KENT
WASHINGTON

CITY OF KENT

SUZETTE COOKE - MAYOR

MEMBERS OF CITY COUNCIL

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TIM LaPORTE - DIRECTOR OF PUBLIC WORKS
CHAD BIEREN - CITY ENGINEER

RONALD MOORE - CITY CLERK
PAT FITZPATRICK - CITY ATTORNEY

PUBLIC WORKS PROJECT

DOWNEY FARMSTEAD RESTORATION

100% DESIGN

JOB NUMBER 08-3017

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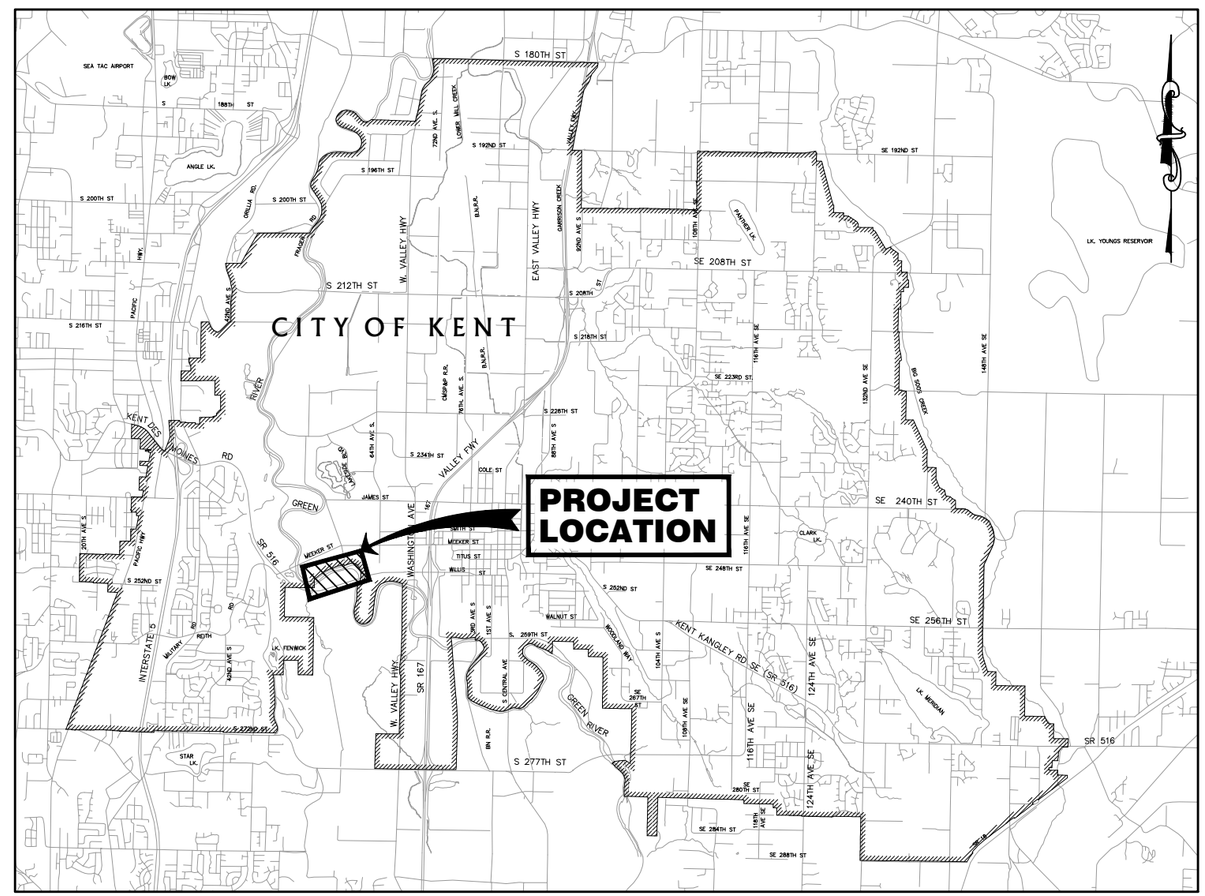

VICINITY MAP
NOT TO SCALE

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GENERAL NOTES

1. PRIOR TO ANY CONSTRUCTION ACTIVITY, THE CONTRACTOR SHALL ATTEND A SCHEDULED PRE–CONSTRUCTION CONFERENCE WITH THE CITY OF KENT CONSTRUCTION INSPECTION PERSONNEL. PHONE (253) 856–5500 TO SCHEDULE CONFERENCE.
2. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE WSDOT STANDARD SPECIFICATIONS, AND THE KENT SPECIAL PROVISIONS FOR THIS PROJECT.
3. THE CONTRACTOR SHALL COMPLY WITH ALL PUBLIC CONVENIENCE AND SAFETY AS DESCRIBED IN SECTION 1–07.23 TO SECTION 1–07.23(2) OF THE WSDOT STANDARD SPECIFICATIONS FOR STORING OF EQUIPMENT AND MATERIALS DURING NON–WORKING HOURS.
4. THE CONTRACTOR SHALL KEEP STREETS CLEAN AT ALL TIMES BY STREET SWEEPING WHEN NECESSARY, OR WHEN DIRECTED BY THE ENGINEER.
5. ALL ITEMS OF WORK NOT LISTED IN THE BID PROPOSAL WHICH ARE SHOWN ON THE CONTRACT DRAWINGS AND ARE REQUIRED TO COMPLETE THE WORK THAT IS SHOWN SHALL BE CONSIDERED INCIDENTAL TO THE LISTED BID ITEMS.
6. UNLESS OTHERWISE NOTED, THE WORDS "REMOVE, REMOVAL, EXCAVATE AND EXCAVATION" IN THE CONSTRUCTION NOTES, SPECIFICATIONS, AND SHOWN ON THE PLANS MEANS REMOVAL, HAUL AND LEGAL OFF–SITE DISPOSAL BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
7. THE ISSUED–FOR–CONSTRUCTION PLANS, THE APPROVED TRAFFIC CONTROL PLANS, THE APPROVED TEMPORARY EROSION/SEDIMENTATION CONTROL PLANS, THE STANDARD SPECIFICATIONS AND KENT SPECIAL PROVISIONS SHALL BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.
8. UNLESS STATED OTHERWISE THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE MEANS, METHODS AND SEQUENCE OF CONSTRUCTION AND FOR THE SAFETY OF THE WORKERS.
9. ALL EXISTING UTILITIES SHALL REMAIN IN SERVICE UNLESS OTHERWISE NOTED.
10. IDENTIFICATION, LOCATION, MARKING AND RESPONSIBILITY FOR UNDERGROUND FACILITIES OR UTILITIES IS GOVERNED BY THE PROVISIONS OF CHAPTER 19.122, REVISED CODE OF WASHINGTON.
11. THE CONTRACTOR SHALL CONTACT THE UNDERGROUND UTILITIES LOCATION SERVICE (811) AT LEAST TWO WORKING DAYS PRIOR TO CONSTRUCTION. THE ENGINEER SHALL BE CONTACTED IMMEDIATELY IF A CONFLICT EXISTS.
12. CAUTION – EXTREME HAZARD – OVERHEAD AND UNDERGROUND ELECTRICAL SERVICE LINES ARE GENERALLY NOT SHOWN ON THE DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE EXTENT OF ANY HAZARD CREATED BY OVERHEAD OR UNDERGROUND ELECTRICAL POWER IN ALL AREAS AND SHALL FOLLOW PROCEDURES DURING CONSTRUCTION AS REQUIRED BY LAW AND REGULATION. PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL MEET WITH UTILITY OWNERS AND DETERMINE THE EXTENT OF HAZARD AND REMEDIAL MEASURES AND SHALL TAKE WHATEVER PRECAUTIONS THAT MAY BE REQUIRED.
13. ALL LOCATIONS OF EXISTING UTILITIES SHOWN HEREON HAVE BEEN ESTABLISHED BY FIELD SURVEY OR OBTAINED FROM THE BEST AVAILABLE RECORDS AND SHOULD THEREFORE BE CONSIDERED APPROXIMATE ONLY AND NOT NECESSARILY COMPLETE. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO INDEPENDENTLY VERIFY THE ACCURACY OF ALL UTILITY LOCATIONS SHOWN AND TO FURTHER DISCOVER AND AVOID ANY OTHER UTILITIES NOT SHOWN HEREON WHICH MAY BE AFFECTED BY THE IMPLEMENTATION OF THIS PLAN.
14. DURING THE PROCESS OF RELOCATING UTILITIES, THE CONTRACTOR IS RESPONSIBLE FOR ALL SHORING AND BRACING REQUIRED TO PROTECT AND SUPPORT EXISTING UNDERGROUND UTILITIES AND STRUCTURES DURING CONSTRUCTION.
15. ANY OPEN CUTS OF EXISTING PUBLIC ROADWAYS SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS AND KENT SPECIAL PROVISIONS. ALL CUTS INTO EXISTING ASPHALT SHALL BE ALONG NEAT, CONTINUOUS, SAW CUT LINES. A TEMPORARY COLD MIX PATCH MUST BE PLACED IMMEDIATELY AFTER BACKFILL AND COMPACTION. UNLESS OTHERWISE DIRECTED BY THE ENGINEER THE EXISTING SURFACING MUST BE REPLACED IN KIND (OR 3 INCHES OF COMPACTED HMA PG64–22, CLASS 1/2", ASPHALT CONCRETE, WHICHEVER IS GREATER) WITHIN 30 DAYS OF COLD PATCHING. THE CONTRACTOR SHALL CLOSELY FOLLOW REQUIREMENTS SET FOR WORKING HOURS, DETOUR AND WARNING SIGNS AND NOTIFICATION OF ROAD ALTERATIONS TO THE POLICE AND/OR OTHER EMERGENCY SERVICES.
16. ALL UTILITY LIDS, COVERS, ETC. LOCATED IN THE STREETS AND SIDEWALKS SHALL BE ADJUSTED TO GRADE.
17. IT IS ILLEGAL UNDER WASHINGTON STATE ADMINISTRATIVE CODE 332–120 TO WILLFULLY DESTROY SURVEY MARKERS. STAKES, MARKS, AND OTHER REFERENCE POINTS SET BY CITY FORCES, AND EXISTING CITY, STATE OR FEDERAL MONUMENTATION, SHALL BE CAREFULLY PRESERVED BY THE CONTRACTOR. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF IT BECOMES APPARENT THAT A SURVEY MARKER WILL BE DISTURBED DUE TO CONSTRUCTION. THE CONTRACTOR SHALL ALLOW AMPLE TIME FOR CITY SURVEY DEPARTMENT PERSONNEL TO ACQUIRE ADEQUATE INFORMATION SO THAT THE MONUMENT MAY BE REPLACED IN ITS ORIGINAL POSITION AFTER CONSTRUCTION.
18. ALL STORM AND SEWER PIPE PLUGGED DURING CONSTRUCTION SHALL BE DONE WITH SPEED PLUG OR APPROVED EQUAL.
19. THE COSTS FOR GENERAL RESTORATION AND CLEAN UP REQUIRED IN COMPLIANCE WITH THE SPECIFICATIONS FOR THIS PROJECT SHALL BE CONSIDERED INCIDENTAL TO AND INCLUDED IN THE UNIT CONTRACT PRICE OF OTHER BID ITEMS EXCEPT FOR THOSE ITEMS INCLUDED IN THE PROPOSAL.

LEGEND

EXISTING FEATURES APPEAR SCREENED

- (1) KEYED NOTE
- 1 / 16 — SECTION LETTER OR DETAIL NUMBER; SHEET NUMBER WHERE SECTION OR DETAIL IS REFERENCED
- FENCE
- GUARD RAIL
- EP — EDGE OF PAVEMENT
- ALIGNMENT/CENTERLINE
- PROPERTY LINE
- 35 — CONTOUR LINE AND LABEL
- OHW — ORDINARY HIGH WATER
- P — POWER LINE
- G — GAS LINE
- W — WATERLINE
- D — STORM DRAIN LINE
- S — SANITARY SEWER LINE
- SIGN
- STREET LIGHT/LUMINAIRE
- DECIDUOUS TREE
- CONIFEROUS TREE
- FIRE HYDRANT
- VALVE
- VAULT
- WATER METER
- STRUCTURE/ROAD REMOVAL

DATUM

VERTICAL DATUM: NAVD 88
HORIZONTAL DATUM: NAD 83/91

CITY OF KENT BENCHMARK No. 1047
BENCHMARK ELEVATION: 42.959

BENCHMARK DESCRIPTION: SET 4"x4" CONCRETE MONUMENT WITH BRASS DISK ON E SIDE OF FRAGER RD, ± 0.3 MI. S OF BM 1046, ± 0.3MI. N OF BM 1048. MONUMENT IS 1.7' E OF E FACE OF E GUARDRAIL, ± 91' S OF POWERPOLE 314250/164439, ± 63' N OF POWER POLE 314240/16449. SET REBAR AT N EDGE FOR METAL DETECTOR.

CITY OF KENT BENCHMARK No. 8247
BENCHMARK ELEVATION: 45.456

BENCHMARK DESCRIPTION: SET CITY OF KENT 2" ALUMINUM DISK AT N EDGE OF PLANTER ISLAND IN TOP OF CURB AT INTERSECTION OF S 251st AND 62nd AVE S AT N END OF SIGNATURE POINT APARTMENT COMPLEX.

FRANCHISE UTILITY NOTE

ALL FRANCHISE UTILITY HAND HOLES, JUNCTION BOXES, VAULTS, CABINETS, PEDESTALS, ETC. SHALL BE RELOCATED, REMOVED REPLACED AND/OR ADJUSTED TO GRADE BY THE FRANCHISE UTILITY OWNER OR THEIR REPRESENTATIVE, UNLESS OTHERWISE NOTED ON THESE PLANS. THE CONTRACTOR SHALL COORDINATE THIS WORK WITH THE UTILITY COMPANY. ALL CITY OF KENT OWNED JUNCTION BOXES, VALVE BOXES, METER BOXES, ETC. SHALL BE RELOCATED, REMOVED, REPLACED AND/OR ADJUSTED TO GRADE AS NOTED ON THE PLANS BY THE CONTRACTOR.

FRANCHISE UTILITY CONTACTS

AT&T:	DAN MCGEOUGH	(425) 896–9830
PSE ELECTRIC:	ANITA YUROVCHAK	(253) 476–6304
PSE GAS:	ANITA YUROVCHAK	(253) 476–6304
CENTURYLINK:	DALE HARTMAN WARREN PERKINS	(253) 372–5364 (253) 372–5325
COMCAST CABLE:	JERRY STEELE	(206) 391–1763

ABBREVIATIONS

ACP	ASPHALTIC CONCRETE PAVEMENT
AL	ALIGNMENT
AVE	AVENUE
BMP	BEST MANAGEMENT PRACTICE
BOC	BOTTOM OF CHANNEL
BP	BEGINNING POINT OF ALIGNMENT
℄	CENTERLINE
CB	CATCH BASIN
CMP	CORRUGATED METAL PIPE
CSBC	CRUSHED SURFACING BASE COURSE
CSTC	CRUSHED SURFACING TOP COURSE
DBH	DIAMETER AT BREAST HEIGHT
DI	DUCTILE IRON
DIA	DIAMETER
E	EAST, EASTING
EG	EXISTING GROUND
EL	ELEVATION
ELJ	ENGINEERED LOG JAM
EP	EDGE OF PAVEMENT, ENDPOINT OF ALIGNMENT
EXST	EXISTING
FG	FINISH GRADE
H	HIGH
HDPE	HIGH DENSITY POLYETHYLENE
HMA	HOT MIX ASPHALT
IE	INVERT ELEVATION
INT	INTERSECTION OF ALIGNMENTS
L	LEFT, LENGTH OF ARC
LF	LINEAL FEET
MID	MIDPOINT OF CURVE
N	NORTH, NORTHING
NAD	NORTH AMERICAN DATUM
NAVD	NORTH AMERICAN VERTICAL DATUM
NE	NORTHEAST
NPDES	NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
NW	NORTHWEST
O.C.	ON–CENTER
OFF	OFFSET
PC	POINT OF CURVE
PCC	POINT OF COMPOUND CURVE
PI	POINT OF INTERSECTION
PT	POINT OF TANGENCY
R	RADIUS, RANGE, RIGHT
R/W	RIGHT OF WAY
S	SOUTH
SD	STORM DRAIN
SE	SOUTHEAST
SEC	SECTION
SS	SANITARY SEWER
SSMH	SANITARY SEWER MANHOLE
ST	STREET
STA	STATION
SW	SOUTHWEST
T	TOWNSHIP
TESC	TEMPORARY EROSION AND SEDIMENT CONTROL
TOC	TOP OF CONCRETE
TOW	TOP OF WALL
TYP	TYPICAL
UPRR	UNION PACIFIC RAILROAD
W	WEST, WIDE
W.M.	WILLAMETTE MERIDIAN
WSDOT	WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
Δ	DELTA

ALEXANDER M. MURILLO — STATE OF WASHINGTON — 37912 — REGISTERED PROFESSIONAL ENGINEER

NO.	REVISION	BY	DATE

DESIGNED: CW | CHECKED: | KENT PROJECT NO. 08–3017 | SCALE: HORIZ: VERT:
DRAWN: CW | PROJECT ENGR: | CONST. MGMT. REVIEW
APPROVED: CITY ENGINEER | DATE

BAR IS ONE INCH ON ORIGINAL DRAWING ADJUST SCALES ACCORDINGLY 0" 1"

City of Kent
Public Works Department
Engineering Division

GENERAL NOTES AND LEGEND

DOWNEY FARMSTEAD RESTORATION

SHEET G–2 OF 29
FILE NO. 08–3017 G–02 GENERAL NOTES AND LEGEND.dwg

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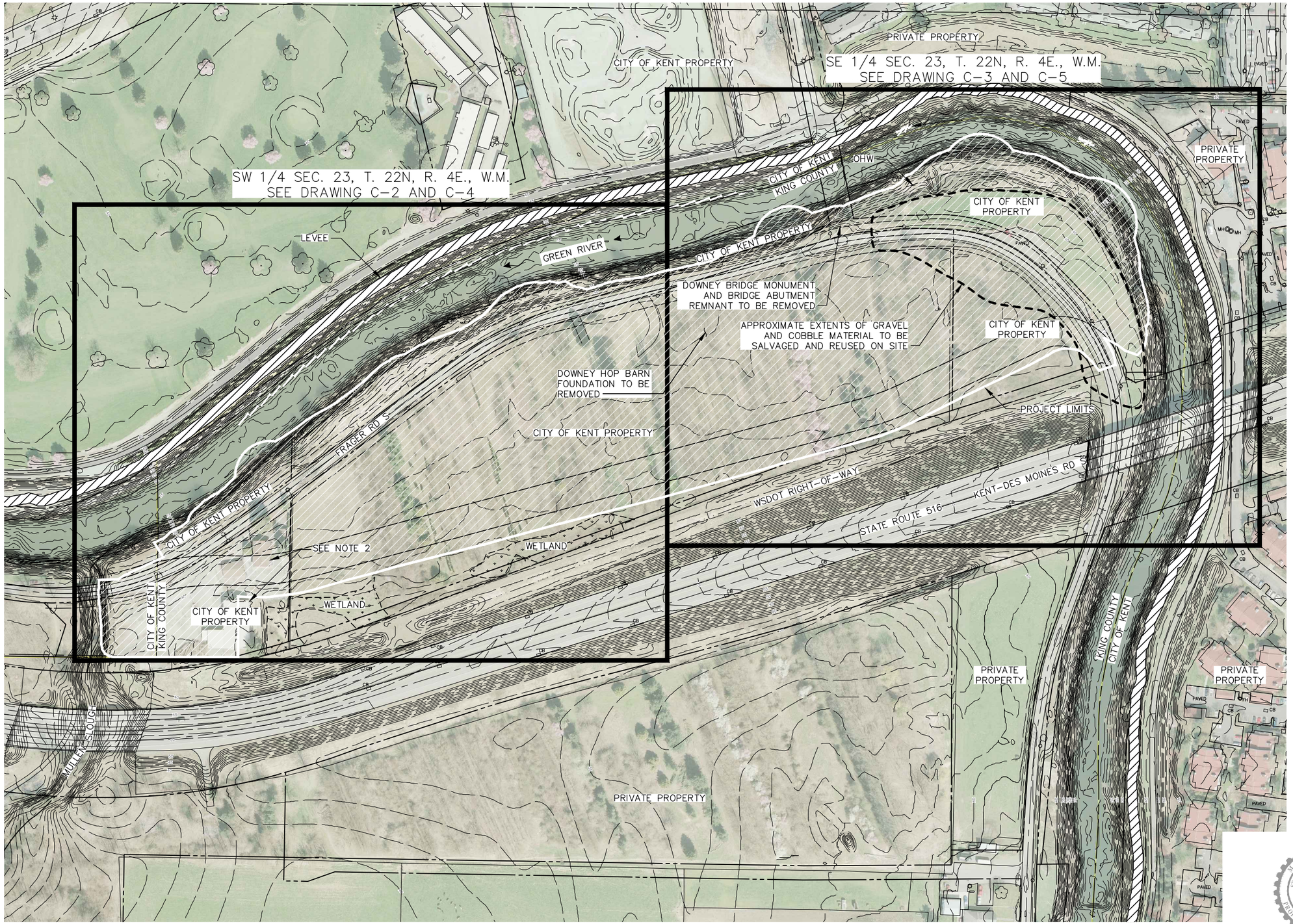

100 0 100 200

1"=100'

NOTES:

1. SITE ELEVATION DATA WAS PROVIDED BY CITY OF KENT, 4/2010. BATHYMETRIC DATA WAS SURVEYED BY PGS 2/2010. AERIAL PHOTO IS FROM 2009 AND PROVIDED BY THE CITY OF KENT.
2. THESE BUILDINGS AND SUBSTRUCTURES HAVE BEEN REMOVED FROM THE PROJECT AREA.

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206-441-9108 FAX
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http://www.herrerainc.com

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APPROVED: CITY ENGINEER DATE NOV. 2013

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City of Kent
Public Works Department
Engineering Division

EXISTING SITE PLAN AND KEY MAP

DOWNEY FARMSTEAD RESTORATION

SHEET C-1 OF 29

FILE NO. 0187C01

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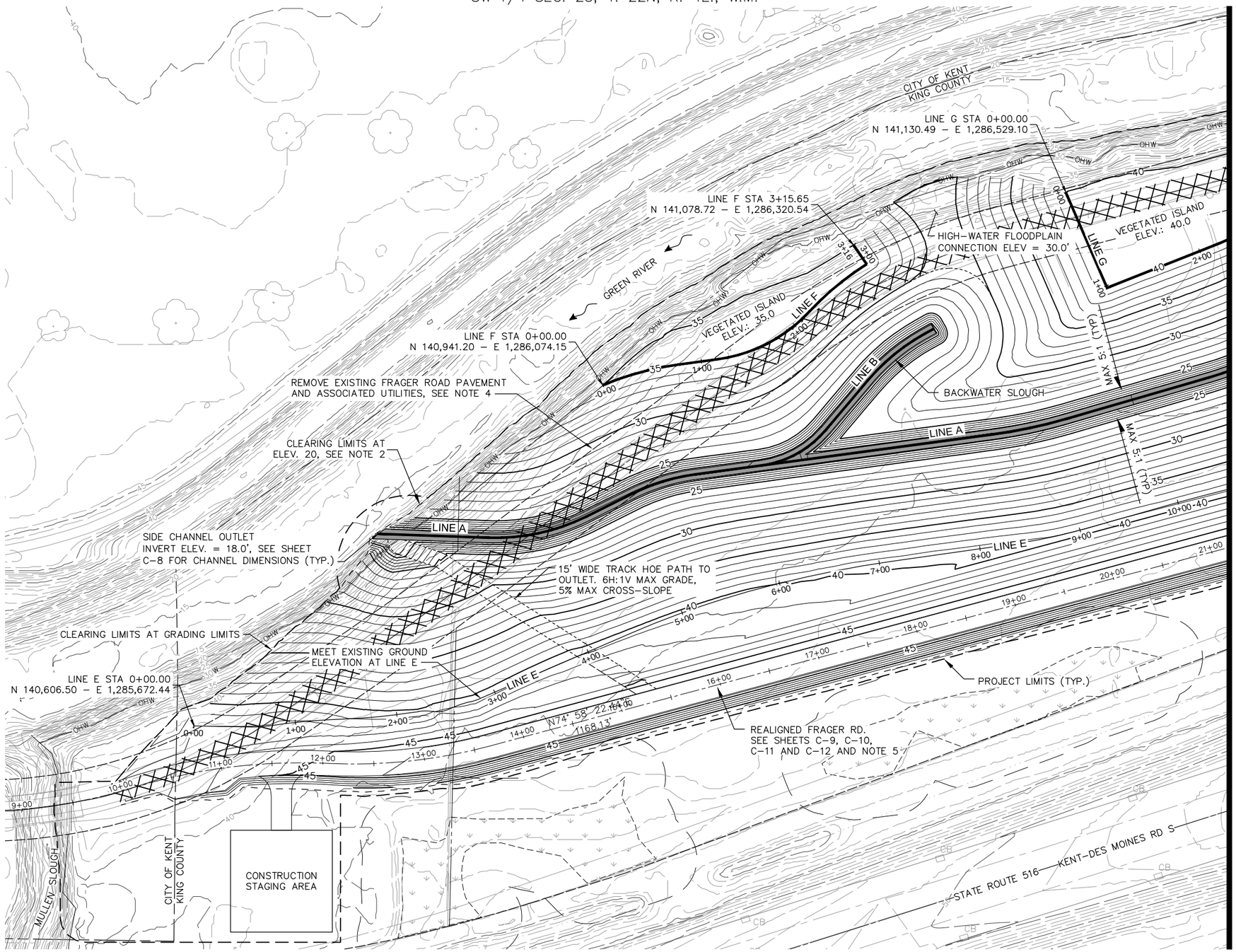

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1"=50'

GRADING NOTES:

1. SEE SHEET C-6 FOR STATIONING LINE LAYOUT DATA.
2. CONTRACTOR SHALL CLEAR AND GRUB TO CLEARING LIMITS EXCEPT WHERE VEGETATION TO BE PRESERVED HAS BEEN FLAGGED BY THE OWNER.
3. CONTRACTOR SHALL SEPARATE AND STOCKPILE GRAVEL AND COBBLE FROM SUBSURFACE AT EAST END OF SITE (SEE SHEET C-1) FOR USE AS BACKFILL OF SIDE CHANNEL INLET ENGINEERED LOG JAMS, TYPE 3. STOCKPILE LOCATION TO BE APPROVED BY THE ENGINEER.
4. CENTURY LINK AND PUGET SOUND ENERGY SHALL REMOVE AND RELOCATE THEIR RESPECTIVE TELEPHONE AND POWER UTILITIES, TO BE COORDINATED BY THE OWNER.
5. CONTRACTOR SHALL ESTABLISH TEMPORARY DRIVING SURFACE FOR REALIGNED FRAGER ROAD FOR USE BY CONTRACTOR'S VEHICLES AND EQUIPMENT, AND BY THE GENERAL PUBLIC. TEMPORARY ROADWAY SURFACE SHALL BE IN PLACE PRIOR TO REMOVAL OF ANY EXISTING FRAGER ROAD PAVEMENT. THIS TEMPORARY ROADWAY SHALL BE MAINTAINED THROUGHOUT DURATION OF CONSTRUCTION UNTIL PERMANENT FRAGER ROAD SURFACING OCCURS. SEE SHEET C-11 FOR DETAIL OF PERMANENT FRAGER ROAD SURFACING.
6. 100-YEAR FLOOD ELEV. = 43 FT.

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GRADING PLAN – WEST

DOWNEY FARMSTEAD RESTORATION

SHEET C-2 OF 29
FILE NO. 0817C02

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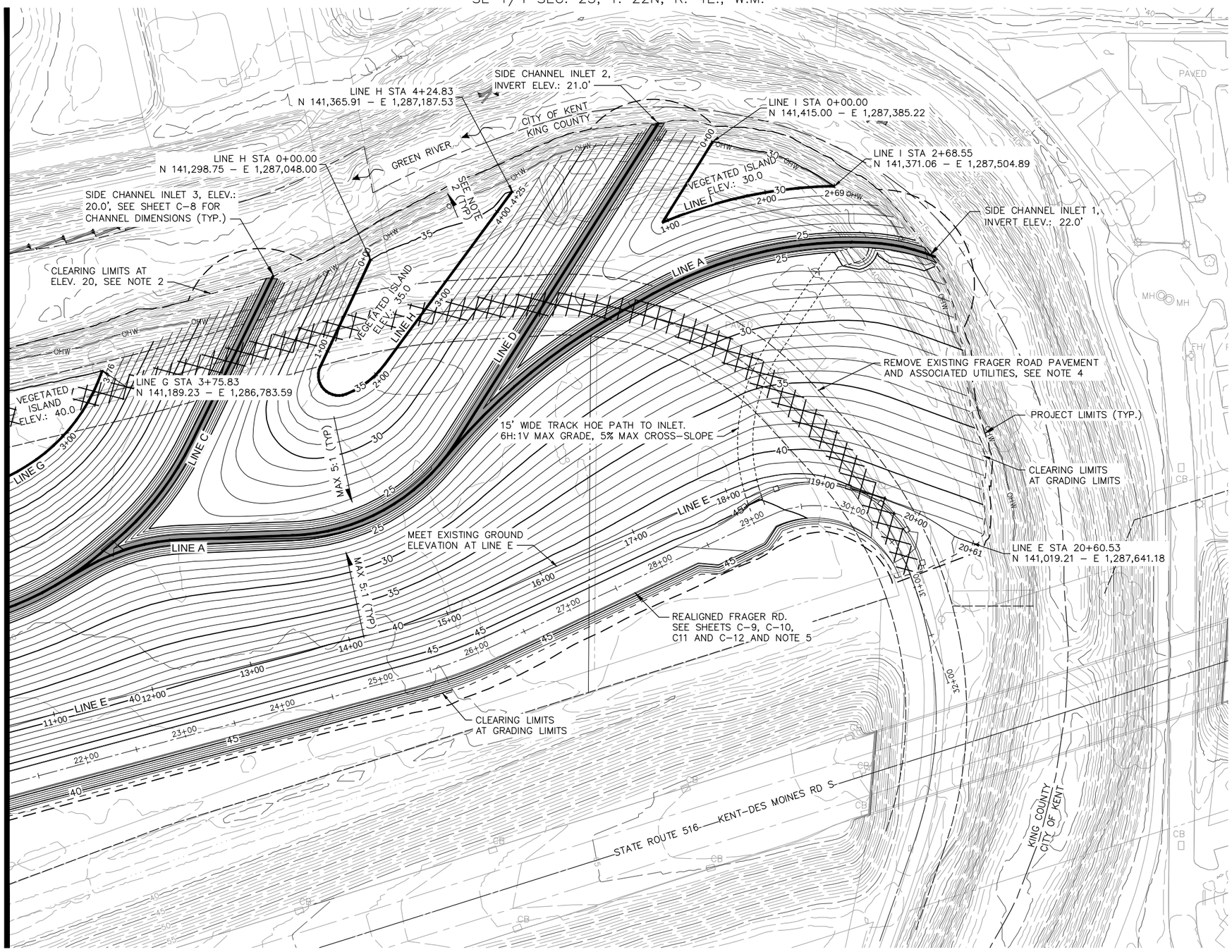

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1"=50'

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GRADING NOTES:

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6. 100-YEAR FLOOD ELEV. = 43 FT.

MARK E.W. BANA
STATE OF WASHINGTON
29434
REGISTERED PROFESSIONAL ENGINEER

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GRADING PLAN – EAST

DOWNEY FARMSTEAD RESTORATION

SHEET C-3 OF 29
FILE NO. 0817C03

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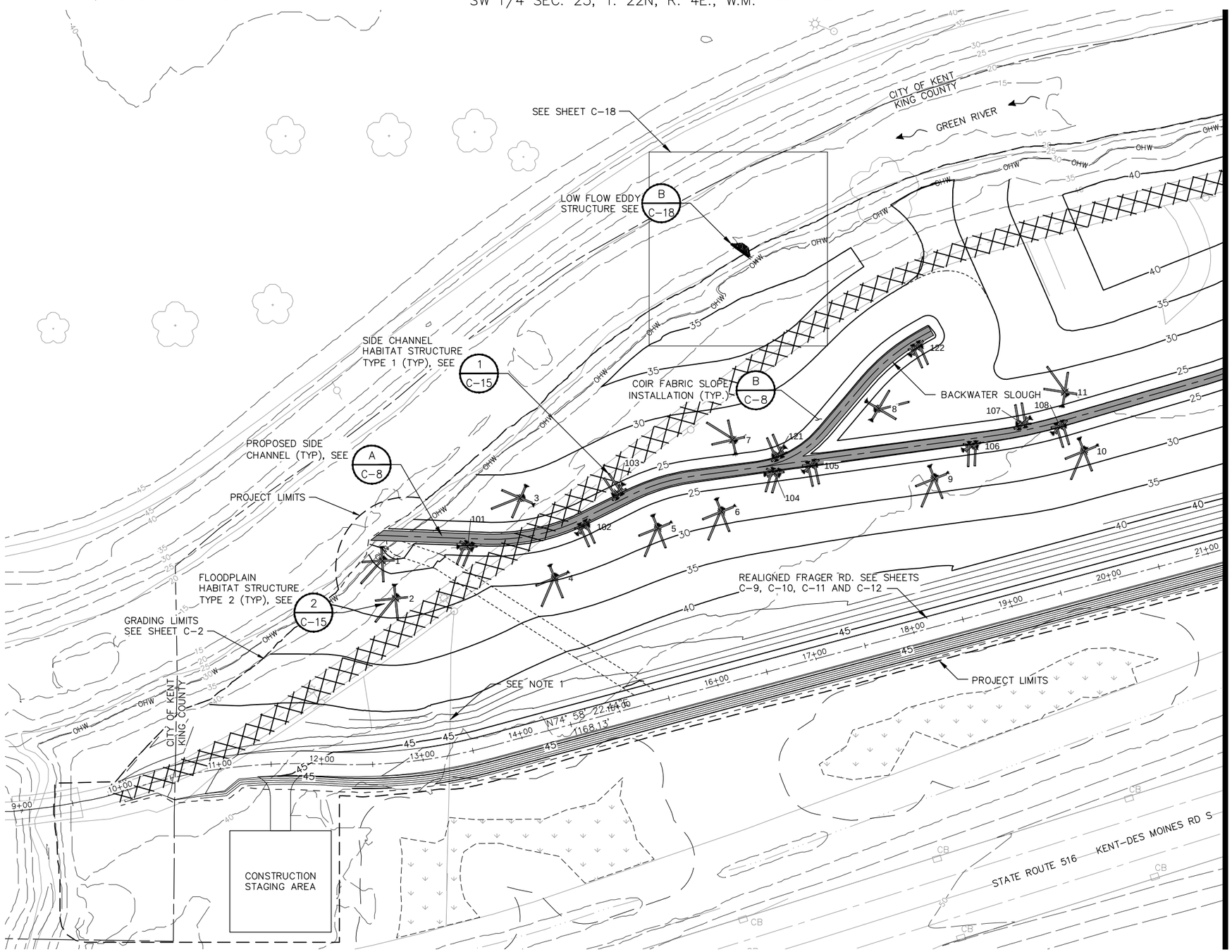

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1"=50'

SITEWORK PLAN NOTES:

1. CONTRACTOR SHALL REMOVE ALL EXISTING MANMADE FEATURES FROM WITHIN THE PROJECT SITE, SUCH AS, BUT NOT LIMITED TO: FENCES, REMAINING SUBSTRUCTURES, GRAVEL, PAVEMENT, AND WASTE DEBRIS.

LEGEND:

10 FLOODPLAIN HABITAT STRUCTURE
SEE CONTROL POINTS TABLE ON SHEET C-7

114 CHANNEL HABITAT STRUCTURE
SEE CONTROL POINTS TABLE ON SHEET C-7

LOW FLOW EDDY STRUCTURE
SEE CONTROL POINTS TABLE ON SHEET C-18

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SITE HABITAT IMPROVEMENT PLAN - WEST

DOWNEY FARMSTEAD RESTORATION

SHEET C-4 OF 29
FILE NO. 0817C04

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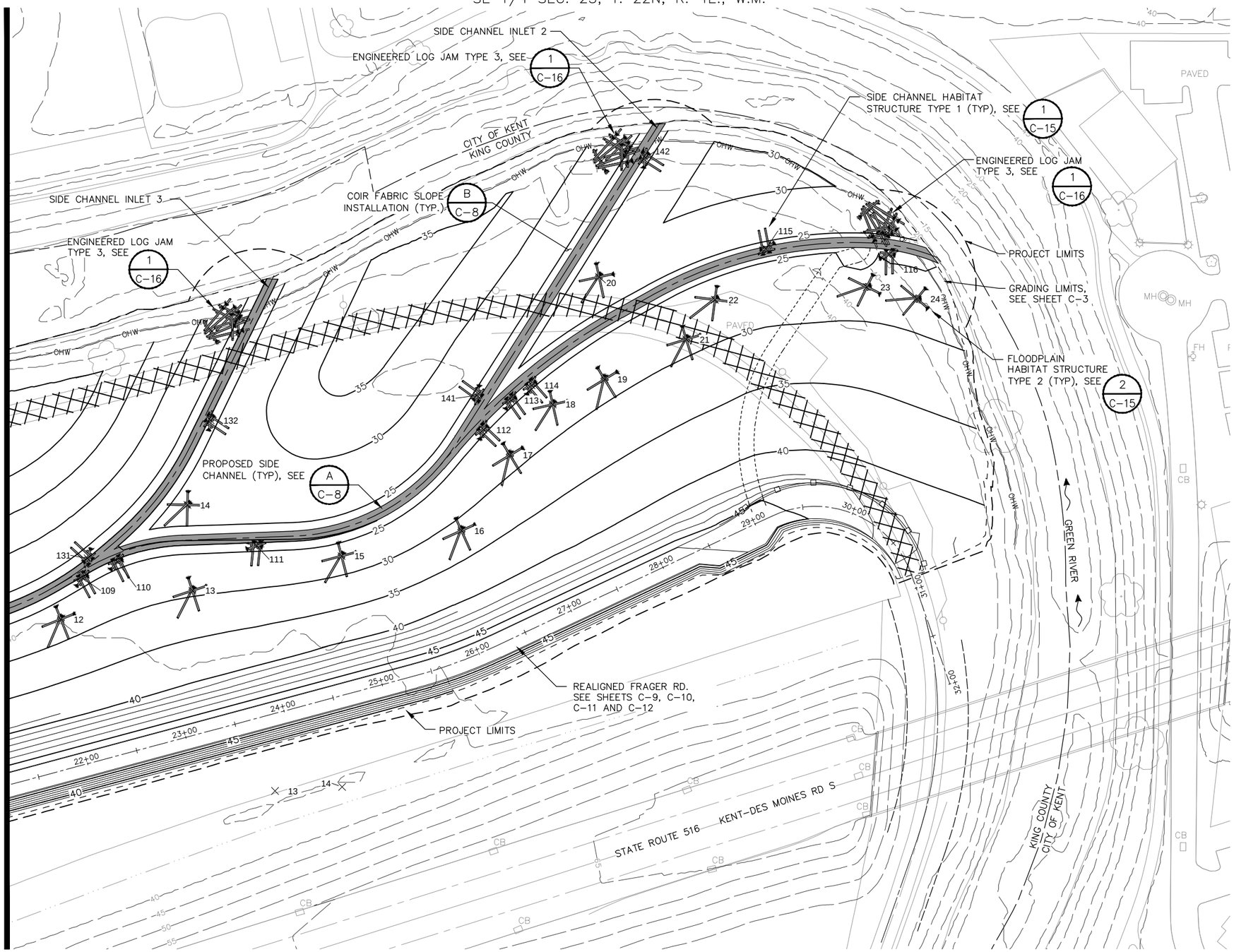

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1"=50'

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LEGEND:

10 FLOODPLAIN HABITAT STRUCTURE SEE CONTROL POINTS TABLE ON SHEET C-7

114 CHANNEL HABITAT STRUCTURE SEE CONTROL POINTS TABLE ON SHEET C-7

SIDE CHANNEL INLET ENGINEERED LOG JAM SEE CONTROL POINTS TABLE ON SHEET C-7

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SITE HABITAT IMPROVEMENT PLAN - EAST

DOWNEY FARMSTEAD RESTORATION

SHEET C-5 OF 29

FILE NO. 0817C05

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SW 1/4 SEC. 23, T. 22N, R. 4E., W.M.

SE 1/4 SEC. 23, T. 22N, R. 4E., W.M.

LINE A							
NUMBER	DIRECTION	LENGTH	RADIUS	TANGENT	DELTA	START STATION	END STATION
L1	S87° 59' 36"E	133.73'				-0+25.00	1+08.73
C1		98.90'	200.00'	50.48'	28° 19' 59"	1+08.73	2+07.63
L2	N63° 40' 24"E	50.95'				2+07.63	2+58.58
C2		85.16'	200.00'	32.87'	18° 40' 01"	2+58.58	3+23.74
L3	N82° 20' 26"E	294.57'				3+23.74	6+18.30
C3		74.23'	500.00'	37.18'	8° 30' 22"	6+18.30	6+92.53
L4	N73° 50' 03"E	145.87'				6+92.53	8+38.41
C4		73.32'	300.00'	36.84'	14° 00' 13"	8+38.41	9+11.73
L5	N59° 51' 22"E	36.70'				9+11.73	9+48.43
C5		97.74'	200.00'	49.87'	28° 00' 03"	9+48.43	10+46.17
L6	N87° 51' 25"E	109.65'				10+46.17	11+55.82
C6		164.74'	200.00'	87.37'	47° 11' 43"	11+55.82	13+20.56
L7	N40° 39' 41"E	22.38'				13+20.56	13+42.94
C7		211.24'	600.00'	106.72'	20° 10' 18"	13+42.94	15+54.18
L8	N60° 50' 00"E	38.14'				15+54.18	15+92.32
C8		221.22'	400.00'	113.52'	31° 41' 17"	15+92.32	18+13.54
C9		86.46'	200.00'	43.91'	24° 46' 04"	18+13.54	19+00.00

LOCATION: SHEETS C-2 & C-3

LINE B							
NUMBER	DIRECTION	LENGTH	RADIUS	TANGENT	DELTA	START STATION	END STATION
C13		73.28'	100.00'	38.37'	41° 59' 18"	3+88.92	4+62.20
L9	N40° 21' 08"E	64.89'				4+62.20	5+27.09
C14		72.17'	200.00'	36.48'	20° 40' 29"	5+27.09	5+99.26
L10	N61° 01' 37"E	10.74'				5+99.26	6+10.00

LOCATION: SHEET C-2

LINE C							
NUMBER	DIRECTION	LENGTH	RADIUS	TANGENT	DELTA	START STATION	END STATION
C16		53.88'	300.00'	27.01'	10° 17' 24"	9+11.73	9+65.61
L11	N49° 32' 27"E	20.80'				9+65.61	9+86.40
C17		122.70'	300.00'	62.22'	23° 26' 05"	9+86.40	11+09.11
L12	N26° 06' 22"E	190.89'				11+09.11	13+00.00

LOCATION: SHEET C-3

LINE D							
NUMBER	DIRECTION	LENGTH	RADIUS	TANGENT	DELTA	START STATION	END STATION
C18		28.91'	200.00'	14.48'	8° 16' 59"	13+20.56	13+49.47
L13	N32° 22' 43"E	375.53'				13+49.47	17+25.00

LOCATION: SHEET C-3

LINE E							
NUMBER	DIRECTION	LENGTH	RADIUS	TANGENT	DELTA	START STATION	END STATION
L31	S88° 58' 09"E	56.91'				0+00.00	0+56.91
C31		16.74'	100.00'	8.39'	9° 35' 29"	0+56.91	0+73.65
C32		75.82'	650.00'	37.95'	6° 41' 01"	0+73.65	1+49.47
C33		53.60'	500.00'	26.83'	6° 08' 32"	1+49.47	2+03.07
L32	N81° 58' 51"E	18.58'				2+03.07	2+21.66
C34		14.76'	50.00'	7.43'	16° 54' 34"	2+21.66	2+36.41
C35		15.14'	25.00'	7.81'	34° 42' 26"	2+36.41	2+51.56
C36		22.78'	100.00'	11.44'	13° 03' 15"	2+51.56	2+74.34
C37		9.31'	50.00'	4.67'	10° 40' 12"	2+74.34	2+83.65
L33	N66° 34' 03"E	162.05'				2+83.65	4+45.71
C38		122.93'	900.00'	61.56'	7° 49' 35"	4+45.71	5+68.64
C39		144.45'	1100.00'	72.33'	7° 31' 27"	5+68.64	7+13.09
L34	N81° 55' 04"E	121.87'				7+13.09	8+34.97
C40		68.19'	500.00'	34.15'	7° 48' 49"	8+34.97	9+03.15
L35	N74° 06' 16"E	91.51'				9+03.15	9+94.66
C41		29.66'	1000.00'	14.83'	1° 41' 58"	9+94.66	10+24.32
L36	N75° 48' 14"E	443.50'				10+24.32	14+67.81
C42		69.37'	400.00'	34.77'	9° 56' 13"	14+67.81	15+37.19
L37	N65° 52' 01"E	238.96'				15+37.19	17+76.15
C43		47.26'	600.00'	23.64'	4° 30' 45"	17+76.15	18+23.40
C44		42.23'	150.00'	21.25'	16° 07' 48"	18+23.40	18+65.63
C45		56.59'	115.00'	28.88'	28° 11' 37"	18+65.63	19+22.22
C46		12.02'	175.00'	6.01'	3° 56' 12"	19+22.22	19+34.24
L38	S69° 14' 01"E	44.51'				19+34.24	19+78.75
C47		59.50'	200.00'	29.97'	17° 02' 48"	19+78.75	20+38.26
C48		7.94'	25.00'	4.00'	18° 11' 51"	20+38.26	20+46.20
L39	S70° 23' 05"E	14.33'				20+46.20	20+60.53

LOCATION: SHEETS C-2 & C-3

LINE F							
NUMBER	DIRECTION	LENGTH	RADIUS	TANGENT	DELTA	START STATION	END STATION
C19		76.70'	292.67'	38.57'	15° 00' 54"	-0+00.00	0+76.70
L14	N82° 16' 18"E	39.52'				0+76.70	1+16.22
C20		102.81'	150.00'	53.52'	39° 16' 16"	1+16.22	2+19.03
C21		73.89'	287.91'	37.15'	14° 42' 18"	2+19.03	2+92.93
L15	N34° 23' 34"W	22.73'				2+92.93	3+15.65

LOCATION: SHEET C-2

LINE G							
NUMBER	DIRECTION	LENGTH	RADIUS	TANGENT	DELTA	START STATION	END STATION
L16	S23° 18' 46"E	101.99'				0+00.00	1+01.99
L17	N68° 26' 45"E	118.82'				1+01.99	2+20.82
C23		155.02'	178.85'	82.76'	49° 39' 42"	2+20.82	3+75.83

LOCATION: SHEETS C-2 & C-3

LINE H							
NUMBER	DIRECTION	LENGTH	RADIUS	TANGENT	DELTA	START STATION	END STATION
L18	S25° 12' 05"W	116.61'				0+00.00	1+16.61
C24		47.61'	20.00'	50.01'	136° 24' 22"	1+16.61	1+64.23
C25		48.03'	85.00'	24.68'	32° 22' 41"	1+64.23	2+12.26
L19	N36° 25' 02"E	212.56'				2+12.26	4+24.83

LOCATION: SHEETS C-2 & C-3

LINE I							
NUMBER	DIRECTION	LENGTH	RADIUS	TANGENT	DELTA	START STATION	END STATION
L20	S31° 58' 37"W	94.17'				0+00.00	0+94.17
C26		174.38'	455.00'	88.27'	21° 57' 30"	0+94.17	2+68.55

LOCATION: SHEETS C-2 & C-3

2200 Sixth Avenue
Suite 1100
Seattle, Washington
98121-1820
206-441-9080
206-441-9108 FAX
HERRERA
http://www.herrerainc.com

NO.	REVISION	BY	DATE

DESIGNED: M.B. | CHECKED: M.E. | KENT PROJECT NO. 08-3017 | SCALE: HORIZ: NOTED
DRAWN: R.H. | PROJECT ENGR: M.E. | CONST. MGMT. REVIEW | VERT:
APPROVED: CITY ENGINEER | DATE NOV. 2013

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City of Kent
Public Works Department
Engineering Division

GRADING CONTROL POINT TABLES

DOWNEY FARMSTEAD RESTORATION

SHEET C-6 OF 29

FILE NO. 0817C06

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Plot Date: 1/9/2014 3:29 PM Cad User: Wadsworth, Chris
Plot Style Table: Newkentholf.ctb Plotter: DWG To PDF.pc3

SIDE CHANNEL ENGINEERED LOG JAM TYPE 3 STRUCTURE CONTROL POINTS TABLE

STRUCTURE # - CONTROL POINT	NORTHING	EASTING
INLET #1-A	141325.7	1287555.9
INLET #1-B	141347.2	1287537.9
INLET #2-A	141410.0	1287298.8
INLET #2-B	141396.2	1287274.4
INLET #3-A	141243.2	1286915.2
INLET #3-B	141228.5	1286891.4

LOCATION: SHEET C-5
REFERENCED: SHEETS C-16 & C-17

FLOODPLAIN HABITAT STRUCTURE TYPE 2 CONTROL POINTS TABLE

STRUCTURE #	NORTHING	EASTING
1	140770.1	1285858.7
2	140733.0	1285871.8
3	140831.9	1285995.0
4	140753.1	1286028.7
5	140802.3	1286130.3
6	140818.5	1286192.9
7	140889.4	1286204.0
8	140920.0	1286347.9
9	140851.0	1286403.0
10	140878.1	1286550.4
11	140936.3	1286531.5
12	140945.3	1286742.7
13	140973.4	1286872.1
14	141057.7	1286867.2
15	141007.5	1287018.8
16	141032.4	1287136.7
17	141106.6	1287184.4
18	141156.5	1287226.5
19	141181.3	1287277.5
20	141281.9	1287272.0
21	141220.6	1287357.8
22	141259.5	1287386.0
23	141272.1	1287535.4
24	141260.5	1287584.4

LOCATION: SHEETS C-4 & C-5
REFERENCED: SHEETS C-15

SIDE CHANNEL HABITAT STRUCTURE TYPE 1 CONTROL POINTS TABLE

STRUCTURE #	STATION, LINE		OFFSET AND SIDE (LOOKING UPSTATION)
101	0+90.0	LINE A	8.1 RT.
102	2+03.9	LINE A	7.4 RT.
103	2+48.5	LINE A	8.3 LT.
104	4+03.6	LINE A	7.9 RT.
105	4+40.5	LINE A	5.4 RT.
106	6+00.0	LINE A	7.6 RT.
107	6+52.2	LINE A	7.2 LT.
108	6+88.2	LINE A	5.1 RT.
109	9+39.5	LINE A	6.6 RT.
110	9+77.9	LINE A	7.6 RT.
111	11+19.3	LINE A	8.2 RT.
112	13+75.5	LINE A	8.6 RT.
113	14+15.8	LINE A	6.9 RT.
114	14+40.9	LINE A	9.0 RT.
115	17+11.0	LINE A	3.0 LT.
116	18+33.7	LINE A	9.6 RT.
121	4+11.2	LINE B	7.9 LT.
122	5+89.3	LINE B	7.8 RT.
131	9+54.0	LINE C	5.1 LT.
132	11+37.5	LINE C	6.6 RT.
141	13+98.2	LINE D	8.3 LT.
142	16+84.5	LINE D	6.3 RT.

LOCATION: SHEETS C-4 & C-5
REFERENCED: SHEETS C-15

MARK EWBANK STATE OF WASHINGTON 29436 REGISTERED PROFESSIONAL ENGINEER

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NO.	REVISION	BY	DATE

DESIGNED: M.B. CHECKED: M.E. KENT PROJECT NO. 08-3017 SCALE: HORIZ: NOTED
DRAWN: R.H. PROJECT ENGR: M.E. CONST. MGMT. REVIEW VERT:
APPROVED: CITY ENGINEER DATE NOV. 2013

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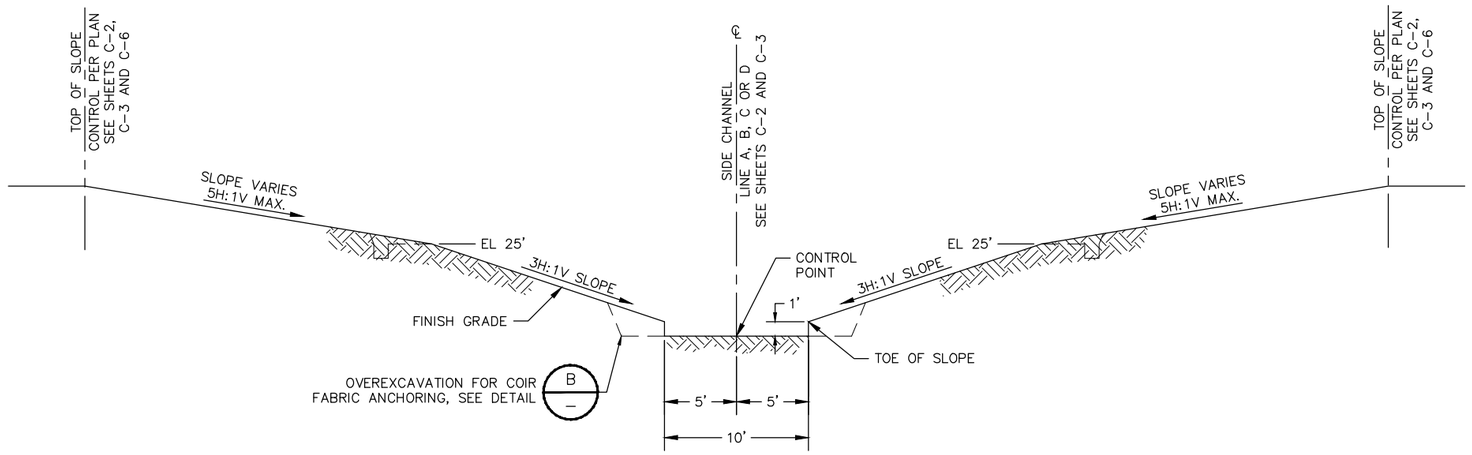
City of Kent
Public Works Department
Engineering Division

HABITAT STRUCTURE CONTROL POINT TABLES

DOWNEY FARMSTEAD RESTORATION

SHEET C-7 OF 29

FILE NO. 0817C07



TYPICAL SECTION – SIDE CHANNEL GRADING (A / C-3, C-4)

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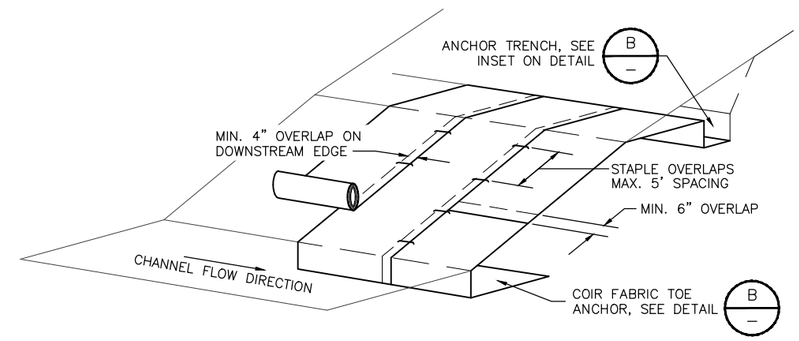
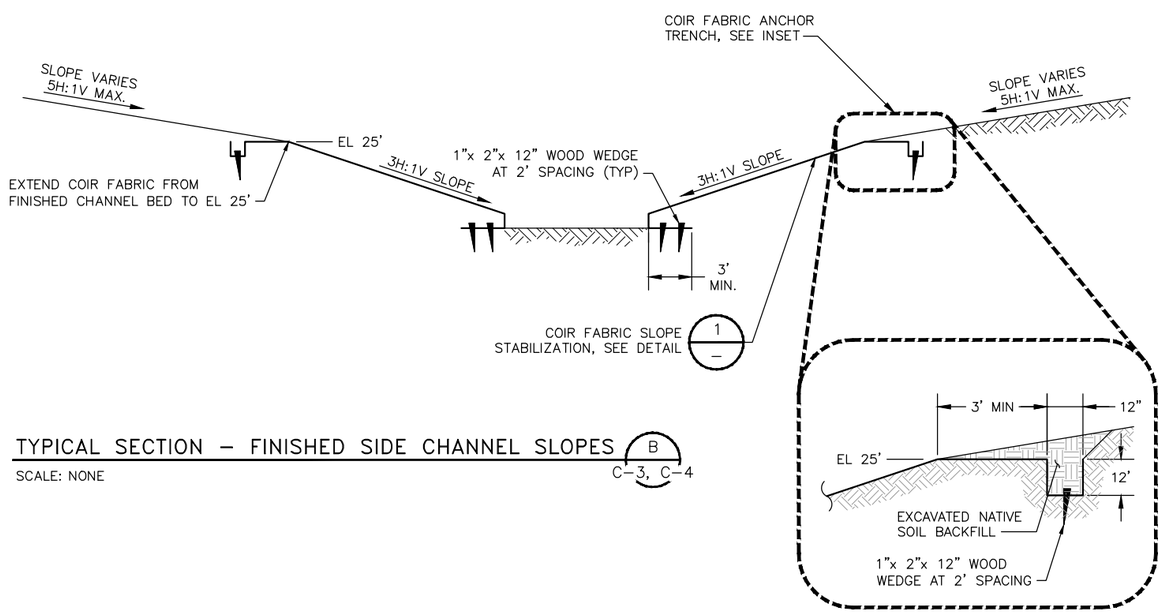


NOTES:

1. SEE SPECIFICATION FOR MATERIAL HANDLING, SLOPE SURFACE PREPARATION AND OTHER DETAILS.
2. COIR FABRIC SHALL BE INSTALLED AND APPROVED BY THE ENGINEER PRIOR TO PLANTING.
3. ALL SEEDING SHALL OCCUR PRIOR TO COIR FABRIC PLACEMENT.

DETAIL – COIR FABRIC SLOPE STABILIZATION INSTALLATION (1 / –)

SCALE: NONE



TYPICAL SECTION – FINISHED SIDE CHANNEL SLOPES (B / C-3, C-4)

SCALE: NONE

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Seattle, Washington
98121-1820
206-441-9080
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APPROVED: CITY ENGINEER | DATE NOV. 2013

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City of Kent
Public Works Department
Engineering Division

SIDE CHANNEL CROSS-SECTIONS AND BANK SLOPE STABILIZATION

DOWNEY FARMSTEAD RESTORATION

SHEET C-8 OF 29

FILE NO. 0817C08

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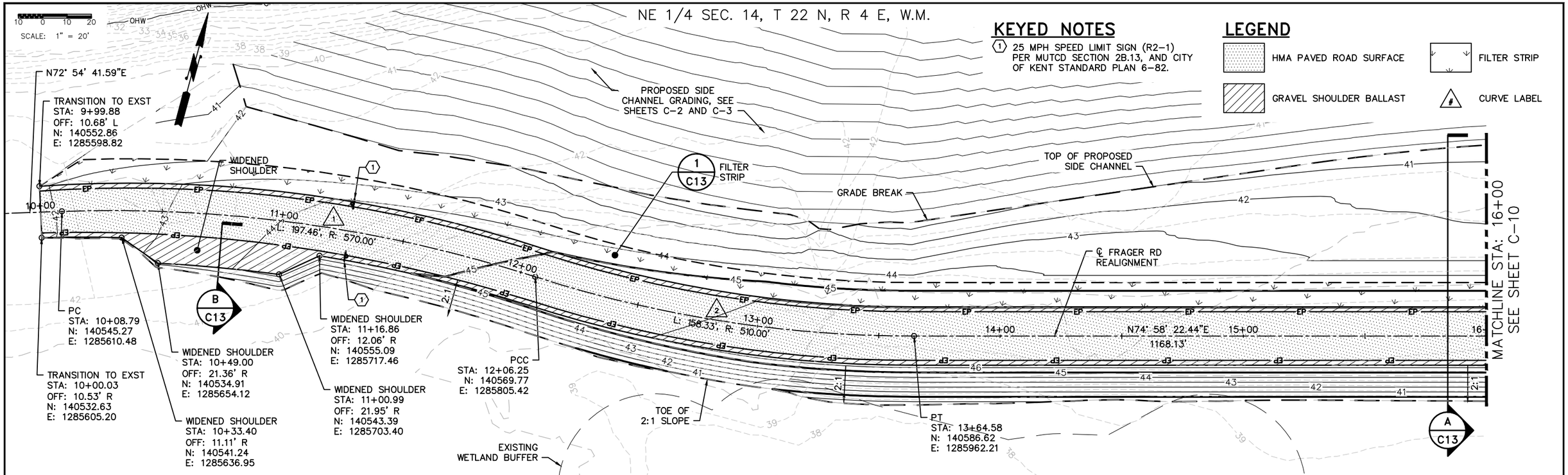

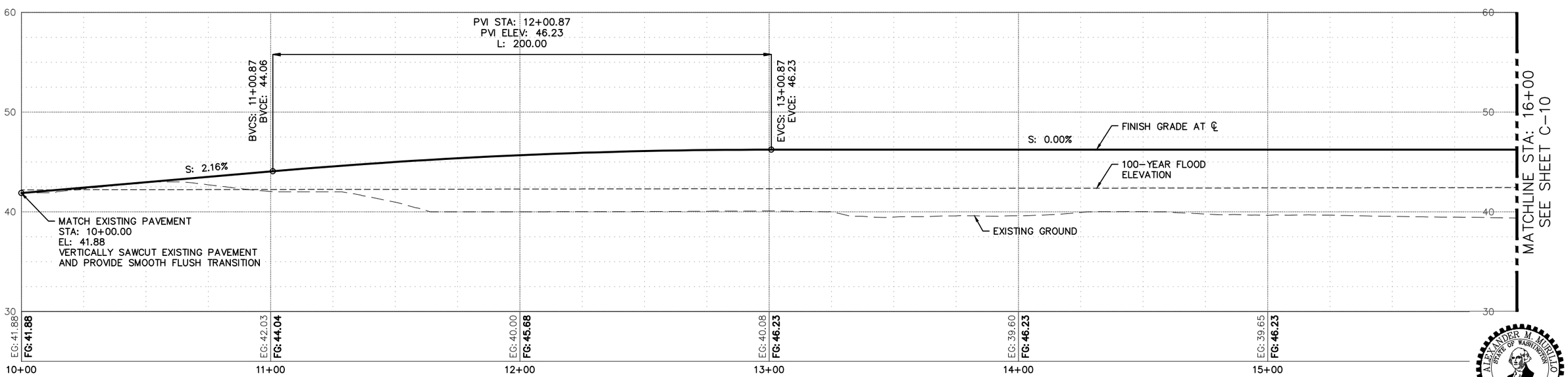

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DRAWN: CW | PROJECT ENGR: | CONST. MGMT. REVIEW
APPROVED: CITY ENGINEER | DATE
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City of Kent
Public Works Department
Engineering Division

FRAGER ROAD – PLAN AND PROFILE 1

DOWNEY FARMSTEAD RESTORATION

SHEET C-9 OF 29
FILE NO. 08-3017 C-09 FRAGER ROAD – PLAN AND PROFILE 1.dwg

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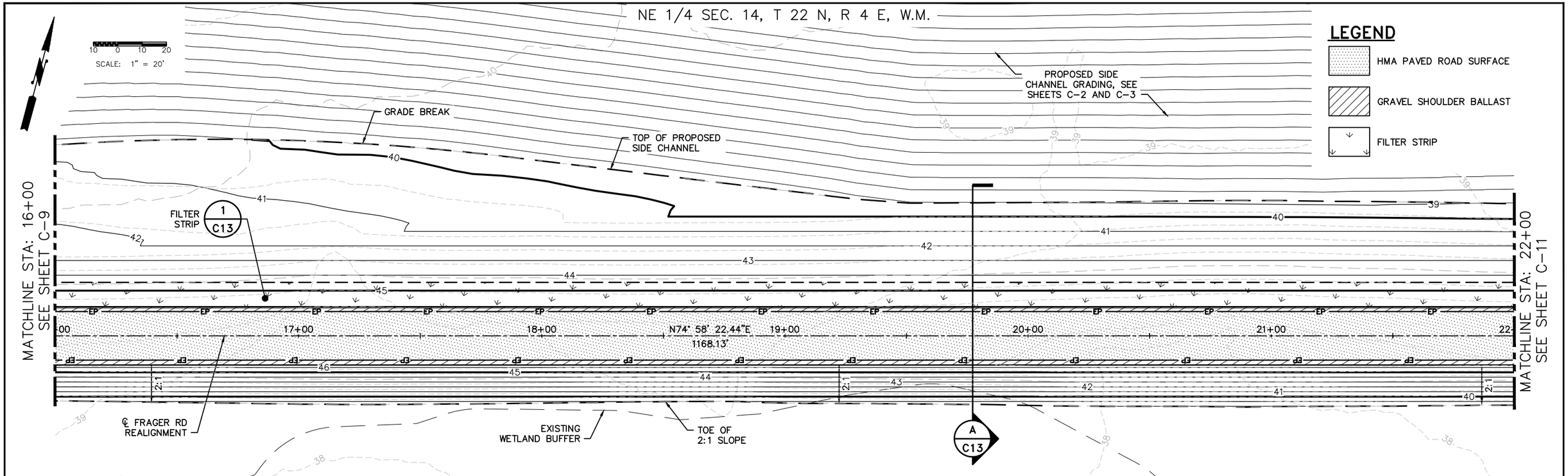
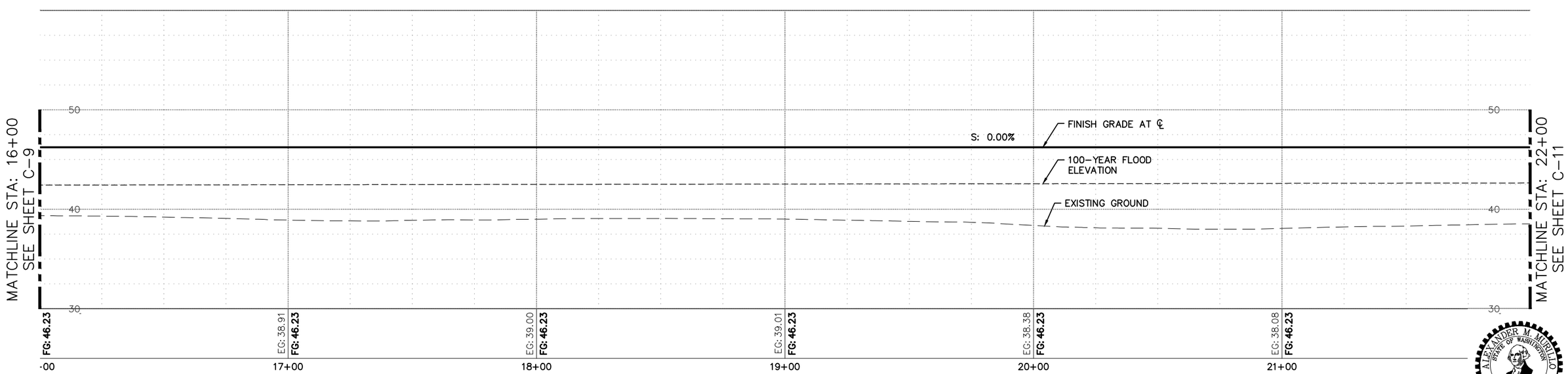


HORIZONTAL SCALE: 1" = 20' VERTICAL SCALE: 1" = 5'



NO.	REVISION	BY	DATE

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DRAWN: CW | PROJECT ENGR: | CONST. MGMT. REVIEW
APPROVED: _____ CITY ENGINEER | DATE

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City of Kent
Public Works Department
Engineering Division

FRAGER ROAD – PLAN AND PROFILE 2

DOWNEY FARMSTEAD RESTORATION

SHEET **C-10** OF **29**

FILE NO. 08-3017 C-10 FRAGER ROAD – PLAN AND PROFILE 2.dwg

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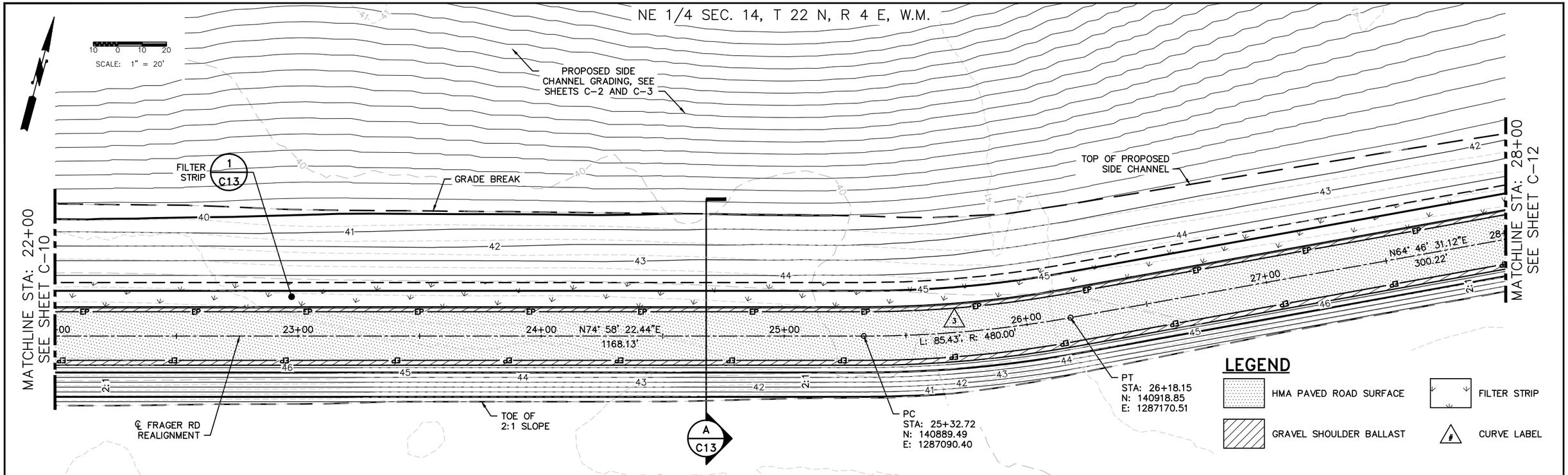

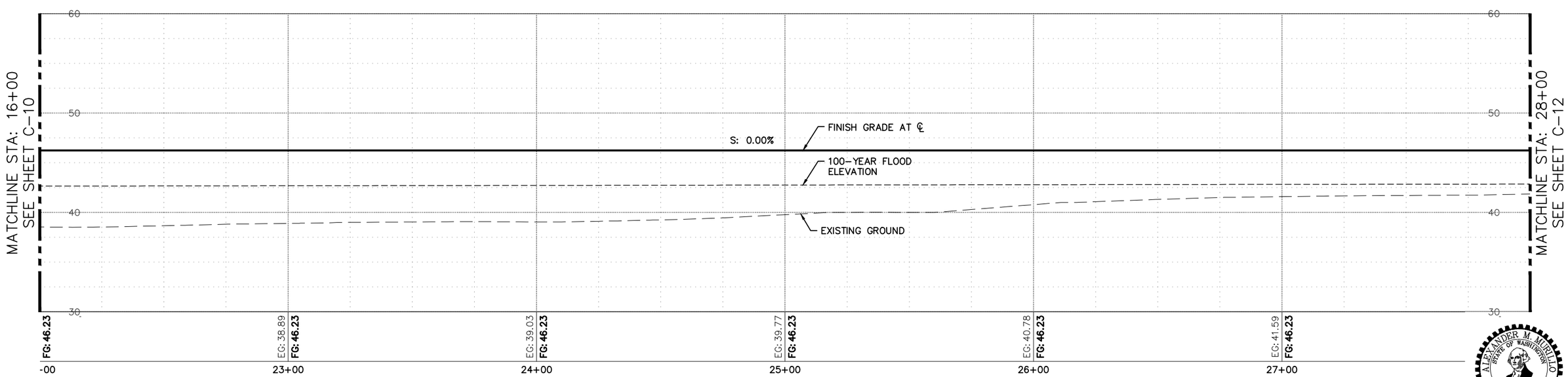

NO.	REVISION	BY	DATE

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DRAWN: CW | PROJECT ENGR: | CONST. MGMT. REVIEW
APPROVED: CITY ENGINEER | DATE

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City of Kent
Public Works Department
Engineering Division

FRAGER ROAD – PLAN AND PROFILE 3

DOWNEY FARMSTEAD RESTORATION

SHEET C-11 OF 29

FILE NO. 08-3017 C-11 FRAGER ROAD – PLAN AND PROFILE 3.dwg

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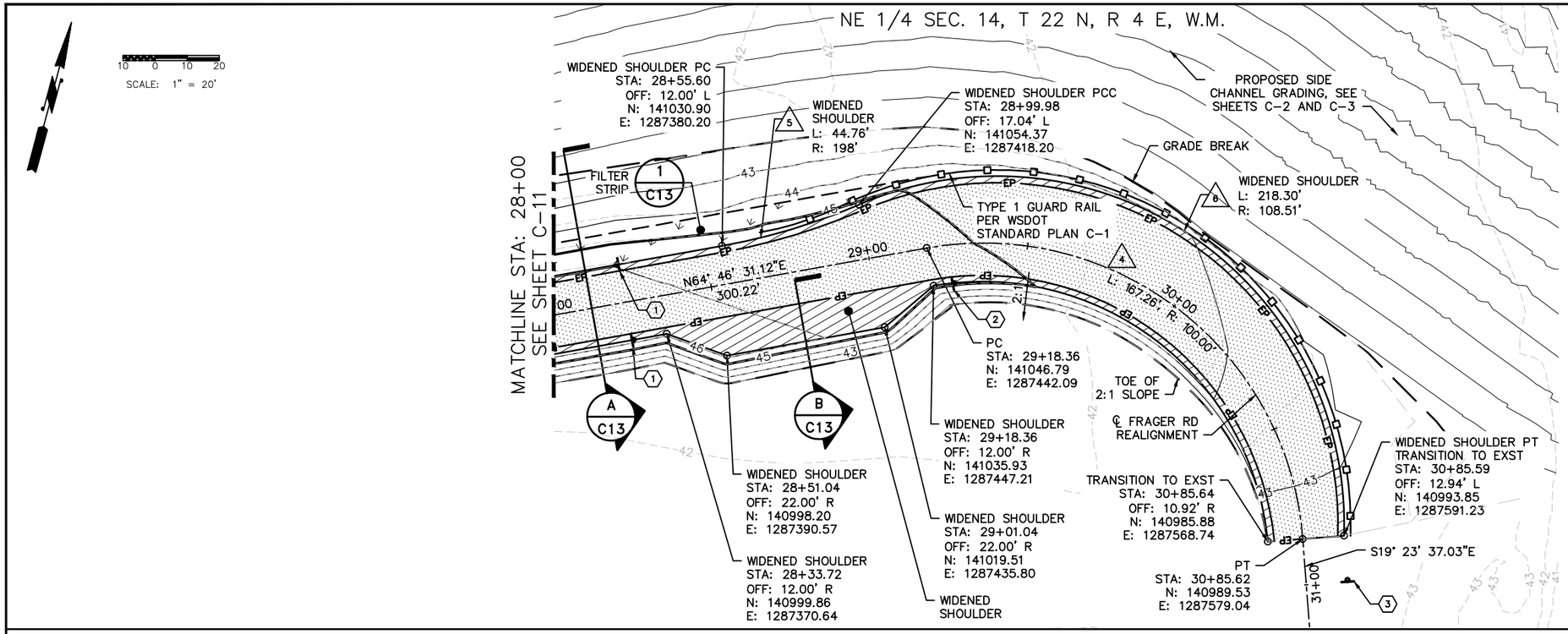


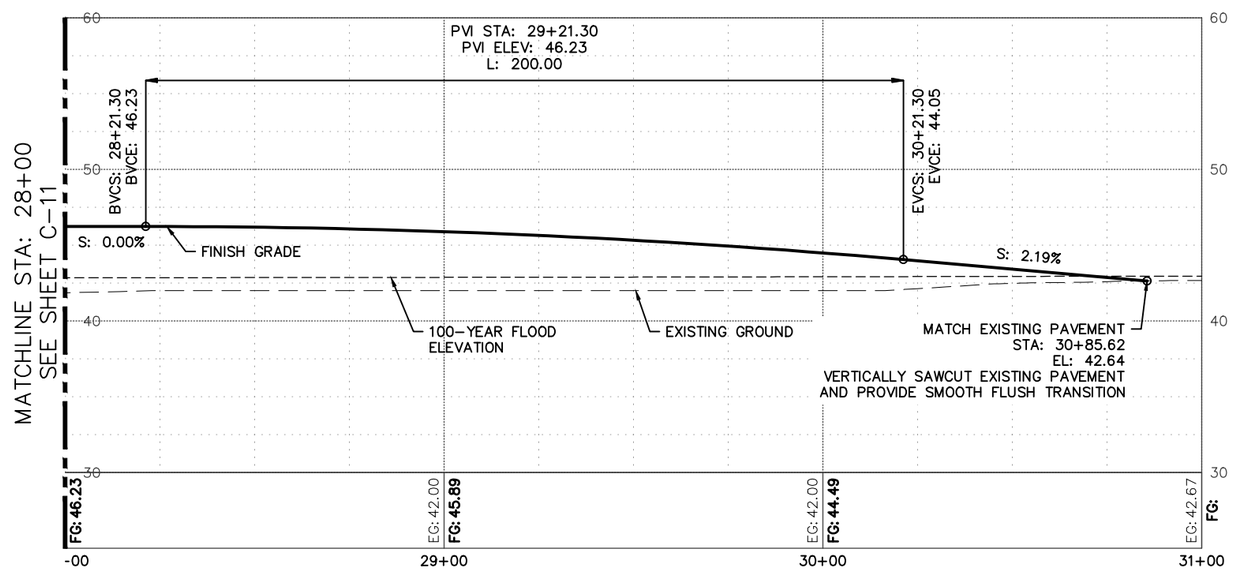
KEYED NOTES

1. 25 MPH SPEED LIMIT SIGN (R2-1) PER MUTCD SECTION 2B.13, AND CITY OF KENT STANDARD PLAN 6-82.
2. 15 MPH SPEED WARNING SIGN (W1-1R AND W13-1P) PER MUTCD SECTION 2C.06 AND CITY OF KENT STANDARD PLAN 6-82.
3. 15 MPH SPEED WARNING SIGN (W1-1L AND W13-1P) PER MUTCD SECTION 2C.06 AND CITY OF KENT STANDARD PLAN 6-82.

HATCH LEGEND

- HMA PAVED ROAD SURFACE
- GRAVEL SHOULDER BALLAST
- FILTER STRIP
- CURVE LABEL

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



NO.	REVISION	BY	DATE

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DRAWN: CW | PROJECT ENGR: | CONST. MGMT. REVIEW
APPROVED: CITY ENGINEER | DATE

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Public Works Department
Engineering Division

FRAGER ROAD – PLAN AND PROFILE 4

DOWNEY FARMSTEAD RESTORATION

SHEET C-12 OF 29
FILE NO. 08-3017 C-12 FRAGER ROAD – PLAN AND PROFILE 4.dwg

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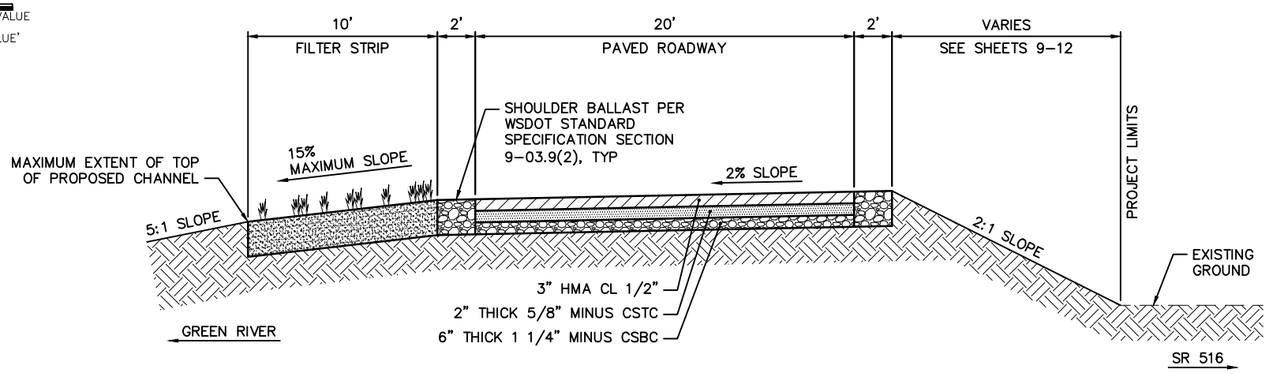
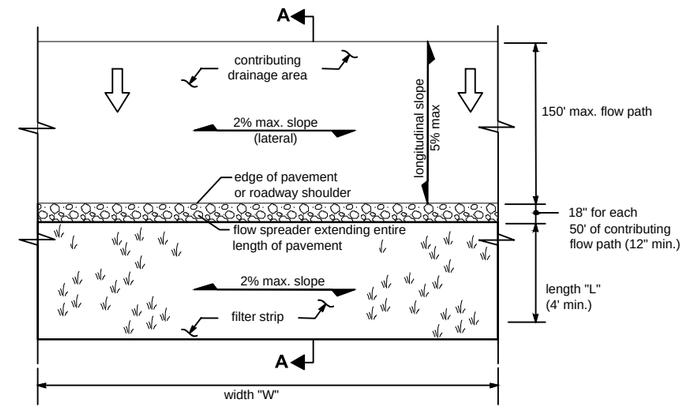
NE 1/4 SEC. 14, T 22 N, R 4 E, W.M.

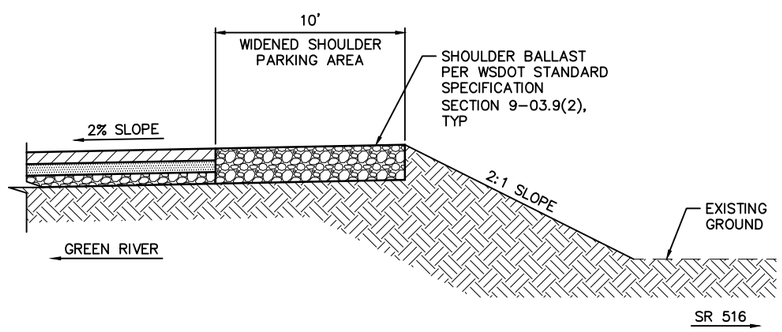
0 ## VALUE
SCALE: 1" = VALUE'



A C9–C12 TYPICAL ROADWAY SECTION
NOT TO SCALE



PLAN VIEW
NTS



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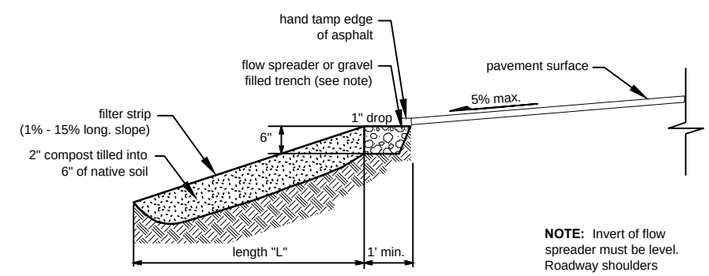

NOTE: Invert of flow spreader must be level. Roadway shoulders must use shoulder ballast per WSDOT Standard Specification Section 9-03.9(2).

SECTION A-A

KING COUNTY FILTER STRIP DETAIL
2009 SURFACE WATER DESIGN MANUAL
SECTION 6.3.4

1 C9–C12 NOT TO SCALE

NO.	REVISION	BY	DATE

DESIGNED: CW | CHECKED: | KENT PROJECT NO. 08–3017
DRAWN: CW | PROJECT ENGR: | CONST. MGMT. REVIEW
APPROVED: CITY ENGINEER | DATE
SCALE: HORIZ: VERT:
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City of Kent
Public Works Department
Engineering Division

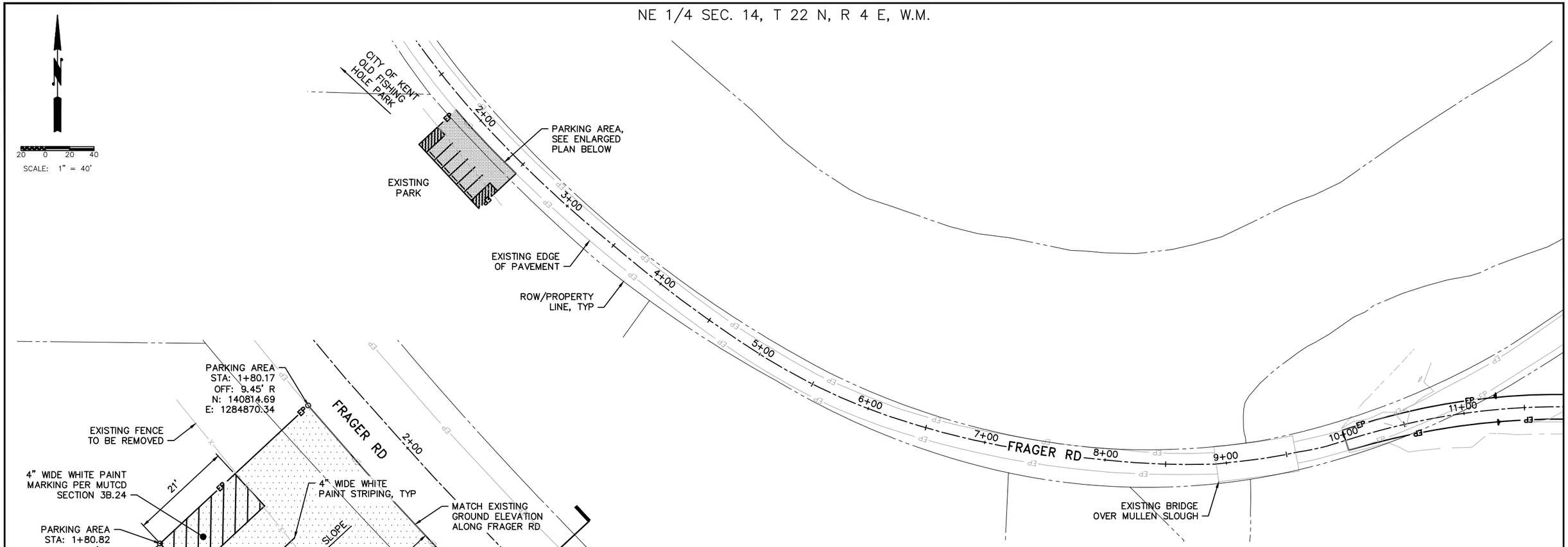
FRAGER ROAD – TYPICAL ROADWAY SECTIONS AND DETAILS

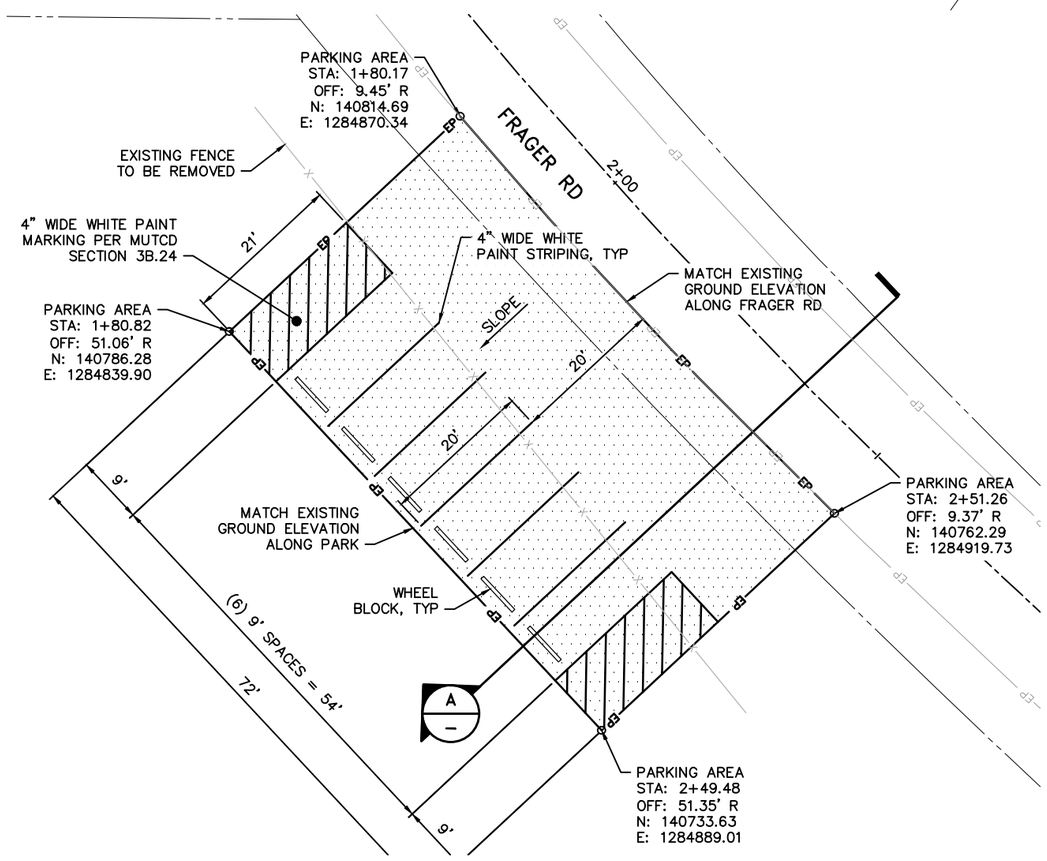
DOWNEY FARMSTEAD RESTORATION

SHEET C–13 OF 29
FILE NO. 08–3017 C–13 FRAGER ROAD – TYPICAL ROADWAY SECTIONS AND DETAILS.dwg

G:\Environmental\08-3017 Downey\dwg\08-3017 C-13 FRAGER ROAD - TYPICAL ROADWAY SECTIONS AND DETAILS.dwg 1/9/2014 3:52 PM

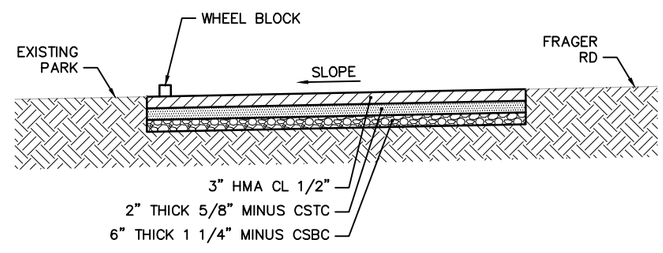
NE 1/4 SEC. 14, T 22 N, R 4 E, W.M.





ENLARGED PARKING AREA PLAN

SCALE: 1" = 10'



A — PARKING AREA SECTION

NOT TO SCALE

NO.	REVISION	BY	DATE

DESIGNED: CW | CHECKED: | KENT PROJECT NO. 08-3017 | SCALE: HORIZ: 1"=40 VERT:

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KENT WASHINGTON

City of Kent
Public Works Department
Engineering Division

PARKING AREA PLAN AND DETAILS

DOWNEY FARMSTEAD RESTORATION

SHEET C-14 OF 29

FILE NO. 08-3017 C-14 PARKING AREA PLAN AND DETAILS.dwg

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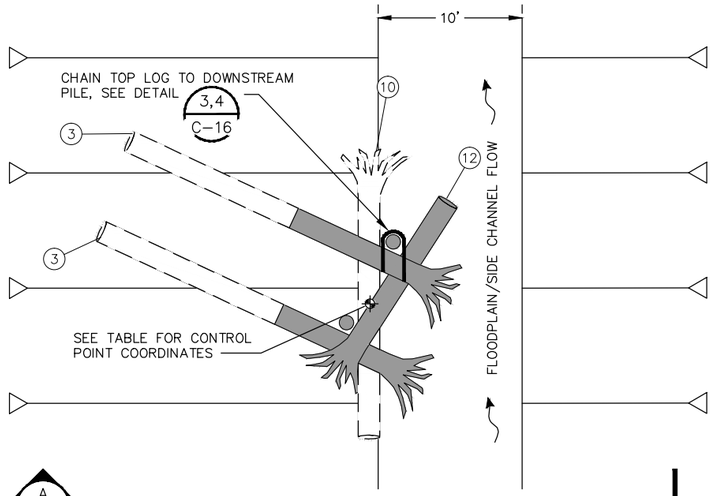
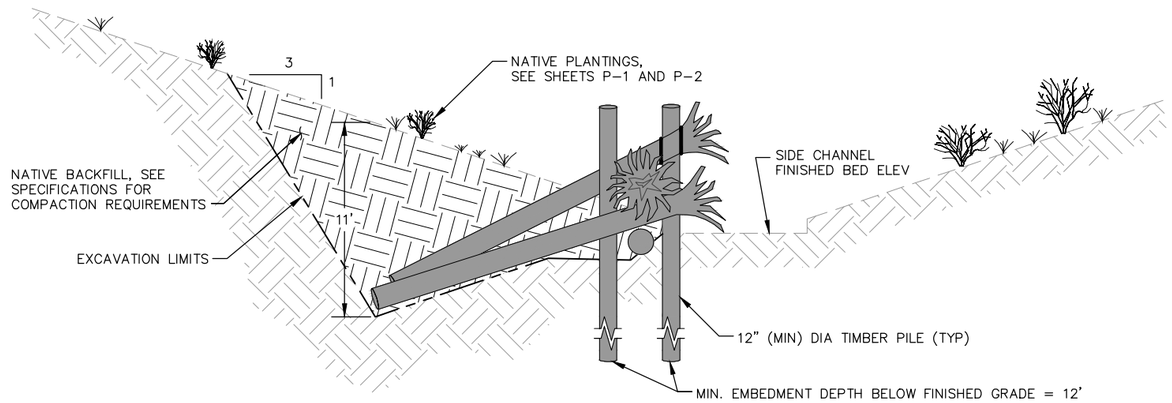


A –

PLAN – SIDE CHANNEL HABITAT STRUCTURE, TYPE 1

SCALE: 1"=5'

1 C-4, C-5



SECTION – SIDE CHANNEL HABITAT STRUCTURE, TYPE 1

SCALE: 1"=5'

A –

SIDE CHANNEL HABITAT STRUCTURE TYPE 1 LOG SCHEDULE:

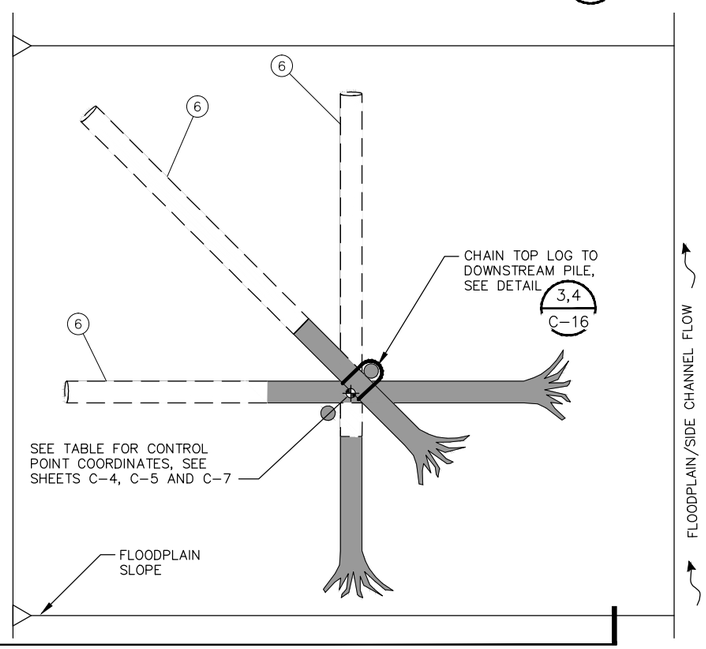
LOG #	DIAMETER (IN)	LENGTH (FT)	ROOTWAD	QUANTITY/STRUCTURE
3	18	25	YES	2
10	18	20	YES	1
12	18	15	YES	1
PILES	12	30	NO	2

TOTAL: 6 PER STRUCTURE

FLOODPLAIN HABITAT STRUCTURE TYPE 2 LOG SCHEDULE:

LOG #	DIAMETER (IN)	LENGTH (FT)	ROOTWAD	QUANTITY/STRUCTURE
6	18	35	YES	3
PILES	12	30	NO	2

TOTAL: 5 PER STRUCTURE

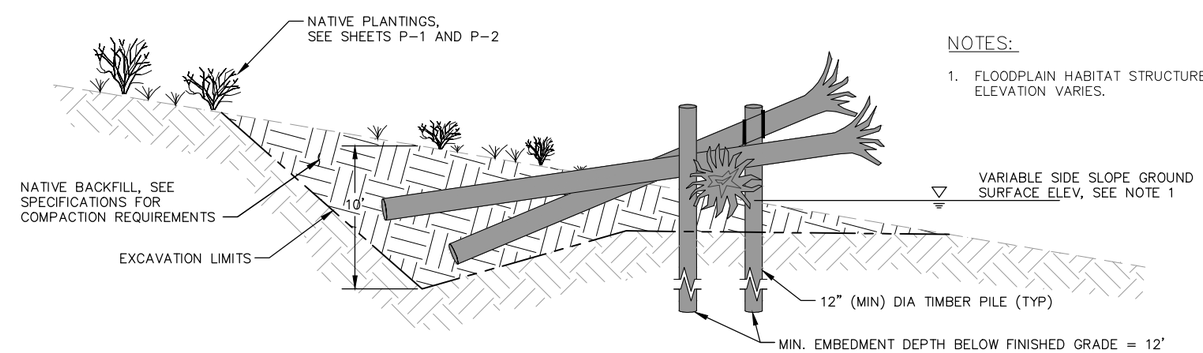


B –

PLAN – FLOODPLAIN HABITAT STRUCTURE, TYPE 2

SCALE: 1"=5'

2 C-4, C-5



SECTION – FLOODPLAIN HABITAT STRUCTURE, TYPE 2

SCALE: 1"=5'

B –

NOTES:

1. FLOODPLAIN HABITAT STRUCTURE ELEVATION VARIES.

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Seattle, Washington
98121-1820
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NO.	REVISION	BY	DATE

DESIGNED: M.B. CHECKED: M.E. KENT PROJECT NO. 08-3017 SCALE: HORIZ: NOTED
DRAWN: R.H. PROJECT ENGR: M.E. CONST. MGMT. REVIEW VERT:
APPROVED: CITY ENGINEER DATE NOV. 2013

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City of Kent
Public Works Department
Engineering Division

HABITAT STRUCTURE TYPE 1 AND 2 PLAN AND SECTION

DOWNEY FARMSTEAD RESTORATION

SHEET C-15 OF 29

FILE NO. 0817C15

Path: G:\Enviromental\08-3017 Downey\dwg\URS CAD Files\0817C15.dwg
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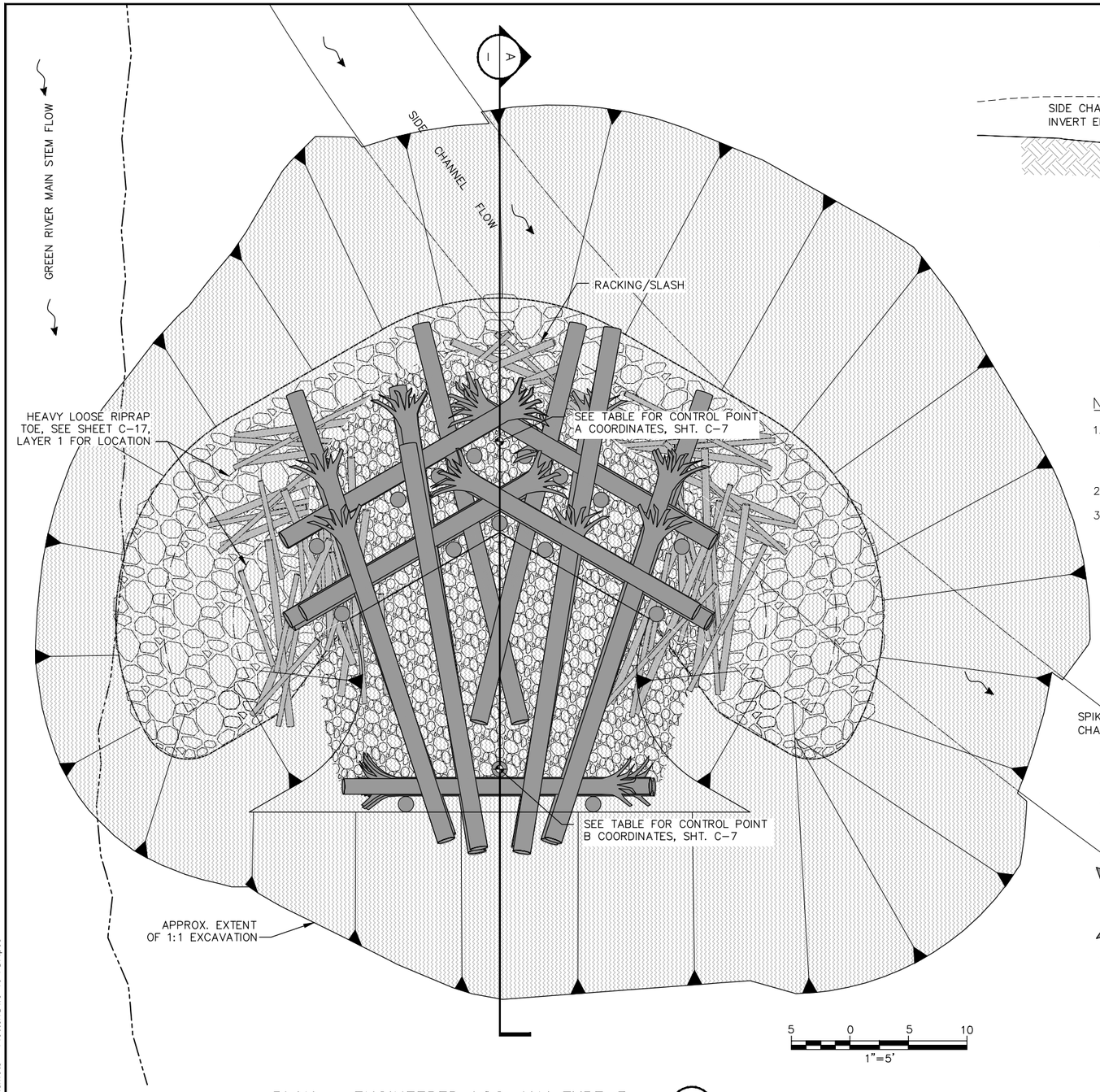
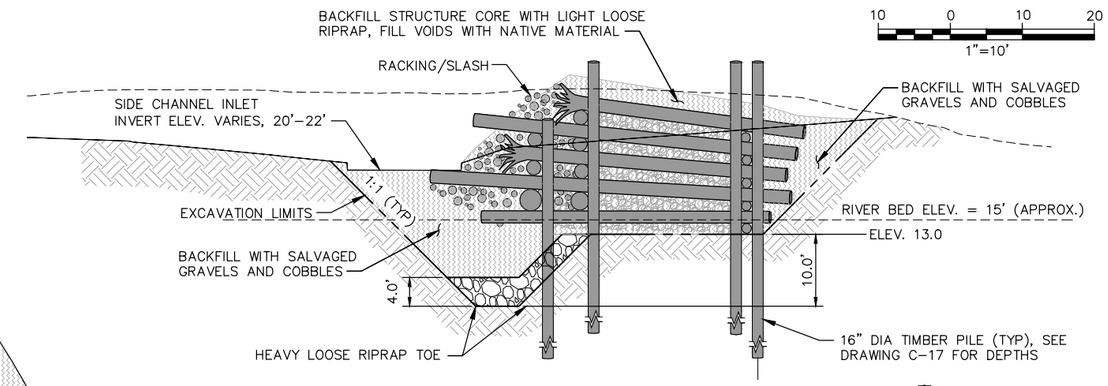
Plot Style Table: Newkenthal.ctb Plotter: DWG To PDF.pc3



PLAN – ENGINEERED LOG JAM TYPE 3 (1 / C-5)

SCALE: 1"=5'

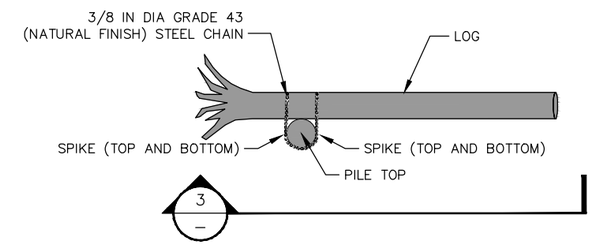


SECTION – ENGINEERED LOG JAM TYPE 3 (A / –)

SCALE: 1"=10'

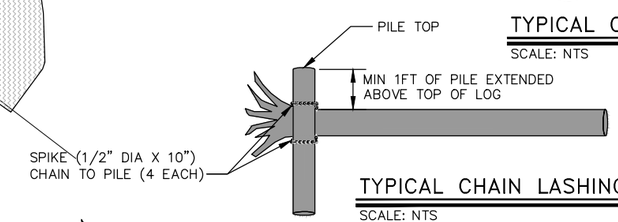
NOTES:

1. LOG MATERIALS SHALL BE PLACED AT THE LOCATIONS AND ELEVATIONS SPECIFIED ON THE DRAWINGS OR AS DIRECTED BY THE ENGINEER.
2. SEE SHEET C-17 FOR LAYERING PLAN.
3. SEE SPECIFICATIONS FOR LOG MATERIALS AND PILE INSTALLATION REQUIREMENTS.



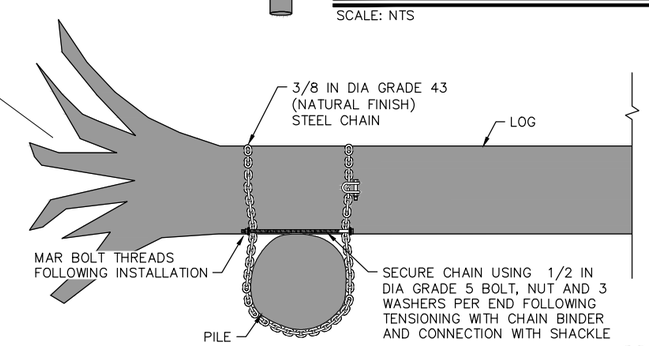
TYPICAL CHAIN LASHING DETAIL (3 / –)

SCALE: NTS



TYPICAL CHAIN LASHING ELEVATION (2 / C-15, C-17)

SCALE: NTS



CHAIN CONNECTION DETAIL (4 / C-15, C-17)

SCALE: NTS

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DRAWN: R.H. | PROJECT ENGR: M.E. | CONST. MGMT. REVIEW | VERT:
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City of Kent
Public Works Department
Engineering Division

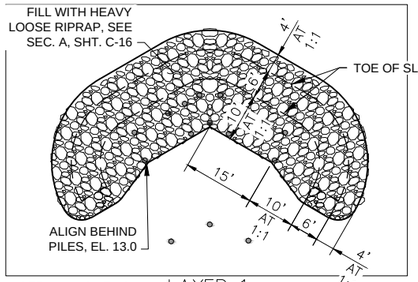
ENGINEERED LOG JAMS TYPE 3
PLAN AND SECTION

DOWNEY FARMSTEAD RESTORATION

SHEET C-16 OF 29

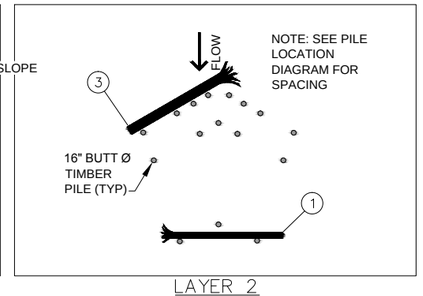
FILE NO. 0817C16

Path: G:\Environmental\08-3017 Downey\dwg\URS CAD Files\0817C16.dwg
Plot Date: 1/9/2014 3:30 PM Cad User: Wadsworth, Chris
Plot Style Table: Newkenthal.ctb Plotter: DWG To PDF.pc3

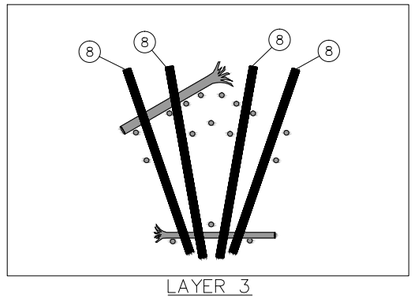


NOTE: LAYOUT IS SYMMETRICAL ABOUT CENTERLINE

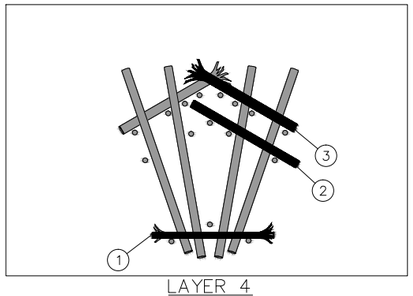
LAYER 1



LAYER 2



LAYER 3



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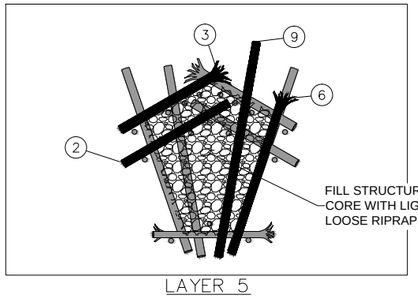
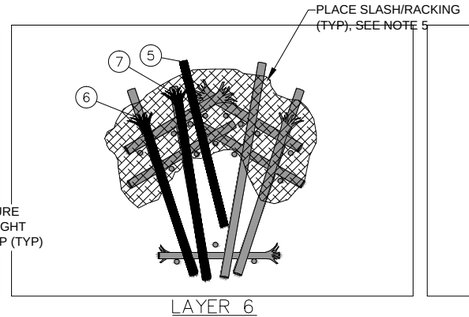
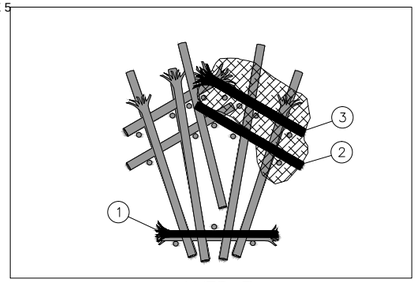


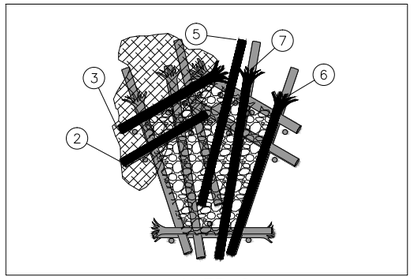
LAYER 5



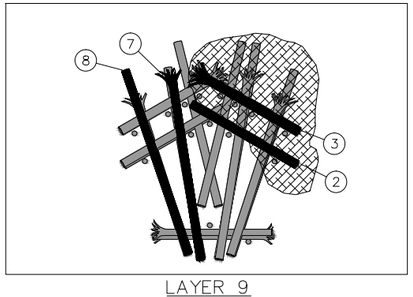
LAYER 6



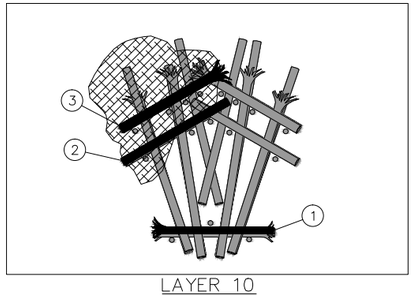
LAYER 7



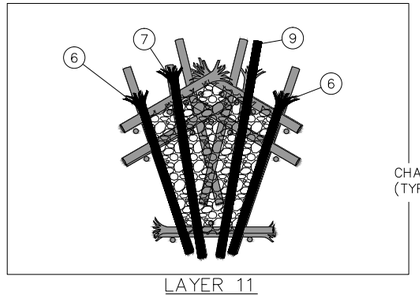
LAYER 8



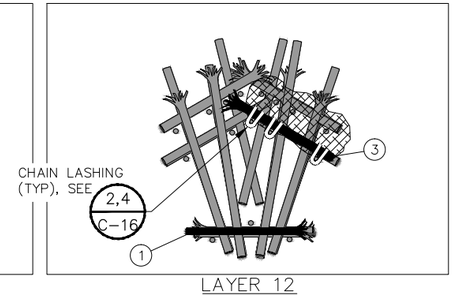
LAYER 9



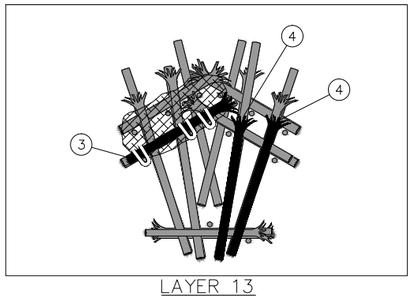
LAYER 10



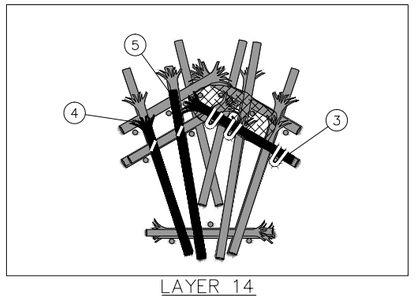
LAYER 11



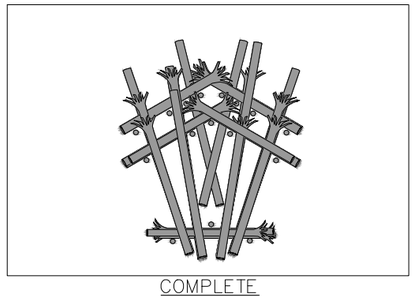
LAYER 12



LAYER 13

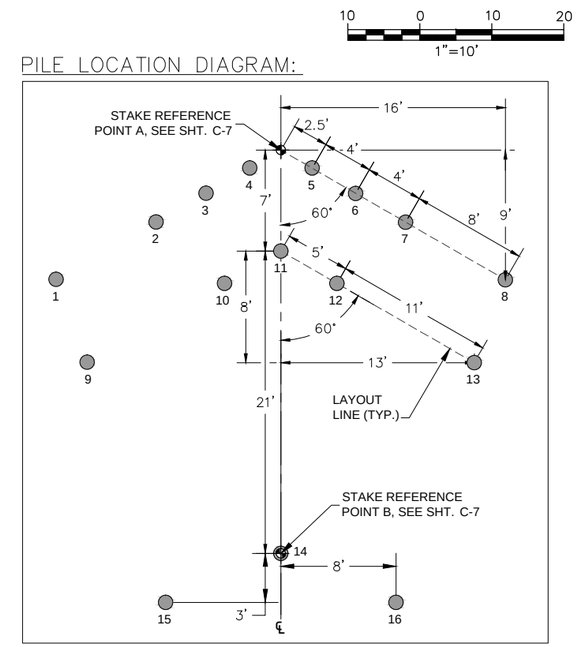


LAYER 14



COMPLETE

PILE LOCATION DIAGRAM:



ENGINEERED LOG JAM TYPE 3 PILE SCHEDULE:

PILE #	BUTT DIAMETER (IN)	LENGTH (FT)	MAX. TIP ELEV. (FT)
1-8	16	60	-25
9-13	16	55	-20
14-16	16	45	-10

ENGINEERED LOG JAM TYPE 3 LOG SCHEDULE:

LOG #	DIAMETER (IN)	LENGTH (FT)	ROOTWAD	QUANTITY/STRUCTURE
1	16	25	YES	5
2	18	25	NO	6
3	18	25	YES	10
4	18	30	YES	3
5	18	35	NO	3
6	18	35	YES	5
7	18	40	YES	4
8	18	40	NO	5
9	18	45	NO	2
			TOTAL:	43 PER STRUCTURE

NOTES:

1. PILE LOCATIONS SHALL BE STAKED BY ENGINEER.
2. LOG MATERIALS SHALL BE PLACED AT THE LOCATIONS AND ELEVATIONS SPECIFIED ON THE DRAWINGS OR AS DIRECTED BY THE ENGINEER.
3. TRIM LOGS AS REQUIRED, PER SPECIFICATIONS.
4. LOG ORIENTATION SYMMETRIC ABOUT CENTERLINE.
5. SLASH AND RACKING TO BE PLACED AS FIRST STEP IN LAYER SHOWN.

MARK EWBANK STATE OF WASHINGTON 29436 REGISTERED PROFESSIONAL ENGINEER

HERRERA

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NO.	REVISION	BY	DATE

DESIGNED: M.B. | CHECKED: M.E. | KENT PROJECT NO. 08-3017 | SCALE: HORIZ: NOTED
DRAWN: R.H. | PROJECT ENGR: M.E. | CONST. MGMT. REVIEW | VERT:
APPROVED: CITY ENGINEER | DATE NOV. 2013

BAR IS ONE INCH ON ORIGINAL DRAWING ADJUST SCALES ACCORDINGLY 0" 1"

KENT WASHINGTON
City of Kent
Public Works Department
Engineering Division

ENGINEERED LOG JAM TYPE 3
LAYERING PLAN

DOWNEY FARMSTEAD RESTORATION

SHEET C-17 OF 29
FILE NO. 0817C17

Path: G:\Environmental\08-3017 Downey\dwg\URS CAD Files\0817C17.dwg
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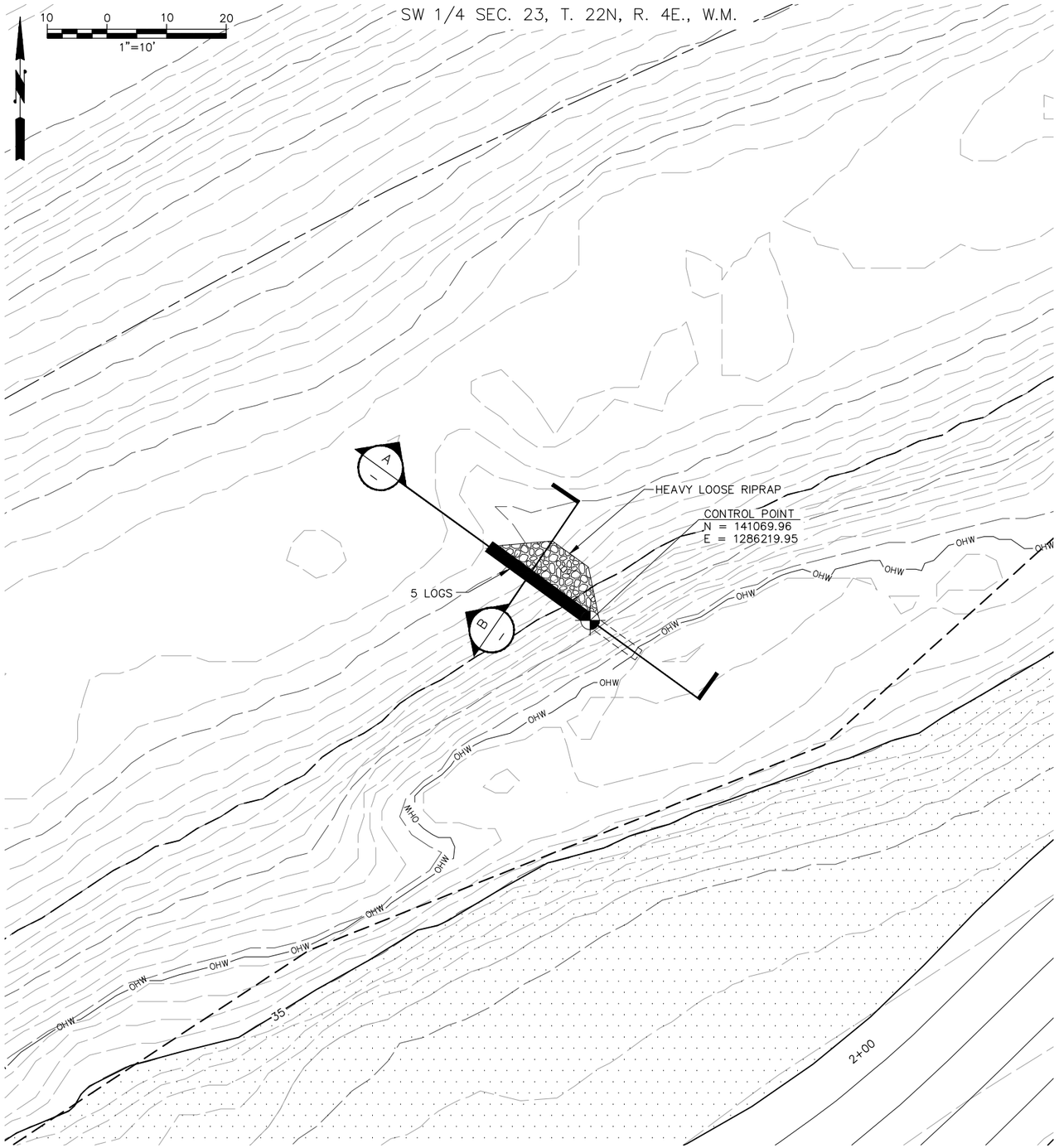
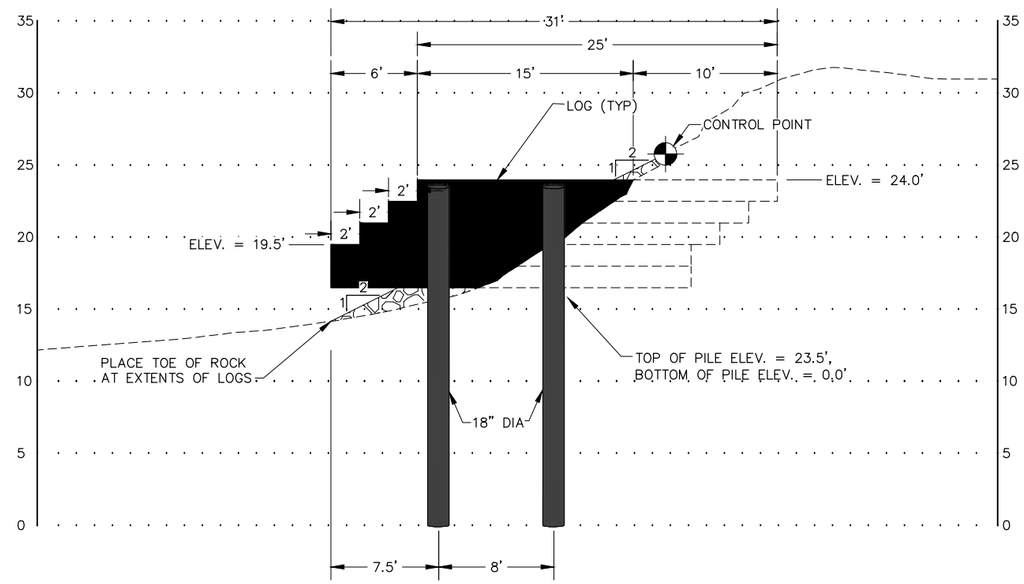
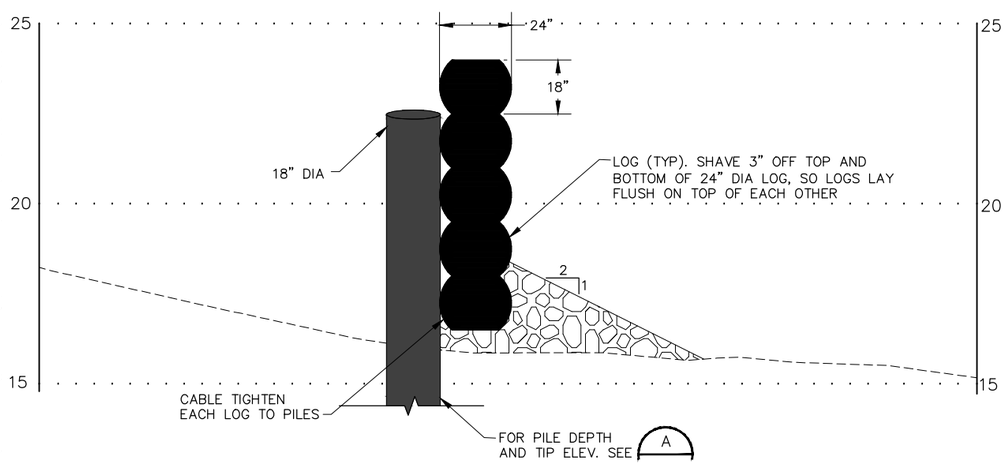




SECTION – LOW FLOW EDDY HABITAT STRUCTURE (A)

SCALE: 1" = 5'



SECTION – LOW FLOW EDDY HABITAT STRUCTURE (B)

SCALE: 1" = 2'

LOW FLOW EDDY HABITAT STRUCTURE CONTROL POINTS TABLE				
LOG #	DIA (IN)	LENGTH (FT)	ROOTWAD	QUANTITY
II	24	25	NO	5
PILES	18	23.5	NO	2

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NO.	REVISION	BY	DATE

DESIGNED: M.B. CHECKED: M.E. KENT PROJECT NO. 08–3017 SCALE: HORIZ: NOTED
DRAWN: R.H. PROJECT ENGR: M.E. CONST. MGMT. REVIEW VERT:
APPROVED: CITY ENGINEER DATE NOV. 2013
BAR IS ONE INCH ON ORIGINAL DRAWING ADJUST SCALES ACCORDINGLY 0" 1"

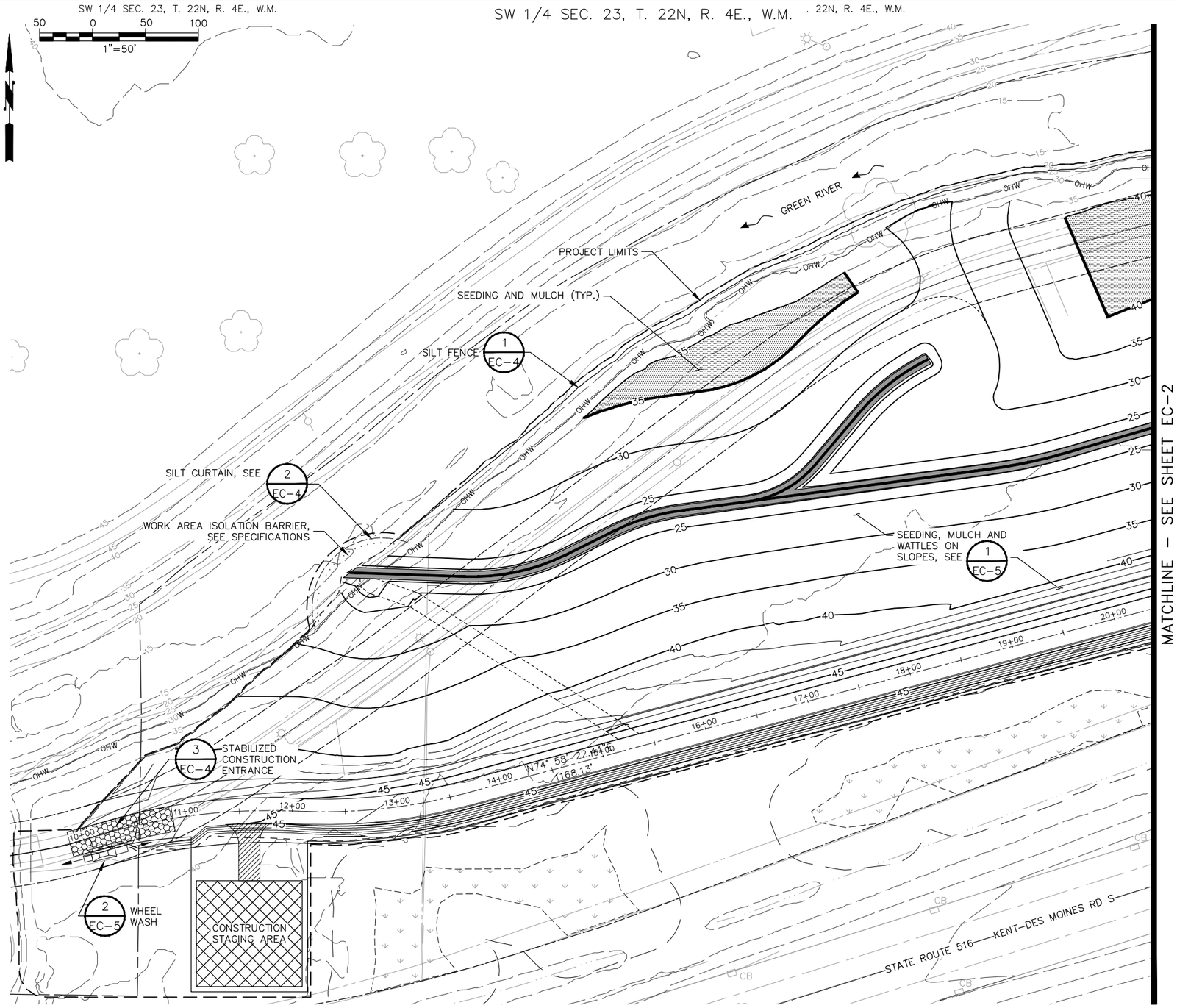
City of Kent
Public Works Department
Engineering Division

LOW FLOW EDDY HABITAT STRUCTURE
PLAN AND SECTION

DOWNEY FARMSTEAD
RESTORATION

SHEET C–18 OF 29
FILE NO. 0817C18

Path: G:\Environmental\08–3017 Downey\dwg\URS CAD Files\0817C18.dwg
Plot Date: 1/9/2014 3:31 PM Cad User: Wadsworth, Chris
Plot Style Table: Newkenthal.ctb Plotter: DWG To PDF.pc3



TEMPORARY EROSION AND SEDIMENT CONTROL NOTES:

1. THE IMPLEMENTATION OF THIS TESC PLAN AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT AND UPGRADING OF THESE TESC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION IS APPROVED.
2. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE BEYOND THE CLEARING LIMITS SHALL BE PERMITTED UNLESS AUTHORIZED BY THE ENGINEER. TEMPORARY FENCING SHALL BE MAINTAINED BY THE CONTRACTOR FOR THE DURATION OF THE CONSTRUCTION.
3. THE TESC FACILITIES SHOWN ON THIS PLAN MUST BE CONSTRUCTED PRIOR TO ALL CLEARING AND GRADING ACTIVITIES, AND IN SUCH A MANNER TO INSURE THAT SEDIMENT LADEN WATER DOES NOT ENTER THE RIVER OR VIOLATE APPLICABLE WATER STANDARDS.
4. THE TESC FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR THE ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE TESC FACILITIES SHALL BE UPGRADED (E.G. ADDITIONAL SUMPS, RELOCATIONS OF DITCHES AND SILT FENCES, ETC.) AS NEEDED FOR UNEXPECTED STORM EVENTS OR AS THE ENGINEER DEEMS NECESSARY.
5. THE TESC FACILITIES SHALL BE INSPECTED DAILY BY THE CONTRACTOR AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING AND OPERATION, OR WITHIN 24 HOURS FOLLOWING A STORM EVENT. WHEN TEMPORARY CONTROL MEASURES ARE NO LONGER NEEDED, THE CONTRACTOR SHALL REMOVE THEM AND FINISH RESTORING THE AREAS THEY OCCUPIED AS THE ENGINEER DIRECTS.
6. ANY AREA STRIPPED OF VEGETATION, INCLUDING ROADWAY EMBANKMENTS DURING THE TIME OF MAY 1ST TO SEPTEMBER 30TH, WHERE NO FURTHER WORK IS ANTICIPATED FOR A PERIOD OF SEVEN (7) DAYS, SHALL BE IMMEDIATELY STABILIZED WITH THE APPROVED TESC METHODS (E.G. SEEDING, MULCHING, NETTING, EROSION BLANKETS, ETC.). GRASS SEEDING FOR FAST GERMINATING GRASSES ALONE WILL BE ACCEPTABLE ONLY IF LEFT UNDISTURBED FOR MORE THAN A MINIMUM OF SIX (6) WEEKS DURING THE MONTHS OF APRIL THROUGH OCTOBER INCLUSIVE, AS APPROVED BY THE ENGINEER.
7. DURING THE PERIOD OF OCTOBER 1ST THROUGH APRIL 30TH, ALL PROJECT DISTURBED AREAS THAT ARE TO BE LEFT UNWORKED FOR MORE THAN TWO (2) DAYS SHALL BE COVERED BY ONE OF THE FOLLOWING COVER MEASURES: MULCH, SODDING OR PLASTIC COVERING.
8. WHERE SEEDING FOR TEMPORARY EROSION CONTROL IS REQUIRED, FAST GERMINATING GRASSES (E.G. ANNUAL OR PERENNIAL RYE) SHALL BE APPLIED AT AN APPROPRIATE RATE OF APPROXIMATELY 80 POUNDS PER ACRE. SHOULD THE AREA BE DISTURBED DUE TO RAINFALL EVENTS BEFORE SUFFICIENT GRASS GROWTH, OTHER PROTECTIVE MEASURES WILL BE REQUIRED IMMEDIATELY TO PREVENT EROSION WITHIN THAT AREA.
9. WHERE STRAW MULCH FOR TEMPORARY EROSION CONTROL IS REQUIRED, IT SHALL BE APPLIED AT A MINIMUM THICKNESS OF THREE (3) INCHES OR 3,000 LBS PER ACRE.
10. AS CONSTRUCTION PROGRESSES AND UNEXPECTED SEASONAL CONDITIONS DICTATE, AND AS THE ENGINEER REQUIRES, THE CONTRACTOR SHOULD ANTICIPATE THAT MORE TESC MEASURES WILL BE NECESSARY TO PROTECT THE RIVER AND/OR ADJACENT PROPERTIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ADDRESS DEFICIENT TESC CONDITIONS AND PROVIDE ADDITIONAL FACILITIES, OVER AND ABOVE MINIMUM REQUIREMENTS OUTLINED ON THE APPROVED PLANS.
11. SILT FENCE SHALL BE USED WHERE NOTED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
12. THE TESC PLAN DRAWINGS ARE CONCEPTUAL AND THE CONTRACTOR IS REQUIRED TO SUBMIT A DETAILED TESC PLAN IN ACCORDANCE WITH KENT SPECIAL PROVISIONS SECTION 1-08.0,
13. SHOULD THE CONTRACTOR FAIL TO INSTALL THE REQUIRED TESC MEASURES, OR TO PERFORM MAINTENANCE IN A TIMELY MANNER, OR FAILS TO TAKE IMMEDIATE ACTION TO INSTALL ADDITIONAL APPROVED PROTECTIVE MEASURES, ALL FINES, COST OF CLEANUP, COSTS OF DELAYS AND DOWN TIME SHALL BE BORNE BY THE CONTRACTOR.
14. STOCKPILES OF SOILS OR OTHER ERODIBLE MATERIAL MUST BE COVERED DAILY DEPENDING ON THE WEATHER FORECAST, AND AS DIRECTED BY THE CITY. STOCKPILES MUST BE LOCATED AT LEAST 50 FEET FROM STORM DRAIN INLETS, WATERWAYS AND DRAINAGE CHANNELS UNLESS OTHERWISE APPROVED BY THE CITY.

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DRAWN: R.H. | PROJECT ENGR: M.E. | CONST. MGMT. REVIEW | VERT:
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City of Kent
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Engineering Division

TESC AND WATER MANAGEMENT PLAN - WEST

DOWNEY FARMSTEAD RESTORATION

SHEET EC-1 OF 29
FILE NO. 0817EC01

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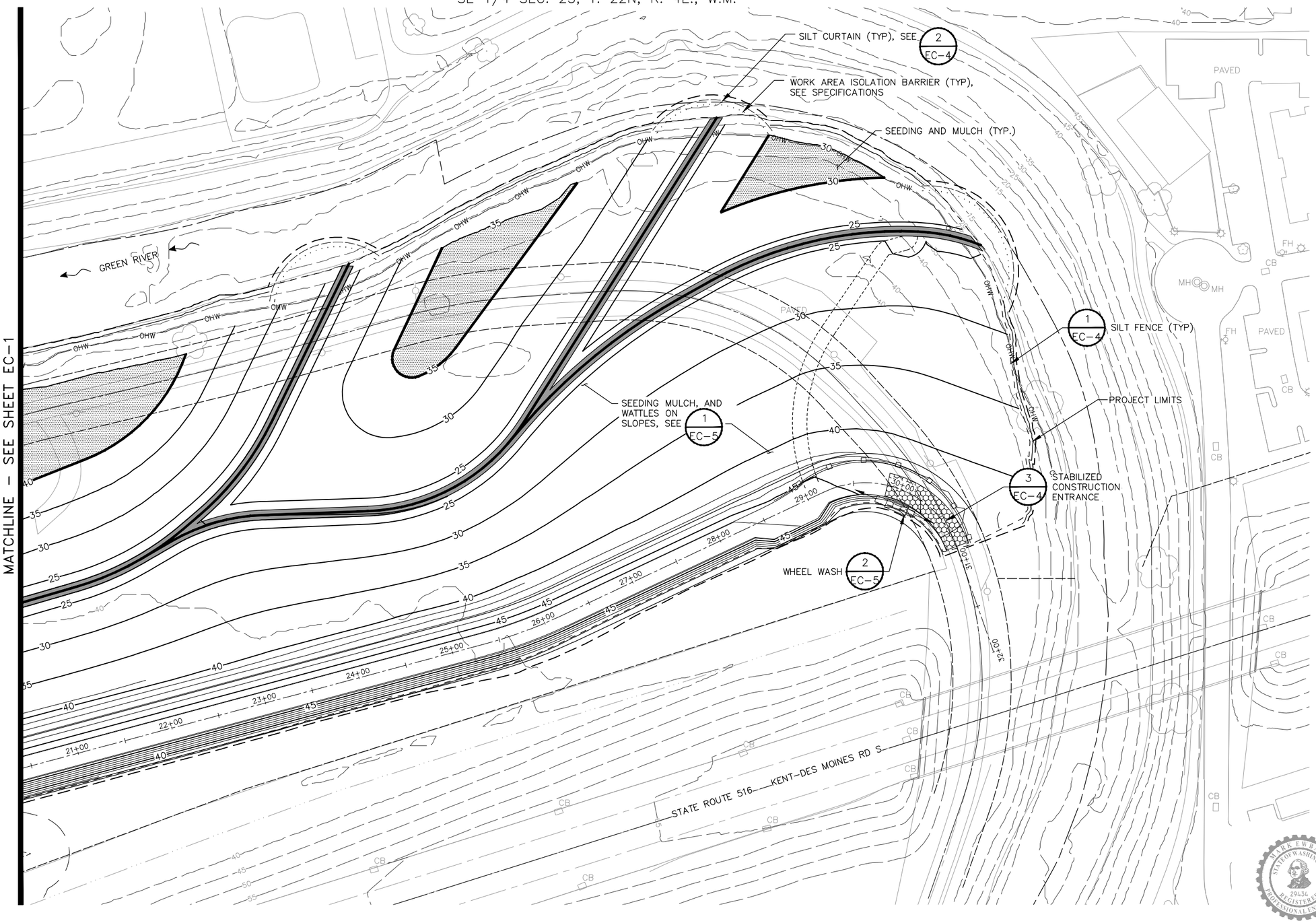
SE 1/4 SEC. 23, T. 22N, R. 4E., W.M.

22N, R. 4E., W.M.



SEE SHEET EC–1 FOR TEMPORARY EROSION AND SEDIMENT CONTROL NOTES.

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1"=50'

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City of Kent
Public Works Department
Engineering Division

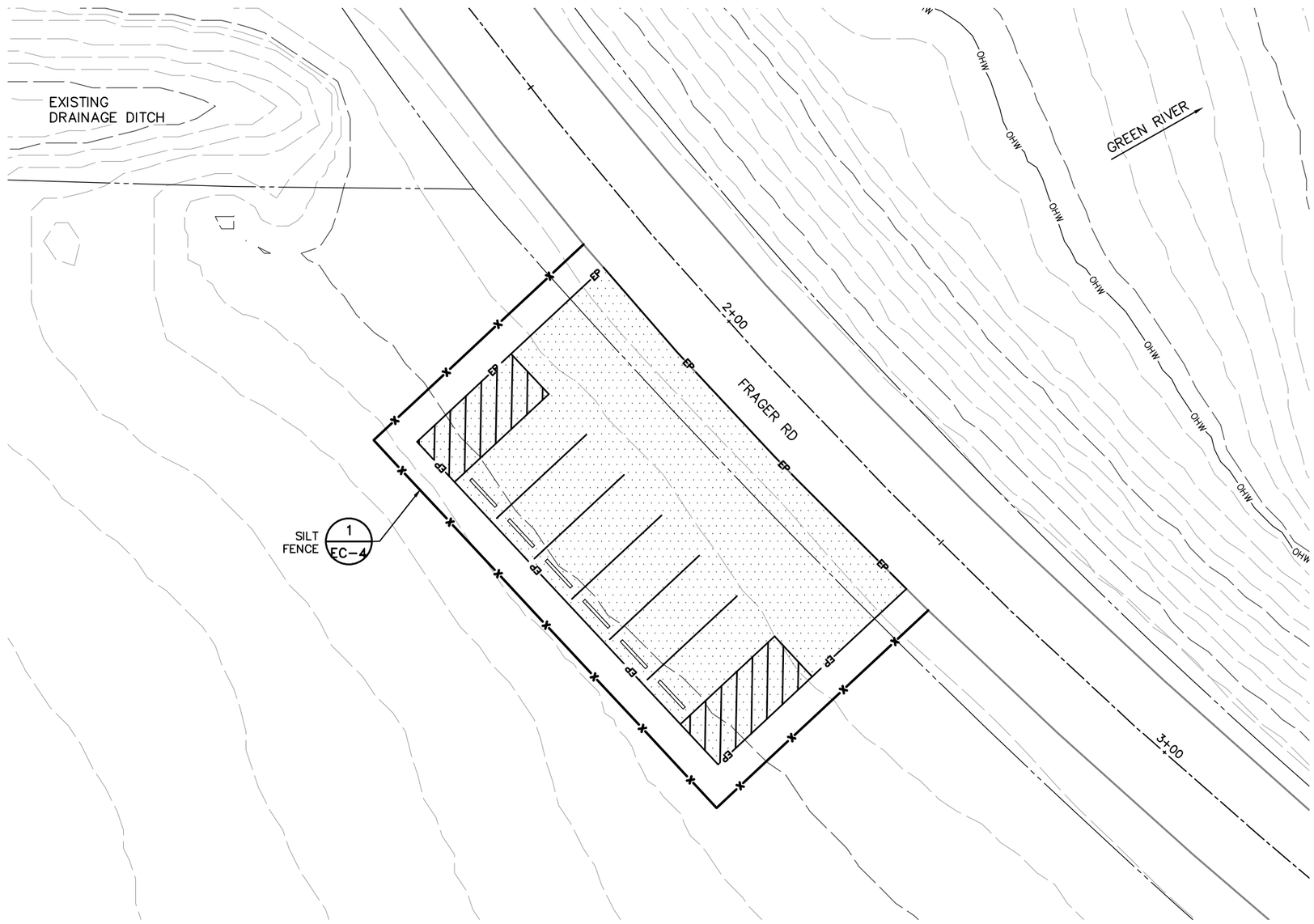
TESC AND WATER MANAGEMENT PLAN – EAST

DOWNEY FARMSTEAD RESTORATION

SHEET EC–2 OF 29

FILE NO. 0817EC02

NE 1/4 SEC. 14, T 22 N, R 4 E, W.M.



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SCALE: HORIZ: 1"=10' VERT:

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0" 1"

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TESC AND WATER MANAGEMENT PLAN – PARKING AREA

DOWNEY FARMSTEAD RESTORATION

SHEET EC-3 OF 29

FILE NO. 08-3017 EC-3 TESC AND WATER MANAGEMENT PLAN – PARKING AREA.dwg

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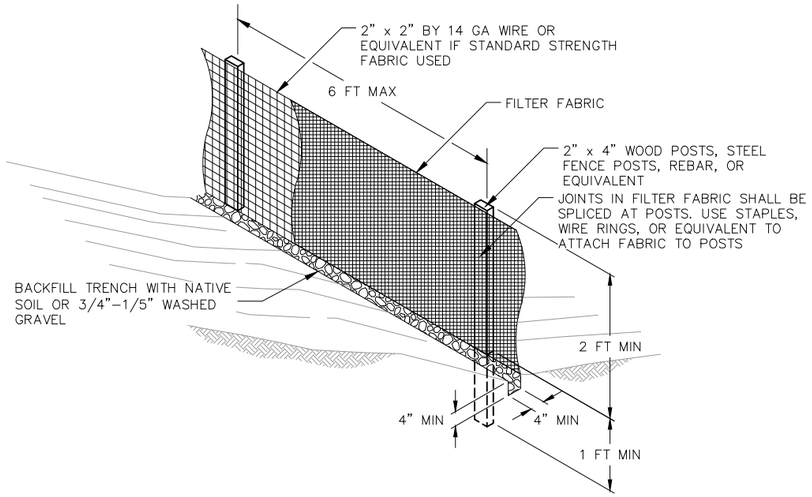
SE 1/4 SEC. 23, T. 22N, R. 4E., W.M.



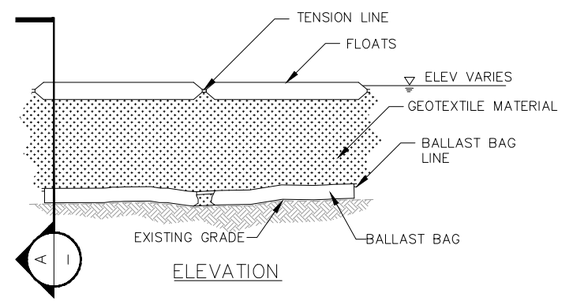
NOTES:

1. THE FILTER FABRIC (CONSTRUCTION GEOTEXTILE FOR TEMPORARY SILT FENCE) SHALL BE PURCHASED IN A CONTINUOUS ROLL, 5FT WIDE, CUT TO THE LENGTH OF THE BARRIER TO AVOID USE OF JOINTS. WHEN JOINTS ARE NECESSARY, THE FILTER FABRIC SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST, WITH A MINIMUM 6 INCH OVERLAP, AND SECURELY FASTENED TO THE POST.
2. THE FENCE POSTS SHALL BE SPACED A MAXIMUM OF 6 FEET APART AND DRIVEN SECURELY INTO THE GROUND A MINIMUM OF 12 INCHES.
3. A TRENCH SHALL BE EXCAVATED A MINIMUM OF 4 INCHES WIDE BY 4 INCHES DEEP, UPSLOPE AND ADJACENT TO THE POST TO ALLOW THE FILTER FABRIC TO BE BURIED.
4. THE FILTER FABRIC SHALL BE STAPLED OR WIRED TO THE POSTS, AND 12 INCHES OF THE FABRIC SHALL BE EXTENDED INTO THE TRENCH. THE FABRIC SHALL NOT EXTEND MORE THAN 30 INCHES ABOVE THE ORIGINAL GROUND SURFACE. FILTER FABRIC SHALL NOT BE STAPLED TO TREES.
5. THE TRENCH SHALL BE BACKFILLED WITH NATIVE SOIL OR WITH 3/4"–1 1/2" WASHED GRAVEL.
6. SILT FENCES SHALL BE REMOVED AT DIRECTION OF ENGINEER, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED.
7. SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL EVENT AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
8. SILT FENCE PERFORMANCE SHALL BE EVALUATED AND SILT FENCE LOCATIONS SHALL BE EVALUATED AND ADJUSTED AS DIRECTED OR APPROVED BY THE ENGINEER AND THE PERMITTING AUTHORITY.
9. SILT FENCE SHALL BE INSTALLED AS SHOWN ON DRAWINGS.
10. ANY DEVIATION OR CHANGE TO SILT FENCE DETAILS MUST BE APPROVED BY THE OWNERS REPRESENTATIVE.
11. THE CONTRACTOR SHALL MAINTAIN A COPY OF THE MANUFACTURER'S SPECIFICATIONS FOR FILTER FABRIC ON SITE.
12. MAINTENANCE STANDARDS:
    A. ANY DAMAGE SHALL BE REPAIRED IMMEDIATELY.
    B. IF CONCENTRATED FLOWS ARE EVIDENT UPHILL OF THE SILT FENCE, THEY MUST BE INTERCEPTED AND CONVEYED TO A SEDIMENT TRAP OR POND, OR OTHERWISE DIVERTED TO A LOCATION THAT DOES NOT RESULT IN TURBID DISCHARGES TO SURFACE WATERS.
    C. THE UPHILL SIDE OF THE SILT FENCE SHALL BE CHECKED FOR SIGNS OF THE SILT FENCE CLOGGING, ACTING AS A BARRIER TO FLOW, AND CAUSING CHANNELIZATION OF FLOWS PARALLEL TO THE FENCE. IF SUCH CHANNELIZATION OCCURS, THE CONTRACTOR SHALL REPLACE THE FENCE OR REMOVE THE TRAPPED SEDIMENT.
    D. SEDIMENT SHALL BE REMOVED AND PROPERLY DISPOSED OF WHEN THE SEDIMENT IS 6 INCHES HIGH.
    E. IF THE FILTER FABRIC HAS DETERIORATED DUE TO ULTRAVIOLET BREAKDOWN, IT SHALL BE REPLACED.

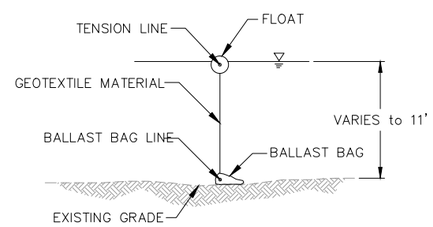
DETAIL – SILT FENCE (1)

SCALE: NONE

EC–1, EC–2, EC–3



ELEVATION



SECTION A

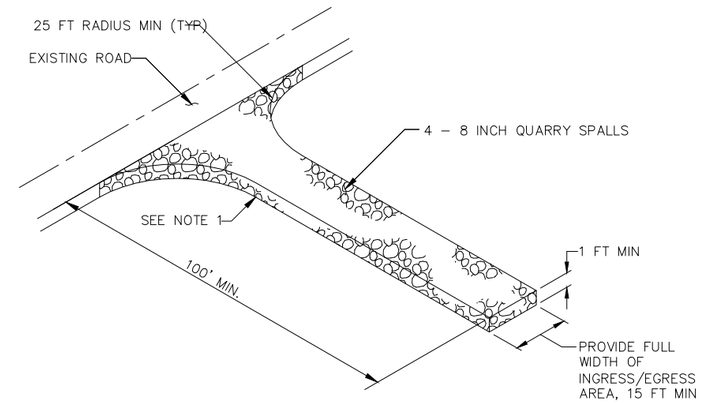
NOTES:

1. PLACE SILT CURTAIN TO PROVIDE MIN. 5' DISTANCE FROM OUTER/RIVERWARD TOE OF BULK BAG DAM.
2. ATTACH ENDS OF SILT CURTAIN TO BANK ON EITHER END, MINIMIZING ANY GAPS WHERE TURBID WATER COULD PASS.

DETAIL – SILT CURTAIN (2)

SCALE: NTS

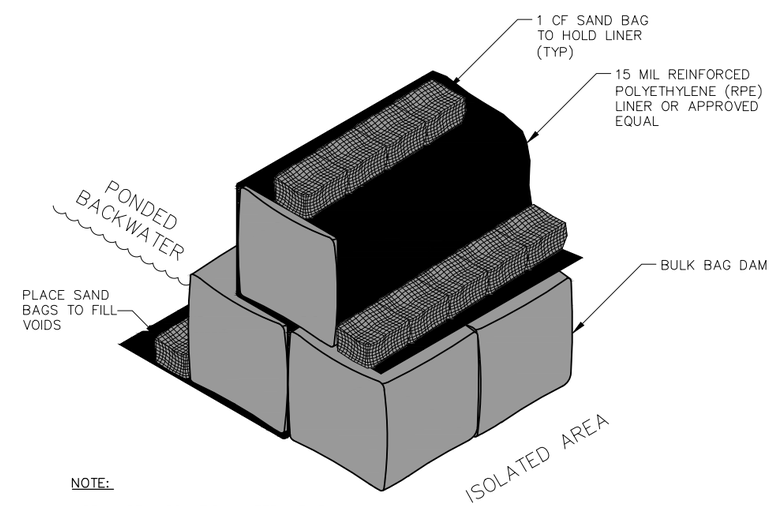
EC–1, EC–2



DETAIL – STABILIZED CONSTRUCTION ENTRANCE (3)

SCALE: NONE

EC–1, EC–2



NOTE:

WORK AREA ISOLATION ALTERNATIVE.

DETAIL – BULK BAG DAM (OPTIONAL) (–)

SCALE: NTS

EC–1, EC–2

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TESC AND WATER MANAGEMENT DETAILS AND NOTES – 1 OF 2

DOWNEY FARMSTEAD RESTORATION

SHEET EC–4 OF 29

FILE NO. 0817EC04

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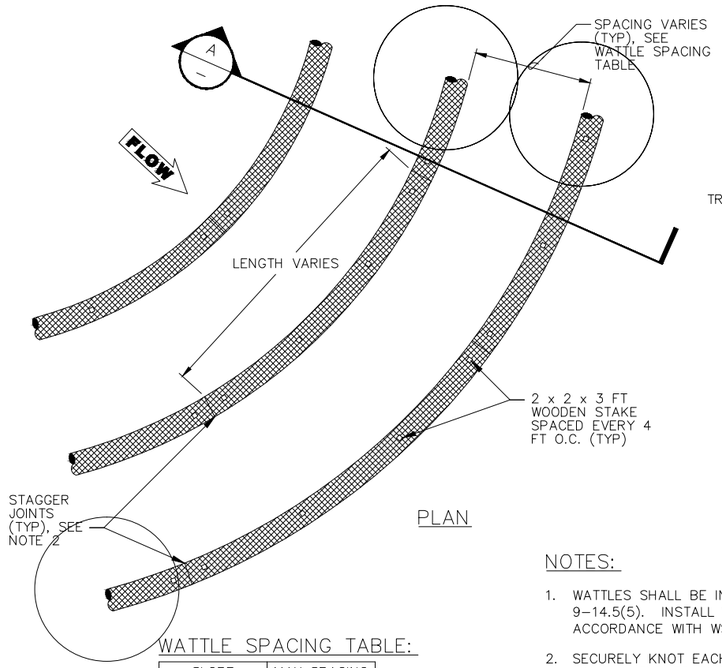
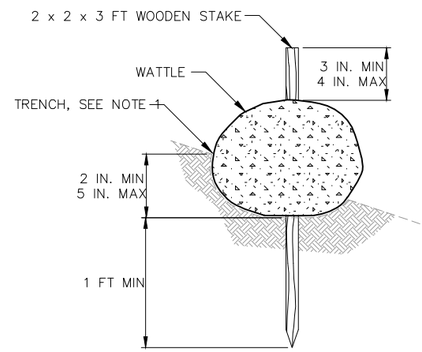


PLAN



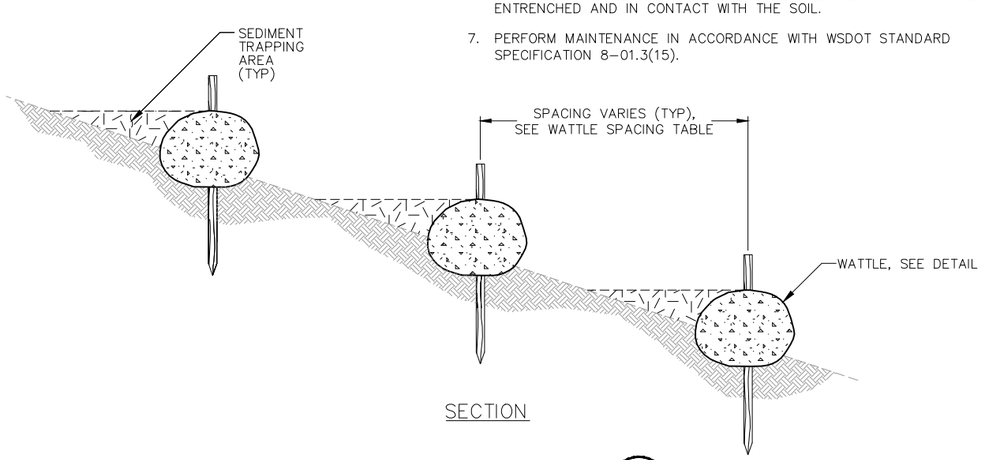
DETAIL

WATTLE SPACING TABLE:

SLOPE	MAX SPACING
1:1	10 FT
2:1	20 FT
3:1	30 FT
4:1	40 FT

NOTES:

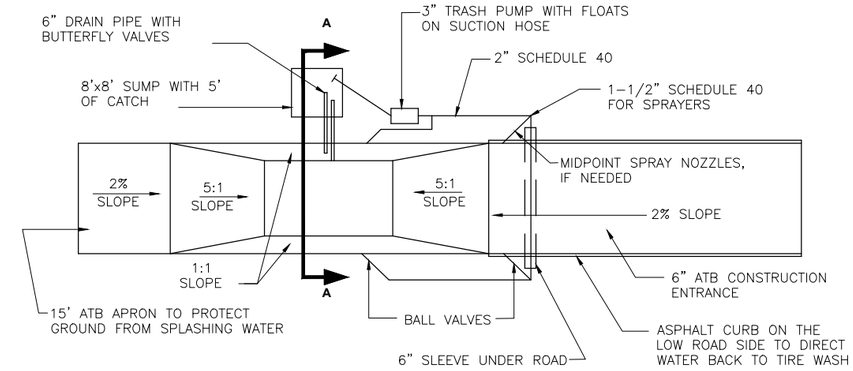
1. WATTLES SHALL BE IN ACCORDANCE WITH WSDOT STANDARD SPECIFICATION 9-14.5(5). INSTALL WATTLES ALONG CONTOURS. INSTALLATION SHALL BE IN ACCORDANCE WITH WSDOT STANDARD SPECIFICATION 8-01.3(10).
2. SECURELY KNOT EACH END OF WATTLE. ABUT ADJACENT WATTLES
3. TIGHTLY, END TO END, WITHOUT OVERLAPPING THE ENDS.
4. PILOT HOLES MAY BE DRIVEN THROUGH THE WATTLES AND INTO THE SOIL WHEN SOIL CONDITIONS REQUIRE.
5. LIVE STAKES MAY BE USED FOR PERMANENT INSTALLATION AND SHALL BE IN ACCORDANCE WITH WSDOT STANDARD SPECIFICATION 9-14.5(6).
6. WATTLES SHALL BE INSPECTED REGULARLY, AND IMMEDIATELY AFTER A RAINFALL PRODUCES RUNOFF, TO ENSURE THEY REMAIN THOROUGHLY ENTRENCHED AND IN CONTACT WITH THE SOIL.
7. PERFORM MAINTENANCE IN ACCORDANCE WITH WSDOT STANDARD SPECIFICATION 8-01.3(15).



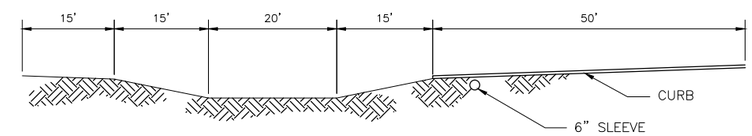
SECTION

DETAIL – STRAW WATTLES (1)

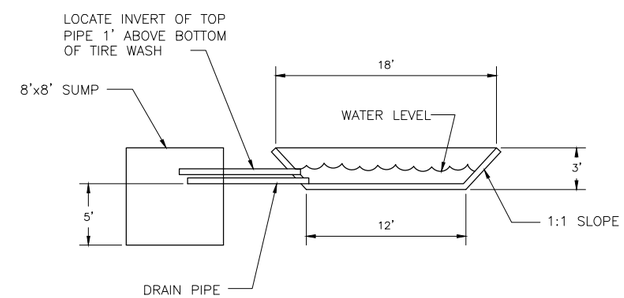
SCALE: NONE — EC-1, EC-2



PLAN VIEW



ELEVATION VIEW



SECTION A–A

NOTES:

1. BUILD 8'x8' SUMP TO ACCOMODATE CLEANING BY TRACKHOE.

DETAIL – TIRE WASH (2)

SCALE: NONE — EC-1, EC-2

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Engineering Division

TESC AND WATER MANAGEMENT DETAILS AND NOTES – 2 OF 2

DOWNEY FARMSTEAD RESTORATION

SHEET EC-5 OF 29

FILE NO. 0817EC05

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Plot Style Table: Newkenthal.ctb Plotter: DWG To PDF.pc3

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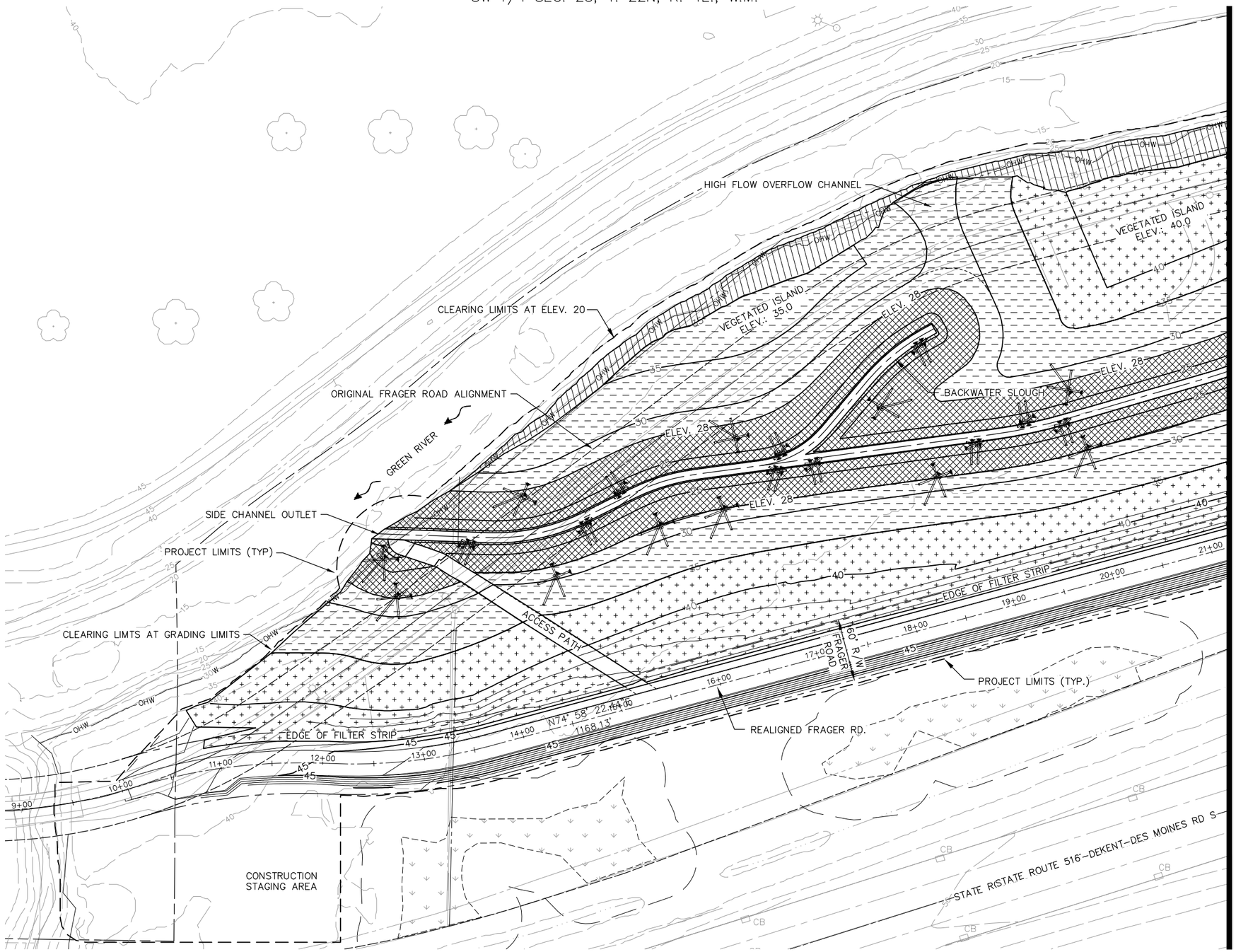

50 0 50 100
1"=50'

N

LEGEND:

- SCRUB SHRUB (PSS)
- FORESTED WETLAND (PFO)
- FORESTED UPLAND
- STEEP SLOPE

NOTES:

1. SEE PLANTING MATERIAL SCHEDULE ON SHEET P-3 FOR PLANT SPECIES AND QUANTITIES IN EACH PLANTING ZONE.
2. SEE SHEET P-4 FOR PLANTING DETAILS.

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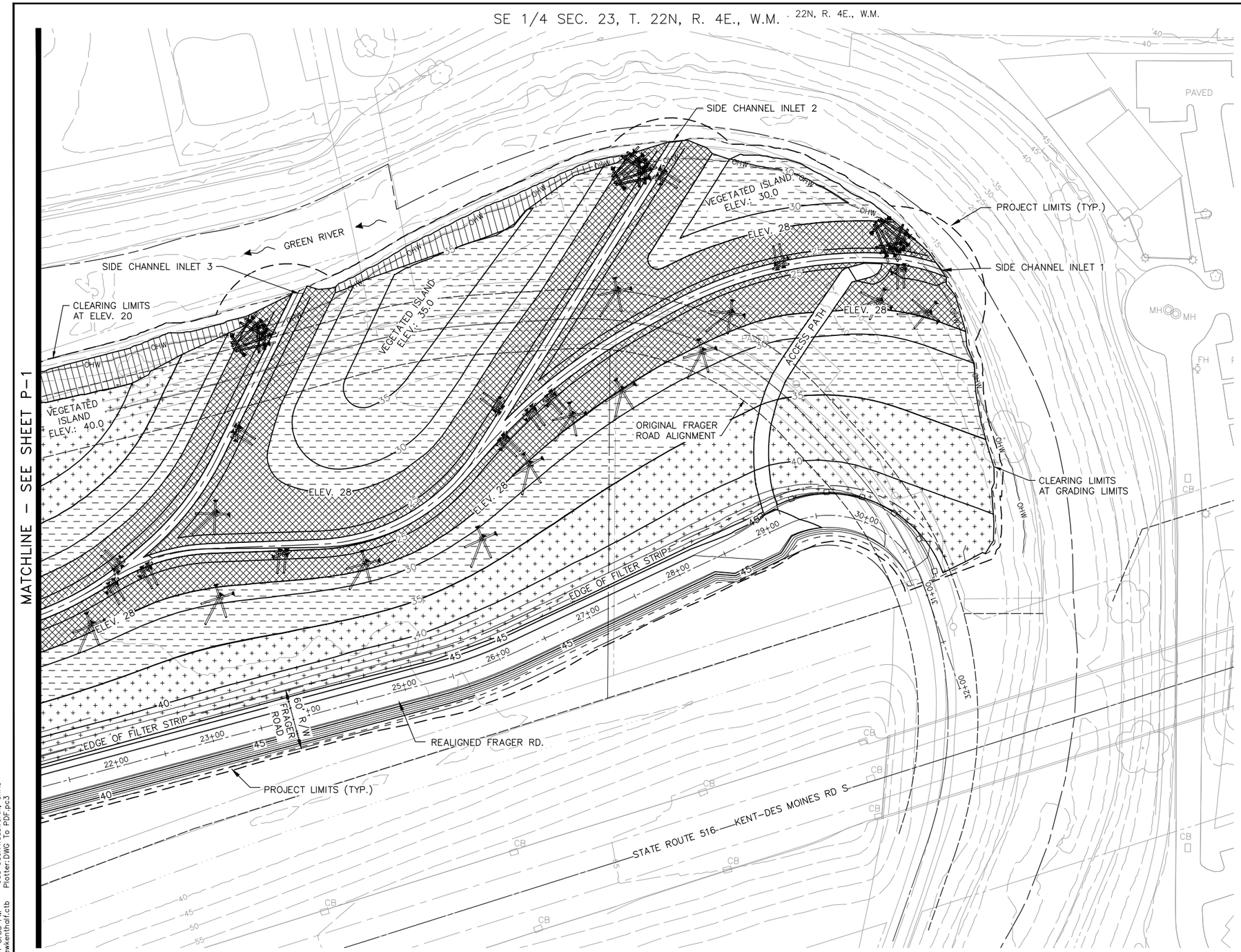
City of Kent
Public Works Department
Engineering Division

PLANTING PLAN - WEST

DOWNEY FARMSTEAD RESTORATION

SHEET P-1 OF 29
FILE NO. 0817P01



50 0 50 100
1"=50'

N

LEGEND:

- SCRUB SHRUB (PSS)
- FORESTED WETLAND (PFO)
- FORESTED UPLAND
- STEEP SLOPE

NOTES:

1. SEE PLANTING MATERIAL SCHEDULE ON SHEET P-3 FOR PLANT SPECIES AND QUANTITIES IN EACH PLANTING ZONE.
2. SEE SHEET P-4 FOR PLANTING DETAILS.

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Public Works Department
Engineering Division

PLANTING PLAN – EAST

DOWNEY FARMSTEAD RESTORATION

SHEET P-2 OF 29
FILE NO. 0817P02

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Plot Style Table: Newkenthalf.ctb Plotter: DWG To PDF.pc3

PLANTING NOTES:

1. ENGINEER SHALL APPROVE GRADING PRIOR TO PLANT INSTALLATION.
2. ENGINEER SHALL APPROVE ALL PLANT ZONE BOUNDARIES AND PLANT LAYOUT PRIOR TO PLANTING.
3. PLANTING SHALL OCCUR DURING THE MONTH OF OCTOBER AFTER FINISH GRADE ACCOMPLISHED.
4. EROSION CONTROL SEEDING USING SPECIFIED SEED MIXES SHALL OCCUR AS SOON AS CONSTRUCTION IS COMPLETED IN ORDER TO PROTECT SOILS. FOLLOW UP SEEDING MAY BE NEEDED IN SEPTEMBER TO ASSURE SUCCESSFUL PLANT ESTABLISHMENT. SEE SPECIFICATIONS FOR SEED MIX AND APPLICATION RATE.
5. ALL PLANTS SHALL CONFORM TO THE STANDARDS OF THE CURRENT EDITION OF AMERICAN STANDARD FOR NURSERY STOCK AS APPROVED BY THE AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI Z60.1–2004).
6. ALL PLANT MATERIALS SHALL HAVE NORMAL, WELL–DEVELOPED BRANCHES AND VIGOROUS ROOT SYSTEMS, AND BE FREE FROM PHYSICAL DEFECTS, PLANT DISEASES, AND INSECT PESTS.
7. PLANT SUBSTITUTIONS ARE SUBJECT TO APPROVAL BY THE ENGINEER.
8. PLANTS SHALL BE TAGGED FOR IDENTIFICATION WHEN DELIVERED.
9. KEEP PLANTS SHADED UNTIL THE ACTUAL TIME OF PLANTING. DO NOT LET THE PLANT MATERIAL SIT IN THE SUN OR DRY OUT BEFORE PLANTING.
10. EMERGENT PLUGS SHALL BE KEPT IN COOL DARK PLACE PRIOR TO PLANTING. EMERGENT PLUGS SHALL BE KEPT MOIST PRIOR TO PLANTING. PLANTING SHALL TAKE PLACE 24 HOURS TO 48 HOURS AFTER DELIVERY, UNLESS STAGING AREA IS CREATED TO KEEP PLANTS MOIST AND PROTECTED. REMOVE DEAD OR WITHERED ROOTS AND STEMS OF PLUGS WITH A SHARP KNIFE PRIOR TO PLANTING. THOROUGHLY WATER ALL PLANTED AREAS IMMEDIATELY AFTER PLANTING.
11. APPLY 3" OF WOOD CHIP OR BARK MULCH AROUND ALL PLANTED STOCK AFTER PLANTING, CAREFUL TO KEEP MULCH AWAY FROM THE STEMS AND BASES OF PLANTS.
12. SCRUB SHRUB (PSS), FORESTED WETLAND (PFO), STEEP SLOPE, AND ADJACENT ACCESS ROAD AREAS WILL BE HYDROSEEDED WITH WETLAND GRASS SEED MIX. FORESTED UPLAND AND ADJACENT ACCESS ROAD AREAS WILL BE HYDROSEEDED WITH UPLAND GRASS SEED MIX. SEE SPECIFICATIONS FOR SEED MIX AND APPLICATION RATE.

Plant Material Schedule

Stratum	Symbol	Scientific Name	Common Name	Container Size	On Center (O.C.) Spacing	Scrub Shrub (PSS)	Forested Wetland (PFO)	Forested Upland	Steep Slope	Total
Tree										
	AR	*Alnus rubra*	Red alder	1 Gallon	15' O.C.		200			**200**
	FL	*Fraxinus latifolia*	Oregon ash	1 Gallon	15' O.C.		200			**200**
	PC	*Pinus contorta var. contorta*	Shore pine	1 Gallon	15' O.C.			300		**300**
	PB	*Populus balsamifera*	Black Cottonwood	1 Gallon	15' O.C.		120	200		**320**
	PM	*Pseudotsuga menziesii*	Douglas fir	1 Gallon	15' O.C.			200		**200**
	SL	*Salix lucida ssp. Lasiandra*	Pacific willow	6' Live stake	4' O.C.	3030	2750			**5780**
Shrub										
		Cornus sericea	Red osier dogwood	1 Gallon	4' O.C.	1212	1828			**3040**
		Corylus cornuta	Beaked hazelnut	1 Gallon	6' O.C.			315	90	**405**
		Holodiscus discolor	Ocean spray	1 Gallon	6' O.C.			315		**315**
		Mahonia aquifolium	Tall Oregon Grape	1 Gallon	4' O.C.			700	400	**1100**
		Physocarpus capitatus	Pacific ninebark	1 Gallon	4' O.C.		900			**900**
		Ribes sanguineum	Red flowering current	1 Gallon	4' O.C.			700		**700**
		Rosa gymnocarpa	Wood rose	1 Gallon	4' O.C.				700	**700**
		Rosa nutkana	Nootka rose	1 Gallon	4' O.C.		900			**900**
		Salix hookeriana	Hooker's willow	6' Live stake	4' O.C.	2200	1850			**4050**
		Salix geyeriana	Geyer willow	6' Live stake	4' O.C.	2200	1850			**4050**
		Salix sitchensis	Sitka willow	6' Live stake	4' O.C.	2830	1850			**4680**
		Symphoricarpus albus	Snowberry	1 Gallon	4' O.C.			700	700	**1400**
Groundcover										
		Carex amplifolia	Bigleaf sedge	Bare root	24" O.C.	468	832			**1300**
		Carex obnupta	Slough sedge	Bare root	24" O.C.	715	835			**1550**
		Carex stipata	Sawbeak sedge	Bare root	24" O.C.	700	1250			**1950**
		Juncus acuminatus	Tapertip rush	Bare root	24" O.C.	935	1665			**2600**
		Juncus ensifolius	Daggerleaf rush	Bare root	24" O.C.	450	1250			**1700**
		Juncus tenuis	Slender rush	Bare root	24" O.C.	468	832			**1300**
		Schoenoplectus/Scirpus acutus	Hardstem bulrush	Bare root	24" O.C.	468	832			**1300**
		Schoenoplectus/Scirpus microcarpus	Small-fruited bulrush	Bare root	24" O.C.	468	832			**1300**
Wetland Grass Seed Mix						x	x		x	**10.44 ac**
Upland Grass Seed Mix								x		**4.59 ac**

2200 Sixth Avenue
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NO.	REVISION	BY	DATE

DESIGNED: M.B. CHECKED: M.E. KENT PROJECT NO. 08–3017 SCALE: HORIZ: NOTED
DRAWN: R.H. PROJECT ENGR: M.E. CONST. MGMT. REVIEW VERT:
APPROVED: CITY ENGINEER DATE NOV. 2013
BAR IS ONE INCH ON ORIGINAL DRAWING ADJUST SCALES ACCORDINGLY 0" 1"

City of Kent
Public Works Department
Engineering Division

PLANTING SCHEDULE AND NOTES

DOWNEY FARMSTEAD RESTORATION

SHEET P–3 OF 29
FILE NO. 0817P03

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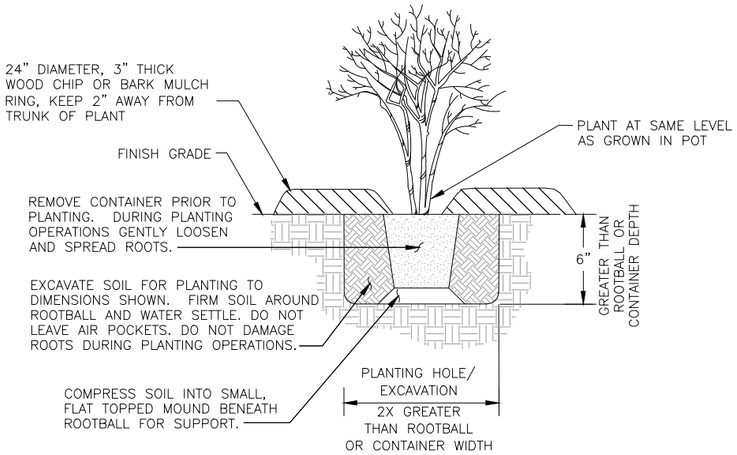
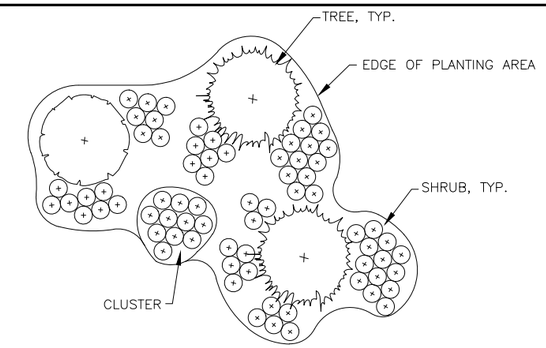


TREE AND SHRUB PLANTING DETAIL (1 / –)

SCALE: NONE

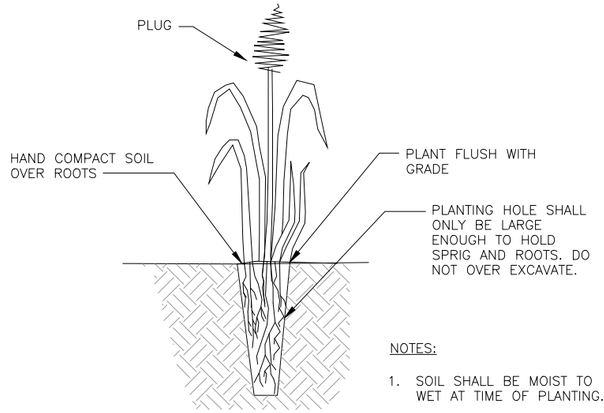


NOTES:

1. PLANT SHRUBS IN CLUSTERS OF UNEVEN NUMBERS (E.G. THREE, FIVE, SEVEN, ETC.)
2. PLANT ONE SPECIES OF SHRUBS IN CLUSTERS OF THREE, FIVE, SEVEN, ETC.
3. EVENLY SPACE CLUSTERS THROUGHOUT PLANTING AREA.
4. INTENT OF SHRUB PLANTING IS TO APPEAR NATURAL AND INFORMAL.

SHRUB SPACING AROUND TREES DETAIL (2 / –)

SCALE: NONE

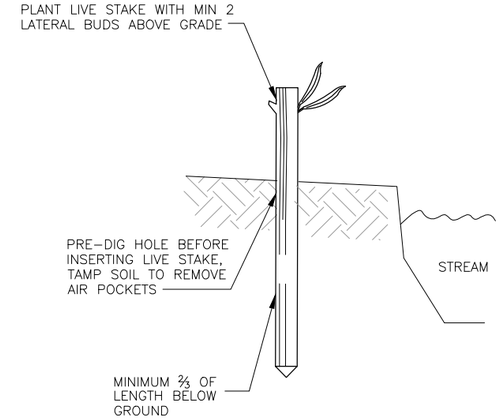


NOTES:

1. SOIL SHALL BE MOIST TO WET AT TIME OF PLANTING.

PLUG INSTALLATION DETAIL (3 / –)

SCALE: NONE



NOTES:

1. LIVE STAKE MUST COME INTO CONTACT WITH GROUNDWATER.

LIVE STAKE PLANTING DETAIL (4 / –)

SCALE: NONE

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NO.	REVISION	BY	DATE

DESIGNED: M.B. | CHECKED: M.E. | KENT PROJECT NO. 08-3017 | SCALE: HORIZ: NOTED
DRAWN: R.H. | PROJECT ENGR: M.E. | CONST. MGMT. REVIEW | VERT:
APPROVED: CITY ENGINEER | DATE NOV. 2013

BAR IS ONE INCH ON ORIGINAL DRAWING ADJUST SCALES ACCORDINGLY 0" 1"

City of Kent
Public Works Department
Engineering Division

PLANTING DETAILS

DOWNEY FARMSTEAD RESTORATION

SHEET P-4 OF 29

FILE NO. 0817P04

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