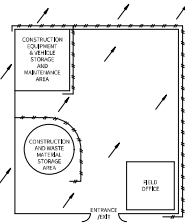


THIS PLAN SET HAS BEEN PREPARED
DESIGNED AND REVIEWED UNDER MY
DIRECT SUPERVISION

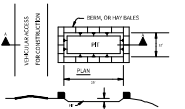


NOTE:

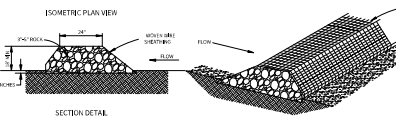
1. ALL SILT FENCES AND/OR ROCK BERMS AND TEMPORARY CONSTRUCTION ENTRANCES/EXITS SHALL BE PLACED AT THE MOST DOWN-GRADIENT POINT OF CONSTRUCTION AS SHOWN ON THIS SITE PLAN. CONTRACTOR SHALL TAKE INTO CONSIDERATION ANY PROPOSED CONSTRUCTION THAT MAY TAKE PLACE AT THESE LOCATIONS. ANY RELOCATION OF SILT FENCE, ROCK BERMS AND/OR TEMPORARY CONSTRUCTION ENTRANCES/EXITS SHALL BE AT THE CONTRACTOR'S EXPENSE.
2. CONTRACTOR TO PROVIDE SILT FENCE ALONG BACK OF CURB POST-CONSTRUCTION OF STREET RIGHT-OF-WAY AND PRIOR TO COMMENCEMENT OF HOME CONSTRUCTION.
3. AREA OF SOIL DISTURBANCES INCLUDE STREET RIGHT-OF-WAYS, UTILITY EASEMENTS & LOTS.
4. THE CITY INSPECTOR HAS THE AUTHORITY TO HAVE THE CONTRACTOR MODIFY THE EROSION CONTROLS AT THE DEVELOPER'S EXPENSE. THE DEVELOPER SHALL BE NOTIFIED OF THESE MODIFICATIONS PRIOR TO COMMENCEMENT OF MODIFICATIONS.
5. INSTALL SILT FENCE "J" HOOKS AS NECESSARY AT AN INTERVAL NO GREATER THAN 50' TO COMPLETE INSTALLATION.
6. ALL SWPPP PERMITS AND TEMPORARY CONTROLS TO BE IN PLACE PRIOR TO COMMENCEMENT OF CONSTRUCTION.
7. THE SWPPP PLAN AND BMP'S SHOWN ARE INTENDED TO BE PLACED BY THE CONTRACTOR PRIOR TO THE RESPECTIVE WORK TO BE PERFORMED. THE CONTRACTOR WILL BE REQUIRED TO PERFORM ROUTINE INSPECTIONS, MAINTAIN/ADJUST ALL BMP'S, AND LIKEWISE PROVIDE ADDITIONAL BMP'S IF ANY PROVE TO BE INEFFECTIVE AS REQUIRED BY TYPES CONSTRUCTION GENERAL PERMIT 12050000.



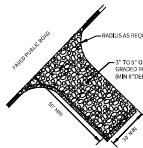
LEGEND
CONSTRUCTION STAGING AREA
CONSTRUCTION ENTRANCE/EXIT
CONCRETE TRUCK WASHOUT PIT



CONCRETE TRUCK WASHOUT PIT
TYP. CONSTRUCTION STAGING AREA



ROCK BERM

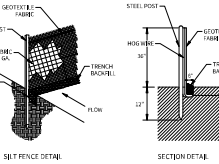


STANDARDIZED CONSTRUCTION DETAIL NOTES:

1. WHEN NECESSARY, DETAIL SHALL BE CLEARED TO REMOVE SURROUNDING AREA TO EXISTING CONSTRUCTION.
2. THE DETAIL SHALL BE CONSTRUCTED BY A CONTRACTOR WHO SHALL PROVIDE TRAINING TO EMPLOYEES ON THE PROPER USE OF THE DETAIL. THE DETAIL SHALL BE CONSTRUCTED BY A CONTRACTOR WHO SHALL PROVIDE TRAINING TO EMPLOYEES ON THE PROPER USE OF THE DETAIL.
3. THE DETAIL SHALL BE CONSTRUCTED BY A CONTRACTOR WHO SHALL PROVIDE TRAINING TO EMPLOYEES ON THE PROPER USE OF THE DETAIL. THE DETAIL SHALL BE CONSTRUCTED BY A CONTRACTOR WHO SHALL PROVIDE TRAINING TO EMPLOYEES ON THE PROPER USE OF THE DETAIL.

TEMPORARY CONSTRUCTION ENTRANCE/EXIT

N.T.S.



STANDARD SILT FENCE

N.T.S.

GOVERNMENT CANYON
VOL. 1764 PG. 565 OF 61

LOT 102 BLK 293

LOT 103 BLK 293

LOT 104 BLK 293

LOT 105 BLK 293

LOT 106 BLK 293

LOT 107 BLK 293

LOT 108 BLK 293

LOT 109 BLK 293

LOT 110 BLK 293

LOT 111 BLK 293

LOT 112 BLK 293

LOT 113 BLK 293

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LOT 132 BLK 293

LOT 133 BLK 293

LOT 134 BLK 293

LOT 135 BLK 293

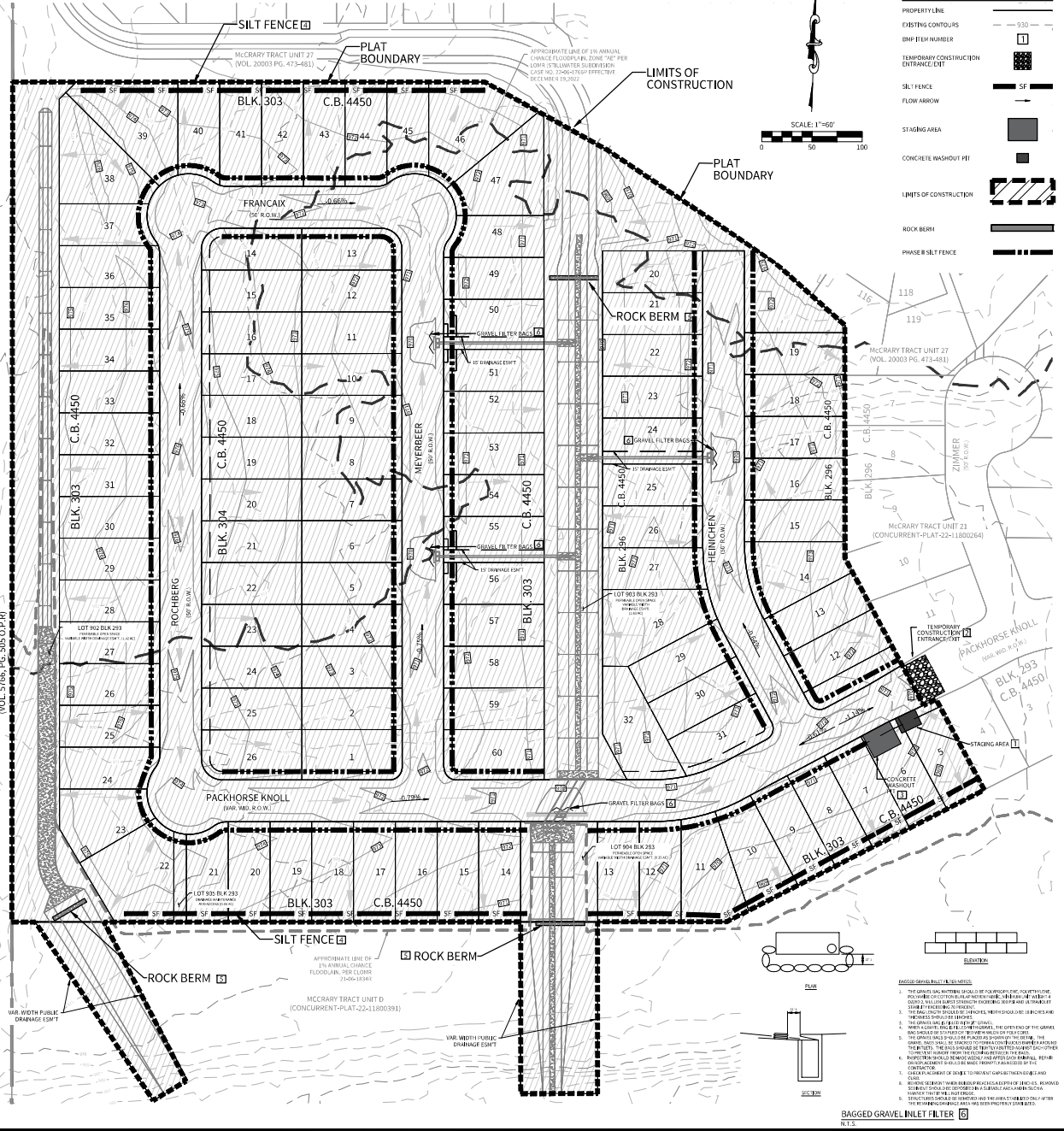
LOT 136 BLK 293

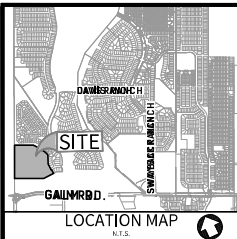
LOT 137 BLK 293

LOT 138 BLK 293

LOT 139 BLK 293

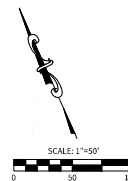
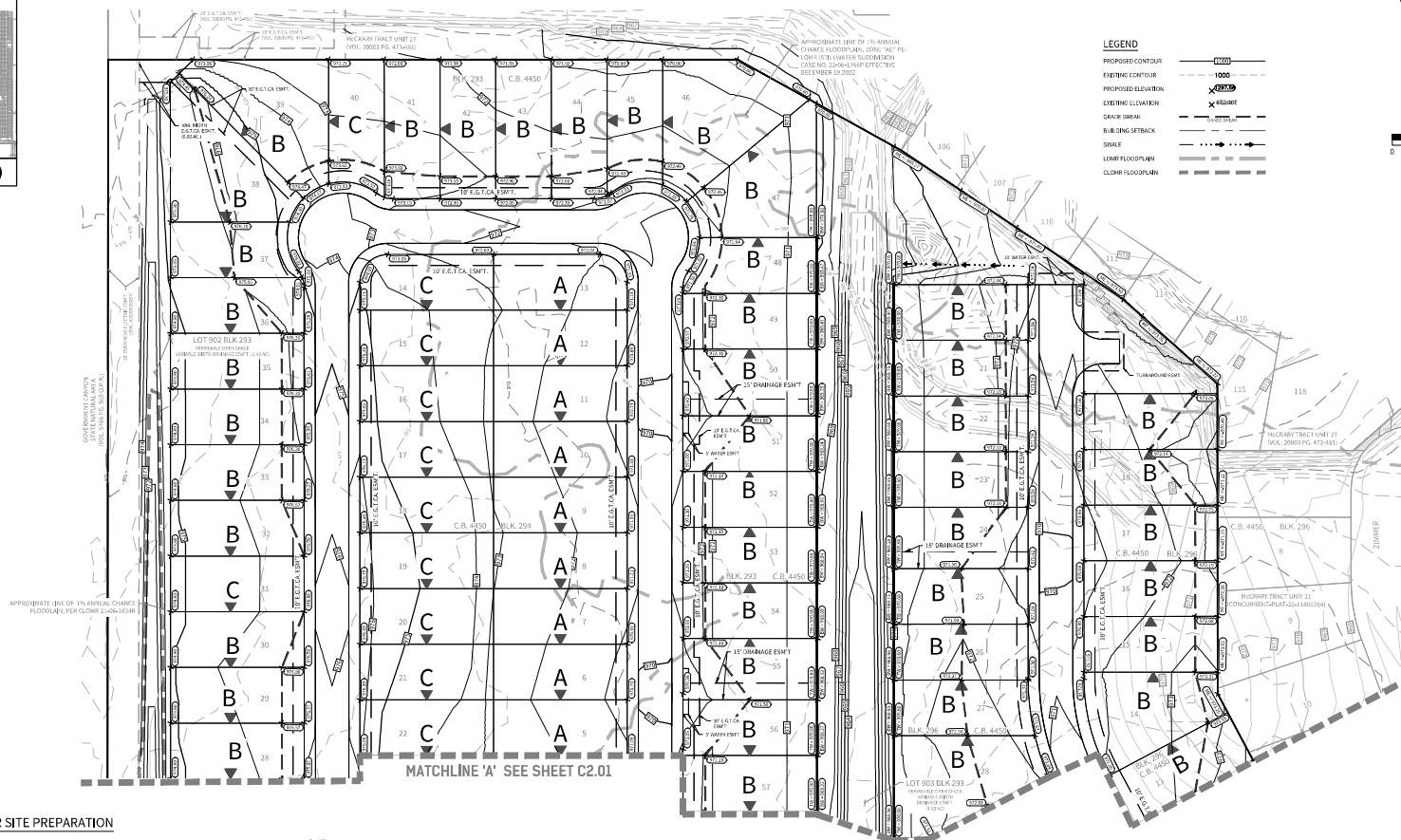
LOT 140 BLK 293





OWNER/DEVELOPER:
HDC DAVIS RANCH II, LLC
CONTACT PERSON: BRYAN N. SIMS
300 NE LOOP 410, SUITE 1080
SAN ANTONIO, TX 78216
TEL: (210) 558-7294

CIVIL ENGINEER:
M.W. CUDE ENGINEERS, L.L.C.
CONTACT PERSON: SEAN MCFARLAND, P.E.
4122 POND HILL ROAD, SUITE 101
SAN ANTONIO, TX 78231
TEL: (210) 681-2951
FAX: (210) 523-7112



GENERAL SPECIFICATIONS FOR SITE PREPARATION

1. General Description

This item shall consist of all clearing and grubbing, demolition, preparation of land to be filled, filling of the land, spreading, compaction, testing and inspection of the fill, and all subsidiary work necessary to complete the grading of the lot and fill areas to conform with the lines, grades and slopes as shown on the approved plans.

ALL LOT GRADING, CUT AND FILL REQUIREMENTS OF THIS SPECIFICATION SHALL BE IN ACCORDANCE WITH THE TEXAS DEPARTMENT OF TRANSPORTATION (TxDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION. THE MOST RECENT EDITION SHALL BE USED. THE TxDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION, SHALL BE USED FOR ALL OTHER REQUIREMENTS NOT SPECIFICALLY COVERED BY THIS SPECIFICATION. THE TxDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION, SHALL BE USED FOR ALL OTHER REQUIREMENTS NOT SPECIFICALLY COVERED BY THIS SPECIFICATION.

2. Clearing the Area to be Filled

All timber, logs, trees, brush and rubbish shall be removed from the site.

3. Scarifying the Area to be Filled

All organic matter shall be removed from the surface upon which the fill is to be placed, and the surface shall then be disked or scarified to a minimum depth of six inches (6"), all surface ruts or other uneven features will be leveled prior to field density testing.

4. Compacting the Area to be Filled

Following the clearing and disked or scarifying of the fill area, it shall be tamped until it is uniform and free from large clods. The area shall be brought to the average moisture content and compacted (typical) to not less than ninety percent (90%) of maximum density in accordance with the current ASTM D 1557 Compaction Procedure, or 95% of maximum density in accordance with the current ASTM D 1557 Compaction Procedure.

5. Fill Materials

The materials used shall be free from organic matter and other deleterious substances, such as trees, brush and rubbish.

6. Depth and Mixing of Fill Layers

The selected fill material shall be placed in loose, uniform layers which, when compacted, shall have a density conforming to that specified above. Each layer shall be thoroughly mixed during the spreading to ensure uniformity of material in each layer. Compacted layer thickness may vary depending on the composition and percent of decompacted material. The maximum loose depth for any one lot shall not exceed twelve inches (12"). For testing requirements of fill material, see density testing.

7. Rock

When fill material applied to rock, the maximum rock size shall be as approved by the Geotechnical Engineer. No large rocks shall be allowed to remain on the surface of the fill material or on the surface of the compacted fill. No large rocks shall be allowed to remain on the surface of the fill material or on the surface of the compacted fill.

8. Compaction of Fill Layer

Compaction shall be performed at the specified compaction rate for the fill material. Compaction shall be accomplished with the fill material in place or over the appropriate surface. Compaction of each layer shall be continuous over the entire lot and fill areas to be filled.

9. Compaction of Slopes

On slopes of the fill material, the compaction of the slopes shall be performed by the contractor. The slopes shall be compacted by the contractor. The slopes shall be compacted by the contractor. The slopes shall be compacted by the contractor.

10. Moisture Content

The fill material shall be compacted at the appropriate moisture content specified by the wetting test. Appropriate moisture content is defined, typically, as determined by the wetting test. The fill material shall be compacted at the appropriate moisture content specified by the wetting test.

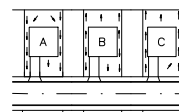
11. Density Tests

Procedures for the performance of the wetting test shall be as follows: The wetting test shall be performed by the contractor. The wetting test shall be performed by the contractor. The wetting test shall be performed by the contractor. The wetting test shall be performed by the contractor.

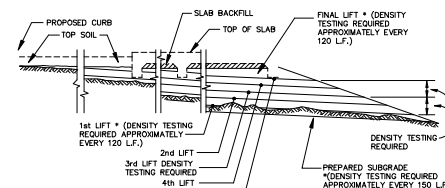
- The wetting test shall be performed by the contractor. The wetting test shall be performed by the contractor. The wetting test shall be performed by the contractor. The wetting test shall be performed by the contractor.
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- The wetting test shall be performed by the contractor. The wetting test shall be performed by the contractor. The wetting test shall be performed by the contractor. The wetting test shall be performed by the contractor.

12. Cut/Fill Lots

Areas involving cut or on one portion or fill on another portion of a specific lot shall be prepared to a minimum depth of six inches (6"). The areas involving cut or on one portion or fill on another portion of a specific lot shall be prepared to a minimum depth of six inches (6").



TYPICAL LOT SITE PLAN

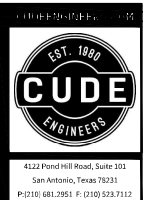


DENSITY TEST FREQUENCY

NOT TO SCALE

NOTE:

LOT GRADING BASED ON SLABS BEING 20' BEHIND FRONT PROPERTY LINE.
HORIZONTAL SLAB EXPOSURE IS 1:1.
ALL ELEVATIONS AT FRONT PROPERTY LINE ARE 6.22' ABOVE CURB ELEVATION ON LOCAL TYPE "A" STREETS.
TYPICAL PAD SIZES ARE 80' x 40' ON LOCAL TYPE "A" STREETS.
CONTRACTOR TO REFERENCE TREE PRESERVATION PLAN.
CONTOURS SHOWN ON STREET ARE TOP OF STREET.



McCrary Tract
Unit 23

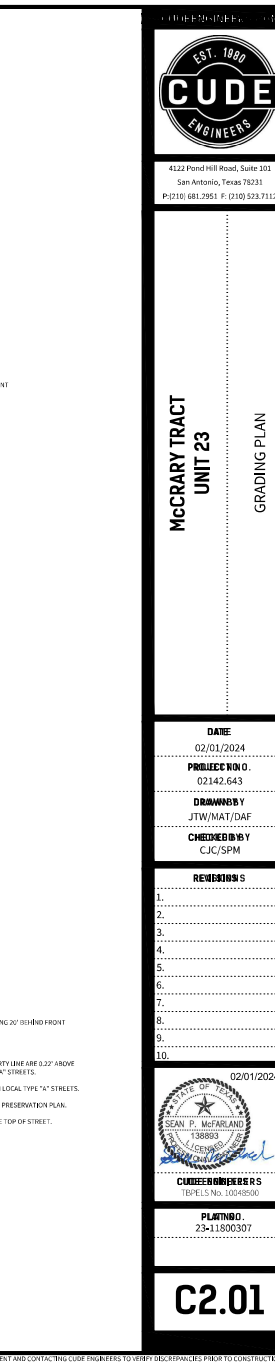
Grading Plan

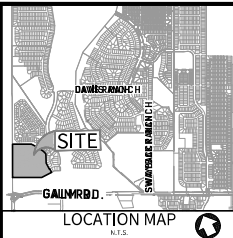
DATE	02/01/2024
PROJECT NO.	02142-643
DRAWN BY	JTW/MAT/DAF
CHECKED BY	CJC/SPM
REVISIONS	
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PLANNED
23-11800307

C2.00





OWNER/DEVELOPER:
HDC DAVIS RANCH II, LLC
CONTACT PERSON: BRYAN N. SIMS
300 NE LOOP 410, SUITE 1080
SAN ANTONIO, TX 78216
TEL: (210) 533-7112

CIVIL ENGINEER:
M.W. CUDE ENGINEERS, L.L.C.
CONTACT PERSON: SEAN P. MCFARLAND, P.E.
4122 POND HILL ROAD, SUITE 101
SAN ANTONIO, TX 78231
TEL: (210) 681-2951
FAX: (210) 523-7112

LEGEND

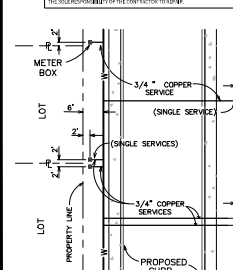
- EXISTING SANITARY SEWER
- PROPOSED SANITARY SEWER
- EXISTING SANITARY SEWER MANHOLE
- PROPOSED SANITARY SEWER MANHOLE
- EXISTING WATER MAIN
- PROPOSED WATER MAIN
- EXISTING STANDARD FIRE HYDRANT
- PROPOSED STANDARD FIRE HYDRANT
- EXISTING STANDARD GATE VALVE
- PROPOSED STANDARD GATE VALVE
- EXISTING PERMANENT BLOWOFF
- PROPOSED PERMANENT BLOWOFF
- EXISTING OVERHEAD ELECTRIC
- PROPOSED OVERHEAD ELECTRIC
- EXISTING GAS MAIN
- PROPOSED GAS MAIN
- EXISTING POWER POLE
- PROPOSED POWER POLE
- ELECTRIC, GAS, TELEPHONE, & CABLE T.V. EASEMENT
- BUILDING SETBACK LINE
- LANDSCAPE
- UTILITY CONDUIT CROSSING
- IRRIGATION CONDUIT CROSSING

TRENCH EXCAVATION SAFETY PROTECTION

Contractor and/or Contractor's independently retained employee or structural design engineer shall be responsible for the design and construction of trench excavation safety protection systems, programs and/or procedures for the project described in the contract documents, the Contractor's implementation of these systems, programs and/or procedures shall provide for adequate trench excavation safety protection that comply with as a minimum, OSHA standards for trench excavations, specifically, Contractor and/or Contractor's independently retained employee or safety consultant shall implement a trench safety program in accordance with OSHA standards governing the presence and activities of individuals working in and around trench excavation.

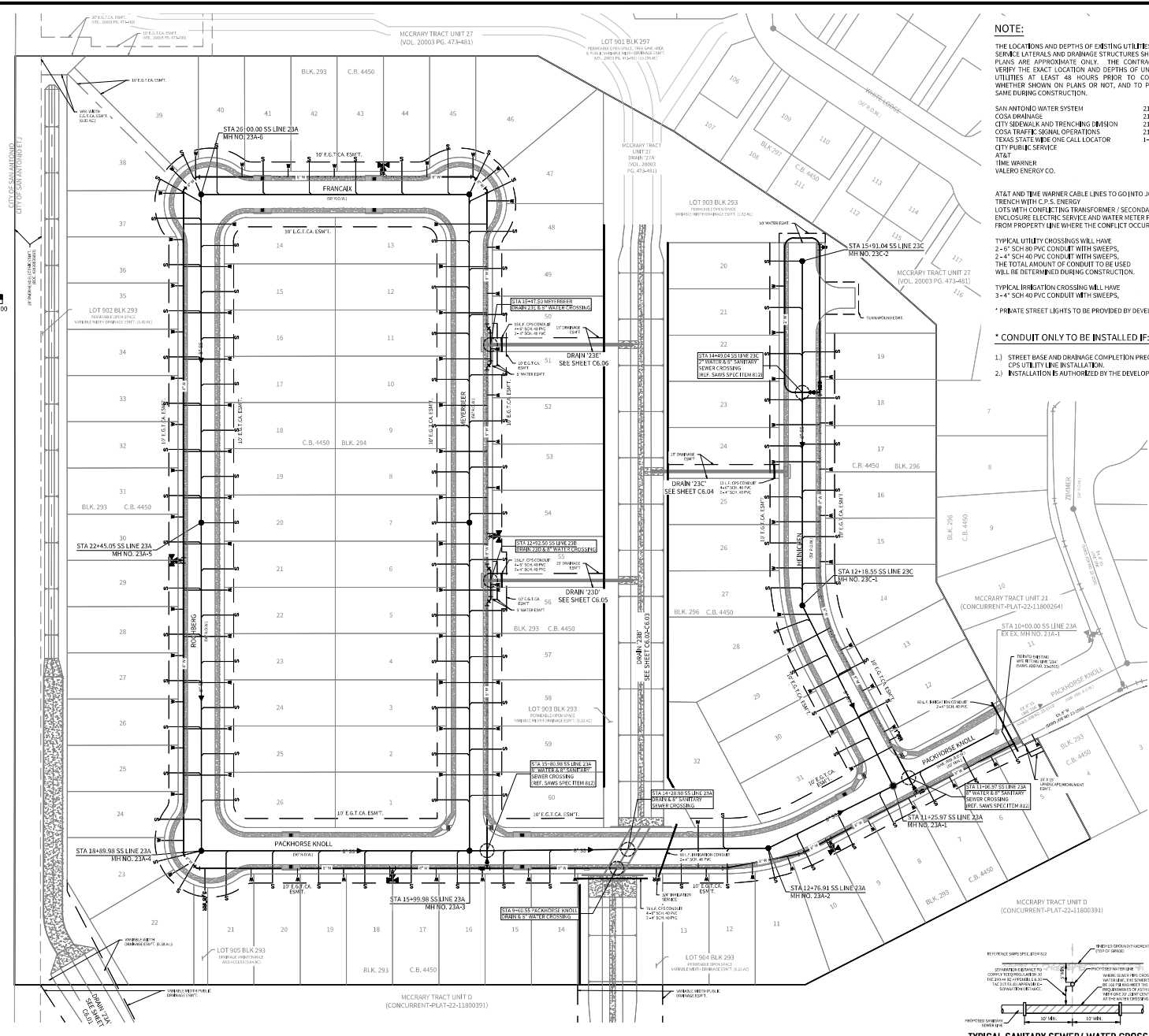
CAUTION!!!

THE CONTRACTOR SHALL BE AWARE THAT UNDERGROUND ELECTRIC, GAS, BELL AND WATER LINES ARE LOCATED NEARBY. IF IT IS DETERMINED BY THE CONTRACTOR THAT ANY UNDERGROUND UTILITIES ARE LOCATED NEARBY, THE CONTRACTOR SHALL, FOR PROTECTIVE PURPOSES, BE RESPONSIBLE FOR THE PROTECTION OF THESE UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THESE UTILITIES.



WATER METER BOX LOCATION

N.T.S.



NOTE:

THE LOCATIONS AND DEPTHS OF EXISTING UTILITIES, INCLUDING SERVICE LATERALS AND DRAINAGE STRUCTURES SHOWN ON THE PLANS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION AND DEPTHS OF UNDERGROUND UTILITIES AT LEAST 48 HOURS PRIOR TO CONSTRUCTION. WHETHER SHOWN ON PLANS OR NOT, AND TO PROTECT THE SAME DURING CONSTRUCTION.

SAN ANTONIO WATER SYSTEM
COSA DRAINAGE
CITY SIDEWALK AND TRENCH DIVISION
COSA TRAFFIC SIGNAL OPERATIONS
TEXAS STATE WIRE ONE CALL LOCATOR
CITY PUBLIC SERVICE
AT&T
TIME WARNER
VALERO ENERGY CO.

210-233-2010
210-207-2000
210-421-2240
210-207-7705
1-800-545-6005

AT&T AND THE WARNER CABLE LINES TO GO INTO JOINT TRENCH WITH C.P.S. ENERGY
LOTS WITH CONFLICTING TRANSFORMER / SECONDARY ENCLOSURE ELECTRIC SERVICE AND WATER METER PLACED 5' FROM PROPERTY LINE WHERE THE CONFLICT OCCURS.

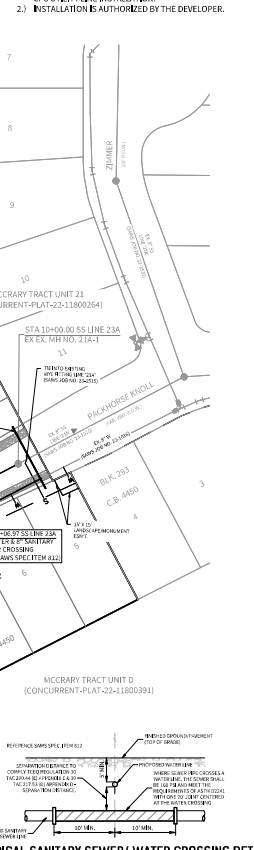
TYPICAL UTILITY CROSSINGS WILL HAVE
2'-6" SCH 80 PVC CONDUIT WITH SWEEPS,
2'-4" SCH 40 PVC CONDUIT WITH SWEEPS,
THE TOTAL AMOUNT OF CONDUIT TO BE USED
WILL BE DETERMINED DURING CONSTRUCTION.

TYPICAL IRRIGATION CROSSING WILL HAVE
3'-4" SCH 40 PVC CONDUIT WITH SWEEPS.

* PRIVATE STREET LIGHTS TO BE PROVIDED BY DEVELOPER.

* CONDUIT ONLY TO BE INSTALLED IF:

- 1) STREET BASE AND DRAINAGE COMPLETION PRECEDES
- 2) INSTALLATION IS AUTHORIZED BY THE DEVELOPER.



EST. 1980

CUDE

ENGINEERS

4122 Pond Hill Road, Suite 101
San Antonio, Texas 78231
P: (210) 681-2951 F: (210) 523-7112

DATE
01/25/2024

PROJECT NO.
02142.643

DRAWN BY
JTW/MAT/DAF

CHECKED BY
CJC/SPM

REVISIONS
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01/26/2024

SEAN P. MCFARLAND

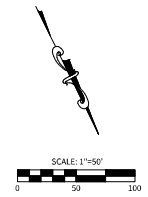
138893

CUDE ENGINEERS

PLAT NO.
23-1800307

SANMJOB BLDG.

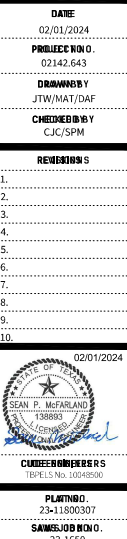
C3.00



STA. 10+00.00 TO STA. 21+00.00

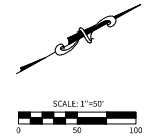
UPPER NEWSPWORTH - DOS RIOS / LEON CREEK W.R.C. (UPPER CULLEBRA CREEK WATERSHED)											
Developer's Name					HEY DAVIS RANCH II, LLC						
Developer's Address					100 NE LOOP 4300, SUITE 1080						
City		SAN ANTONIO		State		TEXAS		Zip		78216	
Phone #		(210) 630-6784		Fax #							
SAWS Block No.		089294/04024		Total EDU's		103		Total Acreage		22.24	
Total Linear Footage of Pipe		31.9' L.F. @ 8" S.D.B.		S.D.B. No.		23-1000307					
Number of Lots		103		SAWS Job No.		724-050					

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'



C4.01

REPRODUCTION OF THE ORIGINAL SIGNED AND SEALED PLAN AND/OR ELECTRONIC MEDIA MAY HAVE BEEN INADVERTENTLY ALTERED. CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE SCALE OF THE DOCUMENT AND CONTACTING CUE ENGINEERS TO VERIFY DISCREPANCIES PRIOR TO CONSTRUCTION.



4122 Pond Hill Road, Suite 101
San Antonio, Texas 78231
P: (210) 681.2951 F: (210) 523.7112

MCCRARY TRACT
UNIT 23

CONTRACTOR AND/OR CONTRACTORS INDEPENDENTLY REVIEW EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SURVEY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTORS' TRENCH EXCAVATION SAFETY SYSTEMS. THE PRESENCE AND ACTIVITIES OF THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS, THE CONTRACTORS' IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIALIZED CONSULTANTS, INCLUDING BUT NOT LIMITED TO, GEOTECHNICAL, SURVEYING, AND/OR EQUIPMENT CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

STA. 21+00.00 TO STA. 26+00.00

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'

[illegible]

CUTIEENGLISHERS

PLAYING NO.
23-11800307

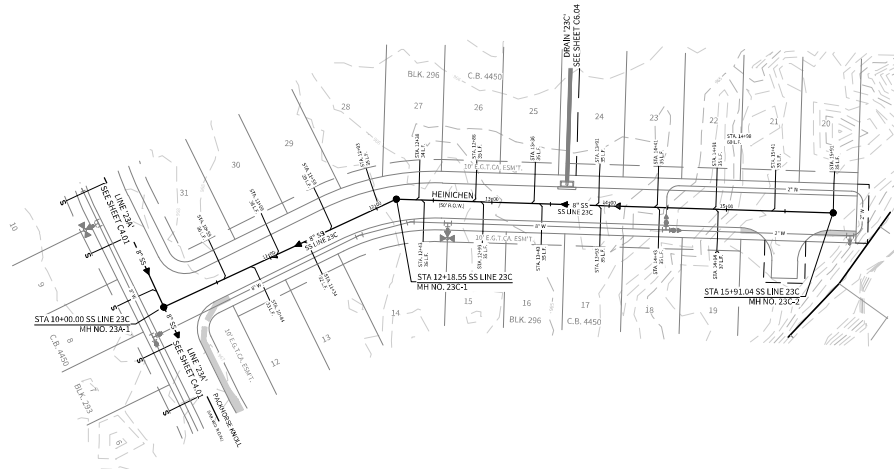
SAME JOB NO.
23-1650

C4.02

REPRODUCTION OF THE ORIGINAL SIGNED AND SEALED PLAN AND/OR ELECTRONIC MEDIA MAY HAVE BEEN INADVERTENTLY ALTERED. CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE SCALE OF THE DOCUMENT AND CONTACTING CUE ENGINEERS TO VERIFY DISCREPANCIES PRIOR TO CONSTRUCTION.

TRENCH EXCAVATION PROTECTION
CONTRACTOR AND/OR CONTRACTORS INDEPENDENTLY RETAINED EMPLOYEE OR SUBCONTRACTOR/ENGINEER/SAFETY CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THIS PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTORS' TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTORS' IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTORS INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNMENT THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATIONS.

SANITARY
SEWER
INVERT

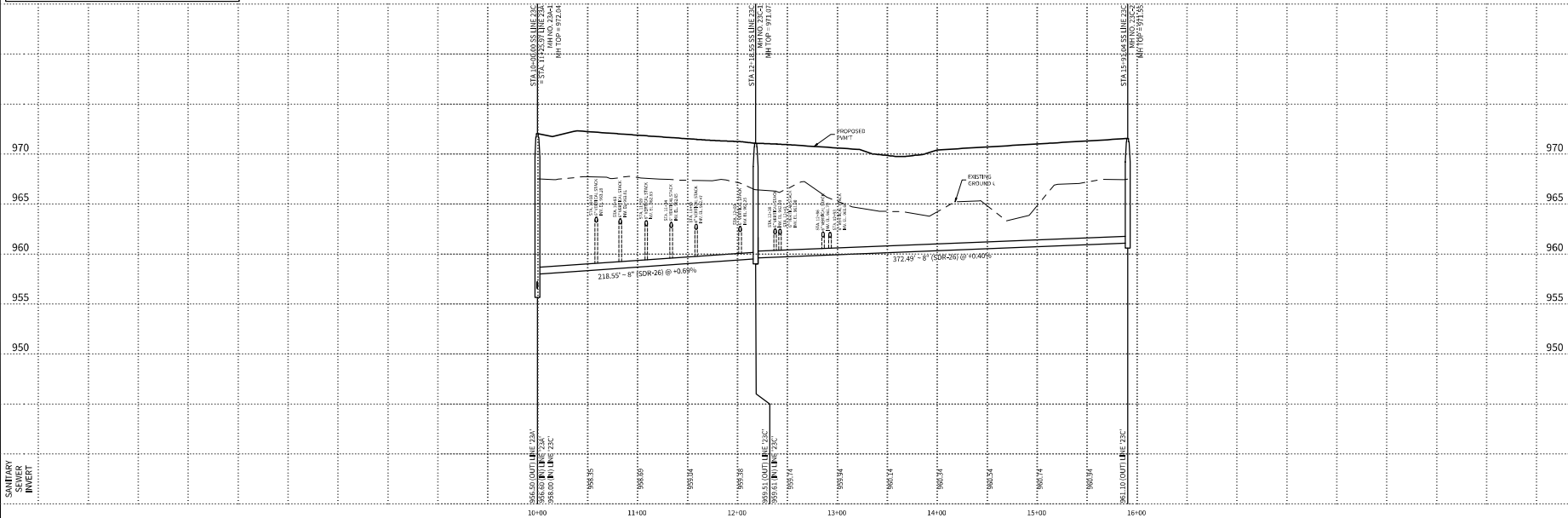


LINE 23C

STA. 10+00.00 TO STA. 15+91.04

UPPER NEWBRIDGE - DUSKIN LEEON CREEK W.C. (UPPER CULEBRA CREEK WATERSHED)					
Developer's Name	HDC DAVIS RANCH II, LLC				
Developer's Address	100 NE LOOP 410, SUITE 1000				
City	TAMU	State	TEXAS	Zip	77075
Phone #	(281) 878-0784	Fax #			
SANIS Black Map #	00000406024	Total EDPs	103	Total Acreage	22.24
Total Linear Footage of Pipe	2181.55' (218' 1" 55")	Plot No.	23-10000000		
Number of Lots	225	SANIS Job No.	23-1000		

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'



4123 Fossil Hill Road, Suite 301
San Antonio, Texas 78231
P: (210) 681-2951 F: (210) 523-7112

**McCRARY TRACT
UNIT 23**
SANITARY SEWER PLAN & PROFILE -
LINE 23C

DATE
02/01/2024
PROJECT NO.
02142-643
DRAWN BY
JTW/MAT/DAF
CHECKED BY
CJC/SPM
REVISIONS
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CUDE ENGINEERS
1811 S. New Braunfels Ave.
PLANNED
23-11800307
SANIS JOB NO.
23-1050

C4.04

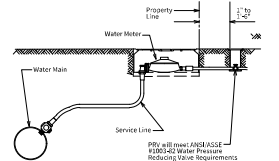
SAWS CONSTRUCTION NOTES
COUNTER PERMIT AND GENERAL CONSTRUCTION PERMIT REVISED JANUARY 2022

GENERAL SECTION

- ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE APPROVED BY THE SAN ANTONIO WATER SYSTEM (SAWS) AND COMPLY WITH THE PLANS, SPECIFICATIONS, GENERAL CONDITIONS AND WITH THE FOLLOWING AS APPLICABLE.
- CURRENT TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) "DESIGN CRITERIA FOR DOMESTIC WASTEWATER SYSTEM", TEXAS ADMINISTRATIVE CODE (TAC) TITLE 30 PART 1 CHAPTER 217 AND "PUBLIC DRINKING WATER", TAC, TITLE 30 PART 1 CHAPTER 290.
- CURRENT TxDOT "STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND DRAINAGE".
- CURRENT "SAN ANTONIO WATER SYSTEM STANDARD SPECIFICATIONS FOR WATER AND SANITARY SEWER CONSTRUCTION".
- CURRENT CITY OF SAN ANTONIO "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION".
- CURRENT CITY OF SAN ANTONIO "UTILITY EXCAVATION CRITERIA MANUAL" (UECM).
- THE CONTRACTOR SHALL NOT PROCEED WITH ANY PIPE INSTALLATION WORK UNTIL THEY OBTAIN A COPY OF THE APPROVED COUNTER PERMIT OR GENERAL CONSTRUCTION PERMIT (COPY FROM THE CONSULTANT AND HAS BEEN NOTIFIED BY SAWS CONSTRUCTION INSPECTION DIVISION TO PROCEED WITH THE WORK AND HAS ARRANGED A MEETING WITH THE INSPECTOR AND CONSULTANT FOR THE WORK REQUIREMENTS. WORK COMPLETED BY THE CONTRACTOR WITHOUT AN APPROVED COUNTER PERMIT AND/OR A CCP WILL BE SUBJECT TO REMOVAL AND REPLACEMENT AT THE EXPENSE OF THE CONTRACTORS AND/OR THE DEVELOPER.
- THE CONTRACTOR SHALL OBTAIN THE SAWS STANDARD DETAILS FROM THE SAWS WEBSITE: [HTTP://WWW.SAWS.ORG/REGISTRATION_CENTER/SPCS](http://www.saws.org/REGISTRATION_CENTER/SPCS), UNLESS OTHERWISE NOTED WITHIN THE DESIGN PLANS.
- THE CONTRACTOR IS TO MAKE ARRANGEMENTS WITH THE SAWS CONSTRUCTION INSPECTION DIVISION AT 233-2973, ON NOTIFICATION PROCEDURES THAT WILL BE USED TO NOTIFY AFFECTED HOME RESIDENTS AND/OR PROPERTY OWNERS 48 HOURS PRIOR TO BEGINNING ANY WORK.
- LOCATION AND DEPTH OF EXISTING UTILITIES AND SERVICE LATERALS SHOWN ON THE PLANS ARE UNDERSTOOD TO BE APPROXIMATE. ACTUAL LOCATIONS AND DEPTHS MUST BE FIELD VERIFIED BY THE CONTRACTOR AT LEAST 1 WEEK PRIOR TO CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE UTILITY SERVICE LINES AS REQUIRED FOR CONSTRUCTION AND TO PROTECT THEM DURING CONSTRUCTION AT NO COST TO SAWS.
- THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF UNDERGROUND UTILITIES AND DRAINAGE STRUCTURES AT LEAST 1-2 WEEKS PRIOR TO CONSTRUCTION WHETHER SHOWN ON PLANS OR NOT. PLEASE ALLOW UP TO 7 BUSINESS DAYS FOR LOCATES REQUESTING PIPE LOCATION MARKERS ON SAWS FACILITIES. THE FOLLOWING CONTACT INFORMATION ARE SUPPLIED FOR VERIFICATION PURPOSES:
 - SAWS UTILITY LOCATES: [HTTP://WWW.SAWS.ORG/SERVICE/LOCATES](http://www.saws.org/SERVICE/LOCATES)
 - COSA DRAINAGE (210) 307-6724 OR (210) 307-6036
 - COSA TRAFFIC SIGNAL OPERATIONS (210) 206-4480
 - COSA TRAFFIC SIGNAL DAMAGES (210) 207-3951
 - TEXAS STATE WIDE ONE CALL LOCATOR 1-800-454-6005 OR 811
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING EXISTING FENCES, CURBS, STREETS, DRIVEWAYS, SIDEWALKS, LANDSCAPING AND STRUCTURES TO ITS ORIGINAL OR BETTER CONDITION IF DAMAGES ARE MADE AS A RESULT OF THE PROJECT'S CONSTRUCTION.
- ALL WORK IN TEXAS DEPARTMENT OF TRANSPORTATION (TxDOT) AND/OR BEXAR COUNTY RIGHT-OF-WAY SHALL BE DONE IN ACCORDANCE WITH RESPECTIVE CONSTRUCTION SPECIFICATIONS AND PERMIT REQUIREMENTS.
- THE CONTRACTOR SHALL COMPLY WITH CITY OF SAN ANTONIO OR OTHER GOVERNING MUNICIPALITY'S TREE ORDINANCES WHEN EXCAVATING NEAR TREES.
- THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIALS IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN PERMIT.
- HOLIDAY WORK: CONTRACTORS WILL NOT BE ALLOWED TO PERFORM SAWS WORK ON SAWS RECOGNIZED HOLIDAYS. REQUEST SHOULD BE SENT TO CONSTRUCT@SAWS.ORG.
- WEEKEND WORK: CONTRACTORS ARE REQUIRED TO NOTIFY THE SAWS INSPECTION CONSTRUCTION DEPARTMENT 48 HOURS IN ADVANCE TO REQUEST WEEKEND WORK. REQUEST SHOULD BE SENT TO CONSTRUCT@SAWS.ORG.
- ANY AND ALL SAWS UTILITY WORK INSTALLED WITHOUT HOLIDAY/WEEKEND APPROVAL WILL BE SUBJECT TO BE UNCOVERED FOR PROPER INSPECTION.
- COMPACTION NOTE (ITEM 804): THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING THE COMPACTION REQUIREMENTS ON ALL TRENCH BACKFILL AND FOR PAYING FOR THE TESTS PERFORMED BY A THIRD PARTY. COMPACTION TESTS WILL BE DONE AT ONE LOCATION POINT RANDOMLY SELECTED, OR AS INDICATED BY THE SAWS INSPECTOR AND/OR THE TEST ADMINISTRATOR, PER EACH 12-INCH LOOSE LIFT PER 40 LINEAR FEET AT A MINIMUM. THIS PROJECT WILL NOT BE ACCEPTED AND FINALIZED BY SAWS WITHOUT THE REQUIREMENT BEING MET AND VERIFIED BY PROVIDING ALL NECESSARY DOCUMENTED TEST RESULTS.
- A COPY OF ALL TESTING REPORTS SHALL BE FORWARDED TO SAWS CONSTRUCTION INSPECTION DIVISION.

WATER SECTION

- PRIOR TO TIE-INS, ANY SHUTDOWNS OF EXISTING MAINS OF ANY SIZE MUST BE COORDINATED WITH THE SAWS CONSTRUCTION INSPECTION DIVISION AT LEAST ONE WEEK IN ADVANCE OF THE SHUTDOWN. THE CONTRACTOR MUST ALSO PROVIDE A SEQUENCE OF WORK AS RELATED TO THE TIE-INS; THIS IS AT NO ADDITIONAL COST TO SAWS OR THE PROJECT AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SEQUENCE THE WORK ACCORDINGLY. FOR WATER MAINS 12" OR HIGHER: SAWS EMERGENCY OPERATIONS CENTER (210) 233-2014.
- ASBESTOS CEMENT (AC) PIPE, ALSO KNOWN AS TRANSITE PIPE WHICH IS KNOWN TO CONTAIN ASBESTOS-CONTAINING MATERIAL (ACM), MAY BE LOCATED WITHIN THE PROJECT LIMITS. SPECIAL WASTE MANAGEMENT PROCEDURES AND HEALTH AND SAFETY REQUIREMENTS WILL BE APPLICABLE WHEN REMOVAL AND/OR DISTURBANCE OF THE PIPE OCCURS. SUCH WORK IS TO BE MADE UNDER SPECIAL SPECIFICATION ITEM NO. 3000, "SPECIAL SPECIFICATION FOR HANDLING ASBESTOS CEMENT PIPE".
- VALVE REMOVAL: WHERE THE CONTRACTOR IS TO ABANDON A WATER MAIN, THE CONTROL VALVE LOCATED ON THE ABANDONING BRANCH WILL BE REMOVED AND REPLACED WITH A CAP/PLUG (NSP).
- SUITABLE ANCHORAGE/TRUSS BLOCKING OR JOINT RESTRAINT SHALL BE PROVIDED AT ALL OF THE FOLLOWING MAIN LOCATIONS: DEAD ENDS, PLUGS, CAPS, TEES, CROSSES, VALVES, AND BENDS, IN ACCORDANCE WITH THE STANDARD DRAWINGS DD-839 SERIES AND ITEM NO. 839, IN THE SAWS STANDARD SPECIFICATIONS FOR CONSTRUCTION.
- ALL VALVES SHALL READ "OPEN RIGHT".
- PRVS REQUIRED: CONTRACTOR TO VERIFY THAT NO PORTION OF THE TRACT IS BELOW GROUND ELEVATION OF 985 FEET WHERE THE STATIC PRESSURE WILL NORMALLY EXCEED 80 PSI AT ALL SUCH LOCATIONS WHERE THE GROUND LEVEL IS BELOW 985 FEET, THE DEVELOPER OR BUILDER SHALL INSTALL AT EACH LOT, ON THE CUSTOMER'S SIDE OF THE METER, AN APPROVED TYPE PRESSURE REGULATOR IN CONFORMANCE WITH THE PLUMBING CODE OF THE CITY OF SAN ANTONIO. NO DUAL SERVICES ALLOWED FOR ANY LOT(S) IF "PRV IS/ARE REQUIRED FOR SUCH LOT(S)", ONLY SINGLE SERVICE CONNECTIONS SHALL BE ALLOWED. *NOTE: A PRESSURE REGULATOR IS ALSO KNOWN AS A PRESSURE REDUCING VALVE (PRV).
- PIPE DISINFECTION WITH DRY HYD FOR PROJECTS LESS THAN 800 LINEAR FEET. (ITEM NO. 847.3): MAINS SHALL BE DISINFECTED WITH DRY HYD WHERE SHOWN IN THE CONTRACT DOCUMENTS OR AS DIRECTED BY THE INSPECTOR, AND SHALL NOT EXCEED A TOTAL LENGTH OF 800 FEET. THIS METHOD OF DISINFECTION WILL ALSO BE FOLLOWED FOR MAIN REPAIRS. THE CONTRACTOR SHALL UTILIZE ALL APPROPRIATE SAFETY MEASURE TO PROTECT HIS PERSONNEL DURING DISINFECTION OPERATIONS.
- BACKFLOW PREVENTION DEVICES:
 - ALL IRRIGATION SERVICES WITHIN RESIDENTIAL AREAS ARE REQUIRED TO HAVE BACKFLOW PREVENTION DEVICES.
 - ALL COMMERCIAL BACKFLOW PREVENTION DEVICES MUST BE APPROVED BY SAWS PRIOR TO INSTALLATION.
- FINAL CONNECTION TO THE EXISTING WATER MAIN SHALL NOT BE MADE UNTIL THE WATER MAIN HAS BEEN PRESSURE TESTED, CHLORINATED, AND SAWS HAS RELEASED THE MAIN FOR TIE-IN AND USE.
- DIVISION VALVES SHOWN ON PLANS OR NOT SHOWN ON PLANS BUT FOUND IN THE FIELD SHALL ONLY BE OPERATED BY SAWS DISTRIBUTION AND COLLECTION STAFF AND ONLY WITH PRIOR WRITTEN APPROVAL OF THE SAWS DIRECTOR OF PRODUCTION AND OPERATIONS AND PROPER COORDINATION WITH ALL SAWS DEPARTMENTS. CONTRACTOR SHALL PROVIDE WRITTEN NOTIFICATION TO THE INSPECTOR A MINIMUM OF TWO WEEKS IN ADVANCE TO START THE COORDINATION PROCESS AND WILL BE INFORMED BY THE INSPECTOR WHEN THE DIVISION VALVE WILL BE OPERATED BY THE SAWS DISTRIBUTION AND COLLECTION STAFF. THE DIVISION VALVE CAN ONLY BE OPERATED BY SAWS DISTRIBUTION AND COLLECTION STAFF MEMBER NOT THE INSPECTOR OR THE CONTRACTOR. OPERATION OF A DIVISION VALVE WITHOUT THE EXPRESS PRIOR WRITTEN APPROVAL OF THE SAWS DISTRIBUTION AND COLLECTION STAFF WILL CONSTITUTE A MATERIAL BREACH OF ANY WRITTEN SAWS CONTRACT OR PERMIT. IN ADDITION TO SUBJECTING THE CONTRACTOR TO LIABILITY FOR ANY AND ALL FINES, FEES, OR OTHER DAMAGES, DIRECT OR CONSEQUENTIAL, THAT MAY ARISE FROM OR BE CAUSED BY THE OPERATION OF THE VALVE WITHOUT PRIOR WRITTEN PERMISSION, PLEASE BE INFORMED THAT THE APPROVAL OF THE OPERATION OR OPENING OR CLOSING OF A DIVISION VALVE CAN TAKE SEVERAL WEEKS FOR APPROVAL. DIVISION VALVES WILL ALSO HAVE A VALVE ID LABELLED DIVISION VALVE AND A LOCKING MECHANISM INSTALLED WITH A KEY. THE LOCK AND KEY MECHANISM WILL BE PAID FOR BY THE CONTRACTOR BUT WILL BE INSTALLED BY SAWS DISTRIBUTION AND COLLECTION STAFF.
- ALL PIPES SHALL BE C900 CLASS 235 DR-18, UNLESS OTHERWISE NOTED.
- ALL METERS SHALL BE 5/8", UNLESS OTHERWISE NOTED.

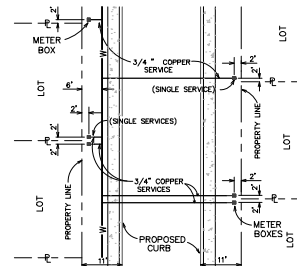


3/4" THRU 2" SERVICE PRESSURE REDUCING VALVE
N.T.S.

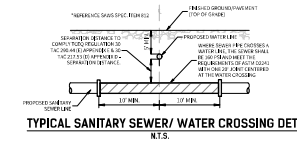


TRENCH EXCAVATION SAFETY PROTECTION

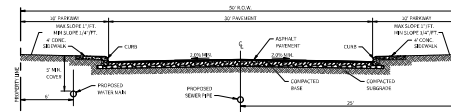
Contractor and/or Contractor's independently retained employee or structural design/geotechnical/soil/development consultant, if any, shall review these plans and available geotechnical information and the anticipated installation (s) within the project work area in order to implement Contractor's trench excavation safety protection systems, programs and/or procedures for the project described in the contract documents. The Contractor's implementation of these systems, programs and/or procedures shall provide for adequate trench excavation safety protection that comply with as a minimum, OSHA standards for trench excavations, specifically, Contractor and/or Contractor's independently retained employee or safety consultant shall implement a trench safety program in accordance with OSHA standards governing the presence and activities of individuals working in and around trench excavation.



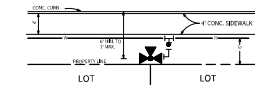
WATER METER BOX LOCATION
N.T.S.



TYPICAL SANITARY SEWER/ WATER CROSSING DETAIL
N.T.S.



LOCAL "A" STREET CROSS-SECTION



TYPICAL FIRE HYDRANT DETAIL (4' SIDEWALK / 50' ROW)
N.T.S.

PRESUBMIT (FORM #)	
Developer's Name	HSC DAVIS BANCHELL LLC
Developer's Address	1000 N. LOOP W. SUITE 1000
City	SAN ANTONIO, TEXAS 78207
Phone #	(210) 528-4394
SAWS Block Map #	090304/090402
Total Linear Footage of Pipe	17,000 L.F. A.P. (100' L.F. = 100' L.F.)
Number of Lots	323
SAWS Job No.	23-1179

C5.D1

EST. 1980
CUDE
ENGINEERS

4122 Fossil Hill Road, Suite 301
San Antonio, Texas 78231
P: (210) 681-2951 F: (210) 523-7132

MCCRARY TRACT
UNIT 23

WATER DISTRIBUTION SYSTEM
GENERAL NOTES

DATE	01/24/2024
PROJECT NO.	02142.643
DRAWN BY	JTW/MAT/DAF
CHECKED BY	CJC/SPM
REVISIONS	
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01/25/2024

SEAN P. McFARLAND
138893
Professional Engineer
State of Texas

CHIEF ENGINEER
10-11.5 Sec. 138893

PLAT NO.
23-11800307

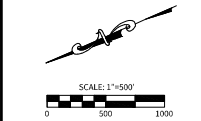
SAWS JOB NO.
23-1179

C5.D1



OWNER/DEVELOPER:
HDC DAVIS RANCH II, LLC
CONTACT PERSON: BRYAN N. SIMS
100 NE LOOP 410, SUITE 1080
SAN ANTONIO, TX 78216
TEL: (210) 533-7294

CIVIL ENGINEER:
M.W. CUDE ENGINEERS, L.L.C.
CONTACT PERSON: SEAN MCFARLAND, P.E.
4122 POND HILL ROAD, SUITE 101
SAN ANTONIO, TX 78231
TEL: (210) 681-2951
FAX: (210) 523-7112



LEGEND

SITE BOUNDARY

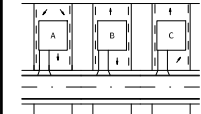
1% CHANCE ANNUAL FEMA FIP

DRAINAGE AREA

TO FLOW PATH

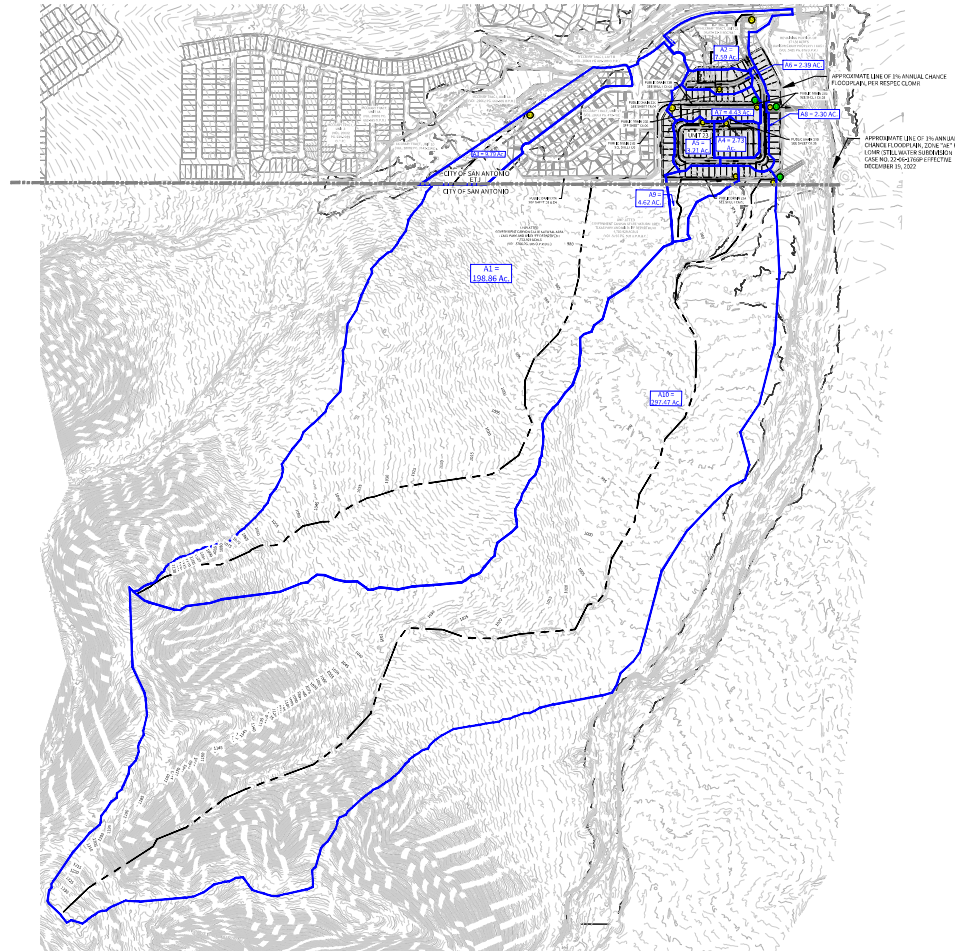
ACCUMULATION POINT

JUNCTION POINT

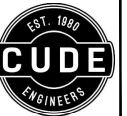


HYDROLOGY				Sheet Flow To Computations						Shallow Conc. To Computations				Concentrated To Computations				Overall	INTENSITY					FLOW				
Drainage Shed	Shed Area (Ac.)	AREA OF ACCUMULATION (Ac.)	C	Length - L(ft)	Feet (ft or in)	Upstream Elev.	Downstream Elev.	Slope	Time of Concentration	Length	Feet (ft or in)	Downstream Elev.	Slope	Time of Concentration	Length	Velocity (ft/s)	Time of Concentration	Time of Concentration (min)	I5	I25	I100	Q5	Q25	Q100	Drainage Shed			
A1	198.86	=A1	0.43	100.00	N	1108.00	1105.34	12.66%	10.00	4325.17	N	992.00	3.78%	22.88	2007.25	5	7.95	40.00	3.17	4.38	5.43	268.77	371.37	460.39	A1			
A2	1.59	=A2	0.11	100.00	N	970.73	967.41	2.62%	17.00	430.88	Y	965.11	0.92%	4.71	158.79	5	0.64	17.00	4.14	4.14	4.14	28.87	39.98	49.68	A2			
A3	9.79	=A3	0.23	100.00	N	998.04	998.03	1.00%	14.50	780.41	N	977.10	1.50%	6.67				21.00	4.43	6.12	7.20	22.99	31.75	39.38	A3			
A4	3.72	=A4	0.67	100.00	N	975.27	974.97	1.69%	13.00	120.00	N	972.25	1.64%	1.01	246.00	5	0.69	15.00	5.38	7.20	9.12	9.66	13.29	16.69	A4			
A5	3.21	=A5	0.67	60.00	N	970.82	974.36	1.50%	14.00	312.90	Y	968.64	1.03%	4.13	0.00			18.00	4.80	6.63	8.24	10.32	14.26	17.72	A5			
A6	2.39	=A6	0.67	100.00	N	973.05	971.55	1.50%	14.00	109.17	Y	970.20	0.71%	1.84	0.00			15.00	5.28	7.32	9.12	8.45	11.72	14.60	A6			
A7	4.64	=A7	0.67	85.11	N	971.97	970.65	1.61%	13.70	43.50	N	964.92	13.36%	0.13	679.64	5	1.99	15.00	5.26	7.17	9.12	15.67	21.14	27.07	A7			
A8	2.30	=A8	0.67	60.00	N	975.97	975.07	1.50%	14.00	325.09	Y	969.63	1.04%	4.21	0.00			18.00	4.80	6.63	8.24	7.40	10.22	12.70	A8			
A9	4.62	=A9	0.44	100.00	N	981.26	980.86	1.00%	14.00	422.28	N	973.10	1.88%	3.10	402.83	5	1.37	19.00	4.66	6.45	8.00	9.54	13.21	16.39	A9			
A10*	297.41	=A10	7.7*	100.00	N	1232.99	1231.41	1.30%	11.42	260.00	N	1145.54	10.10%	7.76	3759.42	5	25.64	39.00				201.17	619.44	1035.87	A10*			
J1	211.62	=A1+A5+A6+A7	7.7*	100.00	N	1108.00	1105.34	12.66%	10.00	4325.17	N	992.00	3.78%	22.88	3030.30	5	10.11	42.00	3.08	4.26	5.28	188.49	504.99	807.14	J1			
J2	213.92	=J1+A8	7.7*	100.00	N	1108.00	1105.34	12.66%	10.00	4325.17	N	992.00	3.78%	22.88	3030.30	5	10.28	43.00	3.04	4.20	5.21	189.41	508.96	811.69	J2			
J3	302.09	=A3+A10	7.7*	100.00	N	1232.99	1231.41	1.30%	11.42	260.00	N	1145.54	10.10%	7.76	3759.42	5	25.64	39.00	3.22	4.44	5.50	204.49	627.44	1050.67	J3			

*CURVE NUMBER USED FOR SCS CALCULATIONS SINCE THE DRAINAGE AREAS ARE GREATER THAN 200 ACRES.



REPRODUCTION OF THE ORIGINAL, SIGNED AND SEALED PLAN AND/OR ELECTRONIC MEDIA MAY HAVE BEEN INDIVIDUALLY ALTERED. CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE SCALE OF THE DOCUMENT AND CONTACTING CUDE ENGINEERS TO VERIFY DISCREPANCIES PRIOR TO CONSTRUCTION.



4122 Pond Hill Road, Suite 101
San Antonio, Texas 78231
P: (210) 681-2951 F: (210) 523-7112

**MCCRARY TRACT
UNIT 23**

PROPOSED MASTER DRAINAGE PLAN

DATE
01/25/2024

PROJECT NO.
02142-643

DRAWN BY
JTW/MAT/DAF

CHECKED BY
CJC/SPM

REVISIONS

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CUDE ENGINEERS
18111 S. Hwy. 160, Suite 100

PLANNING
23-11800307

C6.00



NOTES:

1. REFER TO GENERAL NOTES AND SPECIFICATIONS 0100.
2. CONTRACTOR TO EXISTING POSITIVE DRAINAGE AT ALL DRAIN BREAKS.
3. THE CONTRACTOR SHALL MAINTAIN A DRAINAGE SYSTEM AT ALL TIMES PRIOR TO PERFORMING ANY EXCAVATION ADJACENT TO THE CONSTRUCTION OF AN OPEN DRAINAGE. FAILURE TO MAINTAIN EXISTING DRAINAGE SHALL BE CONSIDERED A VIOLATION OF THE CITY OF SAN ANTONIO'S DRAINAGE ORDINANCES AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES TO THE PUBLIC AS A RESULT OF NOT LOCATING UNDERGROUND UTILITY DEVICES.
4. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE CITY OF SAN ANTONIO.
5. ANY AREAS EXPOSED TO HIGH VELOCITY FLOWS SHALL BE COVERED WITH A 6" THICK GARDEN PORTLAND CEMENT CONCRETE OR EQUIVALENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE CHANNEL BY THE CITY OF SAN ANTONIO & BEXAR COUNTY HYDROLOGICAL PARTITION TO INCLUDE THE DESIGN, CONSTRUCTION & MAINTENANCE OF THE PERMANENT COVER TO ACHIEVE 85% VEGETATION.
6. A BEXAR COUNTY 8.0 M. PUMP MUST BE INSTALLED PRIOR TO WORKING IN EXISTING BEXAR COUNTY R.O.W.
7. CONTRACTOR TO RECONSTRUCT EXISTING SIDEWALK, AS NECESSARY, FOR PROPOSED SIDEWALK TRANSITION.

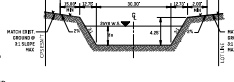
TRENCH EXCAVATION PROTECTION

CONTRACTOR SHALL PROVIDE TRENCH PROTECTION EMPLOYEE OR STRUCTURAL ENGINEER/REGISTERED MECHANICAL SAFETY EQUIPMENT CONSULTANT IF ANY SHALL REVIEW THESE PLANS AND AVAILABLE HISTORICAL INFORMATION AND THE APPROPRIATE REGULATORY AGENCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE CHANNEL BY THE CITY OF SAN ANTONIO & BEXAR COUNTY HYDROLOGICAL PARTITION TO INCLUDE THE DESIGN, CONSTRUCTION & MAINTENANCE OF THE PERMANENT COVER TO ACHIEVE 85% VEGETATION.

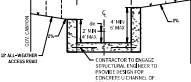
GENERAL NOTES

1. 85% OF CHANNEL SURFACE MUST HAVE ESTABLISHED VEGETATION PRIOR TO ACCEPTANCE OF THE CHANNEL BY THE CITY OF SAN ANTONIO & BEXAR COUNTY. HYDROLOGICAL PARTITION TO INCLUDE SOIL, SEEDING, OR SODDING & WATERING FOR THE TIME PERIOD NEEDED TO ACHIEVE 85% VEGETATION.
2. TURF REINFORCEMENT MAT (TRM) TO BE INSTALLED THROUGHOUT THE EARTHEN CHANNELS AS IDENTIFIED WHERE VELOCITY OF STORM WATER RUNOFF IS GREATER THAN 6 FPS. TRM TO BE INSTALLED PER CITY OF SAN ANTONIO STANDARD SPECIFICATIONS FOR CONSTRUCTION ITEM 554. IF ROCK SUBGRADE IS ENCOUNTERED DURING CONSTRUCTION, THEN ENGINEER SHALL DETERMINE IF VEGETATION CAN BE ESTABLISHED. IF IT IS DETERMINED BY THE ENGINEER THAT VEGETATION CAN NOT BE ESTABLISHED AND SUBGRADE MATERIAL IS SUITABLE TO CONVEY STORM WATER FLOWS WITHOUT EROSION OR SCOUR, THEN TRM WILL NOT BE INSTALLED.
3. AT THE PRE-FINAL INSPECTION, THE ENGINEER MUST ISSUE CERTIFICATION TO THE CITY INSPECTOR THAT THE TURF REINFORCEMENT MAT (TRM) WAS INSTALLED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. THE CERTIFICATION MUST ALSO NOTE THAT THE MATERIAL AND INSTALLATION HAS MET CITY AND MANUFACTURER SPECIFICATIONS.

DRAIN "23A-1" SECTION
"23A-1" STA. 10+23.84 TO STA. 12+55.77



DRAIN "23A-2" SECTION
"23A-2" STA. 12+55.77 TO STA. 16+16.45



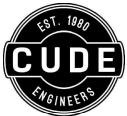
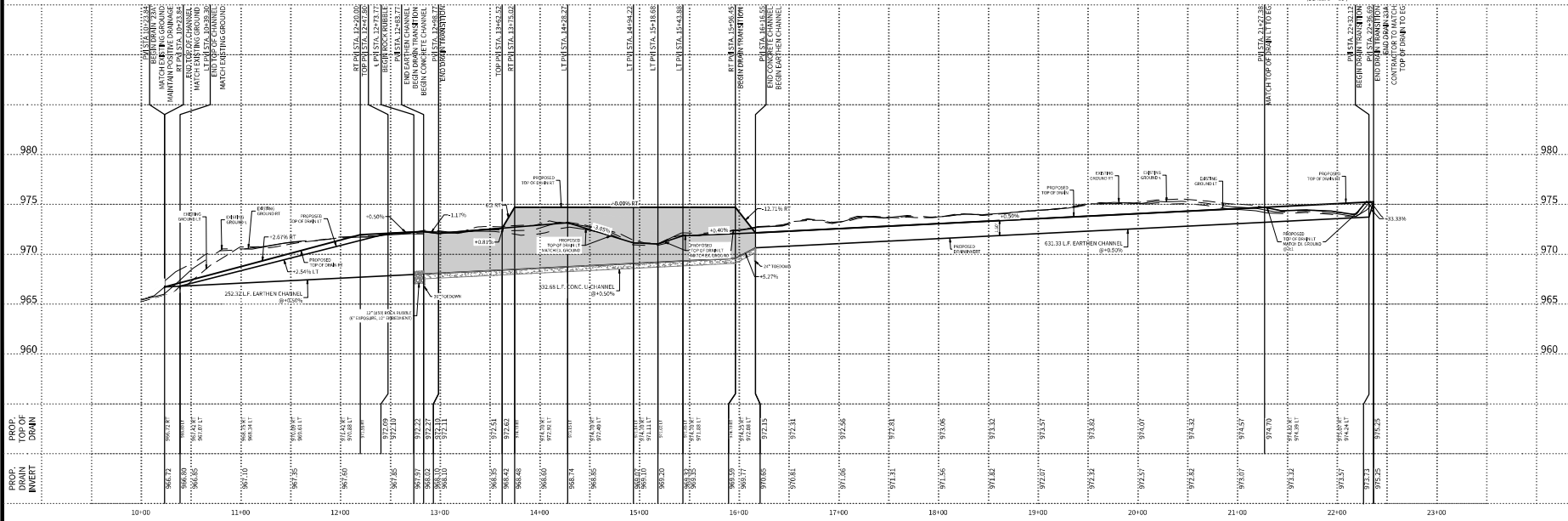
DRAIN "23A-3" SECTION
"23A-3" STA. 16+16.45 TO STA. 22+41.69



DRAIN 23A

STA. 10+23.84 TO STA. 22+36.69

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'



4122 Fossil Hill Road, Suite 301
San Antonio, Texas 78211
P: (210) 681-2951 F: (210) 523-7112

MCCRAY TRACT UNIT 23

DRAINAGE PLAN & PROFILE - DRAIN 23A

DATE
02/01/2024
PROJECT NO.
02142.643
DRAWING BY
JTW/MAT/DAF
CHECKED BY
CJC/SPM

REVISIONS
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CHIEF ENGINEERS
181-115 No. 1040000

PLAT NO.
23-11800307

C6.01



4123 Fossil Hill Road, Suite 301
San Antonio, Texas 78211
P: (210) 681-2951 F: (210) 523-7112

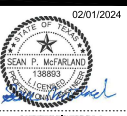
MCCRARY TRACT
UNIT 23

DRAINAGE PLAN & PROFILE - DRAIN 23B

DATE
02/01/2024
PROJECT NO.
02142.643
DRAWN BY
JTW/MAT/DAF
CHECKED BY
CJC/SPM

REVISIONS

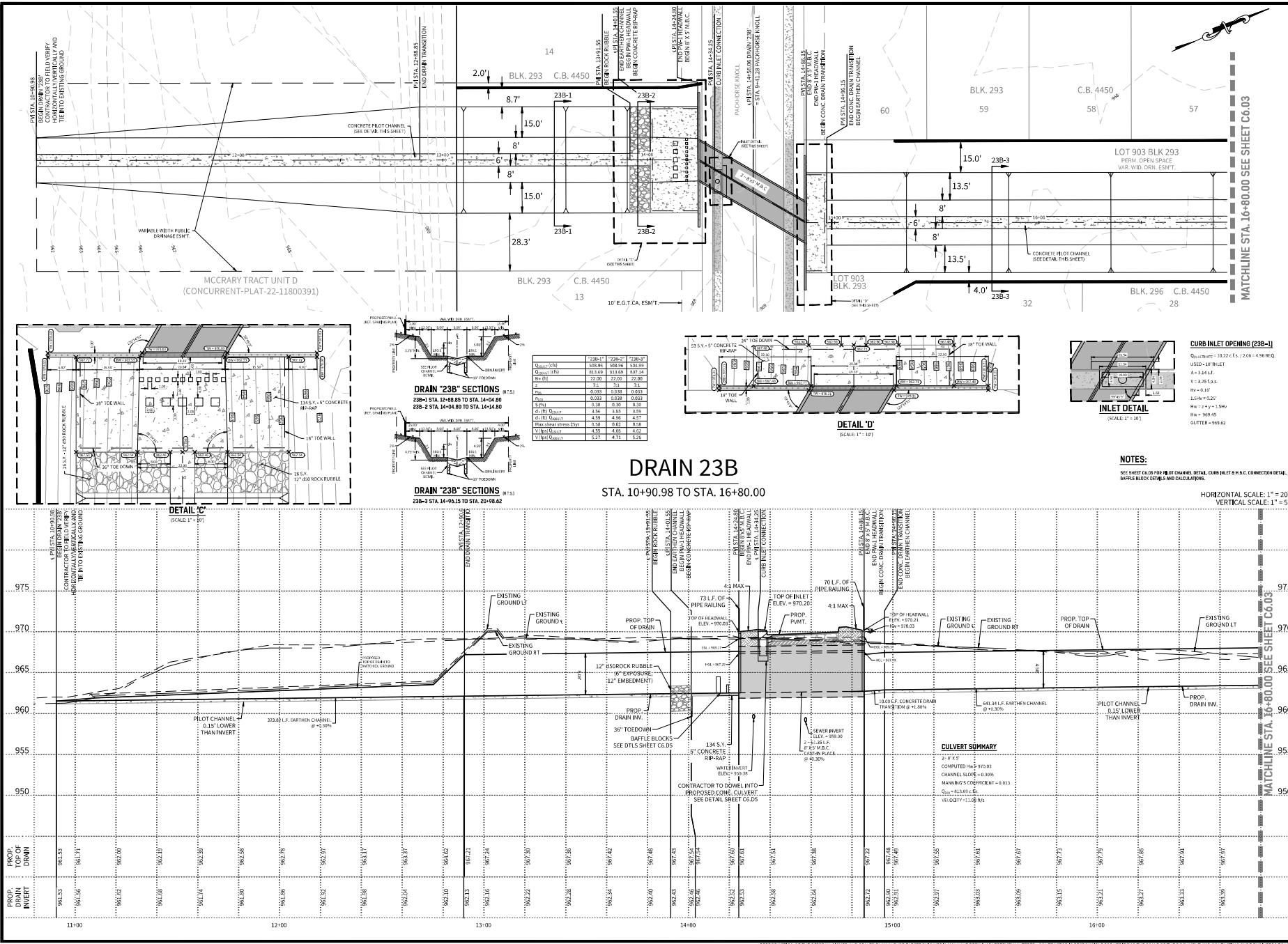
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DATE
02/01/2024
PROJECT NO.
02142.643
DRAWN BY
JTW/MAT/DAF
CHECKED BY
CJC/SPM

PLAT NO.
23-11800307

C6.02



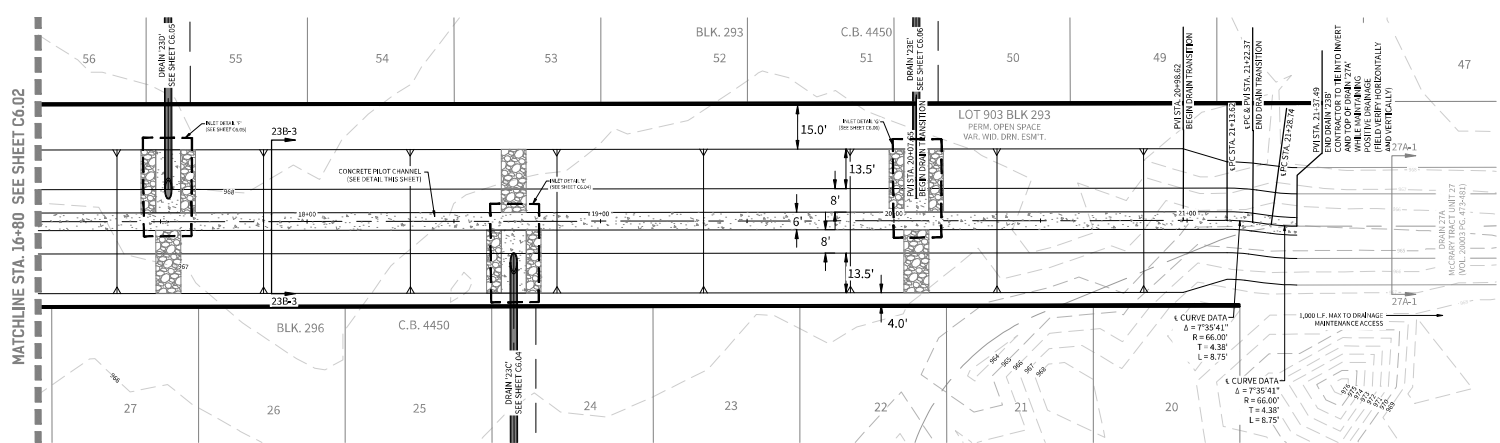
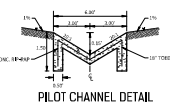
REPRODUCTION OF THE ORIGINAL, SIGNED AND SEALED PLAN AND/OR ELECTRONIC MEDIA MAY HAVE BEEN INDIVIDUALLY ALTERED. CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE SCALE OF THE DOCUMENT AND CONTACTING CUDE ENGINEERS TO VERIFY DISCREPANCIES PRIOR TO CONSTRUCTION.



4121 Ford Hill Road, Suite 301
San Antonio, Texas 78231
P: (210) 681-2951 F: (210) 523-7112

MCCRARY TRACT
UNIT 23

DRAINAGE PLAN & PROFILE - DRAIN 23B



GENERAL NOTES

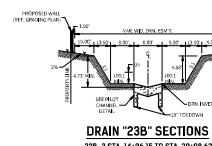
- 85% OF CHANNEL SURFACE MUST HAVE ESTABLISHED VEGETATION PRIOR TO ACCEPTANCE OF THE CHANNEL BY THE CITY OF SAN ANTONIO & BEAR COUNTY. HYDROLOGICAL PATTERN TO INCLUDE SOIL, SEEDING, OR SOILING & WATERING FOR THE TIME PERIOD NEEDED TO ACHIEVE 85% VEGETATION.
- TURF REINFORCEMENT MAT (TRM) TO BE INSTALLED THROUGHOUT THE EARTHEN CHANNELS AS DENOTED WHERE VELOCITY OF STORM WATER RUNOFF IS GREATER THAN 4 FPS. TRM TO BE INSTALLED PER CITY OF SAN ANTONIO STANDARD SPECIFICATIONS FOR CONSTRUCTION ITEM 554. IF ROCK SURFACING IS ENCOUNTERED DURING CONSTRUCTION, THEN ENGINEER SHALL DETERMINE IF VEGETATION CAN BE ESTABLISHED. IF IT IS DETERMINED BY THE ENGINEER THAT VEGETATION CAN NOT BE ESTABLISHED AND SUBGRADE MATERIAL IS SUITABLE TO CONVEY STORM WATER FLOWS WITHOUT EROSION OR SCOUR, THEN TRM WILL NOT BE INSTALLED.
- AT THE PRELIMINARY INSPECTION, THE ENGINEER MUST ISSUE CERTIFICATION TO THE CITY INSPECTOR THAT THE TURF REINFORCEMENT MAT (TRM) WAS INSTALLED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. THE CERTIFICATION MUST ALSO NOTE THAT THE MATERIAL AND INSTALLATION HAS MET CITY AND MANUFACTURER SPECIFICATIONS.

NOTES:

- REFER TO GENERAL NOTES AND SPECIFICATIONS.
- CONTRACTOR TO MAINTAIN POSITIVE DRAINAGE AT ALL SMALL DRAINAGE AREAS.
- THE CONTRACTOR SHALL NOTIFY A CITY INSPECTOR AT LEAST 48 HOURS PRIOR TO PERFORMING ANY DRAINAGE ACTIVITY SUBJECT TO THE CITY OF SAN ANTONIO & BEAR COUNTY STANDARDS TO PROTECT ANY UNDEVELOPED OR UNOCCUPIED UNDERGROUND UTILITY FACILITY FROM DAMAGE OR RUIN. THE CONTRACTOR SHALL MAINTAIN THE CHANNELS AND SPECIFICATIONS OF THE CITY OF SAN ANTONIO.
- ALL EXISTING EXPOSED HIGH VELOCITY FLOWING SHALL BE MAINTAINED AS SUCH UNLESS OTHERWISE NOTED OR THE INSTALLATION OF APPROPRIATE GEOTECHNICAL LINER AS DIRECTED BY THE CONTRACTING ENGINEER OR CHAIRMAN.
- ALL CONCRETE SHALL BE A MINIMUM OF 3000 PSI OR 28 DAYS COMPRESSIVE STRENGTH UNLESS OTHERWISE SPECIFIED HEREIN OR IN THESE DOCUMENTS.
- 85% OF CHANNEL SURFACE MUST HAVE ESTABLISHED VEGETATION PRIOR TO ACCEPTANCE OF THE CHANNEL BY THE CITY OF SAN ANTONIO & BEAR COUNTY. HYDROLOGICAL PATTERN TO INCLUDE SOIL, SEEDING, OR SOILING & WATERING FOR THE TIME PERIOD NEEDED TO ACHIEVE 85% VEGETATION.
- RESURFACING OF CONCRETE CHANNELS SHALL BE IN ACCORDANCE WITH THE CITY OF SAN ANTONIO & BEAR COUNTY STANDARDS FOR CONCRETE CHANNELS.
- A BEAR COUNTY ROAD PERMIT MUST BE OBTAINED PRIOR TO WORKING IN EXISTING BEAR COUNTY RIGHT-OF-WAY.
- CONTRACTOR TO RECONSTRUCT EXISTING SIDEWALK, AS NECESSARY, FOR PROPOSED SIDEWALK TRANSITION.

TRENCH EXCAVATION PROTECTION

CONTRACTOR AND/OR CONTRACTORS INDEPENDENTLY RETAINED EMPLOYER OR STRUCTURAL ENGINEER/GEOTECHNICAL SAFETY EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION (SITING) WITHIN THE PROJECT WORK AREA IN ORDER TO EMPLOYMENT CONTRACTORS' TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTORS' EMPLOYMENT OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. CONTRACTOR AND/OR CONTRACTORS INDEPENDENTLY RETAINED EMPLOYER OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

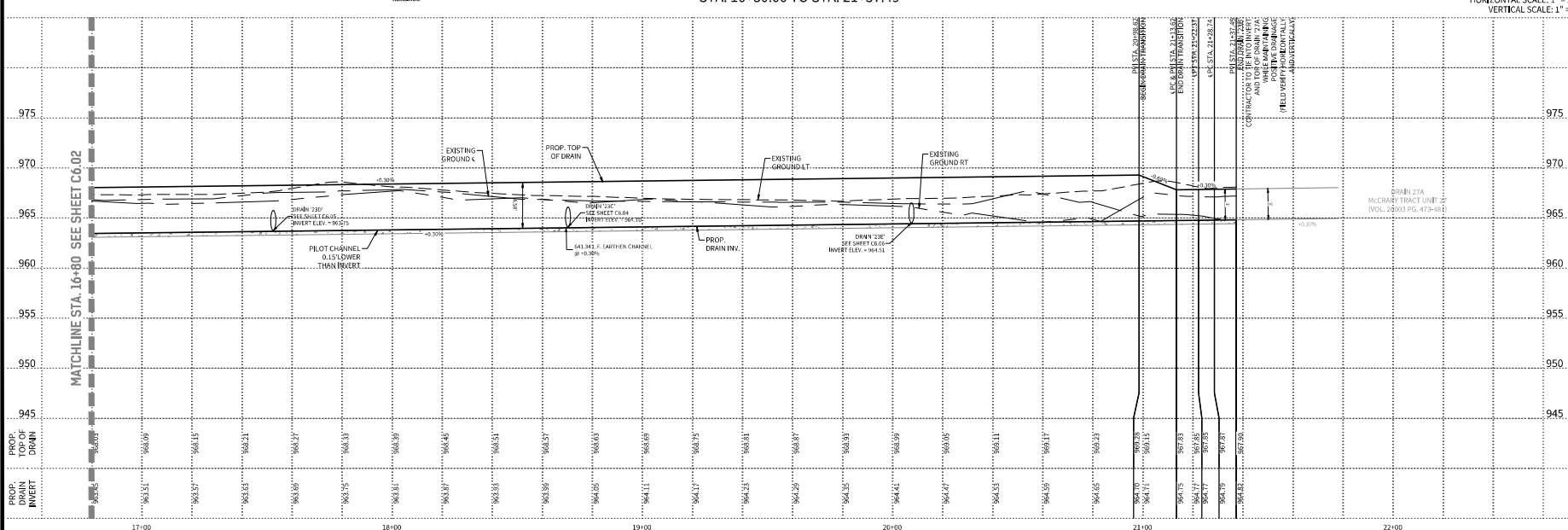


Station (Sta.)	Top of Drain (ft.)	Bottom of Drain (ft.)	Depth (ft.)	Width (ft.)	Area (sq. ft.)
14+96.15	96.15	95.15	1.00	4.00	4.00
15+00.00	96.15	95.15	1.00	4.00	4.00
15+04.00	96.15	95.15	1.00	4.00	4.00
15+08.00	96.15	95.15	1.00	4.00	4.00
15+12.00	96.15	95.15	1.00	4.00	4.00
15+16.00	96.15	95.15	1.00	4.00	4.00
15+20.00	96.15	95.15	1.00	4.00	4.00
15+24.00	96.15	95.15	1.00	4.00	4.00
15+28.00	96.15	95.15	1.00	4.00	4.00
15+32.00	96.15	95.15	1.00	4.00	4.00



DRAIN 23B
STA. 16+80.00 TO STA. 21+37.49

HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 5'

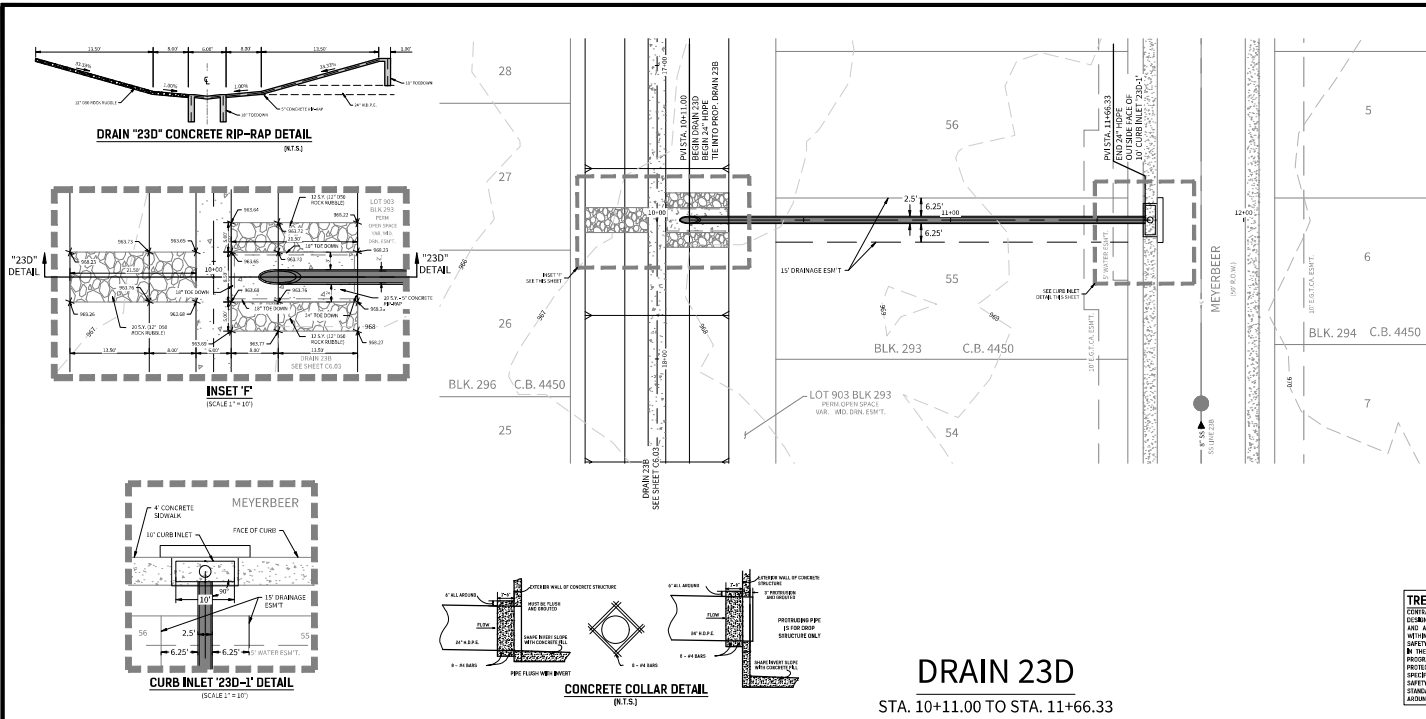


DATE	02/01/2024
PROJECT NO.	02142-643
DRAWN BY	JTW/MAT/DAF
CHECKED BY	CHUCKERBY
REVISIONS	
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PLANNING
18-11800307

C6.03



GENERAL SPECIFICATIONS FOR COMPACTED FILL

1. FOLLOWING THE CLEANING AND GRADING OR SKIMPING OF THE FILL AREA, IT SHALL BE REGRAD TO FORM A BURNED AND FREE FROM LARGE CLUMPS. THE AREA SHALL BE BROUGHT TO THE ADJACENT MOISTURE CONTENT AND COMPACTED TYPICALLY TO EXCEED A LESS THAN FIFTY PERCENT (50%) OF MAXIMUM DENSITY IN ACCORDANCE WITH THE CURRENT ASTM D 1557 COMPACTION PROCEDURE, OR THAT OF MAXIMUM DENSITY IN ACCORDANCE WITH THE CURRENT TxDOT-113-13-E COMPACTION PROCEDURE.
2. THE MATERIALS SHALL BE FREE FROM ORGANIC MATTER AND OTHER DELETERIOUS SUBSTANCES, SUCH AS TREES, BRUSH AND RUBBER.
3. THE FILL MATERIAL SHALL BE COMPACTED AT THE APPROPRIATE MOISTURE CONTENT (DETERMINED FOR THE SOIL) AND BE BROUGHT TO THE ADJACENT MOISTURE CONTENT, TYPICALLY AS OBTAIN MOISTURE CONTENT, CONTROL FOR EXPOSURE SHALL BE GREATER THAN OPTIMUM MOISTURE CONTENT, AND OTHER MOISTURE CONTENTS MAY BE NECESSARY TO PRODUCE THE DESIRED RESULTS WITH CERTAIN SOILS.

NOTES:

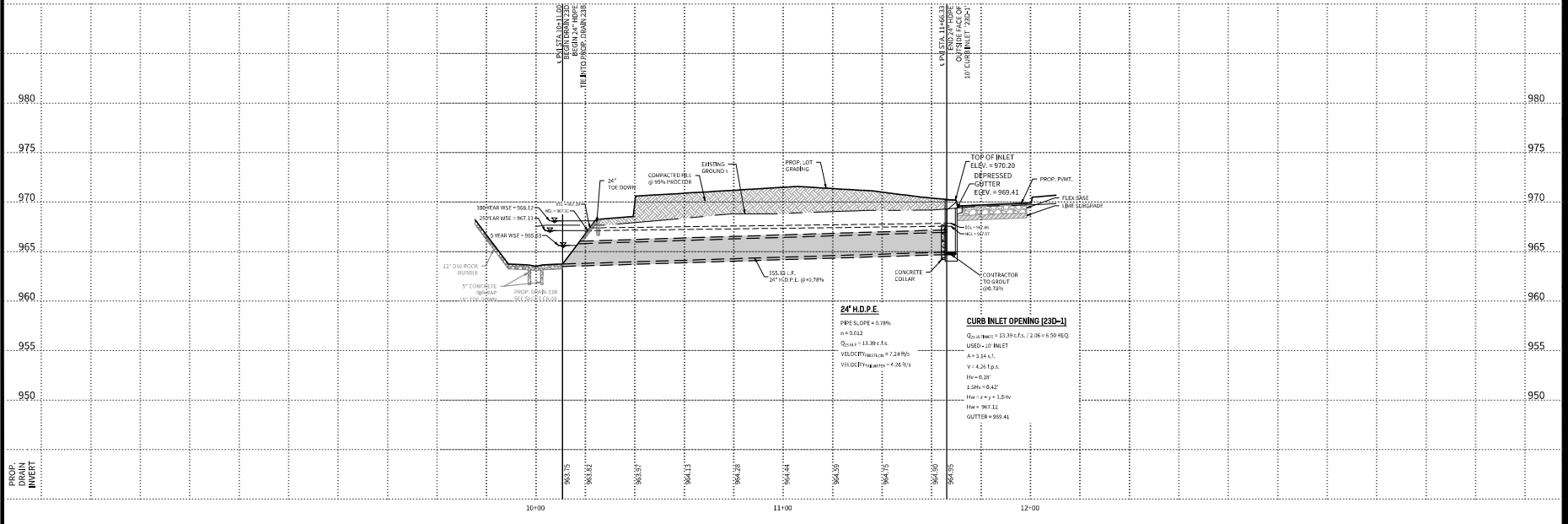
1. REFER TO GENERAL NOTES AND SPECIFICATIONS FOR CONSTRUCTION.
2. CONTRACTOR TO PROVIDE PROPER DRAINAGE AT ALL ROAD BREAKS.
3. THE CONTRACTOR SHALL NOTIFY A UTILITY COORDINATOR AT LEAST 48 HOURS PRIOR TO PERFORMING ANY EXCAVATION ACTIVITY ADJACENT TO THE CONSTRUCTION OF AN ON-SITE DRAINAGE SYSTEM TO PROTECT ANY UNIDENTIFIED UTILITIES UNDERGROUND. THE CONTRACTOR SHALL MAINTAIN THE SOLE RESPONSIBILITY FOR ANY DAMAGES TO UTILITIES AS A RESULT OF NOT LOCATING UNDERGROUND UTILITIES PRIOR TO EXCAVATION.
4. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE CITY OF SAN ANTONIO.
5. ANY AREAS EXPOSED TO HIGH VELOCITY FLOWS SHALL EITHER HAVE A THICK GARDEN MATS OR BE PROTECTED BY THE INSTALLATION OF APPROPRIATE GEOTECHNICAL LINER AS DIRECTED BY THE CONTRACTOR ENGINEER IN CHARGE.
6. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE CITY OF SAN ANTONIO.
7. CITY OF SAN ANTONIO OFFICE OF PUBLIC WORKS SHALL BE NOTIFIED PRIOR TO ACCEPTANCE OF THE CHANNEL BY THE CITY OF SAN ANTONIO & BEAR COUNTY. INFORMATION AND DATA TO BE SUBMITTED INCLUDE: EXISTING OR PROPOSED WATERWAY FOR THE PERIOD NEEDED TO ACHIEVE WORK VOLUMES.
8. EXISTING TYPICAL CHANNEL CROSS-SECTION SHALL BE USED FOR THE PERIOD NEEDED TO ACHIEVE WORK VOLUMES.
9. A BEAR COUNTY DRAINAGE PLAN MUST BE OBTAINED PRIOR TO WORKING IN EXISTING BEAR COUNTY DRAINAGE.
10. CONTRACTOR TO RECONSTRUCT EXISTING SIDEWALK, AS NECESSARY, FOR PROPOSED SIDEWALK TRANSITION.
11. CONTRACTOR TO SHUT BOTTOM DOWN LINE OF SEWER MAINS AND/OR CURBS IN PLACE AS NECESSARY TO PROVIDE POSITIVE DRAINAGE.

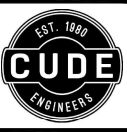
TRENCH EXCAVATION PROTECTION
 CONTRACTOR TO PROVIDE TRENCH EXCAVATION PROTECTION EMPLOYEE OR STRUCTURAL GEOTECHNICAL ENGINEER EQUIPMENT CONSULTANT IF ANY SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ACCEPTED MATERIALS BEING WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S SUPERVISOR'S PERSONNEL EMPLOYED ON SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESSURE AND ACTIVITIES OF WORKING IN AND AROUND TRENCH EXCAVATION.

DRAIN 23D

STA. 10+10.00 TO STA. 11+66.33

HORIZONTAL SCALE: 1" = 20'
 VERTICAL SCALE: 1" = 5'





EST. 1980
CUDE
 ENGINEERS

4122 Fossil Hill Road, Suite 301
 San Antonio, Texas 78231
 P: (210) 681.2951 F: (210) 523.7112

McCRARY TRACT
UNIT 23

DRAINAGE PLAN & PROFILE - DRAIN 23D

DATE
 01/25/2024

PROJECT NO.
 02142.643

DRAWN BY
 JTW/MAT/DAF

CHECKED BY
 CJC/SPM

REVISIONS

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01/26/2024

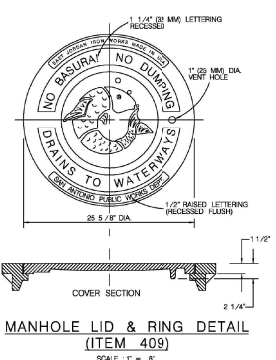
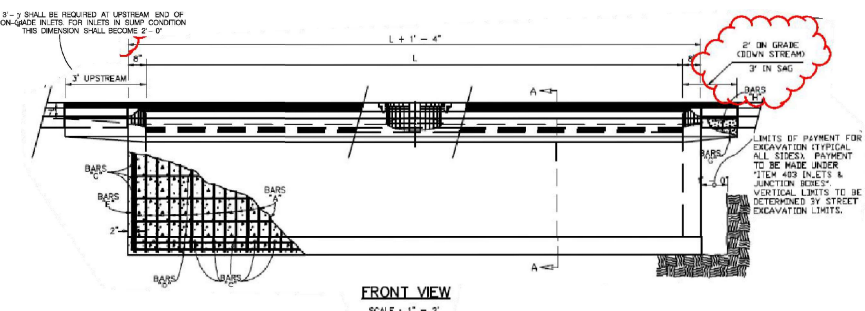
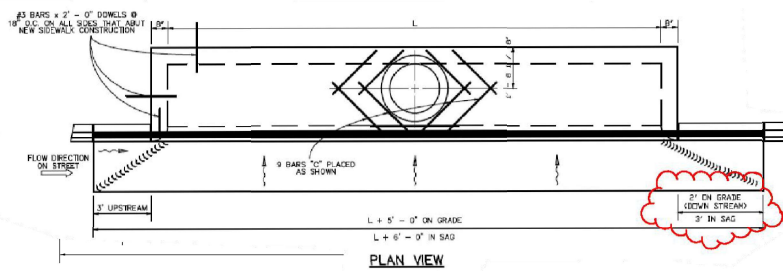


SEAN P. MCFARLAND
 138693
 CIVIL ENGINEER

CUDE ENGINEERS
 1811 S. No. 1000000

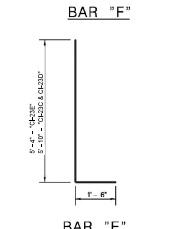
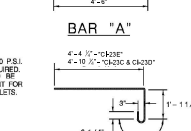
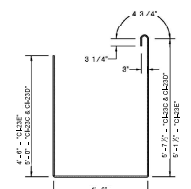
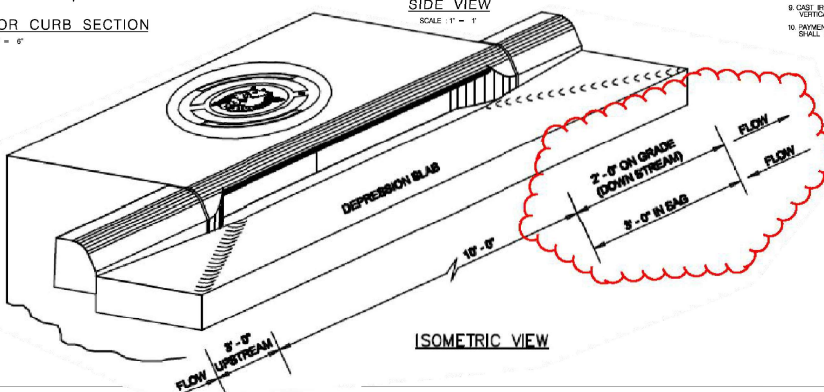
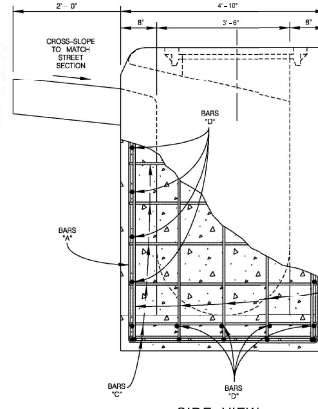
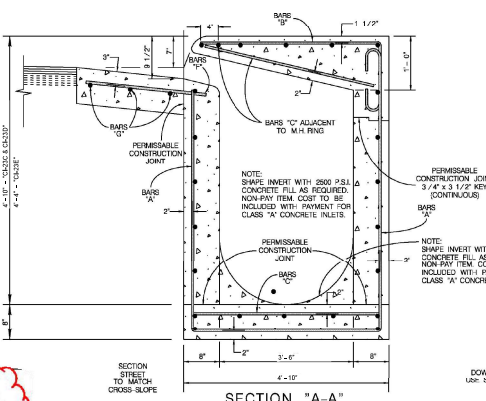
PLAT NO.
 23-11800307

C6.05



NOTES FOR MANHOLE LID AND RING

1. FOR LID DESIGN OUTSIDE OF CITY OF SAN ANTONIO, DELETE "SAN ANTONIO PUBLIC WORKS DEPT."
2. CASTING NUMBER AND MANUFACTURER'S I.D. ON LID AND RING.
3. LOAD BEARING CAPABILITY OF HS-20 MINIMUM.
4. THE LOAD BEARING SURFACES SHALL BE MACHINE GROUND.
5. THE COMBINED WEIGHT OF THE MANHOLE RING AND COVER MUST BE AT LEAST 280 LBS.



REINFORCING STEEL SCHEDULE					
INLET	BAR	No.	Size	Length	Weight lbs.
DRAIN "23C"	A	27	4	5' 0"	294.82
	B	27	4	5' 0"	294.82
	C	38	4	4' 0"	344.23
	D	25	4	10' 1"	265.69
	E	12	4	10' 1"	58.78
	F	12	5	12'	28.16
	G	5	4	12'	29.39
	H	5	5	12'	8.69
Concrete Total = 6.62 CY					

REINFORCING STEEL SCHEDULE					
INLET	BAR	No.	Size	Length	Weight lbs.
DRAIN "23D"	A	27	4	5' 0"	294.82
	B	27	4	5' 0"	294.82
	C	38	4	4' 0"	344.23
	D	25	4	10' 1"	265.69
	E	12	4	10' 1"	58.78
	F	12	5	12'	28.16
	G	5	4	12'	29.39
	H	5	5	12'	8.69
Concrete Total = 6.62 CY					

REINFORCING STEEL SCHEDULE					
INLET	BAR	No.	Size	Length	Weight lbs.
DRAIN "23E"	A	27	4	5' 0"	294.82
	B	27	4	5' 0"	294.82
	C	38	4	4' 0"	344.23
	D	25	4	10' 1"	265.69
	E	12	4	10' 1"	58.78
	F	12	5	12'	28.16
	G	5	4	12'	29.39
	H	5	5	12'	8.69
Concrete Total = 6.62 CY					

REINFORCING STEEL SCHEDULE					
INLET	BAR	No.	Size	Length	Weight lbs.
DRAIN "23F"	A	27	4	5' 0"	294.82
	B	27	4	5' 0"	294.82
	C	38	4	4' 0"	344.23
	D	25	4	10' 1"	265.69
	E	12	4	10' 1"	58.78
	F	12	5	12'	28.16
	G	5	4	12'	29.39
	H	5	5	12'	8.69
Concrete Total = 6.62 CY					



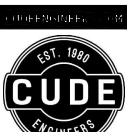
* THESE FIGURES DO NOT INCLUDE CONCRETE & STEEL INTERCEPTED BY MANHOLE AND REINFORCED CONC. PIPE.
* INCLUDES CONCRETE OUTLET FOR ON GRADE INLET REDUCE BY 15 CY FOR INLET & SAG.

GENERAL NOTES

1. ALL BARS INTERCEPTING MANHOLE RING & REINFORCED CONCRETE PIPE SHALL BE FIELD CUT.
2. CONCRETE FOR STRUCTURES SHALL BE CLASS "A", 3000 PSI IN 28 DAYS.
3. ALL DIMENSIONS RELATIVE TO REINFORCING STEEL ARE TO CENTER BARS.
4. ALL EXPOSED CORNERS SHALL BE CHAMFERED TO 3/4".
5. CONSTRUCTION JOINT SHOWN AT FLOWLINE MAY BE RAISED A MAXIMUM OF 6" AT THE CONTRACTOR'S DISCRETION. ADJUST LENGTH OF VERTICAL STEEL AS REQUIRED.
6. ALL REINFORCING STEEL SHALL CONFORM TO ASTM A 616 GRADE 60 REQUIREMENTS.
7. INVERT OF DROP INLET TO BE SHAPED WITH CONCRETE FILL TO AFFECT DRAINAGE TO OUTLET PIPE.
8. DELETE 4" BARS FROM SCHEDULE QUANTITIES IF MANHOLE RING AND COVER ARE PLACED AT END OF INLET.
9. CAST IRON MANHOLE RING AND COVER (U.S. 10) IS PLACED NEXT TO OUTLET PIPE GROUT FOR VERTICAL OUTLET PIPE IN WHICH CASE MANHOLE RING AND COVER WILL BE OFFSET.
10. PAYMENT FOR ALL EXCAVATION BACK FILLING, CONCRETE REINFORCING STEEL, BARS AND COVER SHALL BE INCLUDED IN THE UNIT COST OF ITEM AND STONE BURNED JUNCTION BOXES AND INLETS.

JANUARY 2005
STANDARD PLANS
CITY OF SAN ANTONIO, TEXAS
DEPARTMENT OF PUBLIC WORKS
TYPE "C" INLET
DETAILS

DRAWN BY:	DATE:	REVISIONS:	SCALE:	SEE ABOVE
V. VASQUEZ				
CHECKED BY:	DATE:	SHEET:	OF	
NAT. HARVEY, P.E.				



4123 Fossil Hill Road, Suite 301
San Antonio, Texas 78211
P: (210) 681-2951 F: (210) 523-7112

McCrary Tract
UNIT 23

COSA DRAIN INLET DETAILS TYPE C MODIFIED

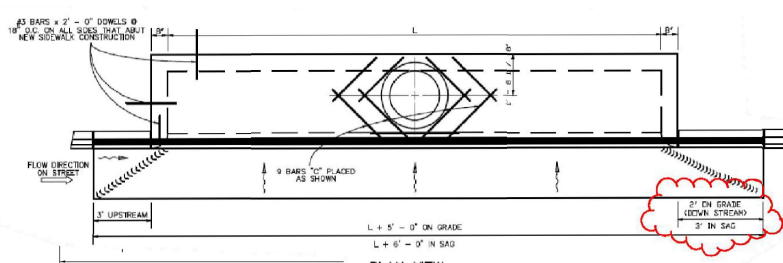
DATE
01/25/2024
PROJECT NO.
02142.643
DRAWN BY
JTW/MAT/DAF
CHECKED BY
CJC/SPM
REVISIONS

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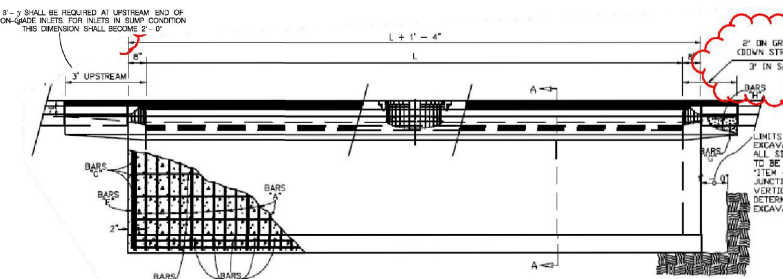
CUDE ENGINEERS
188893
PLATING NO.
23-11800307
SAVES JOB NO.

C6.D1



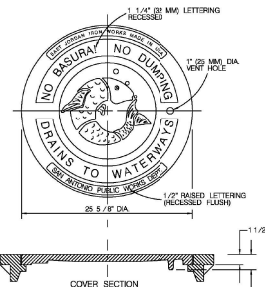
PLAN VIEW

SCALE: 1" = 2'



FRONT VIEW

SCALE: 1" = 2'

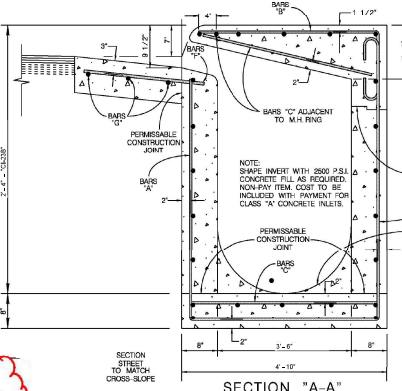


MANHOLE LID & RING DETAIL (ITEM 409)

SCALE: 1" = 8'

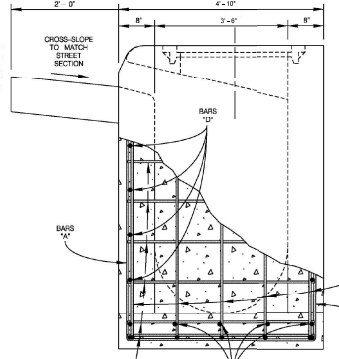
NOTES FOR MANHOLE LID AND RING

1. FOR LID DESIGN OUTSIDE OF CITY OF SAN ANTONIO, DELETE "SAN ANTONIO PUBLIC WORKS DEPT."
2. CASTING NUMBER AND MANUFACTURER'S I.D. ON LID AND RING.
3. LOAD BEARING CAPABILITY OF HS-20 MINIMUM.
4. THE LOAD BEARING SURFACES SHALL BE MACHINE GROUND.
5. THE COMBINED WEIGHT OF THE MANHOLE RING AND COVER MUST BE AT LEAST 280 LBS.



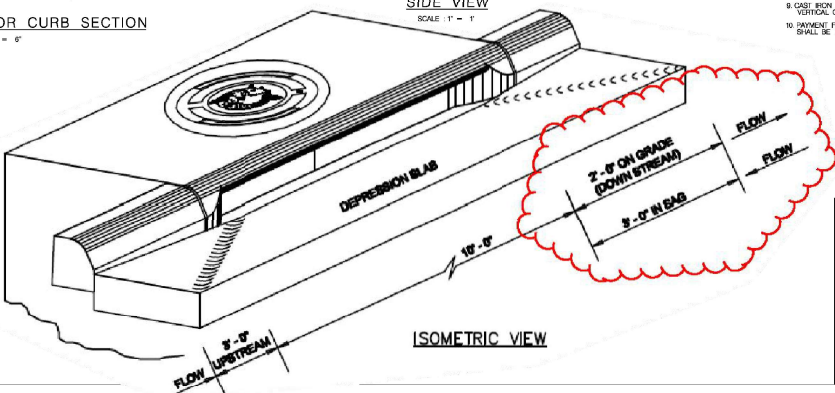
SECTION "A-A"

SCALE: 1" = 1'

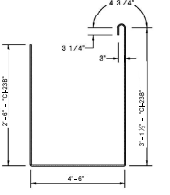


SIDE VIEW

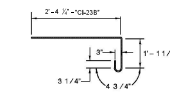
SCALE: 1" = 1'



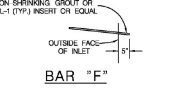
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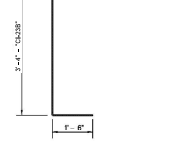
BAR "A"



BAR "B"

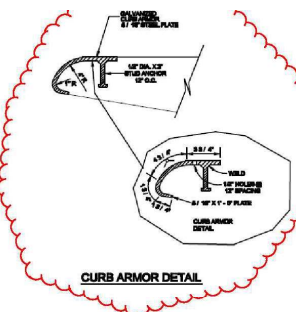


BAR "F"



BAR "E"

REINFORCING STEEL SCHEDULE					
BAR	No.	Size	Spac.	Length	Weight lbs.
DRAIN "28"	A	27	4	5' 0"	104.64
	B	27	4	5' 0"	74.27
	C	27	4	5' 0"	99.20
	D	27	4	5' 0"	148.97
	E	12	4	10' 0"	38.74
	F	12	5	12'	28.16
	G	3	4	12'	23.39
	H	5	5	12'	8.69
Concrete Total = 4.79 CY					Manhole Casting = 280 lbs.
					Steel Total = 685.97 lbs.



CURB ARMOR DETAIL

* THESE FIGURES DO NOT INCLUDE CONCRETE & STEEL INTERCEPTED BY MANHOLE AND REINFORCED CONC. PIPE.
* INCLUDES CONCRETE CUTTER FOR ON GRADE INLET. REDUCE BY 1/2" FOR INLET & SUMP.

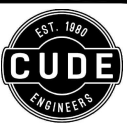
GENERAL NOTES

1. ALL BARS INTERCEPTING MANHOLE RING & REINFORCED CONCRETE PIPE SHALL BE FIELD CUT.
2. CONCRETE FOR STRUCTURES SHALL BE CLASS "A", 3000 PSI IN 28 DAYS.
3. ALL DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTER BARS.
4. ALL EXPOSED CORNERS SHALL BE CHAMFERED TO 3/4"
5. CONSTRUCTION JOINT SHOWN AT FLOWLINE MAY BE RAISED A MAXIMUM OF 6" AT THE CONTRACTOR'S DISCRETION. ADJUST LENGTH OF VERTICAL STEEL AS REQUIRED.
6. ALL REINFORCING STEEL SHALL CONFORM TO A.S.T.M. A-616, GRADE 60 REQUIREMENTS.
7. INVERT OF DROP INLET TO BE SHAPED WITH CONCRETE FILL TO AFFECT DRAINAGE TO OUTLET PIPE.
8. DELETE 4" BARS FROM SCHEDULE QUANTITIES IF MANHOLE RING AND COVER ARE PLACED AT END OF INLET.
9. CAST IRON MANHOLE RING AND COVER (U.S. 15) SHALL MAX. TO OUTLET PIPE CROCKET FOR VERTICAL OUTLET PIPE IN WHICH CASE MANHOLE RING AND COVER WILL BE OFFSET.
10. PAYMENT FOR ALL EXCAVATION, BACK FILL, CONCRETE, REINFORCING STEEL, BARS AND COVER SHALL BE INCLUDED IN THE UNIT COST OF ITEM AND STONE, SUMP, JUNCTION BOXES AND INLETS.

JANUARY 2005
STANDARD PLANS
CITY OF SAN ANTONIO, TEXAS
DEPARTMENT OF PUBLIC WORKS

TYPE "C" INLET DETAILS

DRAWN BY:	DATE:	REVISIONS:	SCALE:	SEE ABOVE
V. VASQUEZ				
CHECKED BY:	DATE:	SHEET:	OF	
NAT. HARVEY, P.E.				



4123 Fossil Hill Road, Suite 301
San Antonio, Texas 78231
P: (210) 681-2951 F: (210) 523-7112

McCRARY TRACT
UNIT 23

COSA DRAIN INLET DETAILS TYPE C MODIFIED

DATE
12/15/2023

PROJECT NO.
02142.643

DRAWING BY
JTW/MAT

CHECKED BY
CJC/SPM

REVISIONS

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- 9.
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12/15/2023

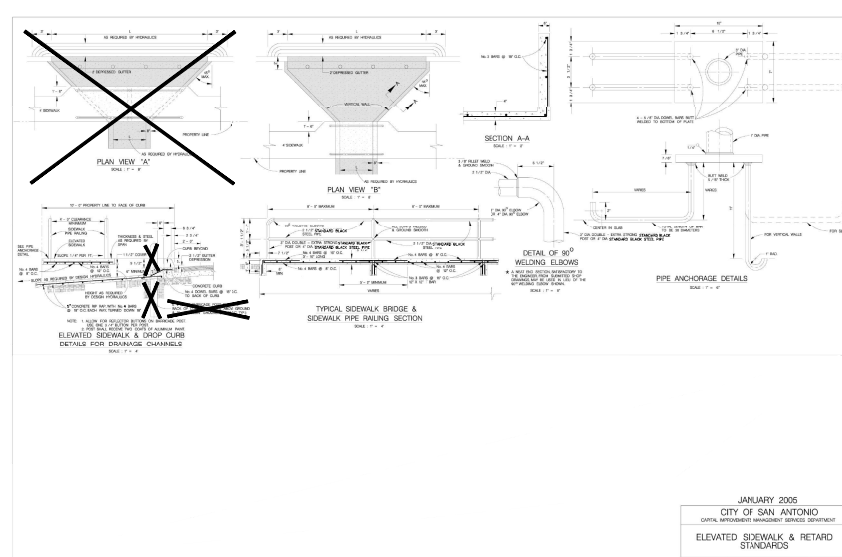
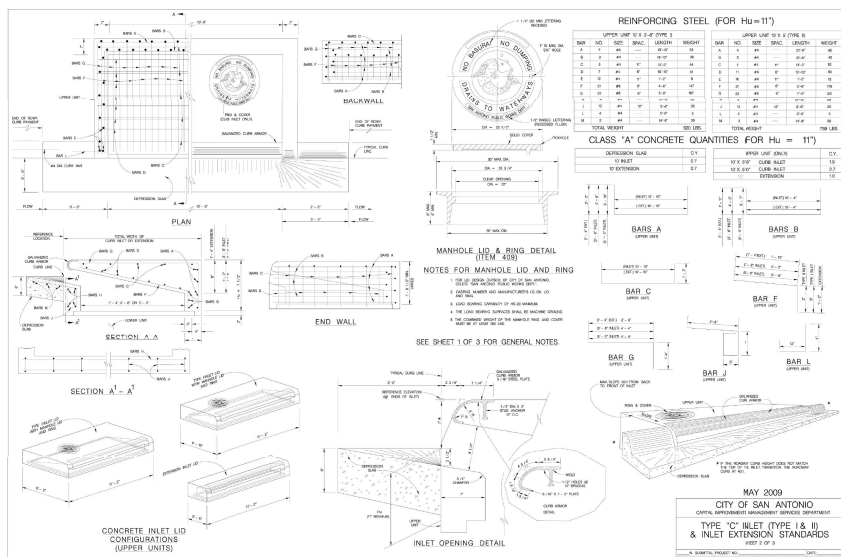


CUDA ENGINEERS
10111 S. Loop West, Suite 1000

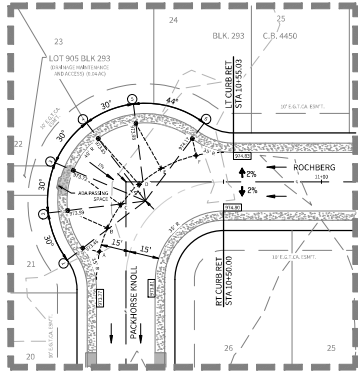
PLATING NO.
23-11800307

SANJUAN BLDG. CO.

C6.D2



POINT	Elevation
A	973.37
B	973.49
C	973.62
D	973.76
E	973.90
F	974.08



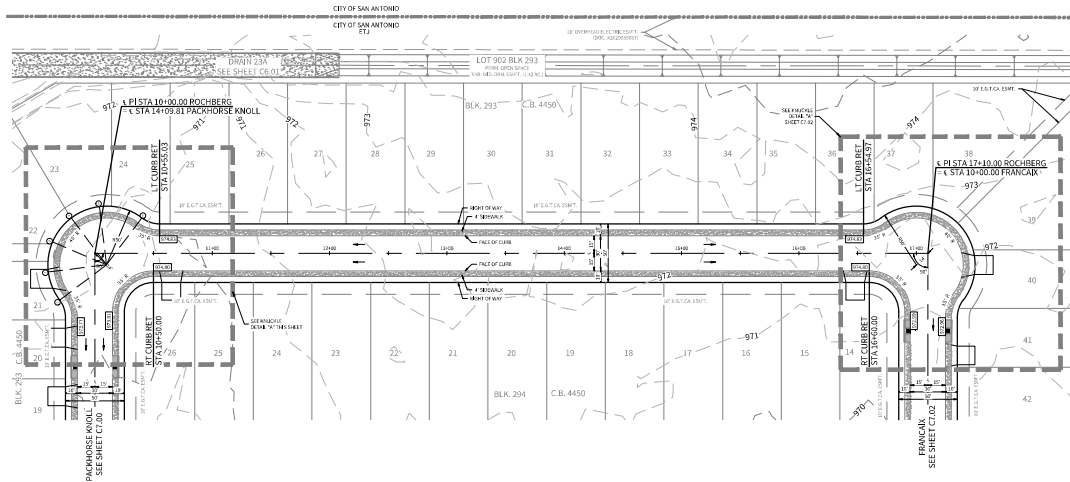
KNUCKLE DETAIL "A"
SCALE: 1" = 30'

ELEVATIONS:
PROPOSED TOP OF CONCRETE CURB ELEVATION
PROPOSED ASPHALT PAVEMENT ELEVATION

STREET WASHOUT (SEE DETAIL SHEET C7.01)
SIDEWALK TO BE CONSTRUCTED WITH INFRASTRUCTURE

WHEEL CHAIR RAMPS ARE INDICATED THUS "W" UNLESS OTHERWISE NOTED. (SHEET C7.01)
DIRECTIONAL WHEEL CHAIR RAMPS ARE INDICATED THUS "D" UNLESS OTHERWISE NOTED. (SHEET C7.01)

FOR ADA RAMPS AT SIDEWALK INTERSECTIONS, DETECTABLE WARNING PAVEMENT WITH TRUNCATED DOMES ONLY. ADA RAMPS TO BE CONSTRUCTED WITH INFRASTRUCTURE. WHERE RESIDENTIAL LOT FRONTAGE DOES NOT EXIST, ALL ADA RAMPS ADJACENT TO A RESIDENTIAL LOT SHALL BE CONSTRUCTED AT THE TIME OF HOMEBUILDING.



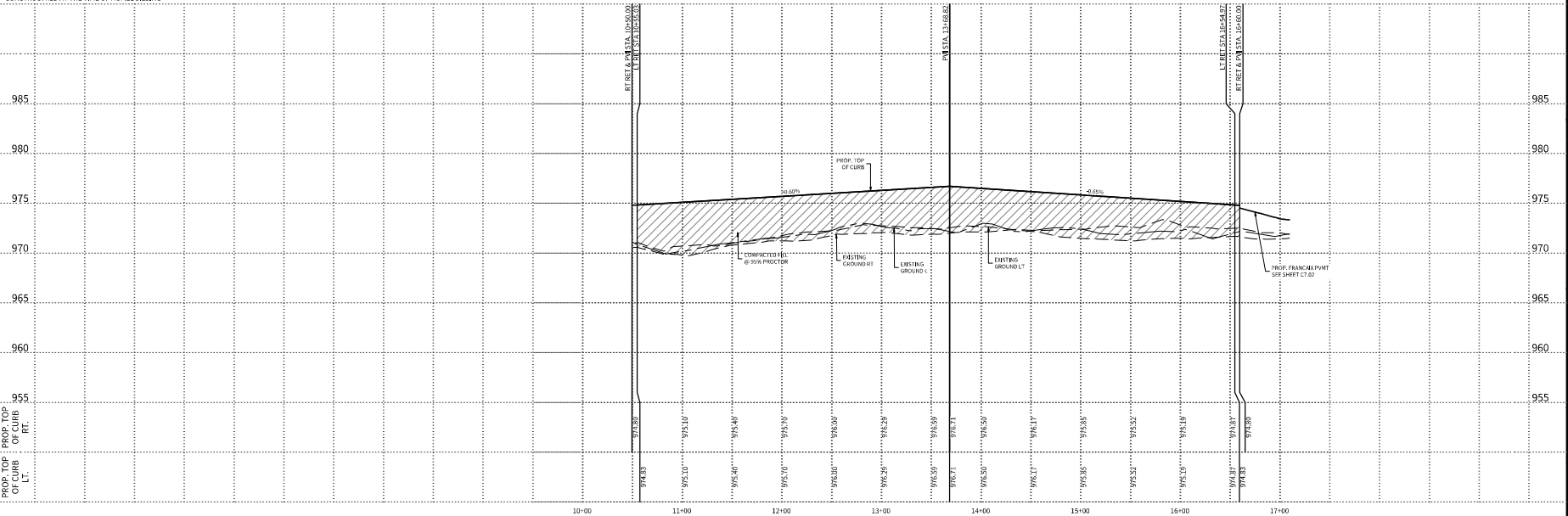
ROCHBERG

STA. 10+50.00 TO STA. 16+60.00



NOTE: A BEXAR COUNTY PERMIT MUST BE OBTAINED BEFORE WORKING IN BEXAR COUNTY RIGHT OF WAY

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'



4123 Fossil Hill Road, Suite 301
San Antonio, Texas 78231
P: (210) 681.2951 F: (210) 523.7112

McCrary Tract
UNIT 23

STREET PLAN & PROFILE - ROCHBERG

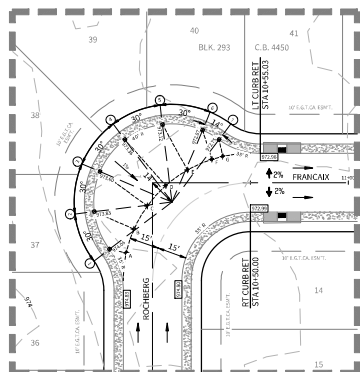
DATE	01/19/2024
PROJECT NO.	02142.643
DRAWN BY	JTW/MAT/DAF
CHECKED BY	CJC/SPM
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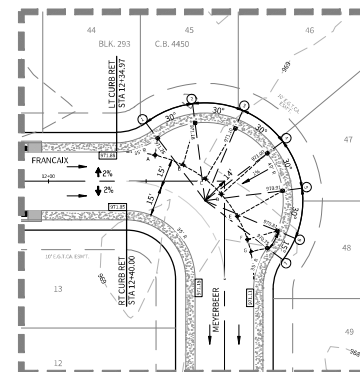
CUDE ENGINEERS
18115 New 104th Avenue

PLAT NO.
23-11800307

C7.01



SCALE: 1" = 30'

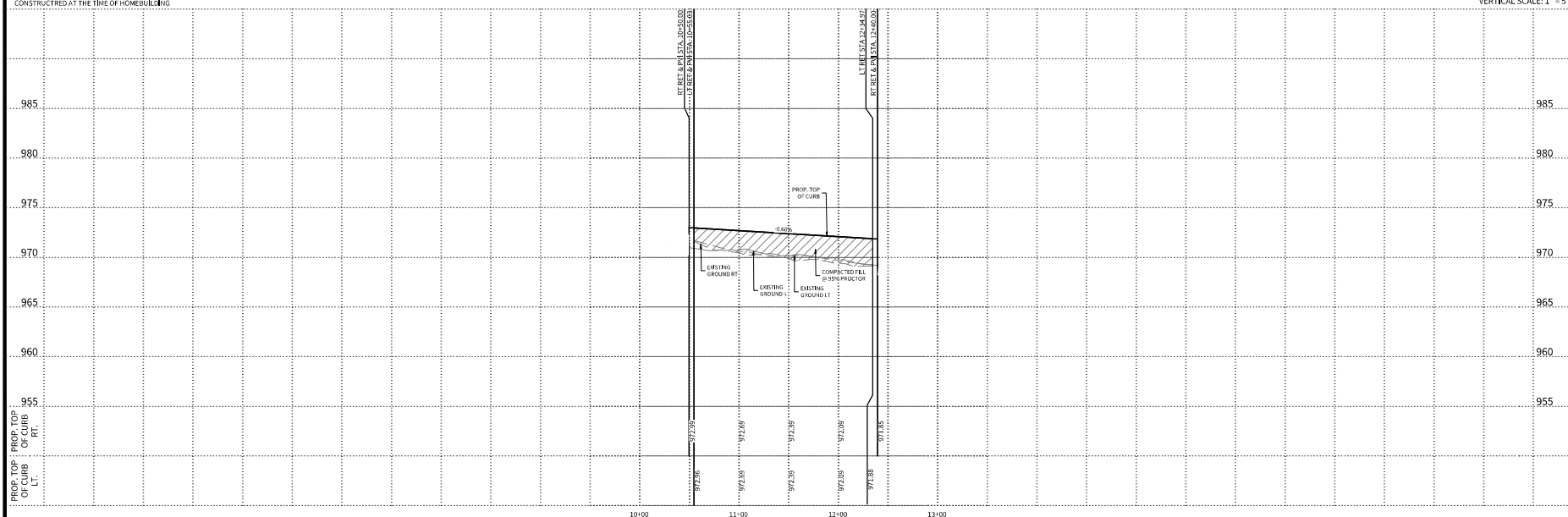


SCALE: 1" = 30'



HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'

STA. 10+00.00 TO STA. 12+90.00





4123 Fossil Hill Road, Suite 301
San Antonio, Texas 78211
P: (210) 681.2951 F: (210) 523.7112

McCrary Tract
Unit 23

STREET PLAN & PROFILE - MEYERBEER



NOTE: A BEXAR COUNTY PERMIT MUST BE
OBTAINED BEFORE WORKING IN BEXAR
COUNTY RIGHT OF WAY

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'

DATE

01/22/2024

PROJECT NO.

02142.643

DRAWN BY

JTW/MAT/DAF

CHECKED BY

CJC/SPM

REVISIONS

- 1.
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- 10.

01/23/2024



CUDE ENGINEERS

1841.5 No. 1004890

PLAT NO.

23-11800307

C7.03

MEYERBEER

STA. 10+00.00 TO STA. 16+60.00

ELEVATIONS:

PROPOSED TOP OF CONCRETE CURB ELEVATION

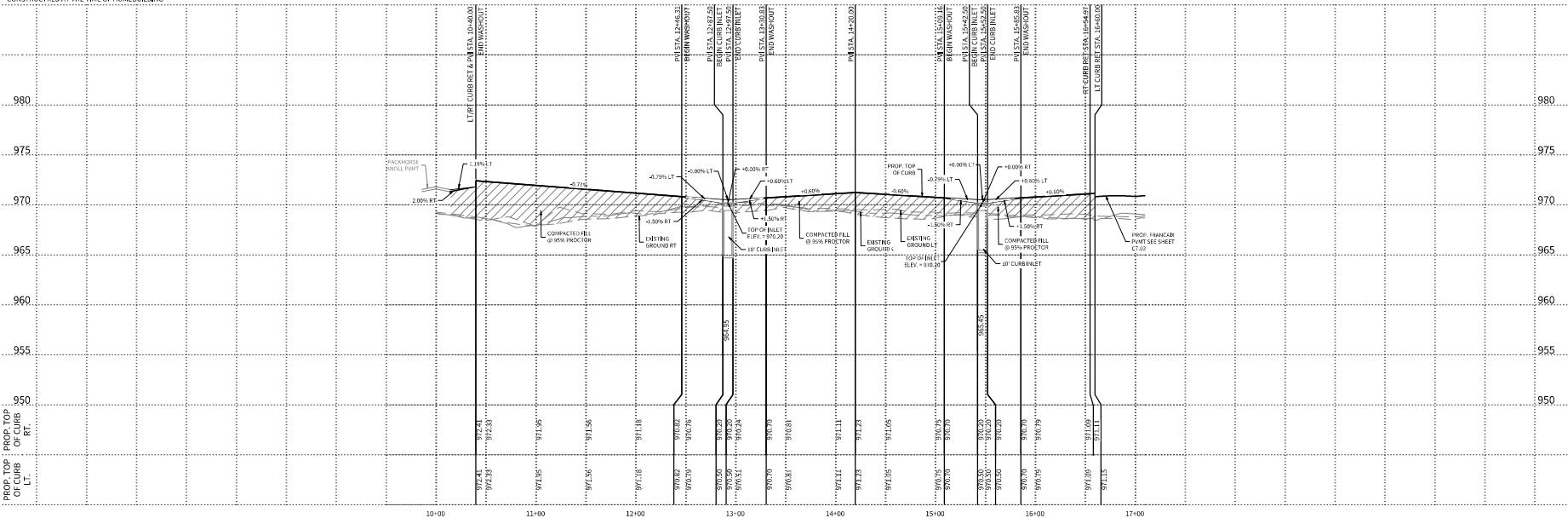
PROPOSED ASPHALT PAVEMENT ELEVATION

STREET WASHOUT (SEE DETAIL SHEET C7.D1)

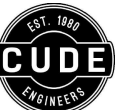
SIDEWALK TO BE CONSTRUCTED WITH INFRASTRUCTURE

DOT TYPE "2" WHEEL CHAIR RAMPS ARE INDICATED
THUS "2" UNLESS OTHERWISE NOTED. (SHEET C7.D1)
TYPE "10" DIRECTIONAL WHEEL CHAIR RAMPS ARE INDICATED
THUS "10" UNLESS OTHERWISE NOTED. (SHEET C7.D1)

FOR ADA RAMPS AT SIDEWALK INTERSECTIONS:
DETECTABLE WARNING PAVEMENT WITH TRUNCATED DOMES ONLY.
ADA RAMPS TO BE CONSTRUCTED WITH INFRASTRUCTURE.
WHERE RESIDENTIAL LOT FRONTAGE DOES NOT EXIST, ALL ADA
RAMPS ADJACENT TO A RESIDENTIAL LOT SHALL BE
CONSTRUCTED AT THE TIME OF HOMEBUILDING.



REPRODUCTION OF THE ORIGINAL UNIGNED AND SEALED PLAN AND/OR ELECTRONIC MEDIA MAY HAVE BEEN INADVERTENTLY ALTERED. CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE SCALE OF THE DOCUMENT AND CONTACTING CUDE ENGINEERS TO VERIFY DISCREPANCIES PRIOR TO CONSTRUCTION.



4123 Ford Hill Road, Suite 301
San Antonio, Texas 78231
P: (210) 681-2951 F: (210) 523-7112

McCrary Tract
Unit 23
STREET PLAN & PROFILE - HEINICHEN

DATE

01/30/2024

PROJECT NO.

02142-643

DRAWN BY

JTW/MAT/DAF

CHECKED BY

CJC/SPM

REVISIONS

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01/31/2024



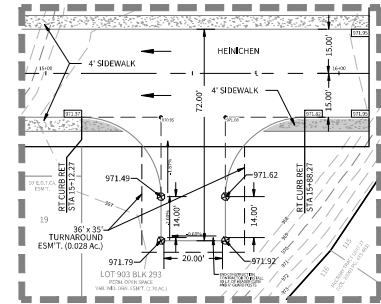
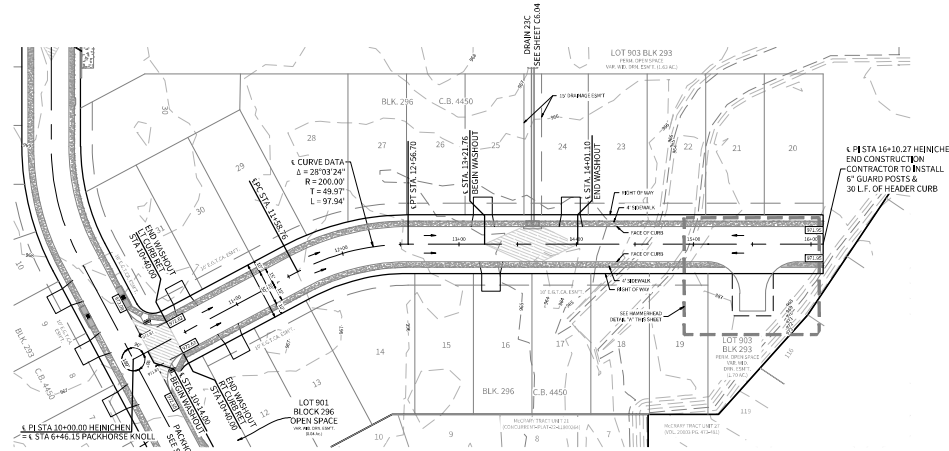
CUDE ENGINEERS

18115 No. 10448800

PLAT NO.

23-11800307

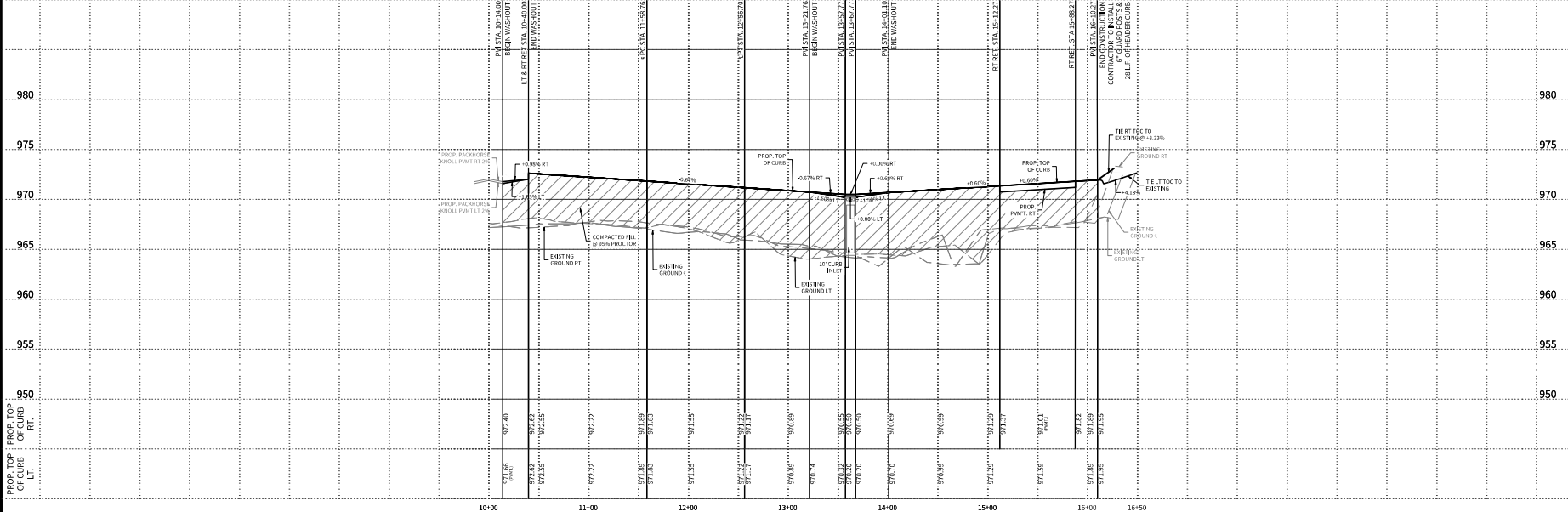
C7.04



HAMMERHEAD DETAIL "A"
SCALE: 1" = 20'

ELEVATIONS:
PROPOSED TOP OF CONCRETE CURB ELEVATION
PROPOSED ASPHALT PAVEMENT ELEVATION
STREET WASHOUT (SEE DETAIL SHEET C7.D1)
SIDEWALK TO BE CONSTRUCTED WITH INFRASTRUCTURE
TWOOT TYPE "2" WHEEL CHAIR RAMPS ARE INDICATED THUS " " UNLESS OTHERWISE NOTED. (SHEET C7.D1)
TYPE "10" DIRECTIONAL WHEEL CHAIR RAMPS ARE INDICATED THUS " " UNLESS OTHERWISE NOTED. (SHEET C7.D1)

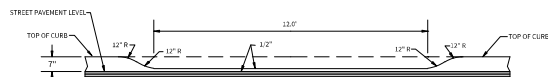
FOR ADA RAMPS AT SIDEWALK INTERSECTIONS, DETECTABLE WARNING PAVEMENT WITH TRUNCATED DOMES ONLY. ADA RAMPS TO BE CONSTRUCTED WITH INFRASTRUCTURE, WHERE RESIDENTIAL LOT FRONTAGE DOES NOT EXIST, ALL ADA RAMPS ADJACENT TO A RESIDENTIAL LOT SHALL BE CONSTRUCTED AT THE TIME OF HOMEBUILDING.



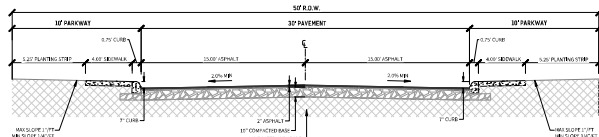
NOTE: A BEAR COUNTY PERMIT MUST BE OBTAINED BEFORE WORKING IN BEAR COUNTY RIGHT OF WAY

HORIZONTAL SCALE: 1" = 50'

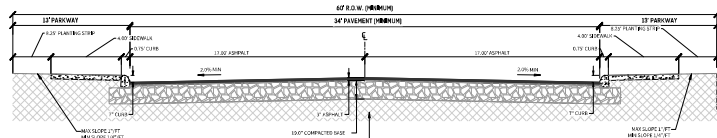
VERTICAL SCALE: 1" = 5'



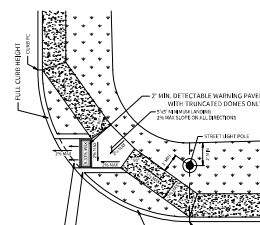
TYPICAL DRIVEWAY CUT SECTION



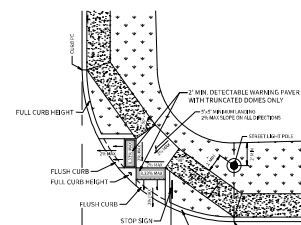
TYPICAL "LOCAL A" STREET CROSS SECTION



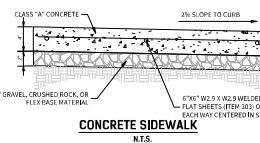
TYPICAL LOCAL "B" STREET CROSS SECTION



SINGLE ADA RAMP INTERSECTION LAYOUT DETAIL (TYPE 10 DIRECTIONAL RAMPS) N.T.S.



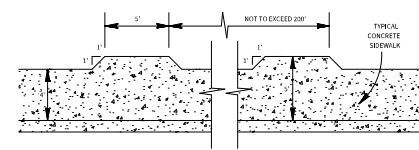
DUAL ADA RAMP INTERSECTION LAYOUT DETAIL (TYPE 10 DIRECTIONAL RAMPS) N.T.S.



CONCRETE SIDEWALK N.T.S.

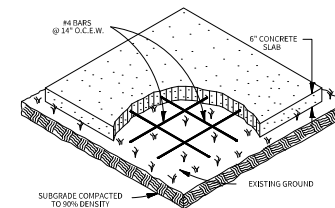
GENERAL SPECIFICATIONS FOR COMPACTED FILL

1. FOLLOWING THE CLEARING AND DRAINING OR SCARPING OF THE FILL AREA, IT SHALL BE GRADED TO A UNIFORM AND TRUE SURFACE. THE AREA SHALL BE BROUGHT TO THE ADEQUATE MOISTURE CONTENT AND COMPACTED TYPICALLY TO NOT LESS THAN NINETY PERCENT (90%) OF MAXIMUM DENSITY IN ACCORDANCE WITH THE CURRENT ASTM D 1557 COMPACTION PROCEDURE OR 90% OF MAXIMUM DENSITY IN ACCORDANCE WITH THE CURRENT TxDOT-155-LS-4 COMPACTION PROCEDURE.
2. THE MATERIALS USED SHALL BE FREE FROM ORGANIC MATTER AND OTHER DELETERIOUS SUBSTANCES, SUCH AS TREES, BRUSH AND RUBBER.
3. THE FILL MATERIAL SHALL BE COMPACTED AT THE APPROPRIATE MOISTURE CONTENT SPECIFIED FOR THE SUBSISTING USES. APPROPRIATE MOISTURE CONTENTS TO BE DEFINED, TYPICALLY AS OPTIMUM MOISTURE CONTENT; HOWEVER, FOR EXPANSIVE SOILS, IT MAY BE GREATER THAN OPTIMUM MOISTURE CONTENT, AND OTHER MOISTURE CONTENTS MAY BE NECESSARY TO PRODUCE THE DESIRED RESULTS WITH CERTAIN SOILS.



SIDEWALK PASSING SPACE

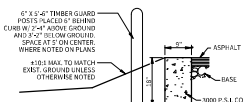
1. FOR LOCAL TYPE "A" STREETS, SIDEWALKS SHALL HAVE A MINIMUM UNOBSTRUCTED WIDTH OF 4' AND IF SEPARATED FROM THE CURB, THE SIDEWALK SHALL BE LOCATED A MINIMUM OF 3' FROM THE BACK OF CURB.
2. SIDEWALKS LESS THAN 5 FEET IN WIDTH SHALL BE PROVIDED WITH A PASSING SPACE AT A MAXIMUM SPACING OF 200 FEET.



MAIL BOX PAD NOTE:

1. THE CONTRACTOR WILL CONSTRUCT SLABS FOR "TEMPORARY MAIL BOX COLLECTION PAD" FOR THE UNITED STATES POSTAL SERVICE WITH LOCATIONS AND SIZES SPECIFIED BY THE CITY ENGINEER DURING CONSTRUCTION.
2. THE CONSTRUCTION OF SLABS SHALL CONFORM TO ITEM 513 "REMOVING AND RELOCATING MAILBOXES".
3. PAYMENT WILL BE MADE UNDER ITEM 513.2 "COMMUNITY MAILBOX SLAB - PER SQUARE YARD".
4. UNIT PRICE WILL INCLUDE REMOVAL OF "TEMPORARY MAIL BOX COLLECTION PAD" SLABS AT THE END OF THE PROJECT. NO SEPARATE PAY ITEM.

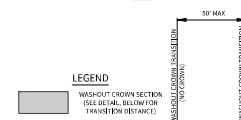
COMMUNITY MAIL BOX SLAB ITEM 513.2



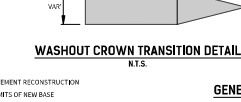
NOTES:

1. ALLOW FOR REFLECTOR BUTTONS ON GUARD POSTS. USE ONE (1) BUTTON PER POST.
2. POSTS WILL RECEIVE TWO COATS OF ALUMINUM PAINT.

HEADER CURB DETAIL N.T.S.



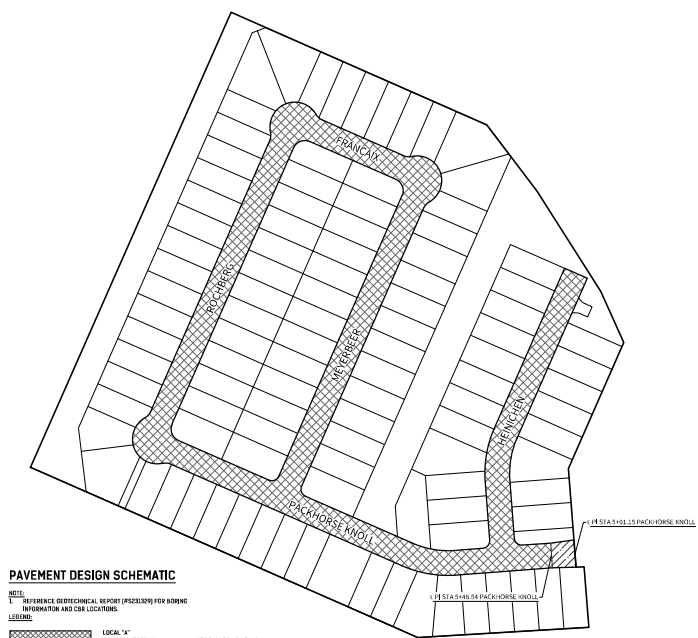
WASHOUT CROWN TRANSITION DETAIL N.T.S.



GENERAL NOTES

THE LOCATIONS AND DEPTHS OF ALL EXISTING UTILITIES, INCLUDING SURFACE LATERALS AND DRAINAGE STRUCTURES SHOWN ON THE PLANS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION AND DEPTHS OF UNDERGROUND UTILITIES AT LEAST 48 HOURS PRIOR TO CONSTRUCTION WHETHER SHOWN ON PLANS OR NOT, AND TO PROTECT THE SAME DURING CONSTRUCTION.

SAN ANTONIO WATER SYSTEM 23-2020
TRANS STATE WIDE ONE CALL LOCATOR C.P.S. ENERGY 1-800-545-6065
A.T.E.
TIME WARNER CABLE
VALERO ENERGY
GRAY FOREST UTILITIES

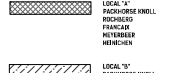


STREET PAVEMENT DESIGN DETAIL N.T.S.

PAVEMENT DESIGN SCHEMATIC

NOTE:
1. REFERENCE GEOTECHNICAL REPORT (PROCESSED) FOR BORING INFORMATION AND CURB LOCATIONS.

LEGEND:



NOTE:
LIME TREATMENT IS NOT REQUIRED.
ONLY IF SUBGRADE FILL CONTAINS TO VALUES LESS THAN 20.

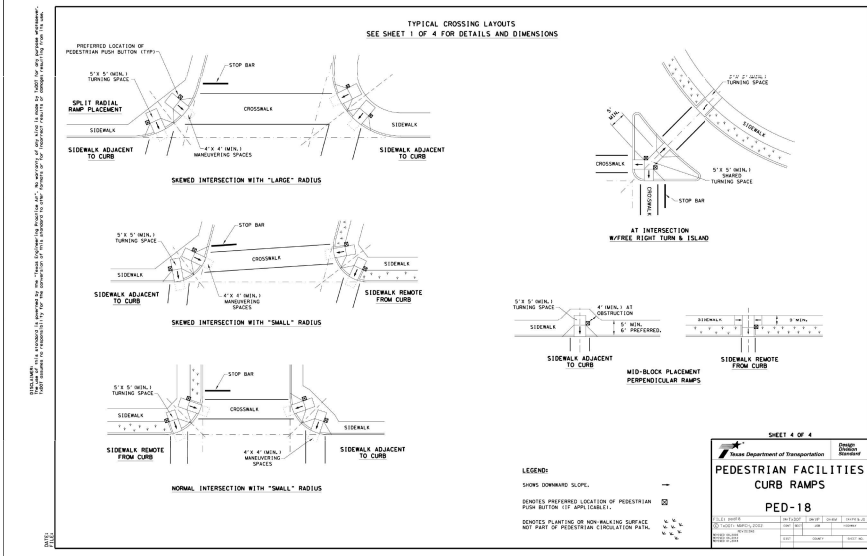
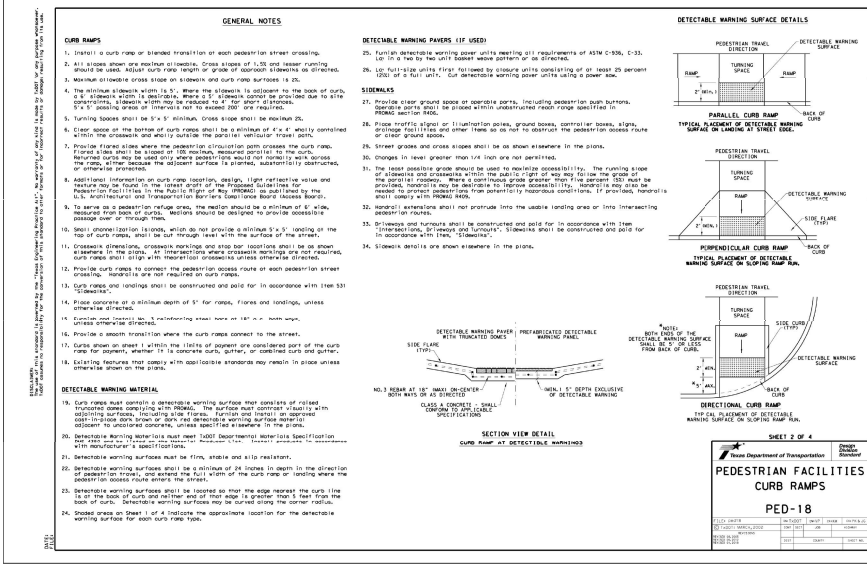
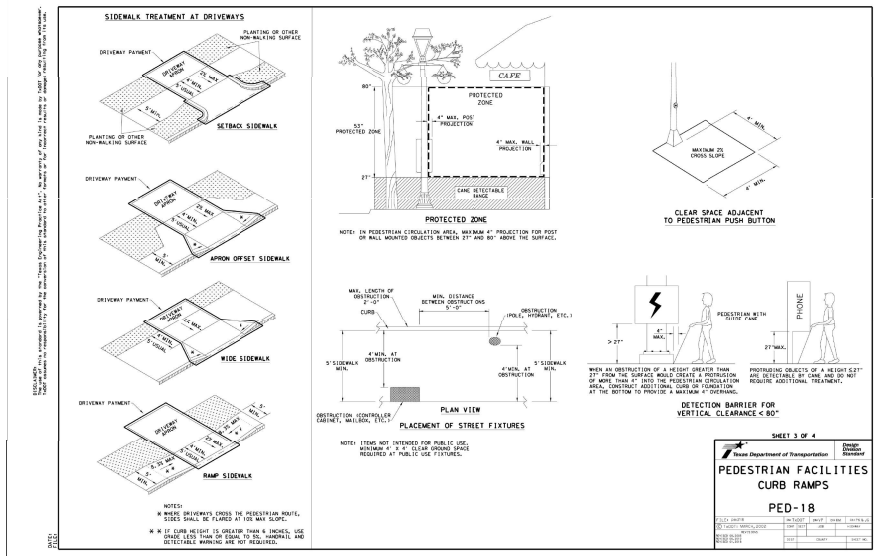
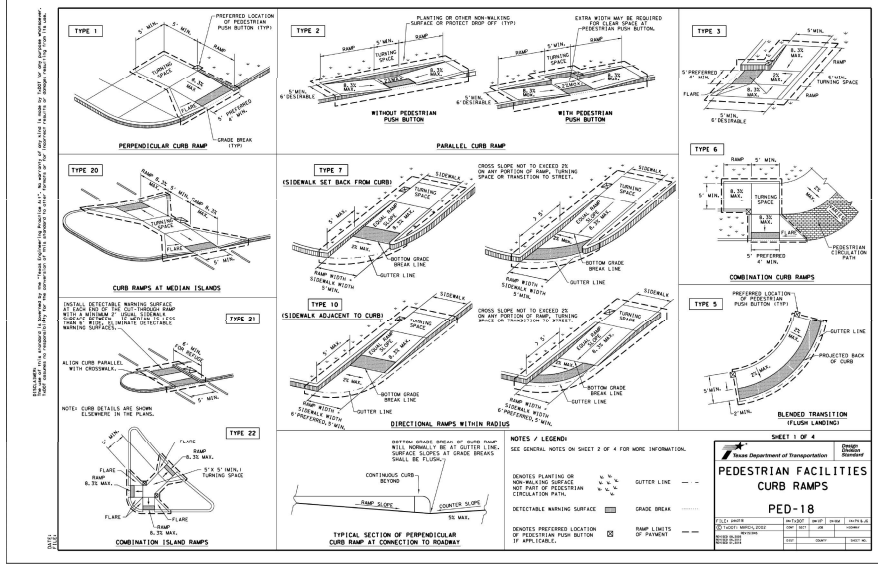
STREET PAVEMENT DESIGN NOTES

1. THE SUBGRADE SOILS SHOULD BE TESTED FOR SOIL SULFATE CONTENT PRIOR TO STABILIZATION. IF SOIL SULFATE CONTENT IS HIGH, AN ALTERNATE PROCEDURE WILL BE NEEDED.
2. LIME APPLICATION RATE OF 32.0 LBS PER SQ YD FOR 6 INCH DEPTH STABILIZATION IS RECOMMENDED.
3. IF GRADIENT APPLICATION RATES ARE NEEDED, PLEASE CONTACT INTEC TO RUN THE TESTS.
4. IF FILL IS USED TO RAISE THE GRADE, FILL MATERIAL UNDERNATH THE PAVEMENT SHOULD BE APPROVED FILL MATERIAL, FREE OF DELETERIOUS MATERIAL, AND WITH A MINIMUM CBR VALUE OF 4.0. LIME APPLICATION RATES SHOULD BE RE-EVALUATED AND TESTED FOR SULFATE CONTENT PRIOR TO USE OF THE FILL MATERIAL. THE MATERIAL SHOULD BE PLACED AS PER APPLICABLE CITY OR COUNTY GUIDELINES.
5. THE FINAL PAVEMENT SUBGRADE SHOULD BE DELINEATED FOR DIFFERENT SUBGRADE TYPES AND VERIFIED BY INTEC.

LIME TREATMENT

FOR CONSTRUCTION VERIFICATION THE FOLLOWINGS SHALL BE CONDUCTED IN THE FIELD:

- AFTER INITIAL MIXING, THE SOIL-LIME MIXTURE SHALL MELLOW FOR A PERIOD OF TWO TO THREE (2-3) DAYS, MAINTAIN A MOISTURE DURING MELLOWING.
- AFTER MELLOWING AND FINAL MIXING, THE PULVERIZATION SHALL BE CHECKED USING THE FOLLOWING CRITERIA (REMOVE NON-SLAKING AGGREGATES RETAINED ON THE #100 SIEVE FOR THE SAMPLE):
 - MINIMUM PASSING 1/2" SIEVE 100
 - MINIMUM PASSING 3/4" SIEVE 85
 - MINIMUM PASSING NO. 4 SIEVE 60
- SAMPLE SOIL-LIME MIXTURE FOR DETERMINATION OF MDD. IN THE LABORATORY, MOLD SPECIMENS TO 95% OF MDD AT OPTIMUM MOISTURE CONTENT AND VERIFY UCS TO BE AT LEAST 160 PSI IN ACCORDANCE WITH PROCEDURE OUTLINED ABOVE FOR WATERS DESIGN.
- COMPACT AND CHECK FIELD DENSITY (MINIMUM OF 95% MDD REQUIRED).
- CURE FOR AN ADDITIONAL 2 TO 5 DAYS (TOTAL MELLOWING AND CURING TIME SHOULD TOTAL AT LEAST 5 DAYS).
- VERIFY DEPTH OF LIME STABILIZED LAYER TO DEPTH AS NOTED ON PLAN WITHIN +/- 1.0 INCHES.





4123 Fossil Hill Road, Suite 301
San Antonio, Texas 78211
P: (210) 681-2951 F: (210) 523-7112

McCrary Tract
UNIT 23
(COSA DRIVEWAY) - COSA DRIVEWAY

DATE
12/14/2023

PROJECT NO.
02142.643

DRAWN BY
JTW/MAT

CHECKED BY
CJC/SPM

REVISIONS

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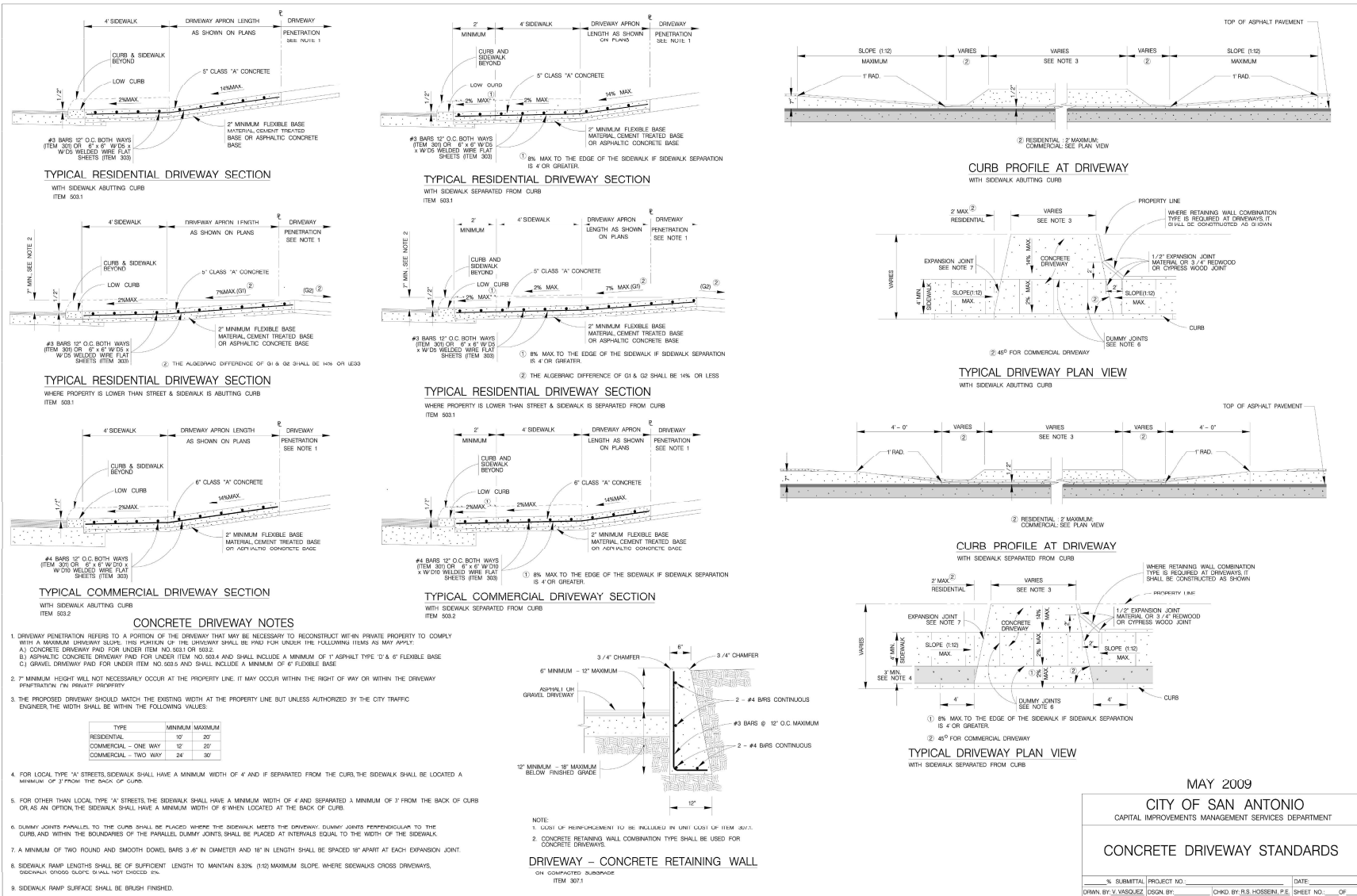
12/14/2023

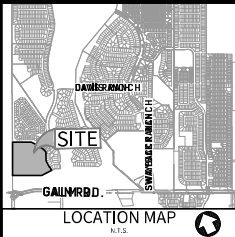


CUDE ENGINEERS
1816 S. No. 100-00000

PLATING
23-11800307

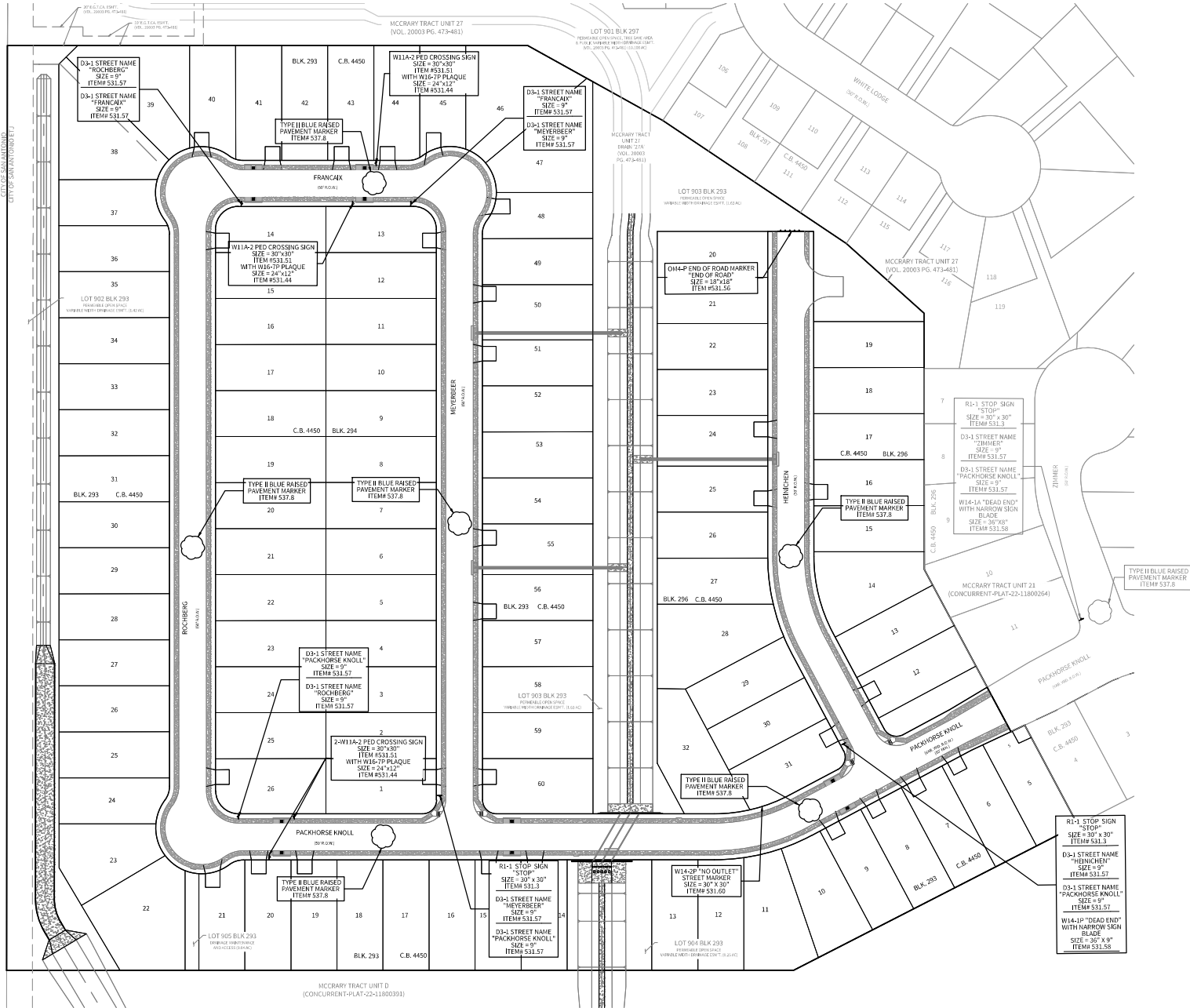
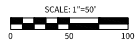
C7.D3





OWNER/DEVELOPER:
HDC DAVIS RANCH II, LLC
CONTACT PERSON: BRYAN N. SIMS
100 NE LOOP 410, SUITE 1080
SAN ANTONIO, TX 78216
TEL: (210) 688-7294

CIVIL ENGINEER:
M.W. CUDE ENGINEERS, L.L.C.
CONTACT PERSON: SEAN MCFARLAND, P.E.
4122 POND HILL ROAD, SUITE 101
SAN ANTONIO, TX 78231
TEL: (210) 688-2951
FAX: (210) 523-7112



4122 Pond Hill Road, Suite 101
San Antonio, Texas 78231
P: (210) 688-2951 F: (210) 523-7112

McCrary Tract Unit 23

TRAFFIC SIGNAGE PLAN

DATE	01/31/2024
PROJECT NO.	02142-643
DRAWN BY	JTW/MAT/DAF
CHECKED BY	CJC/SPM
REVISIONS	
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CUDE ENGINEERS, L.L.C.
1815 N. Loop West, Suite 1000

PLAT NO.
23-11800307
SALES JOB NO. 0.

C8.00

[illegible]

**9\"/>

Capital = 6"
Lower case = 4"

LENGTH 2'-0" MIN. 4'-0" MAX.

MAINTAIN 1" FROM EDGE OF SIGN

BLUE BACKGROUND

WHITE LETTERS, NUMBERS & ARROWS

9" GROUND MOUNT STREET NAME SIGNS

9" GROUND MOUNT STREET NAME SIGNS WITH STREET DESIGNATION

Capital = 6"
Lower case = 4"

LENGTH 2'-0" MIN. 6'-0" MAX.

MAINTAIN 1" FROM EDGE OF SIGN

BLUE BACKGROUND

WHITE BORDER

WHITE LETTERS, NUMBERS & ARROWS

18" OVERHEAD STREET NAME SIGNS

Capital = 8"
Lower case = 6"

LENGTH 2'-0" MIN. 4'-0" MAX.

MAINTAIN 1" FROM EDGE OF SIGN

BLUE BACKGROUND

WHITE BORDER

WHITE LETTERS, NUMBERS & ARROWS

Table 1: SIGN FACE MATERIALS

HEIGHT	18" OVERHEAD SIGN	9" GROUND MOUNT SIGNS
LENGTH	18" (381 mm) MIN. 24" (609 mm) MAX.	24" (609 mm) MIN. 48" (1219 mm) MAX.
THICKNESS	1/2" (12.7 mm)	1/2" (12.7 mm) MIN. 3/4" (19.0 mm) MAX.
RECOMMENDED	ALUMINUM ALLOY, 5052 FOR ASTM B 209 (2014 T3 ALUMINUM ALLOY IS ALSO ACCEPTABLE)	ALUMINUM ALLOY, 5052 FOR ASTM B 209 (2014 T3 ALUMINUM ALLOY IS ALSO ACCEPTABLE)
SIGN FACE MATERIALS	BLUE FILM OVER DIAMOND GRADE ASTM Type IV (Non-Flammable)	BLUE FILM OVER HIGH INTENSITY PRISMATIC, ASTM Type IV (Non-Flammable)
LEGENDS AND SYMBOLS	WHITES & RED ON C IF NAME OTHERWISE EXCEEDS MAXIMUM SIGN LENGTH	WHITES & RED ON C IF NAME OTHERWISE EXCEEDS MAXIMUM SIGN LENGTH
COLOR	WHITE LEGEND ON BLUE BACKGROUND	WHITE LEGEND ON BLUE BACKGROUND
LETTER THICKNESS	17% (LOCAL) 20% (NCS)	10%

FIGURE 10-11. PLACEMENT OF SIGN

SPALL VISE INSTALLATION

NAIL AND INSTALLATION

Sign Face Materials

- STANDARD SPECIFICATIONS FOR HIGHWAY MATERIALS AND METHODS OF CONSTRUCTION, 10TH EDITION, 2018, SECTION 700, PART 1, SUBPART 1, ITEM 700.1.1.1
- STANDARD SPECIFICATIONS FOR HIGHWAY MATERIALS AND METHODS OF CONSTRUCTION, 10TH EDITION, 2018, SECTION 700, PART 1, SUBPART 1, ITEM 700.1.1.1
- ASTM D 4556 - 08e1**

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