

Exhibit 13

b. NEW Guidelines for **Street Plan Sheets**

(Revised December 2004)

GUIDELINES FOR STREET PLAN SHEETS

Title Sheet

CDBG funded projects are required to have specific text on the Title Sheet, **Exhibit A.**

Project Location/General Notes/Summary of Quantities Sheet(s)

1. Benchmarks

Label on each plan and profile sheet; if not located on the specific sheet then use closest benchmark.

Use structures or surface improvements that will not be disturbed during construction as benchmarks.

Include Summary of Benchmarks on Project Location Map.

2. Testing Schedule during construction shall include types, frequency and estimated number of each test to test materials and meet quality control. **Exhibit B.**

3. Location map

Show benchmarks using same ID as on Summary of Benchmarks.

Include Summary of Boring Locations

Show Soil Boring Locations and label ID of each consistent with that used on Summary of Boring Locations

4. Street Project Layout Sheet

Shade limits of street with proposed improvements; label street segment with applicable sheet number for easy reference. **Exhibit C.**

The contents of this sheet may be combined with existing storm water base map.

5. Base Maps

Storm Water Base Map showing existing and proposed storm sewer system. **Exhibit D.**

Water Base Map showing existing and proposed water lines.

Wastewater Base Map showing existing and proposed wastewater lines.

Gas Base Map showing existing gas lines.

6. Legend

Include Legend and show meaning of all symbols used in plans that are consistent on all sheets. **Exhibit E.**

7. Base Line Map

Include a Baseline Map showing the intersecting streets with equations between baselines. **Exhibit F.**

8. Cross Section of Pavement Section

The Engineer shall show a Typical Section for each different pavement section used. **Exhibit G.** The Section shall include:

1. Thickness and type of each pavement section layer
2. Specify compaction requirements
3. Specify amount of lime either by lbs per sy or % by weight based on Eads and Grimms lab test

Base Material under curb is required to be minimum of 4-inches thick.

Exhibit H.

Use of salvaged pavement materials is not required; use is optional and is left to Engineer's judgment. Use of salvaged pavement materials requires contractor to provide for additional handling and meet temporary storage requirements. Use of salvaged material is subject to testing requirements dependent upon application of material in pavement design.

9. General Notes

Include any items not included in Special Provisions of Contract, or Standard Specifications.

Clarify any Special Details or Special provisions or payment of items of work fences, sprinkler systems, etc. **Exhibit I.**

10. Estimated Summary Table of Quantities

The Estimated Summary Table of Quantities shall be completed by street with a total for all streets. Use Bid Items description and #'s consistent with Proposal in Contract Documents. Identify Base Bid and Additive Alternate items. Use the units for the respective bid items identified in **Exhibit J.**

Include allowance for each water, wastewater and storm water pay item category to allow for unforeseen adjustments during construction. Allow for \$5,000 to \$20,000 depending on size of project.

11. Bid Items

The Engineer shall arrange the bid items in the categories listed below. In some cases the categories may be dictated by differing funding sources. Each category shall have a subtotal:

1. Street
2. Storm Water
3. Water
4. Wastewater
5. Gas
6. Pavement Markings
7. Traffic Signs
8. Traffic Signals

The Engineer shall "increase" the appropriate estimated quantities of particular bid items to cover any potential quantity overruns due to unanticipated field changes or requests by property owners and authorized by the City.

12. Design Considerations

- a. Engineer shall closely examine the possible need for low retaining walls behind sidewalk. Maximum acceptable slope from proposed back-of-walk elevation to property line is 3:1. A low retaining wall shall be considered when permanent structures or trees fall within this area.
- b. Engineer shall carefully consider the location of proposed sidewalk to avoid removal of trees and provide adequate clearance from structures that cannot be relocated. Gradual transitions in sidewalk alignment shall be used consistent with ADA requirements.
- c. Engineer shall carefully consider top-of-curb and sidewalk elevations to avoid excess excavation which would unduly damage tree root structures and result in death of tree. It is recommended that existing top-of-curb elevations be matched as closely as possible, but maintain a gutter grade of 0.30% as a minimum.
- d. The Engineer shall use the standard residential street width of 28 foot back-to-back width for residential streets. However, if the existing street is less than the 28 foot back-to-curb, then it must be determined if tree damage will be sustained by widening to the standard. Tree damage shall be kept to a minimum by modifying the width of the street.
- e. The street design shall not use valley gutters.
- f. Pavement Design shall be based on AASHTO guidelines and geo-technical investigation report by an accredited laboratory. The

City will contract separately with a laboratory using the scope of investigation established by the Engineer. The Traffic Engineering Office will provide the current and project traffic count data.

g. Engineer shall prepare the Traffic Control Plan (TCP) for use on all phases of construction.

h. Engineer shall submit plans to Texas Department of Licensing Regulation (TDLR) for review and obtain approval prior to approval of plans and contract documents by the Director of Engineering Services.

Street Plan and Profile Sheets

1. Show proposed street and drainage improvements separately from proposed utilities.
2. The Plan and Profile Sheets shall have all proposed curb & gutter, sidewalks, driveways, storm and sanitary sewers shaded to insure clarity of the proposed work.
3. The line weights of utility lines should reflect the relative size of the line.
4. The preferred scale is 1":20 ft ; however, 1":40 ft will be considered on a case by case basis.
5. All lettering on plans shall be large and legible. Do not crowd information together. It is preferred that leaders be used to put lettering into clear, uncluttered areas. Use font size on all sheets that will allow half size reductions, for microfilming, from 24" x 36" to 11" x 17" with adequate legibility
6. Orient NORTH arrow to the top of sheet or within a northeast quadrant.
7. Baseline shall typically be centerline of right-of-way. Curved alignments may dictate use of construction baselines.
8. Label legal description, property ownership and length of frontage for each parcel. **Exhibit K.**
9. Show proposed minimum driveway widths in compliance with Driveway Ordinance.
10. The Engineer shall show all existing utilities in both the plan and profile view. If the elevations of the existing utilities are unknown, then the profile view can be omitted, unless it is critical to an element of the construction.

11. Show all existing topographic surface and underground elements within project limits and sections of street immediately contiguous to project limits.

12. Stationing shall begin at 1+00 as a minimum and shall extend from left to right of sheet. Do not use negative stationing.

13. Survey data collection is not limited to right of way width. Show closest edge of structure, concrete slabs, walkways, house, porch, trees, fences, gates, brick fence posts, garages, sprinklers, etc. in private property.

Exhibit L.

14. Extend proposed driveways to Right of Way line. Show driveway transition areas and allow 10% slope on transition. The transition distances on sidewalks shall meet Texas Accessibility Standards (TAS) requirements. Include transition quantities in the appropriate bid item.

15. Proposed street improvements include pavement, driveways, curb and gutter, sidewalks and curb ramps.

16. Show existing elevations at Right of Way Line Right, Left and at Centerline every 50 foot intervals.

17. Show proposed elevations for Top of Curb Right and Left. Label slope on profile at 50 foot intervals and at grade breaks.

18. Show proposed elevations for centerline when design criteria dictate, i.e., higher design speeds or widths are not symmetrical or top of curb elevation is not the same on each side.

19. Show and label existing driveway, elevation, material composition of driveway, widths and length, width of sidewalk runners on plan and profile.

20. Show proposed driveways and sidewalk runners on plan and profile. Do not label station numbers for proposed driveways if existing driveway is being replaced. Use station numbers at center of proposed driveway only if new driveway is being provided.

21. Show grade break with STA # and longitudinal slope on top of curb.

22. Include summary of elements to be removed/abandoned per sheet.

23. Label end of radius (EOR) station and elevation (at TOC) at point of tangency and curvature at intersections. Label length of radius.

Exhibit M.

- 24.Overlap pavement at point of project limits. Sawcut asphalt and overlap the asphalt and base material to top of subgrade in stair step manner.
- 25.Dimension transition lengths at locations of horizontal change at junction with existing unimproved pavement sections.
- 26.Transition lengths at locations of vertical change shall not exceed a maximum algebraic difference of 4%.
- 27.Specify removal of pipes or other elements to be abandoned within one (1') foot of finished subgrade elevation.
- 28.Abandon pipe in place by plugging or by filling with grout. Design engineer shall determine which is appropriate. Generally pressure pipe over 12" shall be filled with grout unless trapped air due to vertical alignment is a problem. Gravity pipe shall be filled with grout if over 8".

Utilities Plan and Profile Sheets

- 1.Engineer shall coordinate with the City's Water and Wastewater Divisions in the design kickoff meeting to insure that any new and/or relocated utilities are included in the project.
- 2.The Engineer is required to obtain field confirmations of utility top of pipe or flowlines that are critical to setting elevations to avoid conflict. The assumption of flowlines based on old construction plans is not acceptable. The use of exploratory construction excavation may be considered as a bid item if elevation information cannot be obtained otherwise and is critical to design.
- 3.Engineer shall review the adopted utility master plans to ensure new trunk lines or upgrades to existing included in scope.
- 4.Show all existing topographic surface and underground elements within project limits and sections of street immediately contiguous to project limits that provide information to contractor.
- 5.Proposed utility improvements include: storm water, water, and wastewater and may include gas lines.
- 6.Label station where alignment of utility lines change.
- 7.Label distance from base line where alignment is parallel.

Waterlines

1. Waterline is to be paid as waterline but contractor is required to provide ductile iron pipe segments at vertical and horizontal offset locations.
2. Show location of service lines where water meters are known and located.
3. Include a Water Valve and Fitting Location Detail.
Exhibit N.

Storm Water

1. Label longitudinal slope, length and type of pipe used for storm sewer in profile.
2. Storm sewer base map will show existing system and proposed system.
3. Storm Sewer Lateral Sheet will show cross section of all laterals connections to collection line or inlet or manhole/junction box. Show detail of storm sewer laterals at inlets, junction boxes and manholes. Label elevations. Show existing and proposed utilities within each storm sewer lateral cross section. **Exhibit O.**
4. Review inlet spacing and inlet capacity to justify frequency and need for inlet extension or wider inlet and to reduce the degree of ponding width on street.
5. Drainage Area Boundary Map will define area draining to trunk line that serves as outfall for the proposed storm sewer improvements within project limits, define subareas draining to inlets, and subareas draining to proposed storm sewer line within limits of project scope.
6. Use storm water precast or cast-in-place concrete boxes (4' x 4") in lieu of storm water brick cylindrical manholes as general rule.
7. Review size of storm water junction box or manhole where 3 to four RCP pipes are connected.
8. Label top of rim casting, flowlines of manholes, flowlines of intersection pipes into junction box.
9. Show size, material, length of pipe and slope for each homogeneous section.

10. Label width of inlet if pipes greater than 18-inches I.D. are connected to the side of inlet.

11. Allow 6-inch distance between ID of box and OD of connecting pipe.

12. Show use of concrete pipe collar when connection is made between existing and new pipe where junction box is not used. Specify size, width, thickness, reinforcement where collar is used.

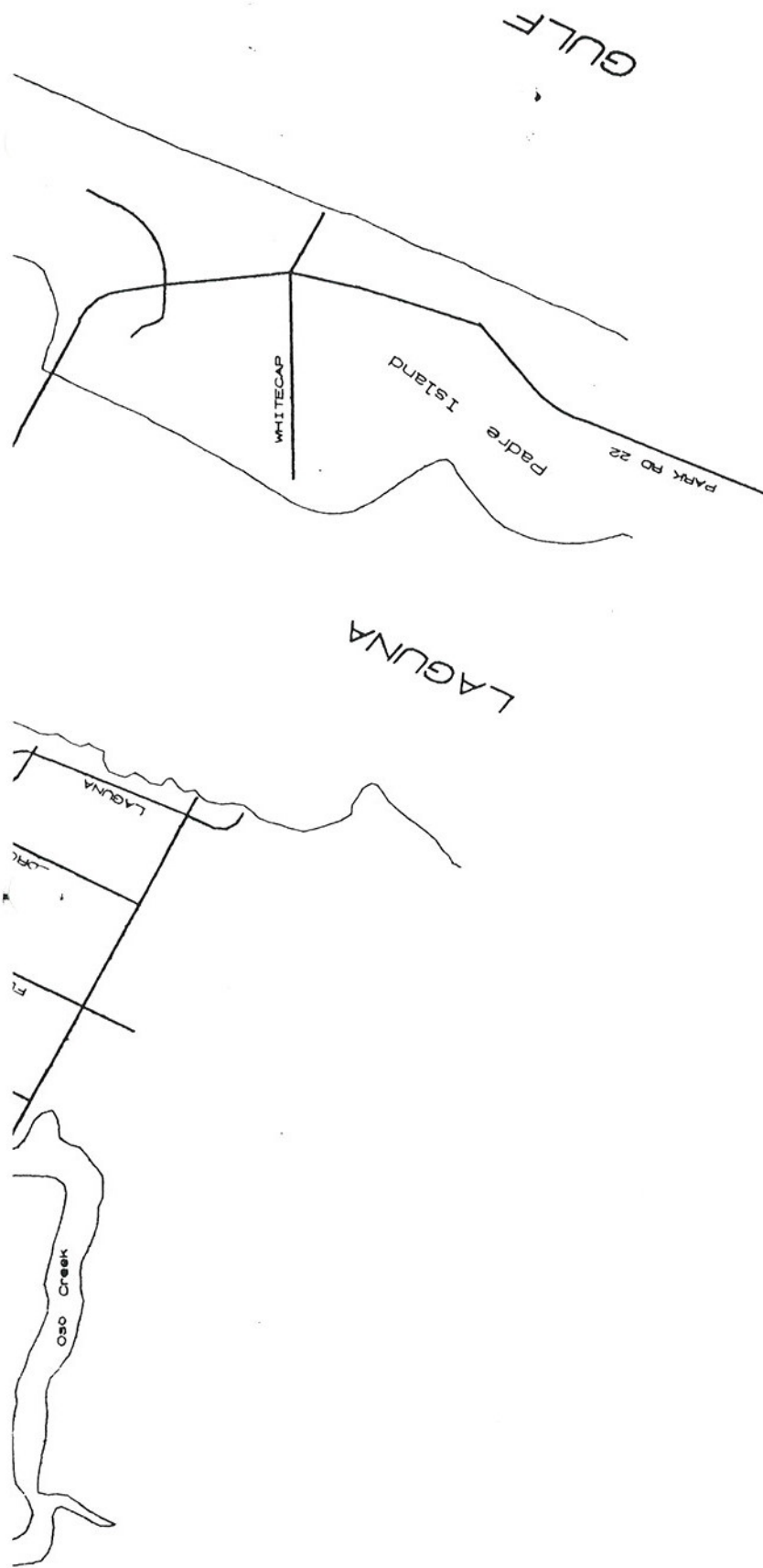
13. Label hydraulic grade line on profile sheet.

Wastewater

1. Show slope, size of pipe, length of homogeneous segment and cut depth of trench.

2. Label flow lines and direction (N, S, E, or W) at junction boxes/manholes at connecting or exiting pipes.

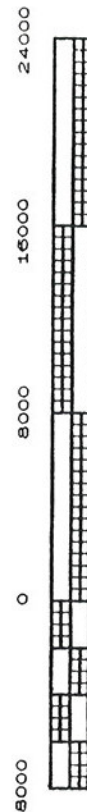
3. In case of re-routes of private sanitary sewer lines within lots, identify the lots affected. **Exhibit P.** Trenching adjacent to residential concrete slabs are recommended to use a special detail, **Exhibit Q.**



THIS PROJECT IS FUNDED THROUGH THE COMMUNITY DEVELOPMENT BLOCK GRANT FY 1997. PARTICIPATION IN THIS PROJECT WILL REQUIRE COMPLIANCE WITH FEDERAL REGULATIONS. THE FEDERAL WAGE RATES AND GUIDELINES ARE INCORPORATED IN PART C OF THE CONTRACT DOCUMENTS AND SUPERCEDE ANY SECTION OF THE CONTRACT IN CONFLICT THEREWITH.

EXHIBIT A

GRAPHIC SCALE



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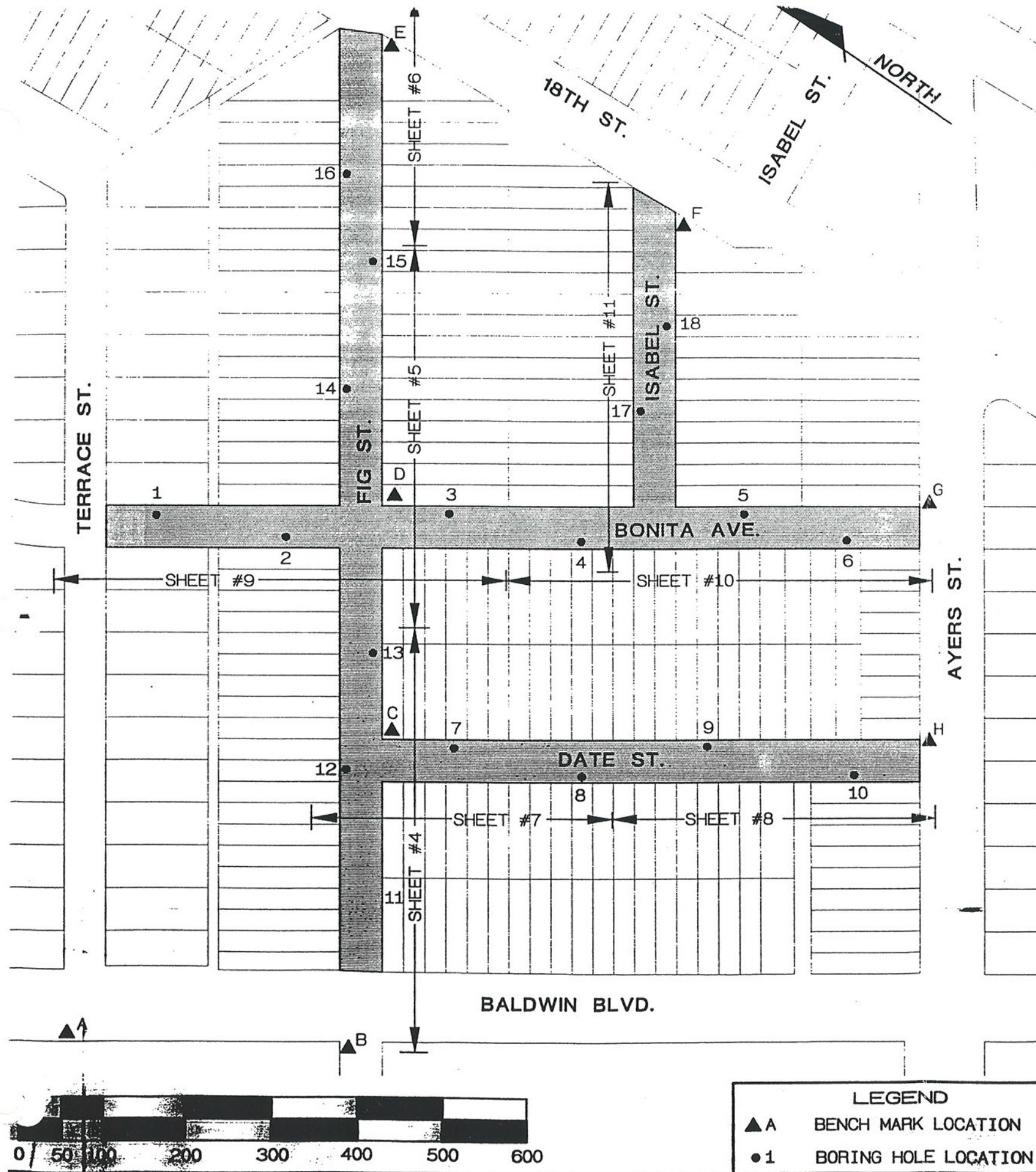
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





FOR

1552)

EXHIBIT B

Note: The Engineer may require additional testing as he deems necessary.



▲ A	34.91	CHISEL MARK  TOP OF INLET N.W. CORNER TERRACE AND BALDWIN
▲ B	33.73	CHISEL MARK  TOP OF INLET N.W. CORNER BALDWIN AND FIG
▲ C	35.40	B.M. 60d NAIL IN POWER POLE S.E. CORNER DATE AND FIG
▲ D	35.56	B.M. 60d NAIL IN POWER POLE S.E. CORNER BONITA AND FIG
▲ E	35.58	CHISEL MARK  TOP OF INLET S.W. CORNER FIG AND 18TH ST.
▲ F	35.12	CHISEL MARK  TOP OF INLET S.W. CORNER ISABEL AND 18TH ST.
▲ G	34.61	CHISEL MARK  TOP OF INLET N.E. CORNER AYERS AND BONITA
▲ H	34.43	CHISEL MARK  TOP OF INLET N.E. CORNER DATE AND AYERS

BENCH MARKS

LEGEND

- ▲ A BENCH MARK LOCATION
- 1 BORING HOLE LOCATION



STORMWATER PROP. & EXIST. MAP

SCALE 1"=200'

SYMBOL TYPES

EXISTING

FDI	STORM DRAINAGE INLET	G	GAS METER
(SAN)	SANITARY SEWER MANHOLE	W	WATER METER
(STG)	STORM SEWER MANHOLE	E	ELECTRIC PEDASTAL
(ELEC)	ELECTRICAL MANHOLE	T	TELEPHONE PEDASTAL
—X—	WATER VALVE	□	MAIL BOX
—X—	GAS VALVE	⊗	RAILROAD SIGN
⊗	FIRE HYDRANT	—	STREET SIGN
⊗	LIGHT POLE	□	PARKING METER
⊗	POWER POLE	⊗	DECIDUOUS TREE
←	GUY WIRE	⊗	PALM TREE
⊗	TRAFFIC SIGNAL	⊗	PINE TREE
⊗	BENCH MARK	⊗	BUSH or SHRUB
⊗	TX. HIGHWAY DEPT. MONUMENT	⊗	HEDGE or FLOWER BEDS
---	4' SIDEWALK	⊗	MARSH GRASS
---	CURB & GUTTER	⊗	TREE STUMP

PROPOSED

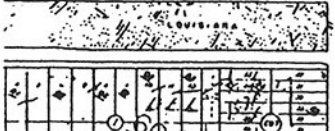
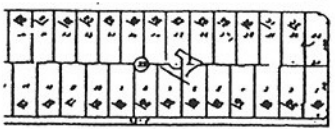
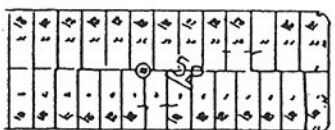
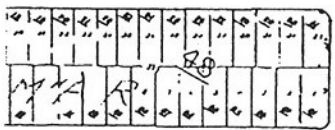
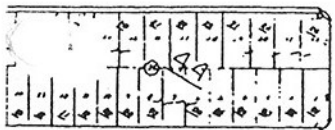
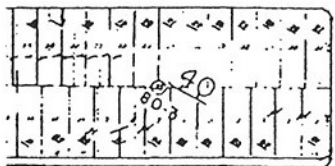
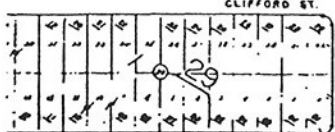
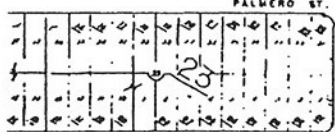
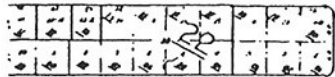
⊗	STORM DRAINAGE INLET	—X—	WATER VALVE
⊗	STORM MANHOLE	—X—	GAS VALVE
⊗	SAN MANHOLE	⊗	METER
⊗	FIRE HYDRANT	⊗	CURB & GUTTER
---	4' SIDEWALK		

LINE TYPES

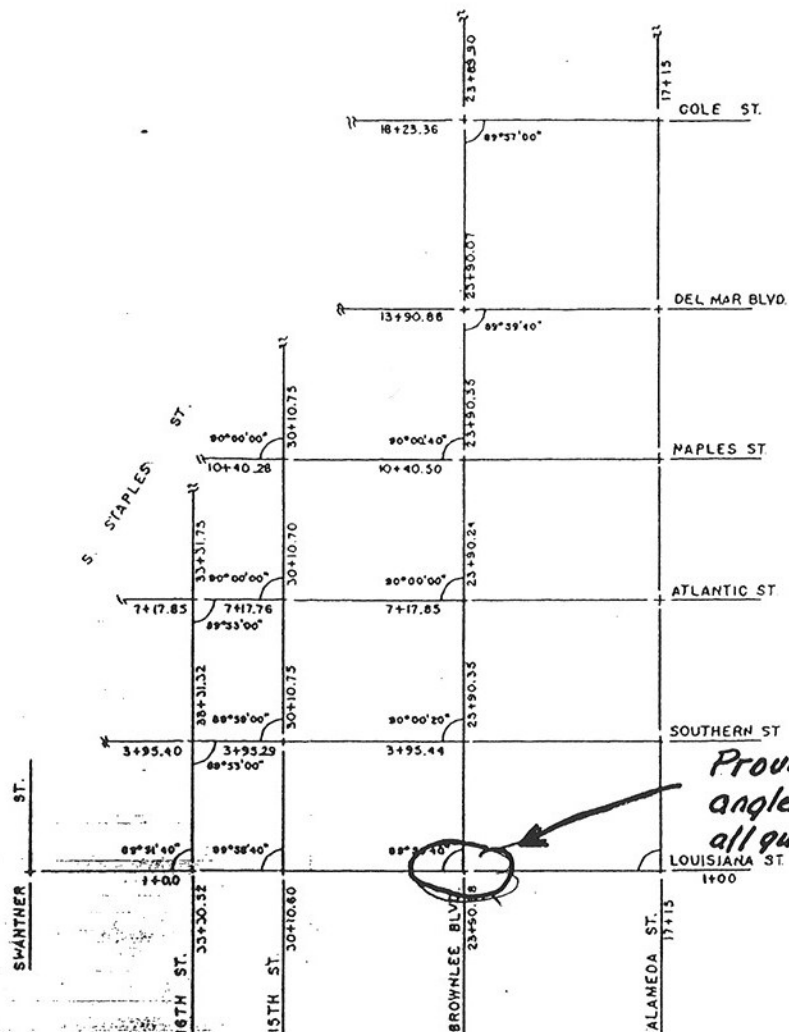
1+00	CENTER LINE
2+00	BASE LINE
X	HURR. FENCE
//	WOOD FENCE
OH	OVERHEAD LINE
---	PROPERTY LINE
SAN	PROP. SANITARY SEWER
SAN	EXIST. SANITARY SEWER
STO	PROP. STORM LINE
STO	EXIST. STORM LINE
WTR	PROP. WATER LINE
W	EXIST. WATER LINE
GAS	PROP. GAS LINE
GAS	EXIST. GAS LINE
UPL	UNDERGROUND PIPE LINE
UEL	UNDERGROUND ELECTRIC LINE
UTL	UNDERGROUND TELEPHONE LINE
---	CENTER LINE of DITCH
---	EXIST. EDGE of PAVEMENT
---	EXIST. EDGE of PAVEMENT
---	RAILROAD TRACKS

ABBREVIATIONS

TC	TOP OF CURB	ASPH	ASPHALT
LG	LIP OF GUTTER	HORIZ	HORIZONTAL
FH	FIRE HYDRANT	VERT	VERTICAL
PP	POWER POLE	WS	WRAPPED STEEL
TELE	TELEPHONE	DI	DUCTILE IRON
NTS	NOT TO SCALE	SAN	SANITARY SEWER
CI	CAST IRON	STO	STORM SEWER
EL & ELEV	ELEVATION	RCP	REINFORCED CONCRETE PIPE
VG	VALLEY GUTTER	VCP	VITRIFIED CLAY PIPE
BM	BENCH MARK	CPL	CENTRAL POWER & LIGHT
MH	MAN HOLE		
CONC	CONCRETE		
GB	GRADE BRAKE		



Brownlee Blvd. STA xx + xx = Louisiana PKwy
STA xx + xx



BASELINE MAP
NOT TO SCALE

EXHIBIT F

GUIDELINES FOR STREET PLAN SHEETS
EXHIBIT 13B
Page 14 of 25
New Document: Dec. 2004

APPROVED: _____
DATE: _____
DESIGN ENGINEER: _____
SCALE: HORIZONTAL: 1"=200'
VERTICAL: N/A
REVISION: _____

CITY of CORPUS CHRISTI
TEXAS
Department of Engineering



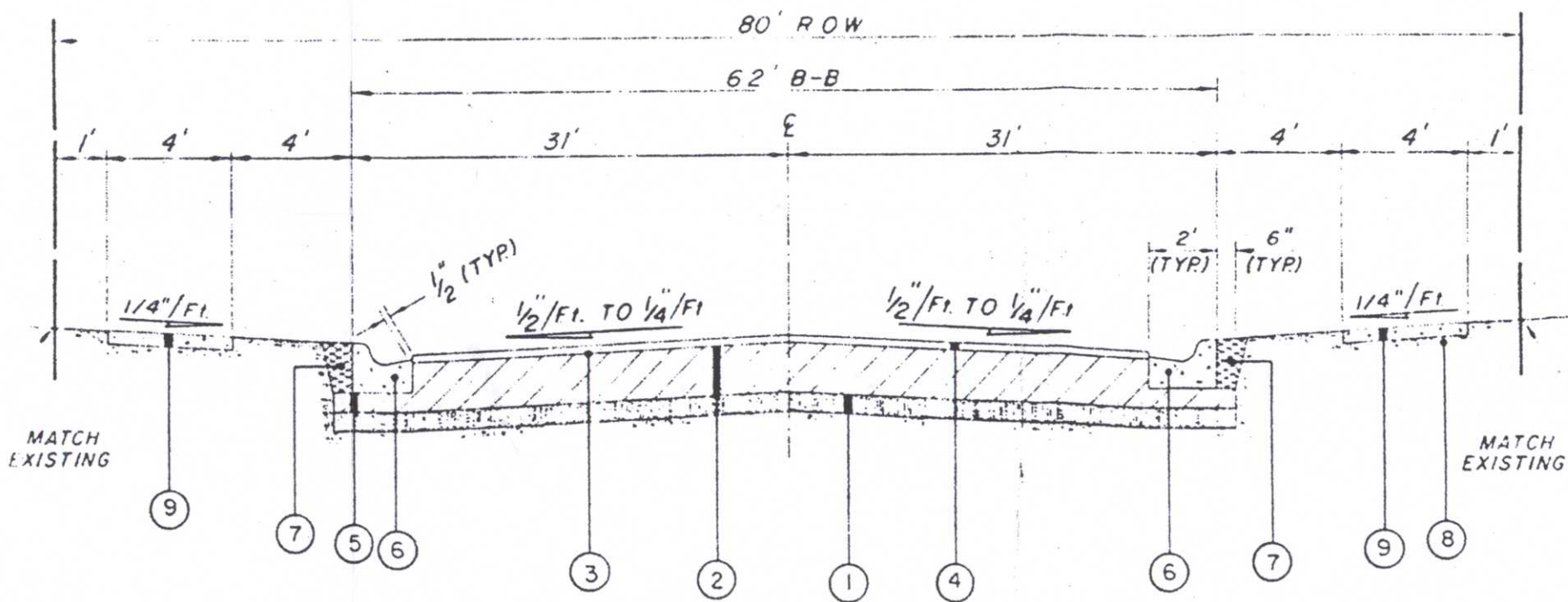
DEL MAR AREA STREET
IMPROVEMENTS PHASE III
PROJECT LAYOUT AND
BASELINE MAPS

SHEET 3 of 56

DRAWING NO:
STR.702

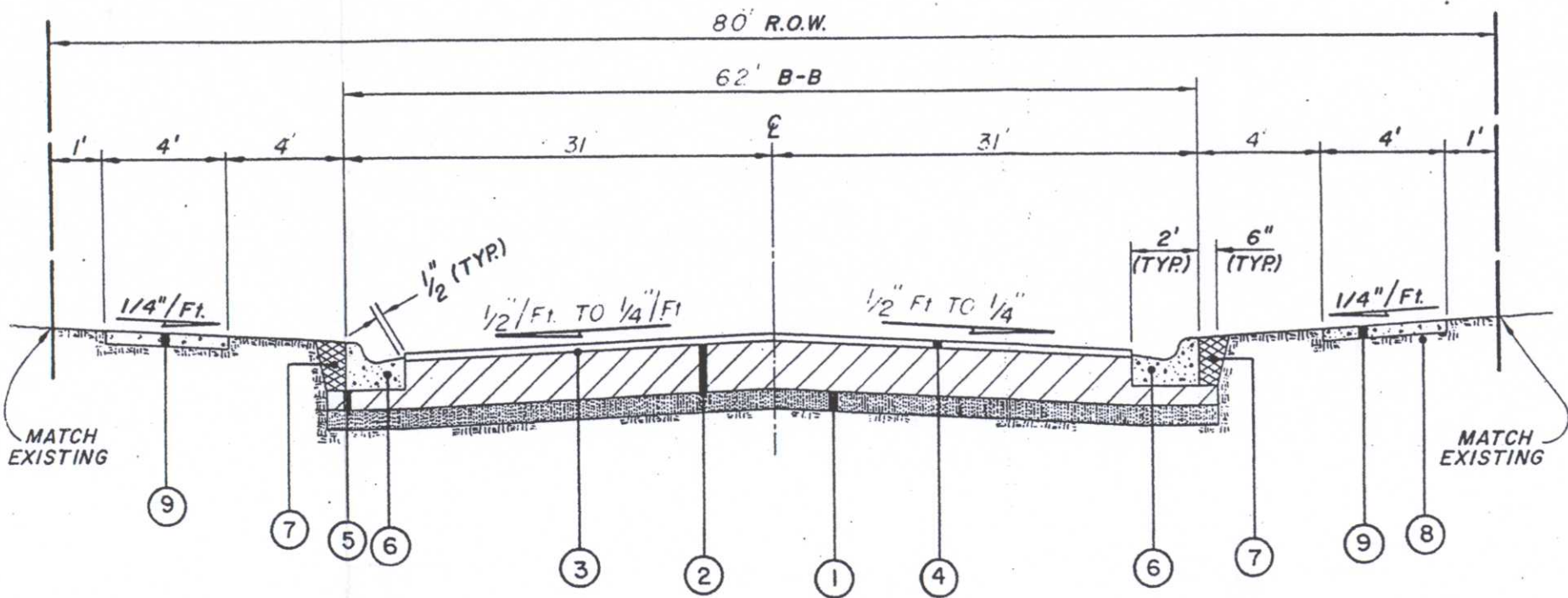
TYPICAL SECTION LEGEND

- ① 6" MINIMUM COMPACTED SUB-GRADE (95% STANDARD PROCTOR DENSITY - 5% LIME)
- ② VARIABLE THICKNESS FLEXIBLE BASE CALICHE (8" MINIMUM COMPACTED TO 98% STANDARD PROCTOR DENSITY - 1.5% LIME)
- ③ PRIME COAT (0.15 gal./sq. yd.)
- ④ 2" MINIMUM TYPE "D" HOT MIX ASPHALTIC CONCRETE OVER 5" TYPE "B" HOT MIX ASPHALTIC CONCRETE (95% DENSITY)
- ⑤ 4" MINIMUM FLEXIBLE BASE CALICHE COMPACTED TO 98% STANDARD PROCTOR DENSITY - 1.5% LIME
- ⑥ 6" STANDARD CURB & GUTTER
- ⑦ BACKFILL COMPACTED TO NATURAL BANK DENSITY
- ⑧ NATURAL GROUND COMPACTED TO NATURAL BANK DENSITY
- ⑨ CONCRETE SIDEWALK



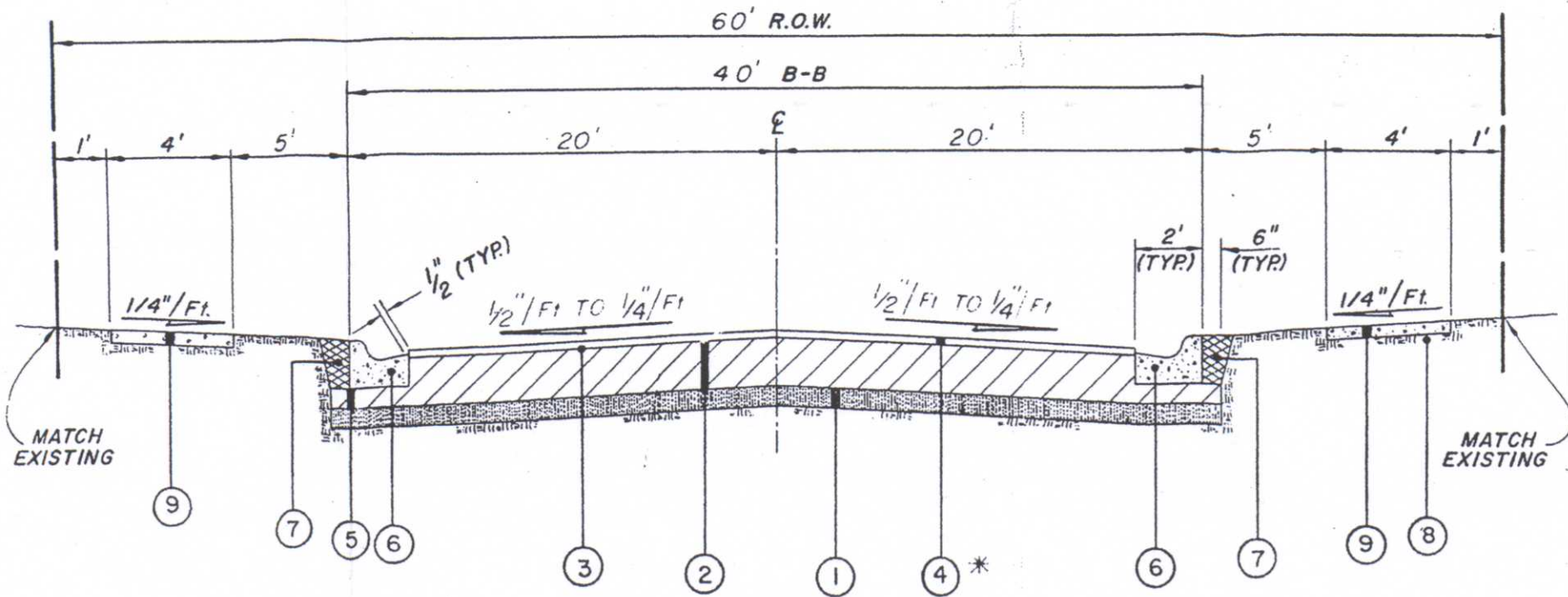
AIRLINE ROAD

WOOLDRIDGE ROAD TO HOLLY ROAD



CIMARRON ROAD

WOOLDRIDGE ROAD TO AIRLINE ROAD



* TYPE "B" H.M.A.C. NOT REQUIRED

GUIDELINES FOR STREET PLAN SHEETS
EXHIBIT 13B
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EXHIBIT G

AIRLINE RD. IMPROVEMENTS
PHASE I

TYPICAL STREET SECTIONS/DETAILS

SHEET 4 of 42

4

DRAWING NO:
STR. 655

CITY of CORPUS CHRISTI
TEXAS

Department of Engineering



APPROVED:

Design Engineer

DATE

SCALE:

HORIZONTAL

VERTICAL

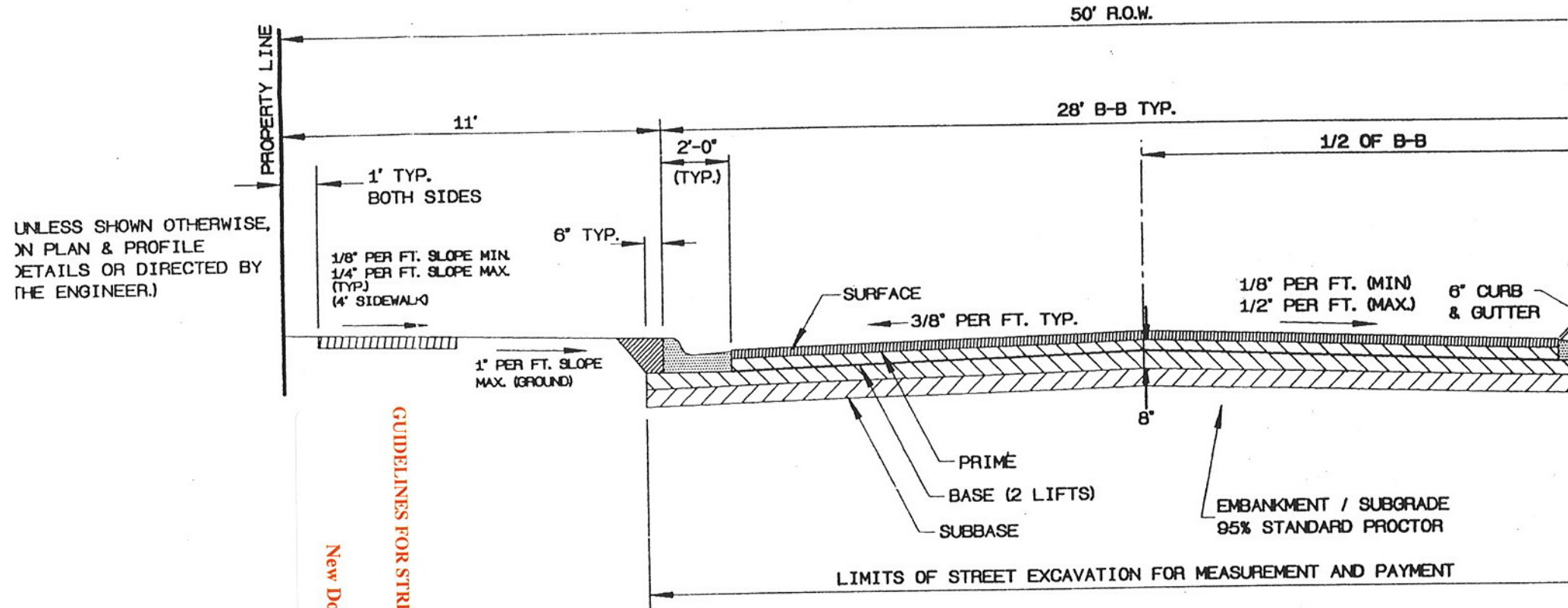
DN B.S.

DW W.M.

CK

REVISION:

FIELD BOOK:



UNLESS SHOWN OTHERWISE,
ON PLAN & PROFILE
DETAILS OR DIRECTED BY
THE ENGINEER.)

GUIDELINES FOR STREET PLAN SHEETS
EXHIBIT 13B
Page 16 of 25
New Document: Dec. 2004

EXHIBIT H

TYPICAL STREET SECTION

NOT TO SCALE

GENERAL - NOTES

1. STREETS

- A. ALL STREET DIMENSIONS SHOWN ON PLANS ARE TO BACK OF CURB, UNLESS NOTED OTHERWISE.
- B. ALL CURB RADII AT STREET INTERSECTIONS SHALL BE 15', UNLESS NOTED OTHERWISE.
- C. WHERE EXISTING ASPHALT AND CONCRETE ARE TO BE CUT, THESE CUTS SHALL BE VERTICAL AND MADE WITH A SAW.
- D. ASPHALT LAYING MACHINE SHALL BE CAPABLE OF LAYING A 12' WIDTH PER PASS.
- E. THE EXISTING PAVEMENT (SURFACE AND BASE COURSES) SHALL BE SALVAGED AND RE-USED. A SURVEY OF THE EXISTING PAVEMENT IS PROVIDED IN THE APPENDIX OF THE CONTRACT DOCUMENTS. THE EXISTING BASE SHALL BE MIXED WITH FLEXIBLE BASE CALICHE PROVIDED BY THE CONTRACTOR WITH THE PROPOSED BASE BEING A MIXTURE OF 50% SALVAGED BASE AND 50% IMPORTED FLEXIBLE CALICHE. THE EXISTING SURFACE COURSE SHALL NOT BE INCORPORATED INTO THE PROPOSED BASE. THE EXISTING SURFACE COURSE SHALL BE PULVERIZED SUCH THAT 95% PASSES A 2.5" SIEVE AND MIXED WITH EXISTING BASE MATERIAL TO FORM A MIXTURE TO BE USED AS A 6" THICK SUBBASE OR THE CONTRACTOR SHALL HAVE THE OPTION OF PROVIDING AND USING CALICHE FOR THE SUBBASE RATHER THAN SAID SALVAGE MATERIAL.
- F. THE CONTRACTOR'S ATTENTION IS DRAWN TO THE PAVEMENT MATERIALS SUMMARY AND PAVEMENT COMPOSITION TABLES.

2. SIDEWALKS & DRIVEWAYS

- A. DRIVEWAYS SHALL BE TYPE 'R' & 'TR', UNLESS NOTED OTHERWISE.
- B. DRIVEWAYS SHALL BE CONSTRUCTED SUCH THAT TEXTURED SURFACES ARE NOT REQUIRED, AS IN THE CASE OF CURB RAMPS.
- C. EXISTING DRIVEWAYS, SIDEWALKS, CURB, GUTTER AND STORM SEWER SHALL BE REMOVED AS REQUIRED. THIS WORK IS SUBSIDIARY TO STREET EXCAVATION, UNLESS OTHERWISE SPECIFIED.
- D. THE NUMBER AND LOCATION OF SIDEWALK DRAINS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- E. SIDEWALK SHALL BE ROUTED AROUND TREES UNLESS THE TREE IS IN POOR CONDITION OR THE TREE IS UNWANTED BY THE ABUTTING PROPERTY OWNER. MINIMUM WIDTH OF SIDEWALK SHALL BE 4 FEET AT JOG AROUND TREE. JOGS AROUND TREES (DETAIL OF SHT. 51) SHALL BE SMOOTH RADIUS TRANSITION. THE LENGTH OF RADIUS TRANSITIONS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- F. RETAINER WALL ALONG THE BACK OF SIDEWALK SHALL BE CONSTRUCTED TO ACCOMMODATE ABRUPT GRADE DIFFERENCES ALONG THE PROPERTY LINE, WHEN DIRECTED BY THE ENGINEER. RETAINER WALL SHALL BE CONSTRUCTED PER TYPE 'A' HEADER CURB DETAIL OF THE STANDARD DETAILS, WHEN REQUIRED.
- G. CURB RAMPS SHALL BE REQUIRED AT EACH CORNER OF EACH STREET INTERSECTION, AT CROSS WALKS, AND AS DIRECTED BY THE ENGINEER.
- H. DEFECTIVE DRIVEWAYS IN THE AREA BETWEEN SANTA FE, ALAMEDA, PALMERO AND LOUISIANA SHALL BE REPLACED AS DIRECTED BY THE ENGINEER. "REPLACE DEFECTIVE DRIVEWAYS" SHALL BE MEASURED BY THE SQUARE FOOT OF AUTHORIZED DRIVEWAY REPLACED AND THE WORK SHALL INCLUDE, BUT NOT BE LIMITED TO, REMOVAL OF EXISTING DRIVEWAY, REPLACE EXPANSION JOINTS, PLACEMENT OF NEW DRIVEWAY TO MATCH SIZE AND STYLE OF EXISTING DRIVEWAY, AND ALL MATERIALS, LABOR, AND INCIDENTALS REQUIRED. THE NEW DRIVEWAY SHALL MATCH THE STYLE OF THE OLD DRIVEWAY AS SHOWN ON SHEET 52, WITH THE EXCEPTION THAT CLASS 'A' CONCRETE SHALL BE USED, STEEL REBAR SHALL BE #4 BARS AT 12" CENTERS EACH WAY, AND THE THICKNESS SHALL BE 6" THROUGHOUT. SAW-CUT AND MATCH GRADES AS APPROPRIATE.
- I. WOOD BLOCK KNOCK OUTS IN THE EXISTING SIDEWALK IN THE AREA BETWEEN SANTA FE, ALAMEDA, PALMERO, AND LOUISIANA SHALL BE REMOVED AND THE REMAINING CAVITY OR VOID IN THE SIDEWALK SHALL BE FILLED WITH LOW STRENGTH CLASS "B" CONCRETE WITH #4 OR #8 AGGREGATE. THERE ARE ABOUT 300 OF THESE KNOCK OUTS WITH APPROXIMATE SIZE AS DEPICTED ON SHEET 52. THIS WORK SHALL BE MEASURED AS "GROUTING KNOCK-OUTS IN SIDEWALK" AND SHALL BE MEASURED BY THE SQUARE FOOT OF AREA GROUTED AND SHALL INCLUDE, BUT NOT BE LIMITED TO REMOVING WOOD KNOCKOUT AND FILLING CAVITY WITH CONCRETE AND ALL LABOR, MATERIALS, AND INCIDENTALS REQUIRED TO COMPLETE THIS WORK.

3. CURB & GUTTER

- A. THE AREA BEHIND THE CURB SHALL BE GRADED WITH EXCAVATED MATERIAL FREE OF DEBRIS, CALICHE, ASPHALT, AND CONCRETE.
- B. CURB AND GUTTER SHALL BE STANDARD 6" CURB UNLESS DIRECTED OTHERWISE BY THE ENGINEER.
- C. WHEN MATCHING NEW 6" CURB & GUTTER TO EXISTING 4", THE GUTTER SLOPE SHALL BE MAINTAINED AND THE 2" TRANSITION SHALL BE IN THE CURB SECTION, AS NECESSARY TO PREVENT PONDING WATER.
- D. A REDWOOD EXPANSION JOINT WITH # 4 DOWEL SHALL BE USED WHERE NEW CURB MATCHES EXISTING.

4. UTILITIES & STORM SEWER

- A. ALL CURB INLETS SHALL HAVE A 5' THROAT, UNLESS NOTED OTHERWISE.
- B. ALL ABANDONED PIPES (OLD WATERLINES, DITCH CULVERTS, SHALLOW UTILITY SERVICES) WITHIN THE LIMITS OF STREET EXCAVATION SHALL BE REMOVED AND PROPERLY DISPOSED. THIS GENERALLY APPLY TO ALL PIPES THAT ARE WITHIN A FOOT OF SUBGRADE AND DITCH CULVERTS AND ANY ABANDONED PIPE THAT IMPACTS THE PROPOSED WORK. ANY ABANDONED LINE TO REMAIN IN PLACE SHALL BE CAPPED AT THE END.
- C. ALL STORM SEWER PIPE SHALL BE CLASS III R.C. PIPE WITH TYPE B WALL AND TONGUE AND GROOVE JOINTS PER ASTM 76.
- D. ELEVATION ADJUSTMENTS FOR MANHOLES AND VALVES SHALL BE DONE FOR NO SEPARATE PAY.
- E. ALL VALVES AND MANHOLES REQUIRING ADJUSTMENT SHALL BE CROSS REFERENCED, AND EXTENDED TO FINISHED GRADE.
- F. THE CONTRACTOR SHALL TAKE PRECAUTIONS TO PROTECT EXISTING UTILITIES. ALL PIPES AND UTILITIES DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED TO THE CITY'S SATISFACTION, WITH NO SEPARATE PAY.

- G. PAVEMENT REPAIR ALONG SANTA FE, AYERS, AND OCEAN DRIVE SHALL BE CLASS III, ALL OTHER SHALL BE CLASS I, UNLESS DIRECTED OTHERWISE.
- H. PAVEMENT REPAIR SHALL BE PAID FOR ONLY IF THE REPAIR OCCURS OUTSIDE THE LIMITS OF PROPOSED STREET EXCAVATION.
- I. TIES OR CONNECTIONS OF PROPOSED STORM SEWER TO EXISTING MANHOLES OR EXISTING LINES SHALL BE SUBSIDIARY WORK AND NOT BE MEASURED FOR PAY.
- J. THE EXISTING STORM SEWER HAS BRANCHES THAT EXTEND FROM MANHOLES TO EXISTING INLETS. THE DRAWINGS TYPICALLY SHOW THAT NONE OF THESE BRANCHES ARE TO BE INCORPORATED INTO THE COMPLETED PROJECT. THE CONTRACTOR SHALL ASSIST THE ENGINEER AS NECESSARY IN CHECKING THE CONDITION OF THESE LINES SO THAT THE ENGINEER MAY DETERMINE, IF ANY PORTION OF THESE LINES MAY BE INCORPORATED INTO THE COMPLETED PROJECT. THIS EXISTING PIPE SHALL NOT BE INCORPORATED INTO THE COMPLETED WORK, IF (1) IT'S LESS THAN 15" RCP, (2) IT APPEARS TO BE DEFECTIVE, (3) IT'S AT IMPROPER GRADE, (4) MORE THAN 10 DEGREE JOINT DEFLECTION WOULD RESULT. CONCRETE COLLARS SHALL BE PLACED AT THE UNION OF EXISTING AND PROPOSED PIPE AS DIRECTED BY THE ENGINEER. THE WORK RELATED TO USE OF EXISTING PIPE SHALL NOT BE DEEMED GROUNDS FOR EXTRA COMPENSATION OR MEASURED FOR PAY.
- K. HASTY BACKFILL (1-1/2 SACK PORTLAND CEMENT PER CY OF SAND) SHALL BE USED FOR BACKFILL OF TRENCHES IN SANTA FE AND AYERS.
- L. WATERLINE AND SANITARY BASE MAPS ARE PROVIDED FOR REFERENCE. WATERLINE TIE DRAWINGS ARE PROVIDED IN THE APPENDIX OF THE CONTRACT DOCUMENTS FOR REFERENCE.
- M. NEW WATER AND SANITARY SEWER LINES SHALL TYPICALLY BE PLACED IN THE STREET RIGHT-OF-WAY AND NEW SERVICES SHALL BE RE-ROUTED TO THE SAID NEW MAINS, AFTER WHICH THE EXISTING EASEMENT MAINS SHALL BE ABANDONED. HOWEVER, THERE ARE A FEW EXCEPTIONAL CASES WHERE A NEW UTILITY SHALL BE PLACED IN AN EASEMENT. IF AN EXISTING SERVICE CAN BE RE-CONNECTED TO THE NEW LINE WITHOUT RE-ROUTING THE RE-CONNECTION SHALL SIMPLY BE MEASURED AS A SERVICE CONNECTION. RE-ROUTING IS REQUIRED THE WORK SHALL BE MEASURED AS BOTH, A SERVICE CONNECTION FOR THE PORTION OF THAT WORK WITHIN THE EASEMENT AND A PRIVATE SERVICE CONNECTION FOR THE WORK OUTSIDE THE EASEMENT OR ROW. UTILITIES SHALL REMAIN IN CONTINUOUS OPERATION, EXCEPT FOR BRIEF MINOR INTERRUPTIONS REQUIRED DURING TIES OR CHANGE OVER.
- N. NO SERVICE LINE SHALL BE PLACED ON ABUTTING PRIVATE PROPERTY, IN-OTHER-WORDS NO SERVICE SHALL BE PLACED ON THE NEIGHBORS PROPERTY.
- O. CONTRACTOR SHALL MARK LOCATION OF AS-BUILD PRIVATE SANITARY AND WATER SERVICES ON THE AERIAL PHOTOGRAPH INCLUDED IN THE DRAWINGS AND SUBMIT TO THE ENGINEER, BEFORE INSPECTION WILL BE CONDUCTED.
- P. THE CONTRACTOR SHALL SIGN THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP-ATTACHMENT TO DRAWINGS), PRIOR TO BEGINNING WORK.
- Q. UTILITY EASEMENTS CONTAIN ENCROACHMENTS OR IMPROVEMENTS. EXISTING IMPROVEMENTS EITHER WITHIN OR ABUTTING EASEMENT SHALL BE PROTECTED BY THE CONTRACTOR WHEN WORKING WITHIN EASEMENTS. DAMAGED IMPROVEMENTS SHALL BE REPLACED WITH LIKE OR BETTER. IN THE EVENT THAT REPLACEMENT OF IMPROVEMENTS APPEARS TO BE IMPRACTICAL, THE CONTRACTOR SHALL BORE AND CASE PROPOSED UTILITIES. THIS WORK SHALL BE CONSIDERED SUBSIDIARY AND, IF CASING IS USED, IT SHALL BE OF AN APPROVED TYPE.
- R. EXISTING STORM SEWER INLETS, THAT ARE NOT INCORPORATED INTO THE FINAL WORK, SHALL BE REMOVED. EXISTING INLETS THAT ARE TO BE INCORPORATED INTO THE FINAL WORK SHALL BE REWORKED AND ADJUSTED FOR GRADE AS NECESSARY WITH SAID WORK BEING CONSIDERED SUBSIDIARY.
- S. WHEN PLACING PROPOSED UTILITY LINES UNDER EXISTING CONCRETE CURB & GUTTER, SIDEWALK, OR DRIVEWAY THAT ARE NOT SCHEDULED FOR REPLACEMENT, THE PROPOSED UTILITY SHALL BE PLACED BY BORING OR JACKING UNDER SAID CONCRETE STRUCTURES. IF BORING IS UNPRACTICAL, THE CONTRACTOR SHALL REMOVE AND REPLACE WITH LIKE OR BETTER IF AUTHORIZED BY THE ENGINEER. THIS SHALL BE CONSIDERED SUBSIDIARY WORK.

5. SANITARY SEWERS

- A. MAIN, SERVICE LINE AND PRIVATE SERVICES SHALL PASS LEAKAGE TESTING PRIOR TO CHANGE-OVER.
- B. SANITARY SEWER MAY BE CONSTRUCTED OF EITHER PVC OR VCP IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS EXCEPT AT WATERLINE CROSSINGS IN WHICH CASE IT SHALL BE PVC.
- C. ABANDONED SANITARY MAINS AND SERVICES SHALL BE PLUGGED. THE UPPER 5 FEET OF ABANDONED MANHOLES AND ABANDONED CLEAN-OUTS SHALL BE REMOVED AND THE EXCAVATIONS SHALL BE BACKFILLED WITH SELECT MATERIAL COMPACTED TO NATURAL GROUND DENSITY OR A MINIMUM OF 95% STD PROCTOR.
- D. EXIST. SAN. MANHOLES THAT ARE TO REMAIN IN SERVICE AND BE WITHIN THE LIMITS OF STREET EXCAVATION SHALL BE FITTED WITH A FIBERGLASS LINER AND BE RECONSTRUCTED AS A FIBERGLASS MANHOLE. NEW SANITARY MANHOLES SHALL BE FIBERGLASS.
- E. NEITHER BLUE PVC PIPE NOR DUCTILE IRON PIPE SHALL BE USED FOR SANITARY SEWERS.
- F. REGARDING PAYMENT, PRIVATE SANITARY SEWER SERVICES CONSIST OF THOSE LINES THAT EXTEND FROM A BUILDING TO THE CLEAN-OUT AT THE PROPERTY LINE AND SANITARY SERVICES CONSIST OF THOSE LINES THAT EXTEND FROM THE CLEAN OUT AT THE PROPERTY LINE TO THE MAIN IN THE STREET.
- G. PRIVATE SERVICE LINES ARE REQUIRED WHEN AN EASEMENT LINE IS BEING ABANDONED AND SERVICE IS BEING RE-ROUTED TO A STREET MAIN. SERVICE LINES ARE REQUIRED WHEN EXISTING SERVICES ARE TIED INTO A NEW MAIN; IN OTHER WORDS ALL SERVICES WITHIN THE STREET ROW SHALL BE REPLACED, BUT WORK ON PRIVATE PROPERTY SHALL NOT BE REQUIRED IF RE-ROUTING IS NOT NECESSARY.
- H. WHERE NEW SANITARY SEWERS ARE TO EXTEND ADJACENT TO AN EXISTING WATERLINE AT A LATERAL CLEARANCE OF LESS THAN 9 FEET, THAT SECTION OF SEWER SHALL BE PRESSURE RATED PVC, AWWA C900-DR25 NON-BLUE COLORED, AND MANHOLES SHALL BE OF FIBERGLASS, BUILT AND TESTED FOR NO LEAKS.
- G. SANITARY MANHOLE COVERS SHALL BE FITTED WITH .187" THICK POLYETHYLENE INFLOW INHIBITORS. THE INFLOW INHIBITOR OR DISH SHALL BE OF HIGH DENSITY POLYETHYLENE PER ASTM 1248, CLASS 'A', CATEGORY 5, TYPE 111. ALL MATERIALS USED IN THE MANUFACTURE OF THE DISH SHALL BE RESIST CORROSION OF SEWER GASSES. THE DISH SHALL BE FITTED WITH A LIFTING STRAP. INFLOW INHIBITORS SHALL BE MEASURED AS "SANITARY MANHOLE INFLOW INHIBITORS" PER EACH INHIBITOR INSTALLED.

6. WATERLINES

- A. WATER METERS SHALL BE ACCESSIBLE DURING CONSTRUCTION.
- B. THE CONTRACTOR SHALL BE REQUIRED TO MAKE SOME CONNECTIONS DURING LOW DEMAND PERIODS SUCH AS IN THE EVENINGS. CONSIDERED IT SUBSIDIARY TO THE PROJECT.
- C. VALVE BOXES TO REMAIN IN SERVICE SHALL BE ADJUSTED TO GRADE. CONSIDER IT SUBSIDIARY.
- D. ABANDONED WATER FITTINGS, VALVES, FIRE HYDRANTS, ETC. SHALL BE RECOVERED AND STOCKPILED AT A SECURE LOCATION BY THE CONTRACTOR FOR SALVAGE BY THE CITY. HOWEVER, ALL RELATED ITEMS THAT ARE UNWANTED BY THE CITY SHALL BECOME PROPERTY OF THE CONTRACTOR AND DISPOSED OF IN AN APPROPRIATE MANNER.
- E. PRIVATE WATER SERVICE LINES CONSIST OF THOSE LINES THAT EXTEND FROM A BUILDING TO THE METER. WATER SERVICE LINES ARE THOSE LINES THAT EXTEND FROM THE METER TO THE MAIN.
- F. PRIVATE SERVICE LINES ARE REQUIRED WHEN AN EASEMENT LINE IS BEING ABANDONED AND SERVICE IS BEING RE-ROUTED TO A STREET MAIN. SERVICE LINES ARE REQUIRED WHEN EXISTING SERVICES ARE TIED INTO A NEW MAIN. ADJUSTMENTS OF METERS AND EXISTING SERVICES SHALL BE CONSIDERED SUBSIDIARY WORK.
- G. WHERE SANITARY SEWER AND WATERLINES CROSS, THE WATERLINE SHALL BE PLACED OVER THE SEWER WITH A MINIMUM SEPARATION OF 2 FEET. IF THIS IS NOT POSSIBLE, EITHER THE SEWER OR THE WATERLINE SHALL BE CASED WITH A STANDARD 18 FOOT LENGTH OF PIPE PER STANDARD WATERLINE DETAILS.
- H. WATERLINES SHALL TYPICALLY BE PLACED 36" BELOW FINAL GRADE. HOWEVER, BECAUSE OF POTENTIAL CONFLICTS, IT MUST BE PLACED DEEPER AT CRITICAL LOCATIONS, AS ILLUSTRATED IN SOME PROFILES. IT IS NOT INTENDED THAT THE LINES BE PLACED AT THESE DEEPER DEPTHS FOR LONG DISTANCES. THESE DEPTH ARE TYPICALLY TO BE ATTAINED BY VERTICAL OFFSETS WITH 45 OR 22.5 BENDS AND EXTEND SHORT DISTANCES. THIS WORK SHALL BE COORDINATED WITH THE WATER DEPARTMENT INSPECTOR.

7. SPECIAL RESTRICTIONS FOR SEQUENCING WORK

- A. STREET EXCAVATION SHALL NOT PRECEDE COMPACTED BASE BY NO MORE THAN 1,000 FEET.
- B. DRIVEWAY CONSTRUCTION SHALL FOLLOW CURB CONSTRUCTION BY NO MORE THAN A DAY OR TWO.
- C. HOT-MIX SHALL FOLLOW COMPLETED BASE BY LESS THAN 1,000 FEET.
- D. DEFLECTION TESTING OF PVC SANITARY SEWER SHALL FOLLOW BACKFILL BY NOT LESS 30 DAYS.
- E. UTILITIES TO BE ABANDONED SHALL BE MAINTAINED BY THE CONTRACTOR AND REMAIN IN SERVICE UNTIL THE APPROPRIATE SERVICE CHANGE-OVERS HAVE BEEN COMPLETED BY THE CONTRACTOR AND ACCEPTED FOR USE BY THE OPERATING DEPARTMENT.
- F. TRENCH EXCAVATION SHALL NOT PRECEDE BACKFILL BY MORE THAN 200 FEET. NO TRENCH SHALL BE LEFT OPEN AFTER NORMAL WORKING HOURS.

8. MISCELLANEOUS

- A. CONCRETE SHALL BE SAW CUT WHERE AN EXISTING CONCRETE STRUCTURE IS TO BE PARTIALLY REMOVED.
- B. FENCES SHALL BE RELOCATED AS DIRECTED BY THE ENGINEER.
- C. TREE TRIMMING SHALL BE DONE IN ACCORDANCE WITH STANDARD HORTICULTURAL PRACTICE. TREES WITHIN THE ROW SHALL BE REMOVED AS DIRECTED BY THE ENGINEER.
- D. SPRINKLER SYSTEM SHALL BE PROTECTED AND SHALL BE RESTORED PRIOR TO ACCEPTANCE OF PROJECT.
- E. PRIMING AND HOT-MIX PAVING OPERATIONS SHALL NOT BE CONDUCTED ON DAYS FOR WHICH AN OZONE ADVISORY HAS BEEN ISSUED, EXCEPT FOR REPAIRS. IF A DELAY SUCH AS THIS IS EXPERIENCED, THE DAY WILL NOT BE COUNTED AS A WORK DAY AND THE CONTRACTOR SHALL BE COMPENSATED AT THE UNIT PRICE INDICATED IN THE PROPOSAL.
- F. SEEDING SHALL BE BY SPOT SODDING PER STANDARD SPECIFICATIONS AS DIRECTED BY THE ENGINEER.
- G. SURVEY MARKERS SHALL BE PLACED AS DIRECTED BY THE CITY SURVEYOR.
- H. PROTECT SPRINKLER SYSTEMS. REPAIRS SHALL BE TO THE SATISFACTION OF THE OWNER OF THE SPRINKLER. NOTIFY OWNER OF SPRINKLER SYSTEM OF ANY CUT LINES IMMEDIATELY. REPAIR DAMAGES IMMEDIATELY AFTER BACKFILLING OF TRENCH, IF APPLICABLE.

GUIDELINES FOR STREET PLAN SHEETS
EXHIBIT 13B
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New Document: Dec. 2004

EXHIBIT 1

DEL MAR AREA STREET
IMPROVEMENTS PHASE ONE

CITY of CORPUS CHRISTI
TEXAS
Department of Engineering Services

SHEET 4 of 52

DRAWING NO:
STR 710



U-5
9-27-96

COMBINED ESTIMATE SUMMARY

BASE BID

ADDITIVE ALT. #1

ADDITIVE
ALT. #2ADDITIVE
ALT. #3ALT.
ADD
#4

Units	Louis.	South	Atl.	Map.	Del M.	Cole	San. Fe	San. Fe	Jrd.	Jrd.	2nd.	Adjoin.	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	Quant

Louis.	South	Atl.	Map.	Del M.	Cole	San. Fe	Jrd.	Jrd.	2nd.	Adjoin.	Base Bid
(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(Total Quant)

Del M. Cole	Jrd.	2nd.	Add Alt. #1
(6)	(7)	(11)	(Total Quant)

Louis.	San. Fe	Add Alt. #2
(2)	(8)	(Total Quant)

Jrd.	South.	Atl.	Map.	Add Alt. #3
(10)	(3)	(4)	(5)	(Total Quant)

Add Alt. #4
(Total Quant)

STREET WORK													
A1 Fences Relocate	LF	0	0	0	0	0	100	100	300	300	0		800
A2 Street Excav.	SY	3,400	200	3,300	3,200	7,700	100	2,500	2,600	4,500	4,000	3,700	35,200
A3 Subbase 6"	SY	3,400	200	3,300	3,200	7,700	100	2,500	2,600	4,500	4,000	3,700	35,200
A4 Base 6"	SY	0	150	2,700	2,700	7,300	100	0	0	3,700	3,400	3,100	23,150
A5 Base 10"	SY	3,400	200	3,300	3,200	7,700	100	2,500	2,600	4,500	4,000	3,700	35,200
A6 Lime for Base	Ton	24	5	11	11	30	5	18	18	15	14	13	164
A7 Prime	Gal.	430	25	410	410	1,100	15	300	375	550	515	465	4,595
A8 1.5" Type D HMA	SY	0	150	2,700	2,700	7,300	100	2,200	2,300	3,700	3,400	3,100	27,650
A9 2.25" Type D HMA	SY	2,800	0	0	0	0	0	2,200	2,300	3,700	3,400	3,100	27,650
A10 2.5" Type B HMA	SY	0	0	0	0	0	0	2,200	2,300	3,700	3,400	3,100	27,650
A11 5" Std. Conc.	LF	2,000	100	2,000	2,000	4,500	100	1,300	2,600	2,700	2,300	2,100	21,700
A12 Curb Ramp	SP	350	0	550	550	150	0	500	500	1,200	500	700	5,000
A13 Conc. Driveway	SP	1,900	100	1,800	2,700	2,600	100	1,000	2,500	3,200	5,300	3,100	25,300
A14 Conc. Sidewalk	SP	5,000	100	4,900	8,500	7,500	100	6,000	6,000	10,400	8,600	8,000	66,700
A15 Unanticipated	SP	100	0	200	0	200	0	150	150	50	50	100	1,000
A16 Unanticipated	SP	50	0	50	50	50	0	25	25	50	50	50	400
A17 Unanticipated	SP	10	0	10	0	10	10	5	5	5	5	0	60
A18 Conc. Ret. Wall	LF	100	0	10	0	0	0	20	20	20	20	10	200
A19 Pmt. Repair	SY	0	1,000	0	0	0	0	0	0	0	0	0	1,000
A20 Pmt. Repair	SY	0	0	0	0	0	0	200	300	5	5	0	510
A21 Smog Delay	Day	0	0	1	2	2	0	1	0	0	0	0	2
A22 Survey Monument	LS	2	2	2	2	2	2	1	2	2	1	3	21
A23 Allowance for													1
A24 Replace	SP												4,500
A25 Grout Knock-	SP												300

0	0	0	0	0	0	0	100	300	300	0			700
3,400	200	3,300	3,200	7,700	100	2,500	2,600	4,500	4,000	3,700			32,700
3,400	200	3,300	3,200	7,700	100	2,500	2,600	4,500	4,000	3,700			32,700
0	150	2,700	2,700	7,300	100	0	0	3,700	3,400	3,100			23,150
3,400	200	3,300	3,200	7,700	100	2,500	2,600	4,500	4,000	3,700			35,200
24	5	11	11	30	5	18	18	15	14	13			164
430	25	410	410	1,100	15	300	375	550	515	465			4,595
0	150	2,700	2,700	7,300	100	2,200	2,300	3,700	3,400	3,100			27,650
2,800	0	0	0	0	0	2,200	2,300	3,700	3,400	3,100			27,650
0	0	0	0	0	0	2,200	2,300	3,700	3,400	3,100			27,650
2,000	100	2,000	2,000	4,500	100	1,300	2,600	2,700	2,300	2,100			21,700
350	0	550	550	150	0	500	500	1,200	500	700			5,000
1,900	100	1,800	2,700	2,600	100	1,000	2,500	3,200	5,300	3,100			25,300
5,000	100	4,900	8,500	7,500	100	6,000	6,000	10,400	8,600	8,000			66,700
100	0	200	0	200	0	150	150	50	50	100			1,000
50	0	50	50	50	0	25	25	50	50	50			400
10	0	10	0	10	10	5	5	5	5	0			60
100	0	10	0	0	0	20	20	20	20	10			200
0	1,000	0	0	0	0	0	0	0	0	0			1,000
0	0	0	0	0	0	200	300	5	5	0			510
0	0	1	0	0	0	1	0	0	0	0			2
2	2	2	2	2	2	1	2	2	1	3			21
													1
													4,500
													300

0	0	0	0	0	0	0	100	300	300	0			700
3,400	200	3,300	3,200	7,700	100	2,500	2,600	4,500	4,000	3,700			32,700
3,400	200	3,300	3,200	7,700	100	2,500	2,600	4,500	4,000	3,700			32,700
0	150	2,700	2,700	7,300	100	0	0	3,700	3,400	3,100			23,150
3,400	200	3,300	3,200	7,700	100	2,500	2,600	4,500	4,000	3,700			35,200
24	5	11	11	30	5	18	18	15	14	13			164
430	25	410	410	1,100	15	300	375	550	515	465			4,595
0	150	2,700	2,700	7,300	100	2,200	2,300	3,700	3,400	3,100			27,650
2,800	0	0	0	0	0	2,200	2,300	3,700	3,400	3,100			27,650
0	0	0	0	0	0	2,200	2,300	3,700	3,400	3,100			27,650
2,000	100	2,000	2,000	4,500	100	1,300	2,600	2,700	2,300	2,100			21,700
350	0	550	550	150	0	500	500	1,200	500	700			5,000
1,900	100	1,800	2,700	2,600	100	1,000	2,500	3,200	5,300	3,100			25,300
5,000	100	4,900	8,500	7,500	100	6,000	6,000	10,400	8,600	8,000			66,700
100	0	200	0	200	0	150	150	50	50	100			1,000
50	0	50	50	50	0	25	25	50	50	50			400
10	0	10	0	10	10	5	5	5	5	0			60
100	0	10	0	0	0	20	20	20	20	10			200
0	1,000	0	0	0	0	0	0	0	0	0			1,000
0	0	0	0	0	0	200	300	5	5	0			510
0	0	1	0	0	0	1	0	0	0	0			2
2	2	2	2	2	2	1	2	2	1	3			21
													1
													4,500
													300

0	0	0	0	0	0	0	100	300	300	0			700
3,400	200	3,300	3,200	7,700	100	2,500	2,600	4,500	4,000	3,700			32,700
3,400	200	3,300	3,200	7,700	100	2,500	2,600	4,500	4,000	3,700			32,700
0	150	2,700	2,700	7,300	100	0	0	3,700	3,400	3,100			23,150
3,400	200	3,300	3,200	7,700	100	2,500	2,600	4,500	4,000	3,700			35,200
24	5	11	11	30	5	18	18	15	14	13			164
430	25	410	410	1,100	15	300	375	550	515	465			4,595
0	150	2,700	2,700	7,300	100	2,200	2,300	3,700	3,400	3,100			27,650
2,800	0	0	0	0	0	2,200	2,300	3,700	3,400	3,100			27,650
0	0	0	0	0	0	2,200	2,300	3,700	3,400	3,100			27,650
2,000	100	2,000	2,000	4,500	100	1,300	2,600	2,700	2,300	2,100			21,700
350	0	550	550	150	0	500	500	1,200	500	700			5,000
1,900	100	1,800	2,700	2,600	100	1,000	2,500	3,200	5,300	3,100			25,300
5,000	100	4,900	8,500	7,500	100	6,000	6,000	10,400	8,600	8,000			66,700
100	0	200	0	200	0	150	150	50	50	100			1,000
50	0	50	50	50	0	25	25	50	50	50			400
10	0	10	0	10	10	5	5	5	5	0			60
100	0	10	0	0	0	20	20	20	20	10			200
0	1,000	0	0	0	0	0	0	0	0	0			1,000
0	0	0	0	0	0	200	300	5	5	0			510
0	0	1	0	0	0	1	0	0	0	0			2
2	2	2	2	2	2	1	2	2	1	3			21
													1
													4,500
													300

3rd. <u>Low-DM</u> (10)	<u>South.</u> (3)	<u>Atl.</u> (4)	<u>Nap</u> (5)
-------------------------------	----------------------	--------------------	-------------------

MATCH LINE STA. 10+00

RIVAS ROSENDO JR. & ROSARI
6130 WAR BONNET ST.
SAN ANTONIO TX. 78238

2126 HARVARD
1 FD

ZAMORA PEDRO A. ET UX
2134 HARVARD ST.
CORPUS CHRISTI, TX. 78416

2134 HARVARD
1 FD

MH-5
12+00
(D=4.00)

$$\frac{I-H7}{12+25.8} \sqrt{\quad}$$

$$FL=30.50$$

MH-V2
4+64.79
FL.=29.74

P.I. STA. 12+54.78
STA. 4+64.79
CONTINUES ON
SHT. 8 & 9

$$\begin{array}{r} I-H9 \\ \hline 4+64.79 \\ FL=30.80 \end{array}$$

$I-H8$
 $12+25.8$
 $FL=30.00$

2133 HARVARD
1 FD
LOMO EDUMILIA H.
6 CLAREMORE ST.
RUPUS CHRISTI, TX.
412

2137 HARVARD
1 FD
STANFORD LORINE
705 SHERIDAN ST.
CORPUS CHRISTI, TX.
78412

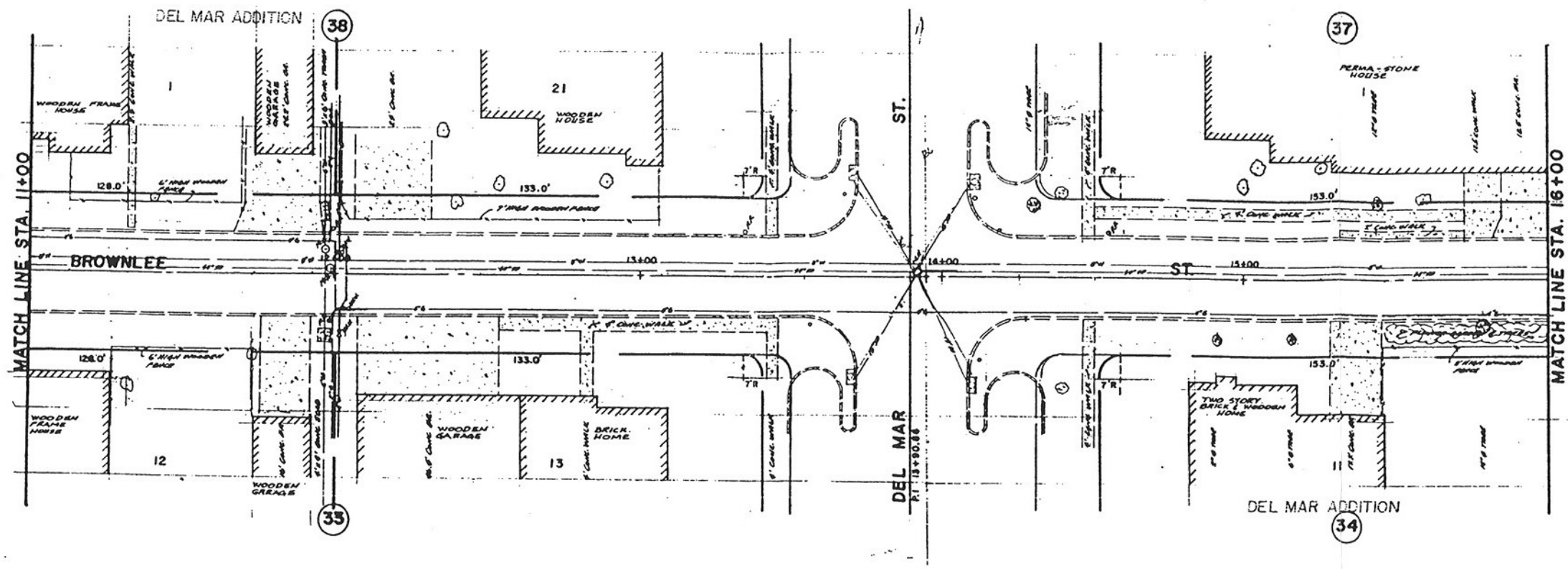
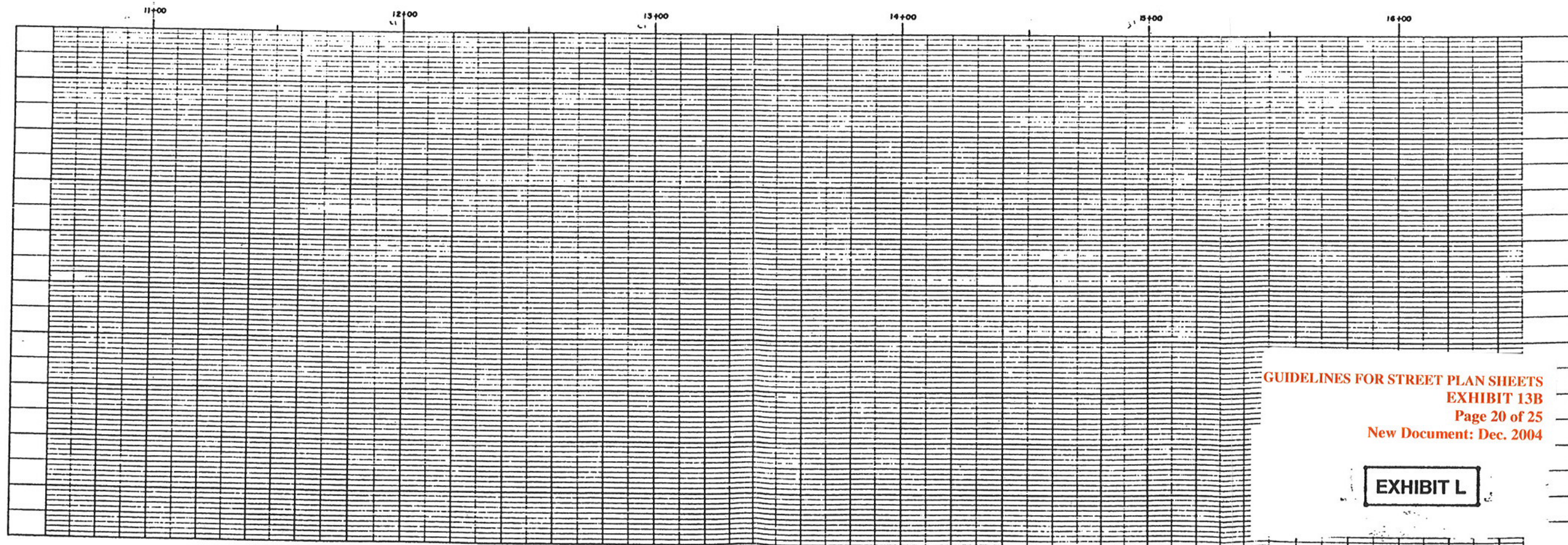
1 FD
SANDOVAL DAVID & DELIA
2125 HARVARD ST.
CORPUS CHRISTI, TX.
78416

1 FD
STEPHENSON IMA E.
2129 HARVARD ST.
CORPUS CHRISTI, TX.
78416

GUIDELINES FOR STREET PLAN SHEETS
EXHIBIT 13B
Page 19 of 25
New Document: Dec. 2004

EXHIBIT K

M I D W A Y A D D ' N



GUIDELINES FOR STREET PLAN SHEETS
EXHIBIT 13B
Page 20 of 25
New Document: Dec. 2004

EXHIBIT L

APPROVED: _____
DATE: _____
DESIGN ENGINEER

SCALE: HORIZONTAL 1" = 20'
VERTICAL 1" = 2'
FIELD BOOK

CITY of CORPUS CHRISTI
TEXAS

Department of Engineering

DEL MAR AREA STREET
IMPROVEMENTS, PHASE III

BROWNLEE ST.
STA. 11+00 TO STA. 16+00

SHEET _____ of _____

DRAWING NO. STR. 70:

FRONTAGE RD.

STA. 0+12.5 (44' LT) = END C & G
AND 4' SIDEWALK
MATCH EXISTING GRADES

STA. 0+9.5
LIMITS OF PAVING CONSTRUCTION
MATCH EXISTING GRADES

STA. 0+14.2 (44' RT.) = END C & G
MATCH EXISTING GRADES

EXIST. 6" C&G

EXIST. 6" C&G

EXIST. SIDEWALK
6" W.S.

P.C. STA. 0+34

STA. 0+45

12' WIDE CONC. DR.

STA. 0+32.5
END 4' SIDEWALK
MATCH EXISTING
GRADES

STA. 1+29
5' STD. INLET(CI-
TOP EL. 45.01
INV. FL. 40.37

154

GUIDELINES FOR STREET PLAN SHEETS
EXHIBIT 13B
Page 21 of 25
New Document: Dec. 2004

EXHIBIT M

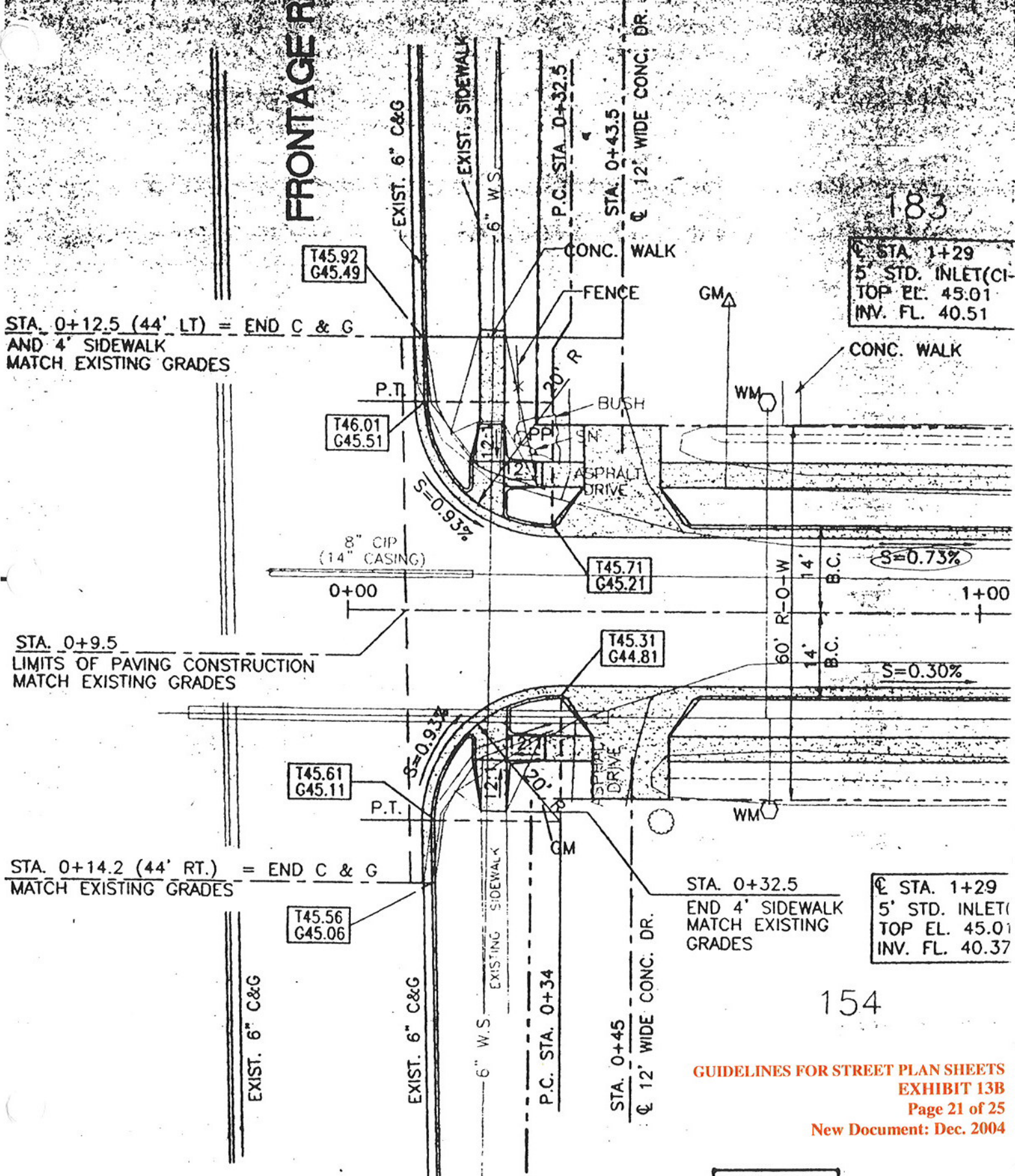
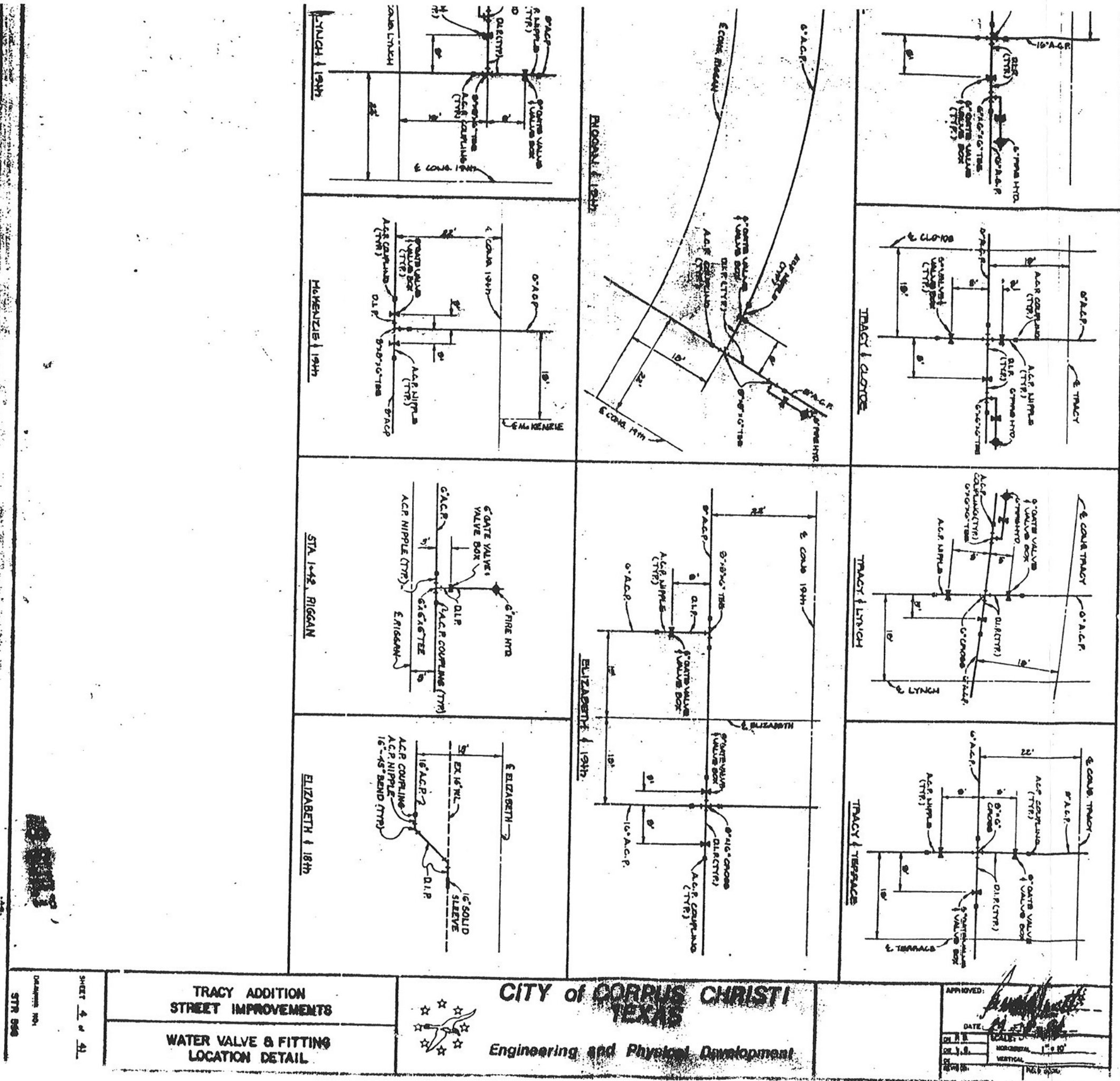


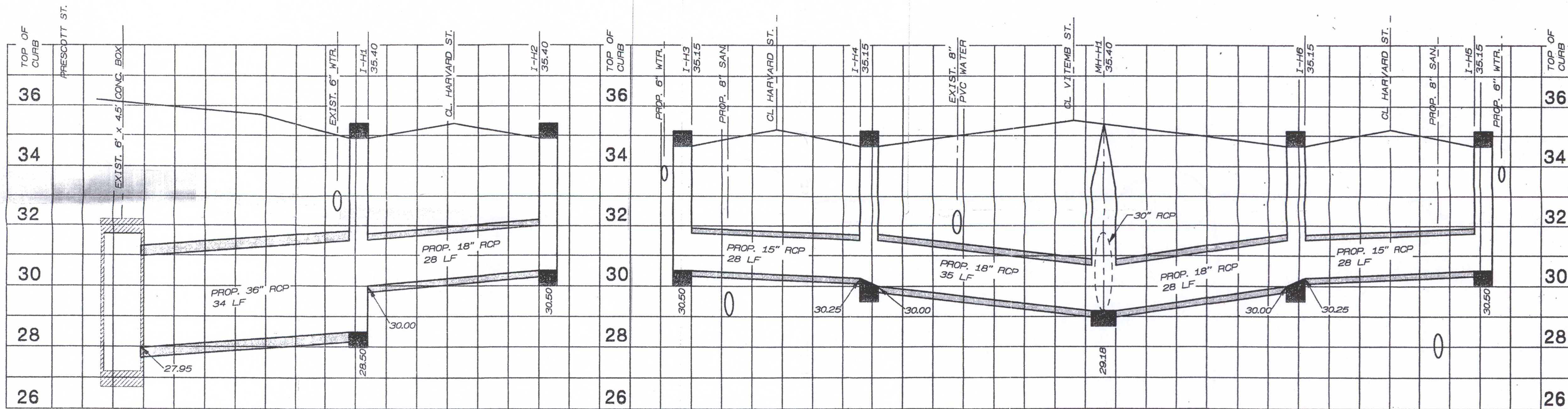
EXHIBIT N



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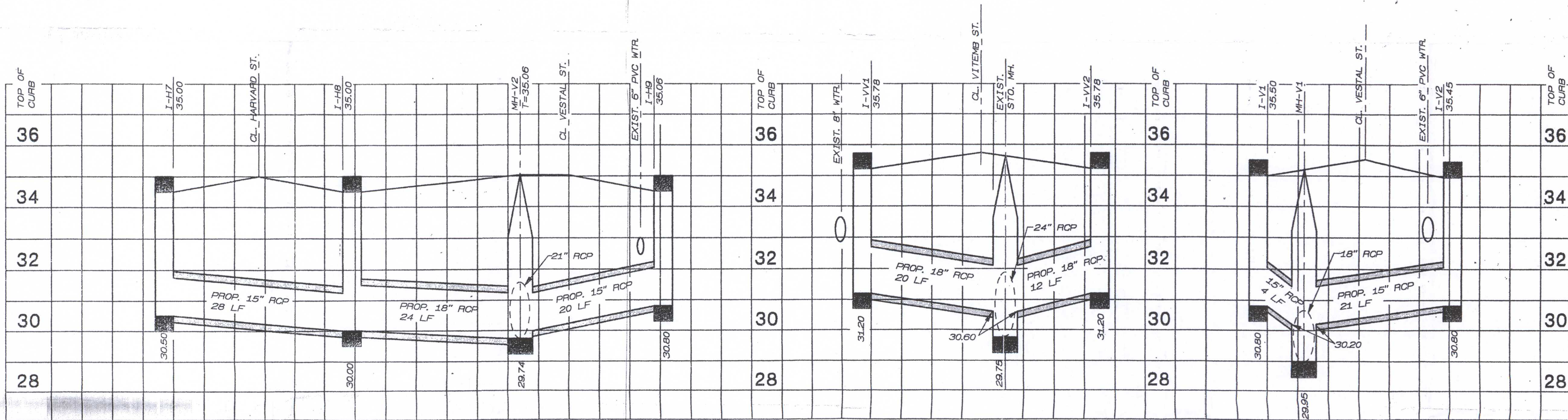
(817) 754-1168

General Micrographics Corp



SHEET #4

SHEET #5



SHEET #6 & #9

SHEET #7

SHEET #8

AS BUILT
3/11/99

GUIDELINES FOR STREET PLAN SHEETS
EXHIBIT 13B
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EXHIBIT 0

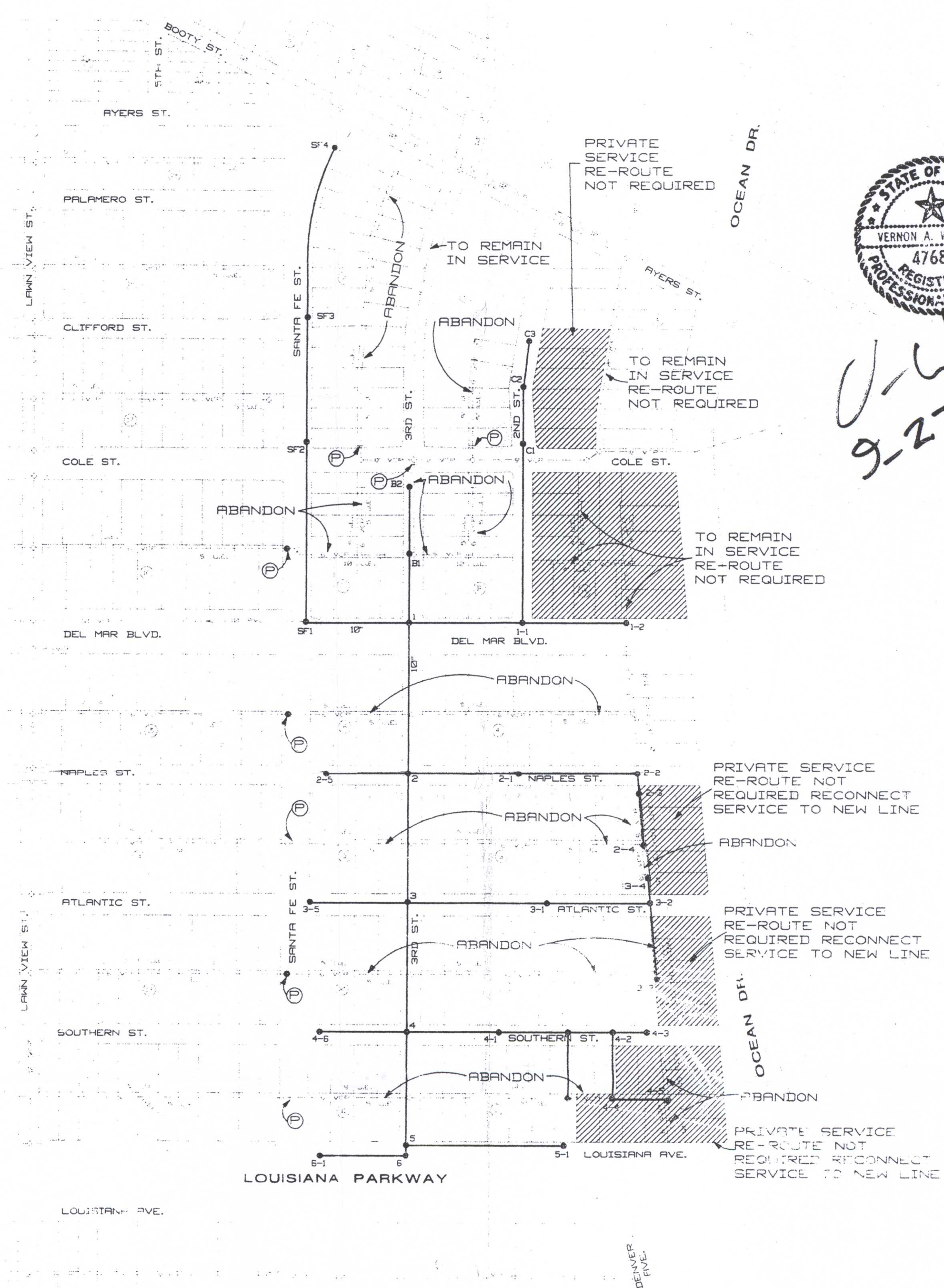
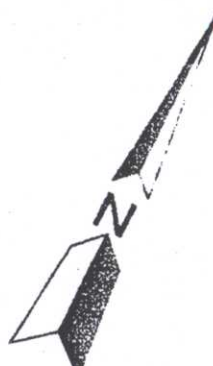
HARVARD STREET IMPROVEMENTS

STORM SEWER INLET PROFILES

SHEET 10 of 19

DRAWING NO.
STR. 717

APPROVED: *[Signature]*
DATE: 1-30-98
DESIGN ENGINEER
SCALE: HORIZONTAL 1" = 10'
VERTICAL 1" = 2'
CITY of CORPUS CHRISTI, TEXAS
Department of Engineering Services
VERNON A. WUENSCH
47680
Professional Engineer
1-29-1998



Ⓟ-PLUG

ALL WASTEWATER
IN BASE BID

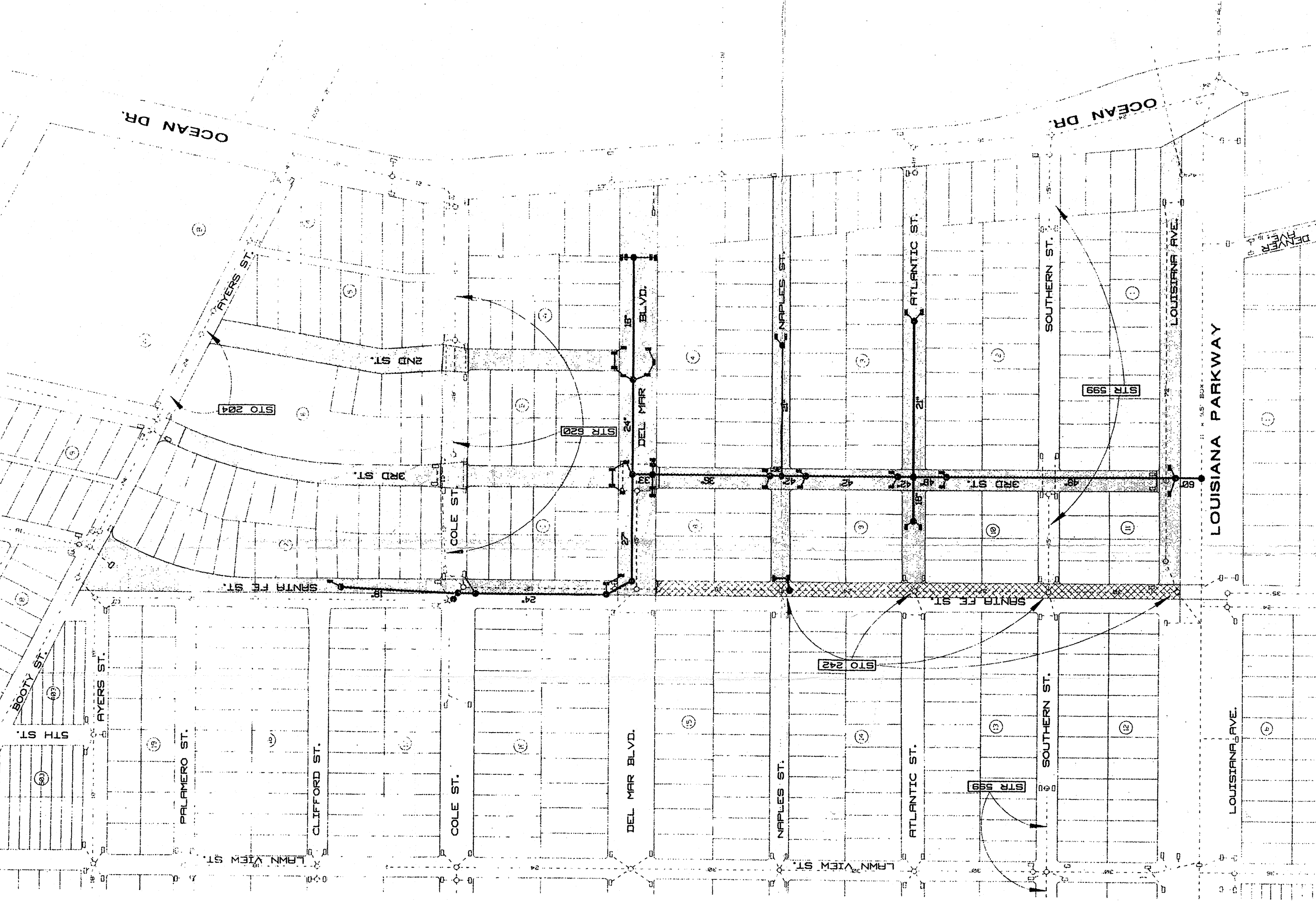
SAN. SEWER PROP. & EXIST. MAP

SCALE 1"=200'

GUIDELINES FOR STREET PLAN SHEETS
EXHIBIT 13B
Page 24 of 25
New Document: Dec. 2004

EXHIBIT P

<p>APPROVED: _____ DATE: _____ DN: _____ DW: _____ OK: _____</p> <p>DESIGN ENGINEER</p>	
<p>STATE OF TEXAS VERNON A. WOENSCH 47680 REGISTERED PROFESSIONAL ENGINEER</p> <p>9-27-1969</p>	
<p>CITY of CORPUS CHRISTI TEXAS</p> <p>Department of Engineering Services</p>	
<p>DEL MAR AREA STREET IMPROVEMENTS PHASE ONE</p>	<p>BID ALTERNATES STORMWATER & SANITARY PROP. & EXIST. MAP</p>
<p>SHEET 4B of 52</p> <p>DRAWING NO: STR 710</p>	

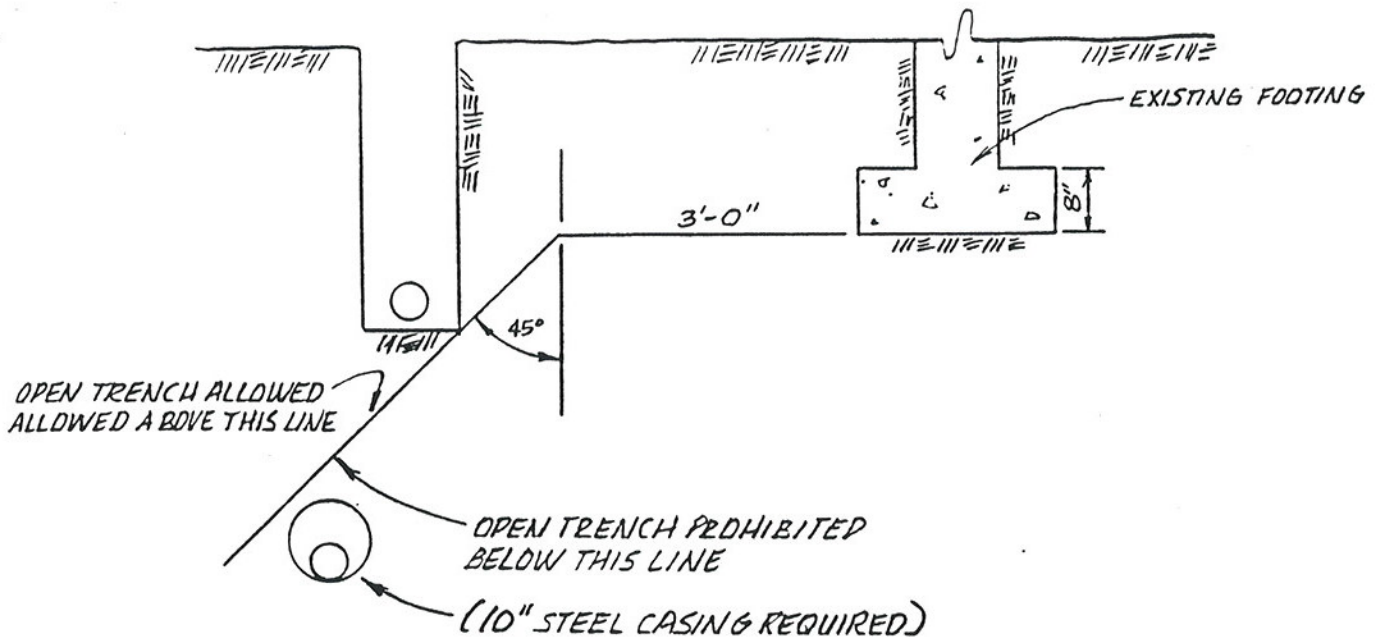


- BASE STREET AND STORM WATER
- ALTERNATE NO.2 STREET AND STORM WATER

STORMWATER PROP. & EXIST. MAP

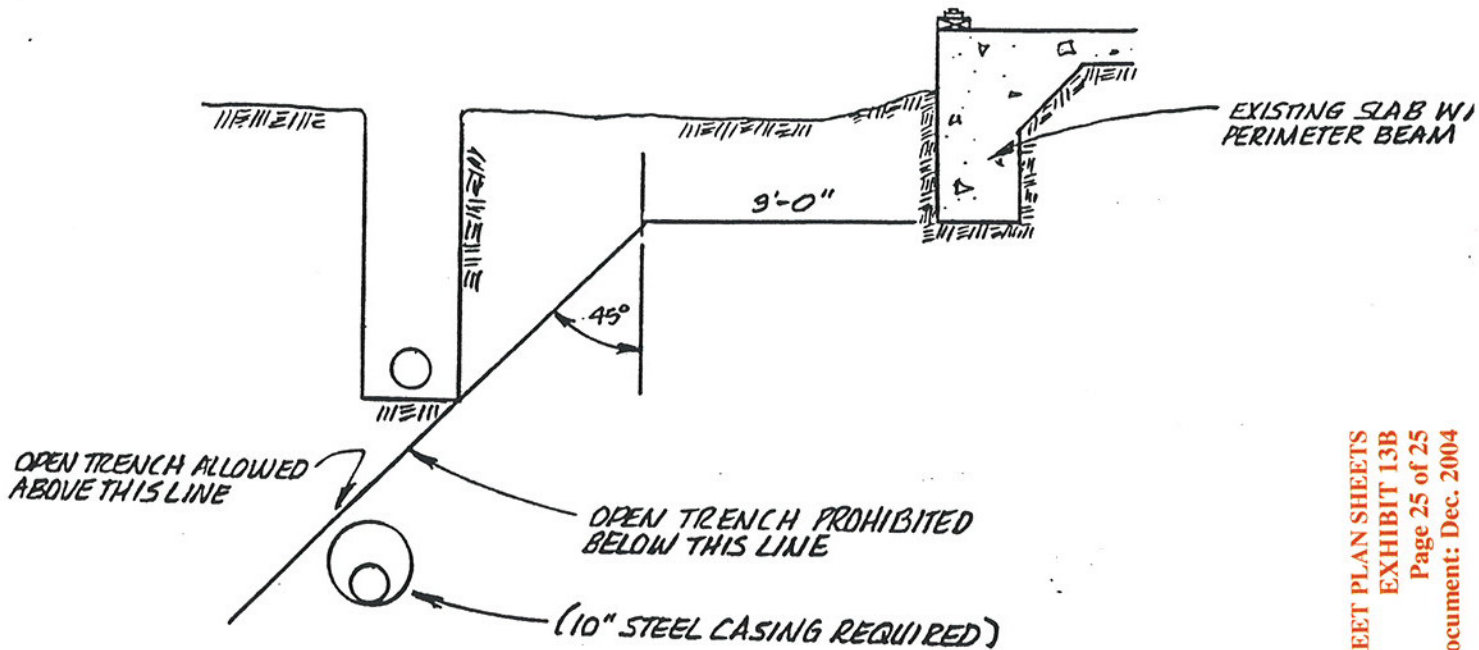
SCALE 1"=200'

EXHIBIT "C"



SECTIONS OF PRIVATE SANITARY SERVICE PARALLEL WITH FOUNDATIONS

SCALE = 1/2" = 1'



SECTIONS OF PRIVATE SANITARY SERVICE PARALLEL WITH FOUNDATIONS

SCALE = 1/2" = 1'

EXHIBIT Q

Exhibit 13
e. NEW Elements of a
Design Memorandum

(Revised December 2004)

ELEMENTS OF DESIGN MEMORANDUM

I. Executive Summary (must address major elements)

- Project Description
- Purpose and Objective of Study
- Description of Main deficiencies
- Discussion Alternatives/Options
- Recommendation for Proposed Improvements / Final Opinion of Probable Construction Costs / Project Construction Time Line / Construction Phasing
- Gantt Chart for Schedule / Time Line for Proposed Improvements
- Location / Vicinity Map Exhibit
- Aerial Photo

II. Introduction:

- Scope of Work
- Results and Finding of Preliminary Investigation
- Review of Existing Public / Private Utilities / Area Characteristics
 - Conditions / Access / Soils / Flood Zones
 - Implications to Project
 - Background Information and Names of the Agencies contacted
 - Photos
- Relocation of Utilities / R.O.W. needs that may impact schedule
- Cross-Sections
- Regulatory Requirements / Permits / Easements / Archeological -or- Historic Considerations / Environmental Considerations / R.O.W. / MS4 Impacts
- Impacts to Public / Private Facilities & Services
 - Schools
 - Postal Services
 - R T A
 - Emergency Vehicles
 - Solid Waste
 - Underground Utilities
- Special Commissions / Agencies / Public Presentations

III. Proposed Improvements

1. Design Basis:

- Street/Roadway:
 - ADA / TAS
 - MTP Compliance
 - Geotechnical
 - Street Classification
 - Anticipated Traffic / T. I. P.
 - Subgrade & Existing Site Conditions
 - Pavement Design (Load Calculation) / Equivalent Axle Loading
 - Recommended Pavement Section(s) / Alternatives
 - Traffic Signals
 - Pavement Markings
 - R.O.W. Requirements
 - Easement Requirements

- Storm Drainage:
 - Compliance with Master Plans
 - Geotechnical
 - Photos
 - Drainage Basin and Adjacent Boundaries
 - Hydraulic Analysis / Results
 - Level of Protection on Storm Event (5 yr, 25 yr, 100 yr)
 - Existing Limitations that Impact Design
 - Impacts to Designated Outfall / Hydraulic Gradient
 - Base Maps / Schematics
 - Environmental Issues / Permit Requirements
 - Cross-Sections
 - Recommendations (detailed with pro's and con's and alternative)
- Sanitary Sewer:
 - Compliance with Master Plan(s)
 - Geotechnical
 - Photos
 - Basin Area and Adjacent Boundaries
 - Hydraulic Capacity
 - Area Schematic / Base Maps
 - Cross-Sections
 - Existing Limitations that Impact Design
 - Groundwater / Wellpointing Issues
 - Recommendations (detailed with pro's and con's and alternative)
- Water System
 - Compliance with Master Plan
 - Geotechnical
 - Photos
 - Relationship with Grid System
 - System Schematic / Basemaps
 - Service Requirements
 - Fire protection
 - Existing Limitations that Impact Design
 - Cross-Sections
 - Environmental Issues / Penalties / Regulations
 - Recommendations (detailed with pro's and con's and alternative)

2. Agency Approval Requirements
(GLO/USACE/TCEQ/TDLR/RR)

- Historical
- Environmental
- Land Uses
- Traffic Condition
- TDLR Accessibility
- Other

3. Easement and Right-of-Way Requirements

- Existing
- Proposed
- Issues

4. Construction Sequencing

- Major Activities
- Construction Sequence
- Traffic Control
- Recommendations/Alternative

IV. Opinion of Probable Construction Cost of the Proposed Improvements:

- Required Improvements
- Alternatives
- Recommendation

V. Geotechnical Study

VI. Schedule(s)

- Design
- Public Meetings
- Land Acquisition
- Permitting
- Construction

VII. Design Calculations

VIII. Exhibits

- Area and Location Map(s)
- Copy of the Master Plan Area that is applicable to the design
- Proposed Layout and Alternate Route(s)
- Typical Cross Sections
- Photograph (must include the aerial photograph)
- Permit Exhibits
- Other exhibits necessary for project design
- Existing Easements / Ownership / Plats / Land Use
- Utility Base Maps