COSSER ONALASKA

SECTION 30 TOWNSHIP 13N RANGE 001E
ONALASKA, WASHINGTON

RECEIVED
By K. Witherspoon at 12:31 pm, May 12, 2021

PROJECT INFORMATION:

APPLICANT:	DAVID COSSER 282 SW 13TH ST CHEHALIS, WA 98532
SITE ADDRESS:	0 CENTRAL AVE, ONALASKA, WA 98570
PARCEL NUMBER:	032801001004 & 032801004000
ZONING:	STMU: SMALL TOWNS MIXED USE/COMMERCIAL
LOTS:	48 PROPOSED
SITE SOILS:	CINEBAR SILT LOAM
WATER:	LEWIS COUNTY WATER & SEWER DISTRICT #5
SANITARY SEWER:	LEWIS COUNTY WATER & SEWER DISTRICT #5
GRADING:	1083± CY FILL 2770± CY CUT

SURVEY INFORMATION:

LEGAL DESCRIPTION
A BOUNDARY AND TOPOGRAPHIC SURVEY OF A PORTION OF THE NE 1/4 OF THE SE 1/4 AND THE SE 1/4 OF THE SE 1/4 OF SECTION 30, TOWNSHIP 13 NORTH, RANGE 1 EAST, W.M. LEWIS COUNTY, WASHINGTON

VERTICAL DATUM
NAVD 83/91

BASIS OF BEARING
PER RECORD OF SURVEY OF A BOUNDARY LINE AGREEMENT AS FILED IN VOLUME 33, PAGE 126, AUDITOR'S FILE NUMBER 3530757 RECORDS OF LEWIS COUNTY, WASHINGTON.

GEOTECHNICAL INFORMATION:

A GEOTECHNICAL REPORT WAS NOT PREPARED FOR THIS PROJECT. IN LIEU OF A REPORT ALL CONSTRUCTION SHALL COMPLY WITH STANDARD SPECIFICATIONS.

TOPOGRAPHIC INFORMATION:

TOPOGRAPHIC INFORMATION DEPICTED IN THESE DRAWINGS WAS PROVIDED BY GOODMAN LAND SURVEYING. TOPOGRAPHIC INFORMATION WAS NOT FIELD VERIFIED BY FULLER DESIGNS.

LEGEND:

LINETYPES:

EXISTING	PROPOSED	DESC.
		LOT LINE
		EASEMENT
X X		FENCING
		DITCH/WETLAND
		CENTERLINE
		RIGHT OF WAY
		EDGE OF PAVEMENT
		EDGE OF GRAVEL
		BUILDING
		BUILDING SETBACKS
XX	XX	CONTOUR LINE (MAJOR)
		CONTOUR LINE (MINOR)
E	E	ELECTRICAL UNDERGROUND
OE	OE	ELECTRICAL OVERHEAD
OT	OT	TELECOMMUNICATION
G	G	GAS MAIN
W	W	WATER MAIN
SS	SS	SEWER MAIN
FM	FM	FORCE MAIN
ST	ST	STORM MAIN
	SF	SILT FENCE
		PROJECT AREA

SYMBOLS:

EXISTING	PROPOSED	DESC.
		SURFACE FLOW
		SS CLEAN OUT
		GRINDER PUMP
XXXX.XX	XXXX.XX	SPOT ELEVATION
S		SEWER MANHOLE
		CATCH BASIN
		TUNDISH
		END PIPE
		WATER METER BOX
		VALVE
		HYDRANT
		BLOW-OFF ASSEMBLY
		POLE
		STREET LIGHT
		TREE
	X	LOT NUMBER

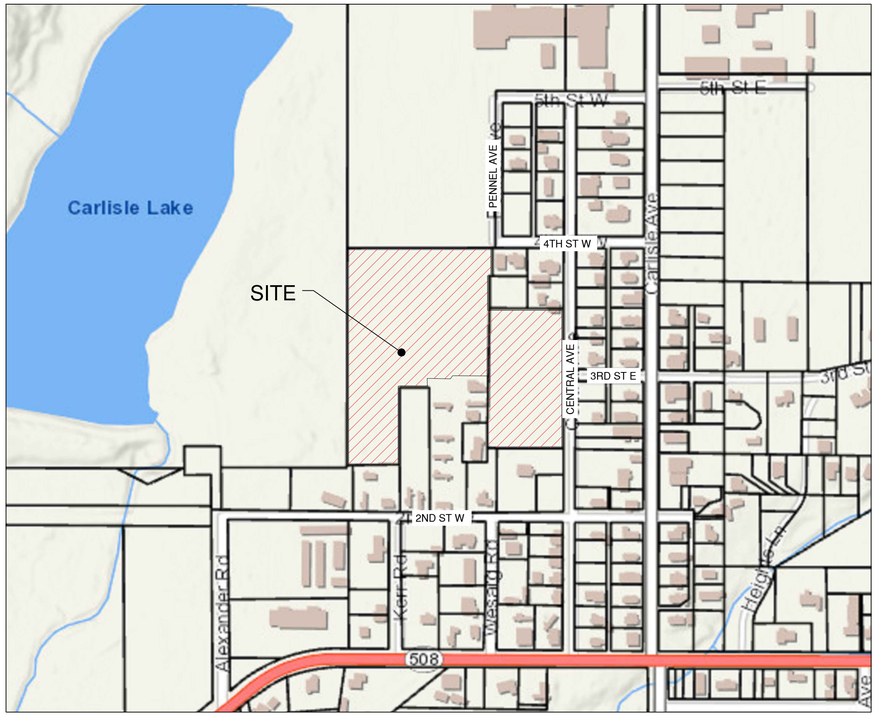
HATCH:

EXISTING	PROPOSED	DESC.
		AC PAVEMENT
		GRAVEL AREA
		CONCRETE SIDEWALK
		STORM AREA

ABBREVIATIONS:

AC	ASPHALT CONCRETE
BCR	BEGIN CURB RETURN
BM	BENCHMARK
BVCS	BEGIN VERTICAL CURVE STATION
BCVE	BEGIN VERTICAL CURVE ELEVATION
CATV	CABLE TELEVISION
CB	CATCH BASIN
CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
CO	CLEAN OUT
CY	CUBIC YARD
°	DEGREES
Ø	DIAMETER
EE	ELECTRICAL
ECR	END CURB RETURN
EL	ELEVATION
EOP	EDGE OF PAVEMENT
EVCS	END VERTICAL CURVE STATION
EVCE	END VERTICAL CURVE ELEVATION
EX	EXISTING
FF	FINISH FLOOR
FG	FINISH GRADE
FH	FIRE HYDRANT
FL	FLOW LINE
FM	FORCE MAIN
G	GAS
GB	GRADE BREAK
GM	GAS METER
GV	GATE VALVE
HP	HIGH POINT
HDPE	HIGH DENSITY POLYETHYLENE
K	CALCULATED CURVE VALUE
L	LENGTH
LCV	LENGTH VERTICAL CURVE
LF	LINEAR FEET
M	METER
MH	MAN HOLE
MJ	MECHANICAL JOINT
NFC	NOT FOR CONSTRUCTION
OHP	OVER HEAD POWER
P	POWER
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
PL	PROPERTY LINE
POB	POINT OF BEGINNING
POC	POINT OF CONNECTION
PRC	POINT OF REVERSE CURVATURE
PT	POINT OF TANGENCY
PVC	POLY-VINYL CHLORIDE
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
RFC	RELEASED FOR CONSTRUCTION
ROW	RIGHT OF WAY
RPBA	REDUCED PRESSURE BACKFLOW ASSEMBLY
S	SLOPE
SF	SQUARE FOOT
SD	STORM DRAIN
SS	SANITARY SEWER
ST	STORM
STA	STATION
SW	SIDEWALK
T	TELEPHONE
TB	TRUST BLOCK
TC	TOP OF CURB/CONCRETE
TESC	TEMPORARY EROSION AND SEDIMENT CONTROL
TG	TOP OF GRATE
TYP	TYPICAL
UGP	UNDERGROUND POWER
W	WATER
WM	WATER METER
WV	WATER VALVE
±	APPROXIMATELY
%	PERCENT
Δ	DELTA

VICINITY MAP



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UTILITIES LOCATE NOTE:

EXISTING UTILITIES LOCATION SHOWN IN THIS PLAN SET IS BASED ON INFORMATION OBTAINED FROM VARIOUS RECORDS RESEARCH, ASBUILT DATA, AND FIELD MEASUREMENTS. FULLER DESIGNS ASSUMES NO RESPONSIBILITY FOR EXACT LOCATION OF UTILITIES EITHER SHOWN OR NOT SHOWN IN THESE DRAWINGS. CONTRACTOR SHALL VERIFY THE EXACT SIZE, DEPTH, LOCATION, AND ARRANGEMENT OF ALL UTILITIES PRIOR TO CONSTRUCTION. CONTRACTOR SHALL CALL UNDERGROUND LOCATE AT 811 PRIOR TO PERFORMING CONSTRUCTIONS ACTIVITIES.

PRELIMINARY
FOR PERMIT ONLY

PROJECT SPECIFICATIONS:

THE WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR rd, BRIDGE AND MUNICIPAL CONSTRUCTION, 2020 WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT) (HEREAFTER "STANDARD SPECIFICATIONS").

ALSO INCORPORATED INTO THESE CONTRACT DOCUMENTS BY REFERENCE ARE:

A. MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)
B. COUNTY RD STANDARDS
C. COUNTY DRAINAGE STANDARDS
D. THE INTERNATIONAL BUILDING CODE (IBC)

CURRENT EDITIONS OF THESE STANDARDS SHALL BE USED WHICH EXIST ON THE DATE OF CONTRACT ACCEPTANCE.

CONTRACTOR SHALL OBTAIN COPIES OF THESE PUBLICATION AT CONTRACTOR'S OWN EXPENSE.

THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, TRANSPORTATION, SUPPLIES AND INCIDENTALS REQUIRED TO COMPLETE ALL WORK SHOWN ON THESE DRAWINGS. ONCE WORK IS COMPLETED CONTRACTOR SHALL OBTAIN ACCEPTANCE BY THE COUNTY AND PROJECT ENGINEER.

THE INTENT OF THESE DRAWINGS IS TO PRESCRIBE A COMPLETE PROJECT. OMISSIONS FROM THE DRAWINGS OF DETAIL OF WORK WHICH IS NECESSARY TO CARRY OUT THE INTENT OF THE DRAWINGS SHALL NOT RELIEVE THE CONTRACTOR FROM PROVIDING THE OMITTED WORK.

ANY PROPOSED ALTERATIONS BY THE CONTRACTOR AFFECTING THE REQUIREMENTS AND INFORMATION IN THESE DRAWINGS SHALL BE IN WRITING AND WILL REQUIRE APPROVAL OF THE ENGINEER AND INSPECTOR.

WORK IN RIGHT OF WAY:

CONTRACTOR SHALL OBTAIN A RIGHT OF WAY PERMIT PRIOR TO COMMENCING ANY WORK LOCATED IN RIGHT OF WAY. ALL WORK PERFORMED IN THE RIGHT OF WAY SHALL ADHERE TO DRAWINGS, STANDARD SPECIFICATIONS, AND REQUIREMENTS OUTLINED IN THE RIGHT OF WAY PERMIT.

RECORD DRAWINGS:

FULLER DESIGNS IS REQUIRED BY THE COUNTY TO PROVIDE RECORD DRAWING CERTIFICATION PRIOR TO FINAL COUNTY ACCEPTANCE. FULLER DESIGNS WILL NOT CERTIFY RECORD DRAWINGS WITHOUT INSPECTION OF BELOW GRADE UTILITIES AND STRUCTURES. PRIOR TO BACKFILLING, CONTRACTOR SHALL NOTIFY FULLER DESIGNS OF NECESSARY INSPECTIONS.

CONTRACTOR TO VERIFY ALL DIMENSIONS IN FIELD AND NOTIFY ENGINEER OR INSPECTOR OF INCONSISTENCIES PRIOR TO START OF CONSTRUCTION. CONTRACTOR SHALL MAINTAIN ONE SET OF THE CONTRACT DRAWINGS THAT SHALL INCLUDE: ANY ALTERATIONS OR LOCATION OF UNDERGROUND UTILITIES ENCOUNTERED DURING THE PROGRESS OF THE PROJECT, ANY ALTERATIONS MADE TO THE IMPROVEMENTS BEING INSTALLED. MARKED DRAWINGS SHALL BE CLEAR AND LEGIBLE. DRAWINGS SHALL BE MARKED "RECORD DRAWINGS" AND SHALL BE SUBMITTED TO THE ENGINEER UPON PROJECT COMPLETION.

CONTRACTOR LIABILITY NOTE:

CONTRACTOR AGREES TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR THE JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY THROUGHOUT PROJECT EXECUTION AND NOT BE LIMITED TO WORKING HOURS. CONTRACTOR SHALL PROGRESS WORK IN A MANOR THAT SHALL INDEMNIFY AND HOLD FULLER DESIGNS HARMLESS FROM ALL LIABILITY IN CONNECTION WITH CONTRACTOR'S PERFORMED WORK.

REMOVAL OF UNSUITABLE MATERIALS:

IF UNSUITABLE MATERIALS AS DEFINED BY THE STANDARD SPECIFICATIONS ARE ENCOUNTERED, THIS MATERIAL SHALL BE REMOVED TO THE DEPTH REQUIRED BY THE ENGINEER OR INSPECTOR AND REPLACED WITH SUITABLE MATERIAL.

UNSUITABLE MATERIAL SHALL BE REMOVED FROM THE SITE AND HAULED TO A WASTE SITE OBTAINED BY THE CONTRACTOR. PRIOR TO REMOVAL, CONTRACTOR SHALL NOTIFY PROJECT OWNER SO MEASUREMENT/PAYMENT CAN BE MADE PER TON OF UNSUITABLE MATERIAL REMOVED.

EROSION CONTROL NOTE:

EROSION CONTROL MEASURES ARE NOT LIMITED TO THE ITEMS ON THESE PLANS. CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION CONTROL MEASURES. NO SILTATION OF EXISTING OR PROPOSED DRAINAGE STRUCTURES WILL BE PERMITTED. CARE SHALL BE TAKEN TO PREVENT MIGRATION OF SOILS TO ADJACENT PROPERTIES. DISTURBED EARTH SHALL BE STABILIZED AS REQUIRED BY THE STANDARD SPECIFICATIONS. INDIVIDUAL DESIGNATED TO MONITOR EROSION CONTROL FACILITIES DURING CONSTRUCTION SHALL HAVE CESCL CERTIFICATION.

GENERAL NOTES:

CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION ACTIVITIES WITH ADJACENT PROPERTY OWNERS. DRIVEWAYS AND UTILITY SERVICES SHALL REMAIN ACCESSIBLE AT ALL TIMES.

AREAS DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO THEIR ORIGINAL PRE-CONSTRUCTION STATE OR BETTER UPON COMPLETION OF WORK.

THESE DRAWINGS AND ALL ACCOMPANYING MATERIALS ARE COPYRIGHTED. UNAUTHORIZED COPYING OF THESE DOCUMENTS IS FORBIDDEN WITHOUT THE WRITTEN CONSENT OF FULLER DESIGNS.

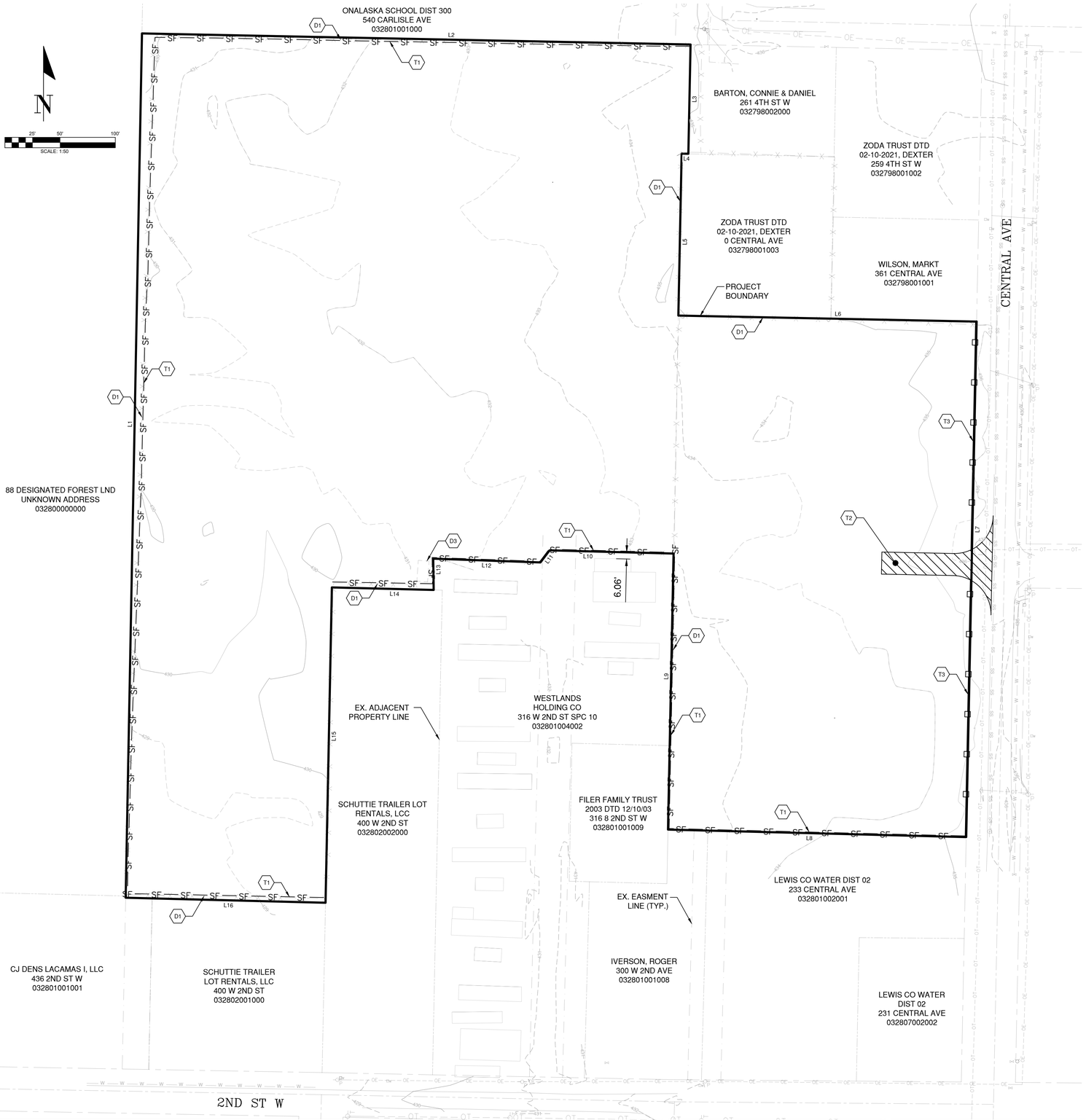
DRAWING TITLE: CIVIL COVER SHEET
SCALE: N/A
DATE: 02/26/21
DRAWN: SD
CHECKED: MF
PROJECT NAME: COSSER ONALASKA

FULLER DESIGNS
1101 KRESKY AVE
CENTRALIA, WA 98531
(360) 807-4420

REV:	DESCRIPTION:	DATE:
0	PRELIMINARY - FOR PERMIT	02/26/21
1	----	----

C0.1
1 OF 21

SECTION 30 TOWNSHIP 13N RANGE 001E



TESC NOTES:

T1 INSTALL SILT FENCE PER DETAIL T-1, SHEET C1.2.

T2 INSTALL 100' LONG CONSTRUCTION ENTRANCE PER DETAIL T-2, SHEET C1.2.

T3 INSTALL HIGH VISIBILITY CONSTRUCTION FENCING.

DEMOLITION NOTES:

D1 EX. FENCE TO REMAIN.

D2 EX. FENCE TO BE REMOVED.

D3 EX. STRUCTURE TO BE REMOVED.

Parcel Line Table		
Line #	Bearing	Distance (LF)
L1	N1° 04' 47.17"E	782.76
L2	S88° 50' 36.50"E	496.81
L3	S1° 09' 14.65"W	99.00
L4	N88° 50' 37.89"W	6.09
L5	S1° 09' 14.65"W	146.62
L6	N88° 50' 37.89"W	270.09
L7	S1° 09' 14.65"W	466.89
L8	S88° 33' 38.00"E	270.10
L9	N1° 09' 14.65"E	250.00
L10	S88° 30' 00.37"E	112.28
L11	S36° 58' 48.94"W	13.76
L12	S87° 57' 48.69"E	97.14
L13	S0° 46' 35.63"E	28.36
L14	S88° 33' 38.00"E	92.19
L15	S1° 09' 14.65"W	285.63
L16	S88° 33' 05.34"E	181.00

NOTES TO CONTRACTOR:

1. ALL EXPOSED SOIL SURFACES SHALL BE SEEDED WITH AN EROSION CONTROL SEED MIX OR HYDROSEEDED IF NOT WORKED WITHIN 7 CALENDAR DAYS FROM MAY 1 TO SEPTEMBER 30. SOIL SHALL BE COVERED WITHIN 2 DAYS FROM OCTOBER 1 TO APRIL 30.
2. SEEDED AREAS WILL BE COVERED WITH MULCH, HAY OR OTHER PROTECTIVE COVERING APPROVED BY THE ENGINEER TO PREVENT WASHOUT DURING RAIN EVENTS.
3. ROUTINE INSPECTION AND MAINTENANCE OF ALL INSTALLED EROSION AND SEDIMENT CONTROL BMPS, ESPECIALLY AFTER STORMS, IS REQUIRED.
4. PERIODIC STREET CLEANING MAY BE NECESSARY TO REMOVE ANY SEDIMENT TRACKED OFF THE SITE.
5. IN THE EVENT PROPOSED BMPS FAIL, APPROPRIATE MEASURES MUST BE TAKEN TO STOP SEDIMENTS FROM ENTERING WATERWAYS.

PRELIMINARY
FOR PERMIT ONLY

DRAWING TITLE: EX. CONDITIONS, DEMO AND TESC PLAN
SCALE: 1:50
DATE: 02/26/21
DRAWN: SD
CHECKED: MF
PROJECT NAME: COSSER ONALASKA

FULLER DESIGNS
1101 KRESKY AVE
CENTRALIA, WA 98531
(360) 807-4420

REV:	DESCRIPTION:	DATE:
0	PRELIMINARY - FOR PERMIT	02/26/21
1	----	----

C1.1

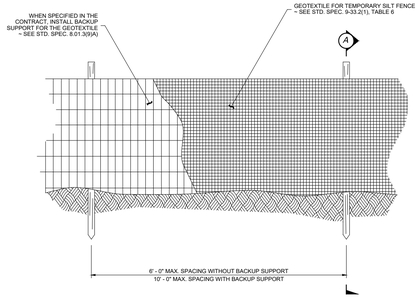
SECTION 30 TOWNSHIP 13N RANGE 001E

EROSION CONTROL NOTES

1. EROSION CONTROL MEASURES WILL BE IN PLACE PRIOR TO THE BEGINNING OF CONSTRUCTION. A REPRESENTATIVE FROM THE PUBLIC WORKS DEPARTMENT WILL INSPECT AND APPROVE THE EROSION CONTROL MEASURES PRIOR TO THE START OF CONSTRUCTION.
2. EROSION CONTROL MEASURES ARE NOT LIMITED TO THE ITEMS ON THIS PLAN. THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION MEASURES, AS REQUIRED UNDER THE MOST RECENT VERSION OF THE CITY STORMWATER MANAGEMENT PLAN. CARE WILL BE TAKEN TO PREVENT MIGRATION OF SILT AND/OR POLLUTED RUNOFF TO OFF-SITE PROPERTIES.
3. THE CONTRACTOR WILL MAKE REGULAR SURVEILLANCE OF ALL EROSION CONTROL MEASURES. IN ADDITION, EROSION CONTROL WILL BE THOROUGHLY INSPECTED AFTER EACH RAINFALL EVENT. THE CONTRACTOR WILL MAKE ALL NECESSARY TO ENSURE THE PROPER OPERATION OF THE EROSION CONTROL MEASURES. THE CITY MAY REQUIRE MORE FREQUENT INSPECTIONS OF EROSION CONTROL MEASURES BY THE CONTRACTOR SHOULD SITE OR WEATHER CONDITIONS DICTATE.
4. DURING THE WET SEASON, NOVEMBER THROUGH MARCH, ALL DISTURBED SOILS WILL BE STABILIZED WITHIN FORTY-EIGHT (48) HOURS AFTER LAND DISTURBANCE ACTIVITIES HAVE CEASED. EROSION CONTROL MEASURES WILL INCLUDE, BUT ARE NOT LIMITED TO, INSTALLATION OF STRAW MATTING, JUTE MATTING, STRAW MULCH AND/OR WOOD CHIPS, AND COVERING THE AFFECTED AREA AND SPOIL PILES WITH PLASTIC SHEETING.
5. THE CONTRACTOR WILL CHECK ALL SEEDED OR SODDED AREAS REGULARLY TO ENSURE THAT THE VEGETATIVE COVER IS BEING ADEQUATELY ESTABLISHED. AREAS WILL BE REPAIRED, RESEEDED, AND FERTILIZED AS REQUIRED.
6. TRACKING OF SOIL OFF-SITE WILL NOT BE ALLOWED. IF ANY SOIL IS TACKED BEYOND THE LIMITS OF THE SITE, IT WILL BE REMOVED BEFORE THE END OF WORKING DAY. TO PREVENT ADDITIONAL TRACKING, VEHICLE TIRES MUST BE SWEPT OR WASHED PRIOR TO LEAVING THE PROJECT SITE.
7. NO MORE THAN 500 LINEAL FEET (LF) OF TRENCH ON DOWN-SLOPE OF MORE THAN FIVE (5) PERCENT WILL BE OPENED AT ONE TIME.
8. EXCAVATED MATERIAL WILL BE PLACED ON THE UPHILL SIDE OF TRENCHES.
9. EXCAVATED MATERIAL WILL NOT BE PLACED IN ESTABLISHED DRAINAGE DITCHES, UNDER ANY CIRCUMSTANCES.
10. TRENCH DEWATERING DEVICES WILL BE DISCHARGED IN A MANNER THAT WILL NOT ADVERSELY AFFECT FLOWING STREAMS, DRAINAGE SYSTEMS, OR OFF-SITE PROPERTIES. AN ESTABLISHED SEDIMENT TRAP WILL BE USED AS THE RECEIVER FOR ALL TRENCH DEWATERING OPERATIONS.
11. ALL DISTURBED AREAS WILL BE SEEDED OR SODDED UPON COMPLETION OF WORK. THE CONTRACTOR WILL BE RESPONSIBLE TO ENSURE THAT COMPLETE COVERAGE OF DISTURBED AREAS IS PROVIDED AND THAT GROWTH OF VEGETATION IS ESTABLISHED. SEED AND SOD APPLICATIONS WILL BE CONDUCTED IN ACCORDANCE WITH TIMELINES NOTED IN THE MOST RECENT EDITION OF THE WSDOT STANDARD SPECIFICATIONS.
12. ALL EROSION CONTROL WILL REMAIN IN PLACE UNTIL SUCH TIME AS THE SITE IS ADEQUATELY STABILIZED. PRIOR TO REMOVAL OF EROSION CONTROL MEASURES, THE PUBLIC WORKS DEPARTMENT WILL BE NOTIFIED FOR FINAL INSPECTION AND APPROVAL.

CONSTRUCTION SEQUENCE

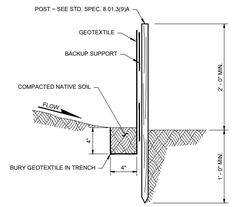
1. ARRANGE AND ATTEND PRECONSTRUCTION CONFERENCE WITH OWNER, ENGINEER, AND CITY INSPECTOR.
2. PROVIDE PERIMETER FILTER FABRIC FENCING PER SHEET C1.1 OF THIS SET.
3. PREVENT COMPACTION OF THE SOIL IN THE VICINITY OF THE PROPOSED INFILTRATION SYSTEM.
4. COMPLETE ROUGH GRADING AND BUILDING PAD.
5. INSTALL UTILITIES.
6. PROVIDE INLET PROTECTION FOR NEW CATCH BASINS.
7. FINE GRADE SITE , PROVIDE ASPHALT CONCRETE PAVEMENT AND CONSTRUCT BUILDINGS.
8. PERMANENTLY STABILIZE ALL DISTURBED AREAS.
9. AFTER SITE HAS BEEN PERMANENTLY STABILIZED, CLEAN STORM DRAINAGE AND SEPTIC SYSTEMS.
10. CALL FOR INSPECTIONS. EROSION CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL APPROVED BY THE CITY.



ELEVATION VIEW

NOTES:

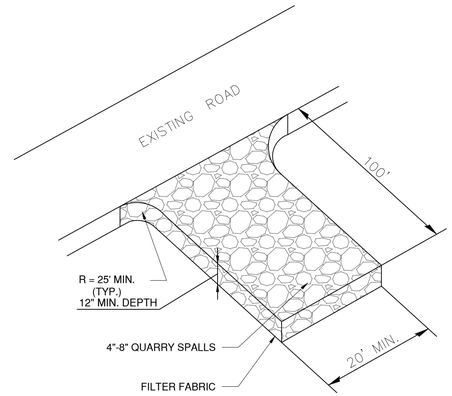
1. Maximize detention of stormwater by placing fence as far away from toe of slope as possible without encroaching on sensitive areas or outside of the clearing boundaries.
2. Install silt fencing along contours whenever possible.
3. Install the ends of the silt fence to point slightly up-slope to prevent sediment from flowing around the ends of the fence.
4. Perform maintenance in accordance with Standard Specifications 8.01.3(9)A and 8.01.3(15).



SECTION (A)

T-1

SILT FENCE



T-2

STABILIZED CONSTRUCTION ENTRANCE

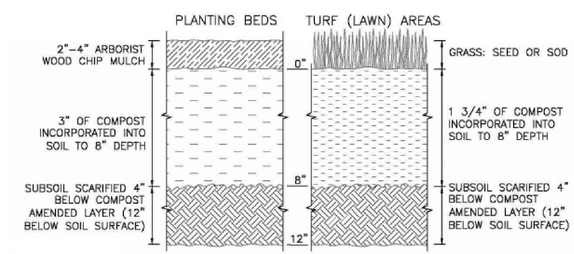
SOIL AMENDMENT NOTES

OPTION #1 - LEAVE UNDISTURBED NATIVE VEGETATION AND SOIL, AND PROTECT FROM COMPACTION DURING CONSTRUCTION. IDENTIFY AREAS OF THE SITE THAT WILL NOT BE STRIPPED, LOGGED, GRADED OR DRIVEN ON, AND FENCE THESE AREAS TO PREVENT IMPACTS DURING CONSTRUCITON (SEE BMPs C101, C100 AND C103 IN VOLUME II). IF NEITHER SOILS NOR VEGETATION ARE DISTURBED, THESE AREAS DO NOT REQUIRE AMENDMENT.

OPTION #2 - AMEND EXISTING SITE TOPSOIL OR SUBSOIL IN PLACE AT DEFAULT "PRE-APPROVED" RATES OR AT CUSTOM CALCULATED RATES BASED ON TESTS OF THE SOIL AND AMENDMENT. SCARIFY OR TILL THE SUBGRADE TO A DEPTH OF 8 INCHES (OR DEPTH NEEDED TO ACHIEVE A TOTAL DEPTH OF 12 INCHES OF UNCOMPACTED SOIL AFTER CALCULATED AMOUNT OF AMENDMENTS ARE ADDED). AMEND SOIL TO MEET REQUIRED ORGANIC CONTENT DEPENDENT ON THE USE (PLANTING AREA OR TURF, SEE FIGURE 2.1) AND WHETHER THE PRE-APPROVED OR CALCULATED RATE METHOD IS USED.

OPTIONS #3 - STOCKPILE EXISTING TOPSOIL DURING GRADING, AND REPLACE IT PRIOR TO PLANTING. STOCKPILED TOPSOIL MUST ALSO BE AMENDED IF NEEDED TO MEET THE ORGANIC MATTER OR DEPTH REQUIREMENTS, EITHER AT A DEFAULT "PRE-APPROVED" RATE OR AT A CUSTOM CALCULATED RATE. IF PLACE TOPSOIL PLUS COMPOST OR OTHER ORGANIC MATERIAL WILL AMOUNT TO LESS THAN 12 INCHES, THEN THE SUBGRADE WILL BE SCARIFIED OR TILLED TO ACHIEVE 12 INCHES OF LOOSENED SOIL AFTER AMENDMENT. REPLACE STOCKPILED TOPSOIL PRIOR TO PLANTING. AMEND STOCKPILED TOPSOIL IF NEEDED TO MEET REQUIRED ORGANIC CONTENT DEPENDENT ON THE USE (PLANTING OR TURF) AND WHETHER THE PRE-APPROVED OR CALCULATED RATE METHOD IS USED.

OPTION #4 - IMPORT TOPSOIL MIX OF SUFFICIENT ORGANIC CONTENT AND DEPTH TO MEET THE REQUIREMENTS. SCARIFY OR TILL SUBGRADE IN TWO DIRECTION TO 6 INCHES DEPTH. IMPORTED SOILS SHOULD NOT CONTAIN EXCESSIVE CLAY OR SILT FINES (MORE THAN 5 PERCENT PASSING THE US 200 SIEVE) BECAUSE THAT COULD RESTRICT STORMWATER INFILTRATION. USE TOPSOIL MIX SUITABLE FOR PROPOSED USE (PLANING BED OR TURF AREA). PLACE TOPSOIL IN LAYERS PER RECOMMENDATIONS OF SOILS FOR SALMON GUIDANCE DOCUMENTS (SEE DESIGN GUIDELINES ABOVE).



PRELIMINARY
FOR PERMIT ONLY

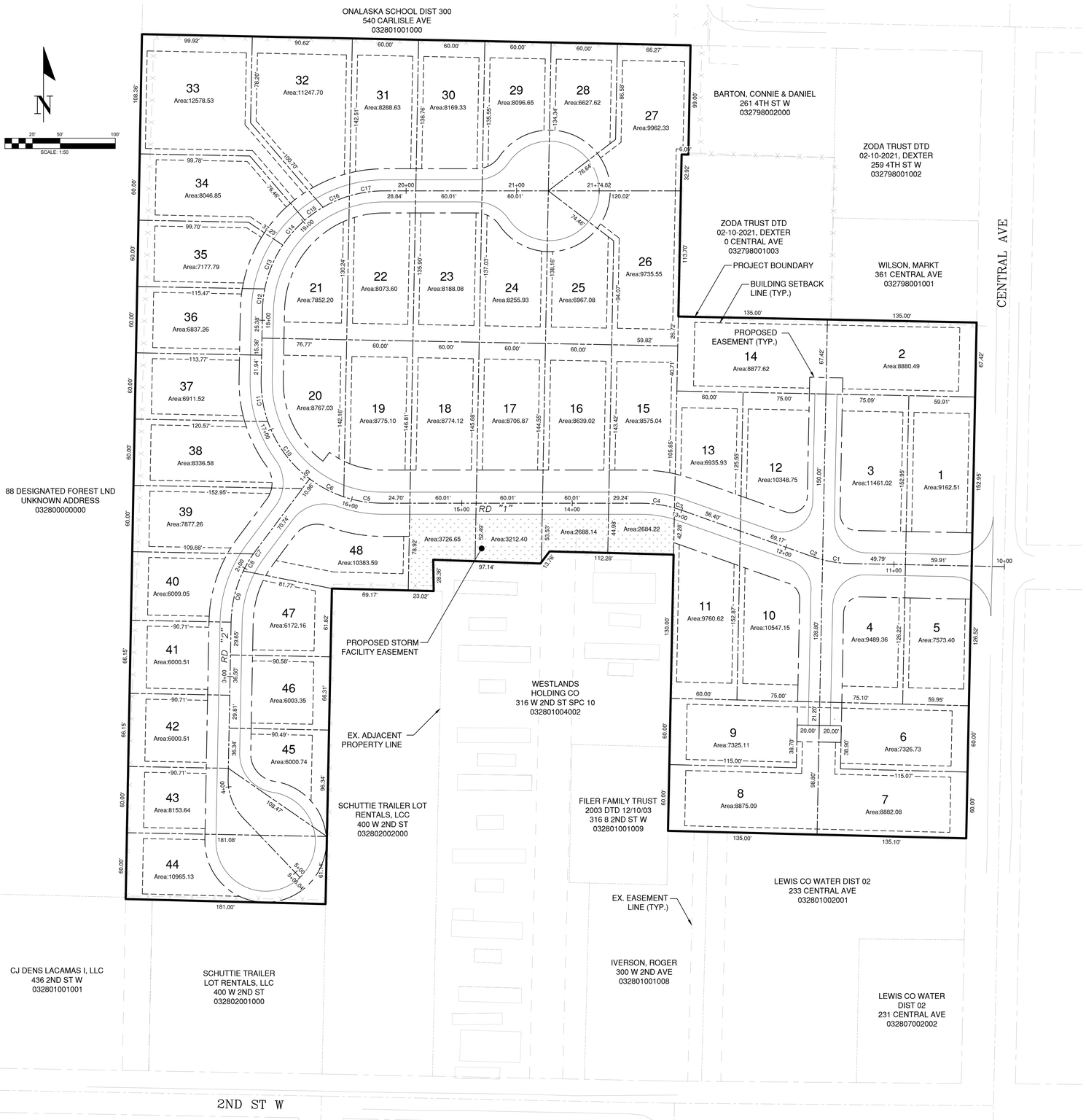
DRAWING TITLE: TESC NOTES AND DETAILS
SCALE: N.T.S.
DATE: 02/26/21
DRAWN: SD
CHECKED: MF
PROJECT NAME: COSSER ONALASKA

FULLER DESIGNS
1101 KRESKY AVE
CENTRALIA, WA 98531
(360) 807-4420

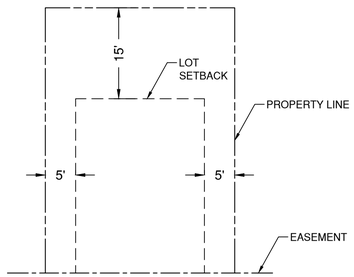
REV:	DESCRIPTION:	DATE:
0	PRELIMINARY - FOR PERMIT	02/26/21
1	----	----

C1.2

SECTION 30 TOWNSHIP 13N RANGE 001E



Curve Table		
Curve #	Radius	Length
C1	110.00	25.53
C2	110.00	9.73
C3	110.00	6.76
C4	110.00	30.72
C5	110.00	35.83
C6	110.00	35.04
C7	110.00	3.23
C8	120.42	17.91
C9	110.01	48.00
C10	110.00	65.12
C11	110.00	38.87
C12	110.00	19.36
C13	110.00	43.17
C14	110.00	30.23
C15	110.00	20.11
C16	110.00	26.15
C17	110.00	31.69



TYP. LOT SETBACK
N.T.S.

PRELIMINARY
FOR PERMIT ONLY

DRAWING TITLE: LOT LAYOUT
SCALE: 1:50
DATE: 02/26/21
DRAWN: SD
CHECKED: MF
PROJECT NAME: COSSER ONALASKA

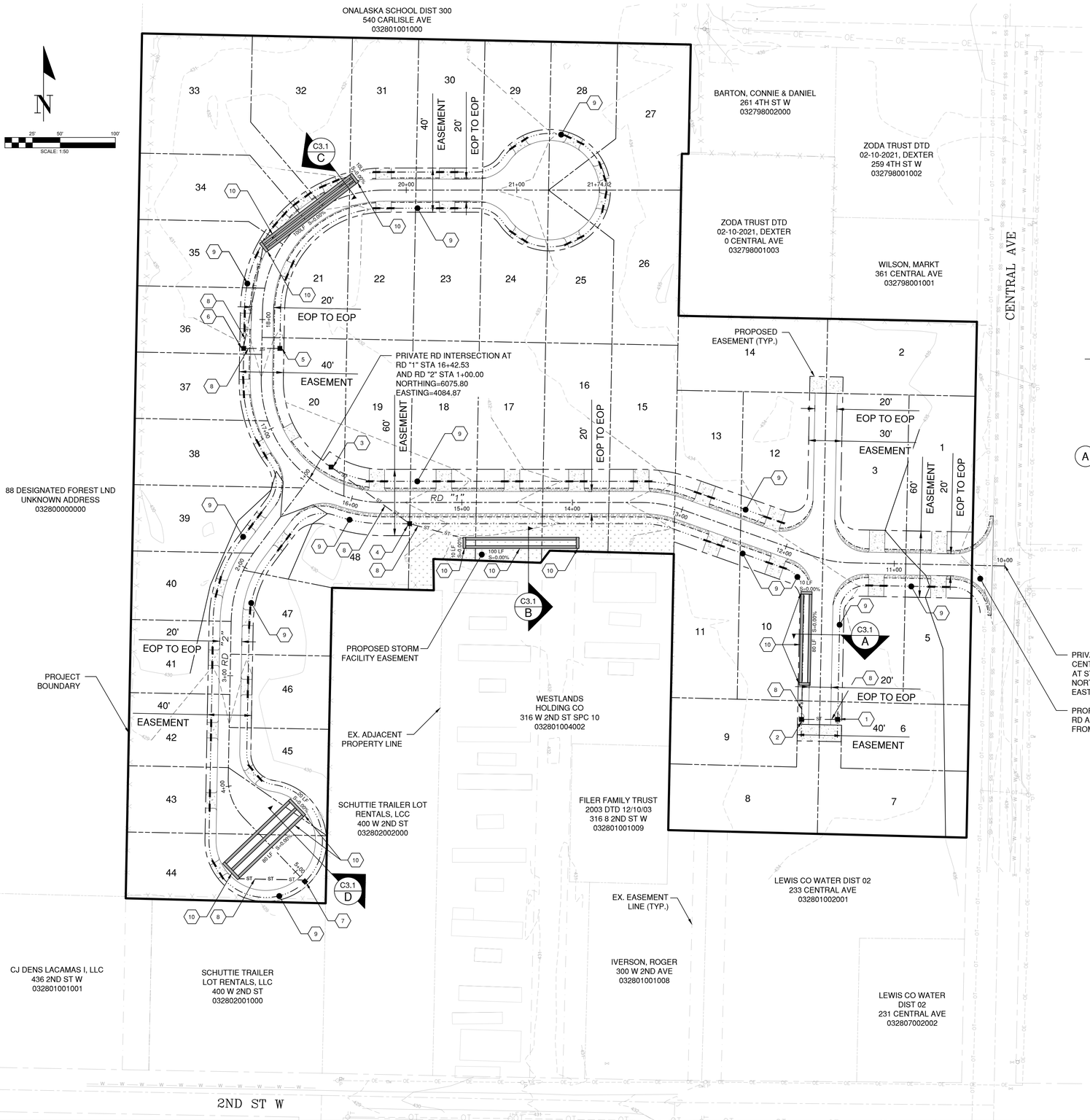
FULLER DESIGNS
1101 KRESKY AVE
CENTRALIA, WA 98531
(360) 807-4420

REV:	DESCRIPTION:	DATE:
0	PRELIMINARY - FOR PERMIT	02/26/21
1	----	----

C2.1

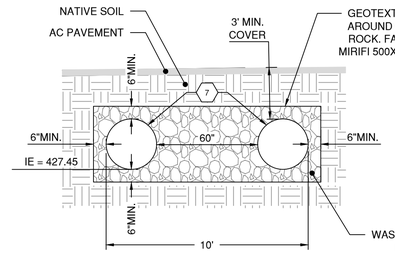
4 OF 21

SECTION 30 TOWNSHIP 13N RANGE 001E

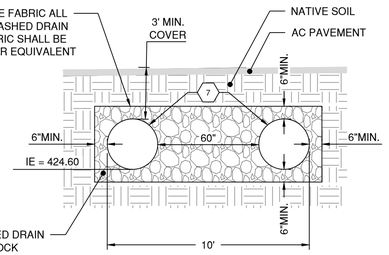


STORMWATER NOTES:

1. INSTALL CB#1 PER DETAIL ST-1 ON SHEET C3.2
   RIM = 433.50
   8" IE OUT = 427.75 (W)
2. INSTALL CB#2 PER DETAIL ST-1 ON SHEET C3.2
   RIM = 433.50
   8" IE IN = 427.60 (E)
   8" IE OUT = 427.60 (N)
3. INSTALL CB#3 PER DETAIL ST-1 ON SHEET C3.2
   RIM = 433.47
   8" IE OUT = 425.29 (SE)
4. INSTALL CB#4 PER DETAIL ST-1 ON SHEET C3.2
   RIM = 430.97
   8" IE IN = 424.85 (NW)
   8" IE OUT = 424.85 (SW)
5. INSTALL CB#5 PER DETAIL ST-1 ON SHEET C3.2
   RIM = 431.99
   8" IE OUT = 425.27 (W)
6. INSTALL CB#6 PER DETAIL ST-1 ON SHEET C3.2
   RIM = 431.99
   8"IE IN = 425.11 (E)
   8" IE OUT = 425.11 (N)
7. INSTALL CB#7 PER DETAIL ST-1 ON SHEET C3.2
   RIM = 428.16
   8" IE OUT = 423.80 (W)
8. INSTALL 8"ø HDPE STORM PIPE
9. INSTALL BIOSWALE DITCH PER DETAIL ST-3, SHEET C3.2
10. INSTALL 30" PERFORATED HDPE DETENTION PIPE, SEE DETAILS THIS SHEET



A *30" PERFERATED HDPE DETENTION PIPE DETAIL*
N.T.S.



B *30" PERFERATED HDPE DETENTION PIPE DETAIL*
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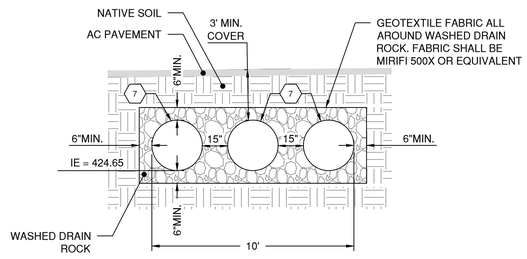
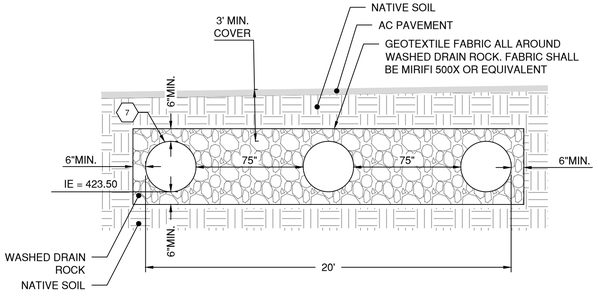


C *30" PERFERATED HDPE DETENTION PIPE DETAIL*
N.T.S.



D *30" PERFERATED HDPE DETENTION PIPE DETAIL*
N.T.S.

PRELIMINARY
FOR PERMIT ONLY

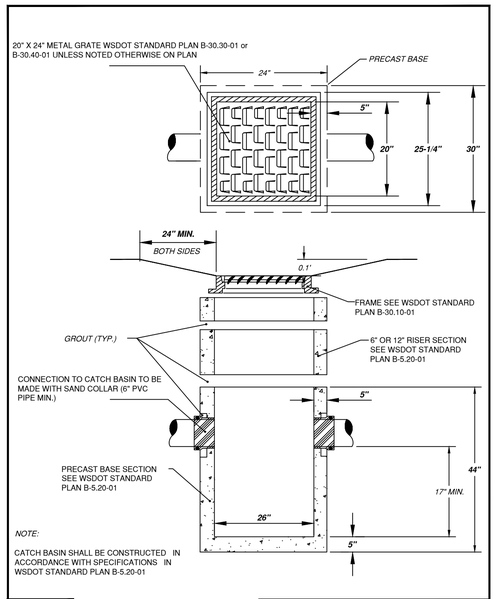
DRAWING TITLE: GRADING AND DRAINAGE PLAN
SCALE: 1:50
DATE: 02/26/21
DRAWN: SD
CHECKED: MF
PROJECT NAME: COSSER ONALASKA

REV:	DESCRIPTION:	DATE:
0	PRELIMINARY - FOR PERMIT	02/26/21
1	----	----

FULLER DESIGNS
1101 KRESKY AVE
CENTRALIA, WA 98531
(360) 807-4420

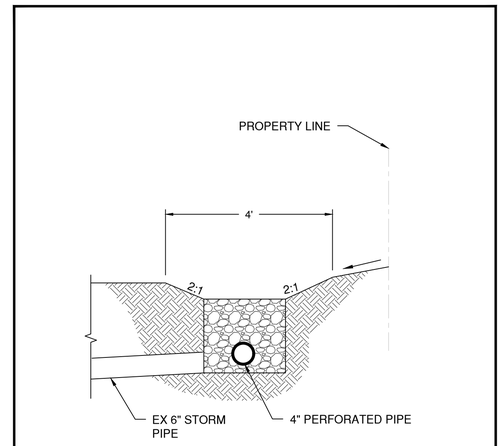
C3.1

SECTION 30 TOWNSHIP 13N RANGE 001E



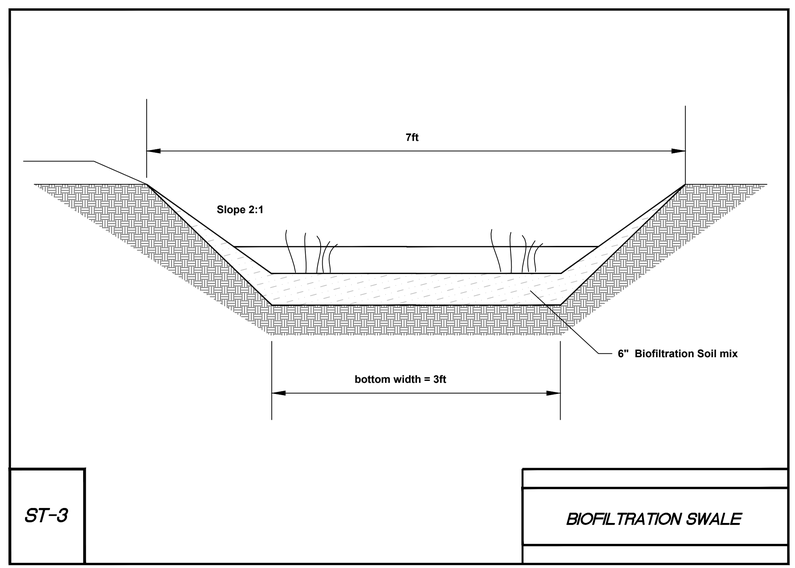
ST-1

CATCH BASIN TYPE 1
OUTSIDE PAVEMENT AREA



ST-2

INFILTRATION
INCEPTOR TRENCH



ST-3

BIOFILTRATION SWALE

PRELIMINARY
FOR PERMIT ONLY

DRAWING TITLE: DRAINAGE NOTES AND DETAILS
SCALE: N.T.S.
DATE: 02/26/21
DRAWN: SD
CHECKED: MF
PROJECT NAME: COSSER ONALASKA

FULLER DESIGNS
1101 KRESKY AVE
CENTRALIA, WA 98531
(360) 807-4420

REV:	DESCRIPTION:	DATE:
0	PRELIMINARY - FOR PERMIT	02/26/21
1	----	----

C3.2

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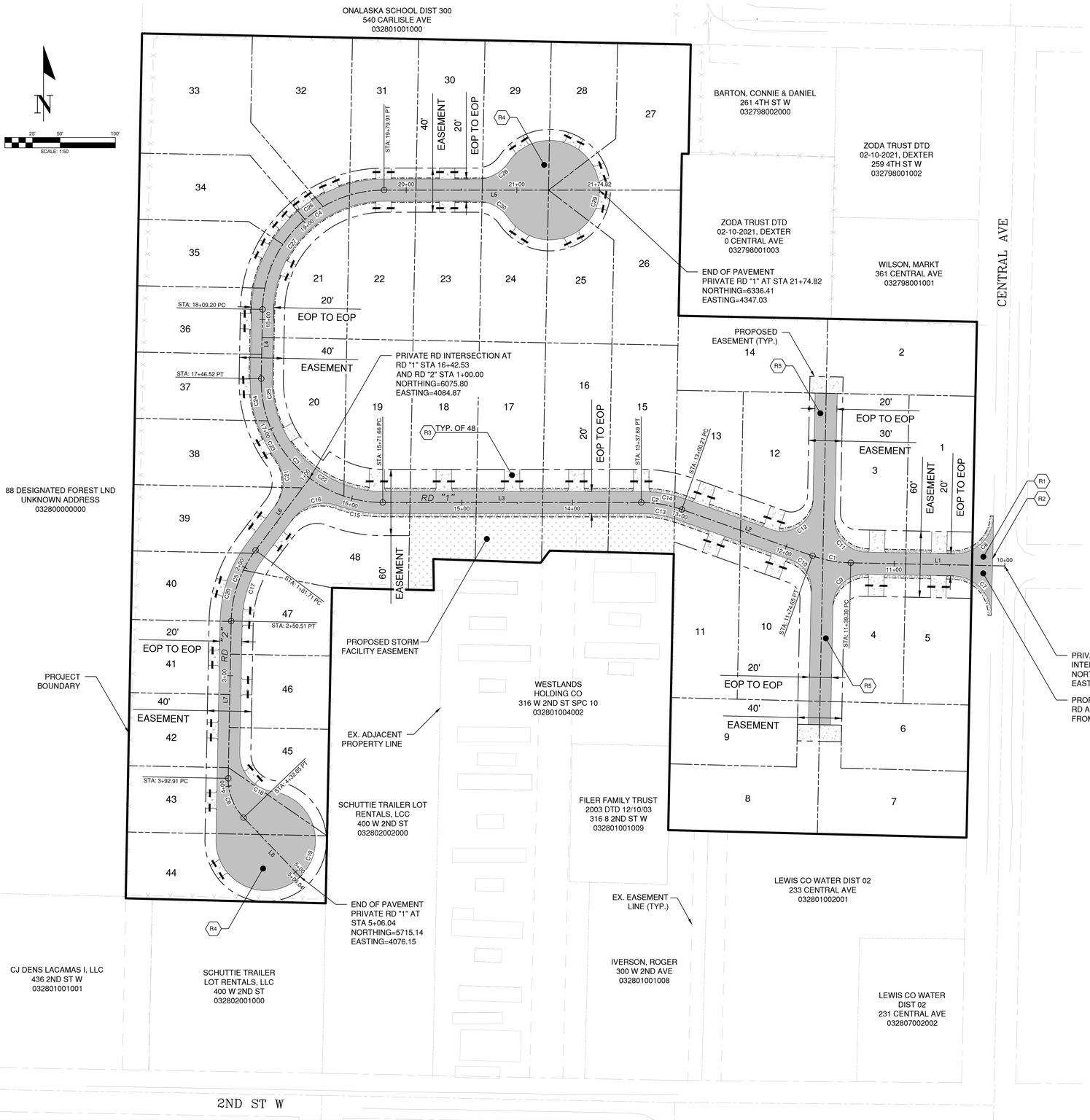
SECTION 30 TOWNSHIP 13N RANGE 001E



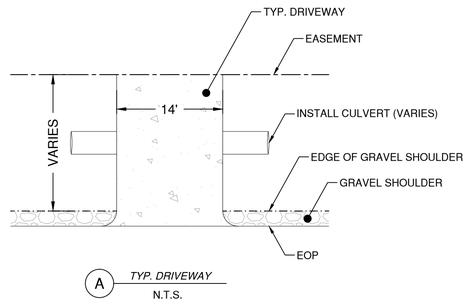
ROADWAY CONSTRUCTION NOTES:

- R1 CONSTRUCT ROADWAY AND DITCH PER DETAIL 3-2, SHEET C4.5
- R2 RESTORE PAVEMENT IN ACCORDANCE WITH DETAIL 5-1, SHEET C5.5
- R3 INSTALL RURAL DRIVEWAY PER CROSS SECTION A THIS SHEET, AND DETAILS 3-3 AND 3-4, SHEET C4.5
- R4 INSTALL CUL-DE-SAC PER DETAIL 3-7, SHEET C4.5
- R5 INSTALL PAVED HAMMERHEAD DRIVEWAY PER DETAIL 3-5, SHEET C4.5

Centerline Table		
Line #	Bearing	Distance (LF)
L1	S88° 50' 45.35"E	139.37
L2	S70° 28' 43.29"E	125.56
L3	N90° 00' 00.00"E	233.97
L4	N1° 04' 47.17"E	62.67
L5	N90° 00' 00.00"W	194.91
L6	N36° 54' 57.45"E	81.71
L7	S1° 04' 47.17"W	142.40
L8	S43° 46' 32.92"E	73.99

Centerline Curve Table				
Curve #	Radius	Length	Delta	Tangent
C1	110.00	35.26	18°22'02.057"	17.784
C2	110.00	37.48	19°31'16.705"	18.923
C3	110.00	174.86	91°04'46.832"	112.093
C4	110.00	170.71	88°55'12.833"	107.946
C5	110.00	68.80	35°50'10.279"	35.567
C6	50.00	39.14	44°51'20.090"	20.637

Curve Table				
Curve #	Radius	Length	Delta	Tangent
C7	35.00	54.94	89°56'03.051"	34.960
C8	35.00	54.82	89°44'37.610"	34.844
C9	29.34	42.97	83°53'37.814"	26.372
C10	27.26	36.01	75°40'12.765"	21.174
C11	29.23	43.84	85°54'57.141"	27.221
C12	28.17	52.53	106°50'33.125"	37.960
C13	100.00	34.07	19°31'16.705"	17.202
C14	120.00	40.89	19°31'16.705"	20.643
C15	120.00	41.97	20°02'19.276"	21.201
C16	35.00	44.67	73°07'21.830"	25.957
C17	100.00	62.55	35°50'10.279"	32.334
C18	35.00	50.59	82°49'09.279"	30.867
C19	45.00	206.42	262°49'09.279"	51.025
C20	120.00	75.06	35°50'10.279"	38.801
C21	35.00	44.67	73°07'21.830"	25.957
C22	100.00	132.33	75°49'15.575"	77.877
C23	120.00	46.13	22°01'39.959"	23.356
C24	120.00	31.96	15°15'31.592"	16.074
C25	100.00	26.63	15°15'31.592"	13.395
C26	120.00	186.23	88°55'12.833"	117.760
C27	100.00	155.20	88°55'12.833"	98.133
C28	35.00	34.07	55°46'16.081"	18.520
C29	45.00	228.98	291°32'32.162"	30.615
C30	35.00	34.07	55°46'16.081"	18.520



A *TYP. DRIVEWAY* N.T.S.

PRELIMINARY
FOR PERMIT ONLY

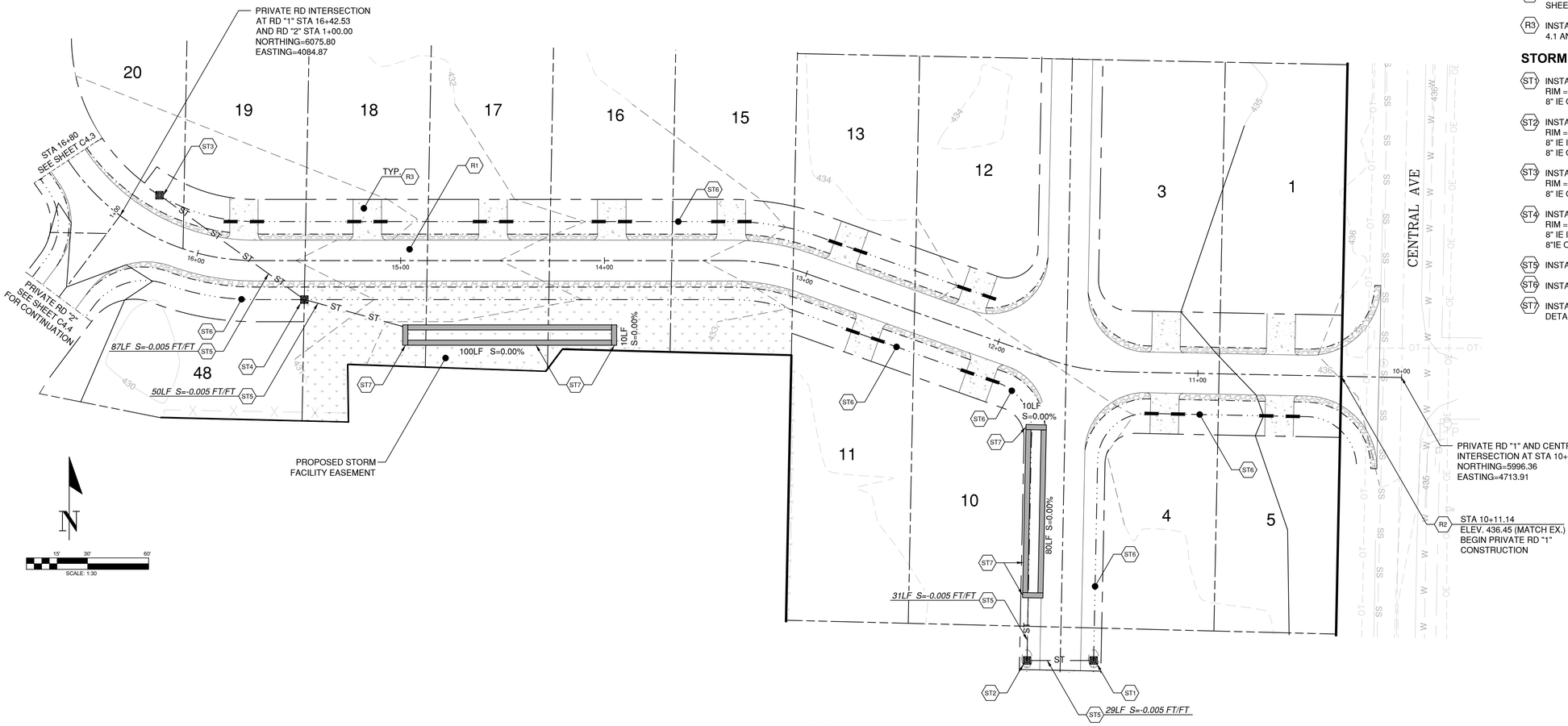
DRAWING TITLE: HORIZONTAL CONTROL PLAN
SCALE: 1:50 | DATE: 02/26/21 | DRAWN: SD | CHECKED: MF
PROJECT NAME: COSSER ONALASKA

FULLER DESIGNS
1101 KRESKY AVE
CENTRALIA, WA 98531
(360) 807-4420

REV:	DESCRIPTION:	DATE:
0	PRELIMINARY - FOR PERMIT	02/26/21
1	----	----

C4.1

SECTION 30 TOWNSHIP 13N RANGE 001E



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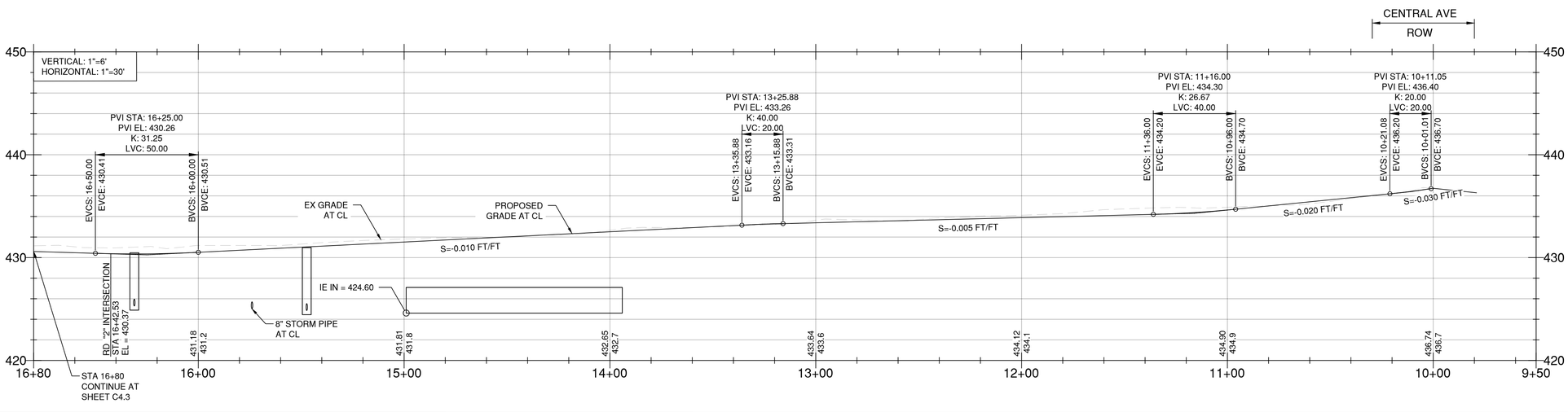


ROADWAY CONSTRUCTION NOTES:

- R1 CONSTRUCT ROADWAY AND DITCH PER DETAIL 3-2, SHEET C4.5
- R2 RESTORE PAVEMENT IN ACCORDANCE WITH DETAIL 5-1, SHEET C5.5
- R3 INSTALL RURAL DRIVEWAY PER CROSS SECTION A, SHEET 4.1 AND DETAILS 3-3 AND 3-4, SHEET C4.5

STORM DRAIN NOTES:

- ST1 INSTALL CB#1 PER DETAIL ST-1 ON SHEET C3.2
  RIM = 433.50
  8" IE OUT = 427.75 (W)
- ST2 INSTALL CB#2 PER DETAIL ST-1 ON SHEET C3.2
  RIM = 433.50
  8" IE IN = 427.60 (E)
  8" IE OUT = 427.60 (N)
- ST3 INSTALL CB#3 PER DETAIL ST-1 ON SHEET C3.2
  RIM = 430.47
  8" IE OUT = 425.29 (SE)
- ST4 INSTALL CB#4 PER DETAIL ST-1 ON SHEET C3.2
  RIM = 430.97
  8" IE IN = 424.85 (NW)
  8"IE OUT = 424.85 (SE)
- ST5 INSTALL 8"ø HDPE STORM PIPE
- ST6 INSTALL BIOSWALE DITCH PER DETAIL ST-3, SHEET C3.2
- ST7 INSTALL 30" PERFORATED HDPE DETENTION PIPE, SEE DETAILS SHEET 3.1

PRELIMINARY
FOR PERMIT ONLY

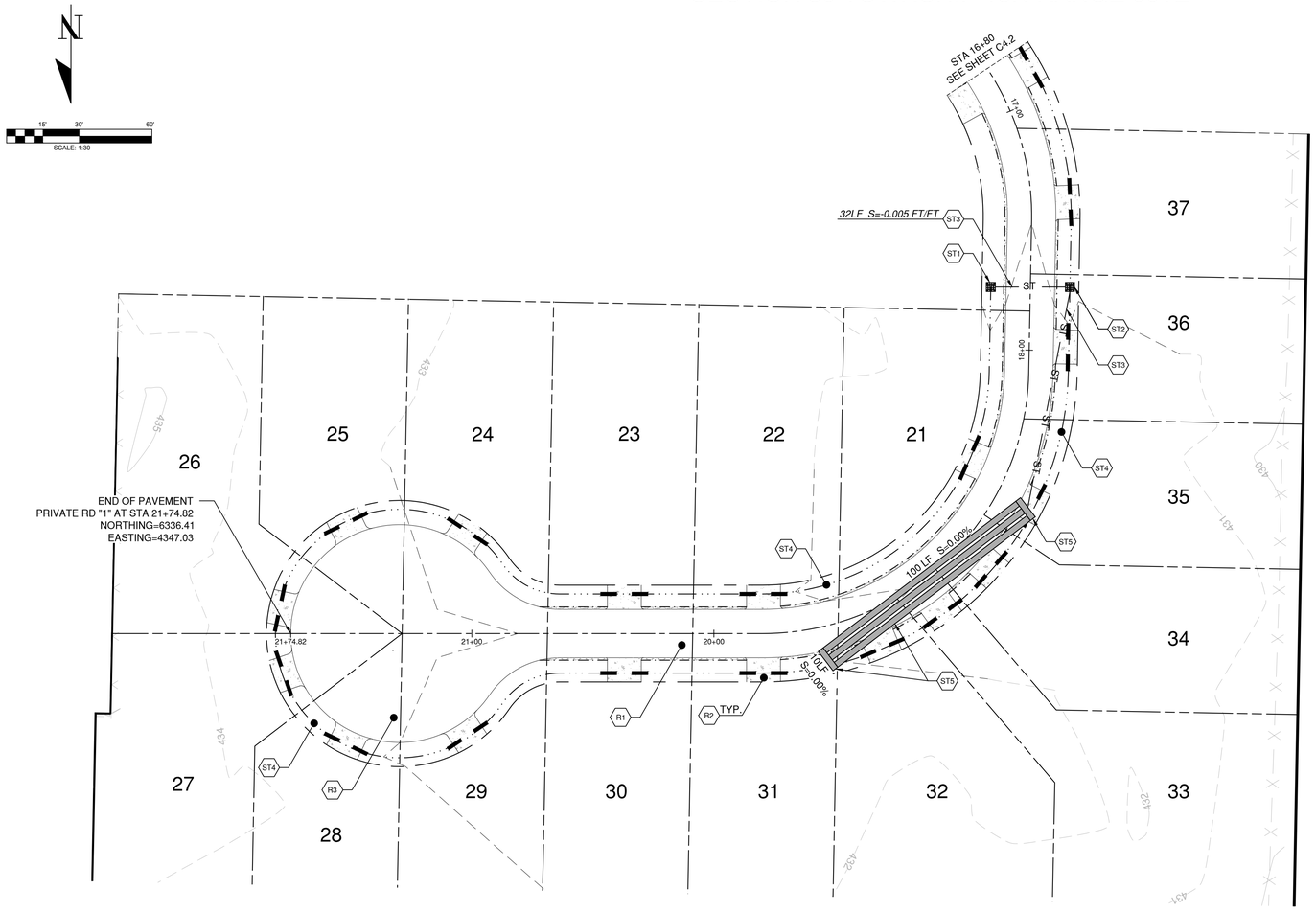
DRAWING TITLE: NEW PRIVATE ROAD PLAN AND PROFILE
SCALE: 1:30
DATE: 02/26/21
DRAWN: SD
CHECKED: MF
PROJECT NAME: COSSER ONALASKA

FULLER DESIGNS
1101 KRESKY AVE
CENTRALIA, WA 98531
(360) 807-4420

REV:	DESCRIPTION:	DATE:
0	PRELIMINARY - FOR PERMIT	02/26/21
1	----	----

C4.2

SECTION 30 TOWNSHIP 13N RANGE 001E



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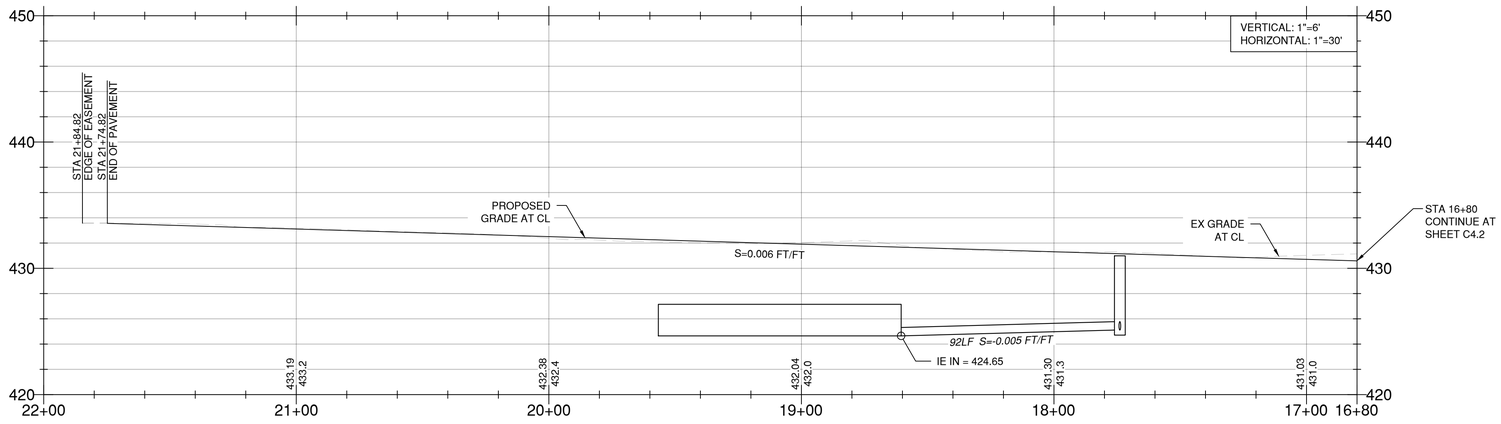

ROADWAY CONSTRUCTION NOTES:

- (R1) CONSTRUCT ROADWAY AND DITCH PER DETAIL 3-2, SHEET C4.5
- (R2) INSTALL RURAL DRIVEWAY PER CROSS SECTION A, SHEET 4.1 AND DETAILS 3-3 AND 3-4, SHEET C4.5
- (R3) INSTALL CUL-DE-SAC PER DETAIL 3-7, SHEET C4.5

STORM DRAIN NOTES:

- (ST1) INSTALL CB#5 PER DETAIL ST-1 ON SHEET C3.2
  RIM = 431.99
  8" IE OUT = 425.27 (W)
- (ST2) INSTALL CB#6 PER DETAIL ST-1 ON SHEET C3.2
  RIM = 431.99
  8"IE IN = 425.11 (E)
  8" IE OUT = 425.11 (N)
- (ST3) INSTALL 8"ø HDPE STORM PIPE
- (ST4) INSTALL BIOSWALE DITCH PER DETAIL ST-3, SHEET C3.2
- (ST5) INSTALL 30" PERFORATED HDPE DETENTION PIPE, SEE DETAILS THIS SHEET

DRAWING TITLE: NEW PRIVATE ROAD PLAN AND PROFILE
SCALE: 1:30
DATE: 02/26/21
DRAWN: SD
CHECKED: MF
PROJECT NAME: COSSER ONALASKA

FULLER DESIGNS
1101 KRESKY AVE
CENTRALIA, WA 98531
(360) 807-4420

REV:	DESCRIPTION:	DATE:
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1	----	----

PRELIMINARY
FOR PERMIT ONLY

C4.3

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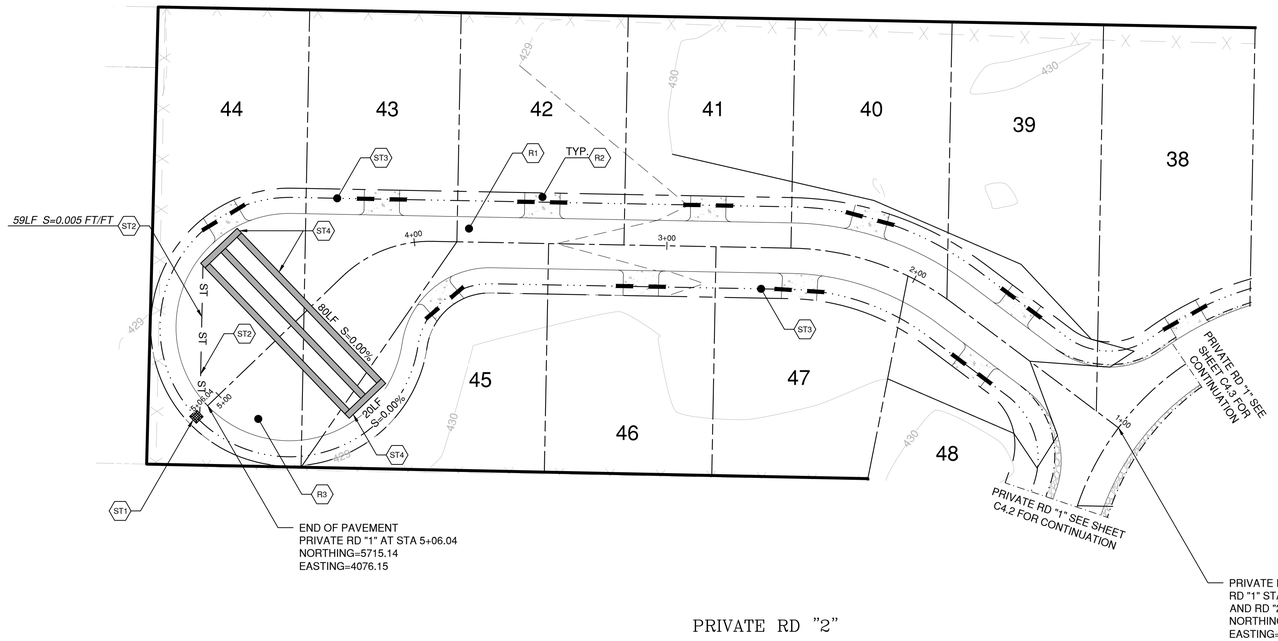
SECTION 30 TOWNSHIP 13N RANGE 001E



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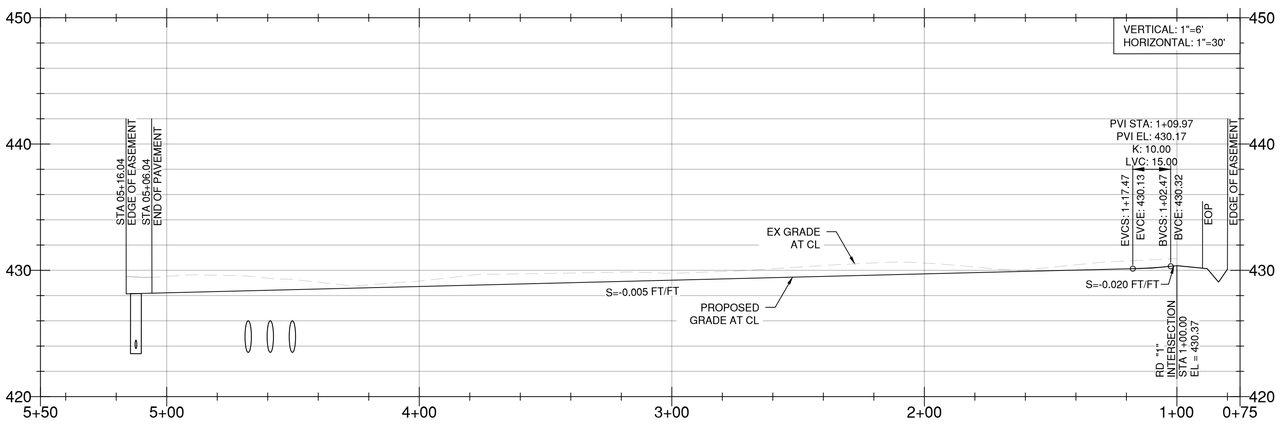


ROADWAY CONSTRUCTION NOTES:

- R1 CONSTRUCT ROADWAY AND DITCH PER DETAIL 3-2, SHEET C4.5
- R2 INSTALL RURAL DRIVEWAY PER CROSS SECTION A, SHEET 4.1 AND DETAILS 3-3 AND 3-4, SHEET C4.5
- R3 INSTALL CUL-DE-SAC PER DETAIL 3-7, SHEET C4.5

STORM DRAIN NOTES:

- ST1 INSTALL CB#7 PER DETAIL ST-1 ON SHEET C3.2
  RIM = 428.16
  8" IE OUT= 423.80 (W)
- ST2 INSTALL 8"ø HDPE STORM PIPE
- ST3 INSTALL BIOSWALE DITCH PER DETAIL ST-3, SHEET C3.2
- ST4 INSTALL 30" PERFORATED HDPE DETENTION PIPE, SEE DETAILS THIS SHEET

PRELIMINARY
FOR PERMIT ONLY

DRAWING TITLE: NEW PRIVATE ROAD PLAN AND PROFILE
SCALE: 1:30
DATE: 02/26/21
DRAWN: SD
CHECKED: MF
PROJECT NAME: COSSER ONALASKA

FULLER DESIGNS
1101 KRESKY AVE
CENTRALIA, WA 98531
(360) 807-4420

REV:	DESCRIPTION:	DATE:
0	PRELIMINARY - FOR PERMIT	02/26/21
1	----	----

C4.4

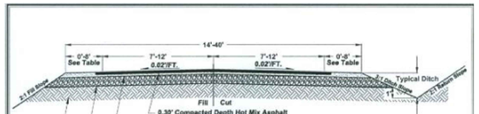


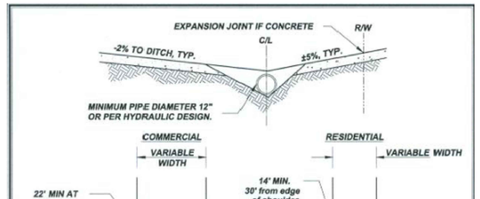
Table 1.1	*Drive ways	Private Roads							
Lots Served	1-2	3-4	5-10	11-28	29-45	46-84	85-110	111-220	Over 220
Vehicles Per Day	Under 22	Under 35	Under 80	Under 250	251-400	401-750	751-1000	1001-2000	Over 2000
Road Width	14'	14'	20'	20'	20'	20'	20'	22'	24'
Shoulder Width	none	2'	none	1'	2'	3'	4'	6'	8'
Design Speed	<20	<20	20	20-25	20-30	25-35	25-35	35-45	35-50
Minimum Easement Width	30'	40'	40'	40'	60'	60'	60'	60'	60'

*Driveways less than 150' away from the main roadway may be 12' wide.
Driveways 150'-300' from the main roadway shall conform to the requirements for 1-2 lots.
Driveways longer than 300' from the main roadway shall conform to the requirements for 3-4 lots.

GENERAL NOTES:

1. Roads serving 15 or more lots, or proposed for County maintenance, shall be paved.
2. Maximum road grades shall be 12%, a minimum landing area of 40 feet shall be provided. Maximum grade may be exceeded for short distances with approval from the County Engineer.
3. All side slopes and drainage facilities must be contained within the easement or right-of-way.
4. Roadway geometerics design shall be in accordance with LAG manual, WSDOT, AASHTO Manual Standards, and be designed by a professional Civil Engineer registered in Washington State.
5. Surfacing shall be designed with a structural section that takes into account the load bearing capacity of the soils and the traffic carrying requirements of the road. Plans shall be accompanied by the soil and traffic analysis on which the design is based, or as approved by the County Engineer.
6. Construction requirements shall follow section of the Standard Specifications; 2-06 Subgrade Preparation; 2-03 Roadway Excavation & Embankment for required compaction Method C; 4-04 Ballast & Crushed Surfacing; 5-04 Hot Mix Asphalt; or 5-02 Bituminous Surface Treatment. Compaction test reports are required for all surfacing materials and subgrade. Test reports shall be submitted to Lewis County Public Works for review. Copies of these requirements are available for review at the County Engineer's Office.
7. A minimum of a 20' clear zone is required for 1-4 lots. Clear zone requirements for more than 5 lots will be incorporated as per WSDOT Design Manual. Guardrail may be required on embankments 8' or greater in height within the clear zone.
8. A 14 foot minimum vertical clearance shall be maintained.
9. Stormwater collection, detention, and treatment shall be in accordance with LCC 15.45.
10. All ditches and swales shall be 1' minimum depth below subgrade - where required.
11. All horizontal and vertical curves shall be designed to AASHTO guidelines.
12. Deviation from these standards may be available by applying to the office of the County Engineer.

Lewis County — DEPARTMENT OF PUBLIC WORKS | RURAL ROAD SECTION | 3-2 | Revision Date 10-18-06



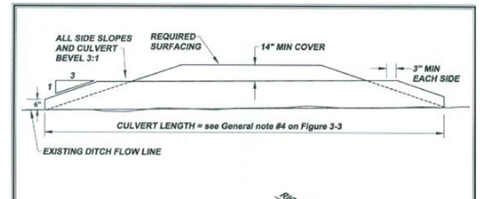
General Notes:

1. Minimum commercial driveway dimensions are determined by traffic impact analysis and the land use. Approach radius shall be of sufficient size to allow trucks to turn without encroaching upon opposing traffic (as per WSDOT Design Manual). Acceleration/deceleration tapers may also be required.
2. Care shall be taken to keep the approach from conflicting with hydrants, poles, inlets, and other utilities.
3. Driveway runoff shall not be allowed to flow onto roadway. This can be accomplished with a variety of features including a swale as illustrated above, slot drains, etc., as approved by the County Engineer.
4. For driveway width and culvert installation on existing roadways refer to the table below. The table specifies the required width at the road (shoulder edge), additional taper width, and culvert length as a function of the width of the serving roadway. This table assumes that the driveway extends out with a 40 foot landing and narrows to a 14 foot width at 30' to 40 feet from the main road.

Roadway Width	Drive Width at Road	Taper Width	Min Culvert Length
16'	40'	7'	55'
18'	30'	7'	50'
20'	28'	6'	45'
22'	24'	6'	40'
24'	20'	5'	38'
>26'	14'	5'	30'

Note: this table assumes a ditch line at 2 feet from edge of shoulder. Shorter culvert lengths may be allowed for ditches located at a further offset from the road as approved by the County Engineer.

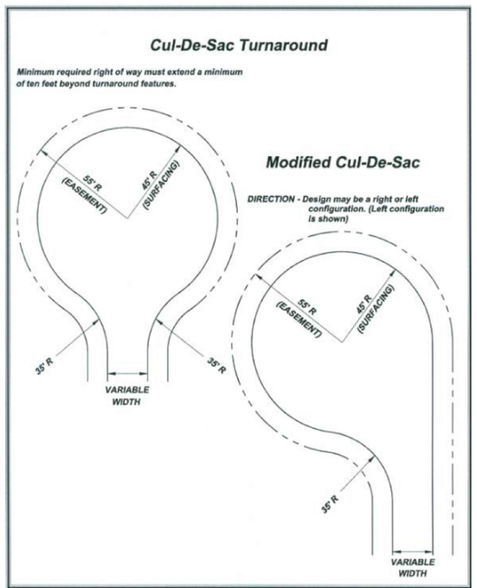
Lewis County — DEPARTMENT OF PUBLIC WORKS | RESIDENTIAL & COMMERCIAL DRIVEWAY APPROACHES | 3-3 | Revision Date 8-30-06



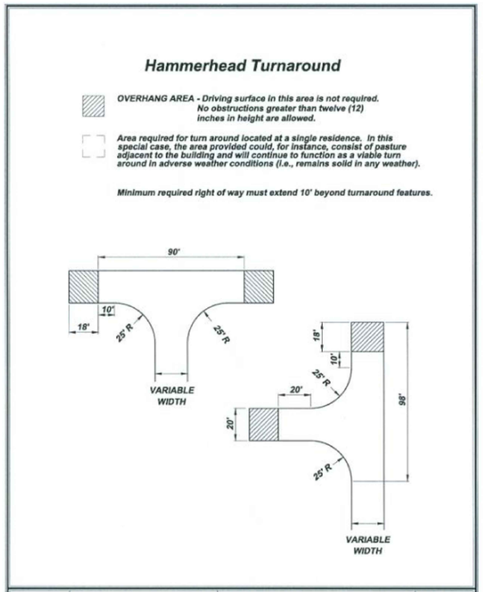
General Notes:

1. Required surfacing for the approach shall be 0.2 ft compacted depth asphalt concrete, or 0.5 ft of compacted Crushed Surfacing Top Course. The depth of the required surfacing shall not preclude the minimum cover of one foot.
2. Cement concrete approaches are discouraged and only allowed with approval from the County Engineer.
3. Approach shall be normally at 90 degrees to road centerline, but no less than 75 degrees or more than 105 degrees to the road without approval from the County Engineer.

Lewis County — DEPARTMENT OF PUBLIC WORKS | RURAL RESIDENTIAL DRIVEWAY APPROACH | 3-4 | Revision Date 8-31-06



Lewis County — DEPARTMENT OF PUBLIC WORKS | CUL-DE-SAC DETAIL | 3-7 | Revision Date 8-31-06



Lewis County — DEPARTMENT OF PUBLIC WORKS | HAMMERHEAD DETAIL | 3-8 | Revision Date 8-31-06

PRELIMINARY
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DRAWING TITLE: ROADWAY NOTES AND DETAILS
SCALE: N.T.S. | DATE: 02/26/21 | DRAWN: SD | CHECKED: MF
PROJECT NAME: COSSER ONALASKA

FULLER DESIGNS
1101 KRESKY AVE
CENTRALIA, WA 98531
(360) 807-4420

REV:	DESCRIPTION:	DATE:
0	PRELIMINARY - FOR PERMIT	02/26/21
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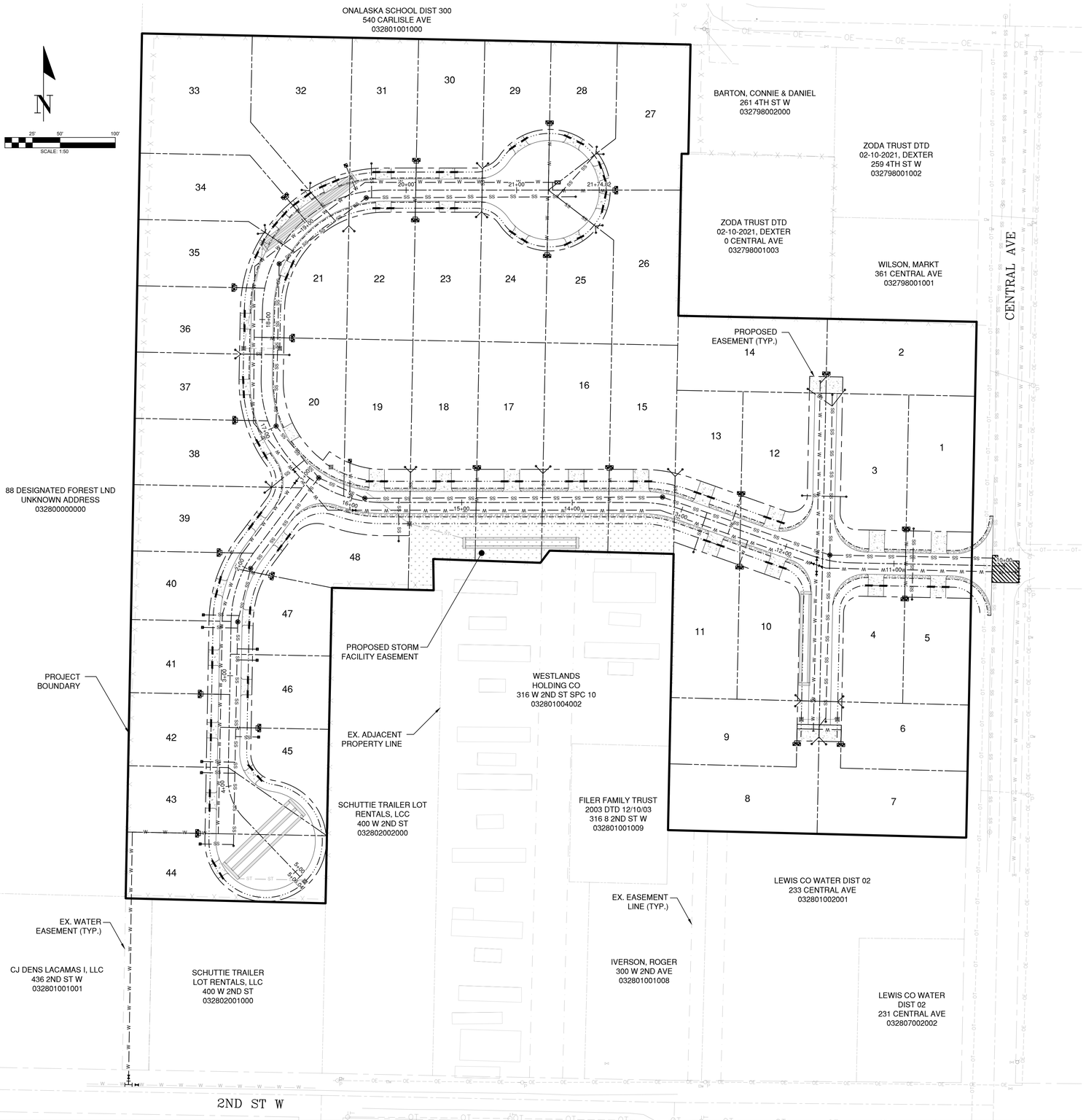
C4.5

SECTION 30 TOWNSHIP 13N RANGE 001E



PRELIMINARY
FOR PERMIT ONLY

DRAWING TITLE: OVERALL UTILIY PLAN
SCALE: 1:50
DATE: 02/26/21
DRAWN: SD
CHECKED: MF
PROJECT NAME: COSSER ONALASKA

FULLER DESIGNS
1101 KRESKY AVE
CENTRALIA, WA 98531
(360) 807-4420

REV:	DESCRIPTION:	DATE:
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C5.1

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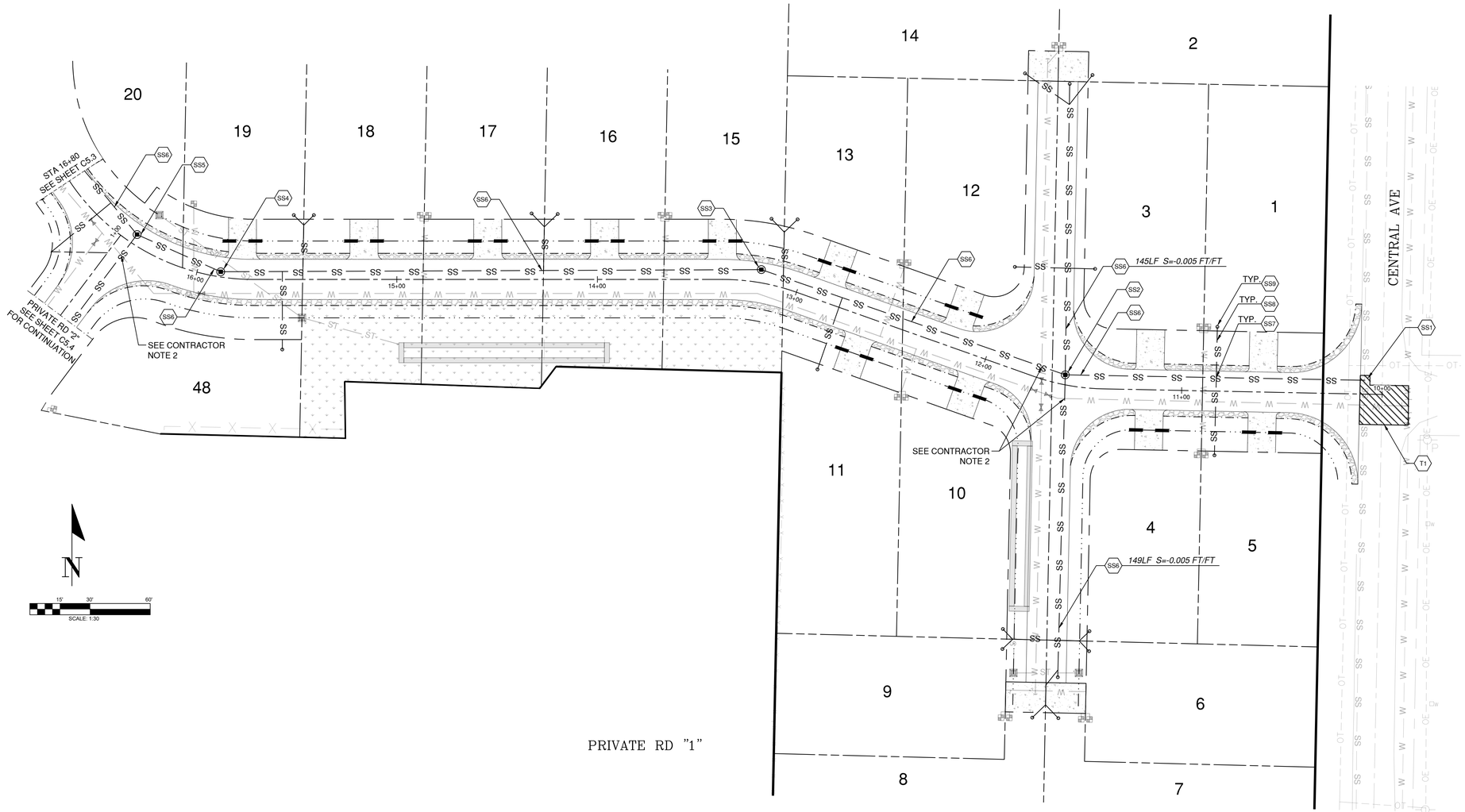
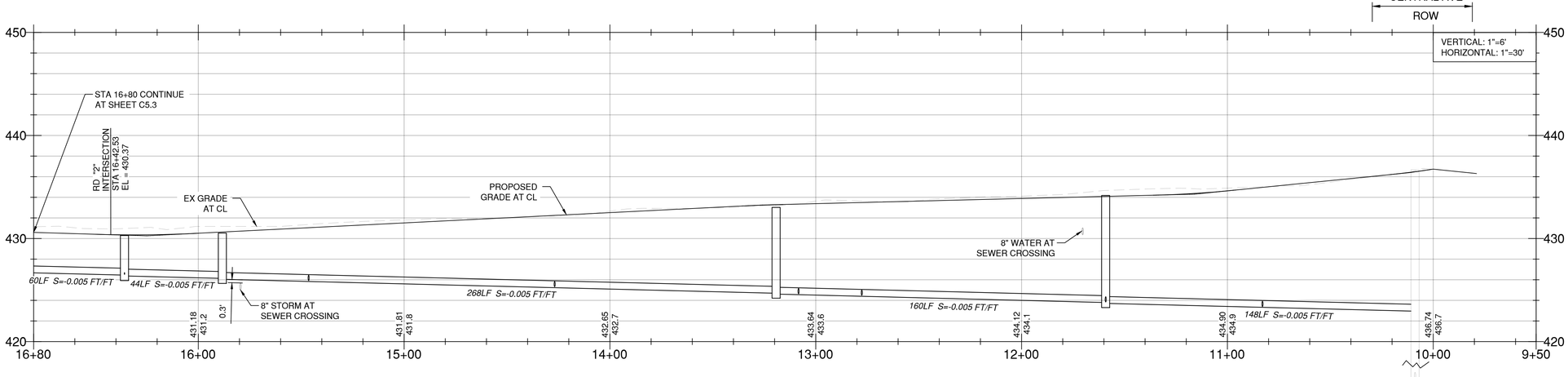
SECTION 30 TOWNSHIP 13N RANGE 001E





SEWER NOTES:

SS1 EX SSMH TO HAVE EXCENTERIC REDUCER ROTATED 90-DEGREES, LADDER RUNGS TO BE REALLIGNED. NEW INVERT TO BE INSTALLED PER DROP CONNECTION DETAIL S-4, SHEET C5.8
EX RIM = 436.67
EX IN 12" IE = 414.77(N)
EX IN 8" IE = 427.67 (E)
EX OUT 12" IE = 414.67 (S)
INSTALL NEW IE IN 8" PVC IE = 422.96 (W) WITH DROP CONNECTION

SS2 INSTALL SSMH#1 PER DETAIL S-1 ON SHEET C5.8
RIM = 434.18
IN 8" PVC IE = 423.80 (NW)
IN 8" PVC IE = 427.78 (N)
IN 8" PVC IE = 424.75 (S)
OUT 8" PVC IE = 423.70 (E)

SS3 INSTALL SSMH#2 PER DETAIL S-1 ON SHEET C5.8
RIM = 433.02
IN 8" PVC IE = 424.70 (W)
OUT 8" PVC IE = 424.60 (SE)

SS4 INSTALL SSMH#3 PER DETAIL S-1 ON SHEET C5.8
RIM = 430.53
IN 8" PVC IE = 426.14 (NW)
OUT 8" PVC IE = 426.04 (E)

SS5 INSTALL SSMH#4 PER DETAIL S-1 ON SHEET C5.8
RIM = 430.29
IN 8" PVC IE = 426.46 (NW)
IN 2" PVC FORCE MAIN = 426.52 (SW)
OUT 8" PVC IE = 426.36 (SE)

SS6 INSTALL 8" SDR-35 PVC SEWER PIPE

SS7 INSTALL SEWER LATERAL CONNECTION PER DETAIL S-3, SHEET C5.8

SS8 INSTALL 6" DIAMETER SEWER LATERAL. PIPE SHALL BE PVC MEETING ASTM D 3034, SDR 35 SPECIFICATIONS

SS9 INSTALL SEWER CLEANOUT PER DETAIL S-2, SHEET C5.8. CONTRACTOR MAY TEMPORARILY STUB CLEANOUT PIPE ABOVE GRADE DURING CONSTRUCTION TO MARK LOCATION

STREET TRENCHING NOTES:

T1 STREET SHALL BE SAW CUT, TRENCHED AND RESTORED IN ACCORDANCE WITH LEWIS COUNTY STANDARD DRAWING 5-1, SHEET C5.8

NOTES TO CONTRACTOR:

1. PIPE COVER. A MINIMUM OF THIRTY-SIX (36) INCHES OF COVER OVER THE PIPE AND, TO THE EXTENT PRACTICAL, A MAXIMUM OF FORTY-TWO (42) INCHES COVER IS REQUIRED FROM THE FINISHED OR EXISTING GROUND SURFACE, WHICHEVER IS GREATER, TO THE TOP OF THE PIPE FOR ALL INSTALLED TRANSMISSION, DISTRIBUTION AND SERVICE PIPING. SEE LEWIS COUNTY STANDARD DRAWINGS 1 AND 2 SHEET C5.10.

2. TRANSMISSION AND DISTRIBUTION WATER PIPING SHALL BE SEPARATED AT LEAST TEN (10) FEET HORIZONTALLY FROM ON-SITE WASTE DISPOSAL PIPING, DRAINFIELDS, AND/OR GRAVITY SEWAGE PIPES AND FORCE MAINS. THE CONTRACTOR SHALL MAINTAIN A MINIMUM OF EIGHTEEN (18) INCHES OF VERTICAL SEPARATION BETWEEN SANITAR SEWERS AND WATERMAIN CROSSING - WITH THE WATERMAINS BEING AT THE HIGHER ELEVATION. AN EXCEPTION HAS BEEN MADE WHERE WATERMAIN CROSSES BELOW SANITARY SEWER AND A WATER SLEEVE HAS BEEN UTILIZED.

PRELIMINARY
FOR PERMIT ONLY

DRAWING TITLE: SEWER PLAN AND PROFILE
SCALE: 1:30
DATE: 02/26/21
DRAWN: SD
CHECKED: MF
PROJECT NAME: COSSER ONALASKA

FULLER DESIGNS
1101 KRESKY AVE
CENTRALIA, WA 98531
(360) 807-4420

REV:	DESCRIPTION:	DATE:
0	PRELIMINARY - FOR PERMIT	02/26/21
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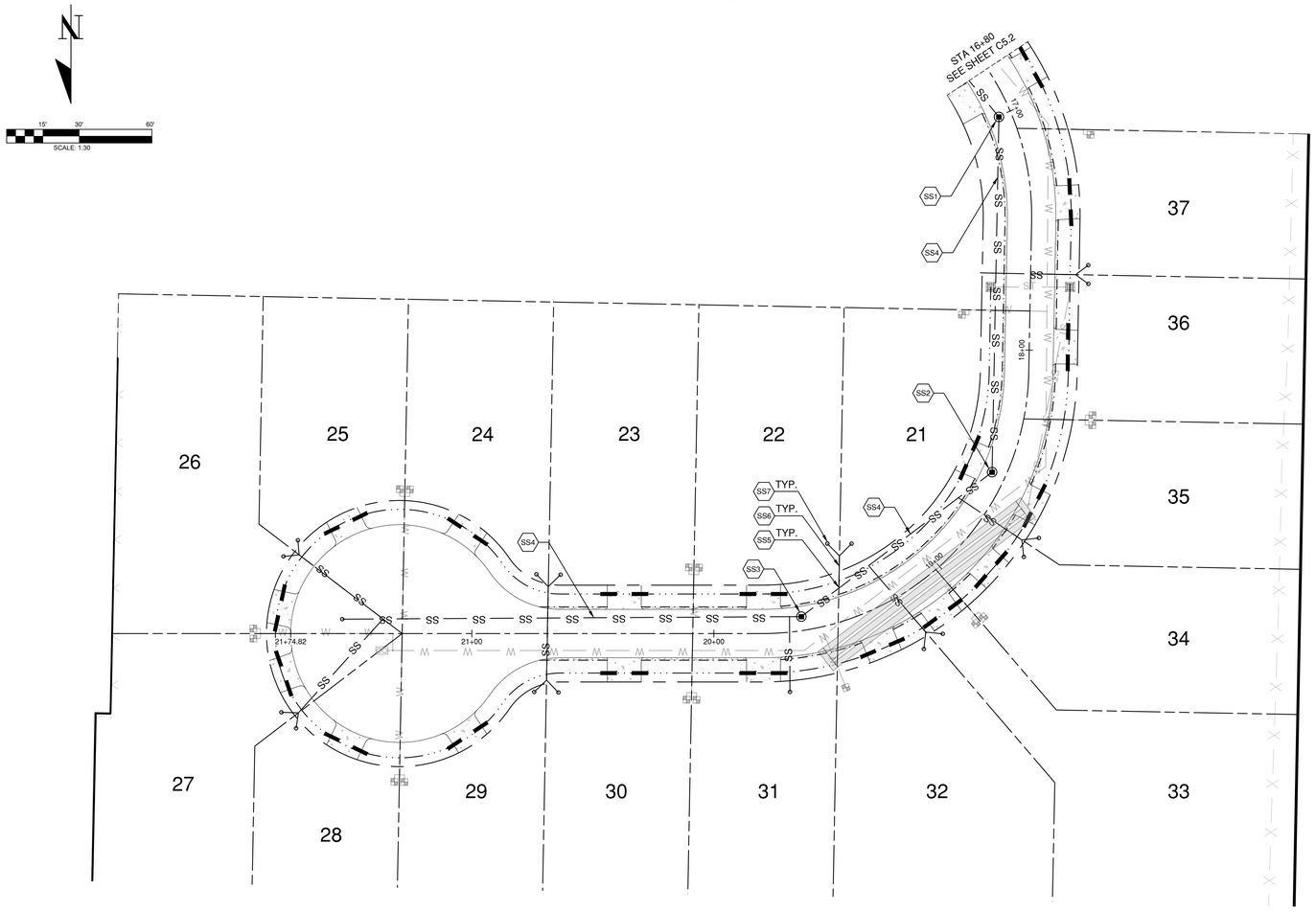
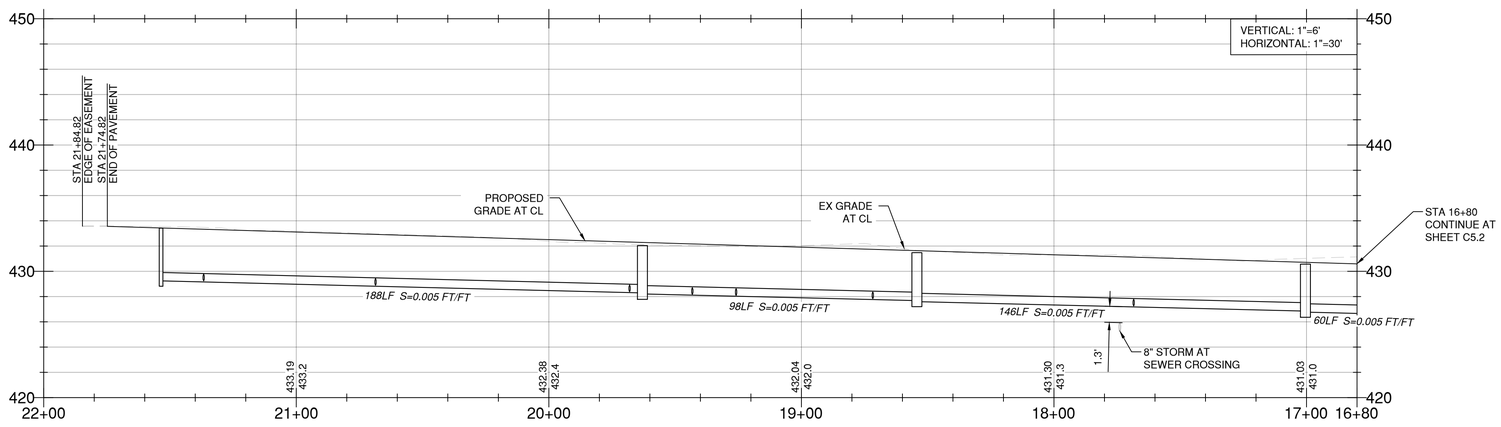
C5.2

13 OF 21

SECTION 30 TOWNSHIP 13N RANGE 001E





SEWER NOTES:

SS1 INSTALL SSMH#5 PER DETAIL S-1 ON SHEET C5.8
RIM = 430.57
IN 8" PVC IE = 426.86 (N)
OUT 8" PVC IE = 426.76 (SE)

SS2 INSTALL SSMH#6 PER DETAIL S-1 ON SHEET C5.8
RIM = 431.48
IN 8" PVC IE = 427.69 (NE)
OUT 8" PVC IE = 427.59 (S)

SS3 INSTALL SSMH#7 PER DETAIL S-1 ON SHEET C5.8
RIM = 432.04
IN 8" PVC IE = 428.28 (E)
OUT 8" PVC IE = 428.18 (SW)

SS4 INSTALL 8" SDR-35 PVC SEWER PIPE

SS5 INSTALL SEWER LATERAL CONNECTION PER DETAIL S-3, SHEET C5.8

SS6 INSTALL 6" DIAMETER SEWER LATERAL. PIPE SHALL BE PVC MEETING ASTM D 3034, SDR 35 SPECIFICATIONS

SS7 INSTALL SEWER CLEANOUT PER DETAIL S-2, SHEET C5.8. CONTRACTOR MAY TEMPORARILY STUB CLEANOUT PIPE ABOVE GRADE DURING CONSTRUCTION TO MARK LOCATION

NOTES TO CONTRACTOR:

1. PIPE COVER. A MINIMUM OF THIRTY-SIX (36) INCHES OF COVER OVER THE PIPE AND, TO THE EXTENT PRACTICAL, A MAXIMUM OF FORTY-TWO (42) INCHES COVER IS REQUIRED FROM THE FINISHED OR EXISTING GROUND SURFACE, WHICHEVER IS GREATER, TO THE TOP OF THE PIPE FOR ALL INSTALLED TRANSMISSION, DISTRIBUTION AND SERVICE PIPING. SEE LEWIS COUNTY STANDARD DRAWINGS 1 AND 2 SHEET C5.10.

2. TRANSMISSION AND DISTRIBUTION WATER PIPING SHALL BE SEPARATED AT LEAST TEN (10) FEET HORIZONTALLY FROM ON-SITE WASTE DISPOSAL PIPING, DRAINFIELDS, AND/OR GRAVITY SEWAGE PIPES AND FORCE MAINS. THE CONTRACTOR SHALL MAINTAIN A MINIMUM OF EIGHTEEN (18) INCHES OF VERTICAL SEPARATION BETWEEN SANITARY SEWERS AND WATERMAIN CROSSING - WITH THE WATERMAINS BEING AT THE HIGHER ELEVATION. AN EXCEPTION HAS BEEN MADE WHERE WATERMAIN CROSSES BELOW SANITARY SEWER AND A WATER SLEEVE HAS BEEN UTILIZED.

PRELIMINARY
FOR PERMIT ONLY

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PROJECT NAME: COSSER ONALASKA

FULLER DESIGNS
1101 KRESKY AVE
CENTRALIA, WA 98531
(360) 807-4420

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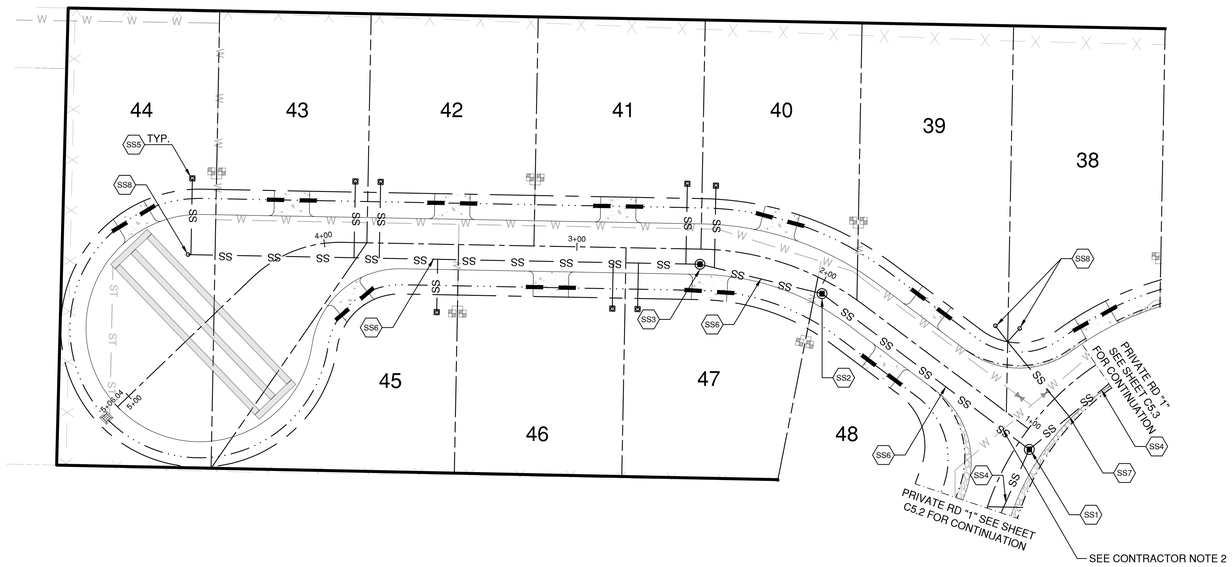
C5.3

SECTION 30 TOWNSHIP 13N RANGE 001E



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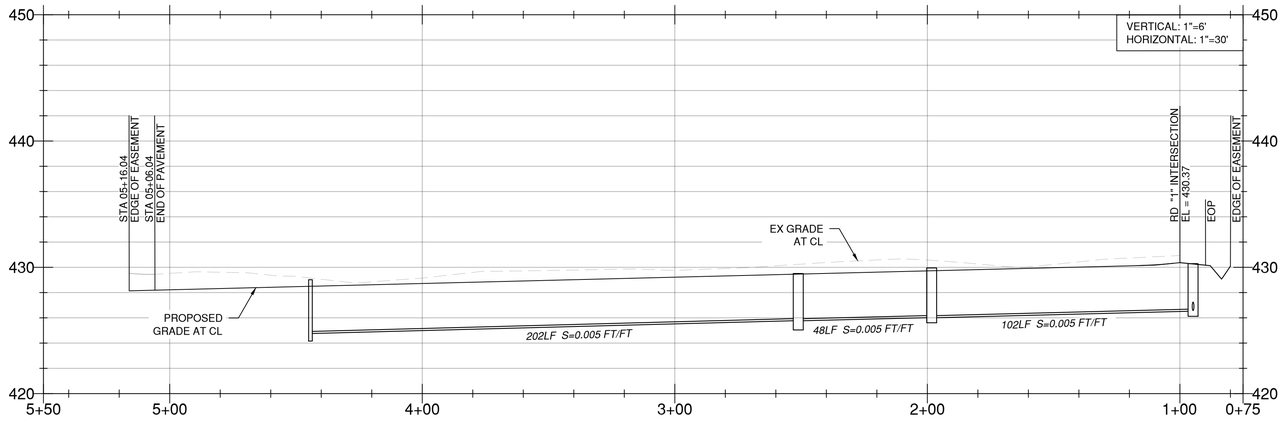

SEWER NOTES:

SS1 INSTALL SSMH#4 PER DETAIL S-1 ON SHEET C5.8
RIM = 430.29
IN 8" PVC IE = 426.46 (NW)
IN 2" PVC FORCE MAIN = 426.52 (SW)
OUT 8" PVC IE = 426.36 (SE)

SS2 INSTALL SSMH#8 PER DETAIL S-1 ON SHEET C5.8
RIM = 429.95
IN 2" PVC FORCE MAIN IE = 426.01 (NE)
OUT 2" PVC FORCE MAIN IE = 426.01 (SW)

SS3 INSTALL SSMH#9 PER DETAIL S-1 ON SHEET C5.8
RIM = 429.51
IN 2" PVC FORCE MAIN IE = 425.77 (S)
OUT 2" PVC FORCE MAIN IE = 425.77 (NE)

SS4 INSTALL 8" SDR-35 PVC SEWER PIPE

SS5 INSTALL ENVIRONMENTAL ONE GRINDER PUMP PER DETAIL S-5, SHEET C5.8. DEVELOPER TO DETERMINE GRINDER PUMP MODEL (DH071 OR DR071), TYP OF 8

SS6 INSTALL 2.0" SDR21 C900 PVC SEWER FORCE MAIN PIPE. SEE NOTES 1 AND 2 TO CONTRACTOR, THIS SHEET

SS7 INSTALL SEWER LATERAL CONNECTION PER DETAIL S-3, SHEET C5.8

SS8 INSTALL SEWER CLEANOUT PER DETAIL S-2, SHEET C5.8. CONTRACTOR MAY TEMPORARILY STUB CLEANOUT PIPE ABOVE GRADE DURING CONSTRUCTION TO MARK LOCATION

NOTES TO CONTRACTOR:

1. PIPE COVER. A MINIMUM OF THIRTY-SIX (36) INCHES OF COVER OVER THE PIPE AND, TO THE EXTENT PRACTICAL, A MAXIMUM OF FORTY-TWO (42) INCHES COVER IS REQUIRED FROM THE FINISHED OR EXISTING GROUND SURFACE, WHICHEVER IS GREATER, TO THE TOP OF THE PIPE FOR ALL INSTALLED TRANSMISSION, DISTRIBUTION AND SERVICE PIPING. SEE LEWIS COUNTY STANDARD DRAWINGS 1 AND 2 SHEET C5.10.

2. TRANSMISSION AND DISTRIBUTION WATER PIPING SHALL BE SEPARATED AT LEAST TEN (10) FEET HORIZONTALLY FROM ON-SITE WASTE DISPOSAL PIPING, DRAINFIELDS, AND/OR GRAVITY SEWAGE PIPES AND FORCE MAINS. THE CONTRACTOR SHALL MAINTAIN A MINIMUM OF EIGHTEEN (18) INCHES OF VERTICAL SEPARATION BETWEEN SANITAR SEWERS AND WATERMAIN CROSSING - WITH THE WATERMAINS BEING AT THE HIGHER ELEVATION. AN EXCEPTION HAS BEEN MADE WHERE WATERMAIN CROSSES BELOW SANITARY SEWER AND A WATER SLEEVE HAS BEEN UTILIZED.

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(360) 807-4420

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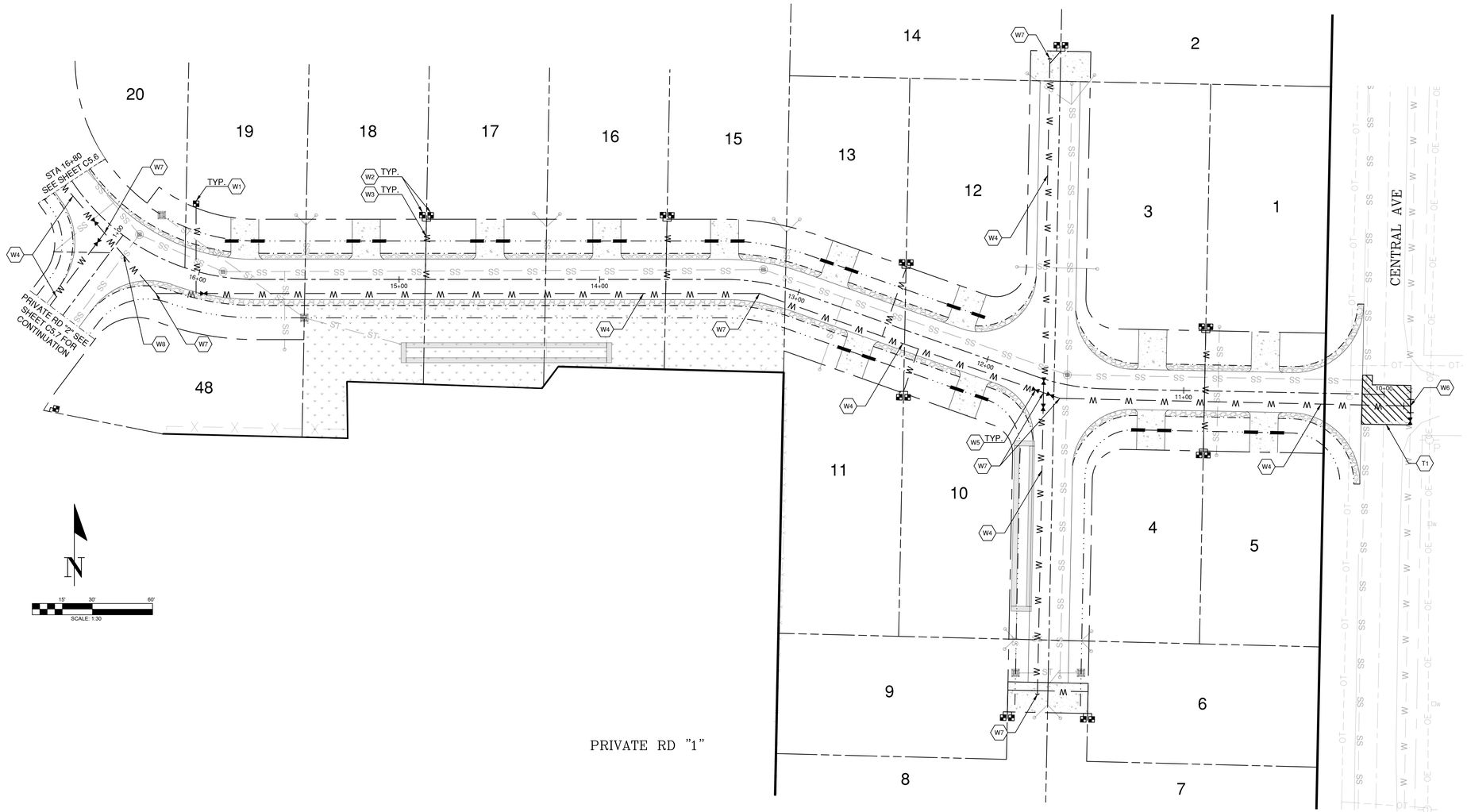
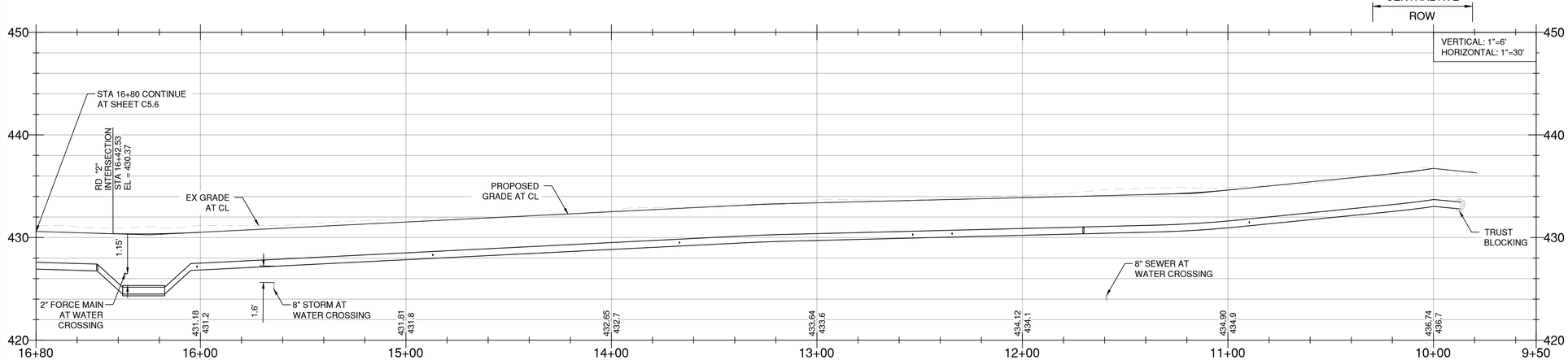
C5.4





WATER NOTES:

- W1 INSTALL 3/4" PLASTIC FLEXIBLE PIPING (OR EQUAL) WATER SERVICE LINE AND SINGLE SERVICE METER PER DETAILS W-1, W-2 AND LEWIS COUNTY STANDARD DRAWING 12-A, SHEET C5.9, TYP OF 1
- W2 INSTALL 1" PLASTIC FLEXIBLE PIPING (OR EQUAL) WATER SERVICE LINE AND DUAL SERVICE METER PER PER DETAIL W-2 AND LEWIS COUNTY STANDARD DRAWINGS 12 & 12-A, SHEET C5.9, TYP OF 9
- W3 INSTALL WATER LATERAL AS SHOWN. RECOMMENDED 1.5" PLASTIC FLEXIBLE PIPING
- W4 INSTALL 8" PVC C900 WATER MAIN. SEE NOTES 1 & 2 TO CONTRACTOR THIS SHEET
- W5 INSTALL GATE VALVE AND VALVE BOX PER LEWIS COUNTY STANDARD DRAWING 20, SHEET C5.9, TYP OF 8
- W6 INSTALL CUT-IN-TEE CONNECTION TO EXISTING MAIN IN ACCORDANCE WITH LEWIS COUNTY STANDARD DRAWING 7, SHEET C5.10
- W7 INSTALL THRUST BLOCKING PER LEWIS COUNTY STANDARD DRAWINGS 4 & 5, SHEET C5.10
- W8 INSTALL 12" 20LF STEEL CASING AROUND 8" WATER PIPE AT SEWER CROSSING, SEE LEWIS COUNTY STANDARD DRAWING 3, SHEET C5.10

STREET TRENCHING NOTES:

- T1 STREET SHALL BE SAW CUT, TRENCHED AND RESTORED IN ACCORDANCE WITH LEWIS COUNTY STANDARD DRAWING 5-1, SHEET C5.8

NOTES TO CONTRACTOR:

1. PIPE COVER. A MINIMUM OF THIRTY-SIX (36) INCHES OF COVER OVER THE PIPE AND, TO THE EXTENT PRACTICAL, A MAXIMUM OF FORTY-TWO (42) INCHES COVER IS REQUIRED FROM THE FINISHED OR EXISTING GROUND SURFACE, WHICHEVER IS GREATER, TO THE TOP OF THE PIPE FOR ALL INSTALLED TRANSMISSION, DISTRIBUTION AND SERVICE PIPING. SEE LEWIS COUNTY STANDARD DRAWINGS 1 AND 2 SHEET C5.10.
2. TRANSMISSION AND DISTRIBUTION WATER PIPING SHALL BE SEPARATED AT LEAST TEN (10) FEET HORIZONTALLY FROM ON-SITE WASTE DISPOSAL PIPING, DRAINFIELDS, AND/OR GRAVITY SEWAGE PIPES AND FORCE MAINS. THE CONTRACTOR SHALL MAINTAIN A MINIMUM OF EIGHTEEN (18) INCHES OF VERTICAL SEPARATION BETWEEN SANITAR SEWERS AND WATERMAIN CROSSING - WITH THE WATERMAINS BEING AT THE HIGHER ELEVATION. AN EXCEPTION HAS BEEN MADE WHERE WATERMAIN CROSSES BELOW SANITARY SEWER AND A WATER SLEEVE HAS BEEN UTILIZED.

PRELIMINARY
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CENTRALIA, WA 98531
(360) 807-4420

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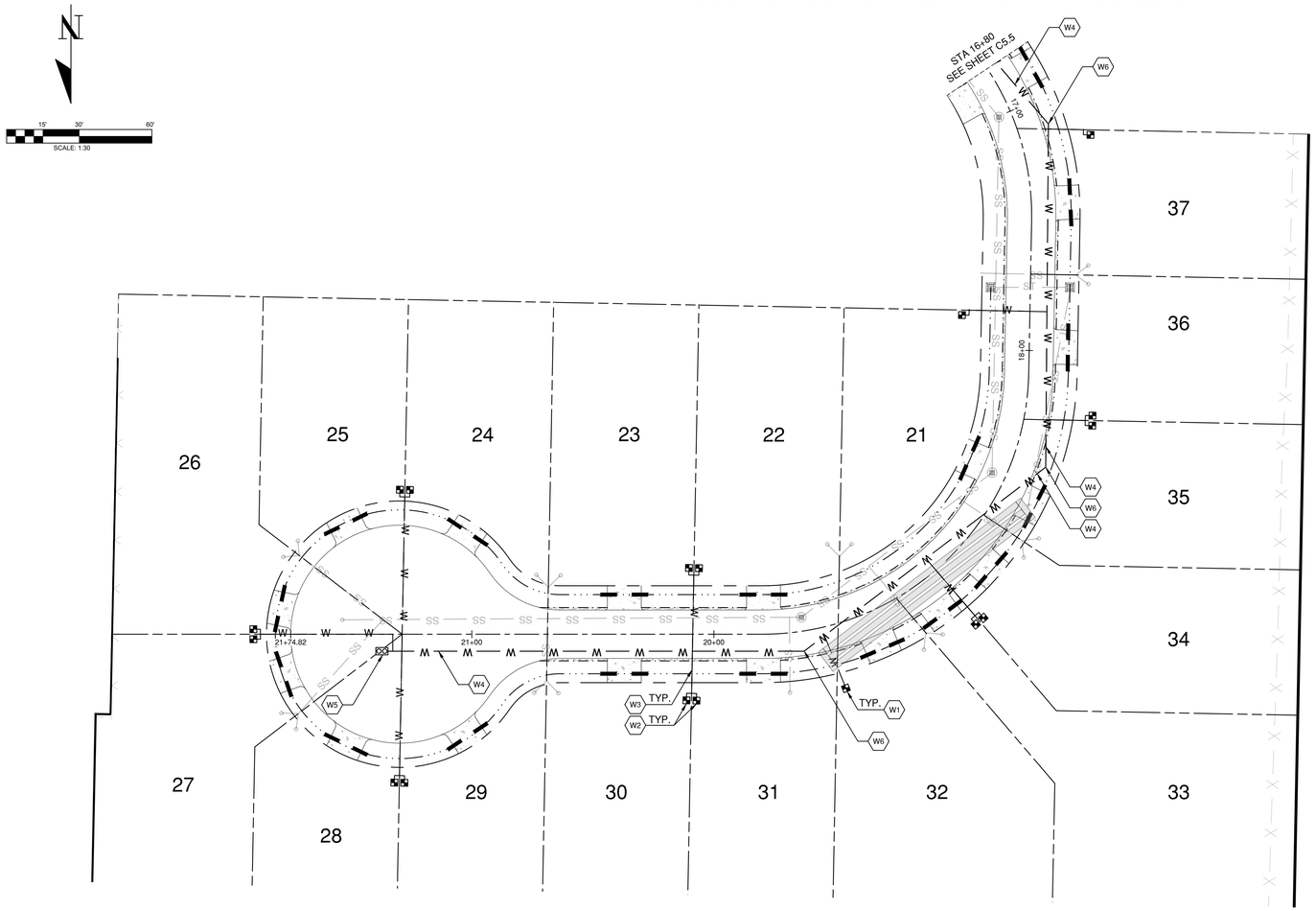
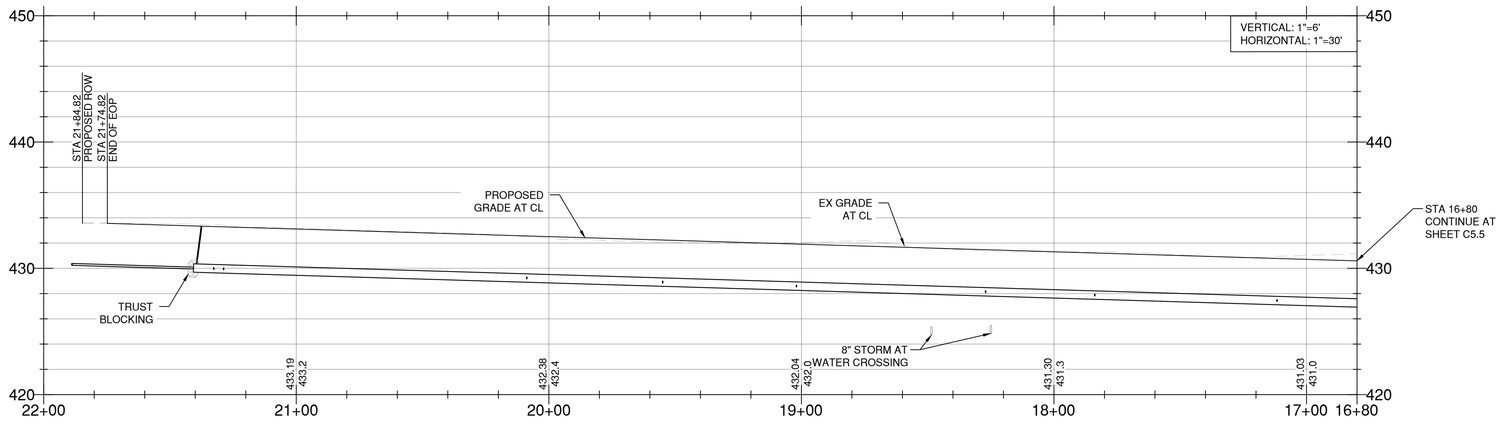
C5.5

SECTION 30 TOWNSHIP 13N RANGE 001E





WATER NOTES:

- W1 INSTALL 3/4" PLASTIC FLEXIBLE PIPING (OR EQUAL) WATER SERVICE LINE AND SINGLE SERVICE METER PER DETAILS W-1, W-2 AND LEWIS COUNTY STANDARD DRAWING 12-A, SHEET C5.9, TYP OF 1
- W2 INSTALL 1" PLASTIC FLEXIBLE PIPING (OR EQUAL) WATER SERVICE LINE AND DUAL SERVICE METER PER PER DETAIL W-2 AND LEWIS COUNTY STANDARD DRAWINGS 12 & 12-A, SHEET C5.9, TYP OF 8
- W3 INSTALL 8" PVC C900 WATER MAIN. SEE NOTES 1 & 2 TO CONTRACTOR THIS SHEET
- W4 INSTALL WATER LATERAL AS SHOWN. RECOMMENDED 1.5" PLASTIC FLEXIBLE PIPING
- W5 INSTALL 2" BLOW-OFF ASSEMBLY IN ACCORDANCE WITH LEWIS COUNTY STANDARD DRAWING 15, SHEET C5.9
- W6 INSTALL THRUST BLOCKING PER LEWIS COUNTY STANDARD DRAWINGS 4 & 5, SHEET C5.10

NOTES TO CONTRACTOR:

1. PIPE COVER. A MINIMUM OF THIRTY-SIX (36) INCHES OF COVER OVER THE PIPE AND, TO THE EXTENT PRACTICAL, A MAXIMUM OF FORTY-TWO (42) INCHES COVER IS REQUIRED FROM THE FINISHED OR EXISTING GROUND SURFACE, WHICHEVER IS GREATER, TO THE TOP OF THE PIPE FOR ALL INSTALLED TRANSMISSION, DISTRIBUTION AND SERVICE PIPING. SEE LEWIS COUNTY STANDARD DRAWINGS 1 AND 2 SHEET C5.10.
2. TRANSMISSION AND DISTRIBUTION WATER PIPING SHALL BE SEPARATED AT LEAST TEN (10) FEET HORIZONTALLY FROM ON-SITE WASTE DISPOSAL PIPING, DRAINFIELDS, AND/OR GRAVITY SEWAGE PIPES AND FORCE MAINS. THE CONTRACTOR SHALL MAINTAIN A MINIMUM OF EIGHTEEN (18) INCHES OF VERTICAL SEPARATION BETWEEN SANITAR SEWERS AND WATERMAIN CROSSING - WITH THE WATERMAINS BEING AT THE HIGHER ELEVATION. AN EXCEPTION HAS BEEN MADE WHERE WATERMAIN CROSSES BELOW SANITARY SEWER AND A WATER SLEEVE HAS BEEN UTILIZED.

PRELIMINARY
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SCALE: 1:30
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0	PRELIMINARY - FOR PERMIT	02/26/21
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C5.6

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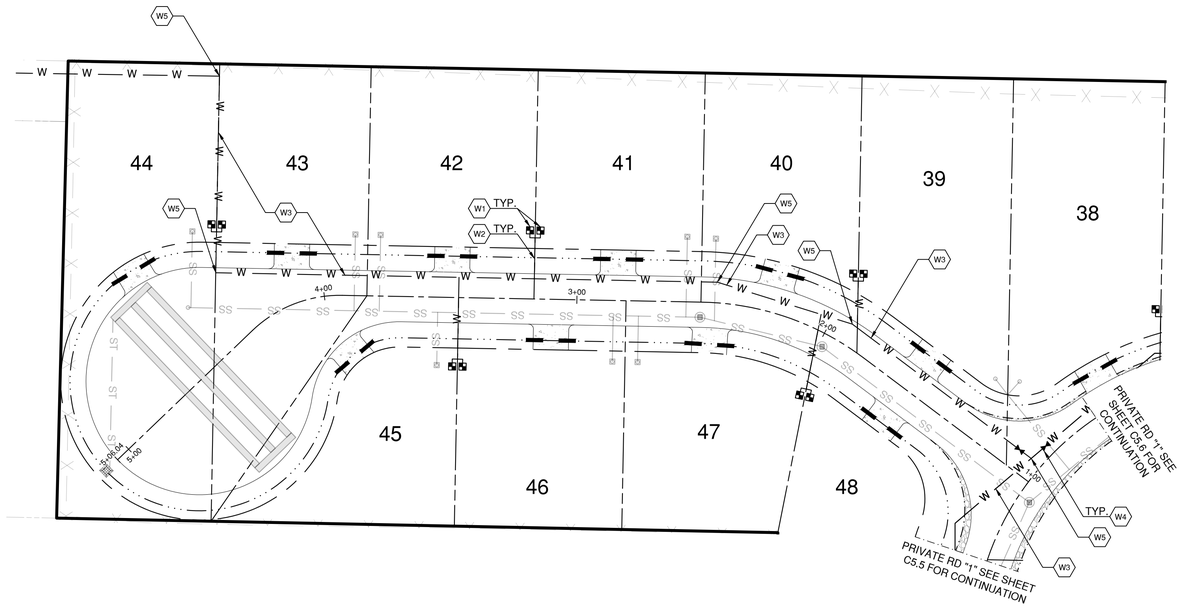
SECTION 30 TOWNSHIP 13N RANGE 001E



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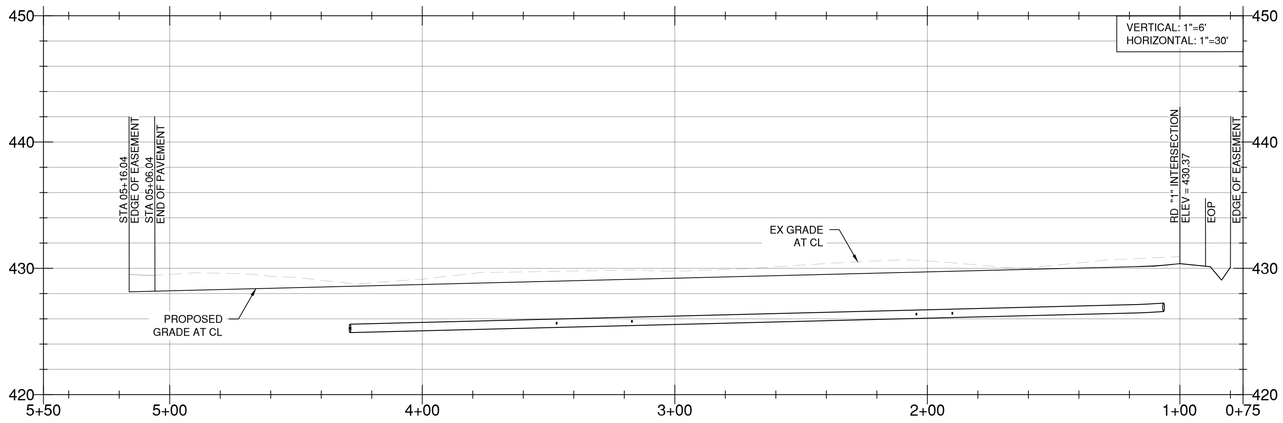

WATER NOTES:

- W1 INSTALL 1" PLASTIC FLEXIBLE PIPING (OR EQUAL) WATER SERVICE LINE AND DUAL SERVICE METER PER PER DETAIL W-2 AND LEWIS COUNTY STANDARD DRAWINGS 12 & 12-A, SHEET C5.9, TYP OF 5
- W2 INSTALL WATER LATERAL AS SHOWN. RECOMMENDED 1.5" PLASTIC FLEXIBLE PIPING
- W3 INSTALL 8" PVC C900 WATER MAIN. SEE NOTES 1 & 2 TO CONTRACTOR THIS SHEET
- W4 INSTALL GATE VALVE AND VALVE BOX PER LEWIS COUNTY STANDARD DRAWING 20, SHEET C5.9, TYP OF 2
- W5 INSTALL THRUST BLOCKING PER LEWIS COUNTY STANDARD DRAWINGS 4 & 5, SHEET C5.10

NOTES TO CONTRACTOR:

1. PIPE COVER. A MINIMUM OF THIRTY-SIX (36) INCHES OF COVER OVER THE PIPE AND, TO THE EXTENT PRACTICAL, A MAXIMUM OF FORTY-TWO (42) INCHES COVER IS REQUIRED FROM THE FINISHED OR EXISTING GROUND SURFACE, WHICHEVER IS GREATER, TO THE TOP OF THE PIPE FOR ALL INSTALLED TRANSMISSION, DISTRIBUTION AND SERVICE PIPING. SEE LEWIS COUNTY STANDARD DRAWINGS 1 AND 2 SHEET C5.10.
2. TRANSMISSION AND DISTRIBUTION WATER PIPING SHALL BE SEPARATED AT LEAST TEN (10) FEET HORIZONTALLY FROM ON-SITE WASTE DISPOSAL PIPING, DRAINFIELDS, AND/OR GRAVITY SEWAGE PIPES AND FORCE MAINS. THE CONTRACTOR SHALL MAINTAIN A MINIMUM OF EIGHTEEN (18) INCHES OF VERTICAL SEPARATION BETWEEN SANITAR SEWERS AND WATERMAIN CROSSING - WITH THE WATERMAINS BEING AT THE HIGHER ELEVATION. AN EXCEPTION HAS BEEN MADE WHERE WATERMAIN CROSSES BELOW SANITARY SEWER AND A WATER SLEEVE HAS BEEN UTILIZED.

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C5.7

SANITARY SEWER MAIN INSTALLATION GENERAL NOTES

1. All workmanship and material will be in accordance with the City Standards and the most recent copy of the State of Washington Standard Specifications for Road, Bridge and Municipal Construction (WSDOT/APWA).

2. All approvals and permits required by the City will be obtained by the contractor prior to the start of construction.

3. If construction is to take place in the County right–of–way, the contractor will notify the County and obtain all required approvals and permits.

4. A pre–construction meeting will be held with a Public Works Department representative prior to the start of construction.

5. The Public Works Department will be notified a minimum of two (2) business days in advance of a tap connection to an existing main. A Public Works representative will be present at the time of the tap.

6. The contractor will be fully responsible for the location and protection of all existing utilities. The contractor will verify all utility locations prior to construction by calling the Utilities Underground Location Center at 811 a minimum of two (2) business days prior to any excavation.

7. All sewer mains will be field staked for grades and alignment by a licensed engineering or surveying firm qualified to perform such work. Staking will be maintained throughout construction.

8. All pipes and services will be installed with continuous tracer tape placed twelve (12) to eighteen (18) inches under the proposed finished subgrade. The marker will be of plastic non–biodegradable, metal core, or backing marked "SEWER" that can be detected by a standard metal detector. If visibility cannot be maintained between structures along the straight alignment of sewer, toning wire will be installed above the sewer line at a depth no greater that 48 inches. Tape will be Terra Tape "D" or approved equal. In addition, STEP, force mains, and curvilinear sewers will be installed with toning wire taped to the top of the pipe to prevent movement during backfill.

   If toning wire is required, it will be UL listed, type UF, fourteen (14) gauge copper. The wire will be laid loosely enough to prevent stretching and damage. The wire will be wrapped to a manhole or cleanout rings on gravity sewer or valve body on STEP mains.

   A 1–lb magnesium anode will be buried with the pipe every 1,000 linear feet maximum for cathodic protection of the toning wire. Toning wire splices and connections to anodes will join wires both mechanically and electrically and will employ epoxy resin or heat–shrink tape insulation. Toning wire will be tested prior to acceptance of the pipe system. A written notice from the contractor to the city must be received two (2) business days prior to when testing is required. On a curvilinear sewer, the wire will be brought up, bared and wrapped three (3) times around the manhole ring. The tape and wire will be furnished and installed by the contractor.

9. Bedding of the sewer main and compaction of backfill material will be required in accordance with the above specifications (See Note 1).

10. All manholes and cleanouts outside the paved area will be installed in accordance with Catch basin type 2 detail and Cleanout detail.

11. When temporary street patching is allowed by the City, cold mix asphalt will be placed to a maximum depth of one (1) inch. The contractor will be responsible for maintenance as required by the City.

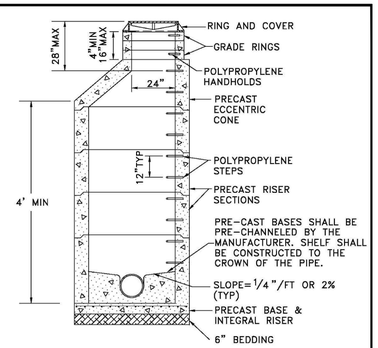
12. Erosion control measures conforming to the most recent version of the City Stormwater Management Plan and Chapter 3 of the Public Works Standards will be taken by the contractor during construction to prevent infiltration of existing and proposed storm drainage facilities and roadways.

13. Provide traffic control plan(s) in accordance with Manual on Uniform Traffic Control Devices (MUTCD) as required.

14. It will be the responsibility of the contractor to have a copy of the approved construction plans on–site at all times. "Approved" plans are typically signified by the signature of the Director of Public Works.

15. Any changes to the design will first be reviewed and approved by the developer's project engineer and then the Director of Public Works prior to implementation.

16. Prior to backfill, all mains and appurtenances will be inspected and approved by a Public Works representative. Approval does constitute final acceptance of the sewer line. The contractor will retain responsibility to repair all deficiencies and failures revealed during all required testing for acceptance and throughout the duration of the warranty. It is the contractor's responsibility to notify the Public Works Department in advance of all required inspections. Any main or appurtenance backfill prior to inspection will be re–excavated for inspection at no cost to the City.

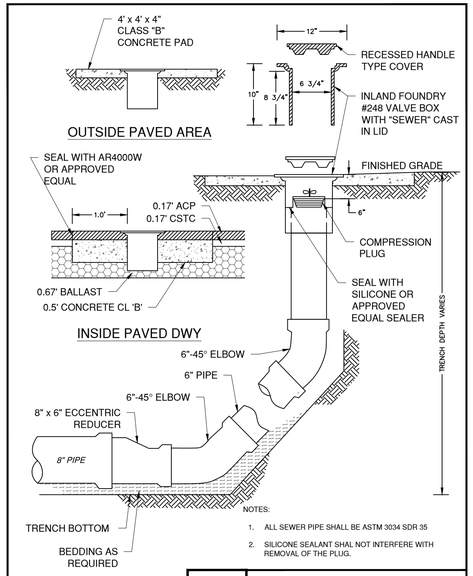


NOTES:

1. PRECAST MANHOLES SHALL MEET THE REQUIREMENTS OF ASTM C478. JOINTS SHALL BE RUBBER GASKETED CONFORMING TO ASTM C443 AND SHALL BE GROUTED FROM THE INSIDE & OUTSIDE. LIFT HOLES SHALL BE GROUTED FROM THE OUTSIDE & INSIDE OF THE MANHOLE.
2. STEPS IN MANHOLE SHALL HAVE 6" MINIMUM CLEARANCE. HANDHOLES IN ADJUSTMENT SECTION SHALL HAVE 3" MINIMUM CLEARANCE. THE FIRST STEP OR HANDHOLD SHALL BE A MAXIMUM OF 12" FROM THE TOP OF THE COVER.
3. CONNECTION TO MANHOLE SHALL BE MADE BY KOR–N–SEAL BOOT, UNLESS AN ALTERNATIVE CONNECTION METHOD IS SPECIFICALLY APPROVED AND AUTHORIZED BY THE PUBLIC WORKS DIRECTOR.
4. NON–REINFORCED CONCRETE IN CHANNEL AND SHELF SHALL BE CLASS 3000.
5. SEE DETAIL 5–3 FOR MANHOLE COLLAR INSTALLATION.
6. A SEWER GUARD SHALL BE INSTALLED IN ANY MANHOLE SUBJECT TO FLOODING.

DRAWING NOT TO SCALE

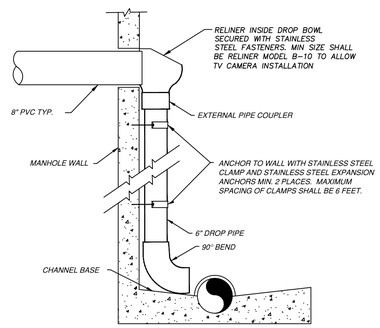
S-1 TYPICAL MANHOLE



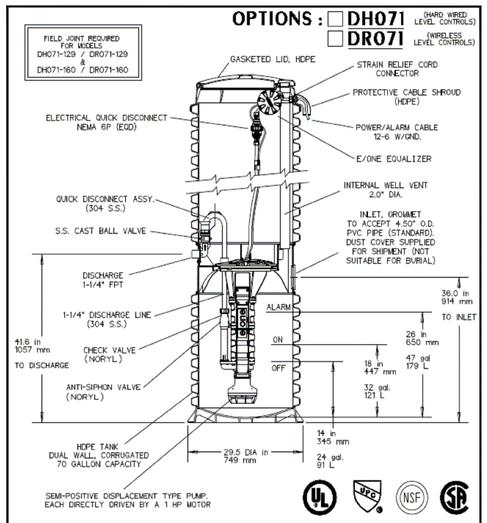
NOTES:

1. ALL SEWER PIPE SHALL BE ASTM 3034 SDR 35
2. SILICONE SEALANT SHAL NOT INTERFERE WITH REMOVAL OF THE PLUG.

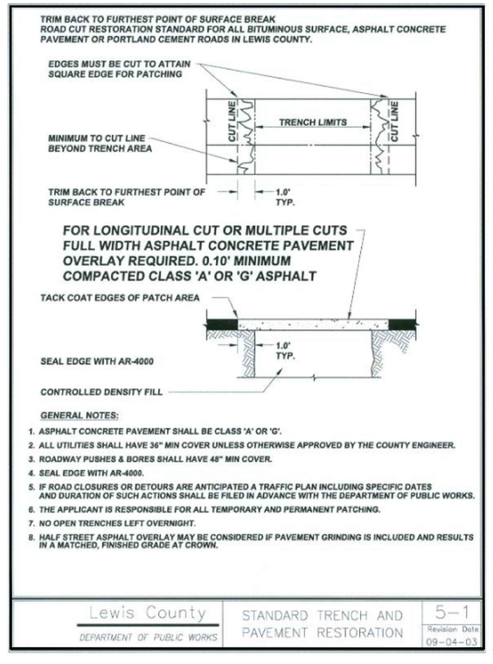
S-2 CLEANOUT

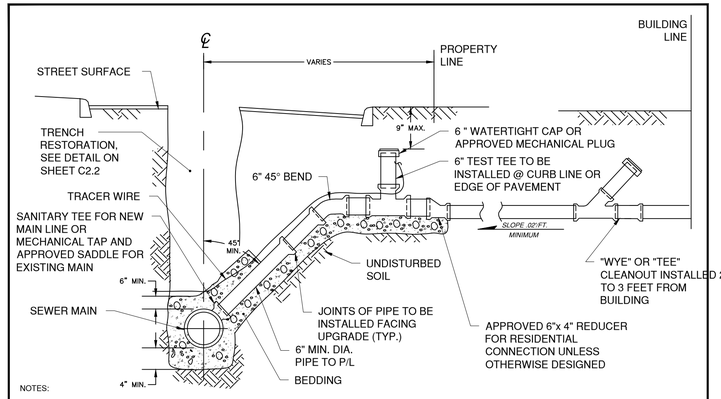


S-4 DROP CONNECTION SYSTEM INSIDE MANHOLE



S-5





NOTES:

1. SIDE SEWER PIPE TO BE PVC ASTM D3034.
2. ALL JOINT CONNECTIONS SHALL BE RUBBER GASKETED TYPE CONFORMING TO ASTM D3212.
3. BEDDING AND GRADE SHALL BE ESTABLISHED PRIOR TO PIPE BEING PLACED IN TRENCH.

S-3 SANITARY SEWER LATERAL SERVICE CONNECTION

PRELIMINARY
FOR PERMIT ONLY

DRAWING TITLE: UTILITY NOTES AND DETAILS
SCALE: AS SHOWN | DATE: 02/26/21 | DRAWN: SD | CHECKED: MF
PROJECT NAME: COSSER ONALASKA

FULLER DESIGNER DESIGNS
1101 KRESKY AVE
CENTRALIA, WA 98531
(360) 807-4420

REV:	DESCRIPTION:	DATE:
0	PRELIMINARY - FOR PERMIT	02/26/21
1	----	----

C5.8

SECTION 30 TOWNSHIP 13N RANGE 001E

WATER MAIN INSTALLATION GENERAL NOTES

1. All workmanship and material shall be in accordance with Lewis County standards and the most current copy of the State of Washington Specifications for Road, Bridge and Municipal Construction, as published by the Washington State Department of Transportation, American Water Works Association (AWWA) Standards and Washington State Department of Health (DOH) regulations.

2. A preconstruction meeting will be held with the contractor, applicant's engineer, a utility inspector, a representative of the utility division, a representative of the engineering division of the public works department, and the affected parties before the start of construction.

3. All water lines 8–inches in diameter and larger shall be ductile iron, thickness class 52, rated working pressure of 350 psi conforming to AWWA C151, cement mortar lined conforming to AWWA C104 and push on joints conforming to AWWA C111. Water mains of 4–inches and 6–inches in diameter shall be PVC C–900 class 200. No solvent weld joint pipe is allowed.

4. Fittings shall be ductile iron compact fittings conforming to AWWA C153, C110 or C111. All fittings will be cement mortar lined conforming to AWWA C104. Plain end fittings will be ductile iron if mechanical joint retainer glands are installed on the plain ends. All fittings will be connected by flanges or mechanical joints. If required by the administrator, megalug retainer glands and pipe restraint systems shall be required. These restraint systems shall be as manufactured by Romac Industries, EBAA Iron Inc. or such other equivalent restraint systems as specifically and expressly approved in writing by the Lewis County engineer.

5. Gate valves will be resilient wedge, NRS (nonrising stem) with O–ring seals. Valve ends will be mechanical joint or ANSI flanges. Valves will conform to AWWA 509–80. Valves shall be Mueller, M&H, Kennedy or Clow. Existing valves and all valves installed directly to and connected to a portion of the active water system are to be operated by utility division personnel only.

6. The contractor will timely provide approved traffic control plans in accordance with the "Manual on Uniform Traffic Control Devices" (MUTCD). Traffic control plans must be approved by the agency administering the affected right of ways.

7. The contractor will keep copies of all approved permits and approvals for water main construction on site.

8. All water mains will be staked for grades and alignment by the design engineer or a licensed land surveyor. All vertical control shall be established to be consistent with the datum used by the water utility. Staking will be maintained throughout construction.

9. All water system connections serving buildings or properties with domestic potable water, fire sprinkler or irrigation systems must comply with the minimum backflow prevention requirements established by DOH and the cross–connection control program for the water utility.

10. The contractor must call Utilities Underground Location Center at 1–800–424–5555 a minimum of two business days before any excavations.

11. All pipes and services must be installed with continuous tracer tape and toning wire. Tracer tape will be placed 12 to 18 inches under the proposed finished subgrade. The marker will be of plastic, nonbiodegradable, metal core or backing marked "WATER" that can be detected by a standard metal detector. Tape will be Terra Tape "D" or approved equal. Toning or tracing wire will be UL listed, type UF, 12–gauge solid coated copper wire. The wire shall be taped to the top of the pipe to prevent movement during backfilling, and laid loose enough to prevent stretching and damage before brought up and tied off at the valve operating nut, valve box or meter box. If the operating nut is not easily accessible from the ground surface, the wire will be tied off at the valve box so that the wire is easily accessible from the ground surface. Two (2) feet of slack will be provided to allow for connection to the locator.

12. A minimum cover of 30 inches and a maximum cover of 36 inches over the pipe shall be maintained at all times.

13. All steps of the testing, chlorination and sampling processes must be witnessed by the utility inspector.

14. All pipe and appurtenances shall be hydrostatically tested at 200 psi (min.) for two hours. A pressure drop greater than 5 psig shall constitute a failure and the pipe shall be retested. The contractor's pressure gage shall be certified for accuracy from a certified testing lab, a maximum of 6 months prior to the start date of construction.

15. Chlorination by means of tablets or powders (dry calcium hydrochlorite) placed in each length of pipe during installation is prohibited.

16. Where the water line crosses a sanitary sewer, the water line shall be above the sewer line with a separation of at least 18 inches between the invert of the water line and the crown of the sewer pipe. If these criteria cannot be met, then the sewer pipe shall be cased within ductile iron pipe for a distance of 10 ft on both sides of the water line.

17. All "long side services" shall be encased in 160 psi pipe and per the following schedule when crossing the right–of–way.

3/4" Service needs 1.5" diameter casing.

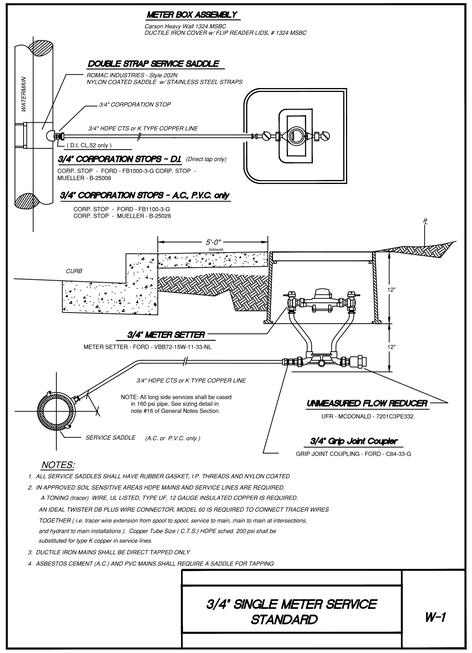
1" Service needs 2" diameter casing.

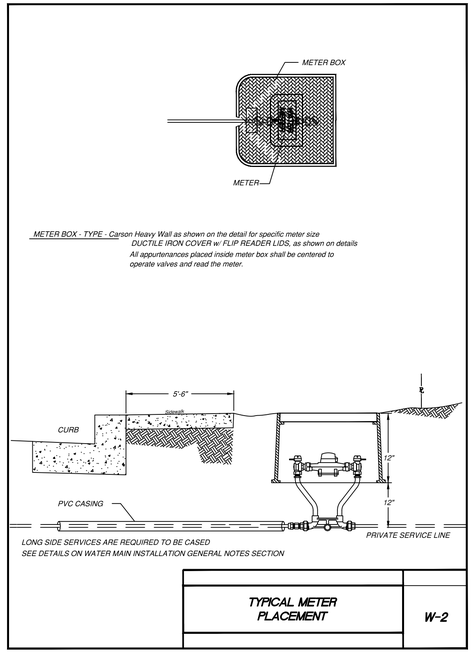
1.5" Service needs 3" diameter casing.

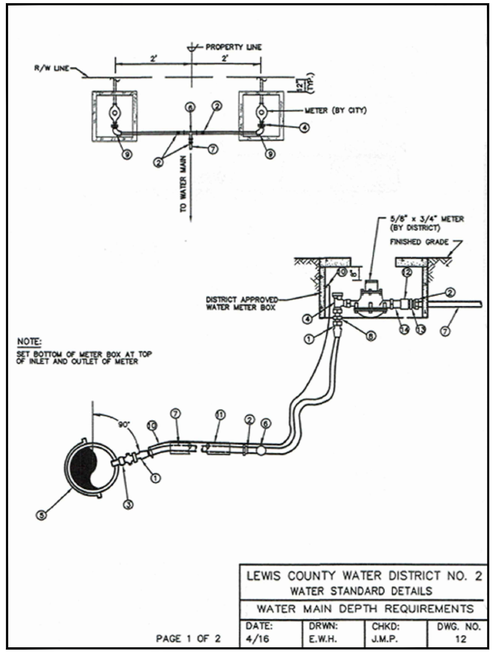
2" Service needs 3" diameter casing.

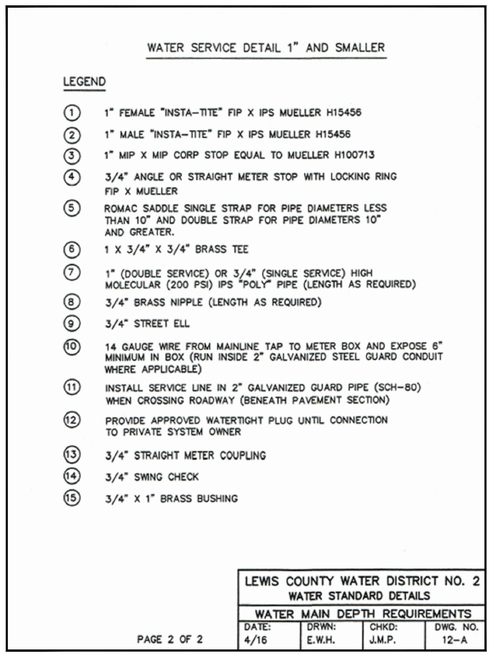
18. The utility must be notified five (5) working days prior to scheduling a water system shutdown. Utility personnel will perform all water system shutdowns. When connections require field verification, the contractor will expose the connection points and have the fittings verified by the utility three (3) working days before the anticipated shutdown date. Shutdowns will not be permitted on Fridays, weekends or holidays without advance written approval from the administrator.

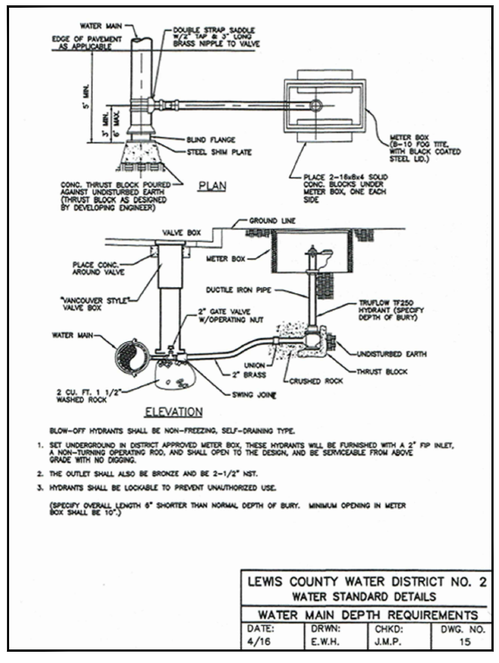
19. When connecting to an existing water line where a new valve is not to be installed, the existing valve must be pressure tested to these standards by the contractor prior to connection. If an existing valve fails the test, the contractor will make the necessary additional provisions to test the new main prior to connecting to the existing system or the contractor will install a new valve. New mains will not be connected to the existing system until all required tests have passed.

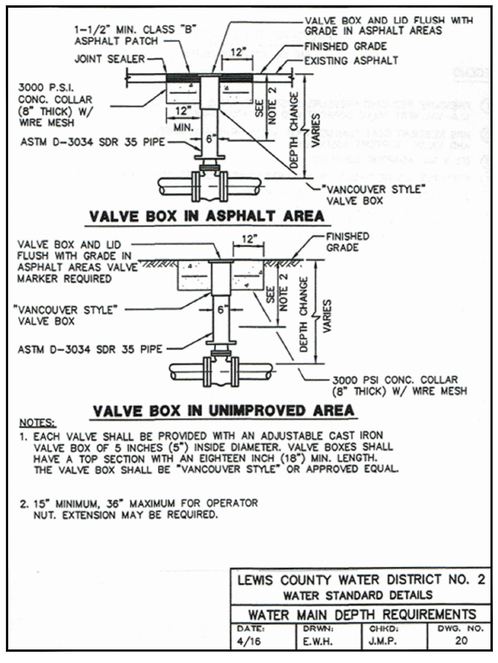












PRELIMINARY
FOR PERMIT ONLY

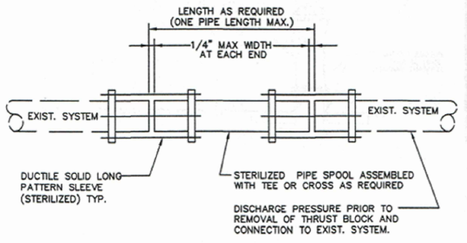
DRAWING TITLE: UTILITY NOTES AND DETAILS
SCALE: AS SHOWN
DATE: 02/26/21
DRAWN: SD
CHECKED: MF
PROJECT NAME: COSSER ONALASKA

REV:	DESCRIPTION:	DATE:
0	PRELIMINARY - FOR PERMIT	02/26/21
1	----	----

FULLER DESIGNS
1101 KRESKY AVE
CENTRALIA, WA 98531
(360) 807-4420

C5.9

SECTION 30 TOWNSHIP 13N RANGE 001E



NOTE:

① NO DEFLECTION SHALL BE ALLOWED AT EITHER COUPLING.

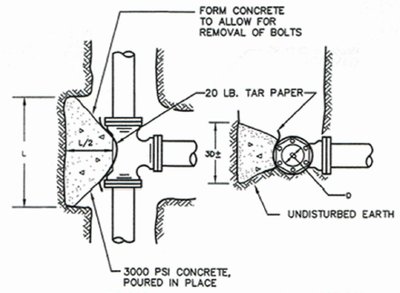
② CUT-IN CONNECTIONS ON STEEL PIPE TO USE D.I. x O.D. STEEL TRANSITION COUPLINGS ROMAC OR EQUAL.

③ IN-LINE VALVE(S) IN EXISTING SYSTEM MAY BE REQUIRED AT THE SOLE DISCRETION OF THE DISTRICT AT ALL NEW INTERTIE LOCATIONS. (NOTE: VALVE(S) ARE NOT SHOWN ABOVE FOR CLARITY)

LEWIS COUNTY WATER DISTRICT NO. 2
WATER STANDARD DETAILS
WATER MAIN DEPTH REQUIREMENTS

DATE:	DRWN:	CHKD:	DWG. NO.
4/16	E.W.H.	J.M.P.	7

MINIMUM BEARING AREA TABLE					
FITTING D	TEE	90°	45°	22 1/2°	11 1/4°
6"	4 SQ.FT.	6 SQ.FT.	3 SQ.FT.	2 SQ.FT.	2 SQ.FT.
8"	7 SQ.FT.	10 SQ.FT.	6 SQ.FT.	3 SQ.FT.	2 SQ.FT.
10"	10 SQ.FT.	15 SQ.FT.	9 SQ.FT.	5 SQ.FT.	3 SQ.FT.
12"	14 SQ.FT.	22 SQ.FT.	12 SQ.FT.	6 SQ.FT.	4 SQ.FT.
16"	25 SQ.FT.	38 SQ.FT.	21 SQ.FT.	11 SQ.FT.	7 SQ.FT.
18"	32 SQ.FT.	48 SQ.FT.	27 SQ.FT.	14 SQ.FT.	8 SQ.FT.



PLAN ELEVATION

NOTE:

1. BEARING AREA TABLE BASED ON 250 PSI PRESSURE AND 2000 PSF SOIL BEARING. IF PRESSURE IS GREATER OR SOIL BEARING IS LESS, THE THRUST BLOCK SIZE SHALL BE INCREASED.
2. ALL FITTINGS SHALL BE RESTRAINED JOINT W/ ROMAC GRIP RINGS.

THIS TABLE REPRESENTS THE "MINIMUM" CONSTRUCTION STANDARDS. THE DEVELOPER'S ENGINEER SHALL BE RESPONSIBLE FOR DETERMINING THE APPROPRIATE SIZE OF ALL THRUST BLOCKS BASED ON EXISTING AND LOCAL CONDITIONS.

LEWIS COUNTY WATER DISTRICT NO. 2
WATER STANDARD DETAILS
WATER MAIN DEPTH REQUIREMENTS

DATE:	DRWN:	CHKD:	DWG. NO.
4/16	E.W.H.	J.M.P.	4

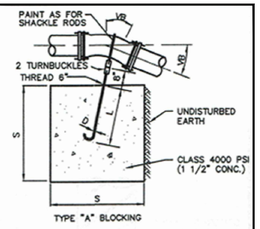
TYPE "A" BLOCKING
FOR 11 1/4°-22 1/2°-30° VERTICAL BENDS

PIPE SIZE NOMINAL DIAMETER-INCHES	TEST PRESSURE PSI	VERTICAL BEND DEGREES	VB No. OF CU. FT. OF CONC. BLOCKING	S SIDE OF CUBE LIN. FT.	D DIAM. OF SHACKLE RODS (2) INCHES	L DEPTH OF RODS IN CONCRETE LIN. FT.
4"	300	11 1/4	8	2	5/8"	1.5
		22 1/2	11	2.2		2.0
		30	17	2.6		
6"	300	11 1/4	11	2.2	5/8"	2.0
		22 1/2	25	2.9		
		30	41	3.5		
8"	300	11 1/4	16	2.5	5/8"	2.0
		22 1/2	47	3.6		
		30	70	4.1	3/4"	2.5
12"	250	11 1/4	32	3.2	5/8"	2.0
		22 1/2	88	4.5	7/8"	3.0
		30	132	5.1		
16"	225	11 1/4	70	4.1	7/8"	3.0
		22 1/2	184	5.7	1 1/8"	4.0
		30	275	6.5	1 1/4"	
20"	200	11 1/4	91	4.5	7/8"	3.0
		22 1/2	225	6.1	1 1/4"	4.0
		30	330	6.9	1 3/8"	4.5
24"	200	11 1/4	128	5.0	1"	3.5
		22 1/2	320	6.8	1 3/8"	4.5
		30	480	7.9	1 7/8"	5.5

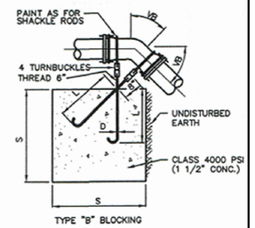
TYPE "B" BLOCKING
FOR – 45° VERTICAL BENDS

		VB		S	D	L
4"	300	45	30	3.1	5/8"	2.0
6"			58	4.1		
8"			123	5.0		
12"	250		232	6.1	3/4"	2.5
16"	225		478	7.8	1 1/8"	4.0
20"	200		560	8.2	1 1/4"	
24"			820	9.4	1 3/8"	4.5

THIS TABLE REPRESENTS THE "MINIMUM" CONSTRUCTION STANDARD. THE DEVELOPER'S ENGINEER SHALL BE RESPONSIBLE FOR DETERMINING THE APPROPRIATE SIZE OF ALL ANCHOR BLOCKS BASED ON EXISTING AND LOCAL CONDITIONS. FITTINGS SHALL ALSO BE RESTRAINED.



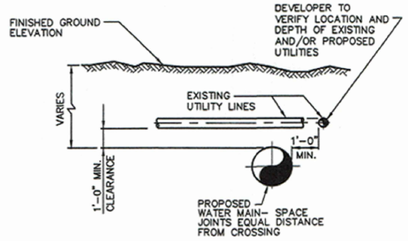
TYPE "A" BLOCKING



TYPE "B" BLOCKING

LEWIS COUNTY WATER DISTRICT NO. 2
WATER STANDARD DETAILS
WATER MAIN DEPTH REQUIREMENTS

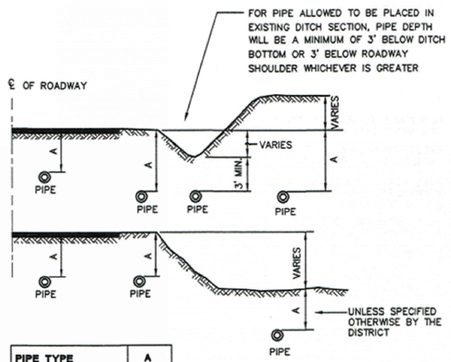
DATE:	DRWN:	CHKD:	DWG. NO.
4/16	E.W.H.	J.M.P.	5



NOTE:
CONCRETE ENCASEMENT (BEDDING) SHALL BE UTILIZED, IF APPROVED BY THE DISTRICT, AT LOCALIZED UTILITY CROSSING IF MINIMUM PIPE SEPARATION (ELEVATION) CANNOT BE MAINTAINED / ACHIEVED.

LEWIS COUNTY WATER DISTRICT NO. 2
WATER STANDARD DETAILS
WATER MAIN DEPTH REQUIREMENTS

DATE:	DRWN:	CHKD:	DWG. NO.
4/16	E.W.H.	J.M.P.	3

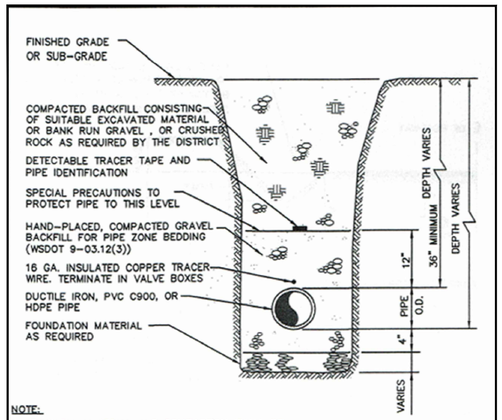


PIPE TYPE	A
TRANSMISSION	42"
DISTRIBUTION	36"

* MINIMUM DEPTH

LEWIS COUNTY WATER DISTRICT NO. 2
WATER STANDARD DETAILS
WATER MAIN DEPTH REQUIREMENTS

DATE:	DRWN:	CHKD:	DWG. NO.
4/16	E.W.H.	J.M.P.	1



NOTE:

1. BACKFILL MATERIAL AND COMPACTION SHALL BE IN CONFORMANCE WITH MINIMUM DISTRICT STANDARDS AND\OR THE LEWIS COUNTY PERMIT REQUIREMENTS, AS MAY BE APPLICABLE.

LEWIS COUNTY WATER DISTRICT NO. 2
WATER STANDARD DETAILS
WATER MAIN DEPTH REQUIREMENTS

DATE:	DRWN:	CHKD:	DWG. NO.
4/16	E.W.H.	J.M.P.	2

PRELIMINARY
FOR PERMIT ONLY

DRAWING TITLE: UTILITY NOTES AND DETAILS
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PROJECT NAME: COSSER ONALASKA

FULLER DESIGNS
1101 KRESKY AVE
CENTRALIA, WA 98531
(360) 807-4420

REV:	DESCRIPTION:	DATE:
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21 OF 21