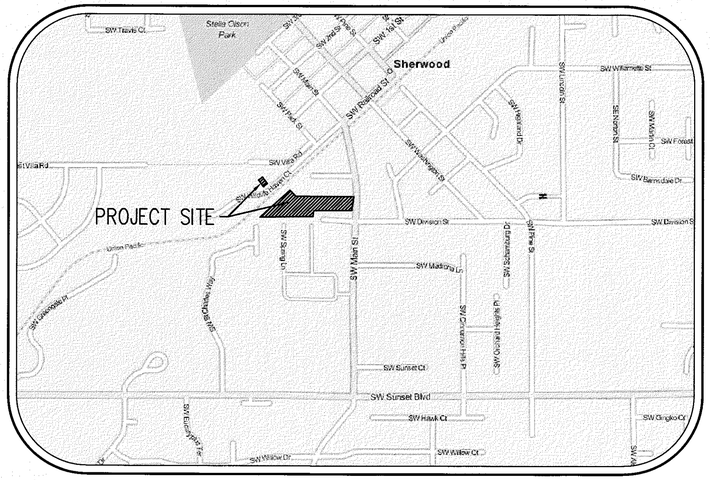
CITY OF SHERWOOD

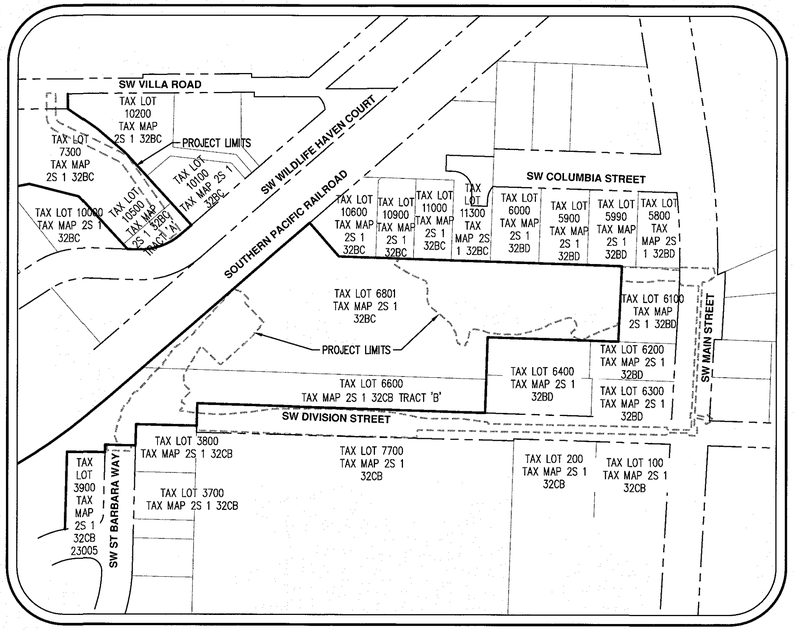
COLUMBIA STREET REGIONAL STORMWATER FACILITY - PROJECT #8069

BID SET



VICINITY MAP

NOT TO SCALE



SITE MAP

1" = 100'

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ATTENTION EXCAVATORS:

OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-001-0090. YOU MAY OBTAIN COPIES OF THESE RULES FROM THE CENTER BY CALLING 503-232-1987. IF YOU HAVE ANY QUESTIONS ABOUT THE RULES, YOU MAY CONTACT THE CENTER. YOU MUST NOTIFY THE CENTER AT LEAST TWO BUSINESS DAYS BUT NOT MORE THAN TEN BUSINESS DAYS, BEFORE COMMENCING AN EXCAVATION. CALL 503-246-6699.

APPLICANT / OWNER

CITY OF SHERWOOD
CONTACT: CRAIG CHRISTENSEN, PE
22560 SW PINE STREET
SHERWOOD, OR 97140
PH: 503-925-2301
FAX: 503-625-0629

UTILITY CONTACTS

POWER

PORTLAND GENERAL ELECTRIC
BRIAN BUSWELL
9480 SW BOECKMAN ROAD
WILSONVILLE, OR 97070
PH: 503-570-4450

GAS

NW NATURAL
220 NW 2ND AVENUE
PORTLAND, OR 97209
PH: 503-226-4211

COMMUNICATIONS

QWEST
8021 SW CAPITOL HILL ROAD
PORTLAND, OR 97219
PH: 503-242-3952

STREETS

CITY OF SHERWOOD, PUBLIC WORKS
22560 SW PINE ST
SHERWOOD, OR 97140
PH: 503-625-5722

PLANNING / ENGINEERING / SURVEYING / ARBORIST / LANDSCAPING FRIM

AKS ENGINEERING & FORESTRY, LLC.
CONTACT: ALEX HURLEY, PE, PLS, PRINCIPAL
12965 SW HERMAN ROAD, SUITE 100
TUALATIN, OR 97062
PH: 503-563-6151
FAX: 503-563-6152

STORM/SEWER/WATER

CITY OF SHERWOOD, PUBLIC WORKS
22560 SW PINE ST
SHERWOOD, OR 97140
PH: 503-625-5722

COMMUNICATIONS

COMCAST CABLE
10831 SW CASCADE AVENUE
TIGARD, OR 97223
PH: 503-596-3754

COMMUNICATIONS

VERIZON (FRONTIER)
4155 SW CEDAR HILLS BLVD
BEAVERTON, OR 97005
PH: 503-526-3544

BUILDING DEPARTMENT

CITY OF SHERWOOD BUILDING DEPT.
22560 SW PINE ST
SHERWOOD, OR 97140
PH: 503-625-4226

PROJECT LOCATION: NORTHWEST OF THE INTERSECTION OF SW MAIN STREET AND SW DIVISION STREET, SHERWOOD OREGON

PROPERTY DESCRIPTION: TAX LOTS 6600, 6801, 7300 AND 10500 (WASHINGTON COUNTY TAX MAP 2S 1 32BC & 32BC) AND LOCATED IN THE NORTHWEST 1/4 OF SECTION 32, TOWNSHIP 2 SOUTH, RANGE 1 WEST, WILLAMETTE MERIDIAN, WASHINGTON COUNTY, OREGON

EXISTING LAND USE: TAX LOTS 6801, 7300 AND 10500 ARE VACANT.

PROJECT PURPOSE: PROVIDE A REGIONAL STORMWATER QUALITY FACILITY AND STORM SEWER DRAINAGE IMPROVEMENTS.

IMPERVIOUS AREA TABLE:

PAVEMENT AND SIDEWALKS	5,031 SF
TOTAL SITE AREA	161,350 SF
AREA OF DISTURBANCE	51,654 SF

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ENGINEERING · PLANNING · SURVEYING
FORESTRY · LANDSCAPE ARCHITECTURE

CITY OF SHERWOOD
REGIONAL STORMWATER FACILITY
SHERWOOD OREGON
TAX LOTS 6600, 6801, 7300, 10500 WASHINGTON COUNTY TAX MAP 2S 1 32BC & 32CB

COVER SHEET WITH VICINITY & SITE MAPS

DESIGNED BY: PAS
DRAWN BY: PAS/DS
CHECKED BY: AHH
SCALE: AS NOTED
DATE: 06/30/2014

REGISTERED PROFESSIONAL ENGINEER
56533PE
OREGON
JANUARY 15, 2009
ALEXANDER H. HURLEY
RENEWAL DATE: 6/30/15

REVISIONS

JOB NUMBER 3068

SHEET C000

AKS DRAWING FILE: 3068 COVER SHEETS.DWG | LAYOUT: C000

LEGEND

	EXISTING	PROPOSED
DECIDUOUS TREE	⊙	⊙
CONIFEROUS TREE	✳	✳
FIRE HYDRANT	♙	♙
WATER BLOWOFF	⚲	⚲
WATER METER	▭	▬
WATER VALVE	⋈	⋈
DOUBLE CHECK VALVE	⊠	⊠
AIR RELEASE VALVE	⚲	⚲
SANITARY SEWER CLEAN OUT	○	●
SANITARY SEWER MANHOLE	◯	●
SIGN	⊸	⊸
STREET LIGHT	☼	☼
MAILBOX	MB	MB

	EXISTING	PROPOSED
STORM SEWER CLEAN OUT	○	●
STORM SEWER CATCH BASIN	□	■
STORM SEWER MANHOLE	◉	◉
GAS METER	⊠	◘
GAS VALVE	◫	◨
GUY WIRE ANCHOR	⟵	⟵
POWER POLE	⊸	⊸
POWER VAULT	P	P
POWER JUNCTION BOX	△	△
POWER PEDESTAL	▫	▪
COMMUNICATIONS VAULT	C	C
COMMUNICATIONS JUNCTION BOX	△	▲
COMMUNICATIONS RISER	⬠	⬟

	EXISTING	PROPOSED
RIGHT-OF-WAY LINE		
BOUNDARY LINE		
PROPERTY LINE		
CENTERLINE		
DITCH		
CURB		
EDGE OF PAVEMENT		
EASEMENT		
FENCE LINE		
GRAVEL EDGE		
POWER LINE	PWR	PWR
OVERHEAD WIRE	OHW	OHW
COMMUNICATIONS LINE	COM	COM
FIBER OPTIC LINE	OFO	OFO
GAS LINE	GAS	GAS
STORM SEWER LINE	STM	STM
SANITARY SEWER LINE	SAN	SAN
WATER LINE	WAT	WAT

GENERAL NOTES

1. ALL WORKMANSHIP AND MATERIALS SHALL CONFORM TO THESE PLANS, CURRENT ENGINEERING DESIGN AND STANDARD DETAILS MANUAL OF THE CITY OF SHERWOOD, AND ALL OTHER APPLICABLE STANDARDS. IMPROVEMENTS DEPICTED ON THESE PLANS SHALL BE IN CONFORMANCE WITH 2008 ODOT / APWA STANDARD SPECIFICATIONS WHERE NOT SPECIFICALLY STATED.

2. CONTRACTOR SHALL COMPLY WITH THE PROVISIONS OF ORS 757.541 TO 757.571 (REQUIRES CONTRACTOR TO NOTIFY UTILITY COMPANIES AT LEAST 48 HOURS, BUT NO MORE THEN 10 DAYS, PRIOR TO ANY EXCAVATION). CONTRACTOR SHALL ALSO BE RESPONSIBLE TO VERIFY LOCATION AND ELEVATION OF ALL EXISTING UTILITIES WITHIN THE PROJECT AREA PRIOR TO CONSTRUCTION.

UNDERGROUND UTILITY LOCATE: 503-246-6699

3. PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL PRESENT AT THE PRE-CONSTRUCTION MEETING A LIST OF SUBCONTRACTORS, A PROJECT SCHEDULE, A TRAFFIC CONTROL PLAN, AND AN EMERGENCY CONTACT NAME AND PHONE NUMBER, AND A COPY OF THEIR COS OR METRO BUSINESS LICENSE FOR CONTRACTORS AND ALL SUBS.

4. CONTRACTOR SHALL CONNECT AND MATCH TO EXISTING UTILITIES AND IMPROVEMENTS, IN CONFORMANCE WITH THESE PLANS AND THE SPECIFICATIONS, TO PROVIDE COMPLETE AND OPERATIONAL SYSTEMS.

5. DURING THE COURSE OF WORK, CONTRACTOR SHALL COORDINATE AND ACCOMMODATE OTHER CONTRACTORS, OPERATIONS OF THE CITY OR OPERATIONS OF VARIOUS UTILITY DISTRICTS OR OTHER AGENCIES.

6. CONTRACTOR SHALL PROVIDE TRAFFIC REGULATION, BARRICADES, AND OTHER NECESSARY SAFETY MEASURES IN CONFORMANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, OSHA REGULATIONS, AND ALL OTHER APPLICABLE REGULATIONS.

7. PUBLIC ROADWAY SHALL NOT BE CLOSED TO TRAFFIC, AT ANY TIME, WITHOUT HAVING FIRST OBTAINED WRITTEN APPROVAL FROM THE CITY. THE CONTRACTOR IS RESPONSIBLE FOR PROVISION OF TIMELY NOTIFICATION OF TRAFFIC FLOW DISRUPTIONS TO AREA WIDE EMERGENCY SERVICES.

8. TRAFFIC CONTROL DEVICES, FLAG PERSONS, ETC., SHALL BE IN PLACE PRIOR TO INITIATION OF CONSTRUCTION WORK AND SHALL BE EFFECTIVELY MAINTAINED.

9. A COPY OF THE REQUIRED PERMITS (WITH ALL ATTACHMENTS), A COPY OF THE APPROVED CONSTRUCTION PLANS, AND ALL AMENDMENTS SHALL BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES. ALL WORK SHALL CONFORM TO THE PERMIT TERMS, CONDITIONS/PROVISIONS, THE CITY APPROVED CONSTRUCTION PLANS, APPROVED PLAN AMENDMENTS, AND TO THESE GENERAL CONDITIONS. CHANGES TO ANY OF THE AFORESAID MUST BE APPROVED BY THE PROJECT ENGINEER AND THE CITY, IN ADVANCE OF WORK PERFORMANCE.

10. DOWNTIME FOR UTILITIES SHALL BE HELD TO A MINIMUM AND COORDINATED WITH THE CITY PRIOR TO DISRUPTION. INTERRUPTION SHALL BE IN ACCORDANCE WITH A SCHEDULE OF SHUTDOWNS TO BE PROVIDED BY THE CONTRACTOR AND APPROVED BY THE CITY.

11. CITY OF SHERWOOD SHALL OBTAIN ALL REQUIRED PERMITS FROM CLEAN WATER SERVICES (CWS), SOUTHERN PACIFIC RAILROAD, OREGON DIVISION OF STATE LANES (ODSL), US ARMY CORPS OF ENGINEERS (USACE) AND OTHER APPLICABLE AGENCIES REQUIRED FOR CONSTRUCTION OF THESE PLANS. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED DURING THE COURSE OF CONSTRUCTION, RIGHT-OF-WAY PERMITS, BUILDING PERMITS, AND PERMITS TO HAUL ON PUBLIC ROADS, ETC.

12. CONTRACTOR IS TO NOTIFY THE CITY OF SHERWOOD 48 HOURS PRIOR TO START OF CONSTRUCTION AND PRIOR TO ANY ELEMENTS OF CONSTRUCTION REQUIRING INSPECTION.

13. CONTRACTOR SHALL COORDINATE AND SCHEDULE ALL EARTHWORK, TRENCH BACKFILL, ROAD CONSTRUCTION COMPACTION TESTS, AND GEOTECHNICAL REVIEWS WITH THE PROJECT'S GEOTECHNICAL ENGINEER.

14. AT LEAST ONE COMPACTION TEST SHALL BE PERFORMED FOR EVERY 200 LINEAR FEET OF UTILITY TRENCH BACKFILLED.

15. PROOFROLL SUBGRADE WITH A LOADED 10 YARD DUMP TRUCK TO CHECK COMPACTION PRIOR TO PLACEMENT OF SUBBASE ROCK AND AGAIN AT THE COMPLETION OF THE PLACEMENT OF THE BASE ROCK PRIOR TO PAVING THE FIRST LIFT OF ASPHALT. PROOF-ROLLING RESULTS SHALL MEET THE REQUIREMENTS OF THE CITY OF SHERWOOD PUBLIC WORKS DEPARTMENT. IN ADDITION, THE SUBGRADE AND AGGREGATE BASE ROCK SHALL HAVE A DENSITY TEST RESULTS OF AT LEAST 95% OF AASHTO T-99 (STANDARD PROCTOR) FOR SUBGRADE AND 95% OF AASHTO T-180 FOR BASE ROCK.

16. CONTRACTOR SHALL GUARANTEE ALL WORK TO BE FREE FROM DEFECTS AND FAILURES FOR A PERIOD OF 2 YEARS AFTER FINAL ACCEPTANCE BY CITY. SUBSEQUENT SETTLEMENT OF FINISHED SURFACE WITHIN THE WARRANTY PERIOD SHALL BE CONSIDERED TO BE A FAILURE OF THE SUBGRADE AND SHALL BE REPAIRED AT NO COST TO THE CITY AND IN A MANNER ACCEPTABLE TO THE CITY.

17. CONTRACTOR SHALL CAREFULLY MAINTAIN BENCHMARKS, PROPERTY CORNERS, MONUMENTS, AND OTHER REFERENCE POINTS. IF SUCH POINTS ARE DISTURBED OR DESTROYED BY THE CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND PAY FOR THEIR REPLACEMENT BY EMPLOYING A PROFESSIONAL LAND SURVEYOR TO RESET PROPERTY CORNERS AND OTHER SUCH MONUMENTS.

18. FINAL CLEANUP – PRIOR TO FINAL ACCEPTANCE AND PAYMENT, THE CONTRACTOR SHALL CLEAN THE WORK SITE AND ADJACENT AREAS OF ANY DEBRIS, DISCARDED ASPHALTIC CONCRETE MATERIAL, OR OTHER ITEMS DISPOSED OF BY THE CONTRACTOR'S PERSONNEL DURING THE PERFORMANCE OF THIS CONTRACT.

19. THE CONTRACTOR SHALL NOTIFY THE CITY OF SHERWOOD 24 HOURS BEFORE STARTING ANY CONSTRUCTION OR RESUMING WORK AFTER SHUTDOWNS, EXCEPT TO NORMAL RESUMPTION OF WORK AFTER HOLIDAYS AND WEEKENDS.

20. HOURS OF WORK SHALL BE LIMITED TO 7 AM TO 6 PM (MONDAY THROUGH FRIDAY). CITY APPROVAL REQUIRED FOR WEEKEND WORK.

21. THE LOCATIONS, DEPTH AND DESCRIPTION OF EXISTING UTILITIES SHOWN ARE COMPILED FROM AVAILABLE RECORDS AND/OR FIELD SURVEYS SUPPLIED BY AKS ENGINEERING, LLC THE ENGINEER OR UTILITY COMPANIES DO NOT GUARANTEE THE ACCURACY OR THE COMPLETENESS OF SUCH RECORDS. NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION. ADDITIONAL UTILITIES MAY EXIST WITHIN THE WORK AREA.

22. CONTRACTOR MUST VERIFY ALL EXISTING UTILITIES FOR BOTH VERTICAL ELEVATION AND HORIZONTAL LOCATION PRIOR TO START OF WORK (POTHOLE BEFORE DIGGING IF NECESSARY). SHOULD CONFLICTS ARISE AND REDESIGN OR RELOCATION OF FACILITIES BE NECESSARY, CONTRACTOR SHALL CONTACT COS AND PROJECT ENGINEER. CHANGES MUST BE APPROVED BY THE PROJECT ENGINEER AND CITY IN ADVANCE OF WORK. CONTRACTOR SHALL COORDINATE THE WORK WITH UTILITY AGENCIES.

23. TRENCHES OUTSIDE OF THE RIGHT-OF-WAY MAY BE BACKFILLED WITH NATIVE MATERIAL IN ACCORDANCE WITH CITY OF SHERWOOD DETAIL.

24. MAINTENANCE OF THE WORK AREA AND CONSTRUCTION ENTRANCE AREAS IS THE RESPONSIBILITY OF THE CONTRACTOR. THE WORK AREA AND CONSTRUCTION ENTRANCES SHALL BE MAINTAINED IN A CLEAN AND SANITARY CONDITION, FREE FROM OBSTRUCTIONS, HAZARDS, DEBRIS, AND TRASH AT ALL TIMES.

25. THE SPREADING OR TRACKING OF MUD AND/OR DEBRIS OR STORAGE OF MATERIAL AND EQUIPMENT OF ANY KIND UPON ANY PUBLIC ROADWAY IS STRICTLY PROHIBITED AND VIOLATION SHALL BE CAUSE FOR IMMEDIATE SUSPENSION OF THE PERMIT. THE PROJECT ENGINEER AND/OR CITY MAY AT ANY TIME ORDER IMMEDIATE CLEAN UP AND STOPPAGE OF WORK TO ACCOMPLISH CLEAN UP.

26. EFFECTIVE EROSION CONTROL IS REQUIRED. EROSION CONTROL DEVICES MUST BE INSTALLED AND MAINTAINED.

27. PROPERTY DISTURBED BY CONSTRUCTION ACTIVITY SHALL BE SEEDED AND RESTORED TO PRE-EXISTING CONDITIONS: SHRUBS, FLOWERS, BARK DUST, EXISTING SIGNS, PAVEMENT MARKINGS, MAILBOXES, ETC. DISTURBED BY CONSTRUCTION ACTIVITY SHALL BE RE-ESTABLISHED, REINSTALLED OR REPLACED, WITH LIKE KIND AND MATERIAL.

28. EFFECTIVE DRAINAGE CONTROL IS REQUIRED. DRAINAGE SHALL BE CONTROLLED WITHIN THE SITE AND SHALL BE ROUTED SO THAT ADJACENT PRIVATE PROPERTY, PUBLIC PROPERTY, AND THE RECEIVING SYSTEM ARE NOT ADVERSELY IMPACTED. THE PROJECT ENGINEER AND/OR CITY MAY AT ANY TIME ORDER CORRECTIVE ACTION AND STOPPAGE OF WORK TO ACCOMPLISH EFFECTIVE DRAINAGE CONTROL.

29. PER CITY OF SHERWOOD STANDARDS, A TEMPORARY HARD-SURFACE PATCH (COLD MIX AC OR HOT MIX BASE PAVING) OR STEEL PLATES SHALL BE PLACED ON/OVER TRENCHES WITHIN EXISTING ROADWAYS AT THE END OF EACH DAY'S WORK. NO TRENCH, ON SITE OR OFF-SITE, SHALL BE LEFT AT ANY TIME IN AN UNSAFE CONDITION. THE CONTRACTOR IS RESPONSIBLE FOR AND IS LIABLE FOR HAZARDS OR DAMAGE RESULTING FROM THE PROSECUTION OF THE WORK.

30. WORK PROVIDED FOR UNDER THE PERMIT SHALL INCLUDE REPAIR OF EXISTING FACILITIES (ROADS, DITCHES, ETC.) AS MAY BE NECESSARY, IN THE PROJECT ENGINEER'S OPINION, TO OVERCOME DETERIORATION OR DAMAGE WHICH OCCURRED IN CONJUNCTION WITH THE WORK AUTHORIZED BY THE PERMIT. CORRECTIVE WORK SHALL BE DONE AT THE CONTRACTOR'S EXPENSE.

31. THE PROJECT ENGINEER MAY, AT THEIR DISCRETION, REQUIRE PROVISION OF TESTS AND OR REPORTS FROM THE CONTRACTOR TO VALIDATE CLAIMS OF MATERIAL OR CONSTRUCTION ADEQUACY/COMPLIANCE. SUCH TESTS/REPORTS SHALL BE PROVIDED AT THE CONTRACTOR'S EXPENSE.

32. THE PERMIT HOLDER SHALL PROVIDE A COPY OF A PROPERLY EXECUTED RELEASE AND WAIVER DOCUMENT TO THE CITY FOR EACH OWNERSHIP DISTURBED BY CONSTRUCTION ACTIVITY, AS EVIDENCE OF DISTURBANCE RESOLUTION AND OWNER SATISFACTION.

33. THE FOLLOWING STANDARD SPECIFICATIONS ARE INCORPORATED BY REFERENCE. ALL MATERIALS SHALL CONFORM TO APPLICABLE REQUIREMENTS OF THE UNIFORM PLUMBING CODE (UPC), INTERNATIONAL BUILDING CODE (IBC), ODOT/AWPA STANDARD SPECIFICATIONS (2008 EDITION), AND THE CITY OF SHERWOOD AND CWS.

34. THE CONTRACTOR IS TO NOTIFY PRIVATE UTILITIES FOR RELOCATION OF STREET LIGHTS, POWER POLES, VAULTS, ETC.

35. THE CONTRACTOR IS TO COORDINATE CONSTRUCTION OF DRY UTILITIES (POWER, TELEPHONE, CABLE AND TELEVISION).

36. POWER, TELEPHONE, CABLE AND TELEVISION TRENCHING AND CONDUITS ARE TO BE INSTALLED PER UTILITY COMPANY REQUIREMENTS WITH PULL WIRE. VERIFY WITH UTILITY COMPANY FOR SIZE AND TYPE OF CONDUIT PRIOR TO CONSTRUCTION.

37. PROJECT ENGINEER RESERVES THE RIGHT TO ADJUST GRADES OR ALIGNMENT TO ACCOMMODATE OTHER UTILITIES AS REQUIRED; SUCH ADJUSTMENTS OR REVISIONS SHALL BE REVIEWED BY THE CITY ENGINEERING STAFF AND APPROVED PRIOR TO COMMENCEMENT OF WORK.

38. PIPE LENGTHS SHOWN ARE APPROXIMATE, FINAL LENGTHS TO BE DETERMINED BY FIELD CONDITIONS.

39. PROPERTY AND RIGHT-OF-WAY LINES SHOWN ARE APPROXIMATE. THESE PLANS ARE NOT MEANT TO SERVE BOUNDARY SURVEY PURPOSES.

40. THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER AND CITY SEVEN (7) DAYS IN ADVANCE OF THE BEGINNING OF CONSTRUCTION.

41. ANY INSPECTION/OBSERVATION BY THE CITY, PROJECT ENGINEER OR PROJECT INSPECTORS SHALL NOT, IN ANY WAY RELIEVE THE CONTRACTOR FROM ANY OBLIGATION TO PERFORM THE WORK IN COMPLIANCE WITH THE APPLICABLE CODES, REGULATIONS, CITY STANDARDS, ENGINEERING PLANS, AND PROJECT CONTRACT DOCUMENTS.

42. THESE PLANS ASSUME THAT CONSTRUCTION STAKING WILL BE NECESSARY TO CONSTRUCT THE IMPROVEMENTS SHOWN. AKS ENGINEERING & FORESTRY LLC. DOES NOT ACCEPT ANY RESPONSIBILITY FOR ITEMS CONSTRUCTED INCORRECTLY BASED ON MISINTERPRETATIONS OF ITEMS SHOWN ON THESE PLANS.

43. CONTRACTOR TO POTHOLE ALL LOCATED UTILITY CROSSINGS (WATER, SANITARY, GAS, COMMUNICATION, ETC.) PRIOR TO ORDERING MANHOLES AND PRIOR TO CONSTRUCTION. THE CITY AND ENGINEER SHALL BE NOTIFIED OF POTENTIAL CONFLICTS AND TIME ALLOWED FOR REDESIGN IF NEEDED. CONTRACTOR SHALL COORDINATE WITH THE CITY REGARDING ANY REQUIRED SERVICE INTERRUPTIONS.

44. A GEOTECHNICAL INVESTIGATION HAS NOT BEEN ACCOMPLISHED FOR THE HORIZONTAL BORE AND UTILITY TRENCHING PORTIONS OF THIS PROJECT. THE ENGINEER NOR THE CITY CLAIM ANY KNOWLEDGE OF THE SUBSURFACE CONDITIONS FOR THIS PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR PERFORMING ANY INVESTIGATIONS DETERMINED NECESSARY PRIOR TO BIDDING AND CONSTRUCTING THIS PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTING THE PROJECT AS SHOWN ON THESE PLANS, INCLUDING ANY ITEMS NECESSARY TO DEAL WITH UNDERGROUND CONDITIONS DISCOVERED DURING CONSTRUCTION.

AKS ENGINEERING AND FORESTRY, LLC
12965 SW HERMAN RD
SUITE 100
TUALATIN, OR 97062
PHONE: 503.563.6151
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AKS ENGINEERING · PLANNING · SURVEYING
FORESTRY · LANDSCAPE ARCHITECTURE

CITY OF SHERWOOD
REGIONAL STORMWATER FACILITY
SHERWOOD OREGON
TAX LOTS 6600, 6801, 7300, 10500 WASHINGTON COUNTY TAX MAP 2S 1 32BC & 32CB

LEGEND AND GENERAL CONSTRUCTION NOTES

DESIGNED BY: PAS
DRAWN BY: PAS/DS
CHECKED BY: AHH
SCALE: AS NOTED
DATE: 06/30/2014

REGISTERED PROFESSIONAL ENGINEER
56539PE
OREGON
JANUARY 15, 2010
ALEXANDER H. HURLEY
RENEWAL DATE: 6/30/15

REVISIONS

JOB NUMBER
3068

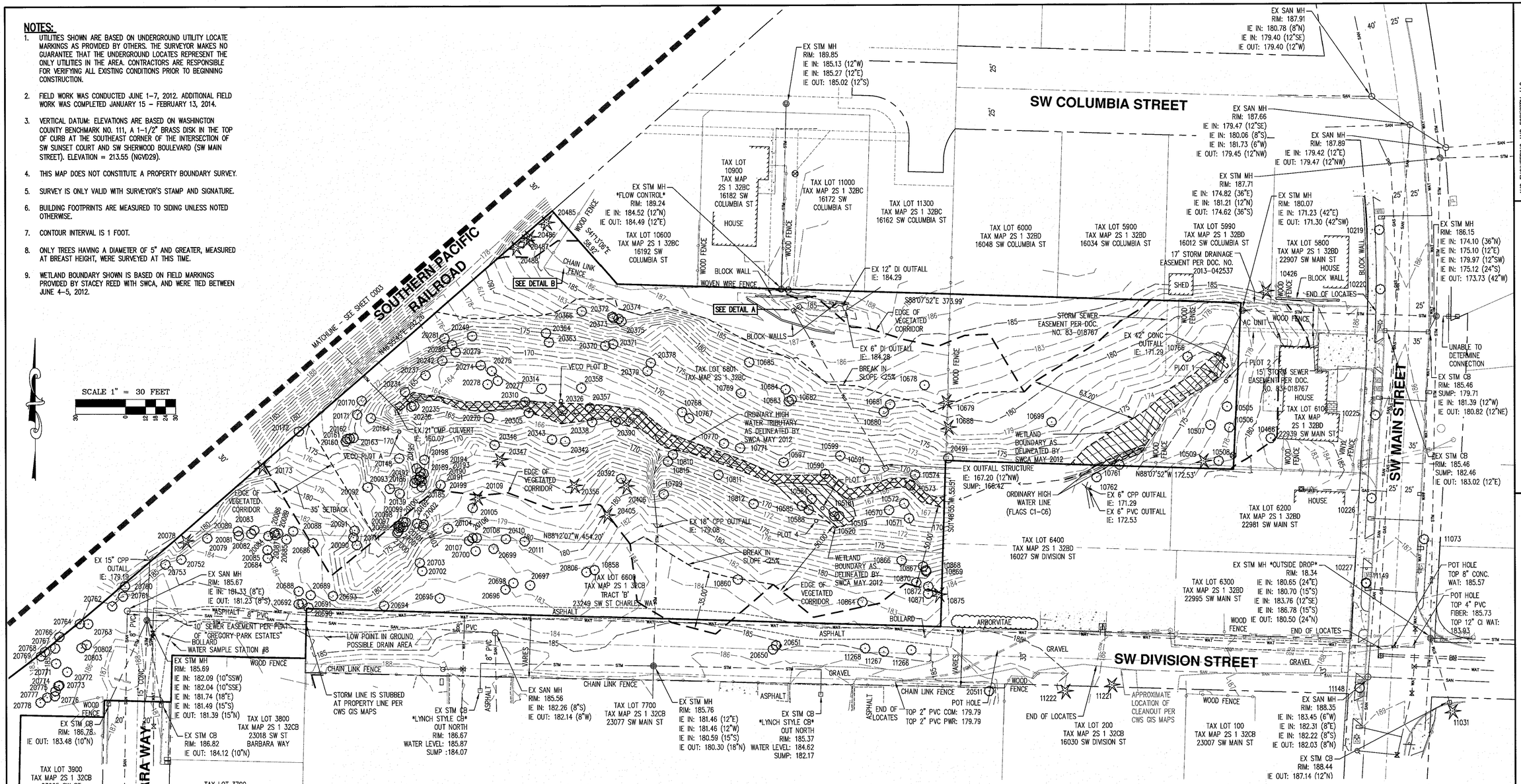
SHEET
C001

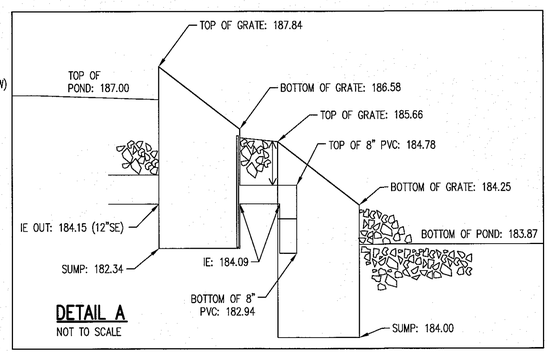
AKS DRAWING FILE: 3068 COVER SHEETS.DWG | LAYOUT: C001

NOTES:

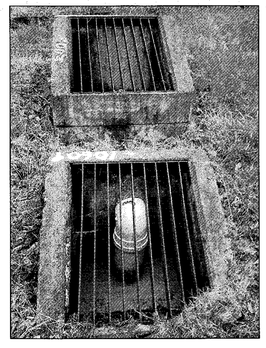
1. UTILITIES SHOWN ARE BASED ON UNDERGROUND UTILITY LOCATE MARKINGS AS PROVIDED BY OTHERS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND LOCATES REPRESENT THE ONLY UTILITIES IN THE AREA. CONTRACTORS ARE RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITIONS PRIOR TO BEGINNING CONSTRUCTION.
2. FIELD WORK WAS CONDUCTED JUNE 1–7, 2012. ADDITIONAL FIELD WORK WAS COMPLETED JANUARY 15 – FEBRUARY 13, 2014.
3. VERTICAL DATUM: ELEVATIONS ARE BASED ON WASHINGTON COUNTY BENCHMARK NO. 111, A 1-1/2" BRASS DISK IN THE TOP OF CURB AT THE SOUTHEAST CORNER OF THE INTERSECTION OF SW SUNSET COURT AND SW SHERWOOD BOULEVARD (SW MAIN STREET). ELEVATION = 213.55 (NGVD29).
4. THIS MAP DOES NOT CONSTITUTE A PROPERTY BOUNDARY SURVEY.
5. SURVEY IS ONLY VALID WITH SURVEYOR'S STAMP AND SIGNATURE.
6. BUILDING FOOTPRINTS ARE MEASURED TO SIDING UNLESS NOTED OTHERWISE.
7. CONTOUR INTERVAL IS 1 FOOT.
8. ONLY TREES HAVING A DIAMETER OF 5" AND GREATER, MEASURED AT BREAST HEIGHT, WERE SURVEYED AT THIS TIME.
9. WETLAND BOUNDARY SHOWN IS BASED ON FIELD MARKINGS PROVIDED BY STACEY REED WITH SWCA, AND WERE TIED BETWEEN JUNE 4–5, 2012.

SCALE 1" = 30 FEET





DETAIL A
NOT TO SCALE



DETAIL B
NOT TO SCALE

TRIBUTARY TO CEDAR CREEK – 2356 SQUARE FEET

WETLAND – 1289 SQUARE FEET

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CITY OF SHERWOOD

REGIONAL STORMWATER FACILITY

SHERWOOD OREGON

TAX LOTS 6600, 6801, 7300, 10500 WASHINGTON COUNTY TAX MAP 2S 1 32BC & 32CB

EXISTING CONDITIONS PLAN AND DETAILS

DESIGNED BY:	MSK
DRAWN BY:	MSK
CHECKED BY:	AHH
SCALE:	AS NOTED

DATE: 06/30/2014

REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON
JULY 15, 2003
ALEXANDER H. HURLEY
56539LS
RENEWS: 6/30/15

REVISIONS

JOB NUMBER 3068

SHEET C002

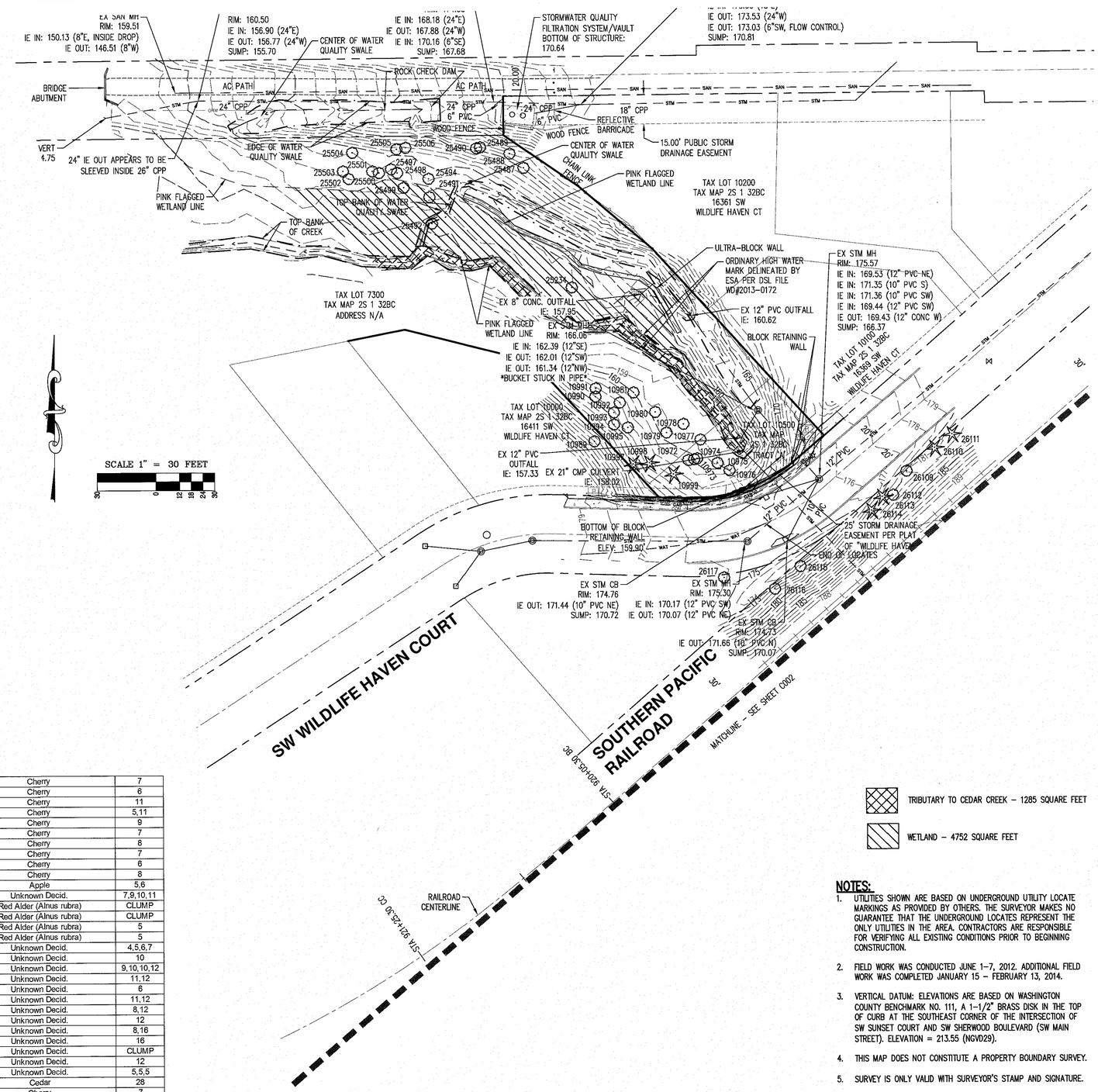
AKS DRAWING FILE: 3068 C002-C004.DWG | LAYOUT: C002

TREE TABLE

TREE NUMBER	SPECIES	DBH (IN.)
10219	Maple	10
10220	Maple	10
10225	Maple	9
10226	Maple	7
10227	Maple	6
10426	Spruce	16
10466	Maple	24
10505	Common Apple (Malus sylvestris)	6,8
10506	Common Apple (Malus sylvestris)	6,6,8
10507	Common Apple (Malus sylvestris)	8,8
10508	Birch (Betula spp.)	15
10509	Pine (Pinus spp.)	6
10518	Willow	5
10519	Willow	10
10520	Willow	11
10570	Aspenen	20
10571	Alder	12
10572	Willow	11
10573	Red Alder (Alnus rubra)	9
10574	Black Cottonwood (Populus trichocarpa)	25
10584	Aspen	14
10585	Aspen	13
10588	Willow	5
10590	Willow	8
10591	Sitka Willow (Salix sitchensis)	11
10597	Aspen	16
10599	Sitka Willow (Salix sitchensis)	5
10678	Common Apple (Malus sylvestris)	8,8,9,11
10679	Douglas-fir (Psuedotsuga menziesii)	12
10680	Sitka Willow (Salix sitchensis)	6
10681	Sitka Willow (Salix sitchensis)	5
10682	Black Cottonwood (Populus trichocarpa)	21
10683	Black Cottonwood (Populus trichocarpa)	14
10684	Black Cottonwood (Populus trichocarpa)	19,21
10685	Cottonwood	18
10688	Douglas-fir (Psuedotsuga menziesii)	7,9
10699	Red Alder (Alnus rubra)	15,16
10761	Red Alder (Alnus rubra)	8
10762	Alder	7
10766	Quaking Aspen (Populus tremuloides)	14
10767	Cottonwood	19
10768	Cottonwood	18
10769	Unknown Decid.	6,6,6,8
10770	Cottonwood	12
10771	Cottonwood	15
10799	Alder	10
10810	Alder	12
10811	Unknown Decid.	18,24
10812	Unknown Decid.	25
10815	Willow	6
10858	Apple	5,5,6
10860	Unknown Decid.	7
10864	Cherry	6
10866	Cherry	11
10867	Cherry	10
10868	Cherry	8
10869	Cherry	8
10870	Cherry	8
10871	Cherry	7
10872	Cherry	7
10875	Cedar	18
10972	Sitka Willow (Salix sitchensis)	9,11
10973	Sitka Willow (Salix sitchensis)	8
10974	Sitka Willow (Salix sitchensis)	7
10975	Sitka Willow (Salix sitchensis)	10
10976	Sitka Willow (Salix sitchensis)	5
10977	Sitka Willow (Salix sitchensis)	5
10978	Sitka Willow (Salix sitchensis)	15
10979	Unknown Decid.	9
10980	Unknown Decid.	6
10981	Alder	5
10989	Cherry	6
10990	Cherry	5
10991	Unknown Decid.	5,6
10992	Cherry	7
10993	Cherry	6
10994	Cherry	7
10995	Unknown Decid.	7
10997	Fir	9
10998	Fir	5
10999	Fir	10
11031	Fir	18
11073	Maple	9
11148	Maple	10
11149	Maple	16
11221	Evergreen	37
11222	Cedar	14
11266	English Hawthorn (Crataegus monogyna)	7
11267	Common Apple (Malus sylvestris)	8
11268	Common Apple (Malus sylvestris)	8,10
20078	Fir	23
20079	Bitter Cherry (Prunus emarginata)	5
20080	Bitter Cherry (Prunus emarginata)	6
20081	Bitter Cherry (Prunus emarginata)	5
20082	Bitter Cherry (Prunus emarginata)	6
20083	Bitter Cherry (Prunus emarginata)	6
20084	Bitter Cherry (Prunus emarginata)	6
20085	Bitter Cherry (Prunus emarginata)	6
20086	Bitter Cherry (Prunus emarginata)	8
20087	Bitter Cherry (Prunus emarginata)	7
20088	Bitter Cherry (Prunus emarginata)	6,7
20089	Bitter Cherry (Prunus emarginata)	5
20090	Bitter Cherry (Prunus emarginata)	8
20091	Bitter Cherry (Prunus emarginata)	6,7
20092	Red Alder (Alnus rubra)	8
20093	Sitka Willow (Salix sitchensis)	10
20096	Sitka Willow (Salix sitchensis)	6
20097	Black Cottonwood (Populus trichocarpa)	6
20098	Sitka Willow (Salix sitchensis)	7
20099	Black Cottonwood (Populus trichocarpa)	8
20100	Black Cottonwood (Populus trichocarpa)	6

20101	Sitka Willow (Salix sitchensis)	5
20102	Bitter Cherry (Prunus emarginata)	5
20103	Bitter Cherry (Prunus emarginata)	5
20104	Cherry	5
20105	Alder	5
20106	Cascara	7
20107	Cherry	5
20108	Cherry	5
20109	Douglas Fir	6
20110	Cherry	17
20111	Cherry	18
20139	Sitka Willow (Salix sitchensis)	8
20148	Sitka Willow (Salix sitchensis)	6,11
20160	Black Cottonwood (Populus trichocarpa)	11
20161	Black Cottonwood (Populus trichocarpa)	8
20162	Black Cottonwood (Populus trichocarpa)	11
20163	Black Cottonwood (Populus trichocarpa)	14
20164	Black Cottonwood (Populus trichocarpa)	16
20170	Black Cottonwood (Populus trichocarpa)	15
20171	Sitka Willow (Salix sitchensis)	5
20172	Bitter Cherry (Prunus emarginata)	5,5,6
20173	Pine	6
20185	Sitka Willow (Salix sitchensis)	7
20186	Black Cottonwood (Populus trichocarpa)	6
20189	Black Cottonwood (Populus trichocarpa)	9
20190	Black Cottonwood (Populus trichocarpa)	7
20191	Black Cottonwood (Populus trichocarpa)	6
20192	Black Cottonwood (Populus trichocarpa)	5
20193	Black Cottonwood (Populus trichocarpa)	6,8
20194	Black Cottonwood (Populus trichocarpa)	12
20195	Black Cottonwood (Populus trichocarpa)	7
20198	Black Cottonwood (Populus trichocarpa)	7
20199	Bitter Cherry (Prunus emarginata)	9
20234	Red Alder (Alnus rubra)	6,6
20235	Sitka Willow (Salix sitchensis)	6
20236	Sitka Willow (Salix sitchensis)	6
20237	Black Cottonwood (Populus trichocarpa)	22
20242	Red Alder (Alnus rubra)	6
20249	Willow	5
20270	Willow	5,6
20274	Cottonwood	11
20275	Willow	12
20277	Willow	14
20278	Willow	6,6,7
20279	Sitka Willow (Salix sitchensis)	5
20280	Sitka Willow (Salix sitchensis)	5,6
20281	Sitka Willow (Salix sitchensis)	7
20305	Alder	12
20310	Alder	6,7
20314	Cottonwood	17
20326	Alder	11
20338	Willow	5,7,9,12,13
20342	Willow	5
20343	Willow	5
20346	Cherry	7
20347	Douglas Fir	5
20356	Douglas Fir	6
20357	Alder	5
20358	Cottonwood	22
20363	Willow	5,5
20364	Willow	5
20366	Cottonwood	6,8
20370	Cottonwood	8
20371	Cottonwood	16
20372	Cottonwood	11
20373	Cottonwood	5
20374	Cottonwood	14
20375	Cottonwood	9,19
20378	Cottonwood	11
20379	Cottonwood	5
20390	Willow	5,9,10,13,14
20392	Cherry	5
20405	Douglas Fir	5
20406	Douglas Fir	5
20485	Pine	8,8
20486	Pine	8
20487	Pine	8,10
20488	Pine	8
20491	Common Apple (Malus sylvestris)	5
20511	Birch	10,14
20650	Common Apple (Malus sylvestris)	6
20651	Common Apple (Malus sylvestris)	6
20684	Bitter Cherry (Prunus emarginata)	8
20685	Bitter Cherry (Prunus emarginata)	7
20686	Bitter Cherry (Prunus emarginata)	7
20688	Oregon Ash (Fraxinus latifolia)	9
20689	Oregon Ash (Fraxinus latifolia)	24,24
20690	Bitter Cherry (Prunus emarginata)	8
20691	Bitter Cherry (Prunus emarginata)	8
20692	Bitter Cherry (Prunus emarginata)	9
20693	Bitter Cherry (Prunus emarginata)	10
20694	Apple	13
20695	Cherry	6
20696	Cherry	7
20697	Cherry	6
20698	Cherry	6
20699	Cherry	7
20700	Cherry	6
20702	Cherry	6
20703	Cherry	6
20711	Bitter Cherry (Prunus emarginata)	6,10
20752	Bitter Cherry (Prunus emarginata)	7,8
20753	Bitter Cherry (Prunus emarginata)	5,8
20760	Maple	7
20761	Maple	0
20762	Maple	17,17,18
20763	Maple	13,36
20764	Maple	8
20766	Cherry	5,7
20767	Cherry	6
20768	Cherry	6
20769	Cherry	9,10

20771	Cherry	7
20772	Cherry	6
20773	Cherry	11
20774	Cherry	5,11
20775	Cherry	9
20776	Cherry	7
20777	Cherry	8
20778	Cherry	7
20802	Cherry	6
20803	Cherry	8
20806	Apple	5,6
25234	Unknown Decid.	7,9,10,11
25487	Red Alder (Alnus rubra)	CLUMP
25488	Red Alder (Alnus rubra)	CLUMP
25489	Red Alder (Alnus rubra)	5
25490	Red Alder (Alnus rubra)	5
25491	Unknown Decid.	4,5,6,7
25492	Unknown Decid.	10
25494	Unknown Decid.	9,10,10,12
25497	Unknown Decid.	11,12
25498	Unknown Decid.	6
25499	Unknown Decid.	11,12
25500	Unknown Decid.	8,12
25501	Unknown Decid.	12
25502	Unknown Decid.	8,16
25503	Unknown Decid.	16
25504	Unknown Decid.	CLUMP
25505	Unknown Decid.	12
25506	Unknown Decid.	5,5,5
26114	Cedar	28
26112	Cherry	7
26116	Cherry	10
26117	Maple	10
26113	Pine	6
26110	Pine	9
26111	Pine	13
26115	Unknown Decid.	10
26109	Unknown Decid.	30
27000	Black Cottonwood (Populus trichocarpa)	5
27001	Black Cottonwood (Populus trichocarpa)	5
27002	Bitter Cherry (Prunus emarginata)	5



TRIBUTARY TO CEDAR CREEK – 1285 SQUARE FEET

WETLAND – 4752 SQUARE FEET

NOTES:

1. UTILITIES SHOWN ARE BASED ON UNDERGROUND UTILITY LOCATE MARKINGS AS PROVIDED BY OTHERS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND LOCATES REPRESENT THE ONLY UTILITIES IN THE AREA. CONTRACTORS ARE RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITIONS PRIOR TO BEGINNING CONSTRUCTION.
2. FIELD WORK WAS CONDUCTED JUNE 1–7, 2012. ADDITIONAL FIELD WORK WAS COMPLETED JANUARY 15 – FEBRUARY 13, 2014.
3. VERTICAL DATUM: ELEVATIONS ARE BASED ON WASHINGTON COUNTY BENCHMARK NO. 111, A 1-1/2" BRASS DISK IN THE TOP OF CURB AT THE SOUTHEAST CORNER OF THE INTERSECTION OF SW SUNSET COURT AND SW SHERWOOD BOULEVARD (SW MAIN STREET). ELEVATION = 213.55 (NGVD29).
4. THIS MAP DOES NOT CONSTITUTE A PROPERTY BOUNDARY SURVEY.
5. SURVEY IS ONLY VALID WITH SURVEYOR'S STAMP AND SIGNATURE.
6. BUILDING FOOTPRINTS ARE MEASURED TO SIDING UNLESS NOTED OTHERWISE.
7. CONTOUR INTERVAL IS 1 FOOT.
8. ONLY TREES HAVING A DIAMETER OF 5" AND GREATER, MEASURED AT BREAST HEIGHT, WERE SURVEYED AT THIS TIME.
9. WETLAND BOUNDARY SHOWN IS BASED ON FIELD MARKINGS PROVIDED BY STACEY REED WITH SWCA, AND WERE TIED BETWEEN JUNE 4–5, 2012.

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CITY OF SHERWOOD

REGIONAL STORMWATER FACILITY

SHERWOOD OREGON

WASHINGTON COUNTY TAX MAP 2S 1 32BC & 32CB

TAX LOTS 6600, 6801, 7300, 10500

EXISTING CONDITIONS PLAN AND DETAILS

DESIGNED BY:	MSK
DRAWN BY:	MSK
CHECKED BY:	AHH
SCALE:	AS NOTED

DATE: 06/30/2014

REGISTERED PROFESSIONAL LAND SURVEYOR

OREGON
JULY 15, 2003
ALEXANDER H. HURLEY
56539LS

RENEWS: 6/30/15

REVISIONS

JOB NUMBER
3068

SHEET
C003

AKS DRAWING FILE: 3068 C002-C004.DWG | LAYOUT: C003

LEGEND

- EXISTING GROUND CONTOUR (1 FT)
- EXISTING GROUND CONTOUR (5 FT) — 200
- FINISHED GRADE CONTOUR (1 FT)
- FINISHED GRADE CONTOUR (5 FT) — 200
- EXISTING CONIFEROUS TREE
- EXISTING DECIDUOUS TREE
- TREE REMOVAL
- TREE PROTECTION FENCE
- ORANGE SEDIMENT FENCE (ALSO SERVING AS TREE PROTECTION FENCE)

SCALE 1" = 30 FEET

30 0 12 18 24 30

MATCHLINE - SEE SHEET C031

SOUTHERN PACIFIC RAILROAD

TAX LOT 10600
TAX MAP 2S 1 32BC
16192 SW
COLUMBIA ST

TAX LOT
10900
TAX MAP
2S 1 32BC
16182 SW
COLUMBIA ST
HOUSE

TAX LOT 11000
TAX MAP 2S 1 32BC
16172 SW
COLUMBIA ST

TAX LOT 11300
TAX MAP 2S 1 32BC
16162 SW COLUMBIA ST

TAX LOT 6000
TAX MAP 2S 1 32BD
16048 SW COLUMBIA ST

TAX LOT 5900
TAX MAP 2S 1 32BD
16034 SW COLUMBIA ST

TAX LOT 5990
TAX MAP 2S 1 32BD
16012 SW COLUMBIA ST

TAX LOT 5800
TAX MAP 2S 1 32BD
22907 SW MAIN ST
HOUSE

WATER QUALITY FACILITY ACCESS ROAD

SHED

VEGETATED WATER QUALITY SWALE

HOUSE
TAX LOT 6100
TAX MAP
2S 1 32BD
22939 SW MAIN ST

SW MAIN STREET

TAX LOT 6200
TAX MAP 2S 1 32BD
22981 SW MAIN ST
HOUSE

TAX LOT 6400
TAX MAP 2S 1 32BD
16027 SW DIVISION ST

TAX LOT 6300
TAX MAP 2S 1 32BD
22995 SW MAIN ST

TAX LOT 6800
TAX MAP 2S 1 32BC

TAX LOT 6600
TAX MAP 2S 1 32CB
TRACT 'B'
23249 SW ST CHARLES WAY

STAGING AREA

STAGING AREA

PROPOSED MAINTENANCE ACCESS ROAD

ACCESS ROAD TURN-AROUND

BOLLARD

ARBORVITAE

DISTURBANCE BOUNDARY

SW DIVISION STREET

TAX LOT 7700
TAX MAP 2S 1 32CB
23077 SW MAIN ST

TAX LOT 3800
TAX MAP 2S 1 32CB
23018 SW ST
BARBARA WAY

TAX LOT 3900
TAX MAP 2S 1 32CB
23005 SW ST
CHARLES WAY

TAX LOT 3700
TAX MAP 2S 1 32CB
23036 SW ST
BARBARA WAY

SW ST BARBARA WAY

TAX LOT 200
TAX MAP 2S 1 32CB
16030 SW DIVISION ST

TAX LOT 100
TAX MAP 2S 1 32CB
23007 SW MAIN ST

NOTES:

- THE CONTRACTOR SHALL CUT TREES TO A HEIGHT OF APPROXIMATELY 12 INCHES. WHERE IMPROVEMENTS ARE SHOWN, STUMPS SHALL BE REMOVED COMPLETELY. FOR TREES REMOVED OUTSIDE OF IMPROVEMENT AREAS, STUMPS SHALL BE LEFT IN PLACE. STUMPS SHALL BE GROUND WHEN NECESSARY SO AS NOT TO CAUSE DAMAGE TO ROOT ZONES OF ADJACENT TREES TO BE PRESERVED.
- WHEN DIGGING UTILITY TRENCHES NEAR TREES TO BE RETAINED, CONSULT WITH PROJECT ARBORIST TO ENSURE TREES SURVIVAL.
- SEDIMENT FENCE ALSO SERVES AS TREE PROTECTION FENCE.

CERTIFIED ARBORIST

BRUCE R. BALDWIN
CERTIFICATE NUMBER: PN-6669A
EXPIRATION DATE: 12/31/14

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CITY OF SHERWOOD

REGIONAL STORMWATER FACILITY

SHERWOOD OREGON

TAX LOTS 6600, 6801, 7300, 10500 WASHINGTON COUNTY TAX MAP 2S 1 32BC & 32CB

TREE PRESERVATION AND REMOVAL PLAN

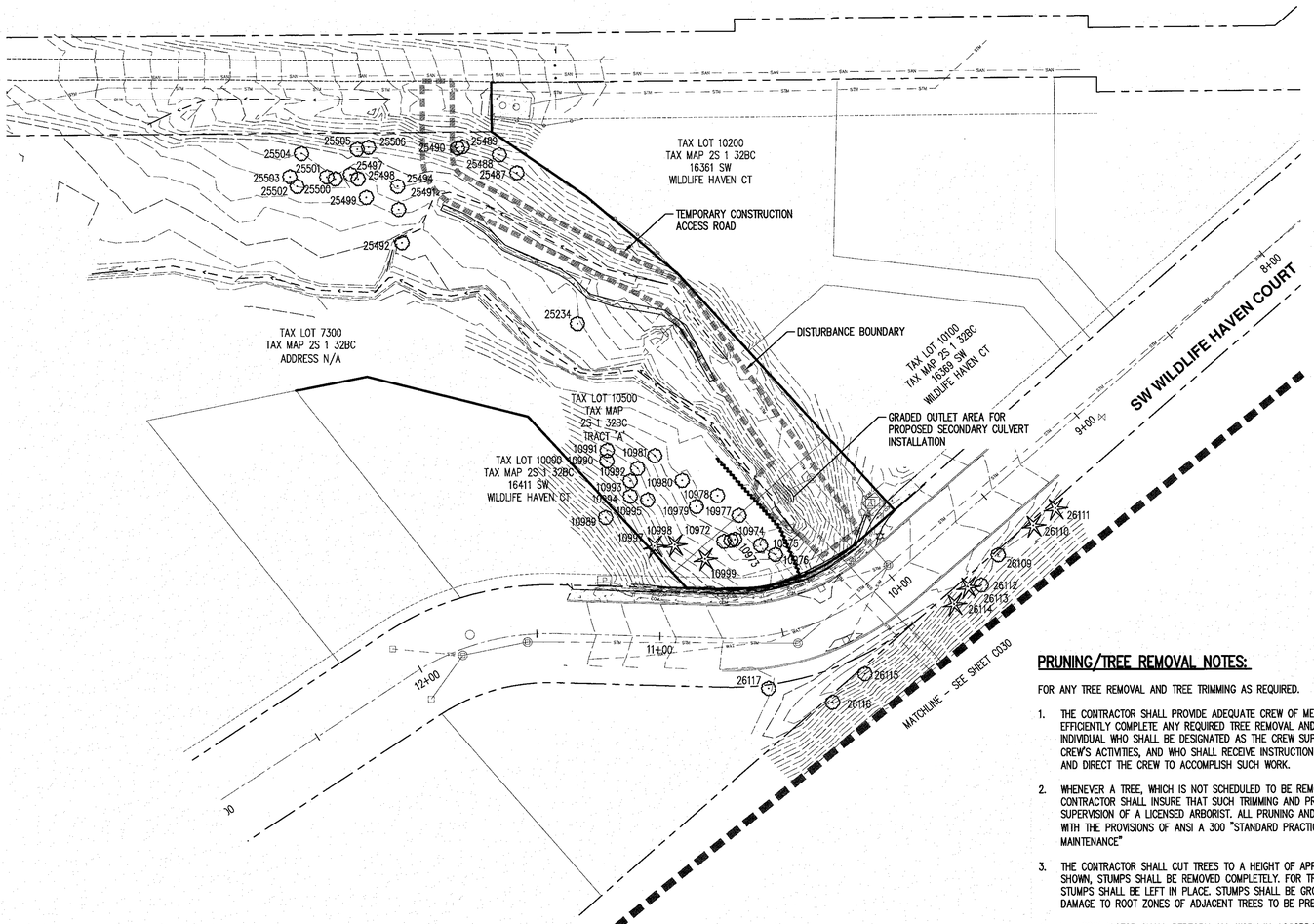
DESIGNED BY:	BRB/PAS
DRAWN BY:	PAS
CHECKED BY:	BRB
SCALE:	AS NOTED
DATE:	06/30/2014

REVISIONS

JOB NUMBER 3068

SHEET C030

AKS DRAWING FILE: 3068 C030 - C031.DWG | LAYOUT: C030



SCALE 1" = 30 FEET

30 0 12 18 24 30

LEGEND

- EXISTING GROUND CONTOUR (1 FT)
- EXISTING GROUND CONTOUR (5 FT) — 200
- FINISHED GRADE CONTOUR (1 FT)
- FINISHED GRADE CONTOUR (5 FT) — 200
- EXISTING CONIFEROUS TREE
- EXISTING DECIDUOUS TREE
- TREE REMOVAL
- TREE PROTECTION FENCE
- ORANGE SEDIMENT FENCE (ALSO SERVING AS TREE PROTECTION FENCE)

TREE PRESERVATION NOTES

A. NO CHANGES SHALL BE MADE TO ANY ASPECT OF THE APPROVED TREE PRESERVATION AND REMOVAL PLAN WITHOUT WRITTEN CONSENT FROM THE PROJECT ARBORIST AND THE CITY.

B. TIMELINE FOR CLEARING, GRADING, AND INSTALLATION OF TREE PROTECTION MEASURES. TREE PROTECTION SHALL BE INSTALLED PRIOR TO ANY GROUND DISTURBANCE WORK.

C. PLACING MATERIALS NEAR TREES. NO PERSON MAY CONDUCT ANY ACTIVITY WITHIN THE PROTECTED AREA OF ANY TREE DESIGNATED TO REMAIN, INCLUDING, BUT NOT LIMITED TO, PARKING EQUIPMENT, PLACING SOLVENTS, STORING BUILDING MATERIAL AND SOIL DEPOSITS, DUMPING CONCRETE WASHOUT AND LOCATING BURN HOLES.

D. ATTACHMENTS TO TREES. DURING CONSTRUCTION, NO PERSON SHALL ATTACH ANY OBJECT TO ANY TREE DESIGNATED FOR PROTECTION.

E. PROTECTIVE BARRIER. BEFORE DEVELOPMENT, LAND CLEARING, FILLING OR ANY LAND ALTERATION FOR WHICH A TREE REMOVAL PERMIT IS REQUIRED, THE CONTRACTOR:

1. SHALL ERECT AND MAINTAIN READILY VISIBLE PROTECTIVE TREE FENCING ALONG THE OUTER EDGE AND COMPLETELY SURROUNDING THE PROTECTED AREA OF ALL PROTECTED TREES OR GROUPS OF TREES.
2. MAY BE REQUIRED TO COVER WITH MULCH TO A DEPTH OF AT LEAST SIX (6) INCHES OR WITH PLYWOOD OR SIMILAR MATERIAL THE AREAS ADJOINING THE CRITICAL ROOT ZONE OF A TREE IN ORDER TO PROTECT ROOTS FROM DAMAGE CAUSED BY HEAVY EQUIPMENT.
3. SHALL PROHIBIT EXCAVATION OR COMPACTING OF EARTH OR OTHER POTENTIALLY DAMAGING ACTIVITIES WITHIN THE BARRIERS.
4. MAY BE REQUIRED TO MINIMIZE ROOT DAMAGE BY EXCAVATION OF A TWO (2) FOOT DEEP TRENCH, AT EDGE OF DISTURBANCE WITHIN THE CRITICAL ROOT ZONE, TO CLEANLY SEVER THE ROOTS OF TREES TO BE RETAINED.
5. MAY BE REQUIRED TO HAVE CORRECTIVE PRUNING PERFORMED ON PROTECTED TREES IN ORDER TO AVOID DAMAGE FROM MACHINERY OR BUILDING ACTIVITY OR MAY BE REQUIRED TO MAINTAIN TREES THROUGHOUT CONSTRUCTION PERIOD BY WATERING AND FERTILIZING.
6. SHALL MAINTAIN THE PROTECTIVE BARRIERS IN PLACE UNTIL THE PROJECT ARBORIST AUTHORIZES THEIR REMOVAL OR A FINAL CERTIFICATE OF COMPLETION IS ISSUED, WHICHEVER OCCURS FIRST.
7. SHALL ENSURE THAT ANY LANDSCAPING DONE IN THE PROTECTED ZONE SUBSEQUENT TO THE REMOVAL OF THE BARRIERS SHALL BE ACCOMPLISHED WITH LIGHT MACHINERY OR HAND LABOR.

D. GRADE

1. THE GRADE SHALL NOT BE ELEVATED OR REDUCED WITHIN THE CRITICAL ROOT ZONE OF TREES TO BE PRESERVED WITHOUT THE PROJECT ARBORIST'S AUTHORIZATION. THE PROJECT ARBORIST MAY ALLOW COVERAGE OF UP TO ONE HALF OF THE AREA OF THE TREE'S CRITICAL ROOT ZONE WITH LIGHT SOILS (NO CLAY) TO THE MINIMUM DEPTH NECESSARY TO CARRY OUT GRADING OR LANDSCAPING PLANS, IF IT WILL NOT IMPERIL THE SURVIVAL OF THE TREE. AERATION DEVICES MAY BE REQUIRED TO ENSURE THE TREE'S SURVIVAL.
2. IF THE GRADE ADJACENT TO A PRESERVED TREE IS RAISED SUCH THAT IT COULD SLOUGH OR ERODE INTO THE TREE'S CRITICAL ROOT ZONE, IT SHALL BE PERMANENTLY STABILIZED TO PREVENT SUFFOCATION OF THE ROOTS.
3. THE APPLICANT SHALL NOT INSTALL AN IMPERVIOUS SURFACE WITHIN THE CRITICAL ROOT ZONE OF ANY TREE TO BE RETAINED WITHOUT THE AUTHORIZATION OF THE PROJECT ARBORIST. THE PROJECT ARBORIST MAY REQUIRE SPECIFIC CONSTRUCTION METHODS AND/OR USE OF AERATION DEVICES TO ENSURE THE TREE'S SURVIVAL AND TO MINIMIZE THE POTENTIAL FOR ROOT INDUCED DAMAGE TO THE IMPERVIOUS SURFACE.
4. TO THE GREATEST EXTENT PRACTICAL, UTILITY TRENCHES SHALL BE LOCATED OUTSIDE OF THE CRITICAL ROOT ZONE OF TREES TO BE RETAINED. THE PROJECT ARBORIST MAY REQUIRE THAT UTILITIES BE TUNNELED UNDER THE ROOTS OF TREES TO BE RETAINED IF THE PROJECT ARBORIST DETERMINES THAT TRENCHING WOULD SIGNIFICANTLY REDUCE THE CHANCES OF THE TREE'S SURVIVAL.
5. TREES AND OTHER VEGETATION TO BE RETAINED SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION. CLEARING OPERATIONS SHALL BE CONDUCTED SO AS TO EXPOSE THE SMALLEST PRACTICAL AREA OF SOIL TO EROSION FOR THE LEAST POSSIBLE TIME. TO CONTROL EROSION, SHRUBS, GROUND COVER AND STUMPS SHALL BE MAINTAINED, WHERE FEASIBLE. WHERE NOT FEASIBLE, APPROPRIATE EROSION CONTROL PRACTICES SHALL BE IMPLEMENTED.

E. DIRECTIONAL FELLING. DIRECTIONAL FELLING OF TREES SHALL BE USED TO AVOID DAMAGE TO TREES DESIGNATED FOR RETENTION.

F. ADDITIONAL REQUIREMENTS. THE PROJECT ARBORIST MAY REQUIRE ADDITIONAL TREE PROTECTION MEASURES WHICH ARE CONSISTENT WITH ACCEPTED URBAN FORESTRY PRACTICES.

G. AT THE COMPLETION OF CONSTRUCTION, ALL TREES SHOULD ONCE AGAIN BE REVIEWED TO EVALUATE THEIR CONDITION. LAND CLEARING AND REMOVAL OF ADJACENT TREES CAN EXPOSE PREVIOUSLY UNSEEN DEFECTS AND OTHERWISE HEALTHY TREES CAN BE DAMAGED DURING CONSTRUCTION.

PRUNING/TREE REMOVAL NOTES:

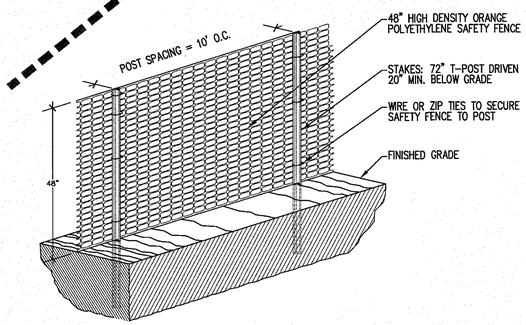
FOR ANY TREE REMOVAL AND TREE TRIMMING AS REQUIRED.

1. THE CONTRACTOR SHALL PROVIDE ADEQUATE CREW OF MEN, EQUIPMENT AND MATERIALS TO SAFELY AND EFFICIENTLY COMPLETE ANY REQUIRED TREE REMOVAL AND TREE TRIMMING. EACH SUCH CREW SHALL INCLUDE AN INDIVIDUAL WHO SHALL BE DESIGNATED AS THE CREW SUPERVISOR, WHO SHALL BE RESPONSIBLE FOR THE CREW'S ACTIVITIES, AND WHO SHALL RECEIVE INSTRUCTION FROM THE OWNER OR THE OWNER'S REPRESENTATIVE AND DIRECT THE CREW TO ACCOMPLISH SUCH WORK.
2. WHENEVER A TREE, WHICH IS NOT SCHEDULED TO BE REMOVED, MUST BE TRIMMED OR PRUNED, THE CONTRACTOR SHALL INSURE THAT SUCH TRIMMING AND PRUNING IS CARRIED OUT UNDER THE DIRECT SUPERVISION OF A LICENSED ARBORIST. ALL PRUNING AND TRIMMING SHALL BE PERFORMED IN ACCORDANCE WITH THE PROVISIONS OF ANSI A 300 "STANDARD PRACTICES FOR TREE, SHRUB AND OTHER WOODY PLANT MAINTENANCE"
3. THE CONTRACTOR SHALL CUT TREES TO A HEIGHT OF APPROXIMATELY 12 INCHES. WHERE IMPROVEMENTS ARE SHOWN, STUMPS SHALL BE REMOVED COMPLETELY. FOR TREES REMOVED OUTSIDE OF IMPROVEMENT AREA, STUMPS SHALL BE LEFT IN PLACE. STUMPS SHALL BE GROUND WHEN NECESSARY SO AS NOT TO CAUSE DAMAGE TO ROOT ZONES OF ADJACENT TREES TO BE PRESERVED.
4. THE CONTRACTOR SHALL PERFORM ALL WORK IN ACCORDANCE WITH THE LATEST GOVERNMENTAL SAFETY REGULATIONS. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ANSI Z133.1 "PRUNING, TRIMMING, REPAIRING, MAINTAINING AND REMOVING TREES AND CUTTING BRUSH–SAFETY REQUIREMENTS" WITH SPECIAL EMPHASIS GIVEN TO THE REQUIREMENT THAT ONLY QUALIFIED LINE–CLEARANCE TREE TRIMMERS BE ASSIGNED TO WORK WHERE A POTENTIAL ELECTRICAL HAZARD EXISTS.
5. THE CONTRACTOR SHALL MAKE ALL THE NECESSARY ARRANGEMENTS WITH ANY UTILITY THAT MUST BE PROTECTED OR RELOCATED IN ORDER TO ACCOMPLISH THE WORK. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE PROTECTION OF THE OPERATING CONDITION OF ALL ACTIVE UTILITIES WITHIN THE AREA OF CONSTRUCTION AND HE SHALL TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO EXISTING UTILITIES.
6. ANY MATERIAL RESULTING FROM THE TRIMMING OR REMOVAL OF ANY TREES SHALL BECOME THE RESPONSIBILITY OF THE CONTRACTOR TO DISPOSE OF (WITH THE EXCEPTION OF MERCHANTABLE LOGS).
7. HAZARDOUS TREES–REPORTING – ANY PERSON ENGAGED IN TRIMMING OR PRUNING WHO BECOMES AWARE OF A TREE OF DOUBTFUL STRENGTH, THAT COULD BE DANGEROUS TO PERSONS AND PROPERTY, SHALL REPORT SUCH TREE(S) TO THE OWNER OR THE OWNERS REPRESENTATIVE. SUCH TREES SHALL INCLUDE THOSE THAT ARE OVERMATURE, DISEASED, OR SHOWING SIGNS OF DECAY.
8. DAMAGES–ANY DAMAGE CAUSED BY THE CONTRACTOR, INCLUDING, BUT NOT LIMITED TO, BROKEN SIDEWALK, CURB, RUTTED LAWN, BROKEN WATER SHUT–OFFS, WIRE DAMAGE, BUILDING DAMAGE, STREET DAMAGE, ETC., WILL BE REPAIRED OR REPLACED IN A TIMELY MANNER, TO THE OWNER'S SATISFACTION, AND ALL COSTS PAID BY THE CONTRACTOR.
9. ANY BRUSH CLEARING REQUIRED WITHIN THE TREE PROTECTION ZONE SHALL BE ACCOMPLISHED WITH HAND OPERATED EQUIPMENT.
10. TREES TO BE REMOVED SHALL BE FELLED SO AS TO FALL AWAY FROM TREE PROTECTION ZONES AND TO AVOID PULLING AND BREAKING OF ROOTS TO REMAIN.
11. ALL DOWNED BRUSH AND TREES SHALL BE REMOVED FROM THE TREE PROTECTION ZONE EITHER BY HAND OR WITH EQUIPMENT SITTING OUTSIDE THE TREE PROTECTION ZONE. EXTRACTION SHALL OCCUR BY LIFTING THE MATERIAL OUT, NOT BY SKIDDING IT ACROSS THE GROUND.
12. IF TEMPORARY HAUL OR ACCESS ROADS MUST PASS OVER THE ROOT AREA OF TREES TO BE RETAINED A ROADBED OF 6 INCHES OF MULCH SHALL BE CREATED TO PROTECT THE SOIL. THE ROADBED MATERIAL SHALL BE REPLENISHED AS NECESSARY TO MAINTAIN A 6–INCH DEPTH.
13. PRUNING (IF APPLICABLE). TREES SHALL BE PRUNED PRIOR TO THE START OF CONSTRUCTION. TREES SHALL BE CROWN CLEANED TO REMOVE THE DEADWOOD 2 INCHES IN DIAMETER AND OVER. TREES SHALL BE CROWN THINNED BY 10–20%. CROWNS MAY BE RAISED BY REMOVING BOTTOM BRANCHES AS NECESSARY UP TO 14 FEET HIGH TO GIVE CLEARANCE FOR ANY CONSTRUCTION TRAFFIC, ACTIVITIES, ETC. ALL WORK TO BE DONE IN ACCORDANCE WITH ANSI A300 PRUNING STANDARDS.
14. CUT BRANCHES AND ROOTS WITH SHARP PRUNING INSTRUMENTS THAT DO NOT CHOP OR TEAR.

ROOT PROTECTION ZONE NOTES

ENCROACHMENT INTO THE ROOT PROTECTION ZONE IS ALLOWED WITH PROJECT ARBORIST APPROVAL AS DESCRIBED IN THE FOLLOWING NOTES:

1. EXCAVATION IN THE TOP 24" OF THE SOIL IN THE CRITICAL ROOT ZONE AREA (CRITICAL ROOT ZONE IS DEFINED AS THE AREA FORMED BY A RADIUS LENGTH OF 1' RADIUS FOR EVERY 1" DBH) SHOULD START BEHIND THE EXCAVATION LINE THAT IS CLOSEST TO THE TREE.
2. THE EXCAVATION SHOULD BE DONE BY HAND/SHOVEL OR WITH A BACKHOE AND A MAN WITH A SHOVEL, PRUNING SHEARS, AND A PRUNING SAW.
3. IF DONE BY HAND, ALL ROOTS 1" OR LARGER SHOULD BY PRUNED AT THE EXCAVATION LINE.
4. IF DONE WITH AN EXCAVATOR (MOST LIKELY SCENARIO), THEN THE OPERATOR SHALL START THE CUT AT THE EXCAVATION LINE AND CAREFULLY "FEEL" FOR ROOTS/RESISTANCE. WHEN THERE IS RESISTANCE, THE MAN WITH THE SHOVEL HAND DIGS AROUND THE ROOTS AND PRUNES THE ROOTS LARGER THAN 1" DIAMETER.
5. THE EXCAVATOR IS TO REMAIN OFF OF THE TREE ROOTS TO BE PRESERVED AT ALL TIMES.
6. ALL ROOTS SHALL BE CUT CLEANLY WITH PRUNING SHEARS OR A PRUNING SAW.
7. PROJECT ARBORIST SHALL BE ON SITE DURING EXCAVATION WITHIN THE CRITICAL ROOT ZONE AREA OF TREES TO BE PRESERVED.



1. BOUNDARIES OF PROTECTION AREA WILL BE ESTABLISHED IN THE FIELD BY THE ARBORIST PRIOR TO CONSTRUCTION.
2. AVOID DAMAGE TO CRITICAL ROOT ZONE. DO NOT DAMAGE OR SEVER LARGE ROOTS WHEN INSTALLING POSTS.
3. SAFETY FENCE SHALL BE FASTENED SECURELY TO THE T–POSTS.
4. THE FENCING MUST REMAIN IN PLACE DURING ALL PHASES OF CONSTRUCTION; ANY CHANGE OF THE PROTECTIVE FENCING MUST BE APPROVED.

TREE PROTECTION FENCE DETAIL

NOT TO SCALE

CERTIFIED ARBORIST

BRUCE R. BALDWIN
CERTIFICATE NUMBER: PN–6666A
EXPIRATION DATE: 12/31/14

AKS ENGINEERING AND FORESTRY, LLC
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ENGINEERING · PLANNING · SURVEYING
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CITY OF SHERWOOD

REGIONAL STORMWATER FACILITY

SHERWOOD OREGON

TAX LOTS 6600, 6801, 7300, 10500 WASHINGTON COUNTY TAX MAP 2S 1 32BC & 32DB

TREE PRESERVATION AND REMOVAL PLAN

DESIGNED BY:	BRB/PAS
DRAWN BY:	PAS
CHECKED BY:	BRB
SCALE:	AS NOTED
DATE: 06/30/2014	

REVISIONS

JOB NUMBER 3068

SHEET C031

AKS DRAWING FILE: 3068 C030 - C031.DWG | LAYOUT: C031

Detailed Tree Inventory for Columbia St. Water Quality Facility

NO. 3068

Tree #	Total DBH (in.)	Tree Species Common Name (*Scientific name*)	Condition/Comments	Hazard Rating 1-4*	Wind-throw Rating**	Remove / Preserve
10219	10	Maple	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
10220	10	Maple	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
10225	9	Maple	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
10226	7	Maple	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
10227	6	Maple	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
10426	16	Spruce	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
10466	24	Maple	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
10505	6,8	Common Apple (*Malus sylvestris*)	Heavy Lean; Codominant; Crooked; Health appears Okay (Could not gain direct access to tree - Arborized from afar)	2	B	Remove
10506	6,6,8	Common Apple (*Malus sylvestris*)	Codominant; Existing house could be potential target; Health appears Okay (Could not gain direct access to tree - Arborized from afar)	2	B	Remove
10507	8,8	Common Apple (*Malus sylvestris*)	Codominant; Included Bark; Bark Flares Near Base; Health Okay (Could not gain direct access to tree - Arborized from afar)	1	B	Remove
10508	15	Birch (*Betula spp.*)	Long Sweep; Dead Top; Slight Lean Over Fence; Appear to be Scars Trunk (Could not gain direct access to tree - Arborized from afar)	3	C	Preserve
10509	6	Pine (*Pinus spp.*)	Ivy Starting to Climb Trunk; Slight Lean Over Fence; Crook in Top; Healthy (Could not gain direct access to tree - Arborized from afar)	1	A	Preserve
10518	5	Willow	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
10519	10	Willow	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
10520	11	Willow	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
10570	20	Aspenen	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
10571	12	Alder	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
10572	11	Willow	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
10573	9	Red Alder (*Alnus rubra*)	Tree Undercut by Stream/Exposed Roots; Slight Scarring Near Base; Overall Health Okay	2	B	Preserve
10574	25	Black Cottonwood (*Populus trichocarpa*)	Exposed Roots; Moderate Lean; Heavy Epicormic Branching; Slight Sweep; Health Okay	2	B	Preserve
10584	14	Aspen	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
10585	13	Aspen	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
10588	5	Willow	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
10590	8	Willow	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
10591	11	Sitka Willow (*Salix sitchensis*)	Codominant; Included Bark; Crooked; Overall Health Okay	1	B	Preserve
10597	16	Aspen	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
10599	5	Sitka Willow (*Salix sitchensis*)	Slightly Crooked; Good Health	1	B	Preserve
10678	8,8,9,11	Common Apple (*Malus sylvestris*)	Codominant; Included Bark; Moderate Scarring; Okay Health	1	B	Remove
10679	12	Douglas-fir (*Psuedotsuga menziesii*)	Pruning Scars; Good Health	1	A	Remove
10680	6	Sitka Willow (*Salix sitchensis*)	Few Dead Branches; Overall Health Okay	1	B	Remove
10681	5	Sitka Willow (*Salix sitchensis*)	Few Dead Branches; Overall Health Okay	1	B	Remove
10682	21	Black Cottonwood (*Populus trichocarpa*)	Codominant w/ 10683; Slight Lean Towards Creek; Slightly Crooked; Health Okay	1	B	Preserve
10683	14	Black Cottonwood (*Populus trichocarpa*)	Codominant w/ 10682; Health Okay	1	B	Preserve
10684	19,21	Black Cottonwood (*Populus trichocarpa*)	Codominant; Included Bark; Swelling/Dark Color From Base Up to Trunk Divides	1	B	Preserve
10685	18	Cottonwood	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
10688	7,9	Douglas-fir (*Psuedotsuga menziesii*)	Codominant; Included Bark; Health Good	1	A	Remove
10699	15,16	Red Alder (*Alnus rubra*)	Codominant; Moderate Lean; Top Broken Out in One Stem; Heavy Decay in Top of Other Stem; Scarring/Dark Discolor on Base	3	C	Remove
10761	8	Red Alder (*Alnus rubra*)	Slight Lean; Crooked; Minor Scarring on Trunk; Scar/Decay at Base; Overall Health Okay	2	B	Preserve
10762	7	Alder	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
10766	14	Quaking Aspen (*Populus tremuloides*)	Crooked; Slight Lean; Dead Top; Health Declining	2	C	Remove
10767	19	Cottonwood	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
10768	18	Cottonwood	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
10769	6,6,6,8	Unknown Decid.	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
10770	12	Cottonwood	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
10771	15	Cottonwood	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
10799	10	Alder	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
10810	12	Alder	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
10811	18,24	Unknown Decid.	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
10812	25	Unknown Decid.	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
10815	6	Willow	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
10858	5,5,6	Apple	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
10860	7	Unknown Decid.	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
10864	6	Cherry	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
10866	11	Cherry	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
10867	10	Cherry	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
10868	8	Cherry	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
10869	8	Cherry	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
10870	8	Cherry	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
10871	7	Cherry	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
10872	7	Cherry	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
10875	18	Cedar	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
10972	9,11	Sitka Willow (*Salix sitchensis*)	Large Decay at Base; Slight Lean Towards Road; Moderate Ivy; Declining Health	3	C	Preserve
10973	8	Sitka Willow (*Salix sitchensis*)	Heavy Lean; Large Conks; Moderate Ivy; Declining Health	2	C	Preserve
10974	7	Sitka Willow (*Salix sitchensis*)	Dead; Broken Top	2	C	Preserve
10975	10	Sitka Willow (*Salix sitchensis*)	Codominant; Heavy Lean Towards Road; Included Bark; Overall Health Okay	2	B	Preserve
10976	5	Sitka Willow (*Salix sitchensis*)	Heavy Lean Towards Road; Vines; Crooked; Overall Health Okay	2	B	Preserve
10977	5	Sitka Willow (*Salix sitchensis*)	Crooked; Scarring in Top - New Branches Around Scar; Overall Health Okay	2	B	Preserve
10978	15	Sitka Willow (*Salix sitchensis*)	Large Conk; Codominant; One Stem Broken/Fell Down; Other Stem Has Heavy Ivy, Slight Lean Towards Creek; Decay	2	C	Preserve
10979	9	Unknown Decid.	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
10980	6	Unknown Decid.	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
10981	5	Alder	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
10989	6	Cherry	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
10990	5	Cherry	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
10991	5,6	Unknown Decid.	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve

Detailed Tree Inventory for Columbia St. Water Quality Facility

NO. 3068

Tree #	Total DBH (in.)	Tree Species Common Name (*Scientific name*)	Condition/Comments	Hazard Rating 1-4*	Wind-throw Rating**	Remove / Preserve
10992	7	Cherry	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
10993	6	Cherry	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
10994	7	Cherry	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
10995	7	Unknown Decid.	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
10997	9	Fir	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
10998	5	Fir	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
10999	10	Fir	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
11031	18	Fir	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
11073	9	Maple	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
11148	10	Maple	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
11149	16	Maple	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
11221	37	Evergreen	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
11222	14	Cedar	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
11266	7	English Hawthorn (*Crataegus monogyna*)	Slight Lean; Pruning Scars; Some Ivy; Okay Health	1	A	Remove
11267	8	Common Apple (*Malus sylvestris*)	Slight Lean; Pruning Scars; Healthly	1	A	Remove
11268	8,10	Common Apple (*Malus sylvestris*)	Pruning Scars; Moderate Lean; Heavy Ivy, Okay Health	1	B	Remove
20078	23	Fir	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20079	5	Bitter Cherry (*Prunus emarginata*)	Minor Scarring; Slight Lean Towards Path Dead Branches up 2/3 of Trunk; Top Okay	2	B	Preserve
20080	6	Bitter Cherry (*Prunus emarginata*)	Slightly Crooked; Dead Top; Slight Lean Towards Railroad; Scarring; Health Declining	3	C	Remove
20081	5	Bitter Cherry (*Prunus emarginata*)	Tree Failed - Laying On Ground; Remove From Site	-	-	Remove
20082	6	Bitter Cherry (*Prunus emarginata*)	Tree Failed - Laying On Ground; Remove From Site	-	-	Remove
20083	6	Bitter Cherry (*Prunus emarginata*)	Minor Scarring; Multiple Holes/Decay in Trunk	2	B	Remove
20084	6	Bitter Cherry (*Prunus emarginata*)	Almost Dead; Cracks in Trunk	3	C	Remove
20085	6	Bitter Cherry (*Prunus emarginata*)	Codominant; Minor Ivy; One Stem Almost Dead; Scarring; Tree Health Declining	3	C	Remove
20086	8	Bitter Cherry (*Prunus emarginata*)	Minor Scarring; Slight Lean; Overall Health Okay	2	B	Remove
20087	7	Bitter Cherry (*Prunus emarginata*)	Dead Top; Declining Health	3	C	Remove
20088	6,7	Bitter Cherry (*Prunus emarginata*)	Codominant; Slightly Crooked; Overall Health Okay	2	B	Preserve
20089	5	Bitter Cherry (*Prunus emarginata*)	Dead; Top Broken Out	3	C	Remove
20090	8	Bitter Cherry (*Prunus emarginata*)	Dead; Cracking Along Trunk	1	C	Preserve
20091	6,7	Bitter Cherry (*Prunus emarginata*)	Dead; Cracking Along Trunk	1	C	Preserve
20092	8	Red Alder (*Alnus rubra*)	Scarring at Base; Pruning Scars; Health Okay	1	B	Remove
20093	10	Sitka Willow (*Salix sitchensis*)	Crooked; Machine Damage to Base; Codominant, Included Bark, Overall Health Okay	2	B	Remove
20096	6	Sitka Willow (*Salix sitchensis*)	Moderate Lean; Moderate Ivy; Rootzone in Standing Water, Declining Health	1	C	Preserve
20097	6	Black Cottonwood (*Populus trichocarpa*)	Heavy Ivy; Heavy Lean; Rootzone Near Standing Water, Health Okay	1	B	Preserve
20098	7	Sitka Willow (*Salix sitchensis*)	Crooked; Moderate Lean; Heavy Ivy; Health Okay	1	B	Preserve
20099	8	Black Cottonwood (*Populus trichocarpa*)	Moderate Ivy; Moderate Lean; Moderate Amount of Dead Branches; Declining Health	1	B	Preserve
20100	6	Black Cottonwood (*Populus trichocarpa*)	Heavy Ivy; Moderate Lean; Moderate Amount of Dead Branches; Declining Health	1	B	Preserve
20101	5	Sitka Willow (*Salix sitchensis*)	Growing Out of Old Down Tree; Minor Ivy; Crooked; Minor Scars; Okay Health	1	B	Preserve
20102	5	Bitter Cherry (*Prunus emarginata*)	Heavy Ivy; Slightly Crooked; Okay Health	1	B	Preserve
20103	5	Bitter Cherry (*Prunus emarginata*)	Crooked; Minor Scarring at Base; Okay Health	1	B	Preserve
20104	5	Cherry	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20105	5	Alder	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20106	7	Cascara	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20107	5	Cherry	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20108	5	Cherry	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20109	6	Douglas Fir	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20110	17	Cherry	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20111	18	Cherry	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20139	8	Sitka Willow (*Salix sitchensis*)	Ivy; Slightly Crooked; Codominant; Okay Health	2	B	Preserve
20148	6,11	Sitka Willow (*Salix sitchensis*)	Codominant; Included Bark; Large Scar w/ Decay Along Trunk; Health Okay	2	C	Remove
20160	11	Black Cottonwood (*Populus trichocarpa*)	Slight Lean; Healthy	1	B	Remove
20161	8	Black Cottonwood (*Populus trichocarpa*)	Slight Lean; Healthy	1	B	Remove
20162	11	Black Cottonwood (*Populus trichocarpa*)	Slight Lean; Healthy	1	B	Remove
20163	14	Black Cottonwood (*Populus trichocarpa*)	Slightly Crooked; Health Okay	1	B	Remove
20164	16	Black Cottonwood (*Populus trichocarpa*)	Heavy Scarring at Base; Overall Health Okay	2	B	Remove
20170	15	Black Cottonwood (*Populus trichocarpa*)	Slight Lean Towards Railroad; Healthy	1	B	Remove
20171	5	Sitka Willow (*Salix sitchensis*)	Tree Failed - Laying On Ground; Remove From Site	-	-	Remove
20172	5,5,6	Bitter Cherry (*Prunus emarginata*)	Slightly Crooked; Codominant; Overall Health Okay	2	B	Preserve
20173	6	Pine	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20185	7	Sitka Willow (*Salix sitchensis*)	Slightly Crooked; Moderate Ivy; Okay Health	1	B	Preserve
20186	6	Black Cottonwood (*Populus trichocarpa*)	Dead Top; Rootzone in Drainage, Epicormic Branching Low on Trunk; Declining	1	B	Preserve
20189	9	Black Cottonwood (*Populus trichocarpa*)	Moderate Lean; Crooked; Epicormic Branching; Some Scarring in Top; Large Scar/Decay at Base	1	C	Preserve
20190	7	Black Cottonwood (*Populus trichocarpa*)	Rootzone in Drainage; Moderate Lean; Healthy	1	B	Preserve
20191	6	Black Cottonwood (*Populus trichocarpa*)	Slight Lean; Rootzone in Drainage; Epicormic Branching, Health	1	B	Preserve
20192	5	Black Cottonwood (*Populus trichocarpa*)	Moderate Lean; Rootzone in Drainage; Epicormic Branching; Dead Top	1	C	Preserve
20193	6,8	Black Cottonwood (*Populus trichocarpa*)	Dead Top in Larger Stem w/ Epicormic Branching Lower on Stem; Other Stem Okay; Moderate Lean Overall; Rootzone in Drainage	1	C	Preserve
20194	12	Black Cottonwood (*Populus trichocarpa*)	Rootzone in Drainage; Moderate Lean; Long Sweep; Okay Health	1	B	Preserve
20195	7	Black Cottonwood (*Populus trichocarpa*)	Moderate Lean; Scarring on Lower 1/3 of Trunk; Minor Dead Branches; Crooked	2	B	Remove
20198	7	Black Cottonwood (*Populus trichocarpa*)	Heavy Lean; Epicormic Branching; Slightly Crooked; Okay Health	1	B	Remove
20199	9	Bitter Cherry (*Prunus emarginata*)	Scarring on Trunk; Okay Health	1	B	Preserve
20234	6,6	Red Alder (*Alnus rubra*)	Slight Lean; Rootzone Heavily Saturated	2	B	Remove
20235	6	Sitka Willow (*Salix sitchensis*)	Rootzone Heavily Saturated From High Flows; Slight Lean	2	B	Remove
20236	6	Sitka Willow (*Salix sitchensis*)	Rootzone Heavily Saturated From High Flows; Crooked	2	B	Remove
20237	22	Black Cottonwood (*Populus trichocarpa*)	Heavy Lean Towards Railroad; Saturate Rootzone; Crooked	3	C	Preserve

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REGIONAL STORMWATER FACILITY
SHERWOOD OREGON
TAX LOTS 6600, 6801, 7300, 10500 WASHINGTON COUNTY TAX MAP 2S 1 32BC & 32CB

TREE PRESERVATION AND REMOVAL NOTES

CERTIFIED ARBORIST
BRUCE R. BALDWIN
CERTIFICATE NUMBER: PN-6668A
EXPIRATION DATE: 12/31/14

DESIGNED BY: BRB/PAS
DRAWN BY: PAS
CHECKED BY: BRB
SCALE: AS NOTED
DATE: 06/30/2014

REVISIONS

JOB NUMBER 3068

SHEET C032

AKS DRAWING FILE: 3068 C030 - C031.DWG | LAYOUT: C032

Detailed Tree Inventory for Columbia St. Water Quality Facility

NO. 3068

Tree #	Total DBH (in.)	Tree Species Common Name (*Scientific name*)	Condition/Comments	Hazard Rating 1-4*	Wind-throw Rating**	Remove / Preserve
20242	6	Red Alder *(Alnus rubra)*	Tree Failed - Laying On Ground - Leave In Place	-	-	Preserve
20249	5	Willow	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20270	5,6	Willow	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20274	11	Cottonwood	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20275	12	Willow	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20277	14	Willow	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20278	6,6,7	Willow	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20279	5	Sitka Willow *(Salix sitchensis)*	Crooked; Okay Health	1	B	Preserve
20280	5,6	Sitka Willow *(Salix sitchensis)*	Crooked; Slight Lean Towards Railroad; Okay Health	1	B	Preserve
20281	7	Sitka Willow *(Salix sitchensis)*	Crooked; Slight Lean Towards Railroad; Okay Health	1	B	Preserve
20305	12	Alder	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20310	6,7	Alder	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20314	17	Cottonwood	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20326	11	Alder	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20338	5,7,9,12,13	Willow	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20342	5	Willow	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20343	5	Willow	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20346	7	Cherry	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20347	5	Douglas Fir	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20356	6	Douglas Fir	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20357	5	Alder	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20358	22	Cottonwood	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20363	5,5	Willow	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20364	5	Willow	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20366	6,8	Cottonwood	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20370	8	Cottonwood	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20371	16	Cottonwood	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20372	11	Cottonwood	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20373	5	Cottonwood	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20374	14	Cottonwood	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20375	9,19	Cottonwood	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20378	11	Cottonwood	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20379	5	Cottonwood	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20390	5,9,10,13,14	Willow	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20392	5	Cherry	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20405	5	Douglas Fir	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20406	5	Douglas Fir	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20485	8,8	Pine	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20486	8	Pine	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20487	8,10	Pine	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20488	8	Pine	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20491	5	Common Apple (*Malus sylvestris*)	Tree Failed - Laying On Ground - Leave In Place	-	-	Preserve
20511	10,14	Birch	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20650	6	Common Apple (*Malus sylvestris*)	Moderate Lean; Pruning Scars; Leaves with Brown Staining; Okay Health	1	A	Remove
20651	6	Common Apple (*Malus sylvestris*)	Moderate Lean; Crooked; Pruning Scars; Leaves with Brown Staining; Okay Health	1	A	Remove
20684	8	Bitter Cherry *(Prunus emarginata)*	Heavy Ivy; Slight Lean Towards Path; Slightly Crooked; Moderate Scarring; Declining	3	C	Remove
20685	7	Bitter Cherry *(Prunus emarginata)*	Moderate Ivy; Small/Old Scars; Overall Okay Health	2	B	Preserve
20686	7	Bitter Cherry *(Prunus emarginata)*	Slightly Crooked; Minor Ivy; Slight Scarring; Small Hole into Trunk Near Base; Overall Health Okay	2	B	Preserve
20688	9	Oregon Ash *(Fraxinus latifolia)*	Heavy Ivy; Large Scar at Base of Trunk; Decay; Slight Lean Away From Path; Declining	2	C	Preserve
20689	24,24	Oregon Ash *(Fraxinus latifolia)*	Codominant; Large Scars on Trunk; Heavy Ivy; Pruning Scars; Minor Decay on Branches; Leans over Path	2	B	Preserve
20690	8	Bitter Cherry *(Prunus emarginata)*	Heavy Ivy; Crooked; Leans Over Path; Okay Health	2	B	Preserve
20691	8	Bitter Cherry *(Prunus emarginata)*	Heavy Ivy; Crooked; Leans Over Path; Okay Health	2	B	Preserve
20692	9	Bitter Cherry *(Prunus emarginata)*	Heavy Ivy; Crooked; Leans Over Path; Crooked; Okay Health	2	B	Preserve
20693	10	Bitter Cherry *(Prunus emarginata)*	Codominant; Included Bark; Heavy Scarring at Base; Decay; Leans Parallel to Path	2	C	Preserve
20694	13	Apple	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20695	6	Cherry	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20696	7	Cherry	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20697	6	Cherry	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20698	6	Cherry	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20699	7	Cherry	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20700	6	Cherry	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20702	6	Cherry	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20703	6	Cherry	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20711	6,10	Bitter Cherry *(Prunus emarginata)*	Codominant; Included Bark; Okay Health	1	B	Preserve
20752	7,8	Bitter Cherry *(Prunus emarginata)*	Heavy Scarring; Decay/Holes in Trunk; Leaning Towards Path; Codominant; Ivy; Declining	3	C	Remove
20753	5,8	Bitter Cherry *(Prunus emarginata)*	Dead; Falling Over/Leaning; Heavy Scarring	4	C	Remove
20760	7	Maple	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20761		Maple	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20762	17,17,18	Maple	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20763	13,36	Maple	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20764	8	Maple	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20766	5,7	Cherry	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20767	6	Cherry	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20768	6	Cherry	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve

Detailed Tree Inventory for Columbia St. Water Quality Facility

NO. 3068

Tree #	Total DBH (in.)	Tree Species Common Name (*Scientific name*)	Condition/Comments	Hazard Rating 1-4*	Wind-throw Rating**	Remove / Preserve
20769	9,10	Cherry	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20771	7	Cherry	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20772	6	Cherry	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20773	11	Cherry	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20774	5,11	Cherry	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20775	9	Cherry	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20776	7	Cherry	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20777	8	Cherry	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20778	7	Cherry	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20802	6	Cherry	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20803	8	Cherry	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
20806	5,6	Apple	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
25234	7,9,10,11	Unknown Decid.	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
25487	CLUMP	Red Alder *(Alnus rubra)*	Some Stems Dead	1	B	Preserve
25488	CLUMP	Red Alder *(Alnus rubra)*	Most Stems Dead	1	B	Preserve
25489	5	Red Alder *(Alnus rubra)*	Slight Lean; Scars	1	B	Preserve
25490	5	Red Alder *(Alnus rubra)*	Slight Lean; Minor Scars	1	B	Preserve
25491	4,5,6,7	Unknown Decid.	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
25492	10	Unknown Decid.	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
25494	9,10,10,12	Unknown Decid.	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
25497	11,12	Unknown Decid.	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
25498	6	Unknown Decid.	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
25499	11,12	Unknown Decid.	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
25500	8,12	Unknown Decid.	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
25501	12	Unknown Decid.	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
25502	8,16	Unknown Decid.	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
25503	16	Unknown Decid.	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
25504	CLUMP	Unknown Decid.	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
25505	12	Unknown Decid.	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
25506	5,5,5	Unknown Decid.	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
26114	28	Cedar	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
26112	7	Cherry	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
26116	10	Cherry	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
26117	10	Maple	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
26113	6	Pine	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
26110	9	Pine	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
26111	13	Pine	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
26115	10	Unknown Decid.	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
26109	30	Unknown Decid.	Tree Not Assessed - Not Within Vicinity of Proposed Construction	-	-	Preserve
27000	5	Black Cottonwood *(Populus trichocarpa)*	Not On Original Survey; Large Scar on Trunk; Moderate Lean; Rootzone in Standing Water; Crooked; Overall Health Okay	1	B	Preserve
27001	5	Black Cottonwood *(Populus trichocarpa)*	Not On Original Survey; Moderate Lean; Rootzone in Standing Water; Crooked; Overall Health Okay	1	B	Preserve
27002	5	Bitter Cherry *(Prunus emarginata)*	Not on Origianl Survey; Large Scars, Slightly Crooked; Okay Health	1	B	Preserve

HAZARD RATING
1=LOW RISK
2=MODERATE RISK
3=HIGH RISK
4=EXTREME RISK

****WINDTHROW RATING**
A=Most Windthrow Resistant
B=Moderate Windthrow Resistance
C=Least Windthrow Resistant

****Hazard**- These trees either pose an immediate danger to life and safety, are diseased or defective in a manner that threatens their continued viability, or will become a danger to life and safety due to disease or defects after the project is "built out".

Arborist Disclosure Statement:
Arborists are tree specialists who use their education, knowledge, training, and experience to examine trees, recommend measures to enhance the health of trees, and attempt to reduce the risk of living near trees. The Client and Jurisdiction may choose to accept or disregard the recommendations of the arborist, or seek additional advice. Arborists cannot detect every condition that could possibly lead to the structural failure of a tree. Trees are living organisms that fail in ways we do not fully understand. Conditions are often hidden within trees and below ground. Arborists cannot guarantee that a tree will be healthy or safe under all circumstances, or for a specified period of time. Likewise, remedial treatments, like medicine, cannot be guaranteed. Trees can be managed, but they cannot be controlled. To live near trees is to accept some degree of risk. The only way to eliminate all risk associated with trees is to eliminate all trees.

At the completion of construction, all trees must once again be reviewed to evaluate their hazard rating. Land clearing and removal of adjacent trees can expose previously unseen defects and otherwise healthy trees can be damaged during construction.

CERTIFIED ARBORIST
BRUCE R. BALDWIN
CERTIFICATE NUMBER: PN-6666A
EXPIRATION DATE: 12/31/14

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SUITE 100
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ENGINEERING · PLANNING · SURVEYING
FORESTRY · LANDSCAPE ARCHITECTURE

CITY OF SHERWOOD
REGIONAL STORMWATER FACILITY
SHERWOOD OREGON
TAX LOTS 6600, 6801, 7300, 10500 WASHINGTON COUNTY TAX MAP 2S 1 32BC & 32CB

TREE PRESERVATION AND REMOVAL NOTES

DESIGNED BY: BRB/PAS
DRAWN BY: PAS
CHECKED BY: BRB
SCALE: AS NOTED
DATE: 06/30/2014

REVISIONS

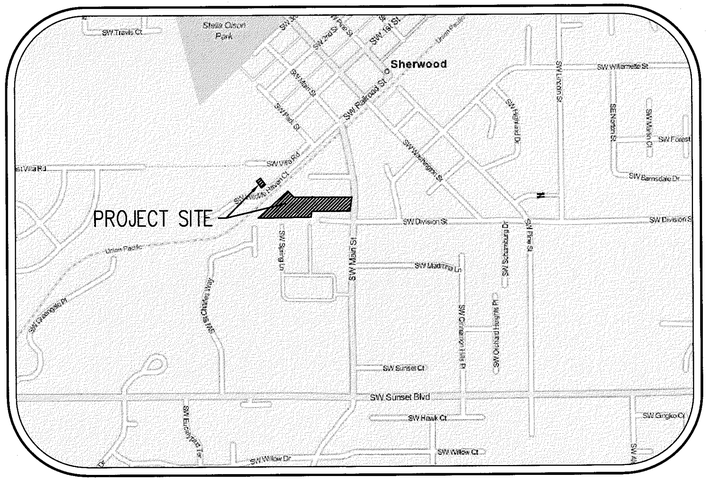
JOB NUMBER 3068

SHEET C033

AKS DRAWING FILE: 3068 C030 - C031.DWG | LAYOUT: C033

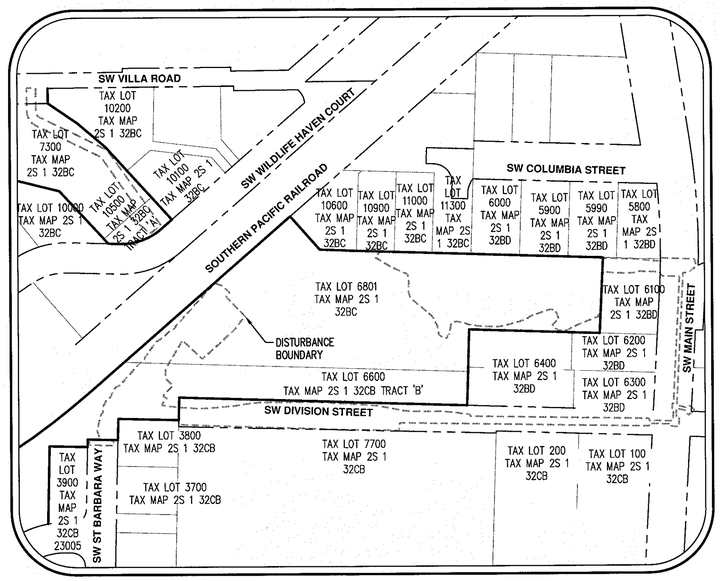
CITY OF SHERWOOD

REGIONAL STORMWATER FACILITY
1200-CN EROSION AND SEDIMENT CONTROL PLANS



VICINITY MAP

NOT TO SCALE



SITE MAP

NOT TO SCALE

PROPERTY DESCRIPTION:

TAX LOTS 6600, 6801, 7300 AND 10500 (WASHINGTON COUNTY TAX MAP 2S 1 32BC & 32BC) AND LOCATED IN THE NORTHWEST 1/4 OF SECTION 32, TOWNSHIP 2 SOUTH, RANGE 1 WEST, WILLAMETTE MERIDIAN, WASHINGTON COUNTY, OREGON

PROJECT LOCATION:

LOCATED NORTHWEST OF THE INTERSECTION OF SW MAIN STREET AND SW DIVISION STREET IN THE CITY OF, SHERWOOD, WASHINGTON COUNTY, OREGON
LATITUDE: 45.3538° N, LONGITUDE: 122.833° W

APPLICANT / OWNER

CITY OF SHERWOOD
CONTACT: CRAIG CHRISTENSEN, PE
22560 SW PINE STREET
SHERWOOD, OR 97140
PH: 503-925-2301, FAX: 503-625-0629

PLANNING / ENGINEERING / SURVEYING FIRM

AKS ENGINEERING & FORESTRY, LLC.
CONTACT: ALEX HURLEY, PE, PLS, PRINCIPAL
12965 SW HERMAN ROAD, SUITE 100
TUALATIN, OR 97062
PH: 503-563-6151, FAX: 503-563-6152

NARRATIVE DESCRIPTIONS

EXISTING SITE CONDITIONS

* OPEN LAND, TREES, AND BRUSH

DEVELOPED CONDITIONS

* OPEN LAND, TREES, AND BRUSH

NATURE OF CONSTRUCTION ACTIVITY AND TIME TABLE FOR MAJOR ACTIVITIES

* CLEARING AND TREE REMOVAL (JULY 2014 – AUGUST 2014)
* GRADING (EXCAVATION AND FILL) (AUGUST 2014 – SEPTEMBER 2014)
* INSTALLATION OF UTILITY (AUGUST 2014 – SEPTEMBER 2014)
* ACCESS ROAD CONSTRUCTION (AUGUST 2014 – SEPTEMBER 2014)
* FINAL STABILIZATION (OCTOBER 2014)

TOTAL GROSS SITE AREA = ±161,350 SF = ±3.70 ACRES

TOTAL DISTURBED AREA = ±51,654 SF = ±1.19 ACRES

SITE SOIL CLASSIFICATION:

1 – ALOHA SILT LOAM
21B – HILLSBORO LOAM, 3 TO 7 PERCENT SLOPES
22 – HUBERLY SILT LOAM
37A – QUATAMA LOAM, 0 TO 3 PERCENT SLOPES
37B – QUATAMA LOAM, 3 TO 7 PERCENT SLOPES
46F – XEROCHREPTS AND HAPLOXEROLLS, VERY STEEP

RECEIVING WATER BODIES:
CEDAR CREEK

INSPECTION FREQUENCY

SITE CONDITION	MINIMUM FREQUENCY
1. ACTIVE PERIOD	DAILY WHEN STORMWATER RUNOFF, INCLUDING RUNOFF FROM SNOWMELT, IS OCCURRING. AT LEAST ONCE EVERY TWO (2) WEEKS REGARDLESS OF WHETHER STORMWATER RUNOFF IS OCCURRING.
2. PRIOR TO THE SITE BECOMING INACTIVE OR IN ANTICIPATION OF SITE INACCESSIBILITY.	ONCE TO ENSURE THAT EROSION AND SEDIMENT CONTROL MEASURES ARE IN WORKING ORDER. ANY NECESSARY MAINTENANCE AND REPAIR MUST BE MADE PRIOR TO LEAVING THE SITE.
3. INACTIVE PERIODS GREATER THAN FOURTEEN (14) CONSECUTIVE CALENDAR DAYS.	ONCE EVERY TWO (2) WEEKS.
4. PERIODS DURING WHICH THE SITE IS INACCESSIBLE DUE TO INCLEMENT WEATHER.	IF PRACTICAL, INSPECTIONS MUST OCCUR DAILY AT A RELEVANT AND ACCESSIBLE DISCHARGE POINT OR DOWNSTREAM LOCATION.

* HOLD A PRE-CONSTRUCTION MEETING OF PROJECT CONSTRUCTION PERSONNEL THAT INCLUDES THE INSPECTOR TO DISCUSS EROSION AND SEDIMENT CONTROL MEASURES AND CONSTRUCTION LIMITS. (SCHEDULE A.8.C.i.(3))
* ALL INSPECTIONS MUST BE MADE IN ACCORDANCE WITH DEQ 1200-C PERMIT REQUIREMENTS.
* INSPECTION LOGS MUST BE KEPT IN ACCORDANCE WITH DEQ'S 1200-C PERMIT REQUIREMENTS.
* RETAIN A COPY OF THE ESCP AND ALL REVISIONS ON SITE AND MAKE IT AVAILABLE ON REQUEST TO DEQ, AGENT, OR THE LOCAL MUNICIPALITY. DURING INACTIVE PERIODS OF GREATER THAN SEVEN (7) CONSECUTIVE CALENDAR DAYS, RETAIN THE ESCP AT THE CONSTRUCTION SITE OR AT ANOTHER LOCATION. (SCHEDULE B.2.A)

STANDARD EROSION AND SEDIMENT CONTROL PLAN DRAWING NOTES:

1. ALL PERMIT REGISTRANTS MUST IMPLEMENT THE ESCP. FAILURE TO IMPLEMENT ANY OF THE CONTROL MEASURES OR PRACTICES DESCRIBED IN THE ESCP IS A VIOLATION OF THE PERMIT.
2. THE ESCP MEASURES SHOWN ON THIS PLAN ARE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, UPGRADE THESE MEASURES AS NEEDED TO COMPLY WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL EROSION AND SEDIMENT CONTROL REGULATIONS.
3. SUBMISSION OF ALL ESCP REVISIONS IS NOT REQUIRED. SUBMITTAL OF THE ESCP REVISIONS IS ONLY UNDER SPECIFIC CONDITIONS. SUBMIT ALL NECESSARY REVISION TO DEQ OR AGENT.
4. PHASE CLEARING AND GRADING TO THE MAXIMUM EXTENT PRACTICAL TO PREVENT EXPOSED INACTIVE AREAS FROM BECOMING A SOURCE OF EROSION.
5. IDENTIFY, MARK, AND PROTECT (BY FENCING OFF OR OTHER MEANS) CRITICAL RIPARIAN AREAS AND VEGETATION INCLUDING IMPORTANT TREES AND ASSOCIATED ROOTING ZONES, AND VEGETATION AREAS TO BE PRESERVED. IDENTIFY VEGETATIVE BUFFER ZONES BETWEEN THE SITE AND SENSITIVE AREAS (E.G., WETLANDS), AND OTHER AREAS TO BE PRESERVED, ESPECIALLY IN PERIMETER AREAS.
6. PRESERVE EXISTING VEGETATION WHEN PRACTICAL AND RE-VEGETATE OPEN AREAS. RE-VEGETATE OPEN AREAS WHEN PRACTICABLE BEFORE AND AFTER GRADING OR CONSTRUCTION. IDENTIFY THE TYPE OF VEGETATIVE SEED MIX USED.
7. EROSION AND SEDIMENT CONTROL MEASURES INCLUDING PERIMETER SEDIMENT CONTROL MUST BE IN PLACE BEFORE VEGETATION IS DISTURBED AND MUST REMAIN IN PLACE AND BE MAINTAINED, REPAIRED, AND PROMPTLY IMPLEMENTED FOLLOWING PROCEDURES ESTABLISHED FOR THE DURATION OF CONSTRUCTION, INCLUDING PROTECTION FOR ACTIVE STORM DRAIN INLETS AND CATCH BASINS AND APPROPRIATE NON-STORMWATER POLLUTION CONTROLS.
8. ESTABLISH CONCRETE TRUCK AND OTHER CONCRETE EQUIPMENT WASHOUT AREAS BEFORE BEGINNING CONCRETE WORK.
9. APPLY TEMPORARY AND/OR PERMANENT SOIL STABILIZATION MEASURES IMMEDIATELY ON ALL DISTURBED AREAS AS GRADING PROGRESSES AND FOR ALL ROADWAYS INCLUDING GRAVEL ROADWAYS.
10. ESTABLISH MATERIAL AND WASTE STORAGE AREAS, AND OTHER NON-STORMWATER CONTROLS.
11. PREVENT TRACKING OF SEDIMENT ONTO PUBLIC OR PRIVATE ROADS USING BMPS SUCH AS: GRAVELED (OR PAVED) EXITS AND PARKING AREAS, GRAVEL ALL UNPAVED ROADS LOCATED ONSITE, OR USE AN EXIT TIRE WASH. THESE BMPS MUST BE IN PLACE PRIOR TO LAND-DISTURBING ACTIVITIES.
12. WHEN TRUCKING SATURATED SOILS FROM THE SITE, EITHER USE WATER-TIGHT TRUCKS OR DRAIN LOADS ON SITE.
13. USE BMPS TO PREVENT OR MINIMIZE STORMWATER EXPOSURE TO POLLUTANTS FROM SPILLS; VEHICLE AND EQUIPMENT FUELING, MAINTENANCE, AND STORAGE; OTHER CLEANING AND MAINTENANCE ACTIVITIES; AND WASTE HANDLING ACTIVITIES. THESE POLLUTANTS INCLUDE FUEL, HYDRAULIC FLUID, AND OTHER OILS FROM VEHICLES AND MACHINERY, AS WELL AS DEBRIS, LEFTOVER PAINTS, SOLVENTS, AND GLUES FROM CONSTRUCTION OPERATIONS.
14. IMPLEMENT THE FOLLOWING BMPS WHEN APPLICABLE: WRITTEN SPILL PREVENTION AND RESPONSE PROCEDURES, EMPLOYEE TRAINING ON SPILL PREVENTION AND PROPER DISPOSAL PROCEDURES, SPILL KITS IN ALL VEHICLES, REGULAR MAINTENANCE SCHEDULE FOR VEHICLES AND MACHINERY, MATERIAL DELIVERY AND STORAGE CONTROLS, TRAINING AND SIGNAGE, AND COVERED STORAGE AREAS FOR WASTE AND SUPPLIES.
15. USE WATER, SOIL-BINDING AGENT OR OTHER DUST CONTROL TECHNIQUE AS NEEDED TO AVOID WIND-BLOWN SOIL.
16. THE APPLICATION RATE OF FERTILIZERS USED TO REESTABLISH VEGETATION MUST FOLLOW MANUFACTURER'S RECOMMENDATIONS TO MINIMIZE NUTRIENT RELEASES TO SURFACE WATERS. EXERCISE CAUTION WHEN USING TIME-RELEASE FERTILIZERS WITHIN ANY WATERWAY RIPARIAN ZONE.
17. IF A STORMWATER TREATMENT SYSTEM (FOR EXAMPLE, ELECTRO-COAGULATION, FLOCCULATION, FILTRATION, ETC.) FOR SEDIMENT OR OTHER POLLUTANT REMOVAL IS EMPLOYED, SUBMIT AN OPERATION AND MAINTENANCE PLAN (INCLUDING SYSTEM SCHEMATIC, LOCATION OF SYSTEM, LOCATION OF INLET, LOCATION OF DISCHARGE, DISCHARGE DISPERSION DEVICE DESIGN, AND A SAMPLING PLAN AND FREQUENCY) BEFORE OPERATING THE TREATMENT SYSTEM. OBTAIN PLAN APPROVAL BEFORE OPERATING THE TREATMENT SYSTEM. OPERATE AND MAINTAIN THE TREATMENT SYSTEM ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
18. AT THE END OF EACH WORKDAY SOIL STOCKPILES MUST BE STABILIZED OR COVERED, OR OTHER BMPS MUST BE IMPLEMENTED TO PREVENT DISCHARGES TO SURFACE WATERS OR CONVEYANCE SYSTEMS LEADING TO SURFACE WATERS.
19. CONSTRUCTION ACTIVITIES MUST AVOID OR MINIMIZE EXCAVATION AND CREATION OF BARE GROUND DURING WET WEATHER OCTOBER 01 – MAY 31.
20. SEDIMENT FENCE: REMOVE TRAPPED SEDIMENT BEFORE IT REACHES ONE THIRD OF THE ABOVE GROUND FENCE HEIGHT AND BEFORE FENCE REMOVAL.
21. OTHER SEDIMENT BARRIERS (SUCH AS BIOBAGS): REMOVE SEDIMENT BEFORE IT REACHES TWO INCHES DEPTH ABOVE GROUND HEIGHT, AND BEFORE BMP REMOVAL.
22. CATCH BASINS: CLEAN BEFORE RETENTION CAPACITY HAS BEEN REDUCED BY FIFTY PERCENT. SEDIMENT BASINS AND SEDIMENT TRAPS: REMOVE TRAPPED SEDIMENTS BEFORE DESIGN CAPACITY HAS BEEN REDUCED BY FIFTY PERCENT AND AT COMPLETION OF PROJECT.
23. WITHIN 24 HOURS, SIGNIFICANT SEDIMENT THAT HAS LEFT THE CONSTRUCTION SITE, MUST BE REMEDIATED. INVESTIGATE THE CAUSE OF THE SEDIMENT RELEASE AND IMPLEMENT STEPS TO PREVENT A RECURRENCE OF THE DISCHARGE WITHIN THE SAME 24 HOURS. ANY IN-STREAM CLEAN UP OF SEDIMENT SHALL BE PERFORMED ACCORDING TO THE OREGON DIVISION OF STATE LANDS REQUIRED TIMEFRAME.
24. THE INTENTIONAL WASHING OF SEDIMENT INTO STORM SEWERS OR DRAINAGE WAYS MUST NOT OCCUR. VACUUMING OR DRY SWEEPING AND MATERIAL PICKUP MUST BE USED TO CLEANUP RELEASED SEDIMENTS.
25. PROVIDE PERMANENT EROSION CONTROL MEASURES ON ALL EXPOSED AREAS. DO NOT REMOVE TEMPORARY SEDIMENT CONTROL PRACTICES UNTIL PERMANENT VEGETATION OR OTHER COVER OF EXPOSED AREAS IS ESTABLISHED. HOWEVER, DO REMOVE ALL TEMPORARY EROSION CONTROL MEASURES AS EXPOSED AREAS BECOME STABILIZED, UNLESS DOING SO CONFLICTS WITH LOCAL REQUIREMENTS. PROPERLY DISPOSE OF CONSTRUCTION MATERIALS AND WASTE, INCLUDING SEDIMENT RETAINED BY TEMPORARY BMPS.
26. IF VEGETATIVE SEED MIXES ARE SPECIFIED, SEEDING MUST TAKE PLACE NO LATER THAT SEPTEMBER 1; THE TYPE AND PERCENTAGES OF SEED IN THE MIX MUST BE IDENTIFIED ON THE PLANS.
27. ALL PUMPING OF SEDIMENT LADEN WATER SHALL BE DISCHARGED OVER AN UNDISTURBED, PREFERABLY VEGETATED AREA, AND THROUGH A SEDIMENT CONTROL BMP I.E. (FILTER BAG).
28. ALL EXPOSED SOILS MUST BE COVERED DURING THE WET WEATHER PERIOD, OCTOBER 01 – MAY 31.

BMP MATRIX FOR CONSTRUCTION PHASES

REFER TO DEQ GUIDANCE MANUAL FOR A COMPREHENSIVE LIST OF AVAILABLE BMP'S.

	CLEARING	MASS GRADING	UTILITY INSTALLATION	STREET CONSTRUCTION	FINAL STABILIZATION	WET WEATHER (OCT. 1 – MAY 31ST)
EROSION PREVENTION						
PRESERVE NATURAL VEGETATION	** X	X	X	X	X	X
GROUND COVER	X	X	X	X	X	X
HYDRAULIC APPLICATIONS						
PLASTIC SHEETING			X	X		X
MATTING		X	X	X	X	X
DUST CONTROL	X	X	X	X	X	X
TEMPORARY/ PERMANENT SEEDING		X	X	X	X	X
BUFFER ZONE						
OTHER:						
SEDIMENT CONTROL						
SEDIMENT FENCE (PERIMETER)	** X	X	X	X	X	
SEDIMENT FENCE (INTERIOR)			X	X	X	
MULCHES (STRAW)			X	X	X	X
FILTER BERM						X
INLET PROTECTION	** X	X	X	X	X	
DEWATERING						X
SEDIMENT TRAP						X
OTHER:						X
RUN OFF CONTROL						X
CONSTRUCTION ENTRANCE	** X	X	X	X	X	
PIPE SLOPE DRAIN						
OUTLET PROTECTION			X	X	X	
SURFACE ROUGHENING						X
CHECK DAMS	X	X	X	X	X	X
OTHER:						X
POLLUTION PREVENTION						
PROPER SIGNAGE	X	X	X	X	X	X
HAZ WASTE MGMT	X	X	X	X	X	X
SPILL KIT ON-SITE	X	X	X	X	X	
CONCRETE WASHOUT AREA			X	X	X	

** SIGNIFIES BMP THAT WILL BE INSTALLED PRIOR TO ANY GROUND DISTURBING ACTIVITY.

LOCAL AGENCY-SPECIFIC EROSION CONTROL NOTES:

1. IF VEGETATIVE SEED MIXES ARE SPECIFIED, SEEDING MUST TAKE PLACE NO LATER THAT SEPTEMBER 1; THE TYPE AND PERCENTAGES OF SEED IN THE MIX MUST BE IDENTIFIED ON THE PLANS.
2. ALL PUMPING OF SEDIMENT LADEN WATER SHALL BE DISCHARGED OVER AN UNDISTURBED, PREFERABLY VEGETATED AREA, AND THROUGH A SEDIMENT CONTROL BMP I.E. (FILTER BAG).
3. ALL EXPOSED SOILS MUST BE COVERED DURING THE WET WEATHER PERIOD, OCTOBER 01 – MAY 31.

RATIONALE STATEMENT

A COMPREHENSIVE LIST OF AVAILABLE BEST MANAGEMENT PRACTICES (BMP) OPTIONS BASED ON DEQ'S GUIDANCE MANUAL HAS BEEN REVIEWED TO COMPLETE THIS EROSION AND SEDIMENT CONTROL PLAN. SOME OF THE ABOVE LISTED BMP'S WERE NOT CHOSEN BECAUSE THEY WERE DETERMINED TO NOT EFFECTIVELY MANAGE EROSION PREVENTION AND SEDIMENT CONTROL FOR THIS PROJECT BASED ON SPECIFIC SITE CONDITIONS, INCLUDING SOIL CONDITIONS TOPOGRAPHIC CONSTRAINTS, ACCESSIBILITY TO THE SITE, AND OTHER RELATED CONDITIONS, AS THE PROJECT PROGRESSES AND THERE IS A NEED TO REVISE THE ESC PLAN, AN ACTION PLAN WILL BE SUBMITTED.

INITIAL

THE PERMITTEE IS REQUIRED TO MEET ALL THE CONDITIONS OF THE 1200CN PERMIT. THIS ESCP AND GENERAL CONDITIONS HAVE BEEN DEVELOPED TO FACILITATE COMPLIANCE WITH THE 1200CN PERMIT REQUIREMENTS. IN CASES OF DISCREPANCIES OR OMISSIONS, THE 1200CN PERMIT REQUIREMENTS SUPERCEDE REQUIREMENTS OF THIS PLAN.

ATTENTION EXCAVATORS:

OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-001-0090. YOU MAY OBTAIN COPIES OF THESE RULES FROM THE CENTER BY CALLING 503-232-1987. IF YOU HAVE ANY QUESTIONS ABOUT THE RULES, YOU MAY CONTACT THE CENTER. YOU MUST NOTIFY THE CENTER AT LEAST TWO BUSINESS DAYS, BEFORE COMMENCING AN EXCAVATION. CALL 503-246-6699.

PERMITTEE'S SITE INSPECTOR:

ANDY STIRLING
COMPANY/AGENCY: CITY OF SHERWOOD
PHONE: 503-925-2307
FAX: 503-625-0629
E-MAIL: STIRLINGA@SHERWOODOREGON.GOV
DESCRIPTION OF EXPERIENCE: CERTIFIED EROSION CONTROL INSPECTOR FOR ALL PROJECTS WITHIN THE CITY OF SHERWOOD.

SHEET INDEX

EROSION AND SEDIMENT CONTROL PLANS
C050 – EROSION CONTROL PLAN COVER SHEET AND NOTES
C051 – CLEARING AND DEMOLITION EROSION AND SEDIMENT CONTROL PLAN
C052 – GRADING EROSION AND SEDIMENT CONTROL PLAN
C053 – EROSION CONTROL DETAILS
C054 – EROSION CONTROL DETAILS

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CITY OF SHERWOOD
REGIONAL STORMWATER FACILITY
SHERWOOD OREGON
TAX LOTS 6600, 6801, 7300, 10500 WASHINGTON COUNTY TAX MAP 2S 1 32BC & 32CB

EROSION CONTROL PLAN COVER SHEET AND NOTES

DESIGNED BY:	PAS
DRAWN BY:	PAS/DS
CHECKED BY:	AHH
SCALE:	AS NOTED
DATE:	06/30/2014

REGISTERED PROFESSIONAL ENGINEER
66839PE
OREGON
JANUARY 15, 2002
ALEXANDER H. HURLEY
RENEWAL DATE: 6/30/15

REVISIONS

JOB NUMBER 3068

SHEET C050

AKS DRAWING FILE: 3068 COVER SHEETS.DWG | LAYOUT: C050

SW VILLA ROAD

SW WILDLIFE HAVEN COURT

SW MAIN STREET

SW DIVISION STREET

SW ST BARBARA WAY

SOUTHERN PACIFIC RAILROAD

DISTURBANCE BOUNDARY

TAX LOT 10200
TAX MAP 2S 1 32BC
16361 SW
WILDLIFE HAVEN CT

ULTRA-BLOCK WALL

TAX LOT 10100
TAX MAP 2S 1 32BC
16369 SW
WILDLIFE HAVEN CT

TAX LOT 10500
TAX MAP
2S 1 32BC
TRACT 'A'

TAX LOT 10090
TAX MAP 2S 1 32BC
16411 SW
WILDLIFE HAVEN CT

BLOCK RETAINING WALL

TAX LOT 10600
TAX MAP 2S 1 32BC
16192 SW
COLUMBIA ST

TAX LOT
10900
TAX MAP
2S 1 32BC
16182 SW
COLUMBIA ST

NO CONSTRUCTION ACCESS ALLOWED

TAX LOT 11000
TAX MAP 2S 1 32BC
16172 SW
COLUMBIA ST

TAX LOT 11300
TAX MAP 2S 1 32BC
16162 SW COLUMBIA ST

TAX LOT 6000
TAX MAP 2S 1 32BD
16048 SW COLUMBIA ST

TAX LOT 5900
TAX MAP 2S 1 32BD
16034 SW COLUMBIA ST

TAX LOT 5990
TAX MAP 2S 1 32BD
16012 SW COLUMBIA ST

TAX LOT 5800
TAX MAP 2S 1 32BD
22907 SW MAIN ST

BLOCK WALL

BLOCK WALLS

GRAVEL CONSTRUCTION ENTRANCE (TYP)

DRAINAGE FLOW DIRECTION (TYP)

TAX LOT 6807
TAX MAP 2S 1 32BC

TAX LOT 6100
TAX MAP
2S 1 32BD
22939 SW MAIN ST

SEDIMENT FENCE (TYP)

CHECK DAM (TYP)

TAX LOT 6400
TAX MAP 2S 1 32BD
16027 SW DIVISION ST

TAX LOT 6200
TAX MAP 2S 1 32BD
22981 SW MAIN ST

TAX LOT 6300
TAX MAP 2S 1 32BD
22995 SW MAIN ST

TREE PROTECTION FENCE (TYP)

TEMPORARY STAGING, MAINTENANCE, SOLID WASTE AND STOCKPILE AREA

TAX LOT 6600
TAX MAP 2S 1 32CB
TRACT 'B'
23249 SW ST CHARLES WAY

TAX LOT 7700
TAX MAP 2S 1 32CB
23077 SW MAIN ST

INLET PROTECTION (TYP)

TAX LOT 3800
TAX MAP 2S 1 32CB
23018 SW ST
BARBARA WAY

TAX LOT 3900
TAX MAP 2S 1 32CB
23005 SW ST
CHARLES WAY

TAX LOT 3700
TAX MAP 2S 1 32CB
23036 SW ST
BARBARA WAY

LEGEND

- EXISTING GROUND CONTOUR (1 FT)
- EXISTING GROUND CONTOUR (5 FT) — 200
- FINISHED GRADE CONTOUR (1 FT)
- FINISHED GRADE CONTOUR (5 FT) — 200
- SEDIMENT FENCE – PERIMETER (ORANGE)
- SEDIMENT FENCE OR STRAW WATTLE
- DISTURBED AREA
- INLET PROTECTION
- EXISTING TREE TO REMAIN
- EXISTING TREE TO BE REMOVED
- OUTLET PROTECTION
- TREE PROTECTION FENCE
- CONCRETE WASH AREA
- CONSTRUCTION ENTRANCE
- NEW IMPERVIOUS SURFACE
- LONG TERM SLOPE STABILIZATION
- DRAINAGE FLOW DIRECTION
- CHECK DAM

PRE-CONSTRUCTION, CLEARING, AND DEMOLITION NOTES:

1. ALL BASE ESC MEASURES (INLET PROTECTION, PERIMETER SEDIMENT CONTROL, GRAVEL CONSTRUCTION ENTRANCES, ETC.) MUST BE IN PLACE, FUNCTIONAL, AND APPROVED IN AN INITIAL INSPECTION, PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES.

2. SEDIMENT BARRIERS APPROVED FOR USE INCLUDE SEDIMENT FENCE, BERMS CONSTRUCTED OUT OF MULCH, CHIPPINGS, OR OTHER SUITABLE MATERIAL, STRAW WATTLES, OR OTHER APPROVED MATERIALS.

3. SENSITIVE RESOURCES INCLUDING, BUT NOT LIMITED TO, TREES, WETLANDS, AND RIPARIAN PROTECTION AREAS SHALL BE CLEARLY DELINEATED WITH ORANGE CONSTRUCTION FENCING OR CHAIN LINK FENCING IN A MANNER THAT IS CLEARLY VISIBLE TO ANYONE IN THE AREA. NO ACTIVITIES ARE PERMITTED TO OCCUR BEYOND THE CONSTRUCTION BARRIER.

4. CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES INCLUDING, BUT NOT LIMITED TO, STREET SWEEPING, AND VACUUMING, MAY BE REQUIRED TO INSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.

5. RUN-ON AND RUN-OFF CONTROLS SHALL BE IN PLACE AND FUNCTIONING PRIOR TO BEGINNING SUBSTANTIAL CONSTRUCTION ACTIVITIES. RUN-ON AND RUN-OFF CONTROL MEASURES INCLUDE: SLOPE DRAINS (WITH OUTLET PROTECTION), CHECK DAMS, SURFACE ROUGHENING, AND BANK STABILIZATION.

THESE EROSION AND SEDIMENT CONTROL PLANS ASSUME "DRY WEATHER" CONSTRUCTION. "WET WEATHER" CONSTRUCTION MEASURES NEED TO BE APPLIED BETWEEN OCTOBER 1ST AND MAY 31ST.

SCALE 1" = 30 FEET
30 0 12 18 24 30

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CITY OF SHERWOOD

REGIONAL STORMWATER FACILITY

SHERWOOD OREGON

TAX LOTS 6600, 6801, 7300, 10500 WASHINGTON COUNTY TAX MAP 2S 1 32BC & 32CB

CLEARING AND DEMOLITION EROSION AND SEDIMENT CONTROL PLAN

DESIGNED BY: PAS
DRAWN BY: PAS/DS
CHECKED BY: AHH
SCALE: AS NOTED
DATE: 06/30/2014

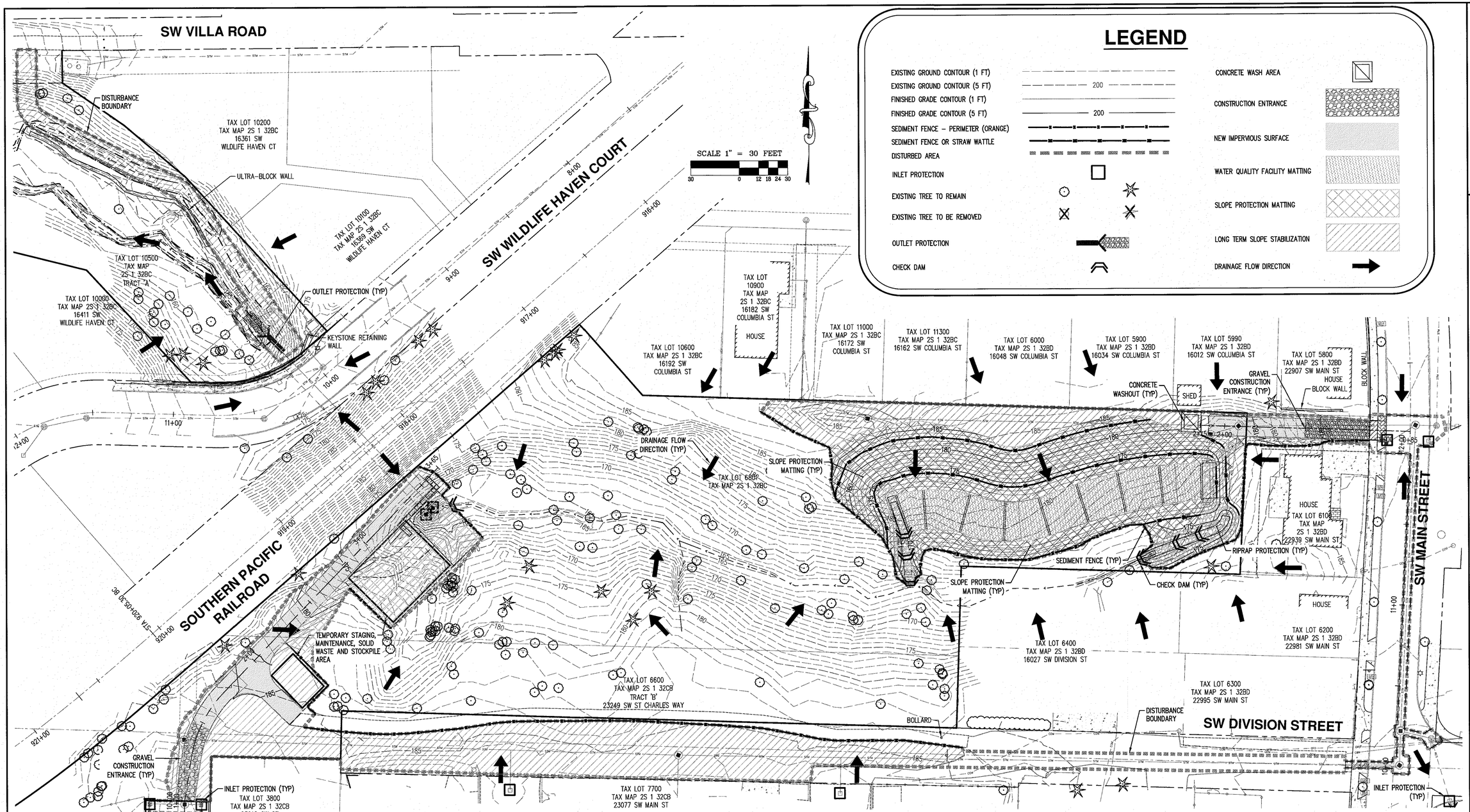
REGISTERED PROFESSIONAL ENGINEER
56539PE
OREGON
JANUARY 15, 2010
ALEXANDER H. HURLEY
RENEWAL DATE: 6/30/15

REVISIONS

JOB NUMBER
3068

SHEET
C051

AKS DRAWING FILE: 3068 C051.DWG | LAYOUT: C051



LEGEND

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- OUTLET PROTECTION
- CHECK DAM
- CONCRETE WASH AREA
- CONSTRUCTION ENTRANCE
- NEW IMPERVIOUS SURFACE
- WATER QUALITY FACILITY MATTING
- SLOPE PROTECTION MATTING
- LONG TERM SLOPE STABILIZATION
- DRAINAGE FLOW DIRECTION

GRADING, STREET AND UTILITY EROSION AND SEDIMENT CONSTRUCTION NOTES:

1. SEED USED FOR TEMPORARY OR PERMANENT SEEDING SHALL BE COMPOSED OF ONE OF THE FOLLOWING MIXTURES, UNLESS OTHERWISE AUTHORIZED:
   - A. VEGETATED CORRIDOR AREAS REQUIRE NATIVE SEED MIXES. SEE RESTORATION PLAN FOR APPROPRIATE SEED MIX.
   - B. DWARF GRASS MIX (MIN. 100 LB./AC.)
     1. DWARF PERENNIAL RYEGRASS (80% BY WEIGHT)
     2. CREEPING RED FESCUE (20% BY WEIGHT)
   - C. STANDARD HEIGHT GRASS MIX (MIN. 100LB./AC.)
     1. ANNUAL RYEGRASS (40% BY WEIGHT)
     2. TURF-TYPE FESCUE (60% BY WEIGHT)
2. SLOPE TO RECEIVE TEMPORARY OR PERMANENT SEEDING SHALL HAVE THE SURFACE ROUGHENED BY MEANS OF TRACK-WALKING OR THE USE OF OTHER APPROVED IMPLEMENTS. SURFACE ROUGHENING IMPROVES SEED BEDDING AND REDUCES RUN-OFF VELOCITY.
3. LONG TERM SLOPE STABILIZATION MEASURES SHALL INCLUDE THE ESTABLISHMENT OF PERMANENT VEGETATIVE COVER VIA SEEDING WITH APPROVED MIX AND APPLICATION RATE.
4. TEMPORARY SLOPE STABILIZATION MEASURES SHALL INCLUDE: COVERING EXPOSED SOIL WITH PLASTIC SHEETING, STRAW MULCHING, WOOD CHIPS, OR OTHER APPROVED MEASURES.
5. STOCKPILED SOIL OR STRIPPINGS SHALL BE PLACED IN A STABLE LOCATION AND CONFIGURATION. DURING "WET WEATHER" PERIODS, STOCKPILES SHALL BE COVERED WITH PLASTIC SHEETING OR STRAW MULCH. SEDIMENT FENCE IS REQUIRED AROUND THE PERIMETER OF THE STOCKPILE.
6. EXPOSED CUT OR FILL AREAS SHALL BE STABILIZED THROUGH THE USE OF TEMPORARY SEEDING AND MULCHING, EROSION CONTROL BLANKETS OR MATS, MID-SLOPE SEDIMENT FENCES OR WATTLES, OR OTHER APPROPRIATE MEASURES. SLOPES EXCEEDING 25% MAY REQUIRE ADDITIONAL EROSION CONTROL MEASURES AS NEEDED.
7. AREAS SUBJECT TO WIND EROSION SHALL USE APPROPRIATE DUST CONTROL MEASURES INCLUDING THE APPLICATION OF A FINE SPRAY OF WATER, PLASTIC SHEETING, STRAW MULCHING, OR OTHER APPROVED MEASURES.
8. CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES INCLUDING, BUT NOT LIMITED TO, TIRE WASHES, STREET SWEEPING, AND VACUUMING MAY BE BE REQUIRED TO INSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.
9. ACTIVE INLETS TO STORM WATER SYSTEMS SHALL BE PROTECTED THROUGH THE USE OF APPROVED INLET PROTECTION MEASURES. ALL INLET PROTECTION MEASURES ARE TO BE REGULARLY INSPECTED AND MAINTAINED AS NEEDED.
10. SATURATED MATERIALS THAT ARE HAULED OFF-SITE MUST BE TRANSPORTED IN WATER-TIGHT TRUCKS TO ELIMINATE SPILLAGE OF SEDIMENT AND SEDIMENT-LADEN WATER.
11. AN AREA SHALL BE PROVIDED FOR THE WASHING OUT OF CONCRETE TRUCKS IN A LOCATION THAT DOES NOT PROVIDE RUN-OFF THAT CAN ENTER THE STORM WATER SYSTEM. IF THE CONCRETE WASH-OUT AREA CAN NOT BE CONSTRUCTED GREATER THAN 50' FROM ANY DISCHARGE POINT, SECONDARY MEASURES SUCH AS BERMS OR TEMPORARY SETTLING PITS MAY BE REQUIRED. THE WASH-OUT SHALL BE LOCATED WITHIN SIX FEET OF TRUCK ACCESS AND BE CLEANED WHEN IT REACHES 50% OF THE CAPACITY.
12. SWEEPINGS FROM EXPOSED AGGREGATE CONCRETE SHALL NOT BE TRANSFERRED TO THE STORM WATER SYSTEM. SWEEPINGS SHALL BE PICKED UP AND DISPOSED IN THE TRASH.
13. AVOID PAVING IN WET WEATHER WHEN PAVING CHEMICALS CAN RUN-OFF INTO THE STORM WATER SYSTEM.
14. USE BMPs SUCH AS CHECK-DAMS, BERMS, AND INLET PROTECTION TO PREVENT RUN-OFF FROM REACHING DISCHARGE POINTS.
15. COVER CATCH BASINS, MANHOLES, AND OTHER DISCHARGE POINTS WHEN APPLYING SEAL COAT, TACK COAT, ETC. TO PREVENT INTRODUCING THESE MATERIALS TO THE STORM WATER SYSTEM.

THESE EROSION AND SEDIMENT CONTROL PLANS ASSUME "DRY WEATHER" CONSTRUCTION. "WET WEATHER" CONSTRUCTION MEASURES NEED TO BE APPLIED BETWEEN OCTOBER 1ST AND MAY 31ST.

EROSION AND SEDIMENT CONTROL BMP IMPLEMENTATION:

1. ALL BASE ESC MEASURES (INLET PROTECTION, PERIMETER SEDIMENT CONTROL, GRAVEL CONSTRUCTION ENTRANCES, ETC.) MUST BE IN PLACE, FUNCTIONAL, AND APPROVED IN AN INITIAL INSPECTION, PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES.
2. ALL "SEDIMENT BARRIERS (TO BE INSTALLED AFTER GRADING)" SHALL BE INSTALLED IMMEDIATELY FOLLOWING ESTABLISHMENT OF FINISHED GRADE AS SHOWN ON THESE PLANS.
3. LONG TERM SLOPE STABILIZATION MEASURES "INCLUDING MATTING" SHALL BE IN PLACE OVER ALL EXPOSED SOILS BY OCTOBER 1.
4. THE STORM WATER FACILITY SHALL BE CONSTRUCTED AND LANDSCAPED PRIOR TO THE STORM WATER SYSTEM FUNCTIONING AND SITE PAVING.
5. INLET PROTECTION SHALL BE IN-PLACE IMMEDIATELY FOLLOWING PAVING ACTIVITIES.

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TAX LOTS 6600, 6801, 7300, 10500 WASHINGTON COUNTY TAX MAP 2S 1 32BC & 32CB

GRADING EROSION AND SEDIMENT CONTROL PLAN

DESIGNED BY:	PAS
DRAWN BY:	PAS/DS
CHECKED BY:	AHH
SCALE:	AS NOTED
DATE:	06/30/2014

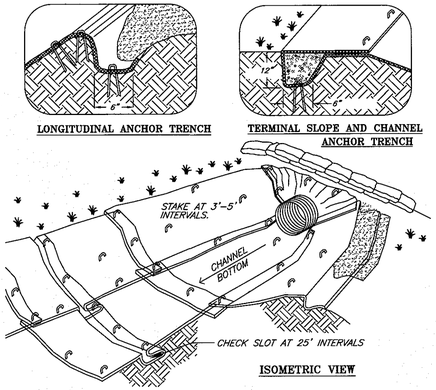
REGISTERED PROFESSIONAL ENGINEER
66539PE
OREGON
JANUARY 15, 2010
ALEXANDER H. HURLEY
RENEWAL DATE: 6/30/15

REVISIONS

JOB NUMBER 3068

SHEET C052

AKS DRAWING FILE: 3068 C052.DWG | LAYOUT: C052



LONGITUDINAL ANCHOR TRENCH

TERMINAL SLOPE AND CHANNEL ANCHOR TRENCH

ISOMETRIC VIEW

INITIAL CHANNEL ANCHOR TRENCH

INTERMITTENT CHECK SLOT

NOTES:
1. CHECK SLOTS TO BE CONSTRUCTED PER MANUFACTURERS SPECIFICATIONS.
2. STAKING OR STAPLING LAYOUT PER MANUFACTURERS SPECIFICATIONS.

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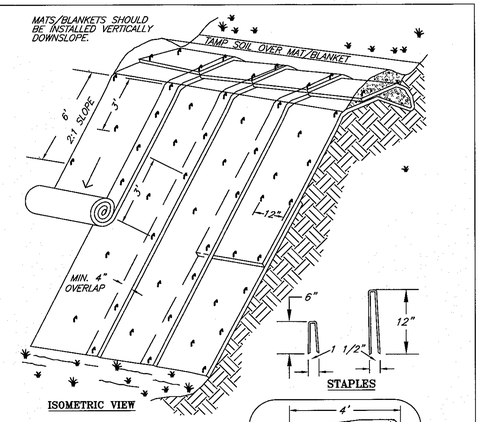
FILE: BLNKTCHA

MATTING CHANNEL INSTALLATION

DRAWING NO. 800 REVISED 12-06

Clean Water Services
Our commitment is clear.



ISOMETRIC VIEW

STAPLES

TYPICAL SLOPE SOIL STABILIZATION

NOTES:
1. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS AND GRASS. MATS/BLANKETS SHALL HAVE GOOD SOIL CONTACT.
2. APPLY PERMANENT SEEDING BEFORE PLACING BLANKETS.
3. LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.
4. STAKING OR STAPLING LAYOUT PER MANUFACTURERS SPECIFICATIONS.

NOT TO SCALE

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FILE: BLNKTSLP

MATTING SLOPE INSTALLATION

DRAWING NO. 805 REVISED 12-06

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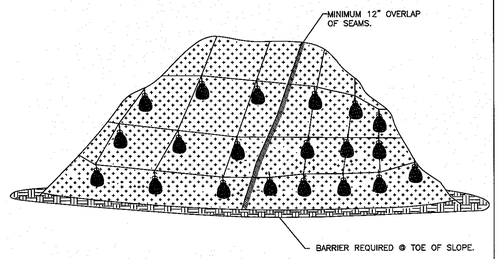
FOR FURTHER INFORMATION ON DESIGN CRITERIA SEE CHAPTER 4 OF CLEAN WATER SERVICES EROSION PREVENTION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL.



PLASTIC SHEETING

NOTES:
1. MINIMUM 12" OVERLAP OF ALL SEAMS REQUIRED.
2. BARRIER REQUIRED @ TOE OF STOCK PILE.
3. COVERING MAINTAINED TIGHTLY IN PLACE BY USING SANDBAGS OR TIRES ON ROPES WITH A MAXIMUM 10' GRID SPACING IN ALL DIRECTIONS.

PLASTIC SHEETING

DRAWING NO. 810 REVISED 12-06

Clean Water Services
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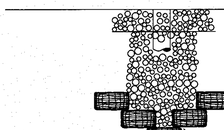
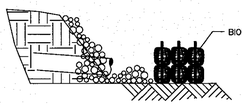


PLAN VIEW
NTS



PROFILE

NOTE:
1. BIO BAGS ONLY REQUIRED WHEN DISCHARGING SEDIMENT LADEN WATER.
2. STAKING OF BAGS REQUIRED WITH EITHER METHOD USING (2) 1"x 2" WOOD STAKES OR APPROVED EQUAL PER BAG.

FOR FURTHER INFORMATION ON DESIGN CRITERIA SEE CHAPTER 4 OF CLEAN WATER SERVICES EROSION PREVENTION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL.

OUTLET PROTECTION RIP RAP

Detail Drawing 820 REVISED 12-06

Clean Water Services
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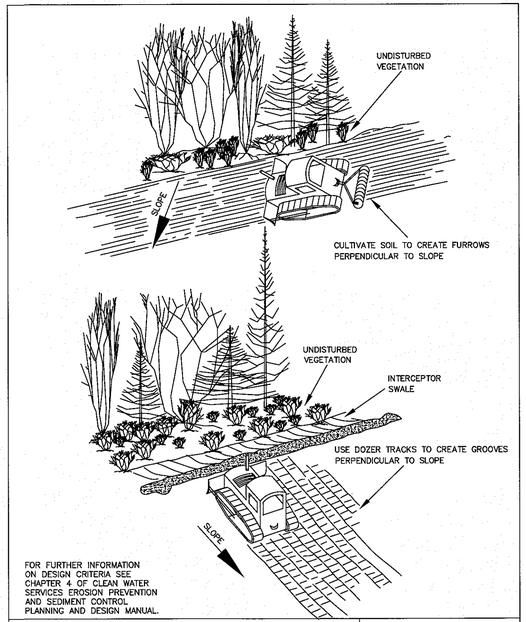


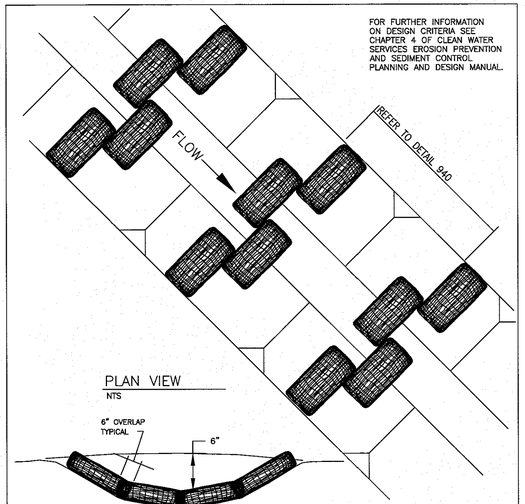
FOR FURTHER INFORMATION ON DESIGN CRITERIA SEE CHAPTER 4 OF CLEAN WATER SERVICES EROSION PREVENTION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL.

SURFACE ROUGHENING CAT TRACKING

DRAWING NO. 830 REVISED 12-06

Clean Water Services
Our commitment is clear.

FOR FURTHER INFORMATION ON DESIGN CRITERIA SEE CHAPTER 4 OF CLEAN WATER SERVICES EROSION PREVENTION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL.



PLAN VIEW
NTS

PROFILE
NTS

NOTES:
1. STAKING OF BAGS REQUIRED USING (2) 1"X2" WOOD STAKES OR APPROVED EQUAL PER BAG.
2. SURFACE MUST BE SMOOTH BEFORE APPLICATION.
3. CHECK DAMS CAN BE CONSTRUCTED USING STRAW WATTLES OR OTHER MATERIALS AS APPROVED BY THE DISTRICT OR CITY.

CHECK DAM BIO-FILTER BAG

DRAWING NO. 845 REVISED 12-06

Clean Water Services
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AKS ENGINEERING AND FORESTRY, LLC
12965 SW HERMAN RD
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TUALATIN, OR 97062
PHONE: 503.563.6151
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CITY OF SHERWOOD

REGIONAL STORMWATER FACILITY

SHERWOOD OREGON

TAX LOTS 6600, 6801, 7300, 10500 WASHINGTON COUNTY TAX MAP 2S 1 32BC & 32CB

EROSION CONTROL DETAILS

DESIGNED BY:	PAS
DRAWN BY:	PAS/DS
CHECKED BY:	AHH
SCALE:	AS NOTED

DATE: 06/30/2014

REGISTERED PROFESSIONAL ENGINEER
56539PE
OREGON
JANUARY 15, 2008
ALEXANDER H. HURLEY

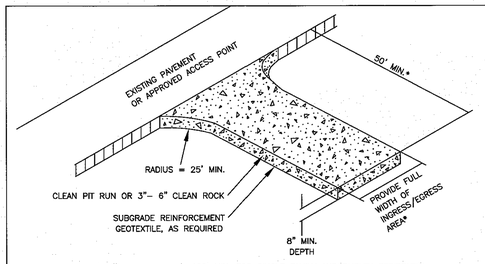
RENEWAL DATE: 6/30/15

REVISIONS

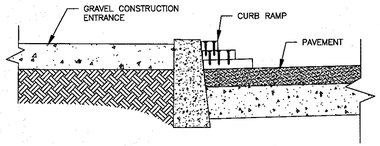
JOB NUMBER
3068

SHEET
C053

AKS DRAWING FILE: 3068 DETAILS.DWG | LAYOUT: C053



*20' MIN. FOR SINGLE FAMILY AND DUPLEX RESIDENTIAL



NOTES:

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF- WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
4. WHERE RUNOFF CONTAINING SEDIMENT LADEN WATER IS LEAVING THE SITE VIA THE CONSTRUCTION ENTRANCE, OTHER MEASURES SHALL BE IMPLEMENTED TO DIVERT RUNOFF THROUGH AN APPROVED FILTERING SYSTEM.
5. DIMENSIONS
   - SINGLE FAMILY
     20' LONG BY 20' WIDE 8" DEEP OF ¾" MINUS CLEAN ROCK.
   - COMMERCIAL
     50' LONG BY 20' WIDE 3-6" CLEAN ROCK, GOVERNING CLA AUTHORITY MAY REQUIRE GEOTEXTILE FABRIC TO PREVENT SUB-SOIL PUMPING.

FOR FURTHER INFORMATION ON DESIGN CRITERIA SEE CHAPTER 4 OF CLEAN WATER SERVICES EROSION PREVENTION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL.

CONSTRUCTION ENTRANCE

Detail Drawing 855 REVISED 12-06

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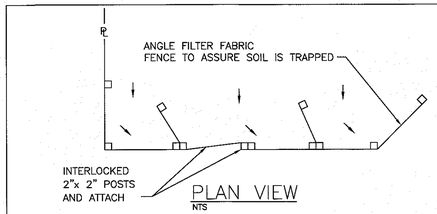
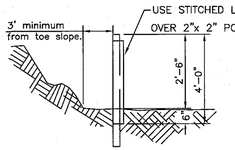


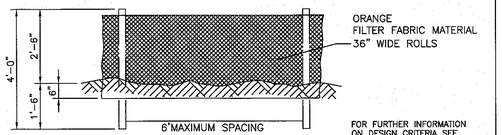
PLAN VIEW
NTS



PROFILE
NTS

NOTES:

1. BURY BOTTOM OF FILTER FABRIC 6" VERTICALLY BELOW FINISHED GRADE.
2. 2"x 2" FIR, PINE OR STEEL FENCE POSTS.
3. POSTS TO BE INSTALLED ON UPHILL SIDE OF SLOPE.
4. COMPACT BOTH SIDES OF FILTER FABRIC TRENCH.
5. PANELS MUST BE PLACED ACCORDING TO SPACING ON DETAIL NO.940



FRONT VIEW
NTS

FOR FURTHER INFORMATION ON DESIGN CRITERIA SEE CHAPTER 4 OF CLEAN WATER SERVICES EROSION PREVENTION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL.

SEDIMENT FENCE

DRAWING NO. 875 REVISED 12-06

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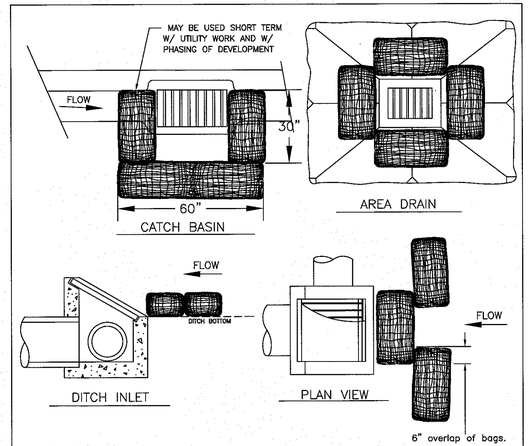

NOTES:

1. ADDITIONAL MEASURES MUST BE CONSIDERED DEPENDING ON SOIL TYPES.
2. BIO-FILTER BAGS SHOULD BE STAKED WHERE APPLICABLE USING (2) 1"x2"WOODEN STAKES OR APPROVED EQUAL PER BAG.
3. WHEN USING 30" BIO-BAGS TO PROTECT A CATCH BASIN YOU MUST HAVE 4 BAGS AND THEY SHALL BE OVERLAPPED BY 6".

FOR FURTHER INFORMATION ON DESIGN CRITERIA SEE CHAPTER 4 OF CLEAN WATER SERVICES EROSION PREVENTION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL.

INLET PROTECTION TYPE 4

DRAWING NO. 915 REVISED 12-06

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FOR FURTHER INFORMATION ON DESIGN CRITERIA SEE CHAPTER 4 OF CLEAN WATER SERVICES EROSION PREVENTION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL.

SPACING FOR CHECK DAMS

DITCH GRADE	6 INCH	12 INCH	18 INCH
6%	NOT ALLOWED	16 FT O.C.	26 FT O.C.
5%	NOT ALLOWED	20 FT	30 FT
4%	NOT ALLOWED	26 FT	40 FT
3%	15 FT	33 FT	50 FT
2%	25 FT	50 FT	80 FT

BARRIER SPACING FOR GENERAL APPLICATION

INSTALL PARALLEL ALONG CONTOURS AS FOLLOWS

% SLOPE	SLOPE	MAXIMUM SPACING ON SLOPE
10% OR FLATTER	10:1 OR FLATTER	300 FT
>10% OR <15%	>10:1 OR <7.5:1	150 FT
>15% OR <20%	>7.5:1 OR <5:1	100 FT
>20% OR <30%	>5:1 OR <3.5:1	50 FT
>30% OR <50%	>3.5:1 OR <2:1	25 FT

FOR MORE INFORMATION REGARDING THESE TABLES SEE CHAPTER 4 TABLES 4-3 AND 4-7 OF CLEAN WATER SERVICES EROSION PREVENTION AND SEDIMENT CONTROL DESIGN MANUAL.

SPACING TABLES

DRAWING NO. 940 REVISED 12-06

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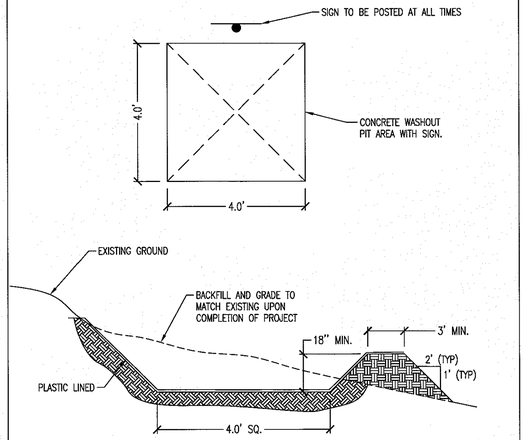

NOTE: CONTRACTOR SHALL TAKE PRECAUTIONS SO AS TO NOT OVERFLOW PIT.

NOTES:

1. REMOVE AND LEGALLY DISPOSE OF WASTE MATERIAL WHEN IT ACCUMULATES TO 1/2 OF WET STORAGE CAPACITY OF PIT.
2. CONCRETE WASHOUT AREA TO BE REPAIRED AND/OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR CONCRETE.
3. UPON COMPLETION OF CONSTRUCTION ACTIVITIES REQUIRING CONCRETE WASHOUT, THE WASHOUT SHALL BE REMOVED AND THE AREA RESORED TO FINISH GRADE AND EXISTING CONDITION.

CONCRETE TRUCK WASHOUT

NTS

AKS ENGINEERING AND FORESTRY, LLC
12965 SW HERMAN RD
SUITE 100
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CITY OF SHERWOOD
REGIONAL STORMWATER FACILITY
SHERWOOD OREGON

TAX LOTS 6600, 6801, 7300, 10500 WASHINGTON COUNTY TAX MAP 2S 1 32BC & 32CB

EROSION CONTROL DETAILS

DESIGNED BY: PAS
DRAWN BY: PAS/DS
CHECKED BY: AHH
SCALE: AS NOTED
DATE: 06/30/2014

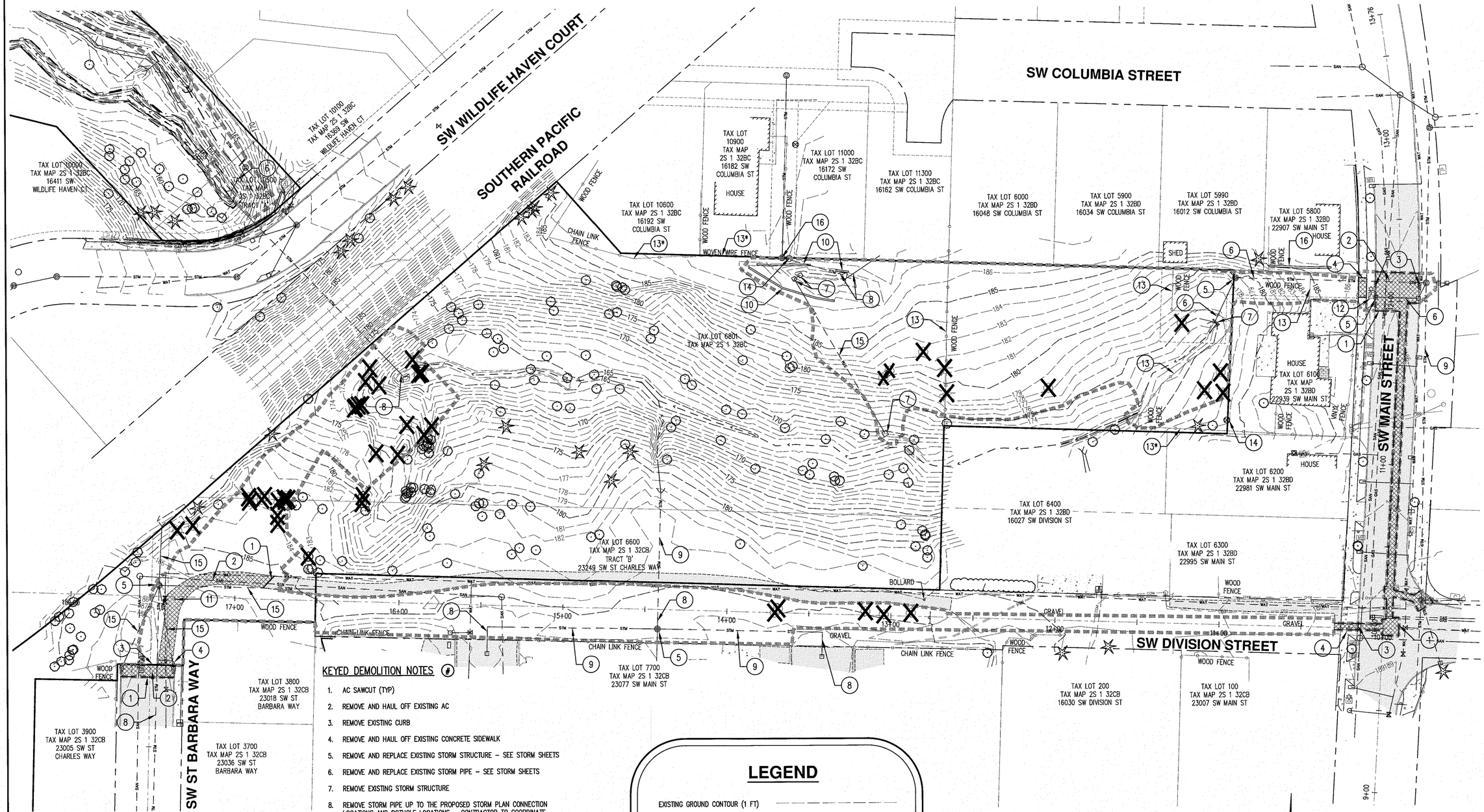
REGISTERED PROFESSIONAL ENGINEER
56239PE
OREGON
JANUARY 15, 2009
ALEXANDER H. HURLEY
RENEWAL DATE: 6/30/15

REVISIONS

JOB NUMBER
3068

SHEET
C054

AKS DRAWING FILE: 3068 DETAILS.DWG | LAYOUT: C054



KEYED DEMOLITION NOTES (#)

1. AC SAWCUT (TYP)
2. REMOVE AND HAUL OFF EXISTING AC
3. REMOVE EXISTING CURB
4. REMOVE AND HAUL OFF EXISTING CONCRETE SIDEWALK
5. REMOVE AND REPLACE EXISTING STORM STRUCTURE – SEE STORM SHEETS
6. REMOVE AND REPLACE EXISTING STORM PIPE – SEE STORM SHEETS
7. REMOVE EXISTING STORM STRUCTURE
8. REMOVE STORM PIPE UP TO THE PROPOSED STORM PLAN CONNECTION LOCATIONS AND POTHOLE LOCATIONS – CONTRACTOR TO COORDINATE WITH PROJECT ENGINEER
9. STORM PIPE TO BE GROUTED AND ABANDONED IN PLACE – CONTRACTOR TO COORDINATE WITH PROJECT ENGINEER PRIOR TO BEGINNING WORK
10. REMOVE EXISTING RETAINING WALL – SEE GRADING SHEET
11. REMOVE EXISTING BOLLARD
12. RELOCATE EXISTING POWER UTILITIES AND STREET LIGHT TO THE NORTH OF PROPOSED DRIVEWAY – CONTRACTOR TO COORDINATE WITH PROJECT ENGINEER, CITY AND UTILITY PROVIDER
13. REMOVE EXISTING ONSITE WOOD, PROPERTY CHAINLINK, OR WOVEN WIRE FENCE. PROTECT AND REINSTALL AS NOTED. (* REINSTALL FENCE AT PROPERTY LINE – SEE SHEET L003)
14. CAP/REMOVE EXISTING IRRIGATION LINES/VALVES AT PROPERTY LINE
15. REMOVE EXISTING STORM PIPE
16. PROTECT EXISTING FENCE – DO NOT DAMAGE

LEGEND

- EXISTING GROUND CONTOUR (1 FT)
- EXISTING GROUND CONTOUR (5 FT) — 300
- EXISTING TREE TO REMAIN
- EXISTING TREE TO BE REMOVED
- DISTURBED AREA
- AC SAWCUT
- CURB TO BE REMOVED
- AC/SIDEWALK TO BE REMOVED

SCALE 1" = 30 FEET

30 0 12 18 24 30

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REGIONAL STORMWATER FACILITY

SHERWOOD OREGON

TAX LOTS 6600, 6801, 7300, 10500 WASHINGTON COUNTY TAX MAP 2S 1 32BC & 32CB

DEMOLITION PLAN

DESIGNED BY: PAS
DRAWN BY: PAS/DS
CHECKED BY: AHH
SCALE: AS NOTED
DATE: 06/30/2014

REGISTERED PROFESSIONAL ENGINEER 56639PE OREGON JANUARY 15, 2002 ALEXANDER H. HURLEY

RENEWAL DATE: 6/30/15

REVISIONS

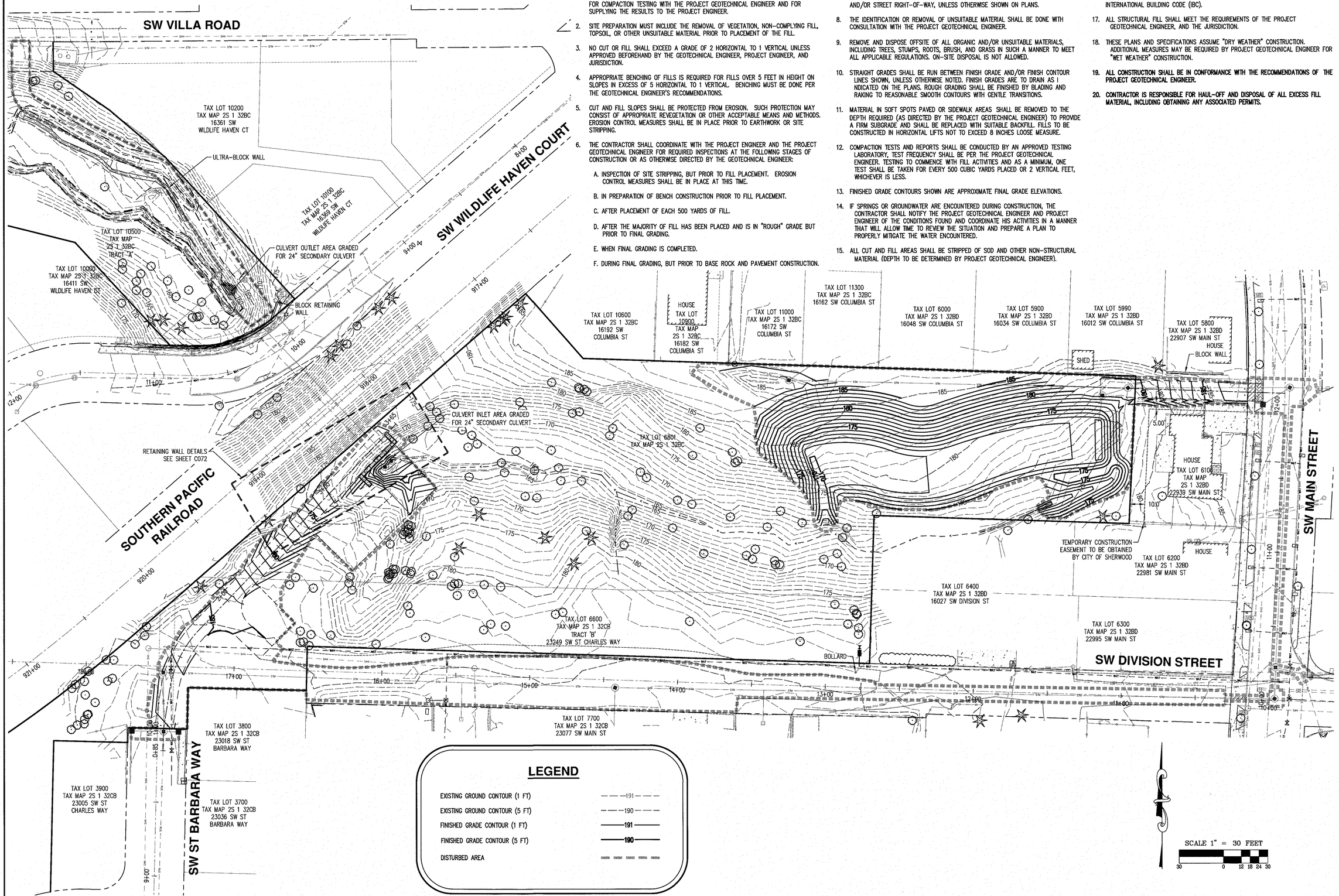
JOB NUMBER 3068

SHEET C070

AKS DRAWING FILE: 3068 C070.DWG | LAYOUT: C070

GRADING NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING THE NECESSARY ARRANGEMENTS FOR COMPACTION TESTING WITH THE PROJECT GEOTECHNICAL ENGINEER AND FOR SUPPLYING THE RESULTS TO THE PROJECT ENGINEER.
2. SITE PREPARATION MUST INCLUDE THE REMOVAL OF VEGETATION, NON-COMPLYING FILL, TOPSOIL, OR OTHER UNSUITABLE MATERIAL PRIOR TO PLACEMENT OF THE FILL.
3. NO CUT OR FILL SHALL EXCEED A GRADE OF 2 HORIZONTAL TO 1 VERTICAL UNLESS APPROVED BEFOREHAND BY THE GEOTECHNICAL ENGINEER, PROJECT ENGINEER, AND JURISDICTION.
4. APPROPRIATE BENCHING OF FILLS IS REQUIRED FOR FILLS OVER 5 FEET IN HEIGHT ON SLOPES IN EXCESS OF 5 HORIZONTAL TO 1 VERTICAL. BENCHING MUST BE DONE PER THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.
5. CUT AND FILL SLOPES SHALL BE PROTECTED FROM EROSION. SUCH PROTECTION MAY CONSIST OF APPROPRIATE REVEGETATION OR OTHER ACCEPTABLE MEANS AND METHODS. EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO EARTHWORK OR SITE STRIPPING.
6. THE CONTRACTOR SHALL COORDINATE WITH THE PROJECT ENGINEER AND THE PROJECT GEOTECHNICAL ENGINEER FOR REQUIRED INSPECTIONS AT THE FOLLOWING STAGES OF CONSTRUCTION OR AS OTHERWISE DIRECTED BY THE GEOTECHNICAL ENGINEER:
   - A. INSPECTION OF SITE STRIPPING, BUT PRIOR TO FILL PLACEMENT. EROSION CONTROL MEASURES SHALL BE IN PLACE AT THIS TIME.
   - B. IN PREPARATION OF BENCH CONSTRUCTION PRIOR TO FILL PLACEMENT.
   - C. AFTER PLACEMENT OF EACH 500 YARDS OF FILL.
   - D. AFTER THE MAJORITY OF FILL HAS BEEN PLACED AND IS IN "ROUGH" GRADE BUT PRIOR TO FINAL GRADING.
   - E. WHEN FINAL GRADING IS COMPLETED.
   - F. DURING FINAL GRADING, BUT PRIOR TO BASE ROCK AND PAVEMENT CONSTRUCTION.
7. PROJECT GRADING LIMITS SHALL BE WITHIN THE PROJECT'S PROPERTY BOUNDARY AND/OR STREET RIGHT-OF-WAY, UNLESS OTHERWISE SHOWN ON PLANS.
8. THE IDENTIFICATION OR REMOVAL OF UNSUITABLE MATERIAL SHALL BE DONE WITH CONSULTATION WITH THE PROJECT GEOTECHNICAL ENGINEER.
9. REMOVE AND DISPOSE OFFSITE OF ALL ORGANIC AND/OR UNSUITABLE MATERIALS, INCLUDING TREES, STUMPS, ROOTS, BRUSH, AND GRASS IN SUCH A MANNER TO MEET ALL APPLICABLE REGULATIONS. ON-SITE DISPOSAL IS NOT ALLOWED.
10. STRAIGHT GRADES SHALL BE RUN BETWEEN FINISH GRADE AND/OR FINISH CONTOUR LINES SHOWN, UNLESS OTHERWISE NOTED. FINISH GRADES ARE TO DRAIN AS INDICATED ON THE PLANS. ROUGH GRADING SHALL BE FINISHED BY BLADING AND RAKING TO REASONABLE SMOOTH CONTOURS WITH GENTLE TRANSITIONS.
11. MATERIAL IN SOFT SPOTS PAVED OR SIDEWALK AREAS SHALL BE REMOVED TO THE DEPTH REQUIRED (AS DIRECTED BY THE PROJECT GEOTECHNICAL ENGINEER) TO PROVIDE A FIRM SUBGRADE AND SHALL BE REPLACED WITH SUITABLE BACKFILL. FILLS TO BE CONSTRUCTED IN HORIZONTAL LIFTS NOT TO EXCEED 8 INCHES LOOSE MEASURE.
12. COMPACTION TESTS AND REPORTS SHALL BE CONDUCTED BY AN APPROVED TESTING LABORATORY, TEST FREQUENCY SHALL BE PER THE PROJECT GEOTECHNICAL ENGINEER. TESTING TO COMMENCE WITH FILL ACTIVITIES AND AS A MINIMUM, ONE TEST SHALL BE TAKEN FOR EVERY 500 CUBIC YARDS PLACED OR 2 VERTICAL FEET, WHICHEVER IS LESS.
13. FINISHED GRADE CONTOURS SHOWN ARE APPROXIMATE FINAL GRADE ELEVATIONS.
14. IF SPRINGS OR GROUNDWATER ARE ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE PROJECT GEOTECHNICAL ENGINEER AND PROJECT ENGINEER OF THE CONDITIONS FOUND AND COORDINATE HIS ACTIVITIES IN A MANNER THAT WILL ALLOW TIME TO REVIEW THE SITUATION AND PREPARE A PLAN TO PROPERLY MITIGATE THE WATER ENCOUNTERED.
15. ALL CUT AND FILL AREAS SHALL BE STRIPPED OF SOD AND OTHER NON-STRUCTURAL MATERIAL (DEPTH TO BE DETERMINED BY PROJECT GEOTECHNICAL ENGINEER).
16. ALL GRADING SHALL BE IN CONFORMANCE WITH APPENDIX J OF THE CURRENT INTERNATIONAL BUILDING CODE (IBC).
17. ALL STRUCTURAL FILL SHALL MEET THE REQUIREMENTS OF THE PROJECT GEOTECHNICAL ENGINEER, AND THE JURISDICTION.
18. THESE PLANS AND SPECIFICATIONS ASSUME "DRY WEATHER" CONSTRUCTION. ADDITIONAL MEASURES MAY BE REQUIRED BY PROJECT GEOTECHNICAL ENGINEER FOR "WET WEATHER" CONSTRUCTION.
19. **ALL CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE RECOMMENDATIONS OF THE PROJECT GEOTECHNICAL ENGINEER.**
20. **CONTRACTOR IS RESPONSIBLE FOR HAUL-OFF AND DISPOSAL OF ALL EXCESS FILL MATERIAL, INCLUDING OBTAINING ANY ASSOCIATED PERMITS.**



LEGEND

- EXISTING GROUND CONTOUR (1 FT) — 191
- EXISTING GROUND CONTOUR (5 FT) — 190
- FINISHED GRADE CONTOUR (1 FT) — 191
- FINISHED GRADE CONTOUR (5 FT) — 190
- DISTURBED AREA

SCALE 1" = 30 FEET

30 0 12 18 24 30

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SUITE 100
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CITY OF SHERWOOD

REGIONAL STORMWATER FACILITY

SHERWOOD OREGON

TAX LOTS 6600, 6801, 7300, 10500 WASHINGTON COUNTY TAX MAP 2S 1 32BC & 32CB

GRADING PLAN

DESIGNED BY:	PAS
DRAWN BY:	PAS/DS
CHECKED BY:	AHH
SCALE:	AS NOTED

DATE: 06/30/2014

REGISTERED PROFESSIONAL ENGINEER 56554PE OREGON JANUARY 15, 2008 ALEXANDER H. HURLEY

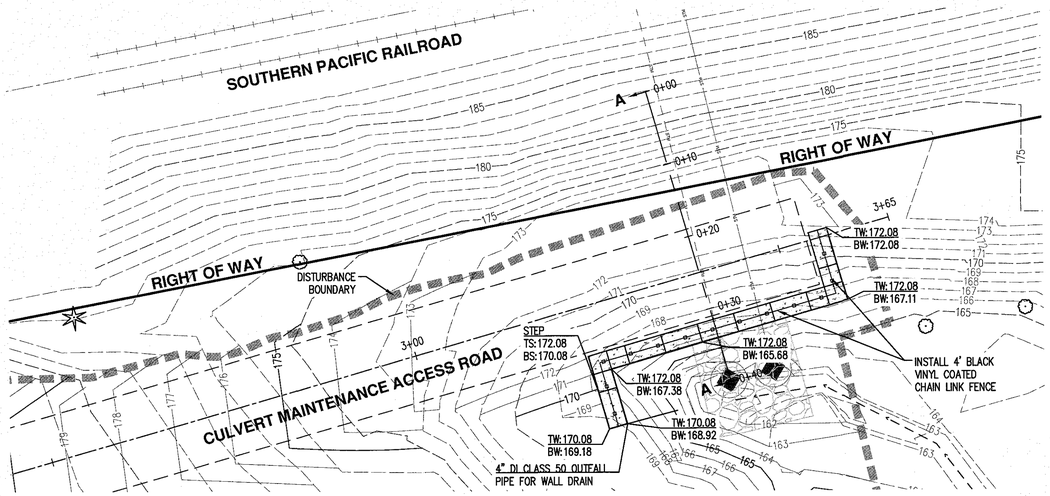
RENEWAL DATE: 6/30/15

REVISIONS

JOB NUMBER 3068

SHEET C071

AKS DRAWING FILE: 3068 C071.DWG | LAYOUT: C071



STONETERRA WALL PLAN VIEW

SCALE 1" = 10 FEET

10 0 4 8 8 10

LEGEND

		(L' X D' X H')
	RETAINING WALL ULTRABLOCK FULL BENCH BLOCK	(5.0' X 2.5' X 2.5')
	RETAINING WALL ULTRABLOCK FULL BLOCK	(5.0' X 2.5' X 2.5')

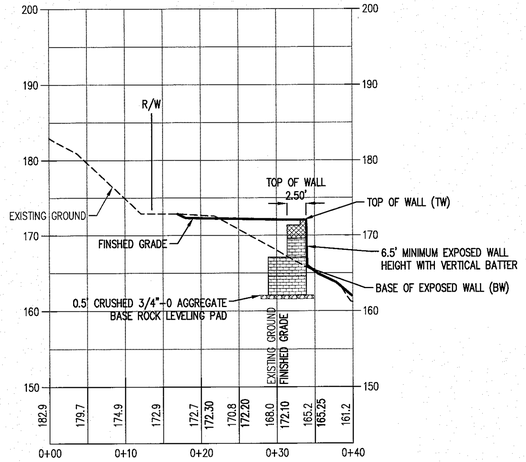
TW – TOP OF WALL ELEVATION
BW – BASE OF EXPOSED WALL ELEVATION
TS – TOP OF WALL TOP OF STEP ELEVATION
BS – TOP OF WALL BOTTOM OF STEP ELEVATION

NOTE: MAXIMUM RETAINING WALL EXPOSED HEIGHT IS 6.50 FEET

NOTES:
THE RETAINING WALL SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE RETAINING WALL DESIGN PROVIDED BY, GEOPACIFIC ENGINEERING, INC, DATED JUNE 11, 2014. RETAINING WALL CONSTRUCTION SHALL BE COORDINATED WITH GEOPACIFIC ENGINEERING.

TOP BLOCK OF WALL MAY UTILIZE CAP OR BENCH BLOCK AS NEEDED TO MATCH GRADE.

CONTRACTOR TO OBTAIN BUILDING PERMIT FROM THE CITY OF SHERWOOD FOR RETAINING WALL CONSTRUCTION.



STONETERRA WALL
HORZ. SCALE: 1"= 10'
VERT. SCALE: 1"= 10'

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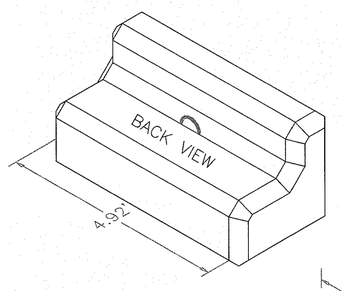
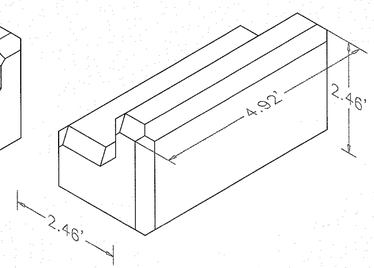
SHERWOOD OREGON
WASHINGTON COUNTY, TAX MAP 2S 1 32BC & 32CB
TAX LOTS 6600, 6801, 7300, 10500

RETAINING WALL PLAN, PROFILE, AND DETAIL

FULL BENCH BLOCK DETAIL

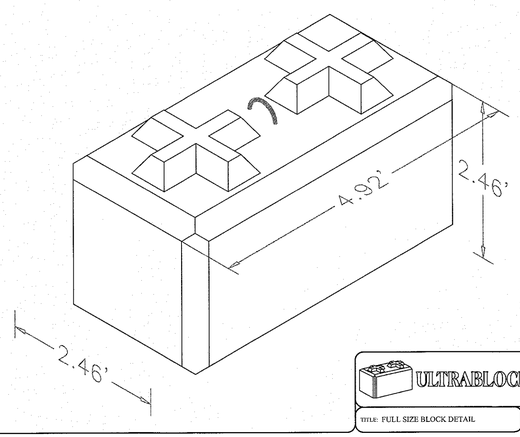




ULTRABLOCK, INC.
815 N.E. 172nd Ave.
VANCOUVER, WA 98684
800-377-3877 PH
360-694-0281 FAX

TITLE: FULL BENCH BLOCK DETAIL | DRAWN BY: AMD | DATE: 12/31/09 | SCALE: NTS | SHEET #: B10

FULL SIZE BLOCK DETAIL



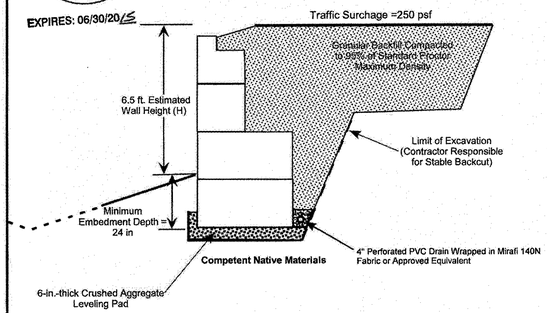
ULTRABLOCK, INC.
815 N.E. 172nd Ave.
VANCOUVER, WA 98684
800-377-3877 PH
360-694-0281 FAX

TITLE: FULL SIZE BLOCK DETAIL | DRAWN BY: AMD | DATE: 12/31/09 | SCALE: NTS | SHEET #: B6

GeoPacific Engineering Inc.
14835 SW 72nd Avenue
Portland, Oregon 97224
Tel: (503) 598-8445 Fax: (503) 941-9281

GRAVITY ULTRA-BLOCK WALL
TYPICAL CONSTRUCTION DETAIL
7-FOOT MAXIMUM HEIGHT

REGISTERED PROFESSIONAL ENGINEER
14749PE
OREGON
JAN. 29, 1999
JAMES D. IMBRIE
EXPIRES: 06/30/15



Notes:

1. GeoPacific should review subgrade soils. Base of wall should be supported on stiff native soils or replacement engineered fill.
2. Use Ultra-block or similar product, 2.5 x 2.5 x 5-foot blocks.
3. Leveling pad and any additional drainage materials should consist of 3/4"-0 crushed aggregate with less than 7 percent fines.
4. Backfill behind the wall should consist of 3/4"-0 crushed aggregate or other granular materials such as reject rock with less than 15 percent fines.

Project: Columbia Street WQF
City of Sherwood, Oregon | Project No. 14-3289 | FIGURE 1

DESIGNED BY:	PAS
DRAWN BY:	PAS/DS
CHECKED BY:	AHH
SCALE:	AS NOTED
DATE:	06/30/2014

REGISTERED PROFESSIONAL ENGINEER
56539PE
OREGON
JANUARY 15, 2009
ALEXANDER H. HURLEY
RENEWAL DATE: 6/30/15

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JOB NUMBER
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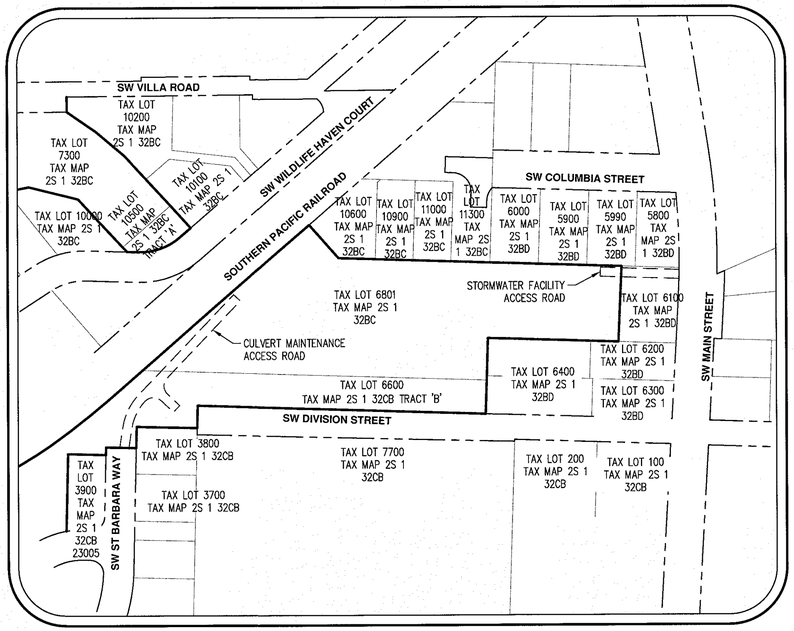
SHEET
C072

AKS DRAWING FILE: 3068 C072.DWG | LAYOUT: C072

CITY OF SHERWOOD

REGIONAL STORMWATER FACILITY
ACCESS ROADS CONSTRUCTION PLANS



SITE MAP
1" = 100'

SHEET INDEX

ACCESS ROAD CONSTRUCTION PLANS
C100 – ACCESS ROADS COVER SHEET AND NOTES
C101 – CULVERT MAINTENANCE ROAD PLAN & PROFILE
C102 – STORMWATER FACILITY ACCESS ROAD PLAN & PROFILE
C103 – STREET DETAILS

ASPHALT CONCRETE NOTES:
HOT MIX ASPHALT CONCRETE (HMAC) PLACEMENT

1. THE PLACING OF ASPHALT CONCRETE WILL BE PERMITTED ONLY DURING DRY WEATHER AND WHEN THE AMBIENT TEMPERATURE IS RISING AND IS EQUAL TO OR GREATER THAN SHOWN IN THE TABLE OF MINIMUM AMBIENT TEMPERATURES.
2. ASPHALT CONCRETE SHALL BE PLACED ON A DRY PREPARED SURFACE.
3. TACK COAT SHALL BE APPLIED AGAINST FACE EDGE OF CURB & AROUND MANHOLE CASTING & OTHER EXPOSED STRUCTURES BEFORE PAVING.
4. ASPHALT EDGES, AFTER ASPHALT CONCRETE HAS BEEN PLACED, SHALL BE SAND SEALED.

MINIMUM AMBIENT TEMPERATURES

NOMINAL SPECIFIED COMPACTED THICKNESS OF INDIVIDUAL COURSES	WEARING COURSES	ALL OTHER COURSES
LESS THAN 2"	60 DEGREES (F)	60 DEGREES (F)
2" – 2½"	40 DEGREES (F)	40 DEGREES (F)
GREATER THAN 2½"	40 DEGREES (F)	40 DEGREES (F)

ATTENTION EXCAVATORS:
OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-001-0090. YOU MAY OBTAIN COPIES OF THESE RULES FROM THE CENTER BY CALLING 503-232-1987. IF YOU HAVE ANY QUESTIONS ABOUT THE RULES, YOU MAY CONTACT THE CENTER. YOU MUST NOTIFY THE CENTER AT LEAST TWO BUSINESS DAYS, BEFORE COMMENCING AN EXCAVATION. CALL 503-246-6699.

AKS ENGINEERING AND FORESTRY, LLC
12965 SW HERMAN RD
SUITE 100
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PHONE: 503.563.6151
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CITY OF SHERWOOD
REGIONAL STORMWATER FACILITY
SHERWOOD OREGON
TAX LOTS 6600, 6801, 7300, 10500 WASHINGTON COUNTY TAX MAP 2S 1 32BC & 32CB

ACCESS ROADS COVER SHEET AND NOTES

DESIGNED BY: PAS
DRAWN BY: PAS/DS
CHECKED BY: AHH
SCALE: AS NOTED
DATE: 06/30/2014

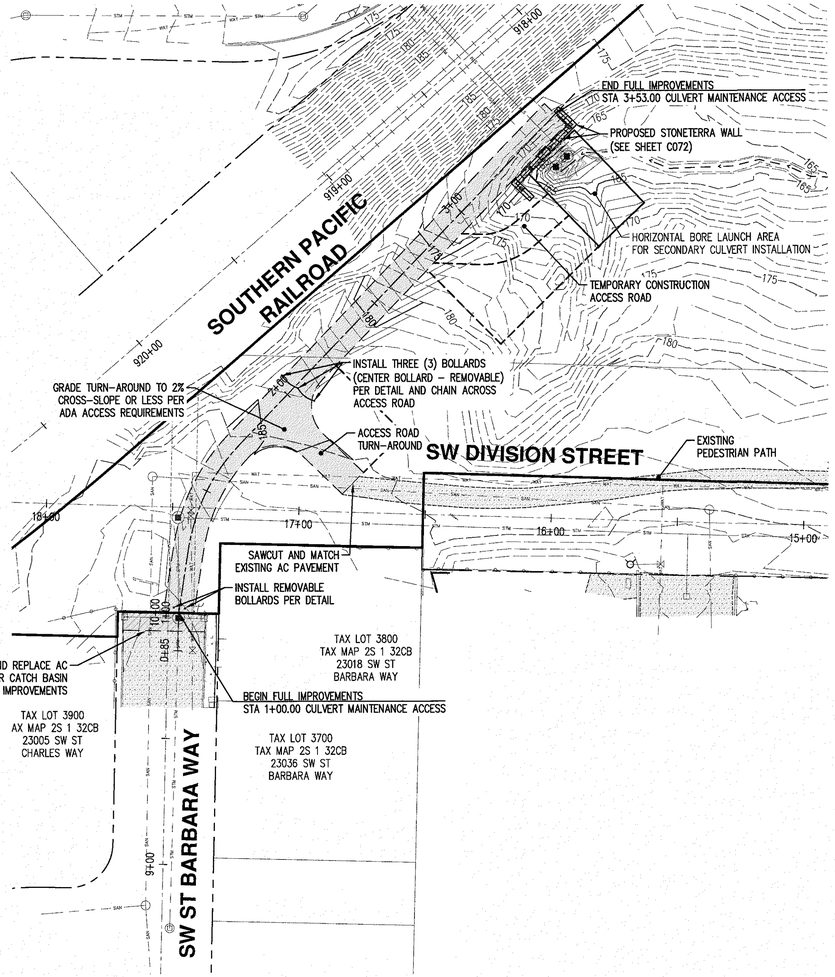
REGISTERED PROFESSIONAL ENGINEER
56534PE
OREGON
JANUARY 15, 2001
ALEXANDER H. HURLEY
RENEWAL DATE: 6/30/15

REVISIONS

JOB NUMBER
3068

SHEET
C100

AKS DRAWING FILE: 3068 COVER SHEETS.DWG | LAYOUT: C100



SCALE 1" = 30 FEET

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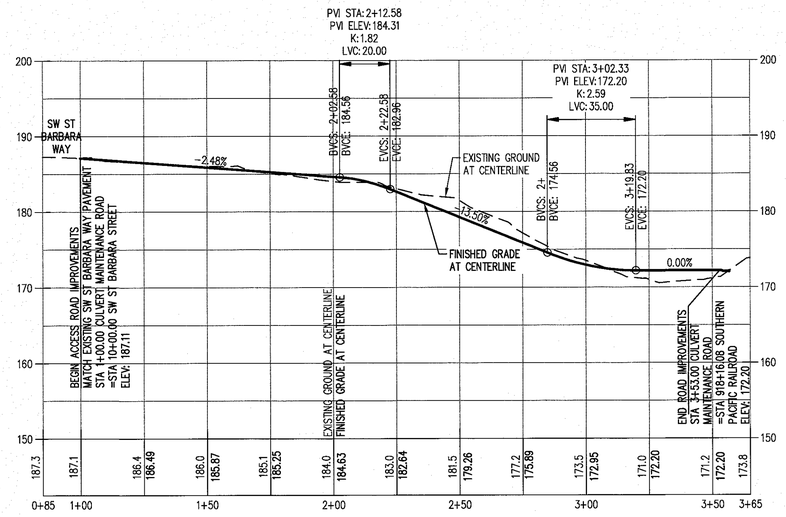
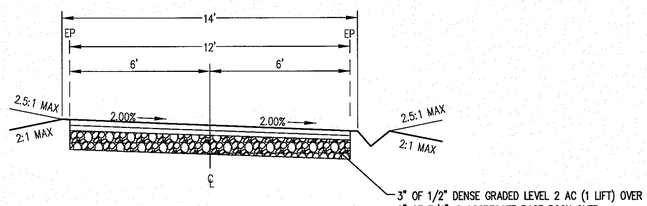


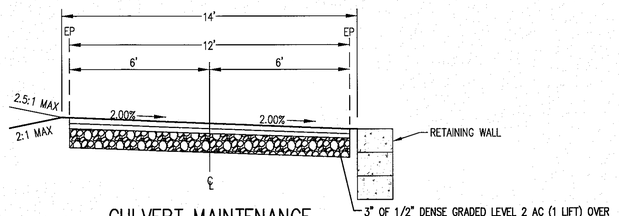
CURVERT MAINTENANCE ACCESS ROAD

HORZ. SCALE: 1"= 30'
VERT. SCALE: 1"= 10'
ALL PROFILE ELEVATIONS ARE BASED
ON CENTERLINE UNLESS OTHERWISE NOTED



CULVERT MAINTENANCE ACCESS ROAD

TYPICAL SECTION
(STA 1+00.00 – STA 3+22.29)
NOT TO SCALE



CULVERT MAINTENANCE ACCESS ROAD

TYPICAL SECTION
(STA 3+22.29 – STA 3+53.00)
NOT TO SCALE

LEGEND

- CONCRETE SIDEWALK CONSTRUCTED BY CONTRACTOR
- EXISTING CONCRETE SIDEWALK
- NEW AC PAVEMENT, PER TYPICAL SECTION
- NEW AC PAVEMENT FOR UTILITY IMPROVEMENTS
- EXISTING AC PAVEMENT
- DRIVEWAY DROP CONSTRUCTED BY CONTRACTOR

COMPACTION REQUIREMENTS:
ASPHALTIC CONCRETE (AC) – 92% MOVING AVERAGE MAXIMUM DENSITY (MAMD) METHOD (UTILIZING RICE VALUE)
ASPHALTIC CONCRETE (AC) SHALL UTILIZED PG 70-27 ASPHALT BINDER
AGGREGATE BASE – 95% MAXIMUM DENSITY OF AASHTO T-180
AGGREGATE SUBBASE – 95 MAXIMUM DENSITY OF AASHTO T-99

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CITY OF SHERWOOD

REGIONAL STORMWATER FACILITY

SHERWOOD OREGON

TAX LOTS 6600, 6801, 7300, 10500 WASHINGTON COUNTY TAX MAP 2S 1 32BC & 32CB

CULVERT MAINTENANCE ROAD PLAN & PROFILE

DESIGNED BY:	PAS
DRAWN BY:	PAS/DS
CHECKED BY:	AHH
SCALE:	AS NOTED
DATE:	06/30/2014

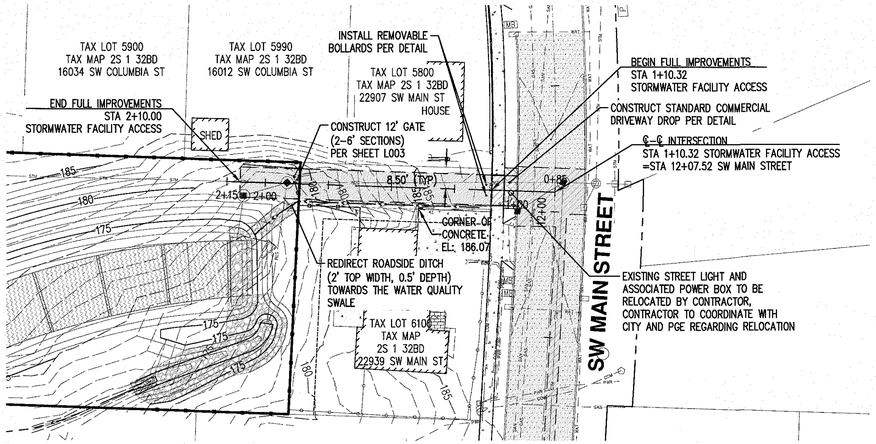
REGISTERED PROFESSIONAL ENGINEER
56558PE
OREGON
JANUARY 15, 2010
ALEXANDER H. HURLEY
RENEWAL DATE: 6/30/15

REVISIONS

JOB NUMBER
3068

SHEET
C101

AKS DRAWING FILE: 3068 C101-C102.DWG | LAYOUT: C101



SCALE 1" = 30 FEET

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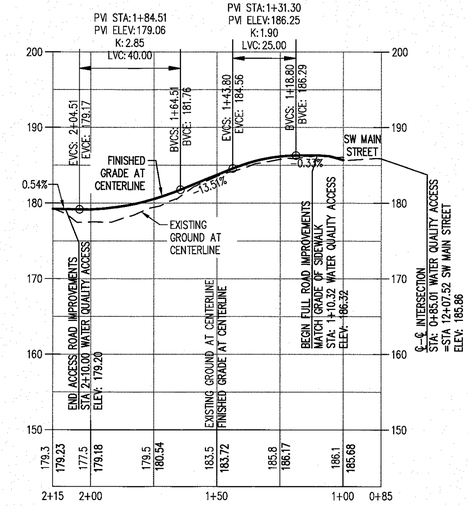
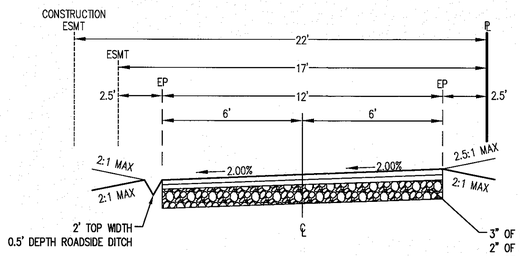


STORMWATER FACILITY ACCESS ROAD

HORZ. SCALE: 1"= 30'
VERT. SCALE: 1"= 10'
ALL PROFILE ELEVATIONS ARE BASED ON CENTERLINE UNLESS OTHERWISE NOTED

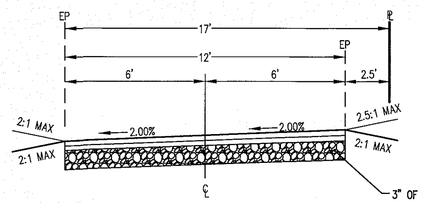
DRIVEWAY CENTERLINE STATION			
STATION	STATION OFFSET	STREET	WIDTH
12+07.87	14.82 LEFT	SW MAIN STREET	12.00



STORMWATER FACILITY MAINTENANCE ACCESS ROAD

TYPICAL SECTION
(STA 1+00.00 – STA 1+86.44)
NOT TO SCALE

3" OF 1/2" DENSE GRADED LEVEL 2 AC (1 LIFT) OVER
2" OF 3/4"-0 AGGREGATE BASE ROCK OVER
6" OF 1 1/2"-0 AGGREGATE SUBBASE ROCK OVER
SEPARATION GEOTEXTILE FABRIC OVER
12" OF COMPACTED SUBGRADE



STORMWATER FACILITY MAINTENANCE ACCESS ROAD

TYPICAL SECTION
(STA 1+86.44 – STA 2+10.00)
NOT TO SCALE

3" OF 1/2" DENSE GRADED LEVEL 2 AC (1 LIFT) OVER
2" OF 3/4"-0 AGGREGATE BASE ROCK OVER
6" OF 1 1/2"-0 AGGREGATE SUBBASE ROCK OVER
SEPARATION GEOTEXTILE FABRIC OVER
12" OF COMPACTED SUBGRADE

COMPACTION REQUIREMENTS:
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CITY OF SHERWOOD

REGIONAL STORMWATER FACILITY

SHERWOOD OREGON
TAX LOTS 6600, 6601, 7300, 10500 WASHINGTON COUNTY TAX MAP 2S 1 32BC & 32DB

STORMWATER FACILITY ACCESS ROAD PLAN & PROFILE

DESIGNED BY:	PAS
DRAWN BY:	PAS/DS
CHECKED BY:	AHH
SCALE:	AS NOTED
DATE: 06/30/2014	

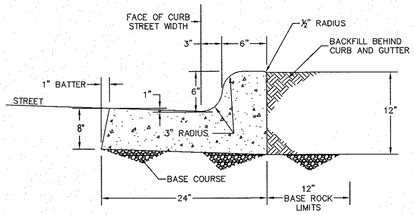
REGISTERED PROFESSIONAL ENGINEER
56534PE
OREGON
JANUARY 15, 2003
ALEXANDER H. HURLEY
RENEWAL DATE: 6/30/15

REVISIONS

JOB NUMBER
3068

SHEET
C102

AKS DRAWING FILE: 3068 C101-C102.DWG | LAYOUT: C102

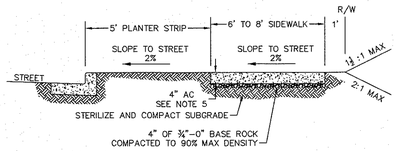


NOTES:

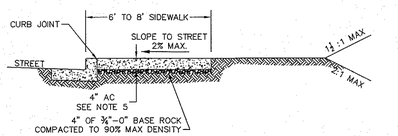
1. MONOLITHIC CURB AND GUTTER SHALL BE USED ON ALL NEW ROADWAY SECTIONS, EXCEPT AT ROADWAY MEDIANS AND AT MOUNTABLE CURB SECTIONS (SEE STD DET RD–21 & RD–24 FOR THESE CONDITIONS).
2. CONCRETE SHALL BE COMMERCIAL MIX, WITH A 28–DAY COMPRESSIVE STRENGTH OF 3300 PSI, WITH A SLUMP RANGE OF 1½" TO 3" MAX.
3. EXPANSION JOINTS TO BE PROVIDED AT EACH:
   A. POINT OF TANGENCY.
   B. COLD JOINT.
   C. SIDE OF INLET STRUCTURES.
   D. SIDE OF DRIVEWAYS.
4. EXPANSION JOINT MATERIAL SHALL BE PRE–MOLDED, ASPHALT IMPREGNATED, NON–EXTRUDING, WITH A THICKNESS OF ½".
5. CONTRACTION JOINTS SHALL HAVE:
   A. SPACING OF NOT MORE THAN 15 FEET.
   B. DEPTH OF JOINT OF AT LEAST 1½".
6. BASE ROCK SHALL BE ¾"–0", COMPACTED TO 95% OF MAXIMUM DENSITY PER AASHTO T–180. BASE ROCK SHALL BE TO SUBGRADE OF STREET STRUCTURES OR 4", WHICHEVER IS GREATER, AND SHALL EXTEND 12" BEHIND CURB.
7. FOR CURB AND GUTTER REQUIREMENTS ON SHED AND SUPERELVATED ROAD SECTIONS, SEE STD DET RD–23.

STANDARD DRAWING TITLE	DRAWING NUMBER
STANDARD MONOLITHIC CURB AND GUTTER	RD-22
SCALE	DATE
N.T.S.	JUL' 09

Any alteration of this drawing may not be associated in any way with the City of Sherwood Standard Drawings.



SIDEWALK WITH PLANTER STRIP
(FOR ALL NEW CONSTRUCTION)



CURB-TIGHT SIDEWALK
(TO BE USED WITH VARIANCE ONLY)

NOTES:

1. CONCRETE SHALL BE COMMERCIAL MIX, MIN. COMPRESSIVE STRENGTH OF 3300 PSI @ 28 DAYS, WITH A SLUMP RANGE OF 1½" MIN. TO 3" MAX.
2. SIDEWALK PANELS TO BE SQUARE (5' LONG x 5' WIDE TYP.).
3. EXPANSION JOINTS TO BE PLACED AT SIDES OF DRIVEWAY APPROACHES, UTILITY VAULTS, CURB RAMPS, AND/OR POINTS OF TANGENCY IN CURB AS SHOWN ON THE STANDARD DRAWINGS FOR SIDEWALK RAMPS, AND AT SPACING NOT TO EXCEED 45'.
4. FOR SIDEWALKS ADJACENT TO THE CURB AND POURED AT THE SAME TIME AS THE CURB, THE JOINT BETWEEN THEM SHALL BE A TROWELED JOINT WITH A MINIMUM ½" RADIUS.
5. SIDEWALKS SHALL HAVE A MINIMUM THICKNESS OF 4". IF MOUNTABLE CURB IS USED, OR IF SIDEWALK IS INTENDED AS PORTION OF A RESIDENTIAL DRIVEWAY IT SHALL HAVE A 6" MINIMUM THICKNESS, COMMERCIAL 8".
6. CONCRETE SHALL HAVE A BROOM FINISH, ALL JOINTS SHALL BE EDGED WITH 3" SHINE.
7. WIDTH OF PLANTER STRIP AND SIDEWALK IS MEASURED FROM FACE OF CURB.
8. IF DRAIN BLOCKOUTS IN CURBS ARE APPROVED, THEY SHALL BE EXTENDED PERPENDICULAR TO CURB TO 1' PAST BACK OF SIDEWALK WITH A 3" DIAMETER ADS PIPE. CONTRACTION JOINT SHALL BE PLACE OVER PIPE.

STANDARD DRAWING TITLE	DRAWING NUMBER
STANDARD SIDEWALK DETAIL	RD-26
SCALE	DATE
N.T.S.	JUL' 09

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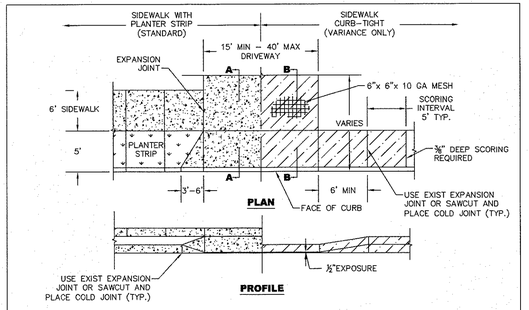
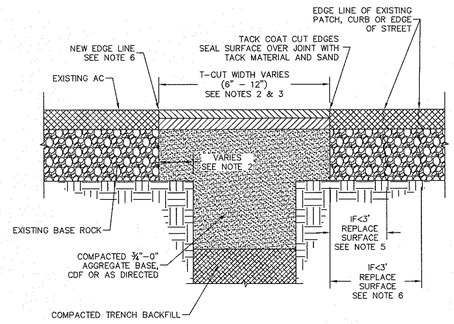


NOTES:

1. CONCRETE SHALL HAVE 8" MINIMUM DEPTH AND A COMPRESSIVE STRENGTH OF 4000 PSI @ 28 DAYS.
2. CURB JOINT SHALL BE A TROWELED JOINT WITH A MINIMUM ½" RADIUS ALONG BACK OF CURB.
3. EXPANSION JOINTS SHALL BE ½" PRE–MOLDED ASPHALT IMPREGNATED MATERIAL, CEDAR OR EQUIVALENT EXTENDING FROM TOP OF BASE TO FINISHED GRADE.
4. CONCRETE SHALL HAVE A BROOM FINISH AND EDGE ALL JOINTS.
5. WEEPHOLES ARE NOT TO BE PLACED IN WINGS.
6. IF CURBING IS BEING REMOVED TO INSTALL DRIVEWAY AND GUTTER SHOULD BECOME SEPARATED FROM THE DRIVING SURFACE IN EXCESS OF ¾", THEN THE GUTTER SHALL ALSO BE REMOVED AND REPLACED.
7. WINGS OF THE COMMERCIAL DRIVEWAY WHICH ARE A PORTION OF THE SIDEWALK SHALL NOT EXCEED A SLOPE OF 8.33% (1:12).
8. ODOT STANDARD DRAWINGS FOR COMMERCIAL DRIVEWAYS MAY BE USED WHEN PRE–APPROVED BY CITY ENGINEER.
9. SLOPE OF THE DRIVEWAY MAY BE AWAY FROM THE CURB WHEN PRE–APPROVED BY THE CITY ENGINEER.

STANDARD DRAWING TITLE	DRAWING NUMBER
STANDARD COMMERCIAL DRIVEWAY DETAIL	RD-42
SCALE	DATE
N.T.S.	JUL' 09

Any alteration of this drawing may not be associated in any way with the City of Sherwood Standard Drawings.



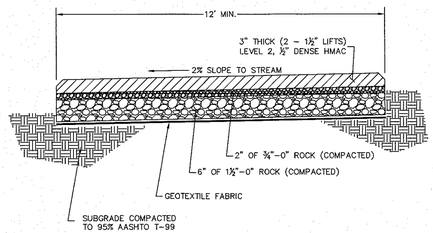
CROSS-SECTION

NOTES:

1. THIS DRAWING APPLIES TO TRENCH CUTS AND OTHER KINDS OF STREET CUTS.
2. SEE STD DET RD–20 FOR TYPICAL STREET PAVEMENT SECTION.
3. T–CUT ASPHALT 6" FOR TRENCHES 12" WIDE OR LESS, ELSE T–CUT IS 12" MINIMUM FOR TRENCHES WIDER THAN 12".
4. ON ALL NON–LOCAL STREETS, WIDTH OF T–CUT SHALL BE A MINIMUM OF 3'. ON ALL LOCAL STREETS, WIDTH OF T–CUT SHALL BE A MINIMUM OF 12" PLUS THE TRENCH WIDTH.
5. IF NEW EDGE OF PAVEMENT IS LESS THAN 3' FROM ANOTHER PATCH, CURB OR EDGE OF STREET, REPLACE THE PAVEMENT IN BETWEEN.
6. IF MORE THAN ONE EXISTING PATCH EDGE IS WITHIN THE 3' ZONE, REMOVE PAVEMENT TO THE FAR EDGE OF THE PRE–EXISTING PATCH.
7. NEW EDGE OF PAVEMENT (EDGE LINE) SHALL NOT LIE IN A WHEEL PATH. WIDTH OF T–CUT SHALL BE WIDENED WHERE NECESSARY TO MOVE THE EDGE LINE OUT OF THE WHEEL PATH AND EITHER: (A) TO LOCATION THAT IS 6" FROM THE NEAREST LINE OR (B) TO THE LOCATION REQUIRED BY NOTE 3 OR 4 ABOVE AS APPLICABLE, WHICHEVER IS NEAREST OF (A) OR (B).

STANDARD DRAWING TITLE	DRAWING NUMBER
ASPHALT PAVEMENT TRENCH RESTORATION	RD-45
SCALE	DATE
N.T.S.	JUL' 09

Any alteration of this drawing may not be associated in any way with the City of Sherwood Standard Drawings.



MAINTENANCE ACCESS ROAD

NOTES:

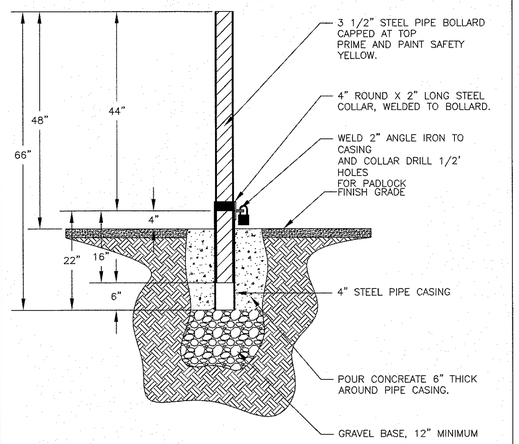
1. ALL WORK AND MATERIALS SHALL CONFORM TO CURRENT CITY STANDARDS.
2. FABRIC TO BE WOVEN GEOTEXTILE (AMOCO 2006) OR APPROVED EQUAL.
3. COMPACT AND STERILIZE SUBGRADE.
4. ACCESS SHALL EXTEND TO WITHIN 10 FT OF ALL STRUCTURES.

STANDARD DRAWING TITLE	DRAWING NUMBER
MAINTENANCE ACCESS ROAD SECTION	RD-64
SCALE	DATE
N.T.S.	JUL' 09

Any alteration of this drawing may not be associated in any way with the City of Sherwood Standard Drawings.

STEEL PIPE SPECIFICATIONS

ASTM A–53 STEEL, SCHEDULE 40, BLACK, HOT DIPPED, ZINC–COATED, WELDED, SEAMLESS
4–INCH STEEL PIPE O.D. = 4.500" I.D. = 4.026 THICKNESS = 0.237
3 1/2–INCH STEEL PIPE O.D. = 4.000" I.D. = 3.549" THICKNESS = 0.226"



STANDARD DRAWING TITLE	DRAWING NUMBER
REMOVABLE BOLLARD	SS-86
SCALE	DATE
N.T.S.	JUL' 09

Any alteration of this drawing may not be associated in any way with the City of Sherwood Standard Drawings.

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CITY OF SHERWOOD
REGIONAL STORMWATER FACILITY
SHERWOOD OREGON

TAX LOTS 6600, 6801, 7300, 10500 WASHINGTON COUNTY TAX MAP 2S 1 32BC & 32DB

STREET DETAILS

DESIGNED BY:	PAS
DRAWN BY:	PAS/DS
CHECKED BY:	AHH
SCALE:	AS NOTED
DATE:	06/30/2014

REGISTERED PROFESSIONAL ENGINEER
66539PE
OREGON
JANUARY 15, 2005
ALEXANDER H. HURLEY
RENEWAL DATE: 6/30/15

REVISIONS

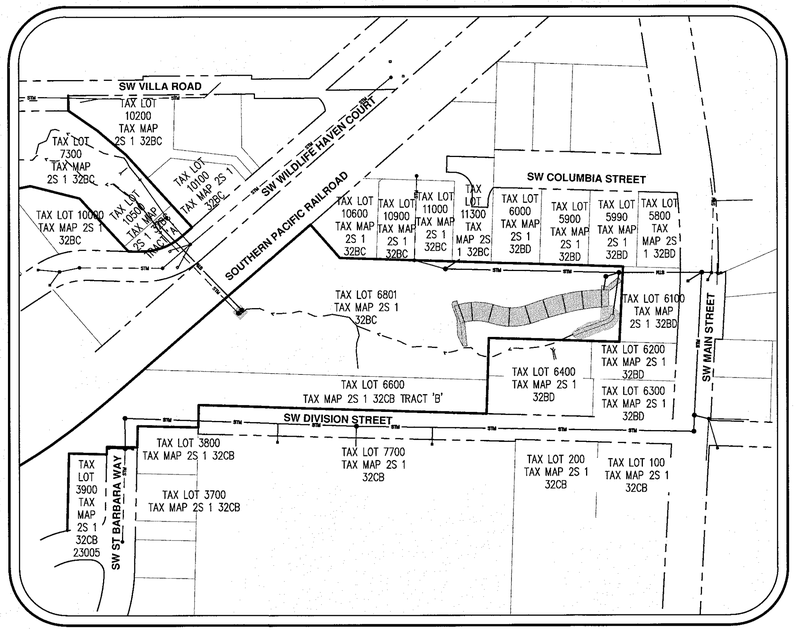
JOB NUMBER
3068

SHEET
C103

AKS DRAWING FILE: 3068 DETAILS.DWG | LAYOUT: C103

CITY OF SHERWOOD

REGIONAL STORMWATER FACILITY
STORM DRAINAGE CONSTRUCTION PLANS



SITE MAP
1" = 100'

SHEET INDEX

STORM DRAINAGE CONSTRUCTION PLANS

C200 – STORM SEWER COVER SHEET AND NOTES
C201 – STORM SEWER 'A' (STA 0+00 TO 4+00) AND 'B' PLAN AND PROFILE
C202 – STORM SEWER 'A' (STA 3+50 TO 12+00) PLAN & PROFILE
C203 – STORM SEWER 'C' AND 'D' AND 'E' PLAN AND PROFILE
C204 – STORMWATER SWALE PLAN AND PROFILE
C205 – REALIGNED CHANNEL PLAN AND PROFILE
C206 – HORIZONTAL BORE PLAN AND PROFILE
C207 – STORM SEWER DETAILS
C208 – STORM SEWER DETAILS
C209 – STORM SEWER DETAILS

STORMWATER DRAINAGE CONSTRUCTION NOTES:

PIPE AND TRENCH NOTES – GENERAL
1. TRENCH EXCAVATION, PIPE BEDDING AND PIPE ZONE MATERIAL, TRENCH BACKFILL, AND TRENCH COMPACTION SHALL CONFORM TO CITY STANDARD DETAILS, CODES, AND DRAWINGS, AS APPLICABLE.

2. SUBSEQUENT SETTLEMENT OF THE FINISHED SURFACE WITHIN THE WARRANTY PERIOD SHALL BE CONSIDERED TO BE A RESULT OF IMPROPER COMPACTION AND SHALL BE PROMPTLY REPAIRED BY THE CONTRACTOR AT NO EXPENSE TO THE OWNER.

3. PAVEMENT RESURFACING, WHERE REQUIRED, SHALL CONFORM TO CITY CODES, STANDARD DETAILS, AND DRAWINGS.

4. ALL MANHOLE RIMS NOT IN PAVEMENT AREAS OR ROADWAY RIGHT-OF-WAY SHALL BE SET SIX INCHES (6") ABOVE FINISHED GRADE AND SHALL HAVE A CAST IRON MANHOLE FRAME AND COVER. COVER SHALL BE BOLTED DOWN WITH A MINIMUM OF TWO STAINLESS STEEL BOLTS.

5. MANHOLE WALLS SHALL BE PRECAST REINFORCED CONCRETE MANHOLES OF THE SIZE REQUIRED PER MANUFACTURER'S RECOMMENDATIONS FOR THE PIPE SIZES AND NUMBER OF OPENINGS. LADDERS OR STEPS ARE REQUIRED ON ALL MANHOLES IN CONFORMANCE WITH APPROPRIATE CODES, UNLESS OTHERWISE NOTED ON THE APPROVED PLANS.

6. ALL MATERIALS INSPECTIONS AND TESTS ARE TO BE IN ACCORDANCE WITH CWS, CITY, COUNTY, STATE, AND FEDERAL STANDARD SPECIFICATIONS, AS APPLICABLE. ALL SECTIONS FAILING TO PASS THE REQUIRED TESTS AND INSPECTIONS SHALL BE LOCATED AND REPAIRED. AFTER REPAIR, THESE SECTIONS SHALL BE RE-TESTED AND INSPECTED UNTIL FOUND ACCEPTABLE BY THE INSPECTOR AND PROJECT ENGINEER. INSPECTOR SHALL BE PRESENT FOR ALL TESTING.

7. PRIOR TO TESTING, PIPE SHALL BE CLEAR OF ANY DEBRIS, ROCKS, GRAVEL, SAND, SILT AND OTHER FOREIGN MATERIAL.

8. TRENCH BACKFILL SHALL BE 3/4"-0" CRUSHED ROCK UNLESS OTHERWISE NOTED ON THE PLANS.

STORM DRAINAGE NOTES – GENERAL
1. STORM DRAINAGE PIPE MATERIAL SHALL BE AS NOTED ON PLANS AND CONFORM TO THE REQUIREMENTS BELOW.

A) STORM DRAINAGE PIPE WITH A MINIMUM 4-FEET OF COVER FROM FINISHED GRADE AND BENEATH PAVED AREAS (OR 3-FEET OF COVER FOR UNPAVED AREAS) SHALL CONSIST OF SEAMLESS PVC CONFORMING TO ASTM 3034 SDR 35, ULTRA RIB PVC CONFORMING TO ASTM F794, ADS N-12, OR EQUIVALENT CWS APPROVED PIPE.

B) STORM DRAINAGE PIPE WITH A MINIMUM OF 2-FEET OF COVER FROM FINISHED GRADE BENEATH PAVED AREAS (OR 1-FOOT OF COVER FOR UNPAVED AREAS) SHALL CONSIST OF EITHER AWWA C900, AWWA C905, CLASS IV REINFORCED CONCRETE PIPE (RCP), ADS SANITITE HP, OR EQUIVALENT CWS APPROVED PIPE.

C) STORM DRAINAGE PIPE WITH A MINIMUM OF 1 1/2-FEET OF COVER FROM FINISHED GRADE BENEATH PAVED AREAS (OR 6 INCHES FOR UNPAVED AREAS) SHALL CONSIST OF DUCTILE IRON (CLASS 52 WALL THICKNESS) OR CLASS V RCP.

D) CORRUGATED POLYETHYLENE PIPE (ADS N-12 OR EQUIVALENT) SHALL BE DOUBLE WALL WITH WATERTIGHT JOINTS AND FITTINGS. CORRUGATED POLYETHYLENE PIPE SHALL MEET THE SPECIFICATIONS OF AASHTO M252 FOR PIPE DIAMETER OF 10" DIAMETER OR LESS AND AASHTO M294 OR ASTM F2306 FOR PIPE DIAMETERS OF 12" THROUGH 60". SPIRAL PIPE IS NOT ACCEPTABLE.

E) CORRUGATED POLYPROPYLENE PIPE (ADS SANITITE HP OR EQUIVALENT) SHALL BE DOUBLE OR TRIPLE WALL WITH WATER TIGHT JOINTS AND FITTINGS. CORRUGATED POLYPROPYLENE PIPE SHALL MEET THE SPECIFICATIONS OF ASTM F2736 (PIPE DIAMETER OF 12" TO 30" OR ASTM F2764 (PIPE DIAMETER OF 30" TO 60"). POLYPROPYLENE PIPE SHALL HAVE A MINIMUM PIPE STIFFNESS OF 46 PSI WHEN TESTED IN ACCORDANCE WITH ASTM D2412.

2. ALL STORM DRAINAGE LINES SHALL BE VIDEO INSPECTED BY THE CONTRACTOR AND HAVE A MANDREL PASSED THROUGH TO CHECK DEFLECTION. TESTING AND INSPECTION SHALL BE IN ACCORDANCE WITH ALL APPLICABLE CODES.

3. CITY OF SHERWOOD REQUIRES VIDEO INSPECTION TO OCCUR AFTER THE PLACEMENT AND COMPACTION OF BASE ROCK.

4. ALL TESTING SHALL BE WITNESSED BY THE CITY.

ATTENTION EXCAVATORS:
OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-001-0090. YOU MAY OBTAIN COPIES OF THESE RULES FROM THE CENTER BY CALLING 503-232-1987. IF YOU HAVE ANY QUESTIONS ABOUT THE RULES, YOU MAY CONTACT THE CENTER. YOU MUST NOTIFY THE CENTER AT LEAST TWO BUSINESS DAYS, BEFORE COMMENCING AN EXCAVATION. CALL 503-246-6699.

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CITY OF SHERWOOD
REGIONAL STORMWATER FACILITY
SHERWOOD OREGON
TAX LOTS 6600, 6801, 7300, 10500 WASHINGTON COUNTY TAX MAP 2S 1 32BC & 32CB

STORM SEWER COVER SHEET AND NOTES

DESIGNED BY:	PAS
DRAWN BY:	PAS/DS
CHECKED BY:	AHH
SCALE:	AS NOTED

DATE: 06/30/2014

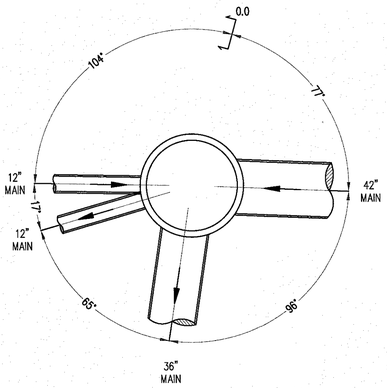
REGISTERED PROFESSIONAL ENGINEER
36539PE
OREGON
JANUARY 13, 2006
ALEXANDER H. HURLEY
RENEWAL DATE: 6/30/15

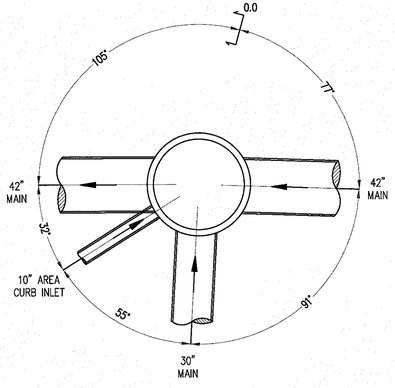
REVISIONS

JOB NUMBER
3068

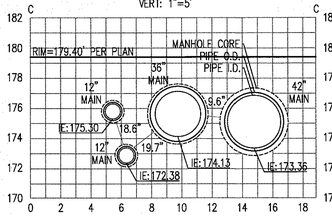
SHEET
C200

AKS DRAWING FILE: 3068 COVER SHEETS.DWG | LAYOUT: C200

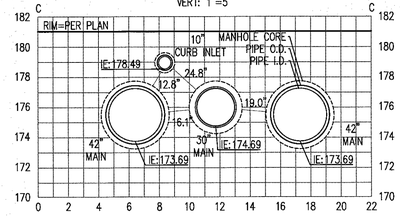


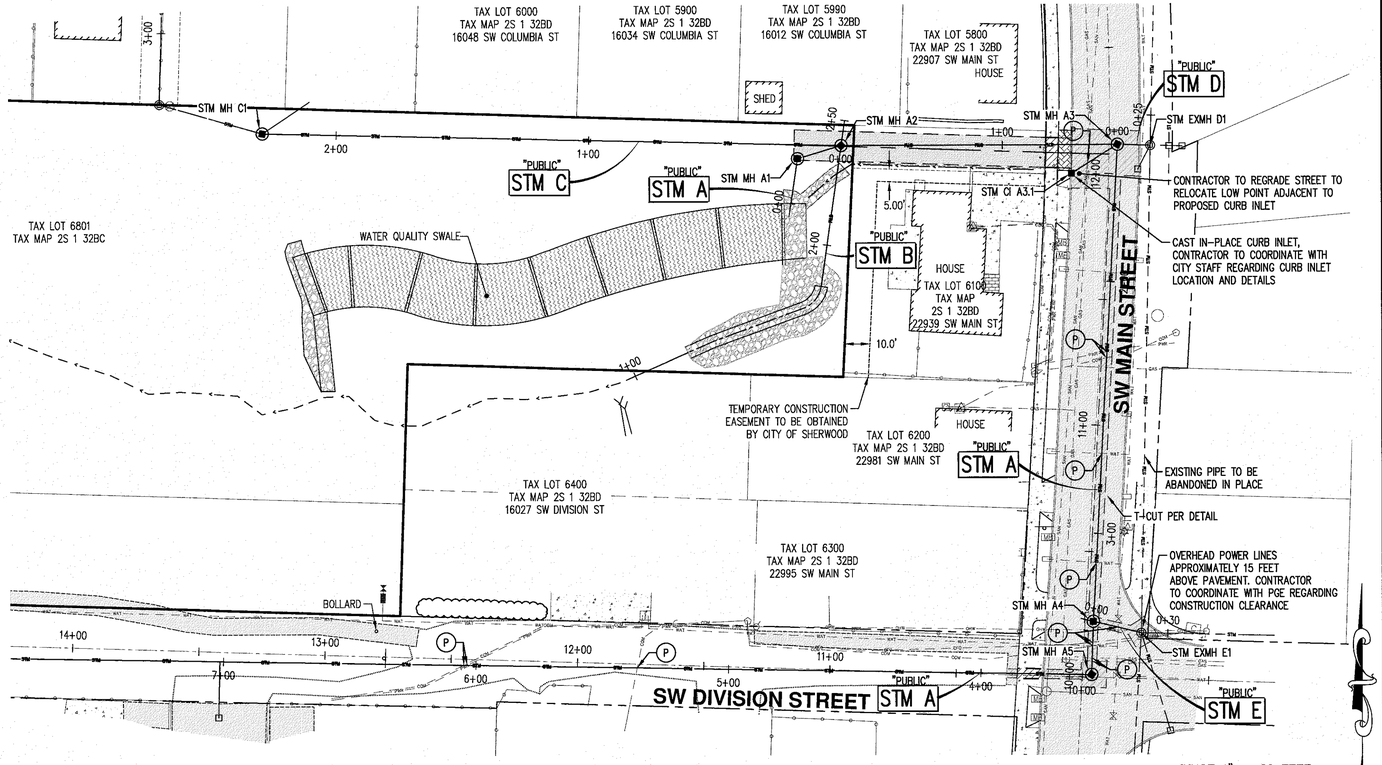


STMMH A2 – 72" STANDARD MH
HORZ: 1"=5'
VERT: 1"=5'



STMMH A3 – 84" STANDARD MH
HORZ: 1"=5'
VERT: 1"=5'



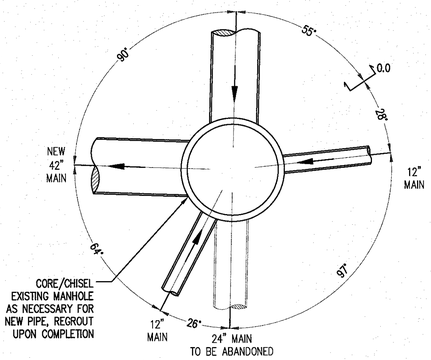


SCALE 1" = 30 FEET

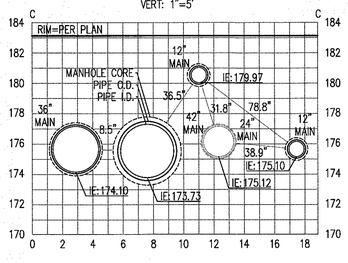
KEY NOTE:
Ⓟ CONTRACTOR TO POTHOLE FOR POSSIBLE UTILITY CONFLICTS PRIOR TO CONSTRUCTION OF STORM LINE AND ORDERING MANHOLES

CURB INLET TABLE									
AD	RIM	IE OUT	SUMP	PIPE	SLOPE	LENGTH	DS MH	STATION & OFFSET	ALIGNMENT
STM CI A3.1	185.50	178.59	1.50'	10"	0.0047	21.47 LF	STM MH A3	11+99.73 14.72 L	SW MAIN STREET

36" MAIN

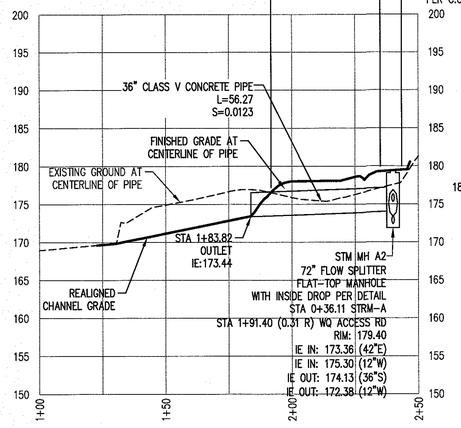


STM EXMH D1 – 72" STANDARD MH
HORZ: 1"=5'
VERT: 1"=5'



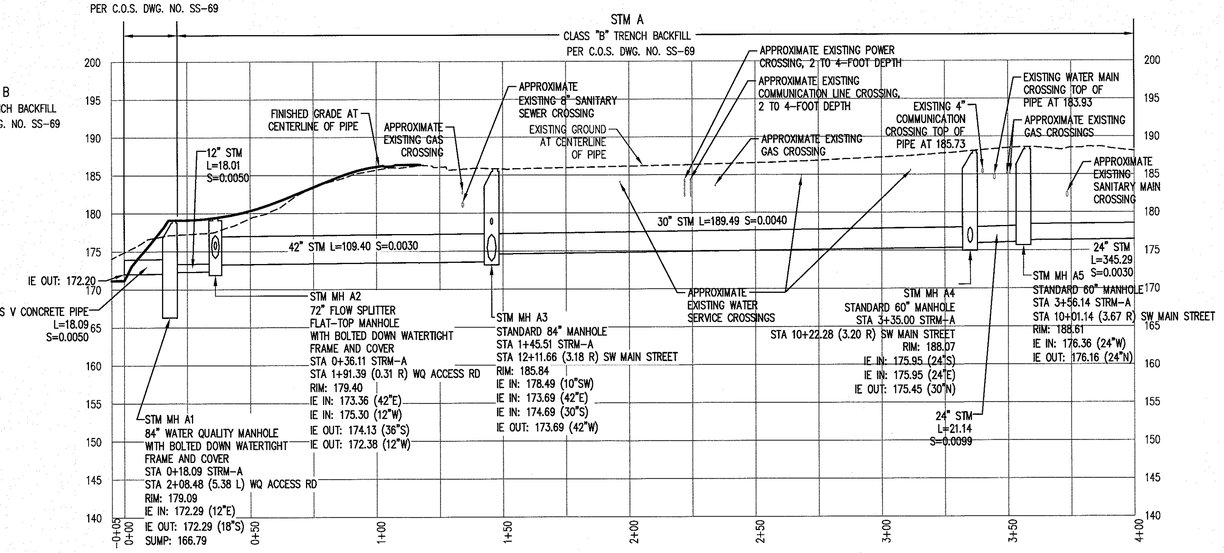
STM B
CLASS "A" TRENCH BACKFILL
PER C.O.S. DWG. NO. SS–69

STM B
CLASS "B" TRENCH BACKFILL
PER C.O.S. DWG. NO. SS–69



STM A
CLASS "A" TRENCH BACKFILL
PER C.O.S. DWG. NO. SS–69

STM A
CLASS "B" TRENCH BACKFILL
PER C.O.S. DWG. NO. SS–69



PUBLIC STORM SEWER 'B'
HOR: 1"= 30'
VERT: 1"= 10'
ALL PROFILE ELEVATIONS ARE BASED ON PIPE CENTERLINE UNLESS OTHERWISE NOTED

PUBLIC STORM SEWER 'A'
(STA –0+05.00 TO STA 4+00.00)
HOR: 1"= 30'
VERT: 1"= 10'
ALL PROFILE ELEVATIONS ARE BASED ON PIPE CENTERLINE UNLESS OTHERWISE NOTED

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WASHINGTON COUNTY TAX MAP 2S 1 32BC & 32CB
TAX LOTS 6600, 6801, 7300, 10500

STORM SEWER 'A' (STA 0+00 TO 4+00) AND 'B' PLAN AND PROFILE

DESIGNED BY: PAS
DRAWN BY: PAS/DS
CHECKED BY: AHH
SCALE: AS NOTED
DATE: 06/30/2014

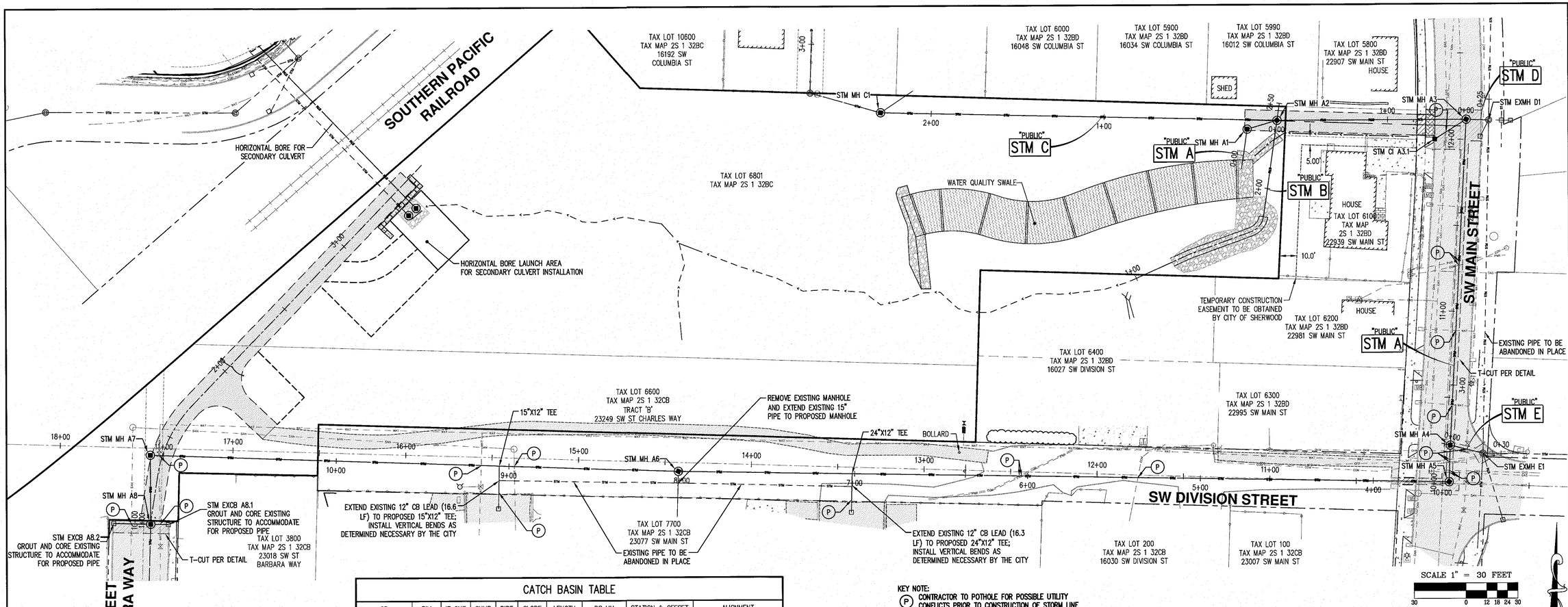
REGISTERED PROFESSIONAL ENGINEER
56539PE
OREGON
JANUARY 15, 2003
ALEXANDER H. HURLEY
RENEWAL DATE: 6/30/15

REVISIONS

JOB NUMBER
3068

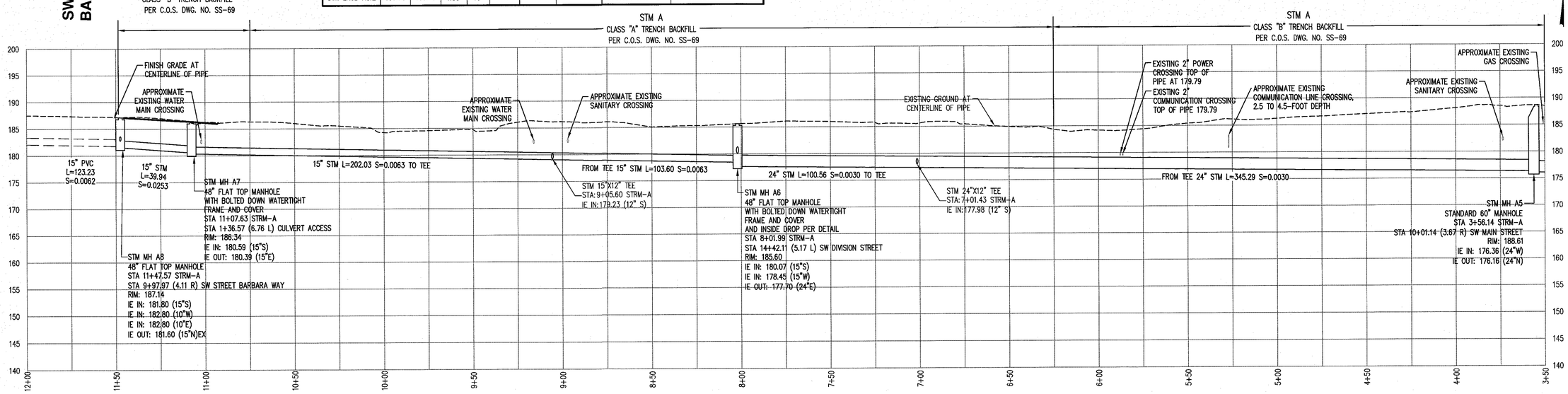
SHEET
C201

AKS DRAWING FILE: 3068 C201–C203.DWG | LAYOUT: C201



CATCH BASIN TABLE									
CB	RIM	IE OUT	SUMP	PIPE	SLOPE	LENGTH	DS MH	STATION & OFFSET	ALIGNMENT
STM EXCB A8.1	186.82	184.12	1.50'	10"	0.1301	10.15 LF	STM MH A8	9+97.99 14.26 R	SW STREET BARBARA WAY
STM EXCB A8.2	186.78	183.48	1.50'	10"	0.0317	21.45 LF	STM MH A8	9+97.94 17.34 L	SW STREET BARBARA WAY

KEY NOTE:
(P) CONTRACTOR TO POTHOLE FOR POSSIBLE UTILITY CONFLICTS PRIOR TO CONSTRUCTION OF STORM LINE AND ORDERING MANHOLES



PUBLIC STORM SEWER 'A'
(STA 3+50.00 TO STA 11+50.00)
HORZ: 1"= 30'
VERT: 1"= 10'
ALL PROFILE ELEVATIONS ARE BASED ON PIPE CENTERLINE UNLESS OTHERWISE NOTED

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STORM SEWER 'A' (STA 3+50 TO 12+00) PLAN & PROFILE

DESIGNED BY:	PAS
DRAWN BY:	PAS/DS
CHECKED BY:	AHH
SCALE:	AS NOTED

DATE: 06/30/2014

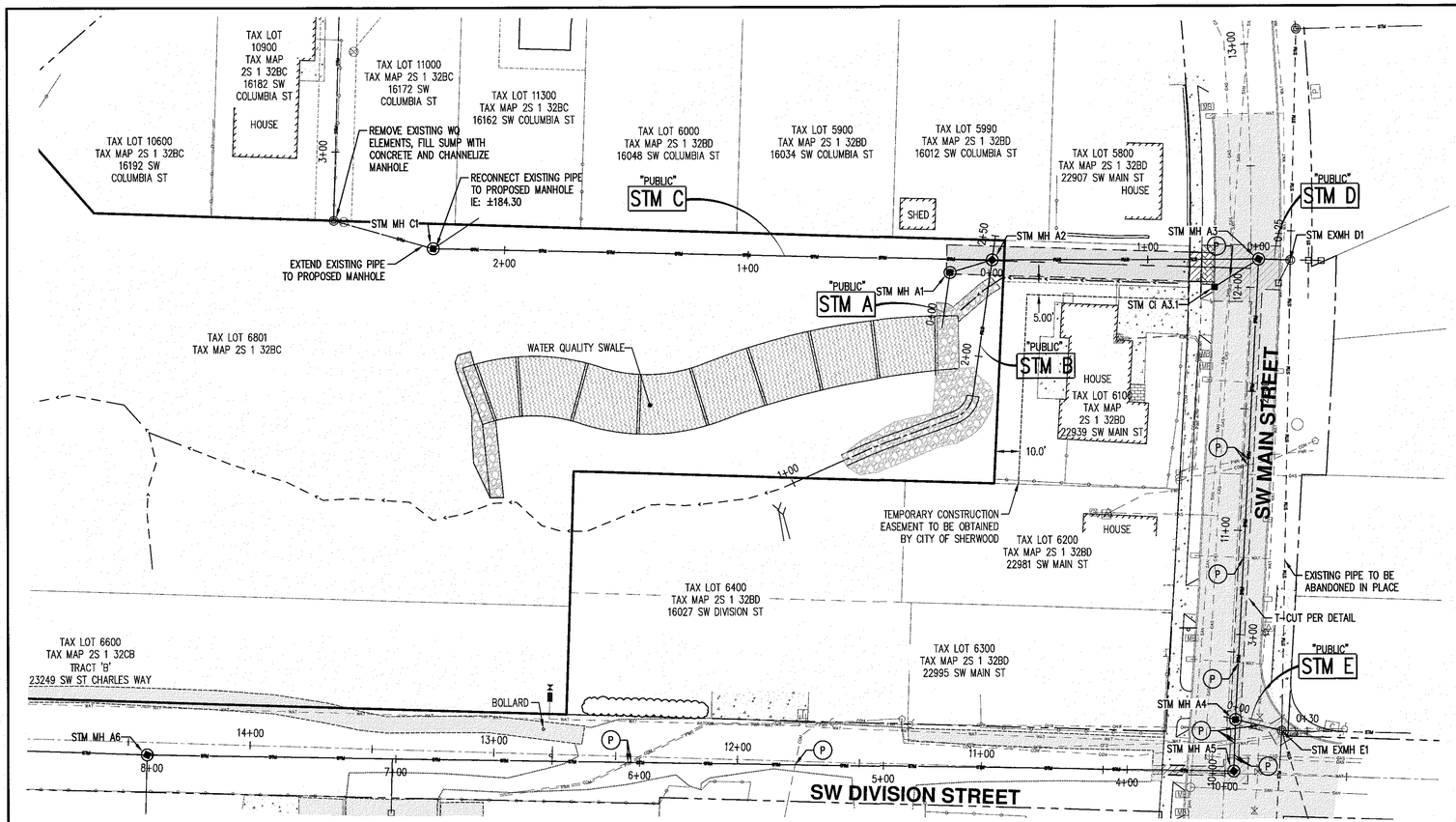
REGISTERED PROFESSIONAL ENGINEER
56539PE
OREGON
JANUARY 15, 2009
ALEXANDER H. HURLEY
RENEWAL DATE: 6/30/15

REVISIONS

JOB NUMBER 3068

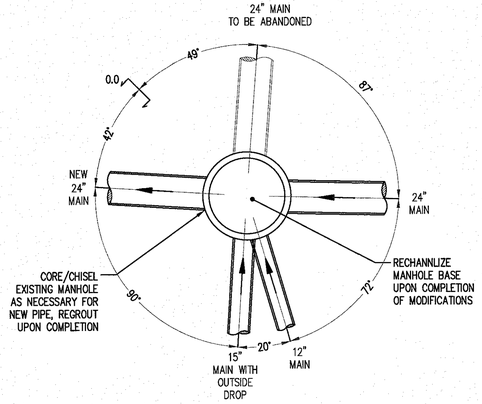
SHEET C202

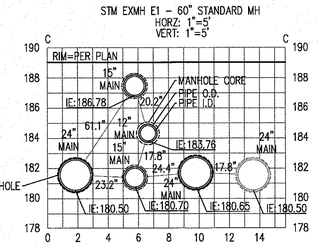
AKS DRAWING FILE: 3068 C201-C203.DWG | LAYOUT: C202

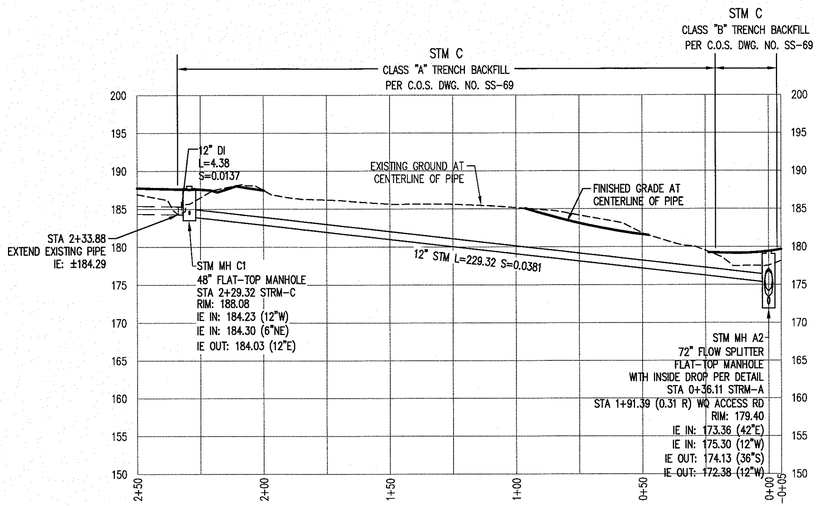


KEY NOTE:
(P) CONTRACTOR TO POTHOLE FOR POSSIBLE UTILITY CONFLICTS PRIOR TO CONSTRUCTION OF STORM LINE AND ORDERING MANHOLES

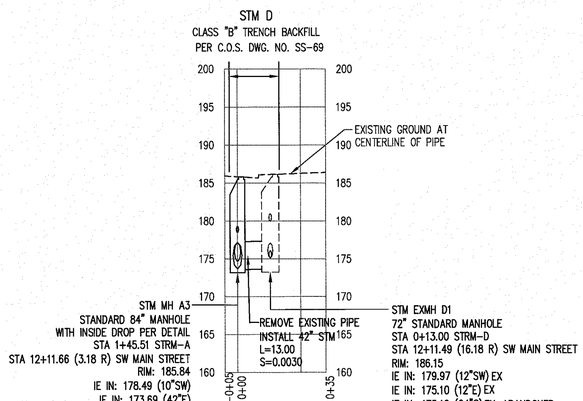
SCALE 1" = 30 FEET



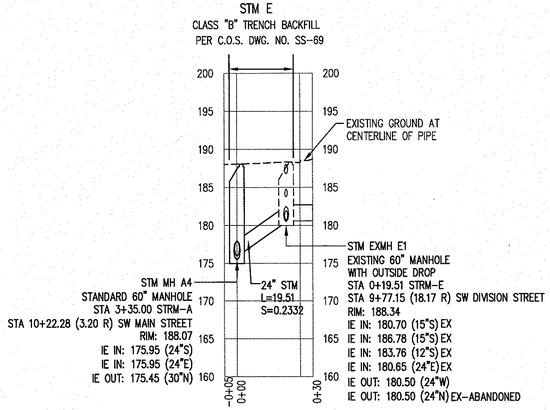




PUBLIC STORM SEWER 'C'
HOR: 1"= 30'
VERT: 1"= 10'
ALL PROFILE ELEVATIONS ARE BASED ON PIPE CENTERLINE UNLESS OTHERWISE NOTED



PUBLIC STORM SEWER 'D'
RECHANNEL MANHOLE D1
HOR: 1"= 30'
VERT: 1"= 10'
ALL PROFILE ELEVATIONS ARE BASED ON PIPE CENTERLINE UNLESS OTHERWISE NOTED



PUBLIC STORM SEWER 'E'
RECHANNEL MANHOLE E1
HOR: 1"= 30'
VERT: 1"= 10'
ALL PROFILE ELEVATIONS ARE BASED ON PIPE CENTERLINE UNLESS OTHERWISE NOTED

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WASHINGTON COUNTY TAX MAP 2S 1 32BC & 32CB
TAX LOTS 6600, 6801, 7300, 10500

STORM SEWER 'C' AND 'D' AND 'E' PLAN AND PROFILE

DESIGNED BY:	PAS
DRAWN BY:	PAS/DS
CHECKED BY:	AHH
SCALE:	AS NOTED
DATE:	06/30/2014

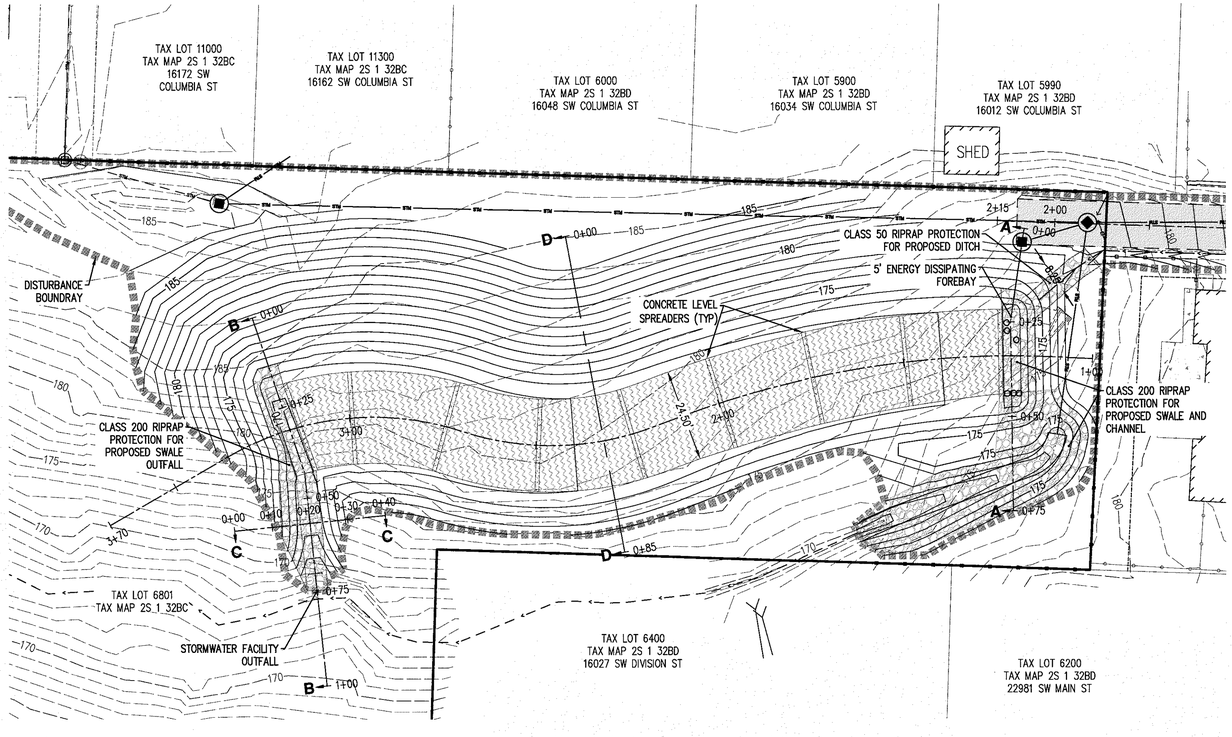
REGISTERED PROFESSIONAL ENGINEER
86939PE
OREGON
JANUARY 15, 2002
ALEXANDER H. HURLEY
RENEWAL DATE: 6/30/15

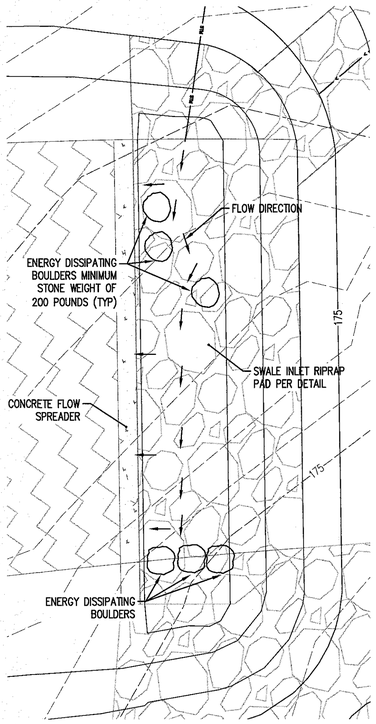
REVISIONS

JOB NUMBER
3068

SHEET
C203

AKS DRAWING FILE: 3068 C201-C203.DWG | LAYOUT: C203

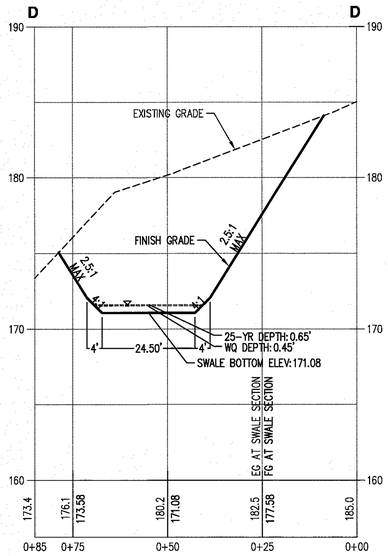




SWALE ENERGY DISSIPATION

1" = 4'

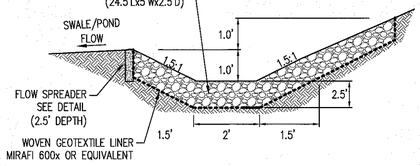
NOTE:
ENERGY DISSIPATING BOULDERS TO CONSIST OF CLASS 200 TO 700 RIPRAP BOULDERS WITH A MINIMUM STONE WEIGHT OF 200 POUNDS FOR EACH BOULDER. ENERGY DISSIPATING BOULDERS SHALL BE EMBEDDED HALF-WAY INTO RIPRAP AND SITUATED IN FLOW PATH OF CULVERT OUTLET



SWALE SECTION 'D-D'

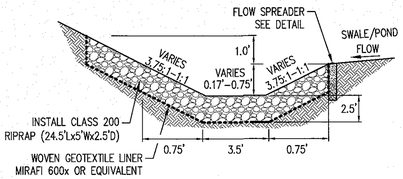
HORZ: 1"= 20'
VERT: 1"= 5'
ALL ELEVATIONS ARE BASED ON SWALE CROSS-SECTION UNLESS OTHERWISE NOTED

SCALE 1" = 20 FEET



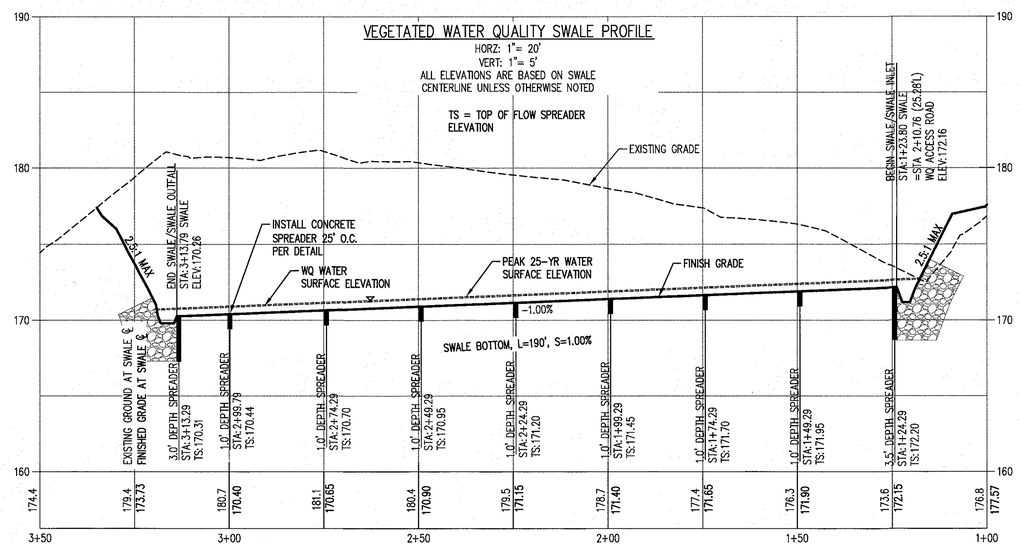
SWALE INLET RIP RAP PAD

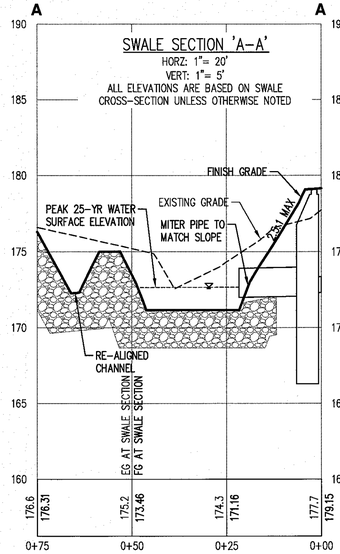
NOT TO SCALE

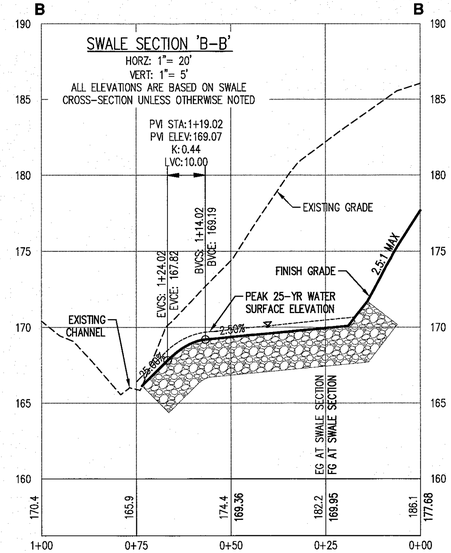


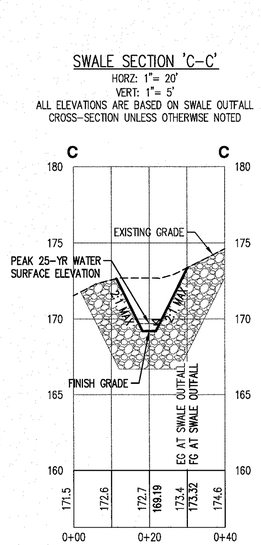
SWALE OUTFALL CHANNEL SECTION

NOT TO SCALE









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REGIONAL STORMWATER FACILITY
SHERWOOD OREGON
TAX LOTS 6600, 6801, 7300, 10500 WASHINGTON COUNTY TAX MAP 2S 1 32BC & 32CB

STORMWATER SWALE PLAN AND PROFILE

DESIGNED BY:	PAS
DRAWN BY:	PAS/DS
CHECKED BY:	AHH
SCALE:	AS NOTED
DATE:	06/30/2014

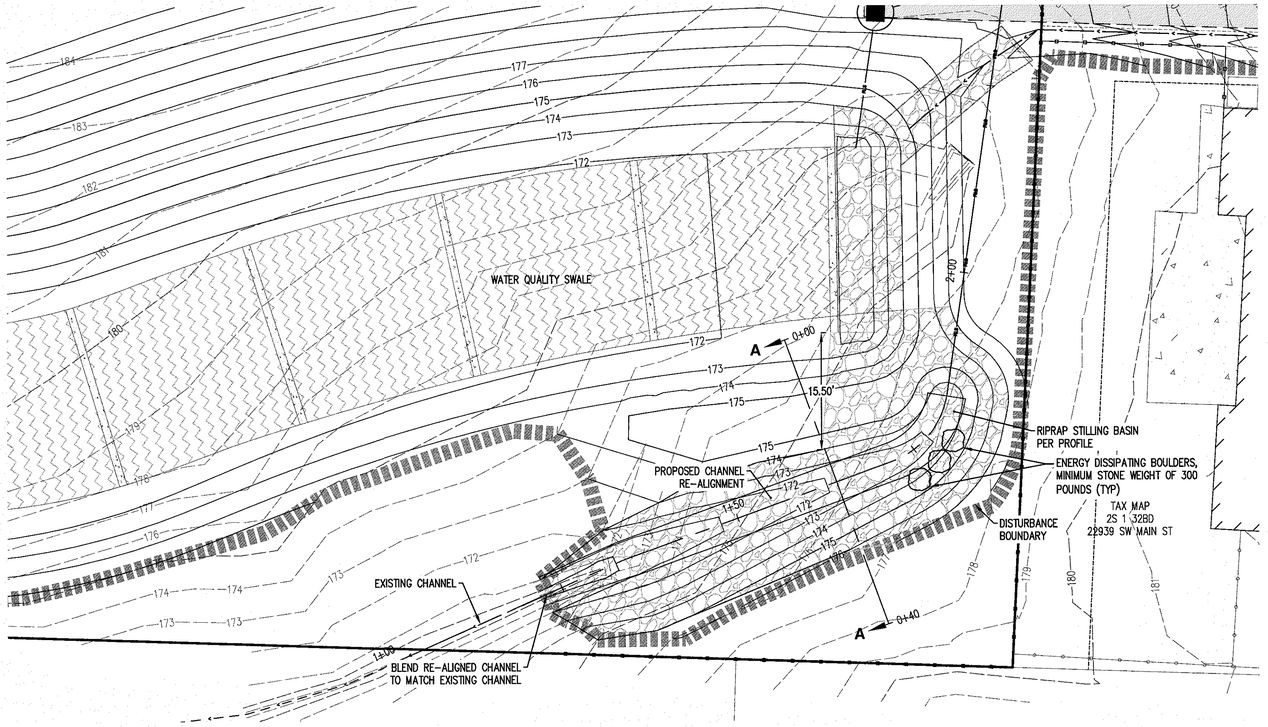
REGISTERED PROFESSIONAL ENGINEER
66539PE
OREGON
JANUARY 15, 2003
ALEXANDER H. HURLEY
RENEWAL DATE: 6/30/15

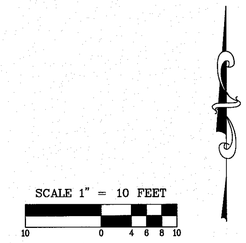
REVISIONS

JOB NUMBER
3068

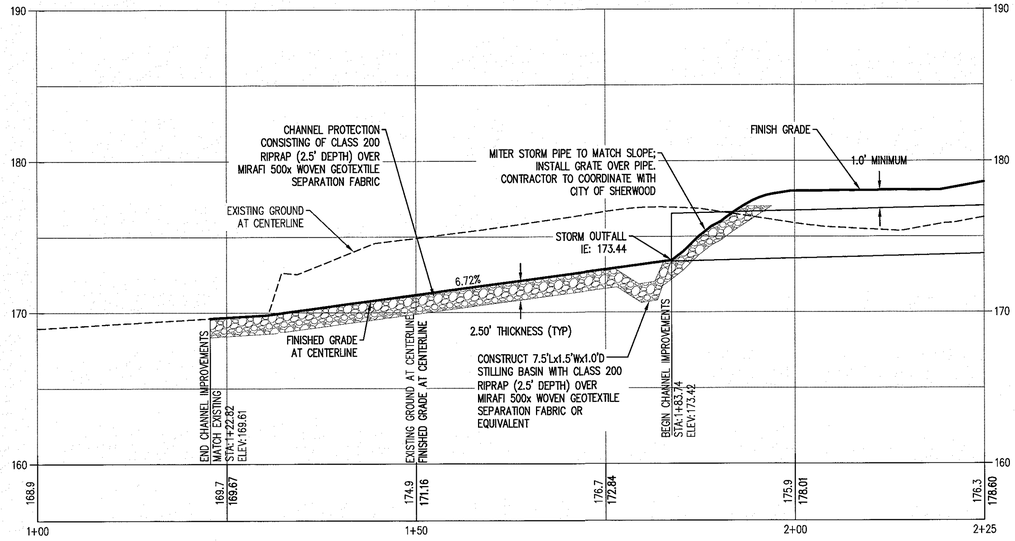
SHEET
C204

AKS DRAWING FILE: 3068 C204.DWG | LAYOUT: C204

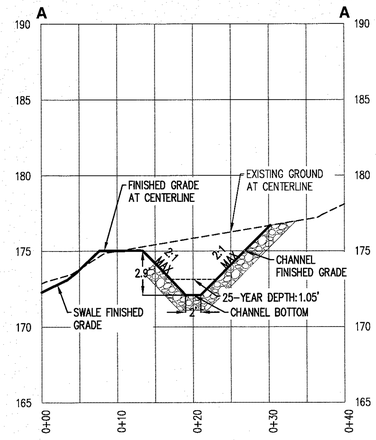




NOTE:
ENERGY DISSIPATING BOULDERS TO CONSIST OF CLASS 200 TO 700 BOULDERS WITH A MINIMUM STONE WEIGHT OF 300 POUNDS FOR EACH BOULDER. BOULDERS SHALL BE EMBEDDED HALF-WAY INTO RIPRAP AND SITUATED IN CHANNEL SIDES BELOW FLOW PATH OF CULVERT OUTLET.



RE-ALIGNED CHANNEL
HOR: 1"= 10'
VERT: 1"= 5'
ALL PROFILE ELEVATIONS ARE BASED ON CENTERLINE UNLESS OTHERWISE NOTED



CROSS SECTION A-A
HOR: 1"= 10'
VERT: 1"= 5'
ALL PROFILE ELEVATIONS ARE BASED ON SECTION LINE UNLESS OTHERWISE NOTED

AKS ENGINEERING AND FORESTRY, LLC
12965 SW HERMAN RD
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ENGINEERING · PLANNING · SURVEYING
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CITY OF SHERWOOD
REGIONAL STORMWATER FACILITY
SHERWOOD OREGON
TAX LOTS 6600, 6801, 7300, 10500 WASHINGTON COUNTY TAX MAP 2S 1 32BC & 32CB

REALIGNED CHANNEL PLAN AND PROFILE

DESIGNED BY:	PAS
DRAWN BY:	PAS/DS
CHECKED BY:	AHH
SCALE:	AS NOTED
DATE: 06/30/2014	

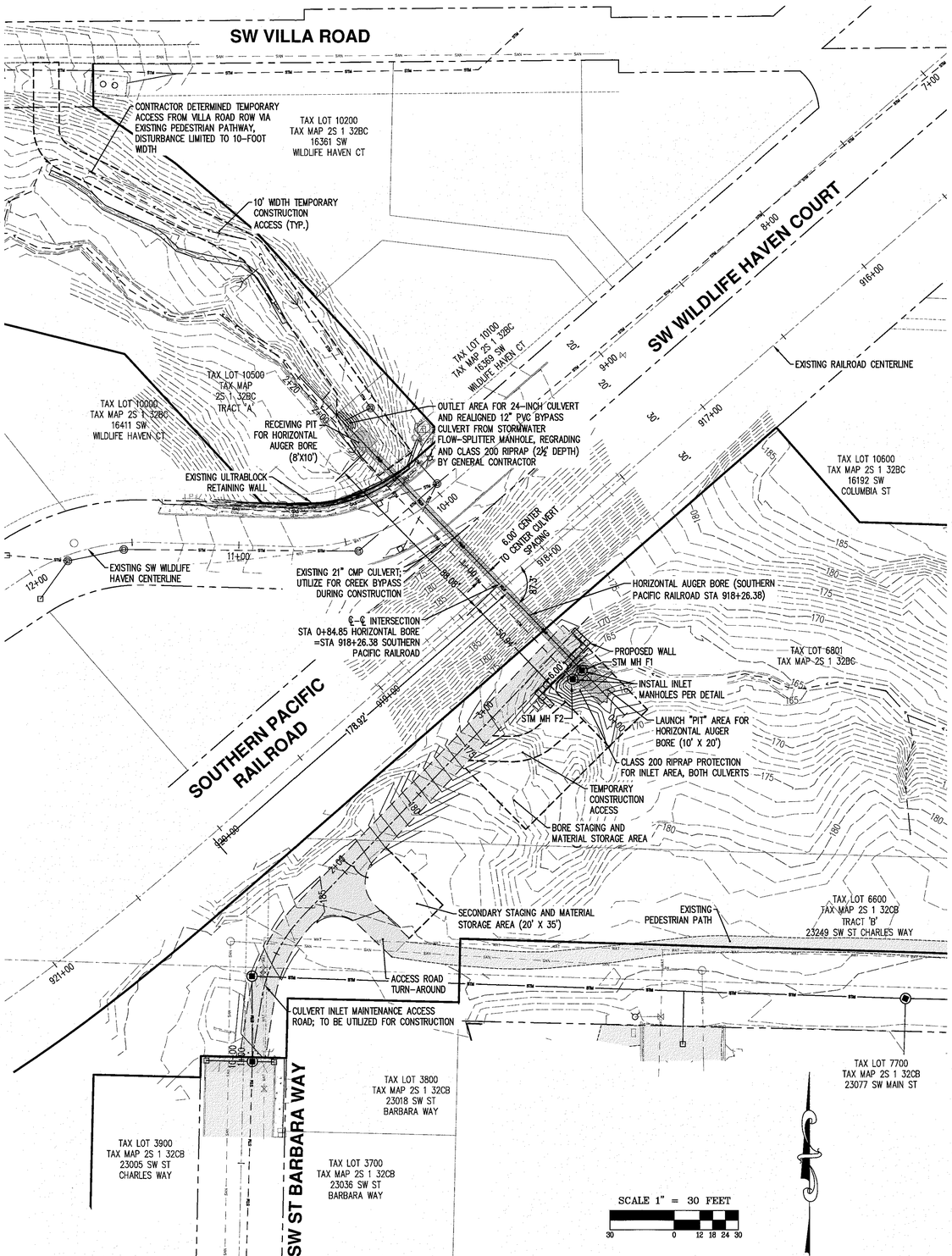
REGISTERED PROFESSIONAL ENGINEER
66539PE
OREGON
JANUARY 15, 2002
ALEXANDER H. HURLEY
RENEWAL DATE: 6/30/15

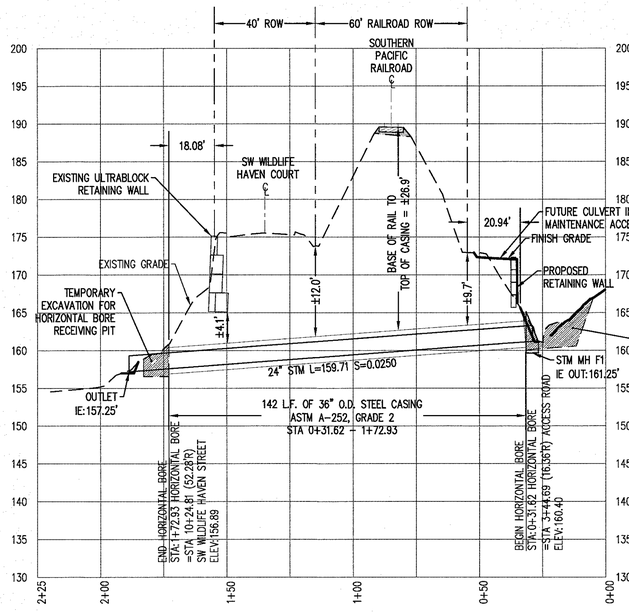
REVISIONS

JOB NUMBER
3068

SHEET
C205

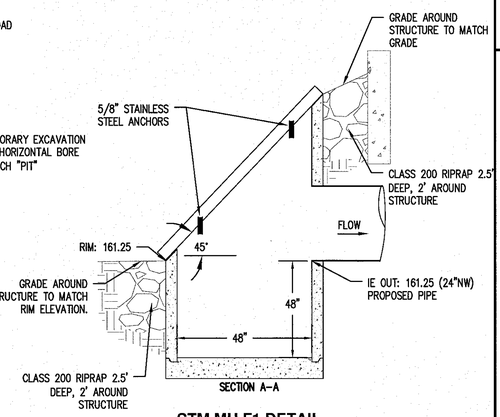
AKS DRAWING FILE: 3068 C205.DWG | LAYOUT: C205





HORIZONTAL BORE

HOR: 1" = 30'
VERT: 1" = 10'
ALL PROFILE ELEVATIONS ARE BASED ON PIPE CENTERLINE UNLESS OTHERWISE NOTED



STM MH F1 DETAIL

NTS

PROFILE VIEW

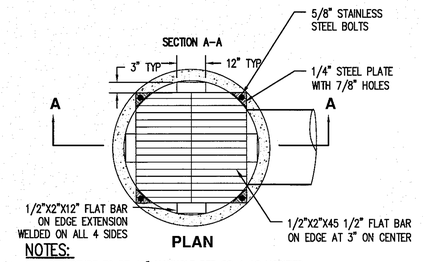
NOT TO SCALE

CROSS-SECTION

NOT TO SCALE

NOTES:

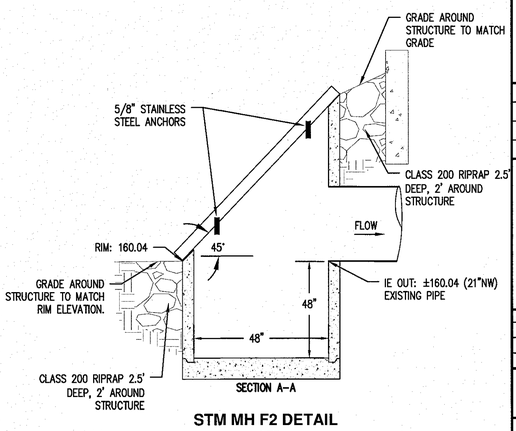
1. STEEL CASING PIPE SHALL HAVE A SPECIFIED MINIMUM YIELD STRENGTH OF 35,000 PSI.
2. CASING INSIDE DIAMETER SHALL NOT BE LESS THAN MAXIMUM O.D. OF CARRIER PIPE PLUS 4 INCHES.
3. 36" O.D. STEEL CASING SHALL HAVE A MINIMUM WALL THICKNESS OF 0.625" (FOR NON-COATED STEEL CASING) WITH AN INSIDE DIAMETER OF 34.75".
4. SECTIONS OF CASING PIPE SHALL BE JOINED BY FULL PENETRATION BUTT WELDS. FIELD WELDING OF STEEL CASING SHALL COMPLY WITH AISC SPECIFICATIONS, SECTION 1-7-2.
5. ALL VOIDS BETWEEN THE HORIZONTAL BORE EXCAVATION AND THE CASING SHALL BE GROUTED IMMEDIATELY UPON COMPLETION OF THE AUGER BORE. GROUT SHALL BE PUMPED THROUGH THE CASING GROUT HOLES TO FILL ALL VOIDS OUTSIDE THE CASING.
6. CARRIER PIPE SHALL CONSIST OF 24" STORM PIPE WITH A MAXIMUM O.D. = 30.75".



PLAN

NOTES:

1. STRUCTURE TO BE 48" MANHOLE PER SS-1 AS MODIFIED.
2. ALL STAINLESS STEEL PARTS SHALL BE A-304 GRADE.



STM MH F2 DETAIL

NTS

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REGIONAL STORMWATER FACILITY

SHERWOOD OREGON

TAX LOTS 6600, 6801, 7300, 10500 WASHINGTON COUNTY TAX MAP 2S 1 32BC & 32CB

HORIZONTAL BORE PLAN AND PROFILE

DESIGNED BY:	PAS
DRAWN BY:	PAS/DS
CHECKED BY:	AHH
SCALE:	AS NOTED
DATE:	06/30/2014

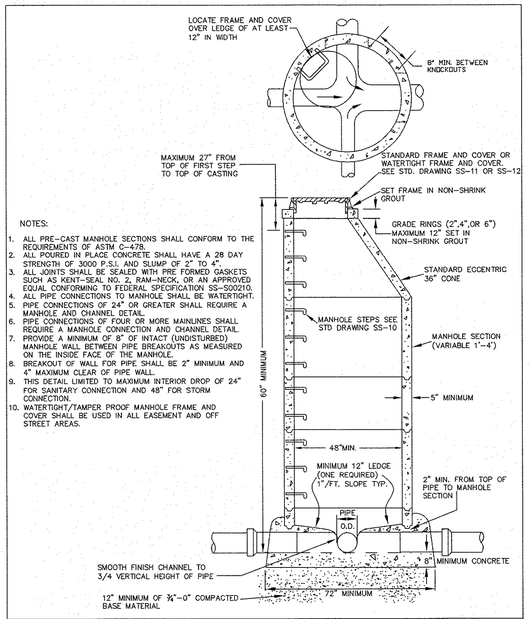
REGISTERED PROFESSIONAL ENGINEER
56539PE
OREGON
JANUARY 15, 2003
ALEXANDER H. HURLEY
RENEWAL DATE: 6/30/15

REVISIONS

JOB NUMBER
3068

SHEET
C206

AKS DRAWING FILE: 3068 C206.DWG | LAYOUT: C206



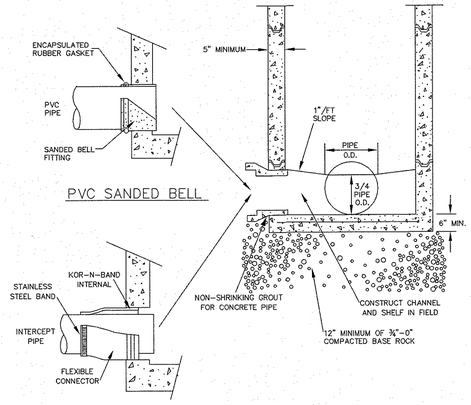
NOTES:

1. ALL PRE-CAST MANHOLE SECTIONS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C-478.
2. ALL POURED IN PLACE CONCRETE SHALL HAVE A 28 DAY STRENGTH OF 3000 P.S.I. AND SLUMP OF 2" TO 4".
3. ALL JOINTS SHALL BE SEALED WITH PRE FORMED GASKETS SUCH AS KENT-SEAL NO. 2, RAM-NECK, OR AN APPROVED EQUAL CONFORMING TO FEDERAL SPECIFICATION SS-S00210.
4. ALL PIPE CONNECTIONS TO MANHOLE SHALL BE WATERTIGHT.
5. PIPE CONNECTIONS OF 24" OR GREATER SHALL REQUIRE A MANHOLE AND CHANNEL DETAIL.
6. PIPE CONNECTIONS OF FOUR OR MORE MAINLINES SHALL REQUIRE A MANHOLE CONNECTION AND CHANNEL DETAIL.
7. PROVIDE A MINIMUM OF 8" OF INTACT (UNDISTURBED) MANHOLE WALL BETWEEN PIPE BREAKOUTS AS MEASURED ON THE INSIDE FACE OF THE MANHOLE.
8. BREAKOUT OF WALL FOR PIPE SHALL BE 2" MINIMUM AND 4" MAXIMUM CLEAR OF PIPE WALL.
9. THIS DETAIL LIMITED TO MAXIMUM INTERIOR DROP OF 24" FOR SANITARY CONNECTION AND 48" FOR STORM CONNECTION.
10. WATERTIGHT/TAMPER PROOF MANHOLE FRAME AND COVER SHALL BE USED IN ALL EASEMENT AND OFF STREET AREAS.

STANDARD DRAWING TITLE	DRAWING NUMBER
STANDARD MANHOLE	SS-1
SCALE	DATE
N.T.S.	JUL' 09

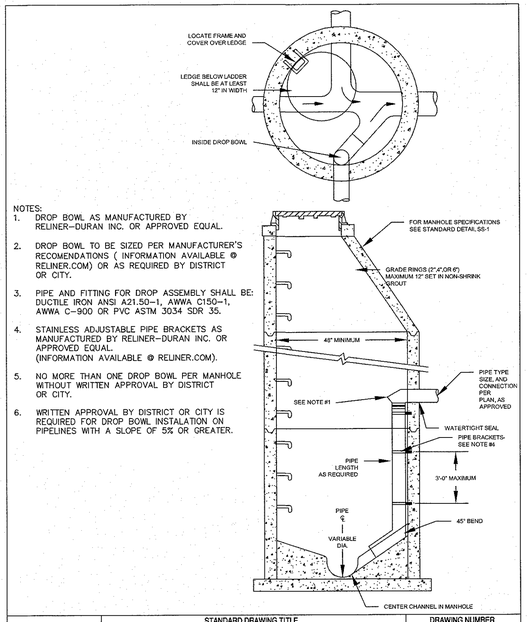
Any alteration of this drawing may not be associated in any way with the City of Sherwood Standard Drawings.

NOTES:
ALL PRE-CAST MANHOLE SECTIONS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C-478 AND APPLICABLE PROVISIONS OF STANDARD DRAWING SS-1



STANDARD DRAWING TITLE	DRAWING NUMBER
PRECAST CONCRETE MANHOLE BASE	SS-2
SCALE	DATE
N.T.S.	JUL' 09

Any alteration of this drawing may not be associated in any way with the City of Sherwood Standard Drawings.



NOTES:

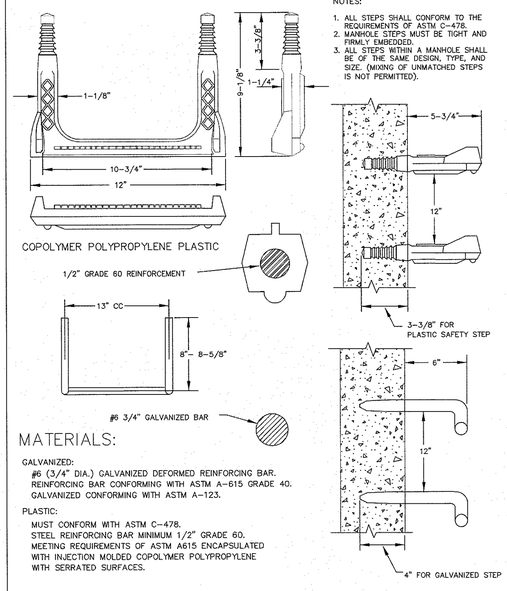
1. DROP BOWL AS MANUFACTURED BY RELINER-DURAN INC. OR APPROVED EQUAL.
2. DROP BOWL TO BE SIZED PER MANUFACTURER'S RECOMENDATIONS (INFORMATION AVAILABLE @ RELINER.COM) OR AS REQUIRED BY DISTRICT OR CITY.
3. PIPE AND FITTING FOR DROP ASSEMBLY SHALL BE: DUCTILE IRON ANSI A21.50-1, AWWA C150-1, AWWA C-900 OR PVC ASTM 3034 SDR 35.
4. STAINLESS ADJUSTABLE PIPE BRACKETS AS MANUFACTURED BY RELINER-DURAN INC. OR APPROVED EQUAL. (INFORMATION AVAILABLE @ RELINER.COM).
5. NO MORE THAN ONE DROP BOWL PER MANHOLE WITHOUT WRITTEN APPROVAL BY DISTRICT OR CITY.
6. WRITTEN APPROVAL BY DISTRICT OR CITY IS REQUIRED FOR DROP BOWL INSTALATION ON PIPELINES WITH A SLOPE OF 5% OR GREATER.

STANDARD DRAWING TITLE	DRAWING NUMBER
INSIDE DROP MANHOLE W/ BOWL	SS-9
SCALE	DATE
N.T.S.	JUL' 09

Any alteration of this drawing may not be associated in any way with the City of Sherwood Standard Drawings.

NOTES:

1. ALL STEPS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C-478.
2. MANHOLE STEPS MUST BE TIGHT AND FIRMLY EMBEDDED.
3. ALL STEPS WITHIN A MANHOLE SHALL BE OF THE SAME DESIGN, TYPE, AND SIZE. (MIXING OF UNMATCHED STEPS IS NOT PERMITTED).



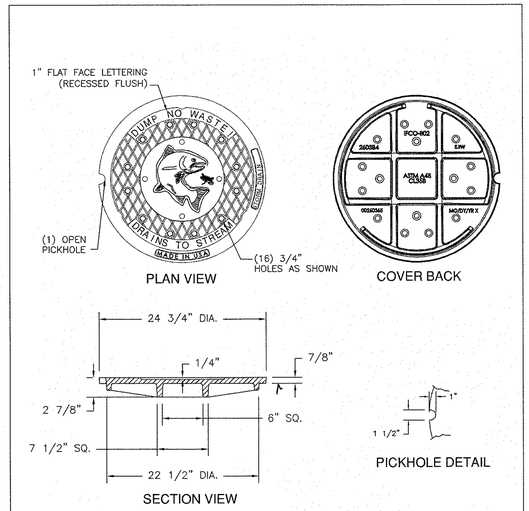
MATERIALS:

GALVANIZED:
#6 (3/4" DIA.) GALVANIZED DEFORMED REINFORCING BAR. REINFORCING BAR CONFORMING WITH ASTM A-615 GRADE 40. GALVANIZED CONFORMING WITH ASTM A-123.

PLASTIC:
MUST CONFORM WITH ASTM C-478. STEEL REINFORCING BAR MINIMUM 1/2" GRADE 60. MEETING REQUIREMENTS OF ASTM A615 ENCAPSULATED WITH INJECTION MOLDED COPOLYMER POLYPROPYLENE WITH SERRATED SURFACES.

STANDARD DRAWING TITLE	DRAWING NUMBER
MANHOLE STEP	SS-10
SCALE	DATE
N.T.S.	JUL' 09

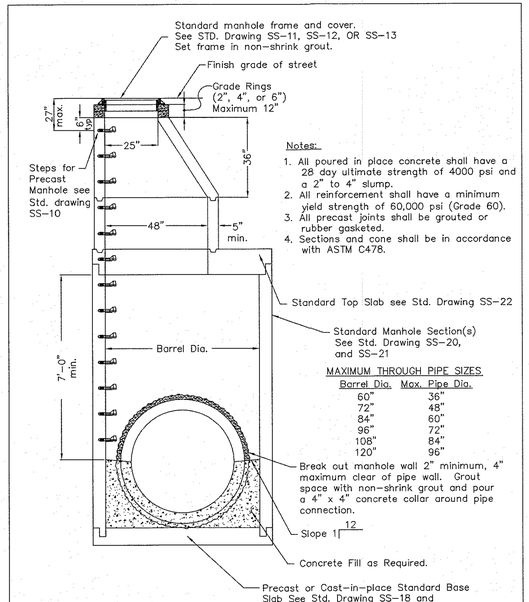
Any alteration of this drawing may not be associated in any way with the City of Sherwood Standard Drawings.



SEE DETAIL SS-11 FOR MANHOLE FRAME SPECIFICATIONS.

STANDARD DRAWING TITLE	DRAWING NUMBER
STORM WATER MANHOLE LID	SS-12
SCALE	DATE
N.T.S.	JUL '09

Any alteration of this drawing may not be associated in any way with the City of Sherwood Standard Drawings.



Notes:

1. All poured in place concrete shall have a 28 day ultimate strength of 4000 psi and a 2" to 4" slump.
2. All reinforcement shall have a minimum yield strength of 60,000 psi (Grade 60).
3. All precast joints shall be grouted or rubber gasketed.
4. Sections and cone shall be in accordance with ASTM C478.

MAXIMUM THROUGH PIPE SIZES

Barrel Dia.	Max. Pipe Dia.
60"	36"
72"	48"
84"	60"
96"	72"
108"	84"
120"	96"

STANDARD DRAWING TITLE	DRAWING NUMBER
LARGE PRECAST CONCRETE MANHOLE	SS-16
SCALE	DATE
N.T.S.	JUL '09

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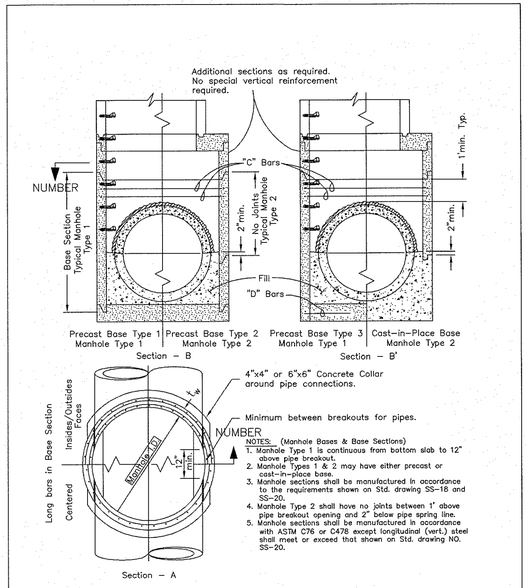

NOTES: (Manhole Bases & Base Sections)

1. Manhole Type 1 is continuous from bottom slab to 12" above pipe breakout.
2. Manhole Types 1 & 2 may have either precast or cast-in-place base.
3. Manhole sections shall be manufactured in accordance to the requirements shown on Std. drawing SS-18 and SS-20.
4. Manhole Type 2 shall have no joints between 1' above pipe breakout opening and 2' below pipe spring line.
5. Manhole sections shall be manufactured in accordance with ASTM C76 or C478 except longitudinal (vert.) steel shall meet or exceed that shown on Std. drawing NO. SS-20.

STANDARD DRAWING TITLE	DRAWING NUMBER
LARGE PRECAST CONCRETE MANHOLE - BASES	SS-17
SCALE	DATE
N.T.S.	JUL '09

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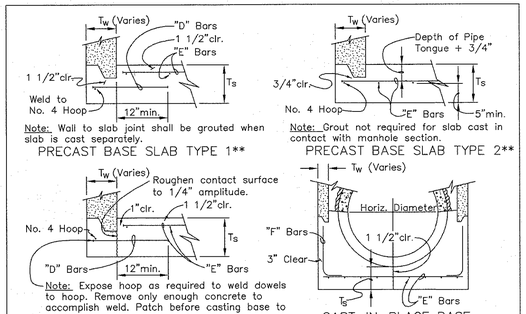

Note: Wall to slab joint shall be grouted when slab is cast separately.

Note: Grout not required for slab cast in contact with manhole section.

Note: Expose hoop as required to weld dowels to hoop. Remove only enough concrete to accomplish weld. Patch before casting base to ensure no voids are present.

SIZE		60"		72"		84"		96"	
Type	Depth*	0'-15'	15'-30'	0'-15'	15'-30'	0'-15'	15'-30'	0'-15'	15'-30'
1	Ts	8.0"	9.0"	8.0"	9.0"	9.0"	10.0"	9.0"	11.0"
	D Bars	#3 @ 12"	#3 @ 12"	#3 @ 12"	#4 @ 10"	#3 @ 10"	#4 @ 11"	#3 @ 9"	#4 @ 11"
	E Bars	#4 @ 12"	#4 @ 9"	#4 @ 9"	#4 @ 6"	#4 @ 8"	#5 @ 9"	#4 @ 7"	#5 @ 8"
2	Ts	11.0"	12.0"	11.0"	12.0"	12.0"	13.0"	12.0"	14.0"
	E Bars	#4 @ 12"	#4 @ 8"	#4 @ 9"	#5 @ 8"	#4" @ 7"	NO.5 @ 7"	#4 @ 5"	#5 @ 6"
3	Ts	7.0"	9.0"	7.0"	9.0"	8.0"	10.0"	9.0"	11.0"
	D Bars	#3 @ 12"	#3 @ 12"	#3 @ 12"	#4 @ 10"	#3 @ 10"	#4 @ 11"	#3 @ 9"	#4 @ 11"
	E Bars	#4 @ 12"	#4 @ 9"	#4 @ 9"	#4 @ 6"	#4 @ 8"	#5 @ 9"	#4" @ 7"	#5 @ 8"
4	Ts	7.0"	9.0"	7.0"	9.0"	8.0"	10.0"	9.0"	11.0"
	E Bars	#4 @ 12"	#4 @ 9"	#4 @ 9"	#4 @ 6"	#4 @ 8"	#5 @ 9"	#4" @ 7"	#5 @ 8"
	F Bars	#4 @ 12"	#4 @ 9"	#4 @ 9"	#4 @ 6"	#4 @ 8"	#5 @ 9"	#4" @ 7"	#5 @ 8"

*Invert to Street Grade
Concrete: f'_c =4,000 psi
Steel: f_y =Grade 60

**Fabricator required to cast lifting loops in base slab for handling Type 1 & 2 bases.

STANDARD DRAWING TITLE	DRAWING NUMBER
LARGE PRECAST CONCRETE MANHOLE - TYPES	SS-18
SCALE	DATE
N.T.S.	JUL '09

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CITY OF SHERWOOD

REGIONAL STORMWATER FACILITY

SHERWOOD OREGON
TAX LOTS 6600, 6801, 7300, 10500 WASHINGTON COUNTY TAX MAP 2S 1 32BC & 32CB

STORM SEWER DETAILS

DESIGNED BY: PAS
DRAWN BY: PAS/DS
CHECKED BY: AHH
SCALE: AS NOTED
DATE: 06/30/2014

REGISTERED PROFESSIONAL ENGINEER
OREGON
JANUARY 15, 2002
ALEXANDER H. HURLEY

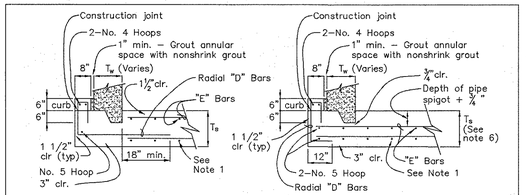
RENEWAL DATE: 6/30/15

REVISIONS

JOB NUMBER 3068

SHEET C207

AKS DRAWING FILE: 3068 DETAILS.DWG | LAYOUT: C207



PRECAST BASE SLAB TYPE 5

1. Add bottom mat of No. 3 bars each way at same spacing as top mat.
2. Wall to slab joint shall be field grouted.
3. Curb is continuous all around base slab.
4. If curb is not cast monolithic with base slab, provide construction joint as shown.

PRECAST OR CAST–IN–PLACE BASE SLAB TYPE 6

1. Add bottom mat of No. 3 bars each way at same spacing as top mat.
2. Wall to slab joint shall be field grouted. Grout is not required for slab cast in contact with manhole section.
3. Curb is continuous all around base slab.
4. If curb is not cast monolithic with base slab, provide construction joint as shown.
5. Base slab Type 6 may be precast or cast–in–place concrete.
6. Ts for base slab Type 6 assumes a 6 1/4" spigot depth. Adjust Ts for actual spigot depth.
7. Curb may be cast in place against riser pipe without grouting.

SIZE		108"		120"	
Type	Depth*	0'–15'	15'–30'	0'–15'	15'–30'
5	T_s	10"	12"	10"	12"
	"D" Bars	No.4 @ 12"	No.5 @ 12"	No.4 @ 12"	No.5 @ 12"
	"E" Bars	No.5 @ 12"	No.5 @ 12"	No.5 @ 12"	No.6 @ 12"
6	T_s	15.5"	17.5"	15.5"	17.5"
	"D" Bars	No.4 @ 12"	No.5 @ 12"	No.4 @ 12"	No.5 @ 12"
	"E" Bars	No.5 @ 12"	No.5 @ 12"	No.5 @ 12"	No.6 @ 12"

*Invert to Street Grade
Concrete: f'_c = 4,000 psi
Steel: Grade 60

STANDARD DRAWING TITLE	DRAWING NUMBER
LARGE PRECAST CONCRETE MANHOLE BASE SLABS	SS-19
SCALE	DATE
N.T.S.	JUL '09

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60"ø Manhole Section	NOTE: MAX. LONG. BAR SPACING IS 12" C.–C.								
	INVERT TO STREET GRADE	T_w =5.0"			T_w = 6.0"			T_w =6.75"		
		OUTSIDE	INSIDE	ON CTR.	OUTSIDE	INSIDE	ON CTR.	OUTSIDE	INSIDE	ON CTR.
TYPE 1	0 Ft to 15 Ft	0.16	0.15	0.24	0.16	0.09	0.20	0.13	0.08	0.17
	15 Ft to 30 Ft	0.32	0.18	0.53	0.25	0.19	0.42	0.22	0.16	0.36
TYPE 2	0 Ft to 15 Ft	0.17	0.15	0.28	0.19	0.09	0.22	0.16	0.08	0.20
	15 Ft to 30 Ft	0.37	0.18	0.63	0.28	0.19	0.48	0.24	0.16	0.42

'C' Bars–1 No. 4 hoop req'd. for less than 2'–0" clr. between blockout and top of section.

72"ø Manhole Section	NOTE: MAX. LONG. BAR SPACING IS 12" C.–C.								
	INVERT TO STREET GRADE	T_w =6.0"			T_w = 7.0"			T_w =7.75"		
		OUTSIDE	INSIDE	ON CTR.	OUTSIDE	INSIDE	ON CTR.	OUTSIDE	INSIDE	ON CTR.
TYPE 1	0 Ft to 15 Ft	0.19	0.19	0.26	0.17	0.16	0.22	0.16	0.14	0.20
	15 Ft to 30 Ft	0.33	0.28	0.58	0.27	0.23	0.48	0.26	0.26	0.42
TYPE 2	0 Ft to 15 Ft	0.19	0.13	0.28	0.18	0.15	0.23	0.16	0.17	0.28
	15 Ft to 30 Ft	0.36	0.13	0.65	0.29	0.15	0.52	0.26	0.17	0.46

'C' Bars– 2 NO. 5 HOOPS 2" CLR. OF TOP OF MH BARREL } REQ'D. FOR LESS THAN 2'–0" CLR.
2 NO. 3 HOOPS 2" CLR. OVER PIPE BLOCKOUTS } BETWEEN BLOCKOUT AND TOP OF SECTION.

84"ø Manhole Section	NOTE: MAX. LONG. BAR SPACING IS 12" C.–C.								
	INVERT TO STREET GRADE	T_w =7.0"			T_w = 8.0"			T_w =8.75"		
		OUTSIDE	INSIDE	ON CTR.	OUTSIDE	INSIDE	ON CTR.	OUTSIDE	INSIDE	ON CTR.
TYPE 1	0 Ft to 15 Ft	0.20	0.13	0.26	0.17	0.12	0.22	0.15	0.10	0.20
	15 Ft to 30 Ft	0.33	0.23	0.59	0.28	0.26	0.50	0.30	0.23	0.45
TYPE 2	0 Ft to 15 Ft	0.23	0.15	0.33	0.21	0.17	0.28	0.19	0.19	0.25
	15 Ft to 30 Ft	0.36	0.15	0.65	0.30	0.17	0.55	0.30	0.19	0.49

'C' Bars– 2 NO. 5 HOOPS 2" CLR. OF TOP OF MH BARREL } REQ'D. FOR LESS THAN 2'–0" CLR.
2 NO. 3 HOOPS 2" CLR. OVER PIPE BLOCKOUTS } BETWEEN BLOCKOUT AND TOP OF SECTION.

96"ø Manhole Section	NOTE: MAX. LONG. BAR SPACING IS 12" C.–C.								
	INVERT TO STREET GRADE	T_w =8.0"			T_w = 9.0"			T_w =9.75"		
		OUTSIDE	INSIDE	ON CTR.	OUTSIDE	INSIDE	ON CTR.	OUTSIDE	INSIDE	ON CTR.
TYPE 1	0 Ft to 15 Ft	0.25	0.18	0.33	0.21	0.16	0.29	0.21	0.14	0.27
	15 Ft to 30 Ft	0.41	0.26	0.77	0.35	0.30	0.66	0.37	0.27	0.59
TYPE 2	0 Ft to 15 Ft	0.26	0.17	0.34	0.22	0.19	0.30	0.20	0.21	0.28
	15 Ft to 30 Ft	0.43	0.17	0.82	0.37	0.19	0.70	0.34	0.21	0.63

'C' Bars– 2 NO. 5 HOOPS 2" CLR. OF TOP OF MH BARREL } REQ'D. FOR LESS THAN 2'–0" CLR.
2 NO. 3 HOOPS 2" CLR. OVER PIPE BLOCKOUTS } BETWEEN BLOCKOUT AND TOP OF SECTION.

PROVIDE MIN. LONGITUD. REINF. AS SHOWN, 1" CLR. OF INSIDE AND OUTSIDE FACES, OR AT CENTER OF WALL. AREAS ARE IN^2/FT OF CIRCUMFERENCE AND MAY BE WELDED WIRE FABRIC, BARS OR A COMBINATION OF BOTH.

STANDARD DRAWING TITLE	DRAWING NUMBER
LARGE PRECAST CONCRETE MANHOLE - LONG BASE SECTION REINF.	SS-20
SCALE	DATE
N.T.S.	JUL '09

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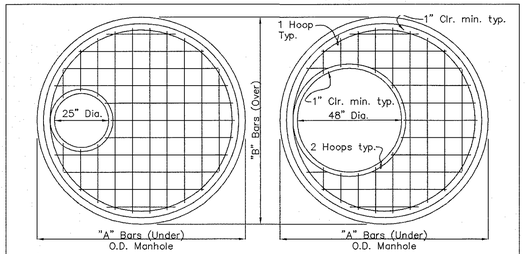
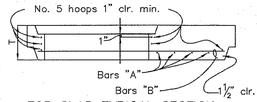


NOTES:
1. All concrete shall have a 28 day ultimate compressive strength of 4,000 psi.
2. All reinforcement shall have a minimum yield strength of 60,000 psi, (Grade 60).
3. All lap splices shall be 24 bar diameters unless noted otherwise.
4. Add steps as required by Standard Drawing SS–1

TOP SLAB "A"

TOP SLAB "B"

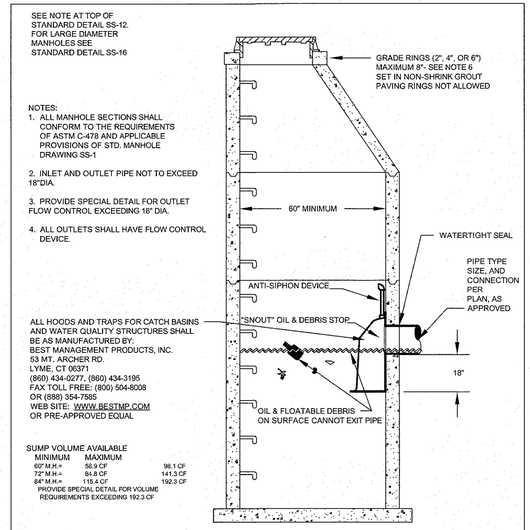


TOP SLAB TYPICAL SECTION

	TOP SLAB "A"			TOP SLAB "B"			TOP SLAB "B"		
	COVER DEPTH								
	6" to 12"			4'–0" to 7'–0"			7'–1" to 22'–0"		
Size	T	"A" Bars	"B" Bars	T	"A" Bars	"B" Bars	T	"A" Bars	"B" Bars
60"	8"	No.5 @ 7½"	No.5 @ 7½"	12"	No.5 @ 9"	No.5 @ 9"	12"	No.5 @ 9"	No.5 @ 9"
72"	10"	No.5 @ 7"	No.5 @ 7"	12"	No.5 @ 9"	No.5 @ 9"	12"	No.5 @ 7"	No.5 @ 7"
84"	11"	No.5 @ 7"	No.5 @ 7"	12"	No.5 @ 6"	No.5 @ 6"	12"	No.6 @ 6"	No.5 @ 7"
96"	12"	No.5 @ 6"	No.5 @ 6"	12"	No.5 @ 6"	No.5 @ 6"	14"	No.6 @ 6"	No.5 @ 6"
108"	N/A	N/A	N/A	12"	No.6 @ 8"	No.6 @ 8"	16"	No.7 @ 9"	No.7 @ 9"
120"	N/A	N/A	N/A	12"	No.6 @ 7"	No.6 @ 7"	16"	No.7 @ 8"	No.7 @ 8"

STANDARD DRAWING TITLE	DRAWING NUMBER
LARGE PRECAST CONCRETE MANHOLE TOP SLABS	SS-22
SCALE	DATE
N.T.S.	JUL '09

Any alteration of this drawing may not be associated in any way with the City of Sherwood Standard Drawings.



NOTES:
1. ALL MANHOLE SECTIONS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C-478 AND APPLICABLE PROVISIONS OF STD. MANHOLE DRAWING SS-1
2. INLET AND OUTLET PIPE NOT TO EXCEED 18"DIA.
3. PROVIDE SPECIAL DETAIL FOR OUTLET FLOW CONTROL EXCEEDING 18" DIA.
4. ALL OUTLETS SHALL HAVE FLOW CONTROL DEVICE

ALL HOODS AND TRAPS FOR CATCH BASINS AND WATER QUALITY STRUCTURES SHALL BE AS MANUFACTURED BY:
BEST MANAGEMENT PRODUCTS, INC.
53 MT. ARCHER RD.
LYME, CT 06371
(860) 434-0277, (860) 434-3195
FAX TOLL FREE: (800) 504-8008
OR (888) 354-7585
WEB SITE: WWW.BESTMP.COM
OR PRE-APPROVED EQUAL

SUMP VOLUME AVAILABLE

MINIMUM	MAXIMUM	
60" M.H.=	58.9 CF	98.1 CF
72" M.H.=	84.8 CF	141.3 CF
84" M.H.=	115.4 CF	192.3 CF

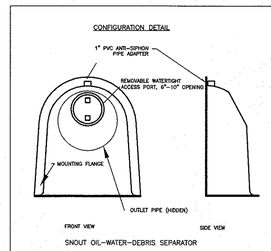
PROVIDE SPECIAL DETAIL FOR VOLUME REQUIREMENTS EXCEEDING 192.3 CF

SUMP VOLUME REQUIREMENTS
20 CF/1.0 CFS OF INFLOW
58.9 CF MINIMUM REQUIRED

CITY OF SHERWOOD PUBLIC WORKS TO PROVIDE SNOUT FOR CONSTRCTOR INSTALLATION

STANDARD DRAWING TITLE	DRAWING NUMBER
WATER QUALITY MANHOLE (SNOUT) A	SS-25
SCALE	DATE
N.T.S.	JUL '09

Any alteration of this drawing may not be associated in any way with the City of Sherwood Standard Drawings.



SNOUT OIL–WATER–DEBRIS SEPARATOR

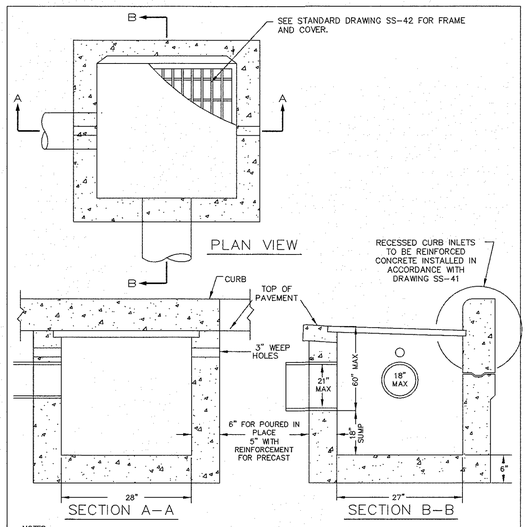
NOTES:

1. ALL HOODS AND TRAPS FOR CATCH BASINS AND WATER QUALITY STRUCTURES SHALL BE AS MANUFACTURED BY:
   BEST MANAGEMENT PRODUCTS, INC.
   53 MT. ARCHER RD.
   LYME, CT 06371
   (860) 434–0277, (860) 434–3195 FAX
   TOLL FREE: (800) 504–8008 OR (888) 354–7585
   WEB SITE: www.bestmp.com
   OR PRE–APPROVED EQUAL
2. ALL HOODS SHALL BE CONSTRUCTED OF A GLASS REINFORCED RESIN COMPOSITE WITH ISO GEL COAT EXTERIOR FINISH WITH A MINIMUM 0.125" LAMINATE THICKNESS.
3. ALL HOODS SHALL BE EQUIPPED WITH A WATERTIGHT ACCESS PORT, A MOUNTING FLANGE, AND AN ANTI–SIPHON VENT AS DRAWN. (SEE CONFIGURATION DETAIL)
4. THE SIZE AND POSITION OF THE HOOD SHALL BE DETERMINED BY OUTLET PIPE SIZE AS PER MANUFACTURER'S RECOMMENDATION.
5. THE BOTTOM OF THE HOOD SHALL EXTEND DOWNWARD A DISTANCE OF 18" FROM I.E. OUT.
6. THE ANTI–SIPHON VENT SHALL EXTEND ABOVE HOOD BY MINIMUM OF 3" AND A MAXIMUM OF 24" ACCORDING TO STRUCTURE CONFIGURATION.
7. THE SURFACE OF THE STRUCTURE WHERE THE HOOD IS MOUNTED SHALL BE FINISHED SMOOTH AND FREE OF LOOSE MATERIAL.
8. THE HOOD SHALL BE SECURELY ATTACHED TO STRUCTURE WALL WITH 3/8" STAINLESS STEEL BOLTS AND OIL–RESISTANT GASKET AS SUPPLIED BY MANUFACTURER. (SEE INSTALLATION DETAIL)
9. INSTALLATION INSTRUCTIONS SHALL BE FURNISHED WITH MANUFACTURER SUPPLIED INSTALLATION KIT.
   INSTALLATION KIT SHALL INCLUDE:
   A. INSTALLATION INSTRUCTIONS
   B. PVC ANTI–SIPHON VENT PIPE AND ADAPTER
   C. OIL–RESISTANT CRUSHED CELL FOAM GASKET WITH PSA BACKING
   D. 3/8" STAINLESS STEEL BOLTS
   E. ANCHOR SHIELDS

CITY OF SHERWOOD PUBLIC WORKS TO PROVIDE SNOUT FOR CONSTRCTOR INSTALLATION

STANDARD DRAWING TITLE	DRAWING NUMBER
WATER QUALITY MANHOLE (SNOUT) B	SS-26
SCALE	DATE
N.T.S.	JUL' 09

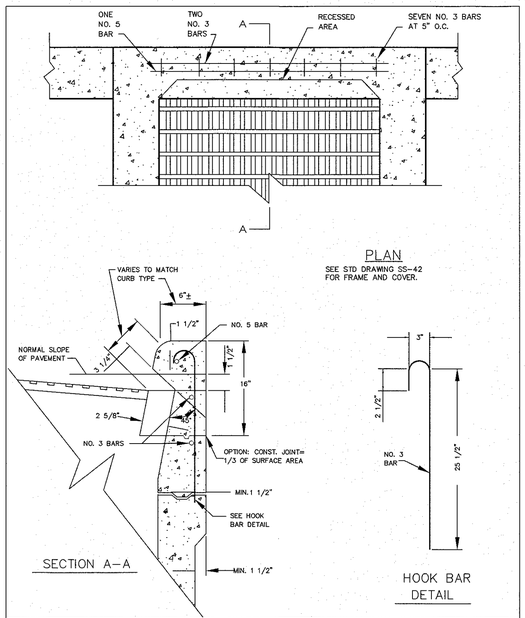
Any alteration of this drawing may not be associated in any way with the City of Sherwood Standard Drawings.



NOTES:
1. CATCH BASIN SHALL BE CONSTRUCTED IN ACCORDANCE WITH ASTM C–478.
2. INSTALL STEPS WHEN DISTANCE FROM TOP OF GRATE TO FLOW LINE OF PIPE IS GREATER THAN 48". SEE STANDARD DRAWING SS–10. SET FIRST STEP 12" FROM TOP OF GRATE.
3. INSTALL STRUCTURE ON MINIMUM OF 8" OF ¾"–0" COMPACTED BASE MATERIAL.
4. REINFORCEMENT FOR PRE CAST CATCH BASIN SHALL BE REBAR MEETING ASTM A–615 GRADE 60 OR WELDED WIRE MEETING ASTM A–497.
5. ALL POURED INPLACE CONCRETE SHALL HAVE A 28 DAY STRENGTH OF 3000 P.S.I. AND A SLUMP OF 2" TO 4".
6. CHANNEL REQUIRED IN FLOW THROUGH APPLICATIONS, AS APPROVED. ALL OTHER APPLICATIONS REQUIRE AN 18" SUMP BELOW LOWEST PIPE INVERT.
7. FULL CURB EXPOSEURE REQUIRED CANNOT BE LOCATED IN SIDEWALK RAMPS OR RAMP WINGS.

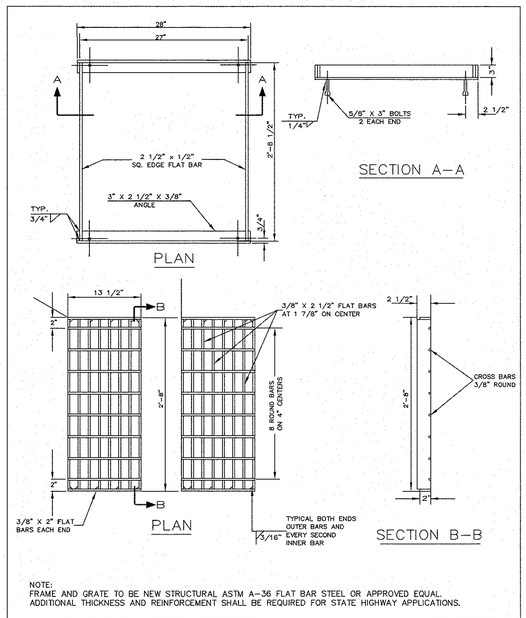
STANDARD DRAWING TITLE	DRAWING NUMBER
GUTTER & CURB INLET CATCH BASIN (CG-2)	SS-40
SCALE	DATE
N.T.S.	JUL '09

Any alteration of this drawing may not be associated in any way with the City of Sherwood Standard Drawings.



STANDARD DRAWING TITLE	DRAWING NUMBER
GUTTER & CURB INLET CATCH BASIN (CG-2) REINFORCEMENT	SS-41
SCALE	DATE
N.T.S.	JUL '09

Any alteration of this drawing may not be associated in any way with the City of Sherwood Standard Drawings.



NOTE:
FRAME AND GRATE TO BE NEW STRUCTURAL ASTM A–36 FLAT BAR STEEL OR APPROVED EQUAL. ADDITIONAL THICKNESS AND REINFORCEMENT SHALL BE REQUIRED FOR STATE HIGHWAY APPLICATIONS.

STANDARD DRAWING TITLE	DRAWING NUMBER
CATCH BASIN FRAME AND GRATE (CG-2)	SS-42
SCALE	DATE
N.T.S.	JUL '09

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SUITE 100
TUALATIN, OR 97062
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CITY OF SHERWOOD
REGIONAL STORMWATER FACILITY
SHERWOOD OREGON
WASHINGTON COUNTY TAX MAP 2S 1 32BC & 32CB
TAX LOTS 6600, 6801, 7300, 10500

STORM SEWER DETAILS

DESIGNED BY:	PAS
DRAWN BY:	PAS/DS
CHECKED BY:	AHH
SCALE:	AS NOTED
DATE:	06/30/2014

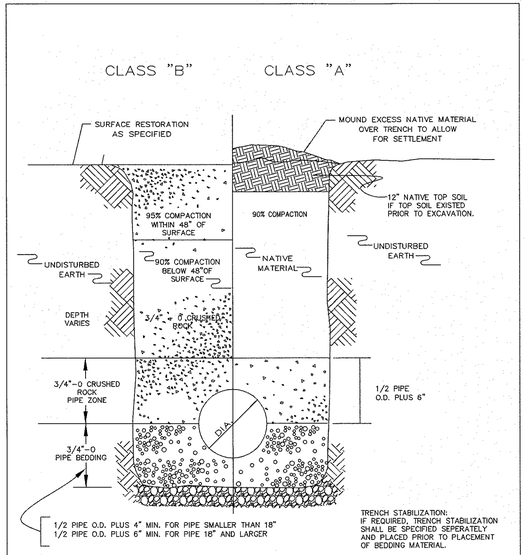
REGISTERED PROFESSIONAL ENGINEER
55539PE
OREGON
JANUARY 15, 2002
ALEXANDER H. HURLEY
RENEWAL DATE: 6/30/15

REVISIONS

JOB NUMBER 3068

SHEET C208

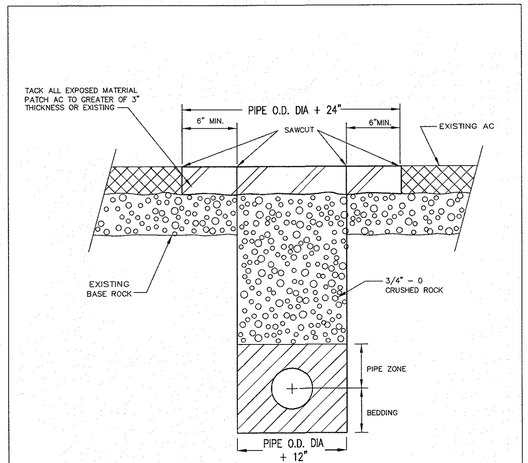
AKS DRAWING FILE: 3068 DETAILS.DWG | LAYOUT: C208



NOTE:
ALL COMPACTTION REQUIREMENTS PER AASHTO T-99 AND ODOT/APWA SPEC 00405.

STANDARD DRAWING TITLE	DRAWING NUMBER
TRENCH BACKFILL DETAILS	SS-69
SCALE: N.T.S.	DATE: JUL' 09

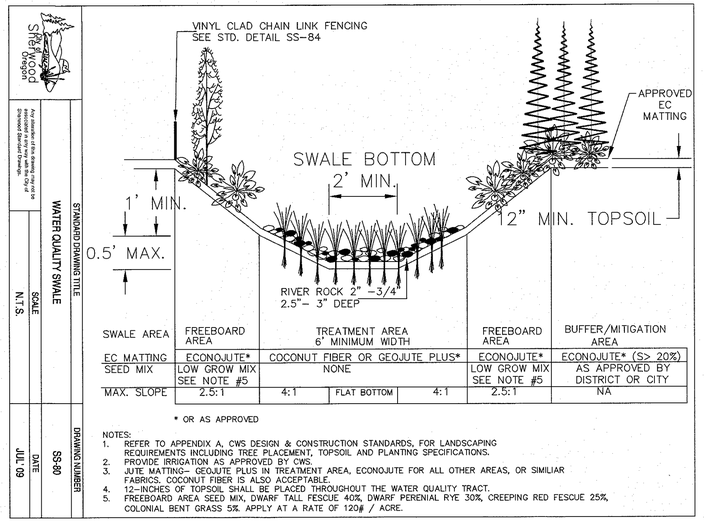
Any alteration of this drawing may not be associated in any way with the City of Sherwood Standard Drawings.



NOTE:
1. TEE CUT TO BE DONE AFTER EXCAVATION AND BACKFILL OF TRENCH.
2. SEE STD. DRAWING SS-69 FOR BEDDING, PIPE ZONE, AND TRENCH BACKFILL.

STANDARD DRAWING TITLE	DRAWING NUMBER
T-CUT ASPHALT DETAILS	SS-70
SCALE: N.T.S.	DATE: JUL' 09

Any alteration of this drawing may not be associated in any way with the City of Sherwood Standard Drawings.



SWALE AREA	FREEBOARD AREA	TREATMENT AREA 6' MINIMUM WIDTH			FREEBOARD AREA	BUFFER/MITIGATION AREA
EC MATTING	ECONOJUTE*	COCONUT FIBER OR GEOJUTE PLUS*			ECONOJUTE*	ECONOJUTE* (S> 20%)
SEED MIX	LOW GROW MIX SEE NOTE #5	NONE			LOW GROW MIX SEE NOTE #5	AS APPROVED BY DISTRICT OR CITY
MAX. SLOPE	2.5:1	4:1	FLAT BOTTOM	4:1	2.5:1	NA

* OR AS APPROVED

NOTES:
1. REFER TO APPENDIX A, CWS DESIGN & CONSTRUCTION STANDARDS, FOR LANDSCAPING REQUIREMENTS INCLUDING TREE PLACEMENT, TOPSOIL AND PLANTING SPECIFICATIONS.
2. PROVIDE IRRIGATION AS APPROVED BY CWS.
3. JUTE MATTING- GEOJUTE PLUS IN TREATMENT AREA, ECONOJUTE FOR ALL OTHER AREAS, OR SIMILIAR FABRICS. COCONUT FIBER IS ALSO ACCEPTABLE.
4. 12-INCHES OF TOPSOIL SHALL BE PLACED THROUGHOUT THE WATER QUALITY TRACT.
5. FREEBOARD AREA SEED MIX, DWARF TALL FESCUE 40%, DWARF PERENIAL RYE 30%, CREEPING RED FESCUE 25%, COLONIAL BENT GRASS 5%. APPLY AT A RATE OF 120# / ACRE.

STANDARD DRAWING TITLE	DRAWING NUMBER
WATER QUALITY SWALE	SS-80
SCALE: N.T.S.	DATE: JUL' 09

Any alteration of this drawing may not be associated in any way with the City of Sherwood Standard Drawings.

CONSTRUCTION

1. Water Quality Swale shall be over-excavated and filled to final grade with 12-inch amended topsoil. Topsoil amendments shall be garden compost, not conventional fertilizer amendments.
2. A biodegradable Erosion Control Matting shall be placed over the topsoil throughout the swale cross section, fabric shall be held in place in accordance with the manufacturer's installation requirements. Anchor spacing shall be based on 3 fps flow over the fabric.
   a. Treatment area - high-density jute matting (Geojute Plus or other approved equal)
   b. All other areas - low-density jute matting (Econojute or other approved equal)
3. 2.5-3 inches of 2"-$\frac{3}{4}$" river run rock shall be placed over the matting evenly throughout the length and width of the swale.
4. Plant materials shall be placed in accordance with the plan and plant table as shown on approved plans.
5. The water quality swale treatment area plantings can be deemed "substantially complete" once active green growth has occurred to an average growth of 3" and plant density is an average of approx. 6 plants (minimum 1-inch plugs or equivalent) per square foot.
6. The facility shall be deemed acceptable to begin the maintenance period when plant growth and density matches the engineer's design as shown on the approved plans and all other requirements have been met. The engineer must certify the facility to be functional, in accordance with the approved plan design to begin the two-year maintenance period.

MAINTENANCE

1. The permittee is responsible for the maintenance of this facility for a minimum of two years following construction and acceptance of this facility per Chapter 2.
2. Irrigation is to be provided per separate irrigation plan as approved.
   Note: Irrigation needs are to be met using a temporary irrigation system with a timer during the dry season. Systems should be winterized during the wet season to assure longevity and guard against damage from freezing temperatures. Water source shall be as shown on the approved plans.
3. Engineer or Owners Representative is to visit and evaluate the site a minimum of twice annually (Spring and Fall). The landscaping shall be evaluated and replanted as necessary to ensure a minimum of 80% survival rate of the required vegetation and 90% aerial coverage. Non-native, invasive plant species shall be removed when occupying more than 20% of the site.
4. The facility shall be re-excavated and planted if siltation greater than 3 inches in depth occurs within the two-year maintenance period.

STANDARD DRAWING TITLE	DRAWING NUMBER
WATER QUALITY SWALE CONSTRUCTION & MAINTENANCE NOTES	SS-81
SCALE: N.T.S.	DATE: JUL' 09

Any alteration of this drawing may not be associated in any way with the City of Sherwood Standard Drawings.

RIPRAP:

- ROCK FOR RIPRAP SHALL BE ANGULAR IN SHAPE.
- THICKNESS OF A SINGLE ROCK SHALL NOT BE LESS THAN ONE-THIRD ITS LENGTH.
- ROUNDED ROCK WILL NOT BE ACCEPTED UNLESS APPROVED BY THE DISTRICT.

RIPRAP INSTALLATION:

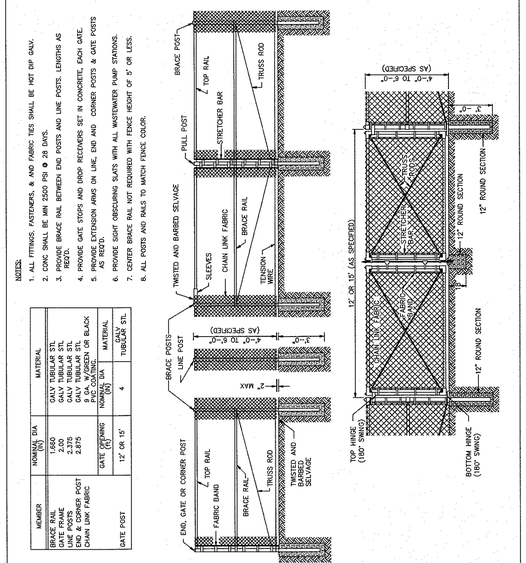
- EXCAVATE BELOW FINISH GRADE TO DEPTH & DIMENSIONS SHOWN ON APPROVED PLANS.
- INSTALL WOVEN GEOTEXTILE FABRIC.
- PLACE RIP RAP TO FINISH GRADE.

- GRADE RIPRAP SHALL BE THE CLASS AND SIZE OF ROCK ACCORDING TO THE FOLLOWING:

CLASS 50	CLASS 100	CLASS 200	CLASS 700	CLASS 2000	PERCENT (BY WEIGHT)
WEIGHT OF ROCK (LBS)					
50-30	100-60	200-140	700-500	2000-1400	20
30-15	60-25	140-80	500-200	1400-700	30
15-2	25-2	80-8	200-20	700-40	40
2-0	2-0	8-0	20-0	40-0	10

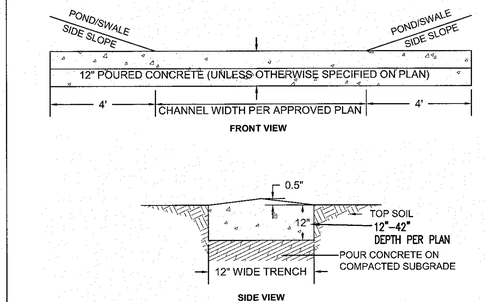
STANDARD DRAWING TITLE	DRAWING NUMBER
RIP RAP DETAILS	SS-87
SCALE: N.T.S.	DATE: JUL' 09

Any alteration of this drawing may not be associated in any way with the City of Sherwood Standard Drawings.



STANDARD DRAWING TITLE	DRAWING NUMBER
CHAIN LINK FENCE AND GATE	SS-104
SCALE: N.T.S.	DATE: JUL '09

Any alteration of this drawing may not be associated in any way with the City of Sherwood Standard Drawings.



STANDARD DRAWING TITLE	
CONCRETE SPREADER DETAIL	

AKS ENGINEERING AND FORESTRY, LLC
12965 SW HERMAN RD
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CITY OF SHERWOOD
REGIONAL STORMWATER FACILITY
SHERWOOD OREGON
TAX LOTS 6600, 6801, 7300, 10500 WASHINGTON COUNTY TAX MAP 2S 1 32BC & 32CB

STORM SEWER DETAILS

DESIGNED BY: PAS
DRAWN BY: PAS/DS
CHECKED BY: AHH
SCALE: AS NOTED
DATE: 06/30/2014

REGISTERED PROFESSIONAL ENGINEER
28538PE
OREGON
JANUARY 15, 2002
ALEXANDER H. HURLEY
RENEWAL DATE: 6/30/15

REVISIONS

JOB NUMBER 3068

SHEET C209

AKS DRAWING FILE: 3068 DETAILS.DWG | LAYOUT: C209

STORMWATER FACILITY

SYMBOL	QTIES.	BOTANICAL NAME	COMMON NAME	SIZE	CONDITION	SPACING
SHRUBS (TOTAL 259):						
RED	67	CORNUS SERICEA	RED OSIER DOGWOOD	1 GAL.	CONTAINER	36" O.C. IN CLUSTERS
DSP	52	SPIREA DOUGLASII	DOUGLAS SPIREA	1 GAL.	CONTAINER	36" O.C. IN CLUSTERS
RFC	37	RIBES SANGUINEUM	RED FLOWERING CURRANT	1 GAL.	CONTAINER	48" O.C. IN CLUSTERS
ALM	34	ALMELANCHIER ALNIFOLIA	SERVICEBERRY	1 GAL.	CONTAINER	48" O.C. SINGLE
SNO	69	SYMPHORICARPOS ALBUS	SNOWBERRY	1 GAL.	CONTAINER	36" O.C. IN CLUSTERS

WET AREA PLUG MIX:
PLUG MIX SHALL CONSIST OF THE FOLLOWING COMPOSITION OR APPROVED EQUAL. PLANT 6 PLUGS PER SQUARE FOOT, 3" O.C. +/-, IN MASSES OF SAME TYPE FOR NATURAL APPEARING GROUPINGS. ALL PLUGS IN BOTTOM OF SWALE TO BE PLANTED AFTER RIVER ROCK IS PLACED. AVOID EXCESSIVE DAMAGE TO PLUGS WHEN PLANTING. REFER TO CWS WATER QUALITY SWALE DRAWING NO. 700 AND 710.

6,975	25% SLOUGH SEDGE/CAREX OBNUPTA; 1" PLUGS, 6 PLUGS PER SF, 3" O.C. +/-
6,975	25% SPREADING RUSH/JUNCUS PATENS; 1" PLUGS, 6 PLUGS PER SF, 3" O.C. +/-
6,975	25% SMALL-FRUITED BULRUSH/SCIRPUS MICROCARPUS, 1" PLUGS, 6 PLUGS PER SF, 3" O.C. +/-
6,975	25% TOAD RUSH/ JUNCUS BUFONIUS; 1" PLUGS, 6 PLUGS PER SF, 3" O.C. +/-

FREE BOARD SEED MIX (PLANT UNDER AND AROUND ALL TREES AND SHRUBS ABOVE FREEBOARD AND IN AREAS SHOWN):
DWARF TALL FESCUE (40%); DWARF PERENNIAL RYE (30%); CREEPING RED FESCUE (25%); COLONIAL BENT GRASS (5%). APPLY AT A RATE OF 120 LBS PER ACRE. REFER ALSO TO CWS WATER QUALITY SWALE DETAIL DRAWING NO. 700.

NOTES:
1. CONTRACTOR IS RESPONSIBLE FOR VERIFYING PLANT QUANTITIES. IF DISCREPANCIES OCCUR, DESIGN INTENT PREVAILS OVER QUANTITIES LISTED.
2. ALL PLANTS AND PLANTINGS SHALL CONFORM TO CLEAN WATER SERVICES (CWS) DESIGN STANDARDS. REFER TO CWS DESIGN AND CONSTRUCTION MANUAL AND STANDARD DETAILS, CURRENT EDITION.
3. SPECIES OF PLANTS ARE SHOWN TO PORTRAY CHARACTER OF THE SITE LANDSCAPE AND MAY BE SUBSTITUTED OR REVISED DUE TO PLANT AVAILABILITY, SITE CONDITIONS, ETC. WHERE ALLOWED BY THE LANDSCAPE ARCHITECT PRIOR TO FINAL INSTALLATION.
4. IRRIGATION: CONTRACTOR SHALL DESIGN AND INSTALL TEMPORARY IRRIGATION TO WATER ALL NEW PLANTINGS PER CWS'S STANDARDS.
5. PROVIDE 2" LAYER OF ORGANIC COMPOST MULCH IN STORMWATER FACILITY, EXCLUDING AREA WITH RIVER ROCK BOTTOM. SEEDED AREAS MAY USE A TACKIFIED WOOD FIBER MULCH AT THE TIME OF SEEDING.
6. PLANT CLUSTERS AS NOTED IN PLANT LEGEND, 3 PLANTS MINIMUM TO A CLUSTER, IN STORMWATER FACILITY, UNLESS OTHERWISE SPECIFIED.

SCALE 1" = 10 FEET
10 0 4 6 8 10

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REGIONAL STORMWATER FACILITY
SHERWOOD OREGON
TAX LOTS 6800, 6801, 7300, 10500 WASHINGTON COUNTY TAX MAP 2S 1 32BC & 32CB

STORMWATER QUALITY SWALE PLANTING PLAN

DESIGNED BY: TEB
DRAWN BY: TEB
CHECKED BY: JHH
SCALE: AS NOTED
DATE: 06/30/2014

REGISTERED PROFESSIONAL LANDSCAPE ARCHITECT
JAMES H. HENSLEY II
OREGON
29

REVISIONS

JOB NUMBER
3068

SHEET
L001

AKS DRAWING FILE: 3068 L1-L3.DWG | LAYOUT: L001

VEGETATED CORRIDOR MITIGATION AND ENHANCEMENT PLANTINGS

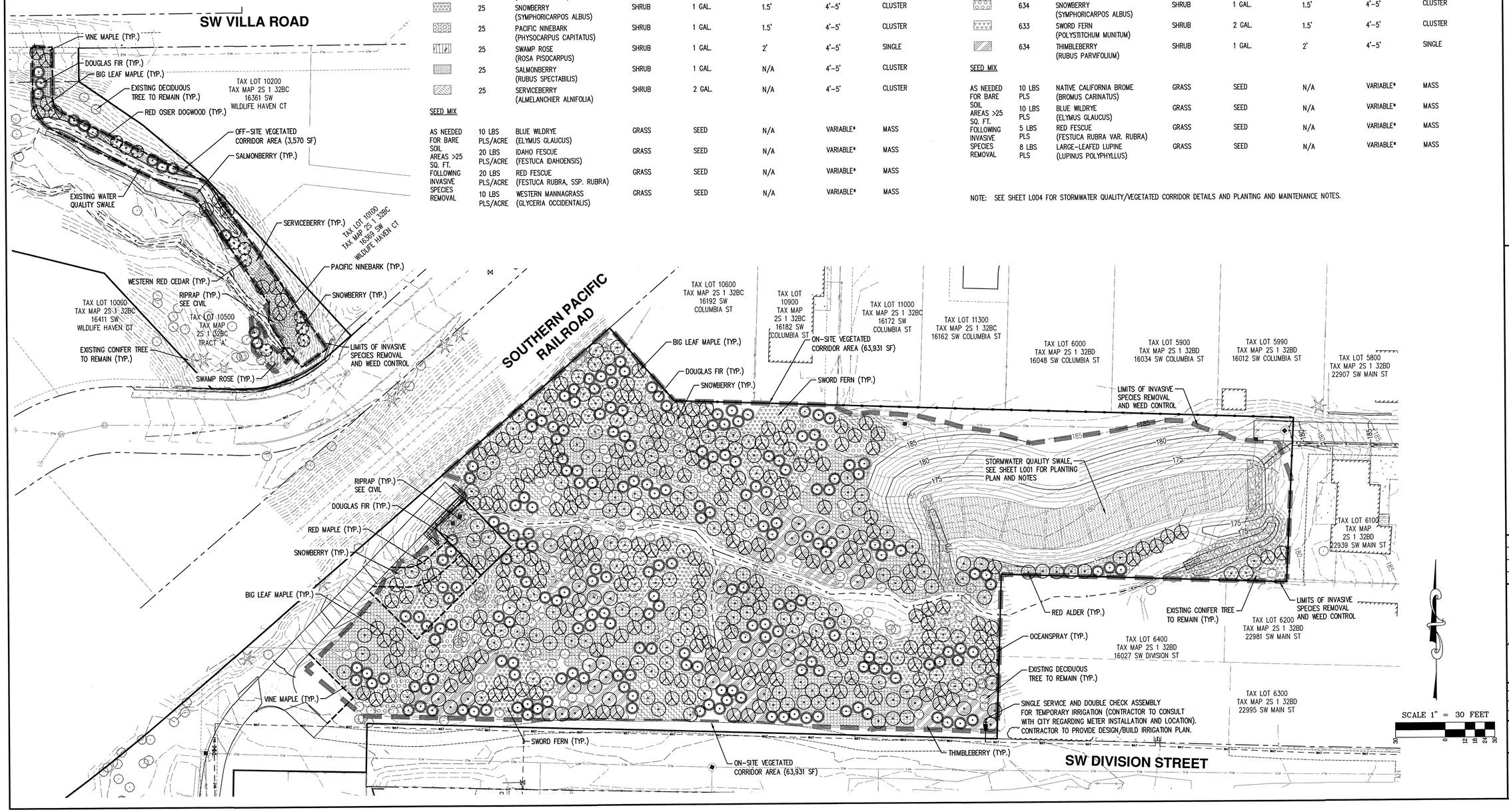
TEMPORARILY IMPACTED OFF-SITE VEGETATED CORRIDOR AREA - (3,498 SF)

SYMBOL	QTIES.	COMMON/BOTANICAL NAME	PLANT CATEGORY	MIN. ROOTING SIZE	MIN. PLANT HT.	ON CENTER/ SEEDING RATE	SPACING FORMAT
TREES: (35)							
	12	DOUGLAS FIR (PSEUDOTSUGA MENZIESII)	TREE	2 GAL.	3'	10'	SINGLE
	12	BIG LEAF MAPLE (ACER MACROPHYLLUM)	TREE	2 GAL.	3'	10'	SINGLE
	11	WESTERN RED CEDAR (THUJA PLICATA)	TREE	2 GAL.	3'	10'	SINGLE
SHRUBS: (175)							
	25	VINE MAPLE (ACER CIRCINATUM)	SHRUB	1 GAL.	1.5'	4'-5'	SINGLE
	25	RED OSIER DOGWOOD (CORNUS SERICEA)	SHRUB	CUTTINGS	1.5'	4'-5'	SINGLE
	25	SNOWBERRY (SYMPHORICARPOS ALBUS)	SHRUB	1 GAL.	1.5'	4'-5'	CLUSTER
	25	PACIFIC NINEBARK (PHYSOCARPUS CAPITATUS)	SHRUB	1 GAL.	1.5'	4'-5'	CLUSTER
	25	SWAMP ROSE (ROSA PISOCARPUS)	SHRUB	1 GAL.	2'	4'-5'	SINGLE
	25	SALMONBERRY (RUBUS SPECTABILIS)	SHRUB	1 GAL.	N/A	4'-5'	CLUSTER
	25	SERVICEBERRY (ALMELANCHIER ALNIFOLIA)	SHRUB	2 GAL.	N/A	4'-5'	CLUSTER
SEED MIX							
AS NEEDED FOR BARE SOIL AREAS >25 SQ. FT. FOLLOWING INVASIVE SPECIES REMOVAL	10 LBS PLS/ACRE	BLUE WILDRYE (ELYMUS GLAUCUS)	GRASS	SEED	N/A	VARIABLE*	MASS
	20 LBS PLS/ACRE	IDAHO FESCUE (FESTUCA IDAHOENSIS)	GRASS	SEED	N/A	VARIABLE*	MASS
	20 LBS PLS/ACRE	RED FESCUE (FESTUCA RUBRA, SSP. RUBRA)	GRASS	SEED	N/A	VARIABLE*	MASS
	10 LBS PLS/ACRE	WESTERN MANNAGRASS (GLYCERIA OCCIDENTALIS)	GRASS	SEED	N/A	VARIABLE*	MASS

ON-SITE VEGETATED CORRIDOR AREA - (63,349 SF)

SYMBOL	QTIES.	COMMON/BOTANICAL NAME	PLANT CATEGORY	MIN. ROOTING SIZE	MIN. PLANT HT.	ON CENTER/ SEEDING RATE	SPACING FORMAT
TREES: (633)							
	211	DOUGLAS FIR (PSEUDOTSUGA MENZIESII)	TREE	1 GAL.	3'	10'	SINGLE
	211	BIG LEAF MAPLE (ACER MACROPHYLLUM)	TREE	1 GAL.	3'	10'	SINGLE
	211	RED ALDER (ALNUS RUBRA)	TREE	1 GAL.	3'	10'	SINGLE
SHRUBS: (3,168)							
	633	VINE MAPLE (ACER CIRCINATUM)	SHRUB	2 GAL.	1.5'	4'-5'	SINGLE
	634	OCEANSPRAY (HOLODISCUS DISCOLOR)	SHRUB	1 GAL.	1.5'	4'-5'	SINGLE
	634	SNOWBERRY (SYMPHORICARPOS ALBUS)	SHRUB	1 GAL.	1.5'	4'-5'	CLUSTER
	633	SWORD FERN (POLYSTITCHUM MUNITUM)	SHRUB	2 GAL.	1.5'	4'-5'	CLUSTER
	634	THIMBLEBERRY (RUBUS PARVIFOLIUM)	SHRUB	1 GAL.	2'	4'-5'	SINGLE
SEED MIX							
AS NEEDED FOR BARE SOIL AREAS >25 SQ. FT. FOLLOWING INVASIVE SPECIES REMOVAL	10 LBS PLS	NATIVE CALIFORNIA BROME (BROMUS CARINATUS)	GRASS	SEED	N/A	VARIABLE*	MASS
	10 LBS PLS	BLUE WILDRYE (ELYMUS GLAUCUS)	GRASS	SEED	N/A	VARIABLE*	MASS
	5 LBS PLS	RED FESCUE (FESTUCA RUBRA VAR. RUBRA)	GRASS	SEED	N/A	VARIABLE*	MASS
	8 LBS PLS	LARGE-LEAFED LUPINE (LUPINUS POLYPHYLLUS)	GRASS	SEED	N/A	VARIABLE*	MASS

NOTE: SEE SHEET L004 FOR STORMWATER QUALITY/VEGETATED CORRIDOR DETAILS AND PLANTING AND MAINTENANCE NOTES.



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CITY OF SHERWOOD
REGIONAL STORMWATER FACILITY
SHERWOOD OREGON

WASHINGTON COUNTY TAX MAP 2S 1 32BC & 32CB
TAX LOTS 6600, 6801, 7300, 10500

VEGETATED CORRIDOR PLANTING PLAN

DESIGNED BY:	TEB
DRAWN BY:	TEB
CHECKED BY:	JHH
SCALE:	AS NOTED
DATE: 06/30/2014	

REGISTERED PROFESSIONAL LANDSCAPE ARCHITECT
29
JAMES H. HENSLEY II
OREGON

REVISIONS

JOB NUMBER 3068

SHEET L002

AKS DRAWING FILE: 3068 L1-L3.DWG | LAYOUT: L002

*CONTRACTOR TO COORDINATE WITH THE CITY AND AFFECTED PROPERTY OWNERS PRIOR TO FENCE WORK

TAX LOT 10000
TAX MAP 2S 1 32BC
16411 SW
WILDLIFE HAVEN CT

TAX LOT 10100
TAX MAP 2S 1 32BC
16369 SW
WILDLIFE HAVEN CT

TAX LOT 10500
TAX MAP
2S 1 32BC
TRACT 'A'

SOUTHERN PACIFIC RAILROAD

TAX LOT
10900
TAX MAP
2S 1 32BC
16182 SW
COLUMBIA ST

HOUSE

TAX LOT 11000
TAX MAP 2S 1 32BC
16172 SW
COLUMBIA ST

TAX LOT 11300
TAX MAP 2S 1 32BC
16162 SW COLUMBIA ST

TAX LOT 10600
TAX MAP 2S 1 32BC
16192 SW
COLUMBIA ST

TAX LOT 6801
TAX MAP 2S 1 32BC

TAX LOT 6000
TAX MAP 2S 1 32BD
16048 SW COLUMBIA ST

TAX LOT 5900
TAX MAP 2S 1 32BD
16034 SW COLUMBIA ST

TAX LOT 5990
TAX MAP 2S 1 32BD
16012 SW COLUMBIA ST

TAX LOT 5800
TAX MAP 2S 1 32BD
22907 SW MAIN ST

TAX LOT 6100
TAX MAP
2S 1 32BD
22939 SW MAIN ST

TAX LOT 6200
TAX MAP 2S 1 32BD
22981 SW MAIN ST

TAX LOT 6400
TAX MAP 2S 1 32BD
16027 SW DIVISION ST

TAX LOT 6300
TAX MAP 2S 1 32BD
22995 SW MAIN ST

TAX LOT 6600
TAX MAP 2S 1 32CB
TRACT 'B'
23249 SW ST CHARLES WAY

TAX LOT 7700
TAX MAP 2S 1 32CB
23077 SW MAIN ST

TAX LOT 200
TAX MAP 2S 1 32CB
16030 SW DIVISION ST

TAX LOT 100
TAX MAP 2S 1 32CB
23007 SW MAIN ST

TAX LOT 3800
TAX MAP 2S 1 32CB
23018 SW ST
BARBARA WAY

TAX LOT 3900
TAX MAP 2S 1 32CB
23005 SW ST
CHARLES WAY

TAX LOT 3700
TAX MAP 2S 1 32CB
23036 SW ST
BARBARA WAY

SW MAIN STREET

SW DIVISION STREET

SW DIVISION STREET

SW ST BARBARA WAY

10H00

9H00

REINSTALL OR INSTALL 5' HIGH BLACK VINYL COATED CHAINLINK FENCE FENCE PER DETAIL

INSTALL VEGETATED CORRIDOR SIGN PER DETAIL ON FENCE

REINSTALL OR INSTALL 5' HIGH BLACK VINYL COATED CHAINLINK FENCE FENCE PER DETAIL

INSTALL 4' HIGH BLACK VINYL COATED CHAINLINK FENCE FENCE PER DETAIL

CONTRACTOR TO COORDINATE WITH CITY REGARDING CORNER FENCE POST INSTALLATION OVER EXISTING MANHOLE

INSTALL 4' HIGH BLACK VINYL COATED CHAINLINK FENCE FENCE PER DETAIL

INSTALL WOOD FENCE, MATCH EXISTING

SHED

INSTALL 12' LOCKING GATE WITH 2-6' SWINGING SECTION PER COS DETAIL SS-104 (GATE TO SWING INTO STORWATER FACILITY)

INSTALL VEGETATED CORRIDOR SIGN ON WATER QUALITY GATE PER DETAILS

INSTALL 4' HIGH BLACK VINYL COATED CHAINLINK FENCE PER DETAIL SS-104

INSTALL WOOD FENCE TO EXISTING HOUSE PER DETAIL THIS SHEET, PROVIDE 4' WIDE GATE FOR BACKYARD ACCESS

INSTALL VEGETATED CORRIDOR SIGN PER DETAIL ON FENCE

INSTALL VEGETATED CORRIDOR SIGN PER DETAIL ON FENCE

REINSTALL OR INSTALL WOOD FENCE, MATCH EXISTING

REINSTALL OR INSTALL 6' WOOD FENCE, MATCH EXISTING

INSTALL VEGETATED CORRIDOR SIGN PER DETAIL ON STEEL POST

INSTALL VEGETATED CORRIDOR SIGN PER DETAIL ON STEEL POST

INSTALL VEGETATED CORRIDOR SIGN PER DETAIL ON STEEL POST

INSTALL VEGETATED CORRIDOR SIGN PER DETAIL ON STEEL POST

SINGLE SERVICE AND DOUBLE CHECK ASSEMBLY FOR TEMPORARY IRRIGATION (CONTRACTOR TO CONSULT WITH CITY REGARDING METER INSTALLATION AND LOCATION). CONTRACTOR TO PROVIDE DESIGN/BUILD IRRIGATION PLAN.

BOLLARD

SCALE 1" = 30 FEET

30 0 12 18 24 30

Protected Natural Area

Do not disturb soil or vegetation.
If this area protects water quantity,
Building, development and vegetative management are restricted in this area.

Clean Water Services
(503) 681-3600
www.CleanWaterServices.org

12"X16" SIGNS SHALL BE PLACED IN A MANNER AS TO CLEARLY IDENTIFY THE SENSITIVE AREA AND VEGETATED CORRIDOR AS WELL AS AT ALL POINTS OF ENTRY SUCH AS THE BEGINNING OF PATHS, TRAIL HEADS AND ANY PLACE THAT THE PUBLIC MAY WANT OR BE ABLE TO ENTER AREA.

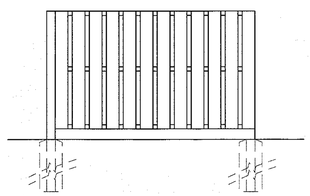
Protected Natural Area

Clean Water Services

4"X4" SIGNS SHALL BE USED FOR AREAS WHERE A LARGE NUMBER OF SIGNS ARE NEEDED SUCH AS THE BACK OR SIDE YARDS ON EACH LOT ADJACENT TO THE SENSITIVE AREA OR VEGETATED CORRIDOR IN NEW SUBDIVISIONS OF PARTITIONS.

STANDARD DRAWING TITLE	DRAWING NUMBER
VEGETATED CORRIDOR SIGNAGE	SS-89
SCALE	DATE
N.T.S.	JUL' 09

Any alteration of this drawing may not be associated in any way with the City of Sherwood Standard Drawings.



ELEVATION

PLAN

NOTES:
1. FENCE TO BE 6' TALL
2. ALL WOOD TO BE NO.1 GRADE CEDAR\
3. ALL FASTENERS TO BE HOT DIPPED GALVANIZED
4. ALL WOOD TO BE COATED WITH TWO COAT OF SOLID STAN.

BOARD ON BOARD FENCE
NTS

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CITY OF SHERWOOD
REGIONAL STORMWATER FACILITY
SHERWOOD OREGON
TAX LOTS 6600, 6801, 7300, 10500 WASHINGTON COUNTY TAX MAP 2S 1 32BC & 32CB

VEGETATED CORRIDOR FENCING AND SIGNAGE PLAN

DESIGNED BY:	PAS
DRAWN BY:	PAS/DS
CHECKED BY:	AHH
SCALE:	AS NOTED
DATE: 06/30/2014	

REGISTERED PROFESSIONAL ENGINEER
56539PE
OREGON
JANUARY 15, 2009
ALEXANDER H. HURLEY
RENEWAL DATE: 6/30/15

REVISIONS

JOB NUMBER
3068

SHEET
L003

AKS DRAWING FILE: 3068 L003.DWG | LAYOUT: L003

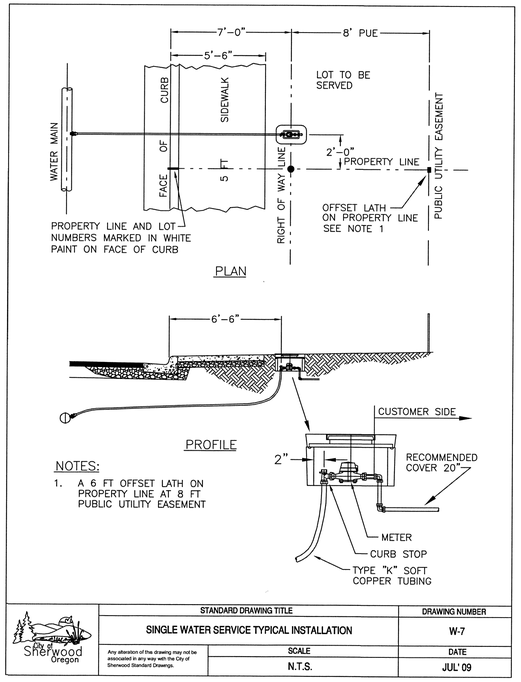
CONSTRUCTION

1. Water Quality Swale shall be over-excavated and filled to final grade with 12-inch amended topsoil. Topsoil amendments shall be garden compost, not conventional fertilizer amendments.
2. A biodegradable Erosion Control Matting shall be placed over the topsoil throughout the swale cross section, fabric shall be held in place in accordance with the manufacturer's installation requirements. Anchor spacing shall be based on 3 fps flow over the fabric.
   a. Treatment area - high-density jute matting (Geojute Plus or other approved equal)
   b. All other areas - low-density jute matting (Econojute or other approved equal)
3. 2.5-3 inches of 2"-$\frac{3}{4}$" river run rock shall be placed over the matting evenly throughout the length and width of the swale.
4. Plant materials shall be placed in accordance with the plan and plant table as shown on approved plans.
5. The water quality swale treatment area plantings can be deemed "substantially complete" once active green growth has occurred to an average growth of 3" and plant density is an average of approx. 6 plants (minimum 1-inch plugs or equivalent) per square foot.
6. The facility shall be deemed acceptable to begin the maintenance period when plant growth and density matches the engineer's design as shown on the approved plans and all other requirements have been met. The engineer must certify the facility to be functional, in accordance with the approved plan design to begin the two-year maintenance period.

MAINTENANCE

1. The permittee is responsible for the maintenance of this facility for a minimum of two years following construction and acceptance of this facility per Chapter 2.
2. Irrigation is to be provided per separate irrigation plan as approved.
   Note: Irrigation needs are to be met using a temporary irrigation system with a timer during the dry season. Systems should be winterized during the wet season to assure longevity and guard against damage from freezing temperatures. Water source shall be as shown on the approved plans.
3. Engineer or Owners Representative is to visit and evaluate the site a minimum of twice annually (Spring and Fall). The landscaping shall be evaluated and replanted as necessary to ensure a minimum of 80% survival rate of the required vegetation and 90% aerial coverage. Non-native, invasive plant species shall be removed when occupying more than 20% of the site.
4. The facility shall be re-excavated and planted if siltation greater than 3 inches in depth occurs within the two-year maintenance period.

STANDARD DRAWING TITLE	DRAWING NUMBER
WATER QUALITY SWALE CONSTRUCTION & MAINTENANCE NOTES	SS-81
Any alteration of this drawing may not be associated in any way with the City of Sherwood Standard Drawings. SCALE: N.T.S.	DATE: JUL' 09



NOTES:

1. A 6 FT OFFSET LATH ON PROPERTY LINE AT 8 FT PUBLIC UTILITY EASEMENT

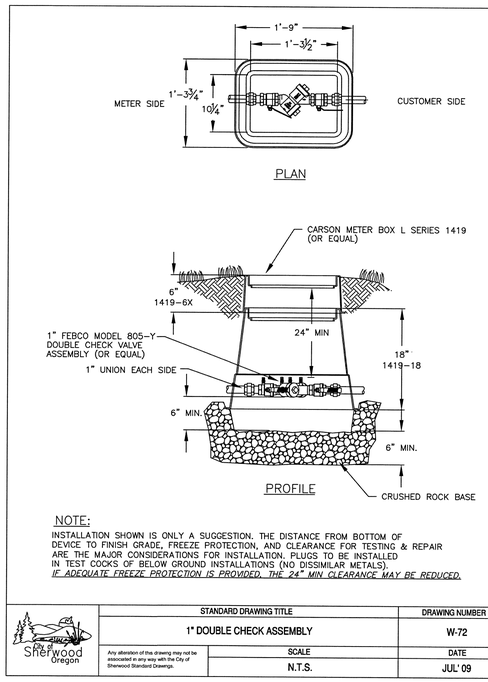
STANDARD DRAWING TITLE	DRAWING NUMBER
SINGLE WATER SERVICE TYPICAL INSTALLATION	W-7
Any alteration of this drawing may not be associated in any way with the City of Sherwood Standard Drawings. SCALE: N.T.S.	DATE: JUL' 09

VEGETATED CORRIDOR PLANTING AND MAINTENANCE NOTES:

1. THE WATER QUALITY FACILITY AND VEGETATED CORRIDOR ENHANCEMENT PLANTINGS SHALL BE PLANTED WITH CLEAN WATER SERVICES APPROVED NATIVE SPECIES AND PLANTED IN SUCH A MANNER AS TO BLEND INTO THE NATURAL SURROUNDINGS. ADJUST PLANTINGS AS NECESSARY AROUND EXISTING NATIVE PLANTS TO REMAIN.
2. NON-NATIVE, INVASIVE SPECIES ARE PRESENT IN THE ON-SITE VEGETATED CORRIDOR. PRIOR TO INSTALLATION OF PLANT MATERIALS, ALL INVASIVE VEGETATION WITHIN THE VEGETATED CORRIDOR SHALL BE REMOVED PER METHODS DESCRIBED IN CLEAN WATER SERVICES INTEGRATED PEST MANAGEMENT GUIDE, 2009. DURING REMOVAL OF INVASIVE VEGETATION CARE SHALL BE TAKEN TO MINIMIZE IMPACTS TO EXISTING NATIVE TREE AND SHRUB SPECIES. REFER ALSO TO CLEAN WATER SERVICES INTEGRATED VEGETATION AND ANIMAL MANAGEMENT GUIDE (MARCH 2003 OR CURRENT EDITION).
3. CLEAN WATER SERVICES SHALL BE NOTIFIED 72 HOURS PRIOR TO THE START AND COMPLETION OF ENHANCEMENT/RESTORATION ACTIVITIES. ENHANCEMENT/RESTORATION ACTIVITIES SHALL COMPLY WITH THE GUIDELINES PROVIDED IN LANDSCAPE REQUIREMENTS (R&O 07-20, APPENDIX A).
4. THE VEGETATED CORRIDOR AND SENSITIVE AREAS SHALL BE PROTECTED BY PERMANENT CHAINLINK FENCING AND SIGNAGE BETWEEN THE DEVELOPMENT AND THE OUTER LIMITS OF THE VEGETATED CORRIDOR. REFER TO FENCING DETAIL ON SHEET C209 AND SIGN DETAIL/LOCATIONS ON SHEET L003.
5. HATCHED AREAS SHOWN FOR EACH SPECIES ARE MEANT TO PORTRAY GENERAL PLANTING AREAS. EVENLY DISTRIBUTE PLANT SPECIES AT SPACING LISTED IN PLANT LEGEND, ADJUSTING FOR ON SITE CONDITIONS/VEGETATION AS NECESSARY, FOR FULL COVERAGE.
6. MULCH SHALL BE APPLIED AROUND ALL NEW TREES AND SHRUBS AT A MINIMUM OF 3" IN DEPTH AND 18" IN DIAMETER TO RETAIN MOISTURE AND INHIBIT WEED GROWTH. MULCH SHALL CONSIST OF ROTTED SAWDUST, COLOR DARK BROWN, A MINIMUM OF 2 YEARS OLD OR WELL-AGED ORGANIC 'YARD WASTE' COMPOST MULCH THAT IS GUARANTEED TO BE FREE OF WEED SEED. COST IS INCIDENTAL.
7. PLANTINGS SHOULD PREFERABLY BE INSTALLED DURING FAVORABLE WEATHER CONDITIONS BETWEEN FEBRUARY 1 AND MAY 1 OR BETWEEN OCTOBER 1 AND NOVEMBER 15. PLANTS MAY BE INSTALLED AT OTHER TIMES OF THE YEAR, HOWEVER ADDITIONAL MEASURES MAY BE NECESSARY TO ENSURE PLANT SURVIVAL SUCH AS WATER RETAINING POLYMER SOIL ADDITIVES, SUPPLEMENTAL WATERING, ETC.
8. CONTRACTOR SHALL INSTALL TEMPORARY IRRIGATION FOR THE VEGETATED CORRIDOR. CONTRACTOR TO PROVIDE A DESIGN-BUILD PLAN WITH HEAD AND PIPE LAYOUT, CITY APPROVED DOUBLE-CHECK VALVE, AND BATTERY OPERATED ZONE CONTROLS, PLUS PRODUCT INFORMATION. OBTAIN LANDSCAPE ARCHITECT'S APPROVAL OF PLAN PRIOR TO CONSTRUCTION. IRRIGATION SHALL BE PROVIDED AT A RATE OF AT LEAST 1" PER WEEK BETWEEN JUNE 15 AND OCTOBER 15. REFER TO CLEAN WATER SERVICES DETAIL NO. 710, MAINTENANCE NOTE 2, ON THIS SHEET. REMOVE TEMPORARY IRRIGATION AT RELEASE OF MAINTENANCE BOND (END OF WARRANTY PERIOD). COST IS INCIDENTAL.
9. REFER TO SS-81 FOR ADDITIONAL MAINTENANCE INFORMATION.

MAINTENANCE PLAN:

1. CLEAN WATER SERVICES REQUIRES A TWO-YEAR MAINTENANCE PERIOD FOR VEGETATED CORRIDOR MITIGATION PLANTINGS AND WATER QUALITY FACILITY. ALL DEAD PLANTS SHALL BE REPLACED UNDER THE BID ITEM " PLANT ESTABLISHMENT, 2-YEAR".
2. INVASIVE SPECIES CONTROL IS TO BE CONDUCTED AS NEEDED BASED UPON THE SITE INSPECTIONS. INVASIVE SPECIES INCLUDE: HIMALAYAN AND EVERGREEN BLACKBERRY (RUBRUS DISCOLOR AND R. LACINIATUS), REED CANARYGRASS (PHALARIS ARUNDINACEA), TEASEL (DIPSACUS FULLONUM), CANADA AND BULL THISTLE (CIRSIUM ARVENSE AND C. VULGARE), SCOTCH BROOM (CYTISUS SCOPARIUS), PURPLE LOOSESTRIFE (LYTHRUM SALICARIA), JAPANESE KNOTWEED (POLYGONIUM CUSPIDATUM), MORNING GLORY (CONVOLVULUS SPECIES), GIANT HOGWEED (HERACLEUM MONTEGOZZIONUM), ENGLISH IVY (HEDRA HELIX), NIGHTSHADE (SOLANUM SPECIES), CLEMATIS (CLEMATIS LIGUSTICIFOLIA AND C. VITALBA), AND CATTAIL (TYPHA LATIFOLIA). WEED CONTROL (INVASIVE SPECIES) SHALL BE ACCOMPLISHED UNDER THE BID ITEM " WEED CONTROL, 2-YEAR".
3. PROJECT REQUIRES A TOTAL OF FOUR (4) INSPECTIONS (EARLY MAY 2015 & 2016 AND MID-SEPTEMBER 2015 & 2016). EACH INSPECTION SHALL CONSIST OF CORRECTIVE ACTIONS TO OCCUR AS IDENTIFIED BY THE INSPECTOR. UPON COMPLETION AND ACCEPTANCE OF THE CORRECTIVE ACTIONS BY THE CITY, THE CONTRACTOR WILL BE PAID ONE QUARTER OF THE BID ITEM AMOUNT.
4. REFER TO SS-81 FOR ADDITIONAL MAINTENANCE INFORMATION.



NOTE:

INSTALLATION SHOWN IS ONLY A SUGGESTION. THE DISTANCE FROM BOTTOM OF DEVICE TO FINISH GRADE, FREEZE PROTECTION, AND CLEARANCE FOR TESTING & REPAIR ARE THE MAJOR CONSIDERATIONS FOR INSTALLATION. PLUGS TO BE INSTALLED IN TEST COCKS OF BELOW GROUND INSTALLATIONS (NO DISSIMILAR METALS).
IF ADEQUATE FREEZE PROTECTION IS PROVIDED, THE 24" MIN CLEARANCE MAY BE REDUCED.

STANDARD DRAWING TITLE	DRAWING NUMBER
1" DOUBLE CHECK ASSEMBLY	W-72
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TAX LOTS 6600, 6801, 7300, 10500 WASHINGTON COUNTY TAX MAP 2S 1 32BC & 32CB

STORMWATER QUALITY AND VEGETATED CORRIDOR DETAILS AND NOTES

DESIGNED BY:	TEB
DRAWN BY:	TEB
CHECKED BY:	JHH
SCALE:	AS NOTED
DATE:	06/30/2014

REGISTERED PROFESSIONAL LANDSCAPE ARCHITECT
JAMES H. HENSLEY II
OREGON

REVISIONS

JOB NUMBER 3068

SHEET L004

AKS DRAWING FILE: 3068 L1-L3.DWG | LAYOUT: L004