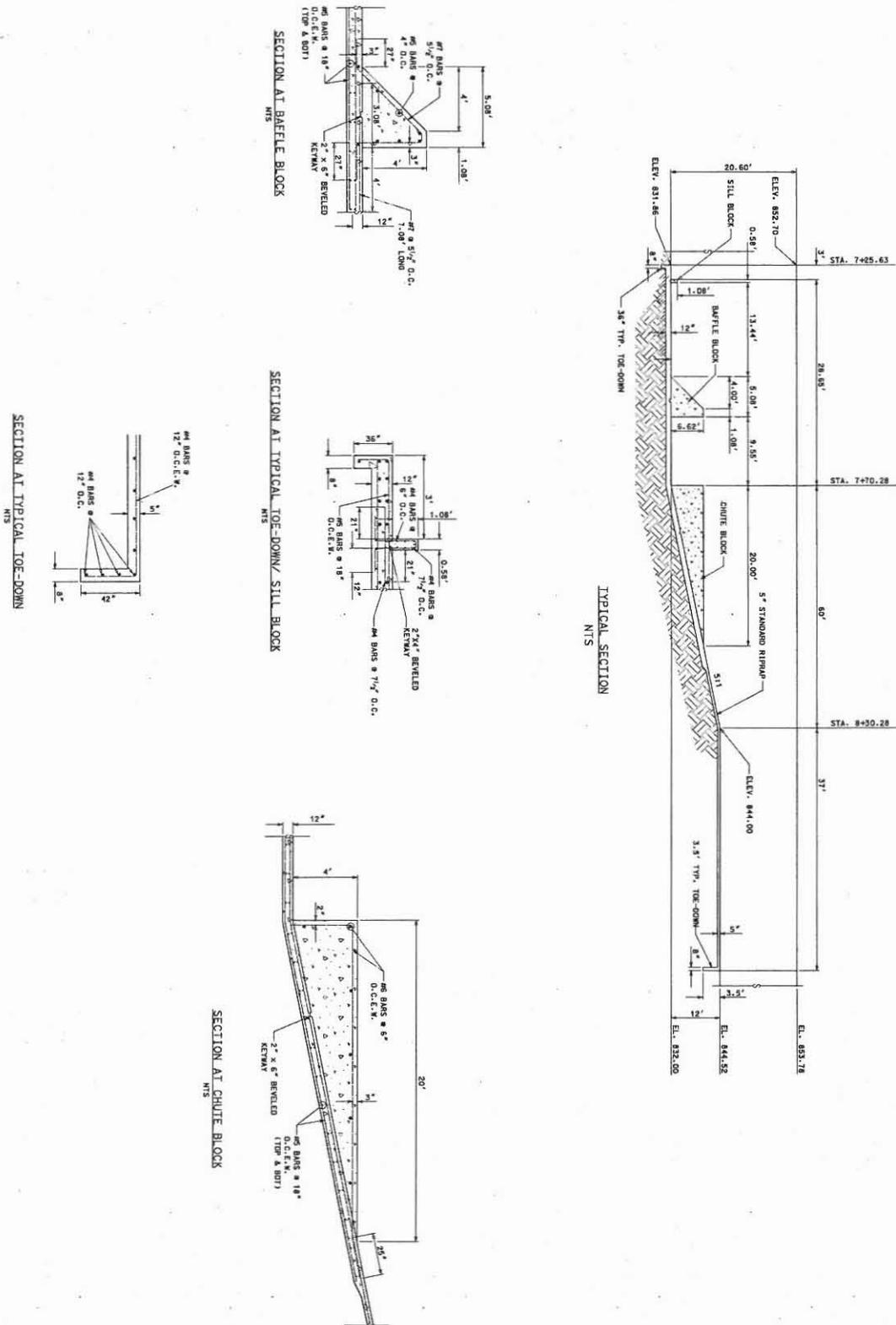
SHEET NO. 28 of 55	CULEBRA ROAD/LOOP 1604 REGIONAL STORM WATER FACILITY SAN ANTONIO, TEXAS	CULEBRA CREEK CHANNEL DROP STRUCTURE PLAN & PROFILE	 200 EAST RAMEY SAN ANTONIO, TEXAS 78214 PHONE: 710.375.9000 FAX: 710.375.9010	 e-26-07 JAY L. ELMAN 0272 REGISTERED PROFESSIONAL ENGINEER STATE OF TEXAS Jay L. Elman	SCALE: 1" = 20'	NO. 3	REVISION:	DATE:
					DATE: 11/12/07	Updated details	3/12/08	
					DESIGNER: TMD			
					DRAWN: KFK			
					CHECKED: RW			
					JOB NO.: 5717.04			



SCALE: 1" = 20'

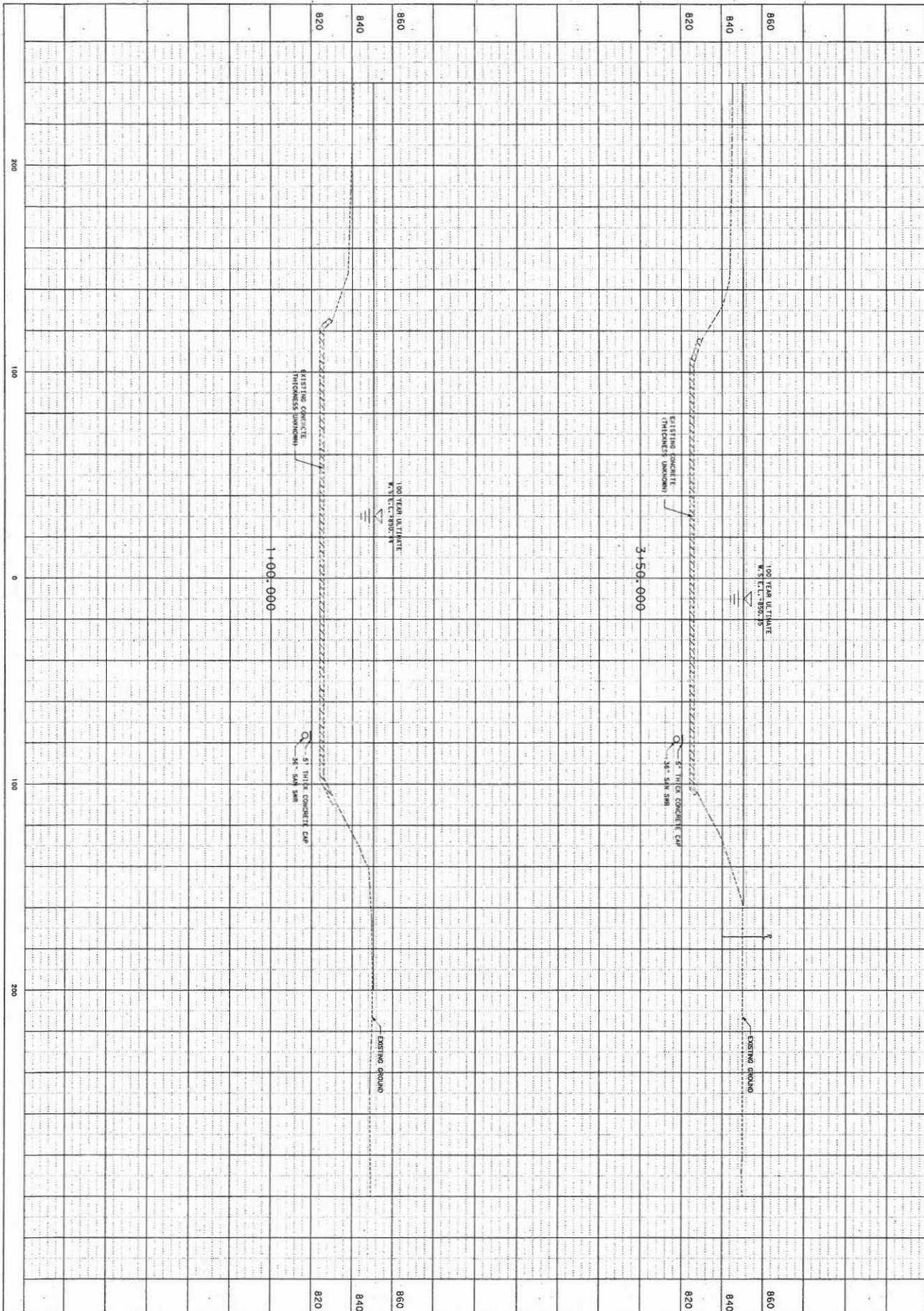
SCALE: 1" = 20'

SHEET NO. 30 of 55	CULEBRA ROAD/LOOP 1604 REGIONAL STORM WATER FACILITY SAN ANTONIO, TEXAS	HELOTES CREEK CHANNEL DROP STRUCTURE PLAN & PROFILE	PAPE-DAWSON ENGINEERS 555 EAST BANGSLEY SAN ANTONIO, TEXAS 78214 PHONE: 210.342.9000 FAX: 210.375.9000	ROY L. THOMAS No. 22 STATE OF TEXAS PROFESSIONAL ENGINEER	SCALE: 1" = 20' NO. 3	REVISION: Updated details	DATE: 3/12/08
					DESIGNER: TMD DRAWN: KFK CHECKED: RW JOB NO.: 5717.04		



ALL DROP STRUCTURE CONCRETE NOT SHOWN IN DETAIL ON THIS EXHIBIT SHALL BE REINFORCED WITH #4 BARS @ 12" O.C. E.W. WITH MINIMUM 2.5' COVER.

SHEET NO. 31 of 55	CULEBRA ROAD/LOOP 1604 REGIONAL STORM WATER FACILITY SAN ANTONIO, TEXAS	HELOTES CREEK CHANNEL DROP STRUCTURE TYPICAL SECTION & DETAILS	PAPE-DAWSON ENGINEERS		SCALE: 1" = 10'	NO. 3	REVISION:	DATE:
					DATE: 11/12/07	DESIGNER: TMD	Updated detail in	5/12/08
					DRAWN: KFK			
					CHECKED: RW			
					JOB NO.: 5717.04			



SHEET NO. 32 OF 55

CULEBRA ROAD/LOOP 1604
REGIONAL STORM
WATER FACILITY
SAN ANTONIO, TEXAS

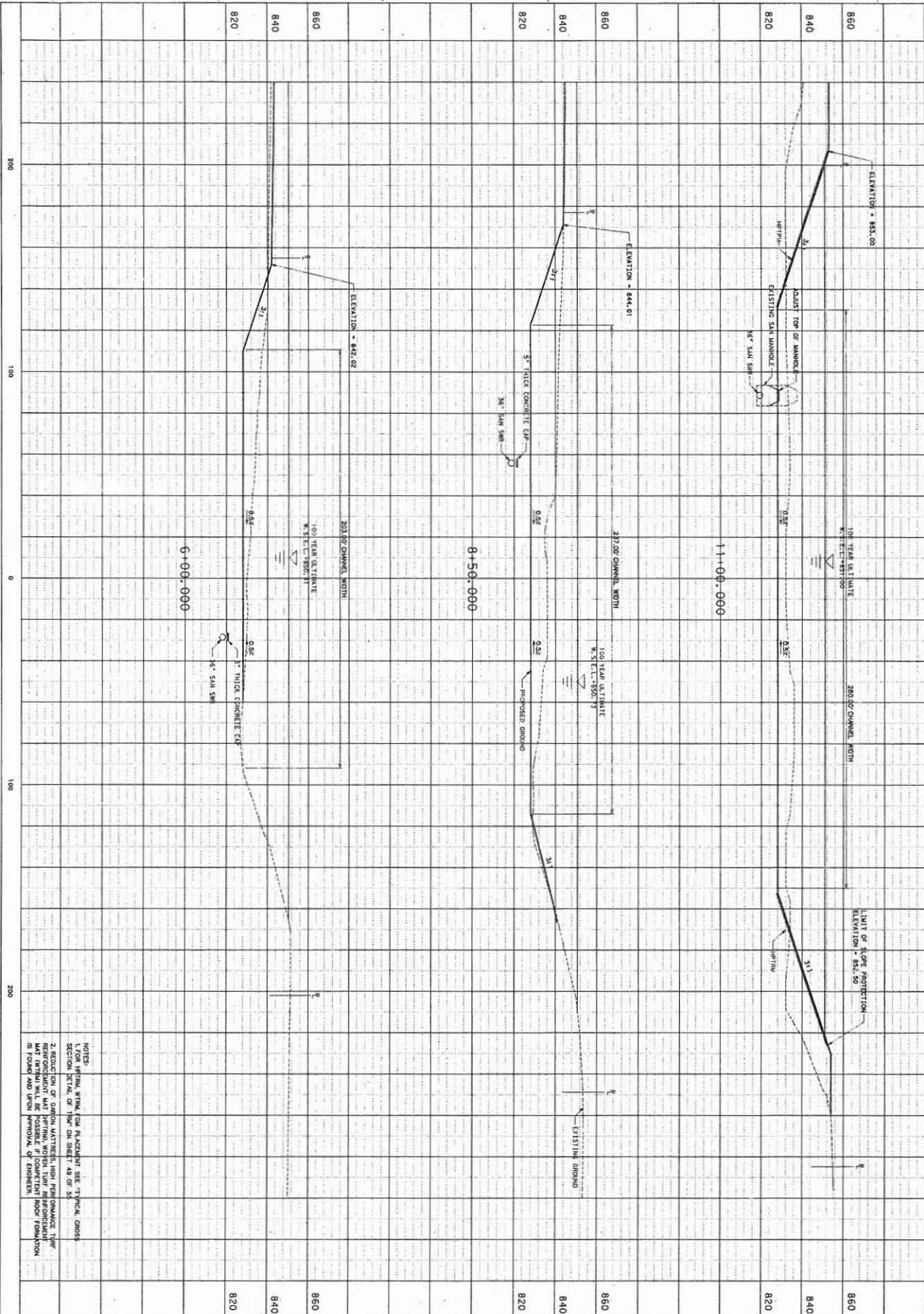
CULEBRA CREEK
CHANNEL CROSS SECTIONS
STA. 1+00 TO 3+50

PAPE-DAWSON ENGINEERS

600 EAST RANGELY | SAN ANTONIO TEXAS 78214 | PHONE: 214.274.9000
FAX: 214.274.9001



SCALE: 1" = 20'	NO.	REVISIONS	DATE
DATE: 12/20/04			
DESIGNER: TMO			
DRAWN: KFK			
CHECKED: RM			
JOB NO.: 1 5717.03			



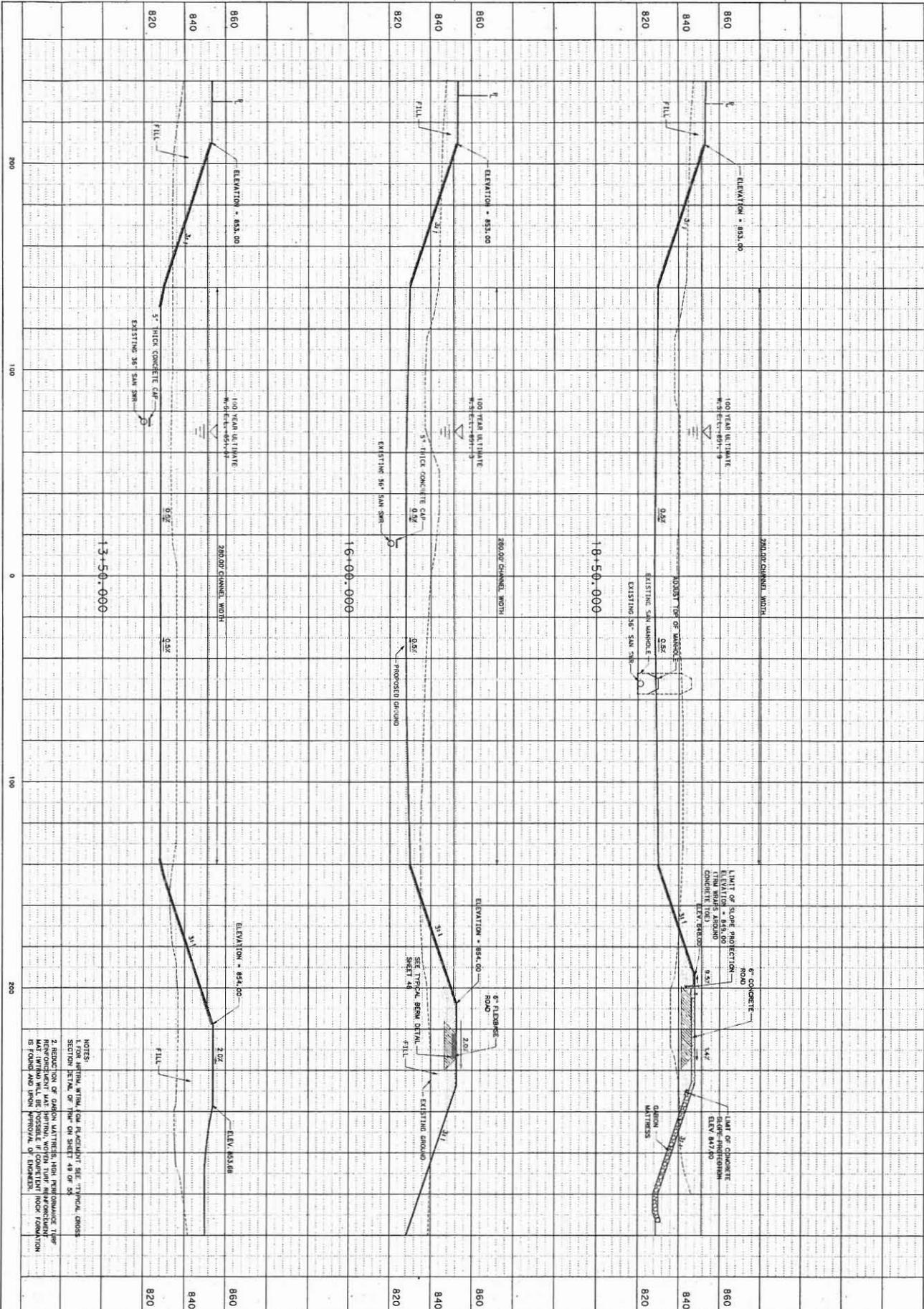
NOTES:
 1. FROM WITHIN 100' OF CHANNEL SIDE AT TYPICAL CROSS SECTION DETAIL OF THIS SHEET 48 OF 50.
 2. REDUCTION OF CHANNEL WIDTHS FROM PROPOSED TYPE 1 CHANNELS TO TYPE 2 CHANNELS WILL BE PERMITTED ONLY IF FOUND AND UPON APPROVAL OF ENGINEER.

SHEET NO. 33 of 55
CULEBRA ROAD/LOOP 1604 REGIONAL STORM WATER FACILITY
 SAN ANTONIO, TEXAS

CULEBRA CREEK CHANNEL CROSS SECTIONS STA. 6+00 TO 11+00

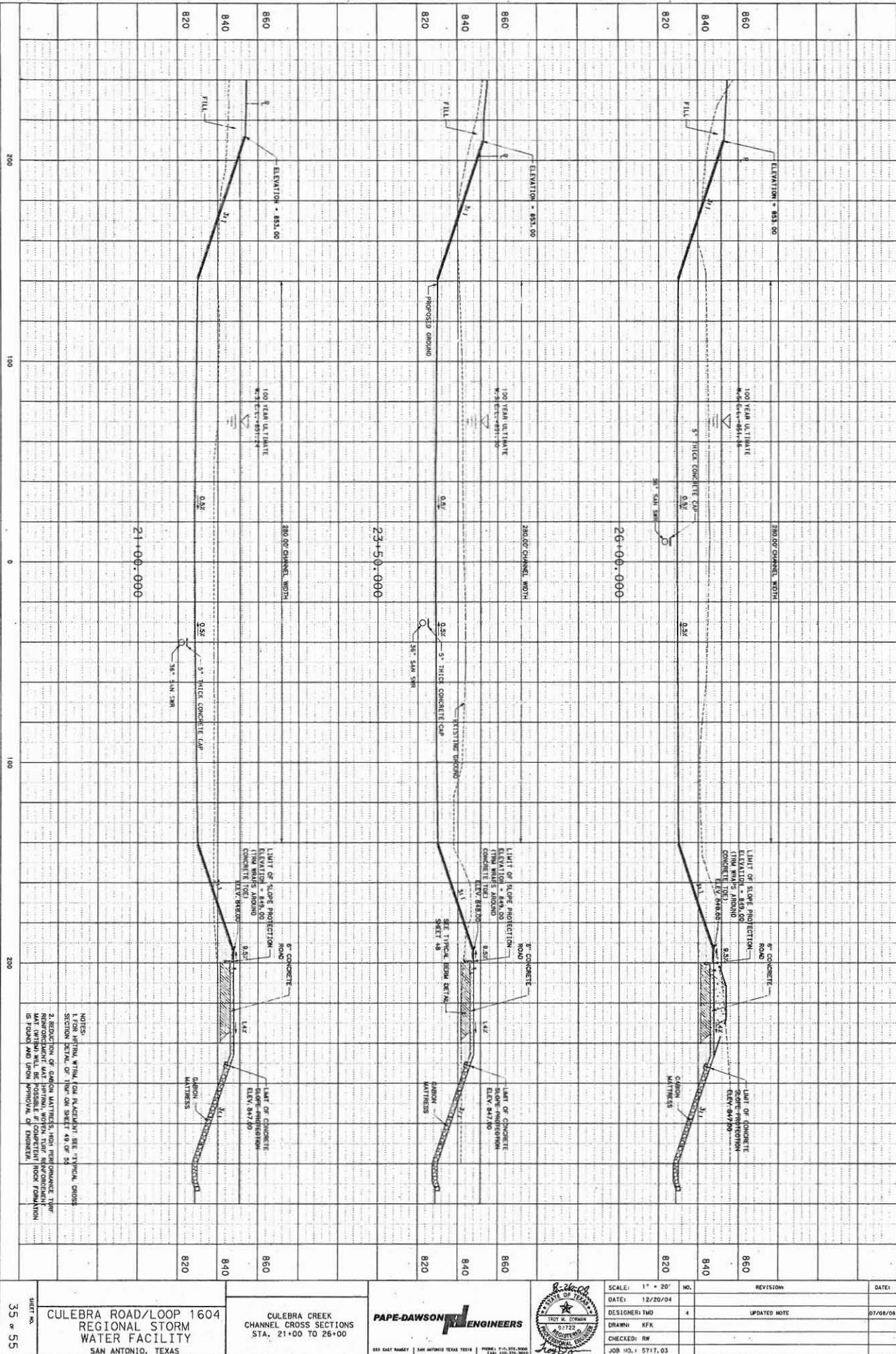


SCALE:	NO.	REVISION	DATE:
1" = 20'	3	UPDATED PROPOSED WM ELEVATIONS	05/12/08
DATE:	4	UPDATED NOTE	07/08/08
DESIGNER: TMD			
DRAWN: KFK			
CHECKED: RW			
JOB NO.: 5717.03			



NOTES:
 1. SECTION OF CULVERT WITHIN 100' OF FACILITY SEE TYPICAL CROSS SECTION DETAIL OF THIS SHEET 48 OF 55.
 2. REVISIONS OF CULVERT WITHIN 100' OF FACILITY SEE TYPICAL CROSS SECTION DETAIL OF THIS SHEET 48 OF 55.
 3. REVISIONS OF CULVERT WITHIN 100' OF FACILITY SEE TYPICAL CROSS SECTION DETAIL OF THIS SHEET 48 OF 55.
 4. REVISIONS OF CULVERT WITHIN 100' OF FACILITY SEE TYPICAL CROSS SECTION DETAIL OF THIS SHEET 48 OF 55.
 5. REVISIONS OF CULVERT WITHIN 100' OF FACILITY SEE TYPICAL CROSS SECTION DETAIL OF THIS SHEET 48 OF 55.

SHEET NO. 34 of 55	CULEBRA ROAD/LOOP 1604 REGIONAL STORM WATER FACILITY SAN ANTONIO, TEXAS	CULEBRA CREEK CHANNEL CROSS SECTIONS STA. 13+50 TO 18+50	PAPE-DAWSON ENGINEERS 555 EAST RAINLEY SAN ANTONIO, TEXAS 78216 PHONE: 210-775-9000 FAX: 210-775-9005		SCALE: 1" = 20' DATE: 12/20/04 DESIGNER: TMD DRAWN: KFK CHECKED: RW JOB NO.: 5717.03	REVISIONS: 3. UPDATED PROPOSED MH ELEVATIONS 4. UPDATED NOTE	DATE: 03/12/08 07/06/08
					NO. 3 4 RW 5717.03	NO. 3 4	DATE: 03/12/08 07/06/08

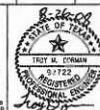


NOTES:
 1. FINAL WIDTH FOR SLABCAST SEE TYPICAL CROSS SECTION DETAIL OF THIS SHEET 49 OF 55.
 2. SECTION OF CURB MATERIALS AND REINFORCEMENT SHALL BE AS SHOWN, WITH THEIR REINFORCEMENT LAY OUT WITHIN WILL BE POSSIBLE IF CONCRETE FOOT FOUNDATION IS FOUND AND THEN REMOVAL OF DIMENSION.

SHEET NO. 35 OF 55
 CULEBRA ROAD/LOOP 1604 REGIONAL STORM WATER FACILITY
 SAN ANTONIO, TEXAS

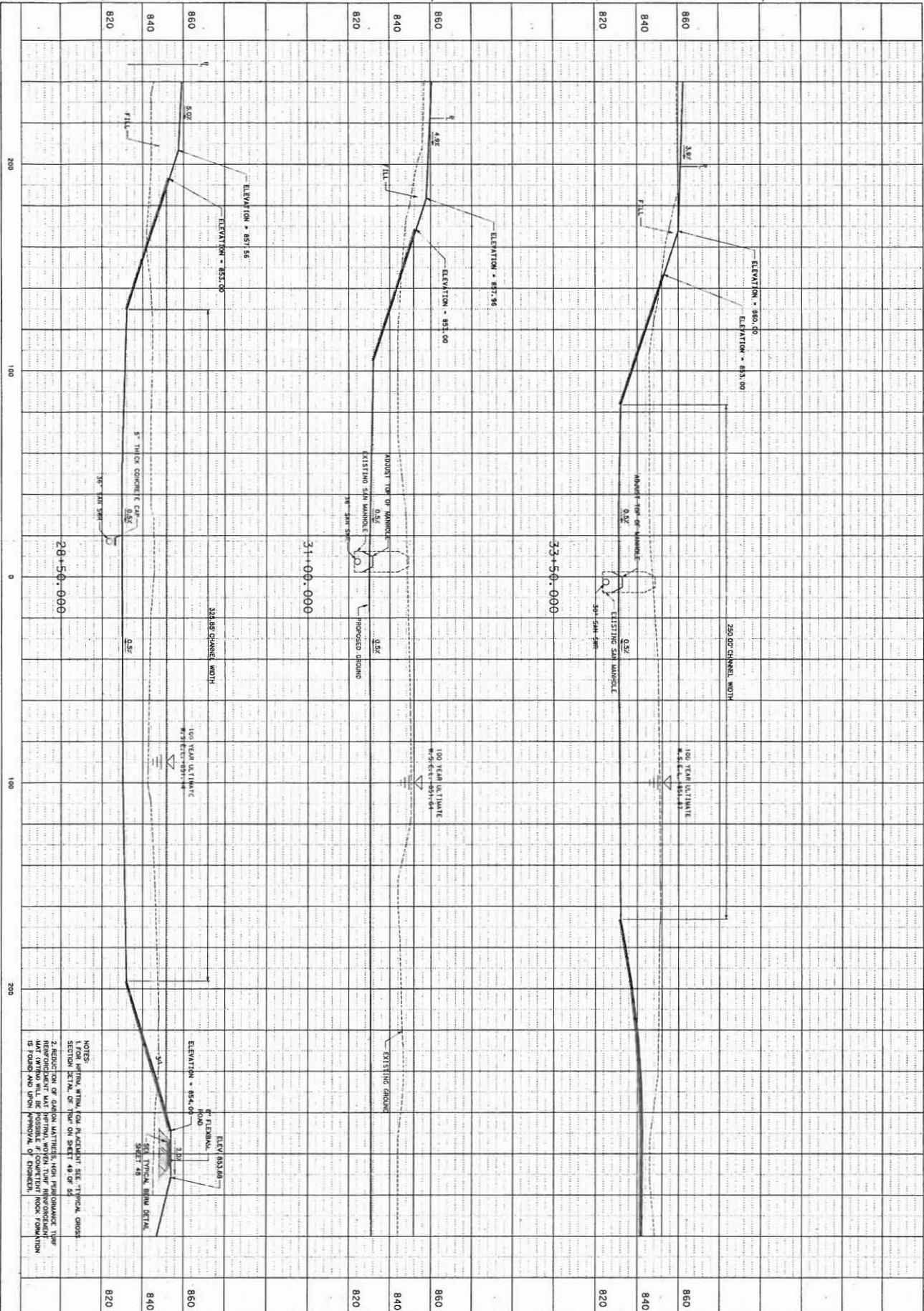
CULEBRA CREEK CHANNEL CROSS SECTIONS STA. 21+00 TO 26+00

PAPE-DAWSON ENGINEERS
 855 BAY MARKET | SAN ANTONIO, TEXAS 78216
 PHONE: (214) 271-5000 FAX: (214) 271-5001



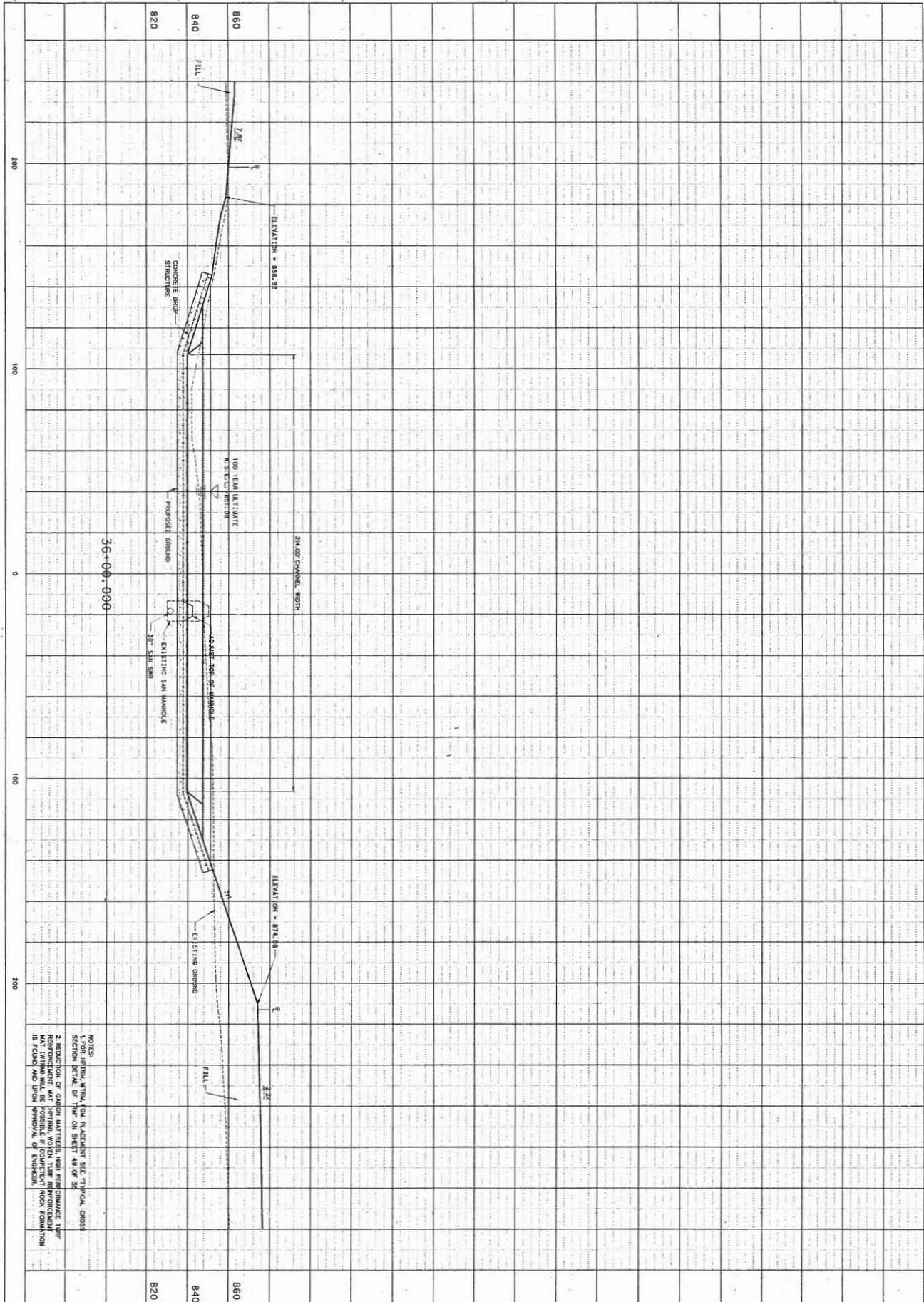
SCALE: 1" = 20'
 DATE: 12/20/04
 DESIGNER: TMD
 DRAWN: KFK
 CHECKED: RW
 JOB NO.: 5717.03

NO.	REVISION	DATE
4 <td>UPDATED NOTE <td>07/08/08 </td></td>	UPDATED NOTE <td>07/08/08 </td>	07/08/08



NOTES:
 1. FOR INITIAL WITH COA PLACEHOLD SEE TYPICAL CROSS SECTION DETAIL OF TOP ON SHEET 49 OF 55.
 2. REDUCTION OF GROUND WATER HIGH PERFORMANCE TYPICAL CROSS SECTION DETAIL OF TOP ON SHEET 49 OF 55.
 3. ANY OTHERS WILL BE POSSIBLE IF COMPLETION ROCK FORMATION IS FOUND AND OPEN APPROVAL OF CHANNEL.

SHEET NO. 36 of 55	CULEBRA ROAD/LOOP 1604 REGIONAL STORM WATER FACILITY SAN ANTONIO, TEXAS	CULEBRA CREEK CHANNEL CROSS SECTIONS STA. 28+50 TO 33+50	PAPE-DAWSON ENGINEERS 505 EAST HUNLEY SAN ANTONIO TEXAS 78214 PHONE: 512.375.9000 FAX: 512.375.9010		SCALE: 1" = 20' DATE: 12/20/04 DESIGNER: TMD DRAWN: KFK CHECKED: RW JOB NO.: 5717.03	NO. 3 REVISIONS 4 UPDATED PROPOSED MH ELEVATIONS UPDATED NOTE	DATE: 03/12/04 07/18/08
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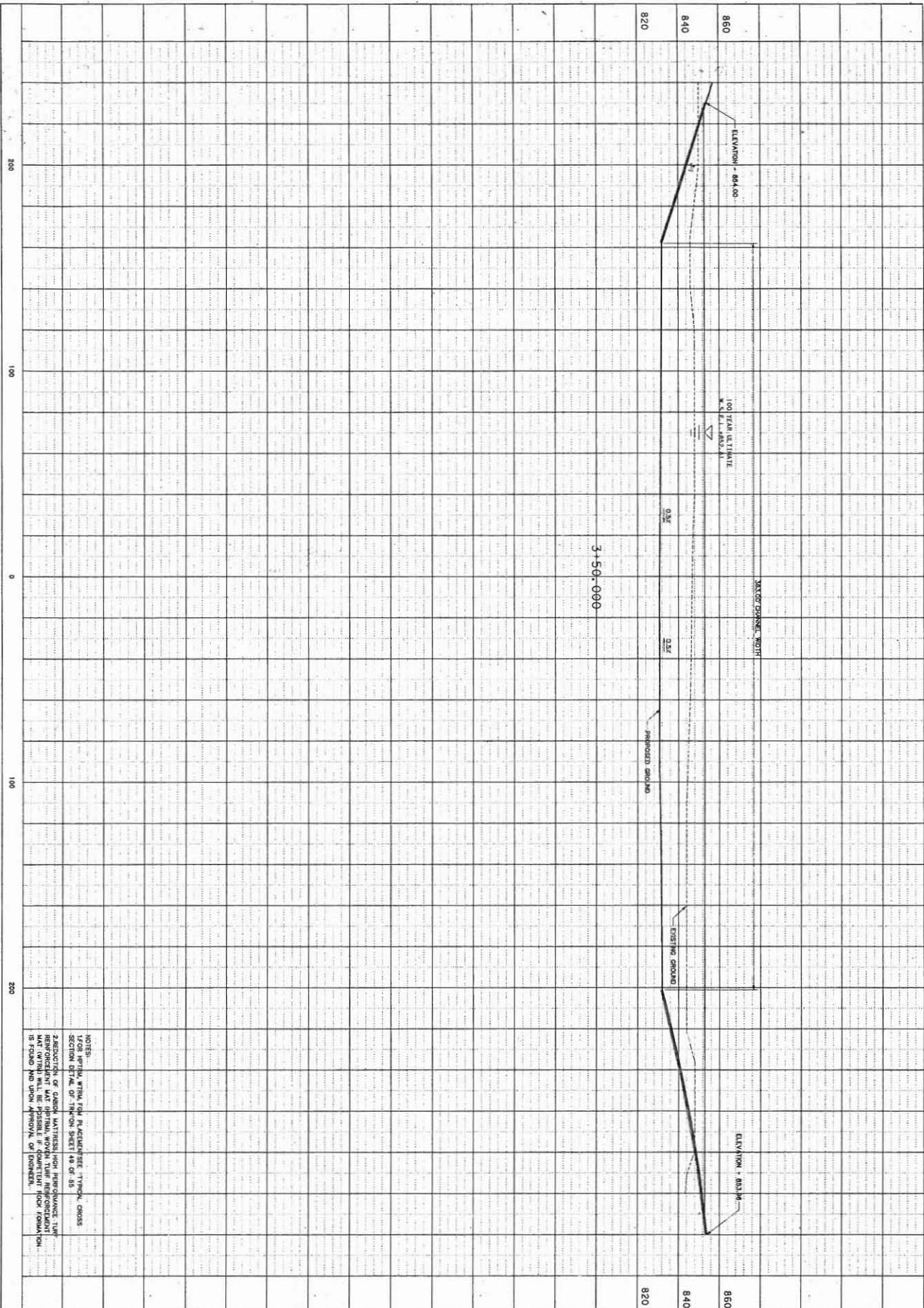
NOTES:
 1. FOR INITIAL REVIEW FOR REINFORCEMENT SEE TYPICAL CROSS SECTION DETAIL OF THIS SHEET 48 OF 55
 2. REDUCTION OF GARCH MATTERS FOR REINFORCEMENT TYPE MAT. (W/TA) WILL BE POSSIBLE IF COMPACTED ROCK FOUNDATION IS FOUND AND UPON APPROVAL OF ENGINEER.

SHEET NO. 37 of 55
CULEBRA ROAD/LOOP 1604 REGIONAL STORM WATER FACILITY
 SAN ANTONIO, TEXAS

CULEBRA CREEK CHANNEL CROSS SECTIONS STA. 36+00



SCALE:	1" = 20'	NO.	REVISION	DATE:
DATE:	12/20/04	3	UPDATED PROPOSED W/ ELEVATIONS	03/12/08
DESIGNER:	TMD	4	UPDATED NOTE	07/08/08
DRAWN:	KFK			
CHECKED:	RR			
JOB NO.:	5717.03			



NOTE:
 FOR PERMITS, WITHIN PERMITS, PLACE THESE TYPICAL CROSS
 SECTION DETAILS OF THIS SHEET AS OF AS
 A REPRODUCTION OF GRAPH MATERIALS, HIGH REINFORCEMENT TIE
 MAY (IF NECESSARY) BE POSSIBLE. FOUNDATION FLOOR FOUNDATION
 IS FOUND AND UPON APPROVAL OF DESIGNER.

SHEET NO.
 38 of 55

CULEBRA ROAD/LOOP 1604
 REGIONAL STORM
 WATER FACILITY
 SAN ANTONIO, TEXAS

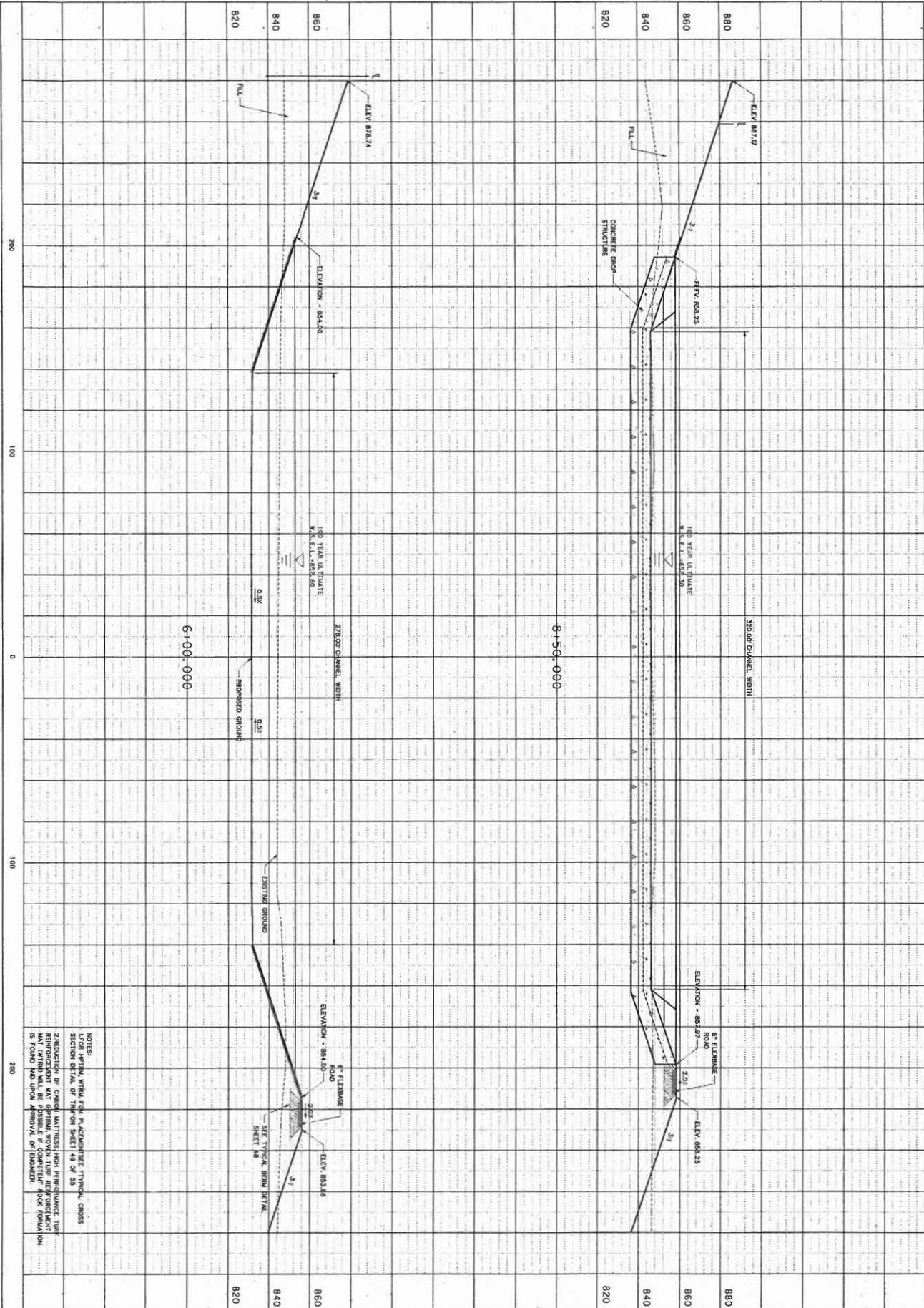
HELOTES CREEK
 CHANNEL CROSS SECTIONS
 STA. 1+00 TO 3+50



SCALE: 1" = 20'
 DATE: 12/20/04
 DESIGNER: TMD
 DRAWN: KFK
 CHECKED: RW
 JOB NO.: 5717.03

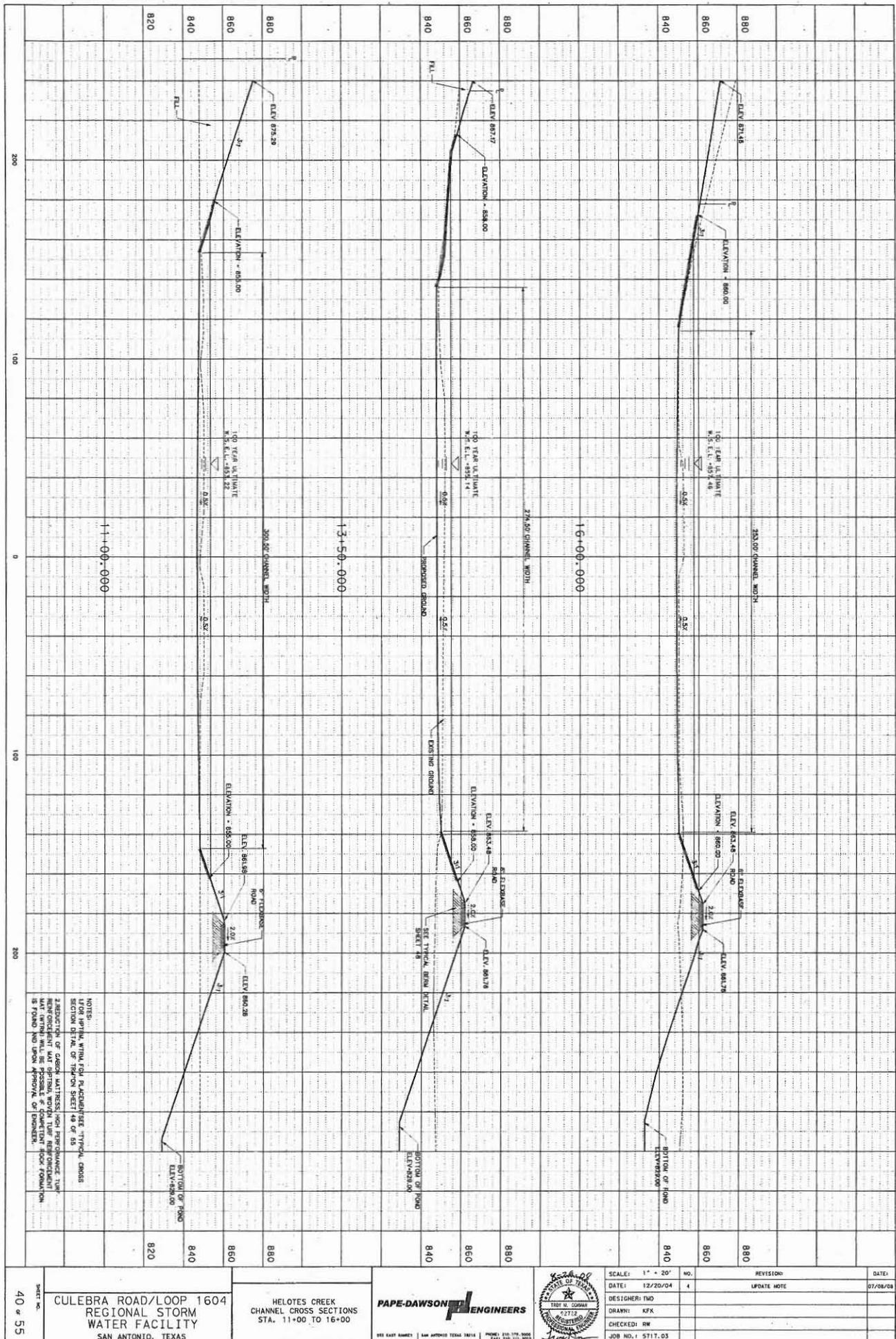
REVISION	DATE

DATE: 07/08/08



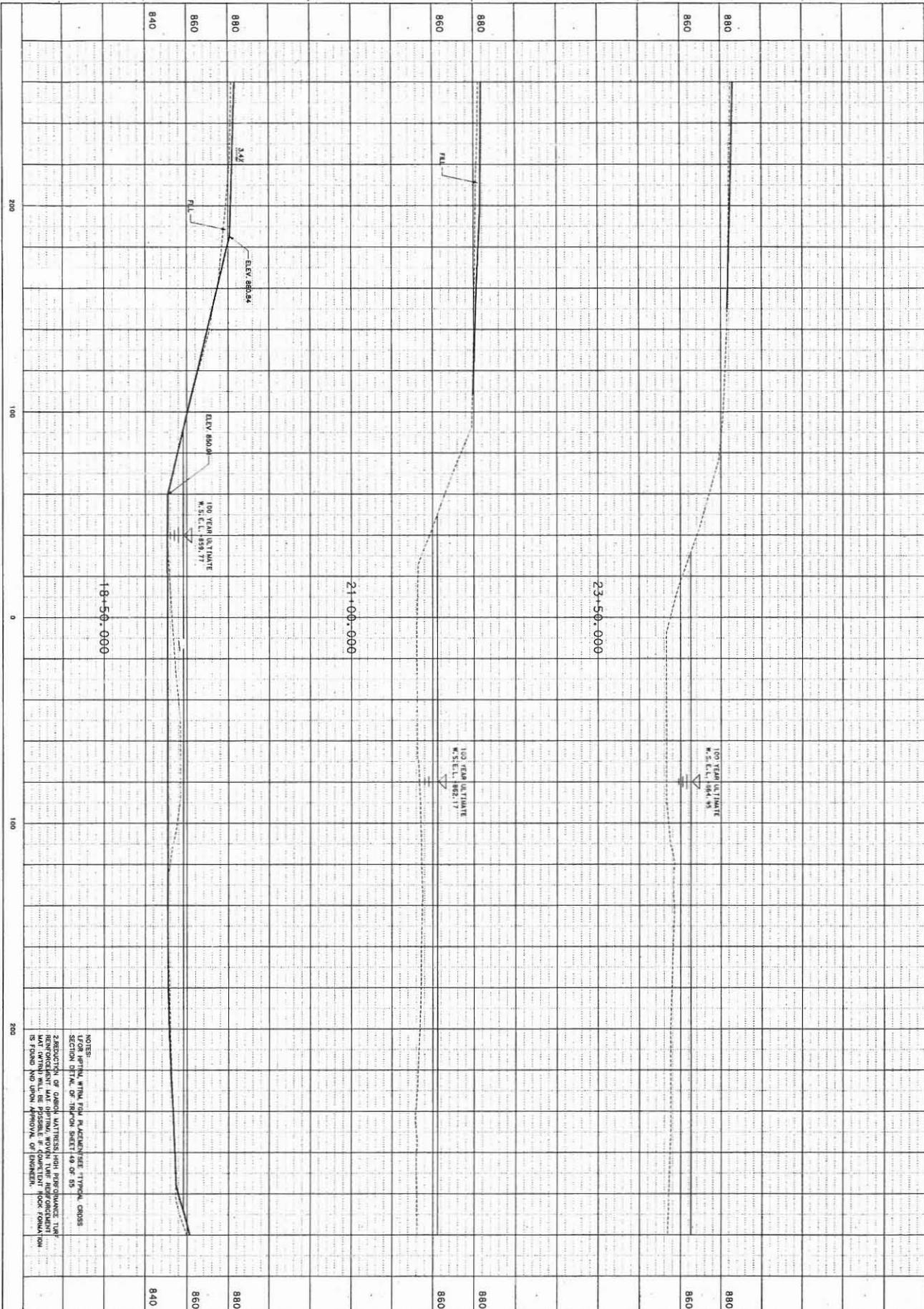
NOTES:
 1. FOR SPIN WITH FOR PLACEMENT TYPICAL CROSS SECTION DETAIL OF TRIMON SHEET 48 OF 53
 2. REINFORCEMENT OF CONCRETE WALLS WITH HIGH PERFORMANCE FIBER REINFORCED POLYMER (FRP) SHALL BE PROVIDED AT THE BOTTOM OF THE WALL TO PREVENT CRACKING DUE TO SHRINKAGE AND CURING LOSS.
 3. THE CHANNEL SHALL BE PROVIDED WITH A 3% SLOPE TO THE DOWNSTREAM END OF THE CHANNEL.

SHEET NO. 39 OF 55	CULEBRA ROAD/LOOP 1604 REGIONAL STORM WATER FACILITY SAN ANTONIO, TEXAS	HELOTES CREEK CHANNEL CROSS SECTIONS STA. 6+00 TO 8+50	PAPE-DAWSON ENGINEERS 223 EAST BOWLEY SAN ANTONIO, TEXAS 78214 PHONE: 210.516.0000 FAX: 210.516.0001		SCALE: 1" = 20' DATE: 12/20/04 DESIGNER: TMD DRAWN: KFK CHECKED: RW JOB NO.: 5117.03	REVISIONS: UPDATE NOTE	DATE: 07/08/08
					NO. 4	DATE:	



NOTES:
 1. FOR OPTIMAL CHANNEL PERFORMANCE, CHANNEL CROSS SECTION DETAIL OF THIS SHEET 49 OF 58.
 2. REINFORCEMENT OF CONCRETE WALLS SHALL BE PERFORMED IN ACCORDANCE WITH THE REINFORCEMENT DETAIL OF THIS SHEET 49 OF 58.
 3. ALL CHANNEL WALLS SHALL BE CONCRETE ON A FOUNDATION OF RIPPED GRAVEL.

SHEET NO. 40 of 55	CULEBRA ROAD/LOOP 1604 REGIONAL STORM WATER FACILITY SAN ANTONIO, TEXAS	HELOTES CREEK CHANNEL CROSS SECTIONS STA. 11+00 TO 16+00	PAPE-DAWSON ENGINEERS <small>805 EAST BAYVIEW SAN ANTONIO, TEXAS 78214 PHONE: 214.343.8000 FAX: 214.343.8005</small>	SCALE: 1" = 20' DATE: 12/20/04 DESIGNER: TMD DRAWN: KFK CHECKED: RW JOB NO.: 5717.03	REVISION: UPDATE NOTE	DATE: 07/08/08
				[Professional Engineer Seal: TROY M. CORMAN, No. 22712, State of Texas]		



NOTES:
 1. SECTION OF CHANNEL MATTERS HIGH PERFORMANCE TURBINE (HPT) WILL BE PREPARED IF FOUNDATION FOUNDATION IS FOUND AND UPON APPROVAL OF ENGINEER.

CULEBRA ROAD/LOOP 1604
 REGIONAL STORM
 WATER FACILITY
 SAN ANTONIO, TEXAS

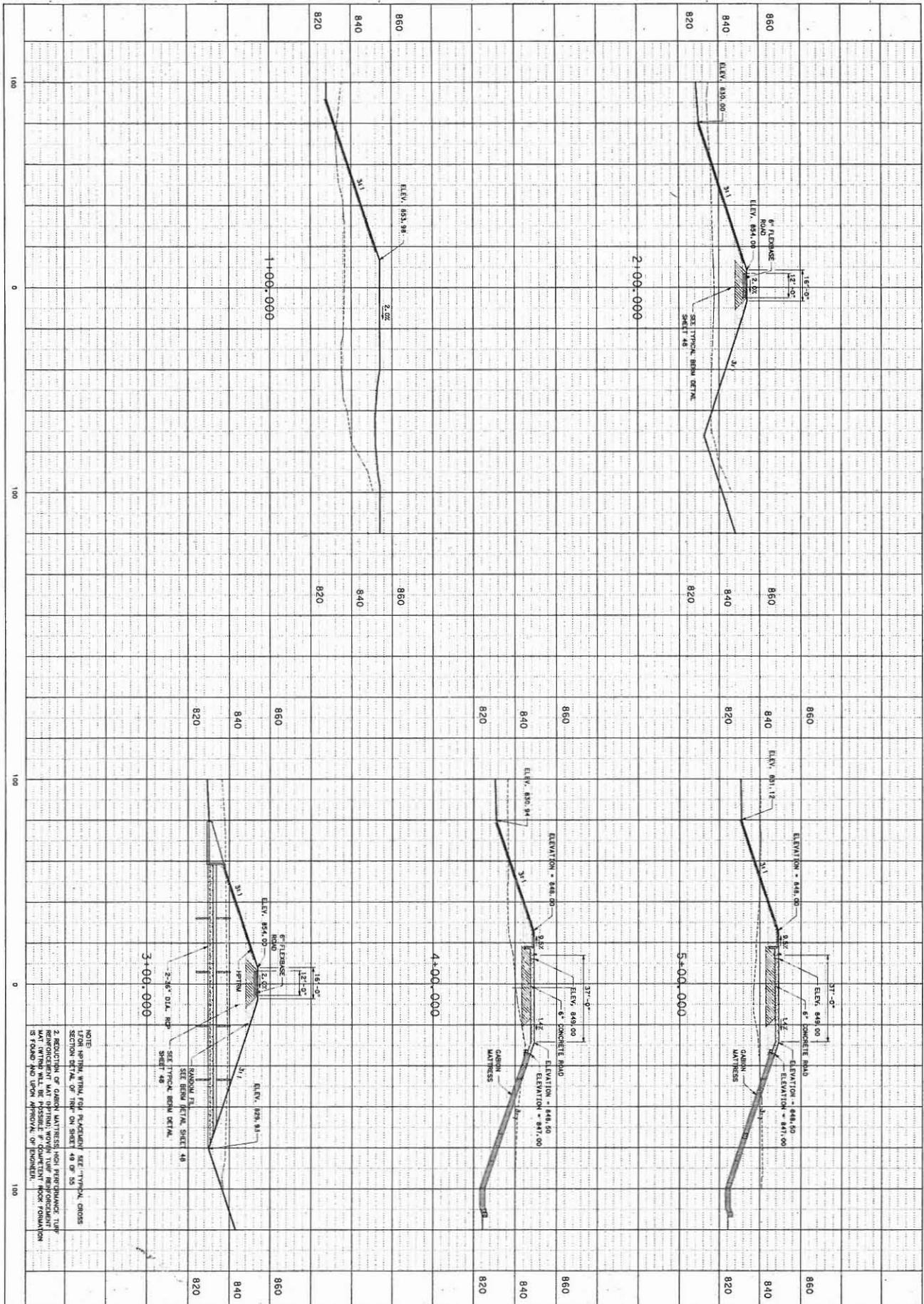
HELOTES CREEK
 CHANNEL CROSS SECTIONS
 STA. 18+50 TO 23+50

PAPE-DAWSON ENGINEERS
 655 EAST WAGNER | SAN ANTONIO TEXAS 78215 | PHONE: 512-371-9000
 FAX: 512-371-9015

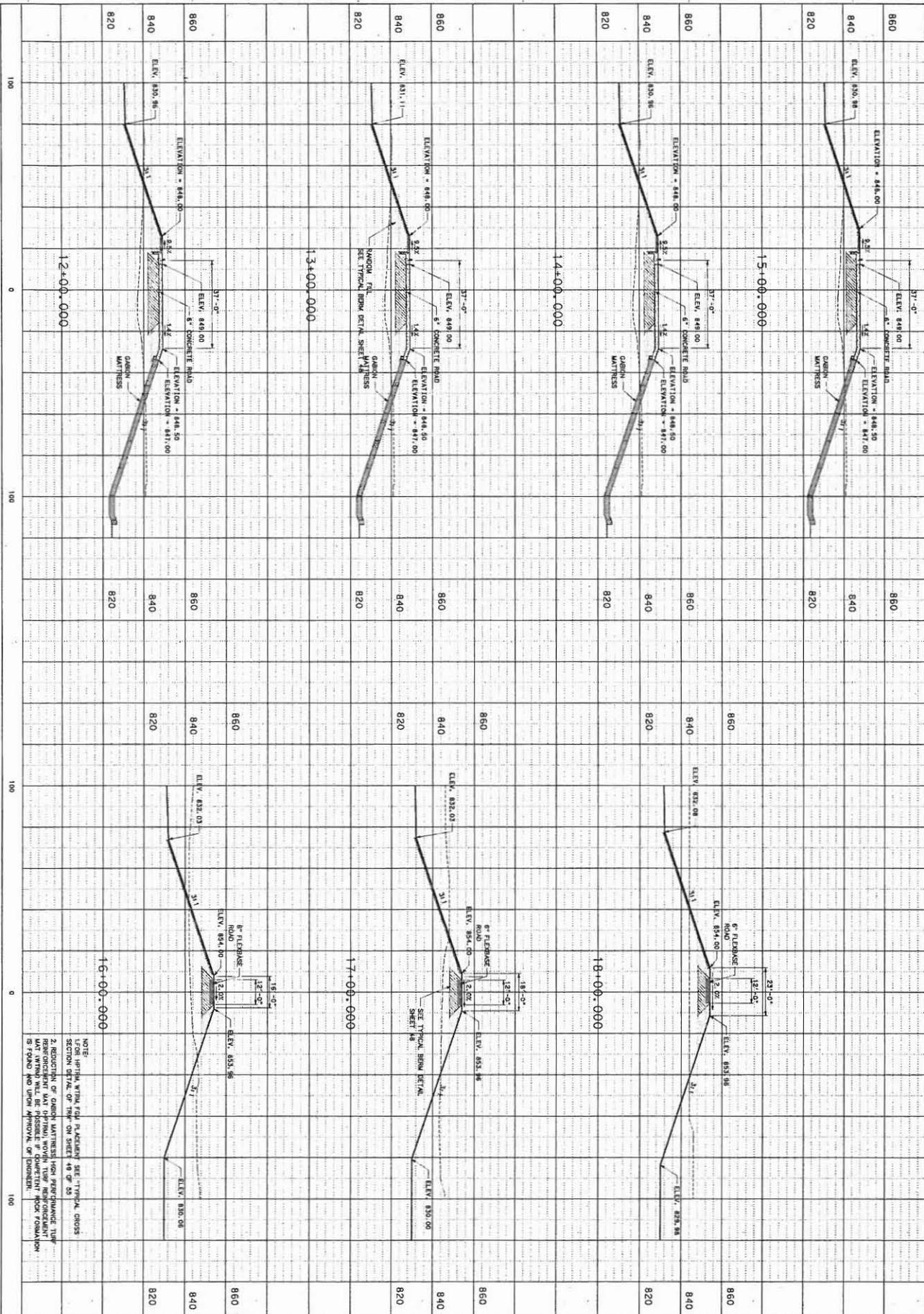


SCALE: 1" = 20'
 DATE: 12/20/04
 DESIGNER: TMD
 DRAWN: KFK
 CHECKED: RW
 JOB NO.: 5717.03

REVISION	DATE
UPDATE NOTE	07/08/08

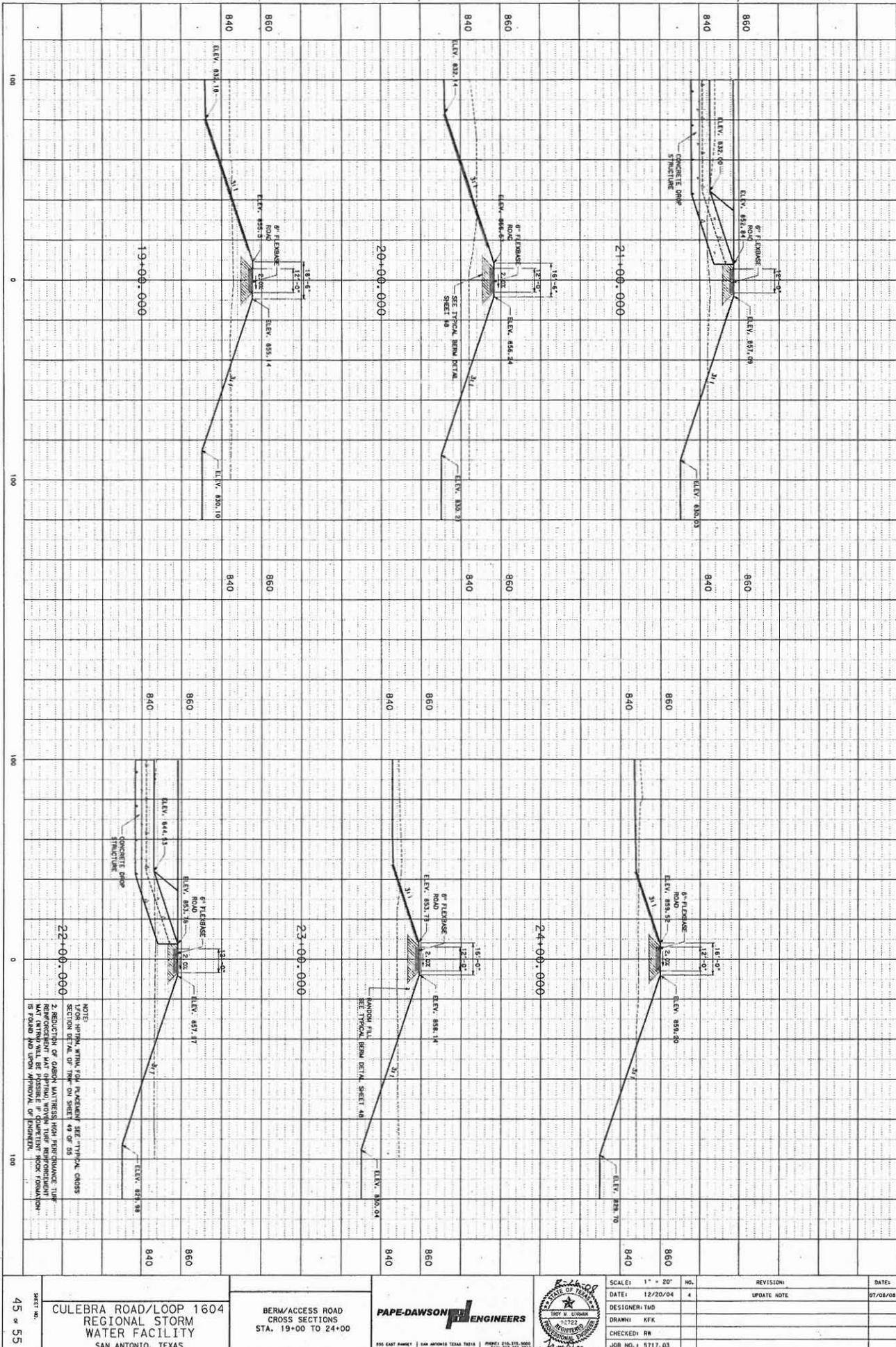


SHEET NO. 42 OF 55	CULEBRA ROAD/LOOP 1604 REGIONAL STORM WATER FACILITY SAN ANTONIO, TEXAS	BERM/ACCESS ROAD CROSS SECTIONS STA. 1+00 TO 5+00	PAPE-DAWSON ENGINEERS 803 EAST HURLEY SAN ANTONIO TEXAS 78214 PHONE: 210.375.3000 FAX: 210.375.3000		SCALE: 1" = 20' DATE: 12/20/04 DESIGNER: TMD DRAWN: KFA CHECKED: RW JOB NO.: 5717.03	REVISION UPDATE NOTE	DATE: 07/08/08
					NO. 4 JOB NO.: 5717.03		



NOTE
 1. ALL DATA WITHIN THIS DRAWING ARE BASED UPON THE TYPICAL CROSS SECTION DETAIL OF THIS SHEET AND OF 25.
 2. A RECORD OF GRAIN MATRESS FROM PERFORMANCE TESTS SHOULD BE OBTAINED AND PROVIDED TO THE DESIGNER. ANY OTHER LAYERS WILL BE PROVIDED IF COMPLETION ROAD FOUNDATION IS FOUND AND UPON APPROVAL OF DESIGNER.

SHEET NO. 44 of 55	CULEBRA ROAD/LOOP 1604 REGIONAL STORM WATER FACILITY SAN ANTONIO, TEXAS	BERM/ACCESS ROAD CROSS SECTIONS STA. 12+00 TO 18+00	PAPE-DAWSON ENGINEERS <small>300 EAST HANLEY SAN ANTONIO, TEXAS 78214 PHONE: 512.375.3000 FAX: 512.375.3010</small>		SCALE: 1" = 20'	NO.	REVISION:	DATE:
					DATE: 12/20/04	4	UPDATE NOTE	07/08/05
					DESIGNER: TMO			
					DRAWN: KFK			
					CHECKED: RW			
					JOB NO.: 5717.03			



SHEET NO. 45 OF 55

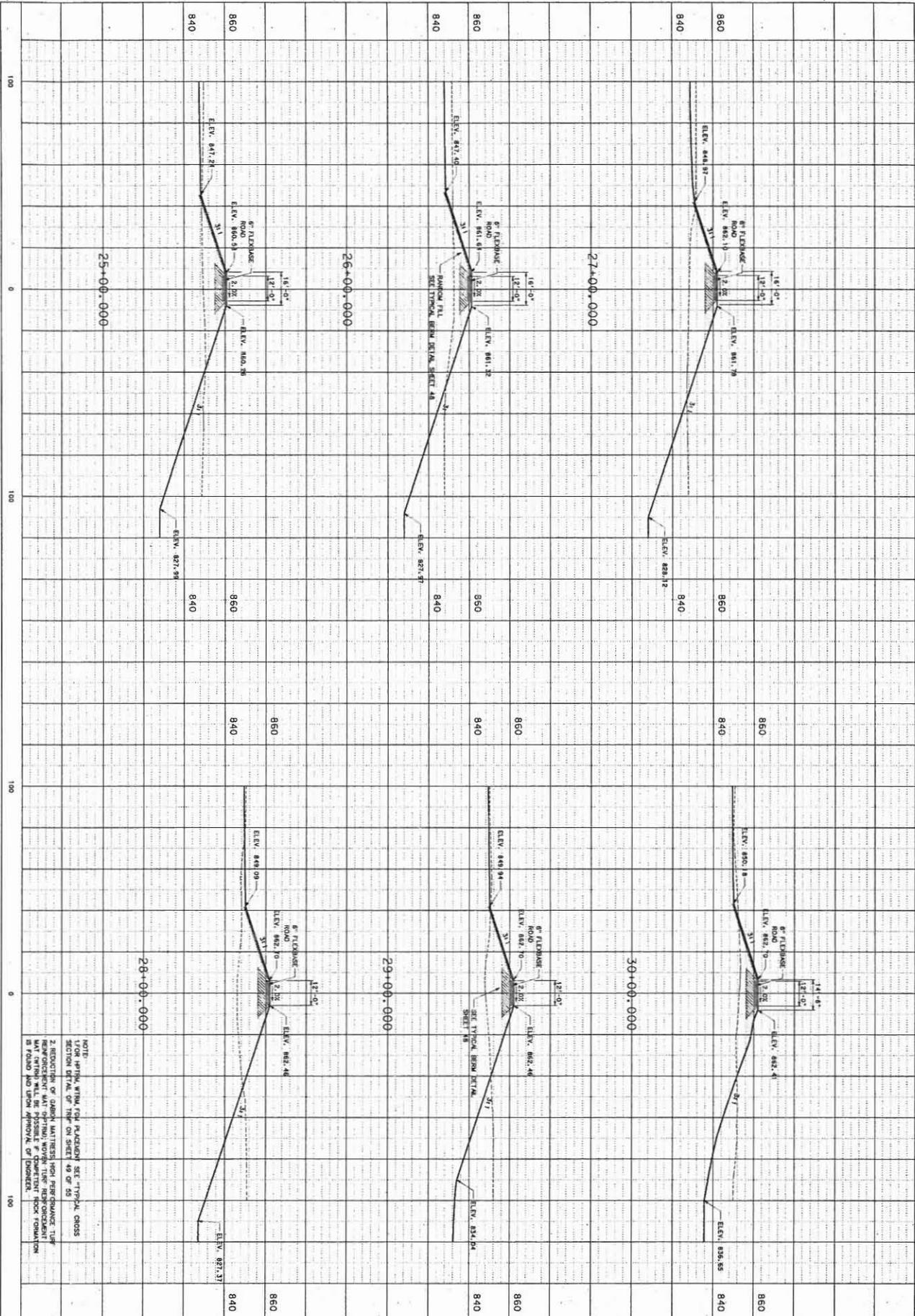
CULEBRA ROAD/LOOP 1604
 REGIONAL STORM
 WATER FACILITY
 SAN ANTONIO, TEXAS

BERM/ACCESS ROAD
 CROSS SECTIONS
 STA. 19+00 TO 24+00



SCALE: 1" = 20'
 DATE: 12/20/04
 DESIGNER: TMD
 DRAWN: KFK
 CHECKED: RW
 JOB NO.: 5717.03

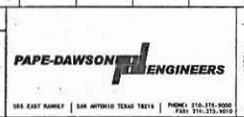
REVISION	DATE
UPDATE NOTE	07/08/08



NOTE:
 1. FOR APTN, WITH, FOR PLACEMENT SEE TYPICAL CROSS SECTION DETAIL OF TRIP ON SHEET 49 OF 55
 2. REDUCTION OF GRASS MATTERS FROM PERFORMANCE TEST RECOMMENDATION. ADVISE THE FIELD PERSONNEL TO REMOVE MATTERS FROM THE ROAD SURFACE AS FOUND AND UNDER APPROVAL OF DISTRICT.

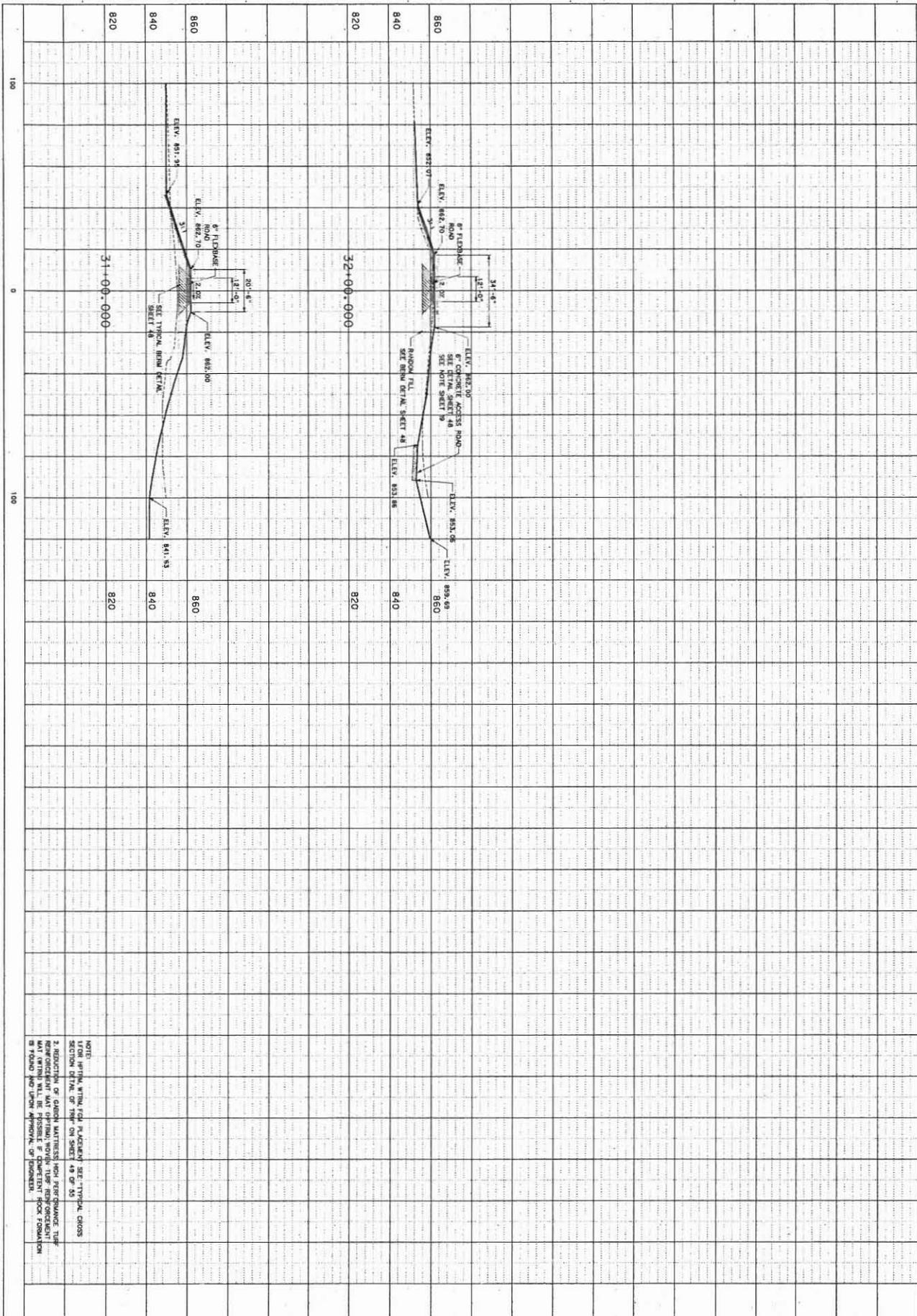
SHEET NO. 46 of 55
CULEBRA ROAD/LOOP 1604
REGIONAL STORM
WATER FACILITY
 SAN ANTONIO, TEXAS

BERM/ACCESS ROAD
 CROSS SECTIONS
 STA. 25+00 TO 30+00



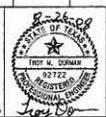
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 DESIGNER: TMO
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 JOB NO.: 5717_03

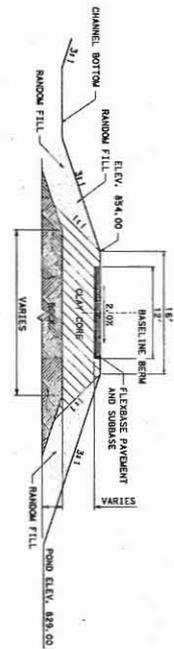
NO.	REVISION/UPDATE NOTE	DATE
1		07/08/08



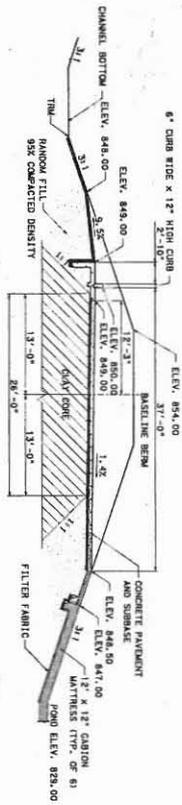
NOTE:
 1. FOR UTILITY, WIND, FIRE PLACEMENT SEE TYPICAL CROSS SECTION DETAIL OF THIS ON SHEET 48 OF 53
 2. REDUCTION OF GROUND WATER FROM PERFORMANCE TEST WITH PROPERLY INSTALLED WATER TABLE MONITORING SYSTEM IS FOUND AND UPON APPROVAL OF ENGINEER.

SHEET NO. 47 of 55	CULEBRA ROAD/LOOP 1604 REGIONAL STORM WATER FACILITY SAN ANTONIO, TEXAS	BERM/ACCESS ROAD CROSS SECTIONS STA. 31+00 TO 32+00	PAPE-DAWSON ENGINEERS 638 EAST HANLEY SAN ANTONIO TEXAS 78216 PHONE: 512.375.3000 FAX: 512.375.3001	SCALE: 1" = 20' DATE: 12/20/04 DESIGNER: TMD DRAWN: KFK CHECKED: RW JOB NO.: 5717.03	REVISION: UPDATE NOTE	DATE: 07/06/08
				NO. 4	DATE: 07/06/08	

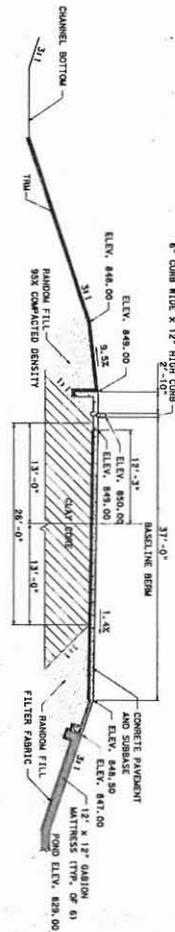




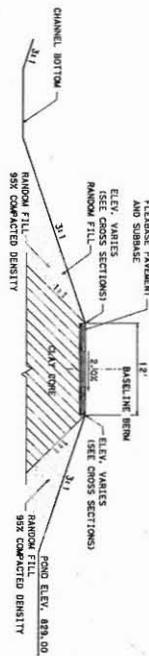
SECTION A-A
BERM TYPICAL SECTION AT LOCATIONS
WHERE COMPETENT ROCK IS ABOVE BOTTOM ELEVATION OF POND
(LOOKING UP STATION)



SECTION B-B
BERM TYPICAL SECTION AT WEIR RAMP
(LOOKING UP STATION)

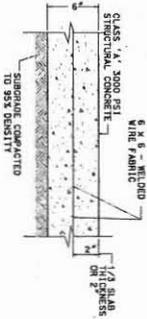


SECTION C-C
BERM TYPICAL SECTION AT WEIR
(LOOKING UP STATION)

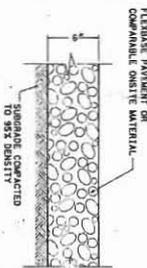


SECTION D-D
BERM TYPICAL SECTION AT LOCATIONS
WHERE CHANNEL BOTTOM IS BELOW BOTTOM ELEVATION OF POND
(LOOKING UP STATION)

NOTE: CONCRETE FOR PAVEMENT SHALL BE AIR ENTRAINED TO 5% AND SHALL BE 28 DAYS COMPRESSIVE STRENGTH OF 3000 P.S.I. AND A MINIMUM 28 DAYS COMPRESSIVE STRENGTH OF 10% RESIDUAL COMPRESSIVE STRENGTH OF THIS PRODUCT.



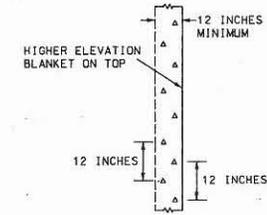
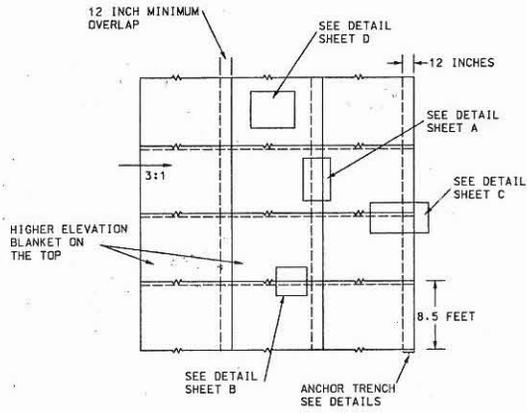
TYPICAL CONCRETE PAVEMENT DETAIL
N. T.S.



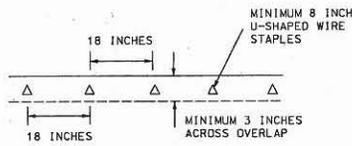
TYPICAL FLEEXBASE PAVEMENT DETAIL
N. T.S.

- NOTES:
1. EXTEND THE CLAY CORE UNTIL COMPETENT ROCK IS ENCOUNTERED.
 2. THE CLAY CORE HAS BEEN EXPANDED AT BERMING LOCATIONS ONLY. CONDITION MAY VARY BETWEEN LOCATIONS.
 3. CLAY CORE IS TO BE BUILT FROM CLAY SOILS OF TYPE CL AND CH AS OUTLINED IN THE SPECIFICATIONS.
 4. RANDOM FILL SHALL BE BUILT FROM SAND AND GRAVEL OR SITE MATERIALS. IT SHOULD BE ABOUTLY COMPOSED OF A MIXTURE OF SAND AND GRAVEL.

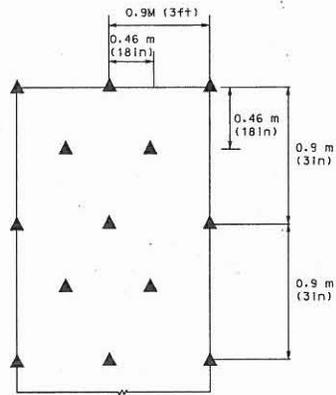
SHEET NO. 48 of 55	CULEBRA ROAD/LOOP 1604 REGIONAL STORM WATER FACILITY SAN ANTONIO, TEXAS	BERM DETAILS ACROSS WEIR	PAPE-DAWSON ENGINEERS 800 EAST PARKWAY SAN ANTONIO TEXAS 78214 PHONE: 714-774-5000 FAX: 714-774-5001		SCALE: 1" = 30'	NO.	REVISION:	DATE:
					DATE: 11/12/07	DESIGNER: TMD	DRAWN: KFK	CHECKED: RW



DETAIL A
OVERLAP AND ANCHORING DETAILS
AT ROLL ENDS

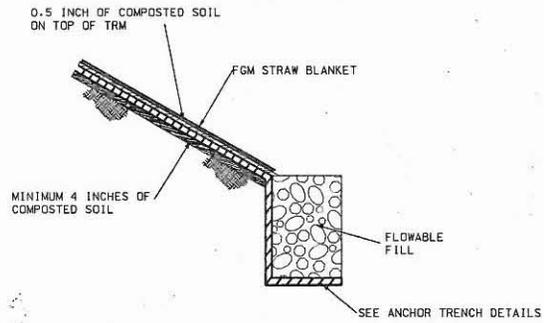
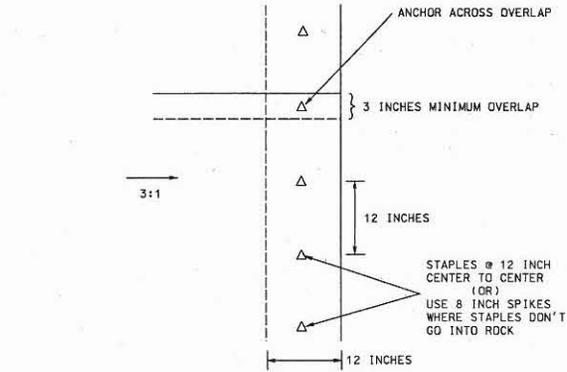


DETAIL B
OVERLAP AND ANCHORING DETAILS
FOR ADJACENT ROLLS

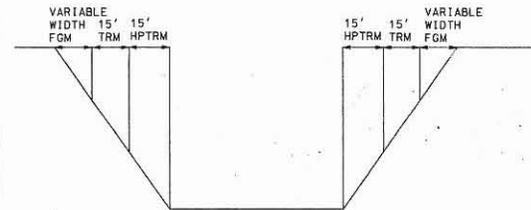
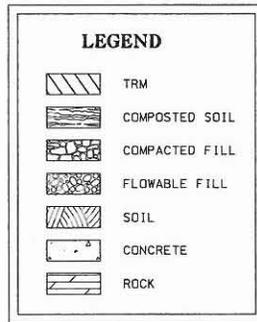


DETAIL D

NOTES:
1. ANCHOR PATTERN 3 ANCHORS/ M² (2 1/2 ANCHORS/ YD²), FOR SLOPES STEEPER THAN 1H: 1V AND CHANNELS
2. U-SHAPED WIRE STAPLES, METAL GEOTEXTILE PINS, TRIANGULAR WOODEN OR PLASTIC STAKES CAN BE USED TO ANCHOR TRMs TO THE GROUND SURFACE

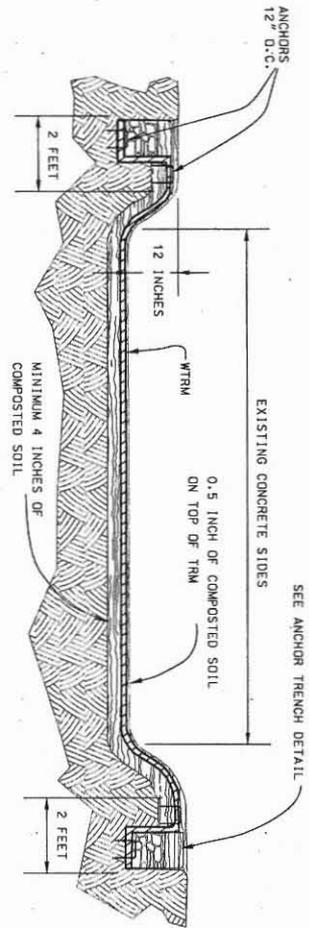


DETAIL C
DETAILS OF ANCHORING PATTERN INSIDE
ANCHORING TRENCH



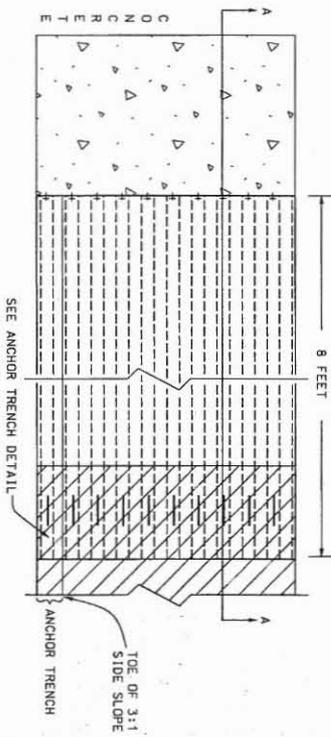
TYPICAL CROSS SECTION DETAIL OF TRM

DATE:	11/19/01
REVISION:	1 UPDATED TRM SPACING AND REGULATION NOTES
NO.	1
SCALE:	N.T.S.
DATE:	11/17/07
DESIGNER:	JMD
DRAWN:	KEK
CHECKED:	RM
JOB NO.:	1717.04
	
PAPE-DAWSON ENGINEERS <small>535 EAST AUSTIN SAN ANTONIO, TEXAS 78202 TEL: 214.222.2200</small>	
TRM DETAILS	
CULEBRA ROAD/LOOP 1604 REGIONAL STORM WATER FACILITY SAN ANTONIO, TEXAS	
SHEET NO. 49 of 55	



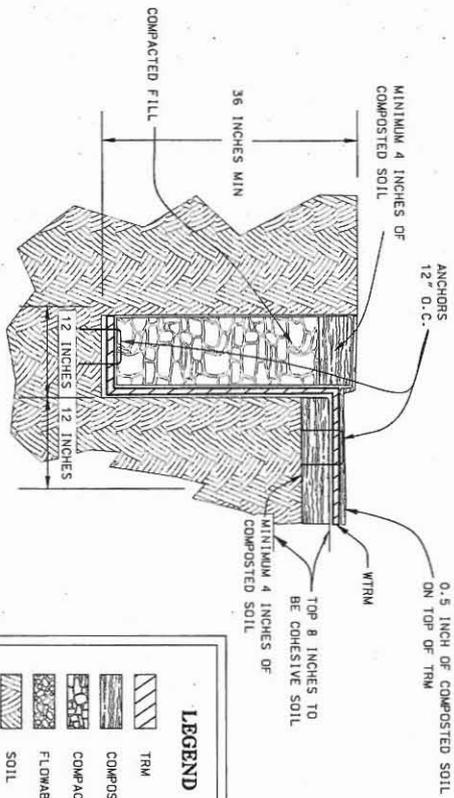
DETAIL A
CHANNEL SECTION AT
PROPOSED SWALE

N.T.S.



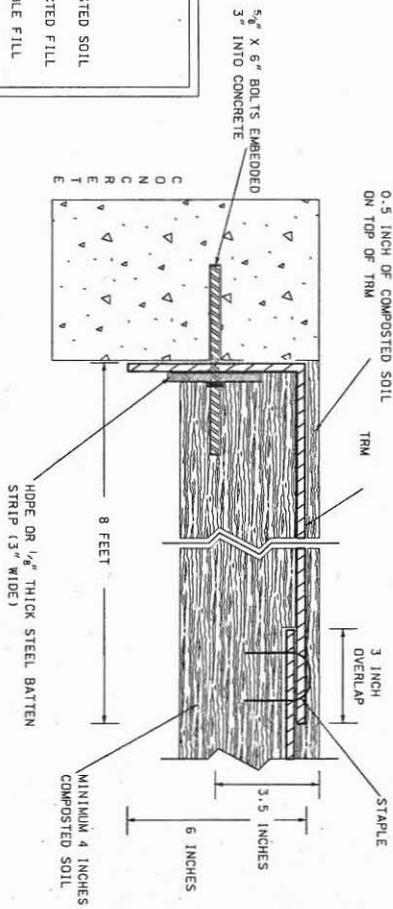
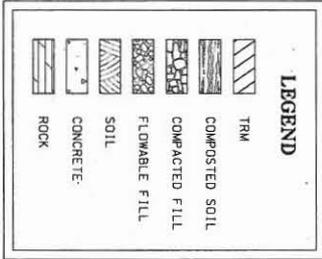
DETAIL C
DETAILS OF TRM AT
CONCRETE DROP STRUCTURES

N.T.S.



DETAIL B
ANCHOR TRENCH DETAIL

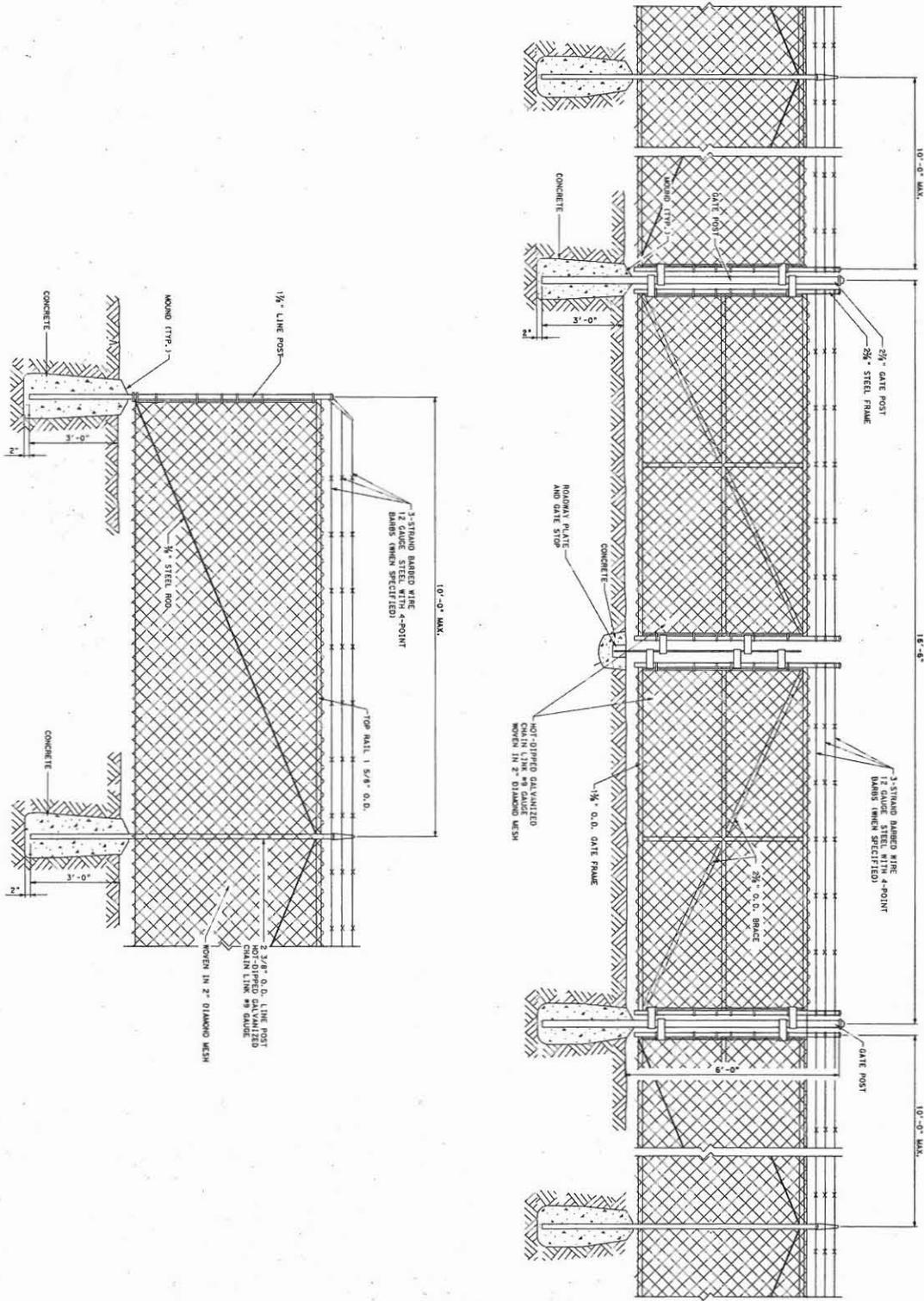
N.T.S.



CROSS SECTION A-A

N.T.S.

<p>50 of 55</p>	<p>CULEBRA ROAD/LOOP 1604 REGIONAL STORM WATER FACILITY SAN ANTONIO, TEXAS</p>	<p>TRM DETAILS</p>	<p>PAPE-DAWSON ENGINEERS</p> <p>305 EAST RANGEL SAN ANTONIO, TEXAS 78214 PHONE: 512.375.3000 FAX: 512.375.3001</p>		<p>SCALE: N.T.S.</p> <p>DATE: 11/12/07</p> <p>DESIGNER: TMD</p> <p>DRAWN: KFK</p> <p>CHECKED: RW</p> <p>JOB NO.: 5717.04</p>	<p>REVISION:</p> <p>1 UPDATED TRM DETAILS AND INSTALLATION NOTES</p>	<p>DATE:</p> <p>11/19/07</p>



STANDARD GATE AND FENCE

SHEET NO. 53 of 55	CULEBRA ROAD/LOOP 1604 REGIONAL STORM WATER FACILITY SAN ANTONIO, TEXAS	ACCESS GATE/CHAIN LINK FENCE DETAIL	PAPE-DAWSON ENGINEERS 808 EAST HAMMERT SAN ANTONIO, TEXAS 78211 PHONE: 512.371.9000 FAX: 512.371.9002	8-26-08 STATE OF TEXAS 1907 M. GUNMAN REGISTERED PROFESSIONAL ENGINEER No. 10212 Exp. 08/31/2011	SCALE: N.T.S.	NO.	REVISIONS:	DATE:
					DATE: 11/12/07	DESIGNER: TMD	DRAWN: KFK	CHECKED: RW

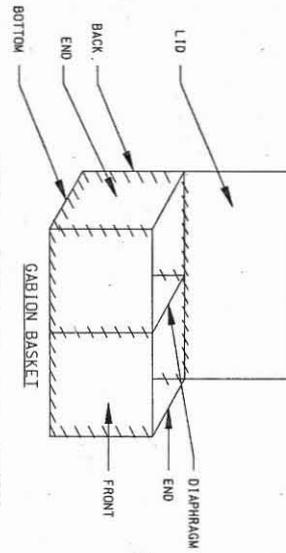


TABLE 1. TYPICAL GABION BASKET SIZES

LENGTH	WIDTH		HEIGHT FT.		NUMBER OF CELLS	VOLUME	
	FT	M	FT	M		FT ³	M ³
6	1.83	3	0.91	3	2	54	1.53
9	2.74	3	0.91	3	3	81	2.29
12	3.66	3	0.91	3	4	108	3.06
6	1.83	3	0.91	3	2	27	0.76
9	2.74	3	0.91	3	3	41	1.15
12	3.66	3	0.91	3	4	54	1.53
6	1.83	3	0.91	3	2	18	0.50
9	2.74	3	0.91	3	3	27	0.76
12	3.66	3	0.91	3	4	36	1.02

TABLE 2. TYPICAL GABION MATTRESS SIZES

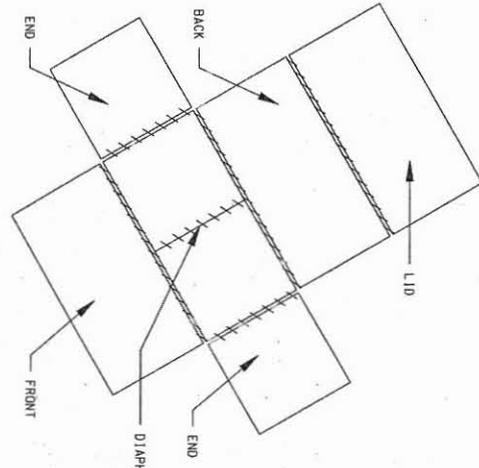
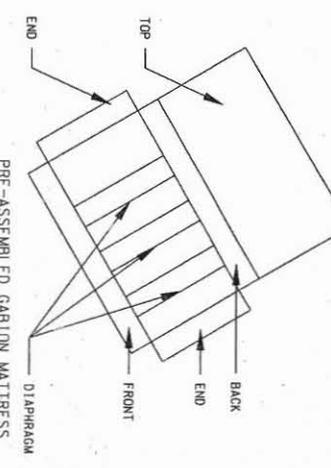
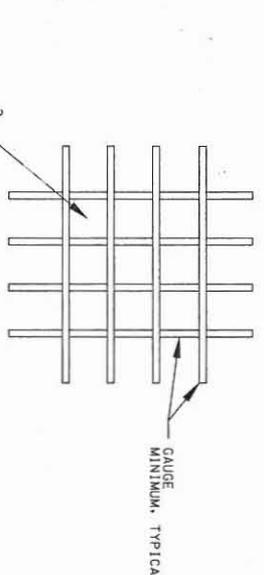
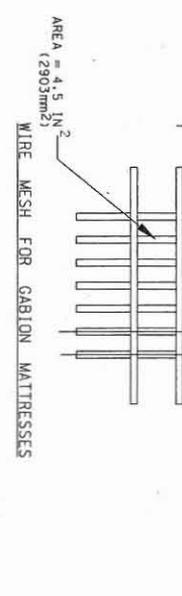
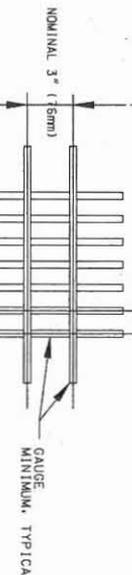
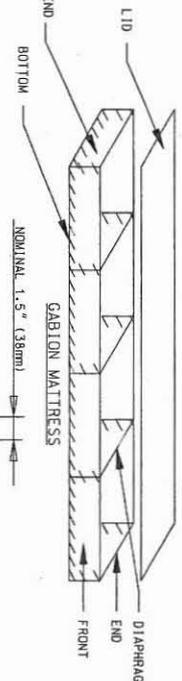
LENGTH	WIDTH		HEIGHT FT.		NUMBER OF CELLS	AREA		VOLUME	
	FT	M	FT	M		FT ²	M ²	FT ³	M ³
9	2.74	6	1.83	0.15	3	54	5.02	27	0.77
12	3.66	6	1.83	0.15	4	72	6.89	36	1.02
9	2.74	6	1.83	0.23	3	54	5.02	41	1.15
12	3.66	6	1.83	0.23	4	72	6.89	54	1.53
9	2.74	6	1.83	1.0	3	54	5.02	54	1.53
12	3.66	6	1.83	1.0	4	72	6.89	72	2.04

TABLE 3. WIRE DIAMETERS

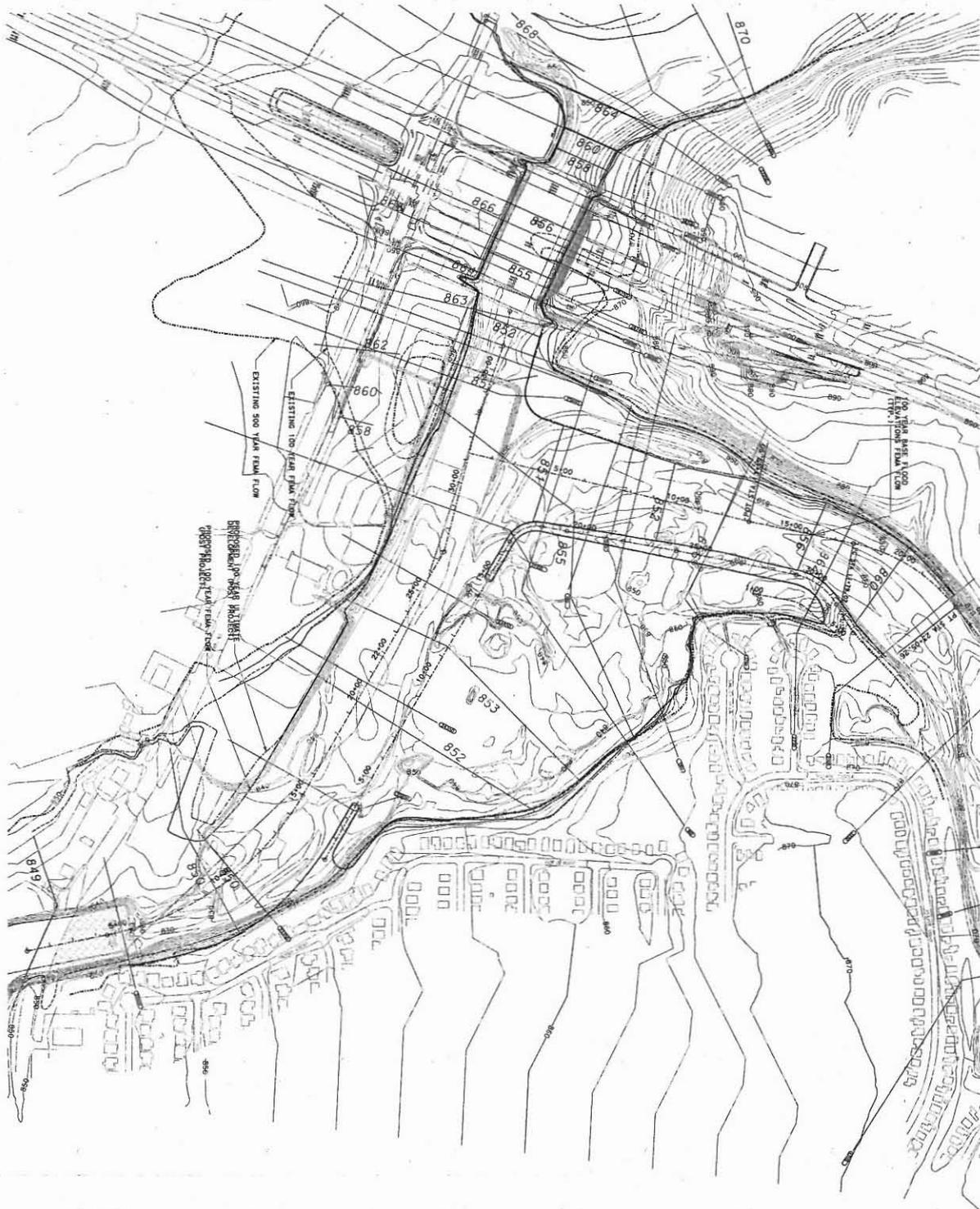
MINIMUM DIAMETER WIRE

WIRE FOR GABION MATTRESSES
 SELWIDE WIRE FOR GABION MATTRESSES
 LACING WIRE
 STIFFENERS:
 LACING WIRE
 PREFORMED

0.120
 0.153
 0.091
 0.091
 0.150



- NOTES:
1. ALL GABIONS AND MATTRESSES SHALL COMPLY WITH ASTM A974 OR ASTM A975.
 2. ALL GABIONS AND MATTRESSES SHALL HAVE GALVANIZED COATING ACCORDING TO STYLE 1 IN THE ASTM A974 OR ASTM A975.
 3. THE TERMS "MATTRESS", REVEY MATTRESS AND GABION MATTRESS ARE EQUIVALENT. REVEY MATTRESSES ARE NOT ACCEPTABLE.
 4. GABIONS SHALL CONSIST OF WELDED WIRE FABRIC OR TWISTED WIRE, SPIRAL BINDERS, LACING WIRES, AND STIFFENERS MADE FROM WIRE WHICH IS ZINC-COATED.



LEGEND
 --- EXISTING 100 YEAR FLOOD FLOW
 --- EXISTING 500 YEAR FLOOD FLOW
 --- PROPOSED 100 YEAR FLOOD FLOW
 --- PROPOSED 500 YEAR FLOOD FLOW

SHEET NO. 55 of 55	CULEBRA ROAD/LOOP 1604 REGIONAL STORM WATER FACILITY SAN ANTONIO, TEXAS		CULEBRA CREEK CHANNEL FLOOD CONTROL	PAPE-DAWSON ENGINEERS <small>350 EAST RAINBOW SAN ANTONIO, TEXAS 78214 PHONE: 214.352.5000 FAX: 214.352.5171</small>		SCALE: 1" = 200' DATE: 11/12/07 DESIGNER: TMO DRAWN: AFR CHECKED: RW JOB NO.: 5717.04	REVISION: REVISED POND DESIGN	DATE: 11/19/07
	(Empty row for additional information or notes)							
	(Empty row for additional information or notes)							
	(Empty row for additional information or notes)							
	(Empty row for additional information or notes)							

**EXHIBIT D
TO
DEVELOPER PARTICIPATION CONTRACT**

COST ESTIMATES

See Attached.

**CULEBRA CREEK REGIONAL
STORM WATER FACILITY PROJECT – PHASE 1
ENGINEER’S OPINION OF PROBABLE COST**

7/23/08

ITEM NO.	DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL AMOUNT
<u>CHANNEL CONSTRUCTION</u>					
1.	Preparing ROW	AC	173	\$1,200	\$207,600.00
2.	Excavation	CY	686,000	\$2.90	\$1,989,400.00
3.	Fill (Embankment) (Compaction Only)		747,500	\$1.92	\$1,070,550.00
4.	Flex Base (8" Compacted Depth), (X>500 S.Y.)	CY	3,075	\$6.90	\$21,217.50
5.	Concrete Class A (Weir/Access Rd)	CY	1,165	\$255.00	\$297,075.00
6.	Concrete Class A (Channel Protection)	CY	550	\$255.00	\$140,250.00
7.	Concrete Class A (Drop Structure/Stilling Basin)	CY	3,216	\$306.00	\$984,096.00
8.	Concrete Class "B"	CY	139	\$296.00	\$41,144.00
9.	Concrete Class "C"	CY	16	\$459.00	\$7,344.00
10.	Reinforcing Steel (More Than 100,000 lbs.)	LB	424,000	\$1.07	\$453,680.00
11.	36" Storm Drainage Pipe, RCP, 8'- 10' Cut	EA	330	\$122.50	\$40,425.00
12.	TxDOT Gabion Mattress (12" Thick, Galvanized Wire)	SY	9,550	\$42.35	\$404,442.50
13.	Chain Link Wire Fence (6' High)	LF	4,000	\$14.00	\$56,000.00
14.	Vehicular Gate	EA	2.00	\$2,000.00	\$4,000.00
15.	Manhole Adjust.	EA	7.00	\$1,530.00	\$10,710.00
16.	Flexible Growth Media	SY	66,070	\$2.10	\$138,747.00
17.	Hydromulching/seeding	SY	48,100	\$0.81	\$38,961.00
18.	High Performance TRM	SY	18,060	\$21.04	\$379,982.40
19.	Woven TRM	SY	9,220	\$15.90	\$146,598.00
20.	Erosion Control Matting (Pyramat) Installation	SY	27,280	\$1.25	\$34,100.00

**CULEBRA CREEK REGIONAL
STORM WATER DRAINAGE PROJECT
ENGINEER'S OPINION OF PROBABLE COST – PHASE 1**

7/23/08
(continued)

21.	Temporary Sediment Control Fencing (Silt Fence)	LF	13,350	\$1.45	\$19,357.50
22.	Rock Filter Dams (Type III)	LF	1405.00	\$23.75	\$33,368.75
23.	Check Valves	EA	2.00	\$40,800	\$81,600.00
24.	Flowable Fill	CY	695.00	\$73.30	\$50,943.50
				Subtotal:	\$6,651,592.15
25.	Construction Contingency				\$107,577.85
26.	Fuel Contingency				\$300,000.00
27.	Bond and Insurance (3%)				\$62,580.00
28.	SW3P				\$25,000.00
29.	Engineering Fees				\$310,450.00
30.	Mobilization				\$267,800.00
31.	Project Administration				\$265,000.00
32.	Environmental Contingency				\$75,000.00
33.	CoSA Administration				\$150,000.00
				Subtotal:	\$1,563,407.85
PROJECT TOTAL:					\$8,215,000

**CULEBRA CREEK REGIONAL
STORM WATER DRAINAGE PROJECT
ENGINEER'S OPINION OF PROBABLE COST – PHASE 1**

7/23/08
(continued)

ENGINEERING FEES

1.	Phase I Environmental Site Assessment	\$3,500
2.	Phase II Environmental Site Assessment	\$5,000
3.	Waters of the U.S. Determination	\$3,430
4.	Cultural Resources Evaluation	\$8,770
5.	TPDES Storm Water Pollution Prevention Plan	\$1,250
6.	Construction Phase Services	\$249,000
7.	FEMA Letter of Map Revision (LOMR)	\$20,000
8.	Plan of Record Drawings	\$19,500
<hr/> Total Engineering Fees:		\$310,450

**CULEBRA CREEK REGIONAL
STORM WATER DRAINAGE PROJECT
ENGINEER'S OPINION OF PROBABLE COST – PHASE 1**

7/23/08
(continued)

COST SHARING

PROJECT OVERZING

Developer Property (future ultimate development property) 121.5 Acres

Total Watershed (future ultimate development property) 46,163 Acres

HRS Partnership Share $(121.5/46,163) = 0.26\%$
City of San Antonio Share $(46,052/46,352) = 99.74\%$

	<i>Over sizing Project Cost</i>		<i>Non-Over sizing Project Cost</i>		<i>Project Total</i>
HRS Partnership*	\$930,000	(0%)	\$364,650	(100%)	\$1,294,650
City of San Antonio	\$8,215,000	(100%)	\$ 0	(0%)	\$8,215,000
<i>Project Total</i>	<i>\$9,145,000</i>		<i>\$364,650</i>		<i>\$9,509,650</i>

*HRS Partnership - Prior Cost Share Under Original Development

Design Eng Fee	\$ 210,000.00	0%	100%	\$ 210,000.00
144 Ac Land				
Donation	\$ 720,000.00	0%	100%	\$ 720,000.00

PREPARED BY: Pape-Dawson Engineers, Inc.
DATE: February 14, 2008
JOB NO.: 6313-00
DOC. ID.: p:\57\17\04\word\cost estimates\080723a1.doc

EXHIBIT E
TO
DEVELOPER PARTICIPATION CONTRACT

DESCRIPTION OF PROJECT

The Culebra Regional Storm Water Facility Project (RSWF) proposes to construct an offline detention facility near the confluence of Culebra Creek and Helotes Creek. The proposed design includes excavation of a 560 acre-ft detention pond, including significant channel improvements to Culebra Creek and a portion of Helotes Creek at the confluence. The scope of services for the Culebra RSWF Project Phase 1 consists of the following:

Phase I of this project as shown on the construction plans and described as:

1. Channel excavation and channelization of Culebra Creek and Helotes Creek.
2. Construction of two drop structures one each on Culebra Creek and Helotes Creek.
3. Channel slope protection on Culebra Creek and Helotes Creek using Turf Reinforcement Mat (TRM).
4. Excavation to construct Phase 1 of the regional storm water detention pond which provides .
5. Construction of a berm, overflow weir and gabion mattress slope protection.

The Owner or Owner's Engineer is allowed to make minor modifications and/or amendments to these plans and specifications in the field that may arise in the performance of this Contract due to unforeseeable events. This stipulation is necessary to comply with the elimination of all engineering and construction contingencies from the Contract and requires that the modifications and/or amendments meet the intent of the approved construction documents. If quantities required of Owner exceed those shown on on Exhibit "D" it is agreed that such reduction and adjustments are reasonable. Any minor modifications and/or amendments to these plans and specifications must be approved by both the Owner's engineers and the City of San Antonio, from which approval shall not be unreasonably delayed or withheld.

Such modifications and/or amendments shall include, but not be limited to, reduction of the quantities of excavation, adjustment of the location of excavation with the detention pond and reduction of permanent erosion control materials where made possible by competent rock eliminating the need for such materials. Any savings realized thereby will accrue to Owner.

**EXHIBIT F
TO
DEVELOPER PARTICIPATION CONTRACT**

TEMPORARY CONSTRUCTION EASEMENT

STATE OF TEXAS §
 § KNOW ALL PERSONS BY THESE PRESENTS:
COUNTY OF BEXAR §

That, the **CITY OF SAN ANTONIO**, a Texas municipal corporation ("Grantor"), acting by and through its duly authorized officer and/or employee, for and in consideration of One Dollar (\$1.00) and other good and valuable consideration in hand paid by **HRS CULEBRA, LLC**, a Texas limited liability company ("Grantee"), the receipt and sufficiency of which are hereby acknowledged and confessed, has granted, sold and conveyed and by these presents does hereby grant, sell and convey unto Grantee, whose mailing address is 1223 North Rock Rd., Bldg. H, Suite 200, Wichita, Kansas 67206, an easement (the "Easement") for the specific purpose of permitting Grantee and Grantee's contractors, subcontractors, employees, consultants and labor and material suppliers to construct storm water improvements and related pipes, lines and appurtenances (collectively, the "Project") within that certain real property located in the City of San Antonio, Bexar County, Texas, as more particularly described on Exhibit A and a drawing marked Exhibit B attached hereto and made a part hereof (the "Easement Area"), all in accordance with that certain Developer Participation Contract Leon Creek Storm Water Drainage Project between Grantor and Grantee (the "Contract").

Grantee shall have the right to remove from the Easement Area by standard industry practices employed in vegetation management, all trees, and parts thereof, any vegetation or obstructions which interfere with the installation, maintenance, and/or repair of the Project within the Easement Area.

The Easement does not constitute a conveyance of fee simple title to the Easement Area or of the minerals or mineral rights therein and thereunder, but rather a conveyance of the Easement only. This Easement is a grant that is subject to all matters of record in Bexar County, Texas validly subsisting against the Easement Area on this date, and all easements, rights-of-way and prescriptive rights, of record; all presently recorded restrictions, reservations, covenants, conditions, oil and gas leases, mineral severances and other instruments, other than liens and conveyances, that affect the Easement Area; rights of adjoining owners in any wells and fences situated on a common boundary; any discrepancies, conflicts or shortages in area or boundary lines; and any existing encroachments or overlapping of improvements (collectively, the "Permitted Exceptions").

Grantee shall have access over the drives and access ways situated from time-to-time on any property of Grantor so as to access the Easement Area during construction. Grantee shall promptly restore the surface of any property damaged by Grantee's use of the Easement, at Grantee's sole cost and expense. Grantee shall remove any debris resulting from its use of the Easement Area pursuant to the Easement.

TO HAVE AND TO HOLD the Easement and rights unto Grantee, its successors and assigns, until completion of construction of the Project in accordance with the provisions of the Contract. Grantor does hereby bind itself and its successors to warrant and forever defend all and singular the Easement and rights unto Grantee, its successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof, by, through or under Grantor, but not otherwise, subject to the terms, conditions and provisions set forth herein, including but not limited to the Permitted Exceptions.

EXECUTED this ____ day of _____, 2008.

CITY OF SAN ANTONIO, a
Texas municipal corporation

By: _____
Name: _____
Title: _____

STATE OF TEXAS §
 §
COUNTY OF BEXAR §

This instrument was acknowledged before me on this ____ day of _____, 2008, by _____, the _____ of the **CITY OF SAN ANTONIO**, a Texas municipal corporation, on behalf of said municipal corporation.

Notary Public, State of Texas

Schedule of Exhibits:

- Exhibit A – Easement Area -- Field Notes
- Exhibit B – Easement Area – Drawing

**EXHIBIT A
TO
TEMPORARY CONSTRUCTION EASEMENT**

PROPERTY DESCRIPTION



FIELD NOTES
FOR

A 143.9 acre, or 6,267,556 square feet more or less, tract of land being part out of a remaining portion of a 174.100 acre tract recorded in Volume 6398, Pages 106-116 of the Official Public Records of Real Property of Bexar County, Texas, part out of a 6.418 acre tract recorded in Volume 8499, Pages 1519-1524 of the Official Public Records of Real Property of Bexar County, Texas, part out of all of that 4.672 acre tract known as Lot P-1, P-8C, & P-8D recorded in Volume 8514, Pages 522-524 of the Official Public Records of Real Property of Bexar County, Texas and part out of an 84.925 acre tract recorded in Volume 8457, Pages 248-257 of the Official Public Records of Real Property of Bexar County, Texas out of the A.J. Leslie Survey No. 217, Abstract 436, County Block 4415, out of the G.W. Lewis Survey No. 189, Abstract 441, County Block 4416 and out of the Domingo Perez Survey No. 190, Abstract 578, County Block 4447 of Bexar County, Texas, now all in New City Block (N.C.B.) 17636 of the City of San Antonio. Said 143.9 acre tract being more fully described as follows with bearings being based on the North American Datum of 1983 (CORS 1996), from the Texas Coordinate System established for the South Central Zone.

COMMENCING: At a found ½" iron rod with a cap marked "Overby", at the northwest end of the cutback for the northeast right-of-way line of F.M. 471-Culebra Road, a variable width right-of-way, 120-foot minimum and the southeast right-of-way line of F.M. Loop 1604, a variable width right-of-way, 340-foot minimum, the west corner of Lot 1, Block 3 of the Culebra/1604-Unit I Subdivision recorded in Volume 9566, Page 108 of the Deed and Plat Records of Bexar County, Texas;

THENCE: N 24°27'26"E, along and with the southeast right-of-way line of said F.M. Loop 1604, the northwest line of said Lot 1, a distance of 283.69 feet to a found "+" in concrete, the POINT OF BEGINNING (N=13727531.5, E=2062880.0) of the herein described tract, the north corner of said Lot 1, the west corner of said 174.100 acre tract;

THENCE: Along and with the southeast right-of-way line of said F.M. Loop 1604, the northwest line of said 174.100 acre tract the following calls and distances:

N 24°37'44"E, a distance of 278.13 feet to a found Texas Department of Transportation monument with a brass plate;

N 18°03'24"E, a distance of 125.85 feet to a set ½" iron rod with a yellow cap marked "Pape-Dawson";

PAPE-DAWSON ENGINEERS, INC.

555 East Ramsey | San Antonio, Texas 78216 | Phone: 210.375.9000 | Fax: 210.375.9010 | info@pape-dawson.com

THENCE: Departing the southeast right-of-way line of said F.M. Loop 1604, over and across said 174.100 acre tract and the aforementioned 6.418 acre tract and 84.925 acre tract the following calls and distances:

S 73°45'19"E, a distance of 300.15 feet to a set ½" iron rod with a yellow cap marked "Pape-Dawson";

N 18°04'28"E, a distance of 371.34 feet to a set ½" iron rod with a yellow cap marked "Pape-Dawson";

N 21°41'58"E, a distance of 104.64 feet to a set ½" iron rod with a yellow cap marked "Pape-Dawson";

N 17°40'33"E, a distance of 232.32 feet to a set ½" iron rod with a yellow cap marked "Pape-Dawson";

N 12°10'23"E, a distance of 232.83 feet to a set ½" iron rod with a yellow cap marked "Pape-Dawson";

N 24°56'27"E, a distance of 568.34 feet to a set ½" iron rod with a yellow cap marked "Pape-Dawson";

N 34°10'25"E, a distance of 241.29 feet to a set ½" iron rod with a yellow cap marked "Pape-Dawson";

N 44°18'13"E, a distance of 194.85 feet to a set ½" iron rod with a yellow cap marked "Pape-Dawson";

N 54°31'37"E, a distance of 312.41 feet to a set ½" iron rod with a yellow cap marked "Pape-Dawson";

N 48°39'49"E, a distance of 272.48 feet to a set ½" iron rod with a yellow cap marked "Pape-Dawson";

N 76°42'01"E, a distance of 251.15 feet to a set ½" iron rod with a yellow cap marked "Pape-Dawson";

S 74°47'33"E, a distance of 268.20 feet to a set ½" iron rod with a yellow cap marked "Pape-Dawson";

N 76°32'13"E, at a distance of 19.8 feet passing through the northwest line of the aforementioned 84.925 acre tract, and continuing for a total distance of 340.35 feet to a set ½" iron rod with a yellow cap marked "Pape-Dawson";

N 37°22'53"E, at a distance of 303.9 feet passing through the south line of the aforementioned 6.418 acre tract, and continuing for a total distance of 433.25 feet to a set ½" iron rod with a yellow cap marked "Pape-Dawson";

N 04°38'31"E, at a distance of 171.1 feet passing through the southeast line of the aforementioned 174.100 acre tract, and continuing for a total distance of 399.60 feet to a set ½" iron rod with a yellow cap marked "Pape-Dawson";

N 05°43'01"E, a distance of 390.97 feet to a set ½" iron rod with a yellow cap marked "Pape-Dawson";

N 06°13'00"E, a distance of 442.71 feet to a set ½" iron rod with a yellow cap marked "Pape-Dawson";

N 03°06'13"W, a distance of 94.40 feet to a set ½" iron rod with a yellow cap marked "Pape-Dawson";

N 37°20'12"E, a distance of 153.41 feet to a set ½" iron rod with a yellow cap marked "Pape-Dawson";

N 41°28'59"E, a distance of 475.58 feet to a set ½" iron rod with a yellow cap marked "Pape-Dawson", on the southwest line of a 24.00 acre tract recorded in Volume 7712, Pages 80-82 of the Official Public Records of Real Property of Bexar County, Texas, the northeast line of said 174.100 acre tract;

THENCE: S 65°57'31"E, along and with the southwest line of said 24.00 acre tract, the northeast line of said 174.100 acre tract, a distance of 839.24 feet to a found ½" iron rod, on the northwest line of Lot 1, Block 83 of the Northwest Crossing, Unit-6B Subdivision recorded in Volume 9503, Page 66 of the Deed and Plat Records of Bexar County, Texas, the east corner of said 174.100 acre tract;

THENCE: S 44°35'56"W, along and with the northwest line of said Block 83, the southeast line of said 174.100 acre tract, a distance of 1258.11 feet to a set ½" iron rod with a yellow cap marked "Pape-Dawson", the southwest corner of Lot 22, Block 86 of said Northwest Crossing Unit-6B Subdivision, the northwest corner of the aforementioned 6.418 acre tract;

THENCE: N 89°52'11"E, departing the southeast line of said 174.100 acre tract, along and with the south line of said Block 86, a distance of 74.74 feet to a set ½" iron rod with a yellow cap marked "Pape-Dawson", the northwest corner of Lot 10, Block 8 of the Replat establishing Hidden Meadow North Unit-35 recorded in Volume 9507, Pages 52-53 of the Deed and Plat Records of Bexar County, Texas, a northeast corner of said 6.418 acre tract;

THENCE: Along and with the common line of said 6.418 acre tract and said Block 8 the following calls and distances:

S 45°01'34"W, a distance of 161.65 feet to a found ½" iron rod;

S 31°53'31"W, a distance of 72.74 feet to a set ½" iron rod with a yellow cap marked "Pape-Dawson";

S 44°58'26"E, a distance of 187.54 feet to a set ½" iron rod with a yellow cap marked "Pape-Dawson";

N 89°55'18"E, a distance of 106.11 feet to a set ½" iron rod with a yellow cap marked "Pape-Dawson";

S 00°04'42"E, a distance of 145.00 feet to a set ½" iron rod with a yellow cap marked "Pape-Dawson";

N 89°55'18"E, a distance of 104.90 feet to a found ½" iron rod on the west right-of-way line of Village Club, a 50-foot right-of-way dedicated in the aforementioned Replat establishing Hidden Meadow North Unit-35;

S 00°04'40"E, along and with the west right-of-way line of said Village Club, a distance of 50.00 feet to a found ½" iron rod, the northeast corner of Lot 180, Block 1 of said Replat establishing Hidden Meadow North Unit-35;

S 89°55'18"W, departing the west right-of-way line of said Village Club, along and with the north line of said Lot 180, a distance of 104.90 feet to a found ½" iron rod, the northwest corner of said Lot 180;

THENCE: S 00°04'42"E, along and with the west line of said Block 1, the east line of said 6.418 acre tract, at a distance of 159.8 feet passing the northeast corner of the aforementioned 84.925 acre tract, and continuing for a total distance of 766.07 feet to a set ½" iron rod with a yellow cap marked "Pape-Dawson", an angle point of Lot 164 of said Block 1, an angle point of Lot 131, Block 1 of the Replat establishing Hidden Meadow North Unit-37 recorded in Volume 9506, Pages 1-2 of the Deed and Plat Records of Bexar County, Texas;

THENCE: Along and with the common line of said Block 1 and said 84.925 acre tract the following calls and distances:

S 89°49'02"W, a distance of 395.71 feet to a set ½" iron rod with a yellow cap marked "Pape-Dawson";

S 87°47'23"W, at a distance of 90.5 feet passing through a found ½" iron rod, at the east corner of a Drain Right-of-Way dedicated in the said Replat establishing Hidden Meadow North Unit-37, the northwest corner of Lot 121 of said Block 1, and continuing for a total distance of 169.66 feet to a set ½" iron rod with a yellow cap marked "Pape-Dawson";

THENCE: Along and with the common line of said Drain Right-of-Way and said 84.925 acre tract the following calls and distances:

S 82°58'03"W, a distance of 256.47 feet to a set ½" iron rod with a yellow cap marked "Pape-Dawson";

S 86°16'43"W, a distance of 64.05 feet to a set ½" iron rod with a yellow cap marked "Pape-Dawson";

S 89°57'48"W, a distance of 154.19 feet to a set ½" iron rod with a yellow cap marked "Pape-Dawson";

S 78°29'04"W, a distance of 62.22 feet to a set ½" iron rod with a yellow cap marked "Pape-Dawson";

S 80°29'03"W, a distance of 133.22 feet to a set ½" iron rod with a yellow cap marked "Pape-Dawson";

S 70°24'54"W, a distance of 124.92 feet to a set ½" iron rod with a yellow cap marked "Pape-Dawson";

S 79°02'52"W, a distance of 119.75 feet to a set ½" iron rod with a yellow cap marked "Pape-Dawson";

S 03°42'16"E, a distance of 438.87 feet to a set ½" iron rod with a yellow cap marked "Pape-Dawson", on the north line of the aforementioned 4.672 acre tract, the southwest corner of the aforementioned Drain Right-of-Way;

THENCE: N 89°59'49"E, along and with the north line of said 4.672 acre tract, the south line of said Drain Right-of-Way, a distance of 20.04 feet to a set ½" iron rod with a yellow cap marked "Pape-Dawson", the common rear corner of Lots 93 and 94 of the aforementioned Block 1 the southeast corner of said Drain Right-of-Way, the northeast corner of said 4.672 acre tract;

THENCE: S 03°43'46"E, along and with the west line of said Lot 93, an east line of said 4.672 acre tract, a distance of 20.94 feet to a set ½" iron rod with a yellow cap marked "Pape-Dawson", the northeast corner of Lot 90, Block 1 of the Replat and Subdivision Plat establishing Hidden Meadow North Unit-34 recorded in Volume 9503, Pages 3-4 of the Deed and Plat Records of Bexar County, Texas, angle of said Lot 93, a southeast corner of said 4.672 acre tract;

THENCE: Along and with the common line of said Block 1 and said 4.672 acre tract the following calls and distances:

S 89°57'47"W, a distance of 466.42 feet to a set ½" iron rod with a yellow cap marked "Pape-Dawson";

S 15°23'02"W, a distance of 226.43 feet to a set ½" iron rod with a yellow cap marked "Pape-Dawson";

S 00°28'55"W, a distance of 345.00 feet to a found ½" iron rod with a yellow cap marked "Pape-Dawson", on a north line of the aforementioned 84.925 acre tract, the southwest corner of Lot 53 of said Block 1 a southeast corner of said 4.672 acre tract;

THENCE: S 89°31'05"E, along and with a north line of said 84.925 acre tract, the south line of said Block 1, a distance of 911.66 feet to a found ½" iron rod with a cap marked "Baker", the northwest corner of Lot 23, Block 8 of the Vacate and Resubdivision Plat establishing Hidden Meadow Subdivision Unit-5-C, recorded in Volume 9100, Page 202 of the Deed and Plat Records of Bexar County, Texas, a northeast corner of said 84.925 acre tract;

- THENCE: S 03°10'29"W, departing the south line of said Block 1, along and with the west line of said Block 8, an east line of said 84.925 acre tract, at a distance of 450.4 feet passing through the northwest corner of Lot 30, Block 8 of the Amending Plat of Hidden Meadow Subdivision Unit-5B recorded in Volume 9502, Page 186 of the Deed and Plat Records of Bexar County, Texas, at a distance of 717.3 feet passing through a found ½" iron rod, at the northeast corner of Lot 35, Block 8 of the Amending Plat of Hidden Meadow Subdivision Unit 5-A recorded in Volume 9502, Page 196 of the Deed and Plat Records of Bexar County, Texas, and continuing for a total distance of 869.88 feet to a found ½" iron rod, the common rear corner of Lots 37 and 38 of said Block 8;
- THENCE: Along and with the west line of said Block 8, an east line of said 84.925 acre tract the following calls and distances:
- S 01°55'46"E, a distance of 175.61 feet to a found ½" iron rod;
 - S 05°18'59"E, a distance of 19.28 feet to a set ½" iron rod with a yellow cap marked "Pape-Dawson";
 - S 08°32'05"W, a distance of 13.82 feet to a set ½" iron rod with a yellow cap marked "Pape-Dawson";
 - S 01°48'42"W, a distance of 91.28 feet to a set ½" iron rod with a yellow cap marked "Pape-Dawson";
 - S 06°25'27"W, a distance of 91.70 feet to a found ½" iron rod with a cap marked "Brown";
 - S 23°14'04"W, a distance of 15.20 feet to a found ½" iron rod, the west corner of Lot 44 of said Block 8;
- THENCE: S 50°40'03"E, along and with the southwest line of said Block 8, the northeast line of said 84.925 acre tract, a distance of 330.06 feet to a set ½" iron rod with a yellow cap marked "Pape-Dawson";
- THENCE: S 27°57'48"E, a distance of 60.02 feet to a set ½" iron rod with a yellow cap marked "Pape-Dawson", the south corner of Lot 83 of said Block 8;
- THENCE: N 62°02'12"E, along and with the southeast line of said Lot 83, a northwest line of said 84.925 acre tract, a distance of 2.56 feet to a set ½" iron rod with a yellow cap marked "Pape-Dawson", the west corner of Lot 48, Block 8 of the Hidden Meadow Subdivision Unit 4-B recorded in Volume 9500, Page 132 of the Deed and Plat Records of Bexar County, Texas;

- THENCE: S 28°14'16"E, departing the southeast line of said Lot 83, along and with the southwest line of said Block 8, a northeast line of said 84.925 acre tract, at a distance of 603.7 feet passing through the west corner of Lot 58, Block 8 of the Vacate & Resubdivision Plat of Hidden Meadow Subdivision Unit 4-A recorded in Volume 8900, Page 214 of the Deed and Plat Records of Bexar County, Texas and continuing for a total distance of 664.52 feet to a found ½" iron rod, the common rear corner of said Lot 58 and Lot 59 of said Block 8;
- THENCE: S 04°12'41"E, along and with the west line of said Block 8, and east line of said 84.925 acre tract, a distance of 333.40 feet to a found ½" iron rod;
- THENCE: S 13°03'29"E, at a distance of 109.1 feet passing through a found ½" iron rod at the northwest corner of Lot 1, Block 17 of the Hidden Meadow Subdivision, Unit 6 recorded in Volume 8900, Page 227 of the Deed and Plat Records of Bexar County, Texas, and continuing for a total distance of 286.67 feet to a set ½" iron rod with a yellow cap marked "Pape-Dawson", on the northeast right-of-way line of the aforementioned F.M. 471-Culebra Road, the southwest corner of said Lot 1, the southeast corner of said 84.925 acre tract;
- THENCE: Northwesterly, along and with the northeast right-of-way line of said F.M. 471-Culebra Road, the southwest line of said 84.925 acre tract along the arc of a curve to the right, said curve having a radial bearing of N 16°10'28" E, a radius of 1381.00 feet, a central angle of 15°24'04", a chord bearing and distance of N 66°07'30" W, 370.10 feet, for an arc length of 371.22 feet to a found Texas Department of Transportation monument with a brass plate;
- THENCE: N 57°38'57"W, a distance of 21.96 feet to a set ½" iron rod with a yellow cap marked "Pape-Dawson", a point of non-tangency;
- THENCE: Northwesterly, departing the northeast right-of-way line of F.M. 471-Culebra Road, over and across said 84.925 acre tract along the arc of a curve to the left, said curve having a radial bearing of S 77°02'25" W, a radius of 987.52 feet, a central angle of 50°27'15", a chord bearing and distance of N 38°11'12" W, 841.78 feet, for an arc length of 869.60 feet to a set ½" iron rod with a yellow cap marked "Pape-Dawson"; the east corner of a 6.823 acre tract recorded in Volume 6313, Pages 721-724 of the Official Public Records of Real Property of Bexar County, Texas, a reentrant corner of said 84.925 acre tract, a point of non-tangency;

THENCE: N 58°18'58"W, along and with the northeast line of said 6.823 acre tract, a southwest line of said 84.925 acre tract, a distance of 855.71 feet to a set ½" iron rod with a yellow cap marked "Pape-Dawson", the east corner of Lot 1, Block 2 of the K.H.M.E. Baptist Church Subdivision recorded in Volume 9544, Page 88 of the Deed and Plat Records of Bexar County, Texas, the north corner of said 6.823 acre tract, an angle point of said 84.925 acre tract;

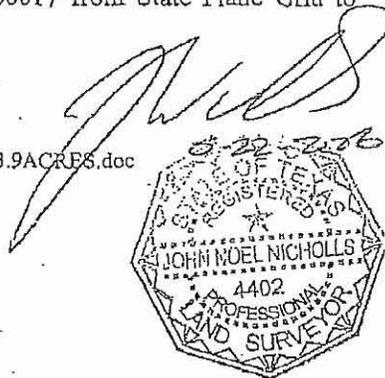
THENCE: N 53°11'29"W, along and with the northeast line of said Lot 1, a southwest line of said 84.925 acre tract, a distance of 418.15 feet to a set ½" iron rod with a yellow cap marked "Pape-Dawson", on the east line of the aforementioned 174.100 acre tract, the north corner of said Lot 1, an angle point of said 84.925 acre tract;

THENCE: S 08°51'02"W, along and with the west line of said Lot 1, the east line of said 174.100 acre tract, a distance of 89.60 feet to a found ½" iron rod with a cap marked "Brown", the northeast corner of Lot 6, Block 3 of the aforementioned Culebra/1604-Unit 1 Subdivision, the south corner of said 174.100 acre tract;

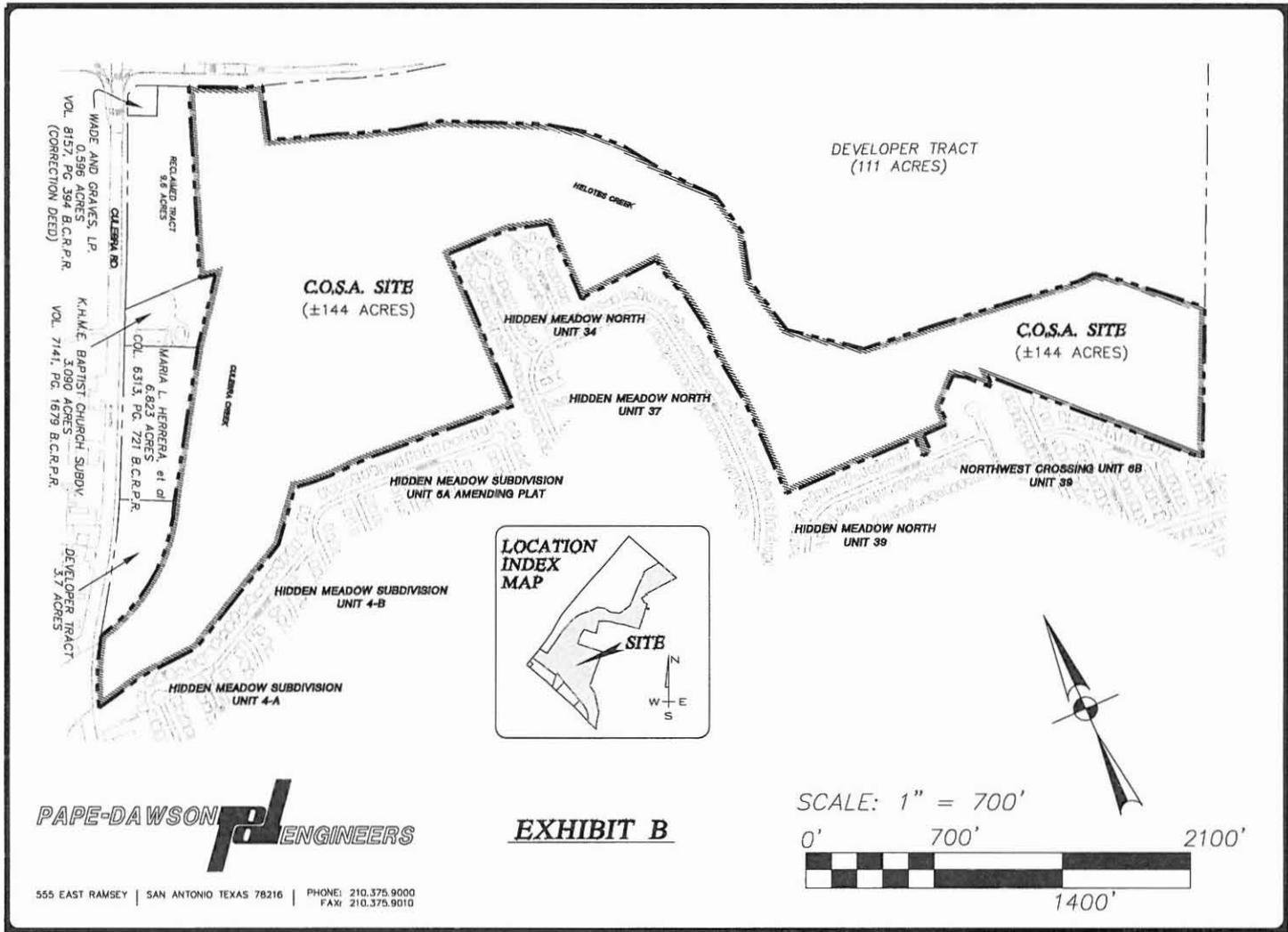
THENCE: N 69°55'18"W, departing the west line of said Lot 1, along and with the northeast line of said Block 3, the southwest line of said 174.100 acre tract, a distance of 1055.54 feet to the POINT OF BEGINNING and containing 143.9 acres in the City of San Antonio, Bexar County, Texas. Said tract being described in accordance with a survey made on the ground and a survey map prepared by Pape-Dawson Engineers, Inc.

This survey description was prepared reflecting surface dimensions, utilizing a combined scale factor of 1.00017 from State Plane Grid to surface.

PREPARED BY: Pape-Dawson Engineers, Inc.
DATE: May 10, 2006
JOB No. 9116-06
DOC. ID.: N:\survey06\6-9200\9116-06\word\9116-06fn143.9ACRES.doc



**EXHIBIT B
TO
TEMPORARY CONSTRUCTION EASEMENT
DRAWING/PLAT OF EASEMENT AREA**



PAPE-DAWSON ENGINEERS
 555 EAST RAMSEY | SAN ANTONIO TEXAS 78216 | PHONE: 210.375.9000
 FAX: 210.375.9010

EXHIBIT B

**CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT**

INTERDEPARTMENTAL CORRESPONDENCE

TO: Penny Postoak-Ferguson, Assistant City Manager

FROM: Mike Frisbie, P.E., Director of Capital Improvements Management Services Department

COPIES TO: File

SUBJECT: Leon Creek Watershed-Culebra Creek Regional Stormwater Facility At Loop 1604

DATE: October 8, 2008

Contract:	Developer Participation for Leon Creek Watershed - Culebra Creek Regional Stormwater Facility at Loop 1604
Ordinance Authorizing Contract:	2008-09-04-0748
Date of Ordinance Authorizing Contract:	September 4, 2008

BACKGROUND/ORDINANCE AUTHORITY:

In accordance with Ordinance No. 2008-09-04-0748, the City Manager or her designee is authorized to execute a Developer Participation Contract between the City of San Antonio and HRS, LLC to oversize the construction of the regional stormwater facility at the confluence of Culebra and Helotes Creek near Culebra Rd. and Loop1604.

MAJOR PROVISIONS OF THE CONTRACT:

The construction of this project will reduce flooding in the area of the Leon Creek watershed and will increase public safety in the area adjacent to the property owned by the City. The project will enable economic development of the areas surrounding the property owned by the City and fees-in-lieu of on-site detention for developable land within the Leon Creek watershed are anticipated to substantially exceed the City's share of the Project cost.

FISCAL IMPACT:

Payment in the amount of \$8,065,000.00 is authorized to be encumbered and made payable to HRS, LLC for construction services.

MANAGEMENT OF CONTRACT: CIMS, through its Horizontal Project Management and Contract Services Divisions will be responsible for overseeing this contract.

COORDINATION:

The City Attorney has reviewed this Agreement to ensure that it is consistent with City Council Policy.



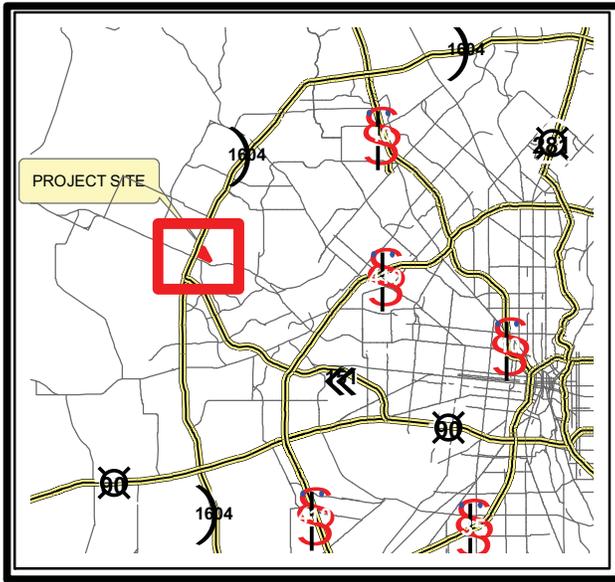
Michael S. Frisbie, Director
Capital Improvements Management Services Department

10-10-08
Date

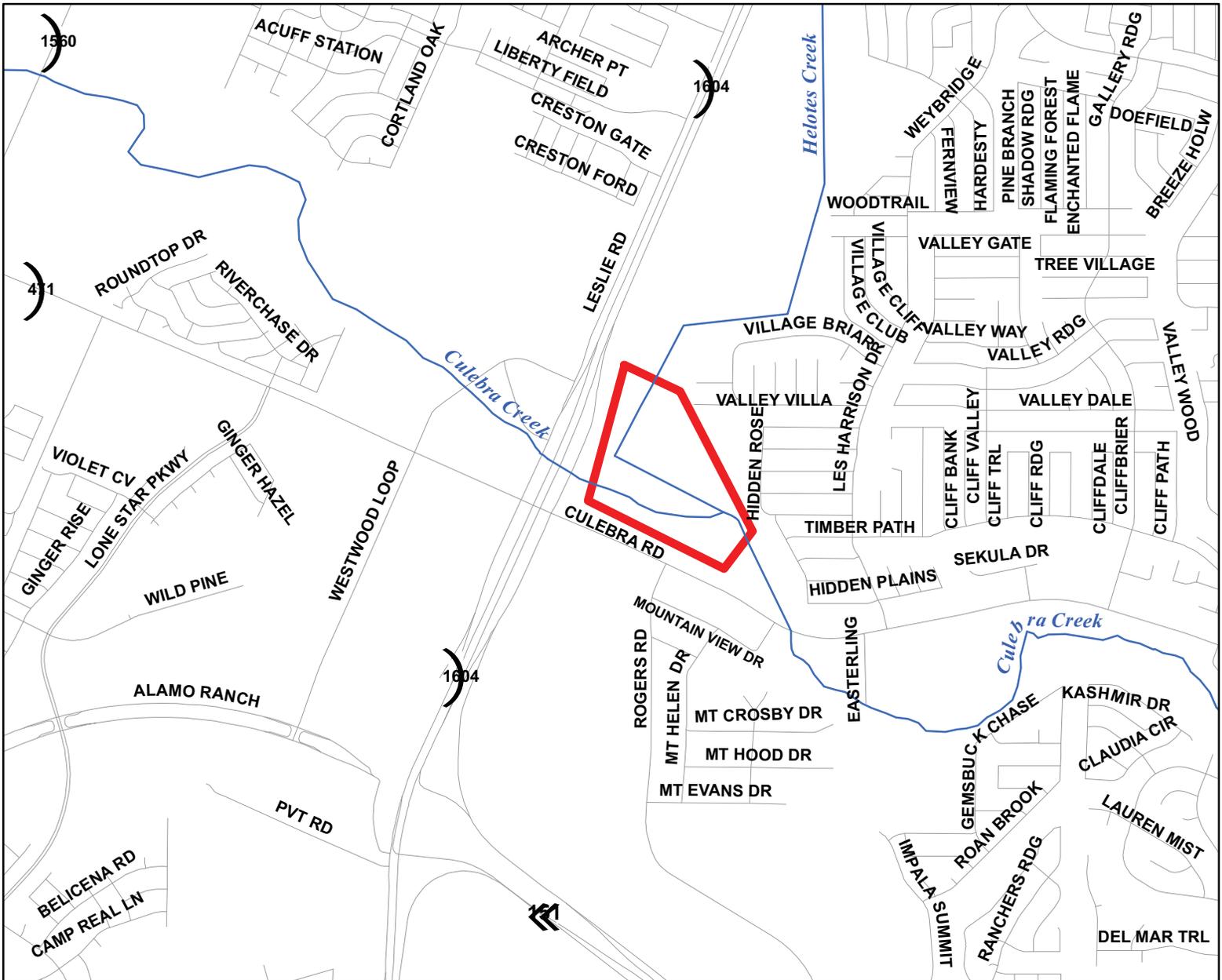
any

Attachments:

- Ordinance: 2008-09-04-0748
- Contract: Developer Participation Contract with HRS, LLC for Leon Creek Watershed-Culebra Regional Stormwater Facility Ph. I



SCALE : N.T.S.



Culebra Creek RSWF @ NW Loop 1604 Phase I





CITY OF SAN ANTONIO
Request for Council Action

Agenda Item # 11
Council Meeting Date: 9/4/2008
RFCA Tracking No: R-3563

DEPARTMENT: Capital Improvements
Management Services

DEPARTMENT HEAD: Mike Frisbie

COUNCIL DISTRICT(S) IMPACTED:
Council District 6

SUBJECT:
Culebra Regional Storm Water Facility - Developer Agreement

SUMMARY:

This ordinance authorizes the execution of a Developer Participation Contract between the City of San Antonio and HRS LLC, appropriates funds, and authorizes payment for over-sizing the construction of the Culebra Creek Regional Storm Water Facility (RSWF) at Loop 1604 Phase I project, a 2007-2012 Bond Program project, in the amount of \$8,065,000.00. An additional \$150,000.00 will be utilized for capital administration for a total project cost of \$8,215,000.00.

BACKGROUND INFORMATION:

HRS LLC (the Developer) owns and plans on developing their property located in the vicinity of the confluence of Culebra Creek and Helotes Creek near Loop 1604. The Developer's property consists of approximately 121.5 acres located along northbound Loop 1604 north of Culebra Rd. The development consists of mixed-use commercial facilities.

For the purposes of the regional stormwater facility, the Developer previously conveyed 144 acres of property to the City of San Antonio under the Culebra Road/Helotes Creek Stormwater Drainage Agreement authorized through Ordinance 99030 which was passed and approved by City Council on April 1, 2004.

The Developer has, under the Culebra Road/Helotes Creek Stormwater Drainage Agreement, developed construction plans for the regional stormwater facility. The proposed regional stormwater facility will alleviate flooding and drainage problems downstream of the properties to be developed by Developer and others. While the Developer benefits by not having to construct onsite detention and lose developable property to the onsite detention, the City benefits by over-sizing a stormwater facility that will reduce flooding in the area of the Leon Creek watershed, increase public safety in the area adjacent to the property owned by the City, and enable economic development of the areas surrounding the property owned by the City.

This ordinance authorizes the City of San Antonio to pay \$8,065,000.00 for over-sizing engineering and construction costs related to the construction of a regional storm water facility at the confluence of Culebra and Helotes Creek. Funds in the amount of \$5,140,000.00 have already been appropriated through Ordinance 2008-01-31-0066 for the 2007-2012 Bond Program and \$150,000.00 of the \$5,140,000.00 will be utilized for capital administrative expenses. This ordinance appropriates the remainder of the funds required for the project (\$3,075,000.00). The total cost for this project is currently estimated to be \$9,145,000.00, with the City's share expected to equal a maximum of 89.83% of this total (\$8,215,000.00). Funding in the amount of \$8,215,000.00 is available from the 2007 General Obligation Street Improvement Bonds and Storm Water Facilities Fund.

It is estimated that through the implementation of this agreement the construction of the stormwater facility will experience a 12 to 18 month project implementation time savings as well as corresponding cost savings associated with a faster implementation time.

Section 212 of the Texas Local Government Code allows municipalities to contract with a developer to construct public improvements related to the development and to participate in the cost thereof. Section 212 also allows municipalities to pay additional funds to "over-size" improvements to allow for development of additional properties (i.e. properties not owned by the developer). This agreement provides funds from the City that will be used to pay for project over-sizing costs in an amount not to exceed \$8,065,000.00 per the Developer Participation Contract. An additional \$150,000.00 is allocated for the City of San Antonio's capital administrative costs.

ISSUE:

This item authorizes the execution of a Developer Participation Contract with HRS LLC which provides for the construction of a regional storm water facility at the confluence of Culebra and Helotes Creek near Culebra Rd at Loop 1604.

ALTERNATIVES:

An alternative to contracting with and permitting the Developer to implement the construction of the regional stormwater facility is to require the Developer to fund and construct their portion of the project (the development) while the City moves forward with design, bidding, contract awarding, and constructing the project. The disadvantages to this approach include the additional time to procure a design contract and, due to the possibility of the City having a different design firm than the Developer, an increased complication in the coordination of design work. Additionally, allowing the Developer to construct the project allows the City to benefit from the work conducted under previous agreements.

FISCAL IMPACT:

This is one-time capital improvement expenditure in the amount of \$8,215,000.00, within budget and included in the FY 2008-2013 Capital Improvement Budget. Funds in the amount of \$5,140,000.00 are available from the 2007-2012 Bond Program and were appropriated by Ordinance 2008-01-31-0066. The additional funds in the amount of \$3,075,000.00 are available to be appropriated from the Storm Water Facilities Fund. Funds are payable as follows:

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Item	Amount
Construction Costs (Developer Contract - HRS LLC)	\$8,065,000.00
Capital Administrative Costs	\$150,000.00
Total	\$8,215,000.00

RECOMMENDATION:

Staff recommends approval of this Developer Participation Contract, appropriating \$3,075,000.00 and authorizing payment of \$8,065,000.00 to HRS LLC for over-sizing the construction of the Culebra Creek Regional Storm Water Facility.

ATTACHMENT(S):

File Description	File Name
Project Map	CULEBRA CREEK RSWF.pdf
Developer Contract	DPC Culebra Creek RSWF HRS Draft 2008-08-18.pdf
Project Cost Breakdown	Project Costs Culebra Creek RSWF 2008-08-18.pdf
Voting Results	
Ordinance/Supplemental Documents	200809040748.pdf

DEPARTMENT HEAD AUTHORIZATIONS:

Debbie Sittre Assistant Director Capital Improvements Management Services

APPROVED FOR COUNCIL CONSIDERATION:

Penny Postoak Ferguson Assistant City Manager