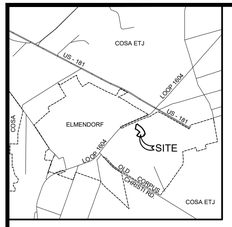
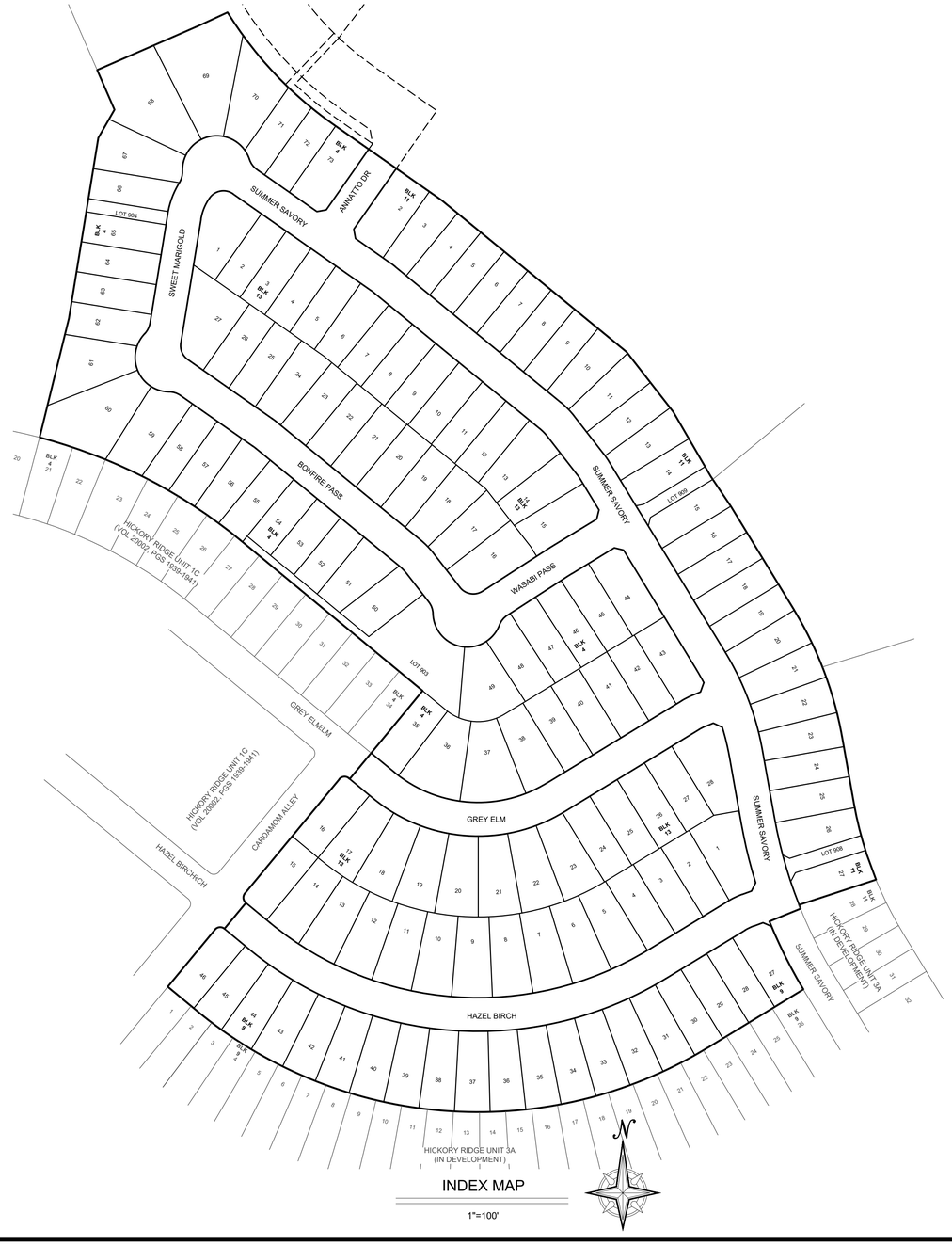
CONSTRUCTION PLANS
for
HICKORY RIDGE SUBDIVISION
PHASE 1 UNIT 2



LOCATION MAP
NOT TO SCALE



INDEX MAP
1"=100'

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REV	DATE	DESCRIPTION

FOR BIDDING PURPOSES ONLY
NOT FOR CONSTRUCTION

KCI TECHNOLOGIES, INC.
11550 IH 10 WEST, SUITE 395
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PHONE: (210) 641-9999
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REGISTRATION #F-10573 / #101943-65

KCI TECHNOLOGIES

HICKORY RIDGE SUBDIVISION
PHASE 1 UNIT 2
CONSTRUCTION COVER

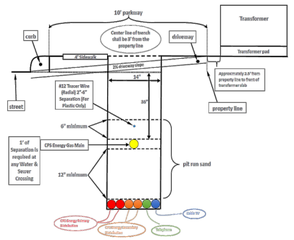
DRAFTING:	K.P./G.P.	CHECK:	C.P.
DESIGN:	L.E.	CHECK:	M.P.S.
SUBMITTAL PHASE:			
DATE:	12/22		
KCI JOB #:	762207389		
SHEET:	100		

Date: Feb 27, 2024, 9:41pm User: ID: c:\acad\Proj\2022_KCI\762207389_Hickory_Ridge_Phase 1 Unit 2\cad\762207389 100 COVER.dwg

UTILITY PLANS & DETAILS
for
HICKORY RIDGE SUBDIVISION
PHASE 1 UNIT 2

DS-1

Gas & Electric Trench Joint with Other Utilities

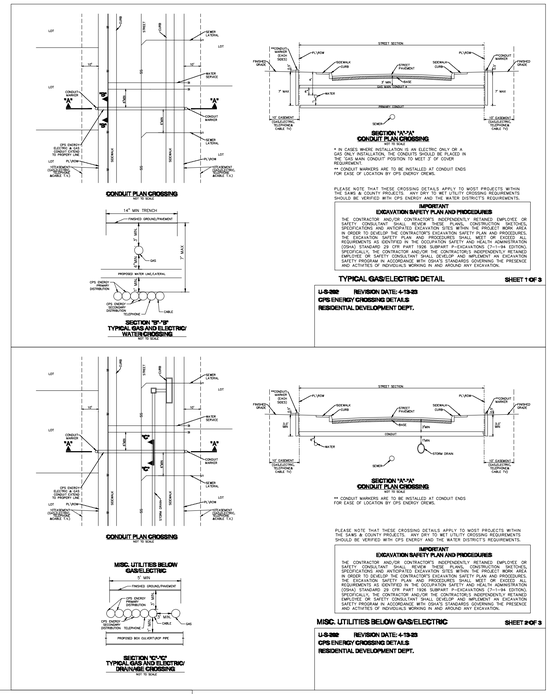


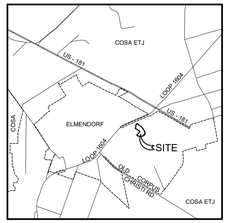
JOINT TRENCH DETAIL

NOT TO SCALE

LEGEND

EXISTING EDGE OF PAVEMENT	
EXISTING SANITARY SEWER MAIN	E8"/12" SS
PROPOSED SANITARY SEWER MAIN	P8"/12" SS
EXISTING WATER MAIN	E8"/16" PVC
PROPOSED WATER MAIN	P8"/12" PVC
EXISTING GAS MAIN	G
PROPOSED GAS MAIN	G
EXISTING UNDERGROUND TELEPHONE	T
PROPOSED UNDERGROUND TELEPHONE	T
EXISTING UNDERGROUND ELECTRIC	E
PROPOSED UNDERGROUND ELECTRIC	E
EXISTING OVERHEAD ELECTRIC	O.E.
PROPOSED OVERHEAD ELECTRIC	O.E.
EXISTING OVERHEAD TELEPHONE	O.T.
PROPOSED OVERHEAD TELEPHONE	O.T.
EXISTING UNDERGROUND CABLE T.V.	T.V.
PROPOSED UNDERGROUND CABLE T.V.	T.V.
EXISTING OVERHEAD CABLE T.V.	O.T.V.
PROPOSED OVERHEAD CABLE T.V.	O.T.V.
FIRE HYDRANT	
GAS, ELECTRIC, TELEPHONE & CABLE T.V. EASEMENT	G.E.T.T.V.E.
PROPOSED STREET LIGHT (100 WATT/SINGLE ARM)	L.P.
PROPOSED STREET LIGHT (250 WATT/SINGLE ARM)	L.P.(250)
EXISTING STREET LIGHT	E.L.P.
HIGH DENSITY POLYETHYLENE	H.D.P.E.
EXISTING SANITARY SEWER LATERAL	ESS
SANITARY SEWER LATERAL	SS
WATER SERVICE	W
IRRIGATION SERVICE	IS

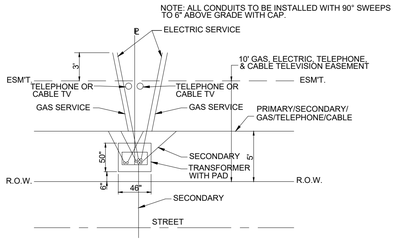




LOCATION MAP

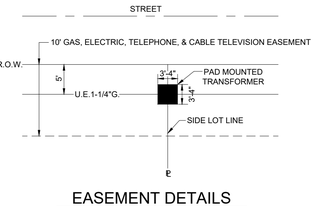
NOT TO SCALE

SHEET INDEX



TYPICAL TRANSFORMER DETAIL

NOT TO SCALE



EASEMENT DETAILS

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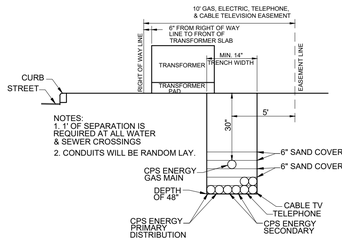
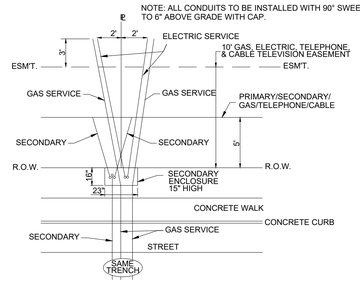


NOTES:
1. 1' OF SEPARATION IS REQUIRED AT ALL WATER & SEWER CROSSINGS
2. CONDUITS WILL BE RANDOM LAY.

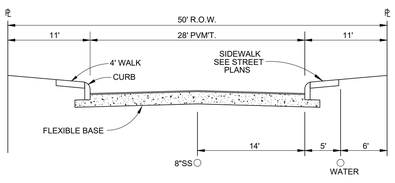
TRENCH DIAGRAM
STANDARDS FOR GAS & ELECTRIC TRENCH
OR ELECTRI TRENCH WITH JOINT UTILITIES

NOT TO SCALE



SECONDARY ENCLOSURE DETAIL

NOT TO SCALE



TYPICAL LOCAL "A" STREET SECTION

NOT TO SCALE

OWNER/DEVELOPER:

CASTLEROCK COMMUNITIES
2401 FOUNTAIN VIEW DRIVE, SUITE 215
HOUSTON, TEXAS 77057
PHONE: (713) 600-7060

PREPARED BY:

KCI TECHNOLOGIES, INC.

11550 IH 10 WEST, SUITE 395
SAN ANTONIO, TEXAS 78230-1037
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

REV	DATE	DESCRIPTION

FOR BIDDING PURPOSES ONLY
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KCI TECHNOLOGIES, INC.
11550 IH 10 WEST, SUITE 395
SAN ANTONIO, TEXAS 78230-1037
PHONE: (210) 641-9999
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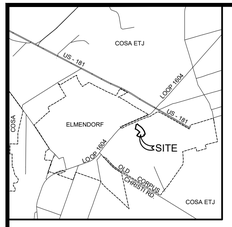
REGISTRATION #F-10573 / #101943-65

HICKORY RIDGE SUBDIVISION
PHASE 1 UNIT 2
UTILITY COVER & DETAILS

DRAFTING:	K.P./G.P.	CHECK:	C.P.
DESIGN:	L.E.	CHECK:	M.P.S.
SUBMITTAL PHASE:			
DATE:	12/22		
KCI JOB #:	762207389		

SHEET:
200

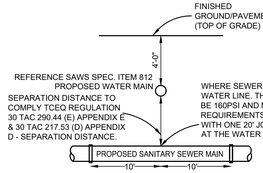
Date: Feb 22, 2023 - 3:44pm User ID: Lance.Erling File: L:\Drawings\Proj\2022\762207389 Hickory_Ridge_Phase_1_Unit_2\Civil\762207389 200 UTILITY COVER AND DETAILS.dwg



LOCATION MAP
NOT TO SCALE

TRENCH EXCAVATION SAFETY PROTECTION

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/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 CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTOR'S IMPLEMENTATION OF THE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION, SAFETY PROTECTION THAT COMPLIES 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.



TYPICAL SANITARY SEWER/
WATER CROSSING DETAIL
NOT TO SCALE

NOTE:

1. 6" P.V.C. SCHEDULE 80 CONDUIT WILL BE REQUIRED FOR C.P.S. UTILITY CROSSING FROM ROW TO ROW AT A DEPTH OF 36" BELOW FINAL GRADE, WHEN STREET OR DRAIN CONSTRUCTION PRECEDES UTILITY INSTALLATION.
2. 4" P.V.C. SCHEDULE 40 CONDUIT WILL BE REQUIRED FOR UNDERGROUND TELEPHONE AND CABLE T.V. FROM ROW TO ROW AT A DEPTH OF 36" BELOW FINAL GRADE, WHEN STREET OR DRAIN CONSTRUCTION PRECEDES UTILITY INSTALLATION.
3. P.V.C. CONDUIT SHALL HAVE 90° SWEEPS/BENDS TO 6" ABOVE GRADE WITH CAP. IF CONDUIT IS NOT INSTALLED 6" ABOVE FINAL GRADE IT SHALL BE CONTRACTORS RESPONSIBILITY TO UNDERCOVER CONDUIT ENDS FOR EACH UTILITY PROVIDER AS NECESSARY.
4. IF OWNER ELECTS TO HAVE DRY UTILITIES INSTALLED PRIOR TO STREET CONSTRUCTION NO CONDUIT FOR CPS & CABLE TV WILL BE INDICATED ON THIS PLAN. IF CONTRACTOR ELECTS TO PROCEED WITH ANY PORTION OF DRAIN CONSTRUCTION PRIOR TO UTILITY INSTALLATION, THEN CONTRACTOR WILL BE REQUIRED TO INSTALL ALL DRY UTILITY CONDUIT REQUIRED AT EACH DRAIN CROSSING AT NO EXTRA PAY.
5. 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.

CITY OF ELMENDORF	210-365-8210
SAN ANTONIO RIVER AUTHORITY (SARA)	210-227-1373
TEXAS STATE WIDE ONE CALL LOCATOR	1-800-545-6005
CITY PUBLIC SERVICE	"
AT&T	"
CHARTER COMMUNICATIONS	"
VALERO ENERGY CO.	"

6. AT&T AND SPECTRUM COMMUNICATION LINES TO GO INTO JOINT TRENCH WITH C.P.S. ENERGY
7. LOTS WITH CONFLICTING TRANSFORMER / SECONDARY ENCLOSURE ELECTRIC SERVICE AND WATER METER PLACED 5' FROM PROPERTY LINE WHERE THE CONFLICT OCCURS.
8. TYPICAL UTILITY CROSSING WILL HAVE
   8.1. 3 - 6" SCH 80 PVC CONDUIT WITH SWEEPS,
   8.2. 2 - 4" SCH 40 PVC CONDUIT WITH SWEEPS,
   THE TOTAL AMOUNT OF CONDUIT TO BE USED WILL BE DETERMINED DURING CONSTRUCTION.
9. TYPICAL UTILITY CROSSINGS WILL HAVE
   9.1. 3 - 4" SCH 40 PVC CONDUIT WITH SWEEPS

LEGEND

EXISTING EDGE OF PAVEMENT	
EXISTING SANITARY SEWER MAIN	E8"/12" SS
PROPOSED SANITARY SEWER MAIN	P8"/12" SS
EXISTING WATER MAIN	E8"/16" PVC
PROPOSED WATER MAIN	P8"/12" PVC
PROPOSED STREET LIGHT (100 WATT/SINGLE ARM)	L.P.
PVC CONDUIT	

N
0 60' 120'
1" = 60'

FOR BIDDING PURPOSES ONLY
NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION

KCI TECHNOLOGIES, INC.
11550 IH 10 WEST, SUITE 395
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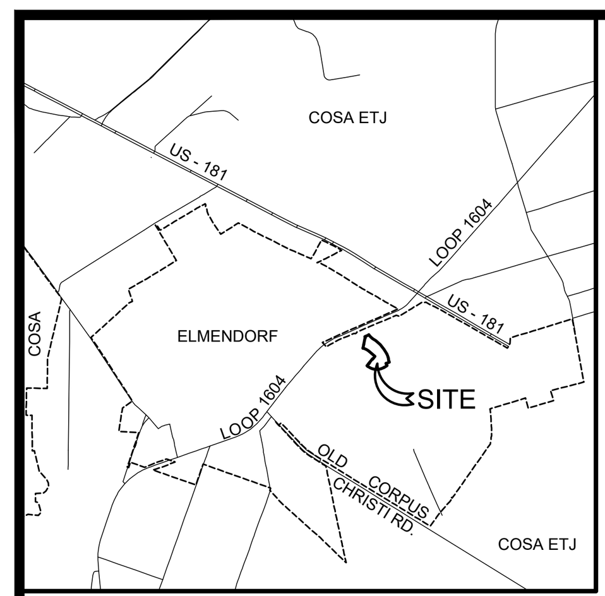
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F- 10573 / #101943-65

HICKORY RIDGE SUBDIVISION
PHASE 1 UNIT 2
OVERALL UTILITY PLAN

DRAFTING:	K.P./G.P.	CHECK:	C.P.
DESIGN:	L.E.	CHECK:	M.P.S.
SUBMITTAL PHASE:			
DATE:			12/22
KCI JOB #:			762207389
SHEET:			201

AQUA TEXAS SANITARY SEWER PLAN APPROVALS
PRELIMINARY APPROVAL DATE: AUGUST 14, 2023

FINAL APPROVAL DATE: PLANS ARE CURRENTLY IN REVIEW



LOCATION MAP
NOT TO SCALE

SANITARY SEWER CONSTRUCTION for HICKORY RIDGE SUBDIVISION PHASE 1 UNIT 2

CONSTRUCTION NOTES

ALL DEVELOPER PROJECTS

AQUA TEXAS GENERAL NOTES
PROPOSED AQUA TEXAS FACILITIES INCLUDE ITEMS OF THE PROPOSED WORK THE DEVELOPER PLANS TO CONVEY TO AQUA TEXAS TO OWN AND OPERATE UPON COMPLETION OF THE WORK AND AFTER SATISFYING CERTAIN OTHER REQUIREMENTS.

AQUA TEXAS HAS NO AGREEMENT OR CONTRACT WITH THE CONTRACTOR. THE PROPOSED AQUA TEXAS FACILITIES DESCRIBE ON THESE PLAN SHEETS ARE BEING CONSTRUCTED BY AND FOR THE BENEFIT OF THE PROJECT OWNER.

AQUA TEXAS HAS NOT PROVIDED REVIEW RELATED TO ITEMS OF WORK NOT RELATED TO PROPOSED OR EXISTING AQUA TEXAS FACILITIES OR CONTRACTORS' SAFETY PRECAUSTIONS OR MEANS, METHODS, TECHINIQUES, SQUENCES OR PROCEDURES REQUIRED FOR THE CONTRACTOR TO PEFORM THEIR WORK.

ANY CONTRACTOR(S) USING THESE DRAWINGS SHALL OBTAIN AND THEREAFTER KEEP IN FORCE THROUGH THE DURATION OF THAT USE CUSTOMARY AND APPROPRIATE INSURANCE COVERAGE, WHICH SHALL INCLUDE WORKERS COMPENSATION AND EMPLOYERS' LIABILITY, COMMERCIAL GENERAL LIABILITY, COMMERCIAL AUTOMOBILE LIABILITY, AND UMBRELLA LIABILITY. CERTIFICATE(S) OF INSURANCE BY THE INSURER(S) ISSUING THE POLICIES SHALL BE FILED WITH AQUA TEXAS PRIOR TO COMMENCING CONSTRUCTION OF AQUA TEXAS FACILITIES

ANY CONTRACTOR(S) USING THESE DRAWINGS, BY SAID USE, SHALL INDEMNIFY, DEFEND AND HOLD HARMLESS AQUA TEXAS, ITS OFFICERS, DIRECTORS, EMPLOYEES AND AGENTS FROM AND AGAINST ANY AND ALL CLAIMS, DEMANDS, DEBTS, SUITS, CAUSES OF ACTION, LOSSES, DAMAGES, JUDGMENTS, FINES, PENALTIES, LIABILITIES, AND COSTS, INCLUDING REASONABLE ATTORNEY FEES AND DEFENSE COSTS (COLLECTIVELY "DAMAGES") INCURRED BY AQUA ARISING OUT OF CONSTRUCTION OF THE AQUA TEXAS FACILITIES.

THE DEVELOPER, ENGINEER, OR CONTRACTOR SHALL CHAIR OR ATTEND A PRECONSTRUCTION MEETING WHICH INCLUDES AQUA TEXAS PERSONNEL. CONTACT AQUA TEXAS' BUSINESS DEVELOPMENT ENGINEER TO COORDINATE THE MEETING ATTENDANCE, SCHEDULE, AND CONTENT.

THE CONTRACTOR SHALL WORK WITH FINAL ENGINEERING PLANS MARKED TO INDICATE APPROVAL BY AQUA TEXAS' ENGINEERING DEPARTMENT. THE CONTRACTOR SHALL HAVE APPROVED PLANS ON HAND ANYTIME PROPOSED AQUA TEXAS FACILITIES ARE BEING CONSTRUCTED OR DISTURBED. AQUA TEXAS' APPROVAL SHOULD BE NOTED ON THE COVER SHEET ALONG WITH THE DATE THE PLANS WERE APPROVED.

NO PLAN CHANGES OR FIELD CHANGES RELATED TO THE CONSTRUCTION OF PROPOSED AQUA TEXAS FACILITIES SHALL BE ALLOWED WITHOUT THE WRITTEN APPROVAL OF AN AQUA TEXAS ENGINEERING DEPARTMENT REPRESENTATIVE.

CONTRACTOR SHALL NOTIFY AQUA TEXAS 48 HOURS BEFORE:

BEGINNING CONSTRUCTION OF PROPOSED AQUA TEXAS FACILITIES
NOTIFY: AQUA ENGINEERING AND AQUA OPERATIONS*

CONDUCTING REQUIRED SAMPLING OR TESTING
NOTIFY: AQUA OPERATIONS*

TAPPING, CONNECTING, MODIFYING OR IN ANY OTHER WAY DISTURBING AQUA TEXAS FACILITIES
NOTIFY: AQUA OPERATIONS*
*(AQUA ENGINEERING AND OPERATIONS CONTACTS SHALL BE DESIGNATED AT THE PRE-CONSTRUCTION MEETING)

AN AQUA TEXAS REPRESENTATIVE MAY BE ON SITE FROM TIME TO TIME TO OBERVE AND RECORD:

CONNECTION TO AQUA FACILITITES
CONSTRUCTION PROGRESS AND CONDITIONS
TESTING AND SAMPLING.

THESE OBSERVATIONS AND RECORDS IN NO WAY CONSTITUTE APPROVAL OR ACCEPTANCE OF WORK BY THE CONTRACTOR.

A CONTRACTOR'S REPRESENTATIVE SHALL ATTEND A PRE-FINAL AND FINAL WALK THROUGH CALLED BY THE DEVELOPER. FOLLOWING THE PREFINAL WALK THROUGH THE CONTRACTOR AND OTHER ATTENDEES SHALL PREPARE AN AGREED, WRITTEN PUNCH LIST OF WORK NECESSARY FOR COMPLETION OF PROPOSED AQUA TEXAS FACILITIES IN ACCORDANCE WITH THE APPROVED FINAL ENGINEERING PLANS. THE PURPOSE OF THE FINAL WALK THROUGH IS TO CONFIRM COMPLETION OF THE PUNCH LIST WORK ITEMS.

SEWER NOTES

1. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT NO SANITARY SEWER OVERFLOW (SSO) OCCURS AS A RESULT OF THEIR WORK. ALL CONTRACTOR PERSONNEL RESPONSIBLE FOR SSO PREVENTION AND CONTROL SHALL BE TRAINED ON PROPER RESPONSE. SHOULD AN SSO OCCUR, THE CONTRACTOR SHALL:

A. IDENTIFY THE SOURCE OF THE SSO AND NOTIFY SAWS EMERGENCY OPERATIONS CENTER (EOC) IMMEDIATELY AT (210) 233-2014. PROVIDE THE ADDRESS OF THE SPILL AND AN ESTIMATED VOLUME OR FLOW.
B. ATTEMPT TO ELIMINATE THE SOURCE OF THE SSO.
C. CONTAIN SEWAGE FROM THE SSO TO THE EXTENT OF PREVENTING A POSSIBLE CONTAMINATION OF WATERWAYS.
D. CLEAN UP SPILL SITE (RETURN CONTAINED SEWAGE TO THE COLLECTION SYSTEM IF POSSIBLE) AND PROPERLY DISPOSE OF CONTAMINATED SOIL/MATERIALS.
E. CLEAN THE AFFECTED SEWER MAINS AND REMOVE ANY DEBRIS.
F. MEET ALL POST-SSO REQUIREMENTS AS PER THE EPA CONSENT DECREE, INCLUDING LINE CLEANING AND TELEVISING THE AFFECTED SEWER MAINS (AT SAWS DIRECTION) WITHIN 24 HOURS.

SHOULD THE CONTRACTOR FAIL TO ADDRESS AN SSO IMMEDIATELY AND TO AQUA TEXAS INC'S SATISFACTION, THEY WILL BE RESPONSIBLE FOR ALL COSTS INCURRED BY AQUA TEXAS INC., INCLUDING ANY FINES FROM EPA, TCEQ AND/OR ANY OTHER FEDERAL, STATE OR LOCAL AGENCIES.

NO SEPARATE MEASUREMENT OR PAYMENT SHALL BE MADE FOR THIS WORK. ALL WORK SHALL BE DONE ACCORDING TO GUIDELINES SET BY THE TCEQ AND AQUA TEXAS INC.

2. IF BYPASS PUMPING IS REQUIRED, THE CONTRACTOR SHALL PERFORM SUCH WORK IN ACCORDANCE WITH SAWS STANDARD SPECIFICATION FOR WATER AND SANITARY SEWER CONSTRUCTION, ITEM NO. 865, "BYPASS PUMPING".

3. PRIOR TO TIE-INS, ANY SHUTDOWNS OF EXISTING FORCE MAINS OF ANY SIZE MUST BE COORDINATED WITH THE AQUA TEXAS INC. 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 AQUA TEXAS INC. OR THE PROJECT AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SEQUENCE THE WORK ACCORDINGLY.

4. SEWER PIPE WHERE WATER LINE CROSSES SHALL BE 160 PSI AND MEET THE REQUIREMENTS OF ASTM D2241, TAC 217.53 AND TCEQ 290.44(E)(4)(B). CONTRACTOR SHALL CENTER A 20' JOINT OF 160 PSI PRESSURE RATED PVC AT THE PROPOSED WATER CROSSING.

5. ELEVATIONS POSTED FOR TOP OF MANHOLES ARE FOR REFERENCE ONLY: IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAKE ALLOWANCES AND ADJUSTMENTS FOR TOP OF MANHOLES TO MATCH THE FINISHED GRADE OF THE PROJECT'S IMPROVEMENTS. (NSPI)

6. SPILLS, OVERFLOWS, OR DISCHARGES OF WASTEWATER: ALL SPILLS, OVERFLOWS, OR DISCHARGES OF WASTEWATER, RECYCLED WATER, PETROLEUM PRODUCTS, OR CHEMICALS MUST BE REPORTED IMMEDIATELY TO THE SAWS INSPECTOR ASSIGNED TO THE COUNTER PERMIT OR GENERAL CONSTRUCTION PERMIT (GCP). THIS REQUIREMENT APPLIES TO EVERY SPILL, OVERFLOW, OR DISCHARGE REGARDLESS OF SIZE.

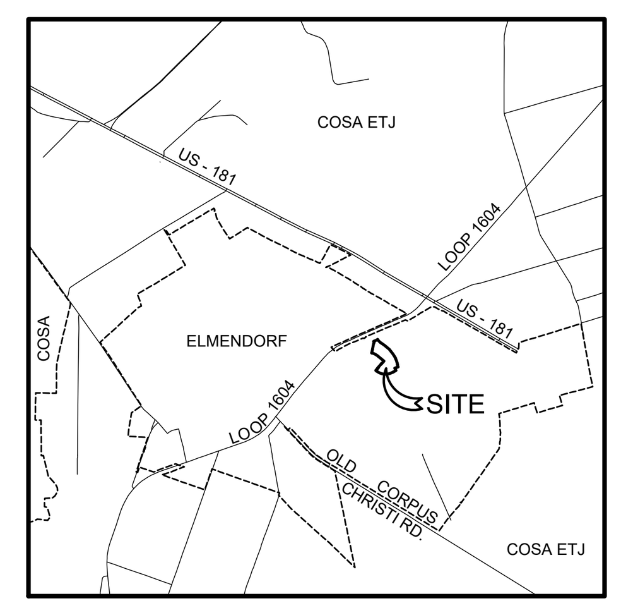
7. MANHOLE AND ALL PIPE TESTING (INCLUDING THE TV INSPECTION) MUST BE PERFORMED AND PASSED PRIOR TO FINAL FIELD ACCEPTANCE BY AQUA TEXAS INC. CONSTRUCTION INSPECTION DIVISION, AS PER THE AQUA TEXAS INC. SPECIFICATIONS FOR WATER AND SANITARY SEWER CONSTRUCTION.

8. ALL PVC PIPE OVER 14 FEET OF COVER SHALL BE EXTRA STRENGTH WITH MINIMUM PIPE STIFFNESS OF 115 PSI.

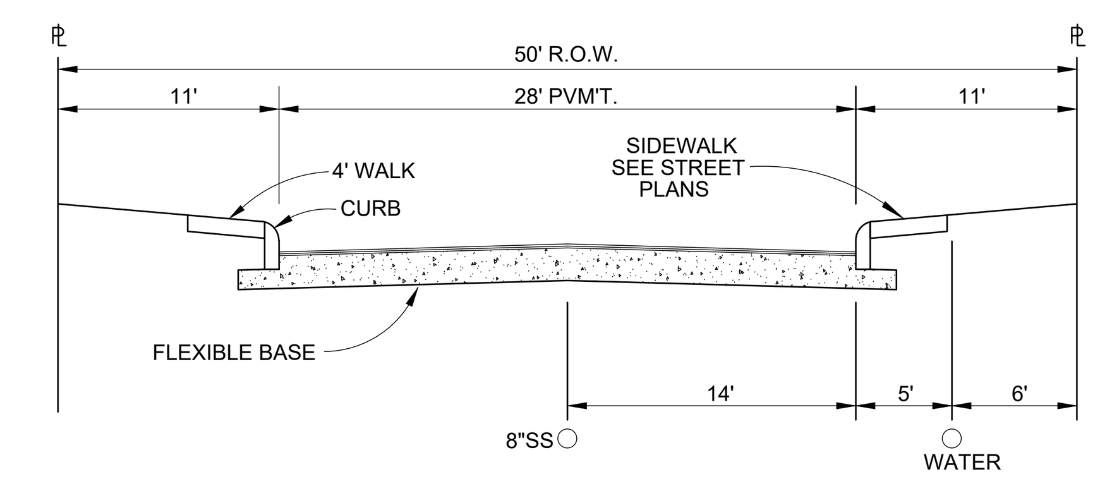
* SEWER MAINS & LATERALS CROSSING WATER MAINS SHALL COMPLY WITH 30 TAC 290.44(e) AND 30 TAC 217.53(d) (FORMERLY 30 TAC 317.13 APPENDIX E)

SANITARY SEWER TESTING REQUIREMENTS:

CONTRACTOR TO REFERENCE SAWS SPECIFICATION ITEM NO. 849 "SANITARY SEWER ACCEPTANCE TESTING" FOR SANITARY SEWER TESTING REQUIREMENTS.
WEBSITE: https://apps.saws.org/business_center/specs/constspecs/constspecs_2020/index.cfm



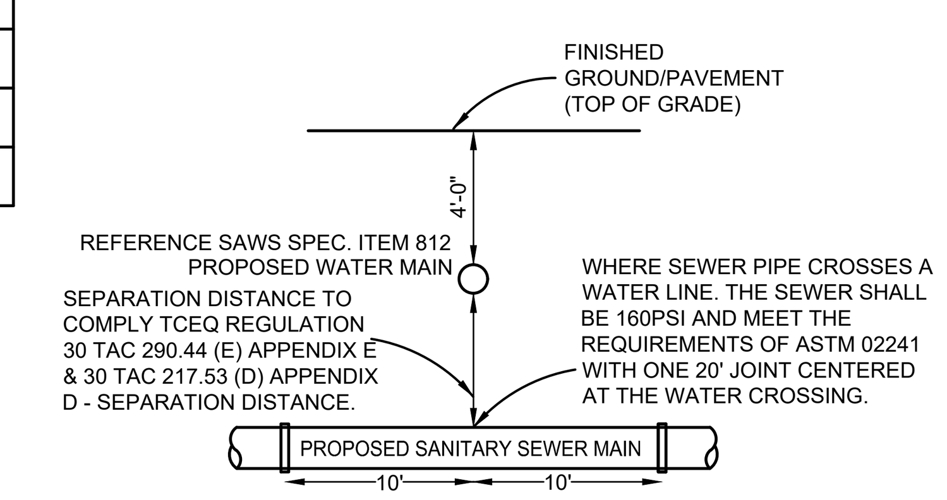
LOCATION MAP
NOT TO SCALE



TYPICAL LOCAL "A" STREET SECTION
NOT TO SCALE

Sheet List Table

Sheet Number	Sheet Title
300	SANITARY SEWER COVER
301	OVERALL SANITARY SEWER PLAN
302	SANITARY SEWER LINE A PLAN & PROFILE
303	SANITARY SEWER LINE B PLAN & PROFILE
304	SANITARY SEWER LINE C PLAN & PROFILE
305	SANITARY SEWER LINE D PLAN & PROFILE
306	SANITARY SEWER LINE E PLAN & PROFILE
307	SANITARY SEWER LINE F PLAN & PROFILE
308	SANITARY SEWER DETAILS



TYPICAL SANITARY SEWER/ WATER CROSSING DETAIL
NOT TO SCALE

LEGEND

EXISTING EDGE OF PAVEMENT	//// ////
EXISTING SANITARY SEWER MAIN	E8"/12" SS
PROPOSED SANITARY SEWER MAIN	P8"/12" SS
EXISTING WATER MAIN	E8"/16" PVC
PROPOSED WATER MAIN	P8"/12" PVC
PROPOSED STREET LIGHT (100 WATT/SINGLE ARM)	L.P.

NOTES
1. ALL RESIDENTIAL SEWER SERVICE LATERALS ARE 6" DIA. AND 35 FEET IN LENGTH UNLESS NOTED OTHERWISE.
2. ALL RESIDENTIAL SEWER SERVICE LATERALS SHALL BE CAPPED AND SEALED.
3. LATERALS TO LOTS SHALL BE SLOPED FROM THE TEE OR STACK AT 2% THROUGH THE G.E.T.TV.E. LOCATED IN THE FRONT OF THE LOT.
4. ALL SEWER PIPE TO BE SDR-26 UNLESS OTHERWISE NOTED.
5. CONTRACTOR TO ENSURE LATERALS AT PROPOSED DRY UITLITY CROSSINGS ARE LOCATED AT A DEPTH TO AVOID ANY CONFLICT WITH DRY UTILITY INSTALLATION.

OWNER/DEVELOPER:
CASTLEROCK COMMUNITIES
2401 FOUNTAIN VIEW DRIVE, SUITE 215
HOUSTON, TEXAS 77057
PHONE: (713) 600-7060

PREPARED BY:
KCI TECHNOLOGIES, INC.
11550 IH 10 WEST, SUITE 395
SAN ANTONIO, TEXAS 78230-1037
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

TRENCH EXCAVATION SAFETY PROTECTION
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/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 CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTOR'S IMPLEMENTATION OF THE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION, SAFETY PROTECTION THAT COMPLIES 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.

REV	DATE	DESCRIPTION

FOR BIDDING PURPOSES ONLY
NOT FOR CONSTRUCTION

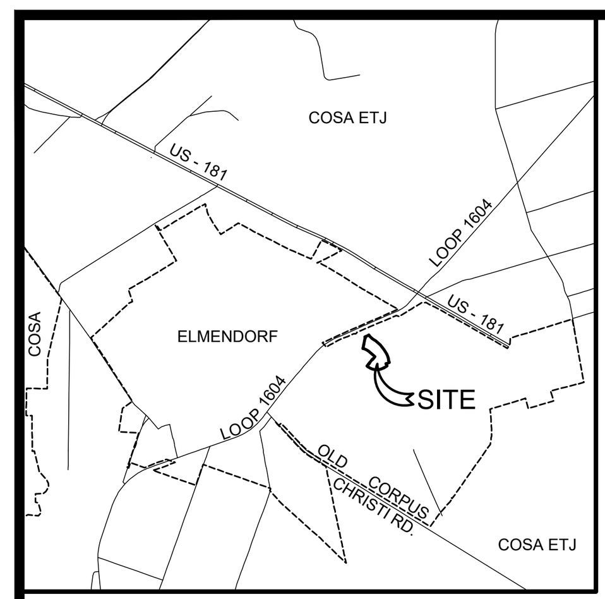
KCI TECHNOLOGIES, INC.
11550 IH 10 WEST, SUITE 395
SAN ANTONIO, TEXAS 78230-1037
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

HICKORY RIDGE SUBDIVISION
PHASE 1 UNIT 2
SANITARY SEWER COVER

DRAFTING: K.P./G.P.	CHECK: C.P.
DESIGN: L.E.	CHECK: M.P.S.
SUBMITTAL PHASE:	
DATE: 12/22	
KCI JOB #: 762207389	

SHEET:
300

Date: Feb 27, 2024, 3:42pm User ID: Lance.Elling File: L:\develop\...



LOCATION MAP

NOT TO SCALE

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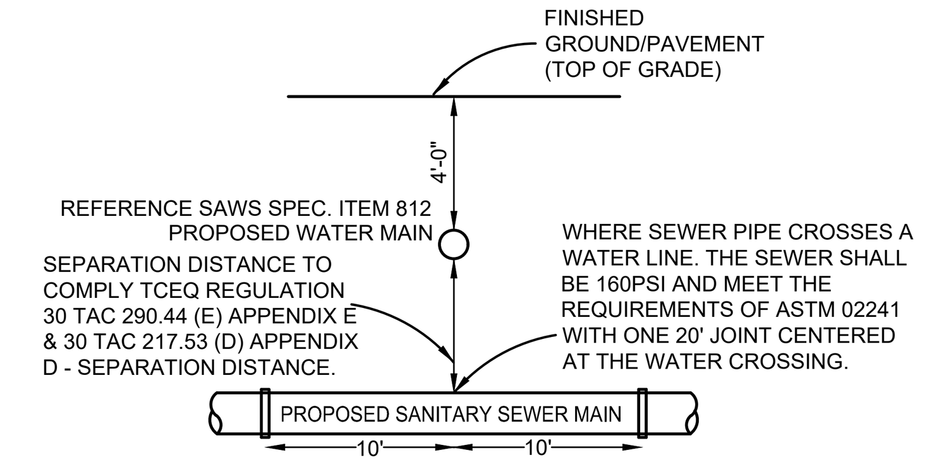


TYPICAL SANITARY SEWER/ WATER CROSSING DETAIL

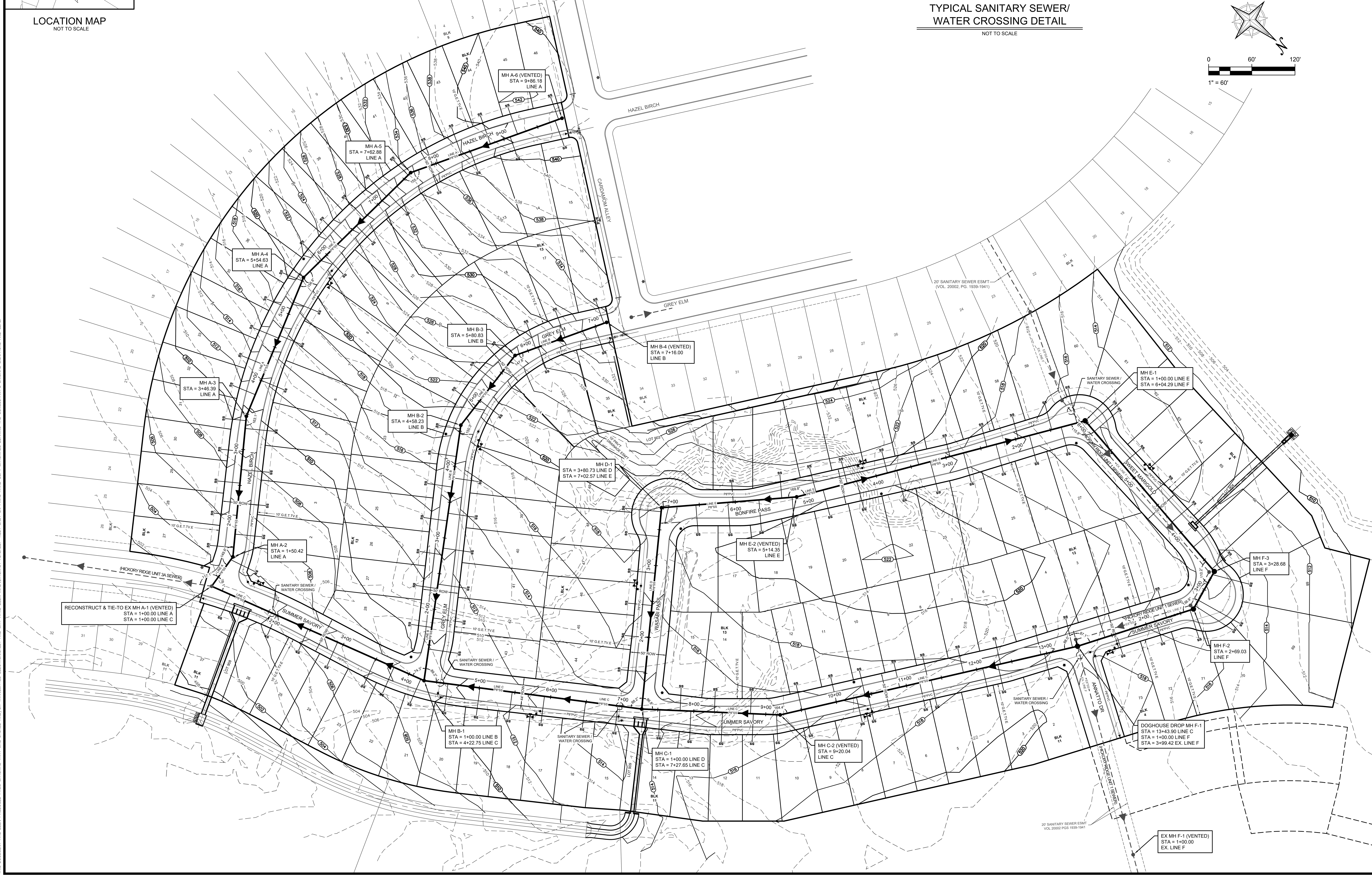
NOT TO SCALE

LEGEND

EXISTING EDGE OF PAVEMENT	////
EXISTING SANITARY SEWER MAIN	E8"/12" SS
PROPOSED SANITARY SEWER MAIN	P8"/12" SS
EXISTING WATER MAIN	E8"/16" PVC
PROPOSED WATER MAIN	P8"/12" PVC
PROPOSED STREET LIGHT (100 WATT/SINGLE ARM)	L.P.
PVC CONDUIT	

0 60' 120'

1" = 60'



FOR BIDDING PURPOSES ONLY
NOT FOR CONSTRUCTION

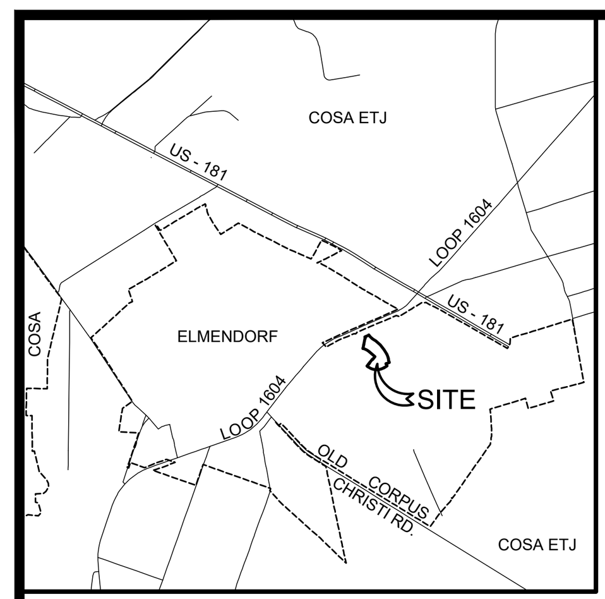
REV	DATE	DESCRIPTION

KCI TECHNOLOGIES, INC.
11550 IH 10 WEST, SUITE 395
SAN ANTONIO, TEXAS 78230-1037
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

HICKORY RIDGE SUBDIVISION
PHASE 1 UNIT 2
OVERALL SANITARY SEWER PLAN

DRAFTING: K.P./G.P.		CHECK:	C.P.
DESIGN:	L.E.	CHECK:	M.P.S.
SUBMITTAL PHASE:			
DATE:	12/22		
KCI JOB #:	762207389		
SHEET:	301		

Date: Feb 27, 2024, 3:42pm User ID: Lance.Elling File: L:\develop\Proj_2022_KCI\762207389_Hickory_Ridge_Phase 1_Unit 2\cadd\762207389 301 OVERALL SEWER PLAN.dwg



LOCATION MAP

NOT TO SCALE

TRENCH EXCAVATION SAFETY PROTECTION

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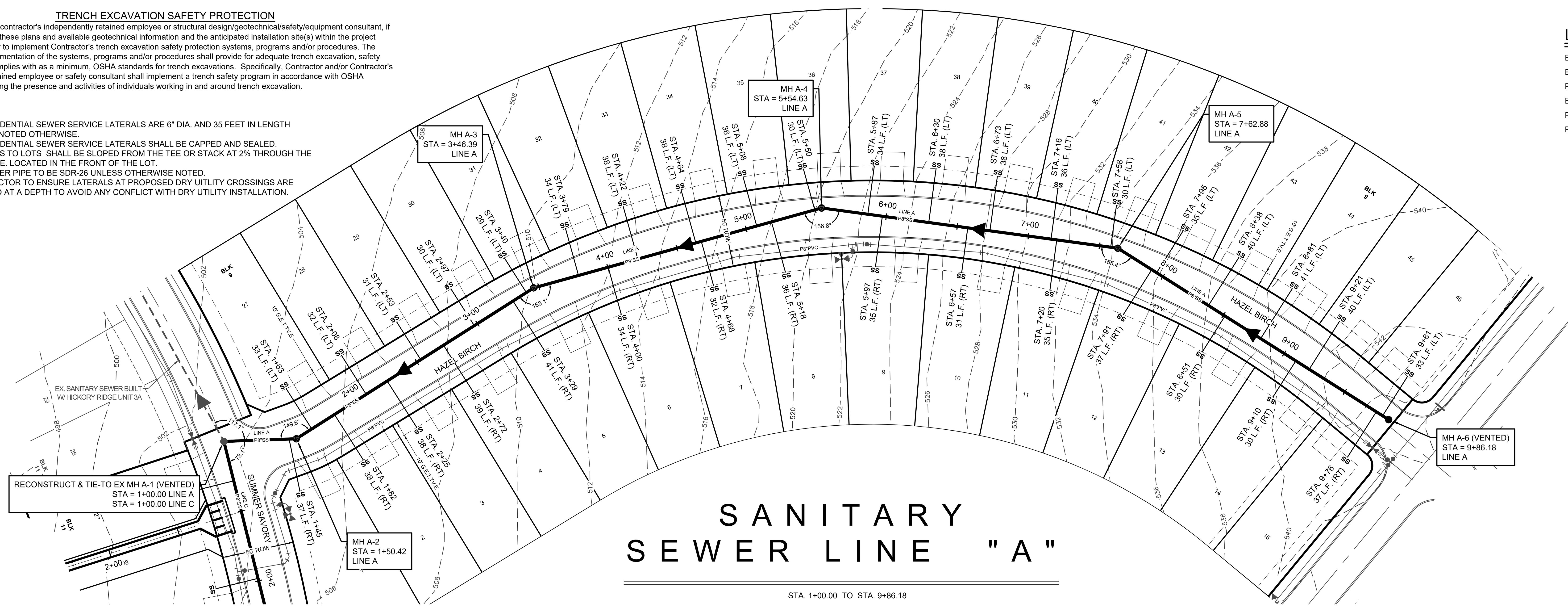


SANITARY SEWER LINE "A"

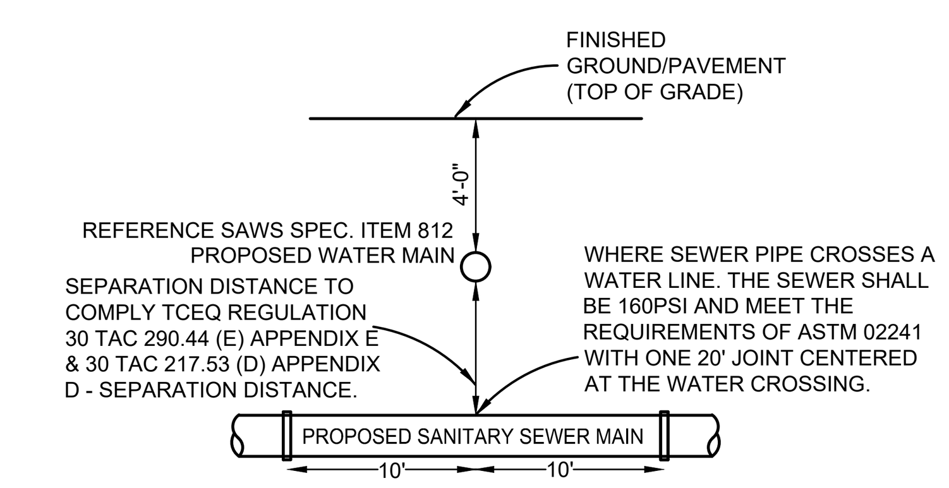
STA. 1+00.00 TO STA. 9+86.18

LEGEND

EXISTING EDGE OF PAVEMENT	
EXISTING SANITARY SEWER MAIN	E8"/12" SS
PROPOSED SANITARY SEWER MAIN	P8"/12" SS
EXISTING WATER MAIN	E8"/16" PVC
PROPOSED WATER MAIN	P8"/12" PVC
PROPOSED STREET LIGHT (100 WATT/SINGLE ARM)	L.P.

0 50' 100'

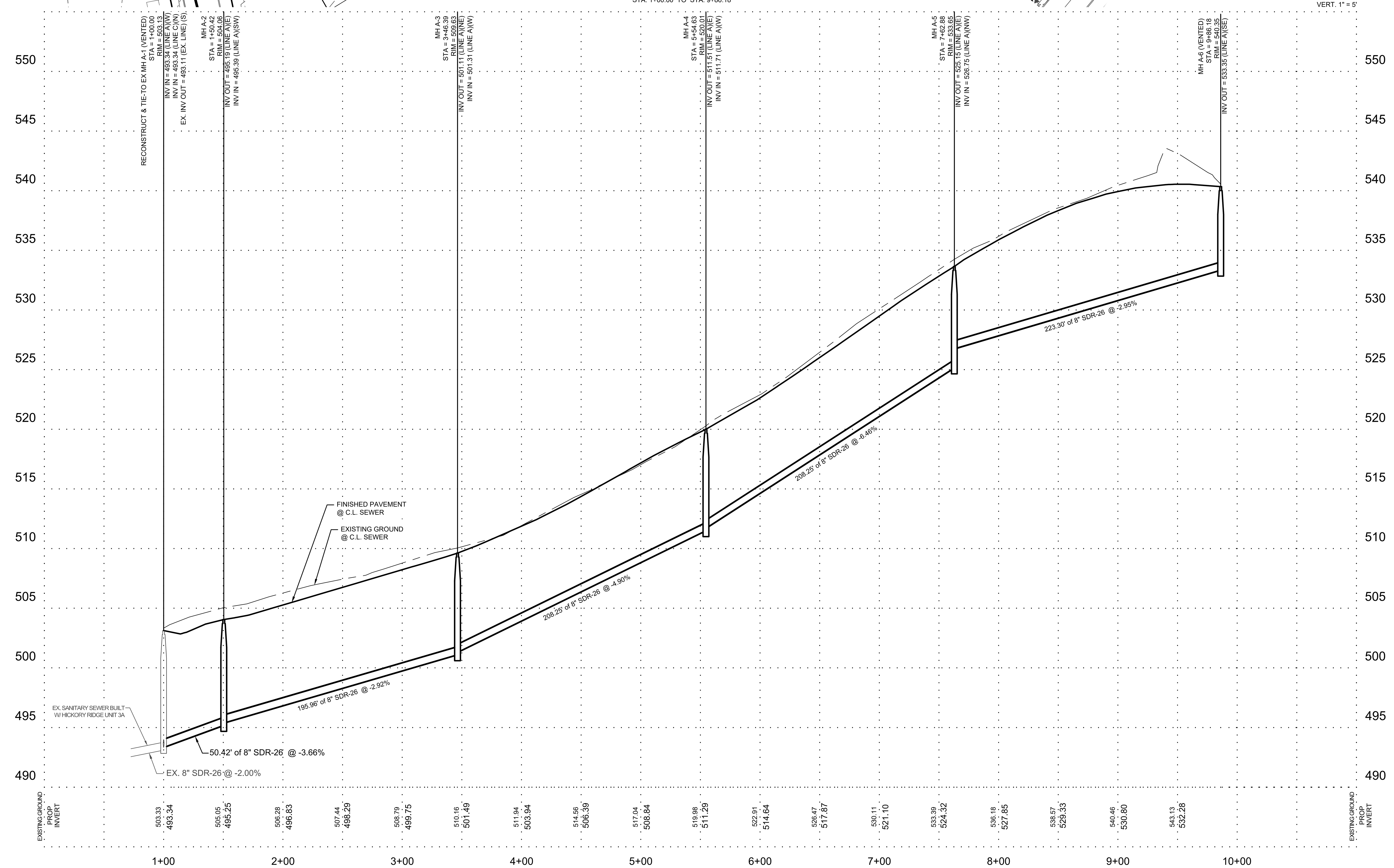
1" = 50'



TYPICAL SANITARY SEWER/ WATER CROSSING DETAIL

NOT TO SCALE

SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'



FOR BIDDING PURPOSES ONLY
NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION

KCI TECHNOLOGIES, INC.

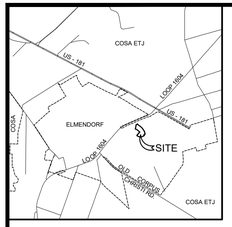
11550 IH 10 WEST, SUITE 395
SAN ANTONIO, TEXAS 78230-1037
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

HICKORY RIDGE SUBDIVISION
PHASE 1 UNIT 2
SANITARY SEWER LINE A PLAN & PROFILE

DRAFTING:	K.P./G.P.	CHECK:	C.P.
DESIGN:	L.E.	CHECK:	M.P.S.
SUBMITTAL PHASE:			
DATE:	12/22		
KCI JOB #:	762207389		

SHEET:
302

Date: Feb 27, 2024, 3:42pm User ID: Lance.Elling File: L:\develop\Proj_2022_KCI\762207389_Hickory_Ridge_Phase 1_Unit 2\cadd\762207389 302 SEWER LINE A PLAN & PROFILE.dwg



LOCATION MAP
NOT TO SCALE

TRENCH EXCAVATION SAFETY PROTECTION

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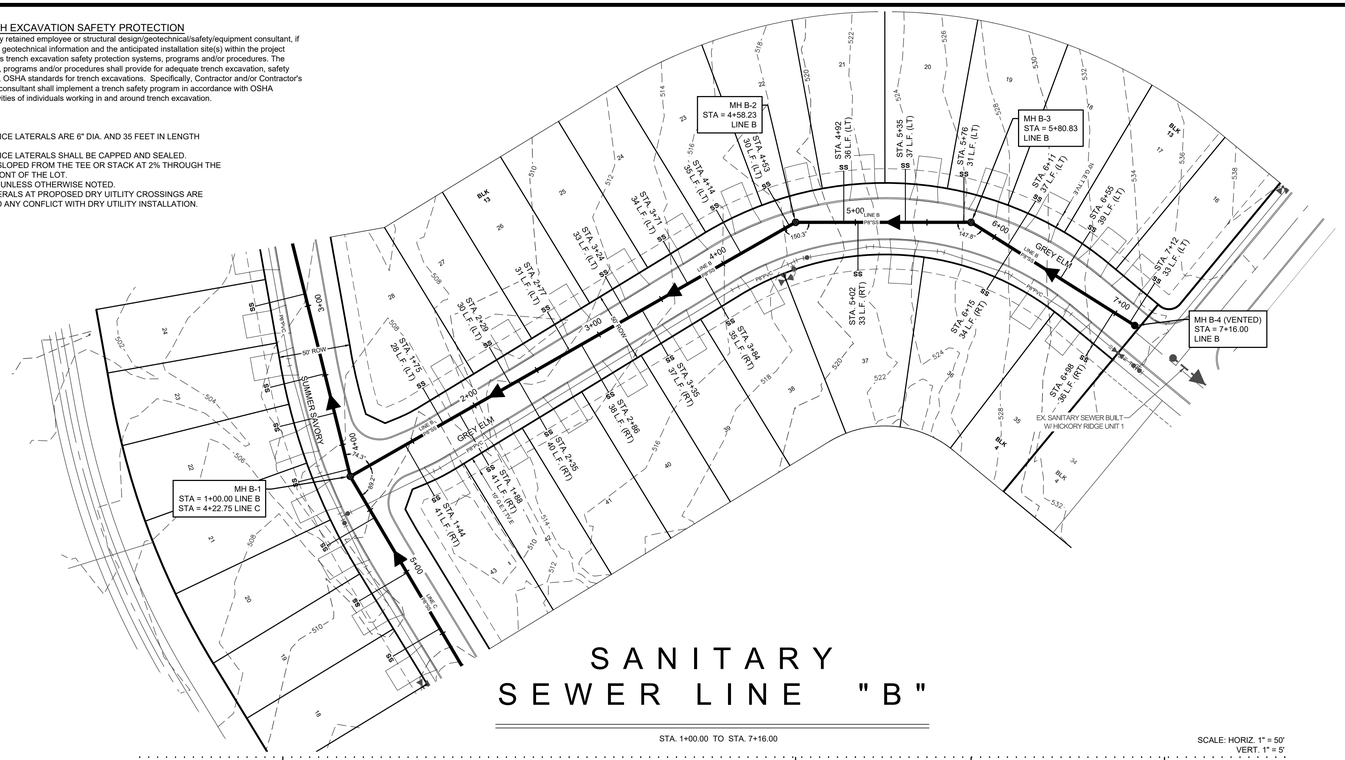
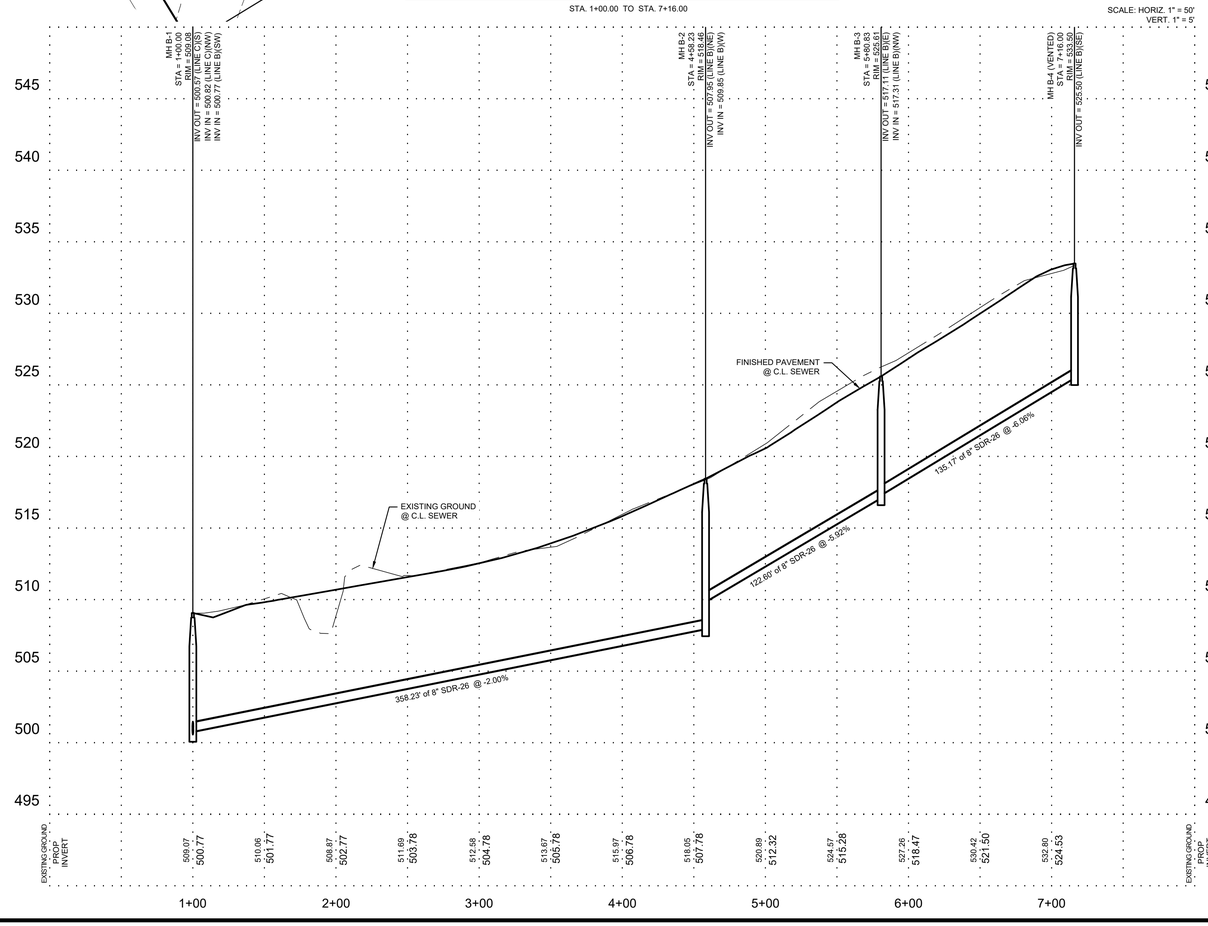


SANITARY SEWER LINE "B"

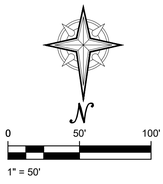
STA. 1+00.00 TO STA. 7+16.00

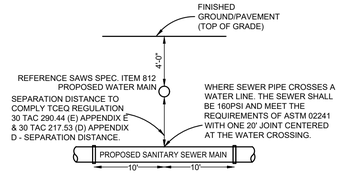
SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'



LEGEND

- EXISTING EDGE OF PAVEMENT
- EXISTING SANITARY SEWER MAIN
- PROPOSED SANITARY SEWER MAIN
- EXISTING WATER MAIN
- PROPOSED WATER MAIN
- PROPOSED STREET LIGHT (100 WATT/SINGLE ARM)
- E8"/12" SS
- P8"/12" SS
- E8"/16" PVC
- P8"/12" PVC
- L.P.





TYPICAL SANITARY SEWER/ WATER CROSSING DETAIL

NOT TO SCALE

REV	DATE	DESCRIPTION

FOR BIDDING PURPOSES ONLY
NOT FOR CONSTRUCTION

KCI TECHNOLOGIES, INC.
11550 IH 10 WEST, SUITE 395
SAN ANTONIO, TEXAS 78230-1037
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F- 10573 / #101943-65

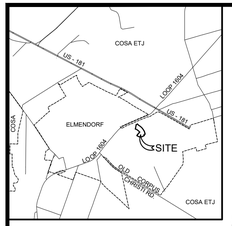
KCI TECHNOLOGIES

HICKORY RIDGE SUBDIVISION
PHASE 1 UNIT 2
SANITARY SEWER LINE B PLAN & PROFILE

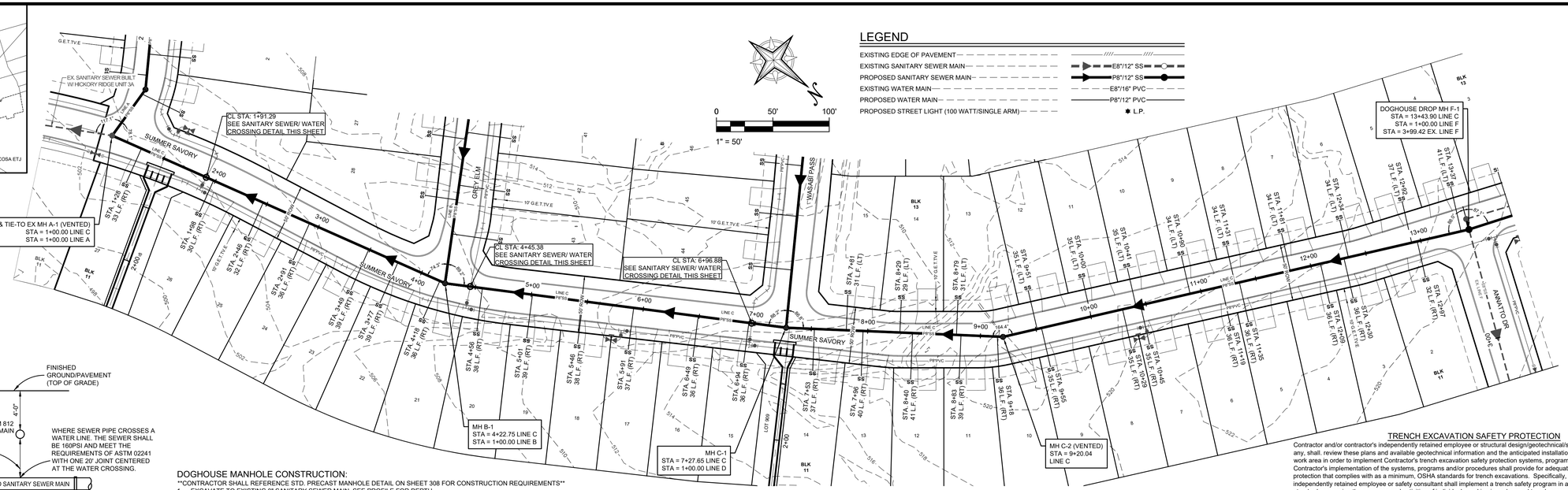
DRAFTING:	K.P./G.P.	CHECK:	C.P.
DESIGN:	L.E.	CHECK:	M.P.S.
SUBMITTAL PHASE:			
DATE:			12/22
KCI JOB #:			762207389

SHEET:
303

Date: Feb 27, 2024 - 5:42pm User ID: Lance.Elring File: L:\Develop\Proj_2022_pCI\762207389_Hickory_Ridge_Phase_1_Unit_2\Civil\762207389 303 SEWER LINE B PLAN & PROFILE.dwg



LOCATION MAP
NOT TO SCALE



LEGEND

- EXISTING EDGE OF PAVEMENT
- EXISTING SANITARY SEWER MAIN
- PROPOSED SANITARY SEWER MAIN
- EXISTING WATER MAIN
- PROPOSED WATER MAIN
- PROPOSED STREET LIGHT (100 WATT/SINGLE ARM)
- E8"/12" SS
- P8"/12" SS
- E8"/16" PVC
- P8"/12" PVC
- L.P.

TYPICAL SANITARY SEWER/ WATER CROSSING DETAIL

NOT TO SCALE

DOGHOUSE MANHOLE CONSTRUCTION:

CONTRACTOR SHALL REFERENCE STD. PRECAST MANHOLE DETAIL ON SHEET 308 FOR CONSTRUCTION REQUIREMENTS

1. EXCAVATE TO EXISTING 8" SANITARY SEWER MAIN. SEE PROFILE FOR DEPTH.
2. EXPOSE EXISTING 8" SANITARY SEWER MAIN AND PREPARE AREA FOR INSTALLATION OF CAST-IN-PLACE MANHOLE BASE, PRE-CAST BASE W/ DOGHOUSE KNOCKOUT AND PRECAST RISER SECTIONS.
3. INSTALL CRUSHED STONE TO ESTABLISH FOUNDATION FOR CAST-IN-PLACE MANHOLE BASE. USE 2 - 6" X 8" X 16" SOLID CONCRETE BLOCKS STACKED TWO HIGH (TWO SETS ON EACH SIDE OF EX. MAIN) TO ELEVATE PRE-CAST BASE W/ DOGHOUSE KNOCKOUT TO ALLOW FOR AT MINIMUM 12" OF CONCRETE TO BE INSTALLED BETWEEN INVERT OF LOWEST PIPE AND AND CRUSHED STONE LAYER.
4. INSTALL PRE-CAST BASE W/ DOGHOUSE KNOCKOUT.
5. INSTALL ADDITIONAL PRECAST RISER SECTIONS AS NEEDED.
6. POUR THE CAST-IN-PLACE DOGHOUSE MANHOLE BASE AND FORM THE FLOWLINE INVERTS.
7. INSTALL EXTERNAL PIPE DROP AS REQUIRED.
8. SAW CUT AND REMOVE EXISTING SANITARY SEWER PIPE INSIDE THE DOGHOUSE MANHOLE AREA.
9. DURING STREET CONSTRUCTION: INSTALL CONE SECTION, THROAT RINGS, FLOWABLE FILL, I&I BARRIER, MANHOLE RING AND COVER.

SANITARY SEWER LINE C"

STA. 1+00.00 TO STA. 13+43.90

TRENCH EXCAVATION SAFETY PROTECTION

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SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'

REV	DATE	DESCRIPTION

FOR BIDDING PURPOSES ONLY
NOT FOR CONSTRUCTION

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11550 IH 10 WEST, SUITE 395
SAN ANTONIO, TEXAS 78230-1037
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

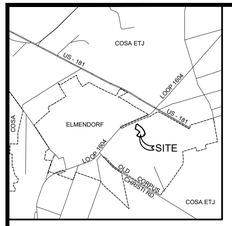
KCI TECHNOLOGIES

HICKORY RIDGE SUBDIVISION
PHASE 1 UNIT 2
SANITARY SEWER LINE C PLAN & PROFILE

DRAFTING:	K.P./G.P.	CHECK:	C.P.
DESIGN:	L.E.	CHECK:	M.P.S.
SUBMITTAL PHASE:			
DATE:			12/22
KCI JOB #:			762207389

SHEET:
304

Date: Feb 21, 2024, 3:43pm User ID: Daniel Emig File: L:\Develop\Proj\2022_JOC\762207389_Hickory_Ridge_Phase 1 Unit 2\cad\762207389_304 SEWER LINE C PLAN & PROFILE.dwg



LOCATION MAP
NOT TO SCALE

TRENCH EXCAVATION SAFETY PROTECTION

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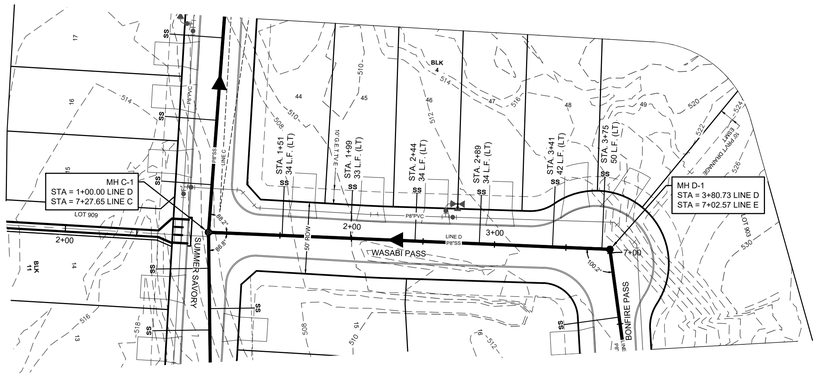
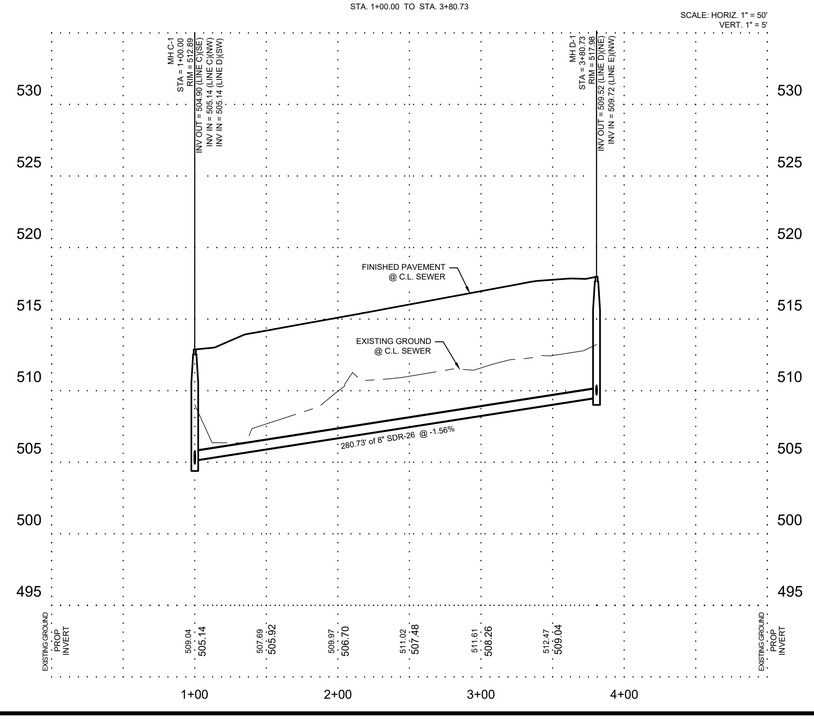


SANITARY SEWER LINE "D"

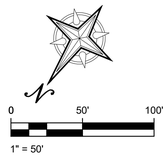
STA. 1+00.00 TO STA. 3+80.73

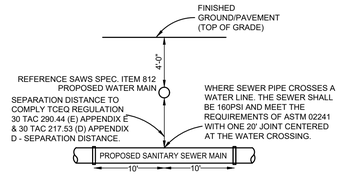
SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'



LEGEND

EXISTING EDGE OF PAVEMENT	
EXISTING SANITARY SEWER MAIN	E8"/12" SS
PROPOSED SANITARY SEWER MAIN	P8"/12" SS
EXISTING WATER MAIN	E8"/16" PVC
PROPOSED WATER MAIN	P8"/12" PVC
PROPOSED STREET LIGHT (100 WATT/SINGLE ARM)	L.P.





TYPICAL SANITARY SEWER/ WATER CROSSING DETAIL

NOT TO SCALE

REV	DATE	DESCRIPTION

FOR BIDDING PURPOSES ONLY
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KCI TECHNOLOGIES, INC.
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SAN ANTONIO, TEXAS 78230-1037
PHONE: (210) 641-9999
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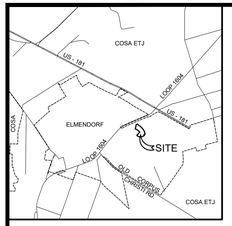
REGISTRATION #F-10573 / #101943-65

HICKORY RIDGE SUBDIVISION
PHASE 1 UNIT 2
SANITARY SEWER LINE D PLAN & PROFILE

DRAFTING: K.P./G.P.		CHECK:	C.P.
DESIGN:	L.E.	CHECK:	M.P.S.
SUBMITTAL PHASE:			
DATE:			12/22
KCI JOB #:			762207389

SHEET:
305

Date: Feb 22, 2024 - 3:43pm User ID: Lance.Elmy File: L:\Develop\Proj_2022_cc\762207389_Hickory_Ridge_Phase_1_Unit 2\Good\762207389 305 SEWER LINE D PLAN & PROFILE.dwg



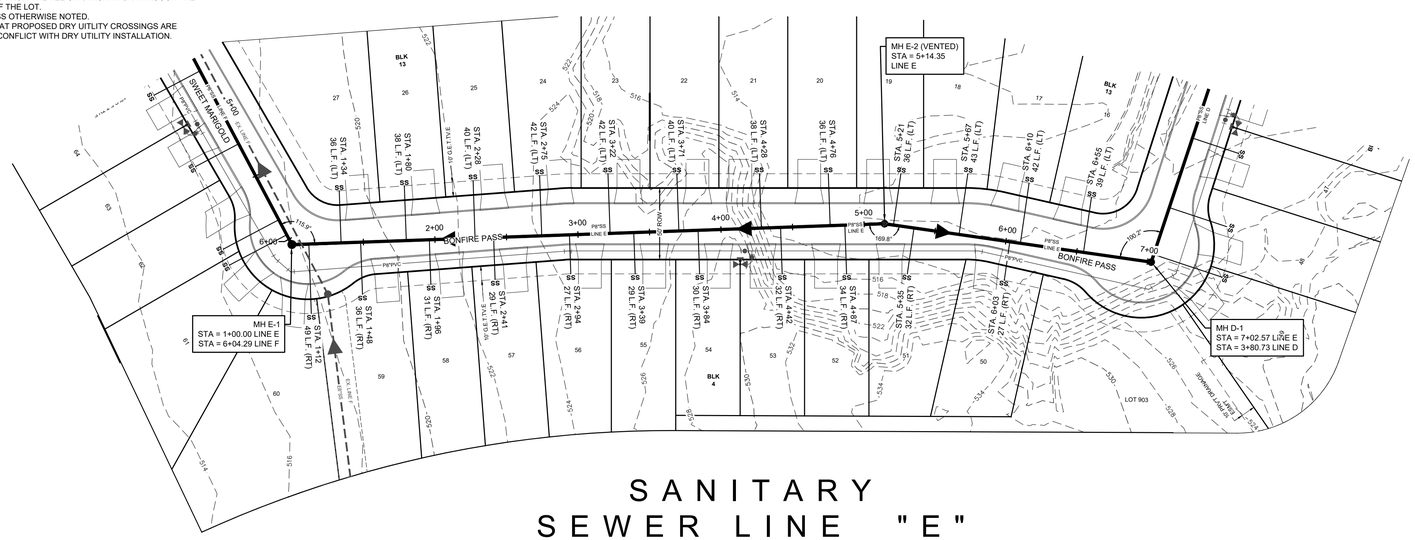
LOCATION MAP
NOT TO SCALE

TRENCH EXCAVATION SAFETY PROTECTION

Contractor and/or contractor's independently retained employee or structural design/geotechnical/safety/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 Contractor's trench excavation safety protection systems, programs and/or procedures. The Contractor's implementation of the systems, programs and/or procedures shall provide for adequate trench excavation, safety protection that complies 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.

NOTES

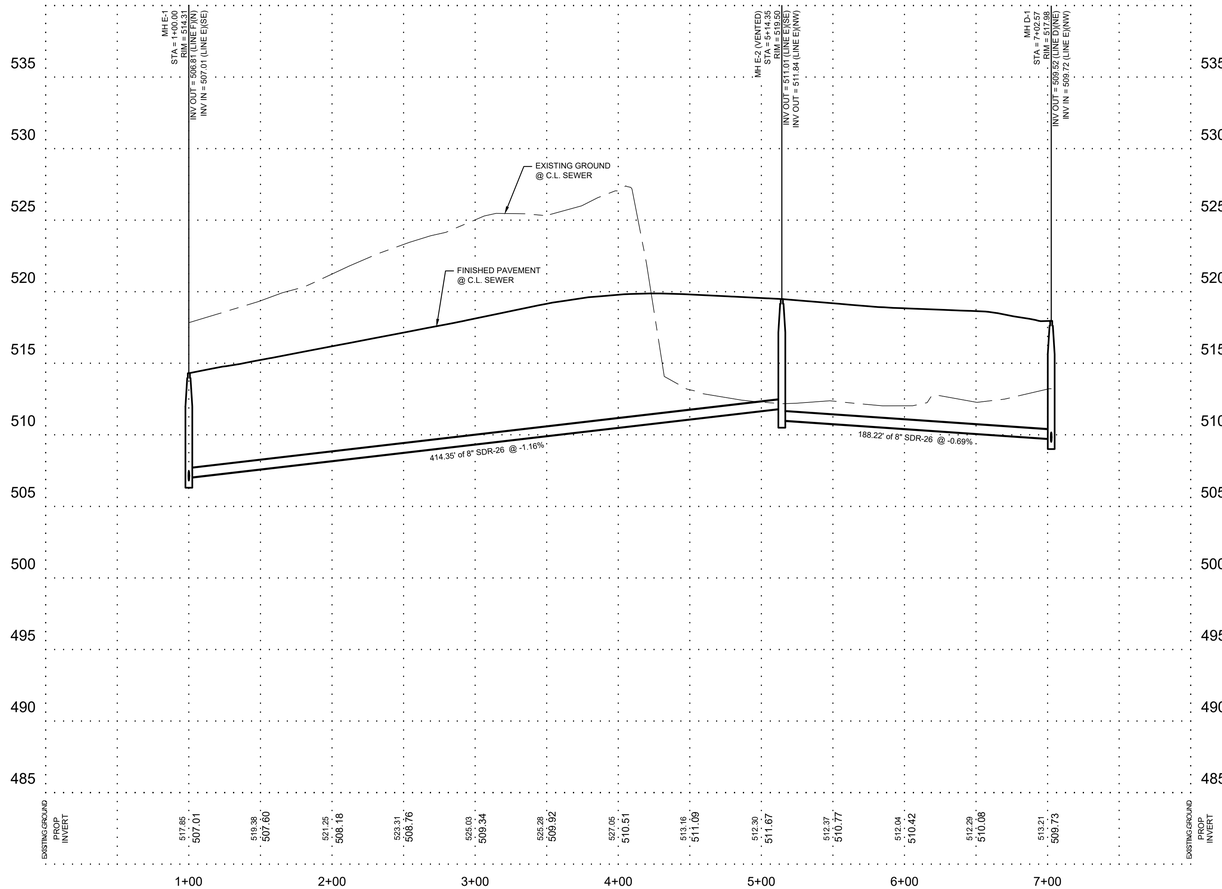
1. ALL RESIDENTIAL SEWER SERVICE LATERALS ARE 6" DIA. AND 35 FEET IN LENGTH UNLESS NOTED OTHERWISE.
2. ALL RESIDENTIAL SEWER SERVICE LATERALS SHALL BE CAPPED AND SEALED.
3. LATERALS TO LOTS SHALL BE SLOPED FROM THE TEE OR STACK AT 2% THROUGH THE G.E.T.T.V.E. LOCATED IN THE FRONT OF THE LOT.
4. ALL SEWER PIPE TO BE SDR-26 UNLESS OTHERWISE NOTED.
5. CONTRACTOR TO ENSURE LATERALS AT PROPOSED DRY UITLITY CROSSINGS ARE LOCATED AT A DEPTH TO AVOID ANY CONFLICT WITH DRY UTILITY INSTALLATION.



SANITARY SEWER LINE "E"

STA. 1+00.00 TO STA. 7+02.57

SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'



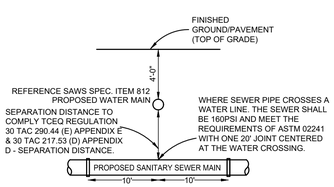
LEGEND

- EXISTING EDGE OF PAVEMENT
- EXISTING SANITARY SEWER MAIN — E8"/12" SS
- PROPOSED SANITARY SEWER MAIN — P8"/12" SS
- EXISTING WATER MAIN — E8"/16" PVC
- PROPOSED WATER MAIN — P8"/12" PVC
- PROPOSED STREET LIGHT (100 WATT/SINGLE ARM) — L.P.

N

0 50' 100'

1" = 50'



TYPICAL SANITARY SEWER/ WATER CROSSING DETAIL

NOT TO SCALE

REV	DATE	DESCRIPTION

FOR BIDDING PURPOSES ONLY
NOT FOR CONSTRUCTION

KCI TECHNOLOGIES, INC.
11550 IH 10 WEST, SUITE 395
SAN ANTONIO, TEXAS 78230-1037
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

KCI TECHNOLOGIES

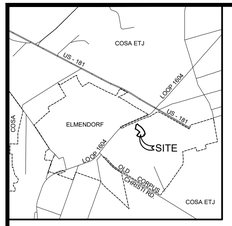
HICKORY RIDGE SUBDIVISION
PHASE 1 UNIT 2
SANITARY SEWER LINE E PLAN & PROFILE

DRAFTING:	K.P./G.P.	CHECK:	C.P.
DESIGN:	L.E.	CHECK:	M.P.S.
SUBMITTAL PHASE:			
DATE:			12/22
KCI JOB #:			762207389

SHEET:

306

Date: Feb 27, 2024, 3:43pm User ID: Leonard Eng File: L:\Develop Proj_2022_KCI\762207389_Hickory_Ridge_Phase 1_Unit 2\civil\762207389 306 SEWER LINE E PLAN & PROFILE.dwg



LOCATION MAP
NOT TO SCALE

NOTES

1. ALL RESIDENTIAL SEWER SERVICE LATERALS ARE 6" DIA. AND 35 FEET IN LENGTH UNLESS NOTED OTHERWISE.
2. ALL RESIDENTIAL SEWER SERVICE LATERALS SHALL BE CAPPED AND SEALED.
3. LATERALS TO LOTS SHALL BE SLOPED FROM THE TEE OR STACK AT 2% THROUGH THE G.E.T.T.V.E. LOCATED IN THE FRONT OF THE LOT.
4. ALL SEWER PIPE TO BE SDR-26 UNLESS OTHERWISE NOTED.
5. CONTRACTOR TO ENSURE LATERALS AT PROPOSED DRY UITLITY CROSSINGS ARE LOCATED AT A DEPTH TO AVOID ANY CONFLICT WITH DRY UTILITY INSTALLATION.

TRENCH EXCAVATION SAFETY PROTECTION

Contractor and/or contractor's independently retained employee or structural design/geotechnical/safety/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 Contractor's trench excavation safety protection systems, programs and/or procedures. The Contractor's implementation of the systems, programs and/or procedures shall provide for adequate trench excavation, safety protection that complies 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.

DOGHOUSE MANHOLE CONSTRUCTION:

CONTRACTOR SHALL REFERENCE STD. PRECAST MANHOLE DETAIL ON SHEET 308 FOR CONSTRUCTION REQUIREMENTS

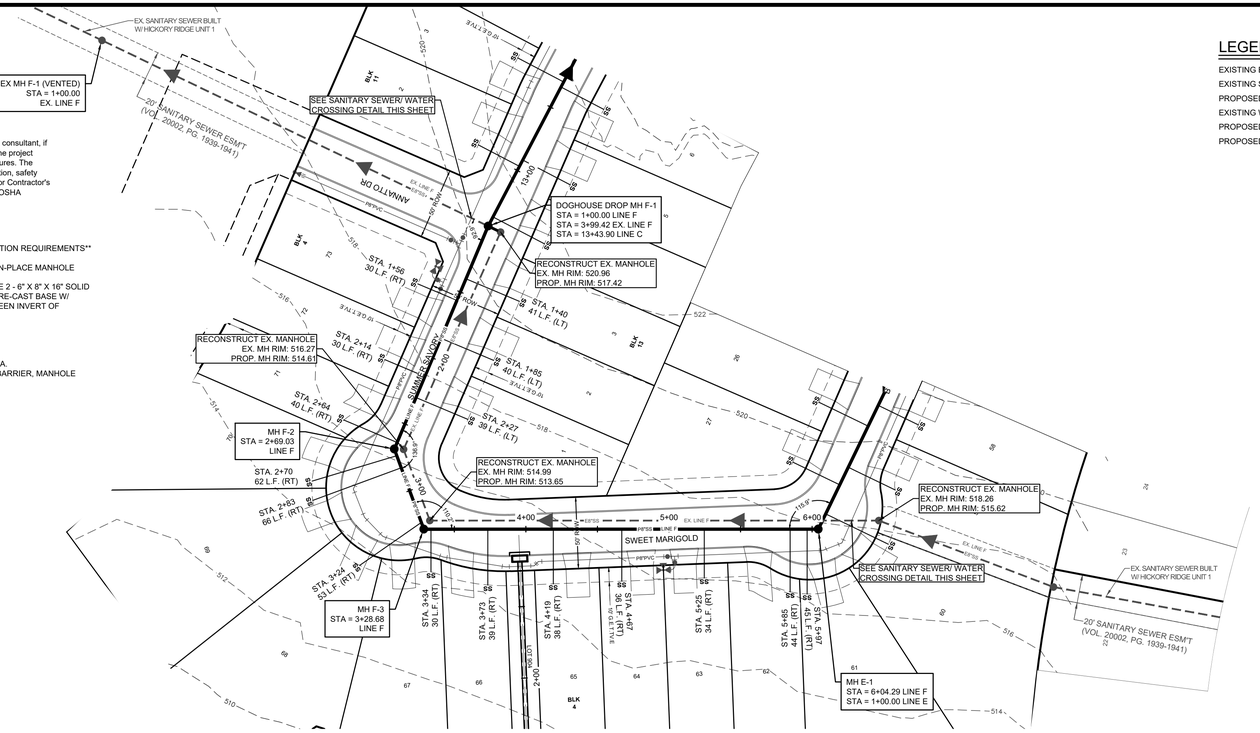
1. EXCAVATE TO EXISTING 8" SANITARY SEWER MAIN, SEE PROFILE FOR DEPTH.
2. EXPOSE EXISTING 8" SANITARY SEWER MAIN AND PREPARE AREA FOR INSTALLATION OF CAST-IN-PLACE MANHOLE BASE, PRE-CAST BASE W/ DOGHOUSE KNOCKOUT AND PRECAST RISER SECTIONS.
3. INSTALL CRUSHED STONE TO ESTABLISH FOUNDATION FOR CAST-IN-PLACE MANHOLE BASE. USE 2 - 6" X 8" X 16" SOLID CONCRETE BLOCKS STACKED TWO HIGH (TWO SETS ON EACH SIDE OF EX. MAIN) TO ELEVATE PRE-CAST BASE W/ DOGHOUSE KNOCKOUT TO ALLOW FOR AT MINIMUM 12" OF CONCRETE TO BE INSTALLED BETWEEN INVERT OF LOWEST PIPE AND AND CRUSHED STONE LAYER.
4. INSTALL PRE-CAST BASE W/ DOGHOUSE KNOCKOUT.
5. INSTALL ADDITIONAL PRECAST RISER SECTIONS AS NEEDED.
6. POUR THE CAST-IN-PLACE DOGHOUSE MANHOLE BASE AND FORM THE FLOWLINE INVERTS.
7. INSTALL EXTERNAL PIPE DROP AS REQUIRED.
8. SAW CUT AND REMOVE EXISTING SANITARY SEWER PIPE INSIDE THE DOGHOUSE MANHOLE AREA.
9. DURING STREET CONSTRUCTION: INSTALL CONE SECTION, THROAT RINGS, FLOWABLE FILL, I&I BARRIER, MANHOLE RING AND COVER.

EXISTING MANHOLE RECONSTRUCTION CONSTRUCTION:

CONTRACTOR SHALL FOLLOW SAWS STANDARD SPECIFICATION FOR CONSTRUCTION ITEM NO. 855 RECONSTRUCTION OF EXISTING MANHOLES.
https://apps.saws.org/business_center/specs/conststpecs/index.cfm

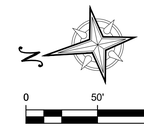
BYPASS PUMPING NOTE:

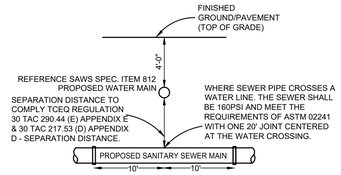
CONTRACTOR SHALL FOLLOW SAWS STANDARD SPECIFICATION FOR CONSTRUCTION ITEM NO. 865 BYPASS PUMPING SMALL DIAMETER SANITARY SEWER MAINS.
https://apps.saws.org/business_center/specs/conststpecs/index.cfm



LEGEND

- EXISTING EDGE OF PAVEMENT
- EXISTING SANITARY SEWER MAIN — E8"/12" SS
- PROPOSED SANITARY SEWER MAIN — P8"/12" SS
- EXISTING WATER MAIN — E8"/16" PVC
- PROPOSED WATER MAIN — P8"/12" PVC
- PROPOSED STREET LIGHT (100 WATT/SINGLE ARM) — L.P.





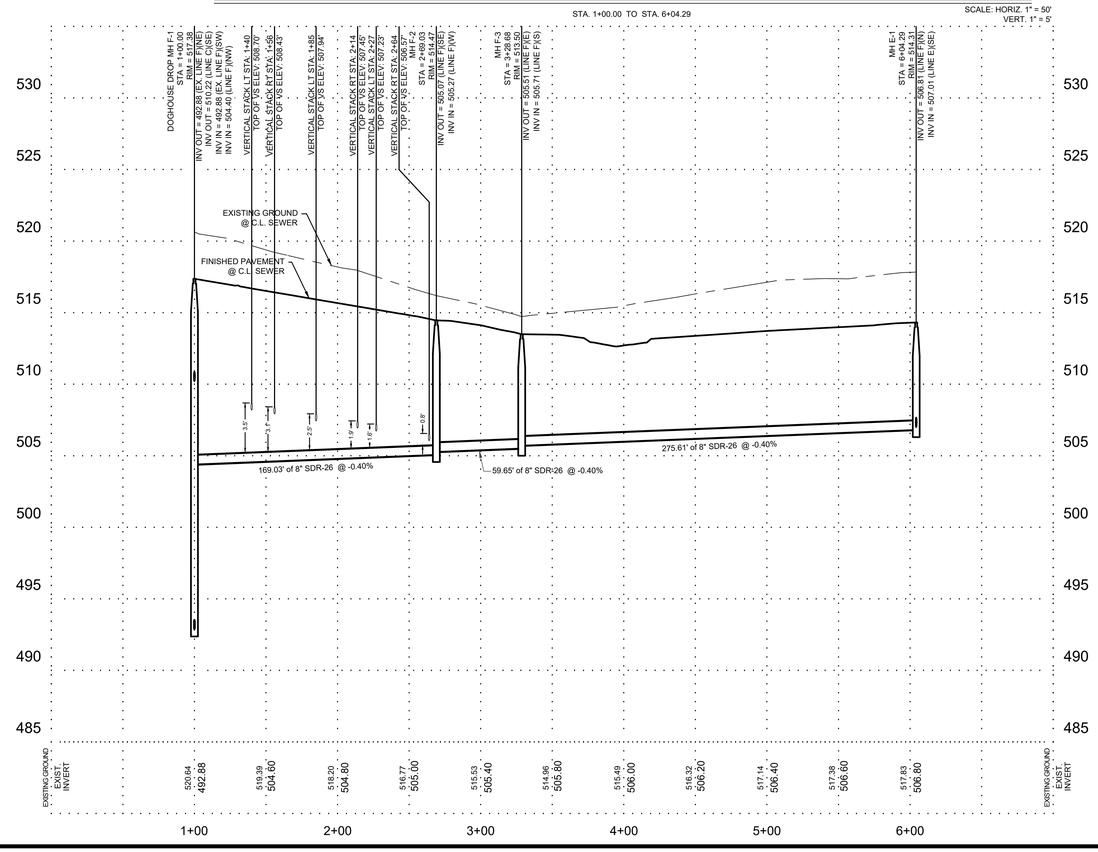
TYPICAL SANITARY SEWER/ WATER CROSSING DETAIL

NOT TO SCALE

SANITARY SEWER LINE "F"

STA. 1+00.00 TO STA. 6+04.29

SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'



REV	DATE	DESCRIPTION

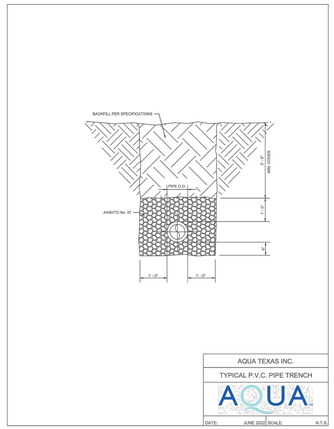
FOR BIDDING PURPOSES ONLY
NOT FOR CONSTRUCTION

KCI TECHNOLOGIES, INC.
11550 IH 10 WEST, SUITE 395
SAN ANTONIO, TEXAS 78230-1037
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

HICKORY RIDGE SUBDIVISION
PHASE 1 UNIT 2
SANITARY SEWER LINE F PLAN & PROFILE

DRAFTING:	K.P./G.P.	CHECK:	C.P.
DESIGN:	L.E.	CHECK:	M.P.S.
SUBMITTAL PHASE:			
DATE:			12/22
KCI JOB #:			762207389
SHEET:			307

Date: Feb 27, 2024, 5:43pm User: C. Llanes Entity File: L:\Drawings\Proj_2022_KCI\762207389_Hickory_Ridge_Phase 1 Unit 2\cad\762207389 307 SEWER LINE F PLAN & PROFILE.dwg

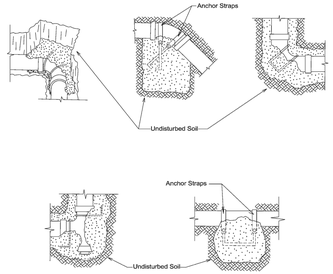


AQUA TEXAS INC.

TYPICAL P.V.C. PIPE TRENCH

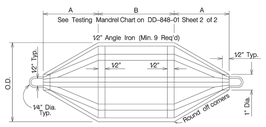
AQUA

DATE: JUNE 2022 SCALE: N.T.S.

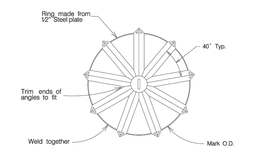


Note:
All concrete used for thrust blocking shall have a minimum concrete strength of 3,000 psi

PROPERTY OF		APPROVED	REVISED
SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	TYPICAL THRUST BLOCKS (SEWER ONLY)	March 2008	AUG 2019
	DD-839-03	SHEET 1 of 1	



SIDE OR TOP VIEW



END VIEW

Note:
All mandrels must be approved by SAWS Construction Inspections and stamped before use.

PROPERTY OF		APPROVED	REVISED
SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	GO, NO GO DEFLECTION TESTING MANDREL	March 2008	
	DD-848-01	SHEET 1 of 2	

SIZE	A	B*	MANDREL O.D. PVC (SDR-26)	RING O.D. PVC (SDR-26)
6"	4.0"	4.5"	5.00	4.79
8"	5.5"	6"	7.37	6.66
10"	7.0"	7.5"	9.21	8.50
12"	8.0"	9"	10.96	10.25
15"	10.0"	11"	13.42	12.71
18"	12.0"	13.5"	———	———
21"	14.0"	16"	———	———
24"	16.0"	18"	———	———
27"	18.0"	20"	———	———

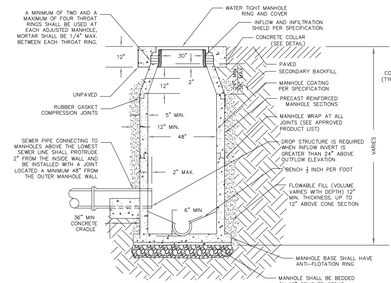
* Minimum Length

CHART

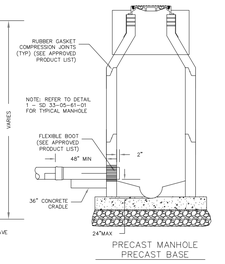
Notes:
PVC pipes and fittings 6" to 15" in diameter shall conform to ASTM D-3034-08.
PVC pipes and fittings 18" to 27" in diameter shall conform to ASTM F-679-08.

This information is provided as a reference. All deflection testing shall be done in accordance with TCEQ Chapter 217.

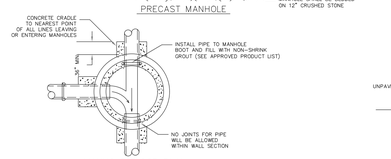
PROPERTY OF		APPROVED	REVISED
SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	GO, NO GO DEFLECTION TESTING MANDREL CHART	MARCH 2008	APRIL 2014
	DD-848-01	SHEET 2 of 2	



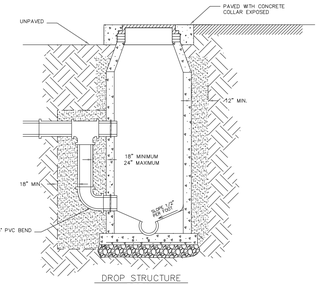
PRECAST MANHOLE



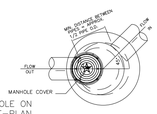
PRECAST MANHOLE
PRECAST BASE



MANHOLE FLOOR PLAN

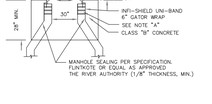


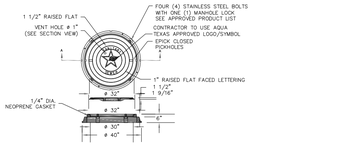
DROP STRUCTURE
DETAIL

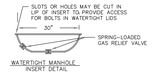


PRECAST MANHOLE ON PRECAST BASE–PLAN

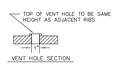
NOTE: PIPE TRENCH AND BEDDING MATERIAL MUST ALSO BE IN ACCORDANCE WITH THE REQUIREMENTS OF PIPE MANUFACTURER AND AWWA C–301 SPECS.





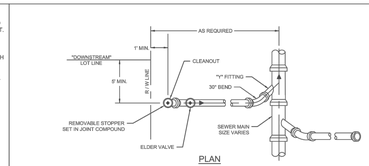


WATERTIGHT MANHOLE INSERT DETAIL

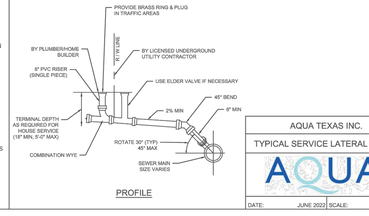


VENT HOLE SECTION

NOTES:
1. THE SITE DEVELOPER SHALL LEAVE THE CLEANOUT RISER 3'-4" ABOVE GRADE AND IT SHALL REMAIN SO UNTIL LOT BUILD OUT. THE RISER SHALL THEN BE CUT AND CAPPED AT FINISHED GRADE WITH A CONCRETE PAD.
2. ALL CLEANOUTS TO BE FLUSH WITH FINISH GRADE.
3. UTILITY CONTRACTOR TO INSTALL & PRESSURE TEST WYE AND INSTALL PLUG. PLUMBER TO REMOVE PLUG, INSTALL CLEANOUT AND CONCRETE PAD.
4. MARK CURB WITH "S" WHERE LATERAL CROSSES UNDER CURB.
5. ALL COMMERCIAL AND RESIDENTIAL SINGLE LATERALS SHALL HAVE 4" CLEANOUTS.
6. MAINTAIN A MINIMUM OF 3' CLEARANCE FREE OF ALL PLANTINGS & STRUCTURES AROUND CLEANOUT.
7. CLEANOUT CAPS SHALL BE SLOTTED OR HAVE A RECESSED NUT.
8. CLEAN - OUT (SHOWN DASHED) SHALL BE INSTALLED BY THE UTILITY CONTRACTOR TO FINAL CONFIGURATION IN ACCORDANCE WITH STANDARD PLUMBING CODE.
9. DOUBLE LATERALS ARE TO BE AVOIDED WHENEVER POSSIBLE. LOCATE DOUBLE LATERAL AS CLOSE TO LOT LINE AS POSSIBLE, 5' MAXIMUM.
10. INVERT OF SERVICE LATERAL SHALL NOT ENTER SEWER MAIN BELOW PRING LINE.
11. DOUBLE SERVICE LATERAL TO BE USED ONLY WHEN BOTH BUILDING SLABS ARE NOT GREATER THAN 4 INCHES ELEVATION DIFFERENCE.
12. SERVICE LATERAL, PIPING AND FITTINGS TO BE 6" SDR35 PVC UNLESS OTHERWISE NOTED. (GASKETED ONLY)
13. INSTALL 4"x4" (TOP ONE-FOOT PAINTED GREEN) AND 3M MAGNETIC MARKER TO IDENTIFY LOCATION OF CLEANOUT(s) AT THE PROPERTY LINE.
14. ALL LATERALS SHALL HAVE C.O. SET @ 2-FT BACK OF CURB OR 2-FT BACK OF SIDEWALK. IF SIDEWALK IS IMMEDIATELY ADJACENT TO CURB, DO NOT PLACE C.O. CLEANOUT.
15. AQUA TEXAS, INC. REPAIR/MAINTENANCE RESPONSIBILITY FOR SANITARY LATERALS IS FROM THE MAINLINE TO THE C.O. DESCRIBED IN THE NOTE ABOVE. THE PROPERTY OWNER IS RESPONSIBLE UPSTREAM OF C.O.
16. PVC SDR-26 SHALL BE USED FROM THE C.O. TO THE MAINLINE WHERE AQUA TEXAS, INC. IS RESPONSIBLE FOR REPAIR/MAINTANCE.



PLAN



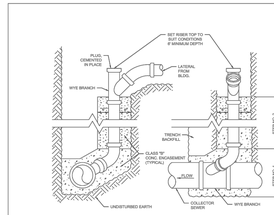
PROFILE

AQUA TEXAS INC.

TYPICAL SERVICE LATERAL DETAIL

AQUA

DATE: JUNE 2022 SCALE: N.T.S.



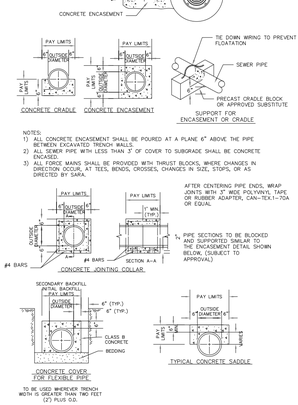
STEP DESCRIPTION:
1. INSTALL LOWER WYE BRANCH, 1/8 BEND, AND CONCRETE ENCASEMENT
   PROTECT LOWER CONCRETE ENCASEMENT FOR 24 HOUR CURING PERIOD
2. INSTALL RISER, UPPER WYE BRANCH, AND CONCRETE ENCASEMENT

AQUA TEXAS INC.

DEEP CUT LATERAL

AQUA

DATE: JUNE 2022 SCALE: N.T.S.



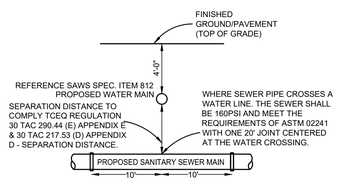
NOTES:
1) ALL CONCRETE ENCASEMENT SHALL BE POURED AT A PLANE 6" ABOVE THE PIPE BETWEEN EXCAVATED TRENCH WALLS.
2) ALL SEWER PIPE WITH LESS THAN 3' OF COVER TO SUBGRADE SHALL BE CONCRETE ENCASED.
3) ALL FORCE MAINS SHALL BE PROVIDED WITH THRUST BLOCKS, WHERE CHANGES IN DIRECTION OCCUR, AT TEES, BENDS, CROSSES, CHANGES IN SIZE, STOPS, OR AS DIRECTED BY SAWA.

DOGHOUSE MANHOLE CONSTRUCTION:
CONTRACTOR SHALL REFERENCE STD. PRECAST MANHOLE DETAIL ON SHEET 308 FOR CONSTRUCTION REQUIREMENTS
1. EXCAVATE TO EXISTING 8" SANITARY SEWER MAIN, SEE PROFILE FOR DEPTH.
2. EXPOSE EXISTING 8" SANITARY SEWER MAIN AND PREPARE AREA FOR INSTALLATION OF CAST-IN-PLACE MANHOLE BASE, PRE-CAST BASE W/ DOGHOUSE KNOCKOUT AND PRECAST RISER SECTIONS.
3. INSTALL CRUSHED STONE TO ESTABLISH FOUNDATION FOR CAST-IN-PLACE MANHOLE BASE. USE 2 - 6" X 8" X 16" SOLID CONCRETE BLOCKS STACKED TWO HIGH (TWO SETS ON EACH SIDE OF EX. MAIN) TO ELEVATE PRE-CAST BASE W/ DOGHOUSE KNOCKOUT TO ALLOW FOR AT MINIMUM 12" OF CONCRETE TO BE INSTALLED BETWEEN INVERT OF LOWEST PIPE AND AND CRUSHED STONE LAYER.
4. INSTALL PRE-CAST BASE W/ DOGHOUSE KNOCKOUT.
5. INSTALL ADDITIONAL PRECAST RISER SECTIONS AS NEEDED.
6. POUR THE CAST-IN-PLACE DOGHOUSE MANHOLE BASE AND FORM THE FLOWLINE INVERTS.
7. INSTALL EXTERNAL PIPE DROP AS REQUIRED.
8. SAW CUT AND REMOVE EXISTING SANITARY SEWER PIPE INSIDE THE DOGHOUSE MANHOLE AREA.
9. DURING STREET CONSTRUCTION: INSTALL CONE SECTION, THROAT RINGS, FLOWABLE FILL, I&I BARRIER, MANHOLE RING AND COVER.

EXISTING MANHOLE RECONSTRUCTION CONSTRUCTION:
CONTRACTOR SHALL FOLLOW SAWS STANDARD SPECIFICATION FOR CONSTRUCTION ITEM NO. 855 RECONSTRUCTION OF EXISTING MANHOLES.
https://apps.saws.org/business_center/specs/conststpecs/index.cfm

BYPASS PUMPING NOTE:
CONTRACTOR SHALL FOLLOW SAWS STANDARD SPECIFICATION FOR CONSTRUCTION ITEM NO. 865 BYPASS PUMPING SMALL DIAMETER SANITARY SEWER MAINS.
https://apps.saws.org/business_center/specs/conststpecs/index.cfm

SANITARY SEWER TESTING REQUIREMENTS:
CONTRACTOR TO REFERENCE SAWS SPECIFICATION ITEM NO. 849 "SANITARY SEWER ACCEPTANCE TESTING" FOR SANITARY SEWER TESTING REQUIREMENTS.
https://apps.saws.org/business_center/specs/conststpecs/conststpecs_2020/index.cfm



TYPICAL SANITARY SEWER/
WATER CROSSING DETAIL

NOT TO SCALE

REV	DATE	DESCRIPTION

FOR BIDDING PURPOSES ONLY
NOT FOR CONSTRUCTION

KCI TECHNOLOGIES, INC.
11550 IH 10 WEST, SUITE 395
SAN ANTONIO, TEXAS 78230-1037
PHONE: (210) 641-9999
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REGISTRATION #F-10573 / #101943-65

KCI TECHNOLOGIES

HICKORY RIDGE SUBDIVISION
PHASE 1 UNIT 2
SANITARY SEWER DETAILS

DRAFTING:	K.P./G.P.
DESIGN:	L.E.
CHECK:	C.P.
CHECK:	M.P.S.
SUBMITTAL PHASE:	
DATE:	12/22
KCI JOB #:	762207389
SHEET:	308

WATERLINE CONSTRUCTION PLANS
for
HICKORY RIDGE SUBDIVISION
PHASE 1 UNIT 2

GENERAL NOTES:

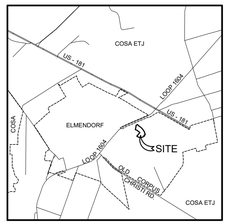
1. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE APPROVED BY THE CITY OF ELMENDORF AND COMPLY WITH THE PLANS, SPECIFICATIONS, GENERAL CONDITIONS AND WITH THE FOLLOWING AS APPLICABLE:
   A. CURRENT TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) "DESIGN CRITERIA 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.
   B. CURRENT TXDOT "STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND DRAINAGE."
   C. CURRENT "SAN ANTONIO WATER SYSTEM STANDARD SPECIFICATIONS FOR WATER AND SANITARY SEWER CONSTRUCTION."
   D. CURRENT CITY OF SAN ANTONIO "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION."
   E. CURRENT CITY OF SAN ANTONIO "UTILITY EXCAVATION CRITERIA MANUAL" (UECM).
2. THE CONTRACTOR SHALL NOT PROCEED WITH ANY PIPE INSTALLATION WORK UNTIL THEY OBTAIN APPROVAL FROM THE CITY OF ELMENDORF AND HAS BEEN NOTIFIED BY THE CITY 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 APPROVAL BY THE CITY WILL BE SUBJECT TO REMOVAL AND REPLACEMENT AT THE EXPENSE OF THE CONTRACTORS AND/OR THE DEVELOPER.
3. THE CONTRACTOR SHALL OBTAIN THE SAWS STANDARD DETAILS FROM THE SAWS WEBSITE, HTTP://WWW.SAWS.ORG/BUSINESS_CENTER/SPECS. UNLESS OTHERWISE NOTED WITHIN THE DESIGN PLAN.
4. THE CONTRACTOR IS TO MAKE ARRANGEMENTS WITH THE CITY OF ELMENDORF AT (210) 635-8210, ON NOTIFICATION PROCEDURES THAT WILL BE USED TO NOTIFY AFFECTED HOME RESIDENTS AND/OR PROPERTY OWNERS 48 HOURS PRIOR TO BEGINNING ANY WORK.
5. 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 THE CITY OR THE DEVELOPER.
6. 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:
   - CITY OF ELMENDORF 210-635-8210
   - TEXAS STATE WIDE ONE CALL LOCATOR 1-800-545-6005 OR 811
7. 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.
8. 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.
9. THE CONTRACTOR SHALL COMPLY WITH CITY OF ELMENDORF OR OTHER GOVERNING MUNICIPALITY'S TREE ORDINANCES WHEN EXCAVATING NEAR TREES.
10. THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIALS IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN PERMIT.
11. HOLIDAY WORK: CONTRACTORS WILL NOT BE ALLOWED TO PERFORM CITY WORK ON CITY RECOGNIZED HOLIDAYS. REQUEST SHOULD BE SENT TO THE CITY.
   - WEEKEND WORK: CONTRACTORS ARE REQUIRED TO NOTIFY THE CITY OF ELMENDORF 48 HOURS IN ADVANCE TO REQUEST WEEKEND WORK. REQUEST SHOULD BE SENT TO THE CITY.
   - ANY AND ALL CITY UTILITY WORK INSTALLED WITHOUT HOLIDAY/WEEKEND APPROVAL WILL BE SUBJECT TO BE UNCOVERED FOR PROPER INSPECTION.
12. COMPACTION NOTE (ITEM 804): THE CONTRACTOR SHALL BE RESPONSIBLE FOR METTING 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 CITY INSPECTOR AND/OR THE TEST ADMINISTRATOR, PER EACH 12-INCH LOOSE LIFT PER 400 LINEAR FEET AT A MINIMUM. THIS PROJECT WILL NOT BE ACCEPTED AND FINALIZED BY THE CITY WITHOUT THIS REQUIREMENT BEING MET AND VERIFIED BY PROVIDING ALL NECESSARY DOCUMENTED TEST RESULTS.
13. A COPY OF ALL TESTING REPORTS SHALL BE FORWARDED TO THE CITY OF ELMENDORF.

WATER NOTES:

1. PRIOR TO TIE-INS, ANY SHUTDOWNS OF EXISTING MAINS OF ANY SIZE MUST BE COORDINATED WITH THE CITY OF ELMENDORF 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 THE CITY OR THE PROJECT AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SEQUENCE THE WORK ACCORDINGLY.
2. 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 THIS PIPE OCCURS. SUCH WORK IS TO BE MADE UNDER SPECIAL SPECIFICATION ITEM NO. 3000, "SPECIAL SPECIFCATION FOR HANDLING ASBESTOS CEMENT PIPE."
3. 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. (NSPI)
4. SUITABLE ANCHORAGE/THRUST 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.
5. ALL VALVES SHALL READ "OPEN RIGHT."
6. PIPE DISINFECTION WITH DRY HTH FOR PROJECTS LESS THAN 800 LINEAR FEET. (ITEM NO. 847.3): MAINS SHALL BE DISINFECTED WITH DRY HTH 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.
7. 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.
9. FINAL CONNECTION TO THE EXISTING WATER MAIN SHALL NOT BE MADE UNTIL THE WATER MAIN HAS BEEN PRESSURE TESTED, CHLORINATED, AND THE CITY OF ELMENDORF HAS RELEASED THE MAIN FOR TIE-IN AND USE.

TRENCH EXCAVATION SAFETY PROTECTION

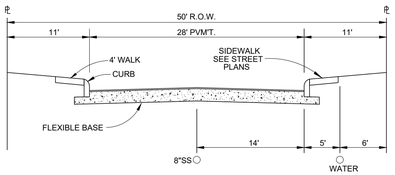
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTOR'S IMPLEMENTATION OF THE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION, SAFETY PROTECTION THAT COMPLIES 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.



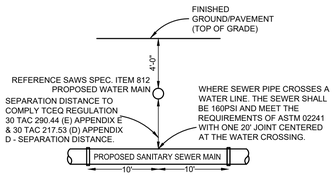
LOCATION MAP
NOT TO SCALE

SHEET INDEX

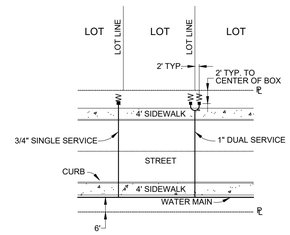
Sheet Number	Sheet Title
400	WATER COVER
401	OVERALL WATER PLAN
402	WATER DETAILS
403	WATER DETAILS



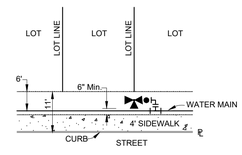
TYPICAL LOCAL "A" STREET SECTION
NOT TO SCALE



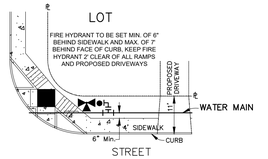
TYPICAL SANITARY SEWER/
WATER CROSSING DETAIL
NOT TO SCALE



METER BOX DETAIL
NOT TO SCALE



FIRE HYDRANT DETAIL ON LOCAL "A"
NOT TO SCALE
NOTE: Sidewalks and fire hydrants shall be installed per City of San Antonio Standard Specifications for Construction and SAWS Standard Specifications for Construction.



FIRE HYDRANT DETAIL @ CORNER
NOT TO SCALE
NOTE: Sidewalks and fire hydrants shall be installed per City of San Antonio Standard Specifications for Construction and SAWS Standard Specifications for Construction.

OWNER/DEVELOPER:

CASTLEROCK COMMUNITIES
2401 FOUNTAIN VIEW DRIVE, SUITE 215
HOUSTON, TEXAS 77057
PHONE: (713) 600-7060

PREPARED BY:

KCI TECHNOLOGIES, INC.

11550 IH 10 WEST, SUITE 395
SAN ANTONIO, TEXAS 78230-1037
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

NOTES:
1) SAWS REQUIRES GCPs AND COUNTER PERMITS TO USE LEAD FREE (<0.25% LEAD) FIRE HYDRANTS.
2) ANCHORAGE/THRUST BLOCKING AND JOINT RESTRAINTS SHALL BE DONE IN ACCORDANCE WITH SAWS STANDARD SPECIFICATIONS FOR CONSTRUCTION. (ITEM NO. 839)
3) THE CITY OF ELMENDORF WATER SYSTEM IS HEREBY GRANTED THE RIGHT OF INGRESS AND EGRESS ACROSS GRANTOR'S ADJACENT PROPERTY TO ACCESS THE WATER AND/OR WASTEWATER EASEMENTS SHOWN.

REV	DATE	DESCRIPTION

FOR BIDDING PURPOSES ONLY
NOT FOR CONSTRUCTION

KCI TECHNOLOGIES, INC.
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SAN ANTONIO, TEXAS 78230-1037
PHONE: (210) 641-9999
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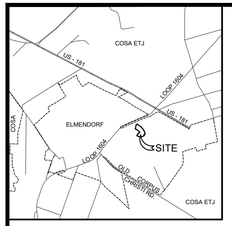
REGISTRATION #F-10573 / #101943-65

HICKORY RIDGE SUBDIVISION
PHASE 1 UNIT 2
WATER COVER

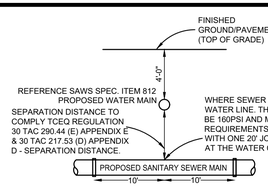
DRAFTING:	K.P./G.P.	CHECK:	C.P.
DESIGN:	L.E.	CHECK:	M.P.S.
SUBMITTAL PHASE:			
DATE:			12/22
KCI JOB #:			762207389

SHEET:
400

Date: Feb 23, 2024, 1:44pm User ID: clark.king File: L:\Develop\Proj\2022\JCI\762207389_Hickory_Ridge_Phase_1_Unit_2\Used\762207389 400 WATER COVER.dwg

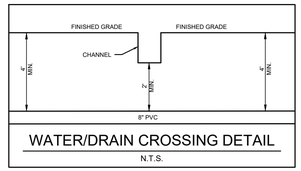


LOCATION MAP
NOT TO SCALE

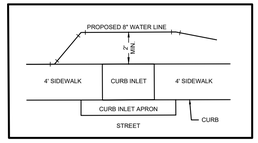


TYPICAL SANITARY SEWER/ WATER CROSSING DETAIL
NOT TO SCALE

TRENCH EXCAVATION SAFETY PROTECTION
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/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 CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTOR'S IMPLEMENTATION OF THE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION, SAFETY PROTECTION THAT COMPLIES 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.



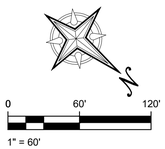
WATER/DRAIN CROSSING DETAIL
N.T.S.



DETAIL "1"
N.T.S.

WATER NOTES:
1. ALL PROPOSED 8" PVC WATER PIPE SHALL BE C900, CLASS 235 (DR-18) UNLESS OTHERWISE NOTED.
2. LEAD FREE (<0.25% LEAD) FIRE HYDRANTS TO BE USED.
3. ALL WATER METERS SHALL BE 5/8" UNLESS OTHERWISE NOTED.
4. ANCHORAGE/THRUST BLOCKING AND JOINT RESTRAINTS SHALL BE DONE IN ACCORDANCE WITH SAWS STANDARD SPECIFICATIONS FOR CONSTRUCTION. (ITEM NO. 839)

LEGEND
- EXISTING EDGE OF PAVEMENT
- EXISTING SANITARY SEWER MAIN — E8"/12" SS
- PROPOSED SANITARY SEWER MAIN — P8"/12" SS
- EXISTING WATER MAIN — E8"/16" PVC
- PROPOSED WATER MAIN — P8"/12" PVC
- IRRIGATION SERVICE — IS
- PROPOSED WATER SERVICE/ METER
- FIRE HYDRANT
- PROPOSED STREET LIGHT (100 WATT/SINGLE ARM) — L.P.



REV	DATE	DESCRIPTION

FOR BIDDING PURPOSES ONLY
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SAN ANTONIO, TEXAS 78230-1037
PHONE: (210) 641-9999
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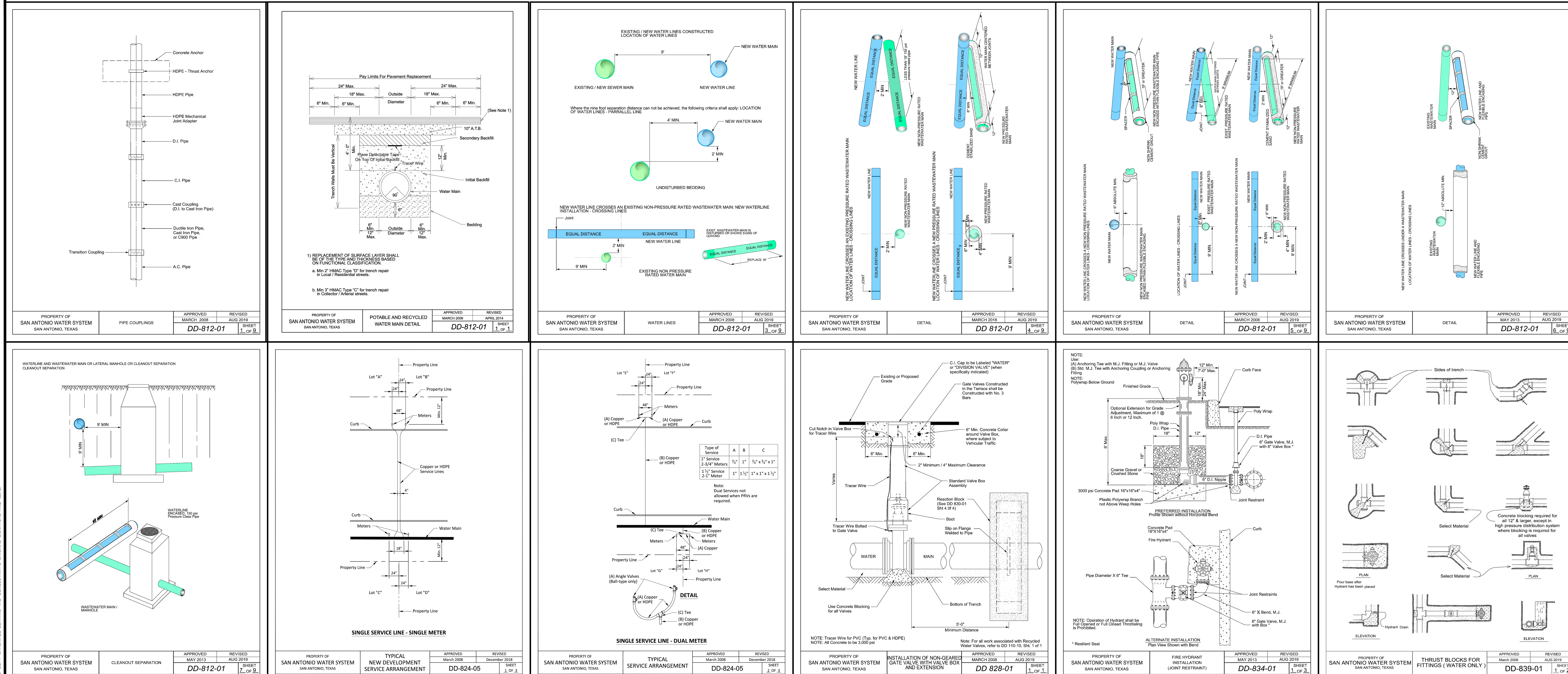
REGISTRATION #F-10573 / #101943-65

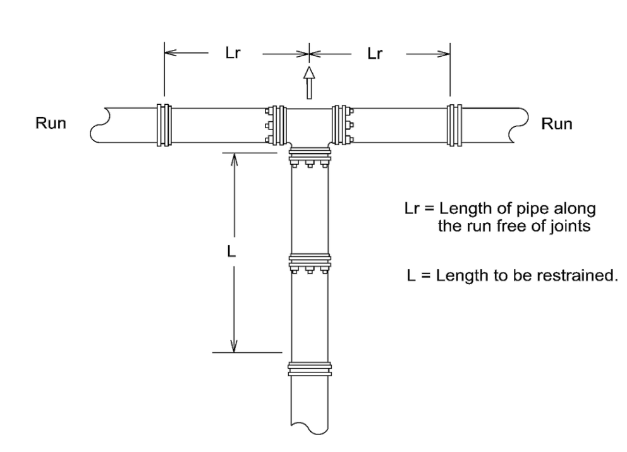
KCI TECHNOLOGIES

HICKORY RIDGE SUBDIVISION
PHASE 1 UNIT 2
OVERALL WATER PLAN

DRAFTING:	K.P./G.P.	CHECK:	C.P.
DESIGN:	L.E.	CHECK:	M.P.S.
SUBMITTAL PHASE:			
DATE:	12/22		
KCI JOB #:	762207389		
SHEET:	401		



PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS
PIPE COUPLINGS
DD-812-01
Concrete Anchor
HDPE - Thrust Anchor
HDPE Pipe
HDPE Mechanical Joint Adapter
D.I. Pipe
C.I. Pipe
Cast Coupling (D.I. to Cast Iron Pipe)
Ductile Iron Pipe, Cast Iron Pipe, or C900 Pipe
Transition Coupling
A.C. Pipe
POTABLE AND RECYCLED WATER MAIN DETAIL
Pay Limits For Pavement Replacement
Trench Walls Must Be Vertical
Place Detectable Tape On Top Of Initial Backfill
Tracer Wire
Secondary Backfill
Initial Backfill
Water Main
Bedding
1) REPLACEMENT OF SURFACE LAYER SHALL BE OF THE TYPE AND THICKNESS BASED ON FUNCTIONAL CLASSIFICATION.
a. Min 2" HMAC Type "D" for trench repair in Local / Residential streets.
b. Min 3" HMAC Type "C" for trench repair in Collector / Arterial streets.
WATER LINES
EXISTING / NEW WATER LINES CONSTRUCTED LOCATION OF WATER LINES
EXISTING / NEW SEWER MAIN
NEW WATER LINE
NEW WATER MAIN
UNDISTURBED BEDDING
EXISTING NON PRESSURE RATED WATER MAIN
DETAIL
CLEANOUT SEPARATION
WATERLINE AND WASTEWATER MAIN OR LATERAL MANHOLE OR CLEANOUT SEPARATION
WASTEWATER MAIN / MANHOLE
TYPICAL NEW DEVELOPMENT SERVICE ARRANGEMENT
DD-824-05
SINGLE SERVICE LINE - SINGLE METER
SINGLE SERVICE LINE - DUAL METER
TYPICAL SERVICE ARRANGEMENT
Property Line
Meters
Curb
Water Main
Copper or HDPE Service Lines
INSTALLATION OF NON-GEARED GATE VALVE WITH VALVE BOX AND EXTENSION
DD 828-01
FIRE HYDRANT INSTALLATION (JOINT RESTRAINT)
DD-834-01
PREFERRED INSTALLATION
ALTERNATE INSTALLATION
THRUST BLOCKS FOR FITTINGS (WATER ONLY)
DD-839-01



RESTRAINED LENGTH FOR TEES

PIPE SIZE (inch)	BRANCH SIZE (inch)	LENGTH OF RUN (ft.)	RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE = 200 psi	RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE = 150 psi
6	4	0	42	31
6	4	5	7	1
6	4	10	1	1
6	6	0	59	44
6	6	5	35	20
6	6	10	11	1
8	4	0	42	31
8	4	5	1	1
8	6	0	59	44
8	6	5	28	13
8	6	10	1	1
8	8	0	77	58
8	8	5	53	34
8	8	10	30	11
8	8	15	6	1

RESTRAINED LENGTH DESIGN

Restrained length calculations are for P.V.C pipe bedded in compacted granular material extending to the top of the pipe.The native soil material is assumed to be inorganic clay of high plasticity. Depth of bury is assumed to be 4 feet.

Note:
These calculations are provided for reference. The restrained length shall be designed based upon the conditions encountered during the installation.

PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS | RESTRAINED LENGTHS FOR TEES | APPROVED March 2008 | REVISED AUG 2019 | DD-839-04 | SHEET 1 OF 2

RESTRAINED LENGTH FOR TEES (Cont'd)

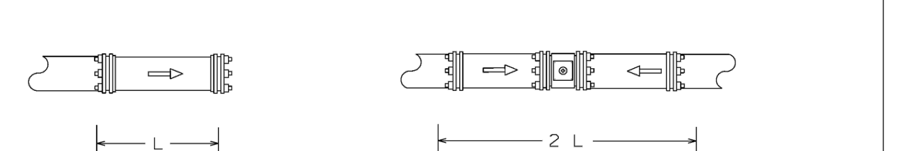
PIPE SIZE (inch)	BRANCH SIZE (inch)	LENGTH OF RUN (ft.)	RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE = 200 psi	RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE = 150 psi
12	4	0	42	31
12	4	5	1	1
12	6	0	59	44
12	6	5	13	1
12	6	10	1	1
12	8	0	77	58
12	8	5	42	23
12	8	10	7	1
12	8	15	1	1
12	12	0	109	82
12	12	5	86	59
12	12	10	63	35
12	12	15	39	12

RESTRAINED LENGTH DESIGN

Restrained length calculations are for P.V.C pipe bedded in compacted granular material extending to the top of the pipe.The native soil material is assumed to be inorganic clay of high plasticity. Depth of bury is assumed to be 4 feet.

Note:
These calculations are provided for reference. The restrained length shall be designed based upon the conditions encountered during the installation.

PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS | RESTRAINED LENGTHS FOR TEES | APPROVED March 2008 | REVISED AUG 2019 | DD-839-04 | SHEET 2 OF 2



L=LENGTH TO BE RESTRAINED

PIPE SIZE (inch)	RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE = 200 psi	RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE = 150 psi
6	59	44
8	77	58
10	93	69
12	109	82

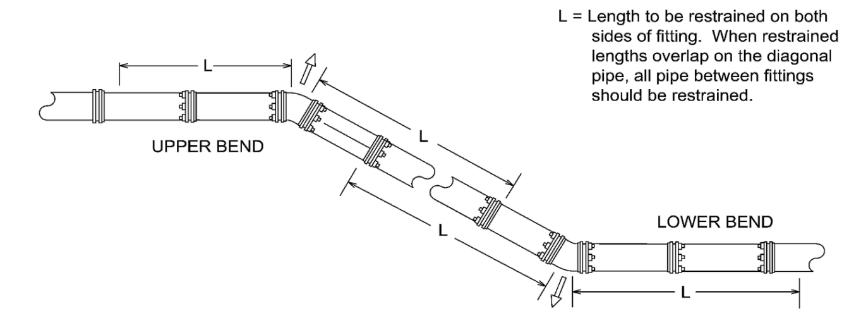
RESTRAINED LENGTH DESIGN

Restrained length calculations are for P.V.C pipe bedded in compacted granular material extending to the top of the pipe. The native soil material is assumed to be inorganic clay of high plasticity. Depth of bury is assumed to be 4 feet.

Note:
These calculations are provide for reference. The restrained length shall be designed based upon the conditions encountered during the installation.

PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS | RESTRAINED LENGTHS FOR DEAD ENDS / INLINE VALVES | APPROVED March 2008 | REVISED AUG 2019 | DD-839-05 | SHEET 1 OF 1

L = Length to be restrained on both sides of fitting. When restrained lengths overlap on the diagonal pipe, all pipe between fittings should be restrained.



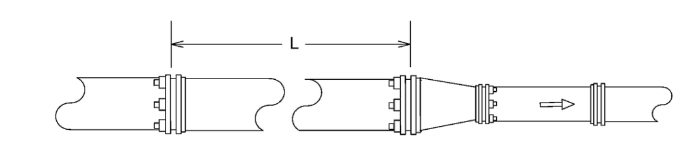
PIPE SIZE (inch)	BEND ANGLE (deg.)	LOW SIDE DEPTH	UPPER BEND RESTRAINED LENGTH IIN FEET TEST PRESSURE = 200 psi	LOWER BEND RESTRAINED LENGTH IN FEET TEST PRESSURE = 200psi	UPPER BEND RESTRAINED LENGTH IN FEET TEST PRESSURE = 150 psi	LOWER BEND RESTRAINED LENGTH IN FEET TEST PRESSURE = 150 psi
6	45	5	24	8	18	6
6	22.5	5	12	4	9	3
6	11.25	5	6	2	4	1
6	45	10	24	5	18	4
6	22.5	10	12	2	9	2
6	11.25	10	6	1	4	1
8	45	5	32	11	24	8
8	22.5	5	15	5	11	4
8	11.25	5	8	3	6	2
8	45	10	32	7	24	5
8	22.5	10	15	3	11	2
8	11.25	10	8	2	6	1
12	45	5	45	16	34	12
12	22.5	5	22	7	16	6
12	11.25	5	11	4	8	3
12	45	10	45	10	34	7
12	22.5	10	22	5	16	3
12	11.25	10	11	2	8	2

RESTRAINED LENGTH DESIGN

Restrained length calculations are for P.V.C. pipe bedded in compacted granular material extending to the top of the pipe. The native soil material is assumed to be inorganic clay of high plasticity. Depth of bury is assumed to be 4 feet.

Note:
These calculations are provided for reference. The restrained length shall be designed based upon the conditions encountered during the installation.

PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS | RESTRAINED LENGTHS VERTICAL OFFSETS | APPROVED MARCH 2008 | REVISED AUG 2019 | DD-839-06 | SHEET 1 OF 1



L=Length to be restrained

PIPE SIZE (inch)	SMALL SIZE (inch)	RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE = 200 psi	RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE = 150 psi
6	4	30	23
8	4	55	42
8	6	32	24
12	4	95	71
12	6	80	60
12	8	58	43

RESTRAINED LENGTH DESIGN

Restrained length calculations are for P.V.C. pipe bedded in compacted granular material extending to the top of the pipe. The native soil material is assumed to be inorganic clay of high plasticity. Depth of bury is assumed to be 4 feet.

Note:
These calculations are provided for reference. Th restrained length shall be designed based upon the conditions encountered during the installation.

PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS | RESTRAINED LENGTHS FOR REDUCERS | APPROVED MARCH 2008 | REVISED AUG 2019 | DD-839-07 | SHEET 1 OF 1

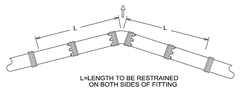
REV | DATE | DESCRIPTION

FOR BIDDING PURPOSES ONLY
NOT FOR CONSTRUCTION

KCI TECHNOLOGIES, INC.
11550 IH 10 WEST, SUITE 395
SAN ANTONIO, TEXAS 78230-1037
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

HICKORY RIDGE SUBDIVISION
PHASE 1 UNIT 2
WATER DETAILS

DRAFTING: K.P./G.P. CHECK: C.P.
DESIGN: L.E. CHECK: M.P.S.
SUBMITTAL PHASE:
DATE: 12/22
KCI JOB #: 762207389
SHEET: 402



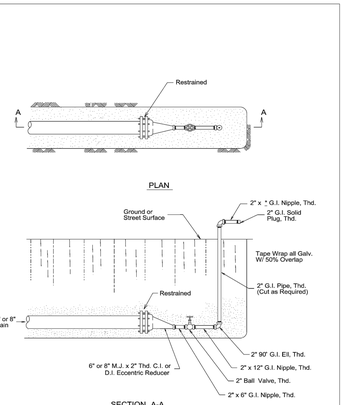
PIPE SIZE (inch)	BEND (deg)	RESTRAINED LENGTH IN FEET WHEN TEST PRESSURE = 200 psi	RESTRAINED LENGTH IN FEET WHEN TEST PRESSURE = 150 psi
6	90	23	17
6	45	9	7
6	22.5	5	3
6	11.25	2	2
8	90	30	22
8	45	12	9
8	22.5	6	4
8	11.25	3	2
12	90	43	32
12	45	18	13
12	22.5	8	6
12	11.25	4	3

RESTRAINED LENGTH DESIGN

Restrained length calculations are for P.V.C pipe bedded in compacted granular material extending to the top of the pipe. The native soil material is assumed to be incrganic clay of high plasticity. Depth of bury is assumed to be 4 feet.

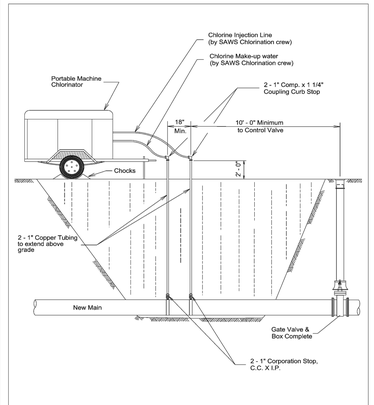
Note:
These calculations are provided for reference. The restrained length shall be designed based upon the conditions encountered during the installation.

PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	RESTRAINED LENGTHS FOR HORIZONTAL BENDS	APPROVED MARCH 2008	REVISED AUG 2019
	DD-839-08	SHEET 1 of 1	



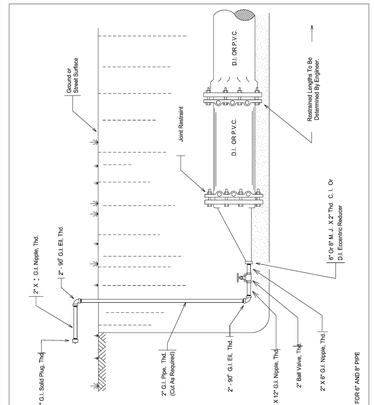
* Cut as required to extend beyond excavation

PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	2" TEMPORARY BLOW-OFF ASSEMBLY ON 6" & 8" MAINS	APPROVED MARCH 2008	REVISED AUG 2019
	DD-844-01	SHEET 1 of 4	



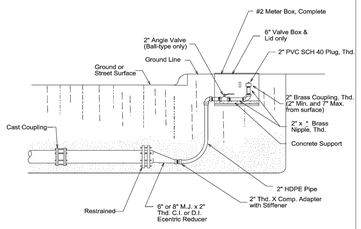
Note:
2 - 1 1/4" Solid Cap, Thd. to be installed on Corporation Stop after chlorination

PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	STANDARD CHLORINATION INSTALLATION	APPROVED March 2008	REVISED AUG 2019
	DD-847-01	SHEET 1 of 1	



* Cut as required to extend beyond excavation.

PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	2" (TEMPORARY) BLOW-OFF ASSEMBLY ON 6" & 8" MAINS (JOINT RESTRAINT)	APPROVED March 2008	REVISED AUG 2019
	DD-844-01	SHEET 3 of 4	



* Cut to fit in meter box.

PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	2" PERMANENT BLOW-OFF ASSEMBLY ON 6" & 8" MAINS	APPROVED MARCH 2008	REVISED AUG 2019
	DD-844-02	SHEET 3 of 5	

GENERAL NOTES:

1. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE APPROVED BY THE CITY OF ELMENDORF AND COMPLY WITH THE PLANS, SPECIFICATIONS, GENERAL CONDITIONS AND WITH THE FOLLOWING AS APPLICABLE:
   A. 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.
   B. CURRENT TXDOT "STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND DRAINAGE."
   C. CURRENT "SAN ANTONIO WATER SYSTEM STANDARD SPECIFICATIONS FOR WATER AND SANITARY SEWER CONSTRUCTION."
   D. CURRENT CITY OF SAN ANTONIO "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION."
   E. CURRENT CITY OF SAN ANTONIO "UTILITY EXCAVATION CRITERIA MANUAL" (UECM).
2. THE CONTRACTOR SHALL NOT PROCEED WITH ANY PIPE INSTALLATION WORK UNTIL THEY OBTAIN APPROVAL FROM THE CITY OF ELMENDORF AND HAS BEEN NOTIFIED BY THE CITY 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 APPROVAL BY THE CITY WILL BE SUBJECT TO REMOVAL AND REPLACEMENT AT THE EXPENSE OF THE CONTRACTORS AND/OR THE DEVELOPER.
3. THE CONTRACTOR SHALL OBTAIN THE SAWS STANDARD DETAILS FROM THE SAWS WEBSITE, HTTP://WWW.SAWS.ORG/BUSINESS_CENTER/SPECS. UNLESS OTHERWISE NOTED WITHIN THE DESIGN PLAN.
4. THE CONTRACTOR IS TO MAKE ARRANGEMENTS WITH THE CITY OF ELMENDORF AT (210) 635-8210, ON NOTIFICATION PROCEDURES THAT WILL BE USED TO NOTIFY AFFECTED HOME RESIDENTS AND/OR PROPERTY OWNERS 48 HOURS PRIOR TO BEGINNING ANY WORK.
5. 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 THE CITY OR THE DEVELOPER.
6. 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:
   - CITY OF ELMENDORF 210-635-8210
   - TEXAS STATE WIDE ONE CALL LOCATOR 1-800-545-6005 OR 811
7. 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.
8. 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.
9. THE CONTRACTOR SHALL COMPLY WITH CITY OF ELMENDORF OR OTHER GOVERNING MUNICIPALITY'S TREE ORDINANCES WHEN EXCAVATING NEAR TREES.
10. THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIALS IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN PERMIT.
11. HOLIDAY WORK: CONTRACTORS WILL NOT BE ALLOWED TO PERFORM CITY WORK ON CITY RECOGNIZED HOLIDAYS. REQUEST SHOULD BE SENT TO THE CITY.
    - WEEKEND WORK: CONTRACTORS ARE REQUIRED TO NOTIFY THE CITY OF ELMENDORF 48 HOURS IN ADVANCE TO REQUEST WEEKEND WORK. REQUEST SHOULD BE SENT TO THE CITY.
    - ANY AND ALL CITY UTILITY WORK INSTALLED WITHOUT HOLIDAY/WEEKEND APPROVAL WILL BE SUBJECT TO BE UNCOVERED FOR PROPER INSPECTION.
12. COMPACTION NOTE (ITEM 804): THE CONTRACTOR SHALL BE RESPONSIBLE FOR METTING 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 CITY INSPECTOR AND/OR THE TEST ADMINISTRATOR, PER EACH 12-INCH LOOSE LIFT PER 400 LINEAR FEET AT A MINIMUM. THIS PROJECT WILL NOT BE ACCEPTED AND FINALIZED BY THE CITY WITHOUT THIS REQUIREMENT BEING MET AND VERIFIED BY PROVIDING ALL NECESSARY DOCUMENTED TEST RESULTS.
13. A COPY OF ALL TESTING REPORTS SHALL BE FORWARDED TO THE CITY OF ELMENDORF.

WATER NOTES:

1. PRIOR TO TIE-INS, ANY SHUTDOWNS OF EXISTING MAINS OF ANY SIZE MUST BE COORDINATED WITH THE CITY OF ELMENDORF 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 THE CITY OR THE PROJECT AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SEQUENCE THE WORK ACCORDINGLY.
2. 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 THIS PIPE OCCURS. SUCH WORK IS TO BE MADE UNDER SPECIAL SPECIFICATION ITEM NO. 3000, "SPECIAL PECIFCATION FOR HANDLING ASBESTOS CEMENT PIPE."
3. 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. (NSPI)
4. SUITABLE ANCHORAGE/THRUST 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.
5. ALL VALVES SHALL READ "OPEN RIGHT."
6. PIPE DISINFECTION WITH DRY HTH FOR PROJECTS LESS THAN 800 LINEAR FEET. (ITEM NO. 847.3): MAINS SHALL BE DISINFECTED WITH DRY HTH 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.
7. 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.
9. FINAL CONNECTION TO THE EXISTING WATER MAIN SHALL NOT BE MADE UNTIL THE WATER MAIN HAS BEEN PRESSURE TESTED, CHLORINATED, AND THE CITY OF ELMENDORF HAS RELEASED THE MAIN FOR TIE-IN AND USE.

ADDITIONAL NOTES:

1. LEAD FREE (0.25% LEAD) FIRE HYDRANTS TO BE USED.
2. ATTENTION CONTRACTORS: ALL SPILLS, OVERFLOWS, OR DISCHARGES OF WASTEWATER, RECYCLED WATER, PETROLEUM PRODUCTS, OR CHEMICALS MUST BE REPORTED IMMEDIATELY TO THE CITY. THIS REQUIREMENT APPLIES TO EVERY SPILL, OVERFLOW, OR DISCHARGE - REGARDLESS OF SIZE. YOUR COMPLIANCE WILL ENABLE SAWS TO FULFIL REGULATORY REPORTING REQUIREMENTS.

   IT IS THE CONTRACTORS RESPONSIBILITY TO CONTROL SEWER FLOWS SO THAT A SPILL OVERFLOW, OR DISCHARGE DOES NOT OCCUR, IN THE EVENT THAT A SPILL, OVERFLOW, OR DISCHARGE OCCURS, THE CONTRACTOR MAY BE HELD LIABLE FOR:
   - ALL FINES, PENALTIES, OR OTHER COSTS ASSESSED TO OR AGAINST BY SAWS BY ANY STATE, FEDERAL, OR OTHER GOVERNMENTAL AGENCY.
   - CITY STAFF AND MATERIAL COSTS TO RESPOND TO THE SPILL, OVERFLOW, OR DISCHARGE, OR TO MITIGATE THE EFFECTS OF THE SPILL, OVERFLOW, OR DISCHARGE, OR TO SUPPORT THE CLEANUP EFFORT.
   - ALL DAMAGES CAUSED TO CITY, OR ANY OTHER PERSONS OR ENTITIES THAT RESULT FROM THE SPILL, OVERFLOW, OR DISCHARGE.
3. ALL PROPOSED 8" PVC WATER PIPE SHALL BE C900 CLASS 235 DR-18.
4. ALL WATER METERS SHALL BE 3/4" UNLESS OTHERWISE NOTED.

REV	DATE	DESCRIPTION

FOR BIDDING PURPOSES ONLY
NOT FOR CONSTRUCTION

KCI TECHNOLOGIES, INC.
11550 IH 10 WEST, SUITE 395
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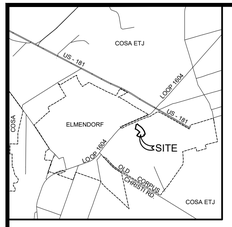
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

KCI TECHNOLOGIES

HICKORY RIDGE SUBDIVISION
PHASE 1 UNIT 2
WATER DETAILS

DRAFTING: K.P./G.P.	CHECK: C.P.
DESIGN: L.E.	CHECK: M.P.S.
SUBMITTAL PHASE:	
DATE:	12/22
KCI JOB #:	762207389

SHEET:
403



LOCATION MAP
NOT TO SCALE

STREET & DRAIN PLANS
for
HICKORY RIDGE SUBDIVISION
PHASE 1 UNIT 2

LEGEND

- WHEELCHAIR RAMPS
- WHEELCHAIR RAMP TYPE (I-IV) — ①②③④
- SINGLE DIRECTIONAL WHEELCHAIR RAMP — D1
- DUAL DIRECTIONAL WHEELCHAIR RAMP — D2
- WASHOUT CROWN
- SIDEWALK TO BE BUILT BY DEVELOPER
- PROPOSED DRIVEWAY — DW
- TOP OF PVMT. ELEVATION — 940.00
- EXISTING STREET LIGHT — •ELP
- PROPOSED STREET LIGHT (100 WATT) — •LP
- PROPOSED FIRE HYDRANT
- EXISTING FIRE HYDRANT

BEXAR COUNTY RIGHT OR WAY PERMIT MUST BE OBTAINED PRIOR TO WORKING IN EXISTING BEXAR COUNTY RIGHT OF WAY

GENERAL NOTES

1. All materials and construction procedures within the scope of this project shall, be approved by the City of San Antonio Public Works and comply with the following as applicable:
A. Reference to Current "San Antonio Water System Utility Specifications"
B. Reference to Current City of San Antonio "Standard Specifications for Public Works Construction"

2. 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. Texas State Wide One Call Locator 1–800–545–6005 City Public Service AT&T Time Warner Valero Energy Co.

3. The Contractor shall notify the City prior to the start of each phase of street construction and call for inspections with a minimum of 24 hours notice.

4. Testing will be paid for by Developer, coordinated by Contractor, and witnessed by City.

5. Minimum Testing Schedule:

Densities – Subgrade	1 Per 500 Foot Minimum
Densities – Base	1 Per 500 Foot Minimum
Proctors – Subgrade	1 Per Material Per Subdivision
Proctors – Base	1 Per 5,000 C.Y.
Lime Series – Subgrade	1 Per Material Per Subdivision
Concrete – Structures	1 Set (3) Per 50 C.Y.

6. Transition washout crown to normal crown in 25'.

7. No extra payment shall be allowed for work called for on the plans, but not included in the bid proposal. This incidental work will be required and shall be included in the pay item to which it relates.

8. The contractor shall be responsible for restoring to its original or better condition any damage done to existing fences, concrete islands, street paving, curbs, shrubs, bushes or driveways. (No separate pay item).

9. Due to federal regulations Title 49, Part 192.171 CPS must maintain access to gas valves at all times. The contractor must protect and work around any gas valves that are in the project area.

10. Contractor shall notify the city inspector twenty four (24) hours prior to backfill of any utility trenches to schedule for density test as required.

11. All waste material shall become property of the contractor and shall be his sole responsibility to dispose of this material off the limits of the project. No waste material shall be placed in existing lows that will block or alter flow limits of existing artificial or natural drainage.

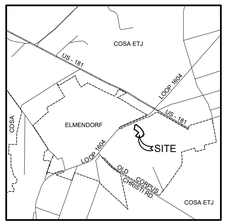
12. The contractor shall not place any waste material in the 100–year flood plain without first obtaining an approved Flood Plain Development Permit.

13. The contractor shall maintain all adjoining streets and traveled routes free from spilled and/or tracked construction materials and/or debris.

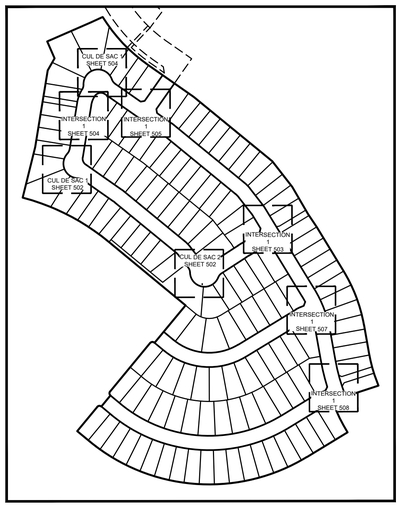
14. It is the contractor's responsibility to see that all signs and barricades are properly installed and maintained. All locations and distances will be decided upon in the field by the contractor, using the "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES". The City's construction inspector will only be responsible to inspect barricades and signs. If, in the opinion of the construction inspector, the barricades and signs do not conform to established standards or are incorrectly placed or are insufficient in quantity to protect the general public, the inspector shall have the option to stop operations until such time as the conditions are corrected.

TRENCH EXCAVATION SAFETY PROTECTION

Contractor and/or contractor's independently retained employee or structural design/geotechnical/safety/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 Contractor's trench excavation safety protection systems, programs and/or procedures. The Contractor's implementation of the systems, programs and/or procedures shall provide for adequate trench excavation, safety protection that complies 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.



LOCATION MAP
NOT TO SCALE



INTERSECTION & CUL DE SAC
KEY MAP
NOT TO SCALE

Sheet List Table	
Sheet Number	Sheet Title
500	STREET & DRAIN COVER
501	OVERALL GRADING PLAN
501A	RETAINING WALL ELEVATION DETAIL
502	BONFIRE PASS PLAN & PROFILE
503	WASABI PASS PLAN & PROFILE
504	SWEET MARIGOLD PLAN & PROFILE
505	ANNATOO DR PLAN & PROFILE
506	SUMMER SAVORY PLAN & PROFILE
507	GREY ELM PLAN & PROFILE
508	HAZEL BIRCH PLAN & PROFILE
509	DRAIN A PLAN & PROFILE
510	DRAIN B PLAN & PROFILE
511	DRAIN C PLAN & PROFILE
512	STREET DETAILS
513	STREET DETAILS
514	DRAIN DETAILS
515	DRAIN DETAILS
516	OVERALL SIGN PLAN
517	SIGN DETAILS
518	SIGN DETAILS

OWNER/DEVELOPER:

CASTLEROCK COMMUNITIES
2401 FOUNTAIN VIEW DRIVE, SUITE 215
HOUSTON, TEXAS 77057
PHONE: (713) 600-7060

PREPARED BY:

KCI TECHNOLOGIES, INC.
11550 IH 10 WEST, SUITE 395
SAN ANTONIO, TEXAS 78230-1037
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

REV	DATE	DESCRIPTION

FOR BIDDING PURPOSES ONLY
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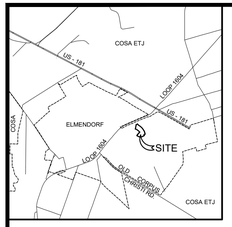
KCI TECHNOLOGIES, INC.
11550 IH 10 WEST, SUITE 395
SAN ANTONIO, TEXAS 78230-1037
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

HICKORY RIDGE SUBDIVISION
PHASE 1 UNIT 2

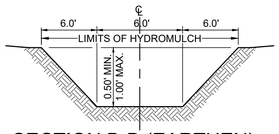
STREET & DRAIN COVER

DRAFTING:	K.P./G.P.	CHECK:	C.P.
DESIGN:	L.E.	CHECK:	M.P.S.
SUBMITTAL PHASE:			
DATE:			12/22
KCI JOB #:			762207389
SHEET:			

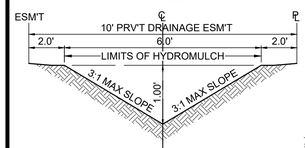
500



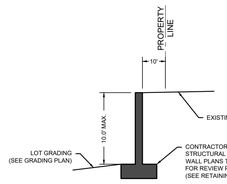
LOCATION MAP
NOT TO SCALE



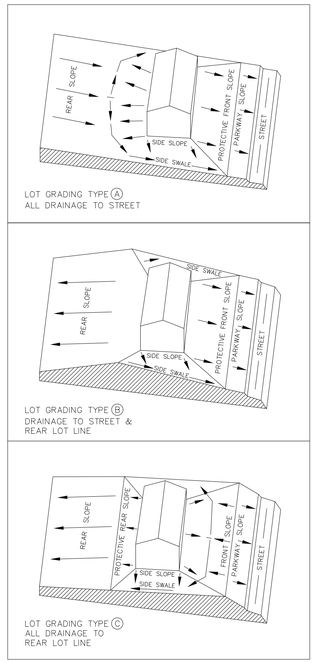
SECTION B-B (EARTHEN)
NOT TO SCALE



SECTION C-C (EARTHEN)
NOT TO SCALE



SECTION A-A
TYPICAL RETAINING WALL
NOT TO SCALE
SEE SHEET 501A FOR RETAINING WALL ELEVATION DETAIL



GENERAL NOTES

1. Fill Materials: Materials shall consist of soils approved by the Engineer from sources identified and approved. The soil shall be free of vegetable matter and other deleterious substance and shall not contain rocks or lumps having a diameter greater than six inches (6").
2. Depth and Mixing of Fill Layers: The selected fill material shall be placed in level, uniform layers which, when compacted, shall have a density conforming to required amount of compaction. Each layer shall be thoroughly blade mixed during the spreading to insure uniformity of material in each layer. Compacted layer thickness normally will be six inches (6"), however, it may be increased to twelve inches (12") if compaction equipment of demonstrated capability will be used.
3. Rock: When fill material includes rock; the maximum rock size acceptable shall be six inches (6"). No large rocks shall be allowed to nest and all voids must be carefully filled with small stones or earth, and properly compacted. No large rocks will be allowed within twelve inches (12") of the finished surface.
4. Moisture Content: The fill material shall be compacted at the appropriate moisture content specified for the soils being used and identified in soil and laboratory reports. Moisture content tolerances shall be plus or minus 3% from optimum.

HYDROMULCH NOTE:
CONTRACTOR SHALL HYDROMULCH AND ESTABLISH VEGETATION IN LOT 903, LOT 904, BLOCK 4.

LEGEND

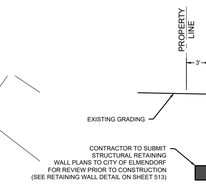
740	PROPOSED FINISHED CONTOUR
740	EXISTING CONTOUR
A, B & C	LOT GRADING TYPE

A-LOT DRAINS TO FRONT
B-LOT DRAINS TO FRONT AND REAR
C-LOT DRAINS TO REAR

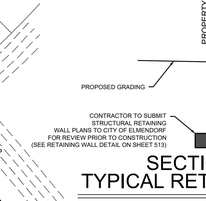
0 60' 120'
1" = 60'

NOTES:

1. DRIVEWAYS SHALL BE LOCATED ON THE HIGH SIDE OF EACH LOT.
2. FINISHED FLOOR ELEVATIONS SHALL BE A MINIMUM OF 8" ABOVE FINAL GRADE AFTER PLACEMENT OF TOP SOIL AND SOD.
3. FINAL LOT SWALES SHALL BE PLACED WITH HOME CONSTRUCTION.



SECTION D-D
TYPICAL RETAINING WALL
NOT TO SCALE
SEE SHEET 501A FOR RETAINING WALL ELEVATION DETAIL



SECTION E-E
TYPICAL RETAINING WALL
NOT TO SCALE
SEE SHEET 501A FOR RETAINING WALL ELEVATION DETAIL

CONTRACTOR SHALL HYDROMULCH AND ESTABLISH VEGETATION IN LOT 903, BLOCK 4

CONTRACTOR SHALL HYDROMULCH AND ESTABLISH VEGETATION IN LOT 904, BLOCK 4

Z' SIDEWALK DRAIN (SEE DETAIL SHEET 514)

20' SANITARY SEWER ESMT VOL 20002 PGS 1939-1941

REV	DATE	DESCRIPTION

FOR BIDDING PURPOSES ONLY
NOT FOR CONSTRUCTION

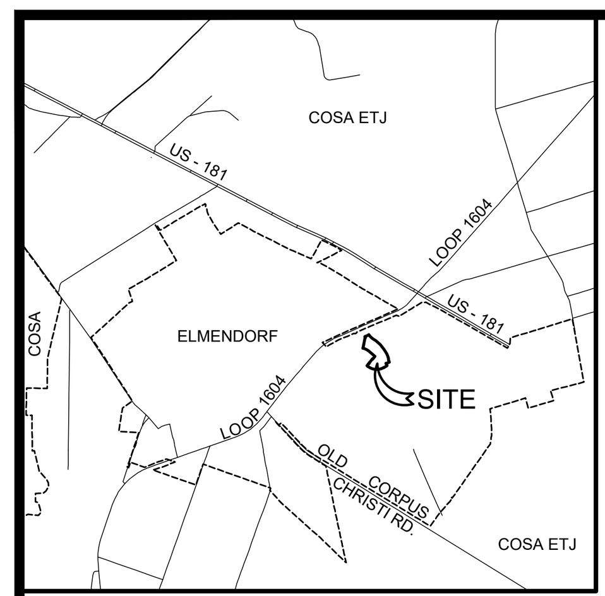
KCI TECHNOLOGIES, INC.
11550 IH 10 WEST, SUITE 395
SAN ANTONIO, TEXAS 78230-1037
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

KCI TECHNOLOGIES

HICKORY RIDGE SUBDIVISION
PHASE 1 UNIT 2
OVERALL GRADING PLAN

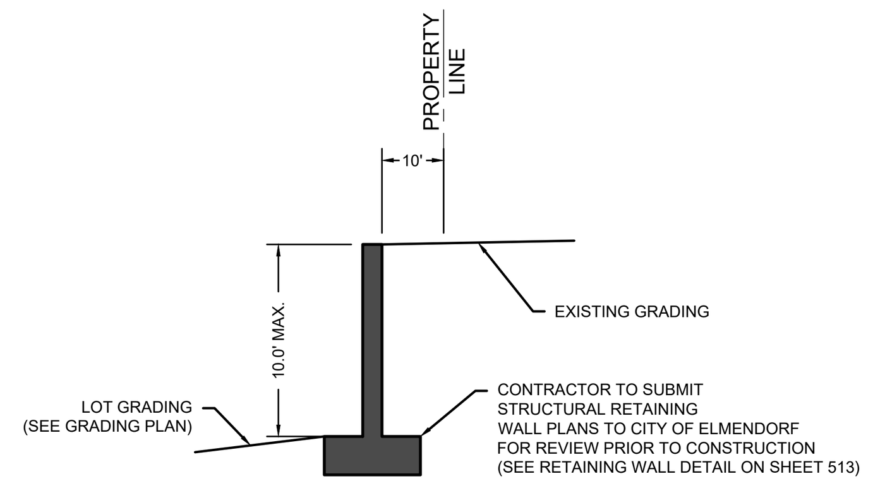
DRAFTING:	K.P./G.P.	CHECK:	C.P.
DESIGN:	L.E.	CHECK:	M.P.S.
SUBMITTAL PHASE:			
DATE:	12/22		
KCI JOB #:	762207389		
SHEET:	501		

Date: Feb 22, 2024, 5:45pm User: dmcdowell Plot: L:\Develop\Proj\2022\KCI\762207389\Hickory_Ridge_Phase_1_Unit_2\Civil\762207389_501_OVERALL GRADING PLAN.dwg



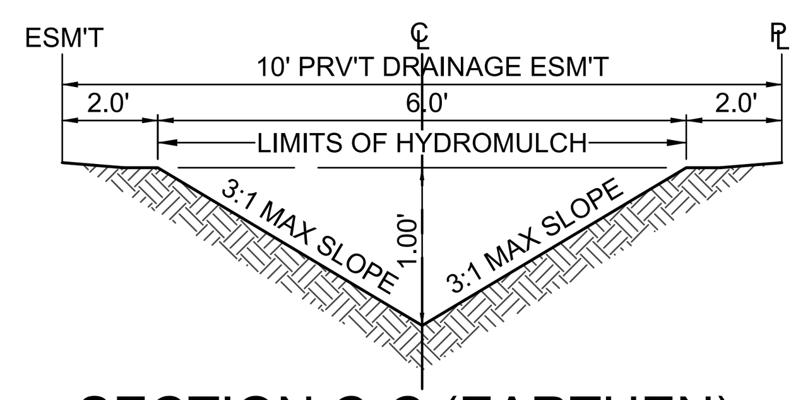
LOCATION MAP

NOT TO SCALE



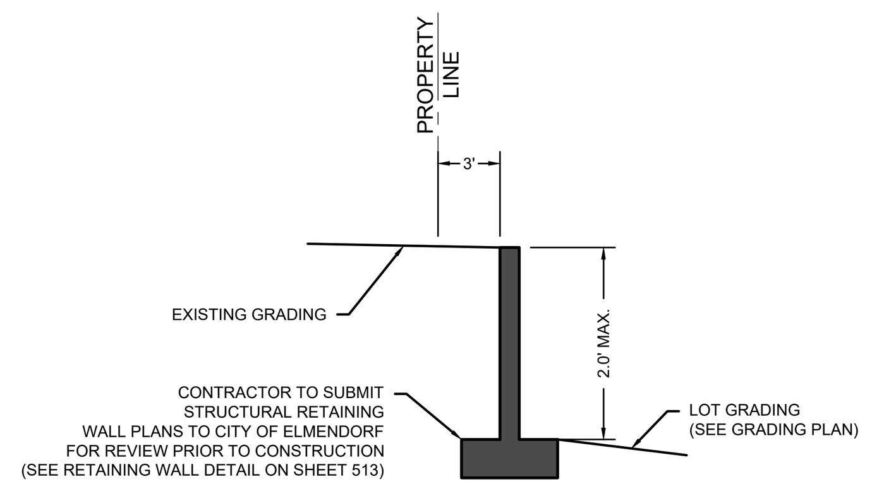
SECTION A-A
TYPICAL RETAINING WALL

NOT TO SCALE



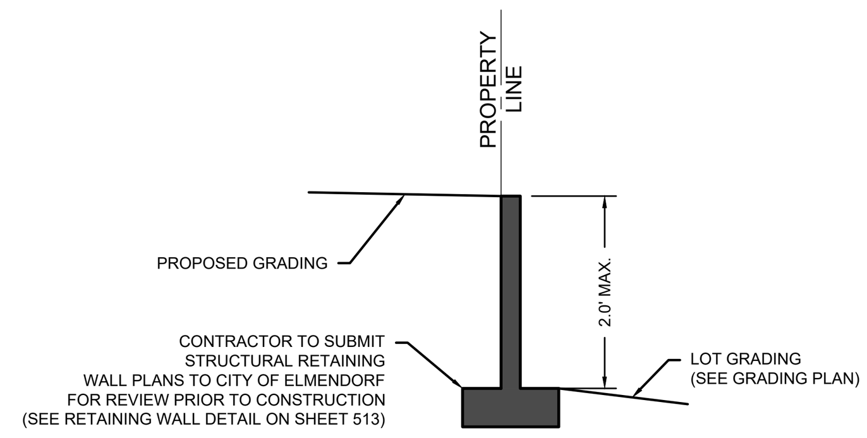
SECTION C-C (EARTHEN)

NOT TO SCALE



SECTION D-D
TYPICAL RETAINING WALL

NOT TO SCALE



SECTION E-E
TYPICAL RETAINING WALL

NOT TO SCALE

GENERAL NOTES

1. Fill Materials: Materials shall consist of soils approved by the Engineer from sources identified and approved. The soil shall be free of vegetable matter and other deleterious substance and shall not contain rocks or lumps having a diameter greater than six inches (6").
2. Depth and Mixing of Fill Layers: The selected fill material shall be placed in level, uniform layers which, when compacted, shall have a density conforming to required amount of compaction. Each layer shall be thoroughly blade mixed during the spreading to insure uniformity of material in each layer. Compacted layer thickness normally will be six inches (6"), however, it may be increased to twelve inches (12") if compaction equipment of demonstrated capability will be used.
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4. Moisture Content: The fill material shall be compacted at the appropriate moisture content specified for the soils being used and identified in soil and laboratory reports. Moisture content tolerances shall be plus or minus 3% from optimum.

0 20' 40'

LEGEND

740	PROPOSED FINISHED CONTOUR
740	EXISTING CONTOUR
A, B & C	LOT GRADING TYPE

A-LOT DRAINS TO FRONT
B-LOT DRAINS TO FRONT AND REAR
C-LOT DRAINS TO REAR

NOTES:

1. DRIVEWAYS SHALL BE LOCATED ON THE HIGH SIDE OF EACH LOT.
2. FINISHED FLOOR ELEVATIONS SHALL BE A MINIMUM OF 8" ABOVE FINAL GRADE AFTER PLACEMENT OF TOP SOIL AND SOD.
3. FINAL LOT SWALES SHALL BE PLACED WITH HOME CONSTRUCTION.

KCI TECHNOLOGIES, INC.
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FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

FOR BIDDING PURPOSES ONLY
NOT FOR CONSTRUCTION

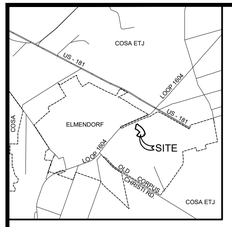
REV	DATE	DESCRIPTION

HICKORY RIDGE SUBDIVISION
PHASE 1 UNIT 2
RETAINING WALL ELEVATION DETAIL

DRAFTING: K.P./G.P.	CHECK: C.P.
DESIGN: L.E.	CHECK: M.P.S.
SUBMITTAL PHASE:	
DATE:	12/22
KCI JOB #:	762207389

SHEET:
501A

Date: Feb 27, 2024, 3:45pm User ID: Lance.Elling File: L:\develop\...



LOCATION MAP
NOT TO SCALE

STREETLIGHT NOTE
STREETLIGHT POLES TO BE IN OPEN GREEN SPACE WHERE SHOWN ON PLANS.

DRIVEWAY NOTE
DRIVEWAYS SHOWN ON THIS PLAN ARE FOR THE SOLE PURPOSE OF INDICATING A POTENTIAL CONFLICT WITH CURB RAMP, DRAINAGE INFRASTRUCTURE, OR OTHER CONFLICT. DRIVEWAY LOCATION IS SUBJECT TO CHANGE BASED ON HOME SELECTION AND FINAL LOT DESIGN.

1. CITY OF SAN ANTONIO WHEELCHAIR RAMP ~ TYPE I
2. CITY OF SAN ANTONIO WHEELCHAIR RAMP ~ TYPE II
3. CITY OF SAN ANTONIO WHEELCHAIR RAMP ~ TYPE III
4. CITY OF SAN ANTONIO WHEELCHAIR RAMP ~ TYPE IV
- D1 TYPICAL SIDEWALK RAMP ~ SINGLE
- D2 TYPICAL SIDEWALK RAMP ~ DUAL

REFER TO WHEELCHAIR RAMP STANDARDS ON STREET DETAILS.

Line Table		
Line	Length	Direction
L1	14.00'	N67°07'05"E
L2	14.00'	N59°35'57"E
L3	184.44'	S54°59'35"E
L5	274.90'	S50°39'39"E
L6	110.20'	S37°54'03"E

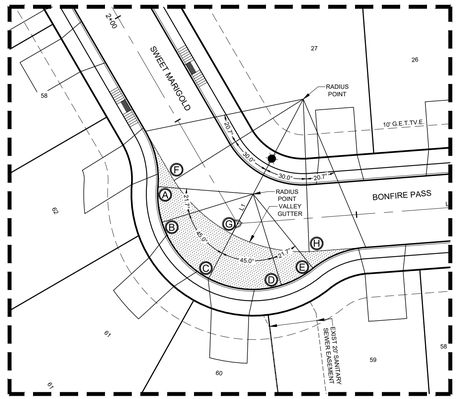
Curve Table					
Curve #	Length	Radius	Delta	Chord Direction	Chord Length
C1	7.56'	100.00'	004°19'57"	S52° 49' 37"E	7.56'
C2	22.27'	100.00'	012°45'36"	S44° 16' 51"E	22.22'

LEGEND

- WHEELCHAIR RAMPS
- WASHOUT CROWN
- SIDEWALK TO BE BUILT BY DEVELOPER
- PROPOSED DRIVEWAY — OW
- TOP OF CURB ELEVATION — 940
- EXISTING STREET LIGHT — ELP
- PROPOSED STREET LIGHT (100 WATT) — LP

N

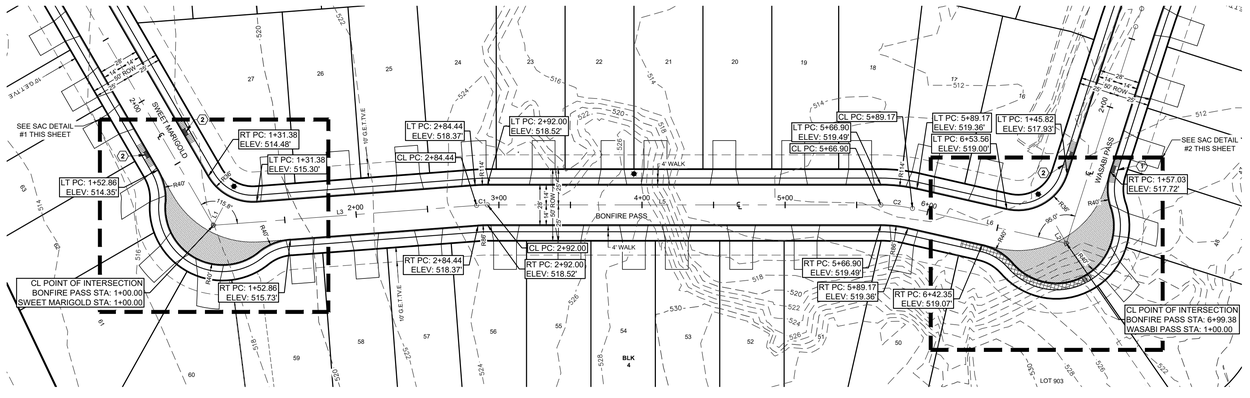
0 50' 100'
1" = 50'



SAC DETAIL #1

SCALE: 1" = 30'

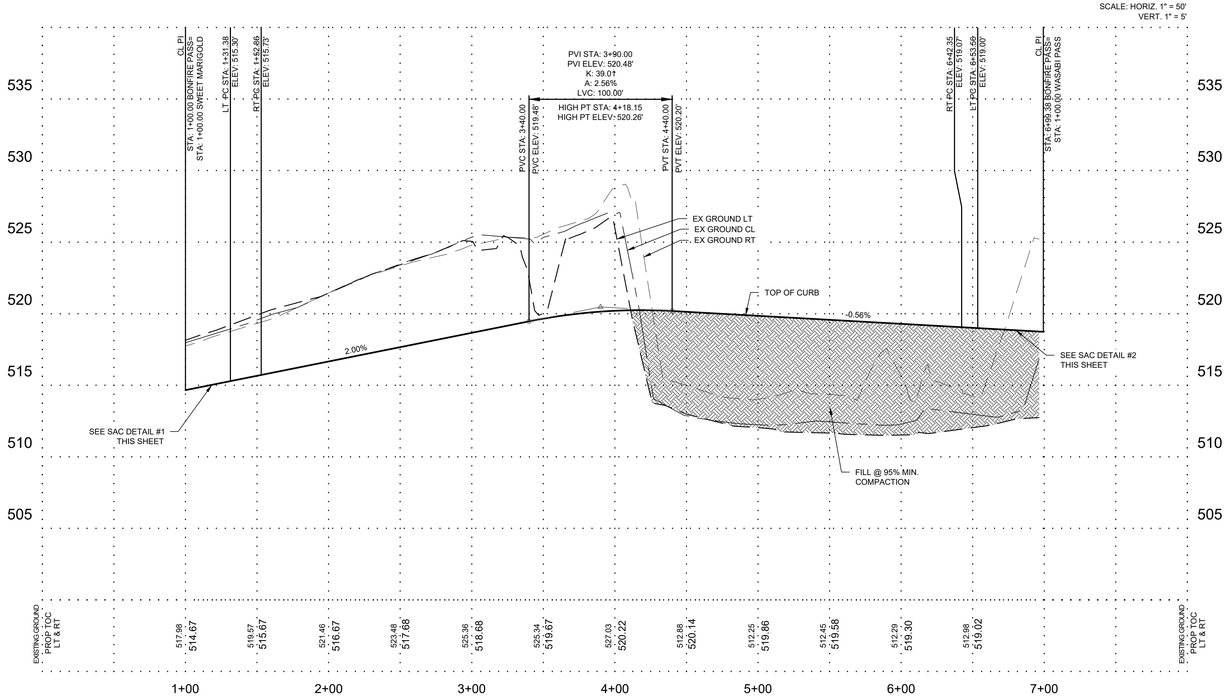
POINT	CURB ELEV.	GUTTER ELEV.
LT. PC	514.35	513.77
A	514.63	514.05
B	514.91	514.33
C	515.31	514.73
D	515.45	514.87
E	515.42	514.84
F		513.93
G		514.31
H		514.70
RT. PC	515.73	515.15

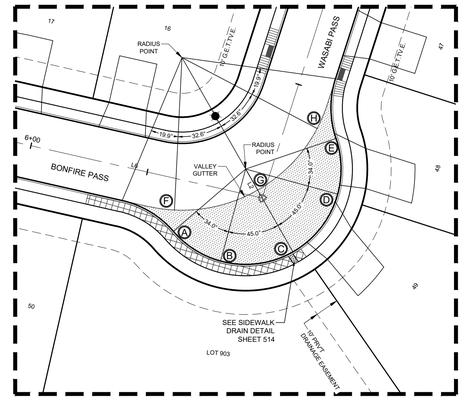


BONFIRE PASS

STA. 1+00.00 TO STA. 6+99.38

SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'





SAC DETAIL #2

SCALE: 1" = 30'

POINT	CURB ELEV.	GUTTER ELEV.
RT. PC	519.07	518.49
A	519.06	518.48
B	519.16	518.58
C	519.06	518.48
D	518.69	518.11
E	518.24	517.66
F		518.30
G		517.89
H		517.47
RT. PC	517.72	517.14

REV	DATE	DESCRIPTION

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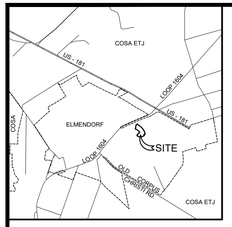
11550 IH 10 WEST, SUITE 395
SAN ANTONIO, TEXAS 78230-1037
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F- 10573 / #101943-65

HICKORY RIDGE SUBDIVISION
PHASE 1 UNIT 2
BONFIRE PASS PLAN & PROFILE

DRAFTING:	K.P./G.P.	CHECK:	C.P.
DESIGN:	L.E.	CHECK:	M.P.S.
SUBMITTAL PHASE:			
DATE:	12/22		
KCI JOB #:	762207389		

SHEET: **502**

Date: Feb 22, 2023, 3:46pm User ID: Janice.Elring File: L:\Develop\Proj\2022\762207389_Hickory_Ridge_Phase_1_Unit_2\cad\762207389 502 BONFIRE PASS PLAN & PROFILE.dwg



LOCATION MAP
NOT TO SCALE

STREETLIGHT NOTE
STREETLIGHT POLES TO BE IN OPEN GREEN SPACE WHERE SHOWN ON PLANS.

DRIVEWAY NOTE
DRIVEWAYS SHOWN ON THIS PLAN ARE FOR THE SOLE PURPOSE OF INDICATING A POTENTIAL CONFLICT WITH CURB RAMP, DRAINAGE INFRASTRUCTURE, OR OTHER CONFLICT. DRIVEWAY LOCATION IS SUBJECT TO CHANGE BASED ON HOME SELECTION AND FINAL LOT DESIGN.

1. CITY OF SAN ANTONIO WHEELCHAIR RAMP ~ TYPE I
2. CITY OF SAN ANTONIO WHEELCHAIR RAMP ~ TYPE II
3. CITY OF SAN ANTONIO WHEELCHAIR RAMP ~ TYPE III
4. CITY OF SAN ANTONIO WHEELCHAIR RAMP ~ TYPE IV

D1. TYPICAL SIDEWALK RAMP ~ SINGLE

D2. TYPICAL SIDEWALK RAMP ~ DUAL

REFER TO WHEELCHAIR RAMP STANDARDS ON STREET DETAILS.

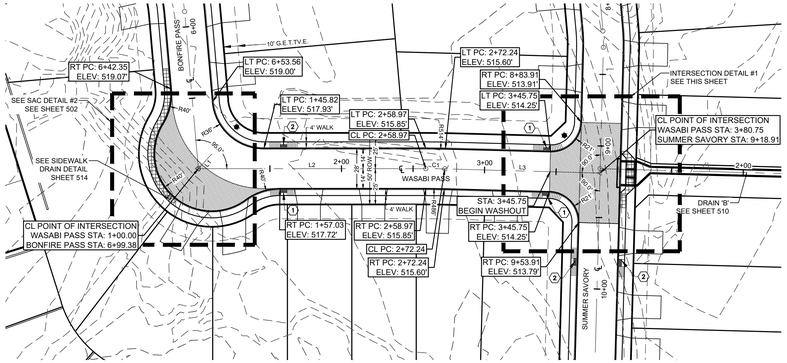
Line Table		
Line	Length	Direction
L1	14.00'	S09°35'57"W
L2	158.97'	N57°05'57"E
L3	108.51'	N58°37'11"E

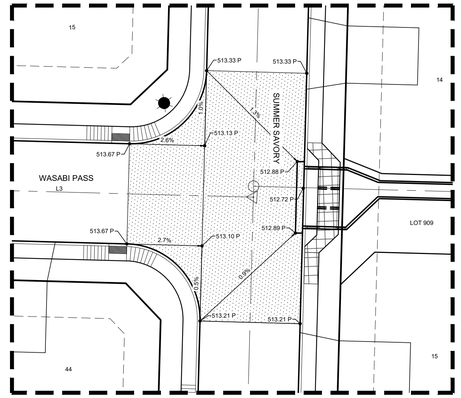
Curve Table					
Curve #	Length	Radius	Delta	Chord Direction	Chord Length
C1	13.27'	500.00'	001°31'14"	N57° 51' 34"E	13.27'

LEGEND

- WHEELCHAIR RAMPS
- WASHOUT CROWN
- SIDEWALK TO BE BUILT BY DEVELOPER
- PROPOSED DRIVEWAY (DW)
- TOP OF CURB ELEVATION (940)
- EXISTING STREET LIGHT (ELP)
- PROPOSED STREET LIGHT (100 WATT) (LP)

0 50' 100'
1" = 50'

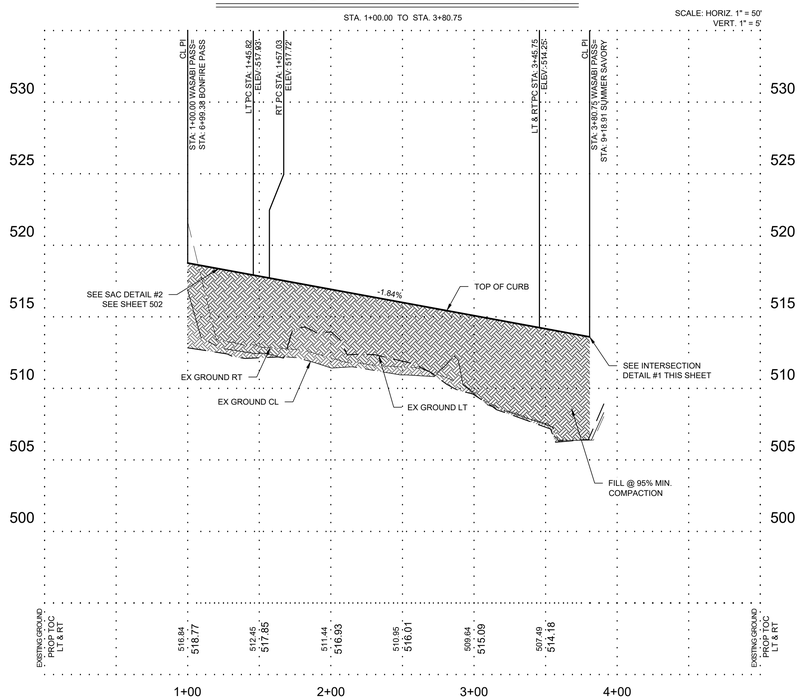




INTERSECTION DETAIL #1
SCALE: 1" = 30'

WASABI PASS

STA. 1+00.00 TO STA. 3+80.75
SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'



FOR BIDDING PURPOSES ONLY
NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION

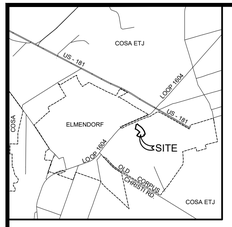
KCI TECHNOLOGIES, INC.
11550 IH 10 WEST, SUITE 395
SAN ANTONIO, TEXAS 78230-1037
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

HICKORY RIDGE SUBDIVISION
PHASE 1 UNIT 2
WASABI PASS
PLAN & PROFILE

DRAFTING:	K.P./G.P.	CHECK:	C.P.
DESIGN:	L.E.	CHECK:	M.P.S.
SUBMITTAL PHASE:			
DATE:			12/22
KCI JOB #:			762207389

SHEET: **503**

Date: Feb 22, 2023 - 9:46am User ID: Janice.Elring File: L:\Develop\Proj_2022_2Q\762207389_Hickory_Ridge_Phase 1_Unit 2\Civil\762207389 503 WASABI PASS PLAN & PROFILE.dwg



LOCATION MAP
NOT TO SCALE

STREETLIGHT NOTE
STREETLIGHT POLES TO BE IN OPEN GREEN SPACE WHERE SHOWN ON PLANS.

DRIVEWAY NOTE
DRIVEWAYS SHOWN ON THIS PLAN ARE FOR THE SOLE PURPOSE OF INDICATING A POTENTIAL CONFLICT WITH CURB RAMP, DRAINAGE INFRASTRUCTURE, OR OTHER CONFLICT. DRIVEWAY LOCATION IS SUBJECT TO CHANGE BASED ON HOME SELECTION AND FINAL LOT DESIGN.

1. CITY OF SAN ANTONIO WHEELCHAIR RAMP ~ TYPE I
2. CITY OF SAN ANTONIO WHEELCHAIR RAMP ~ TYPE II
3. CITY OF SAN ANTONIO WHEELCHAIR RAMP ~ TYPE III
4. CITY OF SAN ANTONIO WHEELCHAIR RAMP ~ TYPE IV

D1. TYPICAL SIDEWALK RAMP ~ SINGLE

D2. TYPICAL SIDEWALK RAMP ~ DUAL

REFER TO WHEELCHAIR RAMP STANDARDS ON STREET DETAILS.

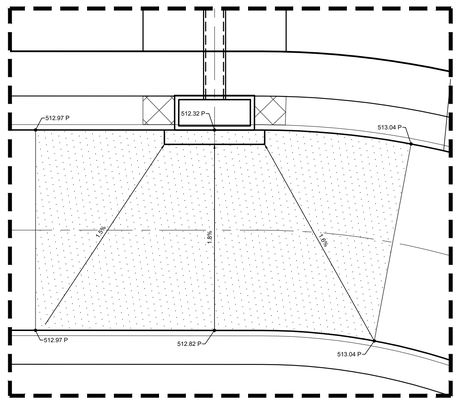
Line Table		
Line	Length	Direction
L1	14.00'	N67°07'05"E
L2	217.74'	N59°13'43"E
L4	50.44'	N35°00'25"E
L5	14.00'	S09°59'35"E

Curve Table					
Curve #	Length	Radius	Delta	Chord Direction	Chord Length
C1	44.99'	100.00'	025°46'40"	N22° 07' 05"E	44.61'

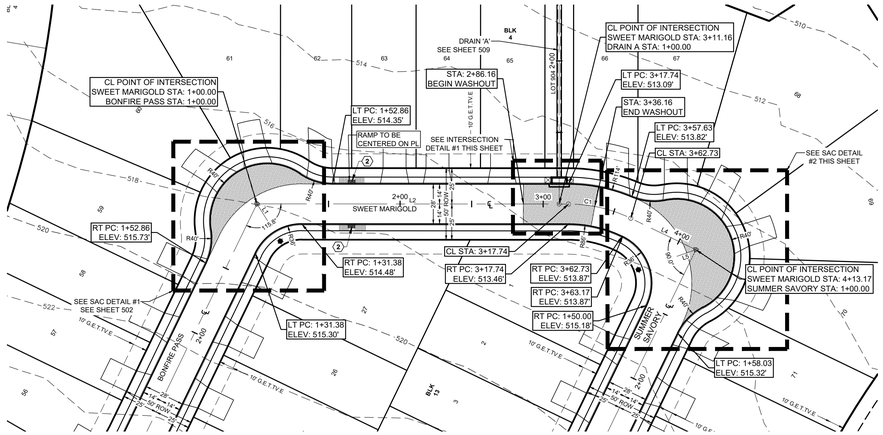
LEGEND

- WHEELCHAIR RAMPS
- WASHOUT CROWN
- SIDEWALK TO BE BUILT BY DEVELOPER
- PROPOSED DRIVEWAY (DW)
- TOP OF CURB ELEVATION (940)
- EXISTING STREET LIGHT (ELP)
- PROPOSED STREET LIGHT (100 WATT) (LP)

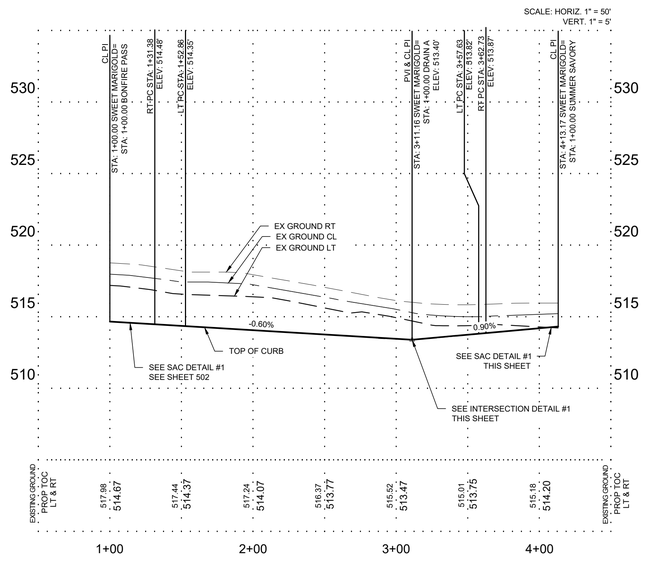
0 50' 100'
1" = 50'

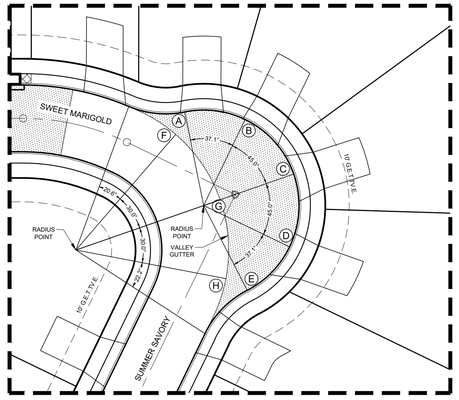


INTERSECTION DETAIL #1
SCALE: 1" = 10'



SWEET MARIGOLD
STA. 1+00.00 TO STA. 4+13.17





SAC DETAIL #1
SCALE: 1" = 30'

POINT	CURB ELEV.	GUTTER ELEV.
LT. PC	513.82	513.24
A	514.24	513.66
B	514.76	514.18
C	515.17	514.59
D	515.30	514.72
E	515.21	514.63
F		513.51
G		513.96
H		514.41
LT. PC	515.32	514.74

REV	DATE	DESCRIPTION

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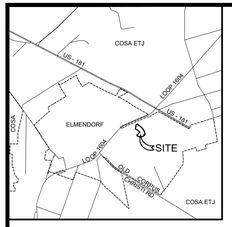
NOT FOR CONSTRUCTION

KCI TECHNOLOGIES, INC.
11550 IH 10 WEST, SUITE 395
SAN ANTONIO, TEXAS 78230-1037
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F- 10573 / #101943-65

HICKORY RIDGE SUBDIVISION
PHASE 1 UNIT 2
SWEET MARIGOLD PLAN & PROFILE

DRAFTING:	K.P./G.P.	CHECK:	C.P.
DESIGN:	L.E.	CHECK:	M.P.S.
SUBMITTAL PHASE:			
DATE:			12/22
KCI JOB #:			762207389
SHEET:			504

Date: Feb 27, 2024, 3:41pm User ID: Connie Elroy File: L:\Drawings\Proj_2022_KCI\762207389_Hickory_Ridge_Phase 1 Unit 2\cadd\762207389 504 SWEET MARIGOLD PLAN & PROFILE.dwg



LOCATION MAP
NOT TO SCALE

STREETLIGHT NOTE
STREETLIGHT POLES TO BE IN OPEN GREEN SPACE WHERE SHOWN ON PLANS.

DRIVEWAY NOTE
DRIVEWAYS SHOWN ON THIS PLAN ARE FOR THE SOLE PURPOSE OF INDICATING A POTENTIAL CONFLICT WITH CURB RAMP, DRAINAGE INFRASTRUCTURE, OR OTHER CONFLICT. DRIVEWAY LOCATION IS SUBJECT TO CHANGE BASED ON HOME SELECTION AND FINAL LOT DESIGN.

1. CITY OF SAN ANTONIO WHEELCHAIR RAMP ~ TYPE I
2. CITY OF SAN ANTONIO WHEELCHAIR RAMP ~ TYPE II
3. CITY OF SAN ANTONIO WHEELCHAIR RAMP ~ TYPE III
4. CITY OF SAN ANTONIO WHEELCHAIR RAMP ~ TYPE IV
- D1 TYPICAL SIDEWALK RAMP ~ SINGLE
- D2 TYPICAL SIDEWALK RAMP ~ DUAL

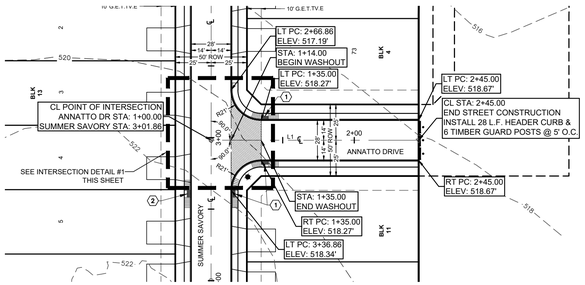
REFER TO WHEELCHAIR RAMP STANDARDS ON STREET DETAILS.

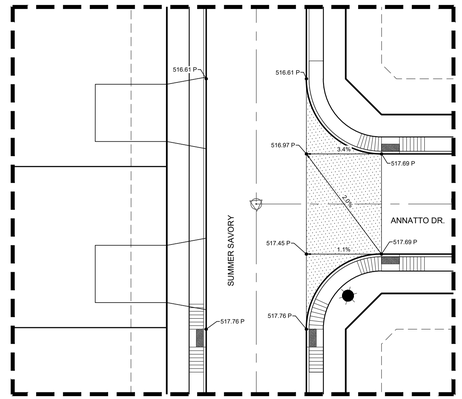
Line Table		
Line	Length	Direction
L1	145.00'	N35°00'25"E

LEGEND

- WHEELCHAIR RAMPS — WCR
- WASHOUT CROWN
- SIDEWALK TO BE BUILT BY DEVELOPER
- PROPOSED DRIVEWAY — DW
- TOP OF CURB ELEVATION — 940
- EXISTING STREET LIGHT — ELP
- PROPOSED STREET LIGHT (100 WATT) — LP

0 50' 100'
1" = 50'



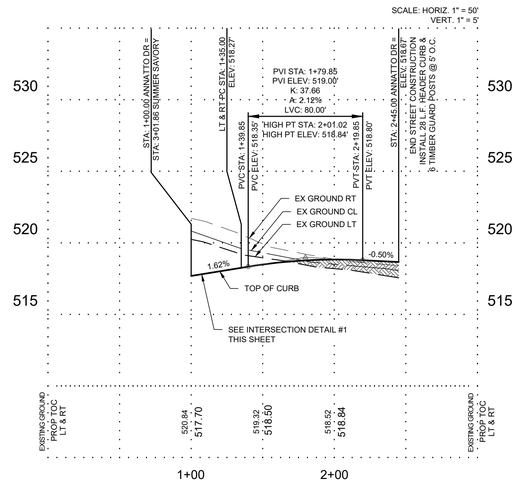


INTERSECTION DETAIL #1
SCALE: 1" = 20'

ANNATTO DR.

STA. 1+00.00 TO STA. 2+45.00

SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'



REV	DATE	DESCRIPTION

FOR BIDDING PURPOSES ONLY
NOT FOR CONSTRUCTION

KCI TECHNOLOGIES, INC.
11550 IH 10 WEST, SUITE 395
SAN ANTONIO, TEXAS 78230-1037
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

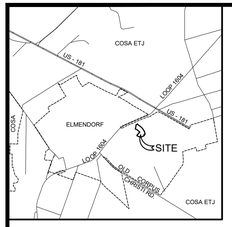
KCI TECHNOLOGIES

HICKORY RIDGE SUBDIVISION
PHASE 1 UNIT 2
ANNATOO DR PLAN & PROFILE

DRAFTING:	K.P./G.P.	CHECK:	C.P.
DESIGN:	L.E.	CHECK:	M.P.S.
SUBMITTAL PHASE:			
DATE:			12/22
KCI JOB #:			762207389

SHEET:
505

Date: Feb 23, 2024, 5:41pm User ID: chris.Elring File: L:\Develop\Proj_2022_JOB\762207389_Hickory_Ridge_Phase 1_Unit 2\Civil\762207389_505 ANNATOO DR PLAN & PROFILE.dwg



LOCATION MAP
NOT TO SCALE

STREETLIGHT NOTE
STREETLIGHT POLES TO BE IN OPEN GREEN SPACE WHERE SHOWN ON PLANS.

DRIVEWAY NOTE
DRIVEWAYS SHOWN ON THIS PLAN ARE FOR THE SOLE PURPOSE OF INDICATING A POTENTIAL CONFLICT WITH CURB RAMP, DRAINAGE INFRASTRUCTURE, OR OTHER CONFLICT. DRIVEWAY LOCATION IS SUBJECT TO CHANGE BASED ON HOME SELECTION AND FINAL LOT DESIGN.

1. CITY OF SAN ANTONIO WHEELCHAIR RAMP ~ TYPE I
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3. CITY OF SAN ANTONIO WHEELCHAIR RAMP ~ TYPE III
4. CITY OF SAN ANTONIO WHEELCHAIR RAMP ~ TYPE IV
- D1 TYPICAL SIDEWALK RAMP ~ SINGLE
- D2 TYPICAL SIDEWALK RAMP ~ DUAL

REFER TO WHEELCHAIR RAMP STANDARDS ON STREET DETAILS.

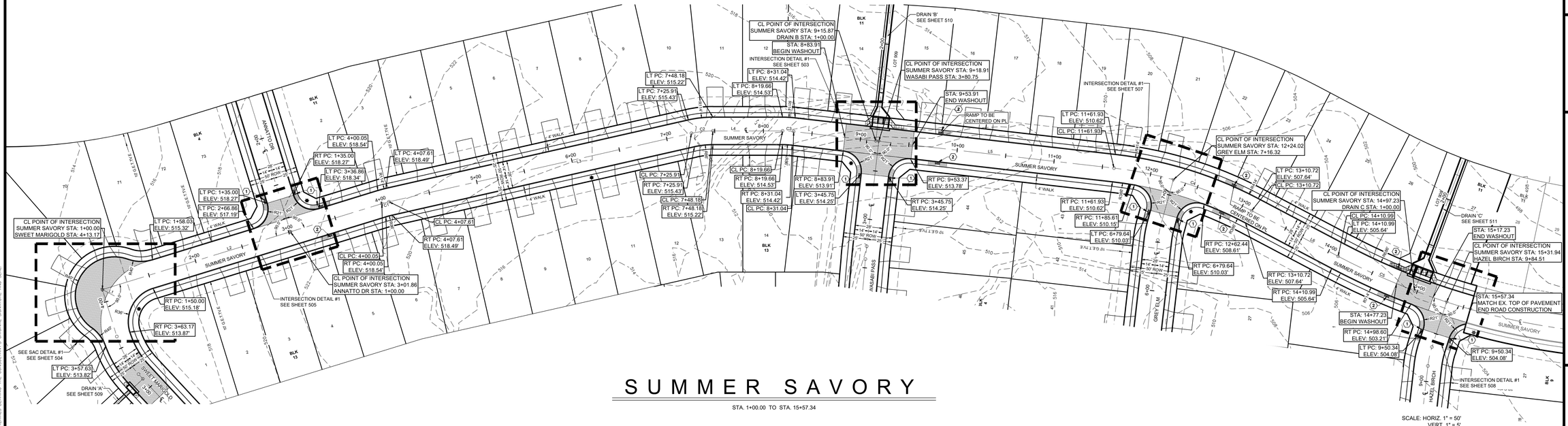
Line Table		
Line	Length	Direction
L1	14.00'	S09°59'35"E
L2	300.00'	S54°39'35"E
L3	318.30'	S50°39'35"E
L4	71.48'	S37°54'03"E
L5	330.89'	S31°22'49"E
L6	100.28'	S10°04'08"E

Curve Table					
Curve #	Length	Radius	Delta	Chord Direction	Chord Length
C1	7.56'	100.00'	004°19'57"	S52° 49' 37"E	7.56'
C2	22.27'	100.00'	012°45'36"	S44° 16' 51"E	22.22'
C3	11.38'	100.00'	006°31'14"	S34° 38' 26"E	11.37'
C4	148.78'	400.00'	021°18'42"	S20° 43' 28"E	147.93'
C5	146.35'	700.00'	011°58'44"	S16° 03' 28"E	146.08'

LEGEND

- WHEELCHAIR RAMPS
- WASHOUT CROWN
- SIDEWALK TO BE BUILT BY DEVELOPER
- PROPOSED DRIVEWAY (OW)
- TOP OF CURB ELEVATION (940)
- EXISTING STREET LIGHT (ELP)
- PROPOSED STREET LIGHT (100 WATT) (LP)

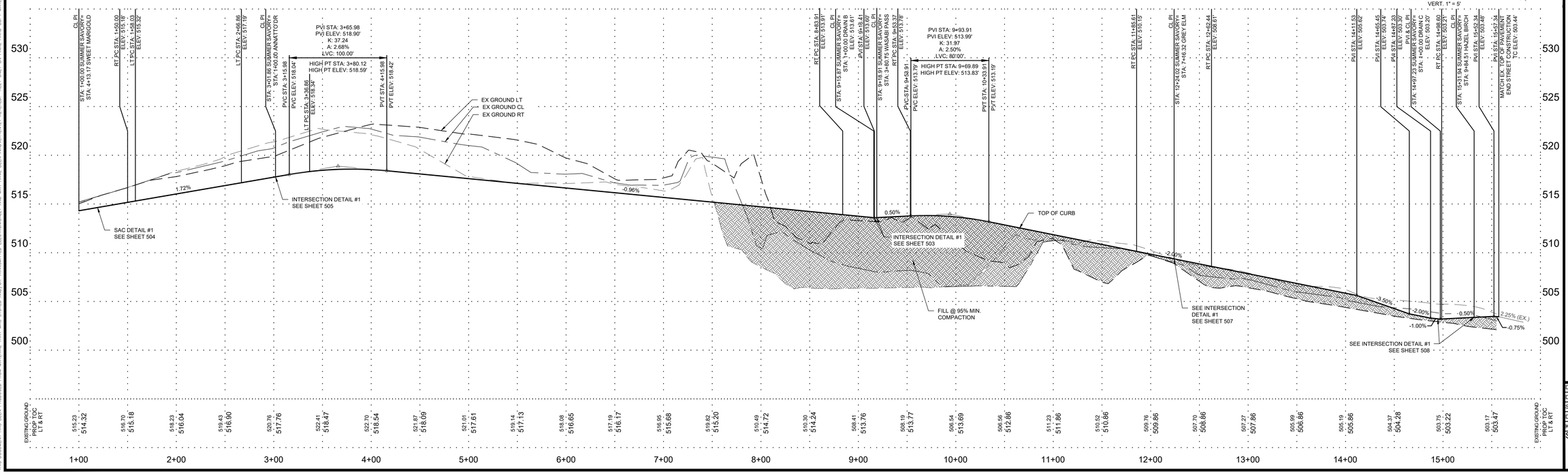
N
0 50' 100'
1" = 50'



SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'

SUMMER SAVORY

STA. 1+00.00 TO STA. 15+57.34



REV	DATE	DESCRIPTION

FOR BIDDING PURPOSES ONLY
NOT FOR CONSTRUCTION

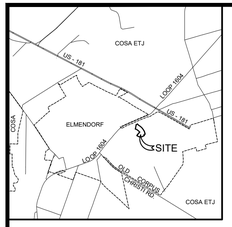
KCI TECHNOLOGIES, INC.
11550 IH 10 WEST, SUITE 395
SAN ANTONIO, TEXAS 78230-1037
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

HICKORY RIDGE SUBDIVISION
PHASE 1 UNIT 2
SUMMER SAVORY
PLAN & PROFILE

DRAFTING: K.P./G.P.	CHECK: C.P.
DESIGN: L.E.	CHECK: M.P.S.
SUBMITTAL PHASE:	
DATE:	12/22
KCI JOB #:	762207389

SHEET: **506**

Date: Feb 21, 2024, 3:47pm User ID: Daniel.Elmy File: L:\Develop\Proj\2022_KCI\762207389_Hickory_Ridge_Phase 1 Unit 2\cad\762207389 SDS SUMMER SAVORY PLAN & PROFILE.dwg



LOCATION MAP
NOT TO SCALE

STREETLIGHT NOTE
STREETLIGHT POLES TO BE IN OPEN GREEN SPACE WHERE SHOWN ON PLANS.

DRIVEWAY NOTE
DRIVEWAYS SHOWN ON THIS PLAN ARE FOR THE SOLE PURPOSE OF INDICATING A POTENTIAL CONFLICT WITH CURB RAMP, DRAINAGE INFRASTRUCTURE, OR OTHER CONFLICT. DRIVEWAY LOCATION IS SUBJECT TO CHANGE BASED ON HOME SELECTION AND FINAL LOT DESIGN.

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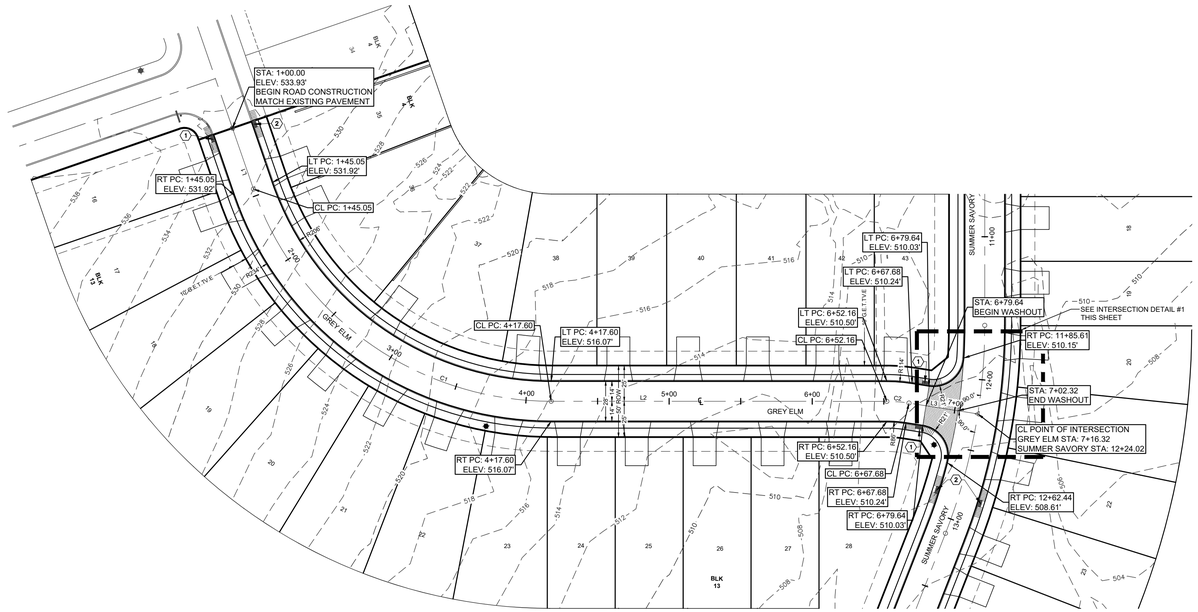
4. CITY OF SAN ANTONIO WHEELCHAIR RAMP ~ TYPE IV
- D1 TYPICAL SIDEWALK RAMP ~ SINGLE
- D2 TYPICAL SIDEWALK RAMP ~ DUAL

REFER TO WHEELCHAIR RAMP STANDARDS ON STREET DETAILS.

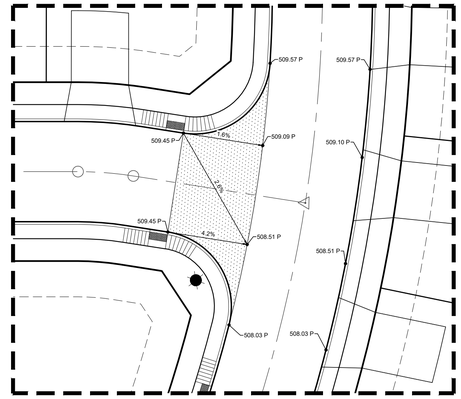
Line Table		
Line	Length	Direction
L1	45.05'	N50°25'12"W
L2	234.56'	N58°37'11"E
L3	48.64'	N67°30'50"E

Curve Table					
Curve #	Length	Radius	Delta	Chord Direction	Chord Length
C1	272.55'	220.00'	070°58'55"	S85° 54' 40"E	255.45'
C2	15.52'	100.00'	008°53'38"	N63° 04' 06"E	15.51'



GREY ELM

STA. 1+00.00 TO STA. 7+16.32



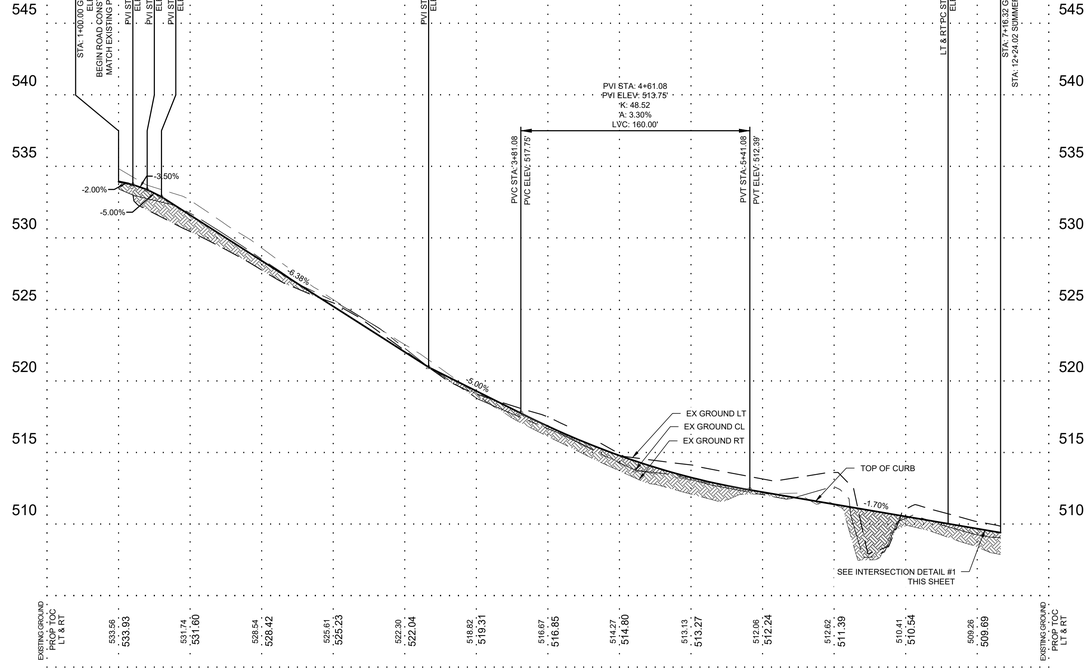
INTERSECTION DETAIL #1

SCALE: 1" = 30'

LEGEND

- WHEELCHAIR RAMPS
- WASHOUT CROWN
- SIDEWALK TO BE BUILT BY DEVELOPER
- PROPOSED DRIVEWAY (DW)
- TOP OF CURB ELEVATION (940)
- EXISTING STREET LIGHT (ELP)
- PROPOSED STREET LIGHT (100 WATT) (LP)

0 50' 100'
1" = 50'



REV	DATE	DESCRIPTION

FOR BIDDING PURPOSES ONLY
NOT FOR CONSTRUCTION

KCI TECHNOLOGIES, INC.
11550 IH 10 WEST, SUITE 395
SAN ANTONIO, TEXAS 78230-1037
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

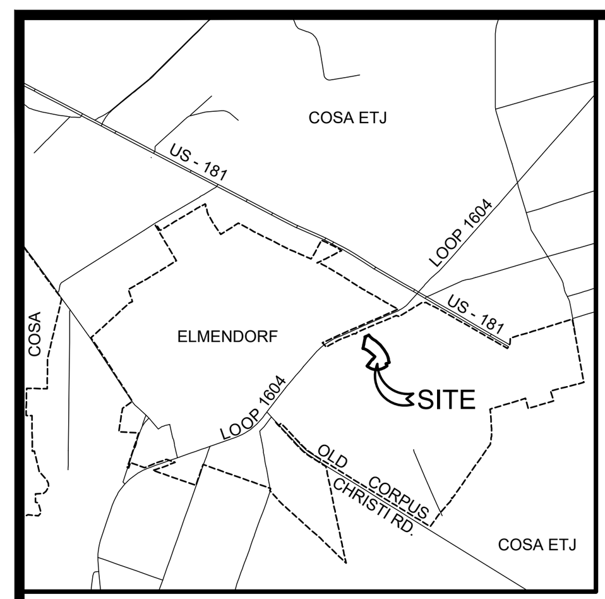
KCI TECHNOLOGIES

HICKORY RIDGE SUBDIVISION
PHASE 1 UNIT 2
GREY ELM PLAN & PROFILE

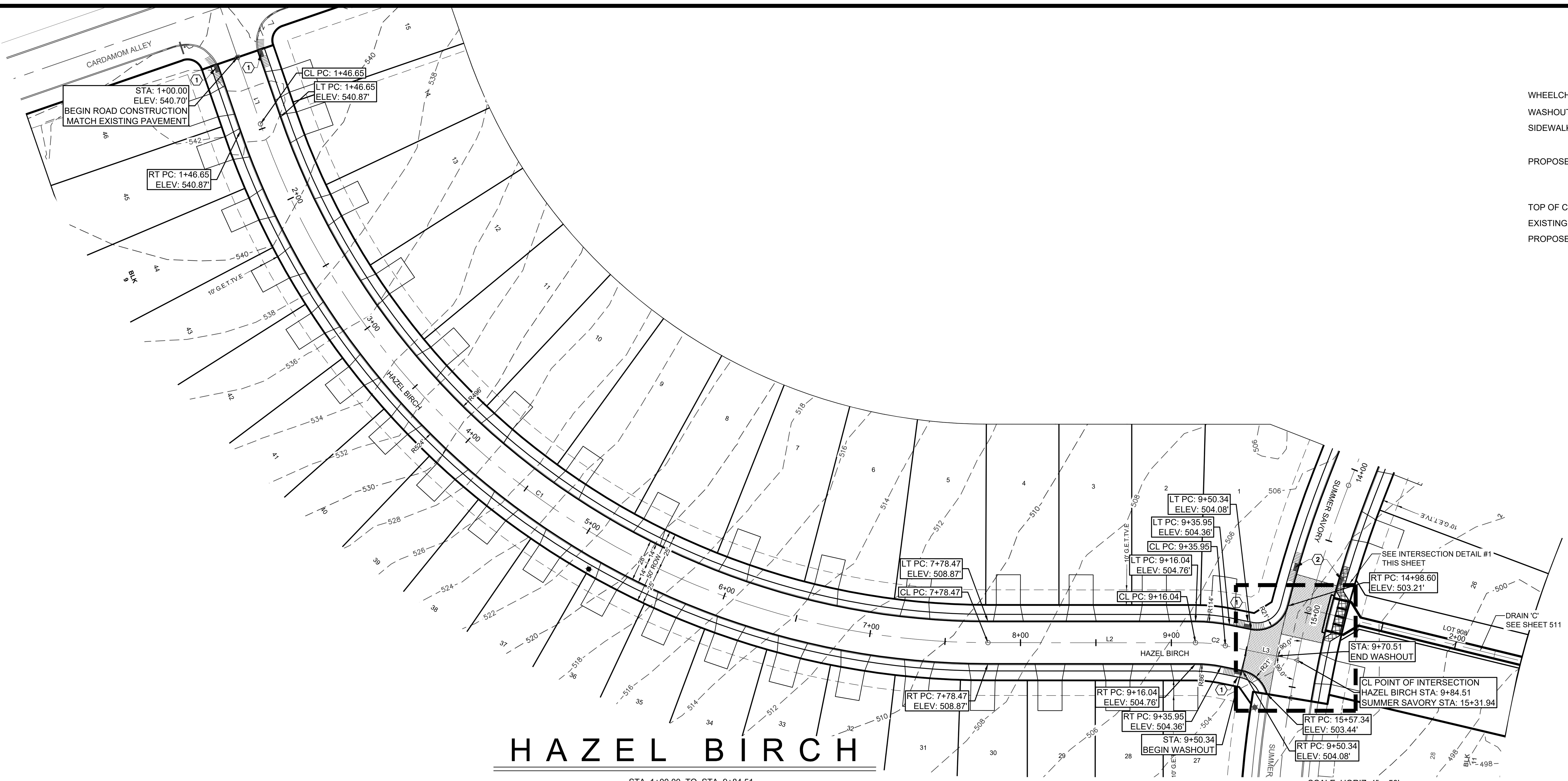
DRAFTING:	K.P./G.P.	CHECK:	C.P.
DESIGN:	L.E.	CHECK:	M.P.S.
SUBMITTAL PHASE:			
DATE:			12/22
KCI JOB #:			762207389

SHEET: **507**

Date: Feb 27, 2023, 3:48pm User ID: Lance.Ehrig File: L:\Develop\Proj_2022_CC\762207389_Hickory_Ridge_Phase 1_Unit 2\civil\762207389 507 GREY ELM PLAN & PROFILE.dwg



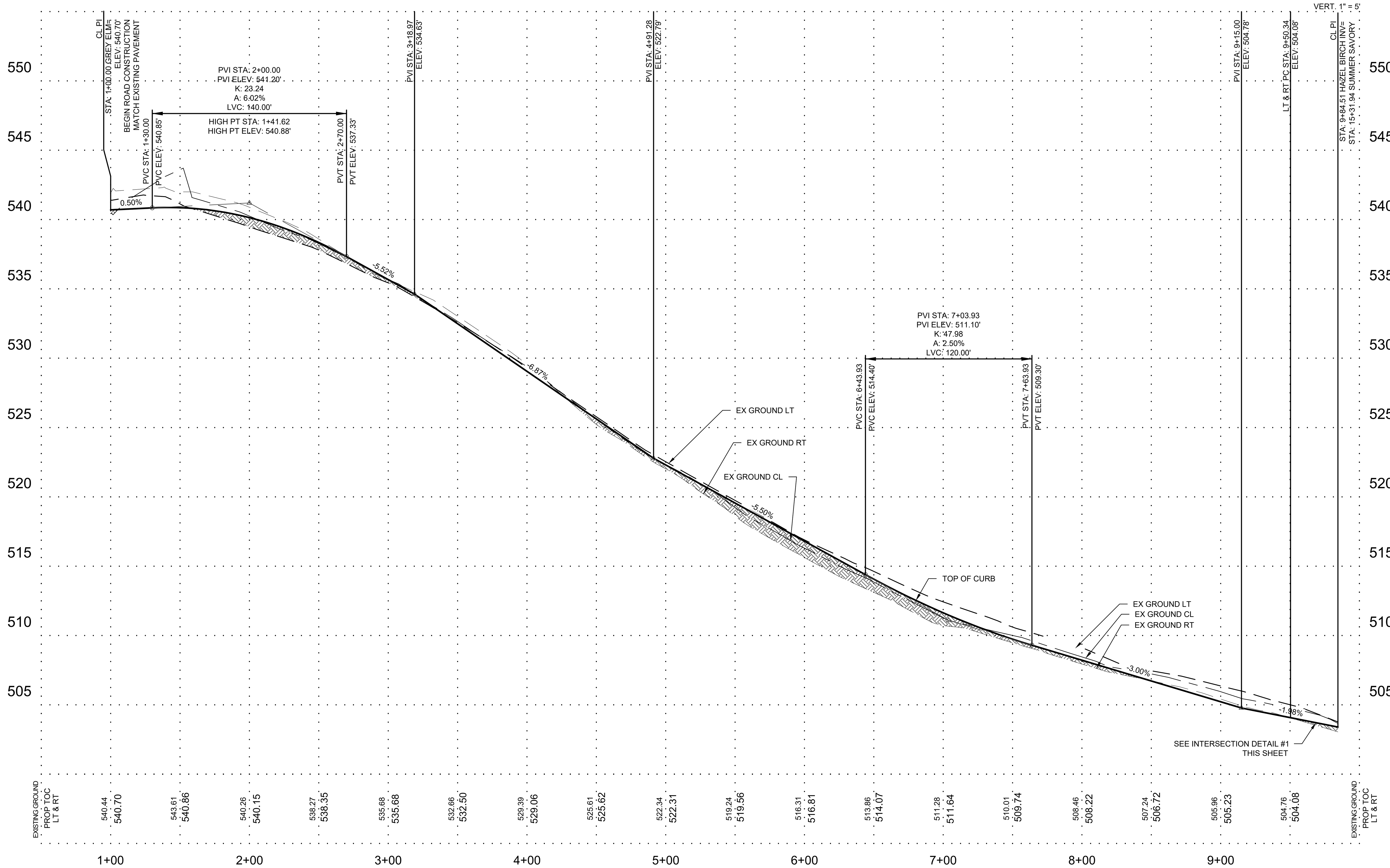
LOCATION MAP
NOT TO SCALE



HAZEL BIRCH

STA. 1+00.00 TO STA. 9+84.51

SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'



LEGEND

WHEELCHAIR RAMPS
WASHOUT CROWN
SIDEWALK TO BE BUILT BY DEVELOPER
PROPOSED DRIVEWAY (DW)
TOP OF CURB ELEVATION (940)
EXISTING STREET LIGHT — ELP
PROPOSED STREET LIGHT (100 WATT) — LP

0 50' 100'
1" = 50'

STREETLIGHT NOTE
STREETLIGHT POLES TO BE IN OPEN GREEN SPACE WHERE SHOWN ON PLANS.

DRIVEWAY NOTE
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(D1) TYPICAL SIDEWALK RAMP ~ SINGLE
(D2) TYPICAL SIDEWALK RAMP ~ DUAL

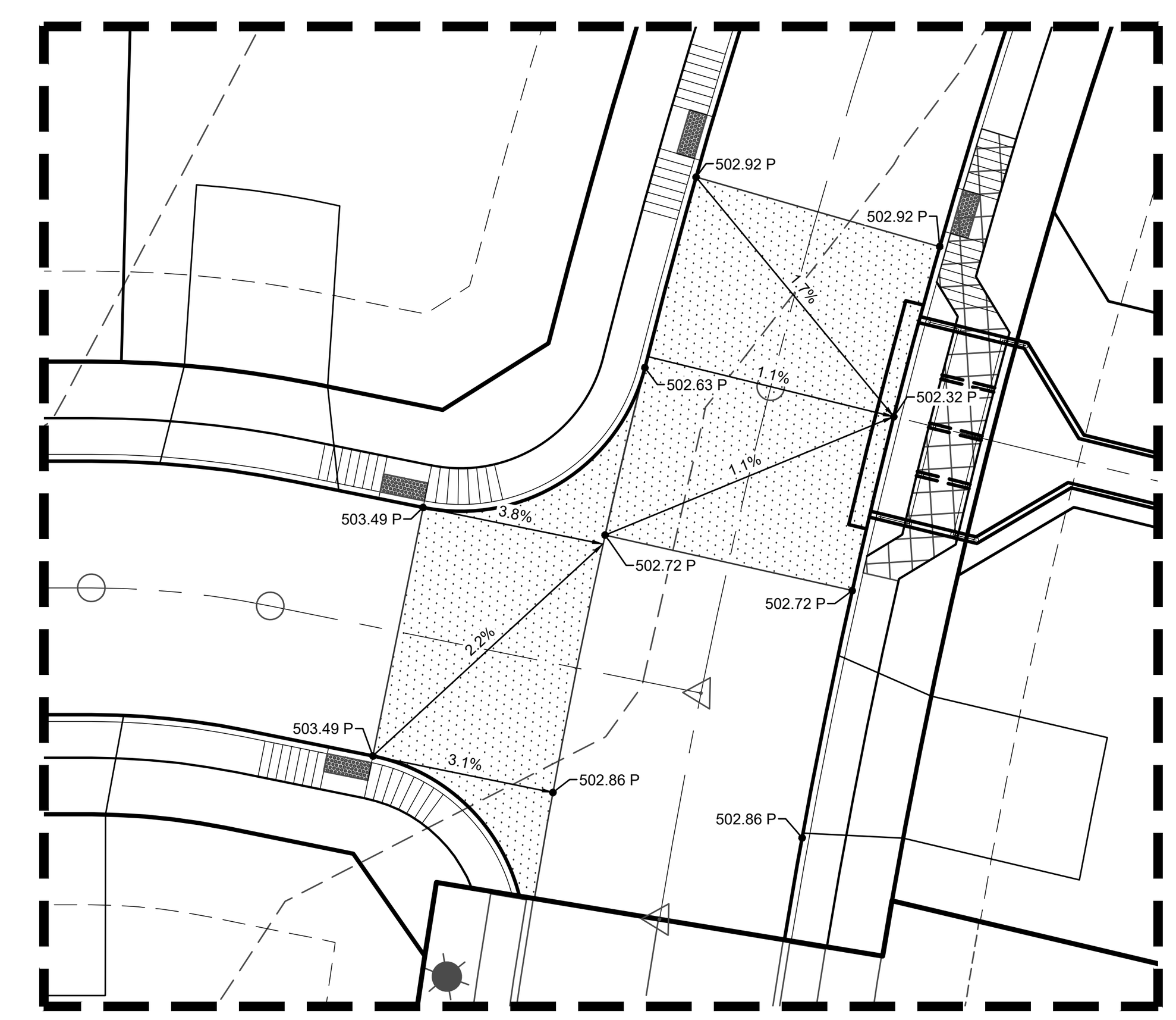
REFER TO WHEELCHAIR RAMP STANDARDS ON STREET DETAILS.

Line Table

Line	Length	Direction
L1	46.65'	S50°25'12"E
L2	137.56'	N58°37'11"E
L3	48.55'	N70°01'55"E

Curve Table

Curve #	Length	Radius	Delta	Chord Direction	Chord Length
C1	631.82'	510.00'	070°58'55"	S85° 54' 40"E	592.19'
C2	19.92'	100.00'	011°24'43"	N64° 19' 33"E	19.88'



INTERSECTION DETAIL #1
SCALE: 1" = 30'

REV	DATE	DESCRIPTION

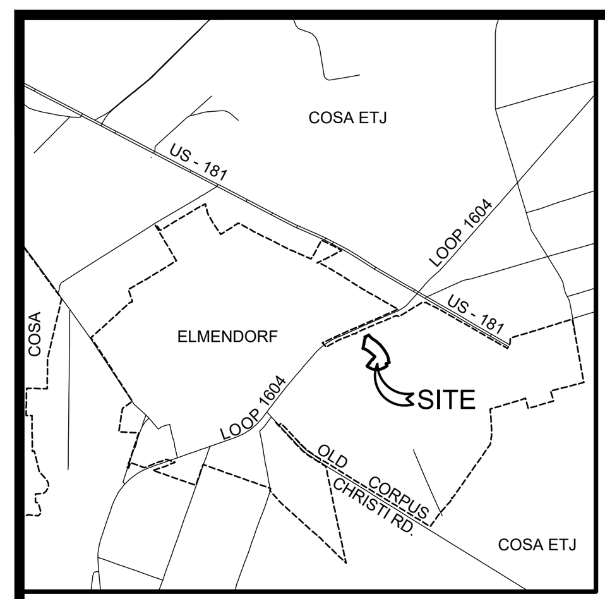
FOR BIDDING PURPOSES ONLY
NOT FOR CONSTRUCTION

KCI TECHNOLOGIES, INC.
11550 IH 10 WEST, SUITE 395
SAN ANTONIO, TEXAS 78230-1037
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

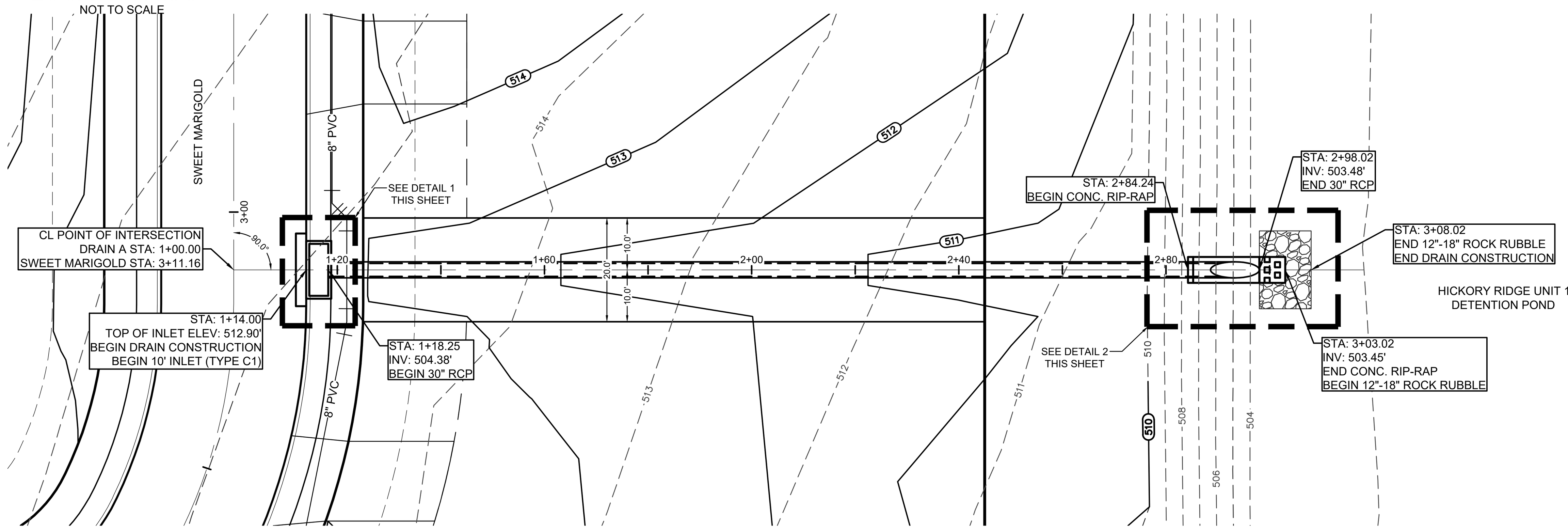
HICKORY RIDGE SUBDIVISION
PHASE 1 UNIT 2
HAZEL BIRCH PLAN & PROFILE

DRAFTING: K.P./G.P.		CHECK:	C.P.
DESIGN:	L.E.	CHECK:	M.P.S.
SUBMITTAL PHASE:			
DATE:			12/22
KCI JOB #:			762207389
SHEET:		508	

Date: Feb 27, 2024, 3:48pm User ID: Lance.Elling File: L:\develop\Proj_2022_KCI\762207389_Hickory_Ridge_Phase 1_Unit 2\cadd\762207389 508 HAZEL BIRCH PLAN & PROFILE.dwg



LOCATION MAP
NOT TO SCALE



LEGEND

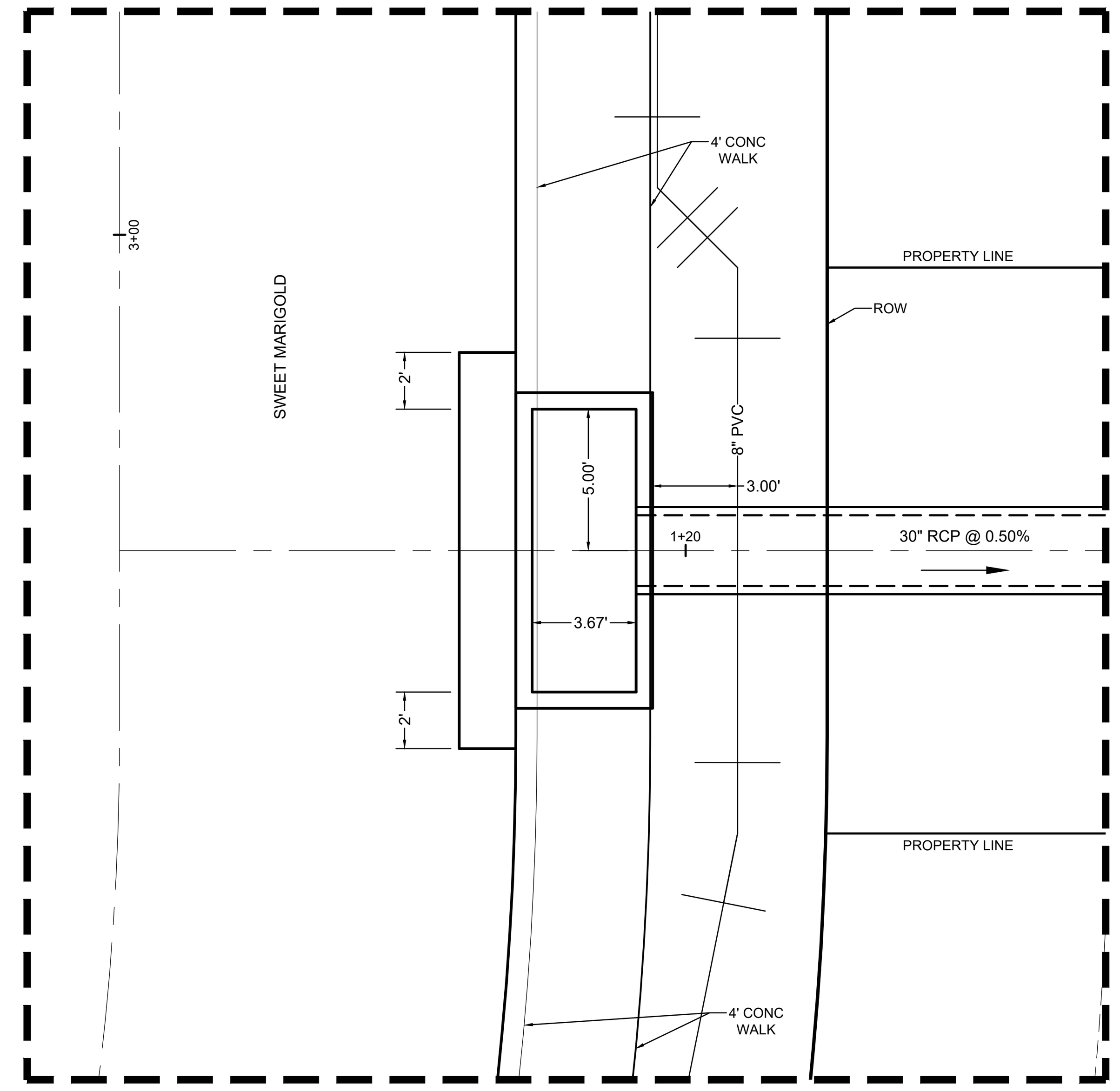
PROPOSED STORM DRAIN	
PROPOSED EARTHEN CHANNEL	
PROPOSED SANITARY SEWER MAIN	SS
DIRECTION OF FLOW	
EXISTING WATER MAIN	PVC
PROPOSED WATER MAIN	PVC
PROPOSED CONTOURS	662
EXISTING CONTOURS	670

N

0 20' 40'

TRENCH EXCAVATION SAFETY PROTECTION

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/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 CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTOR'S IMPLEMENTATION OF THE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION, SAFETY PROTECTION THAT COMPLIES 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.



DETAIL # 1
SCALE: 1" = 5'

INLET NOTES:

1. MUD SLAB AND INLET BOLTING WILL BE REQUIRED. CONTRACTOR TO USE FLOWABLE FILL (COSA ITEM 413.2) FOR MUD SLAB. FLOWABLE FILL SHOULD BE 2" TO 6" THICK AND SHOULD EXTEND BENEATH TOTAL LENGTH OF PROPOSED INLETS.
2. CONTRACTOR TO GROUT INLET BOTTOM TO ENSURE DRAINAGE TO OUTLET PIPE.
3. COVER FOR REINFORCING STEEL IS 2" UNLESS NOTED.
4. ALL CONCRETE SHALL BE CLASS "C" 3600 PSI. @ 28 DAY WITH COURSE AGGREGATE GRADE 2-5.
5. MINIMUM BAR DEVELOPMENT LENGTH FOR SPLICE AND BENDS SHALL BE 24 INCHES.

NO SEPERATE PAY ITEM ON ITEMS LISTED ABOVE

NOTE:

CONTRACTOR TO ENSURE POSITIVE DRAINAGE AT UPSTREAM & DOWNSTREAM ENDS OF DRAINS AND THAT NO PONDING WILL OCCUR.

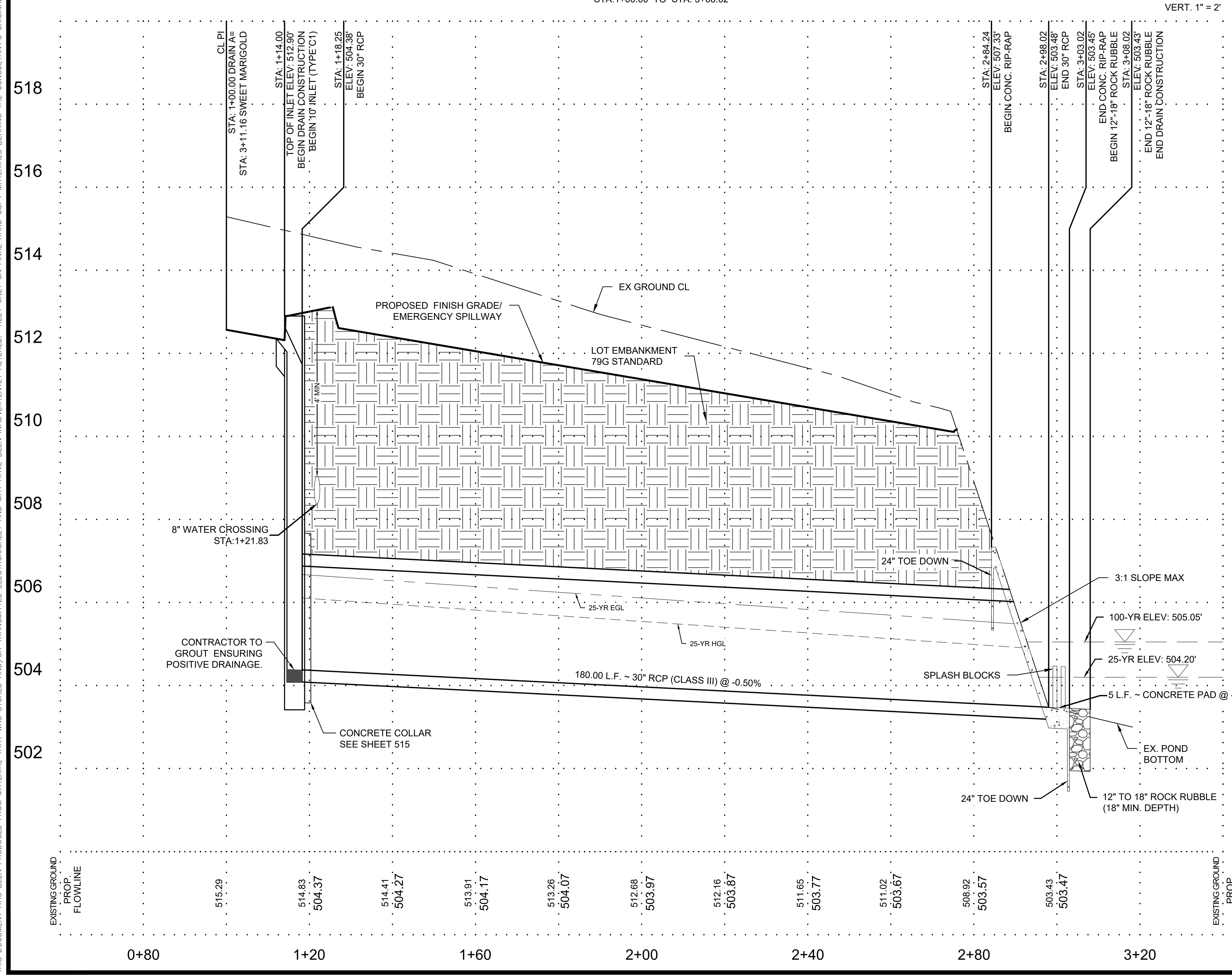
PRIOR TO CONSTRUCTION NOTE:

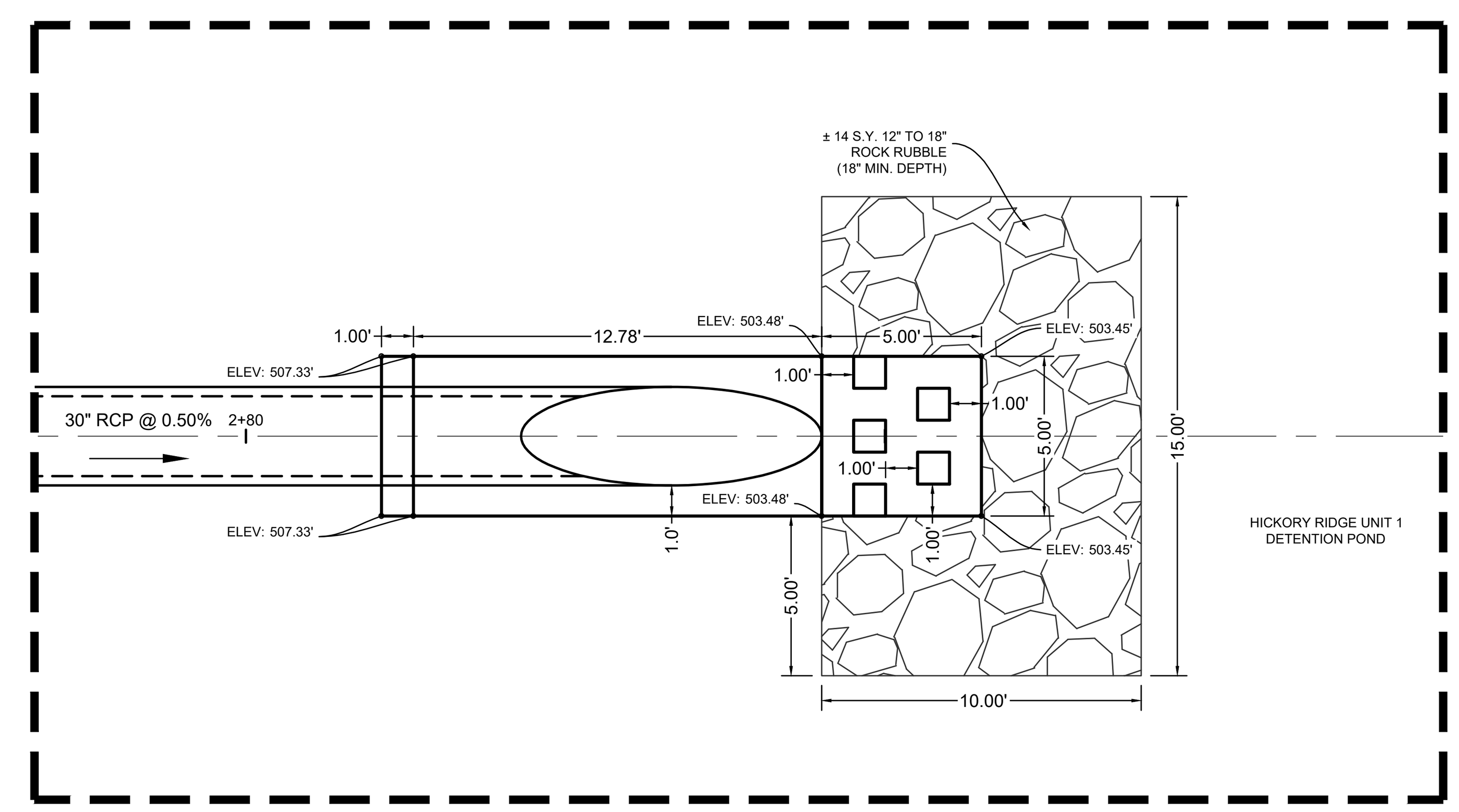
CONTRACTOR TO COORDINATE WITH HOME OWNERS AND GIVE TWO WEEK NOTICE FOR WORK WITHIN SINGLE FAMILY LOTS. WORK WILL REQUIRE THE USE OF SMALL MACHINERY TO LIMIT AREA OF DISTURBANCE. PROTECTION OF EXISTING HOME AND PROPERTY SHALL FOLLOW RECOMMENDATIONS OF THE STRUCTURAL ENGINEER. WORK AND DISTURBANCE WILL BE LIMITED TO EASEMENT AREAS ONLY. FENCES, UTILITY BUILDINGS, AND GRASS AREA SHALL BE REMOVED AND REPLACED TO A BETTER THAN EXISTING CONDITION (NOT MEASURED AND TO BE INCLUDED IN COST OF STRUCTURE). TEMPORARY FENCING TO PROTECT PROPERTY, PEOPLE, AND PETS SHALL BE UTILIZED (NOT MEASURED AND TO BE INCLUDED IN COST OF STRUCTURE). CONTRACTOR SHALL PRESENT A SCHEDULE OF CONSTRUCTION OPERATION TO MINIMIZE DISTURBANCE TO HOMEOWNERS BUT IN NO WAY EXTEND MORE THAN 14 CALENDAR DAYS. BACKFILL AROUND STRUCTURE SHALL BE WITH 413 HIGH STRENGTH FLOWABLE FILL (500 PSI) TO ONE FOOT BELOW EXISTING GRADE ALLOWING FOR TOPSOIL AND GRASS REPLACEMENT (NOT MEASURED AND TO BE INCLUDED IN COST OF STRUCTURE).

DRAIN A

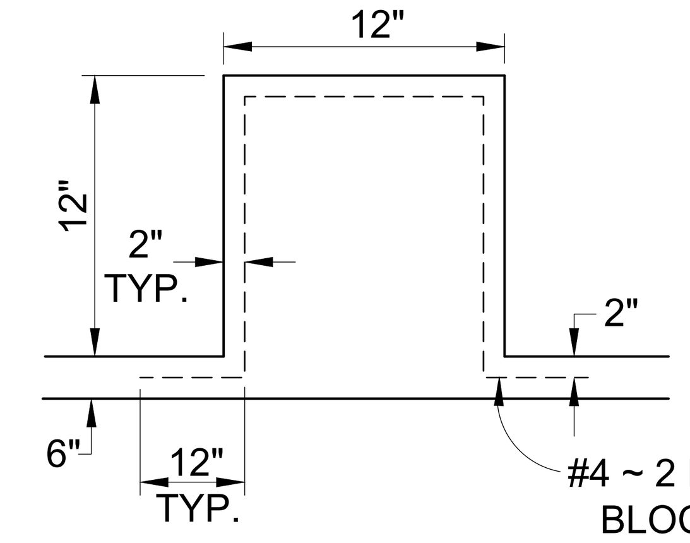
STA.1+00.00 TO STA. 3+08.02

SCALE: HORIZ. 1" = 20'
VERT. 1" = 2'

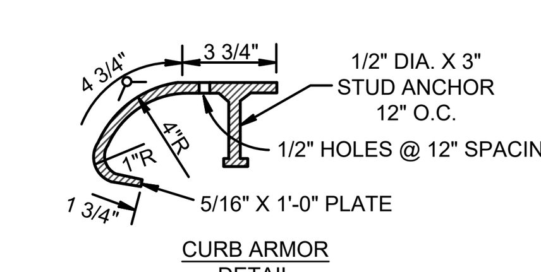




DETAIL # 2
SCALE: 1" = 5'



SPLASH BLOCK DETAIL
NOT TO SCALE



CURB ARMOR DETAIL

CURB ARMOR NOTE:
Curb armor located on a curve shall be provided by SC Welding or approved equivalent.

SC Welding
521 Frio City Road
San Antonio, TX
Phone: 210-226-9237

REV	DATE	DESCRIPTION

FOR BIDDING PURPOSES ONLY
NOT FOR CONSTRUCTION

KCI TECHNOLOGIES, INC.
11550 IH 10 WEST, SUITE 395
SAN ANTONIO, TEXAS 78230-1037
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

KCI TECHNOLOGIES

HICKORY RIDGE SUBDIVISION
PHASE 1 UNIT 2
DRAIN A PLAN & PROFILE

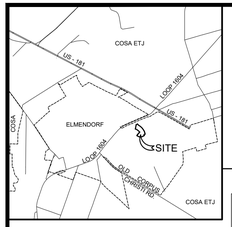
DRAFTING: K.P./G.P.		CHECK:	C.P.
DESIGN:	L.E.	CHECK:	M.P.S.
SUBMITTAL PHASE:			
DATE:			12/22
KCI JOB #:			762207389
SHEET:			509

TRENCH EXCAVATION SAFETY PROTECTION

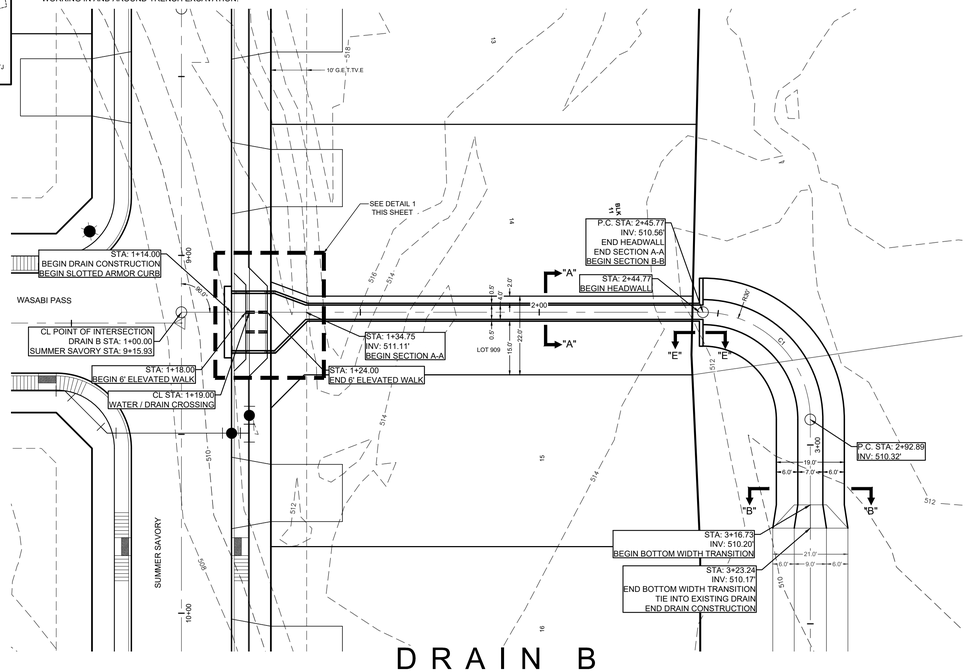
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTOR'S IMPLEMENTATION OF THE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION, SAFETY PROTECTION THAT COMPLIES 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.

NOTE:

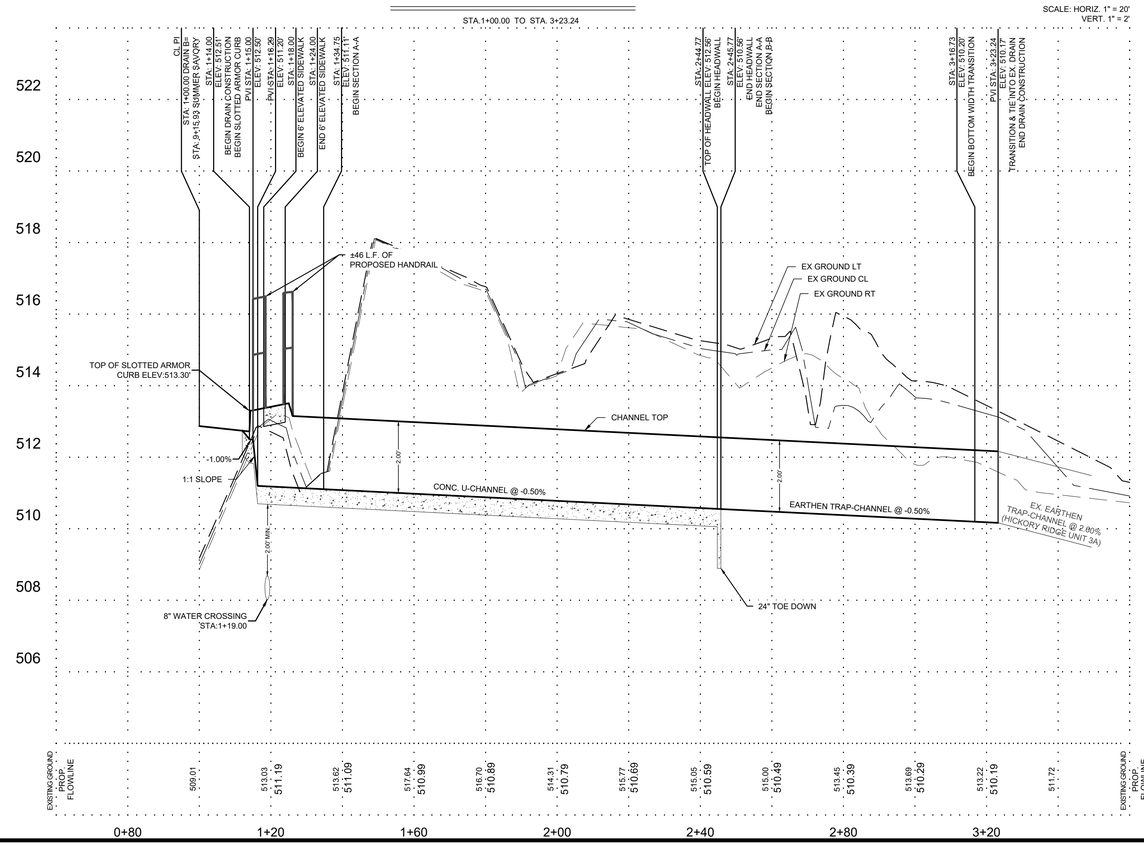
CONTRACTOR TO ENSURE POSITIVE DRAINAGE AT UPSTREAM & DOWNSTREAM ENDS OF DRAINS AND THAT NO PONDING WILL OCCUR.



LOCATION MAP
NOT TO SCALE



DRAIN B

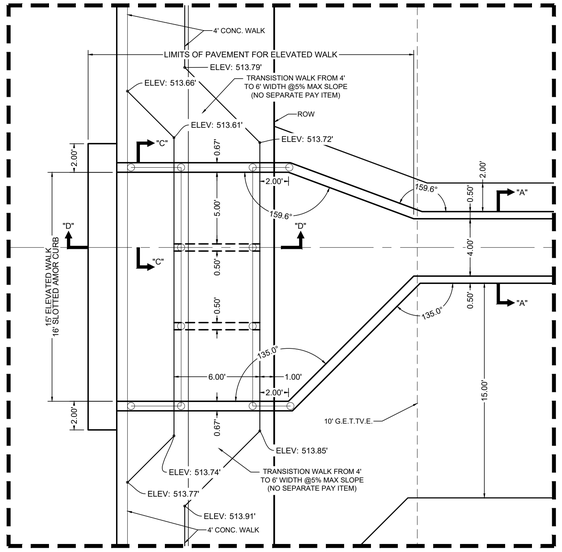


Curve Table					
Curve #	Length	Radius	Delta	Chord Direction	Chord Length
C1	47.12'	30.00'	089°59'37"	S76° 23' 00"E	42.42'

LEGEND

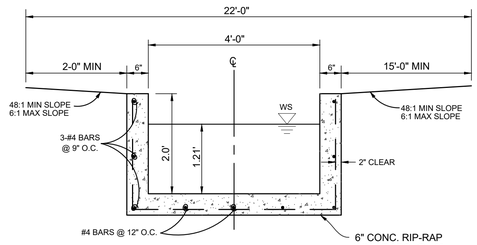
- PROPOSED STORM DRAIN
- PROPOSED EARTHEN CHANNEL
- PROPOSED SANITARY SEWER MAIN — SS
- DIRECTION OF FLOW
- EXISTING WATER MAIN — PVC
- PROPOSED WATER MAIN — PVC
- PROPOSED CONTOURS — 662
- EXISTING CONTOURS — 670

0 20' 40'



DETAIL # 1

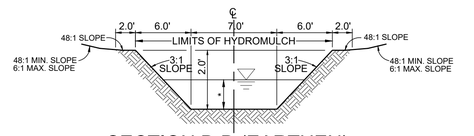
SCALE: 1" = 5'



SECTION A-A

(STA: 1+34.75 STA: 2+45.77)

NOT TO SCALE

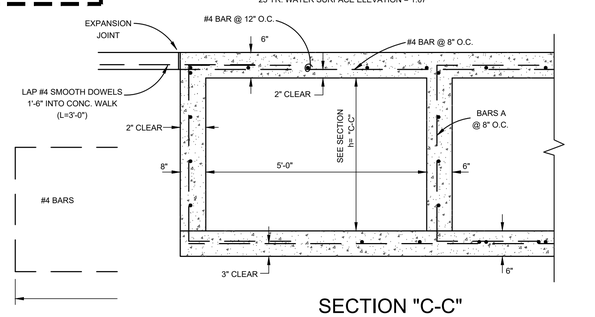


SECTION B-B (EARTHEN)

(STA: 2+45.77 STA: 3+23.24)

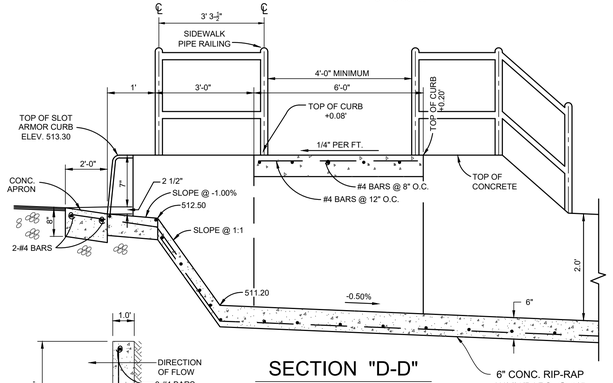
NOT TO SCALE

* 25 YR. WATER SURFACE ELEVATION = 1.07'



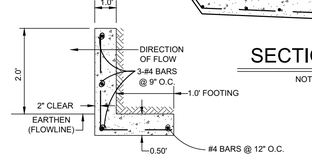
SECTION "C-C"

NOT TO SCALE



SECTION "D-D"

NOT TO SCALE



SECTION "E-E" (HEADWALL DETAIL)

NOT TO SCALE

NOTES:

1. COVER FOR REINFORCEING STEEL IS 2" UNLESS NOTED.
2. ALL CONCRETE SHALL BE CLASS "C" 3600 PSI. @ 28 DAY WITH COURSE AGGREGATE GRADE 2-5.
3. MINIMUM BAR DEVELOPMENT LENGTH FOR SPLICE AND BENDS SHALL BE 24 INCHES.
4. TRANSITION FROM STANDARD CURB TO ELEVATED WALK. NO SEPARATE PAY ITEM.

NOTE: SEE SHEET 512 FOR HANDRAIL DETAILS

REV	DATE	DESCRIPTION

FOR BIDDING PURPOSES ONLY
NOT FOR CONSTRUCTION

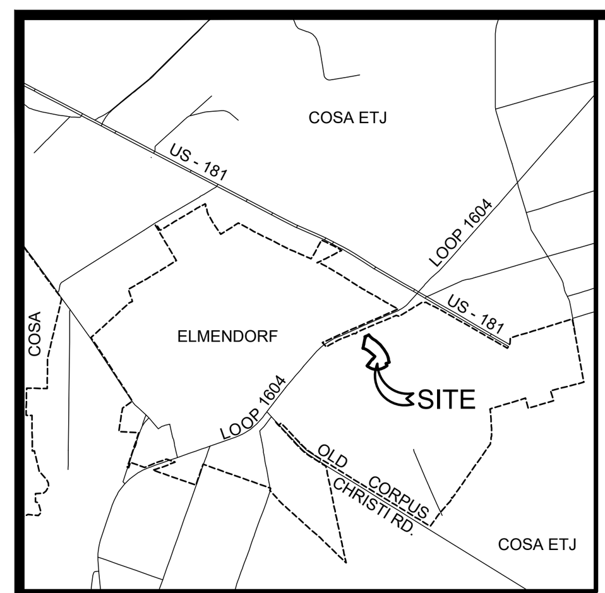
KCI TECHNOLOGIES, INC.
11550 IH 10 WEST, SUITE 395
SAN ANTONIO, TEXAS 78230-1037
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F- 10573 / #101943-65

KCI TECHNOLOGIES

HICKORY RIDGE SUBDIVISION
PHASE 1 UNIT 2
DRAIN B PLAN & PROFILE

DRAFTING:	K.P./G.P.	CHECK:	C.P.
DESIGN:	L.E.	CHECK:	M.P.S.
SUBMITTAL PHASE:			
DATE:	12/22		
KCI JOB #:	762207389		
SHEET:	**510**		

Date: Feb 27, 2024, 3:44pm User ID: Lance.Elring File: L:\Develop\Proj\2022\KCI762207389_Hickory_Ridge_Phase_1_Unit_2\Civil\762207389 510 DRAIN B PLAN & PROFILE.dwg



LOCATION MAP
NOT TO SCALE

TRENCH EXCAVATION SAFETY PROTECTION

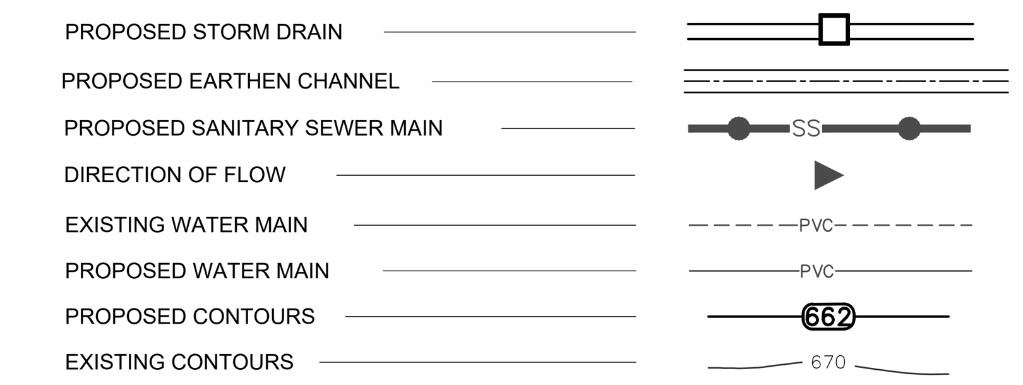
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL. REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTOR'S IMPLEMENTATION OF THE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION, SAFETY PROTECTION THAT COMPLIES 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.

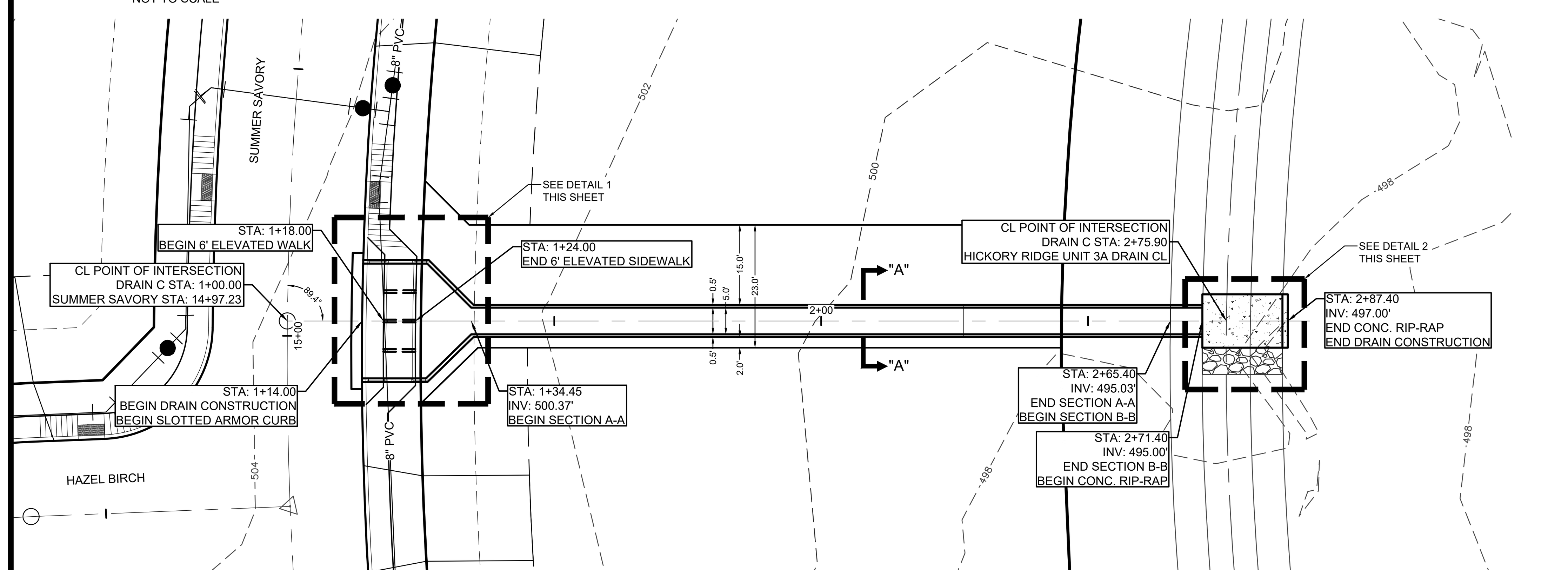
NOTE:

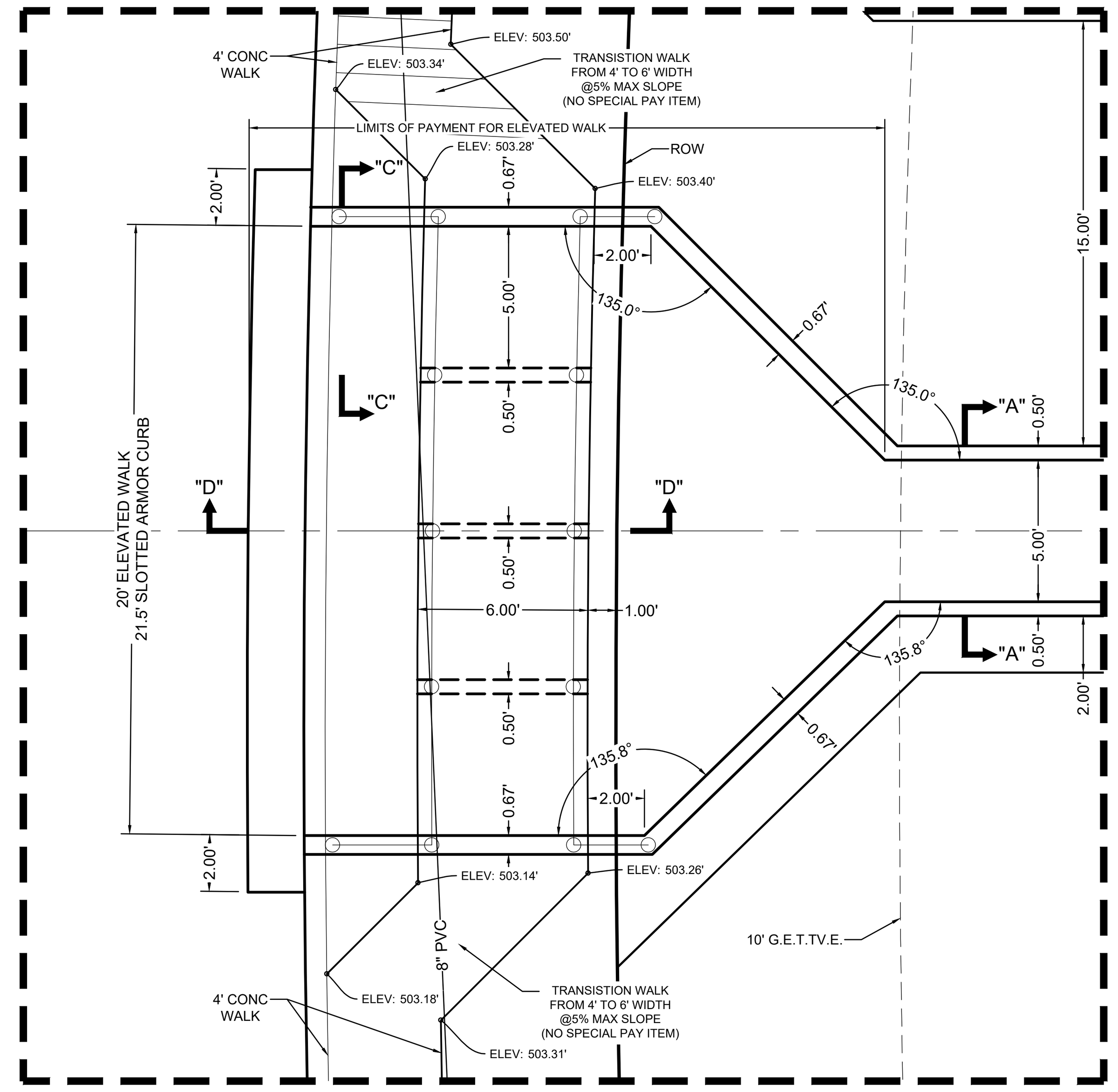
CONTRACTOR TO ENSURE POSITIVE DRAINAGE AT UPSTREAM & DOWNSTREAM ENDS OF DRAINS AND THAT NO PONDING WILL OCCUR.

LEGEND

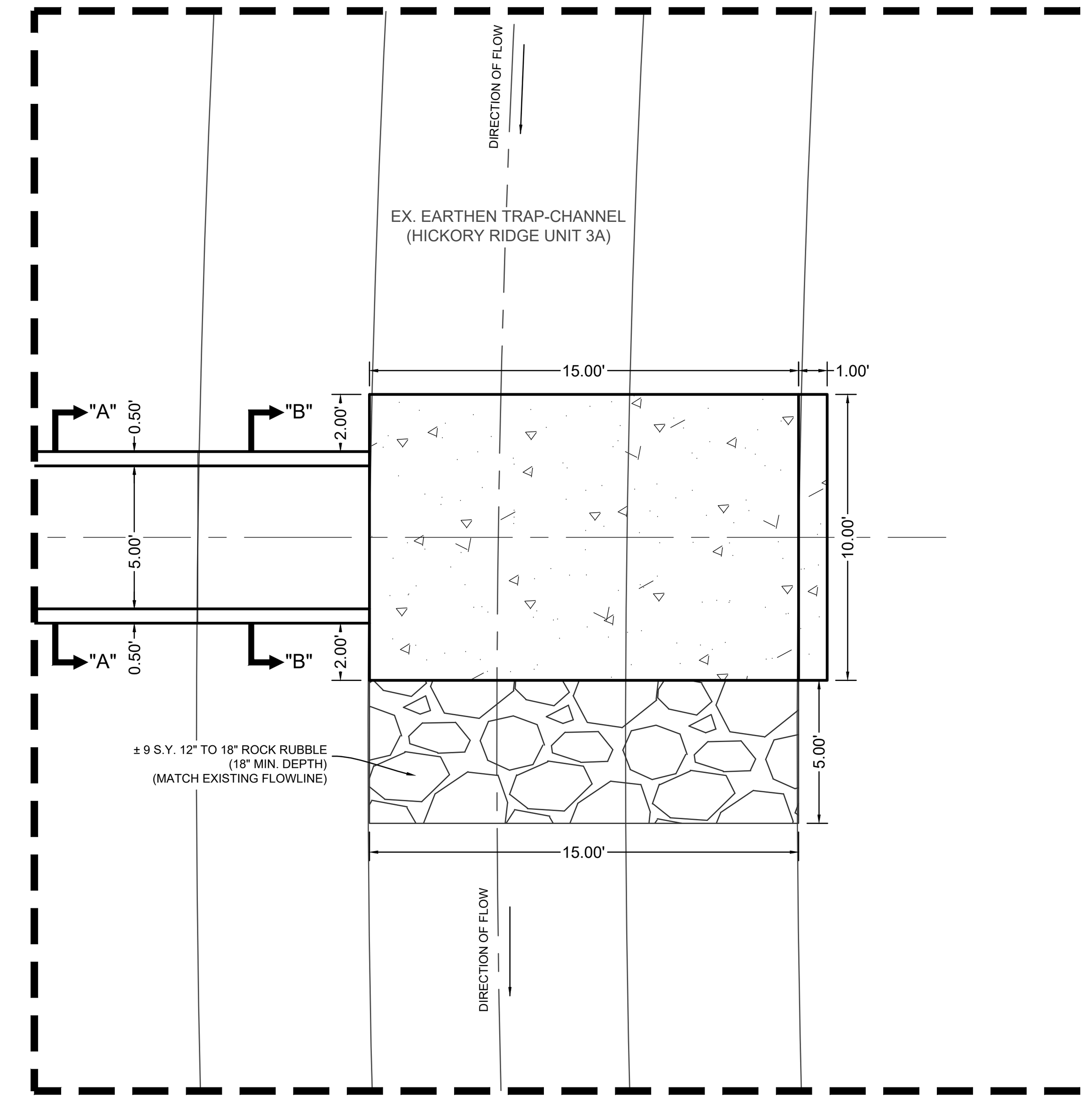
- PROPOSED STORM DRAIN
- PROPOSED EARTHEN CHANNEL
- PROPOSED SANITARY SEWER MAIN
- DIRECTION OF FLOW
- EXISTING WATER MAIN
- PROPOSED WATER MAIN
- PROPOSED CONTOURS
- EXISTING CONTOURS







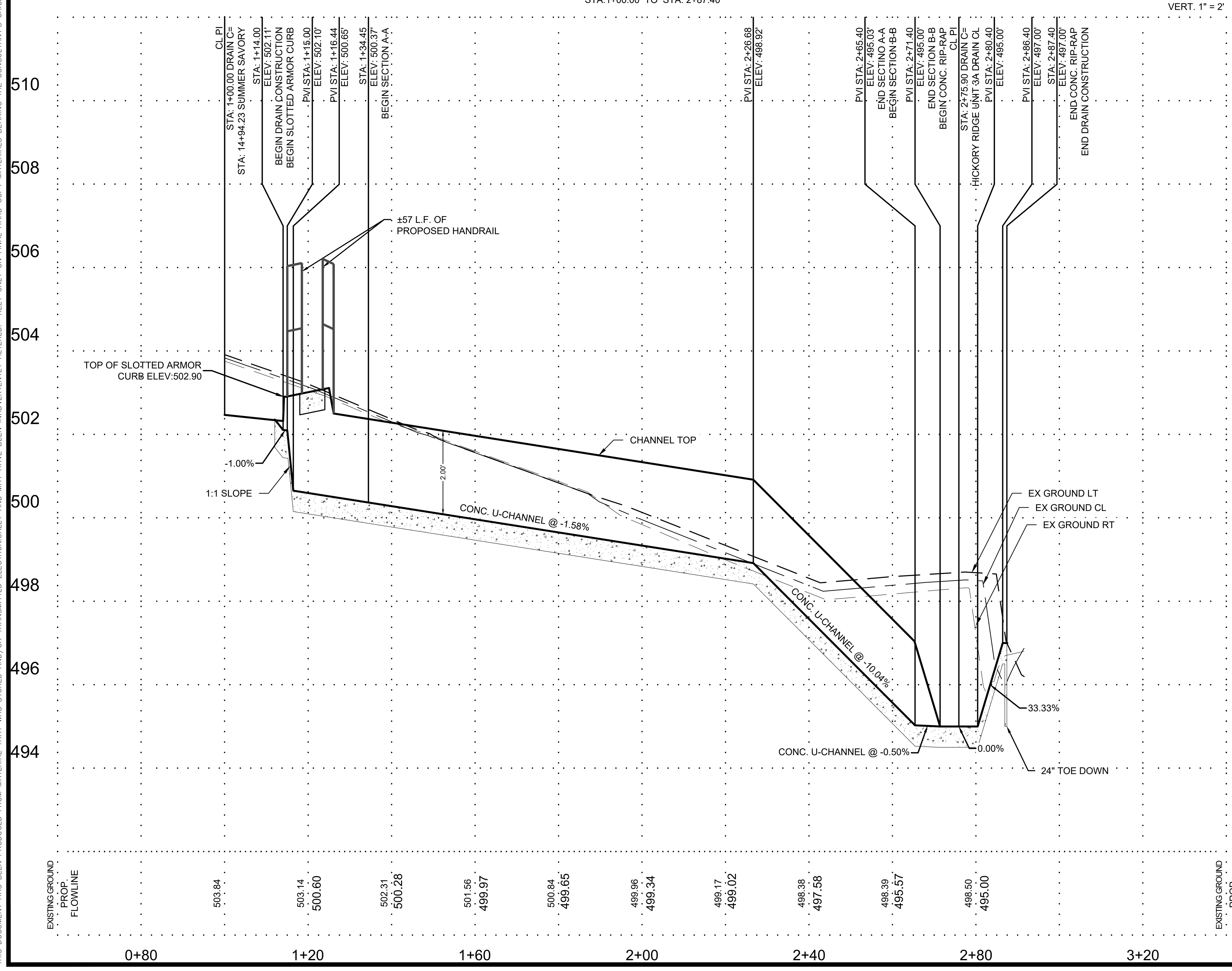
DETAIL # 1
SCALE: 1" = 5'

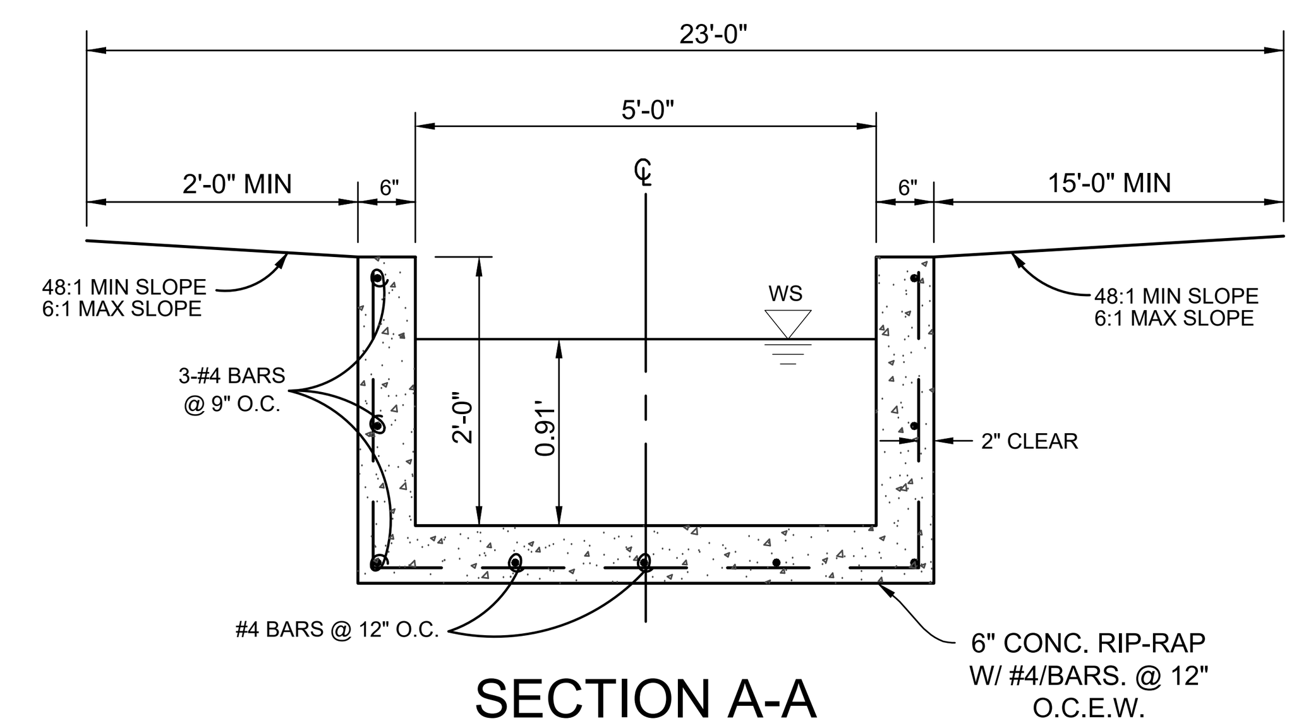


DETAIL # 2
SCALE: 1" = 5'

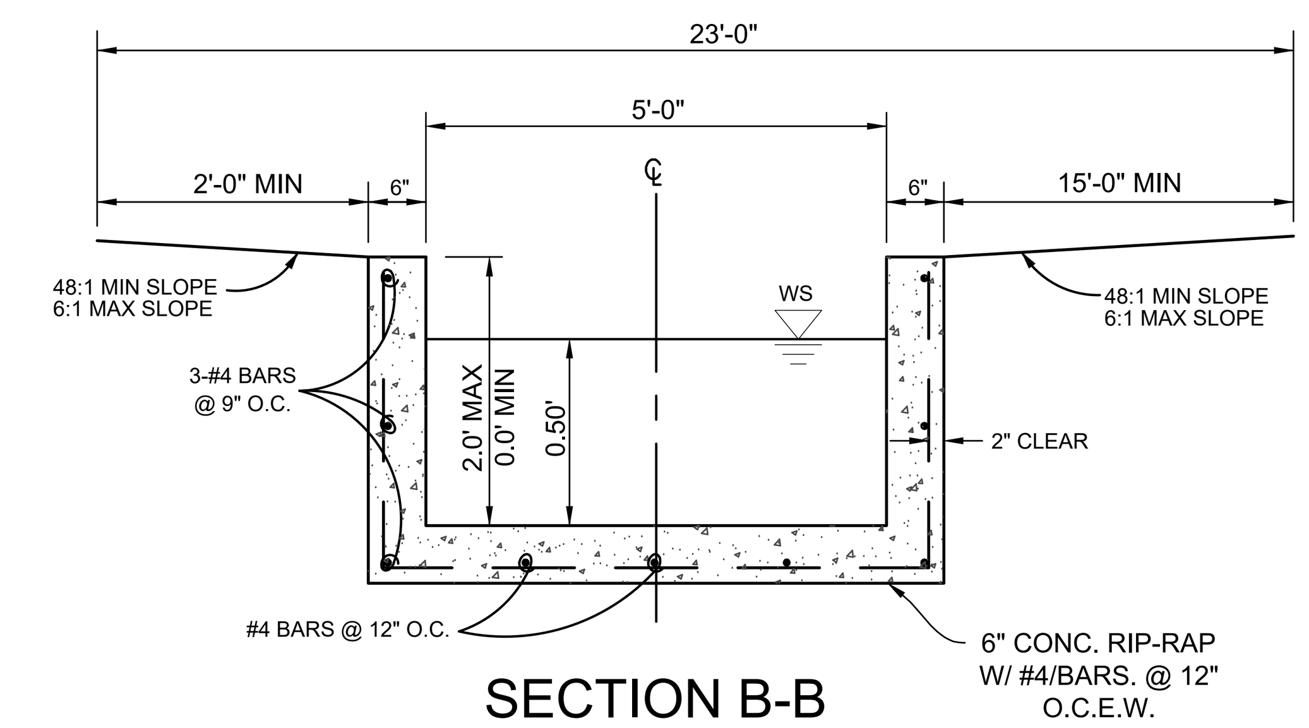
DRAIN C
STA.1+00.00 TO STA. 2+87.40

SCALE: HORIZ. 1" = 20'
VERT. 1" = 2'

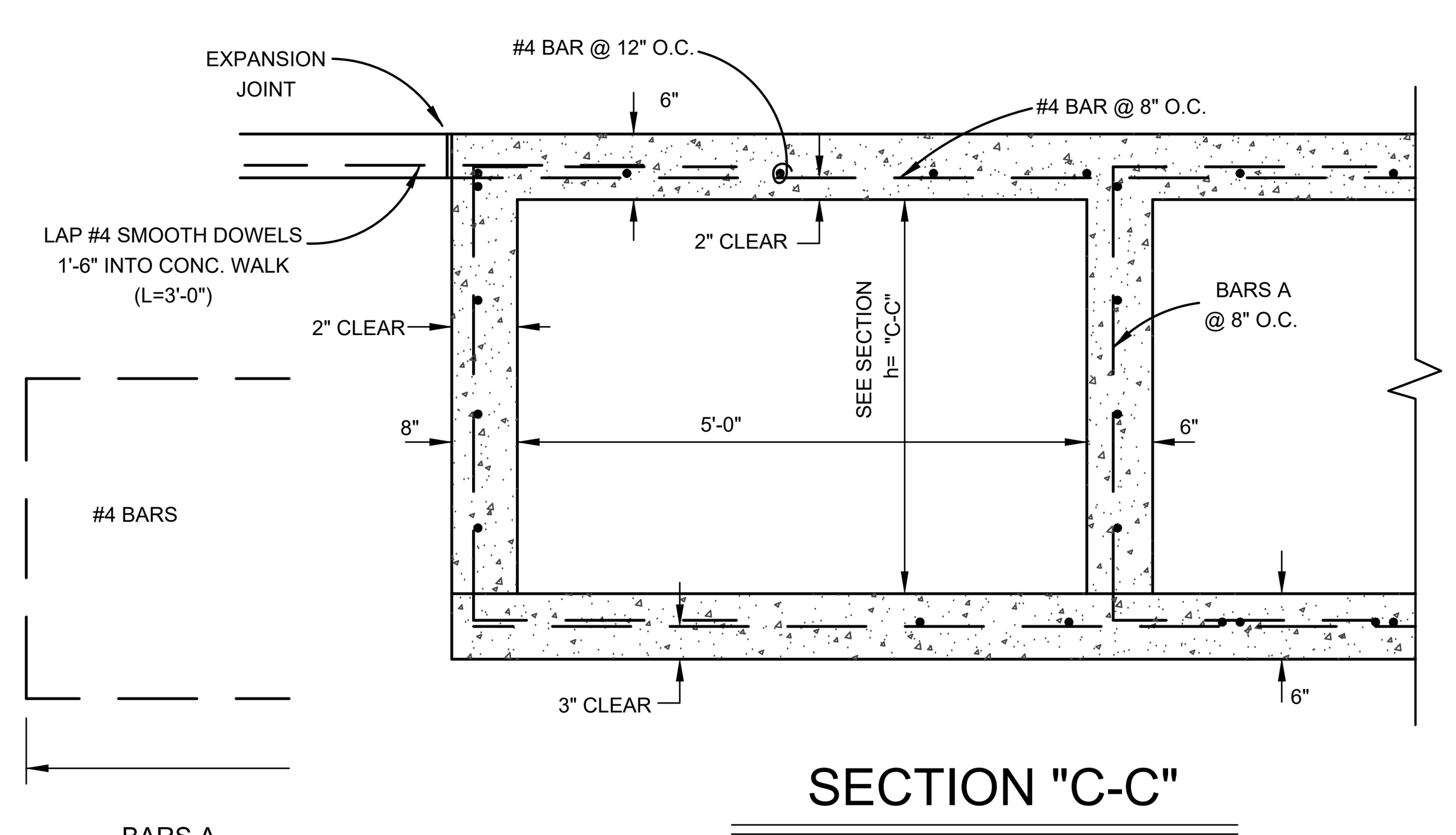




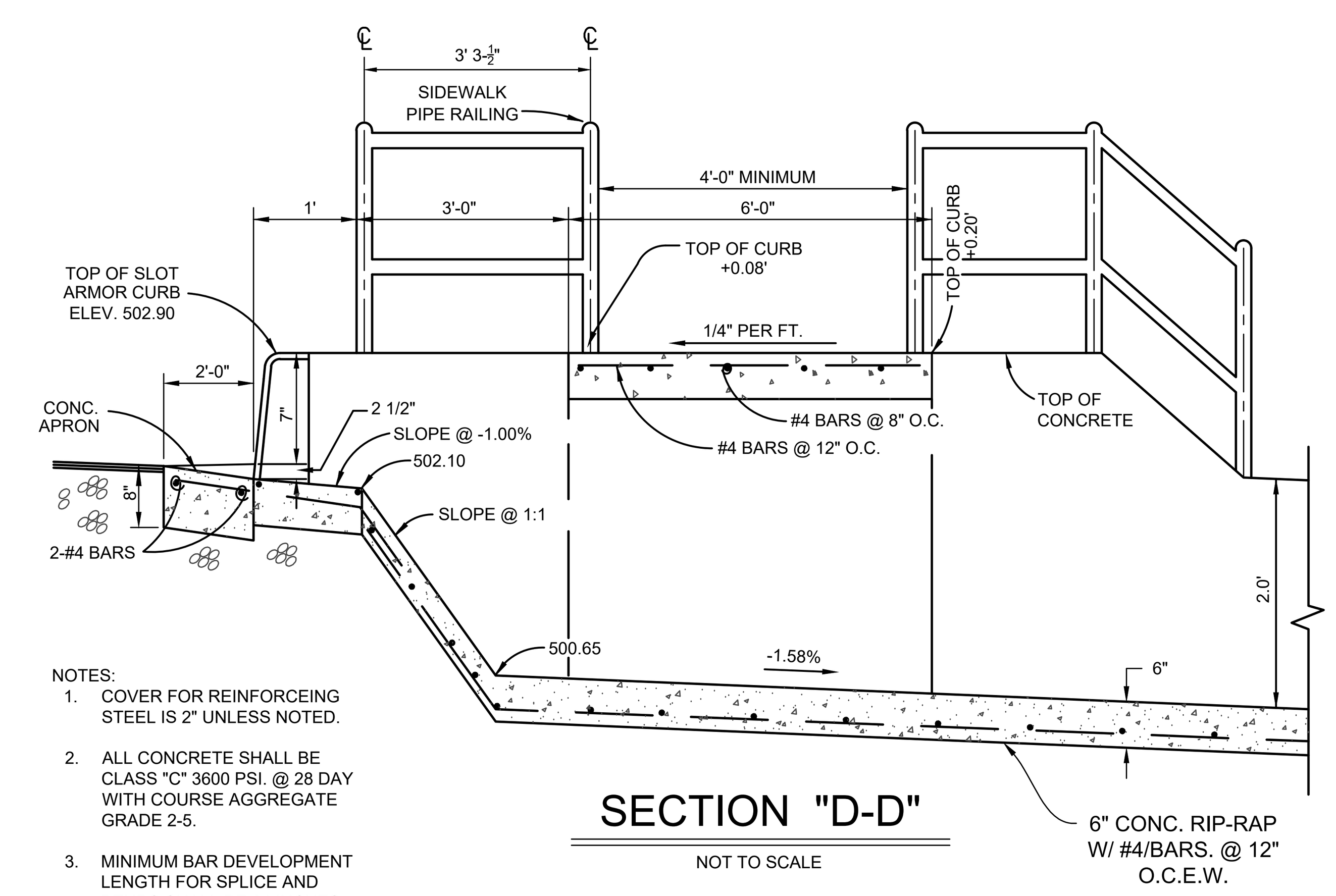
SECTION A-A
(STA: 1+34.45 STA: 2+65.40)
NOT TO SCALE



SECTION B-B
(STA: 2+65.40 STA: 2+71.40)
NOT TO SCALE



SECTION "C-C"
NOT TO SCALE



SECTION "D-D"
NOT TO SCALE

NOTES:
1. COVER FOR REINFORCING STEEL IS 2" UNLESS NOTED.
2. ALL CONCRETE SHALL BE CLASS "C" 3600 PSI. @ 28 DAY WITH COURSE AGGREGATE GRADE 2-5.
3. MINIMUM BAR DEVELOPMENT LENGTH FOR SPLICE AND BENDS SHALL BE 24 INCHES.
4. TRANSITION FROM STANDARD CURB TO ELEVATED WALK. NO SEPARATE PAY ITEM.

NOTE: SEE SHEET 512 FOR HANDRAIL DETAILS

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PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

HICKORY RIDGE SUBDIVISION
PHASE 1 UNIT 2
DRAIN C PLAN & PROFILE

DRAFTING: K.P./G.P.		CHECK:	C.P.
DESIGN:	L.E.	CHECK:	M.P.S.
SUBMITTAL PHASE:			
DATE:			12/22
KCI JOB #:			762207389

SHEET:
511

GEOTECHNICAL ENGINEERING STUDY

(HICKORY RIDGE PHASE 1 UNIT 2)

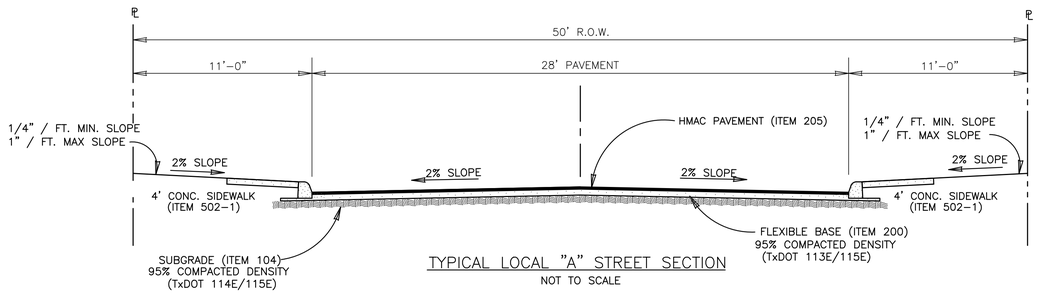
BY: RABA KISTNER
PROJECT: NO. ASA22-114-00
JANUARY 9, 2023

LOCAL A PRIMARY PAVEMENT DESIGN

PAVEMENT DESIGN WAS PREPARED BY RABA KISTNER

PAVEMENT STRUCTURE (DESIGN CBR=5.0)	STR. COEF.	STR. NO.
2" HOT MIX ASPHALT TYPE D	0.44	0.88
8" FLEXIBLE BASE (TYPE A, GRADE 1 OR 2)	0.14	1.12
6" LIME STABILIZED SUBGRADE (18#/S.Y.)	0.08	0.48
	TOTAL	2.48

HAZEL BIRCH	STA. 1+00.00	TO	9+84.51
GREY ELM	STA. 1+00.00	TO	7+16.32
WASABI PASS	STA. 1+00.00	TO	3+80.75
BONFIRE PASS	STA. 1+00.00	TO	6+99.38
SWEET MARIGOLD	STA. 1+00.00	TO	4+13.17
ANNATTO DR	STA. 1+00.00	TO	2+45.00
SUMMER SAVORY	STA. 1+00.00	TO	15+57.34



TYPICAL LOCAL "A" STREET SECTION

NOT TO SCALE

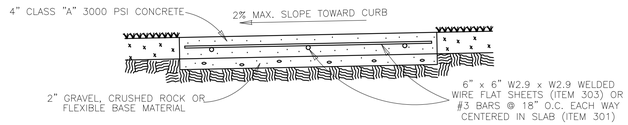
NOTES:
1. THE SUBGRADE SOILS SHOULD BE TESTED FOR SOLUBLE SULPHATE CONTENT PRIOR TO INSTALLATION OF LIME OR CEMENT.

FILL MATERIAL NOTE:
IF FILL IS USED TO RAISE THE GRADE, APPROVED FILL MATERIAL UNDERNEATH THE PAVEMENT SHOULD BE ON-SITE MATERIAL, FREE OF DELETERIOUS MATERIAL WITH MAXIMUM PLASTICITY INDEX VALUE OF 20 AND A MINIMUM CBR VALUE OF 3.0. THE GRAVEL SIZE SHOULD NOT EXCEED 3 INCHES IN DIAMETER. LIME OR CEMENT APPLICATION RATES SHOULD BE RE-EVALUATED FOR THE FILL MATERIAL. THE MATERIAL SHOULD BE PLACED AS PER APPLICABLE CITY AND/OR COUNTY GUIDELINES.

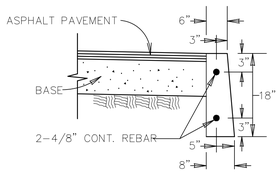
SUBGRADE MATERIAL NOTE:
1. SUBGRADE SOIL PLASTICITY INDEX SHOULD BE LESS THAN OR EQUAL TO 20 FOR PRIMARY PAVEMENT DESIGN.
2. IF THE SUBGRADE SOIL PLASTICITY INDEX VALUE IS GREATER THAN 20, THEN ONE OF THE FOLLOWING OPTIONS SHOULD BE FOLLOWED:
   2.a. THE SUBGRADE SHOULD BE STABILIZED TO A DEPTH OF 6 INCHES (SEE ALTERNATE PAVEMENT DESIGN).
   2.b. THE EXPANSIVE CLAYS SHOULD BE REMOVED AND REPLACED WITH SOILS WITH A PLASTICITY INDEX VALUE OF 20 OR LESS.
3. GEOTECHNICAL ENGINEER SHALL BE ON SITE TO MAKE SUBGRADE DETERMINATION AND PROVIDE/SUBMIT LETTER INDICATING STATION TO STATION FOR PLACEMENT OF EACH PVM'T. DESIGN SECTION TO BE APPROVED BY ENGINEER PRIOR TO PLACEMENT OF BASE.

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

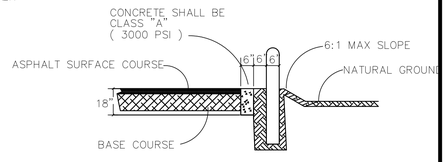
- AFTER INITIAL MIXING THE SOIL-LIME MIXTURE SHALL MELLOW FOR A PERIOD OF TWO TO THREE (2 – 3) DAYS. MAINTAIN MOISTURE DURING MELLOWING.
- AFTER MELLOWING AND FINAL MIXING, THE PULVERIZATION SHALL BE CHECKED USING THE FOLLOWING CRITERIA (REMOVE NON-SLAKING AGGREGATES RETAINED ON THE ¾ INCH SIEVE FROM THE SAMPLE):
  - MINIMUM PASSING 1 ¾" SIEVE 100
  - MINIMUM PASSING ¾" SIEVE 85
  - MINIMUM PASSING NO. 4 SIEVE 60
- SAMPLE SOIL-LIME MIXTURE FOR DETERMINATION OF MAXIMUM DRY DENSITY (MDD). IN THE LABORATORY, MOLD SPECIMENS TO 95% OF MDD AT OPTIMUM MOISTURE CONTENT AND VERIFY UCS TO BE AT LEAST 160 PSI IN WITH PROCEDURE OUTLINED ABOVE FOR MIXTURE DESIGN.
- COMPACT AND CHECK FIELD DENSITY (MINIMUM OF 95% OF 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 TO WITHIN +/- 1.0 INCH.



CONCRETE SIDEWALK SECTION
ITEM 502.1

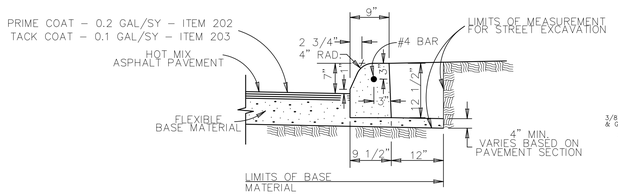


HEADER CURB DETAIL W/ REBAR
N.T.S.

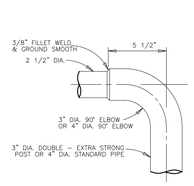


CONCRETE FLUSH CURB & BARRICADE POST

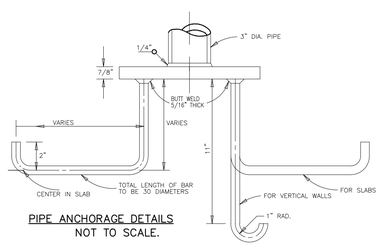
NOTE:
1. ALLOW FOR REFLECTION BUTTONS ON BARRICADE POST USE ONE 3" BUTTON PER POST.
2. POST SHALL RECEIVE TWO COATS OF ALUMINUM PAINT.
3. 6" X 5'-6" BARRICADE POST PLACED 6" BACK OF CURB WITH 2'-4" ABOVE GROUND & 3'-2" BELOW GROUND. (5'-0" o.c. TYP.)



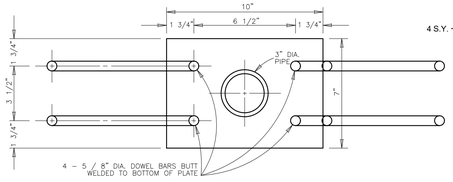
MACHINE LAID CURB
ITEM 501 ON FLEXIBLE BASE MATERIAL

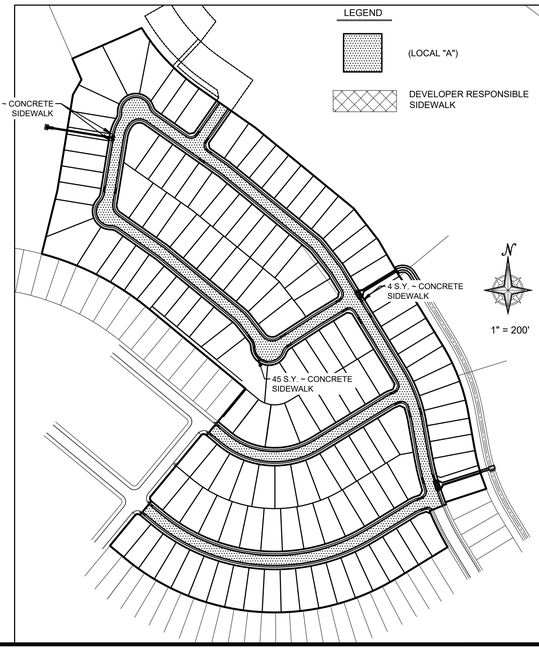


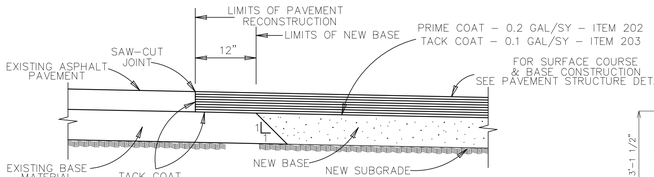
DETAIL OF 90° WELDING ELBOWS
• A NEAT END SECTION, SATISFACTORY TO THE ENGINEER, FROM SUBMITTED SHOP DRAWINGS, MAY BE USED IN LIEU OF THE 90° WELDING ELBOW SHOWN.
NOT TO SCALE



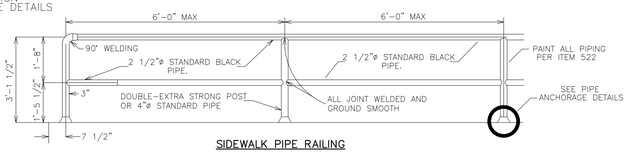
PIPE ANCHORAGE DETAILS
NOT TO SCALE.







PAVEMENT JUNCTION DETAILS
NOT TO SCALE



SIDEWALK PIPE RAILING
NOT TO SCALE
ITEM 522.1

REV	DATE	DESCRIPTION

FOR BIDDING PURPOSES ONLY
NOT FOR CONSTRUCTION

KCI TECHNOLOGIES, INC.
11550 IH 10 WEST, SUITE 395
SAN ANTONIO, TEXAS 78230-1037
PHONE: (210) 641-9999
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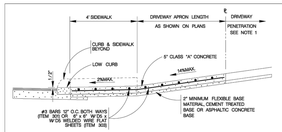
HICKORY RIDGE SUBDIVISION
PHASE 1 UNIT 2
STREET DETAILS

DRAFTING:	K.P./G.P.	CHECK:	C.P.
DESIGN:	L.E.	CHECK:	M.P.S.
SUBMITTAL PHASE:			
DATE:			12/22
KCI JOB #:			762207389

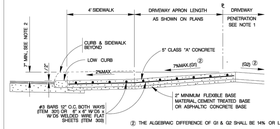
SHEET:
512

Date: Feb 21, 2024, 3:49pm User ID: DanielEmig File: L:\Delivery\Proj2022_KCI\762207389_Hickory_Ridge_Phase 1 Unit 2.dwg\762207389 512-513 STREET DETAILS.dwg



TYPICAL RESIDENTIAL DRIVEWAY SECTION

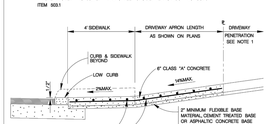
WITH SIDEWALK ABUTTING CURB
ITEM 503.1



② THE ALGEBRAIC DIFFERENCE OF G1 & G2 SHALL BE 14% OR LESS

TYPICAL RESIDENTIAL DRIVEWAY SECTION

WHERE PROPERTY IS LOWER THAN STREET & SIDEWALK IS ABUTTING CURB
ITEM 503.1



TYPICAL COMMERCIAL DRIVEWAY SECTION

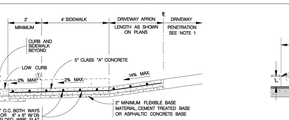
WITH SIDEWALK ABUTTING CURB
ITEM 503.2

CONCRETE DRIVEWAY NOTES

1. DRIVEWAY PENETRATION REFERS TO A PORTION OF THE DRIVEWAY THAT MAY BE NECESSARY TO RECONSTRUCT WITHIN PRIVATE PROPERTY TO COMPLY WITH A MAXIMUM DRIVEWAY SLOPE. THIS PORTION OF THE DRIVEWAY SHALL BE PAID FOR UNDER THE FOLLOWING ITEMS AS MAY APPLY:
   A.) CONCRETE DRIVEWAY PAID FOR UNDER ITEM NO.503.1 OR 503.2
   B.) ASPHALTIC CONCRETE DRIVEWAY PAID FOR UNDER ITEM NO.504 AND SHALL INCLUDE A MINIMUM OF 1" ASPHALT TYPE "D"& 6" FLEXIBLE BASE
   C.) GRAVEL DRIVEWAY PAID FOR UNDER ITEM NO. 503.5 AND SHALL INCLUDE A MINIMUM OF 6" FLEXIBLE BASE
2. 1" MINIMUM HEIGHT WILL NOT NECESSARILY OCCUR AT THE PROPERTY LINE, IT MAY OCCUR WITHIN THE RIGHT OF WAY OR WITHIN THE DRIVEWAY PENETRATION ON PRIVATE PROPERTY.
3. THE PROPOSED DRIVEWAY SHOULD MATCH THE EXISTING WIDTH AT THE PROPERTY LINE BUT UNLESS AUTHORIZED BY THE CITY TRAFFIC ENGINEER, THE WIDTH SHALL BE WITHIN THE FOLLOWING VALUES:

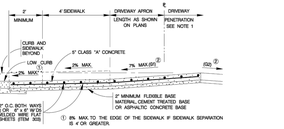
TYPE	MINIMUM	MAXIMUM
RESIDENTIAL	10'	20'
COMMERCIAL – ONE WAY	12'	20'
COMMERCIAL – TWO WAY	24'	30'

4. FOR LOCAL TYPE "A" STREETS, SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 4' AND IF SEPARATED FROM THE CURB,THE SIDEWALK SHALL BE LOCATED A MINIMUM OF 3'FROM THE BACK OF CURB.
5. FOR OTHER THAN LOCAL TYPE "A" STREETS,THE SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 4'AND SEPARATED A MINIMUM OF 3'FROM THE BACK OF CURB OR,AS AN OPTION,THE SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 6'WHEN LOCATED AT THE BACK OF CURB.
6. DUMMY JOINTS PARALLEL TO THE CURB SHALL BE PLACED WHERE THE SIDEWALK MEETS THE DRIVEWAY. DUMMY JOINTS PERPENDICULAR TO THE CURB,AND WITHIN THE BOUNDARIES OF THE PARALLEL DUMMY JOINTS,SHALL BE PLACED AT INTERVALS EQUAL TO THE WIDTH OF THE SIDEWALK.
7. A MINIMUM OF TWO ROUND AND SMOOTH DOWEL BARS 3/4" IN DIAMETER AND 18" IN LENGTH SHALL BE SPACED 18" APART AT EACH EXPANSION JOINT.
8. SIDEWALK RAMP LENGTHS SHALL BE OF SUFFICIENT LENGTH TO MAINTAIN 8.33% (1:12) MAXIMUM SLOPE, WHERE SIDEWALKS CROSS DRIVEWAYS, SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.
9. SIDEWALK RAMP SURFACE SHALL BE BRUSH FINISHED.



TYPICAL RESIDENTIAL DRIVEWAY SECTION

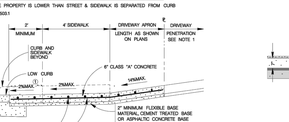
WITH SIDEWALK SEPARATED FROM CURB
ITEM 503.1



① 8% MAX.TO THE EDGE OF THE SIDEWALK IF SIDEWALK SEPARATION IS 4' OR GREATER.
② THE ALGEBRAIC DIFFERENCE OF G1 & G2 SHALL BE 14% OR LESS

TYPICAL RESIDENTIAL DRIVEWAY SECTION

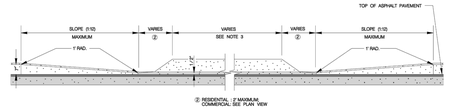
WHERE PROPERTY IS LOWER THAN STREET & SIDEWALK IS SEPARATED FROM CURB
ITEM 503.1



TYPICAL COMMERCIAL DRIVEWAY SECTION

WITH SIDEWALK SEPARATED FROM CURB
ITEM 503.2

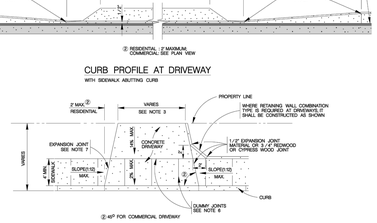
① 8% MAX.TO THE EDGE OF THE SIDEWALK IF SIDEWALK SEPARATION IS 4' OR GREATER.



② RESIDENTIAL 2' MAXIMUM, COMMERCIAL SEE PLAN VIEW

CURB PROFILE AT DRIVEWAY

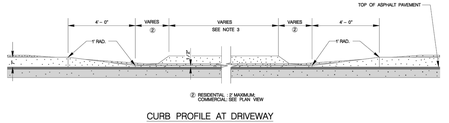
WITH SIDEWALK ABUTTING CURB



② 40' FOR COMMERCIAL DRIVEWAY

TYPICAL DRIVEWAY PLAN VIEW

WITH SIDEWALK ABUTTING CURB



② RESIDENTIAL 2' MINIMUM, COMMERCIAL SEE PLAN VIEW

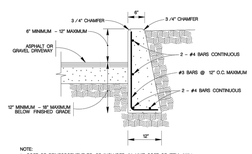
CURB PROFILE AT DRIVEWAY

WITH SIDEWALK SEPARATED FROM CURB

① 8% MAX.TO THE EDGE OF THE SIDEWALK IF SIDEWALK SEPARATION IS 4' OR GREATER.
② 45° FOR COMMERCIAL DRIVEWAY

TYPICAL DRIVEWAY PLAN VIEW

WITH SIDEWALK SEPARATED FROM CURB



NOTE:
1. COST OF REINFORCEMENT TO BE INCLUDED IN UNIT COST OF ITEM 307.1.
2. CONCRETE RETAINING WALL COMBINATION TYPE SHALL BE USED FOR CONCRETE DRIVEWAYS.

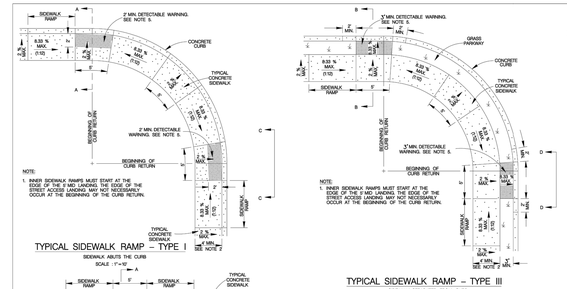
DRIVEWAY – CONCRETE RETAINING WALL

ON COMPACTED SUBGRADE
ITEM 307.1

MAY 2009
CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

CONCRETE DRIVEWAY STANDARDS

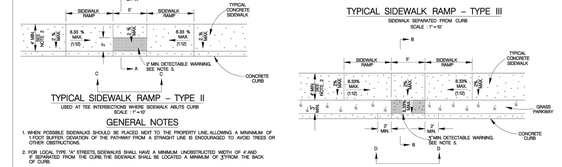
_____% SUBMITTAL | PROJECT NO.:_____ DATE:_____
DRAWN BY: V. VASQUEZ DSGN BY:_____ CHKD. BY: R.S. HOSSEINI, P.E. SHEET NO.:____OF____



NOTE:
1. INNER SIDEWALK RAMPS MUST START AT THE EDGE OF THE 5' MD LANDING.THE EDGE OF THE STREET ACCESS LANDING MAY NOT NECESSARILY OCCUR AT THE BEGINNING OF THE CURB RETURN.

TYPICAL SIDEWALK RAMP – TYPE I

SIDEWALK ABUTS THE CURB
SCALE : 1"=10'

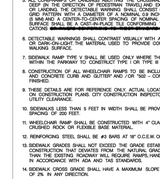


TYPICAL SIDEWALK RAMP – TYPE II

USED AT TEE INTERSECTIONS WHERE SIDEWALK ABUTS CURB
SCALE : 1"=10'

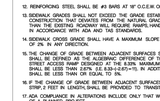
GENERAL NOTES

1. WHEN POSSIBLE SIDEWALKS SHOULD BE PLACED NEXT TO THE PROPERTY LINE,ALLOWING A MINIMUM OF 1'FOOT BUFFER ZONE/SEPARATION BETWEEN THE SIDEWALK AND THE CURB.THIS SEPARATION IS ENCOURAGED TO AVOID TREES ON THE SIDEWALK.
2. FOR LOCAL TYPE "A" STREETS,SIDEWALKS SHALL HAVE A MINIMUM UNOBSTRUCTED WIDTH OF 4'AND SEPARATED A MINIMUM OF 3'FROM THE BACK OF CURB.IF SEPARATED FROM THE CURB,THE SIDEWALK SHALL BE LOCATED A MINIMUM OF 3'FROM THE BACK OF CURB.
3. FOR OTHER THAN LOCAL TYPE "A" STREETS,SIDEWALKS SHALL HAVE A MINIMUM UNOBSTRUCTED WIDTH OF 4'AND SEPARATED A MINIMUM OF 5'FROM THE BACK OF CURB OR,AS AN OPTION,THE SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 6'WHEN LOCATED AT THE BACK OF CURB.
4. SIDEWALK RAMP LENGTHS PRESENTED IN TABLE 1 ARE GUIDELINES ONLY. SIDEWALK RAMP LENGTHS SHALL BE OF SUFFICIENT LENGTH TO MAINTAIN 8.33% (1:12) MAXIMUM SLOPE.
5. ALL CURB-RAMPS OR LANDINGS ABUTTING THE CROSSWALK SHALL HAVE A DETECTABLE WARNING 24 INCHES (610 MM) WIDE MINIMUM,EXTENDING THE FULL WIDTH OF THE CURB-RAMP OR LANDING.THE DETECTABLE WARNING SHALL CONSIST OF RAISED TRUNCATED DOMES,ALIGNED IN A SQUARE GRID PATTERN WITH A DIAMETER OF A NOMINAL 0.9 INCHES (23 MM),A HEIGHT OF NOMINAL 0.2 INCHES (5 MM) AND A CENTER-TO-CENTER SPACING OF NOMINAL 2.35 INCHES (60 MM).THE DETECTABLE WARNING SHALL BE A CONTRASTING COLOR TO THE CONCRETE TO THE CITY OF SAN ANTONIO STANDARD SPECIFICATIONS.
6. DETECTABLE WARNINGS SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES,EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT.THE MATERIAL USED TO PROVIDE CONTRAST SHALL BE AN INTEGRAL PART OF THE WALKING SURFACE.
7. SIDEWALK RAMP TYPE V SHALL BE USED ONLY WHERE THERE IS SIGNIFICANT RESTRICTION WITHIN THE PARKWAY TO CONSTRUCT TYPE I OR TYPE II RAMPS.
8. CONSTRUCTION OF ALL WHEELCHAIR RAMPS TO BE INCLUDED UNDER ITEMS 1000 – CONCRETE CURB,GUTTER, AND CONCRETE CURB AND GUTTER" AND / OR "500 – CONCRETE SIDEWALKS". RAMP SURFACE SHALL BE BRUSH FINISHED.
9. THESE DETAILS ARE FOR REFERENCE ONLY. ACTUAL LOCATIONS OF WHEELCHAIR RAMPS TO BE SHOWN ON CONSTRUCTION PLANS. CITY CONSTRUCTION INSPECTOR CAN ADJUST LOCATIONS FOR SAFETY OR UTILITY CLEARANCE.
10. SIDEWALKS LESS THAN 5 FEET IN WIDTH SHALL BE PROVIDED WITH A PASSING SPACE AT A MAXIMUM SPACING OF 200 FEET.
11. WHEELCHAIR RAMP SHALL BE CONSTRUCTED WITH 4" CLASS "A CONCRETE AND 2" MINIMUM GRAVEL, CRUSHED ROCK OR FLEXIBLE BASE MATERIAL.
12. REINFORCING STEEL SHALL BE #3 BARS AT 18" O.C.E.W. OR 6" x 6" – W2.9 x W2.9 WIRE MESH.
13. SIDEWALK GRADES MAY NOT EXCEED THE GRADE ESTABLISHED FOR THE ADJACENT ROADWAY.ANY SIDEWALK GRADE THAT EXCEEDS THE ESTABLISHED ROADWAY GRADE OF THE ROADWAY TO CREATE A GRADE STEEPER THAN THE EXISTING ROADWAY WILL REQUIRE RAMPS,HANDRAILS AND RESTING PLATFORMS TO BE CONSTRUCTED IN ACCORDANCE WITH ADA AND TAS STANDARDS.
14. SIDEWALK CROSS GRADE SHALL HAVE A MAXIMUM SLOPE OF 2% .LANDINGS SHALL HAVE A MAXIMUM SLOPE OF 2% IN ANY DIRECTION.
15. THE CHANGE OF GRADE BETWEEN ADJACENT SURFACES SHALL BE LESS THAN 11% .THE CHANGE OF GRADE SHALL BE DEFINED AS THE ALGEBRAIC DIFFERENCE OF THE ADJACENT SURFACE SLOPES.IN THE CASE OF A STREET ACCESS RAMP DESIGNED AT THE 8.33% MAXIMUM SLOPE,THE ADJACENT PAVEMENT CROSS SLOPE SHALL BE LESS THAN OR EQUAL TO 3% .IN ADDITION,THE ADJACENT PAVEMENT CROSS SLOPE SHALL BE LESS THAN OR EQUAL TO 5% .
16. IF THE CHANGE OF GRADE BETWEEN ADJACENT SURFACES IS GREATER THAN OR EQUAL TO 11% A LEVELING STRIP 2 FEET IN LENGTH SHALL BE PROVIDED TO TRANSITION THE ADJACENT SURFACES.
17. ADA COMPLIANCE IN ALTERATIONS INCLUDE ONLY THAT WORK WITHIN THE LIMITS,BOUNDARIES OR SCOPE OF A PLANNED PROJECT.



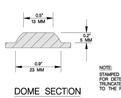
DETECTABLE WARNING SURFACE

SCALE : 1"=4'



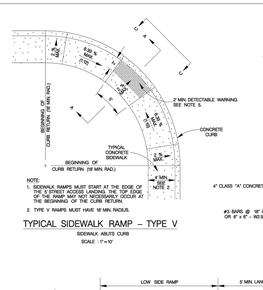
PLAN DETAIL

NO SCALE



DOME SECTION

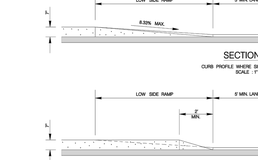
NO SCALE



NOTE:
1. INNER SIDEWALK RAMPS MUST START AT THE EDGE OF THE 5' MD LANDING.THE EDGE OF THE STREET ACCESS LANDING MAY NOT NECESSARILY OCCUR AT THE BEGINNING OF THE CURB RETURN.
2. TYPE V RAMPS MUST HAVE 'M' MIN. RADIUS.

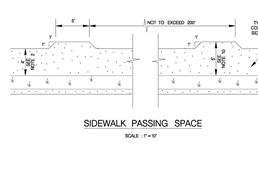
TYPICAL SIDEWALK RAMP – TYPE V

SIDEWALK ABUTS CURB
SCALE : 1"=10'



TYPICAL SIDEWALK RAMP – TYPE III

SIDEWALK SEPARATED FROM CURB
SCALE : 1"=10'

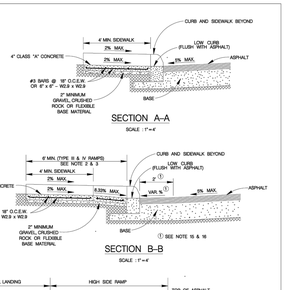


TYPICAL SIDEWALK RAMP – TYPE IV

USED AT TEE INTERSECTIONS WHERE SIDEWALK IS SEPARATED FROM CURB
SCALE : 1"=10'

DETECTABLE WARNING SURFACE

SCALE : 1"=4'



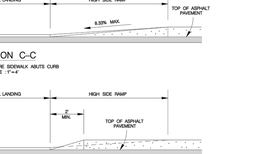
SECTION A–A

SCALE : 1"=4'

① SEE NOTE 16 & 18

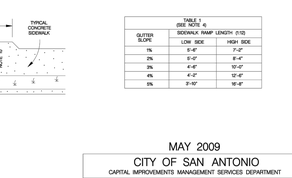
SECTION B–B

SCALE : 1"=4'



SECTION C–C

CURB PROFILE WHERE SIDEWALK ABUTS CURB
SCALE : 1"=4'



SECTION D–D

CURB PROFILE WHERE SIDEWALK IS SEPARATED FROM CURB
SCALE : 1"=4'

TABLE 1 (SEE NOTE 4)		
GUTTER SLOPE	SIDEWALK RAMP LENGTH (1:12)	
	LOW SIDE	HIGH SIDE
1%	5'-6"	7'-2"
2%	5'-0"	6'-4"
3%	4'-6"	10'-0"
4%	4'-2"	12'-6"
5%	3'-10"	16'-8"

SIDEWALK PASSING SPACE

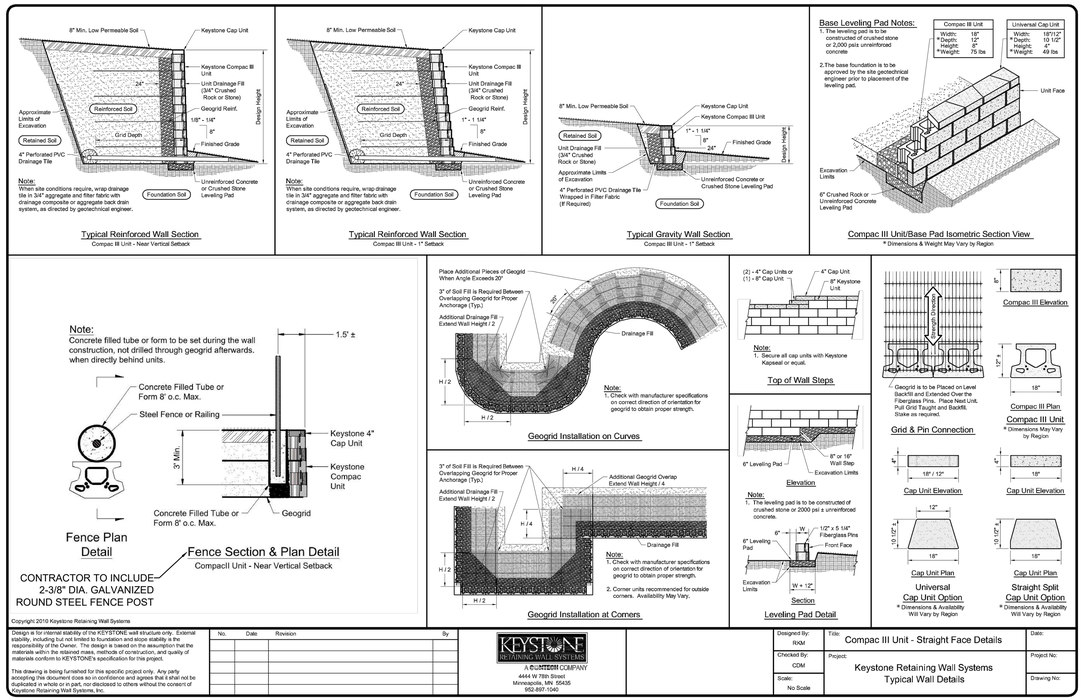
SCALE : 1"=10'

MAY 2009
CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

WHEELCHAIR RAMP STANDARDS

_____% SUBMITTAL | PROJECT NO.:_____ DATE:_____
DRAWN BY: V. VASQUEZ DSGN BY:_____ CHKD. BY: R.S. HOSSEINI, P.E. SHEET NO.:____OF____

FOR DETECTABLE WARNING ON WHEELCHAIR RAMPS, CONTRACTOR MUST SUBMIT TECHNICAL DOME INFORMATION THAT IS TO BE USED ON WHEELCHAIR RAMPS TO THE PROJECT MANAGER FOR APPROVAL AT LEAST 30 DAYS PRIOR TO INSTALLATION.



Design is for internal stability of the KEYSTONE wall structure only. External stability of the reinforced soil mass and the retained soil mass is the responsibility of the Owner. The design is based on the assumption that the materials within the retained mass, methods of construction, and quality of materials conform to KEYSTONE's specification for this project.

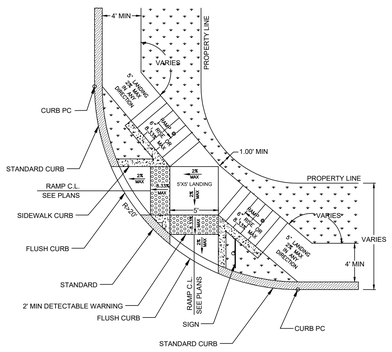
This drawing is being furnished for this specific project only. Any party accepting this document does so in confidence and agrees that it shall not be duplicated in whole or in part, nor disclosed to others without the consent of Keystone Retaining Wall Systems, Inc.

No.	Date	Revision	By

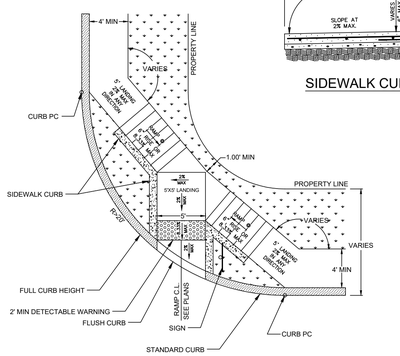
KEYSTONE RETAINING WALL SYSTEMS
A CRH COMPANY
4444 W 78th Street
Minneapolis, MN 55435
952-897-1040

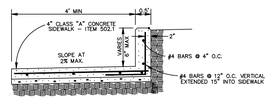
Designed By: RAM
Checked By: CDM
Scale: No Scale
Title: Compac III Unit - Straight Face Details
Project: Keystone Retaining Wall Systems Typical Wall Details
Date:
Project No:
Drawing No:

D2 TYPICAL DIRECTIONAL RAMP (DUAL)



D1 TYPICAL DIRECTIONAL RAMP (SINGLE)





SIDEWALK CURB

REV	DATE	DESCRIPTION

FOR BIDDING PURPOSES ONLY
NOT FOR CONSTRUCTION

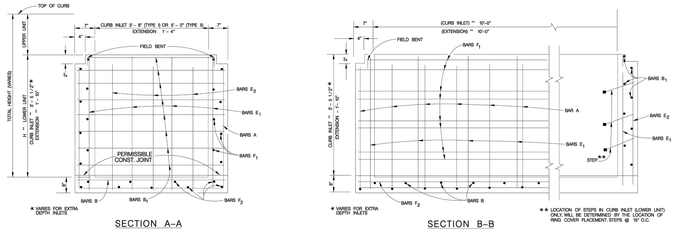
KCI TECHNOLOGIES, INC.
11550 IH 10 WEST, SUITE 395
SAN ANTONIO, TEXAS 78230-1037
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

KCI TECHNOLOGIES

HICKORY RIDGE SUBDIVISION
PHASE 1 UNIT 2
STREET DETAILS

DRAFTING:	K.P./G.P. CHECK: C.P.
DESIGN:	L.E. CHECK: M.P.S.
SUBMITTAL PHASE:	
DATE:	12/22
KCI JOB #:	762207389
SHEET:	513

Date: Feb 27, 2024, 3:39pm User ID: Daniel.King File: L:\Active\Proj\2022_KCI\762207389_Hickory_Ridge_Phase 1 Unit 2.civil\762207389 510-515 STREET DETAILS.dwg



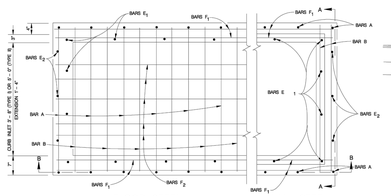
REINFORCING STEEL

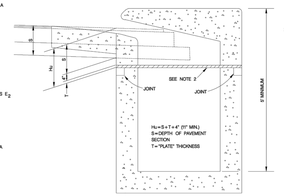
LOWER UNIT 10' X 3'-9" (TYPE I)				
BAR	NO.	SIZE	SPAC.	LENGTH
A	12	#4	12"	VARIES
B	11	#4	12"	4'-6"
B_1	VARIES	#4	12"	4'-6"
E_1	20	#4	18"±	VARIES
E_2	6	#4	18"±	VARIES
F_1	VARIES	#4	12"±	10'-10"
F_2	9	#4	----	10'-10"

LOWER UNIT 10' X 5'-0" (TYPE II)				
BAR	NO.	SIZE	SPAC.	LENGTH
A	12	#4	12"	VARIES
B	11	#4	12"	5'-10"
B_1	VARIES	#4	12"	5'-10"
E_1	22	#4	18"±	VARIES
E_2	8	#4	18"±	VARIES
F_1	VARIES	#4	12"±	10'-10"
F_2	11	#4	----	10'-10"

GENERAL NOTES

1. 5' INLETS AND 5' EXTENSIONS MUST BE IN ACCORDANCE WITH THE LATEST TXDOT CURB INLET TYPE "C" AND EXTENSION TYPE E (6-5).
2. TYPE C-6 INLET TO BE USED ONLY WHEN STORM DRAIN PIPE IS IN-LINE WITH CURB INLET AND APPROVED BY THE ENGINEER.
3. QUANTITIES SHOWN ARE FOR CONTRACTORS INFORMATION ONLY.
4. CONCRETE FOR STRUCTURES SHALL BE CLASS "A", 3000 PSI IN 28 DAYS.
5. ALL DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTER OF BARS.
6. ALL REINFORCING STEEL SHALL HAVE A MINIMUM COVER OF 1 1/2".
7. ALL REINFORCING STEEL SHALL CONFORM TO A.S.T.M. A-615, GRADE 60 REQUIREMENTS.
8. ALL EXPOSED CORNERS SHALL BE CHAMFERED 3/4".
9. DEPRESSION SLAB SHALL RECEIVE A WOOD FLOAT FINISH.
10. FACE OF INLET TO CONFORM TO FACE OF CURB LINE.
11. ALL BARS INTERCEPTING MANHOLE RING & COVER SHALL BE CUT OR BENT.
12. PAYMENT FOR ALL EXCAVATION, BACK-FILLING, CONCRETE, REINFORCING STEEL, RING AND COVER, CURB ARMOR AND STEPS SHALL BE INCLUDED IN THE UNIT COST OF ITEM 403 "STORM SEWER JUNCTION BOXES AND INLETS".
13. CAST IRON MANHOLE RING AND COVER TO BE PLACED NEXT TO OUTLET PIPE, EXCEPT FOR VERTICAL OUTLET PIPE IN WHICH CASE MANHOLE RING AND COVER WILL BE OFFSET.
14. GALVANIZED BOLTS, NUTS, WASHERS, PLATES AND GUSSETS ARE SUBSIDIARY TO INLETS.
15. THE CONTRACTOR SHALL PROVIDE AN ADEQUATE MEANS TO LIFT AND PLACE THE INLETS, WHEN USING PRECAST UNITS.
16. ALL BARS AT PIPE BLOCKOUT LOCATIONS SHALL BE CUT OR BEND.
17. ALL LOWER UNITS SHALL RECEIVE INVERT MORTAR SHAPING.
18. PIPE BLOCKOUTS IN INLET WALLS SHOULD NOT EXCEED 3' BEYOND THE OUTER SHELL OF THE PIPE, TAKING INTO ACCOUNT THE SIZE OF THE PIPE AS NECESSARY. CONSTRUCTION JOINT MAY BE PAISED A MAXIMUM OF 6".

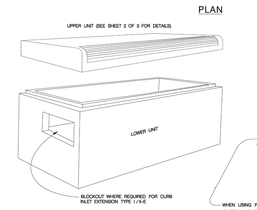


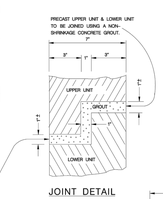


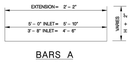
PHASE CONSTRUCTION

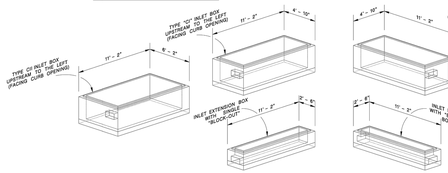
NOTES FOR PHASE CONSTRUCTION (WHEN DIRECTED BY THE ENGINEER):

1. THE CURB INLET AND EXTENSION SHALL BE CONSTRUCTED TO A DEPTH "4+" BELOW THE INLET AND EXTENSION GUTTER LINE ELEVATION.
2. CAP THE CURB INLET AND EXTENSION WITH A STEEL PLATE APPROVED BY THE ENGINEER AND CONSTRUCT THE ROADWAY OVER THE PLATE.
3. AFTER THE ROADWAY IS COMPLETED, BUT PRIOR TO THE FINAL HMAC OVERLAY, SAW CUT THE PAVEMENT, REMOVE THE PLATE AND COMPLETE THE UPPER PORTION OF THE CURB INLET AND / OR EXTENSION.







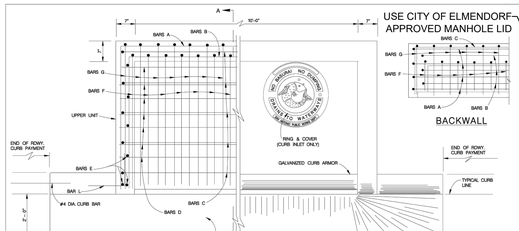


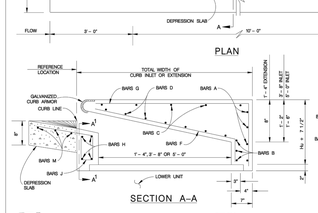
MAY 2009

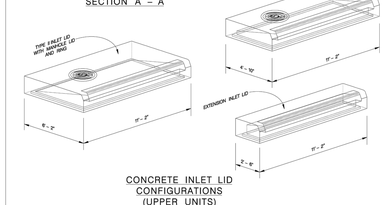
CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

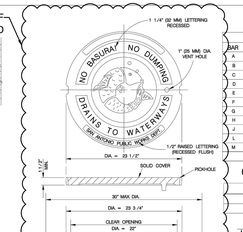
TYPE "C" INLET (TYPE I & II) & INLET EXTENSION STANDARDS
SHEET 1 OF 3

_____% SUBMITTAL | PROJECT NO.: _____ | DATE: _____
DRAWN BY: V. VASQUEZ DESIGN BY: L.E. WALTOS, P.E. / CHKD. BY: R.S. HOSSEINI, P.E. SHEET NO.: ____OF____





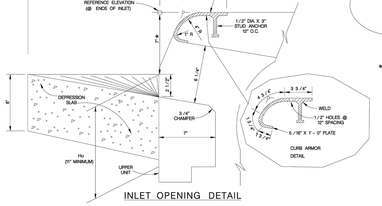




NOTES FOR MANHOLE LID AND RING

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 260 LBS.

SEE SHEET 1 OF 3 FOR GENERAL NOTES.



REINFORCING STEEL (FOR Hu = 11")

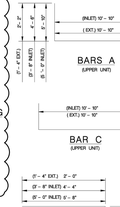
UPPER UNIT 10' X 3'-8" (TYPE I)					
BAR	NO.	SIZE	SPAC.	LENGTH	WEIGHT
A	4	#4	----	18'-10"	53
B	3	#4	----	18'-10"	38
C	5	#4	11"	13'-2"	62
D	7	#4	6"	10'-10"	51
E	12	#4	11"	1'-2"	9
F	21	#6	6"	4'-8"	147
G	22	#6	6"	5'-8"	187
H	4	#4	----	10'-10"	29
J	12	#4	12"	3'-6"	28
L	4	#4	----	2'-0"	5
M	3	#4	----	14'-8"	29
TOTAL WEIGHT					620 LBS.

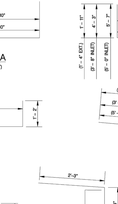
UPPER UNIT 10' X 5'-0" (TYPE II)					
BAR	NO.	SIZE	SPAC.	LENGTH	WEIGHT
A	4	#4	----	23'-4"	80
B	3	#4	----	21'-4"	43
C	7	#4	11"	13'-2"	62
D	11	#4	6"	10'-10"	80
E	16	#4	11"	1'-2"	13
F	21	#6	6"	5'-8"	179
G	22	#6	6"	7'-0"	229
H	4	#4	----	10'-10"	29
J	12	#4	12"	3'-6"	28
L	4	#4	----	2'-0"	5
M	3	#4	----	14'-8"	29
TOTAL WEIGHT					759 LBS.

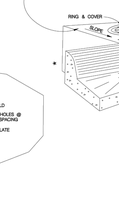
CLASS "A" CONCRETE QUANTITIES (FOR Hu = 11")

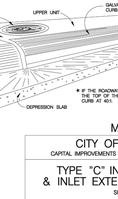
DEPRESSION SLAB	C.Y.
10' INLET	0.7
10' EXTENSION	0.7

UPPER UNIT (ONLY)	C.Y.
10' X 3'-8" CURB INLET	1.9
10' X 5'-0" CURB INLET	2.7
EXTENSION	1.0







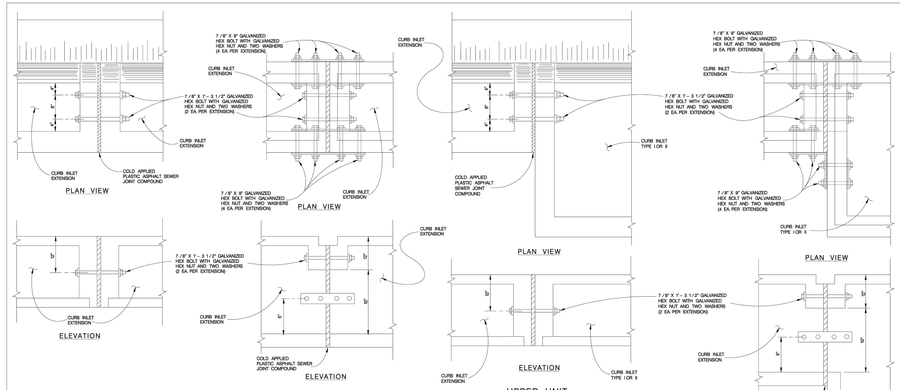


MAY 2009

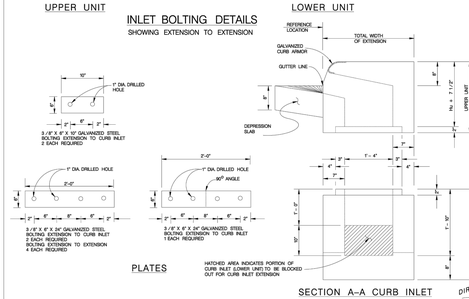
CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

TYPE "C" INLET (TYPE I & II) & INLET EXTENSION STANDARDS
SHEET 2 OF 3

_____% SUBMITTAL | PROJECT NO.: _____ | DATE: _____
DRAWN BY: V. VASQUEZ DESIGN BY: L.E. WALTOS, P.E. / CHKD. BY: R.S. HOSSEINI, P.E. SHEET NO.: ____OF____



INLET BOLTING DETAILS
SHOWING EXTENSION TO EXTENSION

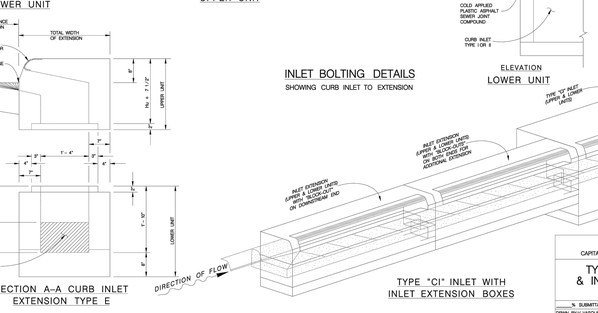


UPPER UNIT EXTENSION (FOR H_U = 11")					
BAR	NO.	SIZE	SPAC.	LENGTH	WEIGHT
A	4	#4	----	18'- 2"	45
B	3	#4	----	14'- 2"	28
C	3	#4	11"	13'- 2"	26
D	3	#4	6"	10'- 10"	22
E	8	#4	11"	1'- 2"	6
F	21	#6	6"	2'- 0"	63
G	22	#6	6"	3'- 4"	110
H	4	#4	----	10'- 10"	29
J	12	#4	12"	3'- 6"	28
L	4	#4	----	2'- 0"	5
M	3	#4	----	14'- 8"	29
REINFORCING STEEL				LBS.	387
CLASS "A" CONCRETE				C.Y.	1.0

LOWER UNIT EXTENSION					
BAR	NO.	SIZE	SPAC.	LENGTH	WEIGHT
A	12	#4	12"	6'- 2"	49
B	11	#4	12"	2'- 2"	16
B_1	3	#4	12"	2'- 2"	4
E_1	18	#4	18" ±	2'- 3"	27
E_2	4	#4	18" ±	2'- 1"	6
F_1	16	#4	12" ±	10'- 10"	116
F_2	5	#4	----	10'- 10"	36
REINFORCING STEEL				LBS.	254
CLASS. "A" CONCRETE				C.Y.	1.4

GENERAL NOTES

1. WHEN INLET EXTENSIONS ARE REQUIRED FOR ON GRADE INLETS THE EXTENSIONS SHALL BE PLACED ON THE UPSTREAM END OF THE INLET.
2. FOR CURB INLET EXTENSION REINFORCING STEEL NOTES & VARIOUS OTHER APPLICABLE DETAILS NOT FOUND ON THIS SHEET, REFER TO SHEETS 1 & 2.



INLET BOLTING DETAILS
SHOWING CURB INLET TO EXTENSION

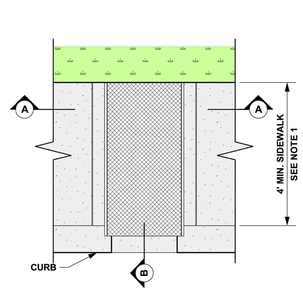
MAY 2009

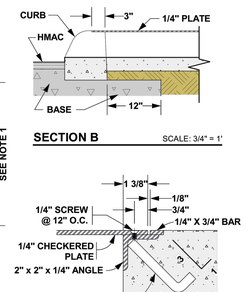
CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

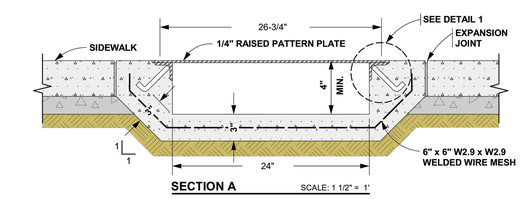
TYPE "C" INLET (TYPE I & II) & INLET EXTENSION STANDARDS
SHEET 3 OF 3

_____% SUBMITTAL | PROJECT NO.: _____ | DATE: _____
DRAWN BY: V. VASQUEZ DESIGN BY: L.E. WALTOS, P.E. / CHKD. BY: R.S. HOSSEINI, P.E. SHEET NO.: ____OF____

City of San Antonio Sidewalk and Driveway Design and Construction Guidelines **C3**







NOTES

1. **FOR LOCAL TYPE "A" STREETS, SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 4' AND IF SEPARATED FROM THE CURB, THE SIDEWALK SHALL BE LOCATED A MINIMUM OF 2' FROM THE BACK OF CURB.**
2. **FOR OTHER THAN LOCAL TYPE "A" STREETS, THE SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 4' AND SEPARATED A MINIMUM OF 2' FROM THE BACK OF CURB OR AS AN OPTION, THE SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 6' WHEN LOCATED AT THE BACK OF CURB.**

SIDEWALK DRAIN
WITH SIDEWALK ABUTTING CURB

January 2006

REV	DATE	DESCRIPTION

FOR BIDDING PURPOSES ONLY
NOT FOR CONSTRUCTION

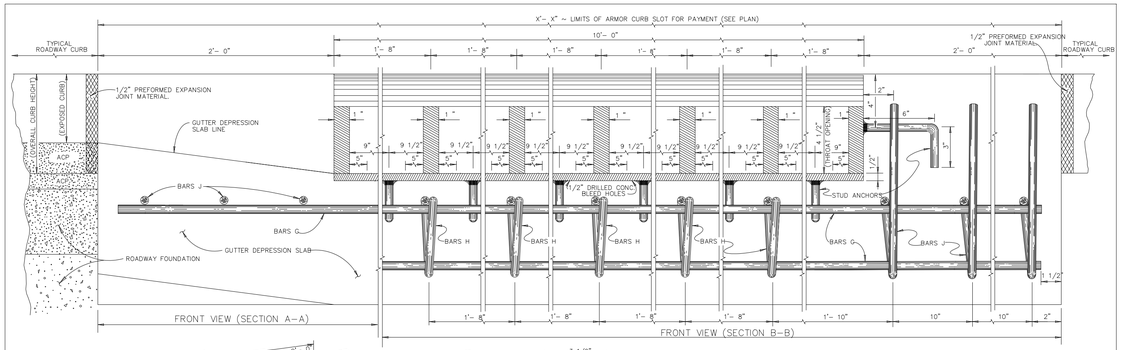
KCI TECHNOLOGIES, INC.
11550 IH 10 WEST, SUITE 395
SAN ANTONIO, TEXAS 78230-1037
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

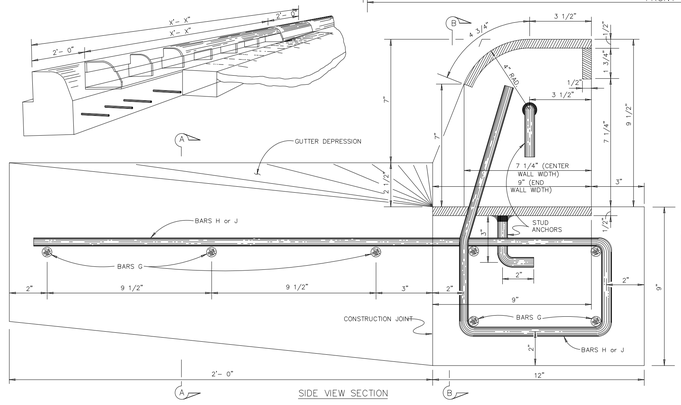
KCI TECHNOLOGIES

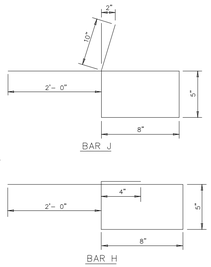
HICKORY RIDGE SUBDIVISION
PHASE 1 UNIT 2
DRAIN DETAILS

DRAFTING: K.P./G.P.	CHECK: C.P.
DESIGN: L.E.	CHECK: M.P.S.
SUBMITTAL PHASE:	
DATE:	12/22
KCI JOB #:	762207389
SHEET:	**514**

Date: Feb 27, 2014, 3:56pm User: dcruz Dwg File: L:\Develop\Proj_2022_KCI\762207389_Hickory_Ridge_Phase 1 Unit 2\cadd\762207389 514-515 SHAN DETAILS.dwg







ESTIMATED QUANTITIES
FOR REINFORCING STEEL

BAR	NO.	SIZE	SPAC.	LENGTH	WEIGHT
G	7	#4	SHOWN	13'– 5"	64
H	5	#4	1'– 8"	4'– 6"	15
J	6	#4	8"	5'– 0"	20
TOTAL WEIGHT *				LBS.	99
CONCRETE FOR FOUNDATION *				C.Y.	0.47
CONCRETE FOR GUTTER DEPRESSION *				C.Y.	0.78

STRUCTURAL STEEL FOR ARMOR CURB SLOT		
STUD ANCHORS (1/2"DIA.)	LBS.	3.5
STEEL PLATE	LBS.	451
TOTAL WEIGHT *	LBS.	454.5

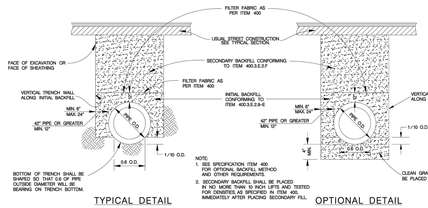
* FOR CONTRACTORS INFO ONLY.

GENERAL NOTES:
ALL CONCRETE SHALL BE CL."A".
ALL DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTER OF BARS.
ALL SIDES OF ARMOR CURB SLOT AND STUD ANCHORS SHALL BE 1/4" FILLET WELDS.
ALL EXPOSED STRUCTURAL STEEL (ARMOR) SHALL BE GALVANIZED.
ALL EXPOSED EDGES ON ARMOR CURB SHALL RECEIVE A 1/8" BEVEL.
THE SHAPE OF THE TYPICAL ROADWAY CURB SHALL TRANSITION TO THE ARMOR CURB AS APPROVED BY THE ENGINEER.

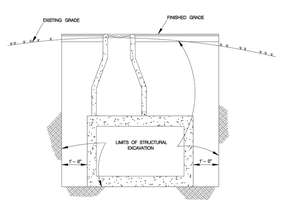
ARMOR CURB SLOT
WITH CONCRETE FOUNDATION
SAN ANTONIO DISTRICT STANDARDS

REVISIONS	PROJECT NO.			SHEET NO.
6				
STATE	FEDERAL AID PROJ. NO.	COUNTY		
TEXAS	SAT			
CONT.	SECT.	JOB	HIGHWAY NO.	

10/95
REV.07/01



TYPICAL DETAIL

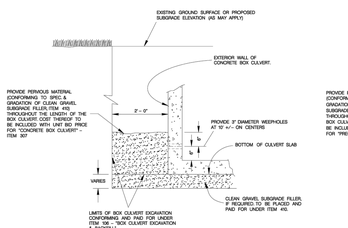


OPTIONAL DETAIL

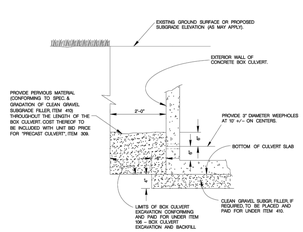
PIPE BEDDING & BACKFILL DETAILS

COST OF STRUCTURAL EXCAVATION TO BE INCLUDED WITH UNIT BID PRICE FOR JUNCTION BOX – ITEM 403.

STRUCTURAL EXCAVATION AT JUNCTION BOXES
NO SCALE

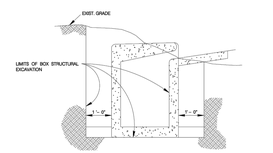


CAST–IN–PLACE BOX CULVERT

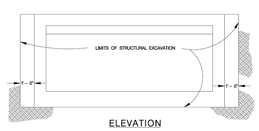


PRECAST BOX CULVERT

CONCRETE BOX CULVERT



SIDE VIEW



ELEVATION

COST OF STRUCTURAL EXCAVATION TO BE INCLUDED WITH UNIT BID PRICE FOR INLETS – ITEM 403.

STRUCTURAL EXCAVATIONS AT DRAINAGE INLETS
NO SCALE

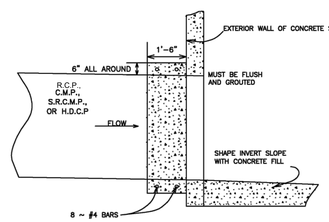
MAY 2009

CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

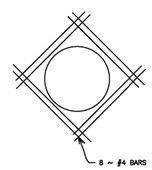
PIPE BEDDING & MISCELLANEOUS DRAINAGE DETAILS

SUBMITTAL	PROJECT NO.:	DATE:
DRAWN BY:	DSGN. BY:	CHKD. BY: SHEET NO.: OF:

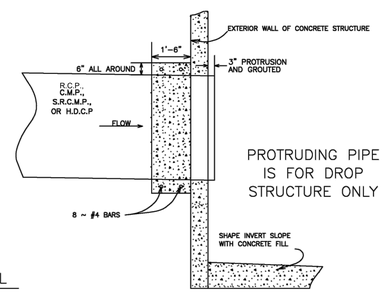
1. CONCRETE FOR STRUCTURE SHALL BE CLASS "A," 3,000 P.S.I. AT 28 DAYS.
2. ALL EXPOSED EDGES SHALL BE CHAMFERED 3/4".
3. REINFORCING STEEL SHALL BE NEW BILLET STEEL, INTERMEDIATE GRADE, ASTM. A–15. THE DEFORMATION SHALL CONFORM TO ASTM. A–305.
4. ALL DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTER OF BARS.
5. ALL BARS INTERCEPTING MANHOLE OPENING AND REINFORCED CONCRETE PIPE SHALL BE FIELD–CUT.
6. WHERE LAPPING OF BARS IS REQUIRED, A MINIMUM LAP OF 33 DIAMETERS SHALL BE USED.
7. INVERT OF JUNCTION BOX TO BE SHAPED WITH CONCRETE FILL (3,000 P.S.I. MIN.) TO EFFECT DRAINAGE TO OUTLET PIPE. COST SUBSIDIARY TO CLASS "A" CONCRETE (JUNCTION BOXES).



PIPE FLUSH WITH INVERT



CONCRETE COLLAR DETAIL
(NOT TO SCALE)



JANUARY 2006

STANDARD PLANS
CITY OF SAN ANTONIO, TEXAS
DEVELOPMENT SERVICES

CONCRETE COLLAR DETAIL

DRAWN BY: ANDREW WINTER, P.E.	DATE	REVISIONS	SCALE: SEE ABOVE
CHECKED BY: SAM BENT, P.E.			DATE: 19 JANUARY 2006
			SHEET: 1 OF 1

KCI TECHNOLOGIES, INC.
11550 IH 10 WEST, SUITE 395
SAN ANTONIO, TEXAS 78230-1037
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-55

KCI TECHNOLOGIES

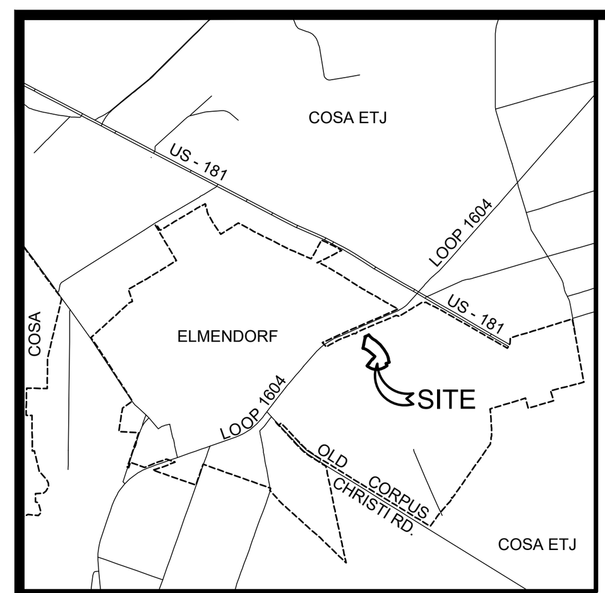
REV	DATE	DESCRIPTION

FOR BIDDING PURPOSES ONLY
NOT FOR CONSTRUCTION

HICKORY RIDGE SUBDIVISION
PHASE 1 UNIT 2
DRAIN DETAILS

DRAFTING:	K.P./G.P.	CHECK:	C.P.
DESIGN:	L.E.	CHECK:	M.P.S.
SUBMITTAL PHASE:			
DATE:			12/22
KCI JOB #:			762207389
SHEET:			515

Date: Feb 27, 2024, 3:50pm User ID: Lance.Berry File: L:\Develop\Proj\2022_JOB\762207389_Hickory_Ridge_Phase 1_Unit 2\cad\762207389 514-515 DRAIN DETAILS.dwg



LOCATION MAP
NOT TO SCALE

SIGNAGE NOTES:

1. TRAFFIC SIGNS SHALL BE USED IN ACCORDANCE WITH THE LATEST REVISION OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD) AND WHERE JUSTIFIED BY ENGINEERING JUDGEMENT OR STUDY. TRAFFIC SIGNS INCLUDE REGULATORY SIGNS, WARNING SIGNS, STREET NAME SIGNS AND OBJECT MARKERS.
2. ALL SIGNS SHALL BE SHOWN IN THE ENGINEERING PLANS FOR REVIEW AND APPROVAL AS PART OF THE PLAN AND PROFILE SHEET OR SEPARATE SIGNING & PAVEMENT MARKING LAYOUT SHEET. THE ENGINEERING PLANS SHALL INCLUDE SIGN LOCATION, NAME, DESIGNATION AND SIZE. SIGN STANDARDS SHALL BE INCLUDED IN THE ENGINEERING PLANS.

INSTALLATION

1. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL REGULATORY, WARNING AND STREET NAME SIGNS AND SIGN MOUNTS IN ACCORDANCE WITH APPROVED ENGINEERING PLANS.
2. ALL SIGNAGE SHALL BE INSTALLED WITHIN STREET R.O.W.

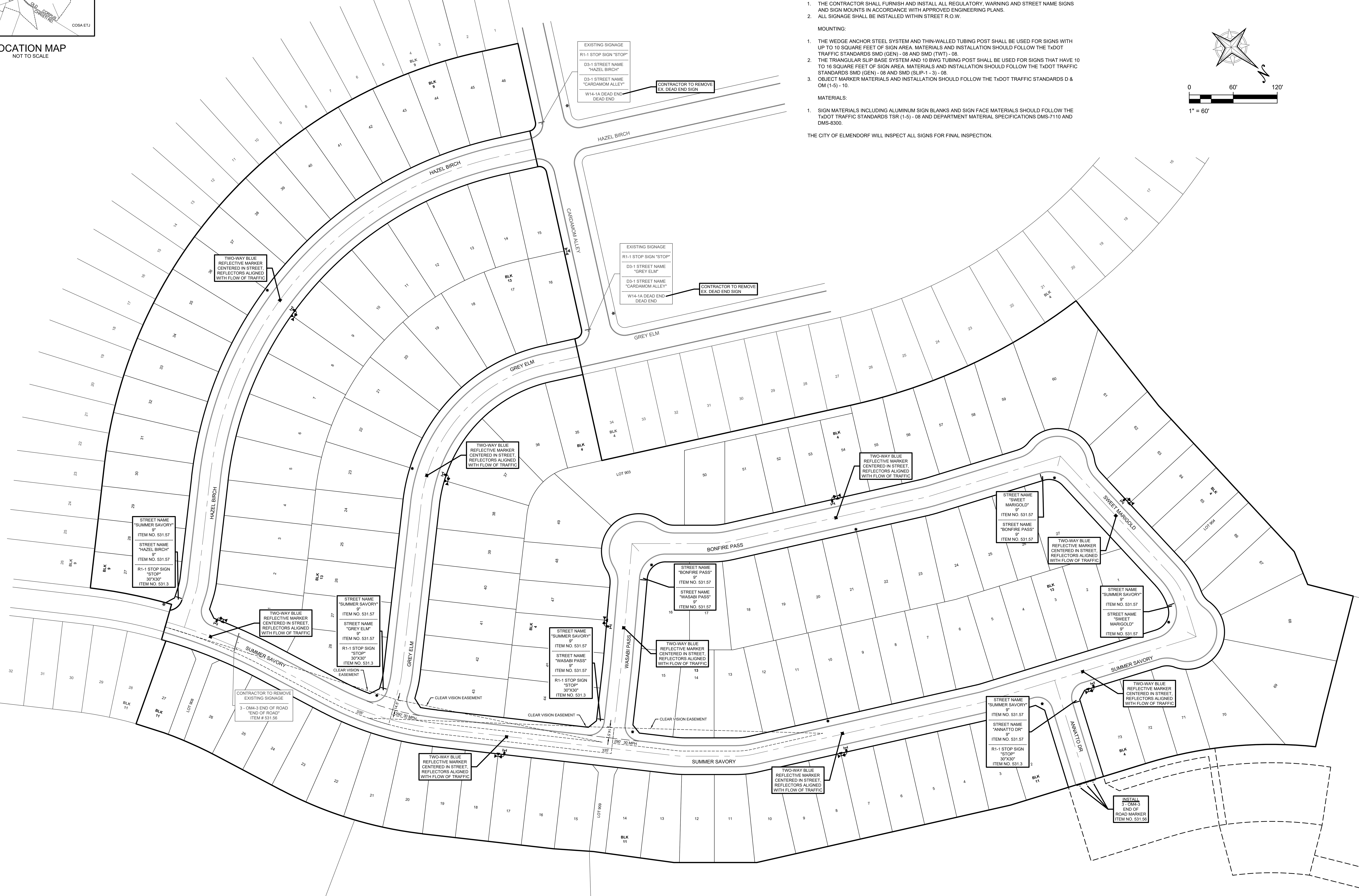
MOUNTING:

1. THE WEDGE ANCHOR STEEL SYSTEM AND THIN-WALLED TUBING POST SHALL BE USED FOR SIGNS WITH UP TO 10 SQUARE FEET OF SIGN AREA. MATERIALS AND INSTALLATION SHOULD FOLLOW THE TxDOT TRAFFIC STANDARDS SMD (GEN) - 08 AND SMD (TWT) - 08.
2. THE TRIANGULAR SLIP BASE SYSTEM AND 10 BWG TUBING POST SHALL BE USED FOR SIGNS THAT HAVE 10 TO 16 SQUARE FEET OF SIGN AREA. MATERIALS AND INSTALLATION SHOULD FOLLOW THE TxDOT TRAFFIC STANDARDS SMD (GEN) - 08 AND SMD (SLIP-1 - 3) - 08.
3. OBJECT MARKER MATERIALS AND INSTALLATION SHOULD FOLLOW THE TxDOT TRAFFIC STANDARDS D & OM (1-5) - 10.

MATERIALS:

1. SIGN MATERIALS INCLUDING ALUMINUM SIGN BLANKS AND SIGN FACE MATERIALS SHOULD FOLLOW THE TxDOT TRAFFIC STANDARDS TSR (1-5) - 08 AND DEPARTMENT MATERIAL SPECIFICATIONS DMS-7110 AND DMS-8300.

THE CITY OF ELMENDORF WILL INSPECT ALL SIGNS FOR FINAL INSPECTION.



0 60' 120'
1" = 60'
HAZEL BIRCH
CARDAMOM ALLEY
GREY ELM
SUMMER SAVORY
BONFIRE PASS
WASABI PASS
SWEET MARIGOLD
ANNATTO DR
EXISTING SIGNAGE
R1-1 STOP SIGN "STOP"
D3-1 STREET NAME "HAZEL BIRCH"
D3-1 STREET NAME "CARDAMOM ALLEY"
W14-1A DEAD END DEAD END
CONTRACTOR TO REMOVE EX. DEAD END SIGN
D3-1 STREET NAME "GREY ELM"
TWO-WAY BLUE REFLECTIVE MARKER CENTERED IN STREET, REFLECTORS ALIGNED WITH FLOW OF TRAFFIC
STREET NAME "SUMMER SAVORY" 9" ITEM NO. 531.57
STREET NAME "HAZEL BIRCH" 9" ITEM NO. 531.57
R1-1 STOP SIGN "STOP" 30"X30" ITEM NO. 531.3
STREET NAME "GREY ELM" 9" ITEM NO. 531.57
STREET NAME "WASABI PASS" 9" ITEM NO. 531.57
STREET NAME "BONFIRE PASS" 9" ITEM NO. 531.57
STREET NAME "SWEET MARIGOLD" 9" ITEM NO. 531.57
STREET NAME "ANNATTO DR" 9" ITEM NO. 531.57
CLEAR VISION EASEMENT
CONTRACTOR TO REMOVE EXISTING SIGNAGE
3 - OM4-3 END OF ROAD "END OF ROAD" ITEM # 531.56
INSTALL 3 - OM4-3 END OF ROAD MARKER ITEM NO. 531.56
LOT 903
LOT 904
LOT 908
LOT 909

KCI TECHNOLOGIES, INC.
11550 IH 10 WEST, SUITE 395
SAN ANTONIO, TEXAS 78230-1037
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #10194365

FOR BIDDING PURPOSES ONLY
NOT FOR CONSTRUCTION

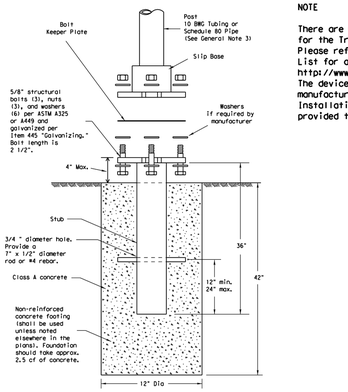
REV	DATE	DESCRIPTION

HICKORY RIDGE SUBDIVISION
PHASE 1 UNIT 2
OVERALL SIGN PLAN

DRAFTING: K.P./G.P.	CHECK: C.P.
DESIGN: L.E.	CHECK: M.P.S.
SUBMITTAL PHASE:	
DATE: 12/22	
KCI JOB #: 762207389	
SHEET: 516	

Date: Feb 27, 2024, 3:50pm User ID: Lance.Elling File: L:\develop\...

TRIANGULAR SLIPBASE INSTALLATION GENERAL REQUIREMENTS



SM RD SGN ASSM TY XXXXX(1)SA(X-XXXX)

NOTE

There are various devices approved for the Triangular Slipbase System. Please reference the Material Producer List for approved slip base systems. http://www.txdot.gov/business/producer_list.htm The devices shall be installed per manufacturers' recommendations. Installation procedures shall be provided to the Engineer by Contractor.

GENERAL NOTES:

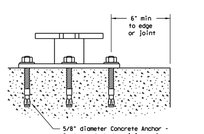
1. Slip base shall be permanently marked to indicate manufacturer, Method, design, and location of marking are subject to approval of the TxDOT Traffic Standards Engineer.
2. Material used as post with this system shall conform to the following specifications:
   10 BWG Tubing (2.875" outside diameter)
   0.134" nominal wall thickness
   Seamless or electric-resistance welded steel tubing or pipe
   Steel shall be HSLAS Gr 55 per ASTM A1011 or ASTM A1008
   Other steels may be used if they meet the following:
   55,000 PSI minimum yield strength
   70,000 PSI minimum tensile strength
   20% minimum elongation in 2"
   Wall thickness (uncoated) shall be within the range of 0.122" to 0.138"
   Outside diameter (uncoated) shall be within the range of 2.867" to 2.883"
   Galvanization per ASTM A123 or ASTM A653 G210. For precoated steel tubing (ASTM A653), recoat tube outside diameter weld seam by metallizing with zinc wire per ASTM B833.
   Schedule 80 Pipe (2.875" outside diameter)
   0.276" nominal wall thickness
   Steel tubing per ASTM A500 Gr C
   Other seamless or electric-resistance welded steel tubing or pipe with equivalent outside diameter and wall thickness may be used if they meet the followings
   46,000 PSI minimum yield strength
   62,000 PSI minimum tensile strength
   21% minimum elongation in 2"
   Wall thickness (uncoated) shall be within the range of 0.268" to 0.304"
   Outside diameter (uncoated) shall be within the range of 2.855" to 2.895"
   Galvanization per ASTM A123
3. See the Traffic Operations Division website for detailed drawings of sign clamps and Texas Universal Triangular Slipbase System components. The website address is:
   http://www.txdot.gov/publications/traffic.htm
4. Sign supports shall not be spliced except where shown. Sign support posts shall not be spliced.

ASSEMBLY PROCEDURE

Foundation
1. Prepare 12-inch diameter by 42-inch deep hole. If solid rock is encountered, the depth of the foundation may be reduced such that it is embedded a minimum of 18 inches into the solid rock.
2. The Engineer may permit batches of concrete less than 2 cubic yards to be mixed with a portable, motor-driven concrete mixer. For small placements less than 0.5 cubic yards, hand mixing in a suitable container may be allowed by Engineer. Concrete shall be Class A.
3. Push the pipe end of the slip base stub into the center of the concrete. Rotate the stub back and forth while pushing it down into the concrete to assure good contact between the concrete and stub. Continue to work the stub into the concrete until it is between 2 to 4 inches above the ground.
4. Plumb the stub. Allow a minimum of 4 days to set, unless otherwise directed by the Engineer.
5. The triangular slipbase system is multidirectional and is designed to release when struck from any direction.

Support
1. Cut support so that the bottom of the sign will be 7 to 7.5 feet above the edge of the traveltay (i.e., edge of the closest lane) when slip plate is below the edge of pavement or 7 to 7.5 feet above slip plate when the slip plate is above the edge of the traveltay. The cut shall be plumb and straight.
2. Attach sign to support using connections shown. When multiple signs are installed on the same support, ensure the minimum clearance between each sign is maintained. See SMD(SLIP-2) for clearances based on sign types.

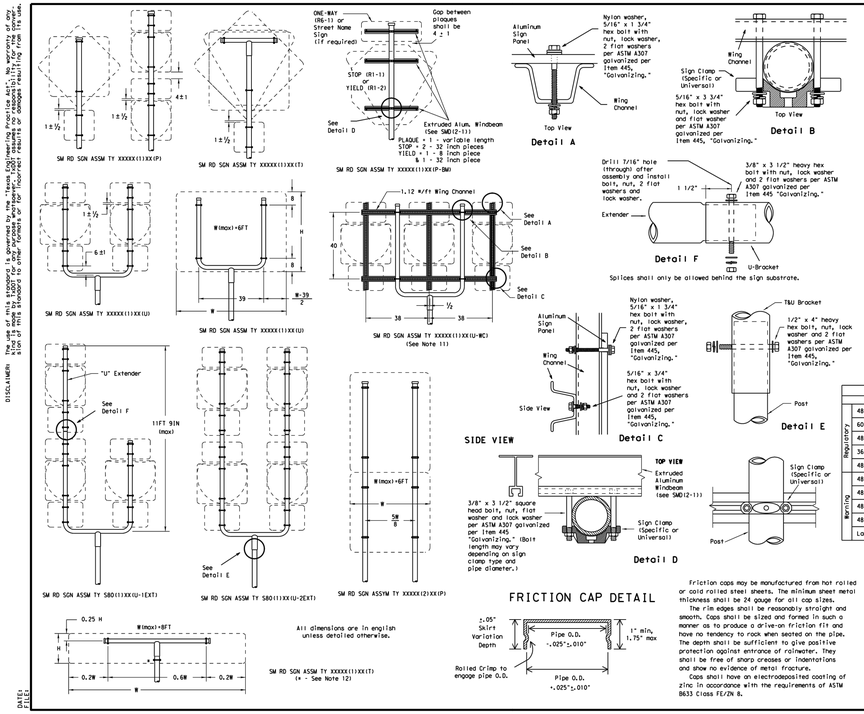
CONCRETE ANCHOR



SM RD SGN ASSM TY XXXXX(X)SB(X-XXXX)

Concrete anchor consists of 5/8" diameter stud bolt with UNC series bolt threads on the upper end. Heavy hex nut per ASTM A563, and hardened washer per ASTM F436. The stud bolt shall have a minimum yield and ultimate tensile strength of 50 and 75 KSI, respectively. Nuts, bolts and washers shall be galvanized per Item 445, "Galvanizing." Adhesive type anchors shall have stud bolts installed with Type III epoxy per DMS-6100, "Epoxies and Adhesives." Adhesive anchors may be loaded after adequate epoxy cure time per the manufacturer's recommendations. Top of bolt shall extend at least flush with top of the nut when installed. The anchor, when installed in 4000 psi normal-weight concrete with a 5 1/2" minimum embedment, shall have a minimum allowable tension and shear of 3900 and 3100 psi, respectively.

DATE:
FILE:



FRICTION CAP DETAIL

Friction caps may be manufactured from hot rolled or cold rolled steel sheets. The minimum sheet metal thickness shall be 24 gauge for all cap sizes.

The rim edges shall be reasonably straight and smooth. Caps shall be sized and formed in such a manner as to produce a drive-on friction fit and have no tendency to rock when seated on the pipe. The depth shall be sufficient to give positive protection against entrance of rainwater. They shall be free of sharp creases or indentations and show no evidence of metal fracture.

Caps shall have an electrodeposited coating of zinc in accordance with the requirements of ASTM B633 Class FE/ZN 8.

GENERAL NOTES:

SIGN SUPPORT	# OF POSTS	MAX. SIGN AREA
10 BWG	1	16 SF
10 BWG	2	32 SF
Sch 80	1	32 SF
Sch 80	2	64 SF

1. The Engineer may require that a Schedule 80 post be used in place of a 10 BWG where a sign height is abnormally high due to a fill slope.
2. Sign supports shall not be spliced except where shown. Sign support posts shall not be spliced.
3. Aluminum sign blanks shall conform to Departmental Material Specifications DMS-7110 and shall have the following minimum thicknesses: 0.080 for signs less than 7.5 sq. ft., 0.100 for signs 7.5 to 15 sq. ft., and 0.125 for signs greater than 15 sq. ft.
4. Signs that require specific supports due to reasons in addition to windloading are indicated on the "REQUIRED SUPPORT" table on this sheet.
5. For horizontal rectangular signs fabricated from flat aluminum, T-brackets are used for signs 24 inches or less in height. U-brackets are used for signs of greater height.
6. When two triangular slipbase supports are used to support a single sign, they shall not be "rigidly" connected to each other except through the sign panel. This will allow each support to act independently when impacted by an errant vehicle.
7. Wing channel shall meet ASTM A 1011 SS Gr 50 and be galvanized per ASTM A123.
8. Wing channel, sign clamp, or windbeam shall be cut off so that it does not extend beyond the sign panel (i.e., excess support shall not be visible when the sign is viewed from the front.) Repair galvanized coating at cut support ends per Item 445, "Galvanizing."
9. Additional sign clamp required on the "T-bracket" post for 24 inch high signs. Place the clamp 3 inches above bottom of sign when possible.
10. Post open ends shall be fitted with Friction Caps.
11. Sign blanks shall be the sizes and shapes shown on the plans.

REQUIRED SUPPORT		
	SIGN DESCRIPTION	SUPPORT
Regulatory	48-Inch STOP sign (R1-1)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
	60-Inch YIELD sign (R1-2)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
	48x16-Inch ONE-WAY sign (R6-1)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
	36x48, 48x36, and 48x48-Inch signs	TY 10BWG(1)XX(T)
	48x60-Inch signs	TY SB0(1)XX(T)
	48x48-Inch signs (diamond or square)	TY 10BWG(1)XX(T)
	48x60-Inch signs	TY SB0(1)XX(T)
	48-Inch Advance School X-ing sign (S1-1)	TY 10BWG(1)XX(T)
	48-Inch School X-ing sign (S2-1)	TY 10BWG(1)XX(T)
	Large Arrow sign (W1-6 & W1-7)	TY 10BWG(1)XX(T)
Warning	48x48-Inch signs (diamond or square)	TY 10BWG(1)XX(T)
	48x60-Inch signs	TY SB0(1)XX(T)
	48-Inch Advance School X-ing sign (S1-1)	TY 10BWG(1)XX(T)
	48-Inch School X-ing sign (S2-1)	TY 10BWG(1)XX(T)
	Large Arrow sign (W1-6 & W1-7)	TY 10BWG(1)XX(T)

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS TRIANGULAR SLIPBASE SYSTEM

SMD(SLIP-1)-08

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9-08 REVISIONS	CONT	SECT	JOB	HIGHWAY
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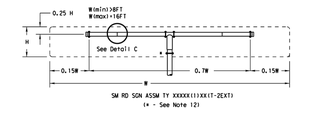
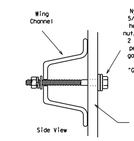
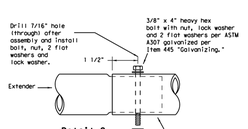


SM RD SGN ASSM TY XXXXX(1)XX(T-2EXT)
(* - See Note 12)

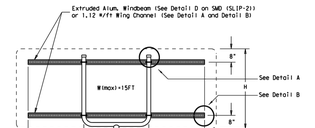


Detail B

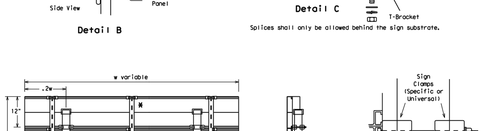


Detail C

Splices shall only be allowed behind the sign substrate.



SM RD SGN ASSM TY XXXXX(1)XX(U-XX)

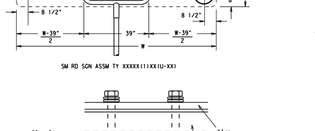


Typical Sign Mount

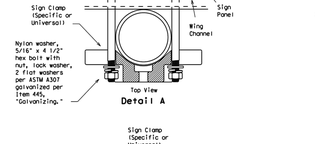
SM RD SGN ASSM TY SB(01)XX(P-EXAL)

W Additional stiffener placed at approximate center of signs when sign width is greater than 10'.

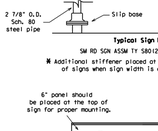
Detail E



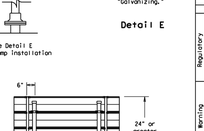
Detail A



Detail D
EXTRUDED ALUMINUM SIGN WITH T BRACKET



Extruded Aluminum Sign With T Bracket



Use Extruded Alum. Windbeam as stiffeners See SMD (12-1) for additional details
See Detail E for clamp installation

GENERAL NOTES:

1. Slip base shall be permanently marked to indicate manufacturer. Method, design, and location of marking are subject to approval of the TxDOT Traffic Standards Engineer.
2. Material used as post with this system shall conform to the following specifications:
   10 BWG Tubing (2.875" outside diameter)
   0.134" nominal wall thickness
   Seamless or electric-resistance welded steel tubing or pipe
   Steel shall be HSLAS Gr 55 per ASTM A1011 or ASTM A1008
   Other steels may be used if they meet the following:
   55,000 PSI minimum yield strength
   70,000 PSI minimum tensile strength
   20% minimum elongation in 2"
   Wall thickness (uncoated) shall be within the range of 0.122" to 0.138"
   Outside diameter (uncoated) shall be within the range of 2.867" to 2.883"
   Galvanization per ASTM A123 or ASTM A653 G210. For precoated steel tubing (ASTM A653), recoat tube outside diameter weld seam by metallizing with zinc wire per ASTM B833.
   Schedule 80 Pipe (2.875" outside diameter)
   0.276" nominal wall thickness
   Steel tubing per ASTM A500 Gr C
   Other seamless or electric-resistance welded steel tubing or pipe with equivalent outside diameter and wall thickness may be used if they meet the followings
   46,000 PSI minimum yield strength
   62,000 PSI minimum tensile strength
   21% minimum elongation in 2"
   Wall thickness (uncoated) shall be within the range of 0.268" to 0.304"
   Outside diameter (uncoated) shall be within the range of 2.855" to 2.895"
   Galvanization per ASTM A123
3. See the Traffic Operations Division website for detailed drawings of sign clamps and Texas Universal Triangular Slipbase System components. The website address is:
   http://www.txdot.gov/publications/traffic.htm
4. Sign supports shall not be spliced except where shown. Sign support posts shall not be spliced.
5. Signs that require specific supports due to reasons in addition to windloading are indicated on the "REQUIRED SUPPORT" table on this sheet.
6. For horizontal rectangular signs fabricated from flat aluminum, T-brackets are used for signs 24 inches or less in height. U-brackets are used for signs of greater height.
7. When two triangular slipbase supports are used to support a single sign, they shall not be "rigidly" connected to each other except through the sign panel. This will allow each support to act independently when impacted by an errant vehicle.
8. Wing channel shall meet ASTM A 1011 SS Gr 50 and be galvanized per ASTM A 123.
9. Excess plps, wing channel, or windbeam shall be cut off so that it does not extend beyond the sign panel (i.e., excess support shall not be visible when the sign is viewed from the front.) Repair galvanized coating at cut support ends per Item 445, "Galvanizing."
10. Sign blanks shall be the sizes and shapes shown on the plans.
11. Additional sign clamp required on the "T-bracket" post for 24 inch high signs. Place the clamp 3 inches above bottom of sign when possible.
12. Post open ends shall be fitted with Friction Caps.

REQUIRED SUPPORT		
	SIGN DESCRIPTION	SUPPORT
Regulatory	48-Inch STOP sign (R1-1)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
	60-Inch YIELD sign (R1-2)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
	48x16-Inch ONE-WAY sign (R6-1)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
	36x48, 48x36, and 48x48-Inch signs	TY 10BWG(1)XX(T)
	48x60-Inch signs	TY SB0(1)XX(T)
	48x48-Inch signs (diamond or square)	TY 10BWG(1)XX(T)
	48x60-Inch signs	TY SB0(1)XX(T)
	48-Inch Advance School X-ing sign (S1-1)	TY 10BWG(1)XX(T)
	48-Inch School X-ing sign (S2-1)	TY 10BWG(1)XX(T)
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Warning	48x48-Inch signs (diamond or square)	TY 10BWG(1)XX(T)
	48x60-Inch signs	TY SB0(1)XX(T)
	48-Inch Advance School X-ing sign (S1-1)	TY 10BWG(1)XX(T)
	48-Inch School X-ing sign (S2-1)	TY 10BWG(1)XX(T)
	Large Arrow sign (W1-6 & W1-7)	TY 10BWG(1)XX(T)

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS TRIANGULAR SLIPBASE SYSTEM

SMD(SLIP-3)-08

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9-08 REVISIONS	CONT	SECT	JOB	HIGHWAY
	DIST	COUNTY		SHEET NO.

SIGN SUPPORT DESCRIPTIVE CODES

(Descriptive Codes correspond to project estimate and quantities sheets)

SM RD SGN ASSM TY XXXXX(X)XX(X-XXXX)

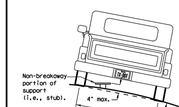
Post Type
- FRP = Fiberglass Reinforced Plastic Pipe (see SMD(FRP))
- TMT = Thin-Walled Tubing (see SMD(TMT))
- 10BWG = 10 BWG Tubing (see SMD(SLIP-1) to (SLIP-3))
- SB0 = Schedule 80 Pipe (see SMD(SLIP-1) to (SLIP-3))

Number of Posts (1 or 2)

Anchor Type
- UA = Universal Anchor - Concreted (see SMD(FRP) and (TMT))
- UB = Universal Anchor - Bolted Down (see SMD(FRP) and (TMT))
- WS = Wedge Anchor Steel - (see SMD(TMT))
- WP = Wedge Anchor Plastic (see SMD(TMT))
- SA = Slipbase - Concreted (see SMD(SLIP-1) to (SLIP-3))
- SB = Slipbase - Bolted Down (see SMD(SLIP-1) to (SLIP-3))

Sign Mounting Designation
- P = Prefab. "Plain" (see SMD(SLIP-1) to (SLIP-3), (TMT), (FRP))
- T = Prefab. "T" (see SMD(SLIP-1) to (SLIP-3), (TMT))
- U = Prefab. "U" (see SMD(SLIP-1) to (SLIP-3))
- IF REQUIRED
- TEXT or ZEXT = Number of Extensions (see SMD(SLIP-1) to (SLIP-3), (TMT))
- BM = Extruded Wind Beam (see SMD(SLIP-1) to (SLIP-3))
- MC = 1,12 K/ft Wing Channel (See SMD(SLIP-1) to (SLIP-3))
- EXAL = Extruded Aluminum Sign Panels (see SMD(SLIP-3))

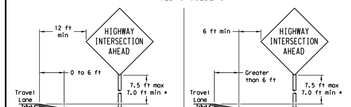
REQUIRED CLEARANCE FOR BREAKAWAY SUPPORT



To avoid vehicle undercarriage snagging, any substantial remains of a breakaway support, when it is broken away, should not project more than 4 inches above a 60-inch chord (i.e., typical space between wheel pans).

SIGN LOCATION

PAVED SHOULDERS



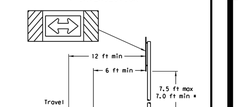
LESS THAN 6 FT. WIDE

When the shoulder is 6 ft. or less in width, the sign must be placed at least 12 ft. from the edge of the travel lane.

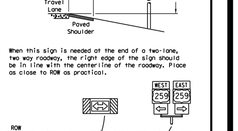
GREATER THAN 6 FT. WIDE

When the shoulder is greater than 6 ft in width, the sign must be placed at least 6 ft. from the edge of the shoulder.

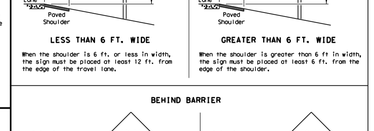
T-INTERSECTION



When this sign is needed at the end of a two-lane, two way roadway, the right edge of the sign should be in line with the centerline of the roadway. Place as close to ROW as practical.



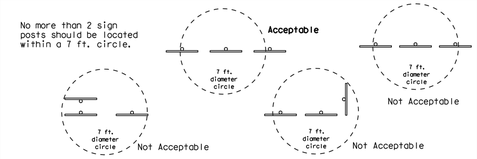
BEHIND BARRIER



BEHIND GUARDRAIL **BEHIND CONCRETE BARRIER**

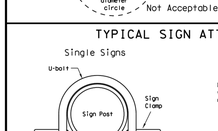
**Sign clearance based on distance required for proper guard rail or concrete barrier performance.

No more than 2 sign posts should be located within a 7 ft. circle.



TYPICAL SIGN ATTACHMENT DETAIL

Single Signs

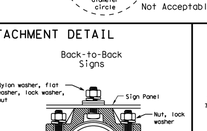


Bolts used to mount sign panels to the clamp are 5/16-18 UNC galvanized square head with nut, nylon washer, flat washer and lock washer. The bolt length is 1 inch for aluminum.

When two sign clamps are used to mount signs back-to-back, use a 5/16-18 UNC galvanized hex head per ASTM A307 with nut and helical-spring lock washer. The approximate bolt lengths for various post sizes and sign clamp types are given in the table at right. The bolt length may need to be adjusted depending upon field conditions.

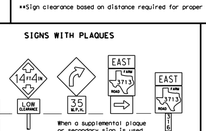
Sign clamps may be either the specific size clamp or the universal clamp.

Back-to-Back Signs



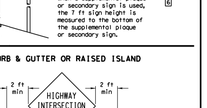
Pipe Diameter	Approximate Bolt Length	
	Specific Clamp	Universal Clamp
2" nominal	3"	3 or 3 1/2"
2 1/2" nominal	3 or 3 1/2"	3 1/2 or 4"
3" nominal	3 1/2 or 4"	4 1/2"

SIGNS WITH PLAQUES

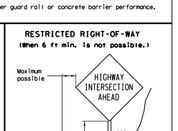


When a supplemental plaque or secondary sign is used, the 7 ft sign height is measured to the bottom of the supplemental plaque or secondary sign.

CURB & GUTTER OR RAISED ISLAND



RESTRICTED RIGHT-OF-WAY
(when 6 ft min. is not possible.)



Right-of-way restrictions may be created by rocks, water, vegetation, forest, buildings, a narrow island, or other factors.

In situations where a lateral restriction prevents the minimum horizontal clearance from the edge of the travel lane, signs should be placed as far from the travel lane as practical.

*** Post may be shorter if protected by guardrail or if Engineer determines the post could not be hit due to extreme slope.

* Signs shall be mounted using the following condition that results in the greatest sign elevations:
(1) a minimum of 7 ft to a maximum of 7.5 feet above the edge of the travel lane or
(2) a minimum of 7 ft to a maximum of 7.5 feet above the grade at the base of the support when sign is installed on the backslope.
The maximum values may be increased when directed by the Engineer.

See the Traffic Operations Division website for detailed drawings of sign clamps, Triangular Slipbase System components and Wedge Anchor System components.

The website address is:
https://www.txdot.gov/publications/traffic.htm

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS GENERAL NOTES & DETAILS

SMD(GEN)-08

©TxDOT July 2002	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
9-08 REVISIONS	CONT	SECT	JOB	HIGHWAY
	DIST	COUNTY		SHEET NO.

KCI TECHNOLOGIES, INC.
11550 IH 10 WEST, SUITE 395
SAN ANTONIO, TEXAS 78230-1037
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

REV	DATE	DESCRIPTION

FOR BIDDING PURPOSES ONLY
NOT FOR CONSTRUCTION

HICKORY RIDGE SUBDIVISION
PHASE 1 UNIT 2
SIGN DETAILS

DRAFTING:	K.P./G.P.	CHECK: C.P.
DESIGN:	L.E.	CHECK: M.P.S.
SUBMITTAL PHASE:		
DATE:	12/22	
KCI JOB #:	762207389	
SHEET:	517	

Date: Feb 27, 2014, 3:51pm User: ID: L:\Drawings\Proj\2022\762207389\Hickory Ridge Phase 1 Unit 2\civil\762207389 517-519 SIGN DETAILS.dgn

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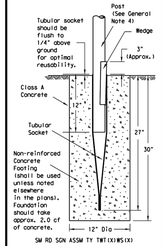
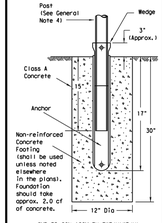
DATE: 11:57

Wedge Anchor Steel System



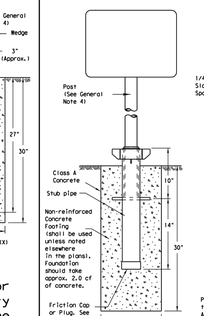
SM RD SGN ASSM TY TWT(X)WS(X)

Wedge Anchor High Density Polyethylene (HDPE) System



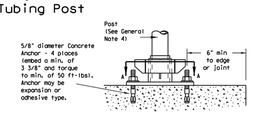
SMD RD SGN ASSM TY TWT(X)WP(X)

Universal Anchor System with Thin-Walled Tubing Post

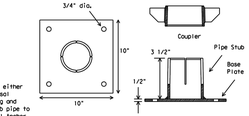


Plastic Insert must be used when using the TWT with either the Universal Anchor System or the Bolt Down Universal Anchor System. The insert should be approx. 10" long and cover the tubing from just above the top of the stub pipe to the bottom of the sign post when using the Universal Anchor System. The insert should be cut to approx. 4 1/2" when used with the Bolt Down Universal Anchor System.

SM RD SGN ASSM TY TWT(X)UA(P)



Concrete anchor consists of 5/8" diameter stud bolt with UNC series bolt threads on the upper end. A heavy hex nut per ASTM A563 and hardened washer per ASTM F436. The stud bolt shall have minimum yield and ultimate tensile strengths of 50 and 75 ksi, respectively. Nuts, bolts and washers shall be galvanized per Item 445, "Galvanizing."
Top of bolt shall extend at least flush with top of nut when installed. The anchor, when installed in 4000 psi normal-weight concrete with a 3 3/8" minimum embedment, shall have a minimum allowable tension and shear of 2450 and 1525 psi, respectively. Adhesive type anchors shall have stud bolts installed with Type III epoxy per DMS-6100, "Epoxies and Adhesives."
Adhesive anchors may be loaded after adequate epoxy cure time per the manufacturer's recommendations.



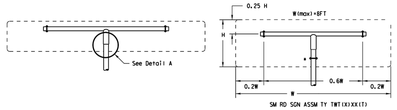
SM RD SGN ASSM TY TWT(X)UB(P)

GENERAL NOTES:
1. The Wedge Anchor System and the Universal Anchor System with thin wall tubing post may be used to support up to 10 square feet of sign area.
2. The tubular socket, wedge and prefabricated T-bracket shall be permanently marked to indicate manufacturer, Method, design, and location of marking are subject to the approval of the TxDOT Traffic Standards Engineer.
3. Except for posts (13 BWG Tubing), clamps, nuts and bolts, all components shall be prequalified. A list of prequalified vendors may be obtained from the Material Producer List web page. The website address is:
   http://www.txdot.gov/business/producer_list.htm
4. Material used as post with this system shall conform to the following specifications:
   13 BWG Tubing (2.375" outside diameter) (TWT)
   0.095" nominal wall thickness
   Seamless or electric-resistance welded steel tubing
   Steel shall be HSLAS Gr 55 per ASTM A1011 or ASTM A1008
   Other steels may be used if they meet the following:
   55,000 PSI minimum yield strength
   70,000 PSI minimum tensile strength
   18% minimum elongation in 2"
   Wall thickness tolerance shall be within the range of .083" to .099"
   Outside diameter (uncoated) shall be within the range of 2.369" to 2.381"
   Galvanization per ASTM 123 or ASTM A653 G210. For prepainted steel tubing (ASTM A653), recoat tube outside diameter weld seam by metallizing with zinc wire per ASTM B833.
5. Sign blanks shall be the sizes and shapes shown on the plans.
6. Additional slip clamp required on the "T-bracket" post for 24" high signs. Place clamp at least 3" above bottom of sign when possible.
7. Sign supports shall not be spliced except where shown. Sign support posts shall not be spliced.
8. See the Traffic Operations Division website for detailed drawings of sign clamps and Wedge Anchor System components. The website address is:
   http://www.txdot.gov/publications/traffic.htm

WEDGE ANCHOR SYSTEM INSTALLATION PROCEDURE
1. Dig foundation hole. Where solid rock is encountered at ground level, the foundation shall be a minimum depth of 18". When solid rock is encountered below ground level, the foundation shall extend in the solid rock a minimum depth of 18" or provide a minimum foundation depth of 30". If solid rock is encountered, the socket/stub may be reduced in length as required to a minimum length of 18". Any material removed from the socket/stub shall be from the bottom and the clearance requirements given on SMD(GEN) must be followed. The inner surfaces of the socket/stub must remain free of concrete or other debris.
2. The Engineer may permit batches of concrete less than 2 cubic yards to be mixed with a portable, motor or liven concrete mixer. For small placements less than 0.5 cubic yards, hand mixing in a suitable container may be allowed by Engineer. Place concrete in hole until it is approximately flush with the ground. Concrete shall be Class A.
3. Insert tubular socket into concrete until top of socket is approximately 1/4 " above the concrete footing.
4. Plumb the socket. Allow a minimum 4 days for concrete to set, unless otherwise directed by Engineer..
5. Attach the sign to the sign post.
6. Insert the sign post into socket and align sign face with roadway.
7. Drive the wedge into the socket to secure post. This will leave approximately 3 inches of the wedge exposed.

UNIVERSAL ANCHOR SYSTEM INSTALLATION PROCEDURE
1. Dig foundation hole. Where solid rock is encountered at ground level, the foundation shall be a minimum depth of 18". When solid rock is encountered below ground level, the foundation shall extend in the solid rock a minimum depth of 18" or provide a minimum foundation depth of 30". If solid rock is encountered, the socket/stub may be reduced in length as required to a minimum length of 18". Any material removed from the socket/stub shall be from the bottom and the clearance requirements given on SMD(GEN) must be followed. The inner surfaces of the socket/stub must remain free of concrete or other debris.
2. Insert base post in hole to depths shown and backfill hole with concrete.
3. Level and plumb the base post using a torpedo level and allow concrete adequate time to set. The bottom of the slots provided in the stub pipe shall remain above the top of the concrete foundation.
4. Attach the sign to the sign post.
5. Install plastic insert around bottom of post.
6. Insert sign post into base post. Lower until the post comes to rest on steel rod.
7. Seat compression ring using a hammer. Typically, the top of compression ring will be approximately level with top of stub post when optimally installed.
8. Check sign post by hand to ensure it is unable to turn. If loose, increase the tightening of the compression ring.

Sign Installation Using a Prefabricated T-Bracket for Thin-Wall Tubing Post



SM RD SGN ASSM TY TWT(X)XX(T)
(X = See General Note 6)

NOTE
The devices shall be installed per manufacturer's recommendations. Installation procedures shall be provided to the Engineer by Contractor.

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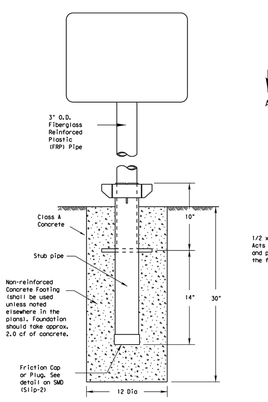
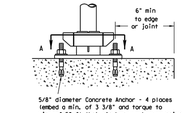
DATE: 11:57

Universal Anchor System with Fiberglass Reinforced Plastic (FRP) Post



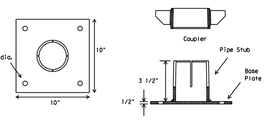
SM RD SGN ASSM TY FRP(X)UA(P)



5/8" diameter Concrete Anchor - 4 places (embed a min. of 3 3/8" and torque to min. of 50 ft-lbs). Anchor may be expansion or adhesive type.

Concrete anchor consists of 5/8" diameter stud bolt with UNC series bolt threads on the upper end. A heavy hex nut per ASTM A563 and hardened washer per ASTM F436. The stud bolt shall have minimum yield and ultimate tensile strengths of 50 and 75 ksi, respectively. Nuts, bolts and washers shall be galvanized per Item 445, "Galvanizing."
Top of bolt shall extend at least flush with top of nut when installed. The anchor, when installed in 4000 psi normal-weight concrete with a 3 3/8" minimum embedment, shall have a minimum allowable tension and shear of 2450 and 1525 psi, respectively. Adhesive type anchors shall have stud bolts installed with Type III epoxy per DMS-6100, "Epoxies and Adhesives."
Adhesive anchors may be loaded after adequate epoxy cure time per the manufacturer's recommendations.

BOLT-DOWN DETAILS



SM RD SGN ASSM TY FRP(X)UB(P)

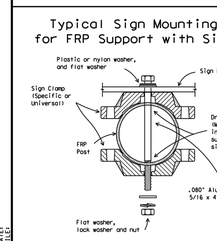
GENERAL NOTES:
1. FRP sign supports for a single type sign support may be used for signs up to and including 16 square feet. Dual post installation may be used for signs up to and including 32 square feet.
2. All nuts, bolts and washers shall be galvanized per Item 445, "Galvanizing."
3. See the Traffic Operations Division website for detailed drawings of sign clamps. The website address is:
   http://www.txdot.gov/publications/traffic.htm

FRP POST REQUIREMENTS
1. Materials shall conform to the requirements of Departmental Material Specification DMS-4410 and will be furnished in a yellow or gray color as specified elsewhere in the plans.
2. Thickness of FRP sign support is 0.125" + 0.031", - 0.0".
3. FRP sign supports are prequalified by the Traffic Operations Division.
   Prequalification procedures are obtained by writing:
   Texas Department of Transportation
   Traffic Operations Division
   125 East 11th Street
   Austin, Texas 78701-2483

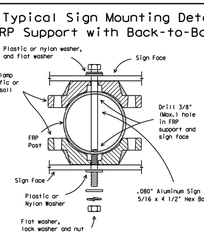
UNIVERSAL ANCHOR SYSTEM INSTALLATION PROCEDURES
1. Dig foundation hole. Where solid rock is encountered at ground level, the foundation shall be a minimum depth of 18". When solid rock is encountered below ground level, the foundation shall extend in the solid rock a minimum depth of 18" or provide a minimum foundation depth of 30". If solid rock is encountered, the socket/stub may be reduced in length as required to a minimum length of 18". Any material removed from the socket/stub shall be from the bottom and the clearance requirements given on SMD(GEN) must be followed. The inner surfaces of the socket/stub must remain free of concrete or other debris.
2. The Engineer may permit batches of concrete less than 2 cubic yards to be mixed with a portable, motor or liven concrete mixer. For small placements less than 0.5 cubic yards, hand mixing in a suitable container may be allowed by Engineer. Concrete shall be Class A.
3. Insert base post in foundation hole to depths shown and fill hole with concrete. Cut base post from bottom and ensure a minimum of 18" embedment if installed in solid rock.
4. Level and plumb the base post with coupler using a torpedo level and let concrete set a minimum of 4 days, unless otherwise directed by Engineer. Bottom of base post slots shall be above the concrete footing.
5. Attach sign to FRP post.
6. Insert sign post into base post. Lower until the post comes to rest on the steel rod.
7. Use hammer to ensure the coupler is firmly seated. Top of coupler should be level with top of base post in most instances.
8. Check sign to ensure there is no twist. If loose, increase the tightening of coupler.

BOLT DOWN SIGN SUPPORT
1. Position base plate with coupler on existing concrete.
2. Drill holes into concrete and insert the 5/8" diameter bolts with wedge anchors, and tighten nuts.
3. Attach sign to FRP post.
4. Insert bottom of sign post into pipe stub.
5. Use hammer to ensure the coupler is firmly seated. Top of coupler should be level with top of base post in most instances.
6. Check sign to ensure there is no twist. If loose, increase the tightening of coupler.

Typical Sign Mounting Detail for FRP Support with Single Sign



Typical Sign Mounting Detail for FRP Support with Back-to-Back Signs



Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS WEDGE & UNIVERSAL ANCHOR WITH THIN WALL TUBING POST
SMD(TWT)-08

©TxDOT July 2002	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
REVISIONS	CONT	SECT	JOB	HIGHWAY
9-08	DIST	COUNTY		SHEET NO.

26E

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS UNIVERSAL ANCHOR SYSTEM WITH FRP POST
SMD(FRP)-08

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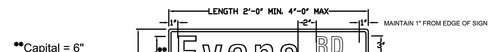
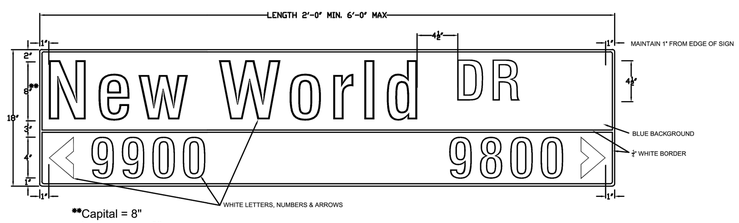
REVISIONS	CONT	SECT	JOB	HIGHWAY
9-08	DIST	COUNTY		SHEET NO.

26F

9" GROUND MOUNT STREET NAME SIGNS



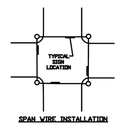
9" GROUND MOUNT STREET NAME SIGNS WITH STREET DESIGNATION



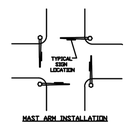
18" OVERHEAD STREET NAME SIGNS

	18" OVERHEAD SIGN	9" GROUND MOUNT SIGNS
HEIGHT	18" (381 mm)	9" (228 mm)
LENGTH	48" (1200 mm) MIN. 72" (1800 mm) MAX. 1" (305mm) INCREMENTS OF LENGTH	24" (600 mm) MIN. 48" (1200 mm) MAX. 6" (150mm) INCREMENTS OF LENGTH
THICKNESS	0.125" (3 mm)	
SUBSTRATE	ALUMINUM ALLOY, 5052-H38 (ASTM B-209 GOLD CHROMATE FINISH	
SIGN FACE MATERIALS	BLUE FILM ✱ OVER DIAMOND GRADE - ASTM Type XI Non-Fluorescent	BLUE FILM ✱ OVER HIGH INTENSITY PRISMATIC- ASTM Type IV
LEGENDS AND SYMBOLS	SERIES D, B OR C IF NAME OTHERWISE EXCEEDS MAXIMUM SIGN LENGTH	
COLOR	WHITE LEGEND ON BLUE BACKGROUND	
LETTER TRACKING	17% (USUAL) 10% (MIN.)	10%

✱ ACRYLIC ELECTRONIC CUTTABLE FILM



SPAN WIRE INSTALLATION



MAST ARM INSTALLATION

SIGN FACE MATERIALS SHALL CONFORM TO:
1. STANDARD SPECIFICATIONS FOR CONSTRUCTION OF ROADS & BRIDGES ON FEDERAL HIGHWAY PROJECTS - FP-03 U.S. CUSTOMARY UNITS SECTION 718
2. GENERAL SERVICES ADMINISTRATION FEDERAL SPECIFICATIONS L-S-300C
3. ASTM D 4956 - 09e1

Bexar County Public Works

Street Name Sign Details

DESIGNED BY: DRAWN BY:
CHECKED BY: DATE:
PAGE NO.:

SHEET 46a

REV	DATE	DESCRIPTION

FOR BIDDING PURPOSES ONLY
NOT FOR CONSTRUCTION

KCI TECHNOLOGIES, INC.
11550 IH 10 WEST, SUITE 395
SAN ANTONIO, TEXAS 78230-1037
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #1011943-65

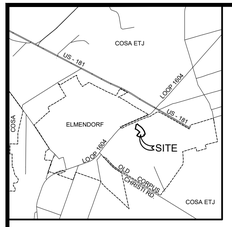
KCI TECHNOLOGIES

HICKORY RIDGE SUBDIVISION PHASE 1 UNIT 2

SIGN DETAILS

DRAFTING: K.P./G.P.	CHECK: C.P.
DESIGN: L.E.	CHECK: M.P.S.
SUBMITTAL PHASE:	
DATE:	12/22
KCI JOB #:	762207389
SHEET:	518

Date: Feb 27, 2024, 3:01pm User ID: Carlos.Elroy File: L:\Develop\Proj_2022_CV\762207389_Hickory_Ridge_Phase 1_Unit 2\civil\762207389 SY1-518 SIGN DETAILS.dwg



LOCATION MAP
NOT TO SCALE

SEDIMENTATION & EROSION CONTROL PLANS
for
HICKORY RIDGE SUBDIVISION
PHASE 1 UNIT 2

GENERAL NOTES

1. All materials and construction procedures within the scope of this project shall, be approved by the City of San Antonio Public Works and comply with the following as applicable:
A. Reference to Current "San Antonio Water System Utility Specifications"
B. Reference to Current City of San Antonio "Standard Specifications for Public Works Construction"

2. 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. Texas State Wide One Call Locator 1-800-545-6005 City Public Service AT&T Time Warner Valero Energy Co.

3. The Contractor shall notify the City prior to the start of each phase of street construction and call for inspections with a minimum of 24 hours notice.

4. Testing will be paid for by Developer, coordinated by Contractor, and witnessed by City.

5. Minimum Testing Schedule:

Densities - Subgrade	1 Per 500 Foot Minimum
Densities - Base	1 Per 500 Foot Minimum
Proctors - Subgrade	1 Per Material Per Subdivision
Proctors - Base	1 Per 5,000 C.Y.
Lime Series - Subgrade	1 Per Material Per Subdivision
Concrete - Structures	1 Set (3) Per 50 C.Y.

6. Transition washout crown to normal crown in 25'.

7. No extra payment shall be allowed for work called for on the plans, but not included in the bid proposal. This incidental work will be required and shall be included in the pay item to which it relates.

8. The contractor shall be responsible for restoring to its original or better condition any damage done to existing fences, concrete islands, street paving, curbs, shrubs, bushes or driveways. (No separate pay item).

9. Due to federal regulations Title 49, Part 192.171 CPS must maintain access to gas valves at all times. The contractor must protect and work around any gas valves that are in the project area.

10. Contractor shall notify the city inspector twenty four (24) hours prior to backfill of any utility trenches to schedule for density test as required.

11. All waste material shall become property of the contractor and shall be his sole responsibility to dispose of this material off the limits of the project. No waste material shall be placed in existing lows that will block or alter flow limits of existing artificial or natural drainage.

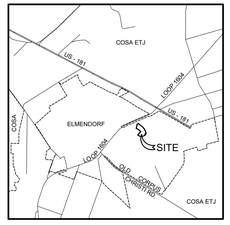
12. The contractor shall not place any waste material in the 100-year flood plain without first obtaining an approved Flood Plain Development Permit.

13. The contractor shall maintain all adjoining streets and traveled routes free from spilled and/or tracked construction materials and/or debris.

14. It is the contractor's responsibility to see that all signs and barricades are properly installed and maintained. All locations and distances will be decided upon in the field by the contractor, using the "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES". The City's construction inspector will only be responsible to inspect barricades and signs. If, in the opinion of the construction inspector, the barricades and signs do not conform to established standards or are incorrectly placed or are insufficient in quantity to protect the general public, the inspector shall have the option to stop operations until such time as the conditions are corrected.

TRENCH EXCAVATION SAFETY PROTECTION

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/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 CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTOR'S IMPLEMENTATION OF THE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION, SAFETY PROTECTION THAT COMPLIES 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.



LOCATION MAP
NOT TO SCALE

Sheet List Table

LEGEND

TEMPORARY SEDIMENT CONTROL FENCE — SCF
TEMPORARY ROCK FILTER DAM — RFD
TYPE 1 CONSTRUCTION EXIT
CONCRETE WASHOUT PIT
GRAVEL FILTER BAGS
LIMITS OF CONSTRUCTION — LOC
GRADING SLOPE ARROW

SEDIMENT & EROSION CONTROL

DESCRIPTION	UNIT	QUANTITY
TEMPORARY ROCK FILTER DAM "TYPE 2"	LF	26
TYPE I CONSTRUCTION EXIT	EA	1
SILT CONTROL FENCE (INCLUDES J-HOOKS)	LF	2,732
GRAVEL FILTER BAGS	LF	57
CONCRETE WASHOUT PIT	EA	1

OWNER/DEVELOPER:
CASTLEROCK COMMUNITIES
2401 FOUNTAIN VIEW DRIVE, SUITE 215
HOUSTON, TEXAS 77057
PHONE: (713) 600-7060

PREPARED BY:
KCI TECHNOLOGIES, INC.
11550 IH 10 WEST, SUITE 395
SAN ANTONIO, TEXAS 78230-1037
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

REV	DATE	DESCRIPTION

FOR BIDDING PURPOSES ONLY
NOT FOR CONSTRUCTION

KCI TECHNOLOGIES, INC.
11550 IH 10 WEST, SUITE 395
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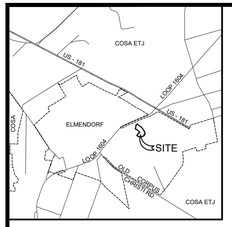
PHONE: (210) 641-9999
FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

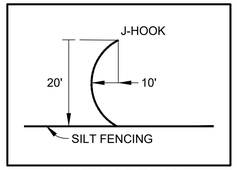
HICKORY RIDGE SUBDIVISION
PHASE 1 UNIT 2
SEDIMENTATION & EROSION CONTROL COVER

DRAFTING:	K.P./G.P.	CHECK:	C.P.
DESIGN:	L.E.	CHECK:	M.P.S.
SUBMITTAL PHASE:			
DATE:			12/22
KCI JOB #:			762207389
SHEET:			600

Date: Feb 21, 2024, 3:13pm User ID: Lance.Ellery File: L:\Develop\Proj\2022_KCI\762207389_Hickory_Ridge_Phase 1_Unit 2\civil\762207389 600 SWPPP EOR.dwg



LOCATION MAP
NOT TO SCALE



J-HOOK DETAIL
SCALE: NTS

S.W.P.P.P. GENERAL NOTES

1. THE CONTROL MEASURES CONTAINED HEREON (AND AS FURTHER DESCRIBED BY THE STANDARD SPECIFICATIONS) SHALL BE INSTALLED AND MAINTAINED THROUGHOUT THE CONSTRUCTION CONTRACT TO ASSURE EFFECTIVE AND CONTINUOUS WATER POLLUTION CONTROL DURING CONSTRUCTION AND POST CONSTRUCTION PERIODS.

2. A RAIN GAUGE SHALL BE PROVIDED BY THE CONTRACTOR AND LOCATED AT THE PROJECT SITE. THE CONTRACTOR AND INSPECTOR WILL INSPECT THE ENTIRE PROJECT TO DETERMINE THE CONDITION OF THE CONTROL MEASURES. SEDIMENT WILL BE REMOVED AND DEVICES REPAIRED AS SOON AS PRACTICABLE BUT NO LATER THAN 7 DAYS AFTER THE SURROUNDING EXPOSED GROUND HAS DRIED SUFFICIENTLY TO PREVENT FURTHER DAMAGE BEING CAUSED BY REPAIR OPERATIONS.

3. THE CONTRACTOR SHALL CLEAN PAVED SURFACES (ADJACENT TO THE CONSTRUCTION AREAS) AS NECESSARY TO REMOVE SEDIMENT WHICH HAS ACCUMULATED ON THE ROADWAY DUE TO STORMWATER FLOWS AND VEHICULAR TRAFFIC THROUGH AND ACROSS THE CONSTRUCTION SITE.

4. IN CASE OF FAILURE ON THE PART OF THE CONTRACTOR TO PREVENT AND CONTROL SOIL EROSION, SEDIMENTATION AND WATER POLLUTION WHICH MAY DEGRADE RECEIVING WATERS, THE DEVELOPER/OWNER RESERVES THE RIGHT TO EMPLOY OUTSIDE ASSISTANCE OR USE OTHER FORCES TO PROVIDE THE NECESSARY CORRECTIVE MEASURES. ALL COST (INCLUDING ENGINEERING) COST WILL BE DEDUCTED FROM ANY MONEYS DUE TO OR TO BECOME DUE TO THE CONTRACTOR.

5. UPON COMPLETION OF CONSTRUCTION AND THE INSTALLATION OF PERMANENT EROSION CONTROL METHODS, A FINAL EROSION CONTROL INSPECTION WILL BE PERFORMED AS PART OF ACCEPTANCE OF THE PROJECT BY THE DEVELOPER/OWNER. IN THE EVENT THAT THE PERMANENT EROSION CONTROL IS INADEQUATE DUE TO IMPROPER DESIGN OR INSTALLATION. THE PERMANENT EROSION CONTROL MEASURES
MUST BE CORRECTED OR REDESIGNED TO FUNCTION PROPERLY.

6. THE NOTICE OF INTENT (N.O.I.) SHALL BE SIGNED AND SUBMITTED BY THE CONTRACTOR AT LEAST 48 HOURS PRIOR TO THE CONTRACTOR MOVING ONTO THE SITE.

7. THE CONTRACTOR SHALL SUBMIT A SIGNED NOTICE OF TERMINATION (N.O.T.)

LEGEND

- TEMPORARY SEDIMENT CONTROL FENCE — SCF
- TEMPORARY ROCK FILTER DAM — RFD
- TYPE 1 CONSTRUCTION EXIT
- CONCRETE WASHOUT PIT
- GRAVEL FILTER BAGS
- LIMITS OF CONSTRUCTION — LOC
- GRADING SLOPE ARROW

0 60' 120'
1" = 60'

NOTE:

CONTRACTOR TO ENSURE POSITIVE DRAINAGE AT UPSTREAM & DOWNSTREAM ENDS OF PROJECT AND THAT NO PONDING WILL OCCUR.

1034 L.F TEMPORARY SEDIMENT CONTROL FENCE
SEE J-HOOK DETAIL 30 L.F.
CONCRETE WASHOUT PIT
TYPE 1 CONSTRUCTION EXIT
778 L.F TEMPORARY SEDIMENT CONTROL FENCE
14 L.F. GRAVEL FILTER BAGS (TO BE INSTALLED DURING DRAIN CONSTRUCTION)
24 L.F. GRAVEL FILTER BAGS (TO BE INSTALLED DURING DRAIN CONSTRUCTION)
19 L.F. GRAVEL FILTER BAGS (TO BE INSTALLED DURING DRAIN CONSTRUCTION)
13 L.F. ROCK FILTER DAM TYPE 2
770 L.F TEMPORARY SEDIMENT CONTROL FENCE
HAZEL BIRCH
GREY ELM
CARDAMOM ALLEY
BONFIRE PASS
SUMMER SAVORY
SWEET MARIGOLD
ANNATTO DR
20' SANITARY SEWER ESMT VOL 20002 PGS 1939-1941

FOR BIDDING PURPOSES ONLY
NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION

KCI TECHNOLOGIES, INC.
11550 IH 10 WEST, SUITE 395
SAN ANTONIO, TEXAS 78230-1037
PHONE: (210) 641-9999
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REGISTRATION #F-10573 / #101943-65

HICKORY RIDGE SUBDIVISION
PHASE 1 UNIT 2
SEDIMENTATION & EROSION CONTROL PLAN

DRAFTING:	K.P./G.P.	CHECK:	C.P.
DESIGN:	L.E.	CHECK:	M.P.S.
SUBMITTAL PHASE:			
DATE:			12/22
KCI JOB #:			762207389
SHEET:			601

Date: Feb 21, 2024, 3:51pm User ID: C:\Users\KCI\Desktop\Proj\2022_KCI\762207389_Hickory_Ridge_Phase 1 Unit 2\cad\762207389_601 SWPPP PLAN.dwg

SITE DESCRIPTION

PROJECT LIMITS: 25.308 acre unit located southeast of the intersection of Grey Elm and Cardamom Alley.

Latitude: 29°15'27.75" N // Longitude: 98°19'2.09" W

PROJECT DESCRIPTION: Construction of subdivision improvements including: streets, sewer lines, water lines, and drainage improvements.

MAJOR SOIL DISTURBING ACTIVITIES: Soil disturbing activities will include preparing right-of-way clearing, and grubbing, grading, excavation and embankment for the street, excavation for water, sanitary sewer, storm sewer, and structures. Erosion and sediment controls.

TOTAL PROJECT AREA: 25.308 AC

TOTAL AREA TO BE DISTURBED: 26.41 out of 25.308 AC (100%)

WEIGHTED RUNOFF COEFFICIENT (PRE-CONSTRUCTION): 0.54

WEIGHTED RUNOFF COEFFICIENT (POST-CONSTRUCTION): 0.67

EXISTING CONDITION OF SOIL & VEGETATIVE COVER AND % OF EXISTING VEGETATIVE COVER: The existing topsoil is loamy fine sand. The exisitng site is well vegetated with patches of open area.

NAME OF RECEIVING WATERS: The storm water will flow into Calaveras Creek.

EROSION AND SEDIMENT CONTROLS

SOIL STABILIZATION PRACTICES:

- ____ TEMPORARY SEEDING
- √ PERMANENT PLANTING, SODDING, OR SEEDING
- ____ MULCHING
- ____ SOIL RETENTION BLANKET
- ____ BUFFER ZONES
- ____ PRESERVATION OF NATURAL RESOURCES

OTHER: Disturbed areas on which construction activity has ceased (temporarily or permanently) shall be stabilized within 14 days unless activities are scheduled to resume and do within 21 days.

STRUCTURAL PRACTICES:

- √ SILT FENCES
- ____ HAY BALES
- √ ROCK BERMS
- ____ DIVERSION, INTERCEPTOR, OR PERIMETER DIKES
- ____ DIVERSION, INTERCEPTOR, OR PERIMETER SWALES
- ____ DIVERSION DIKE AND SWALE COMBINATIONS
- √ PIPE SLOPE DRAINS
- √ PAVED FLUMES
- √ ROCK BEDDING AT CONSTRUCTION EXIT
- ____ TIMBER MATTING AT CONSTRUCTION EXIT
- √ CHANNEL LINERS
- ____ SEDIMENT TRAPS
- √ SEDIMENT BASINS
- √ STORM INLET SEDIMENT TRAP
- ____ STONE OUTLET STRUCTURES
- ____ CURBS AND GUTTERS
- √ STORM SEWERS
- √ VELOCITY CONTROL DEVICES

OTHER:

NARRATIVE - SEQUENCE OF CONSTRUCTION (STORM WATER MANAGEMENT) ACTIVITIES:

The order of activities will be as follows:

1. Install temporary control, establish limits of construction, install silt fence, construction entrance/exit, construction entrance/exit, and concrete wash out area.
2. Clear, grub, excavate, and embank for channels/drains/pond/utilities.
3. Construct sanitary sewer.
4. Construct storm drain.
5. Install berm controls/BMP's.
6. Construct water lines.
7. Construct streets.
8. Follow up with developer on BMP removal sequence.
9. When all construction activity is complete and the site is stabilized and approved by the project engineer, remove all temporary structural controls and stabilize areas disturbed by their removal.
10. The contractor is responsible for implementing and maintaining the storm water pollution prevention plan.

STORM WATER MANAGEMENT: Storm water drainage will be conveyed by existing drainage structures, storm sewer, and streets.

NON-STORM WATER DISCHARGE: Any water discharged on the site for approved non-storm water discharges, shall be per permit conditions. The source of the non-storm water water is from the City of Elmendorf Water System and should have no detrimental effect on the site or downstream from the site.

OTHER EROSION AND SEDIMENT CONTROLS:

MAINTENANCE: All erosion and sediment controls will be maintained in good working order. If a repair is necessary, it will be done at the earliest date possible, but no later than 7 calendar days after the surrounding exposed ground has dried sufficiently to prevent further damage from heavy equipment. The areas adjacent to creeks and drainage ways shall have priority followed by devices protecting storm sewer inlets.

INSPECTION: An inspection will be performed by a designated inspector every week as well as after every half inch or more of rain (as recorded on a non-freezing rain gauge to be located at the Project Site). An inspection and Maintenance Report will be made per each Inspection. Based on the inspection results, the controls shall be located at the Project Site). An inspection and Maintenance Report will be made per each revised per the inspection report.

WASTE MATERIALS: All waste materials will be collected and stored in a secured metal dumpster. The dumpster will meet all state and local city solid waste management regulations. All trash and construction debris from the site will be deposited in the dumpster. The dumpster will be emptied as necessary or as required by local regulations and the trash will be hauled to a local dump. No construction waste material will be buried on site.

HAZARDOUS WASTE (INCLUDING SPILL REPORTING): At a minimum, any products in the following categories are considered to be hazardous; paints, acids for cleaning masonry surfaces, cleaning solvents, asphalt products, chemical additives for soil stabilization or concrete curing compounds and additives. In the event of a hazardous material spill, the spill coordinator shall be contacted immediately.

SANITARY WASTE: All sanitary waste will be collected from portable units as necessary, or as required by local regulations by a Licensed Sanitary Waste Management Contractor.

OFFSITE VEHICLE TRACKING:

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

PERMITS:

REMARKS: Disposal areas, stockpiles, and haul roads shall be constructed in a manner that will minimize and control the amount of sediment that may enter receiving waters. Disposal areas shall not be located in any wetland, waterbody or streambed. Construction staging areas and vehicle maintenance areas shall be constructed by the Contractor in a manner to minimize the runoff of pollutants. All waterways shall be cleared as soon as practicable of temporary embankment, temporary bridges, matting, falsework, piling, debris or other obstructions placed during construction operations that are not a part of the finished work.

OWNERS CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

_____ _____

SIGNATURE DATE

CONTRACTOR'S CERTIFICATION

I certify under penalty of law that I understand the terms and conditions of the general Texas Pollutant Discharge Elimination System (TPDES) permit that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification plan.

_____ _____

SIGNATURE (CONTRACTOR) DATE

REV	DATE	DESCRIPTION

FOR BIDDING PURPOSES ONLY
NOT FOR CONSTRUCTION

KCI TECHNOLOGIES, INC.
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FAX: (210) 641-6440
REGISTRATION #F-10573 / #101943-65

KCI TECHNOLOGIES

HICKORY RIDGE SUBDIVISION
PHASE 1 UNIT 2
SEDIMENTATION & EROSION CONTROL COVER NOTES

DRAFTING:	K.P./G.P.	CHECK:	C.P.
DESIGN:	L.E.	CHECK:	M.P.S.
SUBMITTAL PHASE:			
DATE:			12/22
KCI JOB #:			762207389

SHEET: **602**

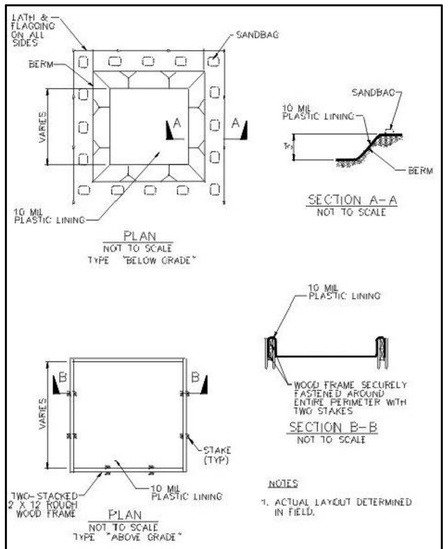

Figure 1-43 Schematics of Concrete Washout Areas

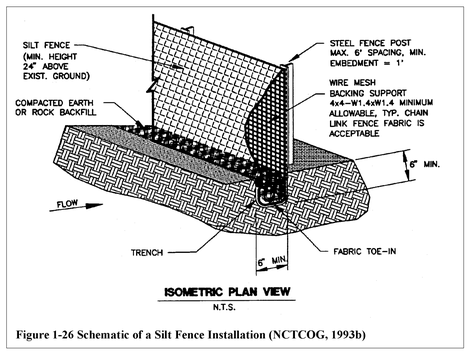

Figure 1-26 Schematic of a Silt Fence Installation (NCTCOG, 1993b)

GENERAL NOTES:

1. Silt fence material should be polypropylene, polyethylene or polyamide woven or nonwoven fabric. The fabric width should be 36 inches, with a minimum unit weight of 4.5 oz/yd, mullen burst strength exceeding 190 lb/in2, ultraviolet stability exceeding 70%, and minimum apparent opening size of U.S. Sieve No. 30.
2. Fence posts should be made of hot rolled steel, at least 4 feet long with Tee or Ybar cross section, surface painted or galvanized, minimum nominal weight 1.25 lb/ft2, and Brindell hardness exceeding 140. Rebar (either #5 or #6) may also be used to anchor the berm.
3. Woven wire backing to support the fabric should be galvanized 2"x 4" welded wire, 12 gauge minimum.
4. The berm structure should be secured with a woven wire sheathing having maximum opening of 1 inch and a minimum wire diameter of 20 gauge galvanized and should be secured with shoat rings.
5. Clean, open graded 3– to 5–inch diameter rock should be used, except in areas where high velocities or large volumes of flow are expected, where 5– to 8–inch diameter rocks may be used.

Installation:

1. Lay out the woven wire sheathing perpendicular to the flow line. The sheathing should be 20 gauge woven wire mesh with 1– inch openings.
2. Install the silt fence along the center of the proposed berm placement, as with a normal silt fence described in Section 2.4.3.
3. Place the rock along the sheathing on both sides of the silt fence as shown in the diagram (Figure 1–29), to a height not less than 24 inches. Clean, open graded 3 – 5"diameter rock should be used, except in areas where high velocities or large volumes of flow are expected, where 5– to 8– inch diameter rock may be used.
4. Wrap the wire sheathing around the rock and secure with tie wire so that the ends of the sheathing overlap at least 2 inches, and the berm retains its shape when walked upon.
5. The high service rock berm should be removed when the site is revegetated or otherwise stabilized or it may remain in place as a permanent BMP if drainage is adequate.

SILT FENCE

1.4.6 High Service Rock Berms

A high service rock berm should be designated in areas of important environmental significance such as in steep canyons or above permanent springs, pools, recharge features, or other environmentally sensitive areas that may require a higher level of protection. This type of sediment barrier combines the characteristics of a silt fence and a rock berm to provide a substantial level of sediment reduction and a sturdy enough barrier to withstand higher flows. The drainage area to this device should not exceed 5 acres and the slope should be less than 30%.

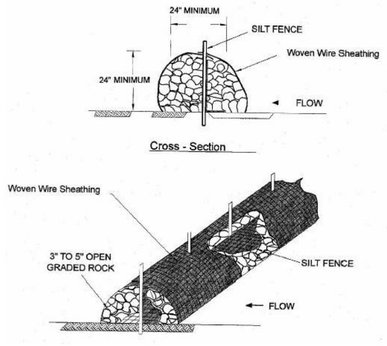

Figure 1-29 Schematic Diagram of High Service Rock Berm (LCRA, 1998)

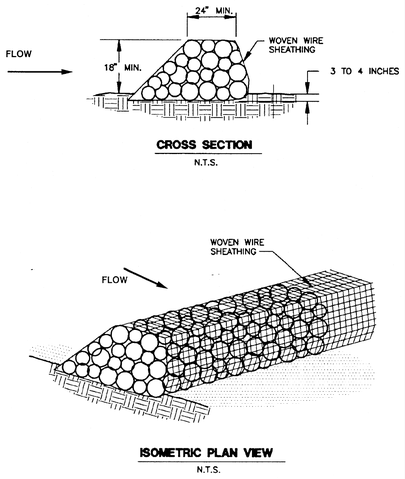

Figure 1-28 Schematic Diagram of a Rock Berm (NCTCOG, 1993)

1. The berm structure should be secured with a woven wire sheathing having maximum opening of 1 inch and a minimum wire diameter of 20 gauge galvanized and should be secured with shoat rings.
2. Clean, open graded 3– to 5–inch diameter rock should be used, except in areas where high velocities or large volumes of flow are expected, where 5– to 8–inch diameter rocks may be used.

Installation:

1. Lay out the woven wire sheathing perpendicular to the flow line. The sheathing should be 20 gauge woven wire mesh with 1 inch openings.
2. Berm should have a top width of 2 feet minimum with side slopes being 2:1 (H:V) or flatter.
3. Place the rock along the sheathing as shown in the diagram (Figure 1–28), to a height not less than 18".
4. Wrap the wire sheathing around the rock and secure with tie wire so that the ends of the sheathing overlap at least 2 inches, and the berm retains its shape when walked upon.
5. Berm should be built along the contour at zero percent grade or as near as possible.
6. The ends of the berm should be tied into existing upslope grade and the berm should be buried in a trench approximately 3 to 4 inches deep to prevent failure of the control.

ROCK BERM

FOR EROSION AND SEDIMENT CONTROL OVER THE EDWARDS AQUIFER CONTRIBUTING ZONE, THE RESPECTIVE BMP DETAILS HAVE BEEN SHOWN ON THIS SHEET AND SW1. THE DETAILS ARE EXCERPTS FROM THE EDWARDS AQUIFER TECHNICAL GUIDANCE MANUAL; RG–348, JULY 2005.

REFER TO THE EROSION CONTROL PLAN (SW1), FOR USE LOCATIONS / PARAMETERS OF THE DETAILS SHOWN IN THE PLAN SET.

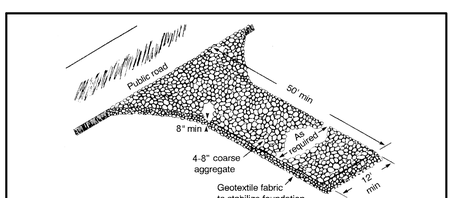

Figure 1-24 Schematic of Temporary Construction Entrance/Exit (after NC, 1993)

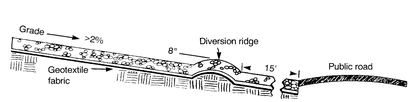

Figure 1-25 Cross-section of a Construction Entrance/Exit (NC, 1993)

1. The aggregate should consist of 4 to 8 inch washed stone over a stable foundation as specified in the plan.
2. The aggregate should be placed with a minimum thickness of 8 inches.
3. The geotextile fabric should be designed specifically for use as a soil filtration media with an approximate weight of 6 oz/yd2, a mullen burst rating of 140 lb/in2, and an equivalent opening size greater than a number 50 sieve.
4. If a washing facility is required, a level area with a minimum of 4 inch diameter washed stone or commercial rock should be included in the plans. Divert wastewater to a sediment trap or basin.

Installation:

1. Avoid curves on public roads and steep slopes. Remove vegetation and other objectionable material from the foundation area. Grade crown foundation for positive drainage.
2. The minimum width of the entrance/exit should be 12 feet or the full width of exit roadway, whichever is greater.
3. The construction entrance should be at least 50 feet long.
4. If the slope toward the road exceeds 2%, construct a ridge, 6 to 8 inches high with 3:1 (H:V) side slopes, across the foundation approximately 15 feet from the entrance to divert runoff away from the public road.
5. Place geotextile fabric and grade foundation to improve stability, especially where wet conditions are anticipated.
6. Place stone to dimensions and grade shown on plans. Leave surface smooth and slope for drainage.
7. Divert all surface runoff and drainage from the stone pad to a sediment trap or basin.
8. Install pipe under pad as needed to maintain proper public road drainage.

Washing: When necessary, wheels shall be cleaned to remove sediment prior to entrance onto public roadway, when washing is required, it shall be done on an area stabilized basin. all sediment shall be prevented from entering any storm drain, ditch, or watercourse using approved methods.

Maintenance: The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public roadways. This may require periodic top dressing with additional stone as conditions demand, and repair and/or cleanout of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public roadway must be removed immediately.

CONSTRUCTION EXIT

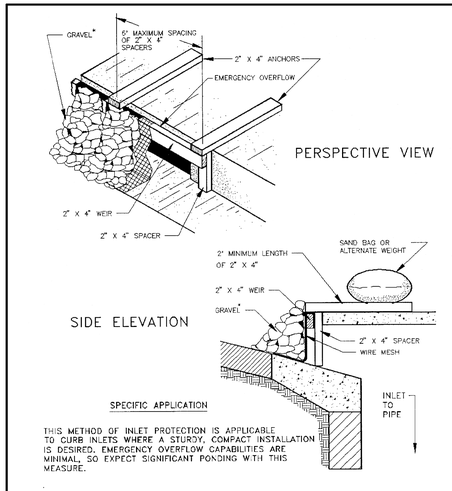

Figure 1-37 Wooden Weir Curb Inlet Protection (VA Dept of Conservation, 1992)

GENERAL NOTES:

1. Attach a continuous piece of wire mesh (30–inch minimum width x inlet throat length plus 4 feet) to the 2–inch x 4–inch wooden weir (with a total length of throat length plus 2 feet) as shown in Figure 1–37. Wood should be "construction grade" lumber.
2. Place a piece of approved filter cloth of the same dimensions as the wire mesh over the wire mesh and securely attach to the 2–inch x 4– inch weir.
3. Securely nail the 2–inch x 4–inch weir to the 9–inch long vertical spacers which are to be located between the weir and inlet face at a maximum 6– foot spacing.
4. Place the assembly against the inlet throat and nail 2–foot (minimum) lengths of 2–inch x 4– inch board to the top of the weir at spacer locations. These 2– inch x 4– inch anchors should extend across the inlet tops and be held in place by sandbags or alternate weight.
5. The assembly should be placed so that the end spacers are a minimum 1 foot beyond both ends of the throat opening.
6. Form the wire mesh and filter cloth to the concrete gutter and against the face of curb on both sides of the inlet. Place coarse aggregate over the wire mesh and filter fabric in such a manner as to prevent water from entering the inlet under or around the filter cloth.
7. This type of protection should be inspected frequently and the filter cloth and stone replaced when clogged with sediment.
8. Assure that storm flow does not bypass inlet by installing temporary earth or asphalt dikes directing flow into inlet.

CURB INLET PROTECTION (WEIR)

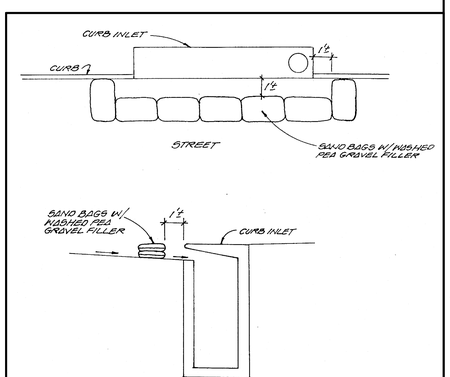

Figure 1-39 Diagram of Bagged Gravel Curb Inlet Protection (Pape-Dawson).

GENERAL NOTES:

1. Inspection should be made weekly and after each rainfall. Repair or replacement should be made promptly as needed by the contractor.
2. Remove sediment when buildup reaches a depth of 3 inches. Removed sediment should be deposited in a suitable area and in such a manner that it will not erode.
3. Check placement of device to prevent gaps between device and curb.
4. Inspect filter fabric and patch or replace if torn or missing.
5. Structures should be removed and the area stabilized only after the remaining drainage area has been properly stabilized.

INLET PROTECTION (GRAVEL FILTER BAGS)

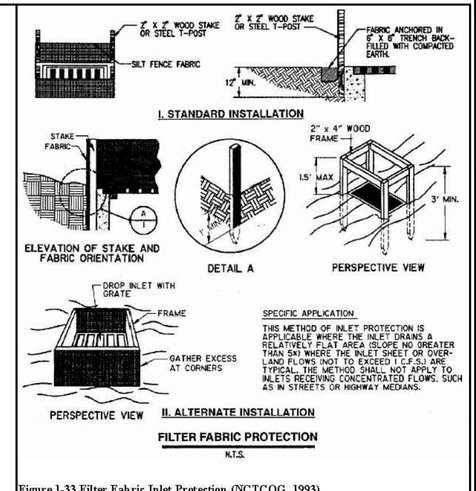

Figure 1-33 Filter Fabric Inlet Protection (NCTCOG, 1993)

GENERAL NOTES:

NOTE THAT THE DETAIL ABOVE, ONLY METAL POSTS / STAKES SHOULD BE USED. WOOD POSTS / STAKES ARE NOT ALLOWED

1. Filter fabric should be a nylon reinforced polypropylene fabric which meets the following minimum criteria: Tensile Strength, 90 lbs.; Puncture Rating, 60 lbs.; Mullen Burst Rating, 280 psi; Apparent Opening Size, U.S. Sieve No. 70.
2. Posts for fabric should be galvanized steel, tubular in cross–section or they may be standard fence "T"posts.
3. Concrete blocks should be standard 8"x 8"x 16"concrete masonry units.
4. Wire mesh should be standard hardware cloth or comparable wire mesh with an opening size not to exceed 1/2 inch.

Guidelines for installation:

Silt Fence Drop Inlet Protection

1. Silt fence should conform to the specifications listed above and should be cut from a continuous roll to avoid joints.
2. For posts, use metal ones with a minimum length of 3 feet.
3. Space stakes evenly around the perimeter of the inlet a maximum of 3 feet apart, and securely drive them into the ground, approximately 18 inches deep (Figure 1–33).
4. To provide needed stability to the installation, a frame with 2 x 4–inch wood strips around the crest of the overflow area at a maximum of 1½ feet above the drop inlet crest should be provided.

INLET PROTECTION (FABRIC)

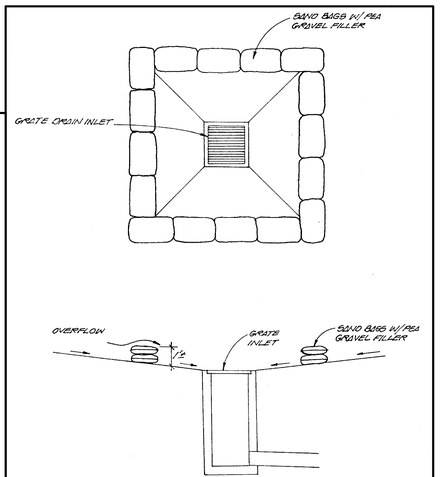

Figure 1-38 Diagram of Bagged Gravel Grate Inlet Protection (Pape-Dawson)

REV	DATE	DESCRIPTION

FOR BIDDING PURPOSES ONLY
NOT FOR CONSTRUCTION

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KCI TECHNOLOGIES

HICKORY RIDGE SUBDIVISION
PHASE 1 UNIT 2
SEDIMENTATION & EROSION CONTROL COVER DETAILS

DRAFTING:	K.P./G.P.	CHECK:	C.P.
DESIGN:	L.E.	CHECK:	M.P.S.
SUBMITTAL PHASE:			
DATE:	12/22		
KCI JOB #:	762207389		

SHEET:
603

Date: Feb 27, 2024 - 5:32pm User ID: carlos.Long Path: L:\Drawings\Proj\2022\KCI\762207389_Hickory_Ridge_Phase_1_Unit_2\Cad\762206860_602-603 GENERAL SWPPP NOTES AND DETAILS.dwg