Vancouver Energy
NPDES Engineering Report

EFSEC Application for Site Certification No. 2013-01
Docket No. EF131590

Appendix C
Stormwater Facility Design Plans

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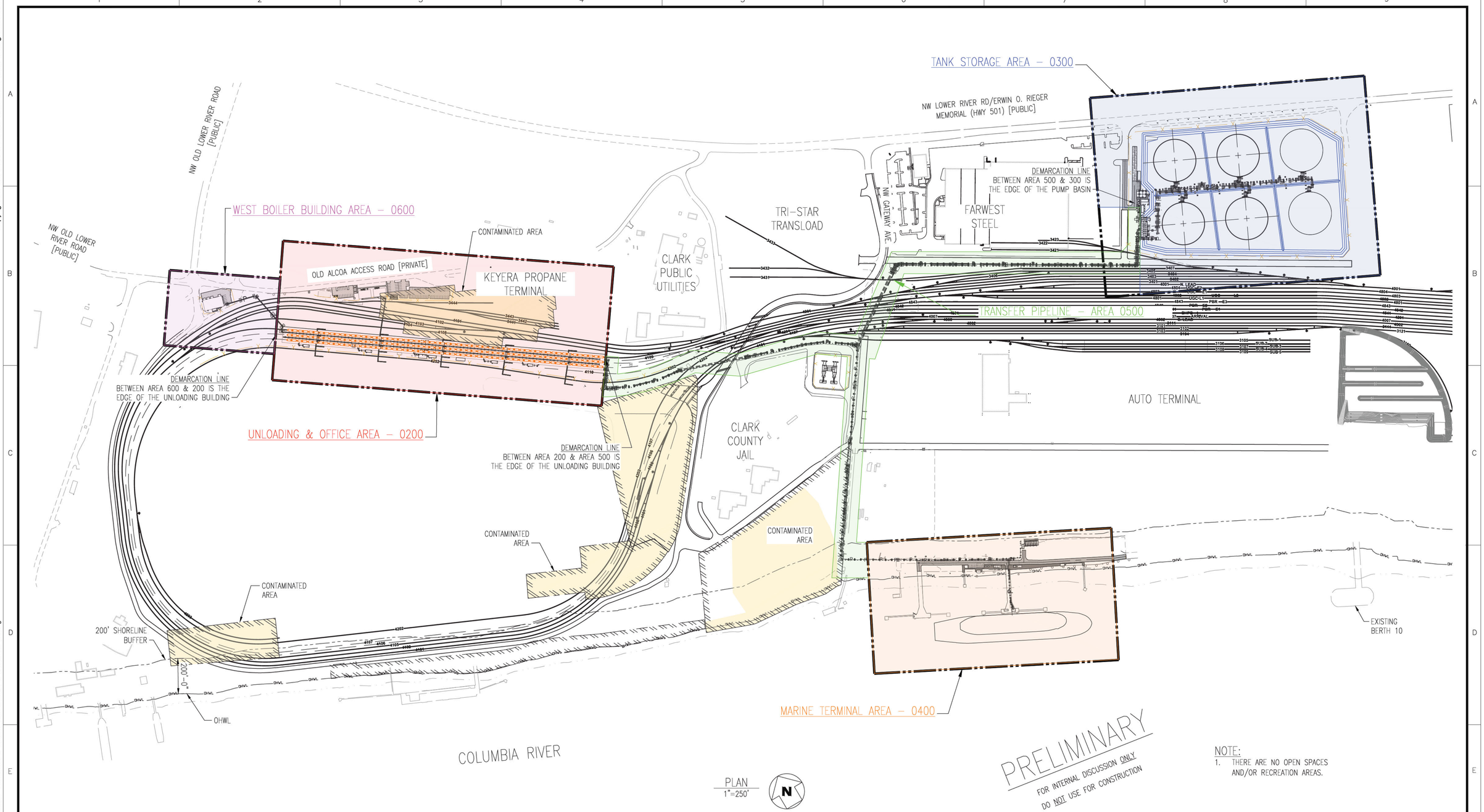

NOTE:
1. THERE ARE NO OPEN SPACES AND/OR RECREATION AREAS.

NO.	DATE	REVISION	BY	CK'D	APP

R&M ENGINEERING CONSULTANTS
SALT LAKE CITY, UTAH
(801)263-3419
13014

VANCOUVER ENERGY
Tesoro Savage Petroleum Terminal LLC

PROJECT: VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: OVERALL SITE PLAN

DESIGN:		START DATE:	05-06-13	SCALE:	1"=250'
DRAWN:	JBH	PRINT DATE:	02-26-15	PROJECT MANAGER:	DC
CHECKED:		APPROVED:		SIAAE:	24x36
DRAWING NUMBER				SHEET	REV.
0100-SP-001				1/1	

Last Saved by: Jeff.hale on: Feb 26, 2015 10:36 AM File: W:\13014 Port of Vancouver\13014 Permit Site Plan.dwg

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GENERAL EROSION PREVENTION & SEDIMENT CONTROL NOTES

1. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED BY EFSEC OR THEIR DESIGNEE PRIOR TO THE COMMENCEMENT OF WORK. ONCE APPROVED, THE SITE MUST BE MAINTAINED THROUGH THE LIFE OF THE PROJECT AS SHOWN ON THE PLANS.
2. EROSION AND SEDIMENT CONTROL BMPS SHALL BE SITED, DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE WASHINGTON STATE DEPARTMENT OF ECOLOGY STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON.
3. THE DEVELOPER AND/OR OWNER IS RESPONSIBLE FOR MAINTAINING EROSION PREVENTION AND SEDIMENT CONTROL BMPS DURING AND AFTER INSTALLATION OF ALL UTILITY WORK ASSOCIATED WITH UTILITY TRENCHES.
4. PRIOR TO ANY SITE EXCAVATION, ALL STORM DRAIN INLETS SHALL BE PROTECTED DOWN SLOPE FROM ANY DISTURBED OR CONSTRUCTION AREAS PER STANDARD DETAIL E-2.20 TO PREVENT SEDIMENT FROM ENTERING THE STORM DRAINAGE SYSTEM PRIOR TO PERMANENT STABILIZATION OF THE DISTURBED AREAS. CLEAN FILTER FABRIC AS NECESSARY TO MAINTAIN DRAINAGE. REMOVE FILTER AND CLEAN CATCH BASINS FOLLOWING COMPLETION OF SITE WORK.
5. NEWLY CONSTRUCTED OR MODIFIED INLETS AND CATCH BASINS SHALL BE PROTECTED FROM SEDIMENT IMMEDIATELY UPON INSTALLATION.
6. THE CONTRACTOR SHALL NOT ALLOW SEDIMENT OR DEBRIS TO ENTER NEW OR EXISTING PIPES, CATCH BASINS OR INFILTRATION SYSTEMS. IF THIS OCCURS, THE CONTRACTOR SHALL REMOVE ALL ACCUMULATED SEDIMENT FROM THE CATCH BASINS, DRYWELLS, AND STORM PIPES IMMEDIATELY.
7. PRIOR TO LEAVING A CONSTRUCTION SITE OR PRIOR TO DISCHARGING INTO AN INFILTRATION SYSTEM, SEDIMENT-LADEN WATER SHALL PASS THROUGH A SEDIMENT POND, TRAP, OR OTHER APPROVED BMP SYSTEM.
8. ALL EXPOSED AND UNWORKED SOILS SHALL BE STABILIZED BY THE APPROPRIATE BEST MANAGEMENT PRACTICES (BMPS). FROM OCTOBER 1 TO APRIL 30, NO SOILS SHALL BE EXPOSED AND UNWORKED FOR MORE THAN TWO (2) DAYS. FROM MAY 1 TO SEPTEMBER 30, NO SOILS SHALL BE EXPOSED AND UNWORKED FOR MORE THAN SEVEN (7) DAYS.
9. SOIL STOCKPILES SHALL BE STABILIZED FROM EROSION, PROTECTED WITH SEDIMENT TRAPPING MEASURES, AND WHEN POSSIBLE, BE LOCATED AWAY FROM STORM DRAIN INLETS, WATER WAYS AND DRAINAGE CHANNELS.
10. CONSTRUCTION ROADS AND PARKING AREAS SHALL BE STABILIZED WHEREVER THEY ARE CONSTRUCTED, WHETHER PERMANENT OR TEMPORARY, FOR THE USE OF CONSTRUCTION TRAFFIC.
11. IF THE BMPS APPLIED TO A SITE ARE INSUFFICIENT TO PREVENT SEDIMENT FROM REACHING WATER BODIES, ADJACENT PROPERTIES, STORM FACILITIES OR PUBLIC RIGHT-OF-WAY, THEN THE CONTRACTOR SHALL INSTALL ADDITIONAL ALTERNATIVE BMPS.

PROTECTION OF ADJACENT PROPERTIES, ROADS/STREETS AND PAVED SURFACES

12. PROVIDE A 12-INCH DEEP PAD OF CRUSHED ROCK FOR A DISTANCE OF 100 FEET INTO THE SITE FOR ALL ACCESS POINTS UTILIZED BY CONSTRUCTION EQUIPMENT AND TRUCKS. PAD WIDTH SHALL BE A MINIMUM OF 20 FEET. ALL VEHICLES LEAVING THE SITE SHALL EGRESS ACROSS THE PAD. ACCUMULATED SEDIMENT SHALL BE PERIODICALLY REMOVED, OR ADDITIONAL ROCK SHALL BE PLACED UPON THE PAD SURFACE. ROCK SHALL BE CLEAN 4-INCH TO 8-INCH QUARRY SPALLS. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS SHALL BE REMOVED IMMEDIATELY.
13. PAVEMENT SWEEPING AND SHOVELLING IS REQUIRED. WASHING THE PAVEMENT INTO THE STORM SYSTEM IS NOT PERMITTED.
14. IF SEDIMENT, MUD OR DEBRIS IS TRANSPORTED ONTO A PAVED SURFACE OR ROADWAY, THE PAVED SURFACE OR ROADWAY SHALL BE THOROUGHLY CLEANED WITH HIGH EFFICIENCY STREET SWEEPERS AT THE END OF EACH WORKDAY, OR MORE OFTEN IF NECESSARY. SIGNIFICANT SOIL DEPOSITS SHALL BE REMOVED FROM ROADS BY SHOVELLING AND SWEEPING. STREET WASHING IS NOT ALLOWED UNLESS APPROVED BY EFSEC AND ONLY AFTER SEDIMENT IS REMOVED IN THE MANNER DESCRIBED ABOVE.
15. A WHEEL WASH MAY BE REQUIRED IF CONSTRUCTION ENTRANCE IS NOT SUFFICIENT IN PREVENTING SEDIMENT FROM BEING TRACKED ONTO PAVEMENT. WHEEL WASH SHALL BE PER STANDARD PLAN E-1.06 AND THE STORMWATER MANUAL.
16. INSTALL SEDIMENT FENCE PER STANDARD PLAN E-2.33 PRIOR TO BUILDING CONSTRUCTION AND/OR EXCAVATION TO PREVENT SILT INTRUSION UPON ADJACENT LOTS. IF CONSTRUCTION OCCURS SIMULTANEOUSLY ON ADJACENT LOTS AND THE LOTS HAVE THE SAME OWNER DURING CONSTRUCTION, THE SILT FENCE ALONG THE COMMON LOT LINE MAY BE ELIMINATED.
17. PROPOSED PERMEABLE PAVEMENT AREAS SHALL BE SHOWN ON THE EROSION CONTROL PLAN. PERMEABLE PAVEMENT AREAS SHALL BE PROTECTED FROM SEDIMENT DURING AND AFTER INSTALLATION.

MAINTENANCE OF EROSION PREVENTION AND SEDIMENT CONTROL BMPS

18. ALL EROSION PREVENTION AND SEDIMENT CONTROL BMPS SHALL BE REGULARLY INSPECTED AND MAINTAINED TO ENSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION.
19. THE CONTRACTOR SHALL MAINTAIN AND HAVE ON-SITE A WRITTEN LOG OF EROSION PREVENTION AND SEDIMENT CONTROL BMP MAINTENANCE.
20. ALL TEMPORARY EROSION PREVENTION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER SITE STABILIZATION IS ACHIEVED OR AFTER TEMPORARY BMPS ARE NO LONGER NEEDED. TRAPPED SEDIMENT SHALL BE REMOVED OR STABILIZED ON SITE. DISTURBED SOIL AREAS RESULTING FROM REMOVAL SHALL BE PERMANENTLY STABILIZED PER THE STORMWATER MANUAL.

DUST CONTROL

21. IN AREAS SUBJECT TO SURFACE AND AIR MOVEMENT OF DUST, REFER TO THE STORMWATER MANUAL FOR DUST CONTROL BMPS.

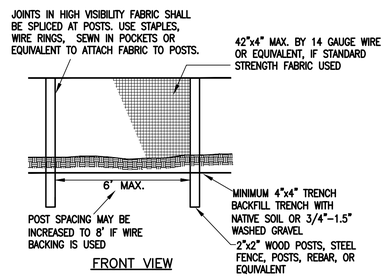
TEMPORARY SEEDING

22. EXPOSED SURFACES THAT WILL NOT BE BROUGHT TO FINAL GRADE OR GIVEN A PERMANENT COVER TREATMENT WITHIN 30 DAYS OF THE EXPOSURE SHALL HAVE SEED MIX AND MULCH PLACED TO STABILIZE THE SOIL AND REDUCE EROSION SEDIMENTATION. SEEDED AREAS SHALL BE CHECKED REGULARLY TO ASSURE A GOOD STAND OF GRASS IS BEING MAINTAINED. AREAS THAT FAIL TO ESTABLISH VEGETATION COVER ADEQUATE TO PREVENT EROSION WILL BE RESEEDED AS SOON AS SUCH AREAS ARE IDENTIFIED.
23. AN APPROVED TEMPORARY SEEDING MIXTURE SHALL BE APPLIED TO THE PREPARED SEED BED AT A RATE OF 120 LBS/ACRE. NOTE: "HYDROSEEDING" APPLICATIONS WITH APPROVED SEED-MULCH-FERTILIZER MIXTURES MAY ALSO BE USED.

GENERAL CONSTRUCTION, STORMWATER MONITORING AND TREATMENT NOTES

1.

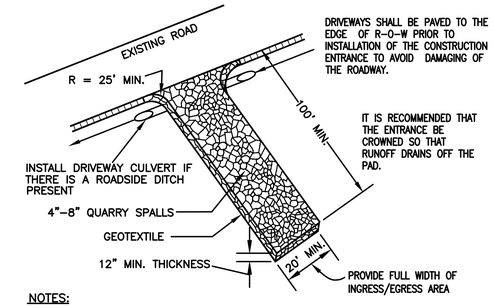
~ NOTES PENDING PERMIT APPROVALS ~



NOTES:
1. ANY DAMAGE SHALL BE REPAIRED IMMEDIATELY.
2. IF THE HIGH VISIBILITY FABRIC HAS DETERIORATED DUE TO ULTRAVIOLET BREAKDOWN, IT SHALL BE REPLACED.

HIGH VISIBILITY FENCE

NTS — BMP C103 (1)

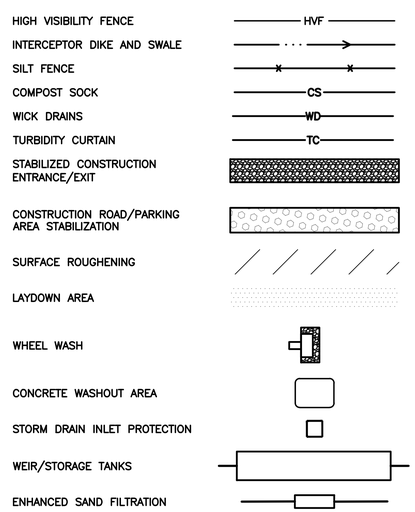


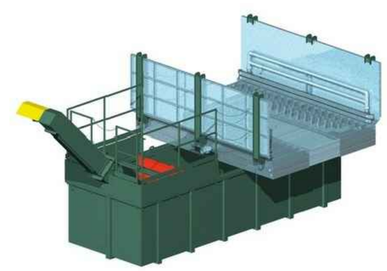
NOTES:
1. IF THE ENTRANCE SITS ON A SLOPE, PLACE A FILTER FABRIC FENCE DOWN GRADIENT.
2. TOP DRESS THE PAD WITH CLEAN 3" MINUS ROCK WHEN THE CONSTRUCTION ENTRANCE BECOMES CLOGGED WITH SEDIMENTS.
3. ANY SEDIMENT CARRIED FROM THE SITE ONTO THE STREET SHALL BE CLEANED UP IMMEDIATELY.
4. IF EQUIPMENT TRAVELS EXTENSIVELY ON UNSTABILIZED ROADS ON THE SITE, A TIRE AND VEHICLE UNDERCARRIAGE WASH NEAR THE ENTRANCE WILL BE NEEDED. PERFORM WASHING ON CRUSHED ROCK. WASH WATER WILL REQUIRE TREATMENT IN A SEDIMENT POND OR TRAP.
5. WHERE CONSTRUCTION ACCESS ABUTS A CURB, MINIMUM 2" DIAMETER PVC PIPE AND COLD-PATCH ASPHALT SHOULD BE USED TO CONSTRUCT THE APPROACH IN ORDER TO PROTECT THE CURB AND MINIMIZE OBSTRUCTION TO STORMWATER FLOW IN THE GUTTER.
6. TRUCKS LEAVING THE SITE SHALL EGRESS ACROSS THE FULL LENGTH OF THE PAD.
7. SINGLE FAMILY LOT ENTRANCES MAY HAVE THE PAD LENGTH REDUCED TO 2 0 FEET IN LENGTH AND ROCK SHALL BE CLEANED 2 INCH TO 4INCH.

STABILIZED CONSTRUCTION ENTRANCE/EXIT

NTS — BMP C105 (2)

LEGEND

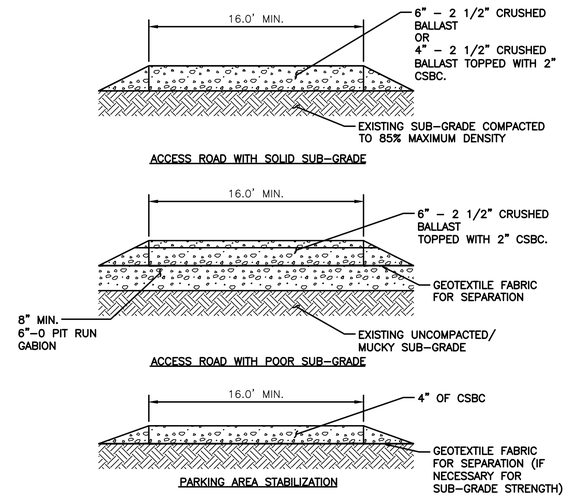




NOTES:
1. WHEEL WASH SHALL BE CAPABLE OF WASHING UP TO 150 TRUCKS PER DAY. WHEEL WASH SHALL BE AN IN-GROUND TEMPORARY MODEL WITH INTEGRAL SOLIDS REMOVAL.
2. WHEEL WASH WATER SHALL BE FILTERED OR REPLACED EACH DAY. MAY BE CONNECTED TO SANITARY SEWER.
3. UNIT SHALL BE INSPECTED DAILY TO ENSURE PROPER OPERATION.
4. WHEEL WASH SHALL BE CONLINE 400C OR EQUAL.

WHEEL WASH

NTS — BMP C106 (3)



NOTES:
1. CONSTRUCTION ROAD AND PARKING AREA STABILIZATION NECESSARY WHERE EXISTING ASPHALT OR EXISTING GRAVEL ROADS ARE NOT AVAILABLE OR ARE INSUFFICIENT TO SUPPORT CONSTRUCTION LOADS.

CONSTRUCTION ROAD/PARKING AREA STABILIZATION

NTS — BMP C107 (1)

SAM ADAMS — STATE OF WASHINGTON — 37330 — REGISTERED PROFESSIONAL ENGINEER

PERMIT SET
NOT FOR CONSTRUCTION

NO.	DATE	REVISION	BY	CK'D	APP

BergerABAM
700 NE Multnomah Street, Suite 900
Portland, Oregon 97232-4189
(503) 872-4100 FAX: (503) 872-4101

VANCOUVER ENERGY
Tesoro Savage Petroleum Terminal LLC

PROJECT: VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: ENVIRONMENTAL CONTROL NOTES AND DETAILS – 1

DESIGN:	DRS	START DATE:	2/18/2015	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	2/26/2015	PROJECT MANAGER:	SAVAGE_PM
CHECKED:	MCH	APPROVED:	SA	SIZE:	24X36

DRAWING NUMBER: 0100-EC-001 — SHEET 1/1 — REV.

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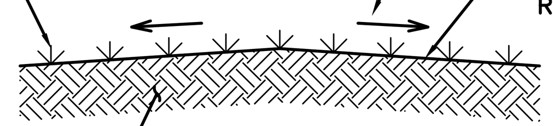
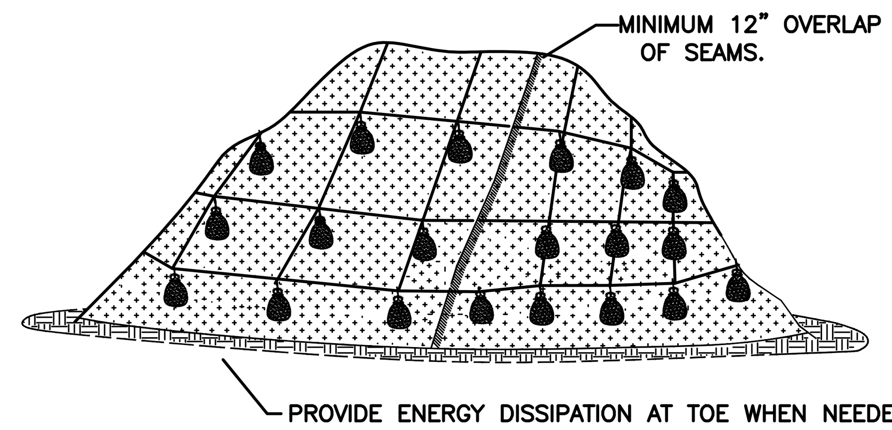


NOTES:

1. SEEDING SHALL BE ACCOMPLISHED WITH A HYDROSEED/MULCH MIXTURE. HYDROSEEDING SHALL OCCUR BETWEEN MARCH 1 AND MAY 15 AND SEPTEMBER 1 TO OCTOBER 1. PROCEED WITH SEEDING ONLY WHEN EXISTING AND FORECASTED WEATHER CONDITIONS ARE SUITABLE FOR WORK. DO NOT SEED WHEN THE GROUND IS FROZEN, SNOW COVERED, MUDDY OR WHEN AIR TEMPERATURES EXCEEDS 90 DEGREES FAHRENHEIT.
2. EROSION CONTROL SEED MIX SHALL BE SUNMARK NATIVE EROSION CONTROL SEED MIX OR APPROVED EQUAL. SUNMARK SEEDS INTERNATIONAL, INC 18032 NE AIRPORT WAY, PORTLAND, OREGON 97230. (1-888-214-7333). SEED MIX SHALL MEET THE FOLLOWING COMPOSITION BY WEIGHT:
   a. NATIVE EROSION CONTROL MIX (1 LB/1000 SF OR 45 LBS. PER ACRE)
   (Tony Add Table from 0100-LA-001)
3. HYROSEED MULCH SHALL BE A 100% BIODEGRADABLE DYED-WOOD CELLULOSE FIBER MULCH APPLIEDAT 2,000 LBS PER ACRE WITH NON-ASPHALTIC TACKIFIER PER MANUFACTURER'S RECOMMENDATIONS.
4. 100% OF HYDROSEED AREAS SHALL SHOW A UNIFORM DISTRIBUTION OF MATERIALS. AREAS NOT RECEIVING A UNIFORM APPLICATION OF SEED, MULCH OR MULCH AT THE SPECIFIED RATE SHALL BE RESEEDED AT THE CONTRACTORS EXPENSE.
5. PROTECT STRUCTURES, SIDEWALKS, PAVEMENTS AND OTHER FACILITIES, TREES, SHRUBS, AND PLANTINGS FROM OVER-SPRAYING OR OTHER DAMAGE CAUSED BY SEEDING OPERATIONS.
6. MAINTENANCE OF THE PLANTED AREAS THROUGH THE ESTABLISHMENT PERIOD SHALL INCLUDE WATERING, PROTECTION FROM INSECTS, AND DISEASES AND WEEDING.
7. CONTRACTOR SHALL PROVIDE TEMPORARY ESTABLISHMENT WATERING OF NON IRRIGATED EROSION CONTROL SEED AREAS DURING ESTABLISHMENT AND MAINTENANCE PERIOD. UNLESS OTHERWISE INDICATED, CONTRACTOR SHALL REMOVE TEMPORARY IRRIGATION EQUIPMENT AT THE END OF THE MAINTENANCE AND WARRANTY PERIOD.
8. RE-SEED STAGING AREAS AND OTHER AREAS DISTURBED DURING CONSTRUCTION.
9. CONTRACTOR SHALL MAINTAIN SEEDED AREAS FOR A MINIMUM OF 6 MONTHS FOLLOWING THE END OF CONSTRUCTION. CONTRACTOR SHALL WARRANTY ALL SEEDED AREAS FOR A MINIMUM OF 2-YEARS FOLLOWING CONSTRUCTION.

TEMPORARY SEEDING (1/–)
NTS
BMP C120



PLASTIC SHEETING

NOTES:

1. PLASTIC SHEETING IS USED TO PROVIDE IMMEDIATE PROTECTION TO SLOPES AND STOCKPILES.
2. DO NOT USE PLASTIC COVERING UPSLOPE OF AREAS SUCH AS STEEP AND/OR UNSTABLE SLOPES THAT MIGHT BE ADVERSELY AFFECTED BY CONCENTRATED RUNOFF.
3. WHEN POSSIBLE, INSTALL AN INTERCEPTOR DIKE AT THE TOP OF THE PLASTIC TO DIVERT FLOWS AWAY FROM THE PLASTIC.
4. TOE-IN THE TOP OF THE SHEETING IN A 6"x6" TRENCH BACKFILLED WITH COMPACTED NATIVE MATERIAL.
5. INSTALL A GRAVEL BERM, RIPRAP, OR OTHER SUITABLE PROTECTION AT THE TOP OF THE SLOPE IN ORDER TO DISSIPATE RUNOFF VELOCITY.
6. ANCHOR THE PLASTIC USING SANDBAGS OR OTHER SUITABLE TETHERED ANCHOR SYSTEM SPACED ON A 10' GRID SPACING IN ALL DIRECTIONS.
7. OVERLAP SEAMS 1-2', TAPE, ROLL AND STAKE THE SEAMS AND THEN WEIGH DOWN THE ENTIRE LENGTH.
8. PROVIDE ENERGY DISSIPATION AT TOE WHEN NEEDED.
9. REPLACE TORN SHEETS AND REPAIR OPEN SEAMS. COMPLETELY REMOVE AND REPLACE PLASTIC WHEN IT BEGINS TO DETERIORATE.

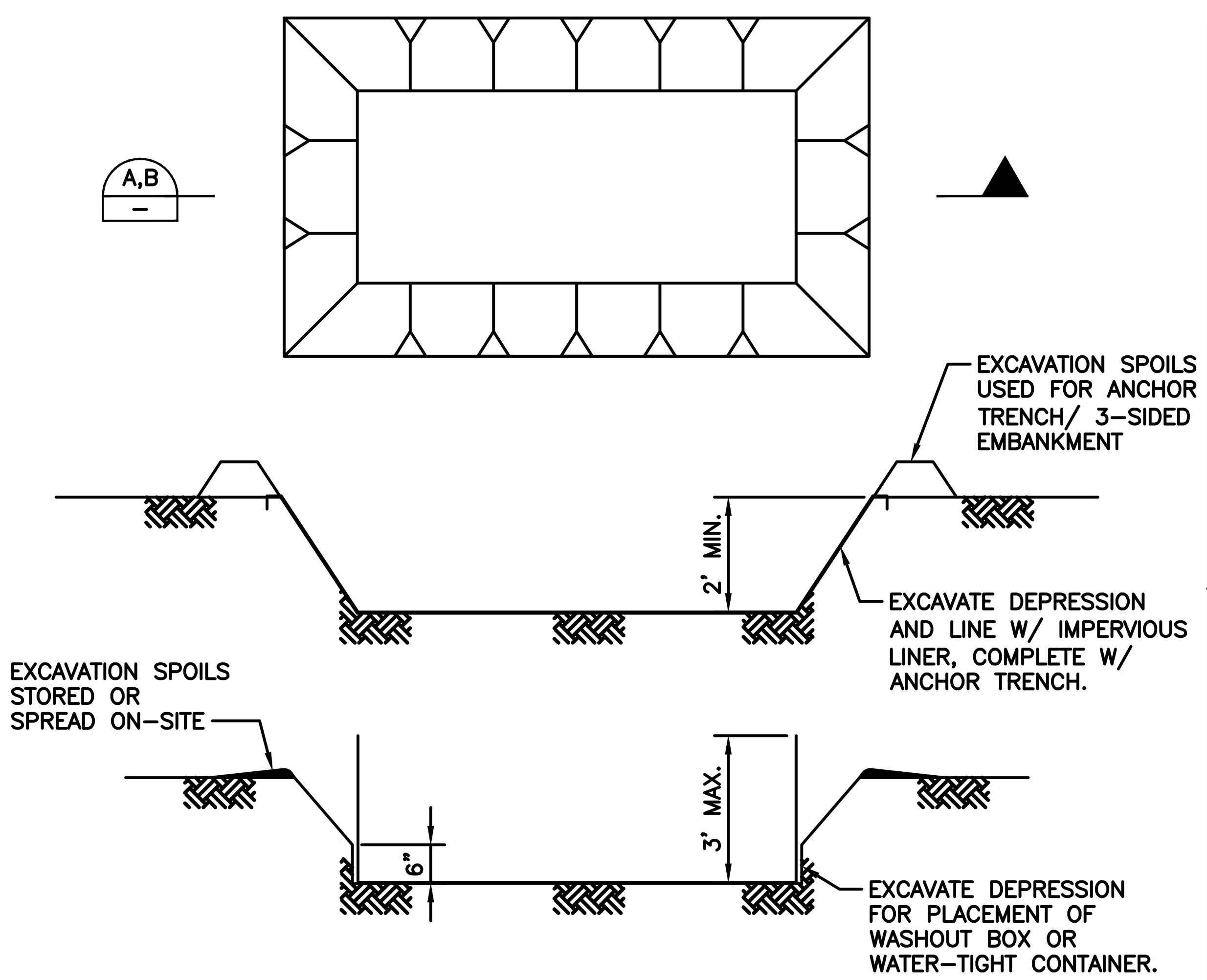
PLASTIC COVERING (2/–)
NTS
BMP C123

TRACKING

NOTES:

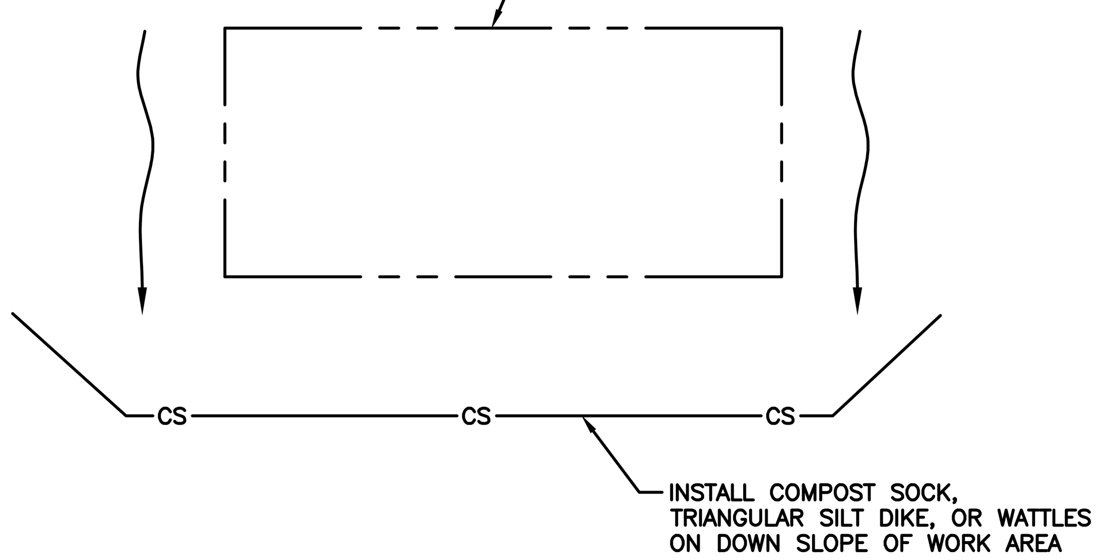
'TRACKING' WITH MACHINERY UP AND DOWN THE SLOPE PROVIDES GROOVES THAT WILL CATCH SEED, FERTILIZER, MULCH, RAINFALL AND DECREASE RUNOFF.

SURFACE ROUGHENING (3/–)
NTS
BMP C130



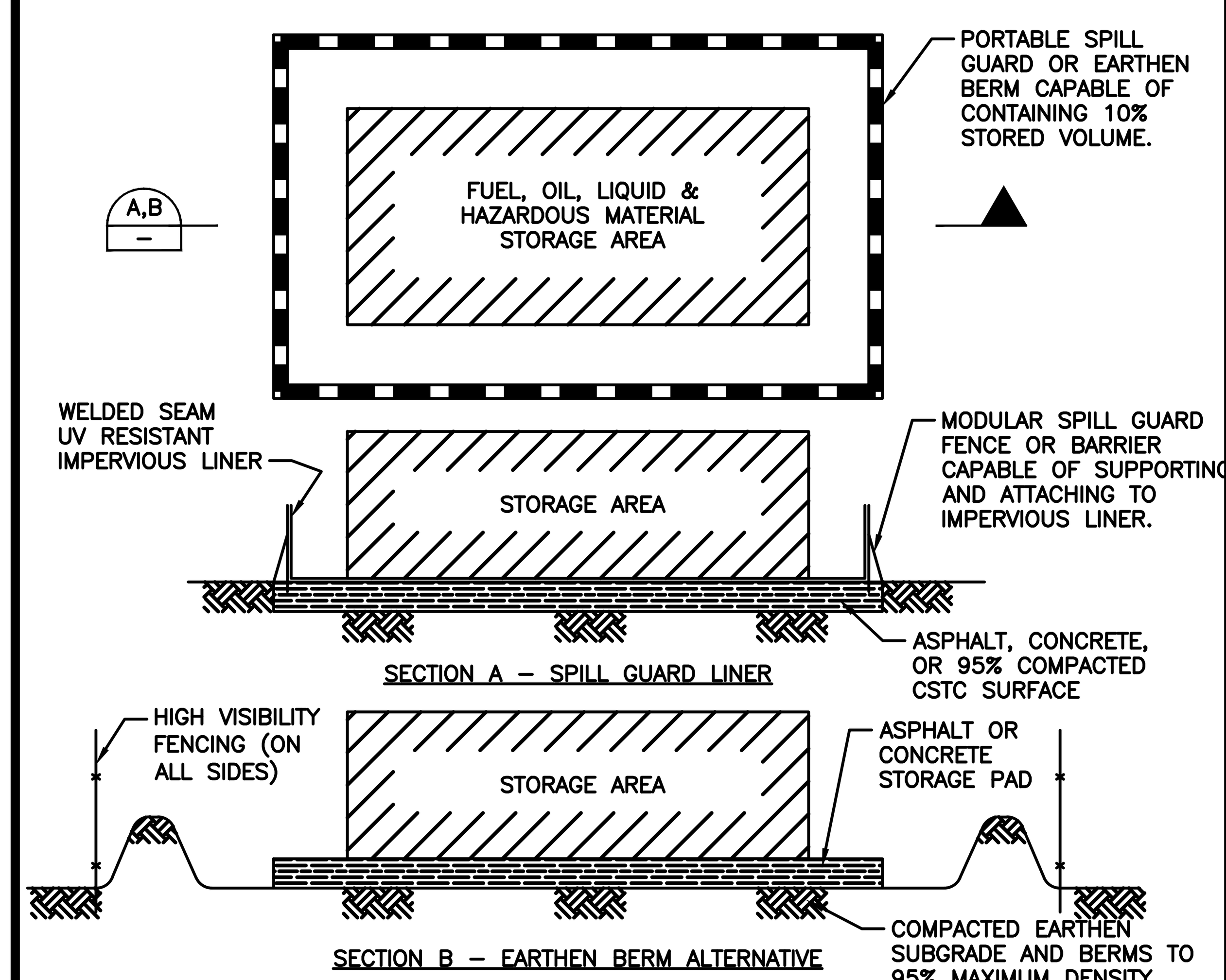
NOTES:
1. PROVIDE DESIGNATED CONCRETE WASHOUT AREAS.
2. DISPOSAL OF SOLIDS SHALL BE TO LANDFILL OR RE-USE TO QUARRY, OR BATCH PLANT.
3. LIQUIDS SHALL BE PH NEUTRALIZED PRIOR TO HAUL OFF OR DISPOSAL TO SANITARY SEWER.
4. USE SUCTION STYLE PUMPS W/ 1/4" TRASH SCREEN ON INLET PIPING TO REMOVE LIQUID WASTE.

CONCRETE WASHOUT AREA (4/–)
NTS
BMP C151



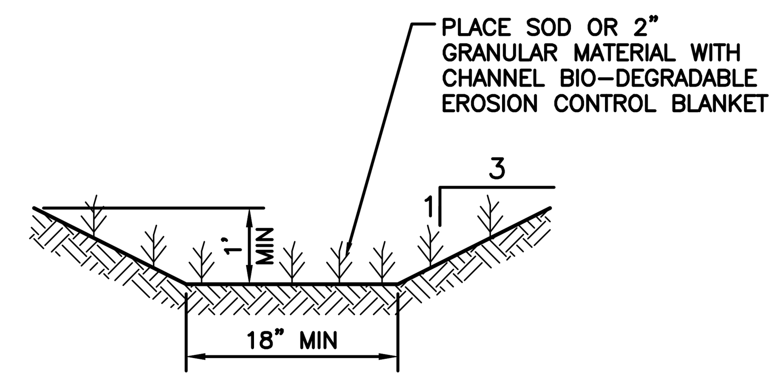
NOTES:
1. INSTALL TEMPORARY CONTAINMENT MEASURES ON DOWNSLOPE SIDE OF WORK AREAS.
2. VACUUM SLURRY AND CUTTINGS DURING CUTTING AND SURFACING OPERATIONS.
3. SLURRY AND CUTTINGS SHALL NOT REMAIN ON PERMANENT CONCRETE OR ASPHALT PAVEMENT OVERNIGHT.
4. SLURRY AND CUTTINGS SHALL NOT DRAIN TO ANY NATURAL OR CONSTRUCTED DRAINAGE CONVEYANCE INCLUDING STORMWATER SYSTEMS. THIS MAY REQUIRE ADDITIONAL BLOCKING OF CATCH BASINS.
5. DISPOSE OF COLLECTED SLURRY AND CUTTINGS IN A MANNER THAT DOES NOT VIOLATE GROUND WATER OR SURFACE WATER QUALITY STANDARDS.
6. DO NOT ALLOW PROCESS WATER GENERATED DURING HYDRO-DEMOLITION, SURFACE ROUGHENING, OR SIMILAR OPERATIONS TO DRAIN TO ANY NATURAL OR CONSTRUCTED DRAINAGE CONVEYANCE INCLUDING STORMWATER SYSTEMS. DISPOSE OF PROCESS WATER IN A MANNER THAT DOES NOT VIOLATE GROUND WATER OR SURFACE WATER QUALITY STANDARDS.
7. HANDLE AND DISPOSE OF CLEANING WASTE MATERIAL AND DEMOLITION DEBRIS IN A MANNER THAT DOES NOT CAUSE CONTAMINATION OF WATER. DISPOSE OF SWEEPING MATERIAL FROM A PICK-UP SWEEPER AT AN APPROPRIATE DISPOSAL SITE.

SAWCUTTING AND SURFACING POLLUTION PREVENTION (5/–)
NTS
BMP C152



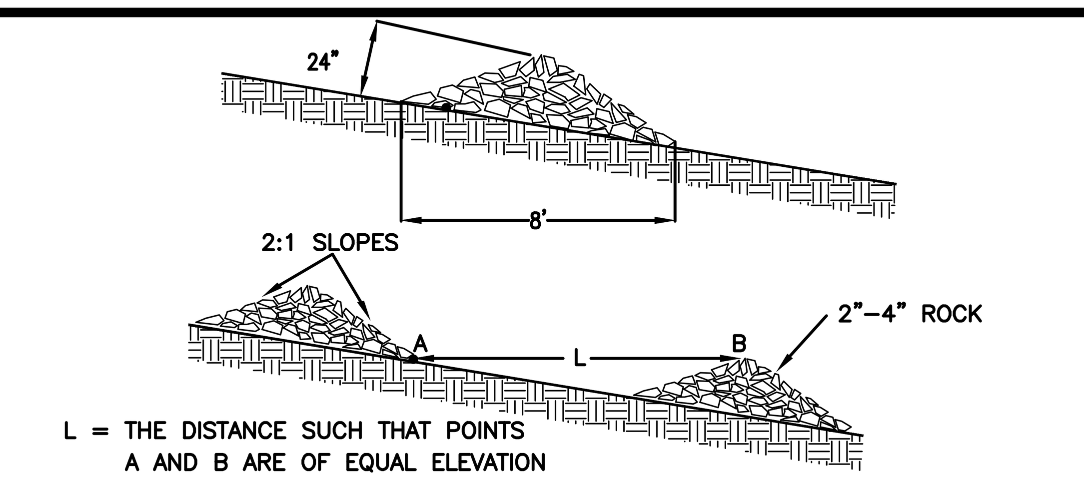
NOTES:
1. PROVIDE DELINEATED MATERIAL DELIVERY, STORAGE & CONTAINMENT AREA AT ALL PROJECT SITES.
2. INSPECT ALL CONTAINERS DAILY FOR EVIDENCE OF DAMAGE OR LEAKS AND REPLACE IMMEDIATELY.
3. CLEAN CONTAINMENT AREA INCLUDING SOIL EXCAVATION/REPLACEMENT AFTER ANY SPILL.

MATERIAL DELIVERY, STORAGE AND CONTAINMENT (6/–)
NTS
BMP C153



NOTES:
1. GRADE CUTOFF DITCHES WHERE SHOWN ON-SITE @ MINIMUM 1% LONGITUDINAL SLOPE.
2. SEE LANDSCAPE DRAWING 0100_LA-001 FOR EROSION CONTROL SEED MIX. APPLY WITH TACKIFIER.
3. INSTALL ROCK CHECK DAMS PER DETAIL 8.
4. MAINTAIN VEGETATION IN DITCH DURING CONSTRUCTION UNTIL FINAL GRADING AND INSTALLATION OF STORM DRAIN SYSTEM.

INTERSEPTOR SWALE (7/–)
NTS
BMP C200



SPACING BETWEEN CHECK DAMS

CHECK DAM NOTES:

1. CHECK DAMS ARE CONSTRUCTED ACROSS A SWALE OR DITCH TO REDUCE VELOCITIES OF CONCENTRATED FLOWS, THEREBY REDUCING EROSION AND ALLOWING A SIGNIFICANT AMOUNT OF SUSPENDED SEDIMENT TO SETTLE OUT.

2. CHECK DAMS SHALL BE USED IN TEMPORARY OR PERMANENT CHANNELS THAT DRAIN 10 ACRES OR LESS, ARE NOT YET VEGETATED, AND WHEN INSTALLING CHANNEL LINING IS NOT FEASIBLE.

3. USE TYPICAL ROCK SIZE OF 2-4 INCH. PLACE ROCK BY HAND OR BY MECHANICAL MEANS RATHER THAN DUMPING THE ROCK. BRIDGE ENTIRE DITCH OR SWALE WIDTH AND ENSURE THE CENTER OF THE DAM IS 6" LOWER THAN THE OUTER ENDS. FOR HIGHER VELOCITY FLOWS: ±5 FPS USE 6"-12" RIPRAP, AND HAND PLACE LARGER ROCK ON UPSTREAM SIDE OF DAM.

4. REMOVE CHECK DAMS FROM GRASS-LINED DITCHES AND SWALES ONCE THE GRASS IS ESTABLISHED. SEED, MULCH OR MAT THE AREA WHERE THE CHECK DAMS WERE, IMMEDIATELY FOLLOWING REMOVAL.

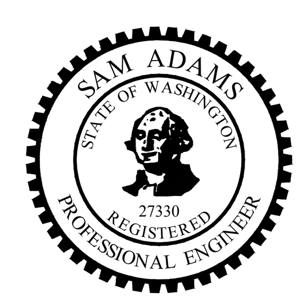
5. INSPECT ONCE PER WEEK ON ACTIVE SITES, ONCE EVERY TWO WEEKS ON INACTIVE SITES, AND WITHIN 24 HOURS FOLLOWING A 0.5 INCH RAIN EVENT. REMOVE SEDIMENT ONCE IT REACHES ONE-THIRD THE DEPTH OF THE ROCK WEIR. REPLACE ROCK WEIR WHEN FILTERING CAPACITY IS REDUCED BY ONE-HALF.

6. SPACING TABLE FOR CHECK DAMS:

DITCH GRADE	MINIMUM WEIR DEPTH		
	6 INCH	12 INCH	18 INCH
6%	**	L=16 ft O.C.	L=26 ft O.C.
5%	**	L= 20 ft	L= 30 ft
4%	**	L= 26 ft	L= 40 ft
3%	15 ft	L= 33 ft	L= 50 ft
2%	25 ft	L= 50 ft	L= 80 ft
1%	25 ft	L= 50 ft	L= 80 ft

**NOT ALLOWED

CHECK DAMS (8/–)
NTS
BMP C207



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700 NE Multnomah Street, Suite 900
Portland, Oregon 97232-4189
(503) 872-4100 FAX: (503) 872-4101

VANCOUVER ENERGY
Tesoro Savage Petroleum Terminal LLC

PROJECT:
VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION:
ENVIRONMENTAL CONTROL NOTES AND DETAILS – 2

DESIGN:	DRS	START DATE:	2/19/2015	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	2/26/2015	PROJECT MANAGER:	SAVAGE_PM
CHECKED:	MCH	APPROVED:	SA	SIZE:	24X36

DRAWING NUMBER: 0100-EC-002
SHEET: 1/1
REV.:

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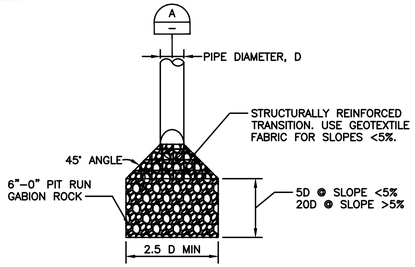
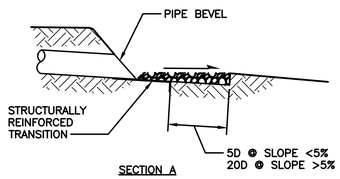
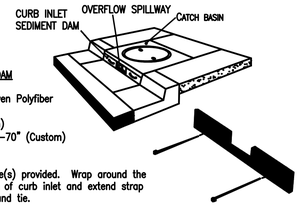




SECTION A

NOTES:
1. DETAIL PROVIDED FOR GENERAL GUIDANCE ONLY. FOR LARGE DIAMETER OUTLETS > 12", HIGH VELOCITY DISCHARGES, OR SUBMERGED OUTLETS PROTECTION SHALL BE SITE SPECIFICALLY ENGINEERED.
2. INSTALL CHECK DAMS ON OUTLET ON STEEP SLOPES AND NATURAL STONE LEVEL SPREADER EVERY 10 FEET.

OUTLET PROTECTION (1)
NTS BMP C209

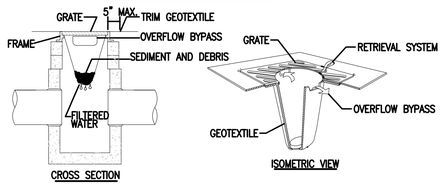


CURB INLET SEDIMENT DAM

Material: 100% Non-woven Polyfiber
Color: Blue
Height: 5" (Custom)
Widths: 36" – 54" –70" (Custom)

Installation:
Place strap through hole(s) provided. Wrap around the horizontal rod in mouth of curb inlet and extend strap through adjacent hole and tie.

CURB INLET SEDIMENT DAM

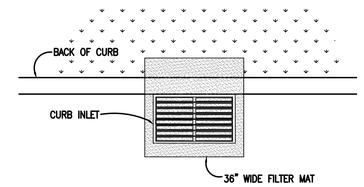


CROSS SECTION ISOMETRIC VIEW

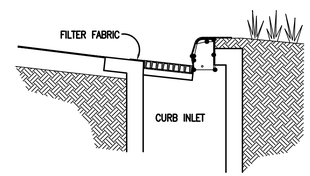
1. INLET PROTECTION MUST BE REGULARLY INSPECTED TO INSURE PROPER PLACEMENT/FUNCTION AND MAINTENANCE.

FILTER BAG

NOTES:
1. SIZE THE BELOW GRATE INLET DEVICE (BGID) FOR THE STORM WATER STRUCTURE IT WILL SERVICE.
2. THE REMOVAL SYSTEM MUST ALLOW REMOVAL OF THE BGID WITHOUT SPILLING THE COLLECTED MATERIAL.
3. THE BGID SHALL HAVE A BUILT-IN HIGH-FLOW RELIEF SYSTEM (OVERFLOW BYPASS).
4. THE CONTRACTOR SHALL INSPECT THE BAG AFTER EACH STORM EVENT AND AT REGULAR INTERVALS.
5. THE FILTER BAG SHALL BE CLEANED OR REPLACED WHEN THE BAG BECOMES HALF FULL.



PLAN VIEW

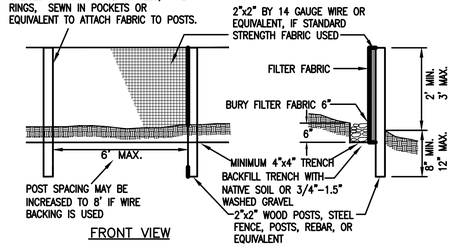


FILTER MAT

NOTES:
1. USE FILTER MAT SEDIMENT BARRIER WHEN CURB INLET IS LOCATED IN GENTLY SLOPING STREET, WITH MINIMAL NEED, WHERE WATER CAN FILTER AND ALLOW SEDIMENT TO SEPARATE FROM RUNOFF.
2. BARRIER SHALL ALLOW FOR OVERFLOW FROM SEVERE STORM EVENT.
3. INSPECT BARRIERS AND REMOVE SEDIMENT AFTER EACH STORM EVENT. SEDIMENT MUST BE REMOVED FROM THE TRAVELED WAY IMMEDIATELY.

STORM DRAIN INLET PROTECTION (2)
NTS BMP C220

JOINTS IN FILTER FABRIC SHALL BE SPLICED AT POSTS. USE STAPLES, WIRE RINGS, SEWN IN POCKETS OR EQUIVALENT TO ATTACH FABRIC TO POSTS.



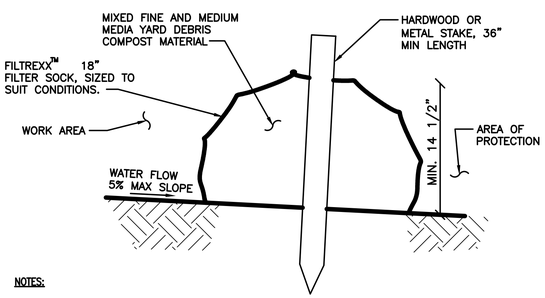
FRONT VIEW SIDE VIEW

NOTE: FILTER FABRIC FENCES SHALL BE INSTALLED ALONG CONTOUR WHENEVER POSSIBLE

MAINTENANCE STANDARDS: ANY DAMAGE SHALL BE REPAIRED IMMEDIATELY

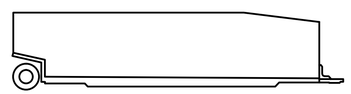
1. SILT FENCES AND FILTER BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
2. IF CONCENTRATED FLOWS ARE EVIDENT UPHILL OF THE FENCE, THEY MUST BE INTERCEPTED AND CONVEYED TO A SEDIMENT POND.
3. IT IS IMPORTANT TO CHECK THE UPHILL SIDE OF THE FENCE FOR SIGNS OF THE FENCE CLOGGING AND ACTING AS A BARRIER TO FLOW AND THEN CAUSING CHANNELIZATION OF FLOWS PARALLEL TO THE FENCE. IF THIS OCCURS, REPLACE THE FENCE OR REMOVE THE TRAPPED SEDIMENT.
4. SEDIMENT DEPOSITS SHALL EITHER BE REMOVED WHEN THE DEPOSIT REACHES APPROXIMATELY ONE–THIRD THE HEIGHT OF THE SILT FENCE, OR A SECOND SILT FENCE SHALL BE INSTALLED.
5. IF THE FILTER FABRIC (GEOTEXTILE) HAS DETERIORATED DUE TO ULTRAVIOLET BREAKDOWN, IT SHALL BE REPLACED.

SILT FENCE (3)
NTS BMP C233



NOTES:
1. FILTER SOCKS SHALL BE PLACED AT THE LOCATION SHOWN ON THE PLAN AND INSTALLED IN ACCORDANCE WITH MANUFACTURER SPECIFICATIONS.
2. USE 2"x2"x36" HARD WOOD STAKES FOR INSTALLS WITH A MINIMUM 12" DRIVE DEPTH.
3. STEEL POSTS MAY BE USED AND SHALL BE ROLLED FROM HIGH CARBON STEEL AND HAVE A MINIMUM OF 1.25 LB/FT. POSTS SHALL BE PAINTED WITH HIGH–GRADE WEATHER RESISTANT BROWN OR BLACK STEEL PAINT. STEEL POSTS SHALL BE EQUIPPED WITH ANCHOR PLATE HAVING A MINIMUM AREA OF 14 SQUARE INCHES. POSTS SHALL BE STUDDED, EMBOSSED, OR BUNCHED. POSTS AND ANCHOR POSTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A702.
4. FILTER SOCKS FILLED AT PROJECT SITE MAY BE UP TO 250 FEET LONG. CONNECTED SOCKS SHALL BE OVERLAPPED A MINIMUM OF 5 FEET.
5. REMOVE SEDIMENT FROM BEHIND FILTER SOCK ONCE IT ACCUMULATES TO ONE–HALF OF THE ORIGINAL HEIGHT OF THE FILTER SOCK.
6. INSPECT FILTER SOCKS AFTER EACH RUNOFF EVENT. REMOVE AND REPLACE IF THERE ARE ANY SIGNS OF UNDERCUTTING OR DOWNSTREAM RILLS ARE OBSERVED.
7. FILTER SOCKS SHALL BE REMOVED FROM SLOPES AFTER STABILIZATION IS COMPLETE UNLESS DIRECTED TO LEAVE IN PLACE BY PERMITTING AGENCY.

COMPOST SOCK DETAIL (4)
NTS BMP C235



STORAGE TANK
NTS

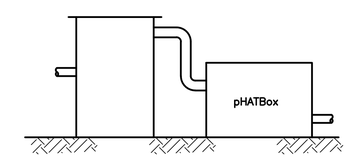
WEIR TANK
NTS

NOTES:
1. TANKS FOR STORAGE AND DEWATERING WATER SHALL BE CLEANED AND TESTED PRIOR TO DELIVERY. TANKS SHALL BE FREE OF ALL CHEMICAL AND HAZARDOUS MATERIAL RESIDUE.
2. STORAGE TANKS SHALL BE COATED INTERNALLY.
3. TANKS SHALL BE PRE–MANUFACTURED, FIXED AXLE WITH ALL NECESSARY PIPING CONNECTIONS AND VALVING.
4. INSPECTION AND CLEANING MAN–WAYS SHALL BE PROVIDED FOR EACH BAY W/I WEIR TANKS.
5. PIPING CONNECTIONS SHALL BE FITTED WITH CONTROL VALVES.
6. TANKS SHALL HAVE LEVEL GAUGE.
7. CONSTRUCTED SEDIMENT PONDS MEETING REQUIREMENTS OF BMP C241 MAY BE SUBSTITUTED.

WEIR AND STORAGE TANKS (5)
NTS BMP C241

NOTES:
1. PROVIDE SAND FILTRATION DEVICES WITH OPTION FOR ADDITION OF BIOLOGICALLY FRIENDLY FLOCCULANT. IF ADDITIONAL PRETREATMENT IS REQUIRED USE WEIR TANKS W/ FLOCCULANT UPSTREAM.
2. SYSTEM SHALL BE CAPABLE OF AUTOMATIC BACKWASH FOR TIMED, PRESSURE DIFFERENTIAL OR MANUAL BACKWASH INTERVALS.
3. PROVIDE DOWNSTREAM FLOW COMPOSITE WATER QUALITY MONITOR TO TEST FOR TURBIDITY, ZINC, AND COPPER.
4. PROVIDE ADDITIONAL CARTRIDGE OR BAG FILTERS TO ENSURE WATER QUALITY BENCHMARKS ARE ACHIEVED.
5. INSPECT AND PROVIDE PERSONNEL FOR MONITORING DAILY. REPLACE MEDIA AS NECESSARY.

ENHANCED SAND FILTRATION (6)
NTS BMP C250/C251



NOTES:
1. PH NEUTRALIZATION SYSTEMS SHALL INCLUDE REAL TIME PH MONITORING AND DATA RECORDING.
2. SYSTEM SHALL BE FULLY AUTOMATED AND CAPABLE OF MEETING NECESSARY DESIGN FLOW RATES.
3. CONTRACTOR SHALL INSPECT AND MONITOR SYSTEM DAILY.

PH NEUTRALIZATION (7)
NTS BMP C253

SAM ADAMS STATE OF WASHINGTON 37330 REGISTERED PROFESSIONAL ENGINEER

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BergerABAM
700 NE Multnomah Street, Suite 900
Portland, Oregon 97232-4189
(503) 872-4100 FAX: (503) 872-4101

VANCOUVER ENERGY
Tesoro Savage Petroleum Terminal LLC

PROJECT: VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: ENVIRONMENTAL CONTROL NOTES AND DETAILS – 3

DESIGN:	DRS	START DATE:	12/23/2014	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	2/19/2015	PROJECT MANAGER:	SAVAGE_PM
CHECKED:	MCH	APPROVED:	SA	SIZE:	24X36
DRAWING NUMBER				SHEET	REV.
0100–EC–003				1/1	

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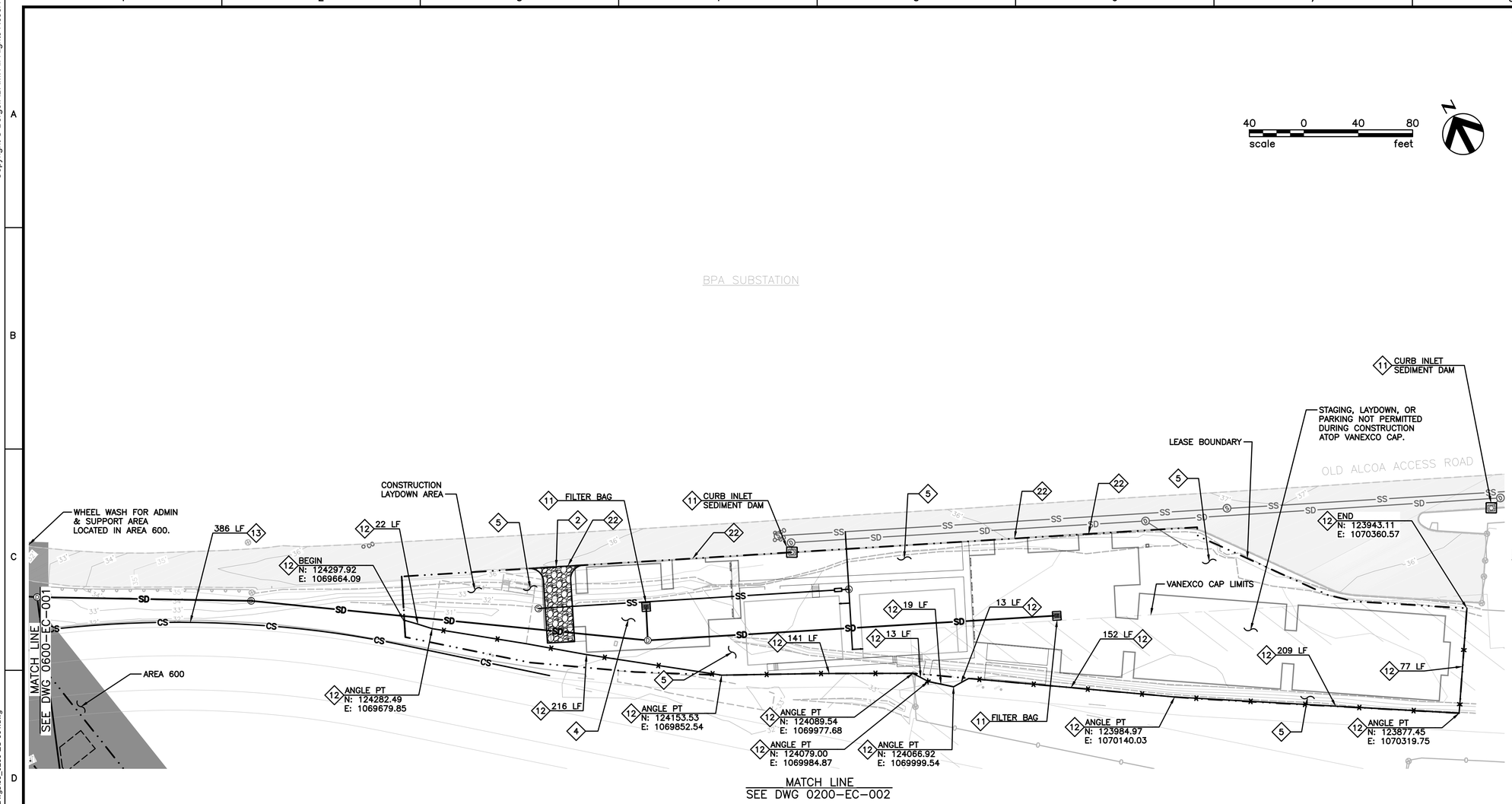

GENERAL NOTES:

1. SEE LEGEND ON SHEET 0100-EC-001 FOR SPECIFIC EROSION PREVENTION, SEDIMENT CONTROL, AND CONSTRUCTION STORMWATER RELATED SYMBOLOGY. SEE LEGEND ON SHEET 0100-CD-001 FOR EXISTING AND PROPOSED SITE DEVELOPMENT FEATURES.
2. LAYOUT OF PROPOSED ENVIRONMENTAL CONTROL ELEMENTS IS SCHEMATIC, ACTUAL LOCATIONS AND CONFIGURATIONS MAY VARY. CONTRACTOR SHALL REVIEW ALL PERMIT DOCUMENTS, CONDITIONS OF APPROVAL, AND APPLICABLE SITE SPECIFIC STORMWATER POLLUTION CONTROL PLANS PRIOR TO CONSTRUCTION. CONTRACTOR SHALL CONSTRUCT ALL ENVIRONMENTAL CONTROL ELEMENTS IN ACCORDANCE WITH DOCUMENT PERMIT REQUIREMENTS.
3. CONTRACTOR IS RESPONSIBLE TO ENSURE THAT ENVIRONMENTAL CONTROLS IN-PLACE DURING CONSTRUCTION ARE SUFFICIENT TO MEET PERMIT REQUIREMENTS AND ARE MAINTAINED AT ALL TIMES. ENVIRONMENTAL CONTROL PLANS ASSUME WET SEASON CONSTRUCTION. CONTRACTOR MAY NEED TO SUPPLEMENT CONTROLS AS NECESSARY TO MEET PERMITTED CONDITIONS.
4. STOCKPILED MATERIAL SHALL BE COVERED WITH PLASTIC COVERING TO THE MAXIMUM EXTENT PRACTICAL DURING WET-WEATHER SEASON. STOCKPILED MATERIAL NOT USED FOR 3 DAYS DURING DRY SEASON SHALL BE COVERED. WHERE FORECAST CALLS FOR RAIN AND/OR HIGH WINDS DURING DRY SEASON INSTALL PLASTIC COVERING ON STOCKPILED MATERIAL. SEE DETAIL 3 ON DWG 0100-EC-002.
5. PROVIDE MATERIAL, STORAGE AND CONTAINMENT BMPs FOR LIQUIDS AND HAZARDOUS MATERIAL. SEE DETAIL 5 ON DWG 0100-EC-002.
6. DURING TRENCHING AND DEEP EXCAVATIONS WHERE GROUNDWATER IS ENCOUNTERED AND EXCAVATION DEWATERING OCCURS, CONTRACTOR SHALL PROVIDE DEWATERING PUMPS AND ON-SITE STORAGE TANKS. CONTRACTOR SHALL TEST ALL DEWATERING WATER IN ACCORDANCE WITH MONITORING REQUIREMENTS ON DWG 0100-EC-001. CONTRACTOR SHALL HAUL OFF AND LEGALLY DISPOSE OF CONTAMINATED EXCAVATION DEWATERING WATER OR PROVIDE TREATMENT FOR DEWATERING WATER IF NECESSARY PRIOR TO RELEASE TO STORM DRAIN.

ENVIRONMENTAL CONTROL NOTES:

2 INSTALL STABILIZED CONSTRUCTION ENTRANCE/EXIT. SEE DETAIL 2 ON DWG 0100-EC-001.

4 CONSTRUCT PARKING AREA STABILIZATION ON-SITE IN LAYDOWN, STAGING, AND CONSTRUCTION PERSONNEL PARKING AREAS. SEE DETAIL 1 ON DWG 0100-EC-002.

5 INSTALL TEMPORARY AND PERMANENT SEEDING IMMEDIATELY FOLLOWING FINAL GRADING. SEE DETAIL 2 ON DWG 0100-EC-002.

7 CONCRETE WASHOUT IS LOCATED IN AREA 300. SEE DWG 0300-EC-001 AND 0300-EC-002 FOR LOCATION.

11 INSTALL INLET PROTECTION (TYPE AS NOTED) AT ALL EXISTING INLETS PRIOR TO BEGINNING CONSTRUCTION. INSTALL INLET PROTECTION AT ALL NEWLY CONSTRUCTED FACILITIES IMMEDIATELY UPON INSTALLATION. SEE DETAIL 2 ON DWG 0100-EC-003.

12 INSTALL SILT FENCE. SEE DETAIL 3 ON DWG 0100-ED-003.

13 INSTALL COMPOST SOCK IN ACCORDANCE WITH DETAIL 4 ON DWG 0100-ED-003. INSTALL DOWN GRADIENT ON ALL TRENCHING AND UTILITY INSTALLATIONS OUTSIDE OF SILT FENCING AREAS. OVERLAP WITH SILT FENC A MINIMUM OF 50'.

22 INSTALL COMPOST SOCK CONTAINMENT TEMPORARILY DURING SAWCUTTING. VACUUM SLURRY AND DISPOSE OF TO SANITARY SEWER. CONTRACTOR SHALL PROTECT ALL SURFACE WATER FROM SAWCUTTING SLURRIES, AND PROVIDE CONTAINMENT FOR ALL CONCRETE OR ASPHALT DEBRIS.

SAM ADAMS STATE OF WASHINGTON 27330 REGISTERED PROFESSIONAL ENGINEER

PERMIT SET
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NO.	DATE	REVISION	BY	CK'D	APP

BergerABAM
700 NE Multnomah Street, Suite 900
Portland, Oregon 97232-4189
(503) 872-4100 FAX: (503) 872-4101

VANCOUVER ENERGY
Tesoro Savage Petroleum Terminal LLC

PROJECT: VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: AREA 200
ENVIRONMENTAL CONTROL PLAN – 1

DESIGN:	DRS	START DATE:	2/19/2015	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	2/24/2015	PROJECT MANAGER:	SAVAGE_PM
CHECKED:	MCH	APPROVED:	SA	SIZE:	24X36

DRAWING NUMBER	SHEET	REV.
0200-EC-001	1/1	

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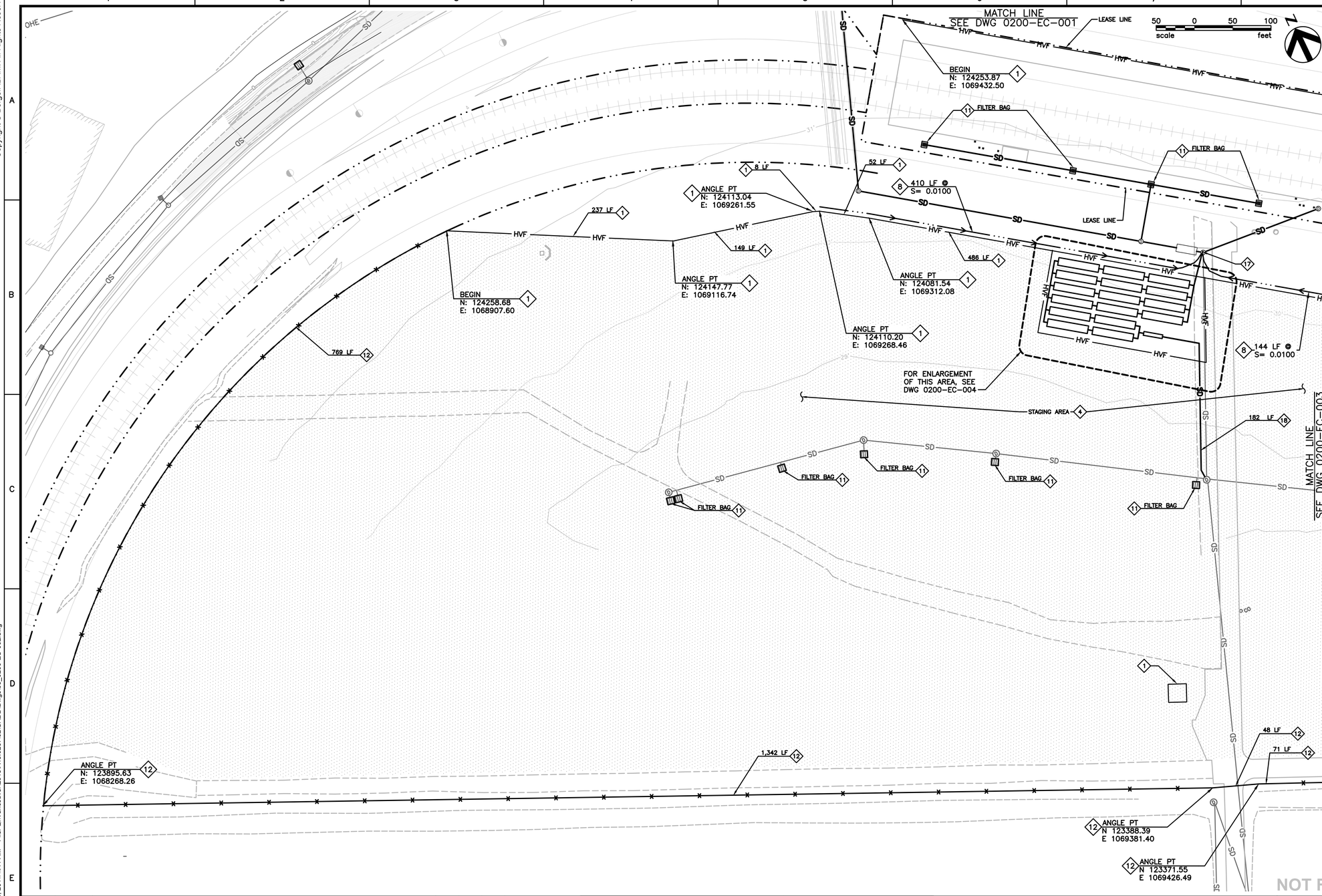

GENERAL NOTES:

1. SEE LEGEND ON SHEET 0100-EC-001 FOR SPECIFIC EROSION PREVENTION, SEDIMENT CONTROL, AND CONSTRUCTION STORMWATER RELATED SYMBOLOGY. SEE LEGEND ON SHEET 0100-CD-001 FOR EXISTING AND PROPOSED SITE DEVELOPMENT FEATURES.
2. LAYOUT OF PROPOSED ENVIRONMENTAL CONTROL ELEMENTS IS SCHEMATIC, ACTUAL LOCATIONS AND CONFIGURATIONS MAY VARY. CONTRACTOR SHALL REVIEW ALL PERMIT DOCUMENTS, CONDITIONS OF APPROVAL, AND APPLICABLE SITE SPECIFIC STORMWATER POLLUTION CONTROL PLANS PRIOR TO CONSTRUCTION. CONTRACTOR SHALL CONSTRUCT ALL ENVIRONMENTAL CONTROL ELEMENTS IN ACCORDANCE WITH DOCUMENT PERMIT REQUIREMENTS.
3. CONTRACTOR IS RESPONSIBLE TO ENSURE THAT ENVIRONMENTAL CONTROLS IN-PLACE DURING CONSTRUCTION ARE SUFFICIENT TO MEET PERMIT REQUIREMENTS AND ARE MAINTAINED AT ALL TIMES. ENVIRONMENTAL CONTROL PLANS ASSUME WET SEASON CONSTRUCTION. CONTRACTOR MAY NEED TO SUPPLEMENT CONTROLS AS NECESSARY TO MEET PERMITTED CONDITIONS.
4. STOCKPILED MATERIAL SHALL BE COVERED WITH PLASTIC COVERING TO THE MAXIMUM EXTENT PRACTICAL DURING WET-WEATHER SEASON. STOCKPILED MATERIAL NOT USED FOR 3 DAYS DURING DRY SEASON SHALL BE COVERED. WHERE FORECAST CALLS FOR RAIN AND/OR HIGH WINDS DURING DRY SEASON INSTALL PLASTIC COVERING ON STOCKPILED MATERIAL. SEE DETAIL 3 ON DWG 0100-EC-002.
5. PROVIDE MATERIAL, STORAGE AND CONTAINMENT BMPs FOR LIQUIDS AND HAZARDOUS MATERIAL. SEE DETAIL 5 ON DWG 0100-EC-002.
6. DURING TRENCHING AND DEEP EXCAVATIONS WHERE GROUNDWATER IS ENCOUNTERED AND EXCAVATION DEWATERING OCCURS, CONTRACTOR SHALL PROVIDE DEWATERING PUMPS AND ON-SITE STORAGE TANKS. CONTRACTOR SHALL TEST ALL DEWATERING WATER IN ACCORDANCE WITH MONITORING REQUIREMENTS ON DWG 0100-EC-001. CONTRACTOR SHALL HAUL OFF AND LEGALLY DISPOSE OF CONTAMINATED EXCAVATION DEWATERING WATER OR PROVIDE TREATMENT FOR DEWATERING WATER IF NECESSARY PRIOR TO RELEASE TO STORM DRAIN.

ENVIRONMENTAL CONTROL NOTES:

1. INSTALL HIGH VISIBILITY FENCING. SEE DETAIL 1 ON DWG 0100-EC-001.
4. CONSTRUCT PARKING AREA STABILIZATION ON-SITE IN LAYDOWN, STAGING, AND CONSTRUCTION PERSONNEL PARKING AREAS. SEE DETAIL 1 ON DWG 0100-EC-002.
7. CONCRETE WASHOUT IS LOCATED IN AREA 300. SEE DWG 0300-EC-002 FOR LOCATION.
8. CONSTRUCT STORMWATER INTERCEPTOR IN THE LOCATION SHOWN. GENTLY GRADE LAYDOWN AREA TO INTERCEPTOR SWALE AS NECESSARY. SEE DETAIL 7 ON DWG 0100-EC-002.
11. INSTALL INLET PROTECTION (TYPE AS NOTED) AT ALL EXISTING INLETS PRIOR TO BEGINNING CONSTRUCTION. INSTALL INLET PROTECTION AT ALL NEWLY CONSTRUCTED FACILITIES IMMEDIATELY UPON INSTALLATION. SEE DETAIL 2 ON DWG 0100-EC-003.
12. INSTALL SILT FENCE. SEE DETAIL 3 ON DWG 0100-EC-003.
17. INSTALL PIPE PLUG ON DOWNSTREAM SIDE OF EXISTING STORM DRAIN STRUCTURE. CONTRACTOR SHALL PROVIDE PACKAGE STORMWATER HANDLING SUCTION PRIME PUMPING SYSTEM COMPLETE WITH GENERATOR, ON-SITE REDUNDANT PUMP, AND AUTODIALER NOTIFICATION SYSTEM.
18. INSTALL SOLID WALL, FUSED TEMPORARY HDPE PUMP EFFLUENT LINE AND MANIFOLD TO STORAGE/SURGE TANKS FOR TREATMENT.

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SAM ADAMS
STATE OF WASHINGTON
27330
REGISTERED
PROFESSIONAL ENGINEER

NO.	DATE	REVISION	BY	CK'D	APP

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700 NE Multnomah Street, Suite 900
Portland, Oregon 97232-4189
(503) 872-4100 FAX: (503) 872-4101

VANCOUVER ENERGY
Tesoro Savage Petroleum Terminal LLC

PROJECT: VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: AREA 200
ENVIRONMENTAL CONTROL PLAN – 2

DESIGN:	DRS	START DATE:	2/20/2015	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	2/24/2015	PROJECT MANAGER:	SAVAGE_PM
CHECKED:	MCH	APPROVED:	SA	SIZE:	24X36

DRAWING NUMBER: 0200-EC-002
SHEET: 1 / 1
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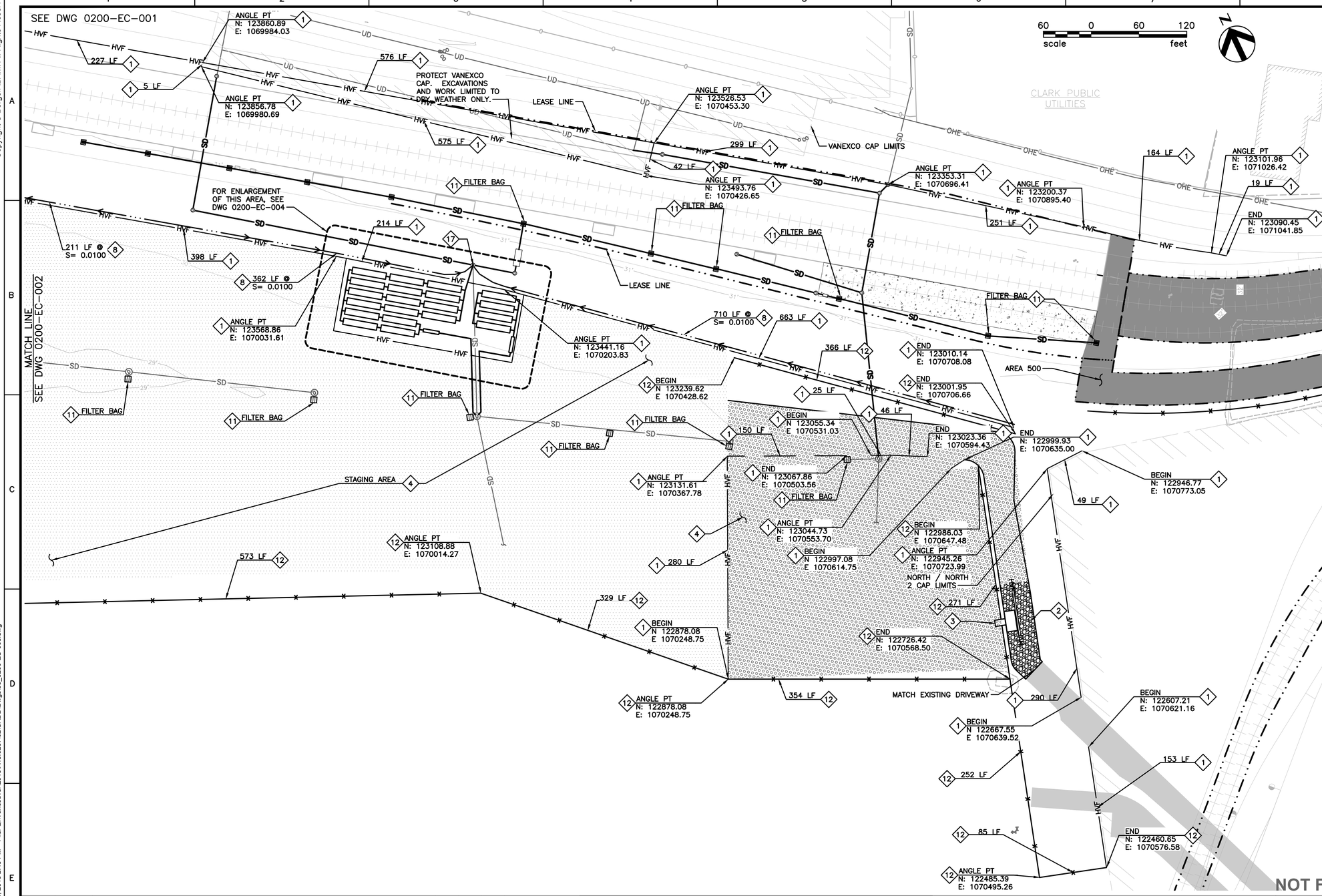

GENERAL NOTES:

1. SEE LEGEND ON SHEET 0100-EC-001 FOR SPECIFIC EROSION PREVENTION, SEDIMENT CONTROL, AND CONSTRUCTION STORMWATER RELATED SYMBOLOGY. SEE LEGEND ON SHEET 0100-CD-001 FOR EXISTING AND PROPOSED SITE DEVELOPMENT FEATURES.
2. LAYOUT OF PROPOSED ENVIRONMENTAL CONTROL ELEMENTS IS SCHEMATIC, ACTUAL LOCATIONS AND CONFIGURATIONS MAY VARY. CONTRACTOR SHALL REVIEW ALL PERMIT DOCUMENTS, CONDITIONS OF APPROVAL, AND APPLICABLE SITE SPECIFIC STORMWATER POLLUTION CONTROL PLANS PRIOR TO CONSTRUCTION. CONTRACTOR SHALL CONSTRUCT ALL ENVIRONMENTAL CONTROL ELEMENTS IN ACCORDANCE WITH DOCUMENT PERMIT REQUIREMENTS.
3. CONTRACTOR IS RESPONSIBLE TO ENSURE THAT ENVIRONMENTAL CONTROLS IN-PLACE DURING CONSTRUCTION ARE SUFFICIENT TO MEET PERMIT REQUIREMENTS AND ARE MAINTAINED AT ALL TIMES. ENVIRONMENTAL CONTROL PLANS ASSUME WET SEASON CONSTRUCTION. CONTRACTOR MAY NEED TO SUPPLEMENT CONTROLS AS NECESSARY TO MEET PERMITTED CONDITIONS.
4. STOCKPILED MATERIAL SHALL BE COVERED WITH PLASTIC COVERING TO THE MAXIMUM EXTENT PRACTICAL DURING WET-WEATHER SEASON. STOCKPILED MATERIAL NOT USED FOR 3 DAYS DURING DRY SEASON SHALL BE COVERED. WHERE FORECAST CALLS FOR RAIN AND/OR HIGH WINDS DURING DRY SEASON INSTALL PLASTIC COVERING ON STOCKPILED MATERIAL. SEE DETAIL 3 ON DWG 0100-EC-002.
5. PROVIDE MATERIAL, STORAGE AND CONTAINMENT BMPs FOR LIQUIDS AND HAZARDOUS MATERIAL. SEE DETAIL 5 ON DWG 0100-EC-002.
6. DURING TRENCHING AND DEEP EXCAVATIONS WHERE GROUNDWATER IS ENCOUNTERED AND EXCAVATION DEWATERING OCCURS, CONTRACTOR SHALL PROVIDE DEWATERING PUMPS AND ON-SITE STORAGE TANKS. CONTRACTOR SHALL TEST ALL DEWATERING WATER IN ACCORDANCE WITH MONITORING REQUIREMENTS ON DWG 0100-EC-001. CONTRACTOR SHALL HAUL OFF AND LEGALLY DISPOSE OF CONTAMINATED EXCAVATION DEWATERING WATER OR PROVIDE TREATMENT FOR DEWATERING WATER IF NECESSARY PRIOR TO RELEASE TO STORM DRAIN.

ENVIRONMENTAL CONTROL NOTES:

1. INSTALL HIGH VISIBILITY FENCING. SEE DETAIL 1 ON DWG 0100-EC-001.
2. INSTALL STABILIZED CONSTRUCTION ENTRANCE/EXIT. SEE DETAIL 2 ON DWG 0100-EC-001.
3. INSTALL PACKAGED WHEEL WASH DURING PERIODS OF GROUND DISTURBANCE DURING THE WET SEASON. SEE DETAIL 3 ON DWG 0100-EC-001.
4. CONSTRUCT PARKING AREA STABILIZATION ON-SITE IN LAYDOWN, STAGING, AND CONSTRUCTION PERSONNEL PARKING AREAS. SEE DETAIL 1 ON DWG 0100-EC-002.
7. CONCRETE WASHOUT IS LOCATED IN AREA 300. SEE DWG 0300-EC-001 AND 0300-EC-003 FOR LOCATION.
8. CONSTRUCT STORMWATER INTERCEPTOR IN THE LOCATION SHOWN. GENTLY GRADE LAYDOWN AREA TO INTERCEPTOR SWALE AS NECESSARY. SEE DETAIL 7 ON DWG 0100-EC-002.
11. INSTALL INLET PROTECTION (TYPE AS NOTED) AT ALL EXISTING INLETS PRIOR TO BEGINNING CONSTRUCTION. INSTALL INLET PROTECTION AT ALL NEWLY CONSTRUCTED FACILITIES IMMEDIATELY UPON INSTALLATION. SEE DETAIL 2 ON DWG 0100-EC-003.
12. INSTALL SILT FENCE. SEE DETAIL 3 ON DWG 0100-EC-003.

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SAM ADAMS — STATE OF WASHINGTON — 27330 — REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REVISION	BY	CK'D	APP

BergerABAM
700 NE Multnomah Street, Suite 900
Portland, Oregon 97232-4189
(503) 872-4100 FAX: (503) 872-4101

VANCOUVER ENERGY
Tesoro Savage Petroleum Terminal LLC

PROJECT: VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: AREA 200
ENVIRONMENTAL CONTROL PLAN – 3

DESIGN:	DRS	START DATE:	2/24/2015	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	10/12/2015	PROJECT MANAGER:	SAVAGE_PM
CHECKED:	MCH	APPROVED:	SA	SIZE:	24X36

DRAWING NUMBER	SHEET	REV.
0200-EC-003	1 / 1	

Last Saved by: Tony.pritchett on: Feb 24, 2015 2:49 PM File: Q:\Vancouver\2013\A13.0267\02\CADD\Dwgs\03_0200-EC-003.dwg

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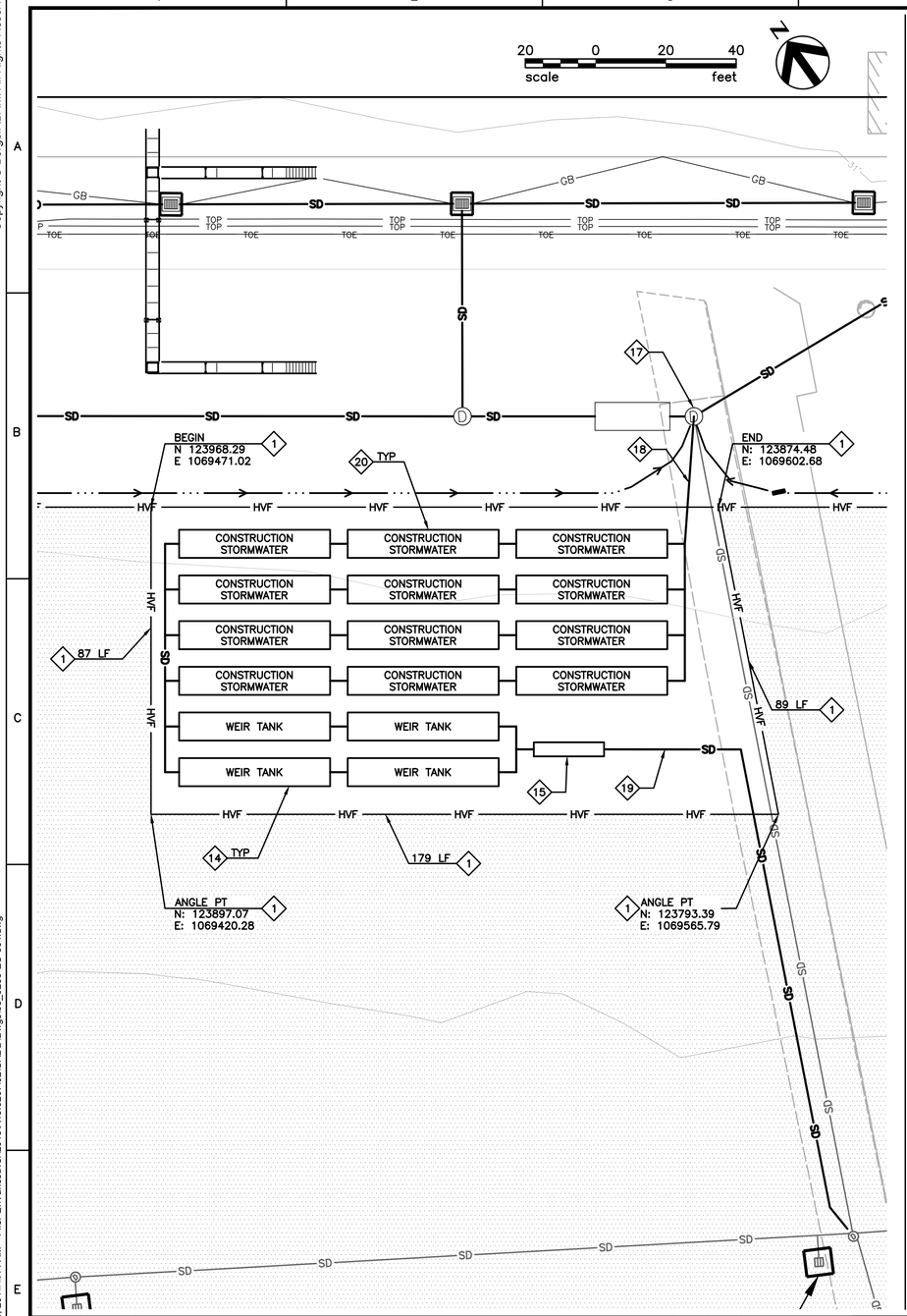

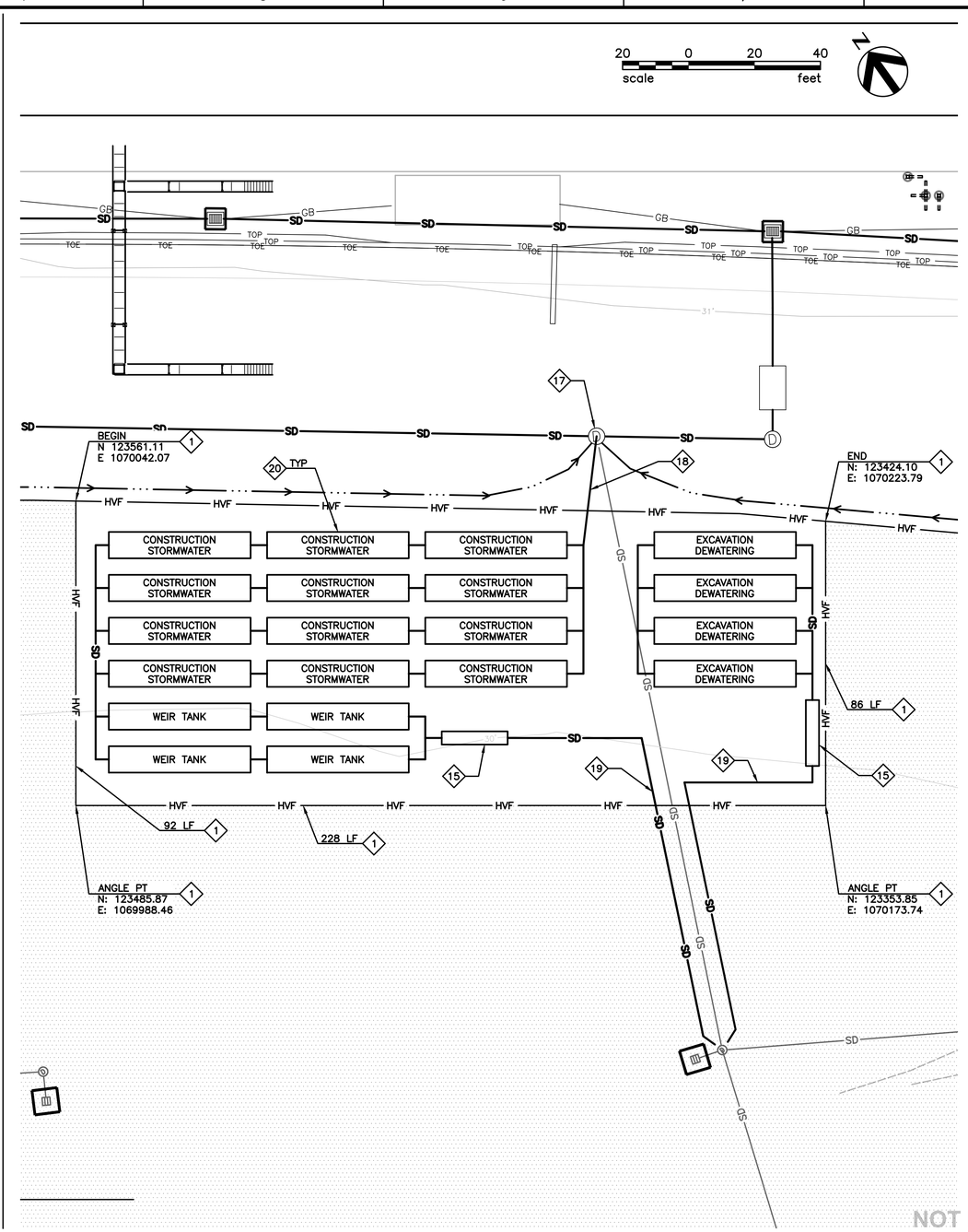

GENERAL NOTES:

1. SEE LEGEND ON SHEET 0100-EC-001 FOR SPECIFIC EROSION PREVENTION, SEDIMENT CONTROL, AND CONSTRUCTION STORMWATER RELATED SYMBOLOGY. SEE LEGEND ON SHEET 0100-CD-001 FOR EXISTING AND PROPOSED SITE DEVELOPMENT FEATURES.
2. LAYOUT OF PROPOSED ENVIRONMENTAL CONTROL ELEMENTS IS SCHEMATIC, ACTUAL LOCATIONS AND CONFIGURATIONS MAY VARY. CONTRACTOR SHALL REVIEW ALL PERMIT DOCUMENTS, CONDITIONS OF APPROVAL, AND APPLICABLE SITE SPECIFIC STORMWATER POLLUTION CONTROL PLANS PRIOR TO CONSTRUCTION. CONTRACTOR SHALL CONSTRUCT ALL ENVIRONMENTAL CONTROL ELEMENTS IN ACCORDANCE WITH DOCUMENT PERMIT REQUIREMENTS.
3. CONTRACTOR IS RESPONSIBLE TO ENSURE THAT ENVIRONMENTAL CONTROLS IN-PLACE DURING CONSTRUCTION ARE SUFFICIENT TO MEET PERMIT REQUIREMENTS AND ARE MAINTAINED AT ALL TIMES. ENVIRONMENTAL CONTROL PLANS ASSUME WET SEASON CONSTRUCTION. CONTRACTOR MAY NEED TO SUPPLEMENT CONTROLS AS NECESSARY TO MEET PERMITTED CONDITIONS.
4. STOCKPILED MATERIAL SHALL BE COVERED WITH PLASTIC COVERING TO THE MAXIMUM EXTENT PRACTICAL DURING WET-WEATHER SEASON. STOCKPILED MATERIAL NOT USED FOR 3 DAYS DURING DRY SEASON SHALL BE COVERED. WHERE FORECAST CALLS FOR RAIN AND/OR HIGH WINDS DURING DRY SEASON INSTALL PLASTIC COVERING ON STOCKPILED MATERIAL. SEE DETAIL 3 ON DWG 0100-EC-002.
5. PROVIDE MATERIAL, STORAGE AND CONTAINMENT BMPs FOR LIQUIDS AND HAZARDOUS MATERIAL. SEE DETAIL 5 ON DWG 0100-EC-002.
6. DURING TRENCHING AND DEEP EXCAVATIONS WHERE GROUNDWATER IS ENCOUNTERED AND EXCAVATION DEWATERING OCCURS, CONTRACTOR SHALL PROVIDE DEWATERING PUMPS AND ON-SITE STORAGE TANKS. CONTRACTOR SHALL TEST ALL DEWATERING WATER IN ACCORDANCE WITH MONITORING REQUIREMENTS ON DWG 0100-EC-001. CONTRACTOR SHALL HAUL OFF AND LEGALLY DISPOSE OF CONTAMINATED EXCAVATION DEWATERING WATER OR PROVIDE TREATMENT FOR DEWATERING WATER IF NECESSARY PRIOR TO RELEASE TO STORM DRAIN.

ENVIRONMENTAL CONTROL NOTES:

1. INSTALL HIGH VISIBILITY FENCING. SEE DETAIL 1 ON DWG 0100-EC-001.
4. CONSTRUCT PARKING AREA STABILIZATION ON-SITE IN LAYDOWN, STAGING, AND CONSTRUCTION PERSONNEL PARKING AREAS. SEE DETAIL 1 ON DWG 0100-EC-002.
8. CONSTRUCT STORMWATER INTERCEPTOR IN THE LOCATION SHOWN. GENTLY GRADE LAYDOWN AREA TO INTERCEPTOR SWALE AS NECESSARY. SEE DETAIL 7 ON DWG 0100-EC-002.
11. INSTALL INLET PROTECTION (TYPE AS NOTED) AT ALL EXISTING INLETS PRIOR TO BEGINNING CONSTRUCTION. INSTALL INLET PROTECTION AT ALL NEWLY CONSTRUCTED FACILITIES IMMEDIATELY UPON INSTALLATION. SEE DETAIL 2 ON DWG 0100-EC-003.
12. INSTALL SILT FENCE. SEE DETAIL 3 ON DWG 0100-EC-003.
14. INSTALL WEIR TANKS FOR BASIC SEDIMENT TREATMENT. SEE DETAIL 5 ON DWG 0100-EC-003.
15. INSTALL ENHANCED SAND FILTRATION AND ADDITIONAL TREATMENT AS REQUIRED TO MEET PERMIT CONDITIONS. SEE DETAIL 6 ON DWG 0100-EC-003.
17. INSTALL PIPE PLUG ON DOWNSTREAM SIDE OF EXISTING STORM DRAIN STRUCTURE. CONTRACTOR SHALL PROVIDE PACKAGE STORMWATER HANDLING SUCTION PRIME PUMPING SYSTEM COMPLETE WITH GENERATOR, ON-SITE REDUNDANT PUMP, AND AUTODIALER NOTIFICATION SYSTEM.
18. INSTALL SOLID WALL, FUSED TEMPORARY HDPE PUMP EFFLUENT LINE AND MANIFOLD TO STORAGE/SURGE TANKS FOR TREATMENT.
19. INSTALL STORMWATER TREATMENT SYSTEM OUTFALL PIPING TO EXISTING STORM DRAIN. CONTRACTOR SHALL PROVIDE FLOW COMPOSITE SAMPLER AND PORT TO EXTRACT DAILY GRAB SAMPLES.
20. INSTALL 1.5 MILLION GALLONS OF STORAGE/SURGE TANKS.

SAM ADAMS
STATE OF WASHINGTON
27330
REGISTERED
PROFESSIONAL ENGINEER

PERMIT SET
NOT FOR CONSTRUCTION

NO.	DATE	REVISION	BY	CK'D	APP

BergerABAM
700 NE Multnomah Street, Suite 900
Portland, Oregon 97232-4189
(503) 872-4100 FAX: (503) 872-4101

VANCOUVER ENERGY
Tesoro Savage Petroleum Terminal LLC

PROJECT: VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: AREA 200
ENVIRONMENTAL CONTROL PLAN – 4

DESIGN:	DRS	START DATE:	2/20/2015	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	2/20/2015	PROJECT MANAGER:	SAVAGE_PM
CHECKED:	MCH	APPROVED:	SA	SIZE:	24X36
DRAWING NUMBER				SHEET	REV.
0200-EC-004				1/1	

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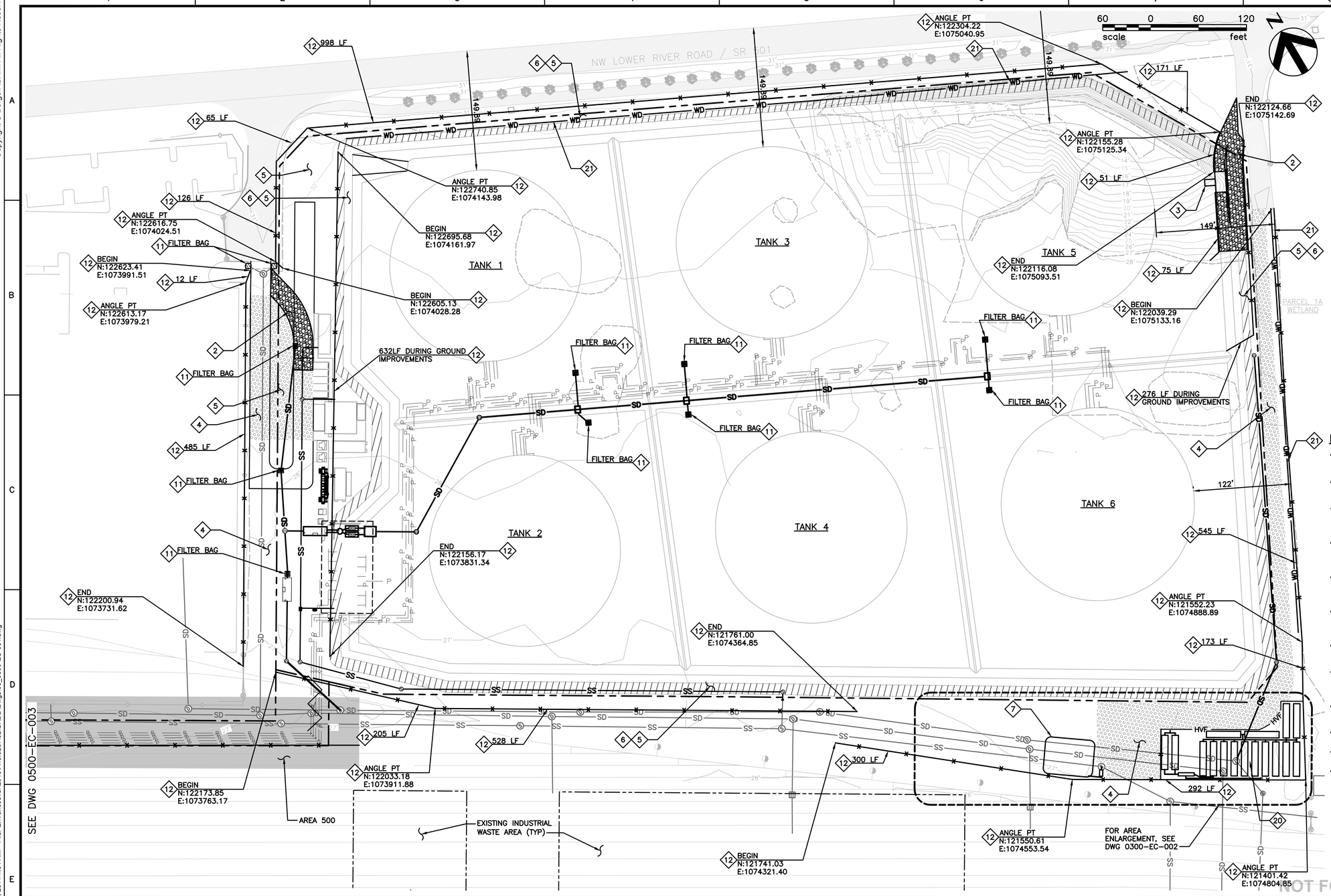

GENERAL NOTES:

1. SEE LEGEND ON SHEET 0100-EC-001 FOR SPECIFIC EROSION PREVENTION, SEDIMENT CONTROL, AND CONSTRUCTION STORMWATER RELATED SYMBOLOGY. SEE LEGEND ON SHEET 0100-CD-001 FOR EXISTING AND PROPOSED SITE DEVELOPMENT FEATURES.
2. LAYOUT OF PROPOSED ENVIRONMENTAL CONTROL ELEMENTS IS SCHEMATIC, ACTUAL LOCATIONS AND CONFIGURATIONS MAY VARY. CONTRACTOR SHALL REVIEW ALL PERMIT DOCUMENTS, CONDITIONS OF APPROVAL, AND APPLICABLE SITE SPECIFIC STORMWATER POLLUTION CONTROL PLANS PRIOR TO CONSTRUCTION. CONTRACTOR SHALL CONSTRUCT ALL ENVIRONMENTAL CONTROL ELEMENTS IN ACCORDANCE WITH DOCUMENT PERMIT REQUIREMENTS.
3. CONTRACTOR IS RESPONSIBLE TO ENSURE THAT ENVIRONMENTAL CONTROLS IN-PLACE DURING CONSTRUCTION ARE SUFFICIENT TO MEET PERMIT REQUIREMENTS AND ARE MAINTAINED AT ALL TIMES. ENVIRONMENTAL CONTROL PLANS ASSUME WET SEASON CONSTRUCTION. CONTRACTOR MAY NEED TO SUPPLEMENT CONTROLS AS NECESSARY TO MEET PERMITTED CONDITIONS.
4. STOCKPILED MATERIAL SHALL BE COVERED WITH PLASTIC COVERING TO THE MAXIMUM EXTENT PRACTICAL DURING WET-WEATHER SEASON. STOCKPILED MATERIAL NOT USED FOR 3 DAYS DURING DRY SEASON SHALL BE COVERED. WHERE FORECAST CALLS FOR RAIN AND/OR HIGH WINDS DURING DRY SEASON INSTALL PLASTIC COVERING ON STOCKPILED MATERIAL. SEE DETAIL 3 ON DWG 0100-EC-002.
5. PROVIDE MATERIAL, STORAGE AND CONTAINMENT BMPs FOR LIQUIDS AND HAZARDOUS MATERIAL. SEE DETAIL 5 ON DWG 0100-EC-002.
6. DURING TRENCHING AND DEEP EXCAVATIONS WHERE GROUNDWATER IS ENCOUNTERED AND EXCAVATION DEWATERING OCCURS, CONTRACTOR SHALL PROVIDE DEWATERING PUMPS AND ON-SITE STORAGE TANKS. CONTRACTOR SHALL TEST ALL DEWATERING WATER IN ACCORDANCE WITH MONITORING REQUIREMENTS ON DWG 0100-EC-001. CONTRACTOR SHALL HAUL OFF AND LEGALLY DISPOSE OF CONTAMINATED EXCAVATION DEWATERING WATER OR PROVIDE TREATMENT FOR DEWATERING WATER IF NECESSARY PRIOR TO RELEASE TO STORM DRAIN.

ENVIRONMENTAL CONTROL NOTES:

1. INSTALL HIGH VISIBILITY FENCING. SEE DETAIL 1 ON DWG 0100-EC-001.
2. INSTALL STABILIZED CONSTRUCTION ENTRANCE/EXIT. SEE DETAIL 2 ON DWG 0100-EC-001.
3. INSTALL PACKAGED WHEEL WASH DURING PERIODS OF GROUND DISTURBANCE DURING THE WET SEASON. SEE DETAIL 3 ON DWG 0100-EC-001.
4. CONSTRUCT PARKING AREA STABILIZATION ON-SITE IN LAYDOWN, STAGING, AND CONSTRUCTION PERSONNEL PARKING AREAS. SEE DETAIL 1 ON DWG 0100-EC-002.
5. INSTALL TEMPORARY AND PERMANENT SEEDING IMMEDIATELY FOLLOWING FINAL GRADING. SEE DETAIL 2 ON DWG 0100-EC-002.
6. PERFORM SURFACE ROUGHENING ON PRIMARY CONTAINMENT BERMS DURING CONSTRUCTION. SEE DETAIL 4 ON DWG 0100-EC-002.
7. INSTALL CONCRETE WASHOUT AREA IN ACCORDANCE WITH DETAIL 6 ON DRAWING 0100-EC-002.
8. CONSTRUCT STORMWATER INTERCEPTOR IN THE LOCATION SHOWN. GENTLY GRADE LAYDOWN AREA TO INTERCEPTOR SWALE AS NECESSARY. SEE DETAIL 7 ON DWG 0100-EC-002.
11. INSTALL CHECK DAMS IN EXISTING BIOFILTRATION SWALE AS SHOWN. SEE DETAIL 8 ON DWG 0100-EC-002.
12. INSTALL SILT FENCE. SEE DETAIL 3 IN DWG0100-EC-003.
20. INSTALL 60,000 GALLONS OF STORAGE/SURGE TANKS.
21. INSTALL WICK DRAINS AT 16' O.C. MINIMUM SPACING WHERE SHOWN WHEN GROUND IMPROVEMENTS ARE WITHIN 150 FEET OF ADJACENT WETLANDS. CONTRACTOR SHALL SUBMIT ENGINEERED DESIGN FOR REVIEW AND APPROVAL.

SAM ADAMS — STATE OF WASHINGTON — 37330 — REGISTERED PROFESSIONAL ENGINEER

PERMIT SET
NOT FOR CONSTRUCTION

NO.	DATE	REVISION	BY	CK'D	APP

BergerABAM
700 NE Multnomah Street, Suite 900
Portland, Oregon 97232-4189
(503) 872-4100 FAX: (503) 872-4101

VANCOUVER ENERGY
Tesoro Savage Petroleum Terminal LLC

PROJECT: VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: AREA 300
ENVIRONMENTAL CONTROL PLAN

DESIGN:	DRS	START DATE:	2/23/2015	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	2/24/2015	PROJECT MANAGER:	SAVAGE_PM
CHECKED:	MCH	APPROVED:	SA	SIZE:	24X36

DRAWING NUMBER: 0300-EC-001 — SHEET 1/1 — REV.

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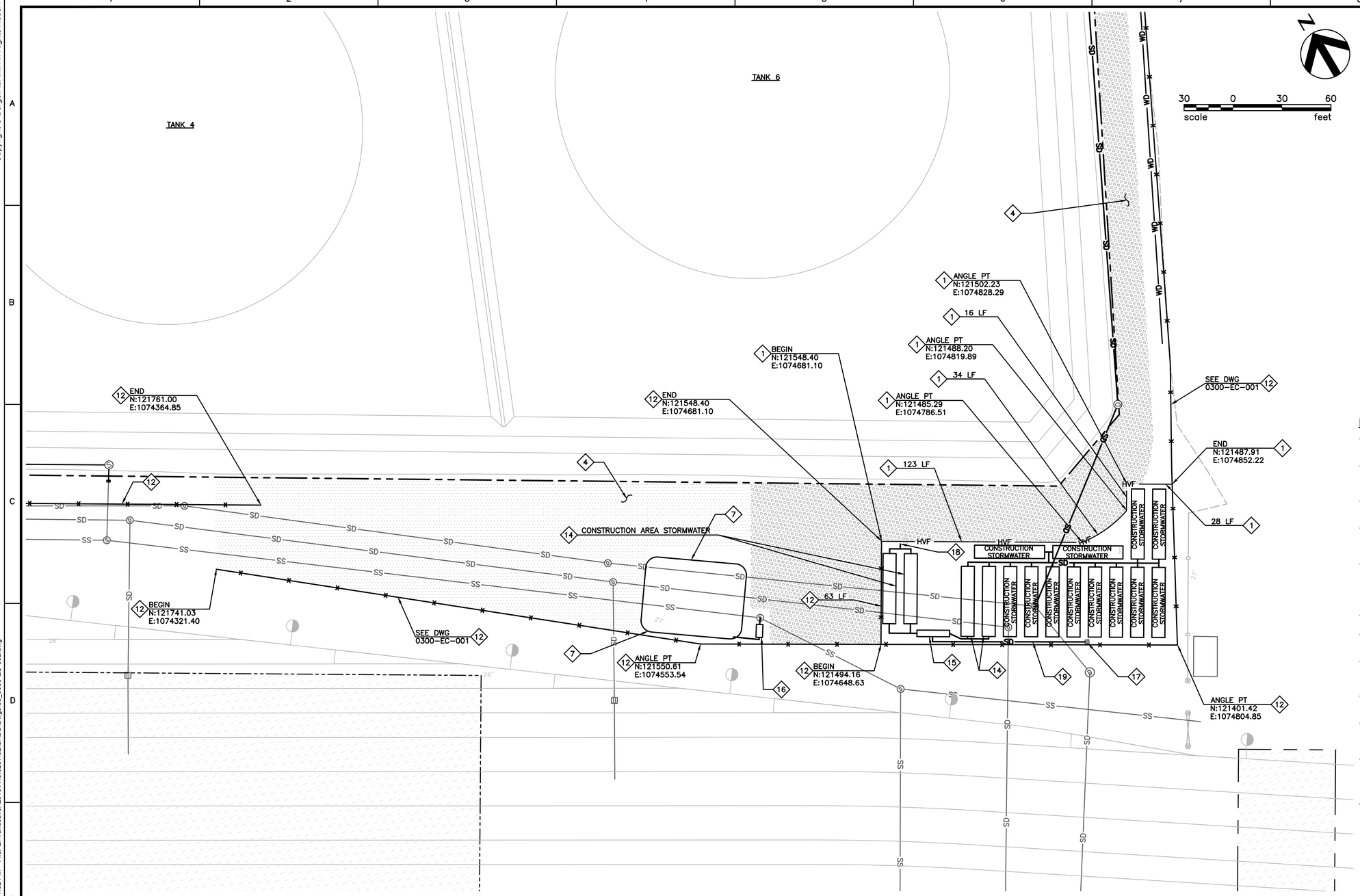

GENERAL NOTES:

1. SEE LEGEND ON SHEET 0100-EC-001 FOR SPECIFIC EROSION PREVENTION, SEDIMENT CONTROL, AND CONSTRUCTION STORMWATER RELATED SYMBOLOGY. SEE LEGEND ON SHEET 0100-CD-001 FOR EXISTING AND PROPOSED SITE DEVELOPMENT FEATURES.
2. LAYOUT OF PROPOSED ENVIRONMENTAL CONTROL ELEMENTS IS SCHEMATIC, ACTUAL LOCATIONS AND CONFIGURATIONS MAY VARY. CONTRACTOR SHALL REVIEW ALL PERMIT DOCUMENTS, CONDITIONS OF APPROVAL, AND APPLICABLE SITE SPECIFIC STORMWATER POLLUTION CONTROL PLANS PRIOR TO CONSTRUCTION. CONTRACTOR SHALL CONSTRUCT ALL ENVIRONMENTAL CONTROL ELEMENTS IN ACCORDANCE WITH DOCUMENT PERMIT REQUIREMENTS.
3. CONTRACTOR IS RESPONSIBLE TO ENSURE THAT ENVIRONMENTAL CONTROLS IN-PLACE DURING CONSTRUCTION ARE SUFFICIENT TO MEET PERMIT REQUIREMENTS AND ARE MAINTAINED AT ALL TIMES. ENVIRONMENTAL CONTROL PLANS ASSUME WET SEASON CONSTRUCTION. CONTRACTOR MAY NEED TO SUPPLEMENT CONTROLS AS NECESSARY TO MEET PERMITTED CONDITIONS.
4. STOCKPILED MATERIAL SHALL BE COVERED WITH PLASTIC COVERING TO THE MAXIMUM EXTENT PRACTICAL DURING WET-WEATHER SEASON. STOCKPILED MATERIAL NOT USED FOR 3 DAYS DURING DRY SEASON SHALL BE COVERED. WHERE FORECAST CALLS FOR RAIN AND/OR HIGH WINDS DURING DRY SEASON INSTALL PLASTIC COVERING ON STOCKPILED MATERIAL. SEE DETAIL 3 ON DWG 0100-EC-002.
5. PROVIDE MATERIAL, STORAGE AND CONTAINMENT BMPs FOR LIQUIDS AND HAZARDOUS MATERIAL. SEE DETAIL 5 ON DWG 0100-EC-002.
6. DURING TRENCHING AND DEEP EXCAVATIONS WHERE GROUNDWATER IS ENCOUNTERED AND EXCAVATION DEWATERING OCCURS, CONTRACTOR SHALL PROVIDE DEWATERING PUMPS AND ON-SITE STORAGE TANKS. CONTRACTOR SHALL TEST ALL DEWATERING WATER IN ACCORDANCE WITH MONITORING REQUIREMENTS ON DWG 0100-EC-001. CONTRACTOR SHALL HAUL OFF AND LEGALLY DISPOSE OF CONTAMINATED EXCAVATION DEWATERING WATER OR PROVIDE TREATMENT FOR DEWATERING WATER IF NECESSARY PRIOR TO RELEASE TO STORM DRAIN.

ENVIRONMENTAL CONTROL NOTES:

1. INSTALL HIGH VISIBILITY FENCING. SEE DETAIL 1 ON DWG 0100-EC-001.
4. CONSTRUCT PARKING AREA STABILIZATION ON-SITE IN LAYDOWN, STAGING, AND CONSTRUCTION PERSONNEL PARKING AREAS. SEE DETAIL 1 ON DWG 0100-EC-002.
7. INSTALL CONCRETE WASHOUT AREA. SEE DETAIL 6 ON DWG 0100-EC-002
8. CONSTRUCT STORMWATER INTERCEPTOR IN THE LOCATION SHOWN. GENTLY GRADE LAYDOWN AREA TO INTERCEPTOR SWALE AS NECESSARY. SEE DETAIL 7 ON DWG 0100-EC-002.
11. INSTALL INLET PROTECTION (TYPE AS NOTED) AT ALL EXISTING INLETS PRIOR TO BEGINNING CONSTRUCTION. INSTALL INLET PROTECTION AT ALL NEWLY CONSTRUCTED FACILITIES IMMEDIATELY UPON INSTALLATION. SEE DETAIL 2 ON DWG 0100-EC-003.
12. INSTALL SILT FENCE. SEE DETAIL 3 ON DWG 0100-EC-003.
14. INSTALL WEIR TANKS FOR BASIC SEDIMENT TREATMENT. SEE DETAIL 6 ON DWG 0100-EC-003.
15. INSTALL ENHANCED SAND FILTRATION AND ADDITIONAL TREATMENT AS REQUIRED TO MEET PERMIT CONDITIONS. SEE DETAIL 6 ON DWG 0100-EC-003.
16. INSTALL PH NEUTRALIZATION TREATMENT AS REQUIRED TO MEET PERMIT CONDITIONS. SEE DETAIL 7 ON DWG 0100-EC-003.
18. INSTALL SOLID WALL, FUSED TEMPORARY HDPE PUMP EFFLUENT LINE AND MANIFOLD TO STORAGE/SURGE TANKS FOR TREATMENT.
19. INSTALL STORMWATER TREATMENT SYSTEM OUTFALL PIPING TO EXISTING STORM DRAIN. CONTRACTOR SHALL PROVIDE FLOW COMPOSIT SAMPLER AND PORT TO EXTRACT DAILY GRAB SAMPLES.
20. INSTALL 60,000 GALLONS OF STORAGE/SURGE TANKS.

SAM ADAMS
STATE OF WASHINGTON
37330
REGISTERED
PROFESSIONAL ENGINEER

PERMIT SET
NOT FOR CONSTRUCTION

NO.	DATE	REVISION	BY	CK'D	APP

BergerABAM
700 NE Multnomah Street, Suite 900
Portland, Oregon 97232-4189
(503) 872-4100 FAX: (503) 872-4101

VANCOUVER ENERGY
Tesoro Savage Petroleum Terminal LLC

PROJECT: VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: AREA 300
ENVIRONMENTAL CONTROL PLAN

DESIGN:	DRS	START DATE:	2/17/2015	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	2/20/2015	PROJECT MANAGER:	SAVAGE_PM
CHECKED:	MCH	APPROVED:	SA	SIZE:	24X36

DRAWING NUMBER	SHEET	REV.
0300-EC-002	1 / 1	

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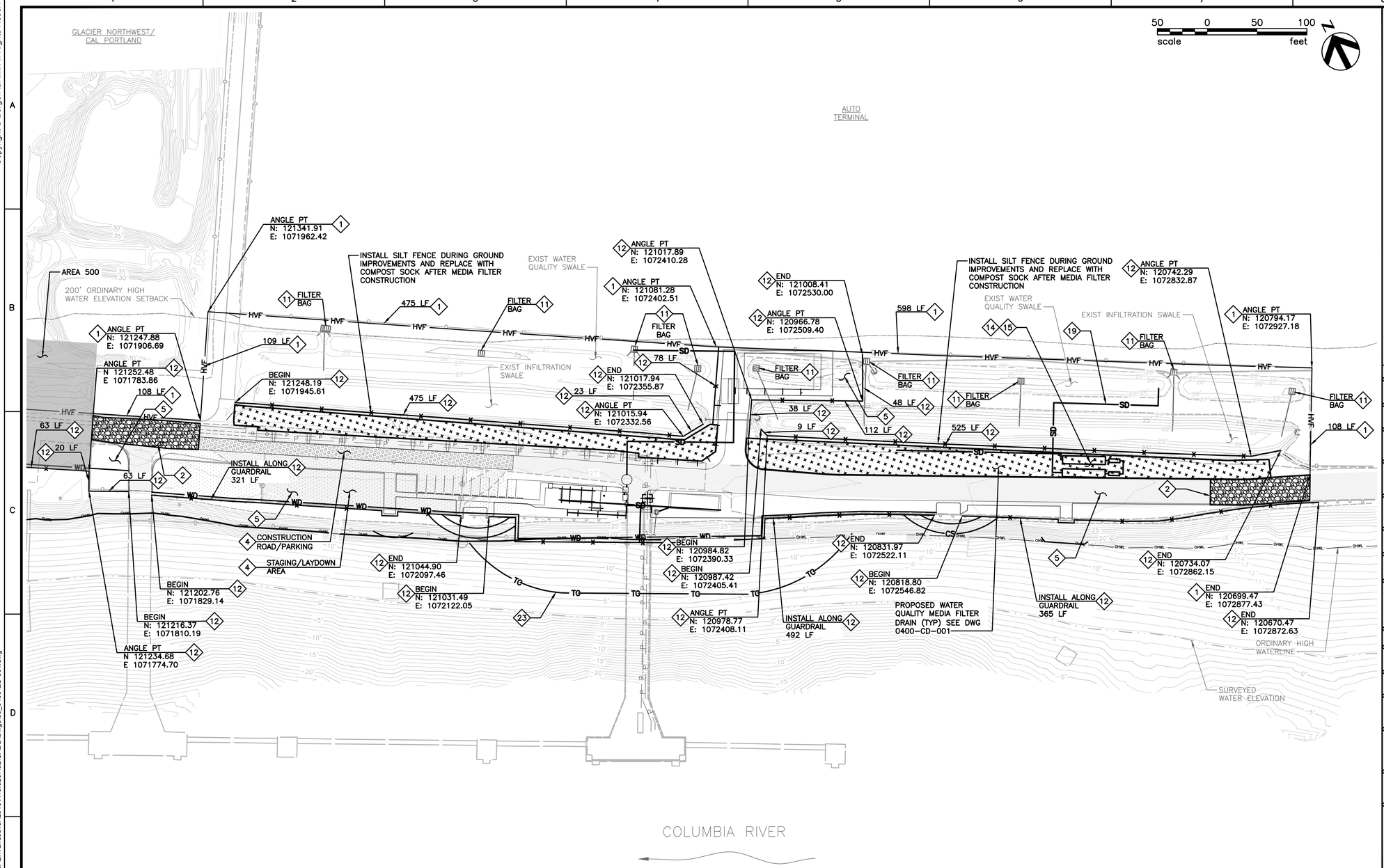

GENERAL NOTES:

1. SEE LEGEND ON SHEET 0100-EC-001 FOR SPECIFIC EROSION PREVENTION, SEDIMENT CONTROL, AND CONSTRUCTION STORMWATER RELATED SYMBOLOGY. SEE LEGEND ON SHEET 0100-CD-001 FOR EXISTING AND PROPOSED SITE DEVELOPMENT FEATURES.
2. LAYOUT OF PROPOSED ENVIRONMENTAL CONTROL ELEMENTS IS SCHEMATIC, ACTUAL LOCATIONS AND CONFIGURATIONS MAY VARY. CONTRACTOR SHALL REVIEW ALL PERMIT DOCUMENTS, CONDITIONS OF APPROVAL, AND APPLICABLE SITE SPECIFIC STORMWATER POLLUTION CONTROL PLANS PRIOR TO CONSTRUCTION. CONTRACTOR SHALL CONSTRUCT ALL ENVIRONMENTAL CONTROL ELEMENTS IN ACCORDANCE WITH DOCUMENT PERMIT REQUIREMENTS.
3. CONTRACTOR IS RESPONSIBLE TO ENSURE THAT ENVIRONMENTAL CONTROLS IN-PLACE DURING CONSTRUCTION ARE SUFFICIENT TO MEET PERMIT REQUIREMENTS AND ARE MAINTAINED AT ALL TIMES. ENVIRONMENTAL CONTROL PLANS ASSUME WET SEASON CONSTRUCTION. CONTRACTOR MAY NEED TO SUPPLEMENT CONTROLS AS NECESSARY TO MEET PERMITTED CONDITIONS.
4. STOCKPILED MATERIAL SHALL BE COVERED WITH PLASTIC COVERING TO THE MAXIMUM EXTENT PRACTICAL DURING WET-WEATHER SEASON. STOCKPILED MATERIAL NOT USED FOR 3 DAYS DURING DRY SEASON SHALL BE COVERED. WHERE FORECAST CALLS FOR RAIN AND/OR HIGH WINDS DURING DRY SEASON INSTALL PLASTIC COVERING ON STOCKPILED MATERIAL. SEE DETAIL 3 ON DWG 0100-EC-002.
5. PROVIDE MATERIAL, STORAGE AND CONTAINMENT BMPs FOR LIQUIDS AND HAZARDOUS MATERIAL. SEE DETAIL 5 ON DWG 0100-EC-002.
6. DURING TRENCHING AND DEEP EXCAVATIONS WHERE GROUNDWATER IS ENCOUNTERED AND EXCAVATION DEWATERING OCCURS, CONTRACTOR SHALL PROVIDE DEWATERING PUMPS AND ON-SITE STORAGE TANKS. CONTRACTOR SHALL TEST ALL DEWATERING WATER IN ACCORDANCE WITH MONITORING REQUIREMENTS ON DWG 0100-EC-001. CONTRACTOR SHALL HAUL OFF AND LEGALLY DISPOSE OF CONTAMINATED EXCAVATION DEWATERING WATER OR PROVIDE TREATMENT FOR DEWATERING WATER IF NECESSARY PRIOR TO RELEASE TO STORM DRAIN.

ENVIRONMENTAL CONTROL NOTES:

1. INSTALL HIGH VISIBILITY FENCING. SEE DETAIL 1 ON DWG 0100-EC-001.
2. INSTALL STABILIZED CONSTRUCTION ENTRANCE/EXIT. SEE DETAIL 2 ON DWG 0100-EC-001.
3. INSTALL PACKAGED WHEEL WASH DURING PERIODS OF GROUND DISTURBANCE DURING THE WET SEASON. SEE DETAIL 3 ON DWG 0100-EC-001.
4. CONSTRUCT PARKING AREA STABILIZATION ON-SITE IN LAYDOWN, STAGING, AND CONSTRUCTION PERSONNEL PARKING AREAS. SEE DETAIL 1 ON DWG 0100-EC-002.
5. INSTALL TEMPORARY AND PERMANENT SEEDING IMMEDIATELY FOLLOWING FINAL GRADING. SEE DETAIL 2 ON DWG 0100-EC-002.
7. CONCRETE WASHOUT IS LOCATED IN AREA 300. SEE DWG 0300-EC-001 AND 0300-EC-002 FOR LOCATION.
9. INSTALL CHECK DAMS IN EXISTING BIOFILTRATION SWALE AS SHOWN. SEE DETAIL 8 ON DWG 0100-EC-002.
11. INSTALL INLET PROTECTION (TYPE AS NOTED) AT ALL EXISTING INLETS PRIOR TO BEGINNING CONSTRUCTION. INSTALL INLET PROTECTION AT ALL NEWLY CONSTRUCTED FACILITIES IMMEDIATELY UPON INSTALLATION. SEE DETAIL 2 ON DWG 0100-EC-003.
12. INSTALL SILT FENCE. SEE DETAIL 3 ON DWG 0100-EC-003.
13. INSTALL COMPOST SOCK IN ACCORDANCE WITH DETAIL 4 ON DRAWING 0100-EC-003
14. INSTALL WEIR TANKS FOR BASIC SEDIMENT TREATMENT. SEE DETAIL 5 ON DWG 0100-EC-003.
15. INSTALL ENHANCED SAND FILTRATION AND ADDITIONAL TREATMENT AS REQUIRED TO MEET PERMIT CONDITIONS. SEE DETAIL 6 ON DWG 0100-EC-003.
19. INSTALL STORMWATER TREATMENT SYSTEM OUTFALL PIPING TO EXISTING STORM DRAIN. CONTRACTOR SHALL PROVIDE FLOW COMPOSITE SAMPLER AND PORT TO EXTRACT DAILY GRAB SAMPLES.
21. INSTALL WICK DRAINS AT 8' O.C. MAXIMUM SPACING ALONG COLUMBIA RIVER WATERFRONT. CONTRACTOR SHALL SUBMIT ENGINEERED DESIGN FOR REVIEW AND APPROVAL.
23. INSTALL TYPE II TURBIDITY CURTAIN DURING GROUND IMPROVEMENT WORK NEAR THE ABUTMENT.

PERMIT SET
NOT FOR CONSTRUCTION

SAM ADAMS — STATE OF WASHINGTON — 27330 — REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REVISION	BY	CK'D	APP

BergerABAM
700 NE Multnomah Street, Suite 900
Portland, Oregon 97232-4189
(503) 872-4100 FAX: (503) 872-4101

VANCOUVER ENERGY
Tesoro Savage Petroleum Terminal LLC

PROJECT: VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: AREA 400
ENVIRONMENTAL CONTROL PLAN

DESIGN:	DRS	START DATE:	2/23/2015	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	2/24/2015	PROJECT MANAGER:	SAVAGE_PM
CHECKED:	MCH	APPROVED:	SA	SIZE:	24X36

DRAWING NUMBER: 0400-EC-001 — SHEET 1/1 — REV.

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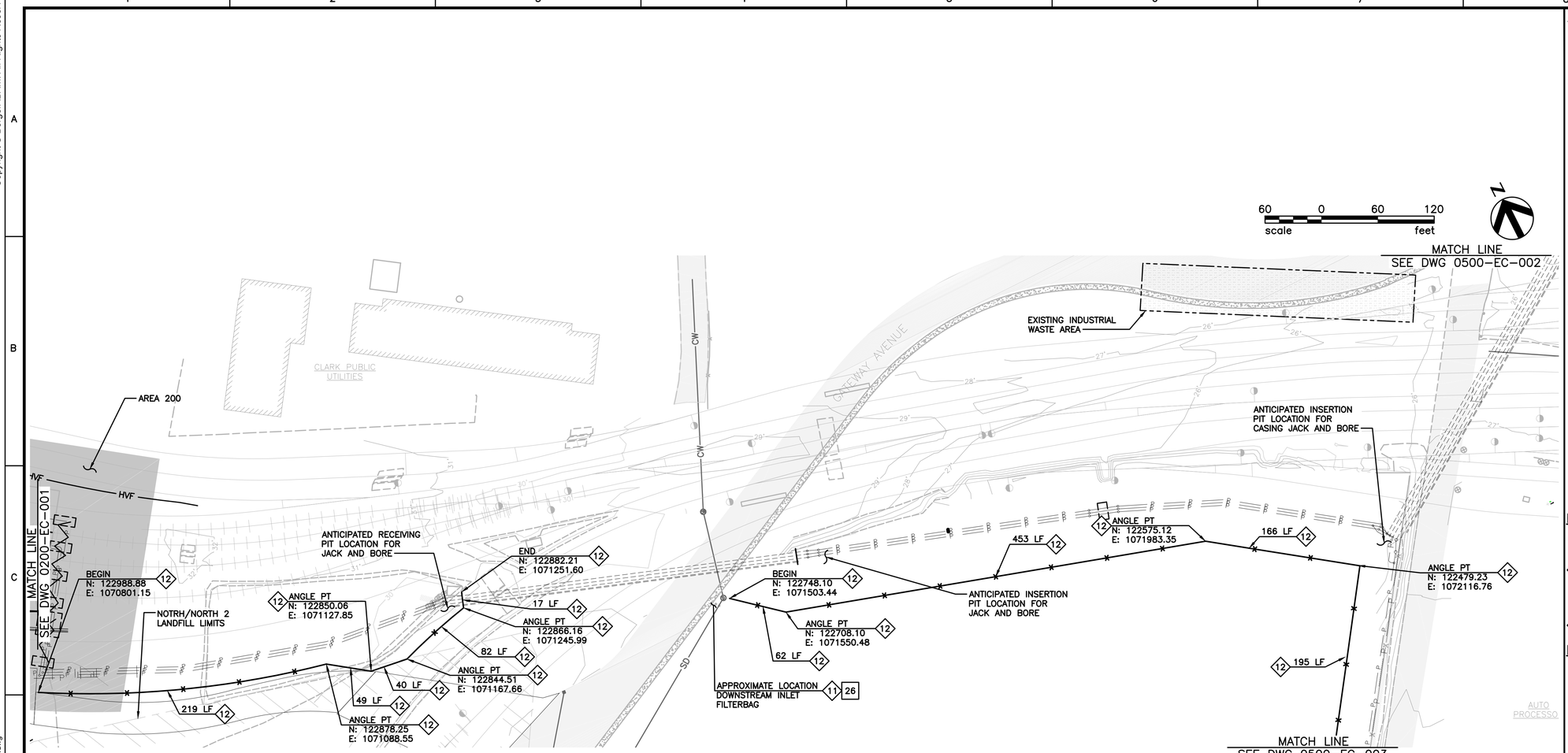


GENERAL NOTES:

1. SEE LEGEND ON SHEET 0100-EC-001 FOR SPECIFIC EROSION PREVENTION, SEDIMENT CONTROL, AND CONSTRUCTION STORMWATER RELATED SYMBOLOGY. SEE LEGEND ON SHEET 0100-CD-001 FOR EXISTING AND PROPOSED SITE DEVELOPMENT FEATURES.
2. LAYOUT OF PROPOSED ENVIRONMENTAL CONTROL ELEMENTS IS SCHEMATIC, ACTUAL LOCATIONS AND CONFIGURATIONS MAY VARY. CONTRACTOR SHALL REVIEW ALL PERMIT DOCUMENTS, CONDITIONS OF APPROVAL, AND APPLICABLE SITE SPECIFIC STORMWATER POLLUTION CONTROL PLANS PRIOR TO CONSTRUCTION. CONTRACTOR SHALL CONSTRUCT ALL ENVIRONMENTAL CONTROL ELEMENTS IN ACCORDANCE WITH DOCUMENT PERMIT REQUIREMENTS.
3. CONTRACTOR IS RESPONSIBLE TO ENSURE THAT ENVIRONMENTAL CONTROLS IN-PLACE DURING CONSTRUCTION ARE SUFFICIENT TO MEET PERMIT REQUIREMENTS AND ARE MAINTAINED AT ALL TIMES. ENVIRONMENTAL CONTROL PLANS ASSUME WET SEASON CONSTRUCTION. CONTRACTOR MAY NEED TO SUPPLEMENT CONTROLS AS NECESSARY TO MEET PERMITTED CONDITIONS.
4. STOCKPILED MATERIAL SHALL BE COVERED WITH PLASTIC COVERING TO THE MAXIMUM EXTENT PRACTICAL DURING WET-WEATHER SEASON. STOCKPILED MATERIAL NOT USED FOR 3 DAYS DURING DRY SEASON SHALL BE COVERED. WHERE FORECAST CALLS FOR RAIN AND/OR HIGH WINDS DURING DRY SEASON INSTALL PLASTIC COVERING ON STOCKPILED MATERIAL. SEE DETAIL 3 ON DWG 0100-EC-002.
5. PROVIDE MATERIAL, STORAGE AND CONTAINMENT BMPs FOR LIQUIDS AND HAZARDOUS MATERIAL. SEE DETAIL 5 ON DWG 0100-EC-002.
6. DURING TRENCHING AND DEEP EXCAVATIONS WHERE GROUNDWATER IS ENCOUNTERED AND EXCAVATION DEWATERING OCCURS, CONTRACTOR SHALL PROVIDE DEWATERING PUMPS AND ON-SITE STORAGE TANKS. CONTRACTOR SHALL TEST ALL DEWATERING WATER IN ACCORDANCE WITH MONITORING REQUIREMENTS ON DWG 0100-EC-001. CONTRACTOR SHALL HAUL OFF AND LEGALLY DISPOSE OF CONTAMINATED EXCAVATION DEWATERING WATER OR PROVIDE TREATMENT FOR DEWATERING WATER IF NECESSARY PRIOR TO RELEASE TO STORM DRAIN.

ENVIRONMENTAL CONTROL NOTES:

1 INSTALL HIGH VISIBILITY FENCING. SEE DETAIL 1 ON DWG 0100-EC-001.

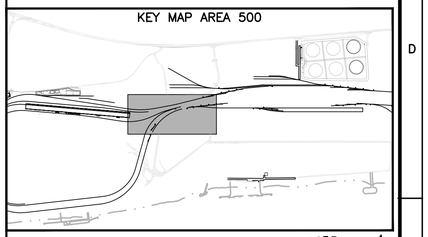
11 INSTALL INLET PROTECTION (TYPE AS NOTED) AT ALL EXISTING INLETS PRIOR TO BEGINNING CONSTRUCTION. INSTALL INLET PROTECTION AT ALL NEWLY CONSTRUCTED FACILITIES IMMEDIATELY UPON INSTALLATION. SEE DETAIL 2 ON DWG 0100-EC-003.

12 INSTALL SILT FENCE. SEE DETAIL 3 ON DWG 0100-EC-003.

DRAINAGE NOTES:

26 RETROFIT SPILL TRAP WITHIN EXISTING INLET PER DETAIL 4 ON DRAWING 0100-CD-006.

KEY MAP AREA 500



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SAM ADAMS STATE OF WASHINGTON 47330 REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REVISION	BY	CK'D	APP

BergerABAM
700 NE Multnomah Street, Suite 900
Portland, Oregon 97232-4189
(503) 872-4100 FAX: (503) 872-4101

VANCOUVER ENERGY
Tesoro Savage Petroleum Terminal LLC

PROJECT: VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: ENVIRONMENTAL CONTROL PLAN – TRANSFER PIPELINE AREA – 1

DESIGN:	DRS	START DATE:	2/23/2015	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	2/24/2015	PROJECT MANAGER:	SAVAGE_PM
CHECKED:	MCH	APPROVED:	SA	SIZE:	24X36

DRAWING NUMBER	SHEET	REV.
0500-EC-001	1 / 1	

Last Saved by: Tony.pritchett on: Feb 23, 201 12 AM File: Q:\Vancouver\2013\A13.0267\02\CADD\Dwgs\03_0_00-EC-001.dwg

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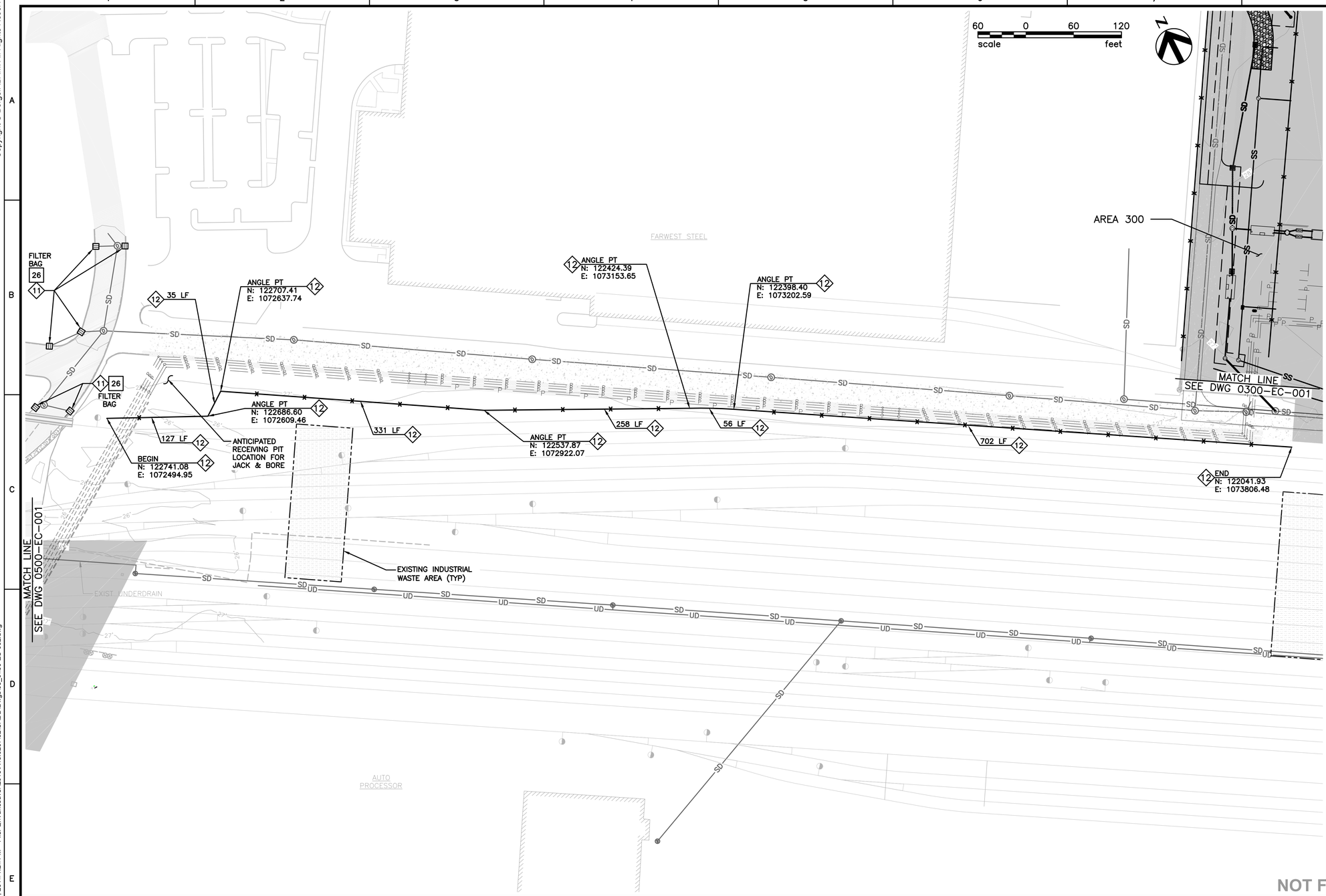


GENERAL NOTES:

1. SEE LEGEND ON SHEET 0100-EC-001 FOR SPECIFIC EROSION PREVENTION, SEDIMENT CONTROL, AND CONSTRUCTION STORMWATER RELATED SYMBOLOGY. SEE LEGEND ON SHEET 0100-CD-001 FOR EXISTING AND PROPOSED SITE DEVELOPMENT FEATURES.
2. LAYOUT OF PROPOSED ENVIRONMENTAL CONTROL ELEMENTS IS SCHEMATIC, ACTUAL LOCATIONS AND CONFIGURATIONS MAY VARY. CONTRACTOR SHALL REVIEW ALL PERMIT DOCUMENTS, CONDITIONS OF APPROVAL, AND APPLICABLE SITE SPECIFIC STORMWATER POLLUTION CONTROL PLANS PRIOR TO CONSTRUCTION. CONTRACTOR SHALL CONSTRUCT ALL ENVIRONMENTAL CONTROL ELEMENTS IN ACCORDANCE WITH DOCUMENT PERMIT REQUIREMENTS.
3. CONTRACTOR IS RESPONSIBLE TO ENSURE THAT ENVIRONMENTAL CONTROLS IN-PLACE DURING CONSTRUCTION ARE SUFFICIENT TO MEET PERMIT REQUIREMENTS AND ARE MAINTAINED AT ALL TIMES. ENVIRONMENTAL CONTROL PLANS ASSUME WET SEASON CONSTRUCTION. CONTRACTOR MAY NEED TO SUPPLEMENT CONTROLS AS NECESSARY TO MEET PERMITTED CONDITIONS.
4. STOCKPILED MATERIAL SHALL BE COVERED WITH PLASTIC COVERING TO THE MAXIMUM EXTENT PRACTICAL DURING WET-WEATHER SEASON. STOCKPILED MATERIAL NOT USED FOR 3 DAYS DURING DRY SEASON SHALL BE COVERED. WHERE FORECAST CALLS FOR RAIN AND/OR HIGH WINDS DURING DRY SEASON INSTALL PLASTIC COVERING ON STOCKPILED MATERIAL. SEE DETAIL 3 ON DWG 0100-EC-002.
5. PROVIDE MATERIAL, STORAGE AND CONTAINMENT BMPs FOR LIQUIDS AND HAZARDOUS MATERIAL. SEE DETAIL 5 ON DWG 0100-EC-002.
6. DURING TRENCHING AND DEEP EXCAVATIONS WHERE GROUNDWATER IS ENCOUNTERED AND EXCAVATION DEWATERING OCCURS, CONTRACTOR SHALL PROVIDE DEWATERING PUMPS AND ON-SITE STORAGE TANKS. CONTRACTOR SHALL TEST ALL DEWATERING WATER IN ACCORDANCE WITH MONITORING REQUIREMENTS ON DWG 0100-EC-001. CONTRACTOR SHALL HAUL OFF AND LEGALLY DISPOSE OF CONTAMINATED EXCAVATION DEWATERING WATER OR PROVIDE TREATMENT FOR DEWATERING WATER IF NECESSARY PRIOR TO RELEASE TO STORM DRAIN.

ENVIRONMENTAL CONTROL NOTES:

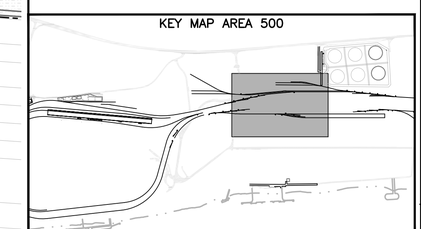
11 INSTALL INLET PROTECTION (TYPE AS NOTED) AT ALL EXISTING INLETS PRIOR TO BEGINNING CONSTRUCTION. INSTALL INLET PROTECTION AT ALL NEWLY CONSTRUCTED FACILITIES IMMEDIATELY UPON INSTALLATION. SEE DETAIL 2 ON DWG 0100-EC-003.

12 INSTALL SILT FENCE. SEE DETAIL 3 ON DWG 0100-EC-003.

DRAINAGE NOTES:

26 RETROFIT SPILL TRAP WITHIN EXISTING INLET PER DETAIL 4 ON DRAWING 0100-CD-006.

KEY MAP AREA 500



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NOT FOR CONSTRUCTION

SAM ADAMS STATE OF WASHINGTON 37330 REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY

NO.	DATE	REVISION	BY	CK'D	APP

BergerABAM
700 NE Multnomah Street, Suite 900
Portland, Oregon 97232-4189
(503) 872-4100 FAX: (503) 872-4101

VANCOUVER ENERGY
Tesoro Savage Petroleum Terminal LLC

PROJECT: VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: ENVIRONMENTAL CONTROL PLAN – TRANSFER PIPELINE AREA – 2

DESIGN:	DRS	START DATE:	2/17/2015	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	2/23/2015	PROJECT MANAGER:	SAVAGE_PM
CHECKED:	MCH	APPROVED:	SA	SIZE:	24X36

DRAWING NUMBER	SHEET	REV.
0500-EC-002	1/1	

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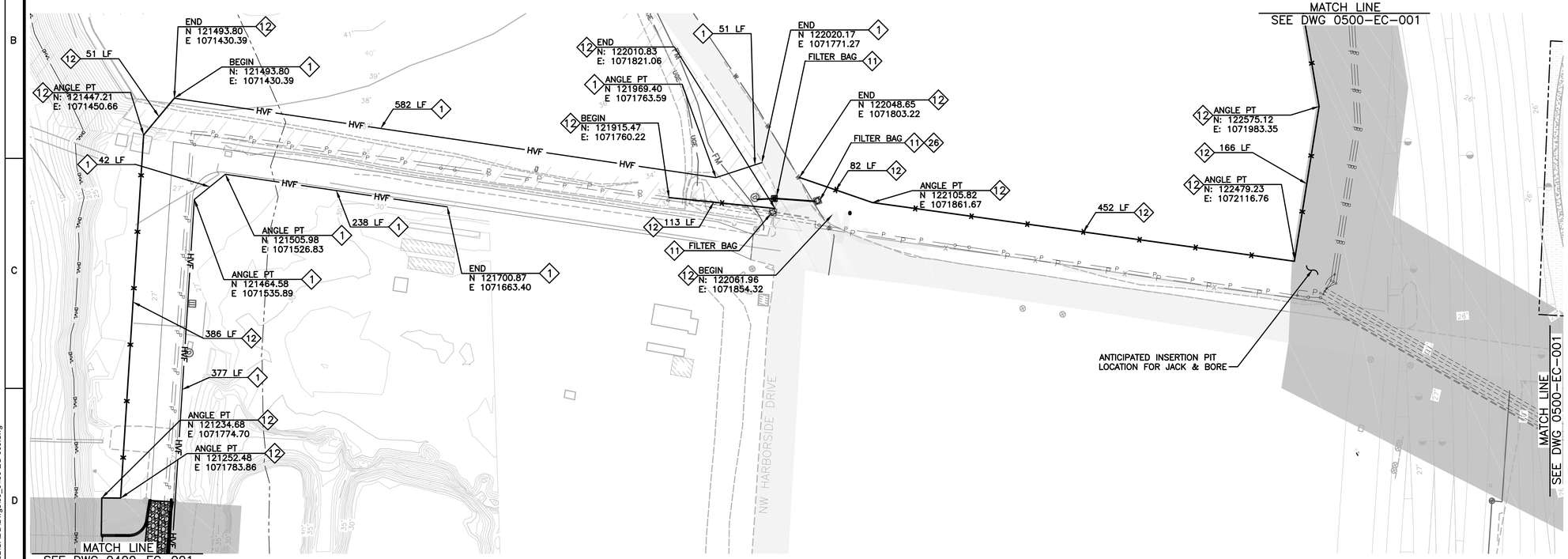


GENERAL NOTES:

1. SEE LEGEND ON SHEET 0100-EC-001 FOR SPECIFIC EROSION PREVENTION, SEDIMENT CONTROL, AND CONSTRUCTION STORMWATER RELATED SYMBOLOGY. SEE LEGEND ON SHEET 0100-CD-001 FOR EXISTING AND PROPOSED SITE DEVELOPMENT FEATURES.
2. LAYOUT OF PROPOSED ENVIRONMENTAL CONTROL ELEMENTS IS SCHEMATIC, ACTUAL LOCATIONS AND CONFIGURATIONS MAY VARY. CONTRACTOR SHALL REVIEW ALL PERMIT DOCUMENTS, CONDITIONS OF APPROVAL, AND APPLICABLE SITE SPECIFIC STORMWATER POLLUTION CONTROL PLANS PRIOR TO CONSTRUCTION. CONTRACTOR SHALL CONSTRUCT ALL ENVIRONMENTAL CONTROL ELEMENTS IN ACCORDANCE WITH DOCUMENT PERMIT REQUIREMENTS.
3. CONTRACTOR IS RESPONSIBLE TO ENSURE THAT ENVIRONMENTAL CONTROLS IN-PLACE DURING CONSTRUCTION ARE SUFFICIENT TO MEET PERMIT REQUIREMENTS AND ARE MAINTAINED AT ALL TIMES. ENVIRONMENTAL CONTROL PLANS ASSUME WET SEASON CONSTRUCTION. CONTRACTOR MAY NEED TO SUPPLEMENT CONTROLS AS NECESSARY TO MEET PERMITTED CONDITIONS.
4. STOCKPILED MATERIAL SHALL BE COVERED WITH PLASTIC COVERING TO THE MAXIMUM EXTENT PRACTICAL DURING WET-WEATHER SEASON. STOCKPILED MATERIAL NOT USED FOR 3 DAYS DURING DRY SEASON SHALL BE COVERED. WHERE FORECAST CALLS FOR RAIN AND/OR HIGH WINDS DURING DRY SEASON INSTALL PLASTIC COVERING ON STOCKPILED MATERIAL. SEE DETAIL 3 ON DWG 0100-EC-002.
5. PROVIDE MATERIAL, STORAGE AND CONTAINMENT BMPs FOR LIQUIDS AND HAZARDOUS MATERIAL. SEE DETAIL 5 ON DWG 0100-EC-002.
6. DURING TRENCHING AND DEEP EXCAVATIONS WHERE GROUNDWATER IS ENCOUNTERED AND EXCAVATION DEWATERING OCCURS, CONTRACTOR SHALL PROVIDE DEWATERING PUMPS AND ON-SITE STORAGE TANKS. CONTRACTOR SHALL TEST ALL DEWATERING WATER IN ACCORDANCE WITH MONITORING REQUIREMENTS ON DWG 0100-EC-001. CONTRACTOR SHALL HAUL OFF AND LEGALLY DISPOSE OF CONTAMINATED EXCAVATION DEWATERING WATER OR PROVIDE TREATMENT FOR DEWATERING WATER IF NECESSARY PRIOR TO RELEASE TO STORM DRAIN.

ENVIRONMENTAL CONTROL NOTES:

1 INSTALL HIGH VISIBILITY FENCING. SEE DETAIL 1 ON DWG 0100-EC-001.

11 INSTALL INLET PROTECTION (TYPE AS NOTED) AT ALL EXISTING INLETS PRIOR TO BEGINNING CONSTRUCTION. INSTALL INLET PROTECTION AT ALL NEWLY CONSTRUCTED FACILITIES IMMEDIATELY UPON INSTALLATION. SEE DETAIL 2 ON DWG 0100-EC-003.

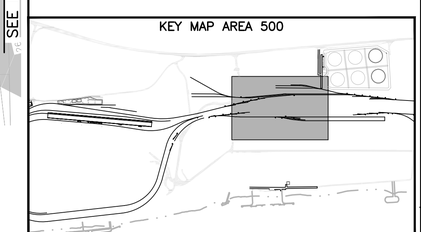
12 INSTALL SILT FENCE. SEE DETAIL 3 ON DWG 0100-EC-003.

13 INSTALL COMPOST SOCK IN ACCORDANCE WITH DETAIL 4 ON DRAWING 0100-EC-003

DRAINAGE NOTES:

26 RETROFIT SPILL TRAP WITHIN EXISTING INLET PER DETAIL 4 ON DRAWING 0100-CD-006.

KEY MAP AREA 500



PERMIT SET
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NO.	DATE	REVISION	BY	CK'D	APP

BergerABAM
700 NE Multnomah Street, Suite 900
Portland, Oregon 97232-4189
(503) 872-4100 FAX: (503) 872-4101

VANCOUVER ENERGY
Tesoro Savage Petroleum Terminal LLC

PROJECT: VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: ENVIRONMENTAL CONTROL PLAN – TRANSFER PIPELINE AREA – 3

DESIGN:	DRS	START DATE:	2/24/2015	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	2/24/2015	PROJECT MANAGER:	SAVAGE_PM
CHECKED:	MCH	APPROVED:	SA	SIZE:	24X36
DRAWING NUMBER				SHEET	REV.
0500-EC-003				1/1	

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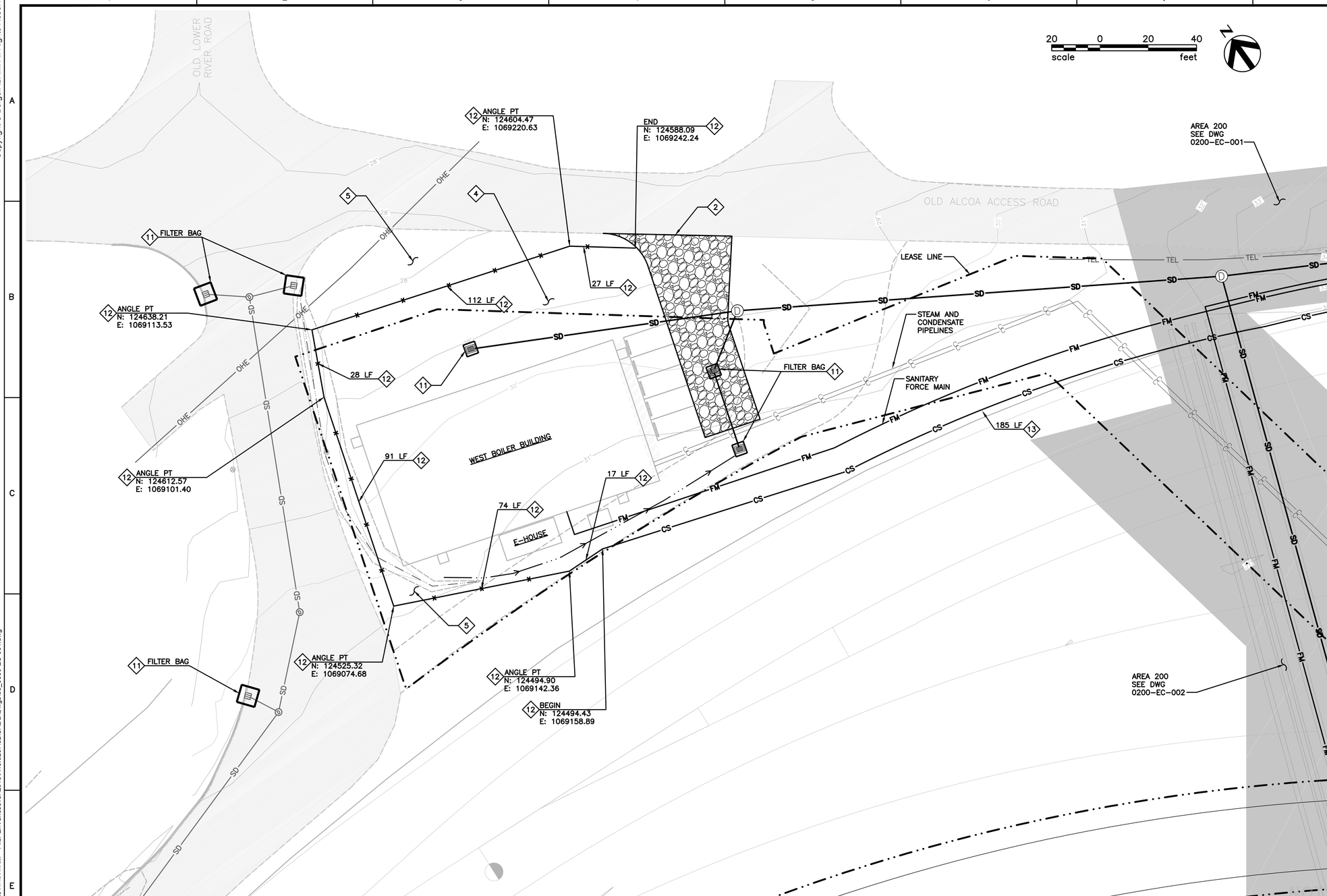

GENERAL NOTES:

1. SEE LEGEND ON SHEET 0100-EC-001 FOR SPECIFIC EROSION PREVENTION, SEDIMENT CONTROL, AND CONSTRUCTION STORMWATER RELATED SYMBOLOGY. SEE LEGEND ON SHEET 0100-CD-001 FOR EXISTING AND PROPOSED SITE DEVELOPMENT FEATURES.
2. LAYOUT OF PROPOSED ENVIRONMENTAL CONTROL ELEMENTS IS SCHEMATIC, ACTUAL LOCATIONS AND CONFIGURATIONS MAY VARY. CONTRACTOR SHALL REVIEW ALL PERMIT DOCUMENTS, CONDITIONS OF APPROVAL, AND APPLICABLE SITE SPECIFIC STORMWATER POLLUTION CONTROL PLANS PRIOR TO CONSTRUCTION. CONTRACTOR SHALL CONSTRUCT ALL ENVIRONMENTAL CONTROL ELEMENTS IN ACCORDANCE WITH DOCUMENT PERMIT REQUIREMENTS.
3. CONTRACTOR IS RESPONSIBLE TO ENSURE THAT ENVIRONMENTAL CONTROLS IN-PLACE DURING CONSTRUCTION ARE SUFFICIENT TO MEET PERMIT REQUIREMENTS AND ARE MAINTAINED AT ALL TIMES. ENVIRONMENTAL CONTROL PLANS ASSUME WET SEASON CONSTRUCTION. CONTRACTOR MAY NEED TO SUPPLEMENT CONTROLS AS NECESSARY TO MEET PERMITTED CONDITIONS.
4. STOCKPILED MATERIAL SHALL BE COVERED WITH PLASTIC COVERING TO THE MAXIMUM EXTENT PRACTICAL DURING WET-WEATHER SEASON. STOCKPILED MATERIAL NOT USED FOR 3 DAYS DURING DRY SEASON SHALL BE COVERED. WHERE FORECAST CALLS FOR RAIN AND/OR HIGH WINDS DURING DRY SEASON INSTALL PLASTIC COVERING ON STOCKPILED MATERIAL. SEE DETAIL 3 ON DWG 0100-EC-002.
5. PROVIDE MATERIAL, STORAGE AND CONTAINMENT BMPs FOR LIQUIDS AND HAZARDOUS MATERIAL. SEE DETAIL 5 ON DWG 0100-EC-002.
6. DURING TRENCHING AND DEEP EXCAVATIONS WHERE GROUNDWATER IS ENCOUNTERED AND EXCAVATION DEWATERING OCCURS, CONTRACTOR SHALL PROVIDE DEWATERING PUMPS AND ON-SITE STORAGE TANKS. CONTRACTOR SHALL TEST ALL DEWATERING WATER IN ACCORDANCE WITH MONITORING REQUIREMENTS ON DWG 0100-EC-001. CONTRACTOR SHALL HAUL OFF AND LEGALLY DISPOSE OF CONTAMINATED EXCAVATION DEWATERING WATER OR PROVIDE TREATMENT FOR DEWATERING WATER IF NECESSARY PRIOR TO RELEASE TO STORM DRAIN.

ENVIRONMENTAL CONTROL NOTES:

2. INSTALL STABILIZED CONSTRUCTION ENTRANCE/EXIT. SEE DETAIL 2 ON DWG 0100-EC-001.
4. CONSTRUCT PARKING AREA STABILIZATION ON-SITE IN LAYDOWN, STAGING, AND CONSTRUCTION PERSONNEL PARKING AREAS. SEE DETAIL 1 ON DWG 0100-EC-002.
5. INSTALL TEMPORARY AND PERMANENT SEEDING IMMEDIATELY FOLLOWING FINAL GRADING. SEE DETAIL 2 ON DWG 0100-EC-002.
7. CONCRETE WASHOUT IS LOCATED IN AREA 300. SEE DWG 0300-EC-001 AND 0300-EC-002 FOR LOCATION. OR INSTALL CONCRETE WASHOUT AREA IN ACCORDANCE WITH DETAIL 6 ON DRAWING 0100-EC-002.
11. INSTALL INLET PROTECTION (TYPE AS NOTED) AT ALL EXISTING INLETS PRIOR TO BEGINNING CONSTRUCTION. INSTALL INLET PROTECTION AT ALL NEWLY CONSTRUCTED FACILITIES IMMEDIATELY UPON INSTALLATION. SEE DETAIL 2 ON DWG 0100-EC-003.
12. INSTALL SILT FENCE. SEE DETAIL 3 ON DWG 0100-EC-003.
13. INSTALL COMPOST SOCK IN ACCORDANCE WITH DETAIL 4 ON DRAWING 0100-EC-003 DURING TRENCHING AND CONSTRUCTION OF FORCE MAIN AND PIPELINES.

SAM ADAMS
STATE OF WASHINGTON
17330
REGISTERED
PROFESSIONAL ENGINEER

PRELIMINARY
PERMIT SET
NOT FOR CONSTRUCTION

NO.	DATE	REVISION	BY	CK'D	APP

BergerABAM
700 NE Multnomah Street, Suite 900
Portland, Oregon 97232-4189
(503) 872-4100 FAX: (503) 872-4101

VANCOUVER ENERGY
Tesoro Savage Petroleum Terminal LLC

PROJECT: VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: AREA 600
ENVIRONMENTAL CONTROL PLAN

DESIGN:	DRS	START DATE:	2/23/2015	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	2/24/2015	PROJECT MANAGER:	SAVAGE_PM
CHECKED:	MCH	APPROVED:	SA	SIZE:	24X36

DRAWING NUMBER	SHEET	REV.
0600-EC-001	1 / 1	

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EXISTING SURVEY SYMBOLOGY

- SET MONUMENT
- FOUND MONUMENT
- RECORD/DEED INFO
- SITE BENCHMARK
- BUILDING HATCH
- WALL HATCH
- GRAVEL HATCH
- CONCRETE HATCH
- BUILDING OVERHANG
- RIGHT OF WAY
- PROPERTY LINE
- CURB LINE
- FENCE
- FO — FIBER OPTIC LINE
- TEL — TELEPHONE LINE
- UGE — UNDERGROUND ELECTRICAL LINE
- SD — STORM DRAIN LINE
- SS — SANITARY SEWER LINE
- W — WATER LINE
- G — GAS LINE
- OHU — OVERHEAD UTILITY LINE
- COM — COMMUNICATION LINE
- AIR — AIR LINE
- 20 — EXISTING MAJOR CONTOURS
- 21 — EXISTING MINOR CONTOURS
- EDGE OF BRUSH LINE
- WETLAND LINE
- WETLAND BUFFER
- RAILROAD TRACKS
- OHWL — ORDINARY HIGH WATER LINE
- SURVEY WATER ELEVATION
- ELECTRIC MANHOLE
- EB — ELECTRIC BOX
- ER — ELECTRIC RISER
- E — ELECTRIC METER
- EV — ELECTRIC VAULT
- POWER POLE
- POWER POLE W/ LIGHT
- G — GUY POLE
- GUY ANCHOR
- 4 HEAD LUMINAIRE
- 8 HEAD LUMINAIRE
- LUMINAIRE
- GV — GAS VALVE

EXISTING SURVEY SYMBOLOGY (CONT'D)

- GROUND/FLOOD LIGHT
- OVERHEAD LIGHT
- GAS MANHOLE
- GLR — GAS LOCATE RISER
- GF — GAS FINK
- G — GAS METER
- GT — GAS VENT
- COMMUNICATION MANHOLE
- TELEPHONE MANHOLE
- TB — TELEPHONE BOX
- TR — TELEPHONE RISER
- FENCE POST
- SINGLE POST SIGN
- DOUBLE POST SIGN
- MB — MAIL BOX
- B — BOLLARD
- FP — FLAG POLE
- SANITARY MANHOLE
- CO — SANITARY CLEANOUT
- STORM MANHOLE
- CURB INLET
- AREA DRAIN
- CATCH BASIN
- STORM CULVERT
- W — WATER METER
- FIRE DEPARTMENT CONNECT
- FIRE HYDRANT
- HB — HOSE BIB
- ICV — IRRIGATION CONTROL VALVE
- PIV — POST INDICATOR VALVE
- WV — WATER VALVE
- WELL
- WVLT — WATER VAULT
- MW — MONITORING WELL
- RRS — RAIL ROAD SWITCH
- YARD AIR
- JUNCTION BOX

SITE PLAN SYMBOLOGY

- 50 — 5FT INTERVAL CONTOUR
- 49 — 1FT INTERVAL CONTOUR
- VEGETATION
- TREE TO BE REMOVED
- CO — CLEAN OUT
- MH — MANHOLE
- MW — MONITORING WELL
- CB — STORM DRAIN CATCH BASIN
- UV — UTILITY VAULT
- PP — POWER POLE
- TP — TELEPHONE POLE
- FH — FIRE HYDRANT
- YH–X — YARD HYDRANT
- 75.5 — EXISTING SPOT ELEVATION
- 75.8 — FINISHED SPOT ELEVATION
- SURVEY CONTROL POINT
- BENCHMARK
- DOWNGUY
- BURIED VALVE
- STATE PLANE COORDINATE ID

NOTES:

1. UTILITIES THAT ARE SUSPENDED ABOVE GRADE ARE DESIGNATED BY THE PREFIX "OH".

- PUBLIC RIGHT–OF–WAY LINE
- LOT — LOT LINE
- BDY — PORT BOUNDARY
- ESMT — RAIL EASEMENT
- CONSTRUCTION EASEMENT
- UTILITY EASEMENT
- W — WATER LINE
- TEL — TELEPHONE LINE
- E — ELECTRIC LINE
- AIR — AIR LINE
- FO — FIBER OPTIC
- COM — COMMUNICATION
- HANDRAIL
- CS — SINGLE LINE PIPELINE
- PIPELINE BENEATH CONCRETE OR STRUCTURE
- DRAINAGE FLOW
- CUT OFF DITCH
- GUARDRAIL
- CHAIN LINK FENCE
- ROAD CENTERLINE
- WETLAND BOUNDARY
- SAWCUT PAVEMENT
- REMOVING ASPHALT CONC. PAVEMENT
- CLEARING AND GRUBBING
- REMOVING TRACK
- REMOVING CHAIN LINK FENCE

SITE PLAN SYMBOLOGY (CONT'D)

- ABANDON EXISTING UTILITY
- REMOVE OR ABANDON EXISTING UTILITY
- SEDIMENT FENCE
- HIGH VISIBILITY FENCE
- SS — SANITARY SEWER LINE
- SD — STORM DRAIN LINE
- FM — FM
- SILT FENCE
- HVF — HIGH VISIBILITY FENCE
- FP — 100 YEAR FLOOD PLAIN
- D — DRAINAGE MH
- S — SANITARY SEWER
- CASINGS / SLEEVES
- CATCH BAISN
- CO — SANITARY CLEANOUT
- FLOOR DRAIN
- IP — INLET PROTECTION
- CS — COMPOST STOCK
- BIO BAGS

PIPING NOMENCLATURE

0300–SD–18–CP

- AREA
- FLUID IDENTIFICATION
- NOMINAL PIPE SIZE
- PIPE MATERIAL SPECIFICATION

FLUID IDENTIFICATION CATEGORIES

- FM – SANITARY SEWER FORCE MAIN
- SD – STORM DRAIN
- SS – SANITARY SEWER
- W – MUNICIPAL WATER

PIPE MATERIAL SPECIFICATION

- CP – CORRUGATED POLYPROPYLENE
- DI – DUCTILE IRON
- SA – HDPE

STRUCTURE NOMENCLATURE

0300–OWS–001

- AREA
- STRUCTURE DESIGNATION
- STRUCTURE NUMBER

STRUCTURE DESIGNATION CATEGORIES

- DIV – DIVERSION MANHOLE
- HPS – HYDRODYNAMIC SEPARATOR
- MHC – MANHOLE W/ REDUCING CONE
- MHT – MANHOLE W/ TOP SLAB
- OWS – OIL/WATER SEPARATOR
- WQV – WATER QUALITY VAULT

GENERAL SYMBOLOGY

ARROW INDICATES DIRECTION OF PLAN NORTH — N

PLAN

50 0 50 100
scale feet

SECTION LETTER
FLAG INDICATES DIRECTION OF SECTION CUT
X XXX
* DRAWING WHERE SECTION VIEW IS LOCATED

SECTION CUT MARKER

SECTION LETTER
SECTION
3/8" = 1'–0"
X XXX
* DRAWING WHERE SECTION VIEW IS FIRST CUT

DETAIL NUMBER
X XXX
* DRAWING WHERE DETAIL IS LOCATED

DETAIL MARKER

DETAIL NUMBER
DETAIL
3" = 1'–0"
X XXX
* DRAWING WHERE DETAIL WAS TAKEN

KEYNOTE OR SPECIFIC NOTE DESIGNATION

KEYNOTE NUMBER
X

RAIL SYMBOLOGY

DESCRIPTION	EXISTING	PROPOSED
RAILROAD TRACK		
SHIFT TRACK		
SURFACE, LINE, & DRESS TRACK		
GRADING LIMITS		

HAND THROW TURNOUT (T.O.)

BEGIN OR END OF CURVE

PERMIT SET
NOT FOR CONSTRUCTION

SAM ADAMS — STATE OF WASHINGTON — 37330 — REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REVISION	BY	CK'D	APP

BergerABAM
700 NE Multnomah Street, Suite 900
Portland, Oregon 97232-4189
(503) 872-4100 FAX: (503) 872-4101

VANCOUVER ENERGY

THIS DRAWING CONTAINS PROPRIETARY AND PRIVILEGED INFORMATION AND SUCH INFORMATION MAY NOT BE USED OR DISCLOSED WITHOUT THE PERMISSION OF VANCOUVER ENERGY.

VANCOUVER ENERGY IS A JOINT VENTURE BETWEEN TESORO REFINING & MARKETING COMPANY LLC AND SAVAGE COMPANIES.

FOR MORE INFORMATION CONTACT: KELLY FLINT 801–944–6600
WWW.VANCOUVERENERGY.COM

PROJECT: VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: CIVIL DRAWING LEGEND

DESIGN:	DRS	START DATE:	12/23/2014	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	12/29/2014	PROJECT MANAGER:	SAVAGE_PM
CHECKED:	MCH	APPROVED:	SA	SIZE:	24X36

DRAWING NUMBER	SHEET	REV.
0100–CD–001	1/1	

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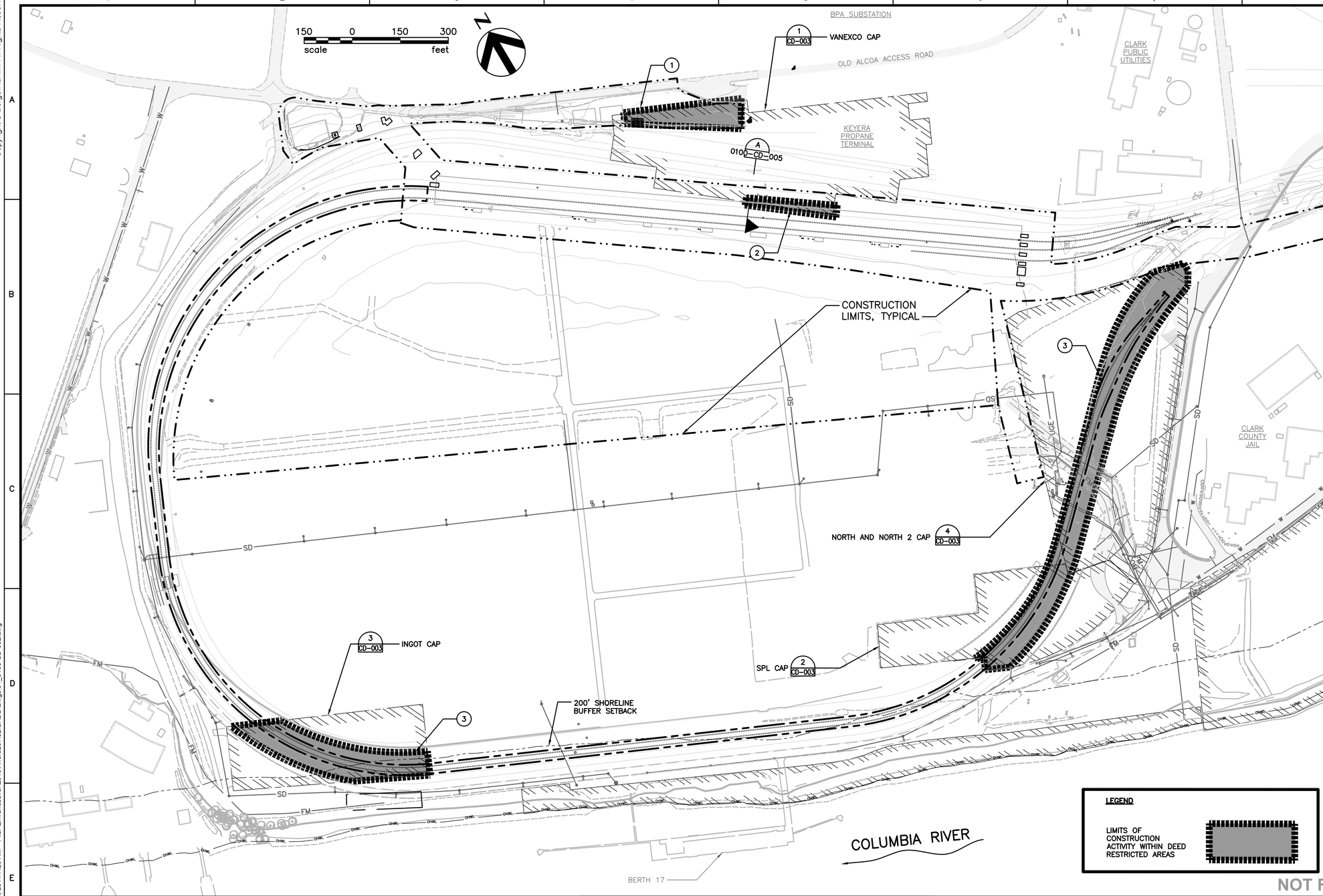

GENERAL NOTES:

1. CONTRACTOR'S ACTIVITY SHALL STRICTLY COMPLY WITH ALL PERMITTED CONDITIONS OF APPROVAL.
2. EXCAVATIONS AND GROUND DISTURBING ACTIVITIES WITHIN DEED RESTRICTED AREAS REQUIRES NOTIFICATION TO THE WASHINGTON STATE ENERGY FACILITY SITE EVALUATION COUNCIL (EFSEC) AND COMPLIANCE WITH THE APPROVED CONTAMINATED MEDIA MANAGEMENT PLAN, APPLICABLE PORT PROTOCOLS AND ADDITIONAL REQUIREMENTS PROVIDED BY EFSEC.
3. SPECIFIC LIMITS FOR THE EAST LANDFILL LIMITS ARE PROVIDED BASED UPON PRIOR SURVEY'S CONDUCTED BY HDJ DESIGN GROUP. WORK LIMIT SHALL ENCROACH UPON THE BOUNDARY OF THE EAST LANDFILL.
4. WHERE KNOWN, ADDITIONAL AREAS OF CONCERN AND POSSIBLE CONTAMINATED MEDIA LOCATIONS HAVE BEEN GENERALLY DEPICTED. CONTRACTOR SHALL COORDINATE FULLY WITH PORT OF VANCOUVER ENVIRONMENTAL STAFF AND INSPECTORS FOR MONITORING AND TESTING OF EXCAVATED MEDIA FOR POSSIBLE CONTAMINATES. PORTIONS OF AREA 200 AND AREA 500 ARE SPECIFICALLY IDENTIFIED WHERE CONTAMINATION IS LIKELY TO BE ENCOUNTERED DURING EXCAVATIONS.
5. IF MEDIA INCLUDING SOILS, OR GROUNDWATER ARE ENCOUNTERED THAT INDICATE POSSIBLE CONTAMINATION, CONTRACTOR SHALL NOTIFY VANCOUVER ENERGY SITE MANAGER, PORT OF VANCOUVER AND EFSEC IMMEDIATELY PRIOR TO PROCEEDING. SIGNS OF CONTAMINATION INCLUDE UNUSUALLY DARK SOIL AND ODORS.
6. IN AREAS OF CONCERN EXCAVATED MATERIAL SHALL BE PLACED IN SEALED WATER-TIGHT CONTAINERS OR LINED STAGING AREAS IMMEDIATELY ADJACENT TO THE WORK AREA FOR TESTING AND CLASSIFICATION OF MATERIAL PRIOR TO HAUL OFF.

CONTAMINATED MEDIA NOTES:

1. CONSTRUCTION ACTIVITIES WITHIN THIS PORTION OF THE VANEXCO CAP WILL BE LIMITED TO GROUND DISTURBANCES ABOVE THE EXISTING CONCRETE CAP. SOME MINOR EXPOSURE OF THE CONCRETE SURFACE MAY OCCUR IN LOCALIZED AREAS. NO WORK WITHIN THIS AREA WILL REMOVE OR PENETRATE PORTIONS OF THE CAP.

2. CONSTRUCTION ACTIVITIES WITHIN THIS PORTION OF THE VANEXCO CAP WILL RESULT IN MODIFICATION OF THE UNDERDRAIN SYSTEM AND HDPE LINER. DISCHARGES FROM THE UNDERDRAIN SYSTEM WILL BE RE-ROUTED TO AVOID CONFLICTS WITH THE PROPOSED RAIL UNLOADING BUILDING FOUNDATIONS AND CONTAINMENT TRENCHES, SEE DWG 0100-CD-006 FOR LINER PENETRATION DETAIL, AND SHEET 0100-CD-007 FOR NEW STORMWATER DETAILS. LINER WILL BE EXTENDED TO AND TIED INTO THE GRADE BEAMS OF THE RAIL UNLOADING BUILDING FOUNDATION SEE DWG 0100-CD-006 FOR DETAILS. FOUNDATIONS OF THE RAIL UNLOADING BUILDING WITHIN THE EXISTING CAP AREA WILL BE LIMITED TO SHALLOW SPREAD FOOTINGS TO LIMIT EXCAVATION ACTIVITIES. CONSTRUCTION OF RAIL UNLOADING BUILDING CONSISTS OF FULLY IMPERVIOUS ROOF WITH CAST-IN-PLACE CONCRETE SURFACING WITH FLOOR DRAINS. ALL RAINWATER WILL BE COLLECTED AND DIVERTED, THEREBY EXCLUDING SURFACE WATER FROM ENTERING CAP AREA.

3. CONSTRUCTION WITHIN THE INGOT CAP, SPL CAP, AND NORTH AND NORTH 2 CAP AREAS ARE LIMITED TO RAIL IMPROVEMENTS ONLY. RAIL LINES TO BE UNDER TSJV CONTROL ARE PERMITTED UNDER EFSEC APPLICATION. CONSTRUCTION DRAWINGS, DETAILS, AND CONSTRUCTION ADMINISTRATION FOR ADDITIONAL 2 RAIL LOOPS WILL BE COMPLETED BY THE PORT OF VANCOUVER AS DISCUSSED IN THE LEASE AGREEMENT.

LEGEND

LIMITS OF CONSTRUCTION ACTIVITY WITHIN DEED RESTRICTED AREAS

PERMIT SET
NOT FOR CONSTRUCTION

SAM ADAMS — STATE OF WASHINGTON — 27330 — REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REVISION	BY	CK'D	APP

BergerABAM
700 NE Multnomah Street, Suite 900
Portland, Oregon 97232-4189
(503) 872-4100 FAX: (503) 872-4101

VANCOUVER ENERGY
Tesoro Savage Petroleum Terminal LLC

PROJECT: VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: CONTAMINATED MEDIA LOCATIONS – 1

DESIGN:	DRS	START DATE:	2/25/2015	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	2/25/2015	PROJECT MANAGER:	SAVAGE_PM
CHECKED:	MCH	APPROVED:	SA	SIZE:	24X36

DRAWING NUMBER: 0100-CD-002 — SHEET 1/1 — REV.

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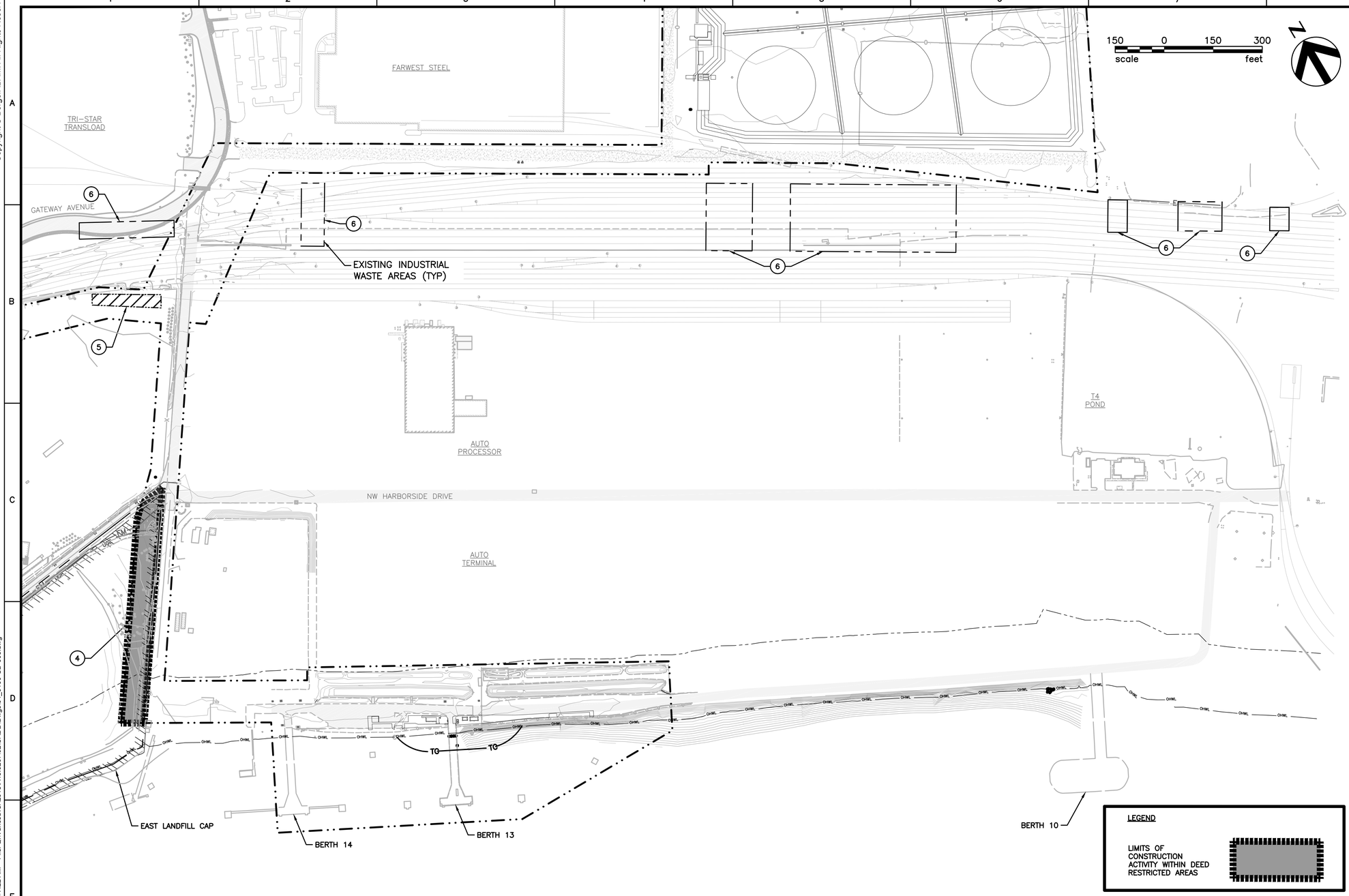

GENERAL NOTES:

1. CONTRACTOR'S ACTIVITY SHALL STRICTLY COMPLY WITH ALL PERMITTED CONDITIONS OF APPROVAL.
2. EXCAVATIONS AND GROUND DISTURBING ACTIVITIES WITHIN DEED RESTRICTED AREAS REQUIRES NOTIFICATION TO THE WASHINGTON STATE ENERGY FACILITY SITE EVALUATION COUNCIL (EFSEC) AND COMPLIANCE WITH THE APPROVED CONTAMINATED MEDIA MANAGEMENT PLAN, APPLICABLE PORT PROTOCOLS AND ADDITIONAL REQUIREMENTS PROVIDED BY EFSEC.
3. SPECIFIC LIMITS FOR THE EAST LANDFILL LIMITS ARE PROVIDED BASED UPON PRIOR SURVEY'S CONDUCTED BY HDJ DESIGN GROUP. WORK LIMIT SHALL ENCROACH UPON THE BOUNDARY OF THE EAST LANDFILL.
4. WHERE KNOWN, ADDITIONAL AREAS OF CONCERN AND POSSIBLE CONTAMINATED MEDIA LOCATIONS HAVE BEEN GENERALLY DEPICTED. CONTRACTOR SHALL COORDINATE FULLY WITH PORT OF VANCOUVER ENVIRONMENTAL STAFF AND INSPECTORS FOR MONITORING AND TESTING OF EXCAVATED MEDIA FOR POSSIBLE CONTAMINATES. PORTIONS OF AREA 200 AND AREA 500 ARE SPECIFICALLY IDENTIFIED WHERE CONTAMINATION IS LIKELY TO BE ENCOUNTERED DURING EXCAVATIONS.
5. IF MEDIA INCLUDING SOILS, OR GROUNDWATER ARE ENCOUNTERED THAT INDICATE POSSIBLE CONTAMINATION, CONTRACTOR SHALL NOTIFY VANCOUVER ENERGY SITE MANAGER, PORT OF VANCOUVER AND EFSEC IMMEDIATELY PRIOR TO PROCEEDING. SIGNS OF CONTAMINATION INCLUDE UNUSUALLY DARK SOIL AND ODORS.
6. IN AREAS OF CONCERN EXCAVATED MATERIAL SHALL BE PLACED IN SEALED WATER-TIGHT CONTAINERS OR LINED STAGING AREAS IMMEDIATELY ADJACENT TO THE WORK AREA FOR TESTING AND CLASSIFICATION OF MATERIAL PRIOR TO HAUL OFF.

CONTAMINATED MEDIA NOTES:

(4) CONSTRUCTION WITHIN THE EAST LANDFILL CAP AREA CONSISTS OF GRADING A SUITABLE LEVEL BENCH WITHIN THE DEED RESTRICTED AREA TO CONSTRUCT FOUNDATIONS FOR THE CRUDE OIL PIPELINE. CONSTRUCTION ACTIVITIES SHALL NOT ENCROACH UPON THE LANDFILL AREA ITSELF AND SHALL REMAIN EAST OF THE HIGH VISIBILITY FENCING DELINEATED ON THE EROSION CONTROL PLANS.

(5) PORT OF VANCOUVER IDENTIFIED POCKETS OF CONTAMINATED GROUNDWATER AND SOIL WITHIN THIS AREA. CONTRACTOR SHALL BE ADVISED THAT WORK ADJACENT TO THIS AREA WILL REQUIRE TESTING OF EXCAVATED MATERIAL PRIOR TO DISPOSAL.

(6) NO CONSTRUCTION ACTIVITY IS PROPOSED IN THESE AREAS OF INDUSTRIAL WASTE. PORT HAS COMPLETED CLEANUP OF THESE SITES DURING RAIL CONSTRUCTION WHERE FEASIBLE.

PERMIT SET
NOT FOR CONSTRUCTION

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VANCOUVER ENERGY
Tesoro Savage Petroleum Terminal LLC

PROJECT: VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: CONTAMINATED MEDIA LOCATIONS – 2

DESIGN:	DRS	START DATE:	2/25/2015	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	2/25/2015	PROJECT MANAGER:	SAVAGE_PM
CHECKED:	MCH	APPROVED:	SA	SIZE:	24X36

DRAWING NUMBER: 0100-CD-003
SHEET: 1 / 1
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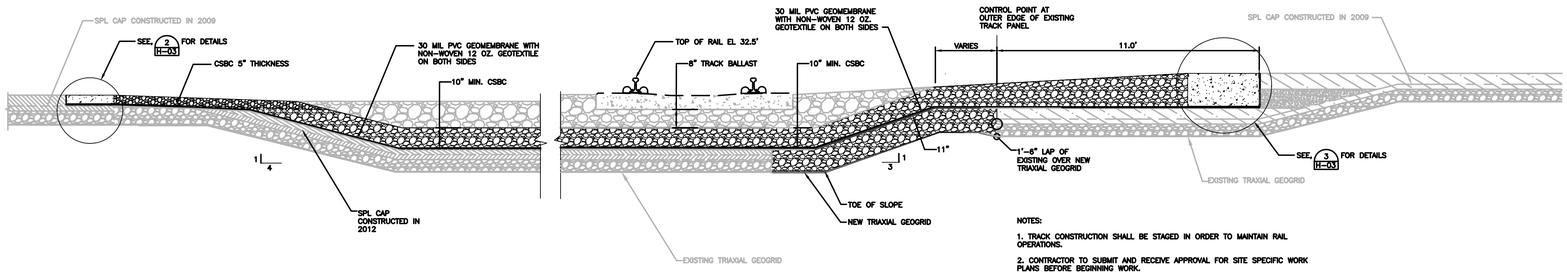


NOTES:

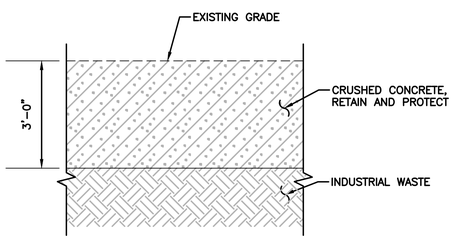
1. TRACK CONSTRUCTION SHALL BE STAGED IN ORDER TO MAINTAIN RAIL OPERATIONS.

2. CONTRACTOR TO SUBMIT AND RECEIVE APPROVAL FOR SITE SPECIFIC WORK PLANS BEFORE BEGINNING WORK.

SPL CAP SECTION

NTS

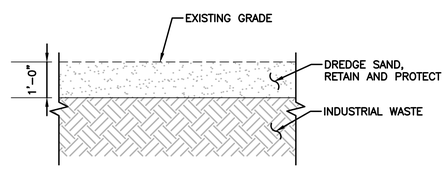
1 / 0100-CD-002



TYPICAL INGOT CAP SECTION

NTS

2 / 0100-CD-002



TYPICAL NORTH/NORTH 2 LANDFILL CAP SECTION

NTS

3 / 0100-CD-002

PERMIT SET
NOT FOR CONSTRUCTION

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VANCOUVER ENERGY
Tesoro Savage Petroleum Terminal LLC

PROJECT: VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: EXISTING CAP SECTIONS

DESIGN:	DRS	START DATE:	2/3/2015	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	2/3/2015	PROJECT MANAGER:	SAVAGE_PM
CHECKED:	MCH	APPROVED:	SA	SIZE:	24X36

DRAWING NUMBER: 0100-CD-004
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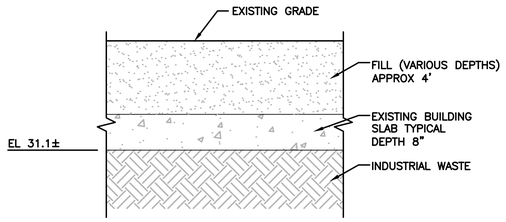
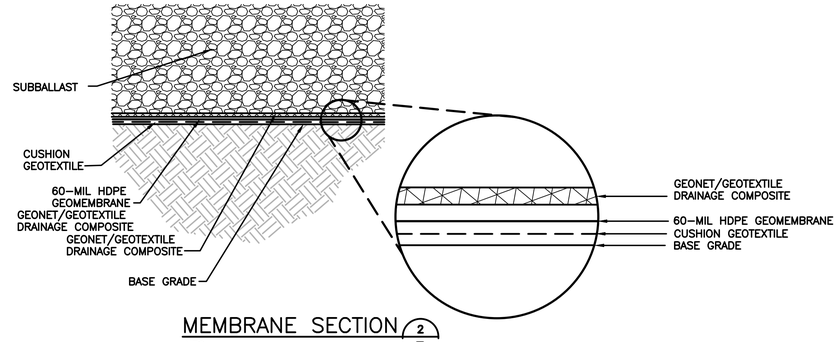
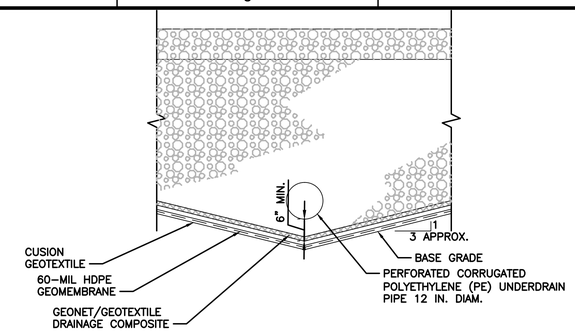


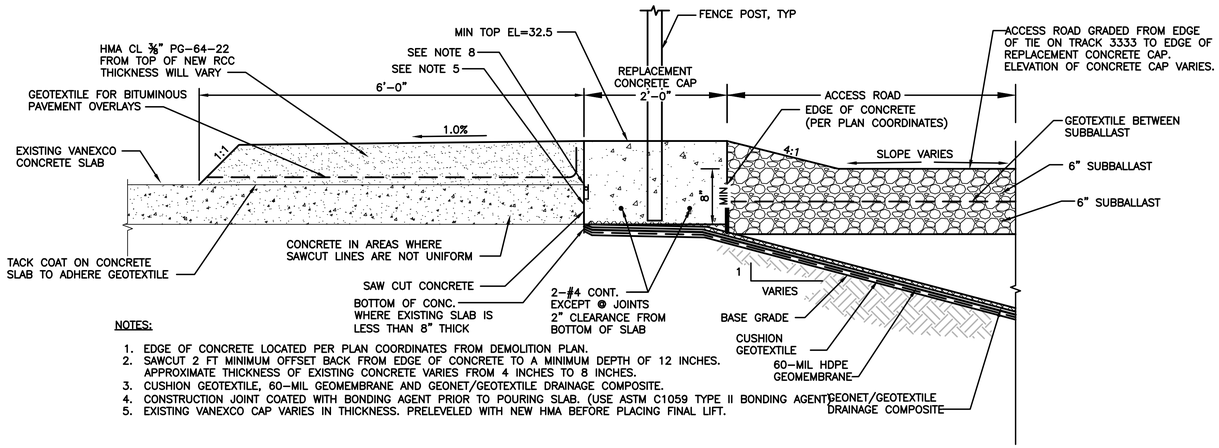
VANEXCO/ ROD MILL CONCRETE SECTION 1
NTS



MEMBRANE SECTION 2
NTS



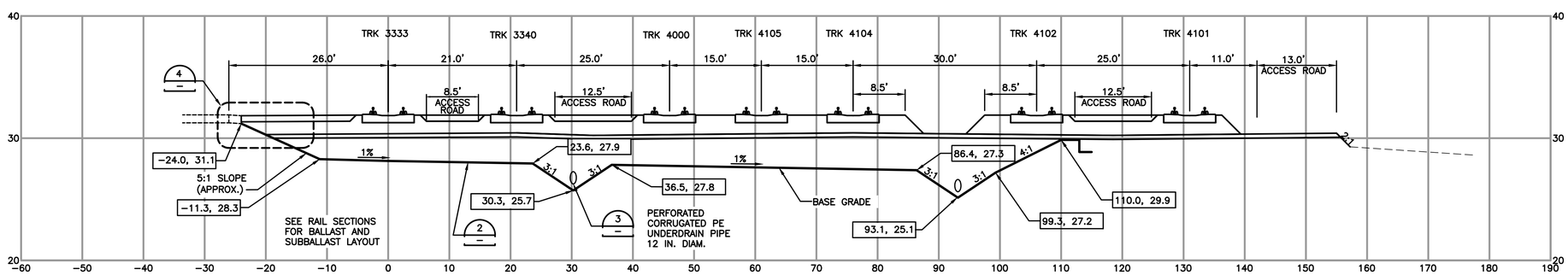
UNDERDRAIN PIPE SECTION 3
NTS



NOTES:

1. EDGE OF CONCRETE LOCATED PER PLAN COORDINATES FROM DEMOLITION PLAN.
2. SAWCUT 2 FT MINIMUM OFFSET BACK FROM EDGE OF CONCRETE TO A MINIMUM DEPTH OF 12 INCHES. APPROXIMATE THICKNESS OF EXISTING CONCRETE VARIES FROM 4 INCHES TO 8 INCHES.
3. CUSHION GEOTEXTILE, 60-MIL GEOMEMBRANE AND GEONET/GEOTEXTILE DRAINAGE COMPOSITE.
4. CONSTRUCTION JOINT COATED WITH BONDING AGENT PRIOR TO POURING SLAB. (USE ASTM C1059 TYPE II BONDING AGENT)
5. EXISTING VANEXCO CAP VARIES IN THICKNESS. PRELEVELED WITH NEW HMA BEFORE PLACING FINAL LIFT.

CONCRETE CAP CONNECTION DETAIL 4
NTS



VANEXCO LINER SECTION
SCALE: 1"=10' HORIZ
1"=5' VERT

PERMIT SET
NOT FOR CONSTRUCTION

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Portland, Oregon 97232-4189
(503) 872-4100 FAX: (503) 872-4101

VANCOUVER ENERGY
Tesoro Savage Petroleum Terminal LLC

PROJECT: VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: EXISTING VANEXCO SECTIONS

DESIGN:	DRS	START DATE:	2/9/2015	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	2/9/2015	PROJECT MANAGER:	SAVAGE_PM
CHECKED:	MCH	APPROVED:	SA	SIZE:	24X36

DRAWING NUMBER: 0100-CD-005
SHEET: 1/1
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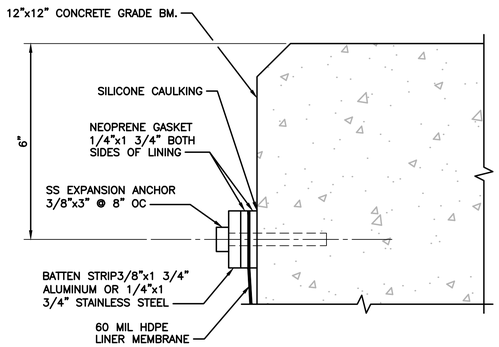
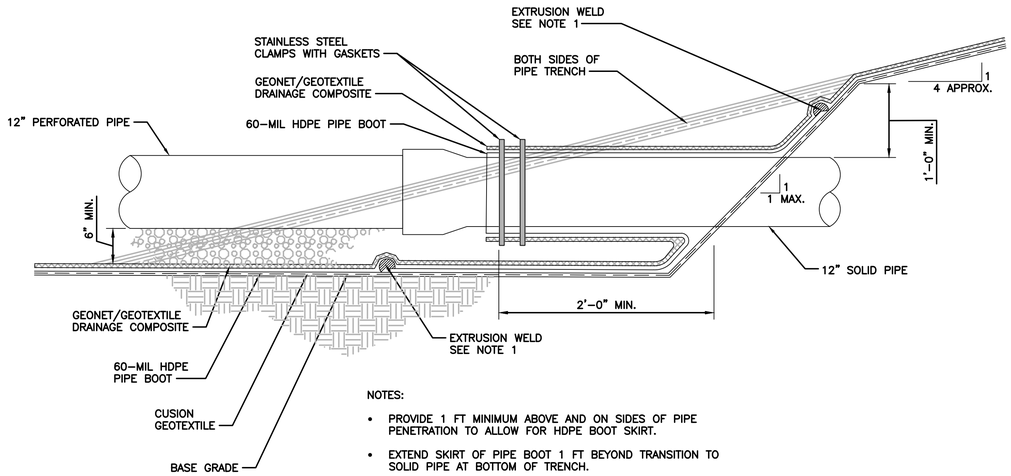


MEMBRANE/GRADE BEAM CONNECTION (1)
NTS



NOTES:

- PROVIDE 1 FT MINIMUM ABOVE AND ON SIDES OF PIPE PENETRATION TO ALLOW FOR HDPE BOOT SKIRT.
- EXTEND SKIRT OF PIPE BOOT 1 FT BEYOND TRANSITION TO SOLID PIPE AT BOTTOM OF TRENCH.

MEMBRANE PIPE PENETRATION BOOT (2)
NTS

PERMIT SET
NOT FOR CONSTRUCTION

SAM ADAMS
STATE OF WASHINGTON
37330
REGISTERED
PROFESSIONAL ENGINEER
PRELIMINARY

NO.	DATE	REVISION	BY	CK'D	APP

BergerABAM
700 NE Multnomah Street, Suite 900
Portland, Oregon 97232-4189
(503) 872-4100 FAX: (503) 872-4101

VANCOUVER ENERGY
Tesoro Savage Petroleum Terminal LLC

PROJECT: VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: VANEXCO RESTORATION DETAILS

DESIGN:	DRS	START DATE:	2/2/2015	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	2/3/2015	PROJECT MANAGER:	SAVAGE_PM
CHECKED:	MCH	APPROVED:	SA	SIZE:	24X36
DRAWING NUMBER				SHEET	REV.
0100-CD-006				1/1	

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STORM & SANITARY SEWER ITEMS:

CATCH BASINS/INLETS:

1. AREA INLETS SHALL BE PRECAST CONCRETE.
2. PRECAST CONCRETE CATCH BASINS SHALL BE PRODUCED WITH A MINIMUM AMOUNT OF STEEL REINFORCEMENT USED TO REINFORCE THE AREA AROUND THE KNOCKOUTS. STEEL REINFORCING SHALL CONSIST OF A NO. 3 HORIZONTAL HOOP REINFORCING BAR LOCATED ABOVE THE KNOCKOUTS AND NO. 3 VERTICAL REINFORCING BAR IN EACH CORNER, EXTENDING A MINIMUM OF 18 INCHES BELOW THE TOP SURFACE OF EACH CATCH BASIN.
3. CATCH BASIN TYPE I SHALL CONTAIN ONE HOOP OF NO. 3 REINFORCING BAR AROUND THE TOP PERIMETER.
4. KNOCKOUTS OR CUTOUTS MAY BE PLACED ON ALL FOUR SIDES AND MAY BE ROUND OR D-SHAPED.
5. CASTINGS FOR METAL FRAMES FOR CATCH BASINS AND INLETS SHALL BE CAST STEEL, GRAY IRON, OR DUCTILE IRON, AND AS SHOWN IN THE PLANS. CASTINGS FOR GRATES AND SOLID METAL COVERS FOR CATCH BASINS AND INLETS SHALL BE CAST STEEL OR DUCTILE IRON AND AS SHOWN IN THE PLANS.
6. LEVELING PADS ARE ALLOWED ON GRATES AND SOLID METAL COVERS WITH A HEIGHT NOT TO EXCEED 1/8 INCH. THE PRODUCING FOUNDRY'S NAME AND MATERIAL DESIGNATION SHALL BE EMBOSSED ON THE TOP OF THE GRATE. THE MATERIAL SHALL BE IDENTIFIED BY THE FOLLOWING: "CS" FOR CAST STEEL OR "DUC" OR "DI" FOR DUCTILE IRON AND SHALL BE LOCATED NEAR THE PRODUCING FOUNDRY'S NAME.
7. GRATES AND COVERS SHALL BE SEATED PROPERLY TO PREVENT ROCKING. AFTER SEATING, THE FRAME AND GRATE OR FRAME AND COVER SHALL BE MAINTAINED AS A UNIT.

MANHOLES:

1. PRECAST MANHOLES SHALL MEET THE REQUIREMENTS OF AASHTO M 199. JOINTS MAY BE TONGUE AND GROOVE TYPE OR SHIPLAP TYPE, SUFFICIENTLY DEEP TO PREVENT LATERAL DISPLACEMENT.
2. CASTINGS FOR MANHOLE RINGS SHALL BE GRAY IRON OR DUCTILE IRON AND COVERS SHALL BE DUCTILE IRON. ALL COVERS SHALL BE INTERCHANGEABLE WITHIN THE DIMENSIONS SHOWN ON THE PLANS. ALL MATING SURFACES SHALL BE MACHINE FINISHED TO ENSURE NON-ROCKING FIT.
3. THE INSIDE VERTICAL RECESSED FACE OF THE RING AND THE VERTICAL OUTSIDE EDGE OF THE COVER SHALL BE MACHINED OR MANUFACTURED TO A TOLERANCE OF ±3/32 INCH.
4. ALL MANHOLE RINGS AND COVERS SHALL BE IDENTIFIED BY THE NAME OR SYMBOL OF THE PRODUCING FOUNDRY AND COUNTRY OF ORIGIN. THIS IDENTIFICATION SHALL BE IN A PLAINLY VISIBLE LOCATION WHEN THE RING AND COVER ARE INSTALLED. DUCTILE IRON SHALL BE IDENTIFIED BY THE FOLLOWING, "DUC" OR "DI". THE PRODUCING FOUNDRY AND MATERIAL IDENTIFICATION SHALL BE ADJACENT TO EACH OTHER AND SHALL BE A MINIMUM 1/2 INCH TO 1 INCH HIGH LETTERS, RECESSED TO BE FLUSH WITH THE ADJACENT SURFACES.

STORM SEWER PIPE:

1. STORM SEWER PIPE SHALL BE EITHER DUCTILE IRON PIPE OR DOUBLE WALLED POLYPROPYLENE PIPE.
2. POLYPROPYLENE PIPE SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:
   A. FOR PIPE SIZES UP TO 30 INCHES: ASTM F 2736.
   B. FOR PIPE SIZES FROM 30 TO 60 INCHES: ASTM F 2764.
   C. FITTINGS SHALL BE FACTORY WELDED, INJECTION MOLDED, OR PVC.
3. ALL JOINTS FOR CORRUGATED POLYPROPYLENE PIPE SHALL BE MADE WITH A BELL/BELL OR BELL AND SPIGOT COUPLING AND SHALL CONFORM TO ASTM D 3212 USING ELASTOMERIC GASKETS CONFORMING TO ASTM F 477. ALL GASKETS SHALL BE FACTORY INSTALLED ON THE PIPE IN ACCORDANCE WITH THE PRODUCER'S RECOMMENDATIONS. A MANUFACTURER'S CERTIFICATE OF COMPLIANCE SHALL BE REQUIRED AND SHALL ACCOMPANY THE MATERIALS DELIVERED TO THE SITE. THE CERTIFICATE SHALL CLEARLY IDENTIFY PRODUCTION LOTS FOR ALL MATERIALS REPRESENTED.

SANITARY SEWER PIPE:

SANITARY SEWER PIPE SHALL BE PVC, DUCTILE IRON, OR HDPE PIPE.

1. SOLID WALL PVC PIPE AND FITTINGS SHALL BE SOLID WALL CONSTRUCTION AND SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:
   A. FOR PIPE SIZES UP TO 15 INCHES: ASTM 3034 SDR 35.
   B. JOINTS FOR SOLID WALL PVC PIPE SHALL CONFORM TO ASTM D 3212 USING ELASTORMERIC GASKETS CONFORMING TO ASTM F 477.
   C. FITTINGS FOR SOLID WALL PVC PIPE SHALL BE INJECTION MOLDED, FACTORY WELDED, OR FACTORY SOLVENT CEMENTED.
2. DUCTILE IRON PIPE SHALL CONFORM TO ANSI A 21.51 OR AWWA C151 AND SHALL BE CEMENT MORTAR LINED AND HAVE 1-MIL SEAL COAT PER AWWA C104 OR A CERAMIC-FILLED, AMINE-CURED NOVALAC EPOXY LINING AS INDICATED ON THE PLANS. THE DUCTILE IRON PIPE SHALL BE SPECIAL THICKNESS CLASS 50, MINIMUM PRESSURE CLASS 350, OR THE CLASS INDICATED ON THE PLANS. NON-RESTRAINED JOINTS SHALL BE RUBBER GASKET TYPE, PUSH ON TYPE, OR MECHANICAL TYPE, AND SHALL MEET THE REQUIREMENTS OF AWWA C111.
3. CAST IRON FITTINGS MAY BE USED WITH DUCTILE IRON PIPE. SADDLES FASTENED TO PIPE WITH EXTERNAL BANDS WILL NOT BE ACCEPTABLE ON ANY NEW SYSTEM. NORMALLY, ALL FITTINGS SHALL BE THE SAME MATERIAL AS THE PIPE BEING CONNECTED, EXCEPT THAT FITTINGS USING OTHER MATERIALS OR CONSTRUCTED WITH MORE THAN ONE MATERIAL MAY BE USED SUBJECT TO THE APPROVAL OF THE ENGINEER. FITTINGS SHALL HAVE SUFFICIENT STRENGTH TO WITHSTAND HANDLING AND LOAD STRESSES NORMALLY ENCOUNTERED.

STORMWATER TREATMENT UNITS:

STORMWATER FILTER VAULTS FOR ENHANCED TREATMENT SHALL BE CONTECH STORM FILTER WITH METAL RX MEDIA.

1. STORMWATER FILTER VAULTS FOR BASIC TREATMENT SHALL BE ZPG.
2. OIL/WATER SEPARATORS SHALL BE COALESCING PLATE TYPE.
3. FLOOR DRAINS SHALL BE ZURN Z1726 OR APPROVED EQUAL.

STORM & SANITARY SEWER ITEMS (CONTINUED:

CASING NOTES:

1. ALL CASINGS AND INSTALLATION SHALL MEET THE MINIMUM REQUIREMENTS FOR THE PORT OF VANCOUVER, AND BNSF UTILITY ACCOMMODATION POLICY MANUAL.
2. ALL CASINGS UNDER RAIL SHALL EXTEND A MINIMUM 12-FEET FROM TRACK CENTERLINE AND SHALL EXTEND 10-FEET FROM THE EDGE OF ALL PROPOSED STRUCTURES.
3. CASINGS SHALL BE EXTERNALLY COATED WITH A MINIMUM TWO COATS OF EPOXY AS RECOMMENDED BY THE COATING SUPPLIER.
4. UTILITIES SHALL BE SLEAVED WITHIN CASING USING CASING SPACERS OR SKIDS AT RECOMMENDED SPACINGS FOR THE UTILITY MATERIAL TYPE AND AS RECOMMENDED BY THE SPACER MANUFACTURER.
5. CASING ENDS SHALL BE SEALED AND WATER-TIGHT WITH CASING END SEALS.
6. MINIMUM CASING THICKNESSES ARE AS FOLLOWS:

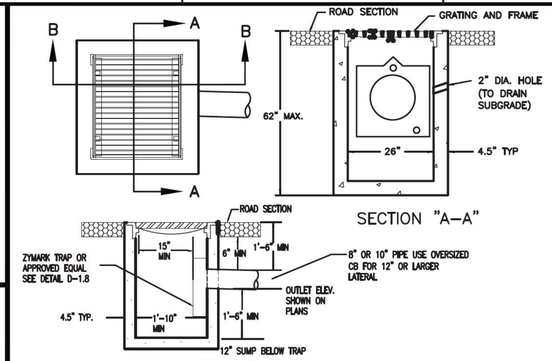
CASING DIAMETER	WALL THICKNESS
14" AND SMALLER	0.375"
16"-32"	0.625"
36"-48"	0.625"

7. FOR WATER MAIN CASINGS FILL ANNULAR SPACE WITH BLOWN IN SAND.

CONSTRUCTION NOTES FOR STORM SEWERS

GENERAL STORM WATER CONSTRUCTION NOTES

1. ALL MATERIALS AND INSTALLATION OF STORM SEWERS AND DRAINAGE SYSTEMS SHALL BE IN CONFORMANCE WITH THE REQUIREMENTS IN THE CITY OF VANCOUVER'S LATEST VERSION OF "GENERAL REQUIREMENTS AND STANDARD DETAILS MANUAL" AND THE LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION CHAPTER OF THE AMERICAN PUBLIC WORKS ASSOCIATION (APWA) AND THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION, WHERE THE CITY OF VANCOUVER GENERAL REQUIREMENTS SHALL TAKE PRECEDENCE. WHEREVER THE STANDARD SPECIFICATIONS REFER TO THE OWNER AS EITHER THE "STATE" OR "SECRETARY" OR WHEN REFERENCE IS MADE TO THE DEPARTMENT OF TRANSPORTATION IT SHALL BE UNDERSTOOD THAT THE STANDARD SPECIFICATIONS SHOULD READ THE "CITY".
2. ALL PUBLIC STORM SEWER AND DRAINAGE SYSTEM CONSTRUCTION IS SUBJECT TO INSPECTION AND APPROVAL BY THE ENERGY FACILITY SITE EVALUATION COUNCIL OR ITS DESIGNEE IN ACCORDANCE WITH THE CONDITIONS OF THE APPROVED SITE CERTIFICATION AGREEMENT. THE CONTRACTOR SHALL NOTIFY EFSEC OR ITS DESIGNEE PRIOR TO THE START OF ANY CONSTRUCTION.
3. THE CONTRACTOR IS REQUIRED TO NOTIFY ALL UTILITIES 48 HOURS PRIOR TO COMMENCEMENT OF WORK. THE CONTRACTOR MAY CONTACT THE NORTHWEST UTILITY NOTIFICATION CENTER AT 1-800-424-5555 IN LIEU OF CONTACTING INDIVIDUAL UTILITIES.
4. IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER AND/OR CONTRACTOR TO PROCURE AND COMPLY WITH THE PROVISIONS OF ALL APPLICABLE PERMITS, EASEMENTS, LICENSES AND CERTIFICATES IN CONJUNCTION WITH THE CONSTRUCTION OF STORM SEWERS AND DRAINAGE SYSTEMS. COMPLIANCE SHALL BE AT ALL LEVELS; FEDERAL, STATE, AND CITY, RELATING TO THE PERFORMANCE OF THIS WORK. WORK WITHIN THE PUBLIC RIGHT OF WAY WILL BE CONDUCTED IN ACCORDANCE WITH THE APPROVED SITE CERTIFICATION AGREEMENT.
5. THE CONTRACTOR SHALL OBTAIN AND SUBMIT AN APPROVED TRAFFIC CONTROL PLAN PRIOR TO BEGINNING CONSTRUCTION. THE PLAN WILL BE PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE APPROVED SITE CERTIFICATION AGREEMENT.
6. ALL EROSION CONTROL BEST MANAGEMENT PRACTICES (BMPs) SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE EROSION CONTROL PLAN AND EROSION CONTROL DETAILS, PRIOR TO START OF ANY CONSTRUCTION OR LAND DISTURBING ACTIVITY.
7. THE CONTRACTOR SHALL OBTAIN ALL OFFSITE CONSTRUCTION EASEMENTS PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL VERIFY THAT ALL OFFSITE UTILITIES EASEMENTS HAVE BEEN OBTAINED BY THE OWNER PRIOR TO THE COMMENCEMENT OF ANY OFFSITE CONSTRUCTION.
8. THE CONTRACTOR IS TO VERIFY AND REPORT ANY DISCREPANCIES IMMEDIATELY TO THE ENGINEER. ITEMS TO VERIFY INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
   -INVERT AND TOP ELEVATIONS OF EXISTING STORM SEWERS
   -CENTERLINE AND TOP OF CURB ELEVATIONS
9. WATER QUALITY DEVICES WILL BE INSTALLED AND FUNCTIONING PRIOR TO COMMENCING WITH INSTALLATION OF PAVEMENT FOR ALL AREAS DRAINING INTO THE WATER QUALITY SYSTEM. VEGETATION IN BIO-FILTRATION SWALE AND POND SYSTEMS SHALL BE ESTABLISHED AND MECHANICAL DEVICES AND FILTER MEDIA SHALL BE INSTALLED. SWALES AND FILTER STRIPS WILL BE SEEDED WITH AN APPROVED SEED MIX, PER THE WESTERN WASHINGTON MANUAL. TURF IS ALLOWED FOR VEGETATED FILTERS PROVIDED THE TURF AREA IS OVERSEEDED WITH THE EQUIVALENT GRASS SEED MIX.
10. ALL NEW CATCH BASINS SHALL BE STENCILED WITH APPROPRIATE STENCIL DEPENDING ON STORMWATER DISCHARGE FROM SITE. CONTACT (360) 487-7130 TO DETERMINE THE PROPER STENCIL FOR YOUR SITE. CONTACT (360) 487-7800 TO PURCHASE STENCIL KITS.
11. ROOF DOWNSPOUT RUNOFF MUST BE RETAINED ON EACH SPECIFIC SITE. DOWNSPOUTS SHALL NOT DRAIN TO THE STREET OR ANY ADJACENT PROPERTIES UNLESS SPECIFIC APPROVAL HAS BEEN OBTAINED.
12. THE CONTRACTOR SHALL PROVIDE A TELEVISION REPORT, TAPE, AND TABULAR AS-BUILT OF ALL PUBLIC STORM MAINS AND LATERALS PRIOR TO PAVING. THIS TV INFORMATION SHALL BE SUBMITTED TO EFSEC OR ITS DESIGNEE FOR REVIEW. TV INSPECTION SHALL DEMONSTRATE NO MANUFACTURING OR INSTALLATION DEFECTS, OR ANY DEBRIS IN THE LINES, FOR APPROVAL AND ACCEPTANCE BY EFSEC.

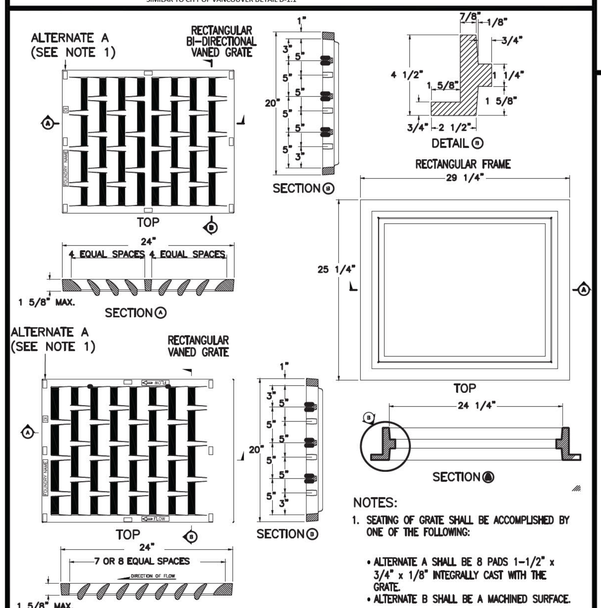


NOTES:

1. LATERALS WILL BE CONSTRUCTED TO ENTER THE BASIN PERPENDICULAR TO THE BASIN WALL. THE LATERAL WILL ENTER ONLY AT THE FRONT OR SIDE OF THE BASIN WITH NO LATERALS ALLOWED TO ENTER THE CATCH BASIN AT THE CORNERS. IF NEEDED, A BEND MAY BE USED AS THE FIRST SECTION OF PIPE OUTSIDE THE BASIN WALL. THE MAXIMUM BEND ALLOWED IS 45 DEGREES.
2. ALL REINFORCED STEEL SHALL HAVE A 1-1/2" CLEAR COVER UNLESS OTHERWISE NOTED, AND SHALL BE GRADE 40 OR GRADE 60 (ASTM A-615).
3. ANY PROTRUDING ENDS OF PIPES SHALL BE TRIMMED FLUSH WITH THE INSIDE WALLS AND GROUTED.
4. THE METAL FRAME AND GRATE SHALL BE SET TO A SLOPE TO CONFORM TO THE PARTICULAR DRAINAGE PROBLEM. SEE DETAIL D-1.7
5. APPLY STENCIL ON PAVEMENT IN FRONT OF CATCH BASIN. STENCIL TO SAY "ONLY RAIN DOWN THE DRAIN" AND REFERENCE PROTECTION OF THE OF THE CREEK, RIVER OR GROUNDWATER. STENCILS ARE AVAILABLE FOR PURCHASE AT THE CITY'S DEVELOPMENT REVIEW SERVICES PERMIT COUNTER.

STANDARD CATCH BASIN DETAIL (1 / -)

SCALE: NTS
SIMILAR TO CITY OF VANCOUVER DETAIL D-1.1

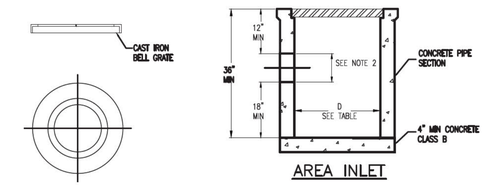


NOTES:

1. SEATING OF GRATE SHALL BE ACCOMPLISHED BY ONE OF THE FOLLOWING:
   - ALTERNATE A SHALL BE 8 PADS 1-1/2" x 3/4" x 1/8" INTEGRALLY CAST WITH THE GRATE.
   - ALTERNATE B SHALL BE A MACHINED SURFACE.

STANDARD RECTANGULAR VANED GRATE & FRAME DETAIL (3 / -)

SCALE: NTS
SIMILAR TO CITY OF VANCOUVER DETAIL D-1.1



NOTES:

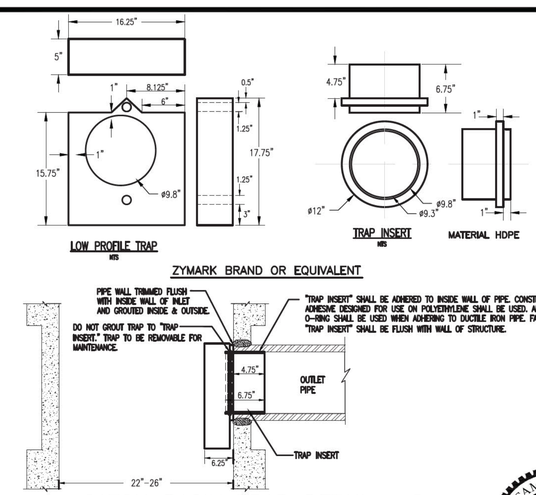
1. AREA INLETS TO BE CONSTRUCTED FROM CONCRETE PIPE, IN ACCORDANCE WITH ASTM C 14 UNLESS OTHERWISE SHOWN ON THE PLANS OR NOTED IN THE STANDARD SPECIFICATIONS.
2. CUTOUT HOLE SIZE IS EQUAL TO OUTLET PIPE OUTSIDE DIAMETER PLUS AREA INLET WALL THICKNESS. INSTALL TYPE 60A TRAP OR APPROVED EQUAL.
3. CONNECTION TO OUTLET PIPE TO BE GROUTED AND MADE FLUSH WITH INSIDE OF THE AREA INLET WALL.
4. CAST IRON BELL GRATE SHALL MEET THE STRENGTH REQUIREMENTS OF FEDERAL SPECIFICATION RR-F-621D. THE GRATE SHALL HAVE SLOTS (HOLES) THAT CONSTITUTE 50% OPEN AREA FOR DRAINAGE. INLET BELL SURFACE SHALL BE FINISHED TO ASSURE NON-ROCKING FIT WITH ANY COVER POSITION.

TABLE 1

OUTLET PIPE DIA Ø	INLET DIA (D)
6"	12"
8"	18"
12"	24"

STANDARD AREA INLET DETAIL (2 / -)

SCALE: NTS
SIMILAR TO CITY OF VANCOUVER DETAIL D-1.6



CATCH BASIN TRAP DETAIL (4 / -)

SCALE: NTS
SIMILAR TO CITY OF VANCOUVER DETAIL D-1.8

PERMIT SET
NOT FOR CONSTRUCTION

SAM ADAMS — STATE OF WASHINGTON — 27330 — REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY

NO.	DATE	REVISION	BY	CK'D	APP

BergerABAM
700 NE Multnomah Street, Suite 900
Portland, Oregon 97232-4189
(503) 872-4100 FAX: (503) 872-4101

VANCOUVER ENERGY
Tesoro Savage Petroleum Terminal LLC

PROJECT: VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: CIVIL DETAILS – 3
STORM DETAILS – 1

DESIGN:	DRS	START DATE:	2/24/2015	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	2/26/2015	PROJECT MANAGER:	SAVAGE_PM
CHECKED:	MCH	APPROVED:	SA	SIZE:	24X36
DRAWING NUMBER				SHEET	REV.
0100-CD-009				1 / 1	

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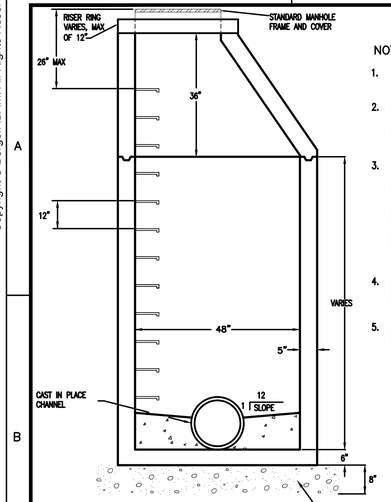


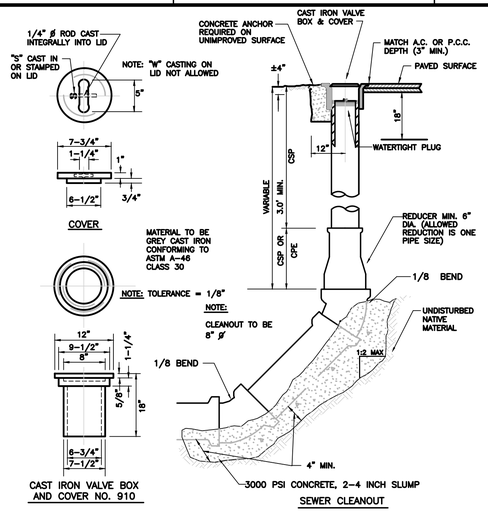
STANDARD MANHOLE FOR 24-INCH OR SMALLER PIPE OR 30-INCH DUCTILE IRON PIPE

NOTES:

1. ALL PRECAST SECTIONS SHALL CONFORM TO REQUIREMENTS OF A.S.T.M. C478.
2. BASE CONCRETE SHALL BE 3000 P.S.I., 2"-4" SLUMP. FLOW LINES AND INSIDE SURFACES SHALL BE TROWELED SMOOTH AND UNIFORM AT TIME OF POUR.
3. JOINTS SHALL BE CONSTRUCTED SO AS TO BE WATERTIGHT. KENT-SEAL NO. 2 OR APPROVED EQUAL SHALL BE USED ON TONGUE AND GROOVE SECTIONS. PREMOLDED "O" RING MAY BE SUBSTITUTED ON BELL AND SPIGOT SECTIONS. ALL JOINTS SHALL BE GROUTED WITH PORTLAND CEMENT GROUT AND STRUCK EVEN WITH THE WALL.
4. MANHOLES UNDER 6 FEET IN DEPTH FROM RIM TO SHELF SHALL HAVE A TOP SLAB IN LIEU OF CONE.
5. ALLOWABLE DISTANCE BETWEEN PIPE KNOCKOUTS IS 8 INCHES.

STANDARD MANHOLE DETAIL (1)

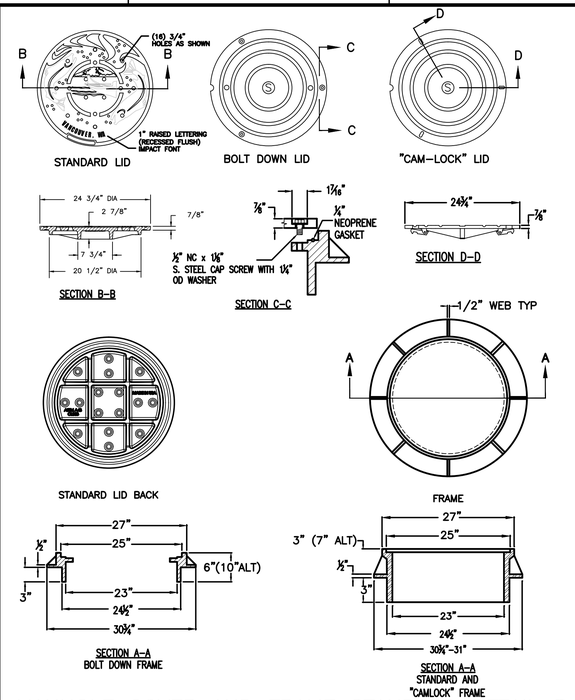
SCALE: NTS
SIMILAR TO CITY OF VANCOUVER DETAIL D-2.0



VALVE BOX SHALL BE FORT VANCOUVER PATTERN NO. 910 CAST IRON OR APPROVED EQUAL

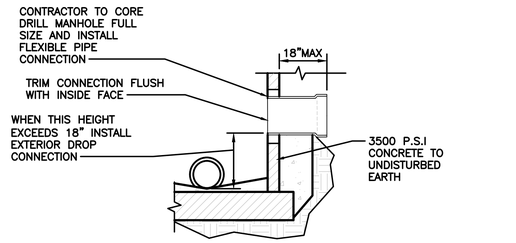
STANDARD SEWER CLEANOUT DETAIL (2)

SCALE: NTS
SIMILAR TO CITY OF VANCOUVER DETAIL D-2.3



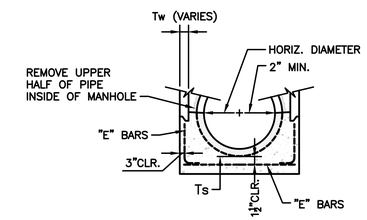
MANHOLE COVER AND FRAME STANDARD DETAIL (3)

SCALE: NTS
SIMILAR TO CITY OF VANCOUVER DETAIL D-2.4



CONNECTION TO EXISTING MANHOLE (4)

NTS
SIMILAR TO CITY OF VANCOUVER DETAIL D-2.4

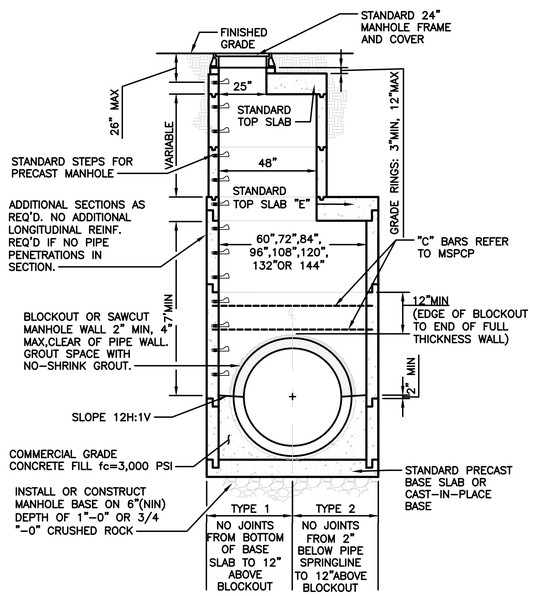


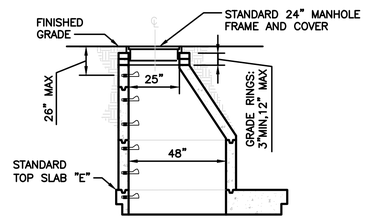
CAST-IN PLACE BASE FOR 60"-144" MANHOLES
1. CONCRETE SHALL BE STRUCTURAL 28-DAY COMPRESSIVE STRENGTH OF 4,000 PSI.
2. REINFORCING STEEL SHALL HAVE A YIELD STRENGTH OF 60,000 PSI
3. PROVIDE GROUT OR PREFORMED PLASTIC SEAL (MASTIC) AT JOINT WITH PRECAST MANHOLE SECTION. GROUT OR SEAL NOT REQUIRED WHEN WHEN BASE CAST IN CONTACT WITH PRECAST SECTION.

MH SIZE	DEPTH (INVERT TO STREET)	MH SIZE	MH SIZE	MH SIZE
60"	0-15'	7"	#4@ 10"	#4@ 10"
	15'-30'	9"	#4@ 9"	#4@ 9"
72"	0-15'	7"	#4@ 7"	#4@ 7"
	15'-30'	9"	#4@ 6"	#4@ 6"
84"	0-15'	8"	#4@ 6"	#4@ 6"
	15'-30'	10"	#5@ 9"	#5@ 9"
96"	0-15'	9"	#4@ 6"	#4@ 6"
	15'-30'	11"	#5@ 7"	#5@ 7"
108"	0-15'	10"	#5@ 9"	#5@ 9"
	15'-30'	12"	#6@ 9"	#6@ 9"
120"	0-15'	11"	#5@ 8"	#5@ 8"
	15'-30'	13"	#6@ 8"	#6@ 8"
132"	0-15'	12"	#5@ 8"	#5@ 8"
	15'-30'	14"	#6@ 7"	#6@ 7"
144"	0-15'	13"	#5@ 7"	#5@ 7"
	15'-30'	16"	#6@ 7"	#6@ 7"

MANHOLE OVER EXISTING SEWER (7)

NTS

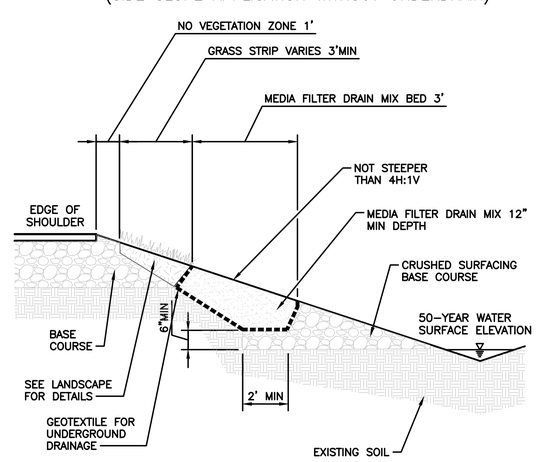




NOTES:
1. ALL PRECAST CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF THE CITY OF PORTLAND MANUFACTURING STANDARDS FOR PRECAST CONCRETE PRODUCTS (MSPCP),AS REVISED.
2. CAST-IN-PLACE CONCRETE SHALL BE STRUCTURAL CONCRETE HAVING A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4,00PSI.
3. ALL CONNECTING PIPE SHALL HAVE A FLEXIBLE JOINT WITHIN 18" OF OUTSIDE WALL OF MANHOLE OR WITHIN ONE HALF THE DIAMETER IN LENGTH IF THE PIPE IS OVER 36" IN DIAMETER.
4. ALL PRECAST CONCRETE SECTIONS SHALL HAVE KEYED OR BELL & SPIGOT JOINTS AND PREFORMED PLASTIC SEALS (MASTIC) OR PREFORMED RUBBER GASKET SEALS ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS.
5. MANHOLE STEPS SHALL BE PLACED A MINIMUM OF 5" FROM PRECAST SECTION JOINT.
6. INLET LEADS SHALL BE CONNECTED 8' BELOW RIM OR 14"ABOVE LOWEST PIPE INVERT (WHICHEVER IS LESS), UNLESS SHOWN OTHERWISE ON THE PLANS. IN ALL CASES INLET LEADS SHALL BE CONNECTED BELOW THE CONE SECTION, A MINIMUM OF 8" CLEAR OF A PRECAST SECTION JOINT AND 12" CLEAR OF JOINT IN BASE SECTION (60"-144" MANHOLES).
7. FORM AND POUR A 4"X4" EXTERIOR CONCRETE COLLAR AROUND PIPE CONNECTIONS TO 60"-144" MANHOLE.
8. WHEN CONNECTING PIPE OR THROUGH PIPE IS LES THAN 48" DIAMETER. USE STANDARD 24" MANHOLE FRAME AND COVER.

60"-144" MANHOLE (5)

NTS



MEDIA FILTER DRAIN (6)

NTS

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NO.	DATE	REVISION	BY	CK'D	APP

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Portland, Oregon 97232-4189
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VANCOUVER ENERGY
Tesoro Savage Petroleum Terminal LLC

PROJECT: VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: CIVIL DETAILS – 4
STORM DETAILS – 2

DESIGN:	DRS	START DATE:	12/23/2014	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	2/24/2015	PROJECT MANAGER:	SAVAGE_PM
CHECKED:	MCH	APPROVED:	SA	SIZE:	24X36

DRAWING NUMBER: 0100-CD-010 | SHEET 1/1 | REV.

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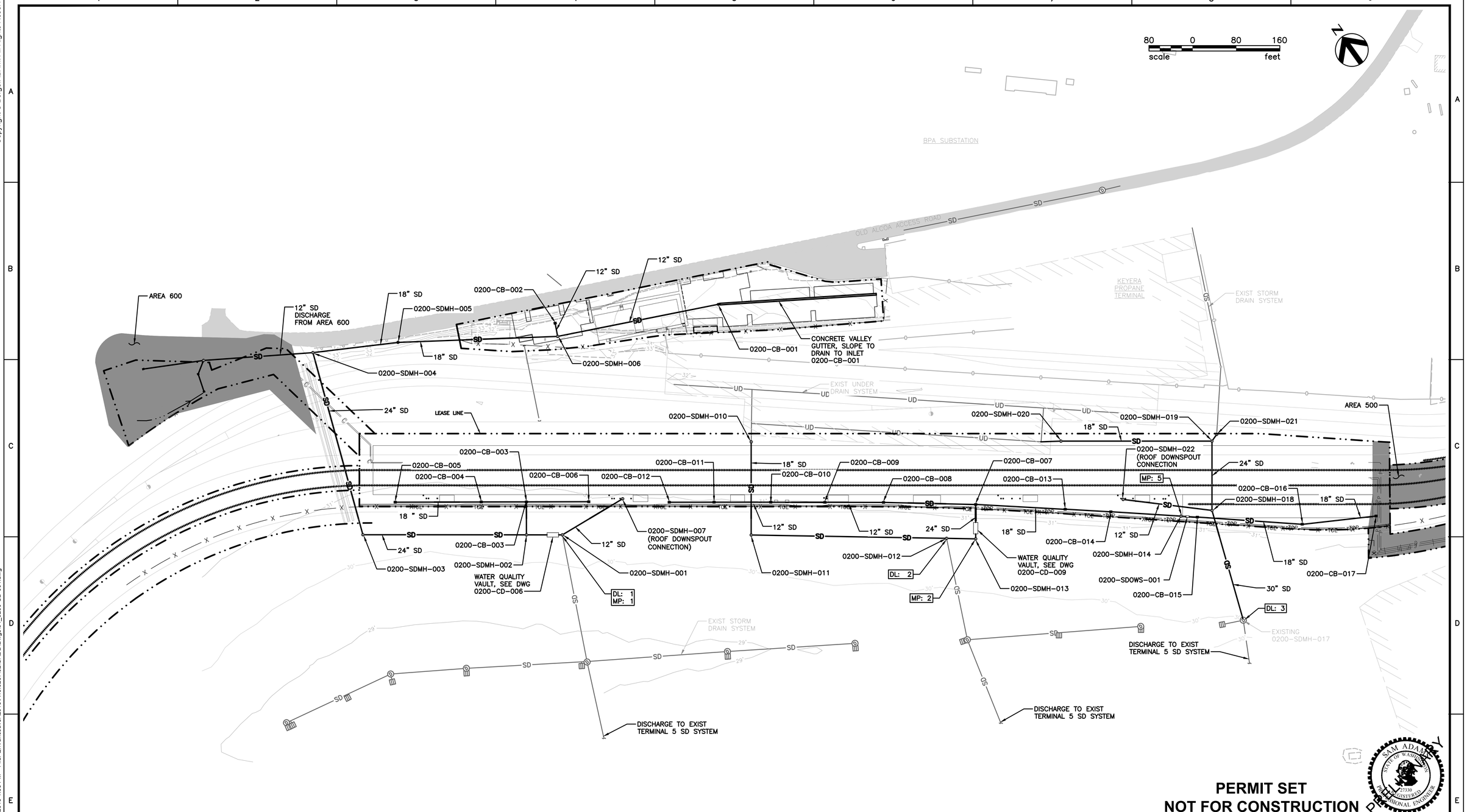

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NO.	DATE	REVISION	BY	CK'D	APP

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VANCOUVER ENERGY
Tesoro Savage Petroleum Terminal LLC

PROJECT: VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: AREA 200
GRADING & DRAINAGE OVERVIEW

DESIGN:	DRS	START DATE:	2/25/2015	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	10/12/2015	PROJECT MANAGER:	SAVAGE_PM
CHECKED:	MCH	APPROVED:	SA	SIZE:	24X36
DRAWING NUMBER				SHEET	REV.
0200-CD-001				1/1	

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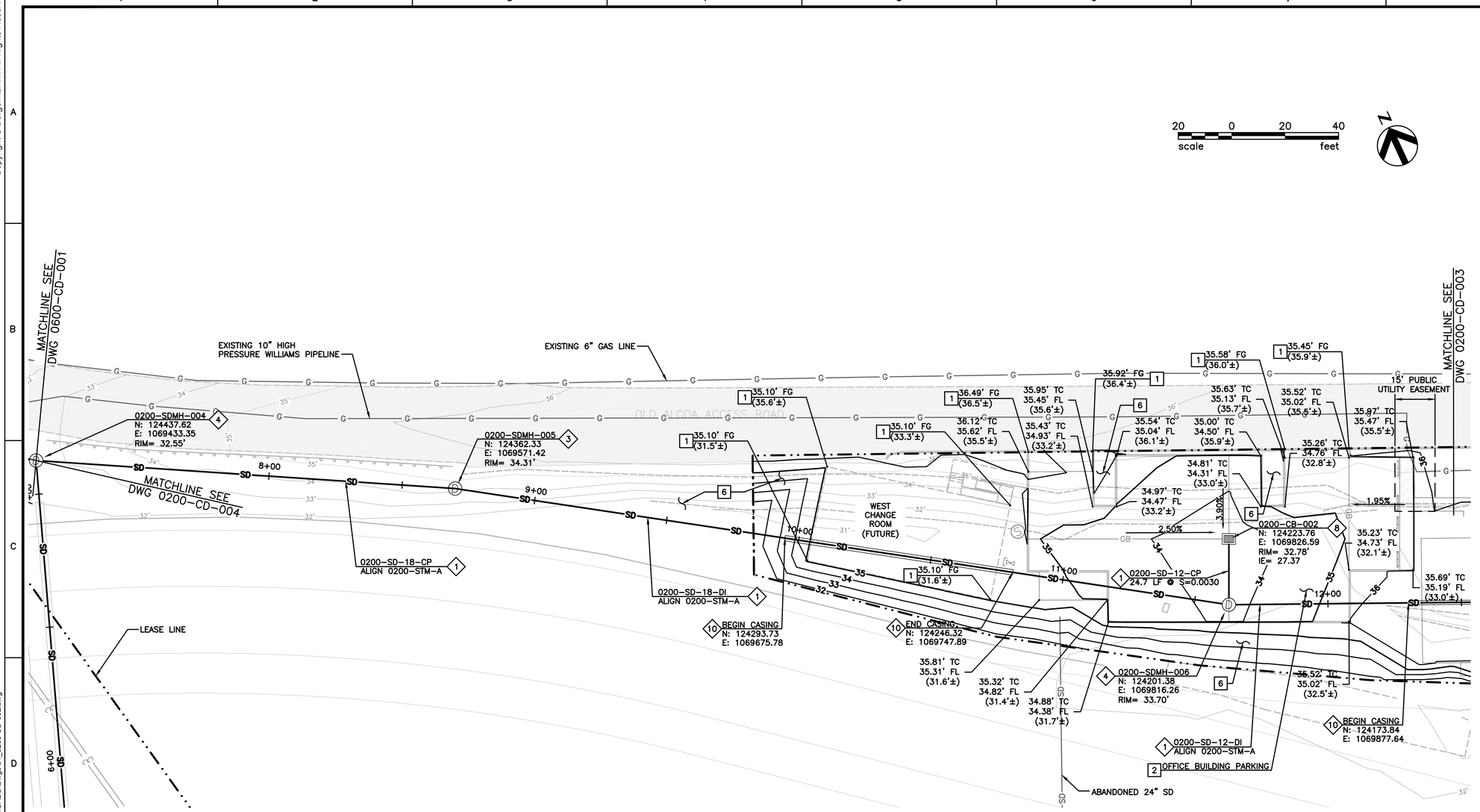


GRADING NOTES:

1. SEE SITE PLAN 0200-SP-001 FOR SITE LAYOUT INFORMATION.

1 MATCH EXISTING SURFRACE. CONSTRUCT SUBRGRADE TO GRADUALLY TIE INTO EXISTING SURFACE. APPROXIMATE ELEVATIONS ARE SHOWN. WHERE MATCHING INTO EXISTING ASPHALT, SAWCUT MINIMUM 1' OF EXISTING ASPHALT AND MATCH EXISTING ASPHALT THICKNESSES AND APPLY ASPHALT JOINT SEALER.

2 GRADE ASPHALT CONCRETE PARKING, DRIVE AISLE, AND DRIVEWAY AREAS TO THE ELEVATIONS AND GRADES SHOWN. GRADE TO ALLOW DRAINAGE TO SHEET FLOW TO CONSTRUCTED DRAINAGE CONVEYANCES AND INLETS.

6 PERMANENT LANDSCAPING AREA – SEE LANDSCAPE PLANS FOR CONSTRUCTION DETAILS.

DRAINAGE NOTES:

1. SEE PROFILE DWG 0200-CD-011 FOR ALIGNMENT A200-STM-A

1 CONSTRUCT PROPOSED STORM DRAIN PIPELINES WITH THE PIPE DIAMETER, MATERIAL, AND SLOPE INDICATED. PIPE TRENCH SECTIONS INCLUDING BEDDING, BACKFILL AND SURFACE RESTORATIONS AS SHOWN ON DRAWING 0100-CD-005.

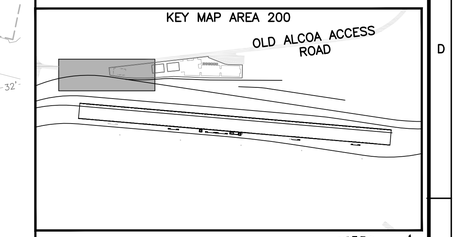
3 CONSTRUCT 48" DIAMETER PRECAST MANHOLE IN ACCORDANCE WITH DETAIL 1 ON DRAWING 0100-CD-007.

4 CONSTRUCT 60" DIAMETER PRECAST MANHOLE IN ACCORDANCE WITH DETAIL 5 ON DRAWING 0100-CD-007.

8 CONSTRUCT AREA INLET IN ACCORDANCE WITH DETAIL 2 ON DRAWING 0100-CD-006. ALL STORM DRAIN INLETS MUST INCLUDE ZYMARK BRAND OR EQUIVALENT SPILL CONTROL TRAP INSERT.

10 CONSTRUCT STEEL CASING, SEE CASING NOTES DRAWING 0100-CD-006.

KEY MAP AREA 200



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SAM ADAMS
STATE OF WASHINGTON
27330
REGISTERED
PROFESSIONAL ENGINEER

NO.	DATE	REVISION	BY	CK'D	APP

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700 NE Multnomah Street, Suite 900
Portland, Oregon 97232-4189
(503) 872-4100 FAX: (503) 872-4101

VANCOUVER ENERGY
Tesoro Savage Petroleum Terminal LLC

PROJECT: VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: AREA 200
GRADING & DRAINAGE PLAN – 1

DESIGN:	DRS	START DATE:	2/17/2015	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	2/25/2015	PROJECT MANAGER:	SAVAGE_PM
CHECKED:	MCH	APPROVED:	SA	SIZE:	24X36

DRAWING NUMBER	SHEET	REV.
0200-CD-002	1/1	

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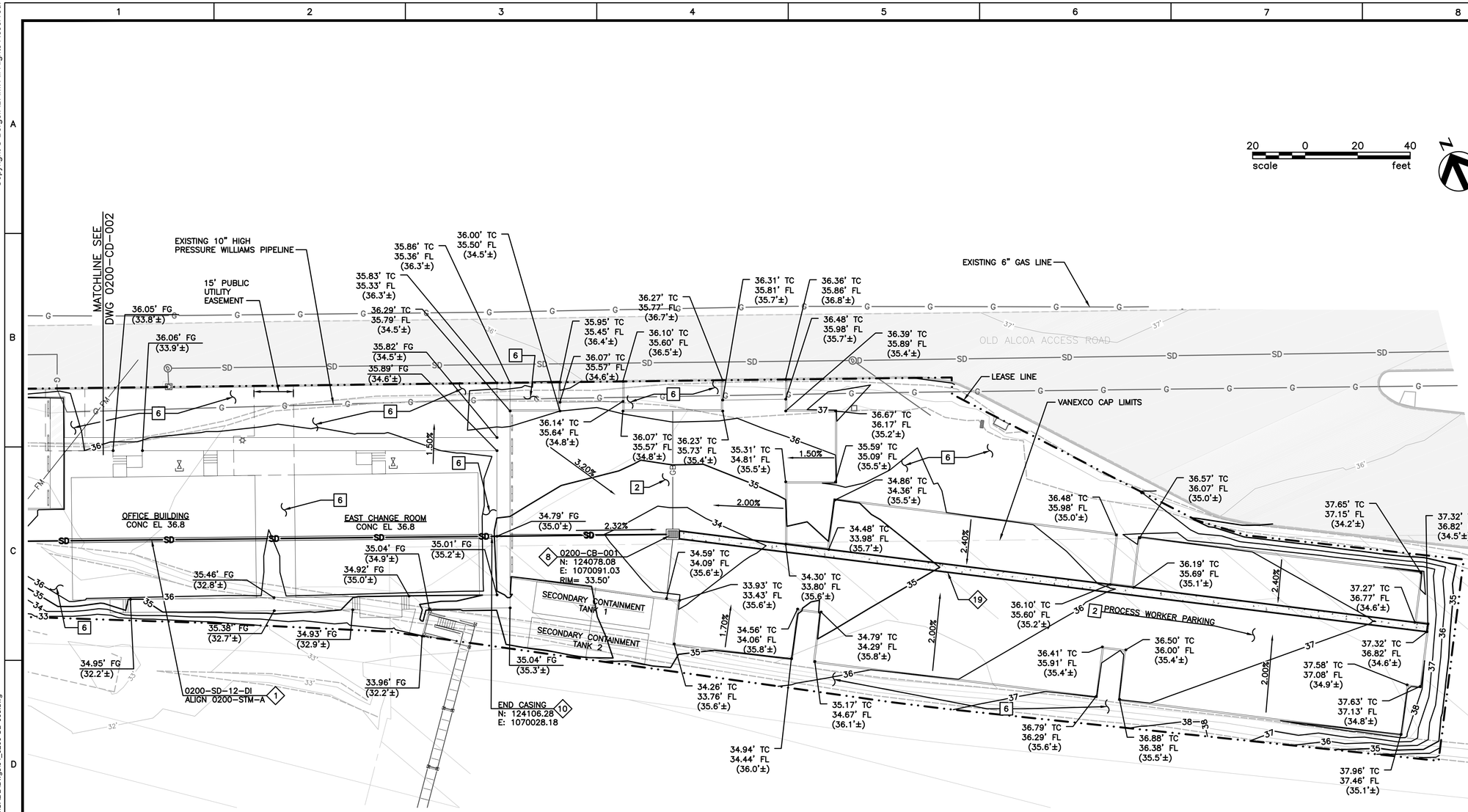


GRADING NOTES:

1. SEE SITE PLAN 0200-SP-001 FOR SITE LAYOUT INFORMATION.

1 MATCH EXISTING SURFRACE. CONSTRUCT SUBRGRADE TO GRADUALLY TIE INTO EXISTING SURFACE. APPROXIMATE ELEVATIONS ARE SHOWN. WHERE MATCHING INTO EXISTING ASPHALT, SAWCUT MINIMUM 1' OF EXISTING ASPHALT AND MATCH EXISTING ASPHALT THICKNESSES AND APPLY ASPHALT JOINT SEALER.

2 GRADE INDUSTRIAL AND RAIL YARD AREA GENTLY TOWARD STORM DRAIN INLETS. PLACE IMPORT GRANULAR ROCK FOR YARD SURFACING. 2" MINIMUM DEPTH, COMPACTED WITH 300 LB ROLLER.

6 PERMANENT LANDSCAPING AREA – SEE LANDSCAPE PLANS FOR CONSTRUCTION DETAILS.

DRAINAGE NOTES:

1. SEE PROFILE DWG 0200-CD-011 FOR ALIGNMENT 0200-STM-A.

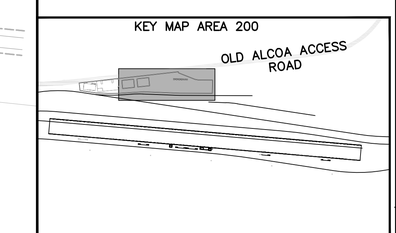
1 CONSTRUCT PROPOSED STORM DRAIN PIPELINES WITH THE PIPE DIAMETER, MATERIAL, AND SLOPE INDICATED. PIPE TRENCH SECTIONS INCLUDING BEDDING, BACKFILL AND SURFACE RESTORATIONS AS SHOWN ON DRAWING 0100-CD-005.

8 CONSTRUCT AREA INLET IN ACCORDANCE WITH DETAIL 2 ON DRAWING 0100-CD-006. ALL STORM DRAIN INLETS MUST INCLUDE ZYMARK BRAND OR EQUIVALENT SPILL CONTROL TRAP INSERT.

10 CONSTRUCT STEEL CASING, SEE CASING NOTES DRAWING 0100-CD-006.

19 CONSTRUCT CONCRETE VALLEY GUTTER IN ACCORDANCE WITH DETAIL 7 ON DRAWING 0100-CD-007.

KEY MAP AREA 200



PRELIMINARY

SAM ADAMS
STATE OF WASHINGTON
27330
REGISTERED PROFESSIONAL ENGINEER

PERMIT SET
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NO.	DATE	REVISION	BY	CK'D	APP

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700 NE Multnomah Street, Suite 900
Portland, Oregon 97232-4189
(503) 872-4100 FAX: (503) 872-4101

VANCOUVER ENERGY
Tesoro Savage Petroleum Terminal LLC

PROJECT: VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: AREA 200
GRADING & DRAINAGE PLAN – 2

DESIGN:	DRS	START DATE:	2/17/2015	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	2/25/2015	PROJECT MANAGER:	SAVAGE_PM
CHECKED:	MCH	APPROVED:	SA	SIZE:	24X36

DRAWING NUMBER	SHEET	REV.
0200-CD-003	1/1	

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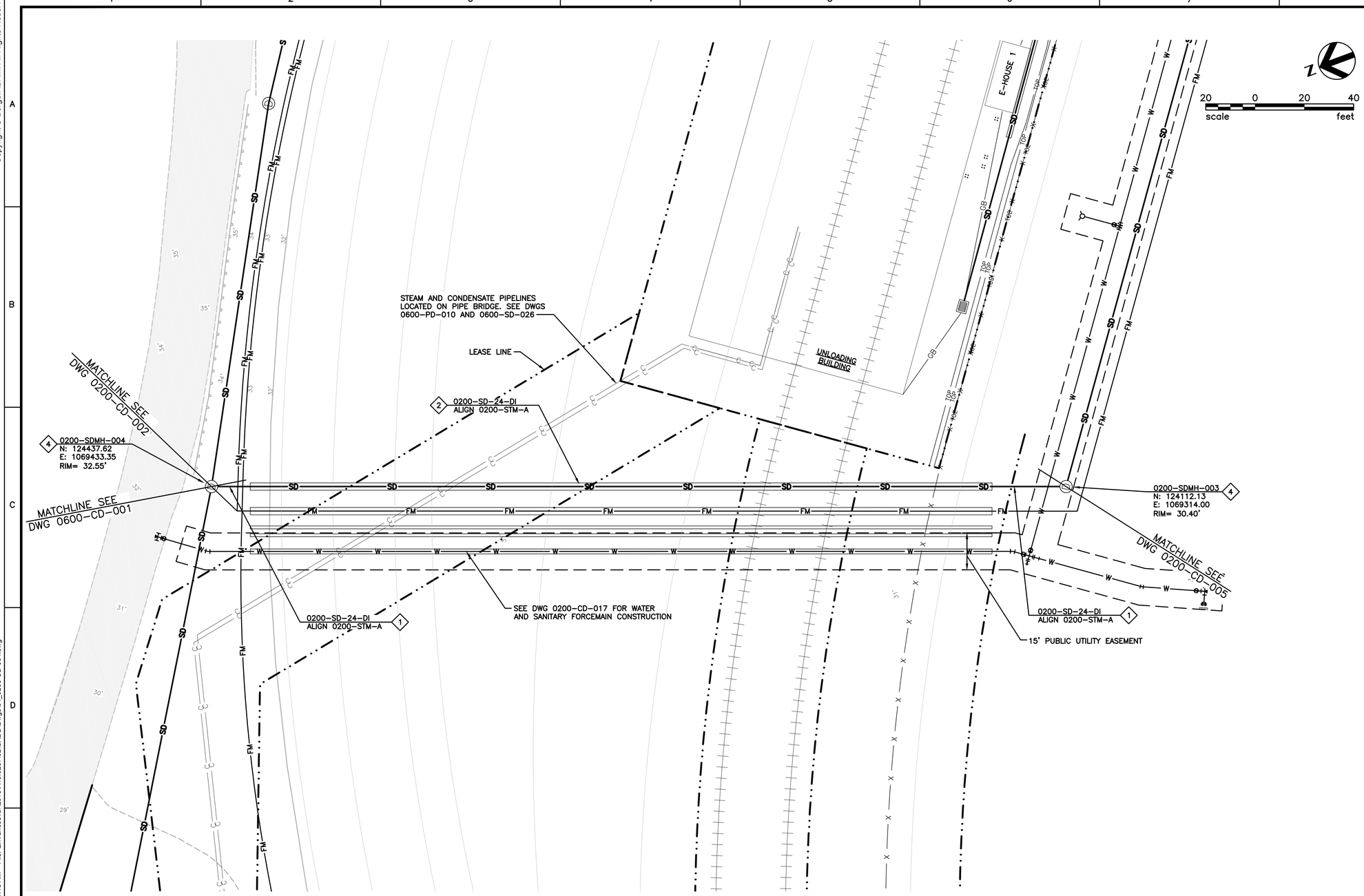


GRADING NOTES:

1. SEE SITE PLAN 0200-SP-001 FOR SITE LAYOUT INFORMATION
2. MATCH EXISTING GRADES.

DRAINAGE NOTES:

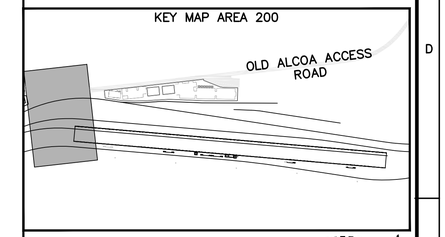
1. SEE PROFILE DWG 0200-CD-010 FOR ALIGNMENT 0200-STM-A

(1) CONSTRUCT PROPOSED STORM DRAIN PIPELINES WITH THE PIPE DIAMETER, MATERIAL, AND SLOPE INDICATED. PIPE TRENCH SECTIONS INCLUDING BEDDING, BACKFILL AND SURFACE RESTORATIONS AS SHOWN ON DRAWING 0100-CD-005.

(2) INSTALL PROPOSED 24" DI STORM DRAIN WITHIN CASING (BY OTHERS). INSTALL WITH CASING SPACERS, @ 3 PER STICK AND END SEALS AS SPECIFIED.

(4) CONSTRUCT 60" DIAMETER PRECAST MANHOLE IN ACCORDANCE WITH DETAIL 5 ON DRAWING 0100-CD-007.

KEY MAP AREA 200



PERMIT SET
NOT FOR CONSTRUCTION

NO.	DATE	REVISION	BY	CK'D	APP

BergerABAM
700 NE Multnomah Street, Suite 900
Portland, Oregon 97232-4189
(503) 872-4100 FAX: (503) 872-4101

VANCOUVER ENERGY
Tesoro Savage Petroleum Terminal LLC

PROJECT: VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: AREA 200
GRADING & DRAINAGE PLAN – 3

DESIGN:	DRS	START DATE:	2/17/2015	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	2/25/2015	PROJECT MANAGER:	SAVAGE_PM
CHECKED:	MCH	APPROVED:	SA	SIZE:	24X36

DRAWING NUMBER	SHEET	REV.
0200-CD-004	1 / 1	

Last Saved by: Tony.pritchett on: Feb 17, 201 : 11:13 AM File: Q:\Vancouver\2013\A13.0267\02\CADD\Dwgs\04_0200-CD-004.dwg

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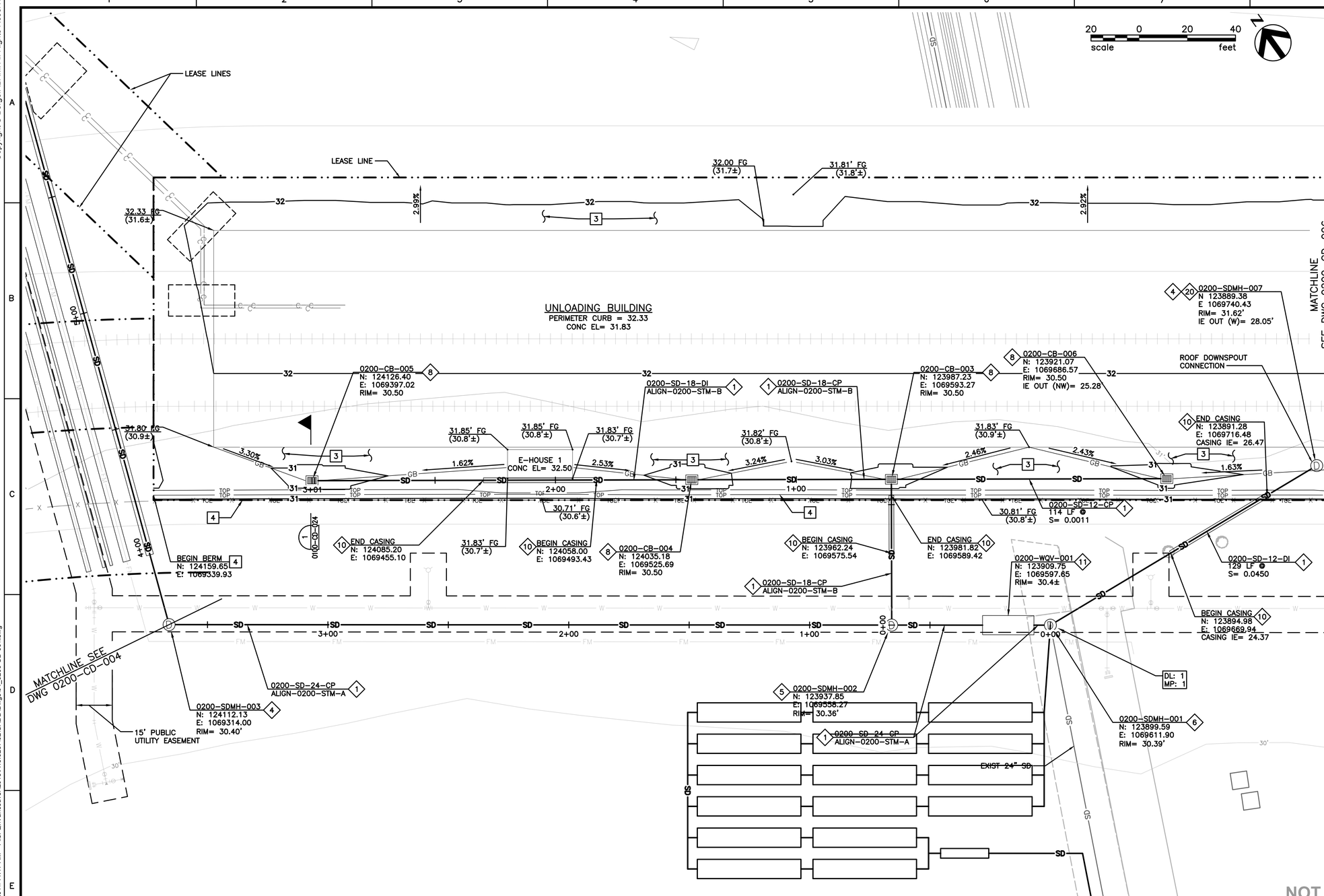

GRADING NOTES:

1. SEE SITE PLAN ON DWG 0200-SP-001 FOR SITE LAYOUT INFORMATION

3 GRADE INDUSTRIAL AND RAIL YARD AREA GENTLY TOWARD STORM DRAIN INLETS. PLACE IMPORT GRANULAR ROCK FOR YARD SURFACING. 2" MINIMUM DEPTH, COMPACTED WITH 300 LB ROLLER.

4 CONSTRUCTED GRADED BERM ALONG PROPOSED FENCE LINE TO ISOLATE STORMWATER FROM ENTERING PROJECT SITE. SEE SECTIONS ON DRAWING 0200-CD-024.

DRAINAGE NOTES:

1. SEE PROFILE DWG 0200-CD-010 FOR ALIGNMENT 0200-A.
2. SEE PROFILE DWG 0200-CD-012 FOR ALIGNMENT 0200-B.

1 CONSTRUCT PROPOSED STORM DRAIN PIPELINES WITH THE PIPE DIAMETER, MATERIAL, AND SLOPE INDICATED. PIPE TRENCH SECTIONS INCLUDING BEDDING, BACKFILL AND SURFACE RESTORATIONS AS SHOWN ON DRAWING 0100-CD-005.

4 CONSTRUCT 60" DIAMETER PRECAST MANHOLE IN ACCORDANCE WITH DETAIL 5 ON DRAWING 0100-CD-007.

5 CONSTRUCT 72" DIAMETER PRECAST MANHOLE IN ACCORDANCE WITH DETAIL 5 ON DRAWING 0100-CD-007.

6 CONSTRUCT 84" DIAMETER PRECAST MANHOLE IN ACCORDANCE WITH DETAIL 5 ON DRAWING 0100-CD-007.

7 CONSTRUCT MANHOLE OVER EXISTING STORM DRAIN PIPE IN ACCORDANCE WITH DETAIL 7 ON DRAWING 0100-CD-007. CONSTRUCT CATCH BASIN INLET IN ACCORDANCE WITH DETAIL 1 ON DRAWING 0100-CD-006. ALL STORM DRAIN INLETS MUST INCLUDE ZYMARK BRAND OR EQUIVALENT SPILL CONTROL TRAP INSERT.

8 CONSTRUCT AREA INLET IN ACCORDANCE WITH DETAIL 2 ON DRAWING 0100-CD-006. ALL STORM DRAIN INLETS MUST INCLUDE ZYMARK BRAND OR EQUIVALENT SPILL CONTROL TRAP INSERT.

10 CONSTRUCT STEEL CASING, SEE CASING NOTES DRAWING 0100-CD-006.

11 CONSTRUCT WATER QUALITY VAULT 0200-WQV-001 PER DETAIL 1 ON DRAWING 0200-CD-023.

20 CONNECTION TO BUILDING GUTTER. CONSTRUCT IN ACCORDANCE WITH DETAIL 8 ON DRAWING 0100-CD-005.

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NO.	DATE	REVISION	BY	CK'D	APP

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Portland, Oregon 97232-4189
(503) 872-4100 FAX: (503) 872-4101

VANCOUVER ENERGY
Tesoro Savage Petroleum Terminal LLC

PROJECT: VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: AREA 200
GRADING & DRAINAGE PLAN – 4

DESIGN:	DRS	START DATE:	2/17/2015	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	2/25/2015	PROJECT MANAGER:	SAVAGE_PM
CHECKED:	MCH	APPROVED:	SA	SIZE:	24X36

DRAWING NUMBER: 0200-CD-005 | SHEET 1/1 | REV.

Last Saved by: Tony.pritchett on: Feb 17, 201 11:17 AM File: Q:\Vancouver\2013\A13.0267\02\CADD\Dwgs\04_0200-CD-00 .dwg

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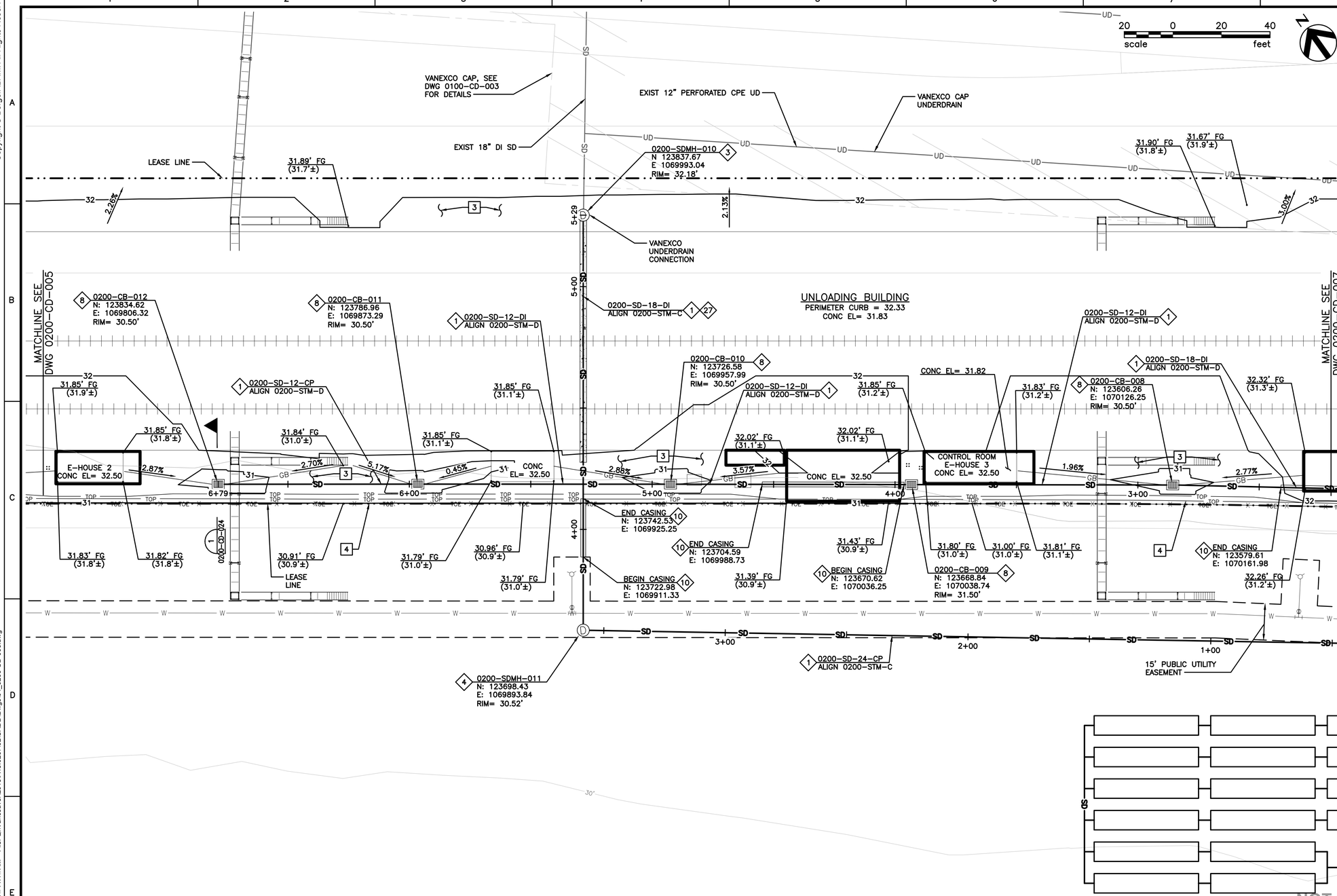


GRADING NOTES:

1. SEE SITE PLAN 0200-SP-001 FOR SITE LAYOUT INFORMATION.

3 GRADE INDUSTRIAL AND RAIL YARD AREA GENTLY TOWARD STORM DRAIN INLETS. PLACE IMPORT GRANULAR ROCK FOR YARD SURFACING. 2" MINIMUM DEPTH, COMPACTED WITH 300 LB ROLLER.

4 CONSTRUCTED GRADED BERM ALONG PROPOSED FENCE LINE TO ISOLATE STORMWATER FROM ENTERING PROJECT SITE. SEE SECTIONS ON DRAWING 0200-CD-024.

DRAINAGE NOTES:

1. SEE PROFILE DWG 0200-CD-013 FOR ALIGNMENT 0200-STM-C.
2. SEE PROFILE DWG 0200-CD-013 FOR ALIGNMENT 0200-STM-D.

1 CONSTRUCT PROPOSED STORM DRAIN PIPELINES WITH THE PIPE DIAMETER, MATERIAL, AND SLOPE INDICATED. PIPE TRENCH SECTIONS INCLUDING BEDDING, BACKFILL AND SURFACE RESTORATIONS AS SHOWN ON DRAWING 0100-CD-005.

3 CONSTRUCT 48" DIAMETER PRECAST MANHOLE IN ACCORDANCE WITH DETAIL 1 ON DRAWING 0100-CD-007.

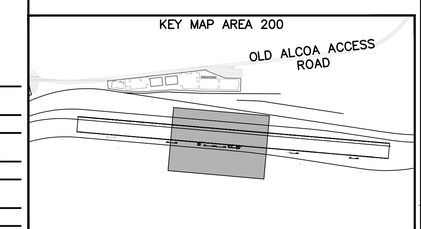
4 CONSTRUCT 60" DIAMETER PRECAST MANHOLE IN ACCORDANCE WITH DETAIL 5 ON DRAWING 0100-CD-007.

8 CONSTRUCT AREA INLET IN ACCORDANCE WITH DETAIL 2 ON DRAWING 0100-CD-006. ALL STORM DRAIN INLETS MUST INCLUDE ZYMARK BRAND OR EQUIVALENT SPILL CONTROL TRAP INSERT.

10 CONSTRUCT STEEL CASING, SEE CASING NOTES DRAWING 0100-CD-006.

27 CONSTRUCT REINFORCED CONCRETE ENCASEMENT TO THE LIMITS SHOWN AND IN ACCORDANCE WITH DETAIL 1 ON DRAWING 0100-CD-004.

KEY MAP AREA 200



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Portland, Oregon 97232-4189
(503) 872-4100 FAX: (503) 872-4101

VANCOUVER ENERGY
Tesoro Savage Petroleum Terminal LLC

PROJECT: VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: AREA 200
GRADING & DRAINAGE PLAN – 5

DESIGN:	DRS	START DATE:	2/17/2015	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	2/25/2015	PROJECT MANAGER:	SAVAGE_PM
CHECKED:	MCH	APPROVED:	SA	SIZE:	24X36

DRAWING NUMBER: 0200-CD-006 | SHEET 1/1 | REV.

Last Saved by: Tony.pritchett on: Feb 17, 201 11:1 AM File: Q:\Vancouver\2013\A13.0267\02\CADD\Dwgs\04_0200-CD-006.dwg

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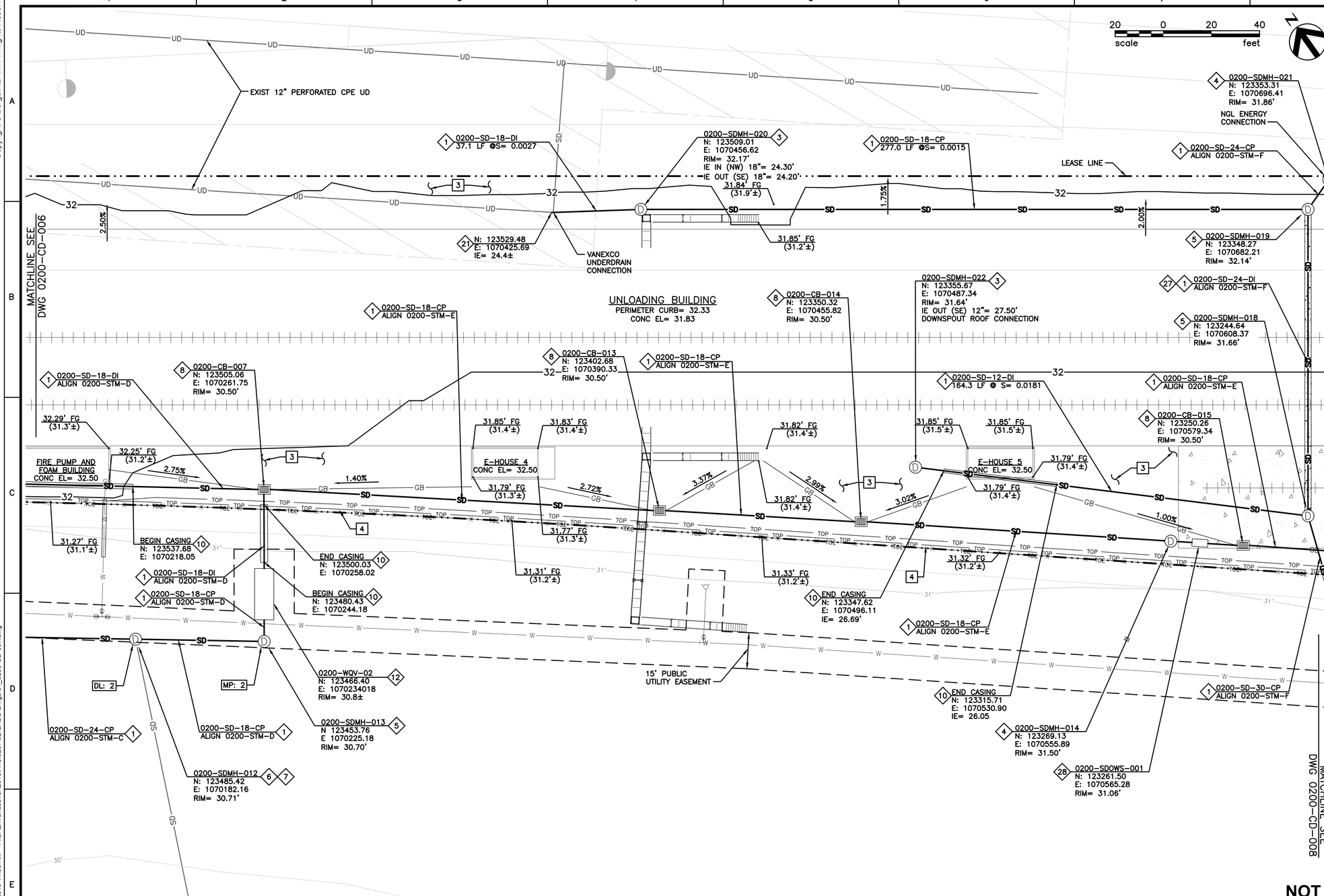


GRADING NOTES:

1. SEE SITE PLAN 0200-SP-001 FOR SITE LAYOUT INFORMATION.

3 GRADE INDUSTRIAL AND RAIL YARD AREA GENTLY TOWARD STORM DRAIN INLETS. PLACE IMPORT GRANULAR ROCK FOR YARD SURFACING. 2" MINIMUM DEPTH, COMPACTED WITH 300 LB ROLLER.

4 CONSTRUCTED GRADED BERM ALONG PROPOSED FENCE LINE TO ISOLATE STORMWATER FROM ENTERING PROJECT SITE. SEE SECTIONS ON DRAWING 0200-CD-024.

DRAINAGE NOTES:

1. SEE PROFILE DWG 0200-CD-013 FOR ALIGNMENT 0200-STM-D.
2. SEE PROFILE DWG 0200-CD-014 FOR ALIGNMENT 0200-STM-E.
3. SEE PROFILE DWG 0200-CD-015 FOR ALIGNMENT 0200-STM-F.

1 CONSTRUCT PROPOSED STORM DRAIN PIPELINES WITH THE PIPE DIAMETER, MATERIAL, AND SLOPE INDICATED. PIPE TRENCH SECTIONS INCLUDING BEDDING, BACKFILL AND SURFACE RESTORATIONS AS SHOWN ON DRAWING 0100-CD-005.

3 CONSTRUCT 48" DIAMETER PRECAST MANHOLE IN ACCORDANCE WITH DETAIL 1 ON DRAWING 0100-CD-007.

4 CONSTRUCT 60" DIAMETER PRECAST MANHOLE IN ACCORDANCE WITH DETAIL 5 ON DRAWING 0100-CD-007.

5 CONSTRUCT 72" DIAMETER PRECAST MANHOLE IN ACCORDANCE WITH DETAIL 5 ON DRAWING 0100-CD-007.

6 CONSTRUCT 84" DIAMETER PRECAST MANHOLE IN ACCORDANCE WITH DETAIL 5 ON DRAWING 0100-CD-007.

7 CONSTRUCT MANHOLE OVER EXISTING STORM DRAIN PIPE IN ACCORDANCE WITH DETAIL 7 ON DRAWING 0100-CD-007. CONSTRUCT CATCH BASIN INLET IN ACCORDANCE WITH DETAIL 1 ON DRAWING 0100-CD-006. ALL STORM DRAIN INLETS MUST INCLUDE ZYMARK BRAND OR EQUIVALENT SPILL CONTROL TRAP INSERT.

8 CONSTRUCT AREA INLET IN ACCORDANCE WITH DETAIL 2 ON DRAWING 0100-CD-006. ALL STORM DRAIN INLETS MUST INCLUDE ZYMARK BRAND OR EQUIVALENT SPILL CONTROL TRAP INSERT.

10 CONSTRUCT STEEL CASING, SEE CASING NOTES DRAWING 0100-CD-006.

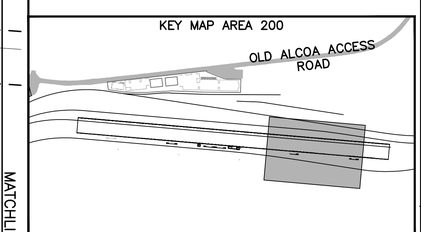
12 CONSTRUCT WATER QUALITY VAULT 0200-WQV-002 PER DETAIL 1 ON DRAWING 0200-CD-024.

21 CONNECTION TO UNDERDRAIN SYSTEM. CUT AND REMOVE EXIST 12" PERFORATED CPE PIPE, AND 18" DUCTILE IRON PIPE AS NECESSARY TO MAKE CONNECTION. INSTALL TEE TO MATCH UD AND SD PIPELINE DIAMETER AND MATERIAL. IF NECESSARY USE SIMILAR PIPE STUBS AND FERNCO COUPLINGS WITH SHEAR BANDS TO CONNECT TO EXISTING.

27 CONSTRUCT REINFORCED CONCRETE ENCASEMENT TO THE LIMITS SHOWN AND IN ACCORDANCE WITH DETAIL 1 ON DRAWING 0100-CD-004.

28 INSTALL OIL-WATER SEPARATOR, OLD CASTLE 264-CPS, OR EQUAL.

KEY MAP AREA 200



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PRELIMINARY

SAM ADAMS — STATE OF WASHINGTON — 27330 — REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REVISION	BY	CK'D	APP

BergerABAM
700 NE Multnomah Street, Suite 900
Portland, Oregon 97232-4189
(503) 872-4100 FAX: (503) 872-4101

VANCOUVER ENERGY
Tesoro Savage Petroleum Terminal LLC

PROJECT: VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: AREA 200
GRADING & DRAINAGE PLAN – 6

DESIGN:	DRS	START DATE:	10/12/2015	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	10/13/2015	PROJECT MANAGER:	SAVAGE_PM
CHECKED:	MCH	APPROVED:	SA	SIZE:	24X36

DRAWING NUMBER: 0200-CD-007 — SHEET 1/1 — REV.

Last Saved by: Tony.pritchett on: Oct 12, 2015 11:56 AM File: Q:\Vancouver\2013\A13.0267\02\CADD\Dwgs\04_0200-CD-007.dwg

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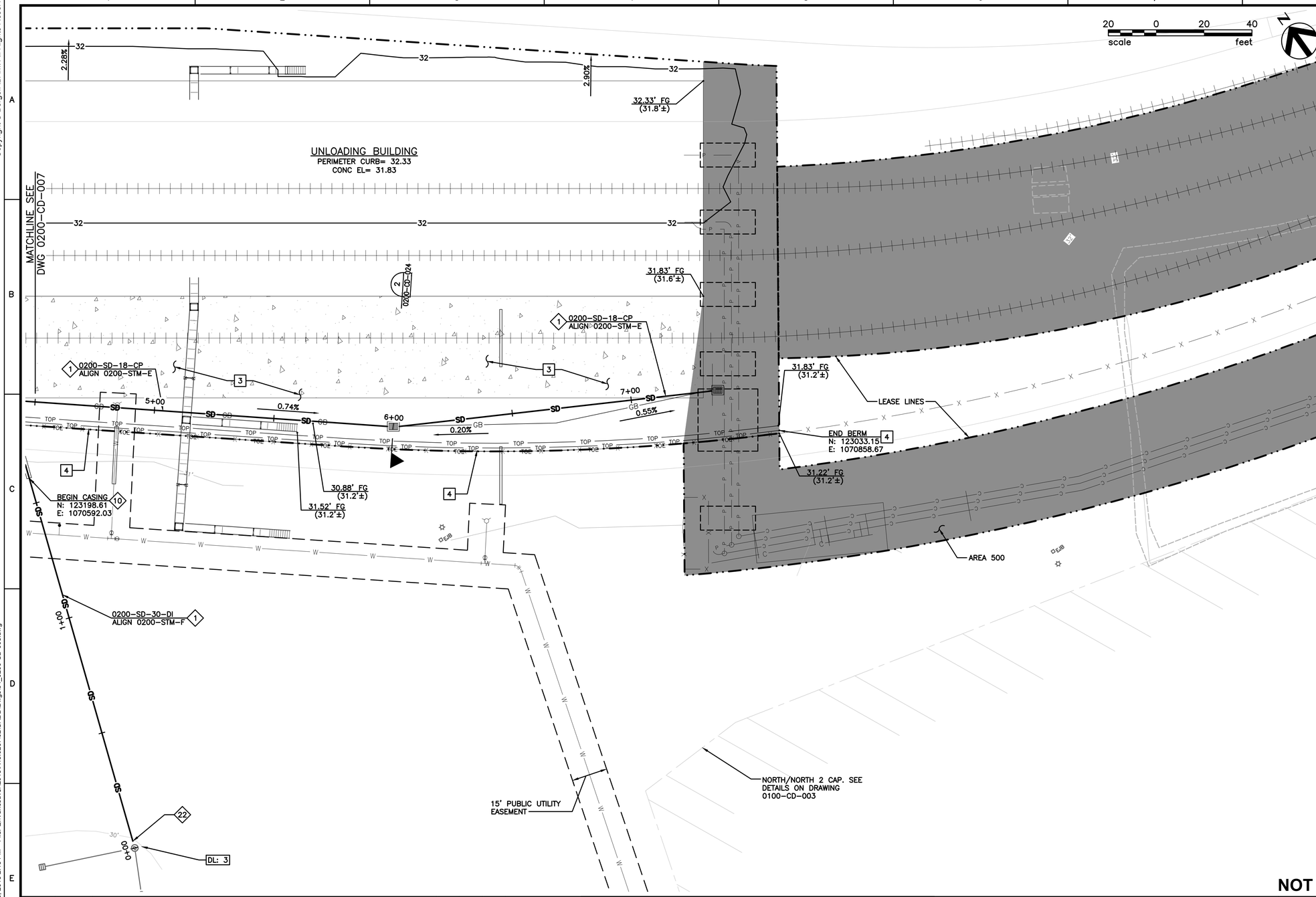


GRADING NOTES:

1. SEE SITE PLAN 0200-SP-001 FOR SITE LAYOUT INFORMATION.

3 GRADE INDUSTRIAL AND RAIL YARD AREA GENTLY TOWARD STORM DRAIN INLETS. PLACE IMPORT GRANULAR ROCK FOR YARD SURFACING. 2" MINIMUM DEPTH, COMPACTED WITH 300 LB ROLLER.

4 CONSTRUCTED GRADED BERM ALONG PROPOSED FENCE LINE TO ISOLATE STORMWATER FROM ENTERING PROJECT SITE. SEE SECTIONS ON DRAWING 0200-CD-024.

DRAINAGE NOTES:

1. SEE PROFILE DWG 0200-CD-014 FOR ALIGNMENT 0200-STM-E.
2. SEE PROFILE DWG 0200-CD-015 FOR ALIGNMENT 0200-STM-F.

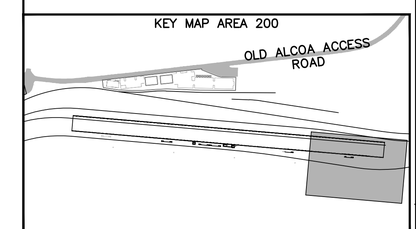
1 CONSTRUCT PROPOSED STORM DRAIN PIPELINES WITH THE PIPE DIAMETER, MATERIAL, AND SLOPE INDICATED. PIPE TRENCH SECTIONS INCLUDING BEDDING, BACKFILL AND SURFACE RESTORATIONS AS SHOWN ON DRAWING 0100-CD-005

8 CONSTRUCT CATCH BASIN INLET IN ACCORDANCE WITH DETAIL 1 ON DRAWING 0100-CD-006. ALL STORM DRAIN INLETS MUST INCLUDE ZYMARK BRAND OR EQUIVALENT SPILL CONTROL TRAP INSERT.

10 CONSTRUCT STEEL CASING, SEE CASING NOTES DRAWING 0100-CD-006.

22 CONNECTION TO EXISTING STORM DRAIN STRUCTURE. CONSTRUCT PER DETAIL 4 ON DRAWING 0100-CD-007.

KEY MAP AREA 200



PERMIT SET
NOT FOR CONSTRUCTION

SAM ADAMS STATE OF WASHINGTON 27330 REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REVISION	BY	CK'D	APP

BergerABAM
700 NE Multnomah Street, Suite 900
Portland, Oregon 97232-4189
(503) 872-4100 FAX: (503) 872-4101

VANCOUVER ENERGY
Tesoro Savage Petroleum Terminal LLC

PROJECT: VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: AREA 200
GRADING & DRAINAGE PLAN – 7

DESIGN:	DRS	START DATE:	2/25/2015	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	10/12/2015	PROJECT MANAGER:	SAVAGE_PM
CHECKED:	MCH	APPROVED:	SA	SIZE:	24X36

DRAWING NUMBER: 0200-CD-008 | SHEET: 1/1 | REV.:

Last Saved by: Tony.pritchett on: Feb 25, 2015 2:15 PM File: Q:\Vancouver\2013\A13.0267\02\CADD\Dwgs\04_0200-CD-008.dwg

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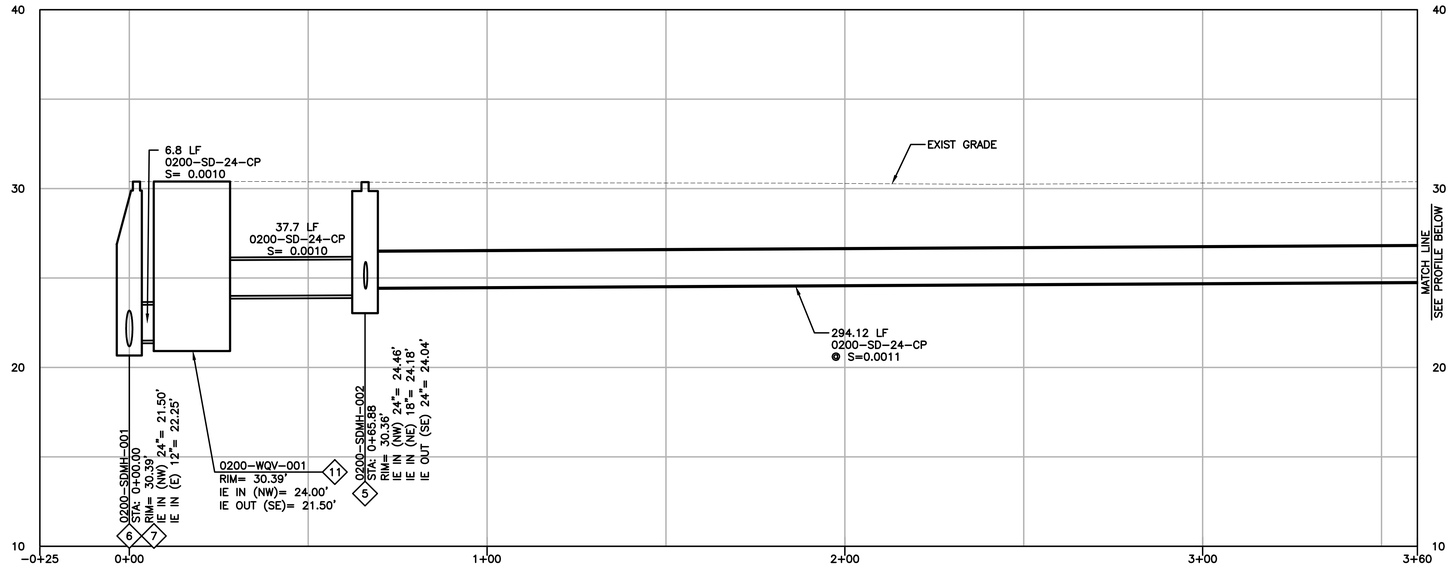
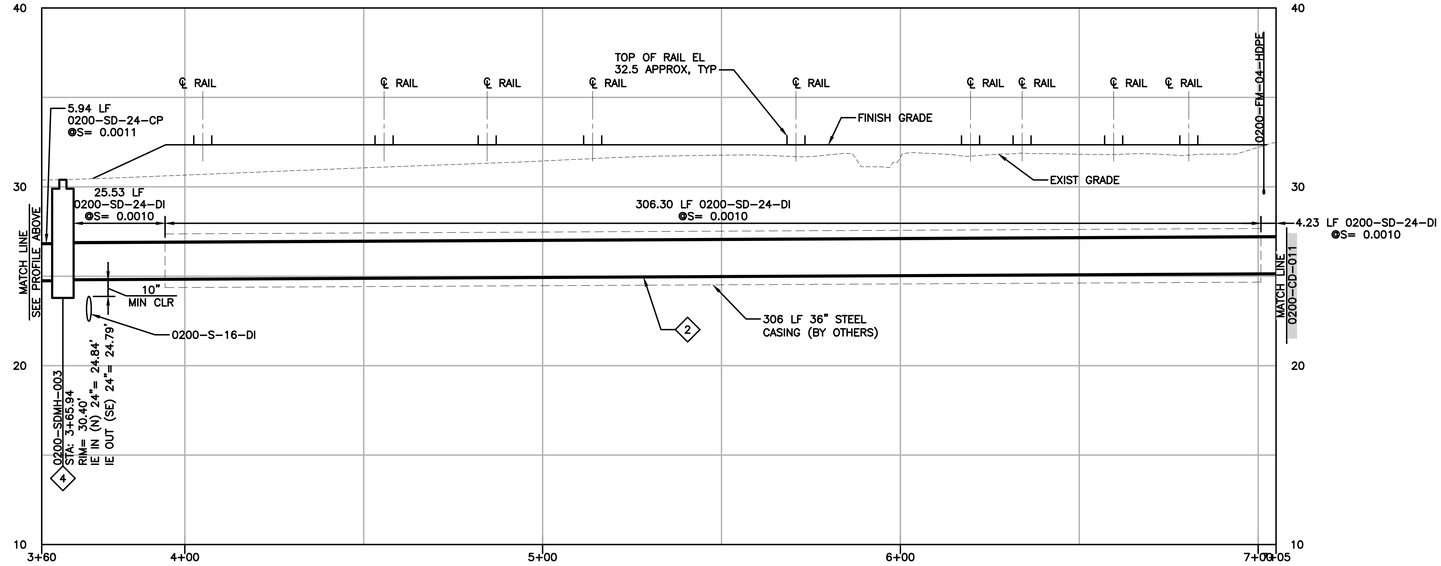


PROFILE 0200-STM-A

SCALE: 1"=20' HORZ AND 1"= 4' VERT

NOTE:
SEE DWG 0200-CD-004 FOR PLAN VIEW



PROFILE 0200-STM-A

SCALE: 1"=20' HORZ AND 1"= 4' VERT

NOTE:
SEE DWG 0200-CD-005 FOR PLAN VIEW

DRAINAGE NOTES:

2. INSTALL PROPOSED 24" DI STORM DRAIN WITHIN CASING (BY OTHERS). INSTALL WITH CASING SPACERS, @ 3 PER STICK AND END SEALS AS SPECIFIED.
4. CONSTRUCT 60" DIAMETER PRECAST MANHOLE IN ACCORDANCE WITH DETAIL 5 ON DRAWING 0100-CD-007.
5. CONSTRUCT 72" DIAMETER PRECAST MANHOLE IN ACCORDANCE WITH DETAIL 5 ON DRAWING 0100-CD-007.
6. CONSTRUCT 84" DIAMETER PRECAST MANHOLE IN ACCORDANCE WITH DETAIL 5 ON DRAWING 0100-CD-007.
7. CONSTRUCT MANHOLE OVER EXISTING STORM DRAIN PIPE IN ACCORDANCE WITH DETAIL 7 ON DRAWING 0100-CD-007.
11. CONSTRUCT WATER QUALITY VAULT 0200-WQV-001 PER DETAIL 1 ON DRAWING 0200-CD-023.

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SAM ADAMS
STATE OF WASHINGTON
27330
REGISTERED
PROFESSIONAL ENGINEER

NO.	DATE	REVISION	BY	CK'D	APP

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700 NE Multnomah Street, Suite 900
Portland, Oregon 97232-4189
(503) 872-4100 FAX: (503) 872-4101

VANCOUVER ENERGY
Tesoro Savage Petroleum Terminal LLC

PROJECT: VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: AREA 200
DRAINAGE PROFILES – 1

DESIGN:	DRS	START DATE:	12/23/2014	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	2/17/2015	PROJECT MANAGER:	SAVAGE_PM
CHECKED:	MCH	APPROVED:	SA	SIZE:	24X36

DRAWING NUMBER: 0200-CD-010
SHEET: 1 / 1
REV.

Last Saved by: Tony.pritchett on: Dec 31, 2014 11:10 AM File: Q:\Vancouver\2013\A13.0267\02\CADD\Dwgs\04_0200-CD-010.dwg

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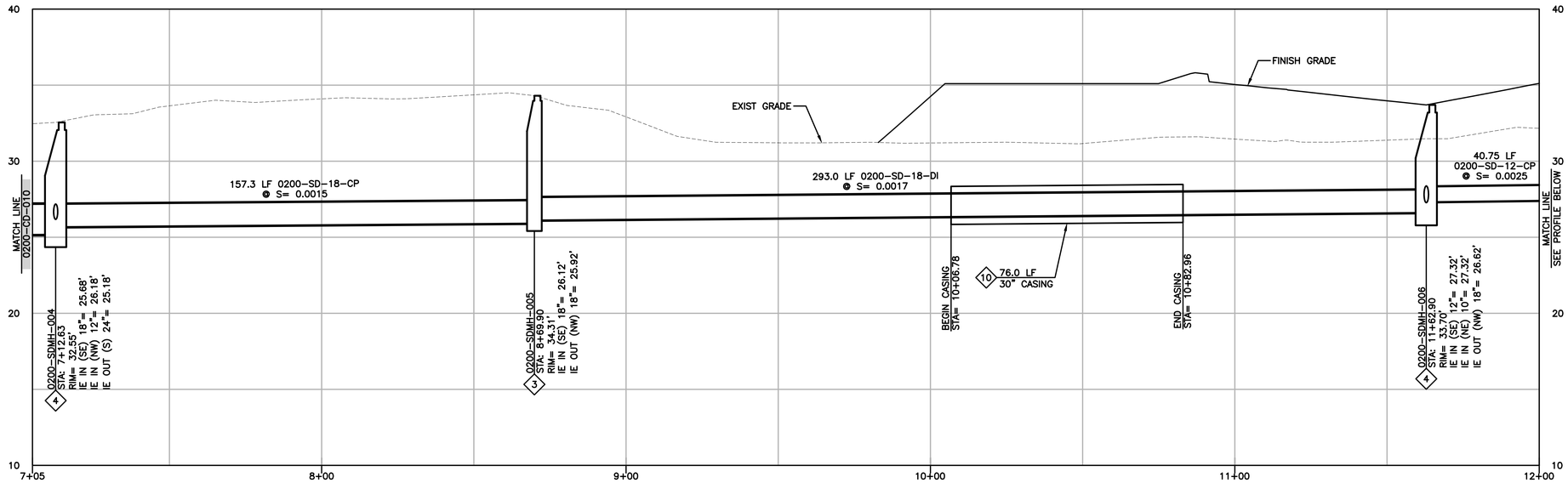
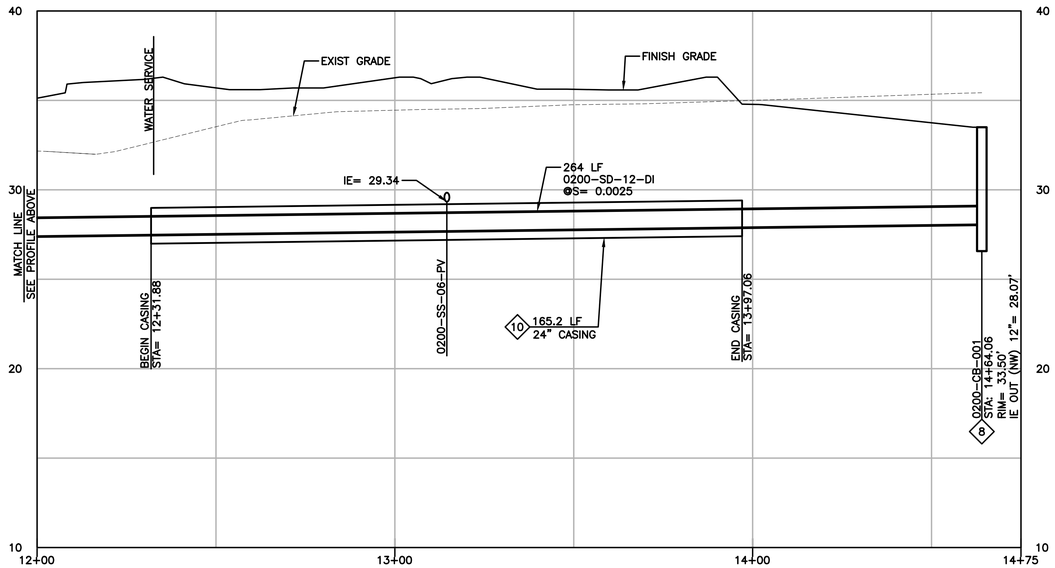
DRAINAGE NOTES:

3. CONSTRUCT 48" DIAMETER PRECAST MANHOLE IN ACCORDANCE WITH DETAIL 1 ON DRAWING 0100-CD-007.
4. CONSTRUCT 60" DIAMETER PRECAST MANHOLE IN ACCORDANCE WITH DETAIL 5 ON DRAWING 0100-CD-007.
8. CONSTRUCT CATCH BASIN INLET IN ACCORDANCE WITH DETAIL 1 ON DRAWING 0100-CD-006. ALL STORM DRAIN INLETS MUST INCLUDE ZYMARK BRAND OR EQUIVALENT SPILL CONTROL TRAP INSERT.
10. CONSTRUCT STEEL CASING, SEE CASING NOTES DRAWING 0100-CD-006.



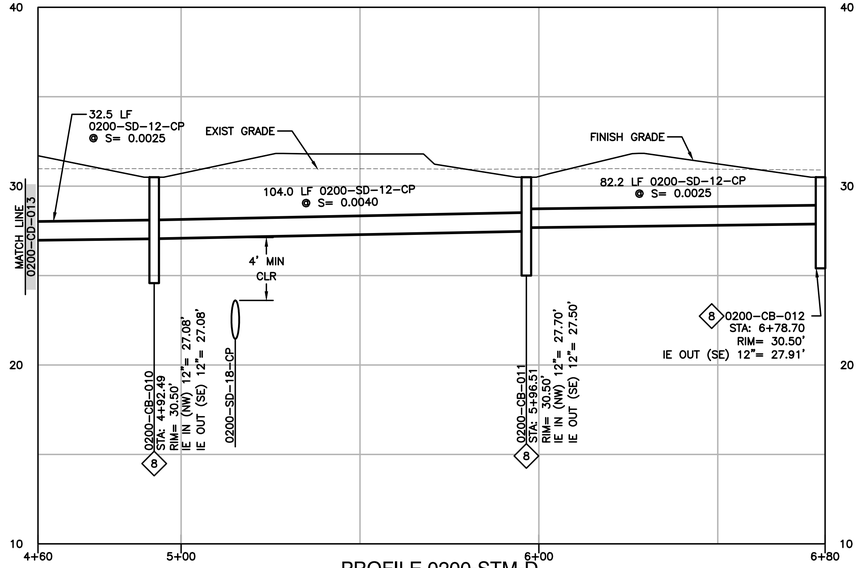
PROFILE 0200-STM-A
SCALE: 1"=20' HORZ AND 1"= 4' VERT

NOTE:
SEE DWG 0200-CD-002 FOR PLAN VIEW



PROFILE 0200-STM-A
SCALE: 1"=20' HORZ AND 1"= 4' VERT

NOTE:
SEE DWG 0200-CD-002 FOR PLAN VIEW



PROFILE 0200-STM-D
SCALE: 1"=20' HORZ AND 1"= 4' VERT

NOTE:
SEE DWG 0200-CD-006 FOR PLAN VIEW

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Portland, Oregon 97232-4189
(503) 872-4100 FAX: (503) 872-4101

VANCOUVER ENERGY
Tesoro Savage Petroleum Terminal LLC

PROJECT: VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: AREA 200
DRAINAGE PROFILES – 2

DESIGN:	DRS	START DATE:	2/25/2015	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	2/25/2015	PROJECT MANAGER:	SAVAGE_PM
CHECKED:	MCH	APPROVED:	SA	SIZE:	24X36

DRAWING NUMBER	SHEET	REV.
0200-CD-011	1/1	

Last Saved by: Tony.pritchett on: Feb 2 , 2015 1:1 PM File: Q:\Vancouver\2013\A13.0267\02\CADD\Dwgs\04_0200-CD-011.dwg

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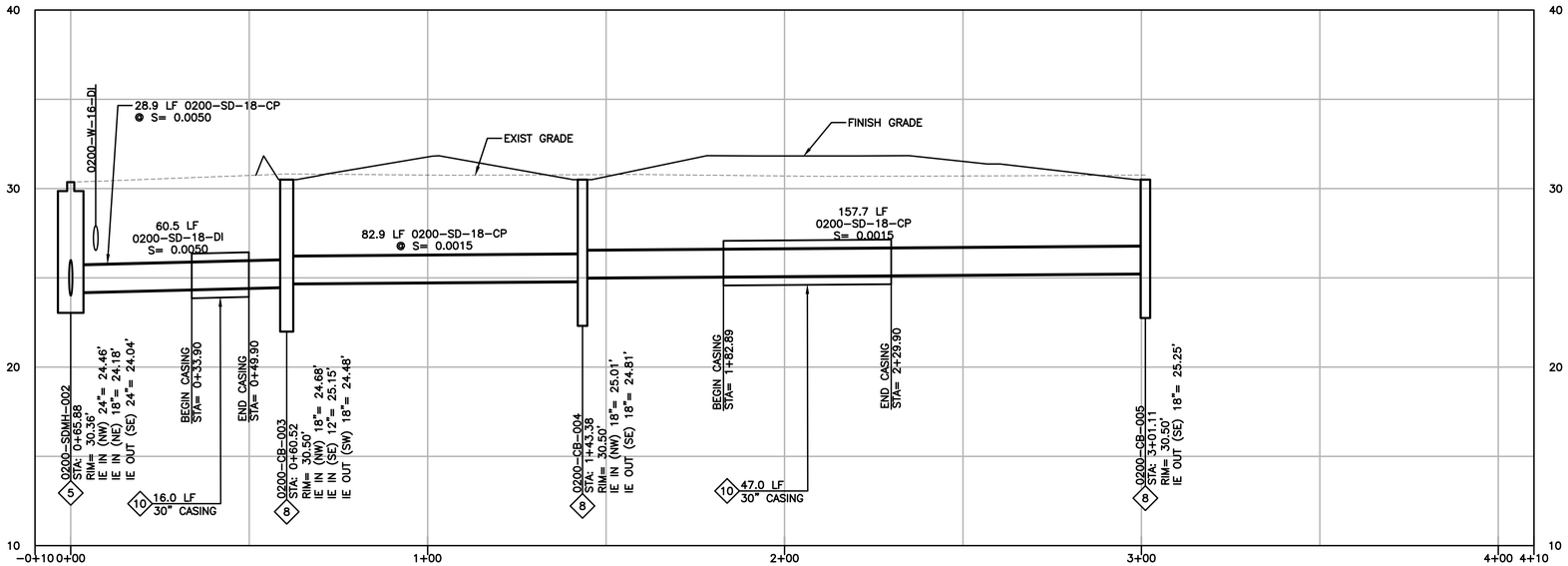

PROFILE 0200-STM-B

SCALE: 1"=20' HORZ AND 1"= 4' VERT

NOTE:
SEE DWG 0200−CD−005 FOR PLAN VIEW

DRAINAGE NOTES:

5 CONSTRUCT 72" DIAMETER PRECAST MANHOLE IN ACCORDANCE WITH DETAIL 5 ON DRAWING 0100−CD−007.

8 CONSTRUCT CATCH BASIN INLET IN ACCORDANCE WITH DETAIL 1 ON DRAWING 0100−CD−006. ALL STORM DRAIN INLETS MUST INCLUDE ZYMARK BRAND OR EQUIVALENT SPILL CONTROL TRAP INSERT.

10 CONSTRUCT STEEL CASING, SEE CASING NOTES DRAWING 0100−CD−006.

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NOT FOR CONSTRUCTION

SAM ADAMS
STATE OF WASHINGTON
37330
REGISTERED
PROFESSIONAL ENGINEER
PRELIMINARY

NO.	DATE	REVISION	BY	CK'D	APP

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700 NE Multnomah Street, Suite 900
Portland, Oregon 97232-4189
(503) 872-4100 FAX: (503) 872-4101

VANCOUVER ENERGY
Tesoro Savage Petroleum Terminal LLC

PROJECT: VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: AREA 200
DRAINAGE PROFILES − 3

DESIGN:	DRS	START DATE:	2/25/2015	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	2/25/2015	PROJECT MANAGER:	SAVAGE_PM
CHECKED:	MCH	APPROVED:	SA	SIZE:	24X36

DRAWING NUMBER: 0200−CD−012
SHEET: 1 / 1
REV.

Last Saved by: Tony.pritchett on: Feb 2 , 2015 1:1 PM File: Q:\Vancouver\2013\A13.0267\02\CADD\Dwgs\04_0200-CD-012.dwg

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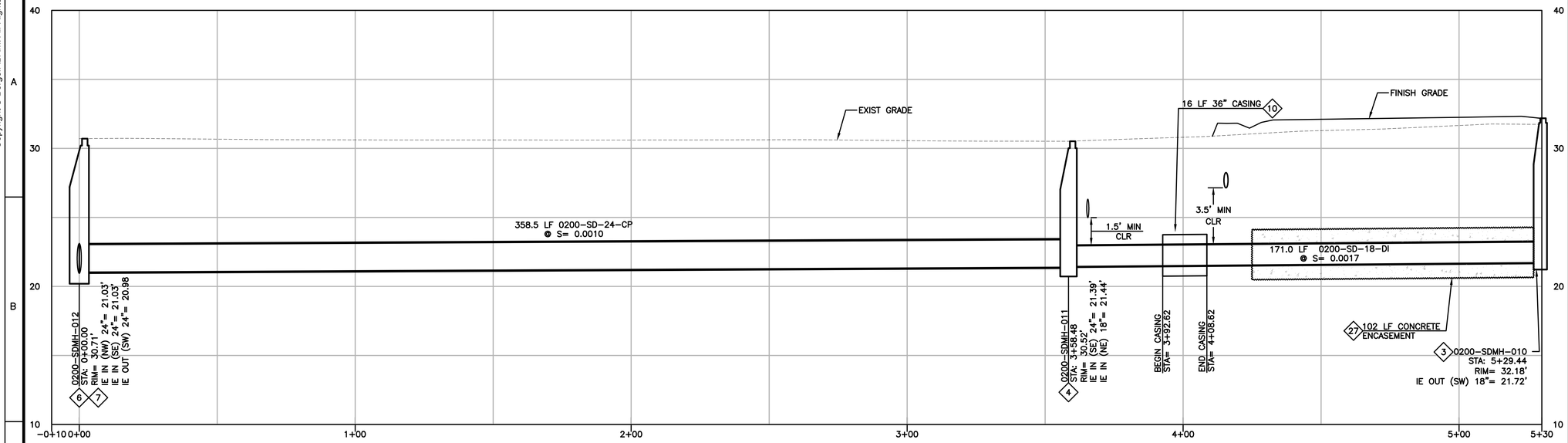
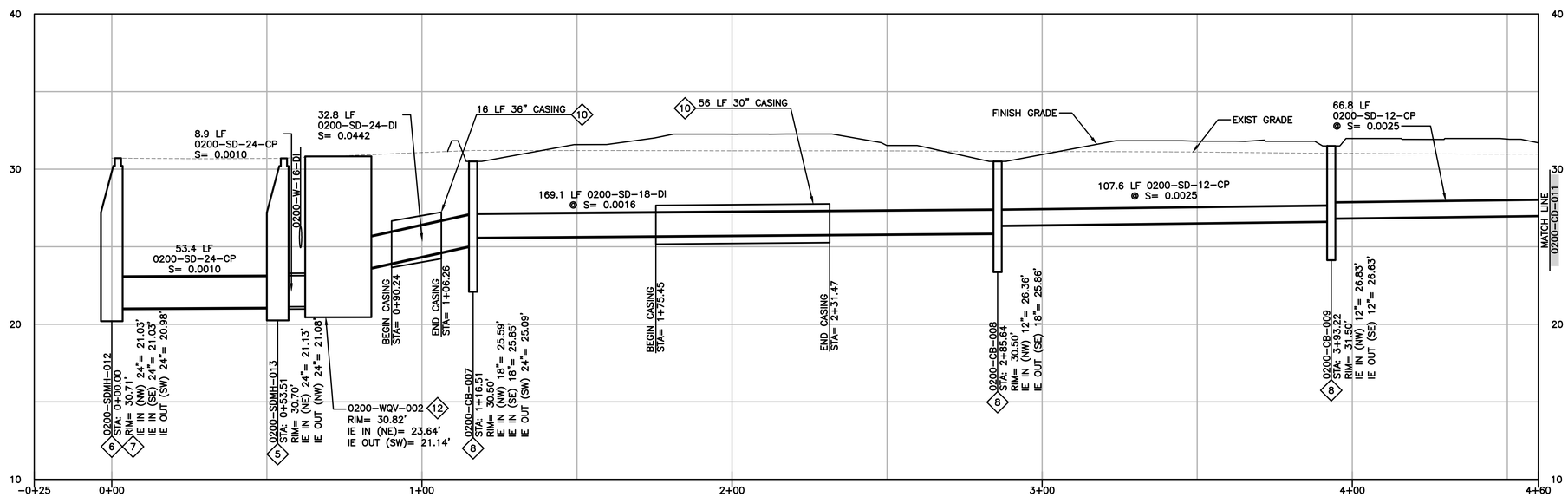


PROFILE 0200-STM-C

SCALE: 1"=20' HORZ AND 1"= 4' VERT

NOTE:
SEE DWG 0200-CD-006 AND 0200-CD-007 FOR PLAN VIEW



PROFILE 0200-STM-D

SCALE: 1"=20' HORZ AND 1"= 4' VERT

NOTE:
SEE DWG 0200-CD-006 AND 0200-CD-007 FOR PLAN VIEW

DRAINAGE NOTES:

3. CONSTRUCT 48" DIAMETER PRECAST MANHOLE IN ACCORDANCE WITH DETAIL 1 ON DRAWING 0100-CD-007.
4. CONSTRUCT 60" DIAMETER PRECAST MANHOLE IN ACCORDANCE WITH DETAIL 5 ON DRAWING 0100-CD-007.
5. CONSTRUCT 72" DIAMETER PRECAST MANHOLE IN ACCORDANCE WITH DETAIL 5 ON DRAWING 0100-CD-007.
6. CONSTRUCT 84" DIAMETER PRECAST MANHOLE IN ACCORDANCE WITH DETAIL 5 ON DRAWING 0100-CD-007.
7. CONSTRUCT MANHOLE OVER EXISTING STORM DRAIN PIPE IN ACCORDANCE WITH DETAIL 7 ON DRAWING 0100-CD-007.
8. CONSTRUCT CATCH BASIN INLET IN ACCORDANCE WITH DETAIL 1 ON DRAWING 0100-CD-006. ALL STORM DRAIN INLETS MUST INCLUDE ZYMARK BRAND OR EQUIVALENT SPILL CONTROL TRAP INSERT.
10. CONSTRUCT STEEL CASING, SEE CASING NOTES DRAWING 0100-CD-006.
12. CONSTRUCT WATER QUALITY VAULT 0200-WQV-002 PER DETAIL 1 ON DRAWING 0200-CD-024.
18. CONSTRUCT CONTROL STRUCTURE PER DETAIL 3 ON DRAWING 0300-CD-014.
27. CONSTRUCT REINFORCED CONCRETE ENCASEMENT TO THE LIMITS SHOWN AND IN ACCORDANCE WITH DETAIL 1 ON DRAWING 0100-CD-004.

PERMIT SET
NOT FOR CONSTRUCTION

NO.	DATE	REVISION	BY	CK'D	APP

BergerABAM
700 NE Multnomah Street, Suite 900
Portland, Oregon 97232-4189
(503) 872-4100 FAX: (503) 872-4101

VANCOUVER ENERGY
Tesoro Savage Petroleum Terminal LLC

PROJECT: VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: AREA 200
DRAINAGE PROFILES – 4

DESIGN:	DRS	START DATE:	2/25/2015	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	2/25/2015	PROJECT MANAGER:	SAVAGE_PM
CHECKED:	MCH	APPROVED:	SA	SIZE:	24X36

DRAWING NUMBER: 0200-CD-013 | SHEET 1/1 | REV.

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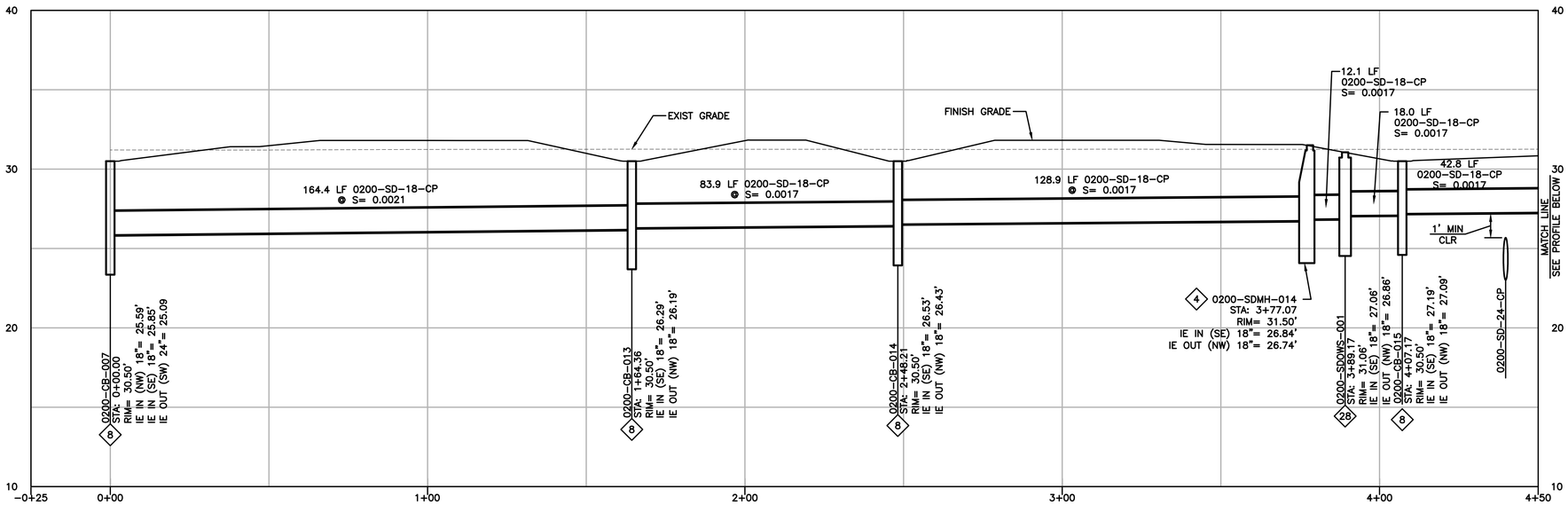
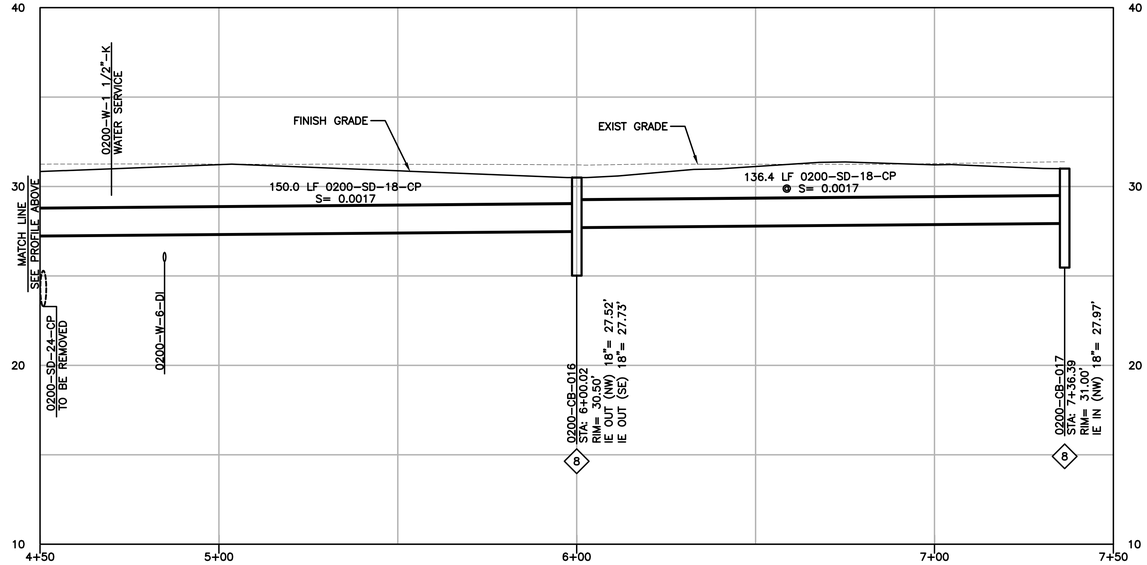


PROFILE 0200-STM-E

SCALE: 1"=20' HORZ AND 1"= 4' VERT

NOTE:
SEE DWG 0200-CD-007 FOR PLAN VIEW



PROFILE 0200-STM-E

SCALE: 1"=20' HORZ AND 1"= 4' VERT

NOTE:
SEE DWG 0200-CD-008 FOR PLAN VIEW

DRAINAGE NOTES:

4. CONSTRUCT 60" DIAMETER PRECAST MANHOLE IN ACCORDANCE WITH DETAIL 5 ON DRAWING 0100-CD-007.
8. CONSTRUCT CATCH BASIN INLET IN ACCORDANCE WITH DETAIL 1 ON DRAWING 0100-CD-006. ALL STORM DRAIN INLETS MUST INCLUDE ZYMARK BRAND OR EQUIVALENT SPILL CONTROL TRAP INSERT.
28. INSTALL OIL-WATER SEPARATOR, OLD CASTLE 264-CPS, OR EQUAL.

PERMIT SET
NOT FOR CONSTRUCTION

SAM ADAMS, STATE OF WASHINGTON, 27330, REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REVISION	BY	CK'D	APP

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Portland, Oregon 97232-4189
(503) 872-4100 FAX: (503) 872-4101

VANCOUVER ENERGY
Tesoro Savage Petroleum Terminal LLC

PROJECT: VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: AREA 200
DRAINAGE PROFILES – 5

DESIGN:	DRS	START DATE:	10/12/2015	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	10/13/2015	PROJECT MANAGER:	SAVAGE_PM
CHECKED:	MCH	APPROVED:	SA	SIZE:	24X36

DRAWING NUMBER: 0200-CD-014
SHEET: 1 / 1
REV.

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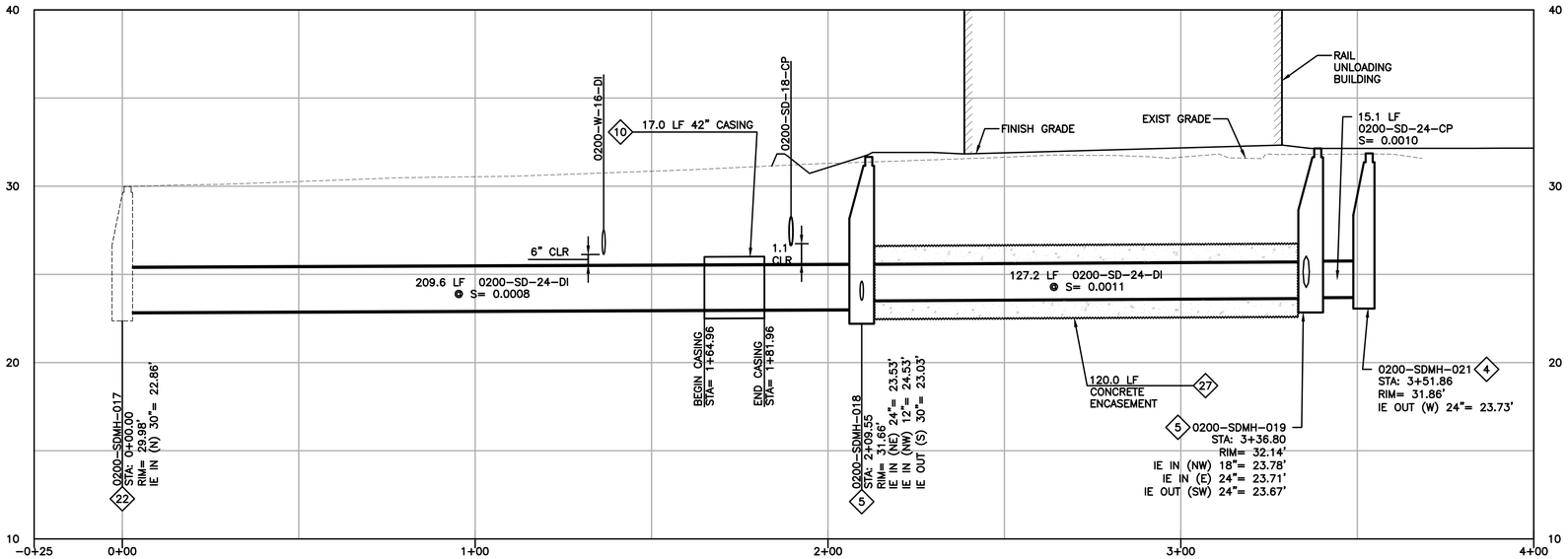

PROFILE 0200-STM-F

SCALE: 1"=20' HORZ AND 1"= 4' VERT

NOTE:
SEE DWG 0200-CD-007 FOR PLAN VIEW

DRAINAGE NOTES:

4. CONSTRUCT 60" DIAMETER PRECAST MANHOLE IN ACCORDANCE WITH DETAIL 5 ON DRAWING 0100-CD-007.
5. CONSTRUCT 72" DIAMETER PRECAST MANHOLE IN ACCORDANCE WITH DETAIL 5 ON DRAWING 0100-CD-007.
10. CONSTRUCT STEEL CASING, SEE CASING NOTES DRAWING 0100-CD-006.
22. CONNECTION TO EXISTING STORM DRAIN STRUCTURE. CONSTRUCT PER DETAIL 4 ON DRAWING 0100-CD-007.
27. CONSTRUCT REINFORCED CONCRETE ENCASEMENT TO THE LIMITS SHOWN AND IN ACCORDANCE WITH DETAIL 1 ON DRAWING 0100-CD-004.

PERMIT SET
NOT FOR CONSTRUCTION

SAM ADAMS
STATE OF WASHINGTON
37330
REGISTERED
PROFESSIONAL ENGINEER
PRELIMINARY

NO.	DATE	REVISION	BY	CK'D	APP

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700 NE Multnomah Street, Suite 900
Portland, Oregon 97232-4189
(503) 872-4100 FAX: (503) 872-4101

VANCOUVER ENERGY
Tesoro Savage Petroleum Terminal LLC

PROJECT: VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: AREA 200
DRAINAGE PROFILES – 6

DESIGN:	DRS	START DATE:	2/25/2015	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	2/25/2015	PROJECT MANAGER:	SAVAGE_PM
CHECKED:	MCH	APPROVED:	SA	SIZE:	24X36

DRAWING NUMBER: 0200-CD-015
SHEET: 1/1
REV.

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AREA 200

Structure Table	
Structure Name	Structure Details
0200–CB–001 N: 124078.08 E: 1070091.03	RIM = 33.50' SUMP = 27.07' IE OUT (12") NW = 28.07'
0200–CB–002 N: 124223.76 E: 1069826.59	RIM = 33.36' SUMP = 27.37' IE OUT (10") SW = 27.37'
0200–CB–003 N: 123987.23 E: 1069593.27	RIM = 30.50' SUMP = 22.48' IE IN (18") NW = 24.68' IE IN (12") SE = 25.15' IE OUT (18") SW = 24.48'
0200–CB–004 N: 124035.18 E: 1069525.69	RIM = 30.50' SUMP = 22.81' IE IN (18") NW = 25.01' IE OUT (18") SE = 24.81'
0200–CB–005 N: 124126.40 E: 1069397.02	RIM = 30.50' SUMP = 23.25' IE OUT (18") SE = 25.25'
0200–CB–006 N: 123921.07 E: 1069686.57	RIM = 30.50' SUMP = 23.28' IE OUT (12") NW = 25.28'
0200–SDMH–001 N: 123899.59 E: 1069611.90	RIM = 30.39' SUMP = 21.50' IE IN (24") NW = 21.50' IE IN (12") E = 22.25'
0200–SDMH–002 N: 123937.85 E: 1069558.27	RIM = 30.36' SUMP = 24.04' IE IN (24") NW = 24.46' IE IN (18") NE = 24.18' IE OUT (24") SE = 24.04'
0200–SDMH–003 N: 124112.13 E: 1069314.00	RIM = 30.40' SUMP = 24.79' IE IN (24") N = 24.84' IE OUT (24") SE = 24.79'
0200–SDMH–004 N: 124437.62 E: 1069433.35	RIM = 32.55' SUMP = 25.18' IE IN (18") SE = 25.68' IE IN (12") NW = 26.18' IE OUT (24") S = 25.18'
0200–SDMH–005 N: 124362.33 E: 1069571.42	RIM = 34.31' SUMP = 25.92' IE IN (18") SE = 26.12' IE OUT (18") NW = 25.92'
0200–SDMH–006 N: 124201.38 E: 1069816.26	RIM = 33.70' SUMP = 26.62' IE IN (12") SE = 27.32' IE IN (10") NE = 27.32' IE OUT (18") NW = 26.62'
0200–SDMH–007 N: 123889.38 E: 1069740.43	RIM = 31.62' SUMP = 28.05' IE OUT (12") W = 28.05'

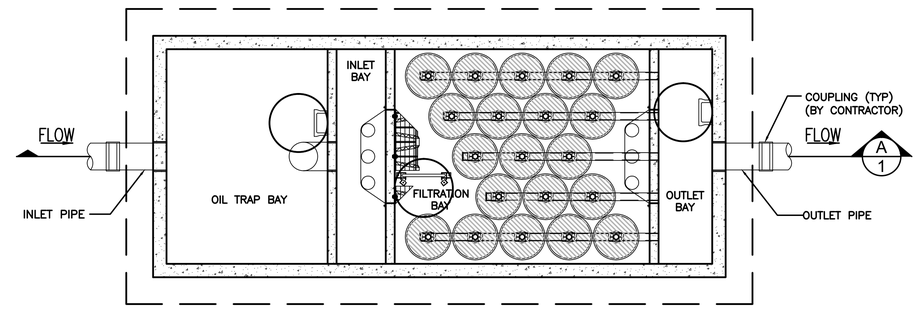
Structure Table	
Structure Name	Structure Details
0200–CB–007 N: 123505.06 E: 1070261.75	RIM = 30.50' SUMP = 22.59' IE IN (18") NW = 25.59' IE OUT (24") SW = 25.09'
0200–CB–007 N: 123505.06 E: 1070261.75	RIM = 30.50' SUMP = 23.85' IE IN (18") SE = 25.85'
0200–CB–008 N: 123606.26 E: 1070126.25	RIM = 30.50' SUMP = 23.86' IE IN (12") NW = 26.36' IE OUT (18") SE = 25.86'
0200–CB–009 N: 123668.84 E: 1070038.74	RIM = 31.50' SUMP = 24.63' IE IN (12") NW = 26.83' IE OUT (12") SE = 26.63'
0200–CB–010 N: 123726.58 E: 1069957.99	RIM = 30.50' SUMP = 25.08' IE IN (12") NW = 27.08' IE OUT (12") SE = 27.08'
0200–CB–011 N: 123786.96 E: 1069873.29	RIM = 30.50' SUMP = 25.50' IE IN (12") NW = 27.70' IE OUT (12") SE = 27.50'
0200–CB–012 N: 123834.62 E: 1069806.32	RIM = 30.50' SUMP = 25.91' IE OUT (12") SE = 27.91'
0200–CB–013 N: 123402.68 E: 1070390.33	RIM = 30.50' SUMP = 24.19' IE IN (18") SE = 26.29' IE OUT (18") NW = 26.19'
0200–CB–014 N: 123350.32 E: 1070455.82	RIM = 30.50' SUMP = 24.43' IE IN (18") SE = 26.53' IE OUT (18") NW = 26.43'
0200–CB–015 N: 123250.26 E: 1070579.34	RIM = 30.50' SUMP = 24.80' IE IN (18") SE = 26.90' IE OUT (18") NW = 26.80'
0200–CB–016 N: 123127.98 E: 1070728.47	RIM = 30.50' SUMP = 25.23' IE IN (18") SE = 27.27' IE OUT (18") NW = 27.23'
0200–CB–017 N: 123061.69 E: 1070847.64	RIM = 31.00' SUMP = 25.50' IE OUT (18") NW = 27.50'
0200–SDMH–010 N: 123837.67 E: 1069993.04	RIM = 32.18' SUMP = 21.72' IE OUT (18") SW = 21.72'
0200–SDMH–011 N: 123698.43 E: 1069893.84	RIM = 30.52' SUMP = 21.39' IE IN (24") SE = 21.39' IE IN (18") NE = 21.44'
0200–SDMH–012 N: 123485.42 E: 1070182.16	RIM = 30.71' SUMP = 21.03' IE IN (24") SE = 21.03'
0200–SDMH–012 N: 123485.42 E: 1070182.16	RIM = 30.71' SUMP = 21.03' IE OUT (24") NW = 21.03'
0200–SDMH–013 N: 123453.76 E: 1070225.18	RIM = 30.70' SUMP = 21.08' IE IN (24") NE = 21.13' IE OUT (24") NW = 21.08'

Structure Table	
Structure Name	Structure Details
0200–SDMH–017 N: 123047.17 E: 1070538.25	RIM = 29.98' SUMP = 22.86' IE IN (30") N = 22.86'
0200–SDMH–018 N: 123244.64 E: 1070608.37	RIM = 31.66' SUMP = 23.03' IE IN (24") NE = 23.53' IE IN (12") NW = 24.53' IE OUT (30") S = 23.03'
0200–SDMH–019 N: 123348.27 E: 1070682.21	RIM = 32.14' SUMP = 23.67' IE IN (18") NW = 23.78' IE IN (24") E = 23.71' IE OUT (24") SW = 23.67'
0200–SDMH–020 N: 123509.01 E: 1070456.62	RIM = 32.17' SUMP = 24.20' IE IN (18") NW = 24.30' IE OUT (18") SE = 24.20'
0200–SDMH–021 N: 123353.31 E: 1070696.41	RIM = 31.86' SUMP = 23.73' IE OUT (24") W = 23.73'
0200–SDMH–022 N: 123355.67 E: 1070487.34	RIM = 31.64' SUMP = 27.50' IE OUT (12") SE = 27.50'

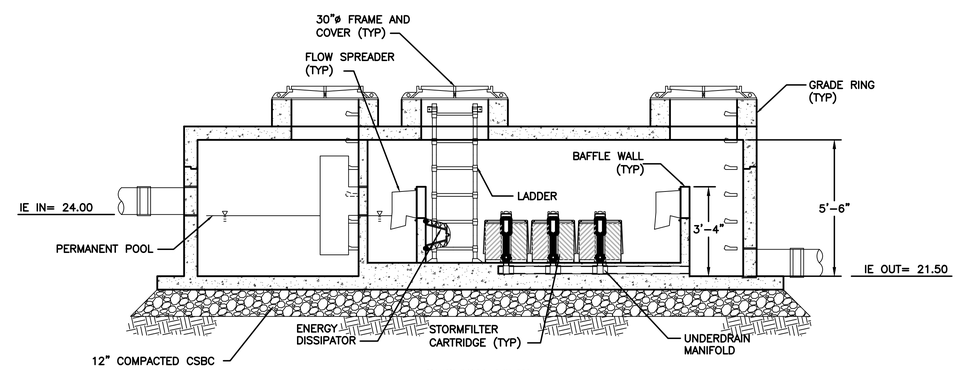
SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID			0200–WQV–001
WATER QUALITY FLOW RATE (cfs)			0.21
PEAK FLOW RATE (cfs)			1.27
RETURN PERIOD OF PEAK FLOW (yrs)			100–YR
# OF CARTRIDGES REQUIRED			13
CARTRIDGE FLOW RATE			7.9
MEDIA TYPE (CSF, PERLITE, ZPG, GAC, PHS)			METAL RX
PIPE DATA:	I.E.	MATERIAL	DIAMETER
INLET PIPE #1	24.00'	CP	24"
INLET PIPE #2	N/A	N/A	N/A
OUTLET PIPE	21.50'	CP	24"
UPSTREAM RIM ELEVATION			30.39'
DOWNSTREAM RIM ELEVATION			30.39'
ANTI–FLOTATION BALLAST		WIDTH	HEIGHT
		TBD	TBD

NOTES/SPECIAL REQUIREMENTS:



PLAN VIEW



SECTION VIEW

0200-WQV-001 (1 / 0200-CD-005)
NOT TO SCALE

PERMIT SET
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700 NE Multnomah Street, Suite 900
Portland, Oregon 97232-4189
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VANCOUVER ENERGY
Tesoro Savage Petroleum Terminal LLC

PROJECT: VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: AREA 200
STRUCTURE TABLES AND DETAILS

DESIGN:	DVJ	START DATE:	2/25/2015	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	2/25/2015	PROJECT MANAGER:	SAVAGE_PM
CHECKED:	MCH	APPROVED:	SA	SIZE:	24X36
DRAWING NUMBER				SHEET	REV.
0200–CD–023				1 / 1	

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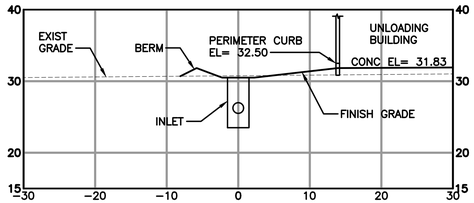
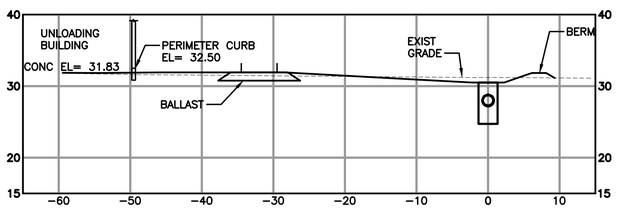


BERM SECTION (1 / 0200-CD-005)
SCALE: 1"=10' HZ 1"=10' VERT

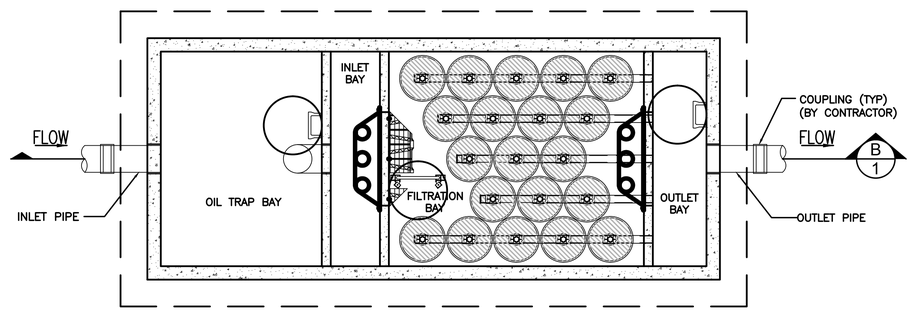


BERM SECTION (2 / 0200-CD-008)
SCALE: 1"=10' HZ 1"=10' VERT

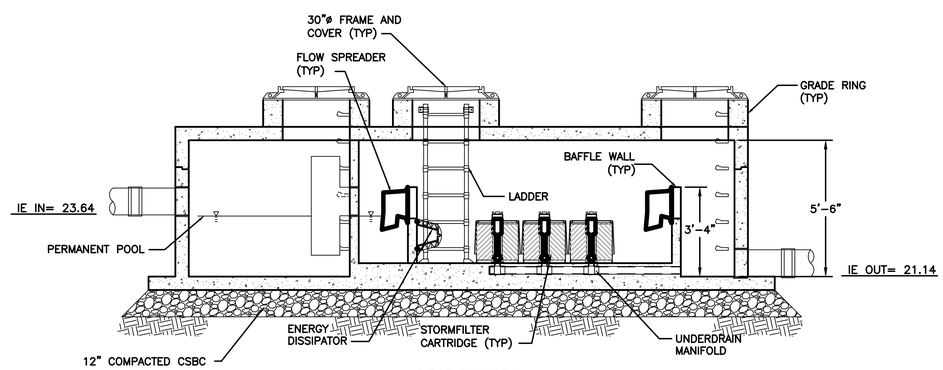
SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID			0200–WQV–002
WATER QUALITY FLOW RATE (cfs)			0.23
PEAK FLOW RATE (cfs)			1.37
RETURN PERIOD OF PEAK FLOW (yrs)			100–YR
# OF CARTRIDGES REQUIRED			14
CARTRIDGE FLOW RATE			7.5
MEDIA TYPE (CSF, PERLITE, ZPG, GAC, PHS)			ZPG
PIPE DATA:	I.E.	MATERIAL	DIAMETER
INLET PIPE #1	23.64'	DI	24"
INLET PIPE #2	N/A	N/A	N/A
OUTLET PIPE	21.14'	CP	24"
UPSTREAM RIM ELEVATION			30.82
DOWNSTREAM RIM ELEVATION			30.82
ANTI–FLOTATION BALLAST		WIDTH	HEIGHT
		TBD	TBD

NOTES/SPECIAL REQUIREMENTS:



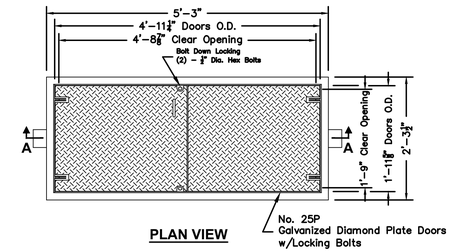
PLAN VIEW



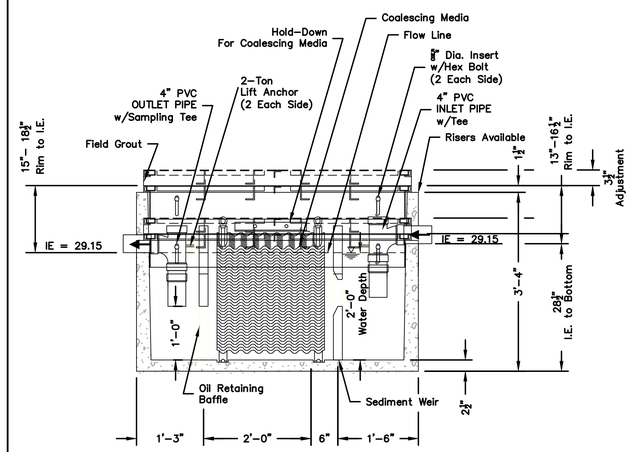
SECTION VIEW

0200-WQV-002 (1 / 0200-CD-007)
NOT TO SCALE

Projected Coalescing Plate Area = 111 Sq.Ft.
*Design Flow Rate = 27 GPM
Maximum Process Flow = 144 GPM



PLAN VIEW



SECTION AA

*DESIGN FLOW RATE	EFFLUENT QUALITY	100% COLLECTED SIZE
27 GPM	10 ppm	60 Micron

Basic Design Information: *
Influent Characterics
– Oil Specific Gravity = 0.88
– Operating Temperature = 50°
– Influent Oil Concentration = 100 ppm
– Mean Oil Droplet Size = 130 Microns
– .033 ft/min. Critical Oil Droplet Predicted Rise Rate

*Basic Design Information per Washington State Department of Ecology; User to Adjust Estimates for Variations in Real Conditions.

Notes:
– Static Water Depth = 2'–0"
– Prior to "Startup" of system, fill with clean water to bottom of outlet pipe. For best results, fill to flow line.
– Follow Regular Inspection, Cleaning, & Maintenance Schedule (See Clean Out & Maintenance).

0200-OWS-001 (2 / 0200-CD-016)
NOT TO SCALE

PERMIT SET
NOT FOR CONSTRUCTION

SAM ADAMS, STATE OF WASHINGTON, 47330, REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REVISION	BY	CK'D	APP

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700 NE Multnomah Street, Suite 900
Portland, Oregon 97232-4189
(503) 872-4100 FAX: (503) 872-4101

VANCOUVER ENERGY
Tesoro Savage Petroleum Terminal LLC

PROJECT: VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: AREA 200
SECTIONS AND DETAILS

DESIGN:	DVJ	START DATE:	2/25/2015	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	2/25/2015	PROJECT MANAGER:	SAVAGE_PM
CHECKED:	MCH	APPROVED:	SA	SIZE:	24X36

DRAWING NUMBER: 0200–CD–024 | SHEET 1 / 1 | REV.

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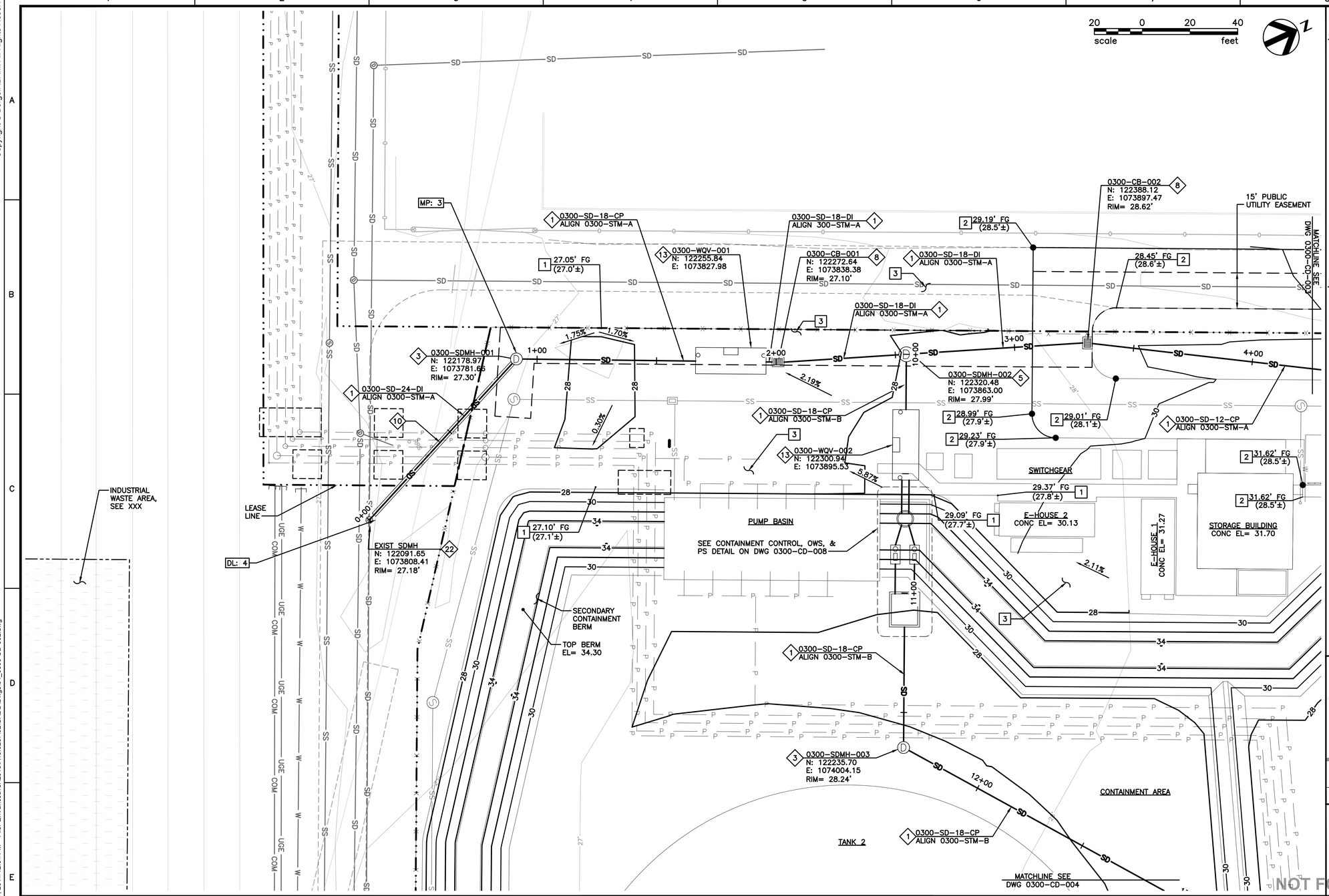


GRADING NOTES:

1. SEE SITE PLAN ON DWG 0300-SP-001 FOR SITE LAYOUT INFORMATION
2. SEE DWG 0300-CD-011 FOR CONTAINMENT AREA GRADING INFORMATION.

1 MATCH EXISTING SURFACE. CONSTRUCT SUBRGRADE TO GRADUALLY TIE INTO EXISTING SURFACE. APPROXIMATE ELEVATIONS ARE SHOWN. WHERE MATCHING INTO EXISTING ASPHALT, SAWCUT MINIMUM 1' OF EXISTING ASPHALT AND MATCH EXISTING ASPHALT THICKNESSES AND APPLY ASPHALT JOINT SEALER.

2 GRADE ASPHALT CONCRETE PARKING, DRIVE AISLE, AND DRIVEWAY AREAS TO THE ELEVATIONS AND GRADES SHOWN. GRADE TO ALLOW DRAINAGE TO SHEET FLOW TO CONSTRUCTED DRAINAGE CONVEYANCES AND INLETS.

3 GRADE INDUSTRIAL AND RAIL YARD AREA GENTLY TOWARD STORM DRAIN INLETS. PLACE IMPORT GRANULAR ROCK FOR YARD SURFACING. 2" MINIMUM DEPTH, COMPACTED WITH 300 LB ROLLER.

DRAINAGE NOTES:

1. SEE PROFILE DWG 0300-CD-008 FOR ALIGNMENT 0300-STM-A
2. SEE PROFILE DWG 0300-CD-008 FOR ALIGNMENT 0300-STM-B

1 CONSTRUCT PROPOSED STORM DRAIN PIPELINES WITH THE PIPE DIAMETER, MATERIAL, AND SLOPE INDICATED. PIPE TRENCH SECTIONS INCLUDING BEDDING, BACKFILL AND SURFACE RESTORATIONS AS SHOWN ON DRAWING 0100-CD-005.

3 CONSTRUCT 48" DIAMETER PRECAST MANHOLE IN ACCORDANCE WITH DETAIL 1 ON DRAWING 0100-CD-007.

5 CONSTRUCT 72" DIAMETER PRECAST MANHOLE IN ACCORDANCE WITH DETAIL 5 ON DRAWING 0100-CD-007.

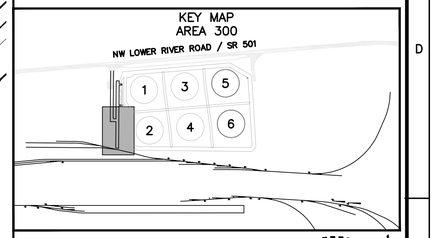
8 CONSTRUCT CATCH BASIN INLET IN ACCORDANCE WITH DETAIL 1 ON DRAWING 0100-CD-006. ALL STORM DRAIN INLETS MUST INCLUDE ZYMARK BRAND OR EQUIVALENT SPILL CONTROL TRAP INSERT.

10 CONSTRUCT STEEL CASING, SEE CASING NOTES DRAWING 0100-CD-006.

13 CONSTRUCT WATER QUALITY VAULTS 0300-WQV-001 AND 0300-WQV-002 PER DETAIL 1 ON DRAWING 0300-CD-013.

22 CONNECTION TO EXISTING STORM DRAIN STRUCTURE. CONSTRUCT PER DETAIL 4 ON DRAWING 0100-CD-007.

KEY MAP
AREA 300



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Portland, Oregon 97232-4189
(503) 872-4100 FAX: (503) 872-4101

VANCOUVER ENERGY
Tesoro Savage Petroleum Terminal LLC

PROJECT: VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: AREA 300
GRADING & DRAINAGE PLAN – 1

DESIGN:	DRS	START DATE:	2/17/2015	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	2/25/2015	PROJECT MANAGER:	SAVAGE_PM
CHECKED:	MCH	APPROVED:	SA	SIZE:	24X36

DRAWING NUMBER: 0300-CD-002 | SHEET: 1/1 | REV.

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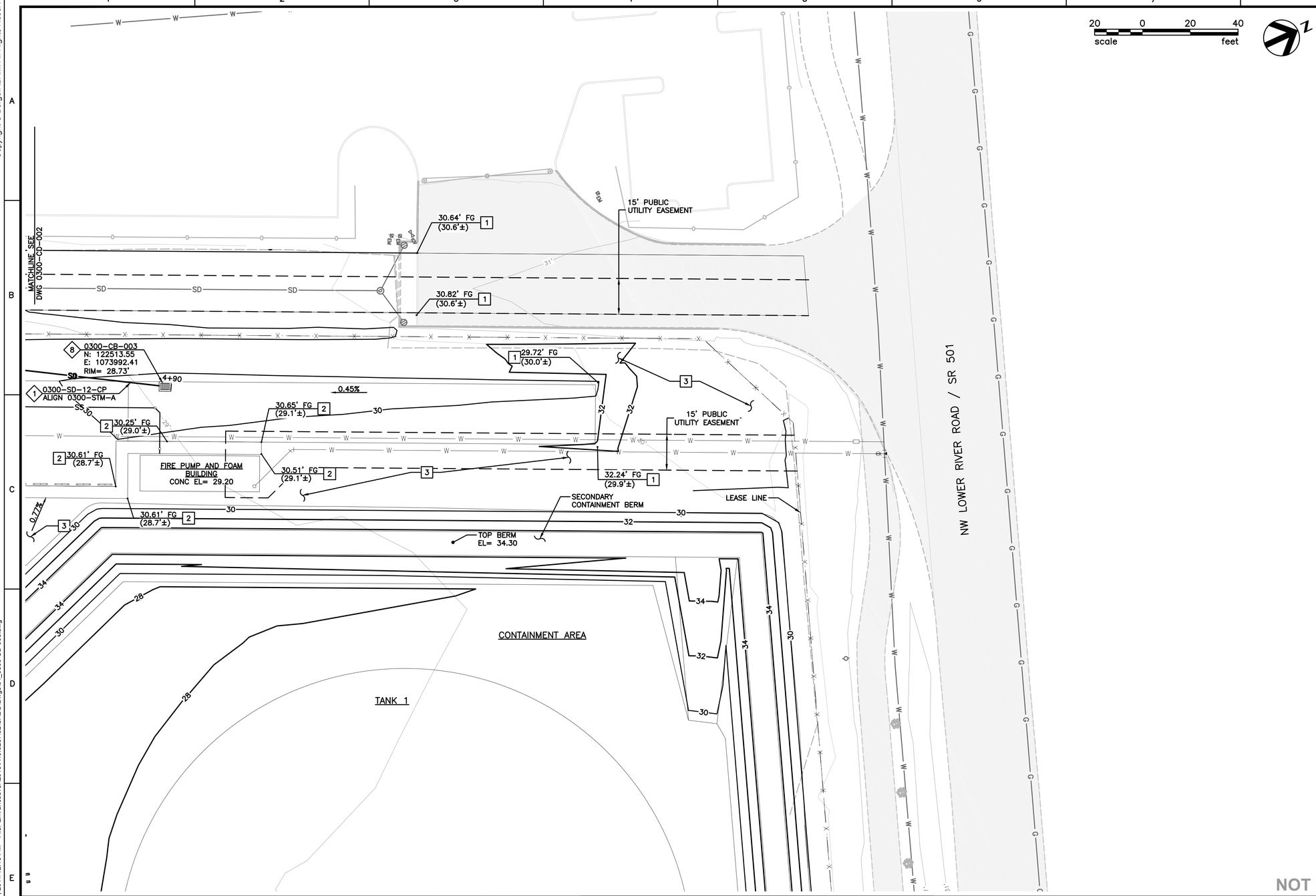


GRADING NOTES:

1. SEE SITE PLAN ON DWG 0300-SP-001 FOR SITE LAYOUT INFORMATION
2. SEE DWG 0300-CD-015 FOR CONTAINMENT AREA GRADING INFORMATION.

1 MATCH EXISTING SURFACE. CONSTRUCT SUBGRADE TO GRADUALLY TIE INTO EXISTING SURFACE. APPROXIMATE ELEVATIONS ARE SHOWN. WHERE MATCHING INTO EXISTING ASPHALT, SAWCUT MINIMUM 1' OF EXISTING ASPHALT AND MATCH EXISTING ASPHALT THICKNESSES AND APPLY ASPHALT JOINT SEALER.

2 GRADE ASPHALT CONCRETE PARKING, DRIVE AISLE, AND DRIVEWAY AREAS TO THE ELEVATIONS AND GRADES SHOWN. CONSTRUCT GRADING TO ALLOW DRAINAGE TO SHEET FLOW TO CONSTRUCTED STORMWATER CONVEYANCES AND INLETS.

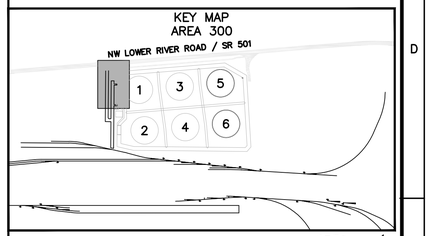
3 GRADE INDUSTRIAL AND RAIL YARD AREA GENTLY TOWARD STORM DRAIN INLETS.

DRAINAGE NOTES:

1. SEE PROFILE DWG 0300-CD-008 FOR ALIGNMENT 0300-STM-A

1 CONSTRUCT PROPOSED STORM DRAIN PIPELINES WITH THE PIPE DIAMETER, MATERIAL, AND SLOPE INDICATED. PIPE TRENCH SECTIONS INCLUDING BEDDING, BACKFILL AND SURFACE RESTROATIONS AS SHOWN ON DRAWING 0100-CD-005.

8 CONSTRUCT CATCH BASIN INLET IN ACCORDANCE WITH DETAIL 1 ON DRAWING 0100-CD-006. ALL STORM DRAIN INLETS MUST INCLUDE ZYMARK BRAND OR EQUIVALENT SPILL CONTROL TRAP INSERT.



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NO.	DATE	REVISION	BY	CK'D	APP

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Portland, Oregon 97232-4189
(503) 872-4100 FAX: (503) 872-4101

VANCOUVER ENERGY
Tesoro Savage Petroleum Terminal LLC

PROJECT: VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: AREA 300
GRADING & DRAINAGE PLAN – 2

DESIGN:	DRS	START DATE:	2/17/2015	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	2/25/2015	PROJECT MANAGER:	SAVAGE_PM
CHECKED:	MCH	APPROVED:	SA	SIZE:	24X36
DRAWING NUMBER				SHEET	REV.
0300-CD-003				1/1	

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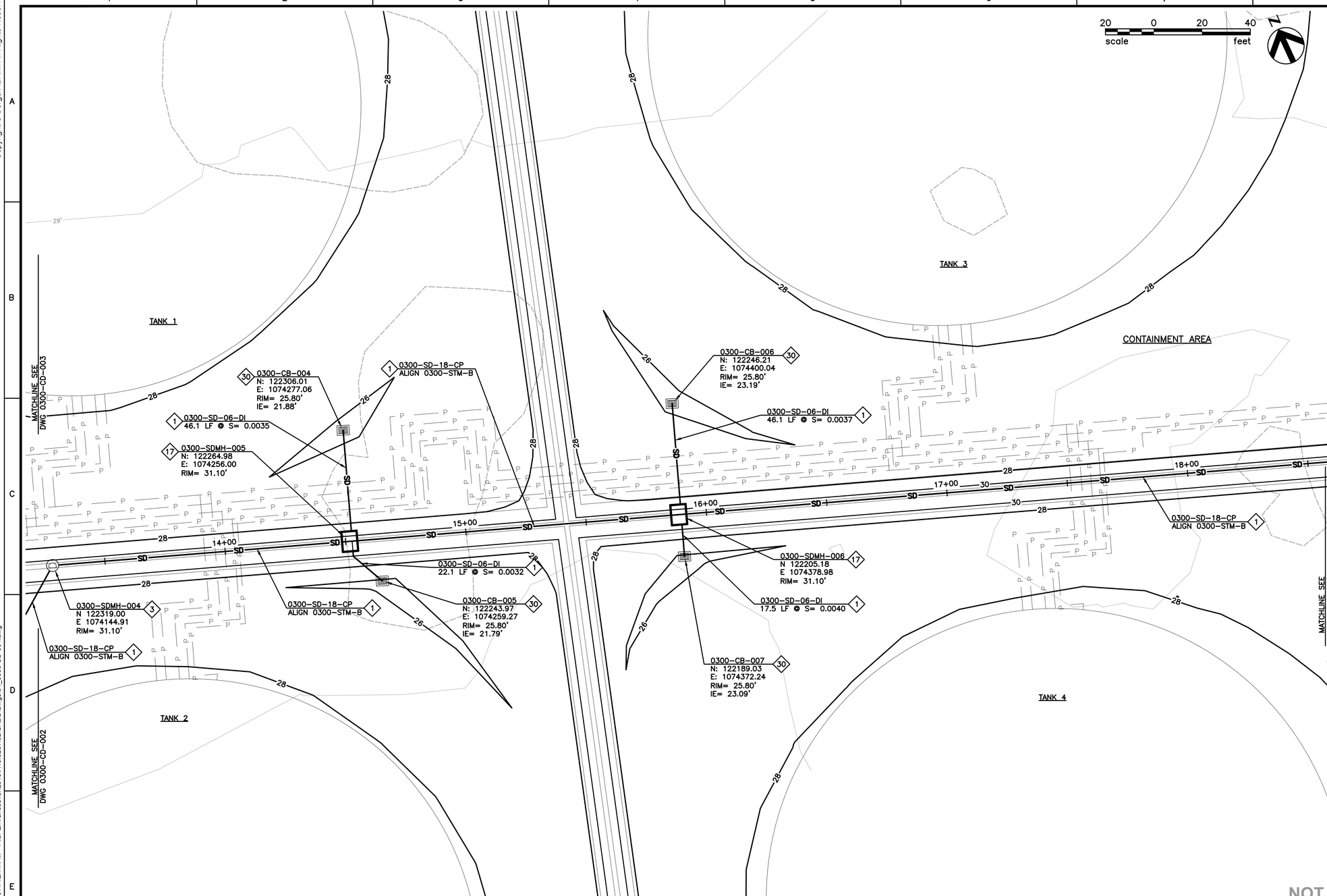


GRADING NOTES:

1. SEE SITE PLAN ON DWG 0300-SP-001 FOR SITE LAYOUT INFORMATION
2. SEE DWG 0300-CD-015 FOR CONTAINMENT AREA GRADING INFORMATION.

DRAINAGE NOTES:

1. SEE PROFILE DWG 0300-CD-009 & 0300-CD-010 FOR ALIGNMENT 0300-STM-B

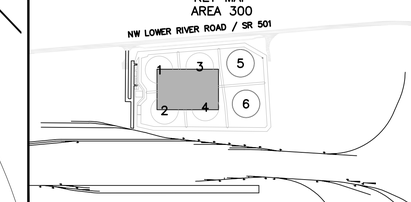
(1) CONSTRUCT PROPOSED STORM DRAIN PIPELINES WITH THE PIPE DIAMETER, MATERIAL, AND SLOPE INDICATED. PIPE TRENCH SECTIONS INCLUDING BEDDING, BACKFILL AND SURFACE RESTORATIONS AS SHOWN ON DRAWING 0100-CD-005.

(3) CONSTRUCT 48" DIAMETER PRECAST MANHOLE IN ACCORDANCE WITH DETAIL 1 ON DRAWING 0100-CD-007.

(17) CONSTRUCT CONTAINMENT AREA JUNCTION VAULT PER DETAIL 4 ON DRAWING 0300-CD-014.

(30) CONSTRUCT WSDOT TYPE1 CB PER DETAIL 4 ON DRAWING 0300-CD-014.

KEY MAP
AREA 300



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VANCOUVER ENERGY
Tesoro Savage Petroleum Terminal LLC

PROJECT: VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: AREA 300
GRADING & DRAINAGE PLAN – 3

DESIGN:	DRS	START DATE:	2/17/2015	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	2/25/2015	PROJECT MANAGER:	SAVAGE_PM
CHECKED:	MCH	APPROVED:	SA	SIZE:	24X36

DRAWING NUMBER	SHEET	REV.
0300-CD-004	1/1	

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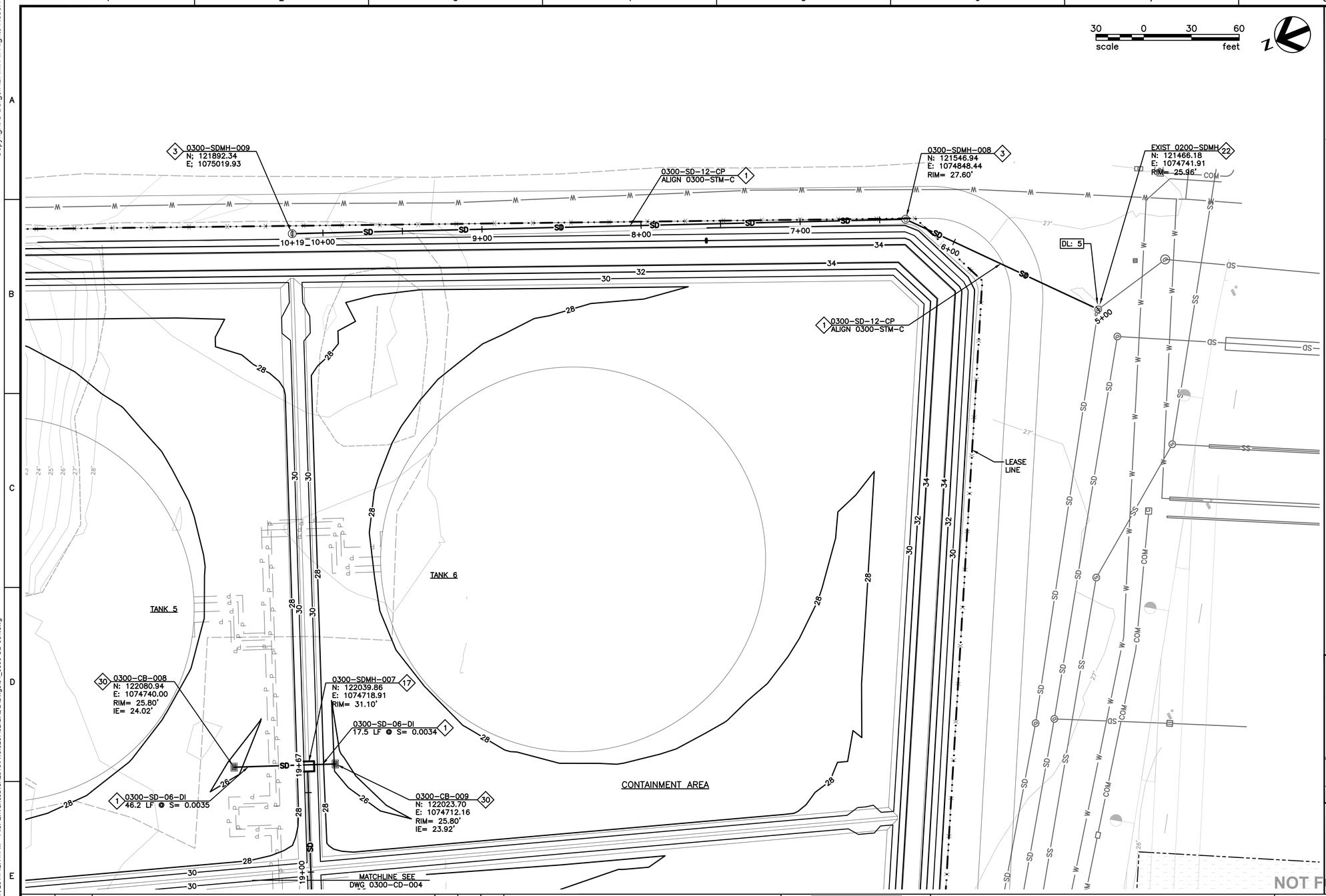


GRADING NOTES:

1. SEE SITE PLAN ON DWG 0300-SP-001 FOR SITE LAYOUT INFORMATION.
2. SEE DWG 0300-CD-015 FOR CONTAINMENT AREA GRADING INFORMATION.

DRAINAGE NOTES:

1. SEE PROFILE DWG 0300-CD-010, FOR ALIGNMENT 0300-STM-B
2. SEE PROFILE DWG 0300-CD-009, FOR ALIGNMENT 0300-STM-C

(1) CONSTRUCT PROPOSED STORM DRAIN PIPELINES WITH THE PIPE DIAMETER, MATERIAL, AND SLOPE INDICATED. PIPE TRENCH SECTIONS INCLUDING BEDDING, BACKFILL AND SURFACE RESTORATIONS AS SHOWN ON DRAWING 0100-CD-005.

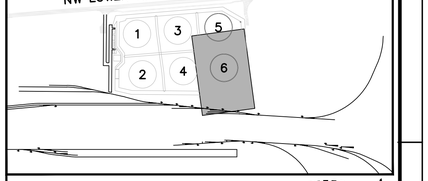
(3) CONSTRUCT 48" DIAMETER PRECAST MANHOLE IN ACCORDANCE WITH DETAIL 1 ON DRAWING 0100-CD-007.

(17) CONSTRUCT CONTAINMENT AREA JUNCTION VAULT PER DETAIL 4 ON DRAWING 0300-CD-014.

(22) CONNECTION TO EXISTING STORM DRAIN STRUCTURE. CONSTRUCT PER DETAIL 4 ON DRAWING 0100-CD-007.

(30) CONSTRUCT WSDOT TYPE1 CB PER DETAIL 4 ON DRAWING 0300-CD-014.

KEY MAP
AREA 300
NW LOWER RIVER ROAD / SR 501



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VANCOUVER ENERGY
Tesoro Savage Petroleum Terminal LLC

PROJECT: VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: AREA 300
GRADING & DRAINAGE PLAN – 4

DESIGN:	DRS	START DATE:	2/17/2015	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	2/25/2015	PROJECT MANAGER:	SAVAGE_PM
CHECKED:	MCH	APPROVED:	SA	SIZE:	24X36

DRAWING NUMBER	SHEET	REV.
0300-CD-005	1/1	

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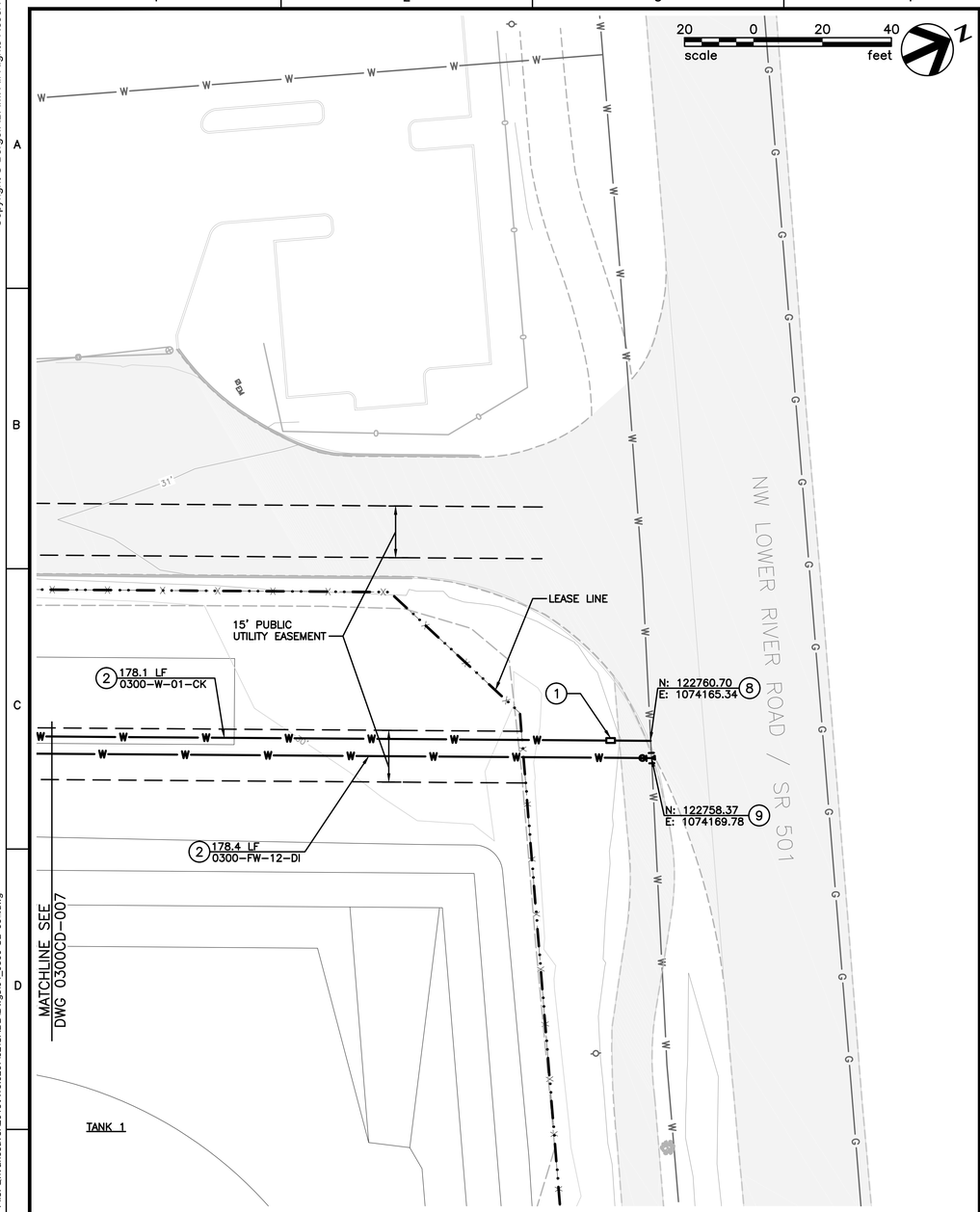
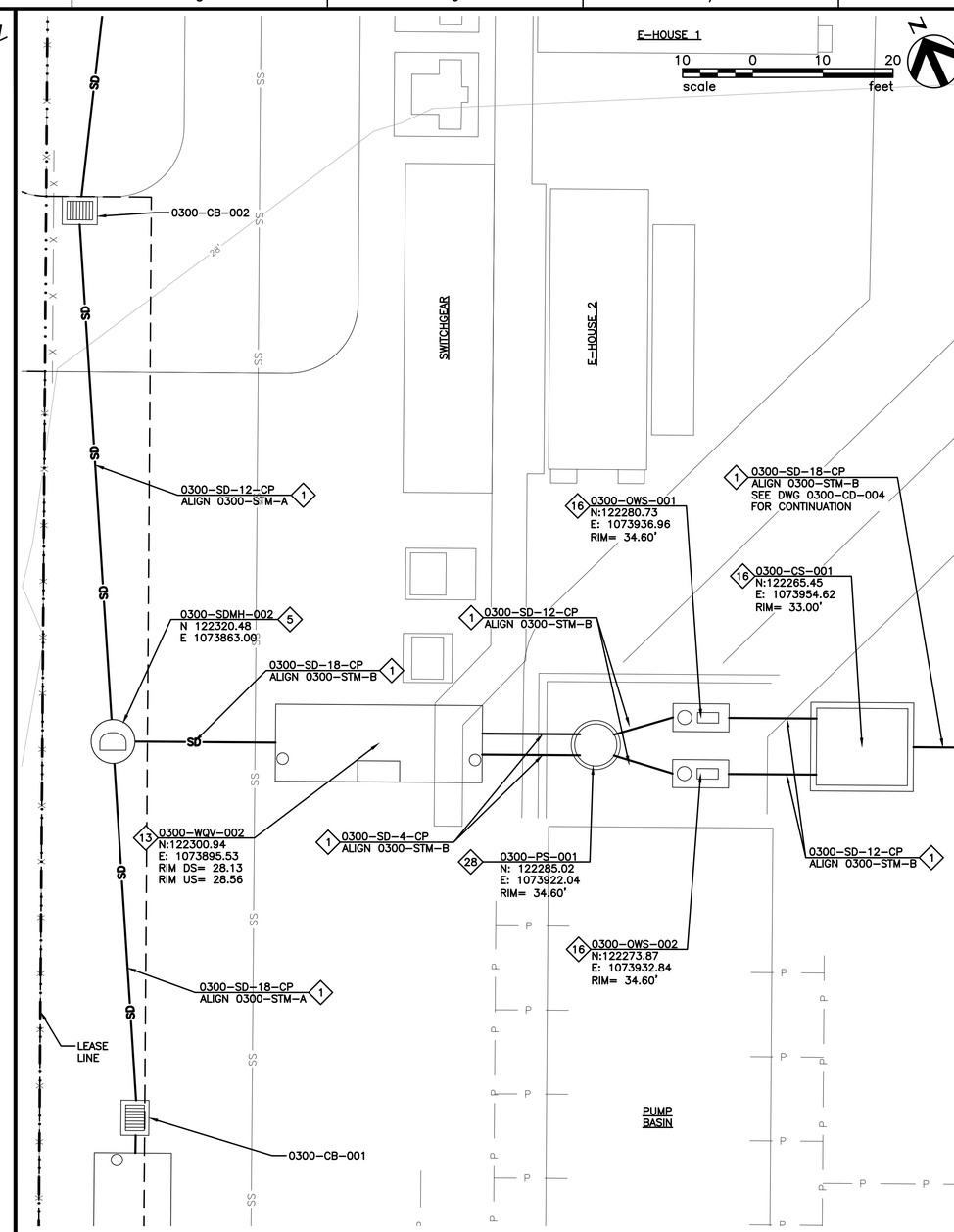


UTILITY PLAN 3



ENLARGED DETAIL

1
0300-CD-002

GENERAL NOTES:

1. SEE SITE PLAN 0300-SP-001 FOR SITE LAYOUT INFORMATION.

WATER CONSTRUCTION NOTES:

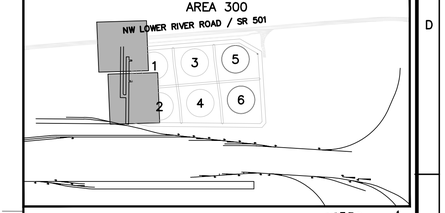
1. INSTALL 1" WATER SERVICE WITH 1" WATER METER PER DETAIL 1 ON DWG 0100-CD-008.
2. INSTALL WATER SERVICE WITH THE PIPE DIAMETER, MATERIAL AND SLOPE AS INDICATED. PIPE TRENCH SECTIONS INCLUDING BEDDING, BACKFILL AND SURFACE RESTORATIONS SHALL BE IN ACCORDANCE WITH TRENCH SECTIONS SHOWN ON DWG 0100-CD-005.
8. CONNECT WATER SERVICE TO EXISTING CITY WATER MAIN IN ACCORDANCE WITH CITY SERVICE CONNECTION DETAILS.
9. CONNECT TO EXIST 16" DIA DI WATER MAIN WITH 16"x12" WET-TAP W/ 350 PSI TAPPING SLEEVE W/ INTEGRAL ISOLATION VALVE.

DRAINAGE NOTES:

1. SEE PROFILE DWG 0300-CD-009 FOR ALIGNMENT 0300-STM-A AND 0300-STM-B.

1. CONSTRUCT PROPOSED STORM DRAIN PIPELINES WITH THE PIPE DIAMETER, MATERIAL, AND SLOPE INDICATED. PIPE TRENCH SECTIONS INCLUDING BEDDING, BACKFILL AND SURFACE RESTORATIONS AS SHOWN ON DRAWING 0100-CD-005.
5. CONSTRUCT 72" DIAMETER PRECAST MANHOLE IN ACCORDANCE WITH DETAIL 5 ON DRAWING 0100-CD-007
13. CONSTRUCT WATER QUALITY VAULTS 003-WQV-001 AND 0300-WQV-002 PER DETAIL 1 ON DRAWING 0300-CD-012.
16. CONSTRUCT OIL-WATER SEPARATOR IN ACCORDANCE WITH DETAIL 2 ON DRAWING 0300-CD-014.
18. CONSTRUCT CONTROL STRUCTURE PER DETAIL 3 ON DRAWING 0300-CD-014.
28. INSTALL STORM DRAIN PUMP STATION. SEE DETAILS ON MECHANICAL DRAWINGS.

KEY MAP
AREA 300



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SAM ADAMS
STATE OF WASHINGTON
27330
REGISTERED
PROFESSIONAL ENGINEER

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Portland, Oregon 97232-4189
(503) 872-4100 FAX: (503) 872-4101

VANCOUVER ENERGY
Tesoro Savage Petroleum Terminal LLC

PROJECT: VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: AREA 300
UTILITY PLAN – 3

DESIGN:	DRS	START DATE:	12/23/2014	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	2/17/2015	PROJECT MANAGER:	SAVAGE_PM
CHECKED:	MCH	APPROVED:	SA	SIZE:	24X36

DRAWING NUMBER	SHEET	REV.
0300-CD-008	1/1	

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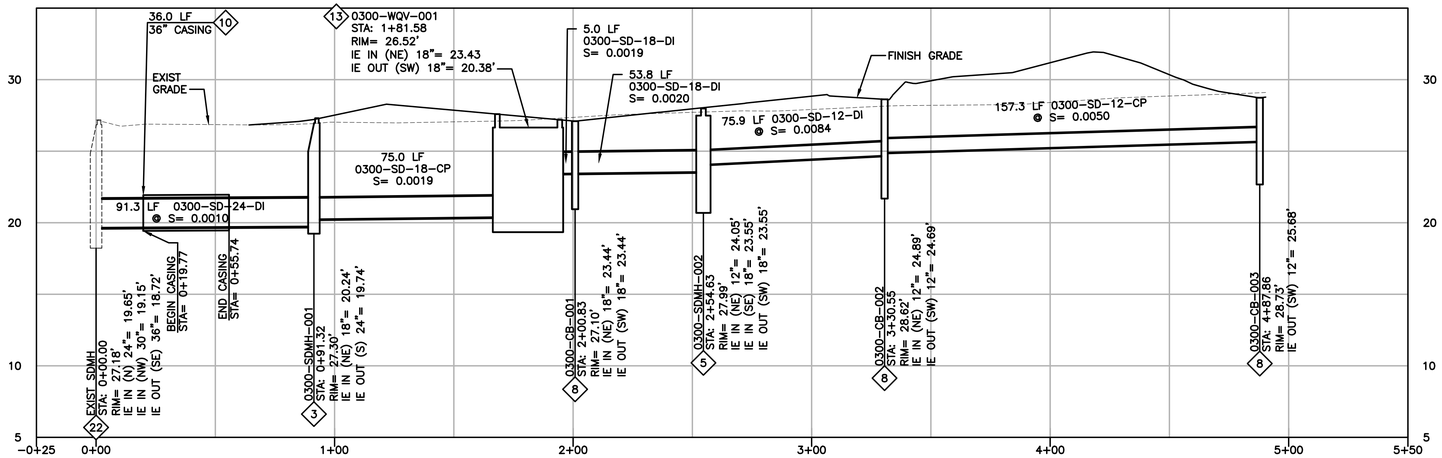
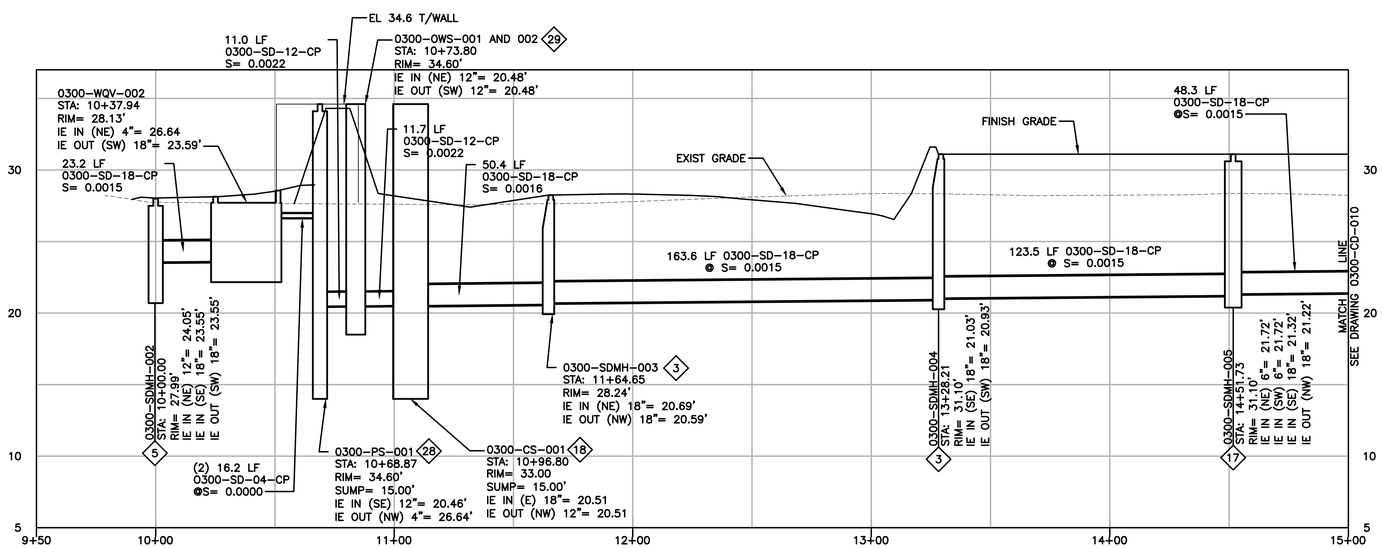


PROFILE 0300-STM-A

SCALE: 1"=30' HORZ AND 1"= 5' VERT

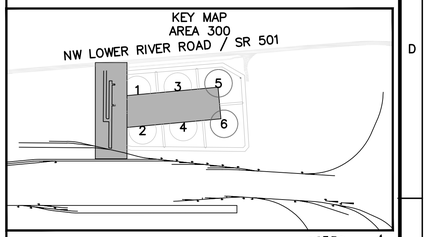


PROFILE 0300-STM-B

SCALE: 1"=30' HORZ AND 1"= 5' VERT

DRAINAGE NOTES:

3. CONSTRUCT 48" DIAMETER PRECAST MANHOLE IN ACCORDANCE WITH DETAIL 1 ON DRAWING 0100-CD-007.
5. CONSTRUCT 72" DIAMETER PRECAST MANHOLE IN ACCORDANCE WITH DETAIL 5 ON DRAWING 0100-CD-007.
8. CONSTRUCT CATCH BASIN INLET IN ACCORDANCE WITH DETAIL 1 ON DRAWING 0100-CD-006. ALL STORM DRAIN INLETS MUST INCLUDE ZYMARK BRAND OR EQUIVALENT SPILL CONTROL TRAP INSERT.
10. CONSTRUCT STEEL CASING, SEE CASING NOTES DRAWING 0100-CD-006.
13. CONSTRUCT WATER QUALITY VAULTS 0300-WQV-001 AND 0300-WQV-002 PER DETAIL 1 ON DRAWING 0300-CD-013.
17. CONSTRUCT CONTAINMENT AREA JUNCTION VAULT PER DETAIL 4 ON DRAWING 0300-CD-014.
18. CONSTRUCT CONTROL STRUCTURE PER DETAIL 3 ON DRAWING 0300-CD-014.
22. CONNECTION TO EXISTING STORM DRAIN STRUCTURE. CONSTRUCT PER DETAIL 4 ON DRAWING 0100-CD-007.
28. INSTALL STORM DRAIN PUMP STATION. SEE DETAILS ON MECHANICAL DRAWINGS.
29. INSTALL OWS 0300-OWS-001 AND 0300-OWS-002 PER DETAIL 2 ON DRAWING 0300-CD-014.



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VANCOUVER ENERGY
Tesoro Savage Petroleum Terminal LLC

PROJECT: VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: AREA 300
DRAINAGE PROFILE – 1

DESIGN:	DRS	START DATE:	12/23/2014	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	2/17/2015	PROJECT MANAGER:	SAVAGE_PM
CHECKED:	MCH	APPROVED:	SA	SIZE:	24X36

DRAWING NUMBER	SHEET	REV.
0300-CD-009	1 / 1	

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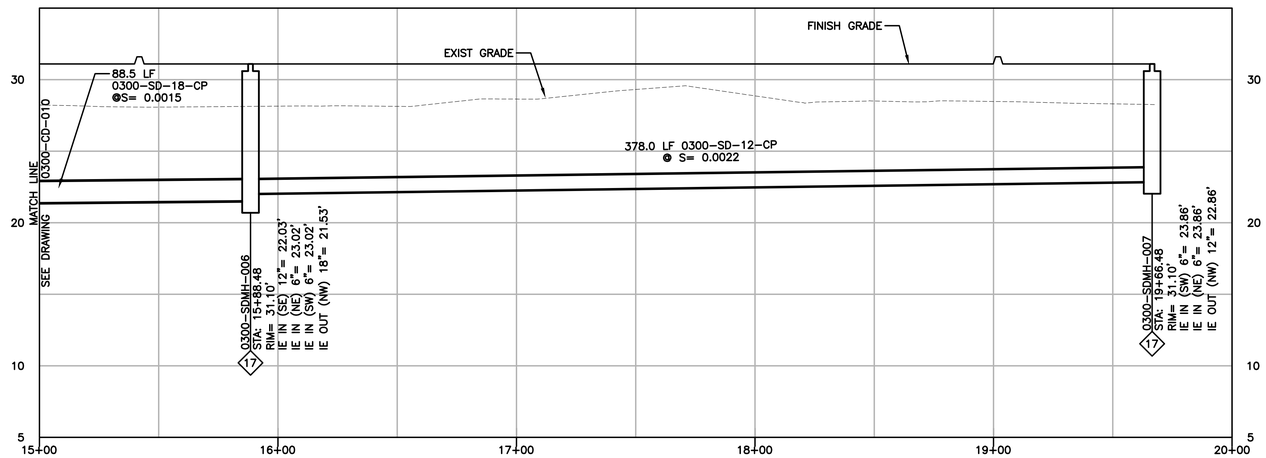
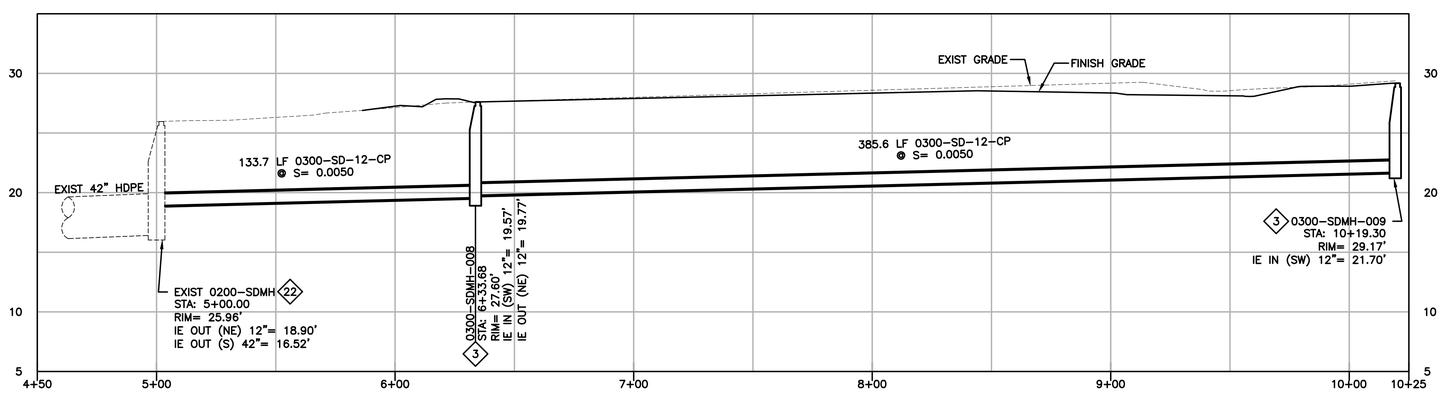


PROFILE 0300-STM-B

SCALE: 1"=30' HORZ AND 1"= 5' VERT

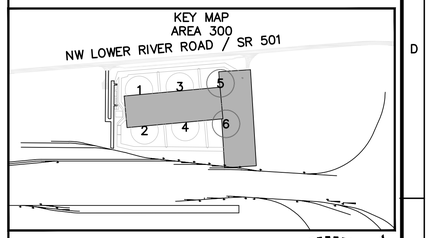


PROFILE 0300-STM-C

SCALE: 1"=30' HORZ AND 1"= 5' VERT

DRAINAGE NOTES:

3. CONSTRUCT 48" DIAMETER PRECAST MANHOLE IN ACCORDANCE WITH DETAIL 1 ON DRAWING 0100-CD-007.
17. CONSTRUCT CONTAINMENT AREA JUNCTION VAULT PER DETAIL 4 ON DRAWING 0300-CD-014.
22. CONNECTION TO EXISTING STORM DRAIN STRUCTURE. CONSTRUCT PER DETAIL 4 ON DRAWING 0100-CD-007.



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VANCOUVER ENERGY
Tesoro Savage Petroleum Terminal LLC

PROJECT: VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: AREA 300
DRAINAGE PROFILE – 2

DESIGN:	DRS	START DATE:	12/23/2014	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	2/17/2015	PROJECT MANAGER:	SAVAGE_PM
CHECKED:	MCH	APPROVED:	SA	SIZE:	24X36

DRAWING NUMBER	SHEET	REV.
0300-CD-010	1/1	

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AREA 300 SANITARY

Structure Table	
Structure Name	Structure Details
0300-SSMH-001 N: 121829.56 E: 1074297.29	RIM = 27.35' SUMP = 11.27' IE IN (6") SW = 11.27' IE OUT (6") NW = 11.47'
0300-SSMH-002 N: 122075.69 E: 1073887.71	RIM = 27.08' SUMP = 16.25' IE IN (6") SE = 16.25' IE OUT (6") NW = 16.45'
0300-SSMH-003 N: 122169.44 E: 1073795.70	RIM = 27.30' SUMP = 17.76' IE IN (6") SE = 17.76' IE OUT (6") NE = 17.96'
0300-SSMH-004 N: 122451.65 E: 1073965.64	RIM = 30.89' SUMP = 21.06' IE IN (6") NE = 21.26' IE IN (6") SE = 21.26' IE OUT (6") SW = 21.06'
0300-OWS-003 N: 122226.20 E: 1073829.94	RIM = 27.76' IE IN (6") SE = 18.45' IE OUT (6") NE = 18.45'

AREA 300 STORM

Structure Table	
Structure Name	Structure Details
0300-CB-001 N: 122272.64 E: 1073838.38	RIM = 27.10' SUMP = 21.44' IE IN (18") NE = 23.44' IE OUT (18") SW = 23.44'
0300-CB-002 N: 122388.12 E: 1073897.47	RIM = 28.62' SUMP = 22.19' IE IN (12") NE = 24.89' IE OUT (12") SW = 24.69'
0300-CB-003 N: 122513.55 E: 1073992.41	RIM = 28.73' SUMP = 23.18' IE OUT (12") SW = 25.68'
0300-CB-004 N: 122306.01 E: 1074277.06	RIM = 25.80' SUMP = 19.88' IE OUT (6") SW = 21.88'
0300-CB-005 N: 122243.97 E: 1074259.27	RIM = 25.80' SUMP = 19.79' IE OUT (6") N = 21.79'
0300-CB-006 N: 122246.21 E: 1074400.04	RIM = 25.80' SUMP = 21.19' IE OUT (6") SW = 23.19'
0300-CB-007 N: 122189.03 E: 1074372.24	RIM = 25.80' SUMP = 21.09' IE OUT (6") NE = 23.09'
0300-CB-008 N: 122080.94 E: 1074740.00	RIM = 25.80' SUMP = 22.02' IE OUT (6") SW = 24.02'
0300-CB-009 N: 122023.70 E: 1074712.16	RIM = 25.80' SUMP = 21.92' IE OUT (6") NE = 23.92'
0300-PS-001 N: 122285.02 E: 1073922.04	RIM = 34.60' SUMP = 15.00' IE IN (12") SE = 20.46' IE OUT (4") NW = 26.64'
0300-SDMH-001 N: 122178.97 E: 1073781.66	RIM = 27.30' SUMP = 19.74' IE IN (18") NE = 20.24' IE OUT (24") S = 19.74'
0300-SDMH-002 N: 122320.48 E: 1073863.00	RIM = 27.99' SUMP = 21.52' IE IN (12") NE = 24.05' IE IN (18") SE = 23.55' IE OUT (18") SW = 23.55'
0300-SDMH-003 N: 122235.70 E: 1074004.15	RIM = 28.24' SUMP = 20.59' IE IN (18") NE = 20.69' IE OUT (18") NW = 20.59'
0300-SDMH-004 N: 122319.00 E: 1074144.91	RIM = 31.10' SUMP = 20.93' IE IN (18") SE = 21.03' IE OUT (18") SW = 20.93'
0300-SDMH-005 N: 122264.98 E: 1074256.00	RIM = 31.10' SUMP = 21.22' IE IN (6") NE = 21.72' IE IN (6") SW = 21.72' IE IN (18") SE = 21.32' IE OUT (18") NW = 21.22'
0300-SDMH-006 N: 122205.18 E: 1074378.98	RIM = 31.10' SUMP = 21.53' IE IN (12") SE = 22.03' IE IN (6") NE = 23.02' IE IN (6") SW = 23.02' IE OUT (18") NW = 21.53'
0300-SDMH-007 N: 122039.86 E: 1074718.91	RIM = 31.10' SUMP = 22.86' IE IN (6") SW = 23.86' IE IN (6") NE = 23.86' IE OUT (12") NW = 22.86'

AREA 300 STORM

Structure Table	
Structure Name	Structure Details
0300-OWS-001 N: 122280.73 E: 1073936.96	RIM = 34.60' IE IN (12") NE = 20.48' IE OUT (12") SE = 20.48'
0300-OWS-002 N: 122273.87 E: 1073932.84	RIM = 34.60' IE IN (12") NE = 20.48' IE OUT (12") SE = 20.48'
0300-CS-001 N: 122265.45 E: 1073954.62	RIM = 33.00 SUMP = 15.00' IE IN (18") NE = 20.51' IE OUT (12") SE = 20.51'

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NO.	DATE	REVISION	BY	CK'D	APP

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Portland, Oregon 97232-4189
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VANCOUVER ENERGY
Tesoro Savage Petroleum Terminal LLC

PROJECT: VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: AREA 300
STRUCTURE TABLES

DESIGN:	DRS	START DATE:	12/23/2014	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	2/17/2015	PROJECT MANAGER:	SAVAGE_PM
CHECKED:	MCH	APPROVED:	SA	SIZE:	24X36

DRAWING NUMBER: 0300-CD-012
SHEET: 1 / 1
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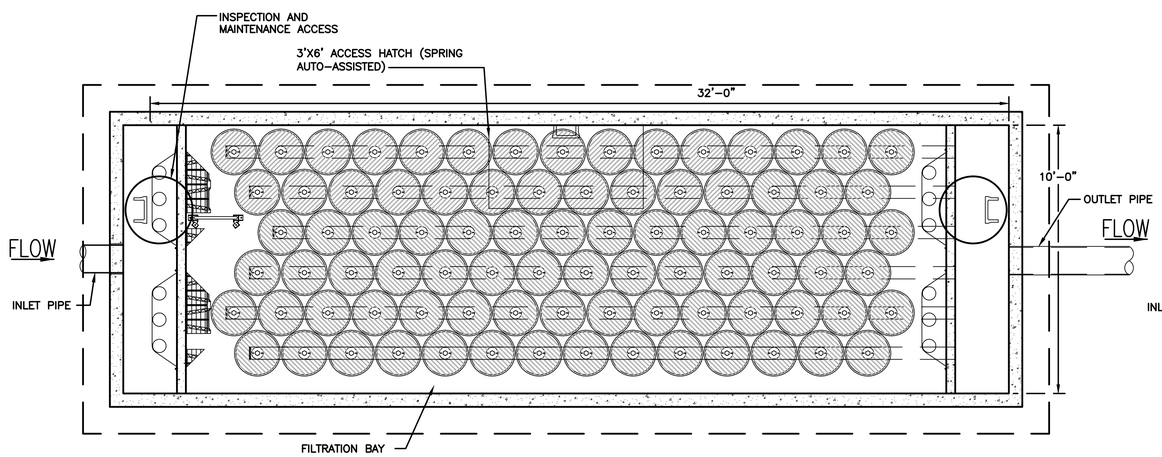
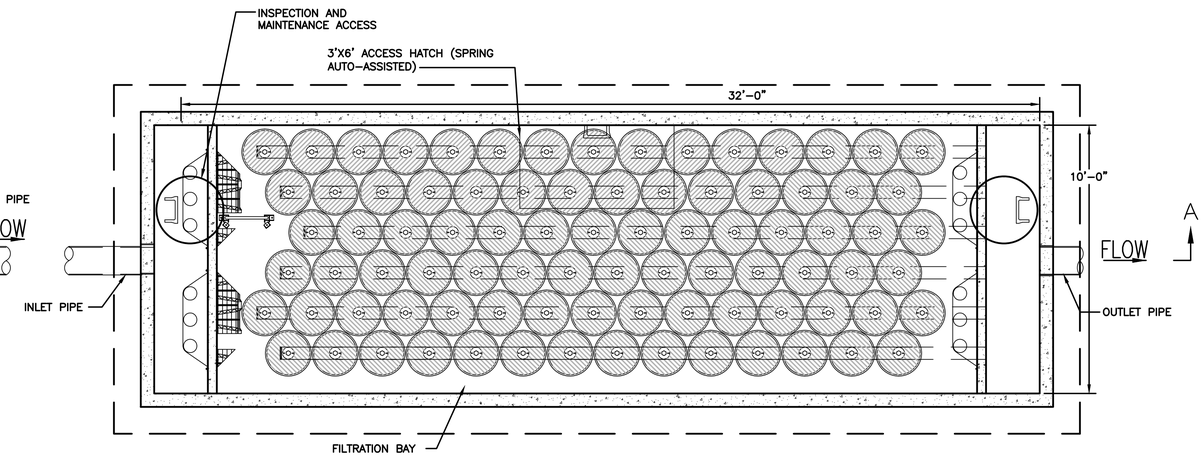
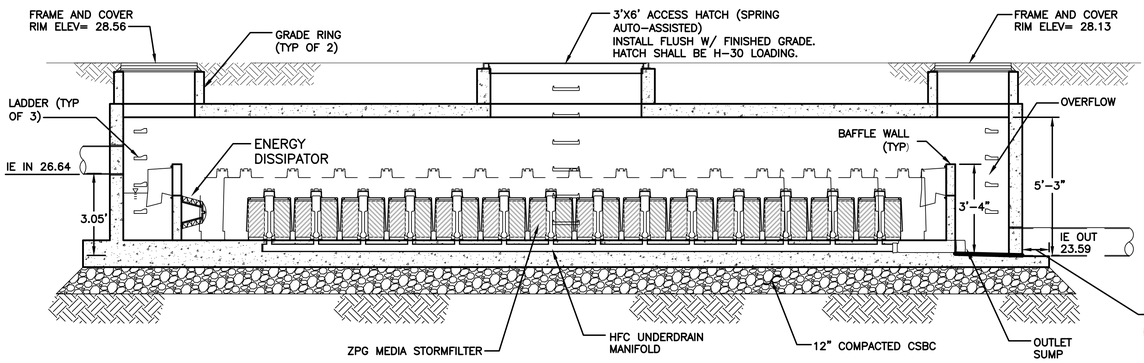
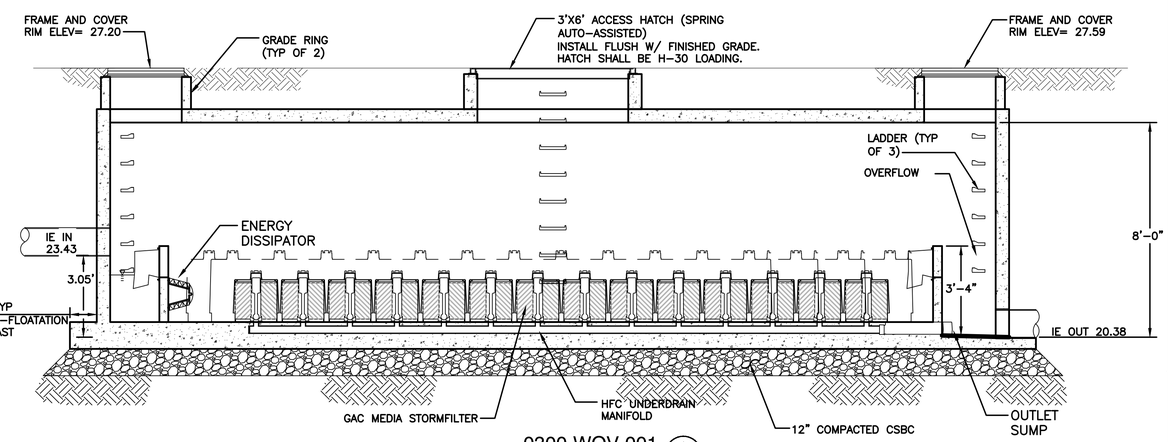






0300-WQV-002 (1 / -)
NTS

SITE SPECIFIC DATA REQUIREMENTS			
STRUCTURE ID			0300-WQV-002
WATER QUALITY FLOW RATE (cfs)			1.96
PEAK FLOW RATE (cfs)			1.96
RETURN PERIOD OF PEAK FLOW (yrs)			N/A
# OF CARTRIDGES REQUIRED			78
CARTRIDGE FLOW RATE			11.25
MEDIA TYPE (CSF, PERLITE, ZPG, GAC, PHS)			GAC
PIPE DATA:	I.E.	MATERIAL	DIAMETER
INLET PIPE #1	26.64	CP	4"
INLET PIPE #2	26.64	CP	4"
OUTLET PIPE	23.59	CP	18"
UPSTREAM RIM ELEVATION			28.56
DOWNSTREAM RIM ELEVATION			28.13
ANTI-FLOTATION BALLAST		WIDTH	HEIGHT
		TBD	TBD
NOTES/SPECIAL REQUIREMENTS:			



0300-WQV-001 (1 / -)
NTS

SITE SPECIFIC DATA REQUIREMENTS			
STRUCTURE ID			0300-WQV-001
WATER QUALITY FLOW RATE (cfs)			2.12
PEAK FLOW RATE (cfs)			13.24
RETURN PERIOD OF PEAK FLOW (yrs)			100-YR
# OF CARTRIDGES REQUIRED			85
CARTRIDGE FLOW RATE			11.25
MEDIA TYPE (CSF, PERLITE, ZPG, GAC, PHS)			ZPG
PIPE DATA:	I.E.	MATERIAL	DIAMETER
INLET PIPE #1	23.43	CP	18"
INLET PIPE #2	N/A	N/A	N/A
OUTLET PIPE	20.38	CP	18
UPSTREAM RIM ELEVATION			27.20
DOWNSTREAM RIM ELEVATION			27.59
ANTI-FLOTATION BALLAST		WIDTH	HEIGHT
		TBD	TBD
NOTES/SPECIAL REQUIREMENTS:			

PERMIT SET
NOT FOR CONSTRUCTION

SAM ADAMS — STATE OF WASHINGTON — 27330 — REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REVISION	BY	CK'D	APP

BergerABAM
700 NE Multnomah Street, Suite 900
Portland, Oregon 97232-4189
(503) 872-4100 FAX: (503) 872-4101

VANCOUVER ENERGY
Tesoro Savage Petroleum Terminal LLC

PROJECT: VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: AREA 300
CIVIL DETAILS – 1

DESIGN:	DRS	START DATE:	2/17/2015	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	2/23/2015	PROJECT MANAGER:	SAVAGE_PM
CHECKED:	MCH	APPROVED:	SA	SIZE:	24X36

DRAWING NUMBER: 0300-CD-013 — SHEET 1 / 1 — REV.

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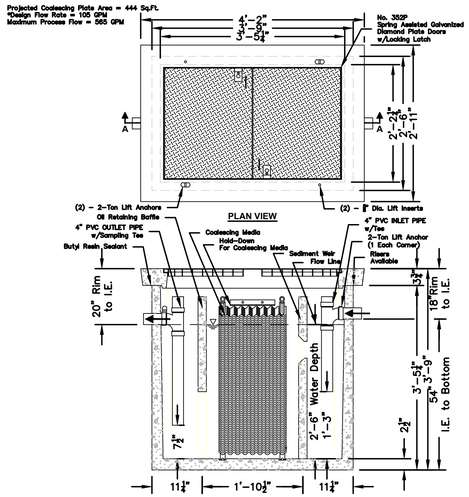
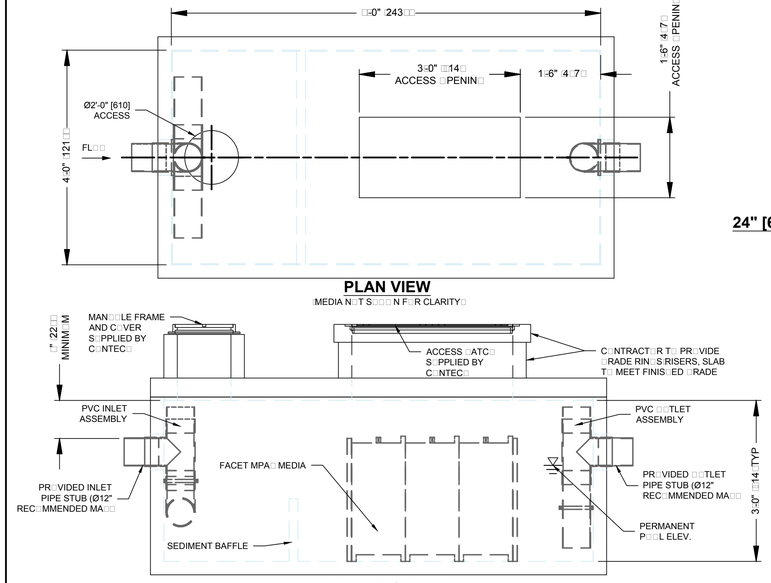
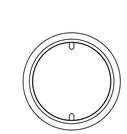


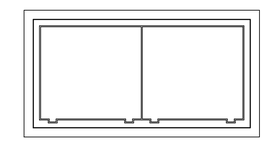
0300-SS-OWS (1)
NTS



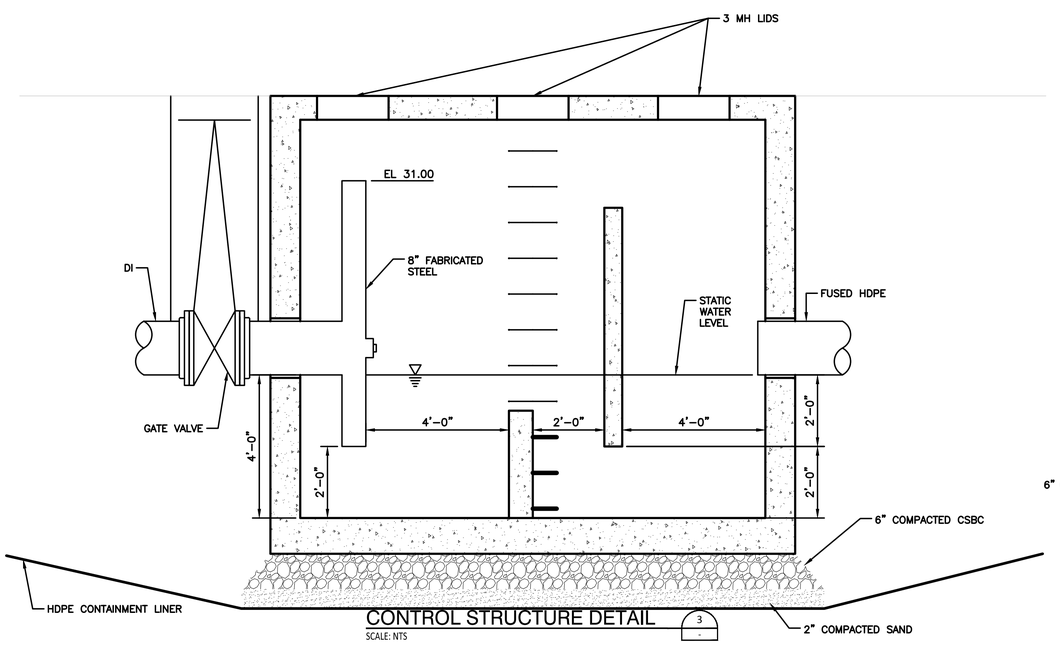
0300-STM-OWS (2)
NTS



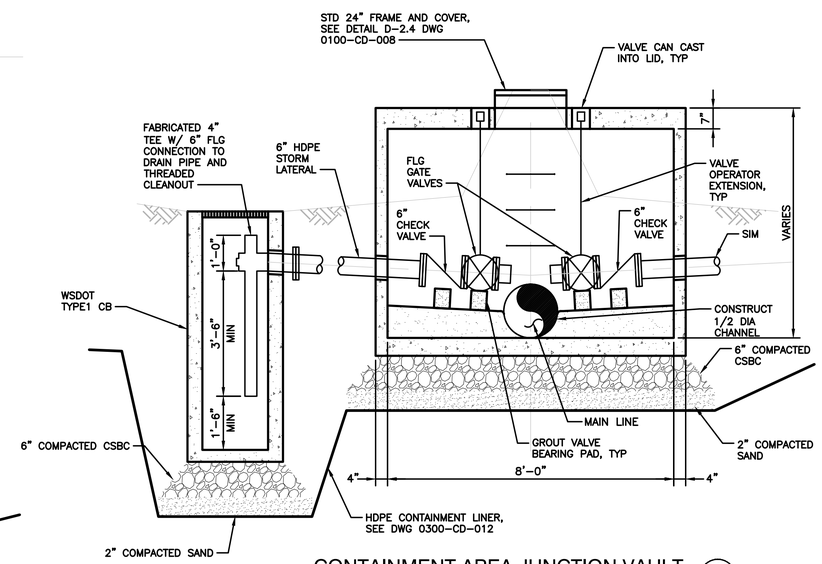
24" [610] FRAME AND COVER
□ACT□AL PR□D□CT MAY VARY□
N.T.S.



36" x 72" [914 x 1829] ACCESS HATCH
□ACT□AL PR□D□CT MAY VARY□
N.T.S.



CONTROL STRUCTURE DETAIL (3)
SCALE: NTS



CONTAINMENT AREA JUNCTION VAULT (4)
SCALE: NTS

PERMIT SET
NOT FOR CONSTRUCTION

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VANCOUVER ENERGY
Tesoro Savage Petroleum Terminal LLC

PROJECT: VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: AREA 300
CIVIL DETAILS – 2

DESIGN:	DRS	START DATE:	12/23/2014	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	2/17/2015	PROJECT MANAGER:	SAVAGE_PM
CHECKED:	MCH	APPROVED:	SA	SIZE:	24X36

DRAWING NUMBER: 0300-CD-014
SHEET: 1 / 1
REV.

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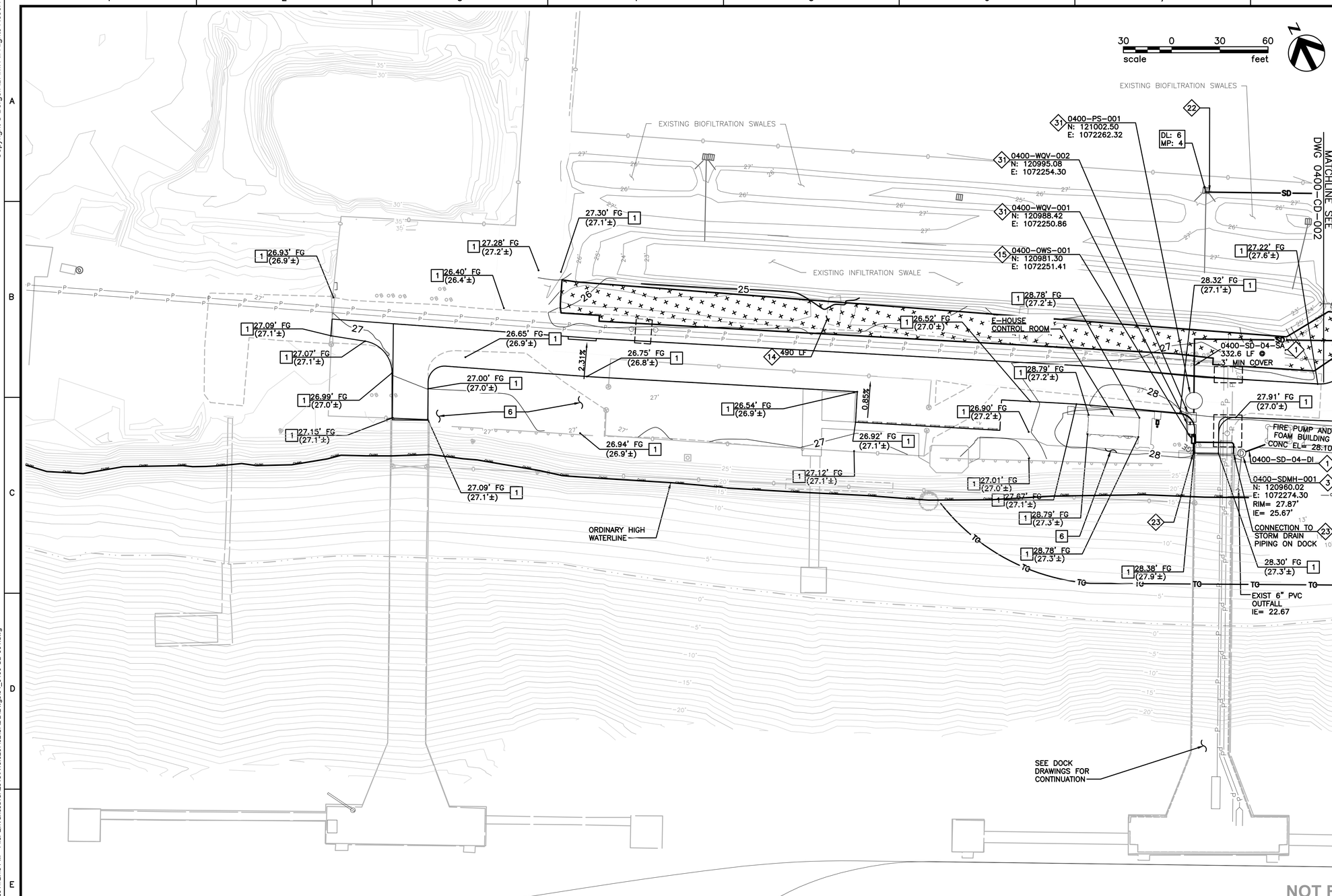

GRADING NOTES:

1. SEE SITE PLAN 0400-SP-001 FOR SITE LAYOUT

1. MATCH EXISTING SURFRACE. CONSTRUCT SUBGRADE TO GRADUALLY TIE INTO EXISTING SURFACE. APPROXIMATE ELEVATIONS ARE SHOWN. WHERE MATCHING INTO EXISTING ASPHALT, SAWCUT MINIMUM 1' OF EXISTING ASPHALT AND MATCH EXISTING ASPHALT THICKNESSES AND APPLY ASPHALT JOINT SEALER.
2. GRADE ASPHALT CONCRETE PARKING, DRIVE AISLE, AND DRIVEWAY AREAS TO THE ELEVATIONS AND GRADES SHOWN. GRADE TO ALLOW DRAINAGE TO SHEET FLOW TO CONSTRUCTED DRAINAGE CONVEYANCES AND INLETS.
3. GRADE INDUSTRIAL AND RAIL YARD AREA GENTLY TOWARD STORM DRAIN INLETS. PLACE IMPORT GRANULAR ROCK FOR YARD SURFACING. 2" MINIMUM DEPTH, COMPACTED WITH 300 LB ROLLER.
6. PERMANENT LANDSCAPING AREA – SEE LANDSCAPE PLANS FOR CONSTRUCTION DETAILS.

DRAINAGE NOTES:

1. CONSTRUCT PROPOSED STORM DRAIN PIPELINES WITH THE PIPE DIAMETER, MATERIAL, AND SLOPE INDICATED. PIPE TRENCH SECTIONS INCLUDING BEDDING, BACKFILL AND SURFACE RESTORATIONS AS SHOWN ON DRAWING 0100-CD-005.
14. CONSTRUCT STORMWATER FILTER STRIP IN ACCORDANCE WITH DETAIL 6 ON DRAWING 0100-CD-007.
15. CONSTRUCT OIL-WATER SEPARATOR IN ACCORDANCE WITH DETAIL 1 ON DRAWING 0400-CD-004.
22. CONNECTION TO EXISTING STORM DRAIN STRUCTURE. CONSTRUCT PER DETAIL 4 ON DRAWING 0100-CD-007.
23. CONNECTION TO PROPOSED STORM DRAIN. CONNECT WITH FERNCO WITH SS SHEAR BAND.
31. INSTALL WATER QUALITY VAULTS 0400-WQV-001 AND 0400-WQV-002 IN ACCORDANCE WITH DETAILS ON DRAWING 0400-CD-004.
32. INSTALL STORM WATER PUMP STATION PER DETAILS ON DRAWING 0400-CD-004.

PERMIT SET
NOT FOR CONSTRUCTION

NO.	DATE	REVISION	BY	CK'D	APP

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700 NE Multnomah Street, Suite 900
Portland, Oregon 97232-4189
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VANCOUVER ENERGY
Tesoro Savage Petroleum Terminal LLC

PROJECT: VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: AREA 400
GRADING AND DRAINAGE PLAN – 1

DESIGN:	DRS	START DATE:	2/25/2015	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	2/25/2015	PROJECT MANAGER:	SAVAGE_PM
CHECKED:	MCH	APPROVED:	SA	SIZE:	24X36

DRAWING NUMBER	SHEET	REV.
0400-CD-001	1/1	

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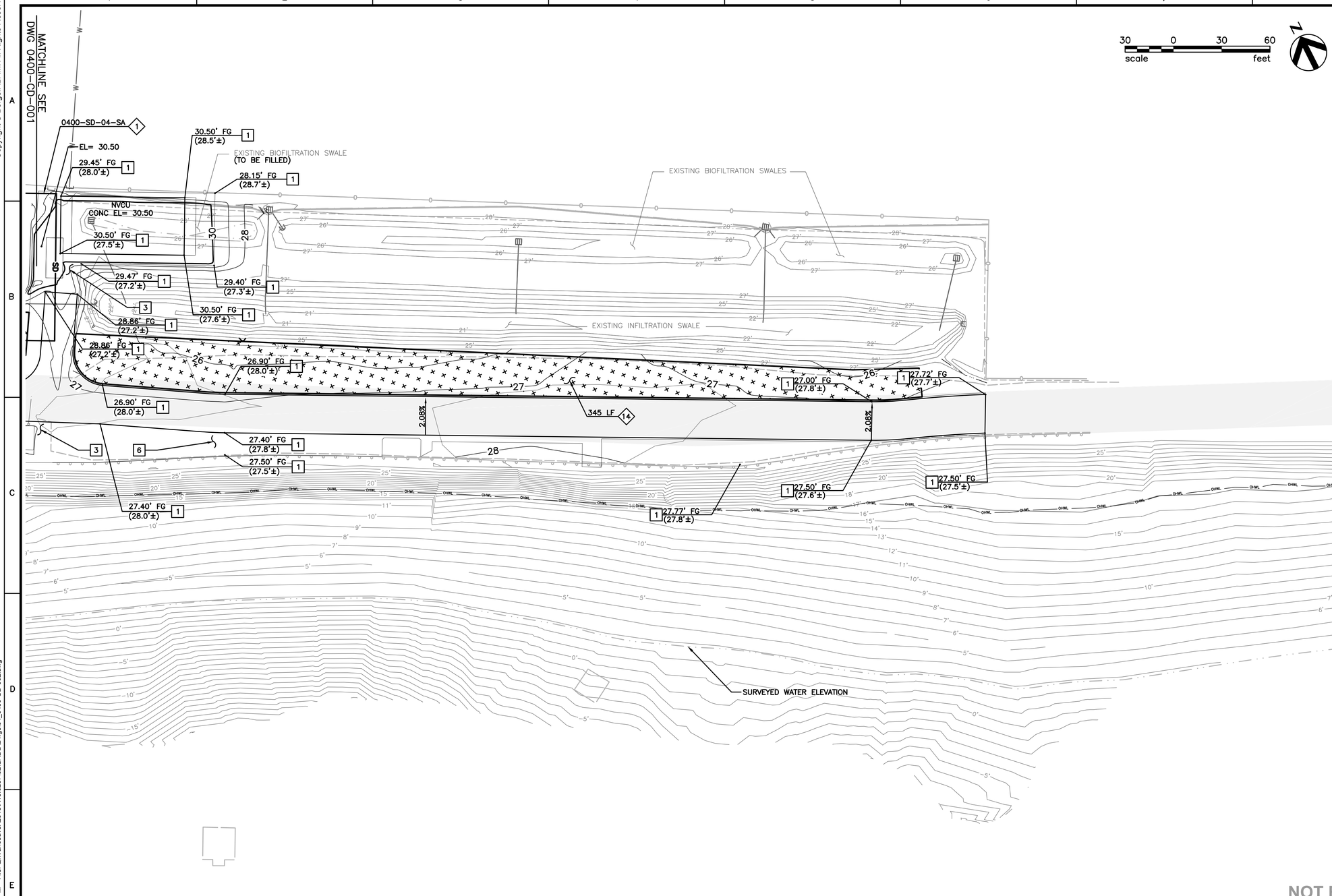

GRADING NOTES:

1. MATCH EXISTING SURFRACE. CONSTRUCT SUBRGRADE TO GRADUALLY TIE INTO EXISTING SURFACE. APPROXIMATE ELEVATIONS ARE SHOWN. WHERE MATCHING INTO EXISTING ASPHALT, SAWCUT MINIMUM 1' OF EXISTING ASPHALT AND MATCH EXISTING ASPHALT THICKNESSES AND APPLY ASPHALT JOINT SEALER.
2. GRADE ASPHALT CONCRETE PARKING, DRIVE AISLE, AND DRIVEWAY AREAS TO THE ELEVATIONS AND GRADES SHOWN. GRADE TO ALLOW DRAINAGE TO SHEET FLOW TO CONSTRUCTED DRAINAGE CONVEYANCES AND INLETS.
3. GRADE INDUSTRIAL AND RAIL YARD AREA GENTLY TOWARD STORM DRAIN INLETS. PLACE IMPORT GRANULAR ROCK FOR YARD SURFACING. 2" MINIMUM DEPTH, COMPACTED WITH 300 LB ROLLER.
6. PERMANENT LANDSCAPING AREA – SEE LANDSCAPE PLANS FOR CONSTRUCTION DETAILS.

DRAINAGE NOTES:

1. CONSTRUCT PROPOSED STORM DRAIN PIPELINES WITH THE PIPE DIAMETER, MATERIAL, AND SLOPE INDICATED. PIPE TRENCH SECTIONS INCLUDING BEDDING, BACKFILL AND SURFACE RESTORATIONS AS SHOWN ON DRAWING 0100-CD-005.
14. CONSTRUCT STORMWATER FILTER STRIP IN ACCORDANCE WITH DETAIL 6 ON DRAWING 0100-CD-007.

PERMIT SET
NOT FOR CONSTRUCTION

SAM ADAMS PROFESSIONAL ENGINEER STATE OF WASHINGTON 47330 REGISTERED

NO.	DATE	REVISION	BY	CK'D	APP

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VANCOUVER ENERGY

THIS DRAWING CONTAINS PROPRIETARY AND PRIVILEGED INFORMATION AND SUCH INFORMATION MAY NOT BE USED OR DISCLOSED WITHOUT THE PERMISSION OF VANCOUVER ENERGY.

VANCOUVER ENERGY IS A JOINT VENTURE BETWEEN TESORO REFINING & MARKETING COMPANY LLC AND SAVAGE COMPANIES.

FOR MORE INFORMATION CONTACT: KELLY FLINT 801-944-6600
WWW.VANCOUVERENERGY.COM

PROJECT:
VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION:
AREA 400
GRADING AND DRAINAGE PLAN – 2

DESIGN:	DRS	START DATE:	12/23/2014	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	12/31/2014	PROJECT MANAGER:	SAVAGE_PM
CHECKED:	MCH	APPROVED:	SA	SIZE:	24X36

DRAWING NUMBER	SHEET	REV.
0400-CD-002	1/1	

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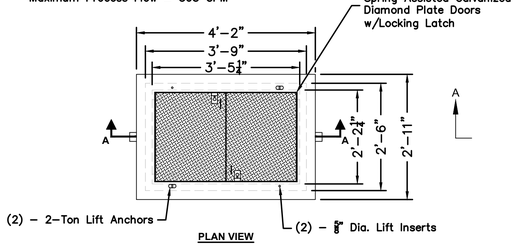
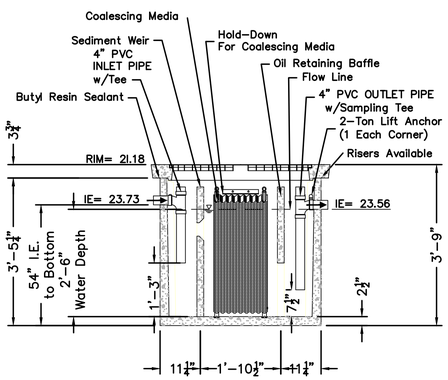
Projected Coalescing Plate Area = 444 Sq.Ft.
*Design Flow Rate = 105 GPM
Maximum Process Flow = 565 GPM



PLAN VIEW

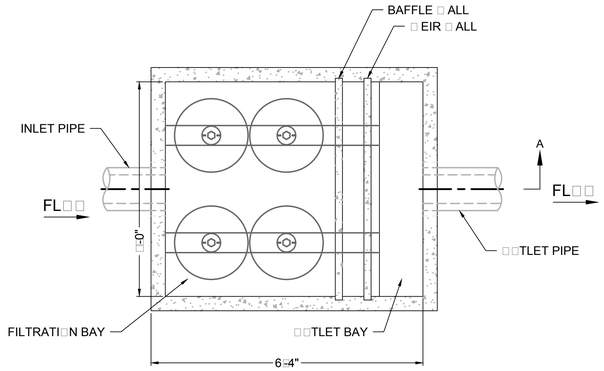


SECTION AA

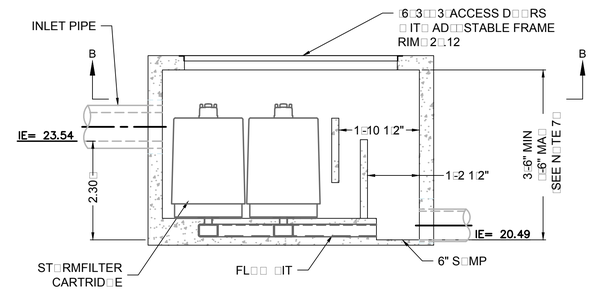
*DESIGN FLOW RATE	EFFLUENT QUALITY	100% COLLECTED SIZE
105 GPM	10 ppm	60 Micron

Notes:
- Static Water Depth = 4'–0"
- Prior to "Startup" of system, fill with clean water to bottom of outlet pipe. For best results, fill to flow line.
- Follow Regular Inspection, Cleaning, & Maintenance Schedule (See Clean Out & Maintenance).
- Connect to inlet and outlet piping with Fernco adapter with ss shear bands

0400-OWS-001



SECTION B-B



SECTION A-A

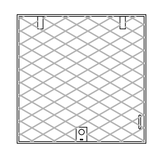
0400-WQV-001

Basic Design Information: *
Influent Characterics
- Oil Specific Gravity = 0.88
- Operating Temperature = 50°
- Influent Oil Concentration = 100 ppm
- Mean Oil Droplet Size = 130 Microns
- .033 ft/min. Critical Oil Droplet Predicted Rise Rate

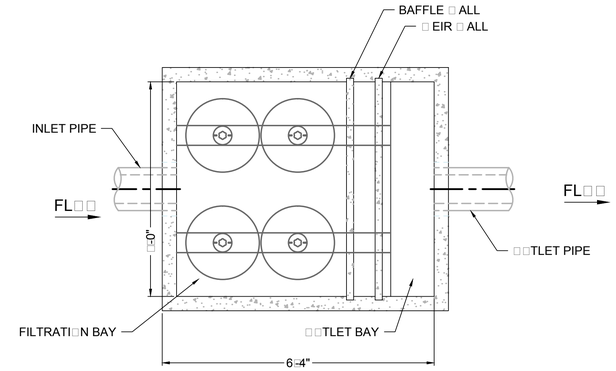
*Basic Design Information per Washington State Department of Ecology; User to Adjust Estimates for Variations in Real Conditions.

SITE SPECIFIC DATA REQUIREMENTS

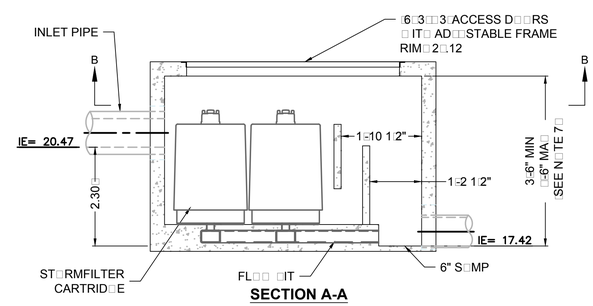
STRUCTURE ID			0400 WQV–001
WATER QUALITY FLOW RATE (cfs)			0.03
PEAK FLOW RATE (cfs)			0.15
RETURN PERIOD OF PEAK FLOW (yrs)			100–YR
# OF CARTRIDGES REQUIRED			2
CARTRIDGE FLOW RATE			7.5
MEDIA TYPE (CSF, PERLITE, ZPG, GAC, PHS)			ZPG
PIPE DATA:	I.E.	MATERIAL	DIAMETER
INLET PIPE #1	23.54'	SA	4"
INLET PIPE #2	N/A	N/A	N/A
OUTLET PIPE	20.49'	SA	4"
UPSTREAM RIM ELEVATION			XXX
DOWNSTREAM RIM ELEVATION			N/A
ANTI–FLOTATION BALLAST		WIDTH	HEIGHT
		TBD	TBD
NOTES/SPECIAL REQUIREMENTS:			



3' x 3' ACCESS DOORS
□SI□ES VARY□
N.T.S.



SECTION B-B

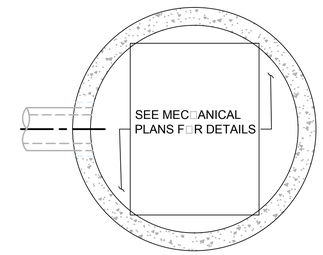


SECTION A-A

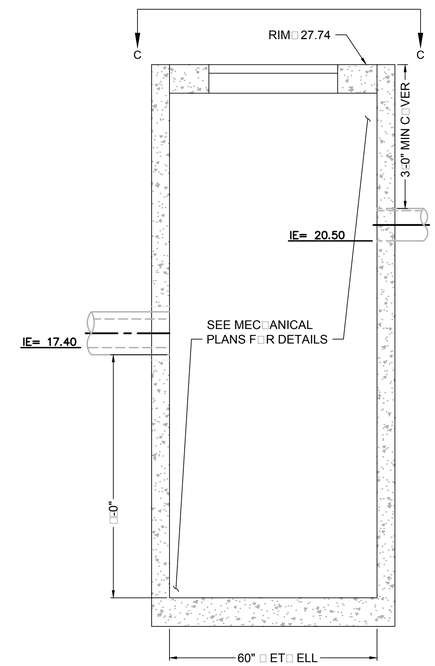
0400-WQV-002

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID			0400 WQV–002
WATER QUALITY FLOW RATE (cfs)			0.03
PEAK FLOW RATE (cfs)			0.15
RETURN PERIOD OF PEAK FLOW (yrs)			100–YR
# OF CARTRIDGES REQUIRED			2
CARTRIDGE FLOW RATE			7.5
MEDIA TYPE (CSF, PERLITE, ZPG, GAC, PHS)			GAC
PIPE DATA:	I.E.	MATERIAL	DIAMETER
INLET PIPE #1	20.47'	SA	4"
INLET PIPE #2	N/A	N/A	N/A
OUTLET PIPE	17.42'	SA	4"
UPSTREAM RIM ELEVATION			XXX
DOWNSTREAM RIM ELEVATION			N/A
ANTI–FLOTATION BALLAST		WIDTH	HEIGHT
		TBD	TBD
NOTES/SPECIAL REQUIREMENTS:			



SECTION C-C



0400-PS-001

PERMIT SET
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Portland, Oregon 97232-4189
(503) 872-4100 FAX: (503) 872-4101

VANCOUVER ENERGY
Tesoro Savage Petroleum Terminal LLC

PROJECT: VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: AREA 400
CIVIL DETAILS – 1

DESIGN:	DRS	START DATE:	2/23/2015	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	2/24/2015	PROJECT MANAGER:	SAVAGE_PM
CHECKED:	MCH	APPROVED:	SA	SIZE:	24X36

DRAWING NUMBER	SHEET	REV.
0400–CD–004	1/1	

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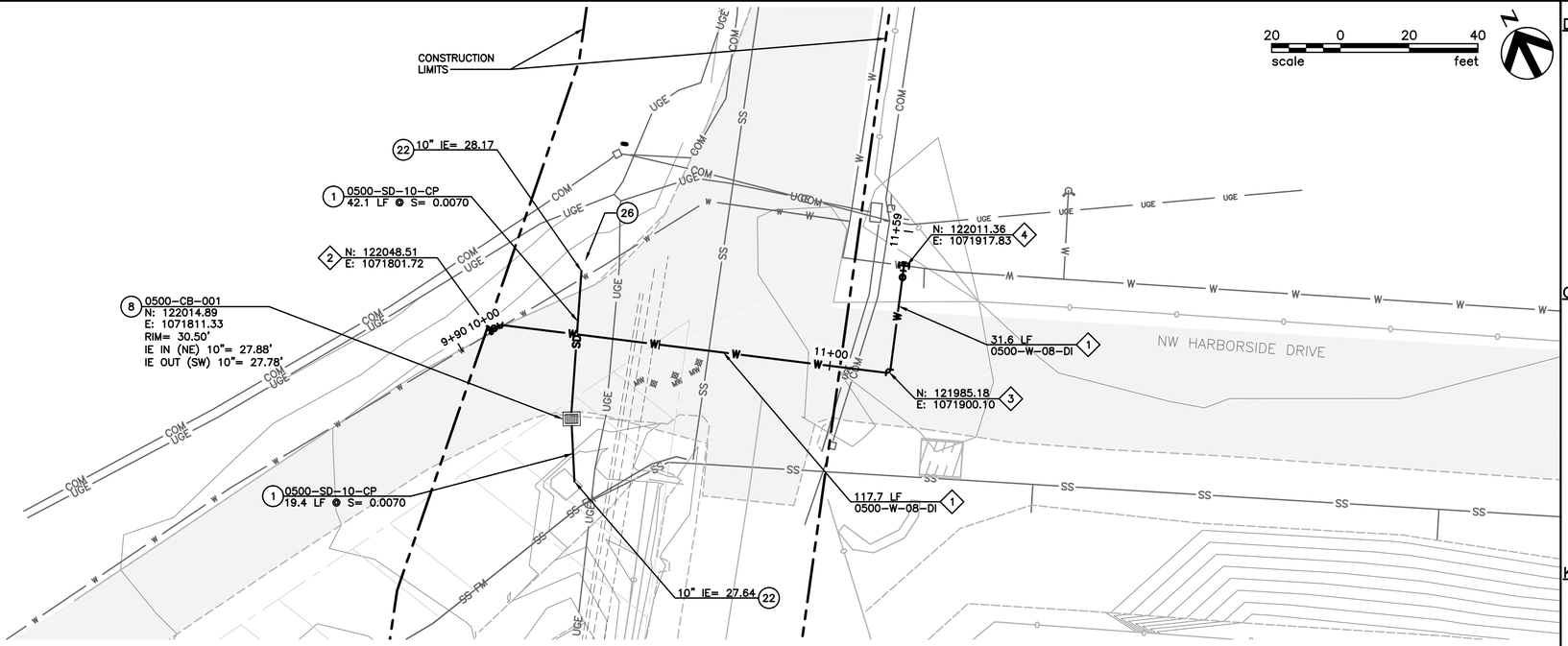
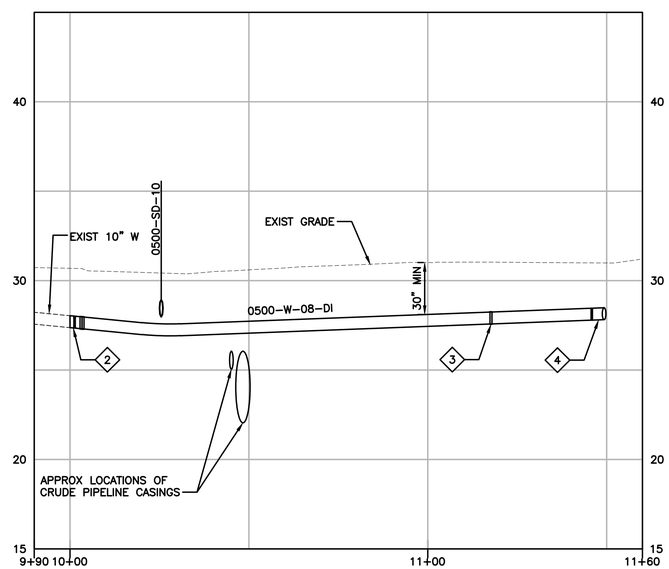




0500-W-1 PROFILE

SCALE: 1"=20' HZ AND 1"=4' VERT

DRAINAGE NOTES:

(1) CONSTRUCT PROPOSED STORM DRAIN PIPELINES WITH THE PIPE DIAMETER, MATERIAL, AND SLOPE INDICATED. PIPE TRENCH SECTIONS INCLUDING BEDDING, BACKFILL AND SURFACE RESTORATIONS AS SHOWN ON DRAWING 0100-CD-005.

(8) CONSTRUCT CATCH BASIN INLET IN ACCORDANCE WITH DETAIL 1 ON DRAWING 0100-CD-006. ALL STORM DRAIN INLETS MUST INCLUDE ZYMARK BRAND OR EQUIVALENT SPILL CONTROL TRAP INSERT.

(22) CONNECTION TO EXISTING STORM DRAIN STRUCTURE. CONSTRUCT PER DETAIL 4 ON DRAWING 0100-CD-007.

(26) RETROFIT SPILL TRAP WITHIN EXISTING INLET PER DETAIL 4 ON DRAWING 0100-CD-006.

GENERAL WATERLINE NOTES:

1. SEE WATER SYSTEM INSTALLATION NOTES ON DRAWING 0100-CD-008. INSTALL ALL POTABLE WATER SYSTEMS IN ACCORDANCE WITH CITY OF VANCOUVER STANDARDS. NOTIFY CITY OF VANCOUVER A MINIMUM 72-HOURS BEFORE BEGINNING CONSTRUCTION.
2. INSTALL ALL OPEN TRENCH PIPE IN ACCORDANCE WITH COV STD DETAIL W-13.
3. INSTALL THRUST BLOCKS PER COV STD DETAIL W-16, VALVE BOXES AND COVERS PER COV STD DETAIL W-10.
4. RESTORE EXISTING SURFACING IN ACCORDANCE WITH DETAILS SPECIFIED ON DWG 0100-CD-005. REPLACE EXISTING ASPHALT CONCRETE WITH DETAIL X, AND ALL OTHER AREAS ALONG PIPELINE ALIGNMENT WITH DETAIL X.

KEY NOTES:

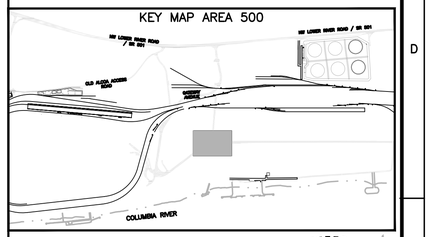
(1) INSTALL:
8" CL350 DI
OPEN TRENCH
FULLY RESTRAINED

(2) INSTALL:
(1) 8" CL350 DI ROMAC 501 COUPLING
(1) 8" PIPE SPOOL (VARIABLE LENGTH)
(1) 8" FLGxMJ BFV
(1) 8" CL350 DI 11.25° ELBOW
(1) 8" CL350 DI 22.5° ELBOW

(3) INSTALL:
(1) 8" CL350 DI 90° ELBOW

(4) INSTALL:
(1) 8"x8" FLG TAPPING SLEEVE WITH TB – WET TAP
(1) 8" FLGxMJ TAPPING VALVE

KEY MAP AREA 500



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NO.	DATE	REVISION	BY	CK'D	APP

BergerABAM
700 NE Multnomah Street, Suite 900
Portland, Oregon 97232-4189
(503) 872-4100 FAX: (503) 872-4101

VANCOUVER ENERGY
Tesoro Savage Petroleum Terminal LLC

PROJECT: VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: AREA 500
UTILITY RELOCATION PLAN AND PROFILES – 1

DESIGN:	DRS	START DATE:	12/23/2014	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	2/25/2015	PROJECT MANAGER:	SAVAGE_PM
CHECKED:	MCH	APPROVED:	SA	SIZE:	24X36

DRAWING NUMBER	SHEET	REV.
0500-CD-001	1/1	

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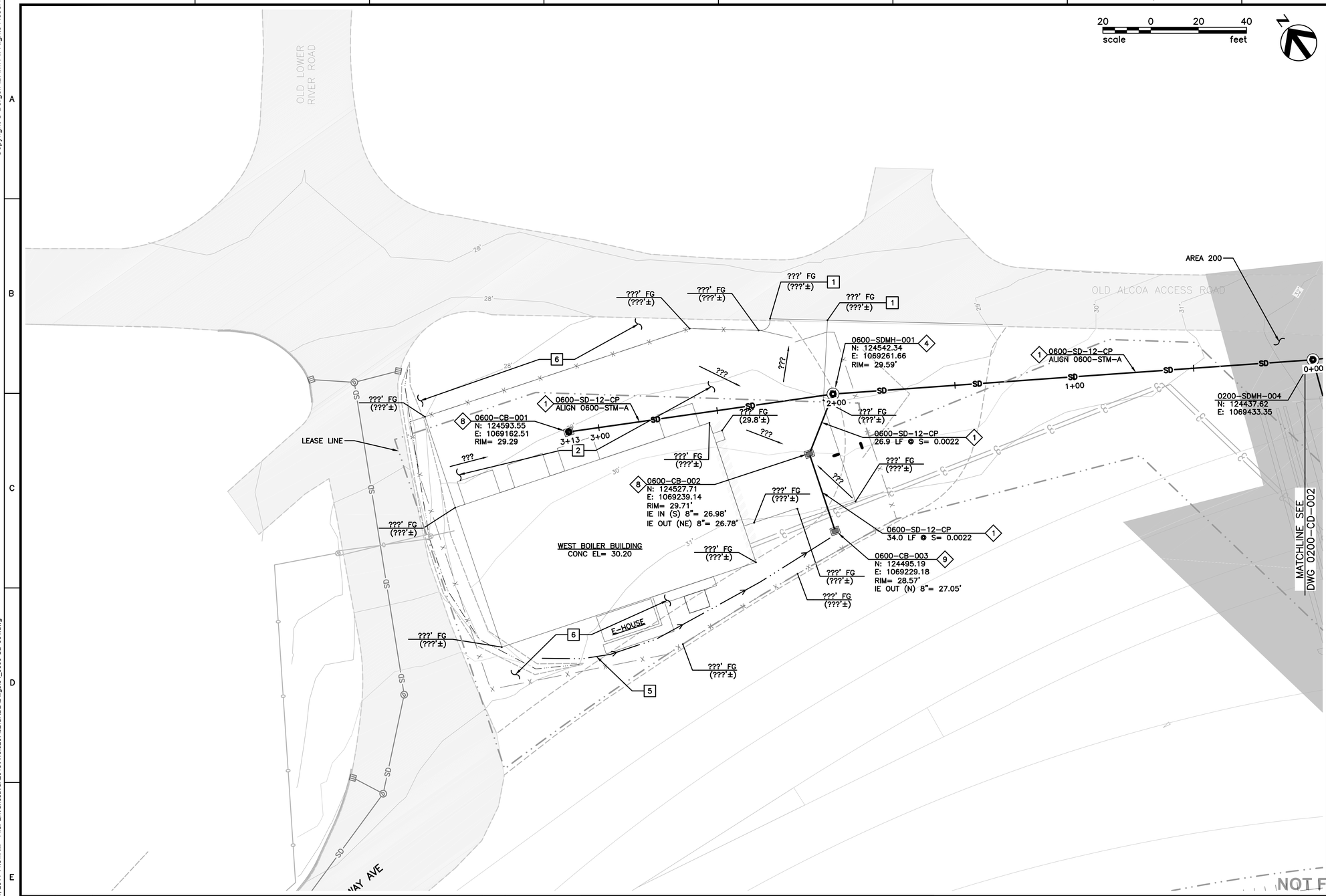


GRADING NOTES:

1. SEE SITE PLAN 0600-SP-001 FOR SITE LAYOUT INFORMATION.

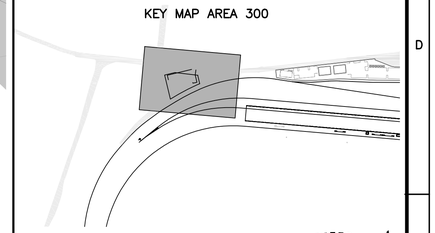
1. MATCH EXISTING SURFRACE. CONSTRUCT SUBRGRADE TO GRADUALLY TIE INTO EXISTING SURFACE. APPROXIMATE ELEVATIONS ARE SHOWN. WHERE MATCHING INTO EXISTING ASPHALT, SAWCUT MINIMUM 1' OF EXISTING ASPHALT AND MATCH EXISTING ASPHALT THICKNESSES AND APPLY ASPHALT JOINT SEALER.
2. GRADE ASPHALT CONCRETE PARKING, DRIVE AISLE, AND DRIVEWAY AREAS TO THE ELEVATIONS AND GRADES SHOWN. GRADE TO ALLOW DRAINAGE TO SHEET FLOW TO CONSTRUCTED DRAINAGE CONVEYANCES AND INLETS.
5. CONSTRUCT MINIMUM 2' WIDE DRAINAGE SWALE GENTLY SLOPING TOWARD PROPOSED AREA INLET.
6. PERMANENT LANDSCAPING AREA – SEE LANDSCAPE PLANS FOR CONSTRUCTION DETAILS.

DRAINAGE NOTES:

1. SEE PROFILE DRAWING 0600-CD-003 FOR ALIGNMENT 0600-STM-A

1. CONSTRUCT PROPOSED STORM DRAIN PIPELINES WITH THE PIPE DIAMETER, MATERIAL, AND SLOPE INDICATED. PIPE TRENCH SECTIONS INCLUDING BEDDING, BACKFILL AND SURFACE RESTORATIONS AS SHOWN ON DRAWING 0100-CD-005. SEE DWG 0300-CD-003 FOR PROFILE.
4. CONSTRUCT 60" DIAMETER PRECAST MANHOLE IN ACCORDANCE WITH DETAIL 5 ON DRAWING 0100-CD-007.
8. CONSTRUCT CATCH BASIN INLET IN ACCORDANCE WITH DETAIL 1 ON DRAWING 0100-CD-006. ALL STORM DRAIN INLETS MUST INCLUDE ZYMARK BRAND OR EQUIVALENT SPILL CONTROL TRAP INSERT.
9. CONSTRUCT AREA INLET IN ACCORDANCE WITH DETAIL 2 ON DRAWING 0100-CD-006. ALL STORM DRAIN INLETS MUST INCLUDE ZYMARK BRAND OR EQUIVALENT SPILL CONTROL TRAP INSERT.

KEY MAP AREA 300



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700 NE Multnomah Street, Suite 900
Portland, Oregon 97232-4189
(503) 872-4100 FAX: (503) 872-4101

VANCOUVER ENERGY
Tesoro Savage Petroleum Terminal LLC

PROJECT: VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: AREA 600
GRADING AND DRAINAGE PLAN

DESIGN:	DRS	START DATE:	12/23/2014	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	2/25/2015	PROJECT MANAGER:	SAVAGE_PM
CHECKED:	MCH	APPROVED:	SA	SIZE:	24X36

DRAWING NUMBER: 0600-CD-001
SHEET: 1 / 1
REV.

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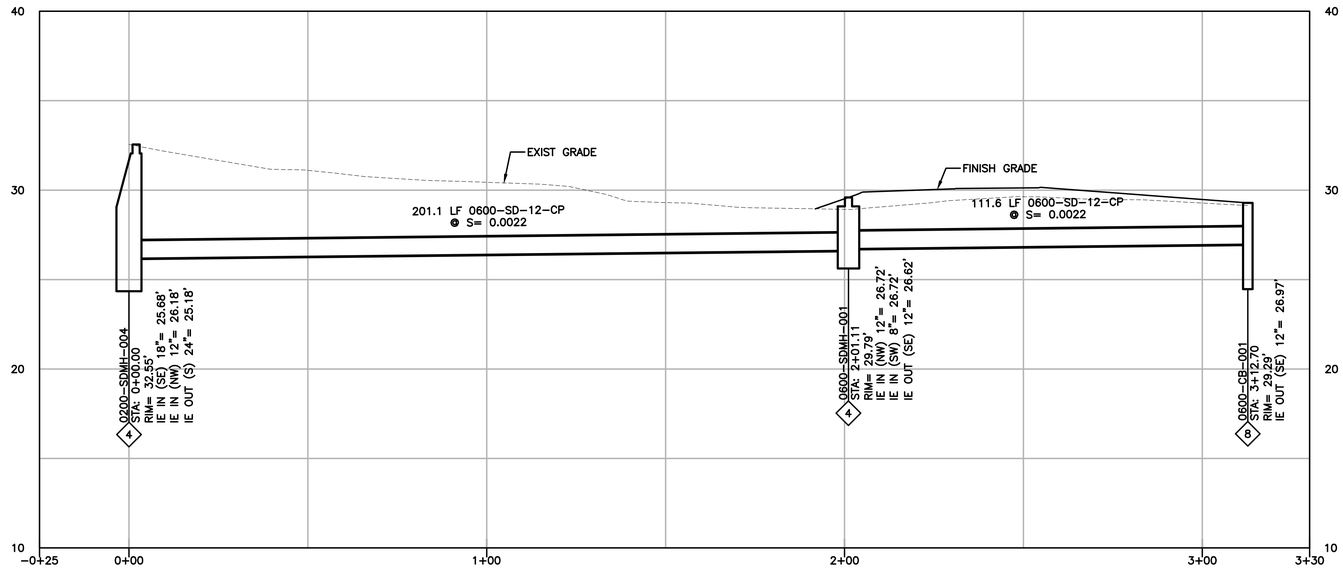


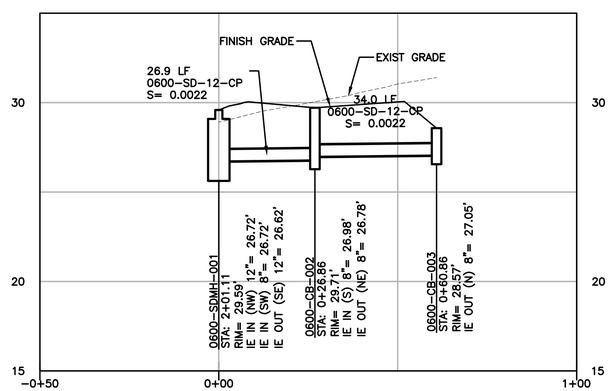
PROFILE 0600-STM-A

SCALE: 1"=20' HORZ AND 1"= 4' VERT

DRAINAGE NOTES:

4. CONSTRUCT 60" DIAMETER PRECAST MANHOLE IN ACCORDANCE WITH DETAIL 5 ON DRAWING 0100-CD-007.

8. CONSTRUCT AREA INLET IN ACCORDANCE WITH DETAIL 1 ON DRAWING 0100-CD-006. ALL STORM DRAIN INLETS MUST INCLUDE ZYMARK BRAND OR EQUIVALENT SPILL CONTROL TRAP INSERT.



PROFILE 0600-STM-A

SCALE: 1"=20' HORZ AND 1"= 4' VERT

AREA 600

STRUCTURE NAME	STRUCTURE DETAILS
0600-CB-001 N: 124593.55 E: 1069162.51	RIM = 29.29' SUMP = 24.97' IE OUT (12") SE = 26.97'
0600-CB-002 N: 124527.71 E: 1069239.14	RIM = 29.71' SUMP = 26.78' IE IN (8") S = 26.98' IE OUT (8") NE = 26.78'
0600-CB-003 N: 124495.19 E: 1069229.18	RIM = 28.57' SUMP = 27.05' IE OUT (8") N = 27.05'
0600-SDMH-001 N: 124542.34 E: 1069261.66	RIM = 29.59' SUMP = 26.62' IE IN (12") NW = 26.72' IE IN (8") SW = 26.72' IE OUT (12") SE = 26.62'

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VANCOUVER ENERGY
Tesoro Savage Petroleum Terminal LLC

PROJECT: VANCOUVER ENERGY
PORT OF VANCOUVER, WASHINGTON

DESCRIPTION: AREA 600
DRAINAGE PROFILES & STRUCTURE TABLE

DESIGN:	DRS	START DATE:	12/23/2014	SCALE:	AS SHOWN
DRAWN:	TNP	PRINT DATE:	2/25/2015	PROJECT MANAGER:	SAVAGE_PM
CHECKED:	MCH	APPROVED:	SA	SIZE:	24X36

DRAWING NUMBER	SHEET	REV.
0600-CD-003	1/1	

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