SONORA-UNIT 2 BEXAR COUNTY, TEXAS **CIVIL CONSTRUCTION PLANS**

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Sheet Title **OVERALL SANIT** SANITARY SEWI SANITARY SEWI SANITARY SEWI SANITARY SEW SANITARY SEW **OVERALL WATE** WATER DISTRIB WATER DISTRIB OVERALL UTILI **GRADING PLAN** STORMWATER SWPPP DETAILS

PREPARED FOR:

CONTINENTAL HOMES OF TEXAS. L.P. 5419 N LOOP 1604 E SAN ANTONIO TEXAS 78247

December 2024







SEWER: LOWER-CENTRAL SEWERSHED - DOS RIOS WRC DEVELOPER'S NAME: CON ADDRESS: 5419 N LOO CITY: SAN ANTONIO PHONE# (210) 496-2668 170522,1 SAWS BLOCK MAP<u>#172522,1</u> TOTAL LINEAR FOOTAGE (NUMBER OF LOTS <u>147</u>

Sheet List Table

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ARY SEWER PLAN		C4.00
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TY PLAN		C6.00
		C7.00
POLLUTION PREVENTION PLAN		C8.00
5		C8.10



WATER (SAWS PRESSURE ZONE 750)

TINENTAL HOMES OF TEX	XAS. L.P.
P 1604 E	
STATE:TEXAS	ZIP: <u>78247</u>
8 FAX#	
70524 72524 TOTAL EDU'S <u>147</u>	TOTAL ACREAGE22.463
OF PIPE: 2198 LF	PLAT NO. <u>24–1180023</u> 2
SAWS JOB NO	24–1619

DEVELOPER'S NAME: CONTINENTAL HOMES OF TEXAS. L.P. ADDRESS: 5419 N LOOP 1604 E CITY: SAN ANTONIO STATE: TEXAS ZIP: 78247 PHONE# <u>(210) 496–2668</u> FAX# $\frac{170522,170524}{170522,172524}$ SAWS BLOCK MAP #172522,172524 TOTAL EDU'S 147 TOTAL ACREAGE 22.463 149 LF ~ 12"PVC TOTAL LINEAR FOOTAGE OF PIPE: 3,427 LF ~ 8"PVC PLAT NO. 24–11800232 NUMBER OF LOTS 147 SAWS JOB NO. 24-1148

ONORA-UNIT Ю 11315-03 **N** 9 24-11800232

C0.00

SHEET



		Drain	age Areas	ath (ft)	Overland		
Ref. Point	Structure / Description	#	Area (Ac)	С	Total Flowp	L _o (FT)	n
3	STREET/DRAIN CAPACITY	С	<mark>8.1</mark> 9	0.41	<mark>1,24</mark> 0	100	0. 1 5
4	STREET/DRAIN CAPACITY	Н	9.76	-	1,165	100	0.15
5	INTERCEPTOR CHANNEL	D		-	880	100	0.15
6	INTERCEPTOR CHANNEL	E	1.20	0.41	220	20	0.15
7	DRAIN CAPACITY	D+E	1.20	0.41	880	100	0.15
8	DRAIN CAPACITY	C+D+E	9.39	0.41	1,340	100	0.15
9	DRAIN CAPACITY	C+D+E+F	12. 1 7	0.41	<mark>1</mark> ,600	100	0.15
10	DRAIN CAPACITY	C+D+E+F +G	12.59	0.41	1,720	100	0.15
Rational Method Time of Concentration From TR-55 Equ							
*Seelye Chart or TR-55 Eqn. 3-3 (0.0076							
**As Calculated using Mannings or TR-55 Figure 3-1 or 6 ft/s $I_o = \frac{1}{(P2^{d})^2}$							(P2.5 *

		Drain	age Areas	5	ath (fi	Overland/		
Ref. Point	Structure / Description	#	Area (Ac)	С	Total Flowp:	L _O (FT)	n	
3	STREET/DRAIN CAPACITY	С	<mark>8.1</mark> 9	0.69	1,240	100	0.150	
4	STREET/DRAIN CAPACITY	Н	9.76	<mark>0.68</mark>	<mark>1,1</mark> 65	100	0.150	
5	INTERCEPTOR CHANNEL	D	7.77	0.70	880	100	0.150	
6	INTERCEPTOR CHANNEL	E	1.20	<mark>0.67</mark>	220	20	0.150	
7	DRAIN CAPACITY	D+E	8.97	0.70	880	100	0.150	
8	DRAIN CAPACITY	C+D+E	17. <mark>1</mark> 6	0.69	1,340	100	0.150	
9	DRAIN CAPACITY	C+D+E+F	19.94	0.67	<mark>1</mark> ,600	100	0.150	
10	DRAIN CAPACITY	C+D+E+F +G	20.36	0.66	1,720	100	0.150	
Rational	Method Time of	Concentrat	tion			From TR	-55 Equa	1
Seeiye Gran of TK-55 Eqn. 3-3 $T = \{0.007(n)\}$								

**As Calculated using Mannings or TR-55 Figure 3-1 or 6 ft/s $T_o = \frac{\{0.007 (n*L)^{0.8}\}}{(P2^{.5}*S^{.4})}*60$









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AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN OF THESE PLANS OR NOT.

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DRAINAGE & GRADING NOTES:

- 1. THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES PRIOR TO CONSTRUCTION TO VERIFY SIZE, GRADE, AND LOCATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DEVIATIONS FROM PLANS PRIOR TO BEGINNING CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR, AT HIS EXPENSE.
- ALL CONCRETE FOR TXDOT DRAINAGE STRUCTURES SHALL MEET TXDOT SPECIFICATIONS. ALL OTHER CONCRETE SHALL BE CLASS "A" 3000 PSI CYLINDER STRENGTH IN 28 DAYS.
- REFERENCE DRAINAGE DETAILS FOR PIPE TRENCH DETAILS, BOX CULVERT, HEADWALL, AND WINGWALL CONSTRUCTION DETAILS, AND BOX CULVERT BEDDING AND EXCAVATION LIMITS.
- CONTRACTOR SHALL GROUT ALL CURB INLETS AND JUNCTION BOXES TO PROVIDE FOR POSITIVE DRAINAGE.
- 5. EARTHEN CHANNELS WILL BE VEGETATED BY SEEDING OR SODDING. 85% OF THE CHANNEL SURFACE MUST HAVE ESTABLISHED VEGETATION BEFORE THE CITY OF SAN ANTONIO WILL ACCEPT.
- CONTRACTOR SHALL MATCH TOP OF CHANNEL TO NATURAL GROUND AND MAINTAIN A MINIMUM CHANNEL DEPTH OF "D" AS SHOWN IN THE PROFILE.

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

CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITING TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

SONORA-UNIT 2 BEXAR COUNTY, TEXAS	DRAIN F PLAN AND PROFILE
24-1	180023
JOB NO. 1	3115-03
DATE DECEM	BER 2024
	SS
CHECKED	DRAWN AR
SHEET C	1.06

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JOB NO. <u>11315–03</u> DATE <u>December 2024</u> DESIGNER <u>SS</u> CHECKED DRAWN AR SHEET <u>C1.10</u>

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(Source T)	(DOT - Hydraulic Design Manual, Chapter 7,	Section 3 - Roadside Channel Design)				
Permissable Shear Stress τ) (lb./sq.ft.)	Cover	Condition				
	Bermuda grass	Good stand, tall (average 12 in. or 305 mm)				
	Native grass mixture little bluestem, bluestem, blue gamma, other short and long stem midwest grasses	Good stand, unmowed				
2.1	Lespedeza sericea	Good stand, not woody, tall (Average 19 in. or 480 mm)				
	Alfalfa	Good stand, uncut (average 11 in or 280 mm)				
	Blue gamma	Good stand, uncut (average 13 in. or 330 mm)				
	Crabgrass	Fair stand, uncut (10-to-48 in. or 55 -to- 1220 mm)				
	Bermuda grass	Good stand, mowed (average 6 in. or 150 mm)				
4	Common lespedeza	Good stand, uncut (average 11 in. or 280 mm)				
	Grass-legume mixture: summer (orchard grass	Good stand, uncut (6-8 in. or 150- 200 mm)				
1.1	redtop, Italian ryegrass, and common lespedeza)					
	Centipede grass	Very dense cover (average 6 in. or 150 mm)				
	Kentucky bluegrass	Good stand, headed (6-12 in. or 150 - 305 mm)				
	Bermuda grass	Good stand, cut to 2.5 in. or 65 mm				
	Common lespedeza	Excellent stand, uncut (average 4.5 in. or 115 mm)				
	Buffalo grass	Good stand, uncut (3-6 in. or 75- 150 mm)				
0.6	Grass-legume mixture:	Good Stand, uncut (4-5 in. or 100- 125 mm)				
	fall, spring (orchard grass Italian ryegrass,					
	and common lespedeza					
	Lespedeza sericea	After cutting to 2 in. or 50 mm (very good before cutting)				
0.25	Bermuda grass	Good stand, cut to 1.5 in. or 40 mm				
0.55	Bermuda grass	Burned Stubble				

DRAWN AR

C1.20

- ______ CALLED 0.1291 ACRE LEASE TRACT (VOL.17829, PG. 1972 O.P.R.) BLOCK 110 (D)(G542.32 (PVMT) 542.19 1543.09 (PVMT 542.38 (PVMT) 542.06 PINK QUILL (PVMT) 542.62 (50'ROW) 541.92 (PVMT) 542.36 (PVMT (PVMT) 541.79 542.32 543.02 (PVMT 542.06 (PVM1 (PVMT 541.79 (PVM BLOCK 111 DETAIL "B" SCALE: 1" = 20'

543.29

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	S	ZANZIBAR GI STA. 10+00.00 T(END							VEI HORIZ	CONTAL SCALE	E: 1" = 5' E: 1" = 50'
						RET STA: 16+20.30	011 STA- 16+45 00		VI. STA: 17+00.30	STA: 17+70.30	REAT CONSTRUCTION HEADER CURB AND BARRICADE POSTS	555
												550
		LOW PT STA LOW PT ELEV PVI STA = PVI ELEV = A.D. = K = 4 80.00°	= 14+75.06 / = 533.83 14+35.00 = 534.03 1.80 4.39 V.C.									545
		STA: 13+98.06 ELEV: 534.95	STA: 14+75.06									540
0%												535
		E. R		EX CE	-0.50% ISTING GROUND NTER -0.50 ((LT) —		- <u>-2.00</u>	0%	-3.50%		530
									L F	PROPOSED TOP DF PAVEMENT (LT)		525
												520
												515
537.14	535.99	534.84	534.03 533.71	533.46	533.21				5 31 88	530.14 529.43		TOP OF CURB LEFT
537.14	535.99	534.84	534.03 533.71	533.46	533.21	533.11	532.99	532.89	531.89 531.89	530.14 529.43		TOP OF CURB RIGHT
13+	-00	14+00	15+	+00	16+0	00			17+0)0	18+00	

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ate: May 20, 2024, 12:30 AM - User ID: SSepulveda le: P:\131\15\03\Design\Civil\ST1311503-GOLD LACE CACTUS.dwg

OVERALL SIGNAGE PLAN.

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	PAVEMENT SECTION DETAIL							
STREET NAME	STATION	TYPE "D" HMAC	CRUSHED LIMESTONE BASE	STABILIZED SUBGRADE	GEOGRID (TENSAR TRIAX TX5)	CBR	STRUCTURAL NUMBER	
PLOCH CREST	10+19.09 TO END	3"	17.5"	8"	NO	3.0	4.41	
PINK QUILL	10+00.00 TO END	2"	8.5"	6"	NO	3.0	2.55	
ZANZIBAR GEM	10+00.00 TO END	2"	8.5"	6"	NO	3.0	2.55	
GIANT CACTUS	10+00.00 TO END	2"	8.5"	6"	NO	3.0	2.55	
GOLD LACE CACTUS	10+40.00 TO END	2"	8.5"	6"	NO	3.0	2.55	
CANDELABRA CACTUS	10+00.00 TO 19+22.00	2"	8.5"	6"	NO	3.0	2.55	

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FINISHED GROUND/PAVEMENT (TOP OF GRADE) SED WATER LINE TION DISTANCE AND TION REQUIREMENTS WHERE SEWER PIPE CROSSES A WATER LINE, THE SEWER SHALL BE 160 PSI AND MEET THE REQUIREMENTS OF ASTM D2241 WITH ONE 20' JOINT CENTERED AT THE WATER CROSSING PROPOSED SANITARY SEWER LINE 10' TYPICAL SANITARY SEVER/WATER CROSSING DETAIL NOT-TO-SCALE

VERTICAL SCALE: 1" = 5'

LOWER-CENTRAL SEWERSHED - DOS RIOS WRC DEVELOPER'S NAME: CONTINENTAL HOMES OF TEXAS. L.P. ADDRESS: 5419 N LOOP 1604 E CITY: SAN ANTONIO ____STATE: PHONE# (210) 496-2668 SAWS BLOCK MAP#<u>172522,172524</u> TOTAL ED

TOTAL LINEAR FOOTAGE OF PIPE:____

NUMBER OF LOTS 147

F	1 2/11 110.	
	JOB NO.	11315-03
FAX#	DATE	November 2024
TAL EDU'S 147 TOTAL ACREAGE 22.463	DESIGNER	SS
	CHECKED	DRAWNAR
_ SAWS JOB NO. <u>24-1619</u>	CUEET	C4.03
	SHEEL	

24-1180023

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SAWS CONSTRUCTION NOTES (LAST REVISED JANUARY 2022)

SAWS GENERAL SECTION

- FOLLOWING AS APPLICABLE:
- WATER", TAC TITLE 30 PART 1 CHAPTER 290.
- HIGHWAYS, STREETS AND DRAINAGE".
- WATER AND SANITARY SEWER CONSTRUCTION"
- WORKS CONSTRUCTION". E. CURRENT CITY OF SAN ANTONIO "UTILITY EXCAVATION CRITERIA MANUAL"

(UECM).

- NOTED WITHIN THE DESIGN PLANS.
- INSPECTION DIVISION AT BEGINNING ANY WORK.
- DURING CONSTRUCTION AT NO COST TO SAWS.
- SAWS UTILITY LOCATES: HTTP: //WWW.SAWS.ORG/SERVICE/LOCATES COSA DRAINAGE (210) 207-0724 OR (210) 207-6026 COSA TRAFFIC SIGNAL OPERATIONS (210) 206-8480 COSA TRAFFIC SIGNAL DAMAGES (210) 207–3951
- PROJECT'S CONSTRUCTION.
- CONSTRUCTION SPECIFICATIONS AND PERMIT REQUIREMENTS.
- . THE CONTRACTOR SHALL COMPLY WITH CITY OF SAN ANTONIO OR OTHER
- SAWS RECOGNIZED HOLIDAYS. REQUEST SHOULD BE SENT TO CONSTWORKREQ@SAWS.ORG.
- WEEKEND WORK: CONTRACTORS ARE REQUIRED TO NOTIFY THE SAWS INSPECTION REQUEST SHOULD BE SENT TO CONSTWORKREQ@SAWS.ORG.
- ANY AND ALL SAWS UTILITY WORK INSTALLED WITHOUT HOLIDAY/WEEKEND APPROVAL WILL BE SUBJECT TO BE UNCOVERED FOR PROPER INSPECTION.
- PROVIDING ALL NECESSARY DOCUMENTED TEST RESULTS.
- INSPECTION DIVISION.

ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE APPROVED BY THE SAN ANTONIO WATER SYSTEM (SAWS) AND COMPLY WITH THE PLANS, SPECIFICATIONS, GENERAL CONDITIONS AND WITH THE

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 B.CURRENT TXDOT "STANDARD SPECIFICATIONS FOR CONSTRUCTION OF

C.CURRENT "SAN ANTONIO WATER SYSTEM STANDARD SPECIFICATIONS FOR D.CURRENT CITY OF SAN ANTONIO "STANDARD SPECIFICATIONS FOR PUBLIC

THE CONTRACTOR SHALL NOT PROCEED WITH ANY PIPE INSTALLATION WORK UNTIL THEY OBTAIN A COPY OF THE APPROVED COUNTER PERMIT OR GENERAL CONSTRUCTION PERMIT (GCP) FROM THE CONSULTANT AND HAS BEEN NOTIFIED BY SAWS CONSTRUCTION INSPECTION DIVISION TO PROCEED WITH THE WORK AND HAS ARRANGED A MEETING WITH THE INSPECTOR AND CONSULTANT FOR THE WORK REQUIREMENTS. WORK COMPLETED BY THE CONTRACTOR WITHOUT AN APPROVED COUNTER PERMIT AND/OR A GCP WILL BE SUBJECT TO REMOVAL AND REPLACEMENT AT THE EXPENSE OF THE CONTRACTORS AND/OR THE DEVELOPER.

THE CONTRACTOR SHALL OBTAIN THE SAWS STANDARD DETAILS FROM THE SAWS WEBSITE, HTTP: //WWW.SAWS.ORG/BUSINESS_CENTER/SPECS. UNLESS OTHERWISE

(210) 233-2973, ON NOTIFICATION PROCEDURES THAT WILL BE USED TO NOTIFY AFFECTED HOME RESIDENTS AND/OR PROPERTY OWNERS 48 HOURS PRIOR TO

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

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:

• TEXAS STATE WIDE ONE CALL LOCATOR 1-800-545-6005 OR 811

THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING EXISTING FENCES, CURBS, STREETS, DRIVEWAYS, SIDEWALKS, LANDSCAPING AND STRUCTURES TO ITS ORIGINAL OR BETTER CONDITION IF DAMAGES ARE MADE AS A RESULT OF THE

8. ALL WORK IN TEXAS DEPARTMENT OF TRANSPORTATION (TXDOT) AND/OR BEXAR COUNTY RIGHT-OF-WAY SHALL BE DONE IN ACCORDANCE WITH RESPECTIVE

GOVERNING MUNICIPALITY'S TREE ORDINANCES WHEN EXCAVATING NEAR TREES. . THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIALS IN THE 100-YEAR

FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN PERMIT.

CONSTRUCTION DEPARTMENT 48 HOURS IN ADVANCE TO REQUEST WEEKEND WORK.

2. COMPACTION NOTE (ITEM 804): THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING THE COMPACTION RÉQUIREMENTS ON ALL TRENCH BACKFILL AND FOR PAYING FOR THE TESTS PERFORMED BY A THIRD PARTY. COMPACTION TESTS WILL BE DONE AT ONE LOCATION POINT RANDOMLY SELECTED, OR AS INDICATED BY THE SAWS INSPECTOR AND/OR THE TEST ADMINISTRATOR, PER EACH 12-INCH LOOSE LIFT PER 400 LINEAR FEET AT A MINIMUM. THIS PROJECT WILL NOT BE ACCEPTED AND FINALIZED BY SAWS WITHOUT THIS REQUIREMENT BEING MET AND VERIFIED BY

3. A COPY OF ALL TESTING REPORTS SHALL BE FORWARDED TO SAWS CONSTRUCTION

SAWS SEWER NOTES

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 SAWS SATISFACTION, THEY WILL BE RESPONSIBLE FOR ALL COSTS INCURRED BY SAWS, 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 SAWS.

- THE CONTRACTOR IS TO MAKE ARRANGEMENTS WITH THE SAWS CONSTRUCTION 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. 864, 'BYPASS PUMPING".
 - PRIOR TO TIE-INS, ANY SHUTDOWNS OF EXISTING FORCE MAINS OF ANY SIZE MUST BE COORDINATED WITH THE SAWS CONSTRUCTION INSPECTION DIVISION AT (210) 233-2973 AT LEAST ONE WEEK IN ADVANCE OF THE SHUTDOWN. THE CONTRACTOR MUST ALSO PROVIDE A SEQUENCE OF WORK AS RELATED TO THE TIE-INS; THIS IS AT NO ADDITIONAL COST TO SAWS OR THE PROJECT AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SEQUENCE THE WORK ACCORDINGLY.
 - SEWER PIPE WHERE WATER LINE CROSSES SHALL BE 160 PSI AND MEET THE REQUIREMENTS OF ASTM D2241, TAC 217.53 AND TCE 290.44(E)(4)(B). CONTRACTOR SHALL CENTER A 20' JOINT OF 160 PS PRESSURE RATED PVC AT THE PROPOSED WATER CROSSING.
 - 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 RÉGARDLESS OF SIZE.
 - MANHOLE AND ALL PIPE TESTING (INCLUDING THE TV INSPECTION) MUST BE PERFORMED AND PASSED PRIOR TO FINAL FIELD ACCEPTANCE BY SAWS CONSTRUCTION INSPECTION DIVISION, AS PER THE SAWS SPECIFICATIONS FOR WATER AND SANITARY SEWER CONSTRUCTION.
 - . ALL PVC PIPE OVER 14 FEET OF COVER SHALL BE EXTRA STRENGTH WITH MINIMUM PIPE STIFFNESS OF 115 PSI.

HOLIDAY WORK: CONTRACTORS WILL NOT BE ALLOWED TO PERFORM SAWS WORK ON PROJECT SEWER NOTES

- ALL RESIDENTIAL SEWER SERVICE LATERALS ARE 6" DIA. AND SHALL B EXTENDED TO 10' PAST THE PROPERTY LINE AND CAPPED AND SEALED CONTRACTOR SHALL INSTALL A 2" X 4" STAKE, FOUR (4) FEET LONG. TWO 2) FEET DEEP INTO THE GROUND AT THE END OF EACH SERVICE. NO SEPARATE PAY ITEM.
- CONTRACTOR TO INSTALL CLEANOUTS AT THE END OF ALL SEWEF LATERALS, PER LATERAL DETAIL SHEET C4.10 3. NO VERTICAL STACKS ALLOWED FOR ANY LOTS UNLESS OTHERWISE
- SPECIFIED BY THE ENGINEER.
- . ALL 6" SEWER LATERALS WILL BE SET AT 2% GRADE FROM THE MAIN TC THE PROPERTY LINE.
- WHEN HORIZONTAL DISTANCE BETWEEN SEWER PIPES AND WATER MAIN IS LESS THAN 9 FOOT OF SEPARATION, SEWER MAIN SHALL BE INSTALLED WITH 150 PSI (MIN) PRESSURE PIPE AND FITTINGS IN ACCORDANCE WITH SAWS CONSTRUCTION CRITERIA FOR CONSTRUCTION OF SEWER MAINS IN THE VICINITY OF WATER MAINS.
- . CONTRACTOR SHALL ENSURE THAT MANHOLES OUTSIDE OF PAVED AREAS ARE SET WITH TOP ELEVATIONS 6" ABOVE FINISHED GRADE WITH CONCRETE RING ENCASEMENT.
- 7. ALL SEWER PIPES SHALL BE 8" PVC (SDR 26), UNLESS OTHERWISE NOTED.
- 8. CONTRACTOR IS TO VERIFY EXISTING INVERT OF EXISTING SANITARY SEWER MAINS AND ALERT ENGINEER IMMEDIATELY OF ANY DIFFERENCE FROM INVERT SHOWN ON PLANS.
- 9. CONTRACTOR SHALL PROTECT ALL EXISTING FENCES. ANY FENCE DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED BY THE CONTRACTOR AT THEIR EXPENSE
- 10. THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES PRIOR TO CONSTRUCTION TO VERIFY SIZE, GRADE, AND LOCATION. TH CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DEVIATIONS FROM PLANS PRIOR TO BEGINNING CONSTRUCTION. ANY DAMAGE T EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR, AT HIS EXPENSE.
- I. CONCRETE RING ENCASEMENT TO BE INSTALLED ON ALL MANHOLES AND WITHIN LIMITS OF PAVEMENT, BE INSTALLED TO THE TOP OF THE BASE LAYER WITH A MINIMUM OF 2" OF ASPHALT ON TOP OF THE RING ENCASEMENT.
- 12. MANHOLE OPENING INCREASED TO 30" AS PER TAC CHAPTER 217.55.
- 13. ALL SEWER PIPE LATERALS SHALL BE SDR 26 (CLASS 160) PVC PIPE.
- 14. IF THE GIVEN TOP OF MANHOLE ELEVATION DOES NOT AGREE ON ACTUAL GROUND SURFACE OR FINISH PAVEMENT, THE CONTRACTOR SHALL ADJUST FIFVATIONS SUCH THAT THE TOP OF MANHOLE SHALL BE 0.5' ABOVE EXISTING GROUND, OR FLUSH TO FINISH ASPHALT PAVEMENT.
- 15. ALL MANHOLES CONSTRUCTED OVER THE EDWARDS AQUIFER RECHARGE ZONE SHOULD BE WATERTIGHT.

SEWER:

LOWER-CENTRAL SEWERSHED - DOS RIOS WR

I	DEVELOPER'S NAME: CONTINENTAL HOMES OF TEXAS. L.P.
l	ADDRESS: 5419 N LOOP 1604 E
l	CITY: SAN ANTONIO STATE: TEXAS ZIP: 78247
l	PHONE#
l	170522,170524 SAWS BLOCK MAP#172522,172524 TOTAL EDU'S 147 TOTAL ACREAGE22.46
l	TOTAL LINEAR FOOTAGE OF PIPE:2198 LF PLAT NO. 24-1180023
l	NUMBER OF LOTS 147 SAWS JOB NO. 24-1619
L	

Y LLLE	NO. REVISION DATE
HR	10/31/24
YNEKSO TQG TSE SYOLJ ESS H	THE FORTER AND
EDOO RE O SDHE SE RM DR NESESOE DEG LT	SONORA-UNIT 2 BEXAR COUNTY, TEXAS SANITARY SEWER NOTES
	PLAT NO. 24-11800232 JOB NO. 11315-03 DATE October 2024 DESIGNER SS

e: May 20, 2024, 10:30 AM — User ID: arodrig P:\131\15\03\Design\Civil\0W1311503.dwg

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	(LAST REVISED JANUARY 2022)	
	SAWS GENERAL SECTION	SAWS WATER NOTES
BLOCK SOD OR. CELL FIBER MULCH AS PER TXDOT	 CONTRACT SHALL BE APPROVED BY THE SAN ANTONIO WATER SYSTEM (SAWS) AND COMPLY WITH THE PLANS, SPECIFICATIONS, GENERAL CONDITIONS AND WITH THE FOLLOWING AS APPLICABLE: 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". 	 BE COORDINATED WITH THE SAWS OF EAISTING MAINS OF ANY SI BE COORDINATED WITH THE SAWS CONSTRUCTION INSPECTION DIVING LEAST ONE WEEK IN ADVANCE OF THE SHUTDOWN. THE CONTRACTOR ALSO PROVIDE A SEQUENCE OF WORK AS RELATED TO THE TIE-INS; AT NO ADDITIONAL COST TO SAWS OR THE PROJECT AND IT RESPONSIBILITY OF THE CONTRACTOR TO SEQUENCE THE ACCORDINGLY. FOR WATER MAINS 12" OR HIGHER: SAWS EMERGENCY OPERATIO CENTER (210) 233-2014 ASBESTOS CEMENT (AC) PIPE, ALSO KNOWN AS TRANSITE PIPE
MATCH EXISTING TOP SOLL DEPTH	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	KNOWN TO CONTAIN ASBESTOS- CONTAINING MATERIAL (ACM), LOCATED WITHIN THE PROJECT LIMITS. SPECIAL WASTE MAN PROCEDURES AND HEALTH AND SAFETY REQUIREMENTS WILL BE AP WHEN REMOVAL AND/OR DISTURBANCE OF THIS PIPE OCCURS. SU IS TO BE MADE UNDER SPECIAL SPECIFICATION ITEM NO. 3000, SPECIFICATION FOR HANDLING ASBESTOS CEMENT PIPE".
HOF BOL DETT AS PER TXDETT (ITEM 160) - BACKFILL MUST FOLLOW STANDARDS OF UTILITY	THE CONTRACTOR STALL NOT PROCEED WITH ANT PIPE INSTALLATION WORK OWNE THEY OBTAIN A COPY OF THE APPROVED COUNTER PERMIT OR GENERAL CONSTRUCTION PERMIT (GCP) FROM THE CONSULTANT AND HAS BEEN NOTIFIED BY SAWS CONSTRUCTION INSPECTION DIVISION TO PROCEED WITH THE WORK AND HAS ARRANGED A MEETING WITH THE INSPECTOR AND CONSULTANT FOR THE WORK REQUIREMENTS. WORK COMPLETED BY THE CONTRACTOR WITHOUT AN APPROVED COUNTER PERMIT AND/OR A GCP WILL BE SUBJECT TO REMOVAL AND	 3. VALVE REMOVAL: WHERE THE CONTRACTOR IS TO ABANDON A WAT THE CONTROL VALVE LOCATED ON THE ABANDONING BRANCH REMOVED AND REPLACED WITH A CAP/PLUG. (NSPI) 4. SUITABLE ANCHORAGE/THRUST BLOCKING OR JOINT RESTRAINT S
APPLYING FOR PERMIT	 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 PLANS. 4. THE CONTRACTOR IS TO MAKE ARRANGEMENTS WITH THE SAWS CONSTRUCTION 	PROVIDED AT ALL OF THE FOLLOWING MAIN LOCATIONS: DEAD ENDS CAPS, TEES, CROSSES, VALVES, AND BENDS, IN ACCORDANCE V STANDARD DRAWINGS DD-839 SERIES AND ITEM NO. 839, IN TH STANDARD SPECIFICATIONS FOR CONSTRUCTION. 5. ALL VALVES SHALL READ "OPEN RIGHT".
IENT)	 THE CONTRACTOR IS TO MARE ARRANGEMENTS WITH THE SAWS CONSTRUCTION INSPECTION DIVISION AT (210) 233–2973, ON NOTIFICATION PROCEDURES THAT WILL BE USED TO NOTIFY AFFECTED HOME RESIDENTS AND/OR PROPERTY OWNERS 48 HOURS PRIOR TO BEGINNING ANY WORK. LOCATION AND DEPTH OF EXISTING UTILITIES AND SERVICE LATERALS SHOWN ON 	6. PRVS REQUIRED: CONTRACTOR TO VERIFY THAT NO PORTION OF TH IS BELOW GROUND ELEVATION OF 565 FEET WHERE THE STATIC P WILL NORMALLY EXCEED 80 PSI. AT ALL SUCH LOCATIONS WH GROUND LEVEL IS BELOW 565 FEET, THE DEVELOPER OR BUILDE INSTALL AT EACH LOT, ON THE CUSTOMER'S SIDE OF THE ME
	THE PLANS ARE UNDERSTOOD TO BE APPROXIMATE. ACTUAL LOCATIONS AND DEPTHS MUST BE FIELD VERIFIED BY THE CONTRACTOR AT LEAST 1 WEEK PRIOR TO CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE UTILITY SERVICE LINES AS REQUIRED FOR CONSTRUCTION AND TO PROTECT THEM DURING CONSTRUCTION AT NO COST TO SAWS.	APPROVED TYPE PRESSURE REGULATOR IN CONFORMANCE W PLUMBING CODE OF THE CITY OF SAN ANTONIO. NO DUAL ALLOWED FOR ANY LOT(S) IF *PRV IS/ARE REQUIRED FOR SUCH ONLY SINGLE SERVICE CONNECTIONS SHALL BE ALLOWED. *NO PRESSURE REGULATOR IS ALSO KNOWN AS A PRESSURE REDUCIN (PRV).
	AND DRAINAGE STRUCTURES AT LEAST 1-2 WEEKS PRIOR TO CONSTRUCTION WHETHER SHOWN ON PLANS OR NOT. PLEASE ALLOW UP TO 7 BUSINESS DAYS FOR LOCATES REQUESTING PIPE LOCATION MARKERS ON SAWS FACILITIES. THE FOLLOWING CONTACT INFORMATION ARE SUPPLIED FOR VERIFICATION PURPOSES: • SAWS UTILITY LOCATES: HTTP://WWW.SAWS.ORG/SERVICE/LOCATES	7. PIPE DISINFECTION WITH DRY HTH FOR PROJECTS LESS THAN 800 FEET. (ITEM NO. 847.3): MAINS SHALL BE DISINFECTED WITH I WHERE SHOWN IN THE CONTRACT DOCUMENTS OR AS DIRECTED INSPECTOR, AND SHALL NOT EXCEED A TOTAL LENGTH OF 800 FE METHOD OF DISINFECTION WILL ALSO BE FOLLOWED FOR MAIN REPA CONTRACTOR SHALL UTILIZE ALL APPROPRIATE SAFETY MEAS DOTEOT HIS DESCONDED DURING DISINFECTION OPERATIONS
Texas Department of Transportation SAN ANTONIO DISTRICT	COSA DRAINAGE (210) 207–0724 OR (210) 207–6026 COSA TRAFFIC SIGNAL OPERATIONS (210) 206–8480 COSA TRAFFIC SIGNAL DAMAGES (210) 207–3951 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 UTS	 PROTECT HIS PERSONNEL DURING DISINFECTION OPERATIONS. 8. BACKFLOW PREVENTION DEVICES: ALL IRRIGATION SERVICES WITHIN RESIDENTIAL AREAS ARE REQUINANCE BACKFLOW PREVENTION DEVICES. ALL COMMERCIAL BACKELOW PREVENTION DEVICES.
TRENCH BACKFILL DETAIL NON PAVEMENT	 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. FINAL CONNECTION TO THE EXISTING WATER MAIN SHALL NOT E UNTIL THE WATER MAIN HAS BEEN PRESSURE TESTED, CHLORINAT SAWS HAS RELEASED THE MAIN FOR TIE-IN AND USE.
	9. THE CONTRACTOR SHALL COMPLY WITH CITY OF SAN ANTONIO OR OTHER GOVERNING MUNICIPALITY'S TREE ORDINANCES WHEN EXCAVATING NEAR TREES	10. DIVISION VALVES: DIVISION VALVES SHOWN ON PLANS OR NOT SI PLANS BUT FOUND IN THE FIELD SHALL ONLY BE OPERATED E
	10. THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIALS IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN PERMIT.	APPROVAL OF THE SAWS DIRECTOR OF PRODUCTION AND OPERATION PROPER COORDINATION WITH ALL SAWS DEPARTMENTS. CONTRACTOR PROVIDE WRITTEN NOTIFICATION TO THE INSPECTOR A MINIMUM
	11. HOLIDAY WORK: CONTRACTORS WILL NOT BE ALLOWED TO PERFORM SAWS WORK ON SAWS RECOGNIZED HOLIDAYS. REQUEST SHOULD BE SENT TO	WEEKS IN ADVANCE TO START THE COORDINATION PROCESS AND INFORMED BY THE INSPECTOR WHEN THE DIVISION VALVE WILL BE O BY THE SAWS DISTRIBUTION AND COLLECTION STAFF. THE DIVISIO
	CONSTWORKREQ@SAWS.ORG. WEEKEND WORK: CONTRACTORS ARE REQUIRED TO NOTIFY THE SAWS INSPECTION	CAN ONLY BE OPERATED BY SAWS DISTRIBUTION AND COLLECTIO MEMBER NOT THE INSPECTOR OR THE CONTRACTOR. OPERATIO DIVISION VALVE WITHOUT THE EXPRESS PRIOR WRITTEN APPROVAL SAWS DISTRIBUTION AND COLLECTION STAFE WILL CONSTITUTE A L
	REQUEST SHOULD BE SENT TO CONSTWORK INSTALLED WITHOUT HOUDAY/WEEKEND	BREACH OF ANY WRITTEN SAWS CONTRACT OR PERMIT IN ADD SUBJECTING THE CONTRACTOR TO LIABILITY FOR ANY AND ALL FINE OR OTHER DAMAGES, DIRECT OR CONSEQUENTIAL, THAT MAY ARISE
	APPROVAL WILL BE SUBJECT TO BE UNCOVERED FOR PROPER INSPECTION.	BE CAUSED BY THE OPERATION OF THE VALVE WITHOUT PRIOR PERMISSION. PLEASE BE INFORMED THAT THE APPROVAL OF THE OI OR OPENING OR CLOSING OF A DIVISION VALVE CAN TAKE SEVERA
NOTE 1 SEE NOTE 1	MEETING THE COMPÀCTION RÉQUIREMENTS 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 SAME INSPECTOR AND (OR THE TEST ADMINISTRATOR DER FACIL 12 INCL. 10055	DIVISION VALVE AND A LOCKING MECHANISM INSTALLED WITH A KE LOCK AND KEY MECHANISM WILL BE PAID FOR BY THE CONTRAC WILL BE INSTALLED BY SAWS DISTRIBUTION AND COLLECTION STAFF.
12" EXISTING BASE MATERIAL MIN TYPE C. SAC. B. DC 10-22	SAWS 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 SAWS WITHOUT THIS REQUIREMENT BEING MET AND VERIFIED BY PROVIDING ALL NECESSARY DOCUMENTED TEST RESULTS.	
ED BASE A" HMA, TYPE C, SAC-B, PG 70-22 (ITEM 340) OR A" HMA (2-2" LIFTS), TYPE D, SAC-B PG 70-22, (ITEM 340)	13. A COPY OF ALL TESTING REPORTS SHALL BE FORWARDED TO SAWS CONSTRUCTION INSPECTION DIVISION.	
ASE1 10" HMA TYPE B, PG 64-22 (ITEM 340) BACKF ILL WITH		
GRANULAR MATERIAL		
CKFILL WITH PAVED SURFACE DETAIL		
Texas Department of Transportation		
INAL SAN ANTONIO DISTRICT BE AS IS BUT NOT TRENCH BACKFILL DETAIL		
WHEN OPEN-CUTTING OF PAVEMENT IS ALLOWED		

WNS OF EXISTING MAINS OF ANY SIZE MUST 1. MACHINE CHLORINATION BY THE S.A.W.S. VS CONSTRUCTION INSPECTION DIVISION AT THE SHUTDOWN. THE CONTRACTOR MUST NORK AS RELATED TO THE TIE-INS; THIS IS SAWS OR THE PROJECT AND IT IS THE

GHER: SAWS EMERGENCY OPERATIONS

ALSO KNOWN AS TRANSITE PIPE WHICH IS CONTAINING MATERIAL (ACM), MAY BE LIMITS. SPECIAL WASTÈ MANAGEMENT SAFETY REQUIREMENTS WILL BE APPLICABLE BANCE OF THIS PIPE OCCURS. SUCH WORK SPECIFICATION ITEM NO. 3000, "SPECIAL BESTOS CEMENT PIPE".

NTRACTOR IS TO ABANDON A WATER MAIN, ON THE ABANDONING BRANCH WILL BE CAP/PLUG. (NSPI)

BLOCKING OR JOINT RESTRAINT SHALL BE WING MAIN LOCATIONS: DEAD ENDS, PLUGS, AND BENDS, IN ACCORDANCE WITH THE SERIES AND ITEM NO. 839, IN THE SAWS ONSTRUCTION.

RIGHT".

VERIFY THAT NO PORTION OF THE TRACT 565 FEET WHERE THE STATIC PRESSURE AT ALL SUCH LOCATIONS WHERE THE FEET, THE DEVELOPER OR BUILDER SHALL CUSTOMER'S SIDE OF THE METER, AN EGULATOR IN CONFORMANCE WITH THE OF SAN ANTONIO. NO DUAL SERVICES PRV IS/ARE REQUIRED FOR SUCH LOT(S), TIONS SHALL BE ALLOWED. *NOTE: A

TH FOR PROJECTS LESS THAN 800 LINEAR IS SHALL BE DISINFECTED WITH DRY HTH T DOCUMENTS OR AS DIRECTED BY THE CEED A TOTAL LENGTH OF 800 FEET. THIS LSO BE FOLLOWED FOR MAIN REPAIRS. THE LL APPROPRIATE SAFETY MEASURE TO DISINFECTION OPERATIONS.

HIN RESIDENTIAL AREAS ARE REQUIRED TO DEVICES. PREVENTION DEVICES MUST BE APPROVED TION.

EEN PRESSURE TESTED, CHLORINATED, AND OR TIE-IN AND USE.

VES SHOWN ON PLANS OR NOT SHOWN ON _D SHALL ONLY BE OPERATED BY SAWS STAFF AND ONLY WITH PRIOR WRITTEN OR OF PRODUCTION AND OPERATIONS AND SAWS DEPARTMENTS. CONTRACTOR SHALL TO THE INSPECTOR A MINIMUM OF TWO THE COORDINATION PROCESS AND WILL BE IEN THE DIVISION VALVE WILL BE OPERATED COLLECTION STAFF. THE DIVISION VALVE AWS DISTRIBUTION AND COLLECTION STAFF OR THE CONTRACTOR. OPERATION OF A KPRESS PRIOR WRITTEN APPROVAL OF THE TION STAFF WILL CONSTITUTE A MATERIAL

CONTRACT OR PERMIT IN ADDITION TO LIABILITY FOR ANY AND ALL FINES, FEES, CONSEQUENTIAL, THAT MAY ARISE FROM OR OF THE VALVE WITHOUT PRIOR WRITTEN D THAT THE APPROVAL OF THE OPERATION DIVISION VALVE CAN TAKE SEVERAL WEEKS VES WILL ALSO HAVE A VALVE LID LABELED MECHANISM INSTALLED WITH A KEY. THE BE PAID FOR BY THE CONTRACTOR BUT

PROJECT WATER NOTES

- ALL 8", 12" AND 16" PIPE SHALL BE P.V.C. C-900 CLASS 235 DR 18.
- NTRACTOR TO SEQUENCE THE WORK 3. ALL MAINS SHALL BE HYDROSTATICALLY TESTED BY THE CONTRACTO PROVIDED FOR IN THE SPECIAL CONDITIONS.
 - . THE WATER LINES WILL BE SET FROM THE STREET HUBS BEFORE CONTRACT BEGINS. STREET CUT SHEETS WILL BE SUPPLIED TO CONTRACTOR. THERE SHOULD BE NO ADDITIONAL STAKES REQUIRED, SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO INSPECT THE SITE VERIFY THAT ALL STAKES REQUIRED FOR HIS WORK ARE IN PLACE A TIME THE CONSTRUCTION BEGINS. IF ANY STAKES ARE MISSING ENGINEER SHOULD BE NOTIFIED IMMEDIATELY. AFTER CONSTRUCTION B ALL CONSTRUCTION STAKES, MARKS, ETC., SHALL BE CAREFULLY PRES BY THE CONTRACTOR, AND IN CASE OF DESTRUCTION OR REMOVAL B CONTRACTOR, HIS EMPLOYEE OR ANY OTHER MEANS, SUCH STAKES, M ETC., SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
 - THE CONTRACTOR SHALL FURNISH THE ENGINEER WITH ALL THE MEASUREMENTS, TAPS AND LENGTH OF SERVICE CONNECTIONS.
 - 6. THE LOT CORNERS WILL BE SET BY THE ENGINEER FOR INSTALLATION OF WATER SERVICES. THESE LOT CORNERS SHALL BE CAREFULLY PRESERVE THE CONTRACTOR SO THE METER BOXES CAN BE SET IN PHASE II. AN CORNER DESTROYED OR REMOVED BY THE CONTRACTOR, HIS EMPLOYEE BY ANY OTHER MEANS SHALL BE REPLACED AT THE CONTRACTOR'S EXP
 - STREETS WILL HAVE BEEN EXCAVATED DOWN TO SUBGRADE AND PARKWAY WILL BE CUT DOWN TO TOP OF CURB BY THE STREET CONTRA PRIOR TO CONSTRUCTION OF THE WATER MAINS. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE A PAD FOR HIS EQUIPMENT.
 - 8. WATER METER BOXES IF APPLICABLE SHALL BE INSTALLED NINE FEET FACE OF CURB TO CENTER OF THE METER BOX.
 - 9. ALL GARBAGE OR SPOIL MATERIAL FROM THIS WORK SHALL BE REM FROM THE SITE BY THE CONTRACTOR, AT HIS EXPENSE.
- KNOWN AS A PRESSURE REDUCING VALVE 10. FINAL CONNECTION TO THE EXISTING WATER MAIN SHALL NOT BE MADE WATER MAIN HAS BEEN PRESSURE TESTED, CHLORINATED AND THE S. RELEASES THE MAIN FOR TIE-IN AND USE.
 - . UNIT PRICE BID FOR "STANDARD FIRE HYDRANT ASSEMBLY" SHALL INC FIRE HYDRANT, 6-INCH GATE VALVE AND 6-INCH VALVE BOX COMF ANCHOR BEND, AND ALL 6-INCH DI PIPE REQUIRED (DI PIPE REQUIRED INCLUDE ALL PIPE FROM THE TEE ON THE MAIN LINE TO THE FIRE HYDR
 - 2. WHEN SEWER LINES ARE INSTALLED IN THE VICINITY OF WATER MAINS, INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH THE TEXAS NA RESOURCE CONSERVATION COMMISSION "RULES AND REGULATIONS FOR I WATER SYSTEMS" (1988 OR ANY REVISIONS THERETO).
 - 13. A CLEAR SPACE SHALL BE PROVIDED AROUND ALL FIRE HYDRANTS. AREA SHOULD HAVE A MINIMUM DIAMETER OF 3.0' AND BE CLEA VERTICAL OBSTRUCTIONS, VALVES, AND METER BOXES.
- STING WATER MAIN SHALL NOT BE MADE 14. SAWS REQUIRES LEAD FREE (< 0.25%) FIRE HYDRANTS.
 - 15. UNLESS OTHERWISE NOTED ALL SERVICES SHALL BE 3/4" WITH 5/8" ME

	DATE 12/12/24	
DR, AS THIS D THE AND IT E AND AT THE G THE BEGINS, BERVED BY THE	NO. REVISION 1. ADDED DETAILS	2/12/24
FINAL FINAL ED BY VY LOT ES, OR PENSE. D THE ACTOR, UTILITY	REBECCA ANN 9266 TO SS 1000	7 + 7 + 7 + 7 + 7 + 7 + 7 + 7 + 7 + 7 +
THIS SUCH SUCH SUCH SUCH SUCH SUCH SUCH SUC	ENGINEERS	2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000 texas engineering firm #470 i texas surveying firm #10028800
	SONORA-UNIT 2 BEXAR COUNTY, TEXAS	WATER DISTRIBUTION NOTES
7 2.463 00232	PLAT NO. 24-7 JOB NO. 11 DATE Decem DESIGNER CHECKED	11800232 1315-03

C5.20

SHEET

WATER (SAWS PRESSURE ZONE 750)

DEVELOPER'S NAME: CONTINENTAL HOMES OF TEXAS. L.P.
ADDRESS: 5419 N LOOP 1604 E
CITY: SAN ANTONIO STATE: TEXAS ZIP: 78247
PHONE# (210) 496-2668 FAX#
$\frac{170522,170524}{1712522,170524} = 147 = 147$
SAWS BLUCK MAP#1/2022,1/2022 TOTAL EDU S_17/ TOTAL ACREAGE 22.7
101AL LINEAR FOOTAGE OF PIPE: <u>3,427 LF ~ 8"PVC</u> PLAT NO. <u>24-118002</u>
NUMBER OF LOTS <u>147</u> SAWS JOB NO. <u>24-1148</u>

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- DO NOT DISTURB VEGETATED AREAS (TREES, GRASS, WEEDS, BRUSH, ETC.) ANY MORE THAN NECESSARY FOR CONSTRUCTION.
- MODIFICATIONS ARE TO BE NOTED ON THIS EXHIBIT AND SIGNED AND DATED BY THE RESPONSIBLE PARTY.
- POLLUTION PREVENTION PLAN.
- FEATURES MAY BE SHOWN OUTSIDE THE SITE BOUNDARIES ON THIS PLAN FOR VISUAL CLARITY.
- EASEMENT AREAS, EMBANKMENT SLOPES, ETC. WILL BE STABILIZED PER APPLICABLE PROJECT SPECIFICATIONS. BEST MANAGEMENT PRACTICES MAY BE INSTALLED IN STAGES TO COINCIDE WITH THE DISTURBANCE OF UPGRADIENT AREAS.

- REMOVE ALL SEDIMENT AND EROSION CONTROL MEASURES, PAYING SPECIAL ATTENTION TO ROCK BERMS IN DRAINAGE FEATURES.
- CONTRACTOR SHALL PLACE SILT FENCING IN LIEU OF VEGETATED FILTER STRIP.
- CONSTRUCTION EQUIPMENT AND MATERIAL STORAGE YARD, ARE NOT A PART OF THIS TPDES STORM WATER POLLUTION PREVENTION PLAN (SWP3) AND WILL NOT BE DISTURBED BY CIVIL CONSTRUCTION ACTIVITIES.
- THE PROJECT.

SWP3 MODIFICATIONS				
SIGNATURE	DESCRIPTION			

DIVERSION RIDGE >2% GRADE ROAD DIVERSION RIDGE-GEOTEXTILE FABRIC T GEOTEXTILE FABRIC TO STABILIZE FOUNDATION STABILIZE FOUNDATION 4" TO 8" COARSE AGGREGATE SCHEMATIC OF TEMPORARY SECTION "A-A" OF A CONSTRUCTION ENTRANCE/EXIT CONSTRUCTION ENTRANCE/EXIT MATERIALS COMMON TROUBLE POINTS THE AGGREGATE SHOULD CONSIST OF 4-INCH TO 8-INCH WASHED STONE 1. INADEQUATE RUNOFF CONTROL-SEDIMENT WASHES ONTO PUBLIC ROAD. OVER A STABLE FOUNDATION AS SPECIFIED IN THE PLAN. . STONE TOO SMALL OR GEOTEXTILE FABRIC ABSENT, RESULTS IN MUDDY 2. THE AGGREGATE SHOULD BE PLACED WITH A MINIMUM THICKNESS OF CONDITION AS STONE IS PRESSED INTO SOIL. 8-INCHES. . PAD TOO SHORT FOR HEAVY CONSTRUCTION TRAFFIC-EXTEND PAD BEYOND 3. THE GEOTEXTILE FABRIC SHOULD BE DESIGNED SPECIFICALLY FOR USE AS THE MINIMUM 50-FOOT LENGTH AS NECESSARY. A SOIL FILTRATION MEDIA WITH AN APPROXIMATE WEIGHT OF 6 OZ/YD2, A 4. PAD NOT FLARED SUFFICIENTLY AT ROAD SURFACE, RESULTS IN MUD BEING MULLEN BURST RATING OF 140 LB/IN², AND AN EQUIVALENT OPENING SIZE TRACKED ON TO ROAD AND POSSIBLE DAMAGE TO ROAD. GREATER THAN A NUMBER 50 SIEVE. 5. UNSTABLE FOUNDATION - USE GEOTEXTILE FABRIC UNDER PAD AND/OR 4. IF A WASHING FACILITY IS REQUIRED, A LEVEL AREA WITH A MINIMUM OF IMPROVE FOUNDATION DRAINAGE. 4-INCH DIAMETER WASHED STONE OR COMMERCIAL ROCK SHOULD BE INCLUDED IN THE PLANS. DIVERT WASTEWATER TO A SEDIMENT TRAP OF INSPECTION AND MAINTENANCE GUIDELINES BASIN THE ENTRANCE SHOULD BE MAINTAINED IN A CONDITION, WHICH WILL INSTALLATION PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS I. AVOID CURVES ON PUBLIC ROADS AND STEEP SLOPES. REMOVE VEGETATION AND OTHER OBJECTIONABLE MATERIAL FROM THE FOUNDATION CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. AREA. GRADE CROWN FOUNDATION FOR POSITIVE DRAINAGE. 2. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC 2. THE MINIMUM WIDTH OF THE ENTRANCE/EXIT SHOULD BE 12 FEET OR THE RIGHTS-OF-WAY SHOULD BE REMOVED IMMEDIATELY BY CONTRACTOR. FULL WIDTH OF EXIT ROADWAY, WHICHEVER IS GREATER. 3. WHEN NECESSARY, WHEELS SHOULD BE CLEANED TO REMOVE SEDIMENT 3. THE CONSTRUCTION ENTRANCE SHOULD BE AT LEAST 50 FEET LONG. PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY. THE SLOPE TOWARD THE ROAD EXCEEDS 2%, CONSTRUCT A RIDGE 4. WHEN WASHING IS REQUIRED. IT SHOULD BE DONE ON AN AREA STABILIZED 6-INCHES TO 8-INCHES HIGH WITH 3:1 (H:V) SIDE SLOPES, ACROSS THE WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR FOUNDATION APPROXIMATELY 15 FEET FROM THE ENTRANCE TO DIVERT RUNOFF AWAY FROM THE PUBLIC ROAD. SEDIMENT BASIN 5. ALL SEDIMENT SHOULD BE PREVENTED FROM ENTERING ANY STORM DRAIN, 5. PLACE GEOTEXTILE FABRIC AND GRADE FOUNDATION TO IMPROVE STABILITY, DITCH OR WATER COURSE BY USING APPROVED METHODS. 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. PIPE UNDER PAD AS NEEDED TO MAINTAIN PROPER PUBLIC ROAD 8. INSTALL DRAINAGE STABILIZED CONSTRUCTION ENTRANCE/EXIT DETAIL NOT-TO-SCALE <u>SHOOTS</u> OR GRASS BLADES. GRASS SHOULD BE GREEN AND HEALTHY: MOWED AT A 2"-3" CUTTING HEIGHT - THATCH- GRASS CLIPPINGS AND CORRECT DEAD LEAVES, UP TO 1/2" THICK. LAY SOD IN A STAGGERED PATTERN. BUTT -ROOT ZONE - SOIL AND ROOTS. THE STRIPS TIGHTLY AGAINST EACH OTHER. SHOULD BE 1/2"-3/4" THICK, WITH DO NOT LEAVE SPACES AND DO NOT DENSE ROOT MAT FOR STRENGTH. OVERLAP. A SHARPENED MASON'S TROWEL IS A HANDY TOOL FOR TUCKING DOWN THE APPEARANCE OF GOOD SOD ENDS AND TRIMMING PIECES. INCORREC^T - ANGLED ENDS CAUSED BY TH ROLL SOD IMMEDIATELY TO ACHIEVE FIRM CONTACT WITH THE AUTOMATIC SOD CUTTER MUST BE MATCHED SOIL. SOD INSTALLATION CORRECTLY. 2. WATER TO A DEPTH OF 4" AS NEEDED. WATER WELL AS SOON AS THE SOD IS LAID. 3. MOW WHEN THE SOD IS ESTABLISHED - IN 2-3 WEEKS. SET THE MOWER HIGH $(2^{\circ}-3^{\circ})$. LAY SOD ACROSS THE DIRECTION OF FLOW PEG OR STAPLE USE PEGS OR STAPLES TO FASTEN SOD FIRMLY - AT THE ENDS OF STRIPS AND IN THE CENTER. OR EVERY 3-4 FEET IF THE STRIPS ARE LONG. WHEN READY TO MOW, DRIVE PEGS OR STAPLES FLUSH IN CRITICAL AREAS, SECURE SOD WITH THE GROUND. WITH NETTING. USE STAPLES. **MATERIALS** GENERAL INSTALLATION (VA. DEPT. OF 1. SOD SHOULD BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4" INCH CONSERVATION, 1992 (± 1/4" INCH) AT THE TIME OF CUTTING. THIS THICKNESS SHOULD EXCLUDE SOD SHOULD NOT BE CUT OR LAID IN EXCESSIVELY WET OR DRY WEATHER. SHOOT GROWTH AND THATCH. SOD ALSO SHOULD NOT BE LAID ON SOIL SURFACES THAT ARE FROZEN. 2. PIECES OF SOD SHOULD BE CUT TO THE SUPPLIER'S STANDARD WIDTH AND 2. DURING PERIODS OF HIGH TEMPERATURE, THE SOIL SHOULD BE LIGHTLY LENGTH, WITH A MAXIMUM ALLOWABLE DEVIATION IN ANY DIMENSION OF 5%. IRRIGATED IMMEDIATELY PRIOR TO LAYING THE SOD, TO COOL THE SOIL AND TORN OR UNEVEN PADS SHOULD NOT BE ACCEPTABLE. REDUCE ROOT BURNING AND DIEBACK. 3. STANDARD SIZE SECTIONS OF SOD SHOULD BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN FIRST ROW OF SOD SHOULD BE LAID IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO AND BUTTING TIGHTLY AGAINST EACH SUSPENDED FROM A FIRM GRASP ON ONE END OF THE SECTION. OTHER. LATERAL JOINTS SHOULD BE STAGGERED TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. CARE SHOULD BE EXERCISED TO ENSURE THAT SOD 4. SOD SHOULD BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT OF 36 HOURS. IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE DRYING OF THE ROOTS (SEE FIGURE ABOVE) 4. ON SLOPES 3:1 OR GREATER, OR WHEREVER EROSION MAY BE A PROBLEM, SITE PREPARATION SOD SHOULD BE LAID WITH STAGGERED JOINTS AND SECURED BY STAPLING OF OTHER APPROVED METHODS. SOD SHOULD BE INSTALLED WITH THE LENGTH PRIOR TO SOIL PREPARATION, AREAS TO BE SODDED SHOULD BE BROUGHT PERPENDICULAR TO THE SLOPE (ON CONTOUR). TO FINAL GRADE IN ACCORDANCE WITH THE APPROVED PLAN. 5. AS SODDING OF CLEARLY DEFINED AREAS IS COMPLETED, SOD SHOULD BE THE SURFACE SHOULD BE CLEARED OF ALL TRASH, DEBRIS AND OF ALL ROOTS, BRUSH, WIRE, GRADE STAKES AND OTHER OBJECTS THAT WOULD ROLLED OR TAMPED TO PROVIDE FIRM CONTACT BETWEEN ROOTS AND SOIL. INTERFERE WITH PLANTING, FERTILIZING OR MAINTENANCE OPERATIONS. 6. AFTER ROLLING, SOD SHOULD BE IRRIGATED TO A DEPTH SUFFICIENT THAT THE UNDERSIDE OF THE SOD PAD AND THE SOIL 4 INCHES BELOW THE SOD IS FERTILIZE ACCORDING TO SOIL TESTS. FERTILIZER NEEDS CAN BE

DETERMINED BY A SOIL TESTING LABORATORY OR REGIONAL RECOMMENDATIONS THOROUGHLY WET. CAN BE MADE BY COUNTY AGRICULTURAL EXTENSION AGENTS. FERTILIZER UNTIL SUCH TIME A GOOD ROOT SYSTEM BECOMES DEVELOPED, IN THE SHOULD BE WORKED INTO THE SOIL TO A DEPTH OF 3 INCHES WITH A DISC, ABSENCE OF ADEQUATE RAINFALL, WATERING SHOULD BE PERFORMED AS SPRINGTOOTH HARROW OR OTHER SUITABLE EQUIPMENT. ON SLOPING LAND, THE OFTEN AS NECESSARY TO MAINTAIN MOIST SOIL TO A DEPTH OF AT LEAST 4 FINAL HARROWING OR DISCING OPERATION SHOULD BE ON THE CONTOUR.

INSTALLATION IN CHANNELS

SOD STRIPS IN WATERWAYS SHOULD BE LAID PERPENDICULAR TO THE DIRECTION OF FLOW. CARE SHOULD BE TAKEN TO BUTT ENDS OF STRIPS TIGHTLY (SEE FIGURE ABOVE).

AFTER ROLLING OR TAMPING, SOD SHOULD BE PEGGED OR STAPLED TO RESIST WASHOUT DURING THE ESTABLISHMENT PERIOD. MESH OR OTHER NETTING MAY BE PEGGED OVER THE SOD FOR EXTRA PROTECTION IN CRITICAL AREAS.

8. THE FIRST MOWING SHOULD NOT BE ATTEMPTED UNTIL THE SOD IS FIRMLY ROOTED, USUALLY 2-3 WEEKS. NOT MORE THAN ONE THIRD OF THE GRASS LEAF SHOULD BE REMOVED AT ANY ONE CUTTING.

INSPECTION AND MAINTENANCE GUIDELINES SOD SHOULD BE INSPECTED WEEKLY AND AFTER EACH RAIN EVENT TO LOCATE AND REPAIR ANY DAMAGE.

. DAMAGE FROM STORMS OR NORMAL CONSTRUCTION ACTIVITIES SUCH AS TIRE RUTS OR DISTURBANCE OF SWALE STABILIZATION SHOULD BE REPAIRED AS SOON AS PRACTICAL.

5 DOCUMENT HAS BEEN PRODUCED FROM MATERIAL THAT WAS STORED AND/OR TRANSMITTED ELECTRONICALLY AND MAY HAVE BEEN INADVERTENTLY ALTERED. RELY ONLY ON FINAL HARDCOPY MATERIALS BEARING THE CONSULTANT'S ORIGINAL SIGNATURE AND SEAL. AERIAL IMAGERY PROVIDED BY GOOGLE® UNLESS OTHERWISE NOTED. Imagery © 2016, CAPCOG, Digital Globe, Texas Orthoimagery Program, USDA Farm Service Agency.

SOD INSTALLATION DETAIL

NOT-TO-SCALE

ISOMETRIC PLAN VIEW

ROCK BERMS

THE PURPOSE OF A ROCK BERM IS TO SERVE AS A CHECK DAM IN AREAS OF CONCENTRATED FLOW, TO INTERCEPT SEDIMENT-LADEN RUNOFF, DETAIN THE SEDIMENT AND RELEASE THE WATER IN SHEET FLOW. THE ROCK BERM SHOULD BE USED WHEN THE CONTRIBUTING DRAINAGE AREA IS LESS THAN 5 ACRES. ROCK BERMS ARE USED IN AREAS WHERE THE VOLUME OF RUNOFF IS TOO GREAT FOR A SILT FENCE TO CONTAIN. THEY ARE LESS EFFECTIVE FOR SEDIMENT REMOVAL THAN SILT FENCES, PARTICULARLY FOR FINE PARTICLES, BUT ARE ABLE TO WITHSTAND HIGHER FLOWS THAN A SILT FENCE. AS SUCH, ROCK BERMS ARE OFTEN USED IN AREAS OF CHANNEL FLOWS (DITCHES, GULLIES, ETC.). ROCK BERMS ARE MOST EFFECTIVE AT REDUCING BED LOAD IN CHANNELS AND SHOULD NOT BE SUBSTITUTED FOR OTHER EROSION AND SEDIMENT CONTROL MEASURES FARTHER UP THE WATERSHED.

INSPECTION AND MAINTENANCE GUIDELINES

, INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL BY THE RESPONSIBLE PARTY. FOR INSTALLATIONS IN STREAMBEDS, ADDITIONAL DAILY INSPECTIONS SHOULD BE MADE.

2. REMOVE SEDIMENT AND OTHER DEBRIS WHEN BUILDUP REACHES 6 INCHES AND DISPOSE OF THE ACCUMULATED SILT IN AN APPROVED MANNER THAT WILL NOT CAUSE ANY ADDITIONAL SILTATION.

3. REPAIR ANY LOOSE WIRE SHEATHING.

4. THE BERM SHOULD BE RESHAPED AS NEEDED DURING INSPECTION 5. THE BERM SHOULD BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.

6. THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS ARE STABILIZED AND ACCUMULATED SILT REMOVED.

SECTION "A-A'

MATERIALS

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-INCH TO 5-INCH DIAMETER ROCK SHOULD BE USED, EXCEPT IN AREAS WHERE HIGH VELOCITIES OR LARGE VOLUMES OF FLOW ARE EXPECTED, WHERE 5-INCH 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 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.

COMMON TROUBLE POINTS

. INSUFFICIENT BERM HEIGHT OR LENGTH (RUNOFF QUICKLY ESCAPES OVER THE TOP OR AROUND THE SIDES OF BERM).

2. BERM NOT INSTALLED PERPENDICULAR TO FLOW LINE (RUNOFF ESCAPING AROUND ONE SIDE).

SILT FENCE

A SILT FENCE IS A BARRIER CONSISTING OF GEOTEXTILE FABRIC SUPPORTED BY METAL POSTS TO PREVENT SOIL AND SEDIMENT LOSS FROM A SITE. WHEN PROPERLY USED. SILT FENCES CAN BE HIGHLY EFFECTIVE AT CONTROLLING SEDIMENT FROM DISTURBED AREAS. THEY CAUSE RUNOFF TO POND, ALLOWING HEAVIER SOLIDS TO SETTLE OUT. IF NOT PROPERLY INSTALLED, SILT FENCES ARE NOT LIKELY TO BE EFFECTIVE.

THE PURPOSE OF A SILT FENCE IS TO INTERCEPT AND DETAIN WATER-BORN SEDIMENT FROM UNPROTECTED AREAS OF A LIMITED EXTENT. SILT FENCE IS USED DURING THE PERIOD OF CONSTRUCTION NEAR THE PERIMETER OF A DISTURBED AREA TO INTERCEPT SEDIMENT WHILE ALLOWING WATER TO PERCOLATE THROUGH. THIS FENCE SHOULD REMAIN IN PLACE UNTIL THE DISTURBED AREA IS PERMANENTLY STABILIZED. SILT FENCE SHOULD NOT BE USED WHERE THERE IS A CONCENTRATION OF WATER IN A CHANNEL OR DRAINAGE WAY. IF CONCENTRATED FLOW OCCURS AFTER INSTALLATION, CORRECTIVE ACTION MUST BE TAKEN SUCH AS PLACING A ROCK BERM IN THE AREAS OF CONCENTRATED FLOW.

SILT FENCING WITHIN THE SITE MAY BE TEMPORARILY MOVED DURING THE DAY TO ALLOW CONSTRUCTION ACTIVITY PROVIDED IT IS REPLACED AND PROPERLY ANCHORED TO THE GROUND AT THE END OF THE DAY. SILT FENCES ON THE PERIMETER OF THE SITE OR AROUND DRAINAGE WAYS SHOULD NOT BE MOVED AT ANY TIME.

MATERIALS

I. SILT FENCE MATERIAL SHOULD BE POLYPROPYLENE, POLYETHYLENE, OR POLYAMIDE WOVEN OR NONWOVEN FABRIC. THE FABRIC 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 NUMBER 30.

. FENCE POSTS SHOULD BE MADE OF HOT ROLLED STEEL, AT LEAST 4 FEET LONG WITH TEE OR Y-BAR CROSS SECTION, SURFACE PAINTED OR GALVANIZED, MINIMUM WEIGHT 1.25 LB/FT, AND BRINDELL HARDNESS EXCEEDING 140.

3. WOVEN WIRE BACKING TO SUPPORT THE FABRIC SHOULD BE GALVANIZED 2" X 4" WELDED WIRE, 12 GAUGE MINIMUM.

INSTALLATION

1. STEEL POSTS, WHICH SUPPORT THE SILT FENCE, SHOULD BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POSTS MUST BE EMBEDDED A MINIMUM OF 1-FOOT DEEP AND SPACED NOT MORE THAN 8 FEET ON CENTER. WHERE WATER CONCENTRATES, THE MAXIMUM SPACING SHOULD BE 6 FEET.

2. LAY OUT FENCING DOWN-SLOPE OF DISTURBED AREA, FOLLOWING THE CONTOUR AS CLOSELY AS POSSIBLE. THE FENCE SHOULD BE SITED SO THAT THE MAXIMUM DRAINAGE AREA IS 1/4 ACRE/100 FEET OF FENCE.

3. THE TOE OF THE SILT FENCE SHOULD BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWN-SLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CANNOT BE TRENCHED IN (E.G., PAVEMENT OR ROCK OUTCROP), WEIGHT FABRIC FLAP WITH 3 INCHES OF PEA GRAVEL ON UPHILL SIDE TO PREVENT FLOW FROM SEEPING UNDER FENCE.

4. THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.

5. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POST. THERE SHOULD BE A 3-FOOT OVERLAP, SECURELY FASTENED WHERE ENDS OF FABRIC MEET

6. SILT FENCE SHOULD BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

COMMON TROUBLE POINTS FENCE NOT INSTALLED ALONG THE CONTOUR CAUSING WATER TO

CONCENTRATE AND FLOW OVER THE FENCE. 2. FABRIC NOT SEATED SECURELY TO GROUND (RUNOFF PASSING UNDER

FENCE).

3. FENCE NOT INSTALLED PERPENDICULAR TO FLOW LINE (RUNOFF ESCAPING AROUND SIDES)

4. FENCE TREATING TOO LARGE AN AREA, OR EXCESSIVE CHANNEL FLOW (RUNOFF OVERTOPS OR COLLAPSES FENCE).

INSPECTION AND MAINTENANCE GUIDELINES 1. INSPECT ALL FENCING WEEKLY, AND AFTER RAINFALL.

2. REMOVE SEDIMENT WHEN BUILDUP REACHES 6 INCHES.

3. REPLACE TORN FABRIC OR INSTALL A SECOND LINE OF FENCING PARALLEL TO THE TORN SECTION.

4. REPLACE OR REPAIR SECTIONS CRUSHED OR COLLAPSED IN THE COURSE OF CONSTRUCTION ACTIVITY. IF A SECTION OF FENCE IS OBSTRUCTING VEHICULAR ACCESS, CONSIDER RELOCATING IT TO A SPOT WHERE IT WILL PROVIDE EQUAL PROTECTION, BUT WILL NOT OBSTRUCT VEHICLES. A TRIANGULAR FILTER DIKE MAY BE PREFERABLE TO A SILT FENCE AT COMMON VEHICLE ACCESS POINTS.

WHEN CONSTRUCTION IS COMPLETE, THE SEDIMENT SHOULD BE DISPOSED OF IN A MANNER THAT WILL NOT CAUSE ADDITIONAL SILTATION AND THE PRIOR LOCATION OF THE SILT FENCE SHOULD BE REVEGETATED. THE FENCE ITSELF SHOULD BE DISPOSED OF IN AN APPROVED LANDFILL

FROM STORM WATER RUNOFF.

MATERIALS

MAINTENANCE

AND DISPOSED OF.

SILT FENCE DETAIL

NOT-TO-SCALE