

# CARNOUSTIE - SEMIAHMOO

SECTION 14 AND 11, T 40 N, R 1 W  
BLAINE, WASHINGTON

CONTRACT DRAWINGS FOR:  
TRILLIUM CORPORATION

4350 CORDATA PARKWAY  
BELLINGHAM, WA 98226

CONSULTING ENGINEER:  
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RECORD DRAWING - 7/04/08

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## GENERAL NOTES

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH CITY OF BLAINE STANDARDS AND THE MOST CURRENT COPY OF THE STATE OF WASHINGTON STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL IN ACCORDANCE WITH M.U.T.C.D. PRIOR TO DISRUPTION OF ANY TRAFFIC. TRAFFIC CONTROL PLANS SHALL BE PREPARED AND SUBMITTED TO THE CITY OF APPROVAL. NO WORK SHALL COMMENCE UNTIL ALL APPROVED TRAFFIC CONTROL IS IN PLACE.
3. ALL CURB AND GUTTER, STREET GRADES SIDEWALK GRADES AND ANY OTHER VERTICAL AND /OR HORIZONTAL ALIGNMENT SHALL BE STAKED BY AN ENGINEERING OR SURVEYING FIRM CAPABLE OF PERFORMING SUCH A TASK.
4. WHERE NEW ASPHALT JOINS EXISTING, THE EXISTING ASPHALT SHALL BE SAWCUT TO A NEAT VERTICAL EDGE AND TACKED WITH ASPHALT EMULSION TYPE CSS-1 IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS. THE NEW ASPHALT SHALL BE RAKED AT THE INITIAL JOINT WITH THE EXISTING PAVEMENT TO REMOVE COARSE STONE PRIOR TO COMPACTION. THE JOINT SHALL BE SEALED WITH ASPHALT SEALING COMPOUND.
5. COMPACTION OF SUBGRADE, ROCK AND ASPHALT SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
6. FORM AND SUBGRADE INSPECTION BY THE CITY IS REQUIRED BEFORE POURING CONCRETE. TWENTY-FOUR HOURS NOTICE IS REQUIRED FOR FORM INSPECTION.
7. SEE CITY OF BLAINE DEVELOPMENT GUIDELINES AND PUBLIC WORKS STANDARDS FOR TESTING AND SAMPLING FREQUENCIES.
8. THE CONTRACTOR SHALL PROVIDE AND INSTALL APPROVED STREET NAME AND REGULATORY SIGNS AT THE CONTRACTOR'S/DEVELOPER'S EXPENSE.
9. CITY OF BLAINE'S INSPECTOR SHALL OBSERVE PLACEMENT AND INSTALLATION OF ALL WATER, SANITARY SEWER, AND STORM SEWER PIPE BEDDING MATERIAL, CREATION OF THE REQUISITE PIPE CRADLE IN THE RESPECTIVE PIPE BEDDING MATERIAL, INSTALLATION/CONNECTION OF THE PIPES THEMSELVES, AND BACKFILL PLACEMENT AND COMPACTION, TO ENSURE COMPLIANCE WITH CITY OF BLAINE DEVELOPMENT GUIDELINE AND PUBLIC WORKS STANDARD NO 6.14. CONTRACTOR SHALL COORDINATE AND SCHEDULE ALL OBSERVATIONS WITH CITY'S INSPECTOR, ALLOWING A MINIMUM OF FOUR (4) HOURS ADVANCE NOTICE. CITY'S INSPECTOR RESERVES THE RIGHT TO CATEGORICALLY REJECT, AND TO COMPEL COMPLETE RE-INSTALLATION OF, ANY AND ALL PORTIONS OF SAID INSTALLED PIPE THAT CITY INSPECTOR DID NOT OBSERVE AND DID NOT EXPLICITLY ACCEPT AS COMPLIANT WITH THE ABOVE STANDARD.

## AS-BUILT DRAWING CERTIFICATION

These drawings titled **CARNOUSTIE - SEMIAHMOO** reflect the work as constructed and all modifications meet the performance standards of the original design.



## LEGEND

EXISTING	PROPOSED	EXISTING	PROPOSED

## ABBREVIATIONS

WA	WATER	INV	INVERT
SS	SANITARY SEWER	EX	EXISTING
SD	STORM DRAIN	STA	STATION
SSMH	SANITARY MANHOLE	Δ	DELTA
SDMH	STORM MANHOLE	R	RADIUS
SDCB	STORM CATCH BASIN	L	LENGTH
FH	FIRE HYDRANT	PC	POINT OF CURVE
CL	CENTERLINE	PT	POINT OF TANGENCY



BLAINE, WA  
**CARNOUSTIE - SEMIAHMOO**  
COVER SHEET  
INDEX, NOTES, AND LEGEND

PROJECT NUMBER:  
TRLX0107

DATE: 7/17/07  
DESIGN: BOK  
DRAWN: BEM  
CHECKED:

SCALE: AS SHOWN

SHEET NO.  
**CV1**  
OF 31

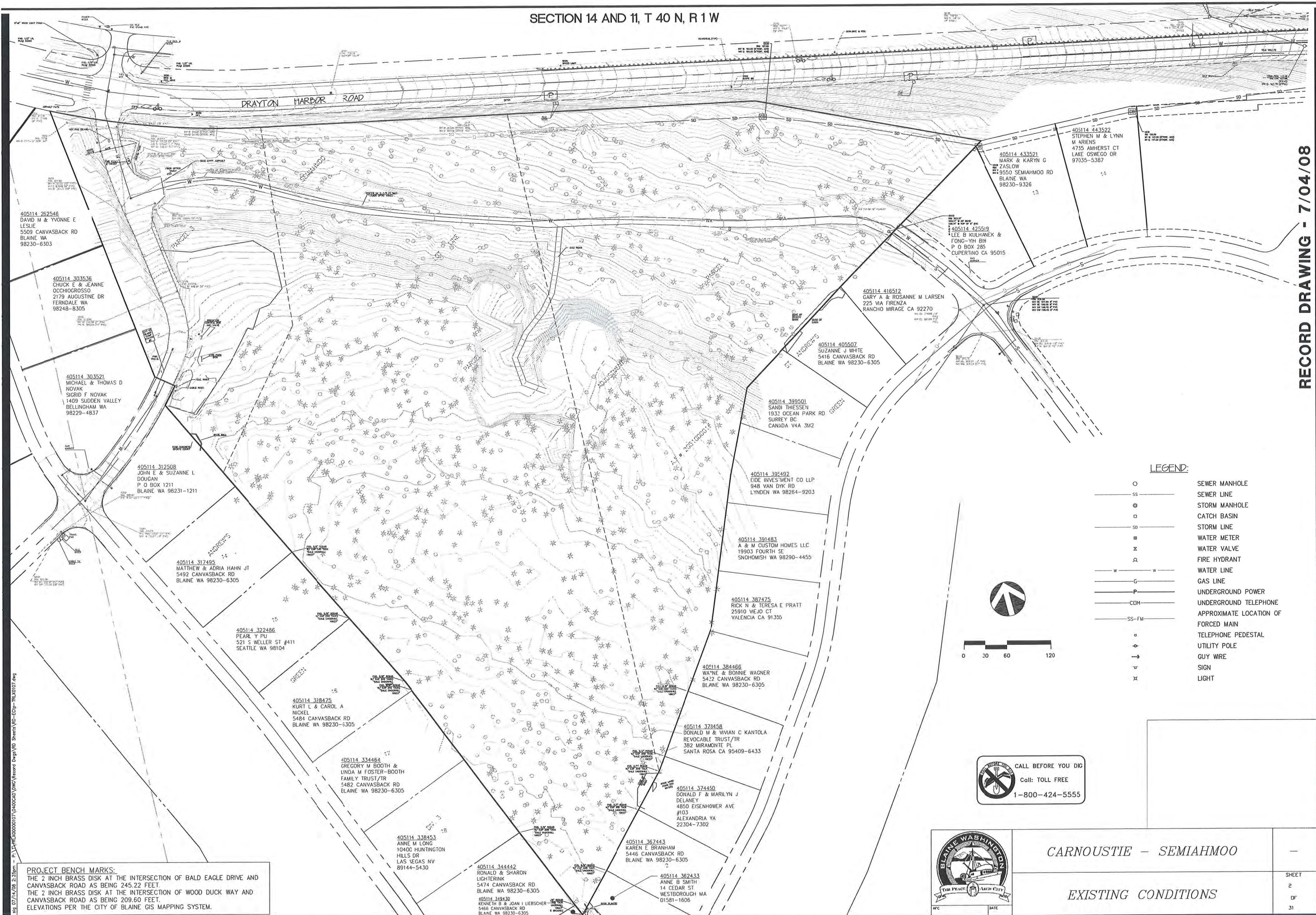


CARNOUSTIE - SEMIAHMOO

COVER SHEET



## SECTION 14 AND 11, T 40 N, R 1 W



**RECORD DRAWING - 7/04/08**



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**CARNOUSTIE - SEMIAHMOO**  
BLAINE, WA  
EXISTING CONDITIONS/  
TOPOGRAPHICAL SURVEY

PROJECT NUMBER:  
TRLX0107

DATE: 7/17/07  
DESIGN: BDK  
DRAWN: BEM  
CHECKED:

SCALE: AS SHOWN

SHEET NO.

SV-1  
OF 31

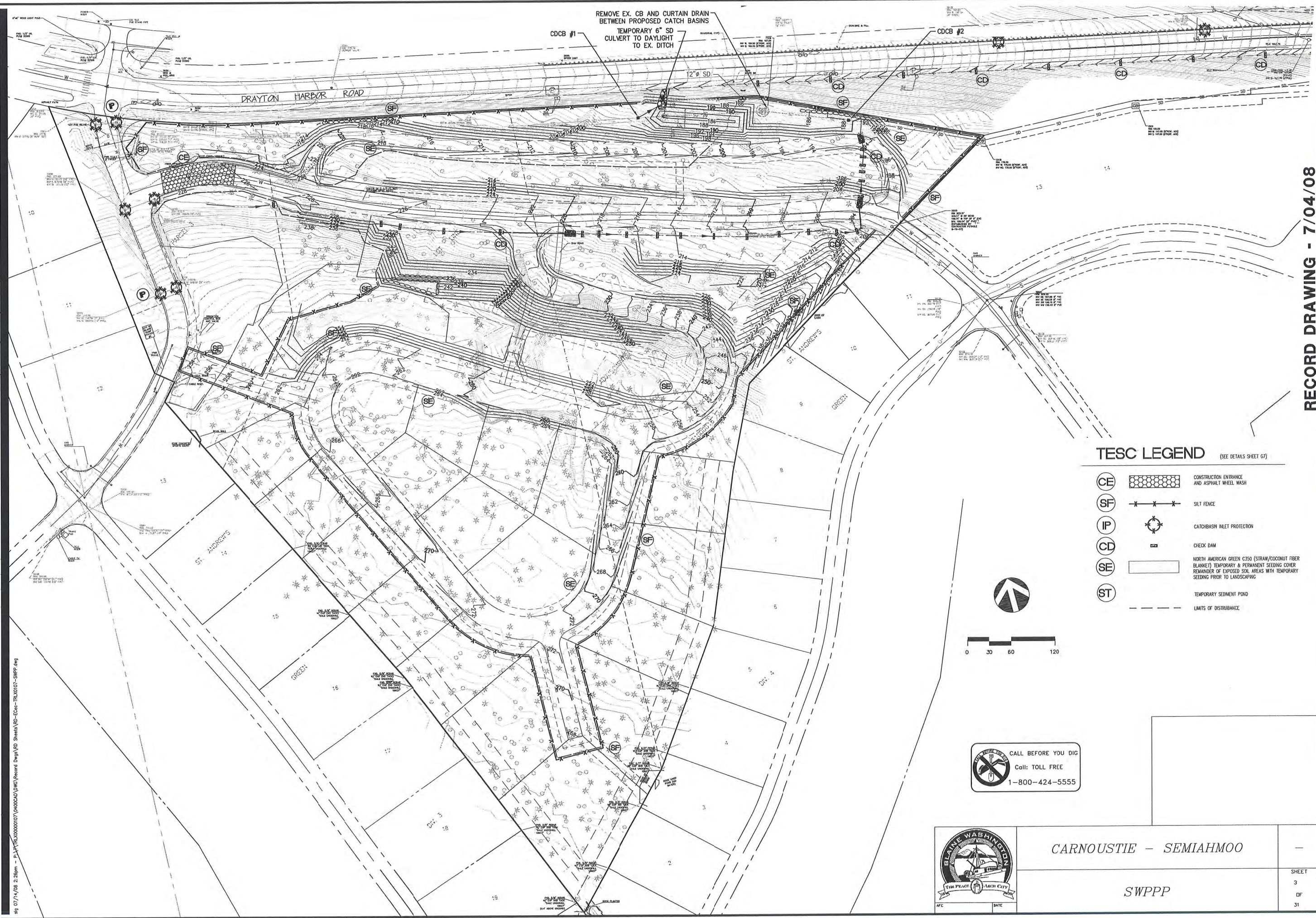
APPD.

NO. REVISIONS:

EXPIRES 05/09/10

Phone: 360.647.7151  
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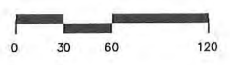




REMOVE EX. CB AND CURTAIN DRAIN  
BETWEEN PROPOSED CATCH BASINS  
TEMPORARY 6" SD  
CULVERT TO DAYLIGHT  
TO EX. DITCH

TESC LEGEND (SEE DETAILS SHEET G7)

- CE CONSTRUCTION ENTRANCE AND ASPHALT WHEEL WASH
- SF SILT FENCE
- IP CATCHBASIN INLET PROTECTION
- CD CHECK DAM
- SE NORTH AMERICAN GREEN C350 (STRAW/COCONUT FIBER BLANKET) TEMPORARY & PERMANENT SEEDING COVER REMAINDER OF EXPOSED SOIL AREAS WITH TEMPORARY SEEDING PRIOR TO LANDSCAPING
- ST TEMPORARY SEDIMENT POND
- LIMITS OF DISTURBANCE



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CARNOUSTIE - SEMIAHMOO

SWPPP

RECORD DRAWING - 7/04/08

BLAINE, WA  
CARNOUSTIE - SEMIAHMOO  
STORMWATER POLLUTION  
PREVENTION PLAN

PROJECT NUMBER:  
TRLX0107  
DATE: 7/17/07  
DESIGN: BDK  
DRAWN: BEM  
CHECKED:

SCALE: AS SHOWN  
SHEET NO.  
EC-1  
OF 31

NO. REVISIONS:  
APPD.



STORMWATER POLLUTION PREVENTION PLAN (SWPPP):

THIS STORMWATER POLLUTION PREVENTION PLAN IS PROVIDED IN ACCORDANCE WITH THE TERMS OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT FOR CONSTRUCTION ACTIVITIES FOR THIS PROJECT. THE CONTRACTOR IS ADVISED THAT THE PROJECT AREA DRAINS TO WETLANDS AND/OR STATE WATERS AND THAT THE CONTRACTOR IS RESPONSIBLE TO PROTECT THE RECEIVING WATERS FROM DELETERIOUS EFFECTS OF CONSTRUCTION.

THE CONTRACTOR IS REQUIRED TO HAVE A COPY OF THE NPDES PERMIT AS WELL AS THE SWPPP ON SITE AT ALL TIMES.

THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE EROSION CONTROL MEASURES SHOWN OR DESCRIBED IN THE CONTRACT DOCUMENTS AND ANY ADDITIONAL MEASURES THAT MAY BE REQUIRED BY THE CONTRACTORS MEANS AND METHODS OF CONSTRUCTION AS NEEDED TO CONTROL EROSION AND SEDIMENT AT THE CONSTRUCTION SITE AND TO PREVENT VIOLATION OF SURFACE WATER QUALITY, GROUND WATER QUALITY, OR SEDIMENT MANAGEMENT STANDARDS. EROSION CONTROL MEASURES SHALL BE MAINTAINED THROUGHOUT THE COURSE OF CONSTRUCTION AND UNTIL ALL DISTURBED EARTH IS STABILIZED IN FINISH GRADES.

THE FOLLOWING DESCRIBES HOW THE CONSTRUCTION SWPPP ADDRESSES EACH OF THE 12 REQUIRED ELEMENTS. REFER TO THESE PLANS FOR DRAWINGS OF THE PROJECT, VICINITY MAP, SITE MAP, CONVEYANCE SYSTEMS, EROSION AND SEDIMENT CONTROL MEASURES, AND EROSION AND SEDIMENT CONTROL DETAILS.

ELEMENT #1: PRESERVE VEGETATION/MARK CLEARING LIMITS

1. PRIOR TO BEGINNING LAND DISTURBING ACTIVITIES (INCLUDING CLEARING AND GRADING) CLEARLY MARK ALL CLEARING LIMITS AND TREES THAT ARE TO BE PRESERVED WITHIN THE CONSTRUCTION AREA AS SHOWN ON THE DRAWINGS.

2. SILT FENCE, GEOTEXTILE ENCASED BARRIERS, CONSTRUCTION FENCE, ORANGE PLASTIC FENCE, OR OTHER APPROVED MEASURES MAY BE USED TO MARK THE CLEARING LIMITS AT THE CONTRACTOR'S OPTION.

3. THE DUFF LAYER, NATIVE TOPSOIL, AND NATURAL VEGETATION SHALL BE RETAINED IN AN UNDISTURBED STATE TO THE MAXIMUM DEGREE PRACTICABLE.

SUGGESTED BMPs/BMPs TO BE USED:  
BMP C101: PRESERVING NATIVE VEGETATION

ELEMENT #2: ESTABLISH CONSTRUCTION ACCESS

1. CONSTRUCTION VEHICLE ACCESS AND EXIT SHALL BE LIMITED TO ONE ROUTE. REFER TO SHEET 1 OF THESE PLANS FOR THE CONSTRUCTION ENTRANCE LOCATION. ALL ACCESS/EXIT POINTS SHALL BE STABILIZED WITH QUARRY SPALLS, CRUSHED ROCK OR OTHER EQUIVALENT BMP, TO MINIMIZE THE TRACKING OF SEDIMENT ONTO PUBLIC ROADS.

2. IF THE STABILIZED CONSTRUCTION ENTRANCE IS NOT EFFECTIVE IN PREVENTING SEDIMENT FROM BEING TRACKED ONTO PUBLIC ROADS, WHEEL WASH OR TIRE BATHS SHALL BE LOCATED ON SITE.

3. IF SEDIMENT IS TRACKED OFF SITE, PUBLIC ROADS SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY, OR MORE FREQUENTLY DURING WET WEATHER. SEDIMENT SHALL BE REMOVED FROM ROADS BY SHOVELING OR PICKUP SWEEPING AND SHALL BE TRANSPORTED TO A CONTROLLED SEDIMENT DISPOSAL AREA.

4. STREET WASHING IS ALLOWED ONLY AFTER SEDIMENT IS REMOVED AS DESCRIBED ABOVE. STREET WASH WASTEWATER SHALL BE CONTROLLED BY PUMPING BACK ON SITE OR OTHERWISE BE PREVENTED FROM FROM DISCHARGING INTO SYSTEMS TRIBUTARY TO WATERS OF THE STATE.

SUGGESTED BMPs/BMPs TO BE USED:  
BMP C105: STABILIZED CONSTRUCTION ENTRANCE

ELEMENT #3: CONTROL FLOW RATES

1. PROPERTIES AND WATERWAYS DOWNSTREAM FROM DEVELOPMENT SITES SHALL BE PROTECTED FROM EROSION DUE TO INCREASES IN THE VELOCITY AND PEAK VOLUMETRIC FLOW RATE OF STORMWATER RUNOFF FROM THE PROJECT SITE.

SUGGESTED BMPs/BMPs TO BE USED:  
BMP C241: TEMPORARY SEDIMENT POND

ELEMENT #4: INSTALL SEDIMENT CONTROLS

1. THE DUFF LAYER, NATIVE SOIL, AND NATURAL VEGETATION SHALL BE RETAINED IN AN UNDISTURBED STATE TO THE MAXIMUM EXTENT PRACTICABLE.

2. SEDIMENT CONTROL BMPs SHALL BE CONSTRUCTED AS ONE OF THE FIRST STEPS IN GRADING. THESE BMPs SHALL BE FUNCTIONAL BEFORE OTHER LAND DISTURBING ACTIVITIES TAKE PLACE.

3. PRIOR TO LEAVING THE CONSTRUCTION SITE, STORMWATER RUNOFF FROM DISTURBED AREAS SHALL PASS THROUGH AN APPROPRIATE SEDIMENT REMOVAL BMP. RUNOFF FROM FULL STABILIZED AREAS MAY BE DISCHARGED WITHOUT A SEDIMENT REMOVAL BMP, BUT MUST MEET THE FLOW CONTROL PERFORMANCE STANDARD OF ELEMENT #3.

SUGGESTED BMPs/BMPs TO BE USED:  
BMP C233: SILT FENCE

ELEMENT #5: STABILIZE SOILS

1. EXPOSED AND UNWORKED SOILS SHALL BE STABILIZED BY APPLICATION OF EFFECTIVE BMPs THAT PROTECT THE SOIL FROM EROSION FORCES OF RAINDROPS, FLOWING WATER, AND WIND.

2. TO PREVENT EROSION, NO SOILS SHALL REMAIN EXPOSED AND UNWORKED FOR MORE THAN THE TIME PERIODS SET FORTH BELOW:

DURING THE WET SEASON (OCTOBER 1 – APRIL 30): 2 DAYS  
DURING THE DRY SEASON (MAY 1 – SEPT. 30): 7 DAYS

THIS STABILIZATION REQUIREMENT APPLIES TO ALL SOILS ON SITE, WHETHER AT FINAL GRADE OR NOT. THESE TIMES MAY BE ADJUSTED BY THE LOCAL PERMITTING AUTHORITY IF IT CAN BE SHOWN THAT SITE CONDITIONS OR THE AVERAGE TIME BETWEEN STORM EVENTS JUSTIFIES A DIFFERENT STANDARD.

3. SOILS SHALL BE STABILIZED AT THE END OF THE SHIFT BEFORE A HOLIDAY OR WEEKEND IF NEEDED BASED ON THE WEATHER FORECAST.

4. SOIL STOCKPILES SHALL BE STABILIZED FROM EROSION, PROTECTED WITH SEDIMENT TRAPPING MEASURES, AND WHERE POSSIBLE, BE LOCATED AWAY FROM STORM DRAIN INLETS, WATERWAYS, AND DRAINAGE CHANNELS.

5. APPLICABLE BMPs INCLUDE, BUT ARE NOT LIMITED TO: TEMPORARY AND PERMANENT SEEDING, SODDING, MULCHING, PLASTIC COVERING, EROSION CONTROL FABRICS AND MATTING, SOIL APPLICATION OF POLYACRYLAMIDE (PAM), THE EARLY APPLICATION OF GRAVEL BASE ON AREAS TO BE PAVED AND DUST CONTROL. SELECT SOIL STABILIZATION MEASURES SHALL BE APPROPRIATE FOR THE TIME OF YEAR, SITE CONDITIONS, ESTIMATED DURATION OF USE, AND THE POTENTIAL WATER QUALITY IMPACTS.

6. REMOVE ALL TESC MEASURES AS SOON AS PRACTICAL AFTER ESTABLISHMENT OF UNIFORM GRASS GROWTH OR INSTALLATION OF OTHER PERMANENT STABILIZATION MEASURES. REPAIR ANY DAMAGE TO STABILIZED SURFACES AFTER REMOVAL OF TESC MEASURES.

SUGGESTED BMPs/BMPs TO BE USED:  
BMP C120: TEMPORARY AND PERMANENT SEEDING  
BMP C121: MULCHING  
BMP C123: PLASTIC COVERING  
BMP C125: TOPSOILING  
BMP C140: DUST CONTROL

ELEMENT #6: PROTECT SLOPES

1. DESIGN, CONSTRUCT, AND PHASE CUT AND FILL SLOPES IN A MANNER THAT WILL MINIMIZE EROSION. APPLICABLE PRACTICES INCLUDE, BUT ARE NOT LIMITED TO, REDUCING CONTINUOUS LENGTH OF SLOPE WITH TERRACING AND DIVERSIONS, REDUCING SLOPE STEEPNESS, AND ROUGHENING SLOPE SURFACES (e.g., TRACK WALKING).

2. OFF-SITE STORMWATER RUN-ON OR GROUNDWATER SHALL BE DIVERTED AWAY FROM SLOPES AND DISTURBED AREAS WITH INTERCEPTOR DIKES, PIPES, AND/OR SWALES. OFF-SITE STORMWATER SHOULD BE MANAGED SEPARATELY FROM STORMWATER GENERATED ON THE SITE.

3. DO NOT CLEAR AND GRUB SLOPES GREATER THAN 4 (HORIZONTAL):1 (VERTICAL) UNLESS FURTHER WORK RESULTING IN STABILIZATION OF THE SLOPES TO BE CLEARED AND GRUBBED IS SCHEDULED.

4. EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES, CONSISTENT WITH SAFETY AND SPACE CONSIDERATIONS.

5. CHECK DAMS SHALL BE PLACED AT REGULAR INTERVALS WITHIN CONSTRUCTED CHANNELS THAT ARE CUT DOWN A SLOPE.

SUGGESTED BMPs/BMPs TO BE USED:  
BMP C120: TEMPORARY AND PERMANENT SEEDING  
BMP C200: INTERCEPTOR DIKE AND SWALE  
BMP C207: CHECK DAMS  
BMP C208: TRIANGULAR SILT DIKE

ELEMENT #7: PROTECT DRAIN INLETS

1. ALL STORM DRAIN INLETS OPERABLE DURING CONSTRUCTION AND ALL INLETS WITHIN 200' DOWNSTREAM OF THE PROJECT SITE SHALL BE PROTECTED WITH CATCH BASIN FILTERS SO THAT STORMWATER RUNOFF DOES NOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR TREATED TO REMOVE SEDIMENT. CATCH BASIN FILTERS IN THE ROADWAY WILL BE OIL/SEDIMENT FILTERS AND CATCH BASIN FILTERS OUTSIDE OF THE ROADWAY WILL BE SEDIMENT FILTERS.

2. APPROACH ROADS SHALL BE KEPT CLEAN. SEDIMENT AND STREET WASH WATER SHALL NOT BE ALLOWED TO ENTER STORM DRAINS WITHOUT PRIOR AND ADEQUATE TREATMENT.

3. INLET PROTECTION DEVICES SHOULD BE CLEANED OR REMOVED AND REPLACED WHEN SEDIMENT HAS FILLED ONE-THIRD OF THE AVAILABLE STORAGE (OR WHEN FILLED WITH SIX-INCHES OF SEDIMENT).

BMPs TO BE USED:  
BMP C220: STORM DRAIN INLET PROTECTION

ELEMENT #8: STABILIZE CHANNELS AND OUTLETS

1. ALL TEMPORARY ON-SITE CONVEYANCE CHANNELS SHALL BE DESIGNED, CONSTRUCTED AND STABILIZED TO PREVENT EROSION FROM THE EXPECTED PEAK 10 MINUTE VELOCITY OF FLOW FROM A TYPE 1A, 10-YR, 24-HR FREQUENCY STORM FOR THE DEVELOPED CONDITION. ALTERNATIVELY, THE 10-YR, 1-HR FLOW RATE INDICATED BY AN APPROVED CONTINUOUS RUNOFF MODEL, INCREASED BY A FACTOR OF 1.6, MAY BE USED.

2. STABILIZATION, INCLUDING ARMORING MATERIAL, ADEQUATE TO PREVENT EROSION OF OUTLETS, ADJACENT STREAM BANKS, SLOPES, AND DOWNSTREAM REACHES SHALL BE PROVIDED AT THE OUTLETS OF ALL CONVEYANCE SYSTEMS.

SUGGESTED BMPs/BMPs TO BE USED:  
BMP C202: CHANNEL LINING  
BMP C209: OUTLET PROTECTION

ELEMENT #9: CONTROL POLLUTANTS

1. ALL POLLUTANTS, INCLUDING WASTE MATERIALS AND DEMOLITION DEBRIS, THAT OCCUR ONSET SHALL BE HANDLED AND DISPOSED OF IN A MANNER THAT DOES NOT CAUSE CONTAMINATION OF STORMWATER.

2. COVER, CONTAINMENT, AND PROTECTION FROM VANDALISM SHALL BE PROVIDED FOR ALL CHEMICALS, LIQUID PRODUCTS, PETROLEUM PRODUCTS, AND OTHER MATERIALS THAT HAVE THE POTENTIAL TO POSE A THREAT TO HUMAN HEALTH OR THE ENVIRONMENT. ON-SITE FUELING TANKS SHALL INCLUDE SECONDARY CONTAINMENT.

3. MAINTENANCE, FUELING, AND REPAIR OF HEAVY EQUIPMENT AND VEHICLES SHALL BE CONDUCTED USING SPILL PREVENTION AND CONTROL MEASURES. CONTAMINATED SURFACES SHALL BE CLEANED IMMEDIATELY FOLLOWING ANY SPILL INCIDENT.

4. WHEEL WASH OR TIRE BATH WASTEWATER SHALL BE DISCHARGED TO A SEPARATE ON-SITE TREATMENT SYSTEM OR TO THE SANITARY SEWER WITH LOCAL SEWER DISTRICT APPROVAL.

5. APPLICATION OF FERTILIZERS AND PESTICIDES, SHALL BE CONDUCTED IN A MANNER AND AT APPLICATION RATES THAT WILL NOT RESULT IN LOSS OF CHEMICAL TO STORMWATER RUNOFF. MANUFACTURERS' LABEL REQUIREMENTS FOR APPLICATION RATES AND PROCEDURES SHALL BE FOLLOWED.

6. BMPs SHALL BE USED TO PREVENT OR TREAT CONTAMINATION OF STORMWATER RUNOFF BY pH MODIFYING SOURCES. THESE SOURCES INCLUDE, BUT ARE NOT LIMITED TO: BULK CEMENT, CEMENT KILN DUST, FLY ASH, NEW CONCRETE WASHING AND CURING WATERS, WASTE STREAMS GENERATED FROM CONCRETE GRINDING AND SAWING, EXPOSED AGGREGATE PROCESSES, AND CONCRETE PUMPING AND MIXER WASHOUT WATERS. PERMITTEES SHALL ADJUST THE pH OF STORMWATER IF NECESSARY TO PREVENT VIOLATIONS OF WATER QUALITY STANDARDS.

7. PERMITTEES SHALL OBTAIN WRITTEN APPROVAL FROM ECOLOGY PRIOR TO USING CHEMICAL TREATMENT, OTHER THAN CARBON DIOXIDE OR DRY ICE TO ADJUST pH.

SUGGESTED BMPs/BMPs TO BE USED:  
BMP C151: CONCRETE HANDLING  
BMP C152: SAWCUTTING AND SURFACING POLLUTION PREVENTION

ELEMENT #10: CONTROL DEWATERING

1. FOUNDATION, VAULT, AND TRENCH DE-WATERING WATER, WHICH HAVE SIMILAR CHARACTERISTICS TO STORMWATER RUNOFF AT THE SITE, SHALL BE DISCHARGED INTO A CONTROLLED CONVEYANCE SYSTEM PRIOR TO DISCHARGE TO A SEDIMENT TRAP OR SEDIMENT POND.

2. CLEAN, NON-TURBID DE-WATERING WATER, SUCH AS WELL-POINT GROUND WATER, CAN BE DISCHARGED TO SYSTEMS TRIBUTARY TO, OR DIRECTLY INTO SURFACE WATERS OF THE STATE, AS SPECIFIED IN ELEMENT #9, PROVIDED THE DE-WATERING FLOW DOES NOT CAUSE EROSION OR FLOODING OF RECEIVING WATERS. CLEAN DE-WATERING WATER SHOULD NOT BE ROUTED THROUGH STORMWATER SEDIMENT PONDS.

3. OTHER DE-WATERING DISPOSAL OPTIONS MAY INCLUDE:

- a) INFILTRATION.
- b) TRANSPORT OFF SITE IN A VEHICLE, SUCH AS A VACUUM FLUSH TRUCK, FOR LEGAL DISPOSAL IN A MANNER THAT DOES NOT POLLUTE STATE WATERS.
- c) ECOLOGY APPROVED ON-SITE CHEMICAL TREATMENT OR OTHER SUITABLE TREATMENT TECHNOLOGIES.
- d) SANITARY SEWER DISCHARGE WITH LOCAL SEWER DISTRICT APPROVAL, IF THERE IS NO OTHER OPTION.
- e) USE OF A SEDIMENTATION BAG (DIRTBAG OR APPROVED EQUAL) WITH OFFFALL TO A DITCH OR SWALE FOR SMALL VOLUMES OF LOCALIZED DE-WATERING.

4. HIGHLY TURBID CONTAMINATED DEWATERING WATER FROM CONSTRUCTION EQUIPMENT OPERATION, CLAMSHELL DIGGING, CONCRETE TREMIE POUR, OR WORK INSIDE A COFFERDAM SHALL BE HANDLED SEPARATELY FROM STORMWATER.

ELEMENT #11: MAINTAIN BMPs

1. INSPECT EROSION CONTROL DEVICES ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. MAKE NECESSARY REPAIRS AND MAINTENANCE TO ENSURE CONTINUED PERFORMANCE OF EROSION AND SEDIMENT CONTROLS.

2. WHEN SEDIMENT ACCUMULATION IN SEDIMENTATION STRUCTURES, OTHER THAN INLET PROTECTION DEVICES, HAS REACHED A POINT ONE-THIRD DEPTH OF SEDIMENT STRUCTURE OR DEVICE, OR IF FLOW THROUGH THE DEVICE IS REDUCED BY MORE THAN ONE-THIRD CAPACITY, THE CONTRACTOR SHALL REMOVE AND REPLACE DISPOSABLE DEVICES OR CLEAN AND DISPOSE OF SEDIMENT.

3. TEMPORARY EROSION AND SEDIMENT CONTROL BMPs SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY BMPs ARE NO LONGER NEEDED. TRAPPED SEDIMENT SHALL BE REMOVED OR STABILIZED ON SITE. DISTURBED SOILS SHALL BE PERMANENTLY STABILIZED.

ELEMENT #12: MANAGE THE PROJECT

- 1. PHASING OF CONSTRUCTION:
  - a) DEVELOPMENT PROJECTS SHALL BE PHASED WHERE FEASIBLE IN ORDER TO PREVENT, TO THE MAXIMUM EXTENT PRACTICABLE, THE TRANSPORT OF SEDIMENT FROM THE DEVELOPMENT SITE DURING CONSTRUCTION. REVEGETATION OF EXPOSED AREAS AND MAINTENANCE OF THAT VEGETATION SHALL BE AN INTEGRAL PART OF THE CLEARING ACTIVITIES FOR ANY PHASE.
  - b) CLEARING AND GRADING ACTIVITIES FOR DEVELOPMENTS SHALL BE PERMITTED ONLY IF CONDUCTED PURSUANT TO AN APPROVED SITE DEVELOPMENT PLAN (e.g., SUBDIVISION APPROVAL) THAT ESTABLISHES APPROVED AREAS OF CLEARING, GRADING, CUTTING AND FILLING. WHEN ESTABLISHING THESE PERMITTED CLEARING AND GRADING AREAS, CONSIDERATION SHOULD BE GIVEN TO MINIMIZING REMOVAL OF EXISTING TREES AND MINIMIZING DISTURBANCE AND COMPACTION OF NATIVE SOILS EXCEPT AS NEEDED FOR BUILDING PURPOSES. THESE PERMITTED CLEARING AND GRADING AREAS AND ANY OTHER AREAS REQUIRED TO PRESERVE CRITICAL OR SENSITIVE AREAS, BUFFERS, NATIVE GROWTH PROTECTION EASEMENTS, OR TREE RETENTION AREAS AS MAY BE REQUIRED BY LOCAL JURISDICTIONS, SHALL BE DELINEATED ON THE SITE PLANS AND THE DEVELOPMENT SITE.
- 2. SEASONAL WORK LIMITATIONS:
  - FROM OCTOBER 1 THROUGH APRIL 30, CLEARING, GRADING, AND OTHER SOIL DISTURBING ACTIVITIES SHALL ONLY BE PERMITTED IF SHOWN TO THE SATISFACTION OF THE LOCAL PERMITTING AUTHORITY THAT THE TRANSPORT OF SEDIMENT FROM THE CONSTRUCTION SITE TO RECEIVING WATERS WILL BE PREVENTED THROUGH A COMBINATION OF THE FOLLOWING:
    - a) SITE CONDITIONS INCLUDING EXISTING VEGETATIVE COVERAGE, SLOPE, SOIL TYPE, AND PROXIMITY TO RECEIVING WATERS; AND
    - b) LIMITATIONS OF ACTIVITIES AND THE EXTEND OF DISTURBED AREAS; AND
    - c) PROPOSED EROSION AND SEDIMENT CONTROL MEASURES.

BASED ON THE INFORMATION PROVIDED AND LOCAL WEATHER CONDITIONS, THE LOCAL PERMITTING AUTHORITY MAY EXPAND OR RESTRICT THE SEASONAL LIMITATION ON SITE DISTURBANCE. THE LOCAL PERMITTING AUTHORITY SHALL TAKE ENFORCEMENT ACTION – SUCH AS NOTICE OF VIOLATION, ADMINISTRATIVE ORDER, PENALTY, OR STOP-WORK ORDER UNDER THE FOLLOWING CIRCUMSTANCES:

- IF, DURING THE COURSE OF ANY CONSTRUCTION ACTIVITY OR SOIL DISTURBANCE DURING THE SEASONAL LIMITATION PERIOD, SEDIMENT LEAVES THE CONSTRUCTION SITE CAUSING A VIOLATION OF THE SURFACE WATER QUALITY STANDARD; OR
- IF CLEARING AND GRADING LIMITS OR EROSION AND SEDIMENT CONTROLS MEASURES SHOWN IN THE APPROVED PLAN ARE NOT MAINTAINED.

THE FOLLOWING ACTIVITIES ARE EXEMPT FROM THE SEASONAL CLEARING AND GRADING LIMITATIONS:

- a) ROUTINE MAINTENANCE AND NECESSARY REPAIR OF EROSION AND SEDIMENT CONTROL BMPs;
- b) ROUTINE MAINTENANCE OF PUBLIC FACILITIES OR EXISTING UTILITY STRUCTURES THAT DO NOT EXPOSE THE SOIL OR RESULT IN THE REMOVAL OF THE VEGETATIVE COVER TO SOIL; AND
- c) ACTIVITIES WHERE THERE IS ONE HUNDRED PERCENT INFILTRATION OF SURFACE WATER RUNOFF WITHIN THE SITE IN APPROVED AND INSTALLED EROSION AND SEDIMENT CONTROL FACILITIES.

3. COORDINATE WITH UTILITIES AND OTHER CONTRACTORS  
THE PRIMARY PROJECT PROPOSITOR SHALL EVALUATE, WITH INPUT FROM UTILITIES AND OTHER CONTRACTORS, THE STORMWATER MANAGEMENT REQUIREMENTS FOR THE ENTIRE PROJECT, INCLUDING THE UTILITIES, WHEN PREPARING THE CONSTRUCTION SWPPP.

- 4. INSPECTION AND MONITORING:
  - a) A CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL SHALL BE IDENTIFIED AT THE PRE-CONSTRUCTION MEETING AND SHALL BE ON-SITE OR ON-CALL AT ALL TIMES. EMERGENCY CONTACT INFORMATION SHALL BE KEPT ON-SITE. CERTIFICATION MAY BE THROUGH THE CONSTRUCTION SITE EROSION AND SEDIMENT CONTROL CERTIFICATION PROGRAM OFFERED BY WSDOT, ASSOCIATED GENERAL CONTRACTORS OF WASHINGTON – EDUCATION FOUNDATION, OR ANY EQUIVALENT LOCAL OR NATIONAL CERTIFICATION AND/OR TRAINING PROGRAM.
  - b) IF INSPECTION AND/OR WATER MONITORING OF SITE RUNOFF REVEALS THAT THE BMPs IDENTIFIED IN THE CONSTRUCTION SWPPP ARE INADEQUATE, THE CONTRACTOR SHALL IMMEDIATELY ADD BMPs TO THE SWPPP AS NECESSARY.

4. THE CONSTRUCTION SWPPP SHALL BE RETAINED ON-SITE. THE CONTRACTOR'S TESC RECORD OF RAINFALL, TESC MEASURES, AND INSPECTION SHALL BECOME PART OF THE SWPPP. THE CONSTRUCTION SWPPP SHALL BE MODIFIED BY THE CONTRACTOR'S TESC RECORD WHENEVER THERE IS A SIGNIFICANT CHANGE IN THE DESIGN, CONSTRUCTION, OPERATION, OR MAINTENANCE OF ANY BMP.

NARRATIVE:

THE NATURE AND PURPOSE OF THIS CONSTRUCTION PROJECT IS TO CONSTRUCT A 16.25-ACRE PLANNED UNIT DEVELOPMENT IN BLAINE, WASHINGTON. THE DEVELOPED SITE WILL COMPRISE APPROXIMATELY 1.12-ACRES FORESTED, 10.09-ACRES LANDSCAPED AND 5.04-ACRES IMPERVIOUS SURFACE. APPROXIMATELY 17,000 C.Y. OF MATERIAL WILL BE REMOVED OFFSITE, APPROXIMATELY 11,000 C.Y. WILL BE MOVED FROM CUT TO FILL.

THE EXISTING SITE CONDITIONS--THIS EXISTING SITE IS PRESENTLY FORESTED AND SLOPES TOWARD THE NORTHEAST.

THE AREAS ADJACENT TO THE PROPOSED PROJECT ARE DEVELOPED WITH SINGLE FAMILY HOMES TO THE SOUTH, EAST, AND WEST. DRAYTON HARBOR ROAD BORDERS THE SITE TO THE NORTH. THE PROPERTIES TO THE SOUTH, EAST, AND WEST SLOPE AWAY FROM THE PROPOSED SITE. THE SITE CURRENTLY DRAINS TO THE NORTH INTO A ROADSIDE DITCH ALONG DRAYTON HARBOR ROAD EVENTUALLY DISCHARGING TO DRAYTON HARBOR VIA A 36" CMP CULVERT APPROXIMATELY 1,000 FEET TO THE EAST.

CRITICAL AREAS--THE 36" CMP CULVERT THAT DISCHARGE INTO DRAYTON HARBOR WILL BE RETROFITTED TO HELP DISSIPATE FLOWS DOWN THE ROCKY SLOPES TO DRAYTON HARBOR. A SHORELINE PERMIT WILL BE REQUIRED FOR THIS WORK.

SOIL--ACCORDING TO THE SOIL SURVEY OF WHATCOM COUNTY AREA, WASHINGTON PUBLISHED BY THE SOIL CONSERVATION SERVICE, THE SOILS UNDERLYING THE TRIBUTARY AREA COMPRISED OF THE EVERETT (#48, #49 AND #51) SOIL SERIES, A VERY GRAVELLY SANDY LOAM. THE SOIL IS CLASSIFIED AS A HYDROLOGIC GROUP A/B. AS NOTED IN THE GEOTECHNICAL REPORT, THE SAND AND GRAVEL SURFACE SOILS ARE ONLY A FEW FEET THICK AND ARE UNDERLAIN WITH TILL SOIL. THIS CONDITION ALLOWS FOR RAINFALL TO INFILTRATE QUICKLY TO THE TILL LAYER AND THEN TO INTERFLOW DOWN GRADIENT ALONG THE TOP OF THE TILL LAYER.

RECORD DRAWING - 7/04/08

BLAINE, WA

CARNOUSTIE - SEMIAHMOO  
STORMWATER POLLUTION  
PREVENTION PLAN - NOTES AND DETAILS

DAVID EVANS  
AND ASSOCIATES INC.

119 Grand Avenue, Suite D  
Bellingham, Washington 98225  
Phone: 360.647.7151  
Fax: 360.647.7160



NO.	REVISIONS:	APPD.

PROJECT NUMBER:

TRLX0107

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SCALE: AS SHOWN

SHEET NO.

EC-2  
OF 31

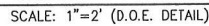
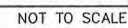
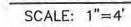


CARNOUSTIE - SEMIAHMOO

SWPPP

SHEET  
4  
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31







PROJECT BENCH MARKS:  
 THE 2 INCH BRASS DISK AT THE INTERSECTION OF BALD EAGLE DRIVE AND  
 CANVASBACK ROAD AS BEING 245.22 FEET.  
 THE 2 INCH BRASS DISK AT THE INTERSECTION OF WOOD DUCK WAY AND  
 CANVASBACK ROAD AS BEING 209.60 FEET.  
 ELEVATIONS PER THE CITY OF BLAINE GIS MAPPING SYSTEM.

RECORD DRAWING - 7/04/08



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BLAINE, WA  
**CARNOUSTIE - SEMIAHMOO**  
 ROADWAY AND STORM DRAINAGE  
 KEY MAP

PROJECT NUMBER:

TRLX0107

DATE: 7/17/07

DESIGN: BDK

DRAWN: BEM

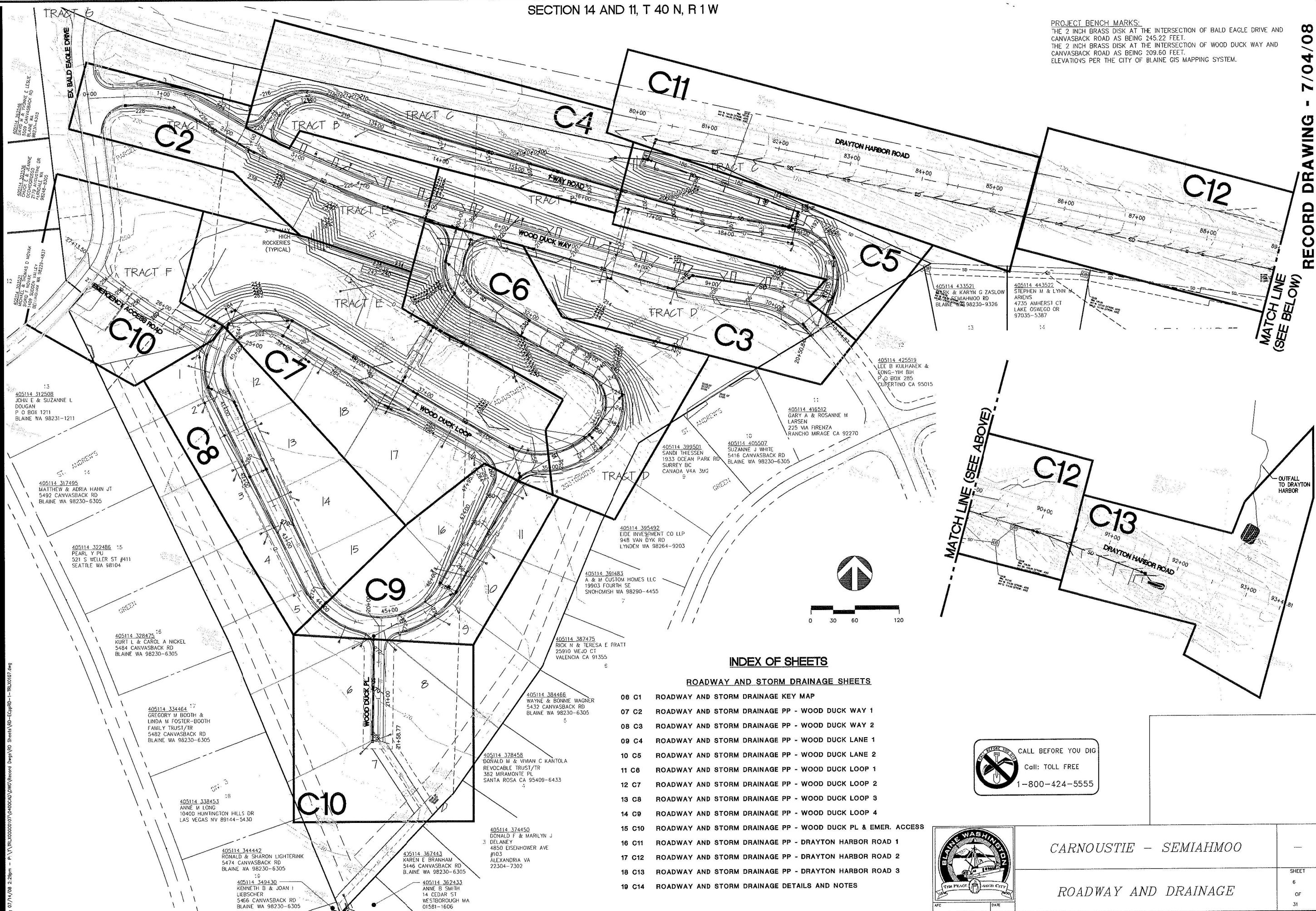
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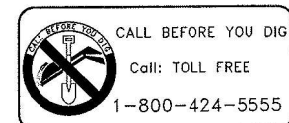
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CARNOUSTIE - SEMIAHMOO

ROADWAY AND DRAINAGE

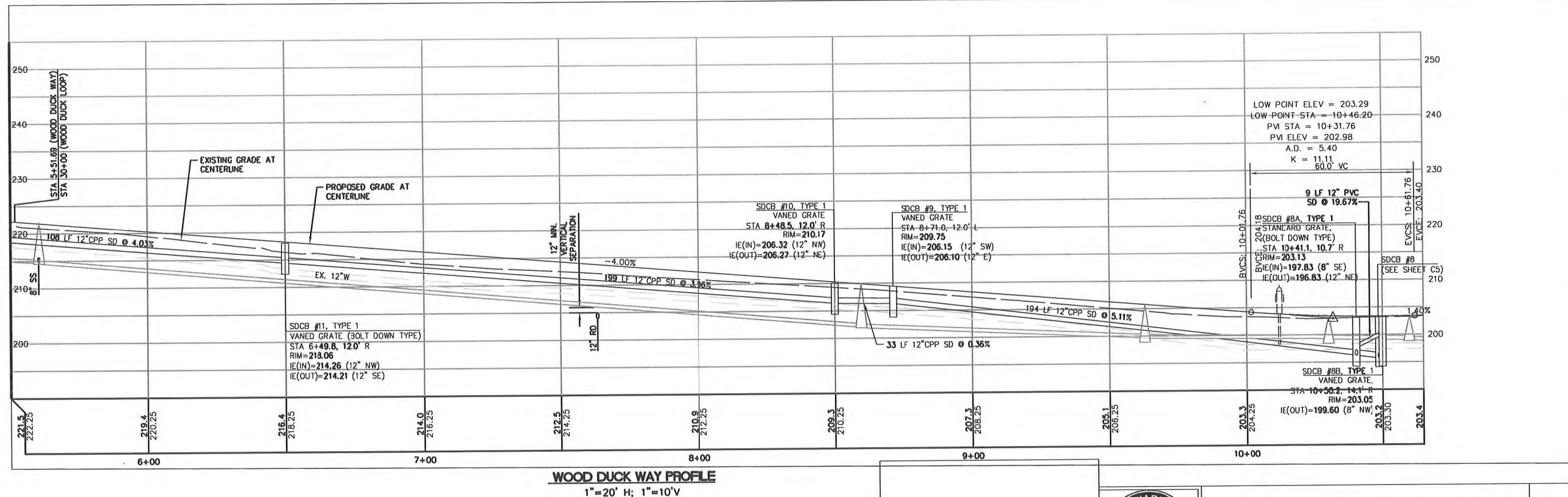
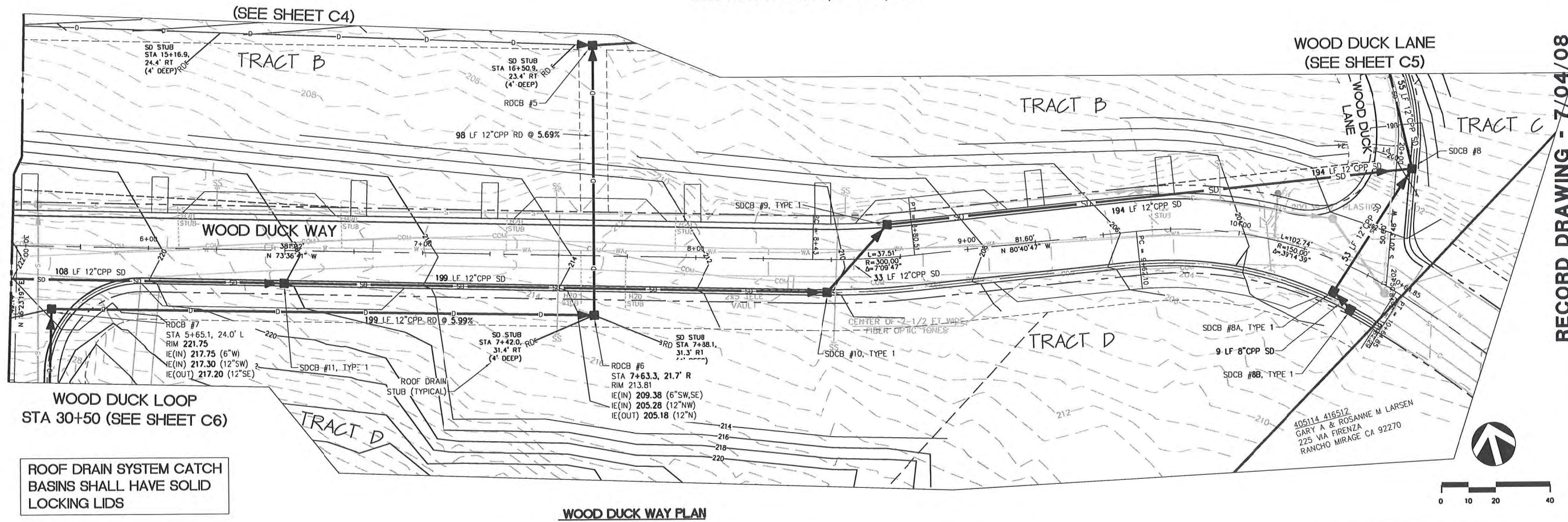
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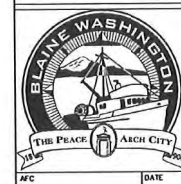




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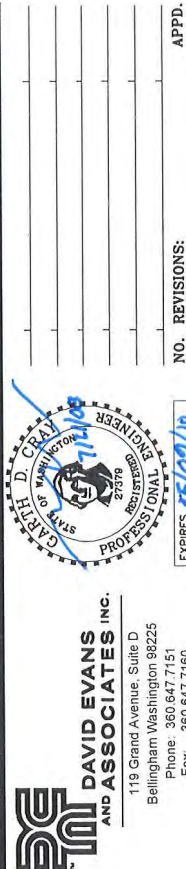


*CARNOUSTIE - SEMIAHMOO*

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*ROADWAY AND DRAINAGE*





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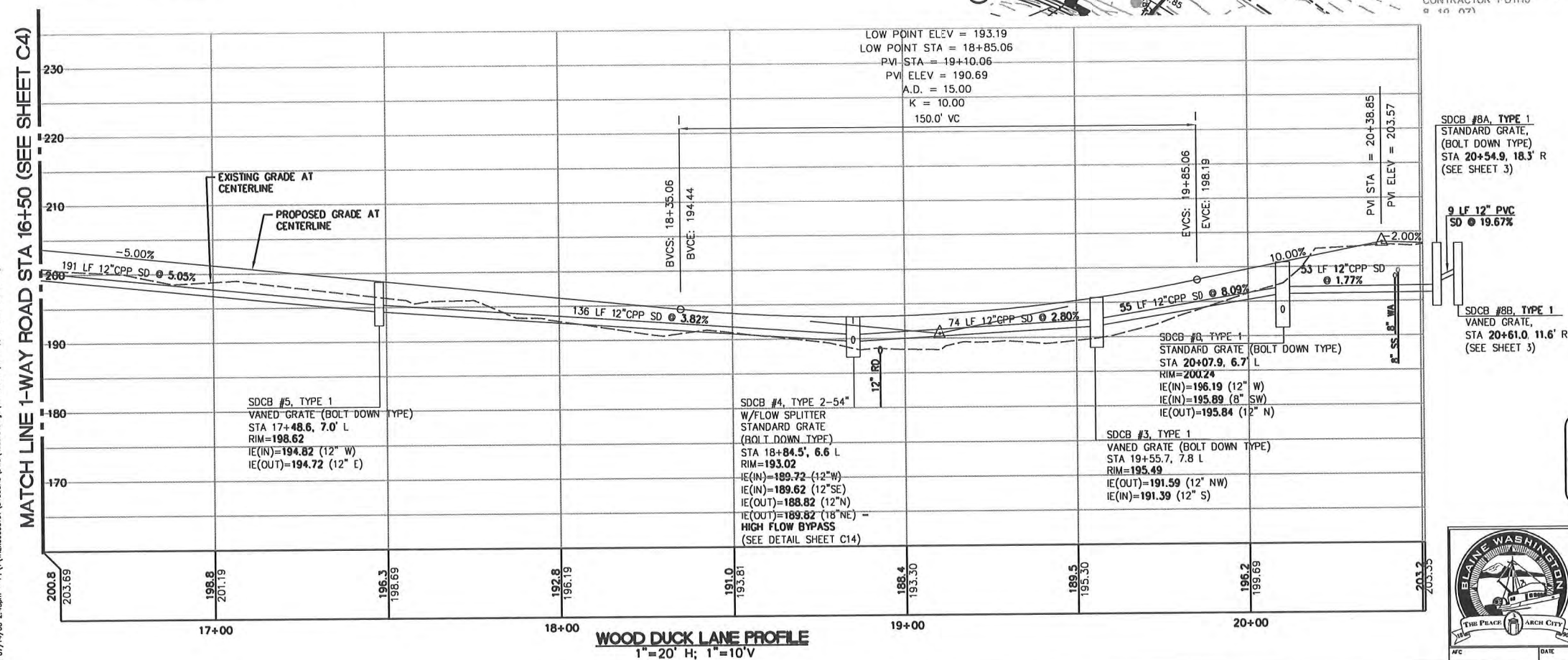
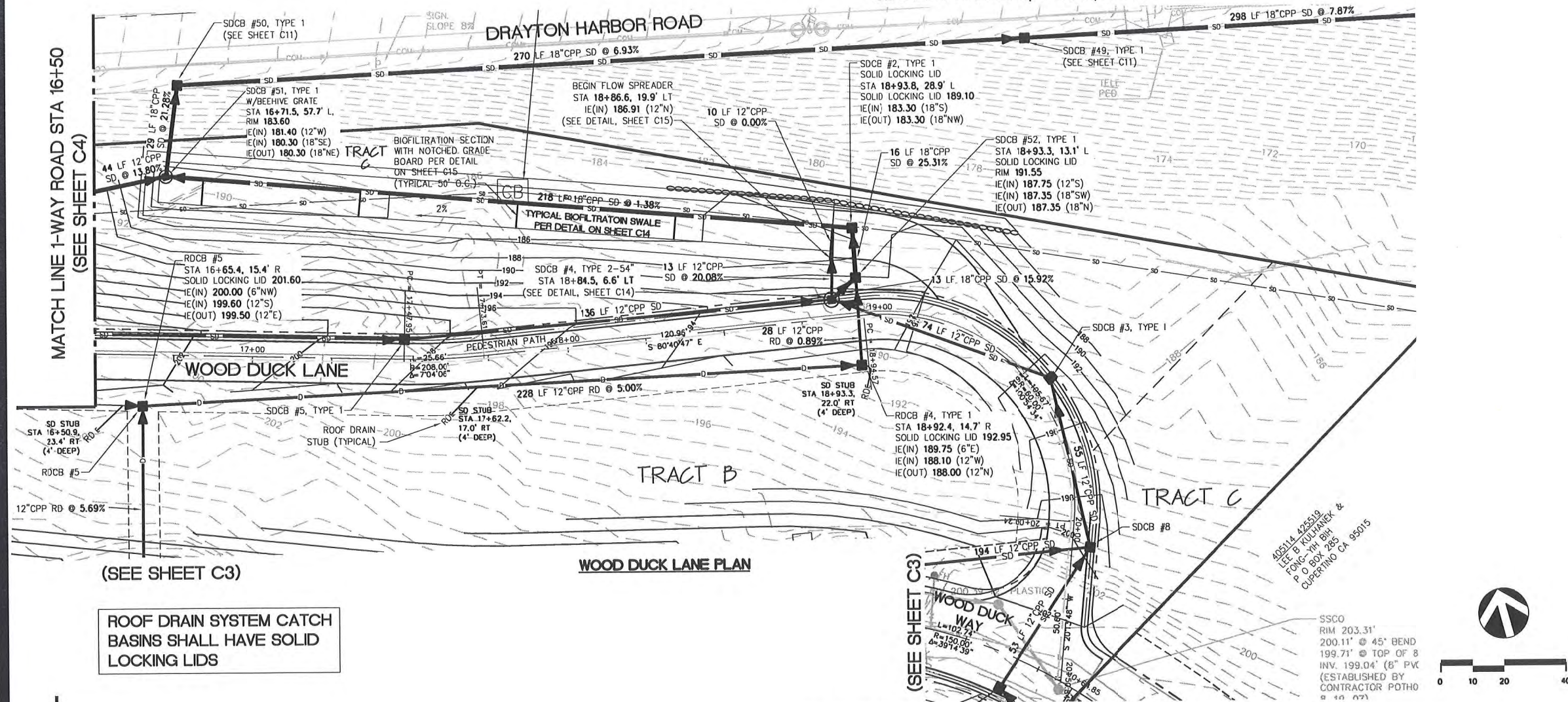
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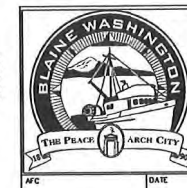
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## ROADWAY AND DRAINAGE

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**CARNOUSTIE - SEMIAHMOO  
BLAINE, WA  
BROADWAY AND STORM DRAINAGE PP  
1-WAY ROAD 2**

**PROJECT NUMBER:**  
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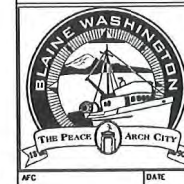
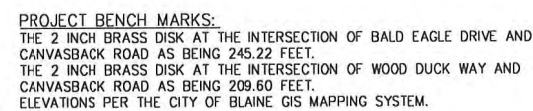
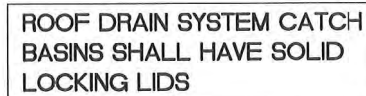
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**C5**  
OF 31

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## ROADWAY AND DRAINAGE

SCALE:

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**C6**

OF **31**

BLAINE, WA

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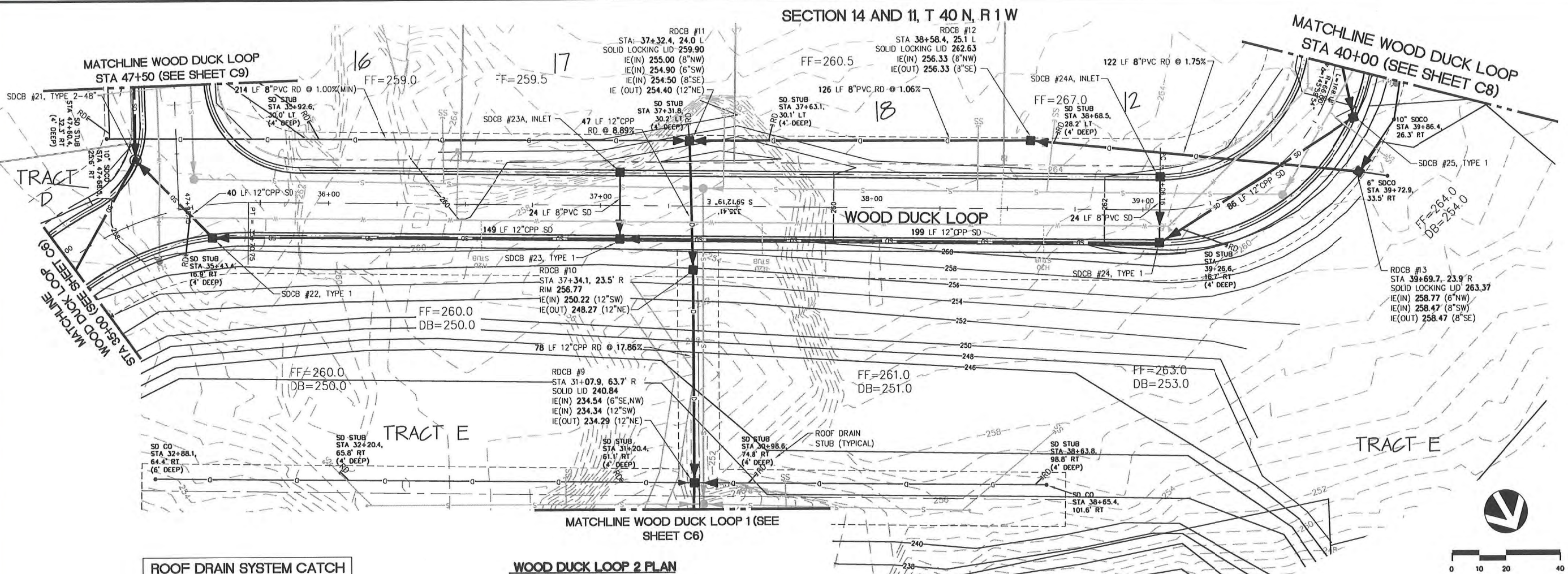
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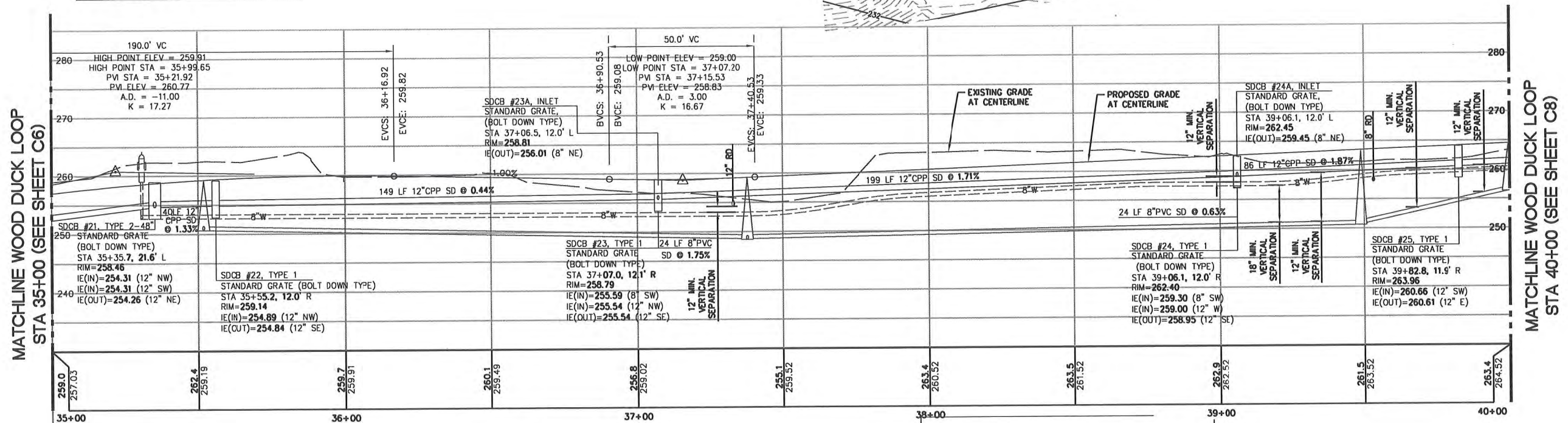
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NO. REVISIONS:





ROOF DRAIN SYSTEM CATCH  
BASINS SHALL HAVE SOLID  
LOCKING LIDS



**WOOD DUCK LOOP 2 PROFILE**  
1"=20' H; 1"=10'V

PROJECT BENCH MARKS:  
THE 2 INCH BRASS DISK AT THE INTERSECTION OF BALD EAGLE DRIVE AND  
CANVASBACK ROAD AS BEING 245.22 FEET.  
THE 2 INCH BRASS DISK AT THE INTERSECTION OF WOOD DUCK WAY AND  
CANVASBACK ROAD AS BEING 205.60 FEET.  
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CARNoustie – SEMIAHMOO

## ROADWAY AND DRAINAGE

BLAINE, WA

**CARNOUSTIE - SEMIAHMOO  
ROADWAY AND STORM DRAINAGE PP  
WOOD DUCK LOOP 2**

PROJECT NUMBER:

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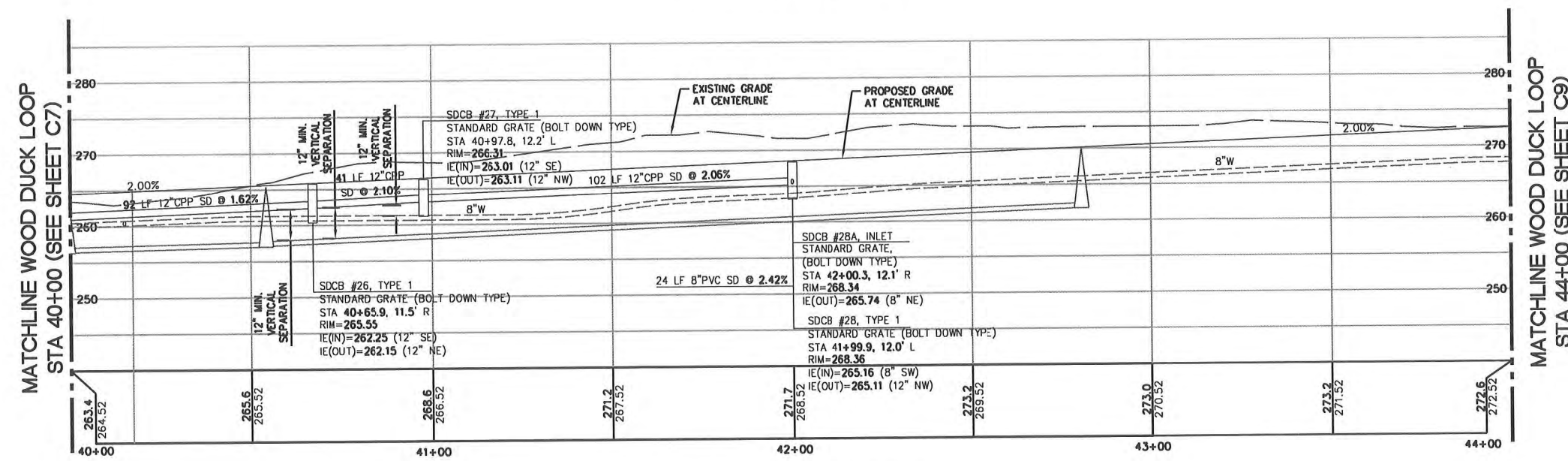


ROOF DRAIN SYSTEM CATCH  
BASINS SHALL HAVE SOLID  
LOCKING LIDS

MATCHLINE WOOD DUCK LOOP  
STA 40+00 (SEE SHEET C7)

MATCHLINE WOOD DUCK LOOP  
STA 44+00 (SEE SHEET C9)

WOOD DUCK LOOP 3 PLAN



PROJECT BENCH MARKS:  
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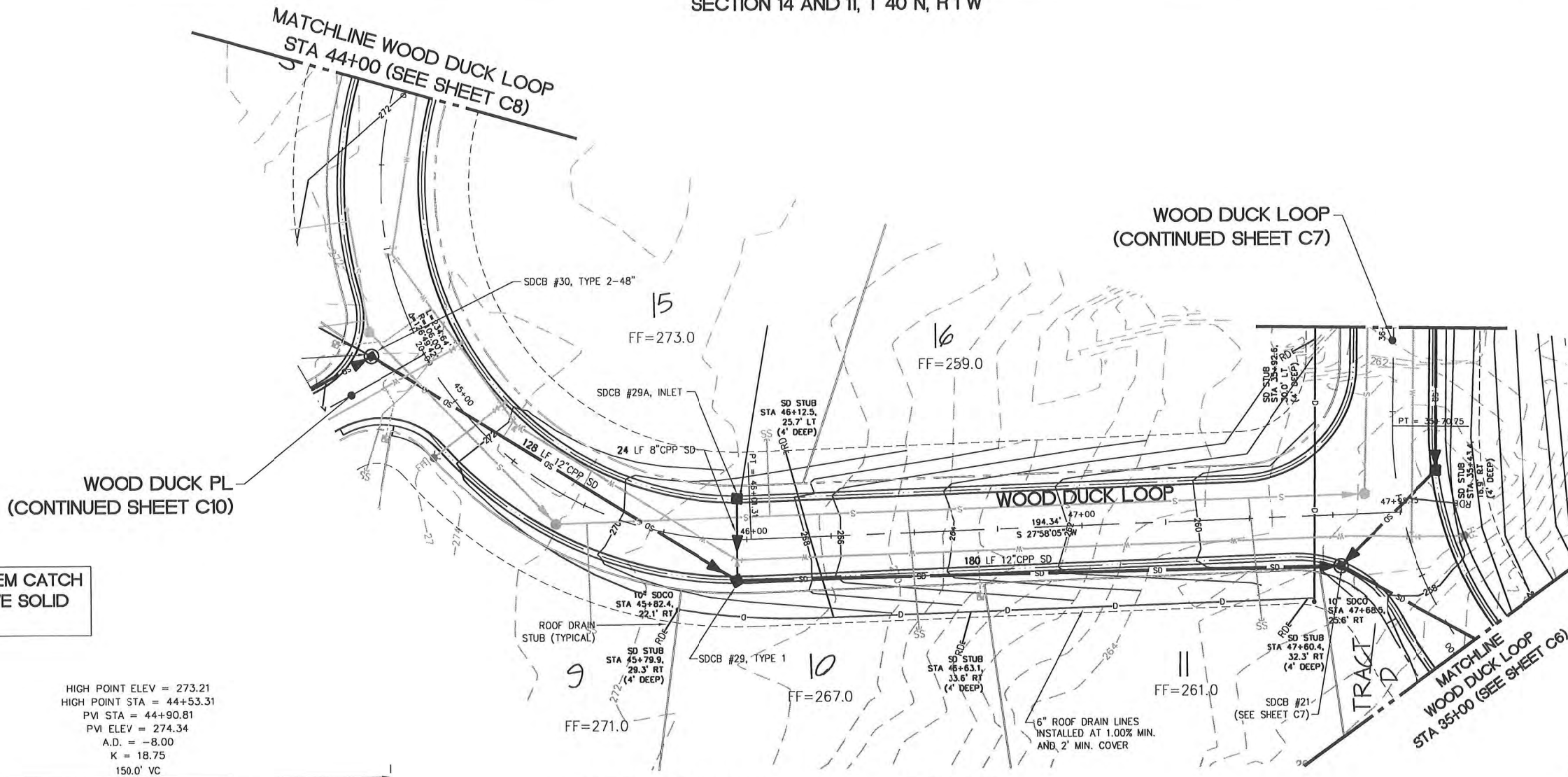
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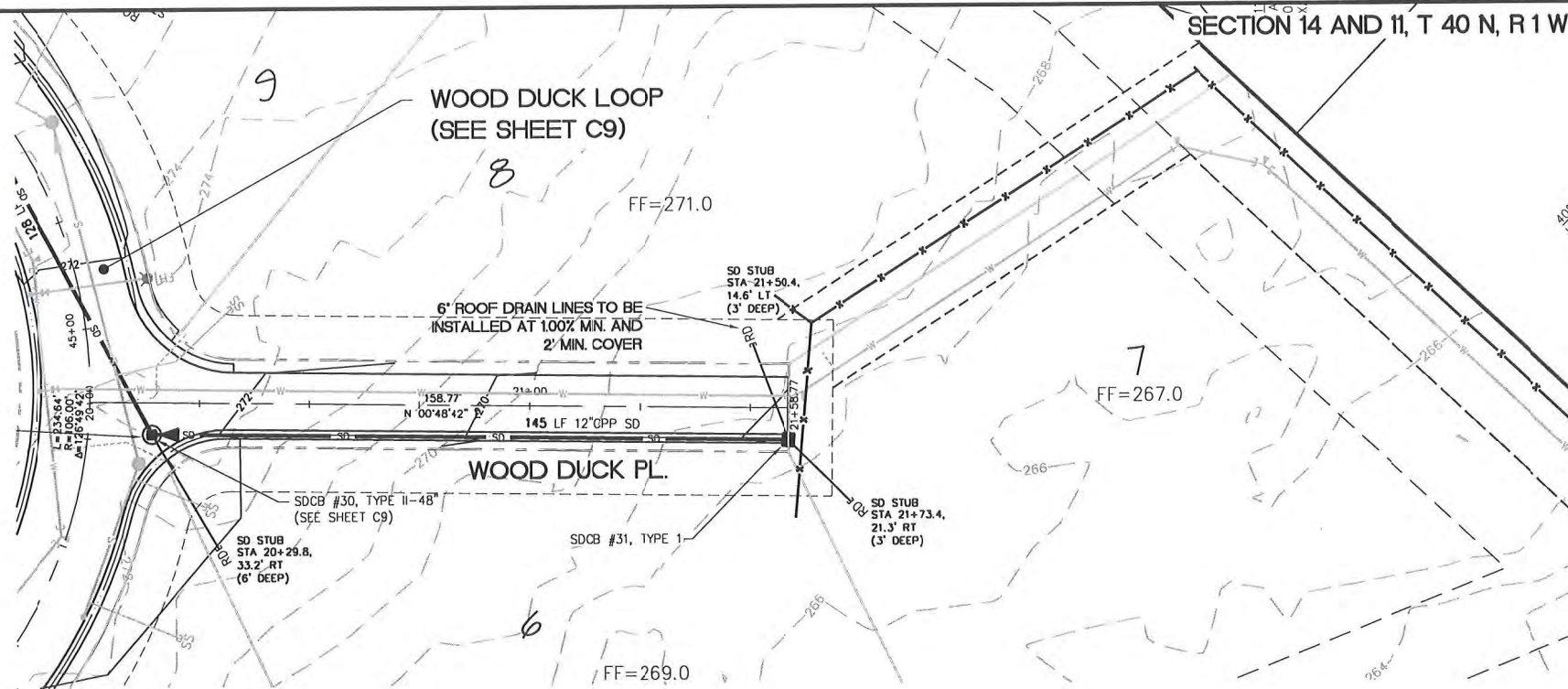
ROADWAY AND DRAINAGE



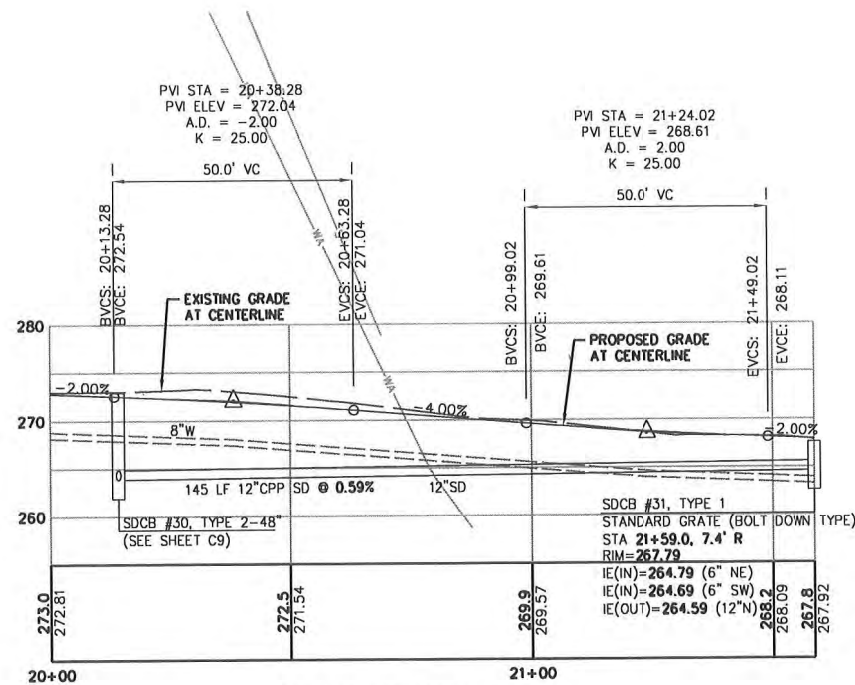




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WOOD DUCK PL. PLAN

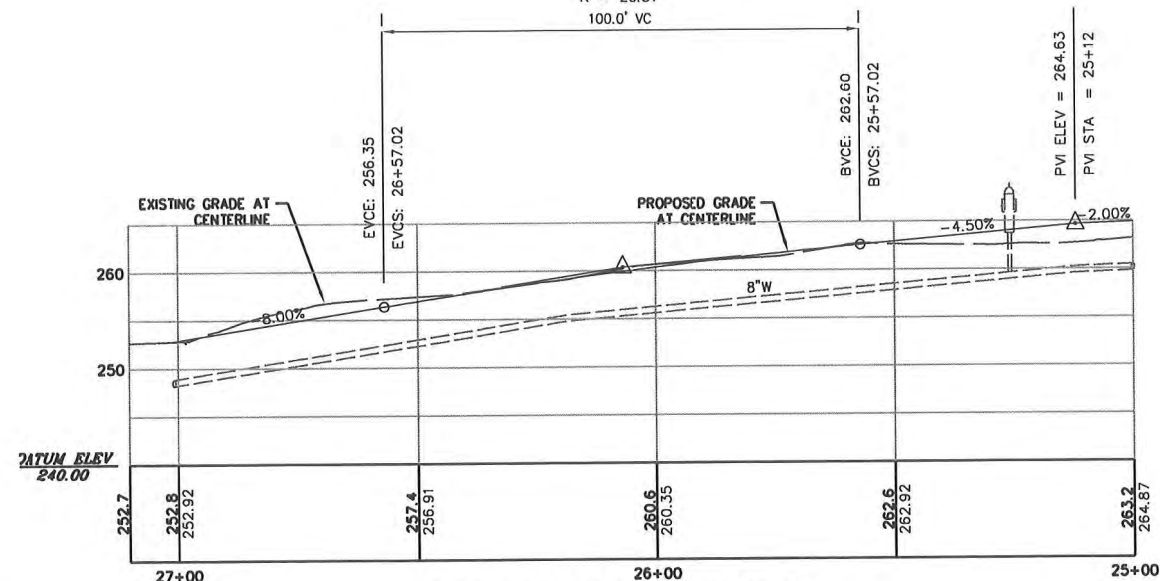
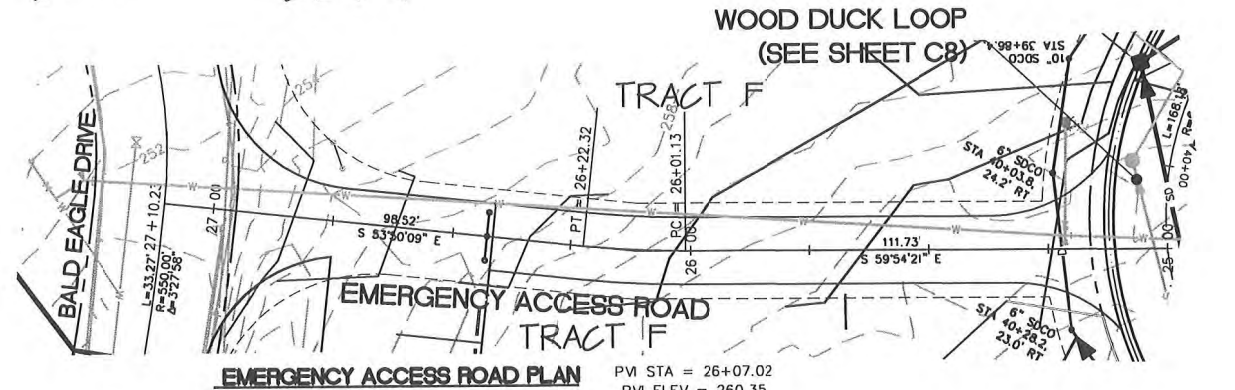
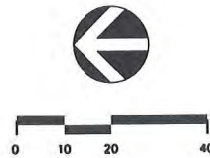


WOOD DUCK PL. PROFILE

1"=20' H; 1"=10'V

ROOF DRAIN SYSTEM CATCH  
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CARNOUSTIE - SEMIAHMOO

ROADWAY AND DRAINAGE

RECORD DRAWING - 7/04/08

BLAINE, WA

CARNOUSTIE - SEMIAHMOO  
ROADWAY AND STORM DRAINAGE PP  
WOOD DUCK PL & EMERGENCY ACCESS

PROJECT NUMBER:

TRLX0107

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