



17500 Midvale Avenue North
Shoreline, WA 98133
(206) 801-2700

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LANDSCAPE ARCHITECT

SVR DESIGN COMPANY
BRICE MARYMAN, P.L.A.

NE 148th Street Infiltration Facilities

A PORTION OF THE SE 1/4, SEC 17, TWP 26 N, RGE 4 E, W.M.

Bid Number:

Date: NOVEMBER 2014, 95% GRANT APPLICATION SET
NOT FOR CONSTRUCTION

APPROVED FOR CONSTRUCTION	
TRICIA JUHNKE, P.E., CITY ENGINEER	DATE

Funded in Part by Washington State Department of Ecology

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SERVICES	
ELECTRICAL:	SEATTLE CITY LIGHT (206) 684-3000
NATURAL GAS:	PUGET SOUND ENERGY (888) 225-5773
TELEPHONE:	CENTURY LINK (800) 244-1111 or FRONTIER (877) 462-8188
CABLE:	COMCAST (877) 824-2288 or FRONTIER (877) 462-8188
WASTEWATER (SEWER):	RONALD WASTEWATER DISTRICT (206) 546-2494
WATER:	SHORELINE WATER DISTRICT (206) 362-8100 or SEATTLE PUBLIC UTILITIES (206) 684-3000
STATION MASTER/ POST OFFICE:	17233 15th Ave NE (800) 275-8777
CALL BEFORE YOU DIG	(800) 424-5555

SURVEYOR: Lin and Associates

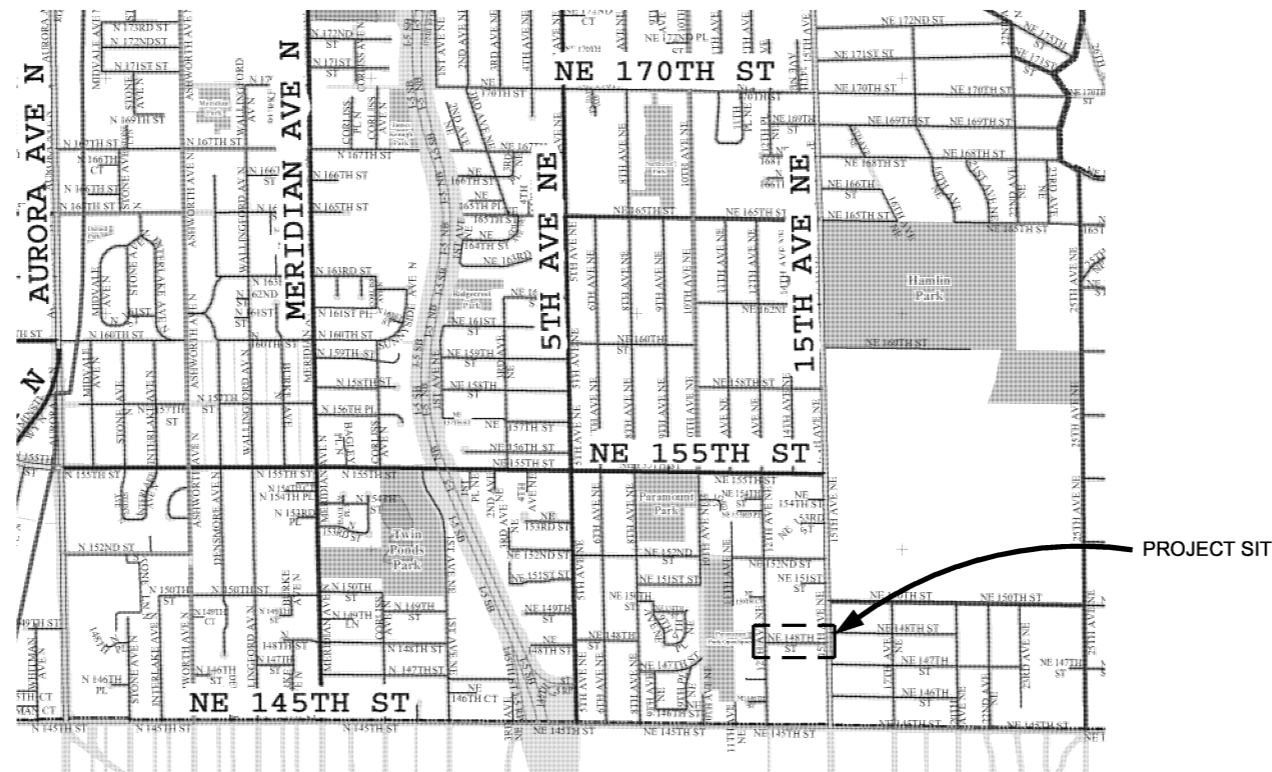
901 5th Ave., Suite 1610
Seattle, WA 98164
(206) 621-1218
Dates of field surveys: December 2012

Horizontal Datum/Basis of Bearings

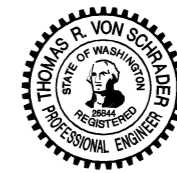
North American Datum of 1983 (Adjusted 1991) -NAD83
Washington State Plane Coordinate System - North Zone 83/91

Vertical Datum/Basis of Elevations

North American Vertical Datum of 1988 - NAVD88



LOCATION MAP
SHORELINE, WA



QA/QC REVIEWER

CALL TWO BUSINESS
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1-800-424-5555

CITY OF SHORELINE (COS) STANDARD PLAN NOTES

GENERAL NOTES:

1. THE CONTRACTOR SHALL ADHERE TO ALL APPLICABLE NOTES UNLESS OTHERWISE DIRECTED BY THESE PLANS, THE ENGINEER OR A CITY OF SHORELINE REPRESENTATIVE.
2. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT PLANS AND SPECIFICATIONS. ALL WORK SHALL COMPLY WITH, IN ORDER OF PRECEDENCE:
 - * THE CITY OF SHORELINE "ENGINEERING DEVELOPMENT MANUAL", 2012 EDITION (SHORELINE STANDARDS AND SHORELINE ENGINEERING DETAILS).
 - * WSDOT/APWA "2014 STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION" (WSDOT/APWA).
3. THE CONTRACTOR SHALL VERIFY ALL EXISTING DATA SHOWN IN THESE DOCUMENTS AND NOTIFY ENGINEER IMMEDIATELY OF ANY CONFLICTS WITH PROPOSED FEATURES PRIOR TO CONSTRUCTION.
4. ALL COMPACTION METHODS, MATERIALS AND PERFORMANCE CRITERIA SHALL BE IN ACCORDANCE WITH THE PROJECT PLANS AND SPECIFICATIONS.
5. ALL EXISTING AND PROPOSED CATCH BASINS DOWNSTREAM OF DISTURBED AREA SHALL BE PROTECTED DURING CONSTRUCTION PER THE WSDOT STD PLAN 1-40.20-00.
6. STORM DRAINAGE (SD) PIPE SHALL BE CORRUGATED POLYETHYLENE PIPE WITH SMOOTH INTERIOR WALLS UNLESS NOTED OTHERWISE.
7. ALL PIPE LENGTHS, INVERT ELEVATIONS AND DRAINAGE STRUCTURE LOCATIONS ARE MEASURED AT THE CENTER OF THE DRAINAGE STRUCTURE UNLESS NOTED OTHERWISE.
8. ALL LOCATIONS OF EXISTING UTILITIES SHOWN HAVE BEEN ESTABLISHED BY FIELD SURVEY OR OBTAINED FROM AVAILABLE RECORDS AND SHOULD THEREFORE BE CONSIDERED APPROXIMATE ONLY AND NOT NECESSARILY COMPLETE. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE ACCURACY OF ALL UTILITY LOCATIONS SHOWN AND AVOID OTHER UTILITIES NOT SHOWN ON THE PLANS. EXISTING UTILITIES SHALL BE PROTECTED, SUPPORTED, OR MAINTAINED DURING CONSTRUCTION.
9. CONTACT THE UNDERGROUND UTILITIES LOCATION SERVICE (1-800-424-5555) AT LEAST 48 HOURS PRIOR TO CONSTRUCTION.
10. SEE THE PROJECT SPECIFICATIONS FOR ADDITIONAL INFORMATION.

COS SITE NOTES (SN)

- SN.1. THE CONTRACTOR SHALL HAVE ANY REQUIRED PERMIT(S) AND CONDITIONS AND THE APPROVED PLANS AVAILABLE AT THE JOB SITE.
- SN.2. ALL WORK SHALL CONFORM TO THESE APPROVED PLANS AND SPECIFICATIONS, THE SHORELINE MUNICIPAL CODE, THE ENGINEERING DEVELOPMENT GUIDE, AND FEDERAL AND STATE REQUIREMENTS.
- SN.3. ALL INSTALLATION METHODS AND MATERIALS SHALL MEET THE WSDOT/APWA STANDARD SPECIFICATIONS.
- SN.4. ANY CHANGES FROM THE APPROVED PLANS REQUIRE PRE-APPROVAL FROM THE ENGINEER.
- SN.5. SEE SPECIFICATIONS SECTION 1-08.0(2) FOR HOURS OF WORK.
- SN.6. NOT USED.
- SN.7. LOCATIONS FOR EXISTING UTILITIES ARE APPROXIMATE.
- SN.8. THE CONTRACTOR ASSUMES SOLE RESPONSIBILITY FOR WORKER SAFETY AND DAMAGE FROM CONSTRUCTION OPERATIONS TO STRUCTURES AND OTHER IMPROVEMENTS.
- SN.9. SURVEYING FOR PUBLIC FACILITIES SHALL BE PERFORMED UNDER THE DIRECTION OF A WASHINGTON LICENSED LAND SURVEYOR. VERTICAL DATUM SHALL BE NAVD 1988. HORIZONTAL DATUM SHALL BE WASHINGTON STATE (GRID) COORDINATES, NORTH ZONE, USING NAD 83/91 SURVEY CONTROL AND TO ANY TWO CITY OF SHORELINE HORIZONTAL CONTROL MONUMENTS. FOR PROJECTS WITHIN A FLOOD CONTROL ZONE, THE SURVEYOR SHALL PROVIDE CONVERSION CALCULATIONS TO NGVD 1929.
- SN.10. REPLACE OR RELOCATE ALL SIGNS, STRIPING, POLES AND OTHER ITEMS IN THE RIGHT-OF-WAY THAT ARE DAMAGED OR REMOVED DURING CONSTRUCTION.
- SN.11. RETAIN, REPLACE OR RESTORE ALL VEGETATION IN RIGHTS-OF-WAY, EASEMENTS, AND ACCESS TRACTS DISTURBED DURING CONTRACTION.
- SN.12. INTERRUPTION OF NORMAL TRAFFIC FLOW SHALL REQUIRE TRAFFIC CONTROL. REFER TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND WSDOT STANDAR D SPECIFICATIONS. TRAFFIC CONTROL IS REQUIRED FOR ALL TRANSVERSE CUTS IN ROADWAY. FOR INFORMATION CONTACT THE CITY OF SHORELINE RIGHT-OF-WAY INSPECTOR.
- SN.13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE SAFEGUARDS, SAFETY DEVICES, PROTECTIVE EQUIPMENT, FLAGGERS, AND ANY OTHER NEEDED ACTIONS TO PROTECT THE LIFE, HEALTH, AND SAFETY OF THE PUBLIC, AND TO PROTECT PROPERTY IN CONNECTION WITH THE PERFORMANCE OF WORK COVERED BY THE CONTRACTOR. ANY WORK WITHIN THE TRAVELED RIGHT-OF-WAY REQUIRES A RIGHT-OF-WAY USE PERMIT, TO BE REVIEWED PRIOR TO CONSTRUCTION AND INSPECTED DURING CONSTRUCTION.
- SN.14. THE CONTRACTOR SHALL RESTORE TO CURRENT STANDARDS CRITICAL AREAS, AND PUBLIC AND PRIVATE PROPERTY DAMAGED BY CONTRACTOR'S OPERATIONS.
- SN.15. AT ALL TIMES MAINTAIN ACCESS TO BUILDINGS FOR FIRE, PEDESTRIAN AND VEHICULAR ACCESS.
- SN.16. BEFORE BEGINNING ANY CONSTRUCTION ACTIVITIES, ESTABLISH CLEARING LIMITS, INSTALL CONSTRUCTION ENTRANCE, AND INSTALL BEST MANAGEMENT PRACTICES.
- SN17. ALL UTILITY TRENCHES AND ROADWAY SUBGRADES WITHIN CITY RIGHT-OF-WAY SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH KING COUNTY ROAD STANDARDS. 100% CRUSHED ROCK OR CONTROLLED DENSITY FILL (CDF)

COS SITE GRADING CONDITIONS (SG)

- SG.1. THIS PERMIT IS BEING APPROVED SUBJECT TO THE CONDITIONS IN THE SHORELINE MUNICIPAL CODE. ALL APPLICABLE CITY, STATE AND FEDERAL REQUIREMENTS APPLY.
- SG.2. BEFORE ANY CLEARING OR GRADING OCCURS, MARK CLEARING LIMITS IN A PROMINENT AND DURABLE MANNER. MAINTAIN UNTIL FINAL APPROVAL.
- SG.3. NO SLOPE OF CUT AND FILL SURFACES SHALL BE STEEPER THAN IS SAFE FOR THE INTENDED USE AND SHALL NOT EXCEED THREE (3) HORIZONTAL TO ONE (1) VERTICAL, UNLESS OTHERWISE APPROVED.
- SG.4. ALL DISTURBED AREAS INCLUDING FACES OF CUT AND FILL SLOPES SHALL BE PREPARED AND MAINTAINED TO CONTROL EROSION. THIS CONTROL MAY CONSIST OF EFFECTIVE PLANTING. THE PROTECTION FOR THESE AREAS SHALL BE INSTALLED AND MAINTAINED AS SOON AS PRACTICAL AND PRIOR TO BOND RELEASE.
- SG.5. THE GROUND SURFACE SHALL BE PREPARED TO RECEIVE FILL BY REMOVING UNSUITABLE MATERIAL SUCH AS CONCRETE SLABS, TREE STUMPS AND BRUSH.
- SG.6. PROVISIONS SHALL BE MADE TO PREVENT ANY SURFACE WATER OR SEEPAGE FROM DAMAGING THE CUT FACE OF ANY EXCAVATION OR THE SLOPING FACE OF A FILL. CARRY ANY SURFACE WATER THAT IS OR MIGHT BE CONCENTRATED AS A RESULT OF A FILL OR EXCAVATION TO A NATURAL WATERCOURSE OR DESIGNATED RETENTION FACILITY. PREVENT ANY SEDIMENT FROM LEAVING THE SITE.
- SG.7. ACCESS ROADS TO GRADING SITES SHALL BE MAINTAINED AND LOCATED TO THE SATISFACTION OF THE CITY OF SHORELINE, TO MINIMIZE THE PROBLEMS OF DUST, MUD AND CIRCULATION.
- SG.8. SIGNS OF WARNING OF HAZARDOUS CONDITIONS, IF SUCH EXIST, SHALL BE AFFIXED AT LOCATIONS AS REQUIRED BY THE ENGINEER.
- SG.9. FENCING, WHERE REQUIRED, TO PROTECT LIFE, LIMB AND PROPERTY, SHALL BE INSTALLED WITH LOCKABLE GATES WHICH MUST BE CLOSED AND LOCKED WHEN NOT WORKING THE SITE. THE FENCE MUST BE NO LESS THAN FIVE (5) FEET IN HEIGHT AND THE FENCE MATERIAL SHALL HAVE NO HORIZONTAL OPENING LARGER THAN TWO (2) INCHES.
- SG.10. THE TOPS AND THE TOES OF CUT AND FILL SLOPES SHALL BE SET BACK FROM STRUCTURES AS FAR AS IS NECESSARY FOR ADEQUACY OF FOUNDATION SUPPORT AND TO PREVENT DAMAGE AS A RESULT OF WATER RUNOFF OR EROSION OF THE SLOPES.

COS EROSION AND SEDIMENTATION CONTROL REQUIREMENTS (TESC)

- TESC.1. THE IMPLEMENTATION AND MAINTENANCE OF EROSION CONTROL FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR ON A DAILY BASIS AND UNTIL ALL CONSTRUCTION IS APPROVED.
- TESC.2. AT ALL TIMES PROTECT CRITICAL AREAS AND THEIR BUFFERS, ADJACENT PRIVATE PROPERTIES AND PUBLIC PROPERTY AND SURVEY MONUMENTS.
- TESC.3. EROSION SEDIMENTATION CONTROL (ESC) FACILITIES MUST BE CONSTRUCTED PRIOR TO AND IN CONJUNCTION WITH ALL CLEARING AND GRADING ACTIVITIES, AND IN SUCH A MANNER AS TO ENSURE THAT SEDIMENT-LADEN WATER OR AIRBORNE SEDIMENT DOES NOT ENTER THE DRAINAGE SYSTEM OR VIOLATE APPLICABLE WATER OR AIR QUALITY STANDARDS DURING THE CONSTRUCTION PERIOD. THESE ESC FACILITIES SHALL BE UPGRADED TO INCLUDE ADDITIONAL SUMPS, DITCHES, FENCES, ETC. AS NEEDED FOR UNEXPECTED STORM EVENTS.
- TESC.4 STABILIZED CONSTRUCTION ENTRANCES AND WASH PADS SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES MAY BE REQUIRED BY THE CITY OF SHORELINE TO ENSURE THAT PAVED AREAS ARE KEPT CLEAN FOR THE PROJECT DURATION.
- TESC.5. ANY AREA STRIPPED OF VEGETATION (INCLUDING ROADWAY EMBANKMENTS), WHERE NO FURTHER WORK IS ANTICIPATED FOR A PERIOD OF 2 DAYS, SHALL BE IMMEDIATELY STABILIZED WITH APPROVED ESC METHODS AS FOLLOWS.
 - FROM MAY 1 THROUGH SEPTEMBER 30, INSTALL TESC COVER MEASURES TO PROTECT DISTURBED AREAS THAT WILL REMAIN UNWORKED FOR SEVEN DAYS OR MORE.
 - FROM OCTOBER 1 THROUGH APRIL 30:
 - A) INSTALL TESC COVER MEASURES TO PROTECT DISTURBED AREAS THAT WILL REMAIN UNWORKED FOR TWO DAYS OR MORE.
 - B) PROTECT STOCKPILES AND STEEP CUT/FILL SLOPES IF UNWORKED FOR MORE THAN 12 HOURS
 - C) STOCKPILE ON SITE ENOUGH COVER MATERIALS TO COVER ALL DISTURBED AREAS.
- TESC.6. ESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR WITHIN 48 HOURS FOLLOWING A STORM EVENT.
- TESC.7. BY OCTOBER 8, SEED ALL AREAS THAT WILL REMAIN UNWORKED FROM OCTOBER 1 THROUGH APRIL 30. MULCH ALL SEEDED AREAS.
- TESC.8. AT NO TIME SHALL MORE THEN ONE (1) FOOT OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A CATCH BASIN. ALL CATCH BASINS & CONVEYANCE LINES SHALL BE CLEANED PRIOR TO PAVING. THE CLEANING OPERATION SHALL NOT FLUSH SEDIMENT-LADEN WATER INTO A DOWNSTREAM SYSTEM.
- TESC.9. WHERE SEEDING FOR TEMPORARY EROSION CONTROL IS REQUIRED, FAST-GERMINATING GRASSES SHALL BE APPLIED AT AN APPROPRIATE RATE (E.G. ANNUAL OR PERENNIAL RYE APPLIED AT APPROXIMATELY 80 POUNDS PER ACRE). WHERE STRAW MULCH FOR TEMPORARY EROSION CONTROL IS REQUIRED, IT SHALL BE APPLIED AT A MINIMUM THICKNESS OF TWO INCHES.
- TESC.10. FILTER FABRIC FENCING SHALL BE PURCHASED IN A CONTINUOUS ROLL AND CUT TO THE LENGTH OF THE BARRIER TO AVOID USE OF JOINTS. WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST WITH A MINIMUM 24 INCHES OVERLAP AND BOTH ENDS SECURELY FASTENED TO THE POST.
- TESC.11. THE FILTER FABRIC FENCE SHALL BE INSTALLED TO FOLLOW THE CONTOURS WHERE FEASIBLE. THE FENCE POSTS SHALL BE SPACED A MAXIMUM OF SIX FEET APART AND DRIVEN SECURELY INTO THE GROUND MINIMUM OF 30 INCHES. A TRENCH SHALL BE EXCAVATED UPGRADIENT AND ADJACENT TO THE WOOD POST TO ALLOW THE FILTER FABRIC TO BE BURIED.
- TESC.12. WHEN STANDARD STRENGTH FILTER FABRIC IS USED, A WIRE MESH SUPPORT FENCE SHALL BE FASTENED SECURELY TO THE UPGRADIENT SIDE OF THE POSTS USING HEAVY DUTY WIRE STAPLES, TIE WIRES, OR HOG RINGS. THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF FOUR INCHES. THE STANDARD STRENGTH FILTER FABRIC SHALL NOT BE STAPLED TO EXISTING TREES.
- TESC.13. WHEN EXTRA-STRENGTH FILTER FABRIC AND CLOSER POST SPACING ARE USED, THE WIRE MESH SUPPORT FENCE MAY BE ELIMINATED. IN SUCH A CASE, THE FILTER FABRIC IS STAPLED OR WIRED DIRECTLY TO THE POSTS WITH ALL OTHER PROVISIONS OF STANDARD NOTES APPLY. FILTER FABRIC FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPGRADIENT SLOPE AREA HAS BEEN PERMANENTLY STABILIZED. FILTER FABRIC FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
- TESC.14. THE EROSION PREVENTION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES SHOWN ON THE TESC ARE MINIMUM REQUIREMENTS. FIELD ADJUSTMENTS SHALL BE MADE TO ENSURE THE TESC PERFORMS IN ACCORDANCE WITH THE 2012 DEPARTMENT OF ECOLOGY STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON, VOLUME II.
- TESC.15. BEFORE ANY GROUND DISTURBANCE OCCURS ALL DOWNSTREAM BEST MANAGEMENT PRACTICES MUST BE CONSTRUCTED AND OPERATIONAL.
- TESC.16. BEST MANAGEMENT PRACTICES SHALL REMAIN IN PLACE UNTIL FINAL SITE CONSTRUCTION IS COMPLETED AND PERMANENT STABILIZATIONS IS ESTABLISHED AND APPROVED BY THE CITY.
- TESC.17. INSPECT AND MAINTAIN BEST MANAGEMENT PRACTICES DAILY IN ACCORDANCE WITH THE 2012 DEPARTMENT OF ECOLOGY STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON, VOLUME II.
- TESC.18. FAILURE TO MAINTAIN TESC MEASURES IN ACCORDANCE WITH ADOPTED STANDARDS MAY RESULT IN THE WORK BEING PERFORMED AT THE CITY'S DIRECTION AND THE COSTS DEDUCTED FROM MONIES OWED TO CONTRACTOR.
- TESC.19. DURING THE LIFE OF THE PROJECT, THE CONTRACTOR SHALL MAINTAIN IN GOOD CONDITION AND PROMPTLY REPAIR, RESTORE OR REPLACE ALL GRADE SURFACES; WALLS, DRAINS, DAMS, STRUCTURES, VEGETATION, TESC MEASURES, AND OTHER PROTECTIVE DEVICES IN ACCORDANCE WITH APPROVED PLANS.
- TESC.20. THE CONTRACTOR SHALL MONITOR DOWNSTREAM DRAINAGE FEATURES, AND, WITH THE CITY'S APPROVAL, SHALL REMOVE ALL SEDIMENT DEPOSITION RESULTING FORM THE PROJECT-RELATED WORK.
- TESC.21. ALL WORK SHALL BE PERFORMED PER APPROVED PLANS AND SPECIFICATIONS. THE CONTRACTOR SHALL MAINTAIN A SET OF APPROVED PLANS AND SPECIFICATIONS AND ASSOCIATED PERMITS ONSITE.
- TESC.22. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL LAWS.
- TESC.23. BEFORE REMOVING ANY TEMPORARY MEASURES, INSTALL AND ESTABLISH THE UPSTREAM PERMANENT MEASURES.

COS TRAFFIC CONTROL CONDITIONS (TC)

- TC.1. INTERIM TRAFFIC CONTROL: THE CONTRACTOR SHALL BE RESPONSIBLE FOR INTERIM TRAFFIC CONTROL DURING CONSTRUCTION ON OR ALONG TRAVELED CITY ROADS.
- TC.2. WHEN ROAD OR DRAINAGE WORK IS TO BE PERFORMED ON CITY ROADS THAT ARE OPEN TO TRAFFIC, THE CONTRACTOR WILL BE REQUIRED TO SUBMIT A WRITTEN TRAFFIC CONTROL PLAN FOR APPROVAL BY THE REVIEWING AGENCY 10 DAYS PRIOR TO BEGINNING THE WORK. TRAFFIC CONTROL SHALL FOLLOW THE GUIDELINES OF SECTION 1-07.23 OF THE WSDOT/APWA STANDARD SPECIFICATIONS.
- TC.3. ALL BARRICADES, SIGNS AND FLAGGING SHALL CONFORM TO THE REQUIREMENTS OF THE MUTCD. FOR MORE SPECIFIC REQUIREMENTS FOR BARRICADES, SEE SECTION 5.7 AND DRAWING NO. 5-003 OF KING COUNTY ROAD STANDARDS. SIGNS MUST BE LEGIBLE AND VISIBLE AND SHALL BE REMOVED AT THE END OF EACH WORK DAY IF NOT APPLICABLE AFTER CONSTRUCTION HOURS.
- TC.4. TEMPORARY ROAD CLOSURES AND DETOURS: WHEN TEMPORARY ROAD CLOSURES CANNOT BE AVOIDED THE CONTRACTOR SHALL POST "TO BE CLOSED" SIGNS A MINIMUM OF FIVE DAYS PRIOR TO THE CLOSING. THE TYPES AND LOCATIONS OF THE SIGNS SHALL BE SHOWN ON A DETOUR PLAN.
- TC.5. A DETOUR PLAN MUST BE PREPARED AND SUBMITTED TO THE CITY OF SHORELINE PLANNING AND DEVELOPMENT SERVICES DEPARTMENT AT LEAST 10 WORKING DAYS IN ADVANCE, AND APPROVED PRIOR TO CLOSING ANY CITY ROAD. IN ADDITION, THE CONTRACTOR MUST NOTIFY, IN WRITING, LOCAL FIRE, SCHOOL, LAW ENFORCEMENT AUTHORITIES, METRO TRANSIT, AND ANY OTHER AFFECTED PERSONS AS DIRECTED BY THE ENGINEER AT LEAST FIVE DAYS PRIOR TO CLOSING.
- TC.6. HAUL ROUTES: IF THE CONSTRUCTION OF A PROPOSED DEVELOPMENT IS DETERMINED BY THE REVIEWING AGENCY TO REQUIRE SPECIAL ROUTING OF LARGE TRUCKS OR HEAVY CONSTRUCTION EQUIPMENT TO PREVENT IMPACTS TO SURROUNDING ROADS, RESIDENCES OR BUSINESSES, THE CONTRACTOR SHALL BE REQUIRED TO DEVELOP AND USE AN APPROVED HAUL ROUTE.
- TC.7. WHEN REQUIRED, THE HAUL ROUTE PLAN MUST BE PREPARED AND SUBMITTED TO THE REVIEWING AGENCY AND APPROVED PRIOR TO BEGINNING CONSTRUCTION. THE HAUL ROUTE PLAN SHALL ADDRESS ROUTING, HOURS OF OPERATION, SIGNAGE AND FLAGGING, AND DAILY MAINTENANCE.
- TC.8. IF THE CONTRACTOR'S TRAFFIC FAILS TO USE THE DESIGNATED HAUL ROUTE, THE REVIEWING AGENCY MAY PROHIBIT OR LIMIT FURTHER WORK ON THE DEVELOPMENT UNTIL SUCH TIME AS THE REQUIREMENTS OF THE HAUL ROUTE ARE COMPLIED WITH.
- TC.9. FLAGGING SHALL BE MAINTAINED BY THE CONTRACTOR FOR THE DURATION OF CONSTRUCTION. INTERRUPTION OF NORMAL TRAFFIC FLOW SHALL REQUIRE TRAFFIC CONTROL (SEE #SN.12, FOR DETAILS).
- TC.10. CONTRACTOR SHALL PROTECT EXISTING TRAFFIC CONTROL SIGNS WITHIN THE LIMITS OF WORK.

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kylea

Nov 06, 2014 - 4:28pm

NOT FOR CONSTRUCTION

**NE 148TH STREET
INFILTRATION FACILITIES
95% GRANT APPLICATION SET
CITY OF SHORELINE STANDARD NOTES**



BASIS OF BEARING: NAD 83/91

DATUM: NAVD 88

**CALL TWO BUSINESS
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1-800-424-5555**

**IF SHEET IS LESS
THAN 22" X 34", IT IS
A REDUCTION**

Project No.

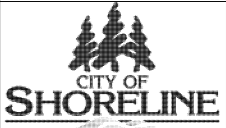
Sheet

C0.1

Sheet X

Description	Date	Initials	Drawn	Designed	Checked	Revisions	Revisions
95% Grant Application Set	11/6/14	KA		LK/PB	KC		
95% Grant Application Set	11/6/14						
95% Grant Application Set	11/6/14						

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GENERAL NOTES

- STANDARD PLANS REFERENCED FROM 2012 CITY OF SHORELINE ENGINEERING DEVELOPMENT GUIDE.
- PROTECTION OF THE ENVIRONMENT:** NO CONSTRUCTION RELATED ACTIVITY SHALL CONTRIBUTE TO THE DEGRADATION OF THE ENVIRONMENT, ALLOW MATERIAL TO ENTER SURFACE OR GROUND WATERS, OR ALLOW PARTICULATE EMISSIONS TO THE ATMOSPHERE, WHICH EXCEED STATE OR FEDERAL STANDARDS. ANY ACTIONS THAT POTENTIALLY ALLOW A DISCHARGE TO STATE WATERS MUST HAVE PRIOR APPROVAL OF THE WASHINGTON STATE DEPARTMENT OF ECOLOGY.

EARTHWORK AND GRADING NOTES

- NONCOMPLIANCE WITH EROSION CONTROL REQUIREMENTS, WATER QUALITY REQUIREMENTS, AND CLEARING LIMITS MAY RESULT IN REVOCATION OF PROJECT PERMITS, PLAN APPROVAL, AND BOND FORECLOSURES.
- PRIOR TO ANY WORK INCLUDING GROUND DISTURBANCE, THE CONTRACTOR SHALL CONTACT CITY OF SHORELINE TO SCHEDULE A PRE-CONSTRUCTION MEETING.
- PRIOR TO ANY SITE CONSTRUCTION (WHICH INCLUDES CLEARING/LOGGING, DEMOLITION, OR GRADING THE SITE), CLEARING LIMITS SHALL BE LOCATED AND FIELD IDENTIFIED BY THE CONTRACTOR'S SURVEYOR FOR REVIEW BY CITY OF SHORELINE INSPECTOR.
- APPROVAL BY CITY OF SHORELINE OF THE DRAINAGE AND TEMPORARY EROSION CONTROL PLANS DOES NOT INCLUDE APPROVAL OF THE GRADING ACTIVITIES SHOWN HEREIN. GRADING ACTIVITIES WITHIN THE RIGHT-OF-WAY REQUIRES A PERMIT FROM CITY OF SHORELINE. GRADING ACTIVITIES ON ADJACENT PROPERTIES REQUIRES WRITTEN APPROVAL BY THE ADJACENT PROPERTY OWNER.
- GRADING AND EXPOSED SOILS MUST BE STABILIZED BY OCTOBER 15TH AND NO EXCAVATION TO BE PERFORMED BETWEEN OCTOBER 31ST AND APRIL 1ST UNLESS CONTRACTOR HAS SUBMITTED DRY SEASON EXTENSION LETTER APPLICATION AND OBTAINED APPROVAL BY CITY OF SHORELINE.
- MATCH EXISTING GRADES AT EDGE CONDITIONS AND PROVIDE SMOOTH TRANSITION.
- COORDINATE FINE GRADING FOR SURFACE DRAINAGE WITH LANDSCAPE INSTALLATION. FINE GRADING FOR SURFACE DRAINAGE SHALL OCCUR PRIOR TO PLANTING AND MULCHING. GRADE TO PROVIDE POSITIVE DRAINAGE AWAY FROM BUILDINGS AT BOTH SUBGRADE AND FINISH GRADE.
- FINISHED GRADING: FINE GRADE BEDS TO CONTOUR LINES AND GRADES SHOWN ON DRAWINGS, 1/4" BELOW THE LEVEL OF ADJACENT WALLS, WALKS AND CURBS UNLESS NOTED OTHERWISE. ALLOW ROOM IN PLANT BEDS, COORDINATE WITH LANDSCAPING PLANS. FINE FINISH TOPSOIL TO MAKE SMOOTH AND EVEN AND REMOVING ALL EXTRANEOUS MATTER.

GENERAL SEWER AND DRAINAGE NOTES

- THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF THE EXISTING SIDE SEWER OR SERVICE DRAIN AT THE POINT OF CONNECTION PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE CITY OF SHORELINE INSPECTOR AND OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES.
- BEDDING FOR PIPES AND STRUCTURES SHALL BE IN ACCORDANCE WITH CITY OF SHORELINE STANDARDS AND SPECIFICATIONS. BEDDING MATERIAL FOR PVC PIPE SHALL BE MECHANICALLY COMPACTED TO 95% OF MAXIMUM DRY DENSITY AS MEASURED BY ASTM D-698.
- TEES AND CATCH BASIN CONNECTIONS SHALL BE PLACED AT A MINIMUM SLOPE OF 2% AND A MAXIMUM SLOPE OF 50% UNLESS OTHERWISE INDICATED ON THE PLANS.
- RELAY EXISTING SERVICE DRAINS AND SIDE SEWERS TO CLEAR OVER OR UNDER THE NEW UTILITY AS APPROVED BY THE CITY OF SHORELINE INSPECTOR.
- WHERE A NEW PIPE CLEARS AN EXISTING OR NEW UTILITY BY 6" OR LESS, POLYETHYLENE PLASTIC FOAM SHALL BE PLACED AS A CUSHION BETWEEN THE UTILITIES.
- PROVIDE DUCTILE IRON PIPE SLEEVE WHERE SS, SSS, OR SD PASSES UNDERNEATH OR THROUGH ANY FOOTINGS, STEM WALLS, RETAINING WALLS, OR ROCKERIES.
- PROVIDE FITTINGS AS REQUIRED TO CONNECT TO EXISTING UTILITIES IN RIGHT-OF-WAY.
- ADJUST RIM ELEVATION OF CATCH BASINS, AREA DRAINS AND CLEANOUT CASTINGS TO MATCH SURROUNDING GRADES, UNLESS OTHERWISE NOTED.
- IF EXISTING SIDE SEWER IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR IS TO LAY GREEN DETECTABLE MARKING TAPE PER WSDOT STANDARD SPECIFICATION 9-15.18 OVER THE PIPE.

STORM DRAINAGE NOTES

- A COPY OF THE APPROVED DRAINAGE CONTROL PLANS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.
- TYPE 1 AND TYPE 2 CATCH BASIN STRUCTURES PER 2014 WSDOT STANDARD PLANS AND SPECIFICATIONS.

INFILTRATION AND LID FACILITIES PROTECTION NOTES

- REDIRECT SHEET FLOW, BLOCK DRAIN INLETS AND/OR CURB OPENINGS IN PAVEMENT AND INSTALL FLOW DIVERSION MEASURES TO PREVENT CONSTRUCTION SILT LADEN WATER AND DEBRIS FROM ENTERING EXCAVATIONS AND FINISH SURFACES FOR RAIN GARDENS AND BIORETENTION FACILITIES.
- WHERE AMENDED SOILS, BIORETENTION FACILITIES, AND OTHER INFILTRATION FACILITIES ARE INSTALLED, THESE AREAS MUST BE PROTECTED AT ALL TIMES FROM BEING OVER COMPACTED. IF AREAS BECOME COMPACTED, REMEDIATE AND TILL SOIL IN ACCORDANCE WITH GEOTECHNICAL ENGINEER REPRESENTATIVE REQUIREMENTS AT NO ADDITIONAL COST TO OWNER IN ORDER TO RESTORE INFILTRATION.
- INSTALL FLOW DIVERSION MEASURES OUTSIDE OF THE CRITICAL ROOT ZONE OF TREES TO BE PROTECTED. AT NO TIME SHALL CONSTRUCTION STORMWATER BE DIRECTED TO TREES TO BE PROTECTED. CONSTRUCTION STORMWATER SHALL NOT POND WITHIN A TREE'S CRITICAL ROOT ZONE.
- INFILTRATION AND LID FACILITIES SHALL BE CONSTRUCTED AND PROTECTED IN COMPLIANCE WITH THESE DOCUMENTS, CITY OF SHORELINE STANDARDS AND THE LOW IMPACT DEVELOPMENT TECHNICAL GUIDANCE FOR PUGET SOUND MANUAL. WHEN THERE IS CONFLICT BETWEEN STANDARDS, THESE PLANS AND SPECIAL PROVISIONS RULE.

ELECTRONIC INFORMATION TRANSFER AGREEMENT (EITA)

AN AUTOCAD®2010 FILE (IN 2D) WILL BE PROVIDED TO THE CONTRACTOR FOR HORIZONTAL LAYOUT OF CIVIL UTILITIES (STORM AND WATER), GRADING CONTOURS, LANDSCAPING, AND SPOT ELEVATIONS AND/OR PAVING (DRIVES) SHOWN ON PLAN VIEW OF THIS SHEET. PRIOR TO RELEASE OF AUTOCAD FILE, CONTRACTOR WILL BE REQUIRED TO SIGN AN ELECTRONIC INFORMATION TRANSFER AGREEMENT (EITA) FORM FROM SvR DESIGN COMPANY. PLEASE NOTIFY PROJECT CONTACT AT SvR DESIGN COMPANY AT (206) 223-0326 FOR A COPY OF THE EITA FORM.

COS TREE PROTECTION CONDITIONS (TP)

BEFORE SITE WORK BEGINS.

- BEFORE ANY CLEARING OR GRADING OCCURS INSTALL PROTECTION FOR TREES AND CRITICAL AREAS/BUFFERS.
- INSTALL TEMPORARY CONSTRUCTION FENCES AROUND THE DRIP LINES OF SINGLE TREES TO BE PRESERVED.
- INSTALL FENCING AROUND THE EDGE FORMED BY THE DRIP LINES OF A CLUSTER OF TREES TO BE RETAINED. FENCING SHALL BE AT LEAST FOUR FEET HIGH, CONSTRUCTED OF CHAIN LINK, OR POLYETHYLENE LAMINAR SAFETY FENCING OR SIMILAR MATERIAL, SUBJECT TO APPROVAL BY THE DIRECTOR.
- NOT USED.
- RETAIN SMALL TREES, BUSHES AND UNDER-STORY PLANTS WITHIN THE TREE PROTECTION ZONE.
- POST "TREE PROTECTION AREA" SIGNS ON ALL SIDES OF THE FENCED AREAS.
- NOT USED.
- NOT USED.
- DO NOT ALLOW FILL, EXCAVATION, THE STORAGE OF TOOLS, EQUIPMENT, CONSTRUCTION MATERIALS OR STOCKPILE SOIL OR TRAFFIC OR UTILITY CONSTRUCTION INCLUDING IRRIGATION SYSTEMS WITHIN THE DRIP-LINE AREAS OF TREES THAT ARE TO BE RETAINED.
- PROTECT AS MUCH OPEN SOIL SURFACE BELOW THE TREE'S CROWN (AND OUTSIDE THE FENCED TREE PROTECTION ZONE) AS POSSIBLE.
- WHEN TRENCHING NEAR PROTECTED TREES, ALLOW ONLY HAND-DIGGING WITHIN THE TREE PROTECTION ZONE. TUNNEL UNDER ROOTS GREATER THAN 1" IN DIAMETER. CLEANLY CUT TORN ROOTS TO THE EDGE OF THE TRENCH. COVER EXPOSED ROOTS WITH VISQUEEN OR LIKE MATERIAL AND KEEP MOIST DURING OPEN GROUND PROCEDURES.
- PROVIDE 1" OF IRRIGATION WATER PER WEEK TO AS LARGE AN AREA OF ROOT ZONES AS POSSIBLE DURING THE GROWING SEASON AND DRIER MONTHS, APRIL TO OCTOBER. PROVIDING EXTRA WATER FOR PROTECTED TREES IS THE MOST CRITICAL FACTOR IN SAVING TREES DURING AND AFTER CONSTRUCTION.

POST CONSTRUCTION

- SOIL AERATION MAY BE NECESSARY IN SITUATIONS WHERE COMPACTION HAS OCCURRED. IDENTIFY APPROPRIATE PROCEDURES AND SPECIFICATIONS FROM A CERTIFIED ARBORIST.
- PRUNE TREES FOLLOWING CONSTRUCTION TO REMOVE DEADWOOD TO ENCOURAGE REGROWTH. TREES SHOULD BE MONITORED THROUGHOUT THE CONSTRUCTION PROCESS FOR ANY INCREASE IN HAZARD POTENTIAL.

PROJECT SPECIFIC TREE PROTECTION MEASURES

- TREE PROTECTION FENCES SHALL BE PLACED AROUND EACH TREE OR GROUP OF TREES TO BE RETAINED.
 - TREE PROTECTION FENCES ARE TO BE PLACED ACCORDING TO THE DRAWINGS C1.0 THROUGH C1.2 FOR THE TREE OR GROUP OF TREES TO BE PROTECTED.
 - NOTHING MUST BE PARKED OR STORED WITHIN THE TREE PROTECTION FENCES. NO EQUIPMENT, VEHICLES, SOIL, DEBRIS, OR CONSTRUCTION SUPPLIES OF ANY SORT.
- CONCRETE TRUCKS SHALL NOT BE ALLOWED TO DEPOSIT WASTE OR WASH OUT MATERIALS FROM THEIR TRUCKS WITHIN THE TREE PROTECTION FENCES, EXISTING LANDSCAPE, PAVEMENT OR IN AREAS THAT DRAIN TO TREE PROTECTION ZONES.
- THE TREE PROTECTION FENCES NEED TO BE CLEARLY MARKED WITH THE FOLLOWING OR SIMILAR TEXT IN FOUR INCH OR LARGER LETTERS:
 "TREE PROTECTION FENCE
 THIS TREE IS VALUED AT [VALUE PER CITY OF SHORELINE ARBORIST]
 DO NOT ENTER THIS AREA
 DO NOT PARK OR STORE MATERIALS WITHIN THE PROTECTION AREA
 ANY QUESTIONS, CALL CITY CODE ENFORCEMENT OFFICER @ (206) 801-2700"
- WHEN EXCAVATION OCCURS NEAR TREES THAT ARE SCHEDULED FOR RETENTION, THE FOLLOWING PROCEDURE MUST BE FOLLOWED TO PROTECT THE LONG TERM SURVIVABILITY OF THE TREE:
 - AN INTERNATIONAL SOCIETY OF ARBORICULTURE, (ISA) CERTIFIED ARBORIST MUST BE WORKING WITH ALL EQUIPMENT OPERATORS.
 - THE CERTIFIED ARBORIST SHALL BE OUTFITTED WITH A SHOVEL, HAND PRUNERS, A PAIR OF LOPPERS, A HANDSAW, AND A POWER SAW (A "SAWSALL" IS RECOMMENDED).
 - THE HOE MUST BE PLACED TO "COMB" THE MATERIAL DIRECTLY AWAY FROM THE TRUNK AS OPPOSED TO CUTTING ACROSS THE ROOTS.
 - COMBING IS THE GRADUAL EXCAVATION OF THE GROUND COVER PLANTS AND SOIL IN DEPTHS THAT ONLY EXTEND AS DEEP AS THE TINES OF THE HOE.
 - WHEN ANY ROOTS OF ONE INCH DIAMETER OR GREATER OF THE TREE TO BE RETAINED IS STRUCK BY THE EQUIPMENT, THE CERTIFIED ARBORIST SHALL STOP THE EQUIPMENT OPERATOR.
 - THE CERTIFIED ARBORIST SHALL THEN EXCAVATE AROUND THE TREE ROOT BY HAND/SHOVEL AND CLEANLY CUT THE TREE ROOT.
 - THE CERTIFIED ARBORIST SHALL THEN INSTRUCT THE EQUIPMENT OPERATOR TO CONTINUE.

Description	95% Grant Application Set	95% Grant Application Set	95% Grant Application Set
Date	11/6/14	11/6/14	11/6/14
Initials	Ka	LK/PB	KG
Drawn	Designed	Checked	Revisions
			Revisions

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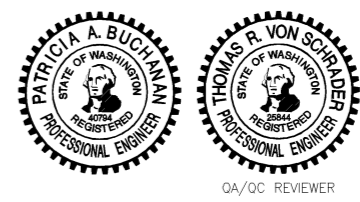
CITY OF SHORELINE
 17500 Midvale Ave. N
 Shoreline, WA 98133
 (206) 801-2700

NOT FOR CONSTRUCTION
NE 148TH STREET
INFILTRATION FACILITIES
95% GRANT APPLICATION SET
 NOTES



BASIS OF BEARING: NAD 83/91
 DATUM: NAVD 88

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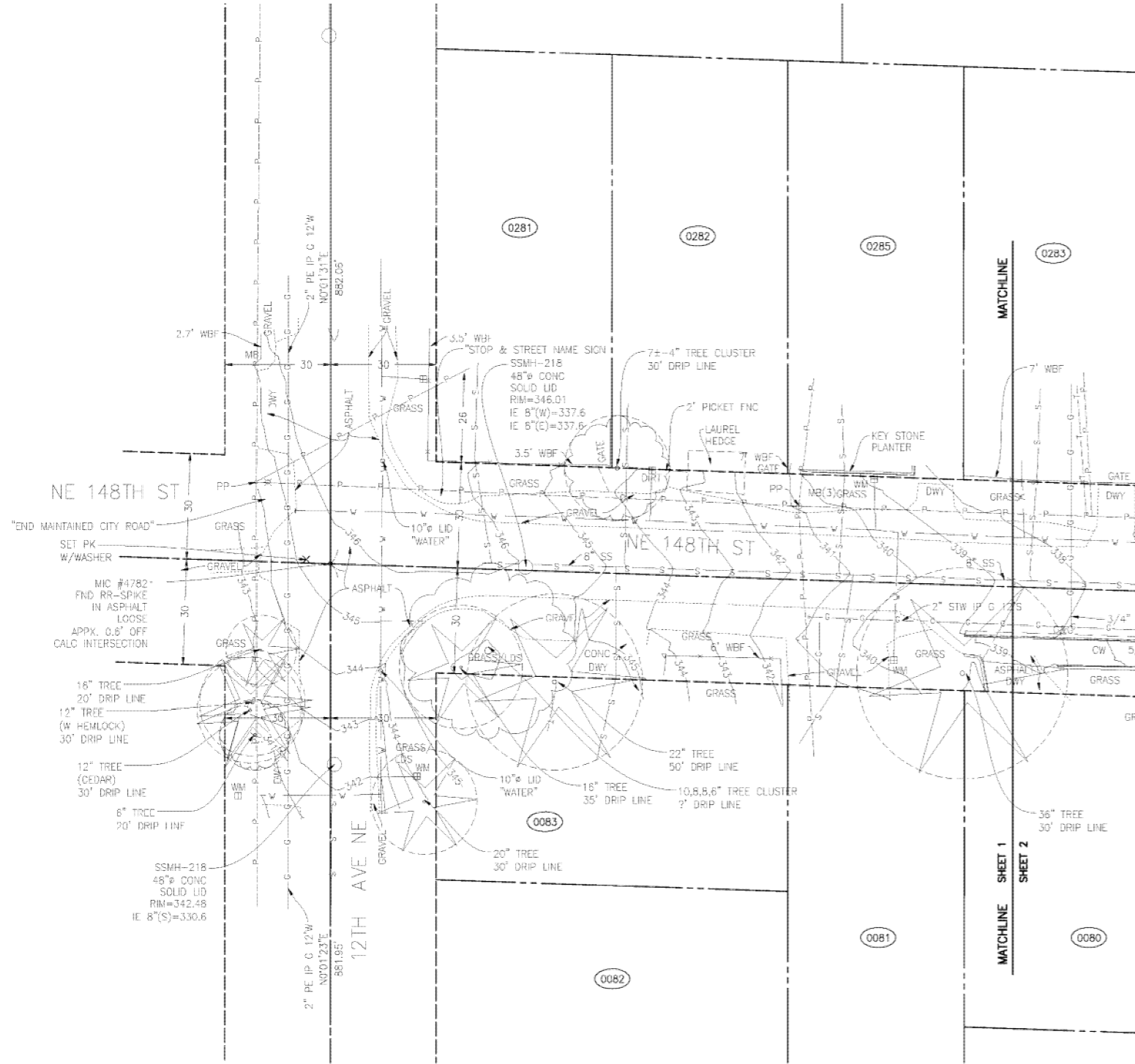


QA/QC REVIEWER

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Project No.	
Sheet	C0.2
Sheet	X

TOPOGRAPHIC SURVEY
A PORTION OF THE SE 1/4, SEC 17, TWP 26 N, RGE 4 E, W.M.



LEGEND

- (P) PAINTED-UTILITIES
- (R) RECORD-UTILITIES
- TL TAX LOT
- L&T LEAD & TACK
- FND FOUND
- FOD FIBER OPTIC DUCT
- N NORTH
- S SOUTH
- E EAST
- W WEST
- IE INVERT ELEVATION
- CAB CABINET
- XWALK CROSSWALK
- INTERX INTERSECTION
- CLM CENTERLINE
- BTM BUMP
- WTR WATER LEVEL
- MH MANHOLE
- AVE AVENUE
- RXR RAILROAD
- H HIGH
- EXT EXTRUDED
- ASPH ASPHALT
- BLDG BLDG
- FF FINISHED FLOOR
- CONC CONCRETE
- GVL GRAVEL
- DWY DRIVEWAY
- C&G CONC CURB & GUTTER
- CH CONC WALK
- FL CURB FACE
- LDS LANDSCAPE

- RIGHT-OF-WAY LINE
- PROPERTY LINE
- LOT LINE
- CENTER LINE
- SECTION LINE
- QUARTER SECTION LINE
- 16TH SECTION LINE
- GOVT MEANDER LINE
- EASEMENT LINE
- FENCE LINE
- POWER LINE AERIAL
- POWER LINE BURIED
- COMMUNICATION LINE AERIAL
- COMMUNICATION LINE BURIED
- GAS LINE
- SANITARY SEWER LINE
- STORM SEWER LINE
- WATER LINE
- PAVEMENT LINE

LEGEND

- MIC MONUMENT IN CASE
- SURFACE MONUMENT
- ⊕ BENCHMARK
- ⊖ IRON PIPE
- PROPERTY CORNER
- ANGLE / TRAVERSE POINT
- OWNERSHIP TIE
- TAX LOT / PARCEL NUMBER
- SECTION CORNER
- QUARTER SECTION CORNER
- CLOSING CORNER
- MEANDER CORNER
- WITNESS CORNER
- CLEANOUT
- CATCH BASIN
- STORM DRAIN MANHOLE
- SEWER MANHOLE
- WATER MANHOLE
- WATER METER
- MONITORING WELL
- FIRE HYDRANT
- WATER VALVE
- GAS METER
- GAS VALVE
- POWER POLE
- LIGHT POLE
- GUARD POST
- GUY WIRE
- LUMINAIRE
- ELECTRICAL VAULT
- POWER METER
- JUNCTION BOX
- TRAFFIC JUNCTION BOX
- TELEPHONE MANHOLE
- TELEPHONE VAULT
- MAIL BOX
- SIGN
- POWER MANHOLE
- TRAFFIC MAST ARM
- TRAFFIC SIGNAL HEAD
- WETLAND FLAG
- RIP RAP
- ROCKERY
- STUMP OR SNAG TREE
- SHRUB
- DECIDUOUS TREE
- CONIFER TREE

MERIDIAN:
WASHINGTON COORDINATE SYSTEM, NAD83/91, NORTH ZONE
BASIS OF BEARINGS AND COORDINATES:
(PER WGA SURVEY DATA WAREHOUSE SURVEY CONTROL POINTS)

INSTRUMENT:
TRIMBLE RB, TRIMBLE SB TOTAL STATION

PROJECT HORIZONTAL CONTROL POINTS:

1. CONC. MON W/ BRASS TACK IN CASE AT INTERSECTION OF NE 148TH ST & 15TH AVE NE
0.5' BELOW GRADE
N272103.362' E1276384.544' ELEV. 336.09'
2. CONC. MON W/ W/ BRASS TACK IN CASE AT INTERSECTION OF NE 148TH ST & 15TH AVE NE
0.5' BELOW GRADE
N271553.728' E1276384.029' ELEV. 325.66'

UNITS OF MEASURE: U.S. SURVEY FEET.

VERTICAL DATUM:
(PER WGA SURVEY DATA WAREHOUSE SURVEY CONTROL POINTS)

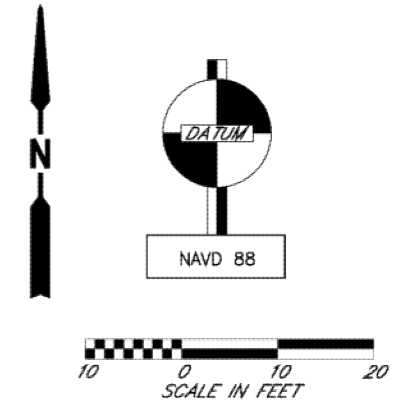
PROJECT BENCHMARK:

1. CONC. MON W/ BRASS TACK IN CASE AT INTERSECTION OF NE 148TH ST & 15TH AVE NE
0.5' BELOW GRADE
N272103.362' E1276384.544' ELEV. 336.093'

CONTOUR INTERVAL: N/A

DATE OF SURVEY: DEC 2012

REFERENCE SURVEYS:
RECORD OF SURVEY, REC NO. 20070924900004
KING COUNTY ASSESSOR MAP SE 17-26-04

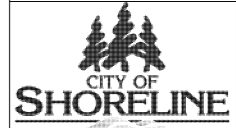


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NE 148TH STREET
INFILTRATION FACILITIES
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TOPOGRAPHIC SURVEY (EXISTING SITE)

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Sheet	X

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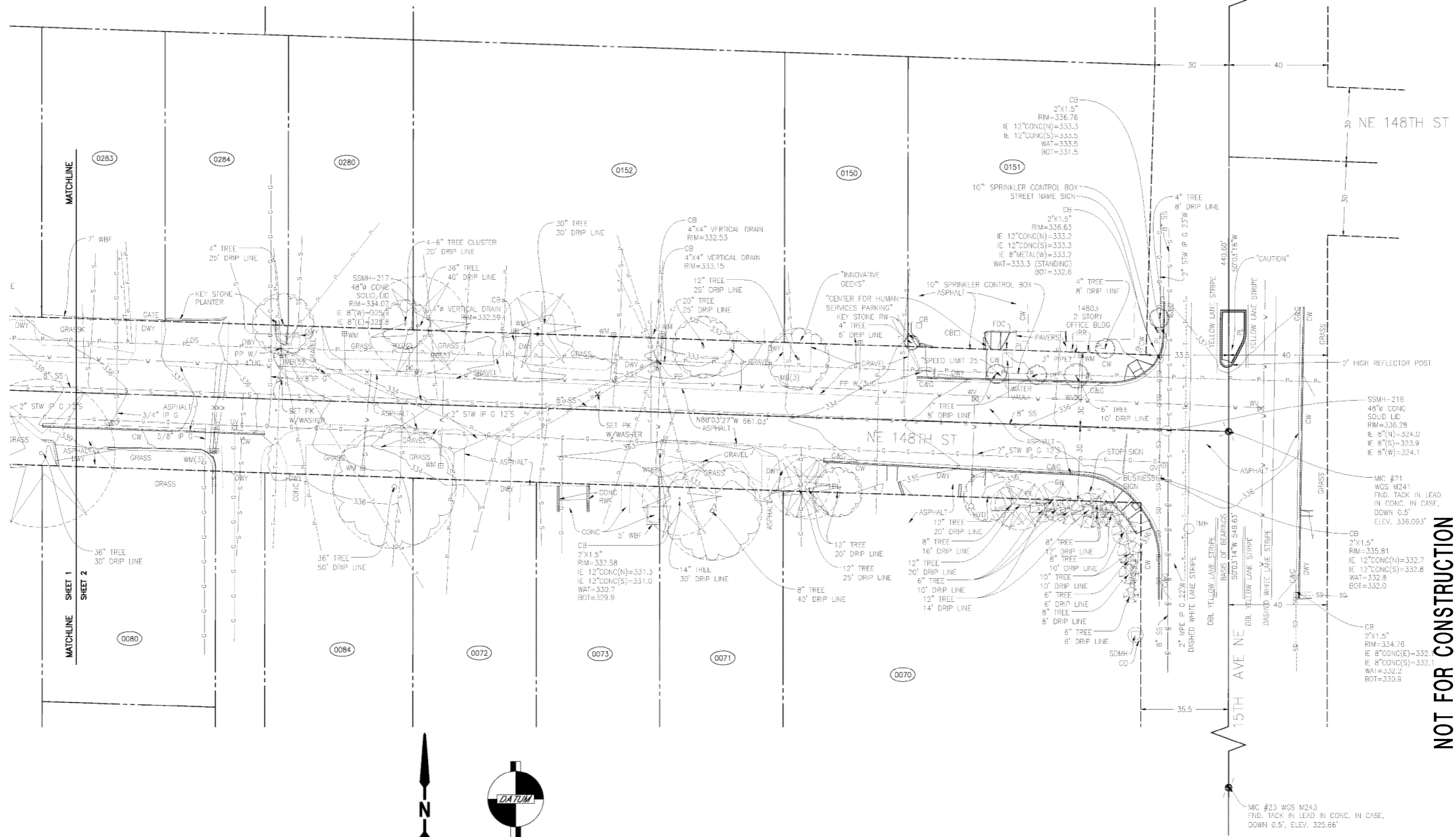


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Nov 06, 2014 - 4:28pm
kylea

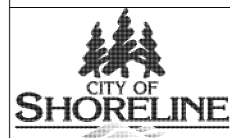
	<p>L & A LIN & ASSOCIATES Consulting Engineers 901 5TH AVE., SUITE 1610 SEATTLE, WA. 98104 PHONE (206) 621-1218</p>	PREPARED FOR: TOPOGRAPHIC SURVEY FOR SHORELINE ON-CALL			
		DRAWN BY: JGW	DATE: 10/07/2014	DRAWING NAME: NE 148TH ST .DWG	
		CHECKED BY: AGS	SCALE: 1" = 20'	SHEET: 1 OF 2	

TOPOGRAPHIC SURVEY
A PORTION OF THE SE 1/4, SEC 17, TWP 26 N, RGE 4 E, W.M.



Initials	Date	Description
KA	11/6/14	95% Grant Application Set
LK/PB	11/6/14	95% Grant Application Set
KG	11/6/14	95% Grant Application Set

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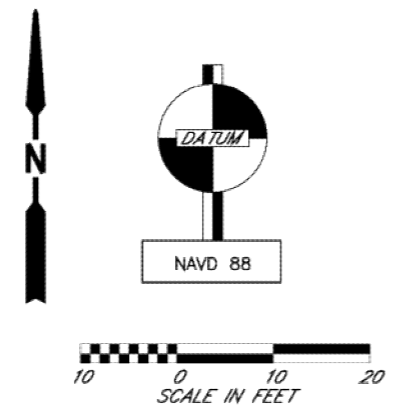
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NOT FOR CONSTRUCTION
NE 148TH STREET
INFILTRATION FACILITIES
95% GRANT APPLICATION SET
TOPOGRAPHIC SURVEY (EXISTING SITE)

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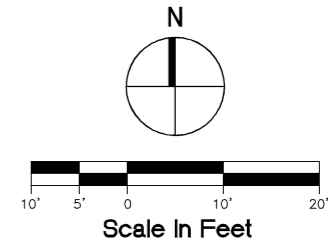
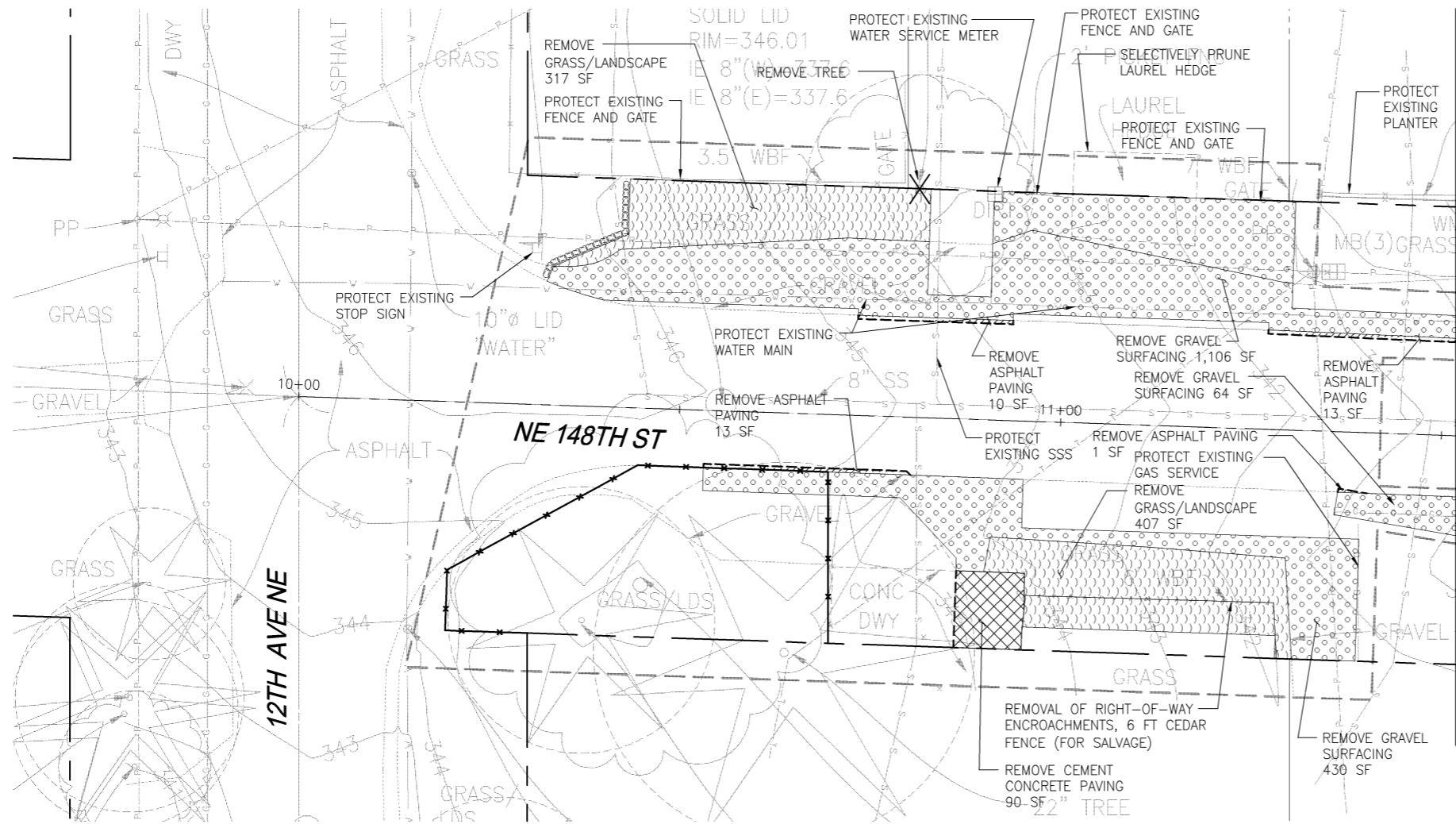
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	PREPARED FOR: TOPOGRAPHIC SURVEY FOR SHORELINE ON-CALL		
	DRAWN BY: JGW CHECKED BY: AGS	DATE: 10/07/2014 SCALE: 1" = 20'	DRAWING NAME: NE 148TH ST.DWG SHEET: 2 OF 2

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NOTES

1. CONTRACTOR SHALL COORDINATE RELOCATION OF EXISTING SERVICES WITH UTILITY PROVIDER, AND OWNER'S REPRESENTATIVE.
2. SEE C0.1 AND C0.2 FOR NOTES.
3. PERFORM SELECTIVE PRUNING OF EXISTING TREES AND SHRUBS AS NEEDED FOR CONSTRUCTION OF IMPROVEMENTS.

LEGEND

- RIGHT-OF-WAY LINE
- - - - - APPROXIMATE LIMITS OF WORK
- TREE PROTECTION FENCING (4/D1.0)
- SAW CUT
- [Pattern] REMOVE GRAVEL SURFACING
- [Pattern] REMOVE CEMENT CONCRETE PAVING
- [Pattern] REMOVE ASPHALT PAVING
- [Pattern] REMOVE GRASS/LANDSCAPE
- X REMOVE OBJECT
- ~ ABANDON SD PER SHORELINE STANDARDS
- REMOVE
- [Symbol] CAP UTILITY PER UTILITY/SHORELINE STANDARDS
- [Pattern] STRAW WATTLE (3/D1.0)
- [Symbol] CB/INLET PROTECTION (2/D1.0)
- [Symbol] EXISTING TREE DRIPLINE/CRITICAL ROOT ZONE

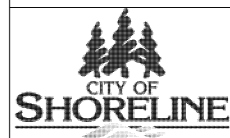
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INFILTRATION FACILITIES
95% GRANT APPLICATION SET
 TESC AND DEMOLITION, PHASE 3

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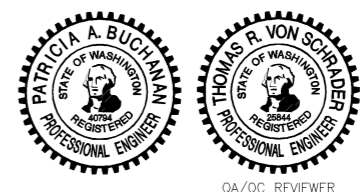
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Sheet	C1.0
Sheet	X

Description	Date	Initials	Drawn	Designed	Checked	Revisions
95% Grant Application Set	11/6/14	K.A.				
95% Grant Application Set	11/6/14	L.K./P.B.				
95% Grant Application Set	11/6/14	K.G.				

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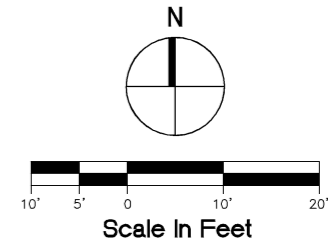
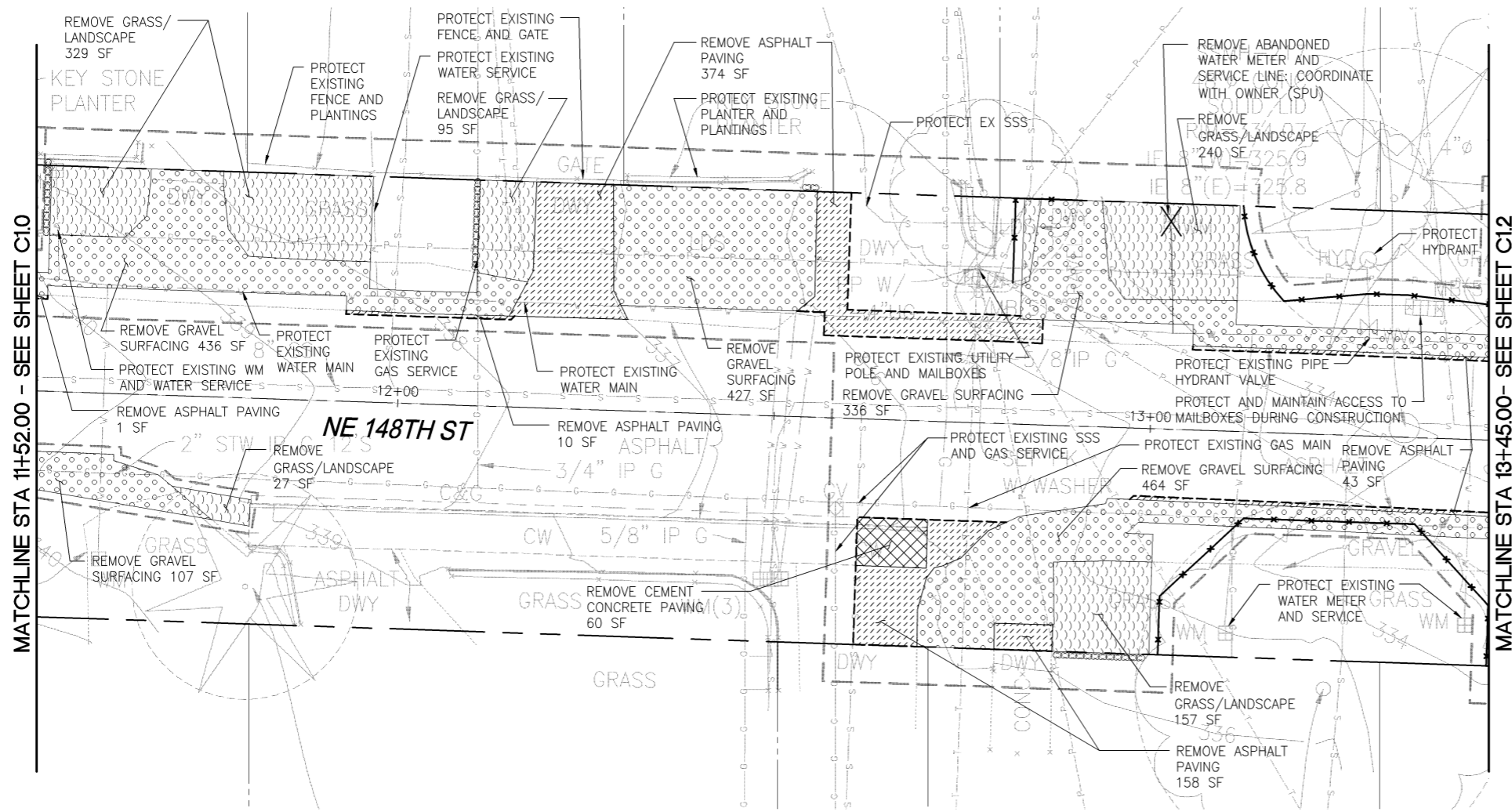


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MATCHLINE STA 11+52.00 - SEE SHEET C10

MATCHLINE STA 13+45.00 - SEE SHEET C12

NOTES

1. CONTRACTOR SHALL COORDINATE RELOCATION OF EXISTING SERVICES WITH UTILITY PROVIDER, AND OWNER'S REPRESENTATIVE.
2. SEE C0.1 AND C0.2 FOR NOTES.
3. PERFORM SELECTIVE PRUNING OF EXISTING TREES AND SHRUBS AS NEEDED FOR CONSTRUCTION OF IMPROVEMENTS.

LEGEND

- RIGHT-OF-WAY LINE
- - - - - APPROXIMATE LIMITS OF WORK
- x---x---x--- TREE PROTECTION FENCING (4/D1.0)
- - - - - SAW CUT
- [Pattern] REMOVE GRAVEL SURFACING
- [Pattern] REMOVE CEMENT CONCRETE PAVING
- [Pattern] REMOVE ASPHALT PAVING
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- ~~~~~ ABANDON SD PER SHORELINE STANDARDS
- +++++ REMOVE
- CAP UTILITY PER UTILITY/SHORELINE STANDARDS
- [Pattern] STRAW WATTLE (3/D1.0)
- [Pattern] CB/INLET PROTECTION (2/D1.0)
- [Circle] EXISTING TREE DRIPLINE/CRITICAL ROOT ZONE

NOT FOR CONSTRUCTION

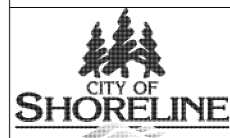
**NE 148TH STREET
INFILTRATION FACILITIES
95% GRANT APPLICATION SET**
TESC AND DEMOLITION, PHASE 2

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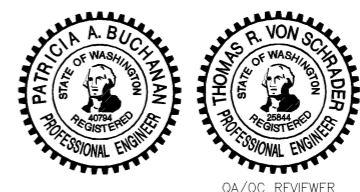
Project No. _____
Sheet **C1.1**
Sheet X

Description	Date	Initials	Drawn	Designed	Checked	Revisions
95% Grant Application Set	11/6/14	K.A.				
95% Grant Application Set	11/6/14	L.K./P.B.				
95% Grant Application Set	11/6/14	K.G.				

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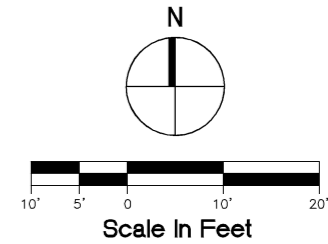
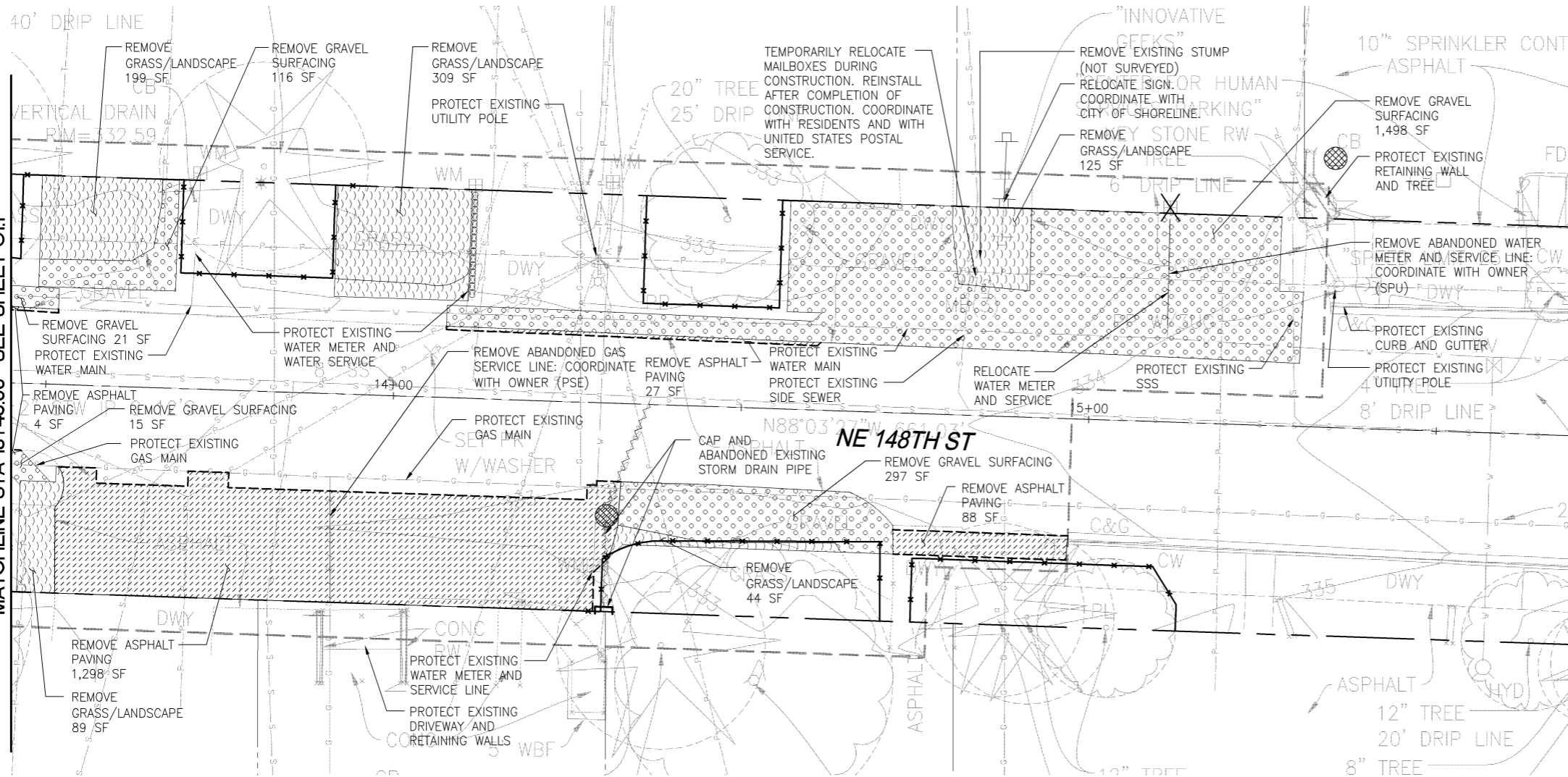
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MATCHLINE STA 13+45.00 - SEE SHEET C1.1



NOTES

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2. SEE C0.1 AND C0.2 FOR NOTES.
3. PERFORM SELECTIVE PRUNING OF EXISTING TREES AND SHRUBS AS NEEDED FOR CONSTRUCTION OF IMPROVEMENTS.

LEGEND

- RIGHT-OF-WAY LINE
- - - - - APPROXIMATE LIMITS OF WORK
- x---x---x--- TREE PROTECTION FENCING (4/D1.0)
- SAW CUT
- [Pattern] REMOVE GRAVEL SURFACING
- [Pattern] REMOVE CEMENT CONCRETE PAVING
- [Pattern] REMOVE ASPHALT PAVING
- [Pattern] REMOVE GRASS/LANDSCAPE
- X REMOVE OBJECT
- ~~~~~ ABANDON SD PER SHORELINE STANDARDS
- REMOVE
- [Symbol] CAP UTILITY PER UTILITY/SHORELINE STANDARDS
- [Symbol] STRAW WATTLE (3/D1.0)
- [Symbol] CB/INLET PROTECTION (2/D1.0)
- [Symbol] EXISTING TREE DRIPLINE/CRITICAL ROOT ZONE

NOT FOR CONSTRUCTION

NE 148TH STREET INFILTRATION FACILITIES 95% GRANT APPLICATION SET

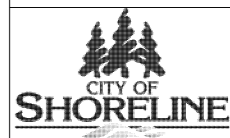
TESC AND DEMOLITION, PHASE 1

IF SHEET IS LESS THAN 22" X 34", IT IS A REDUCTION

Project No.	
Sheet	C1.2
Sheet	X

Description	Date	Initials	Drawn	Designed	Checked	Revisions
95% Grant Application Set	11/6/14	K.A.				
95% Grant Application Set	11/6/14	L.K./P.B.				
95% Grant Application Set	11/6/14	K.G.				

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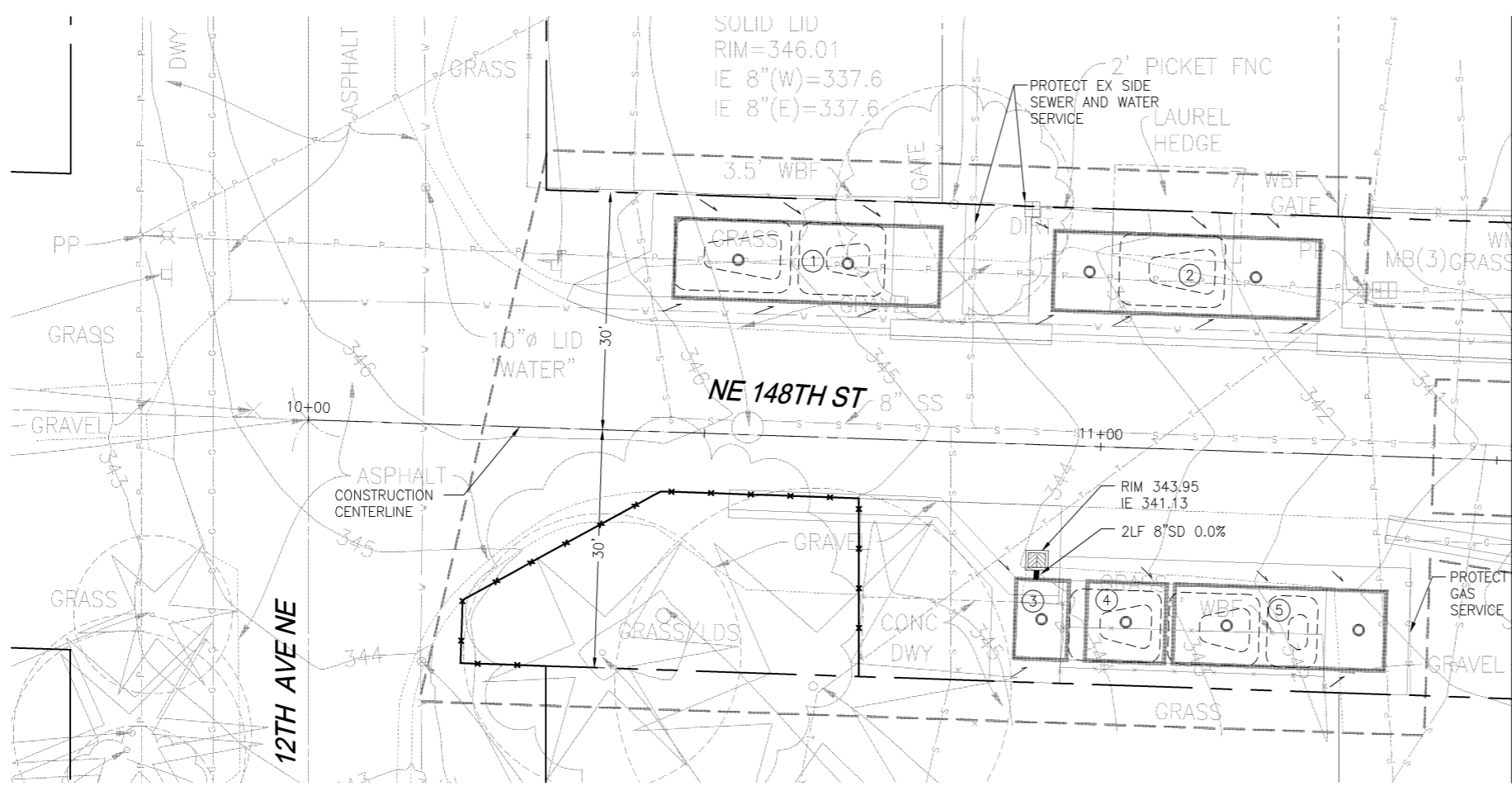
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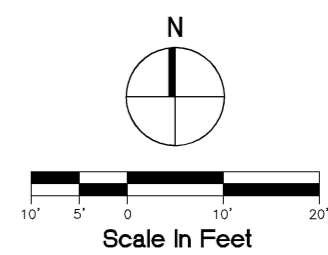
BASIS OF BEARING: NAD 83/91
 DATUM: NAVD 88

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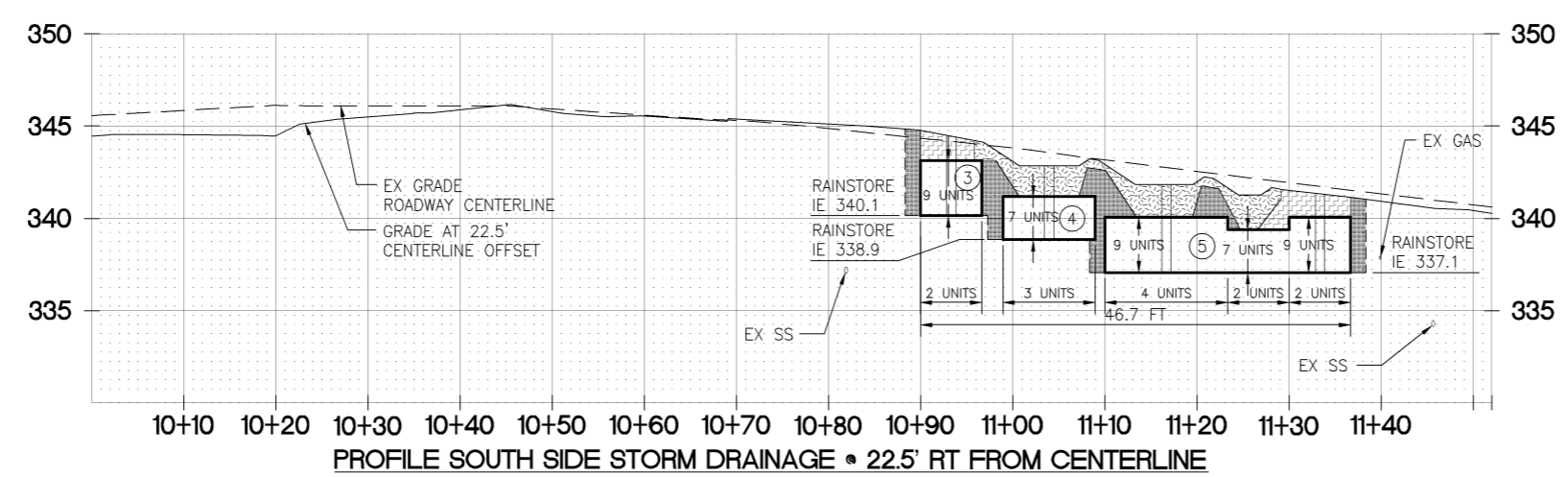
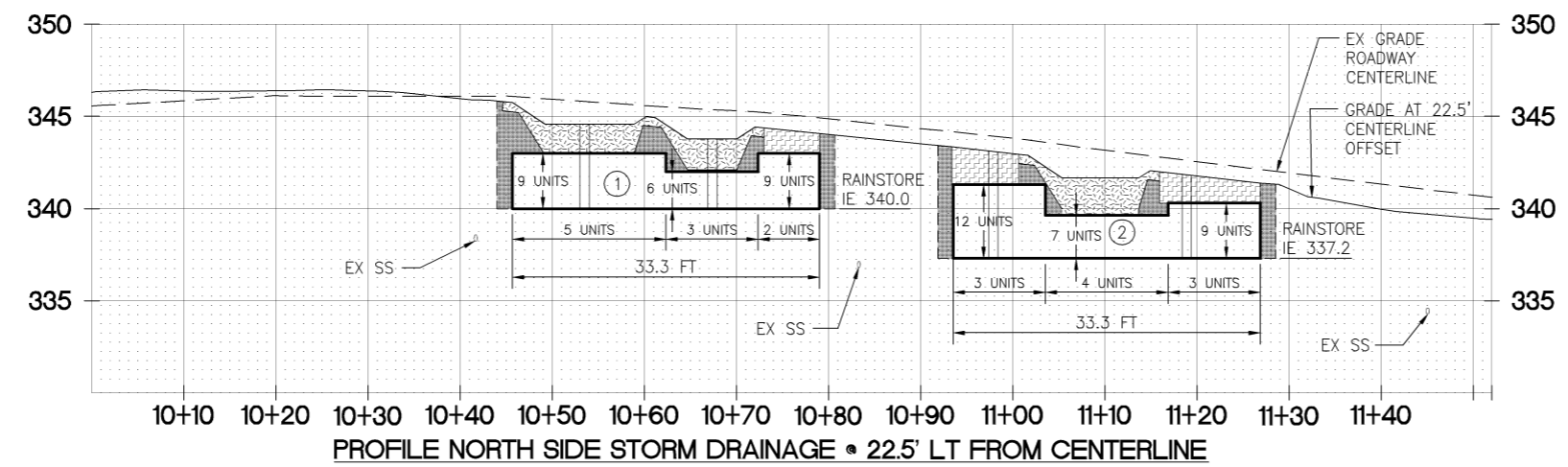
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 Kylea
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MATCHLINE STA 11+52.00 - SEE SHEET C2.1



- LEGEND**
- RIGHT-OF-WAY LINE
 - - - - - APPROX LIMITS OF WORK
 - TREE PROTECTION FENCING
 - EXISTING CONTOURS
 - ☐ CATCH BASIN, TYPE 1
 - SHEET FLOW DIRECTION
 - MAINTENANCE PORT. SEE NOTE 1.
 - ▨ SOIL BACKFILL
 - ▩ PAVEMENT BASE BACKFILL
 - ▧ COMPACTED STRUCTURAL SIDE BACKFILL
 - TOP AND BOTTOM OF BIORETENTION AREA
 - ① FACILITY IDENTIFIER
 - - - - - EXCAVATION LINE TO ALLOW SPACE FOR PROPER COMPACTION



- NOTES**
1. MAINTENANCE PORTS SHALL BE 9" PORTS PER DETAIL 2/D1.2. CONTRACTOR SHALL PROVIDE MIN 12" CLEANOUT FRAME AND COVER AND CONCRETE COLLAR AS NECESSARY FOR GRAVEL AREAS. FOR PLANTED AREAS, CONTRACTOR TO PROVIDE THREADED PVC PIPE AND CAP TO BE FINISHED 6" ABOVE BOTTOM OF BIORETENTION AREA IF LOCATED AT BOTTOM OR 2" ABOVE FINISHED GRADE IF AT TOP OF BIORETENTION AREA.

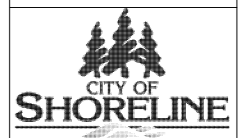
NOT FOR CONSTRUCTION

NE 148TH STREET INFILTRATION FACILITIES 95% GRANT APPLICATION SET

STORM DRAIN PLAN AND PROFILE, PHASE 3

Description	Date	Initials	Drawn	Designed	Checked	Revisions
95% Grant Application Set	11/6/14	K/A				
95% Grant Application Set	11/6/14	LX/PB				
95% Grant Application Set	11/6/14	KG				

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Sheet	X

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 STATE OF WASHINGTON
 REGISTERED PROFESSIONAL ENGINEER

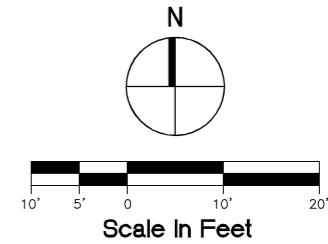
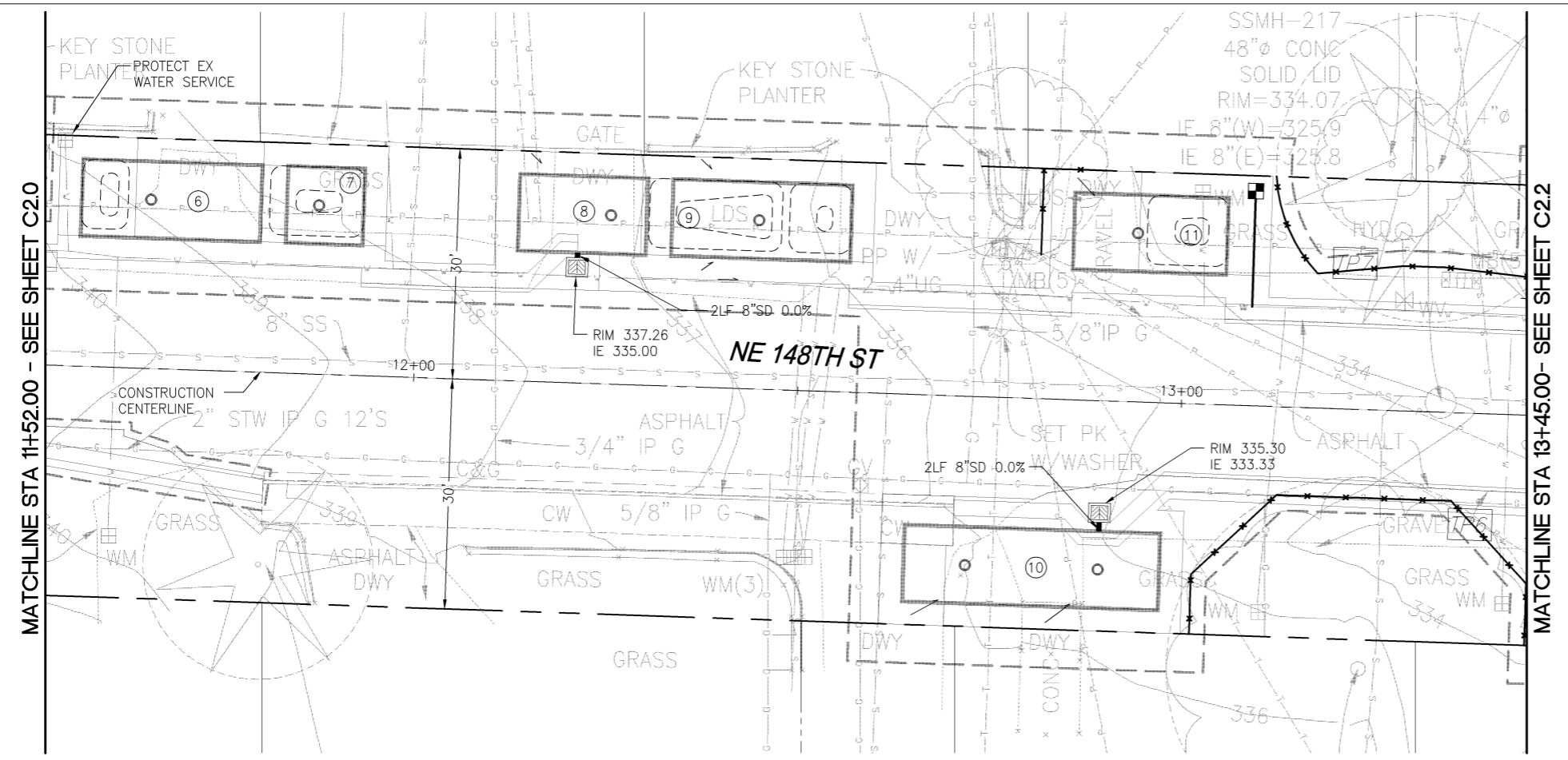
THOMAS R. VON SCHRADER
 STATE OF WASHINGTON
 REGISTERED PROFESSIONAL ENGINEER

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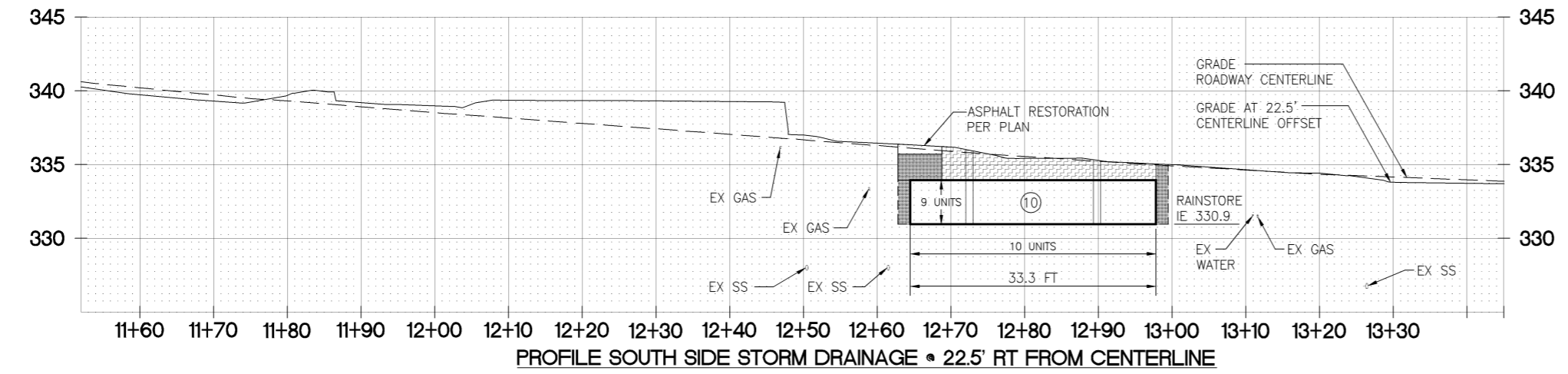
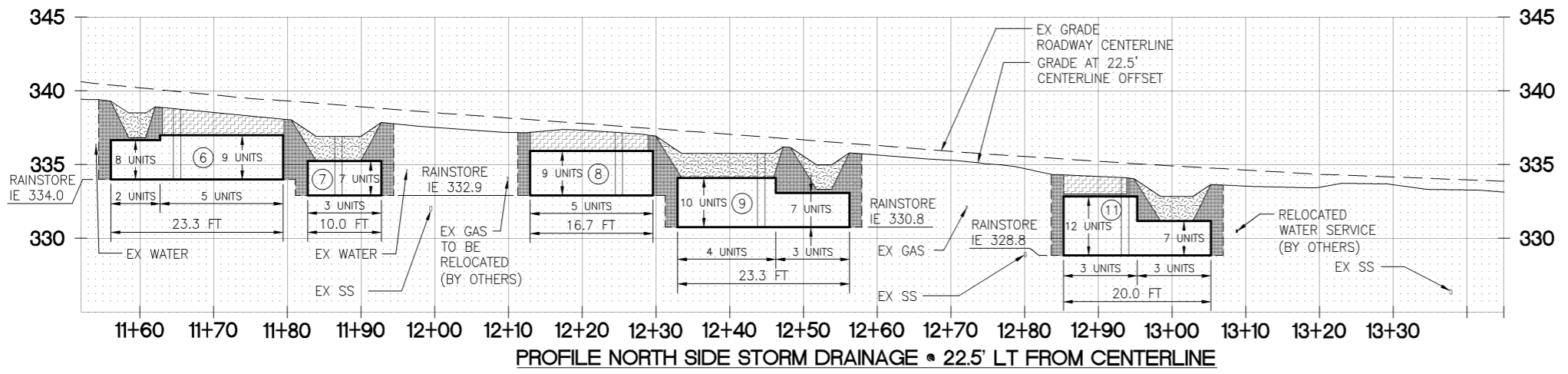
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LEGEND

- RIGHT-OF-WAY LINE
- APPROX LIMITS OF WORK
- TREE PROTECTION FENCING
- EXISTING CONTOURS
- CATCH BASIN, TYPE 1
- SHEET FLOW DIRECTION
- MAINTENANCE PORT. SEE NOTE 1.
- RAINSTORE3 UNITS
- SOIL BACKFILL
- PAVEMENT BASE BACKFILL
- COMPACTED STRUCTURAL SIDE BACKFILL
- TOP AND BOTTOM OF BIORETENTION AREA
- FACILITY IDENTIFIER
- EXCAVATION LINE TO ALLOW SPACE FOR PROPER COMPACTION



NOTES

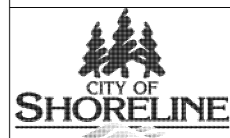
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**NE 148TH STREET
 INFILTRATION FACILITIES
 95% GRANT APPLICATION SET**
 STORM DRAIN PLAN AND PROFILE, PHASE 2

Description	Date	Initials	Drawn
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95% Grant Application Set	11/6/14	LK/PB	Checked
95% Grant Application Set	11/6/14	KG	Revisions

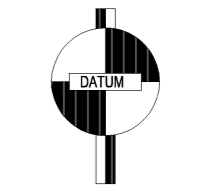
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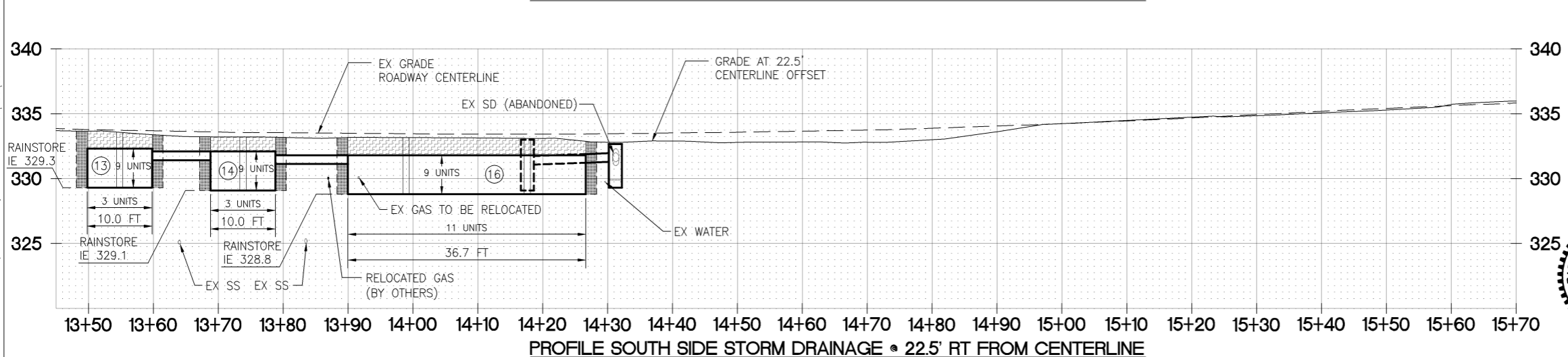
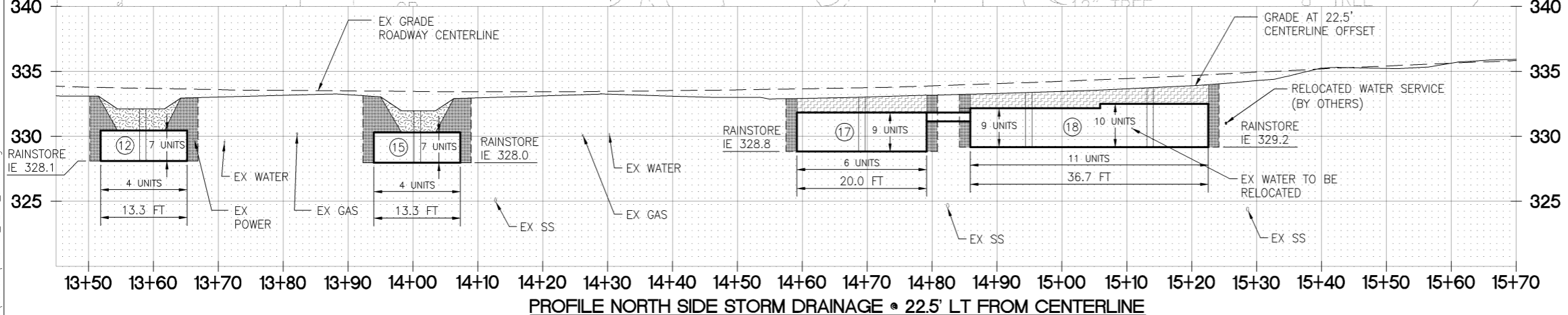
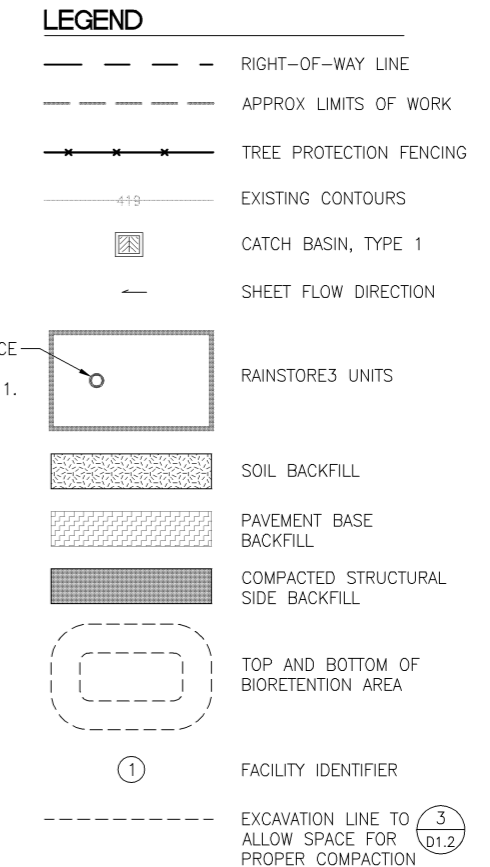
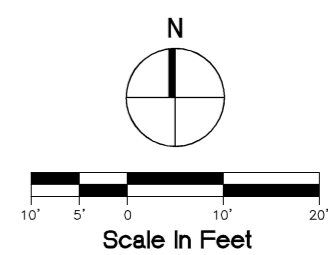
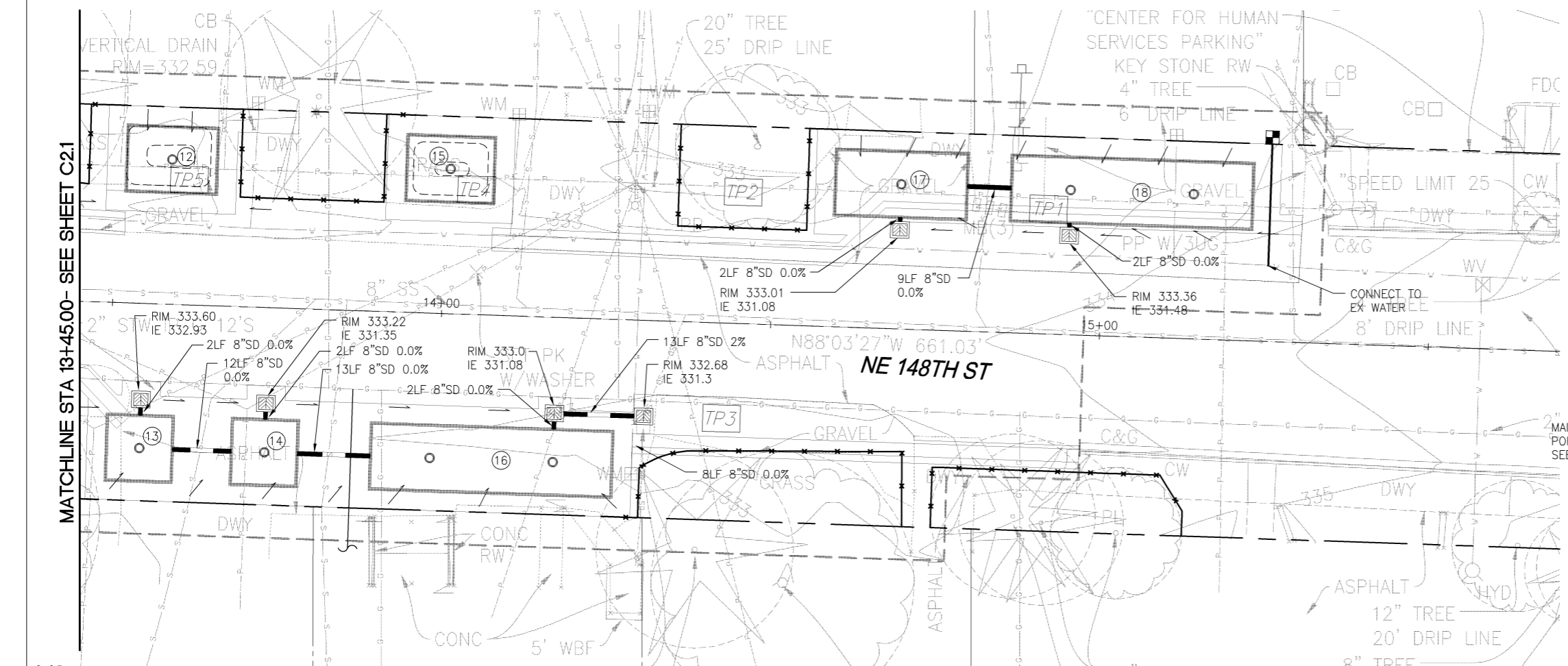


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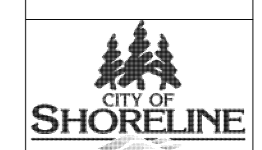
NOTES

1. MAINTENANCE PORTS SHALL BE 9" PORTS PER DETAIL 2/D1.2. CONTRACTOR SHALL PROVIDE MIN 12" CLEANOUT FRAME AND COVER AND CONCRETE COLLAR AS NECESSARY FOR GRAVEL AREAS. FOR PLANTED AREAS, CONTRACTOR TO PROVIDE THREADED PVC PIPE AND CAP TO BE FINISHED 6" ABOVE BOTTOM OF BIORETENTION AREA IF LOCATED AT BOTTOM OR 2" ABOVE FINISHED GRADE IF AT TOP OF BIORETENTION AREA.

NOT FOR CONSTRUCTION
NE 148TH STREET
INFILTRATION FACILITIES
95% GRANT APPLICATION SET
 STORM DRAIN PLAN AND PROFILE, PHASE 1

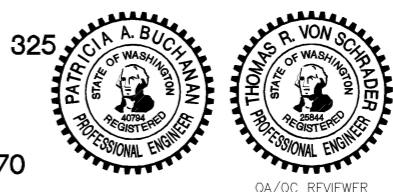
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95% Grant Application Set	11/6/14	KCA				
95% Grant Application Set	11/6/14	LK/PB				
95% Grant Application Set	11/6/14	KG				

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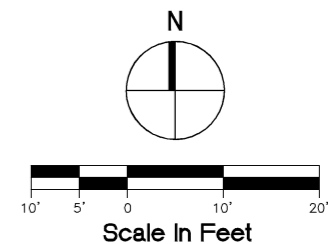
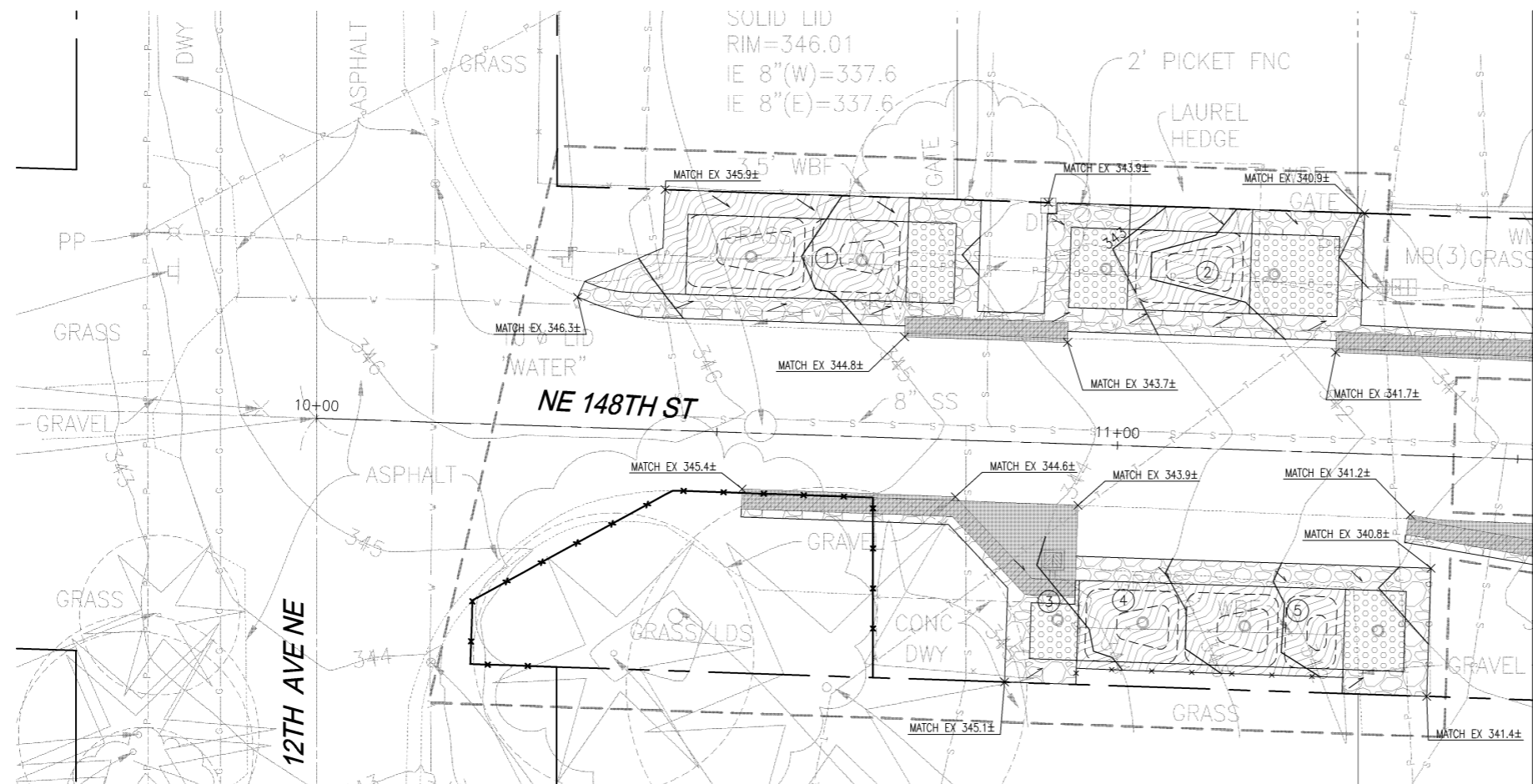
BASIS OF BEARING: NAD 83/91
 DATUM: NAVD 88

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Project No.
 Sheet
C2.2
 Sheet X

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Nov 06, 2014 - 4:30pm kylea G:\13c\13044.50c 148-15\Current\148-15-C3-0_GRAD-PAVE.dwg



NOTES

- RESTORATION ZONE MAY BE USED TO PROVIDE MINOR ADJUSTMENTS TO EXISTING GRADES SO THAT POSITIVE DRAINAGE IS PROVIDED TO FACILITIES.
- PROVIDE FINE GRADING ADJUSTMENTS TO DIRECT SURFACE FLOWS AWAY FROM PROPERTY LINES TOWARDS FACILITY SURFACE AND INLETS.

LEGEND

- RIGHT-OF-WAY LINE
- - - APPROXIMATE LIMITS OF WORK
- TREE PROTECTION FENCING (4/D1.0)
- 310 / 309 PROPOSED CONTOURS
- xxx.x / x SPOT ELEVATION
- (2/D1.3) GRAVEL PAVE 2
- (9/D1.1) GRAVEL SURFACING
- LANDSCAPE/RAINGARDEN (SEE C4.0-C4.2)
- ASPHALT DRIVEWAY
- CONCRETE DRIVEWAY
- ASPHALT THICKENED EDGE (6/D1.1)
- [Dashed Box] TOP AND BOTTOM OF BIORETENTION AREA
- FLOW DIRECTION. SEE NOTE 1 AND 2.
- [TP#] GEOTECHNICAL TEST PIT SITE
- (1) FACILITY IDENTIFIER
- (O) MAINTENANCE PORT

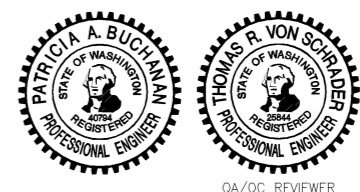
Description	Date	Initials	Drawn	Designed	Checked	Revisions
95% Grant Application Set	11/6/14	K.A.				
95% Grant Application Set	11/6/14	L.K/P.B.				
95% Grant Application Set	11/6/14	K.G.				

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INFILTRATION FACILITIES
95% GRANT APPLICATION SET
PAVING AND GRADING, PHASE 3

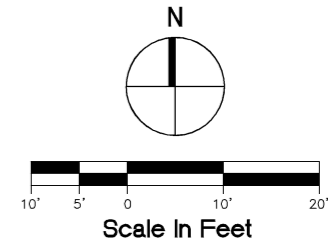
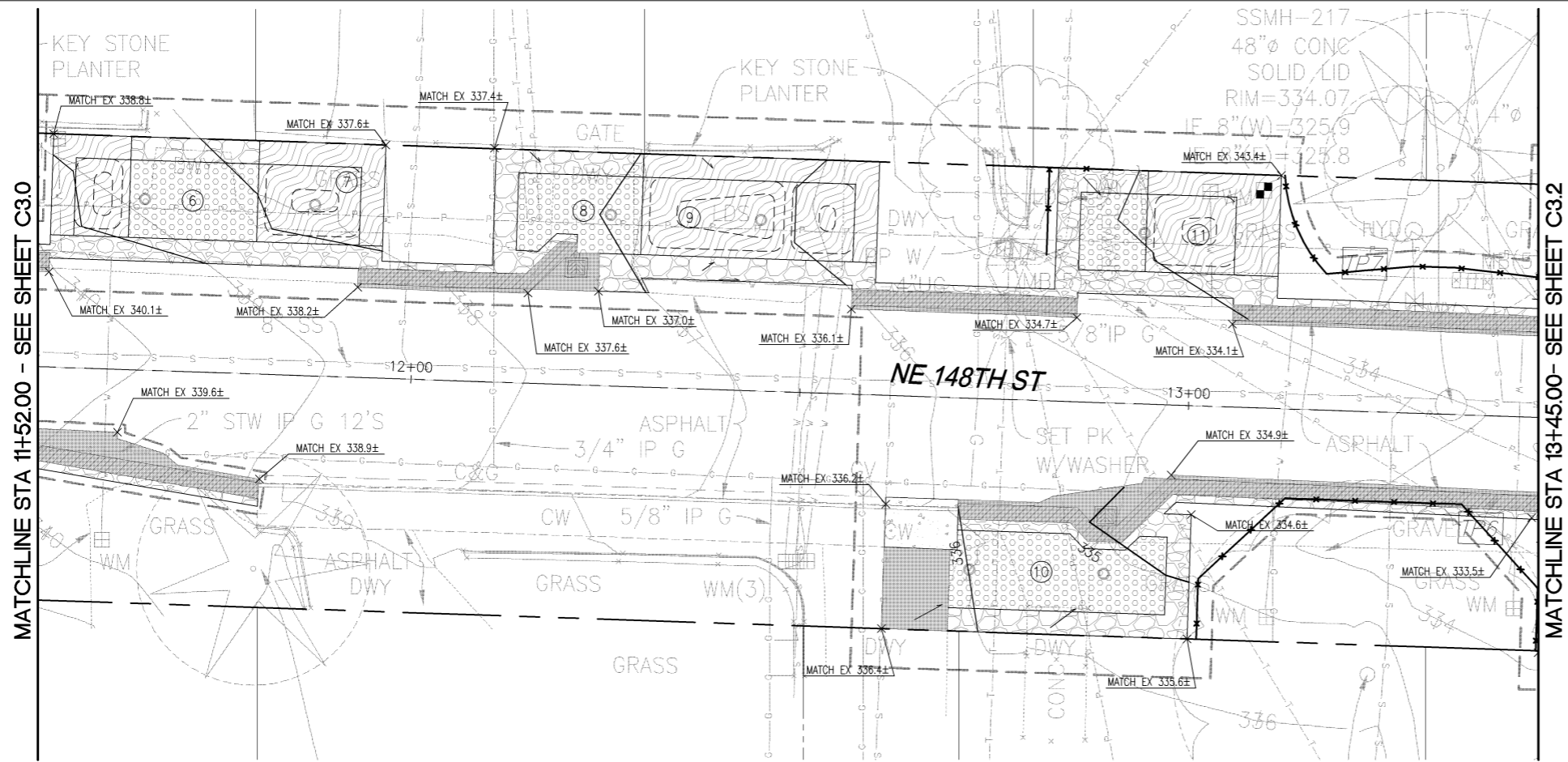
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BASIS OF BEARING: NAD 83/91
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Project No.	
Sheet	C3.0
Sheet	X

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NOTES

1. RESTORATION ZONE MAY BE USED TO PROVIDE MINOR ADJUSTMENTS TO EXISTING GRADES SO THAT POSITIVE DRAINAGE IS PROVIDED TO FACILITIES.
2. PROVIDE FINE GRADING ADJUSTMENTS TO DIRECT SURFACE FLOWS AWAY FROM PROPERTY LINES TOWARDS FACILITY SURFACE AND INLETS.

LEGEND

- RIGHT-OF-WAY LINE
- - - - - APPROXIMATE LIMITS OF WORK
- TREE PROTECTION FENCING (4/D1.0)
- 310
309
--- PROPOSED CONTOURS
- xxx.x
x SPOT ELEVATION
- GRAVEL PAVE 2 (2/D1.3)
- GRAVEL SURFACING (9/D1.1)
- LANDSCAPE/RAINGARDEN (SEE C4.0-C4.2)
- ASPHALT DRIVEWAY
- CONCRETE DRIVEWAY
- ASPHALT THICKENED EDGE (6/D1.1)
- TOP AND BOTTOM OF BIORETENTION AREA
- FLOW DIRECTION. SEE NOTE 1 AND 2.
- TP# GEOTECHNICAL TEST PIT SITE
- ① FACILITY IDENTIFIER
- MAINTENANCE PORT

NOT FOR CONSTRUCTION
NE 148TH STREET
INFILTRATION FACILITIES
95% GRANT APPLICATION SET
PAVING AND GRADING, PHASE 2

IF SHEET IS LESS THAN 22" X 34", IT IS A REDUCTION

Project No.

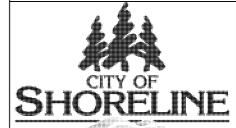
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C3.1

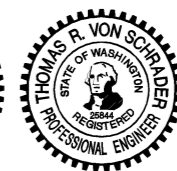
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Description	Date	Initials	Drawn
95% Grant Application Set	11/6/14	K.A.	Designed
95% Grant Application Set	11/6/14	L.K./P.B.	Checked
95% Grant Application Set	11/6/14	K.G.	Revisions
			Revisions

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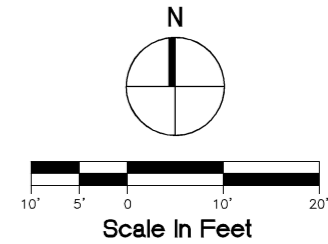
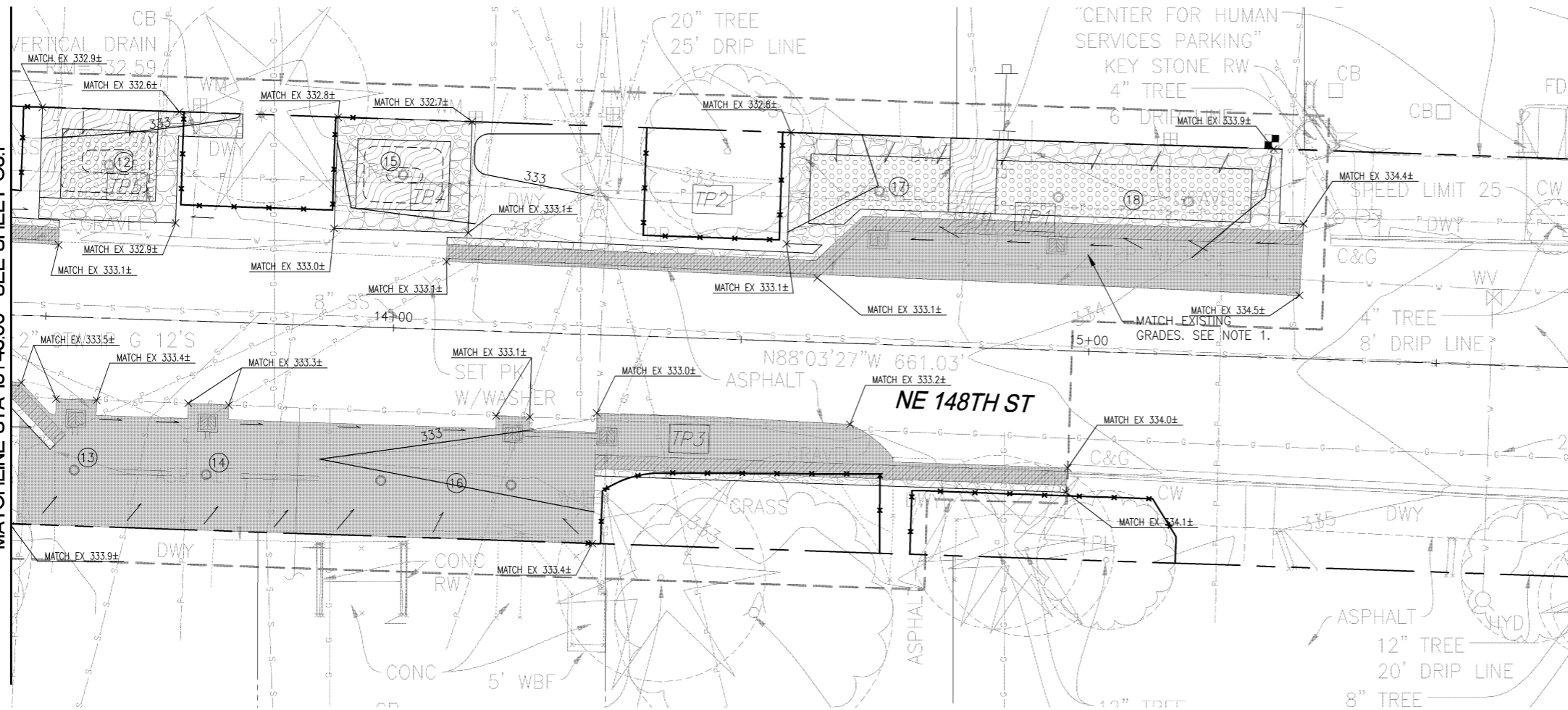
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MATCHLINE STA 13+45.00- SEE SHEET C3.1



NOTES

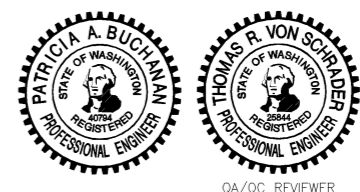
1. RESTORATION ZONE MAY BE USED TO PROVIDE MINOR ADJUSTMENTS TO EXISTING GRADES SO THAT POSITIVE DRAINAGE IS PROVIDED TO FACILITIES.
2. PROVIDE FINE GRADING ADJUSTMENTS TO DIRECT SURFACE FLOWS AWAY FROM PROPERTY LINES TOWARDS FACILITY SURFACE AND INLETS.

LEGEND

- RIGHT-OF-WAY LINE
- APPROXIMATE LIMITS OF WORK
- TREE PROTECTION FENCING (4/D1.0)
- PROPOSED CONTOURS
- SPOT ELEVATION
- GRAVEL PAVE 2 (2/D1.3)
- GRAVEL SURFACING (9/D1.1)
- LANDSCAPE/RAINGARDEN (SEE C4.0-C4.2)
- ASPHALT DRIVEWAY
- CONCRETE DRIVEWAY
- ASPHALT THICKENED EDGE (6/D1.1)
- TOP AND BOTTOM OF BIORETENTION AREA
- FLOW DIRECTION. SEE NOTE 1 AND 2.
- GEOTECHNICAL TEST PIT SITE
- FACILITY IDENTIFIER
- MAINTENANCE PORT

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NE 148TH STREET
INFILTRATION FACILITIES
95% GRANT APPLICATION SET
 PAVING AND GRADING, PHASE 1

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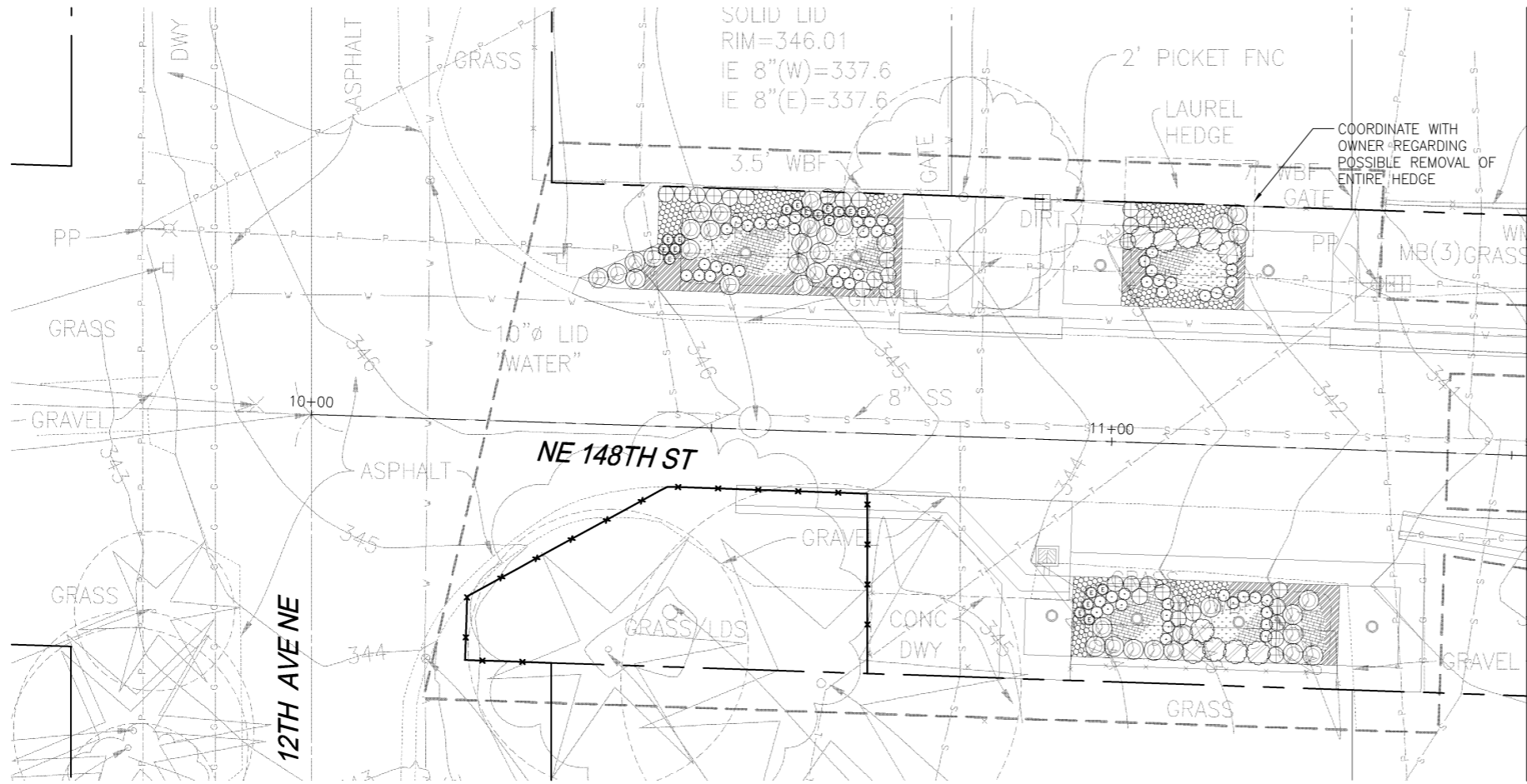
BASIS OF BEARING: NAD 83/91
 DATUM: NAVD 88
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Project No.	
Sheet	C3.2
Sheet	X

Description	95% Grant Application Set
Date	11/6/14
Initials	K.A.
Drawn	Designed
Checked	Revisions
Revisions	Revisions

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MATCHLINE STA 11+52.00 - SEE SHEET C4.1

NOTES

- SEE SHEET D1.4 FOR LANDSCAPE DETAILS.

Plant Schedule - Phase 3 DT=DROUGHT TOLERANT, NWN=NORTHWEST NATIVE OR CULTIVAR

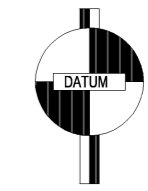
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	X	X	MAHONIA REPENS	CREEPING OREGON GRAPE	1 GAL. / 18" O.C.	60	2/D1.4
	X		SPIREA BETULIFOLIA 'TOR'	BIRCHLEAF SPIREA	2 GAL. / AS SHOWN	32	1/D1.4
	X		ECHINACEA PURPUREA	CONEFLOWER	1 GAL. / 18" O.C.	19	2/D1.4
	X	X	CORNUS SERICEA 'KELSEYII'	REDSTEM DOGWOOD	5 GAL. / AS SHOWN	37	1/D1.4
	X		GERANIUM MACRORRHIZUM 'ALBUM'	HARDY GERANIUM	1 GAL. / 18" O.C.	58	2/D1.4
	X		ILEX GLABRA 'SHAMROCK'	INKBERRY	5 GAL. / 36" O.C.	10	1/D1.4
	X		IRIS FOETIDISSIMA 'VARIEGATA'	VARIEGATED IRIS	1 GAL. / AS SHOWN	56	2/D1.4
	X	X	CAREX OBNUPTA	SLOUGH SEDGE	10 IN. ³ TUBE / 9" O.C.	187	3/D1.4
	X		DESCHAMPSIA FLEXUOSA 'AUREA'	GOLDEN CRINKLED HAIR GRASS	10 IN. ³ TUBE / 9" O.C.	155	3/D1.4

LEGEND

- RIGHT-OF-WAY LINE
- APPROXIMATE LIMITS OF WORK
- TREE PROTECTION FENCING (4 D1.0)
- TOP AND BOTTOM OF BIORETENTION AREA
- EXISTING TREE DRIPLINE/ CRITICAL ROOT ZONE

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NE 148TH STREET
INFILTRATION FACILITIES
95% GRANT APPLICATION SET
 LANDSCAPE, PHASE 3

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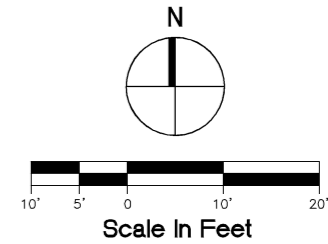
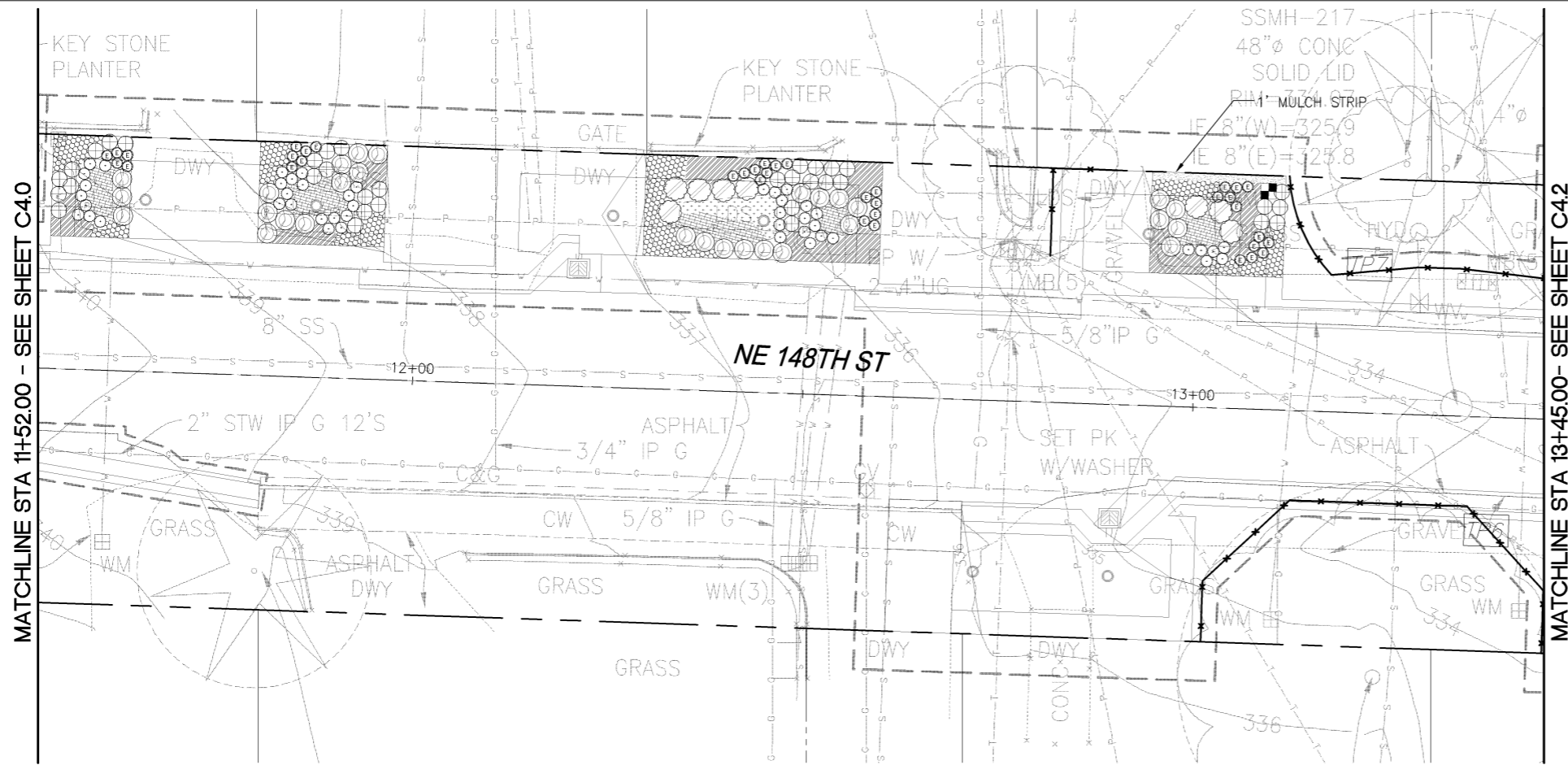
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L1.0
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Revision	Revised	By	Date	Description
1		KA	11/6/14	95% Grant Application Set
2		LK/PB	11/6/14	95% Grant Application Set
3		KG	11/6/14	95% Grant Application Set

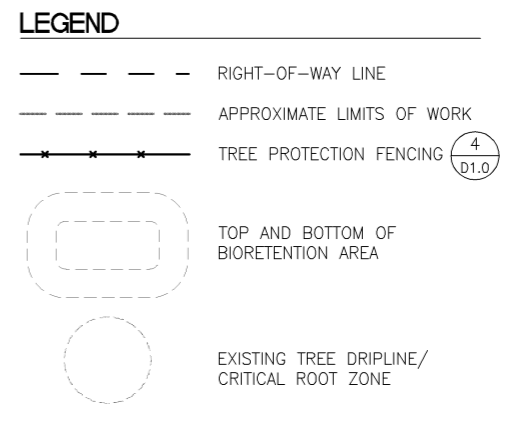
Nov 06, 2014 - 4:53pm kylea G:\13c\13044.50c 148-15\Current\148-15-L1-0_LAND.dwg



NOTES
 1. SEE SHEET D1.4 FOR LANDSCAPE DETAILS.

Plant Schedule - Phase 2 DT=DROUGHT TOLERANT, NWN=NORTHWEST NATIVE OR CULTIVAR

SYMBOL	DT	NWN	BOTANICAL NAME	COMMON NAME	SIZE/ SPACING	QTY.	NOTES	DETAIL #/ SHEET
	X	X	MAHONIA REPENS	CREEPING OREGON GRAPE	1 GAL. / 18" O.C.	72		2/D1.4
		X	SPIREA BETULIFOLIA 'TOR'	BIRCHLEAF SPIREA	2 GAL. / AS SHOWN	34		1/D1.4
	X		ECHINACEA PURPUREA	CONEFLOWER	1 GAL. / 18" O.C.	37		2/D1.4
	X	X	CORNUS SERICEA 'KELSEYII'	REDSTEM DOGWOOD	5 GAL. / AS SHOWN	29		1/D1.4
	X		GERANIUM MACRORRHIZUM 'ALBUM'	HARDY GERANIUM	1 GAL. / 18" O.C.	72		2/D1.4
	X		ILEX GLABRA 'SHAMROCK'	INKBERRY	5 GAL. / 36" O.C.	8		1/D1.4
	X		IRIS FOETIDISSIMA 'VARIEGATA'	VARIEGATED IRIS	1 GAL. / AS SHOWN	46		2/D1.4
	X	X	CAREX OBNUPTA	SLOUGH SEDGE	10 IN. ³ TUBE / 9" O.C.	168		3/D1.4
	X		DESCHAMPSIA FLEXUOSA 'AUREA'	GOLDEN CRINKLED HAIR GRASS	10 IN. ³ TUBE / 9" O.C.	57		3/D1.4



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INFILTRATION FACILITIES
95% GRANT APPLICATION SET
 LANDSCAPE, PHASE 2

BRICE MARYMAN
CERTIFICATE NO. 1147

MARGARET ROSE STAHEL
CERTIFICATE NO. 458
QA/QC REVIEWER

DATUM

BASIS OF BEARING: NAD 83/91
 DATUM: NAVD 88

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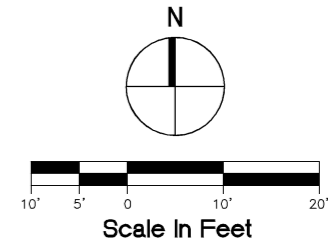
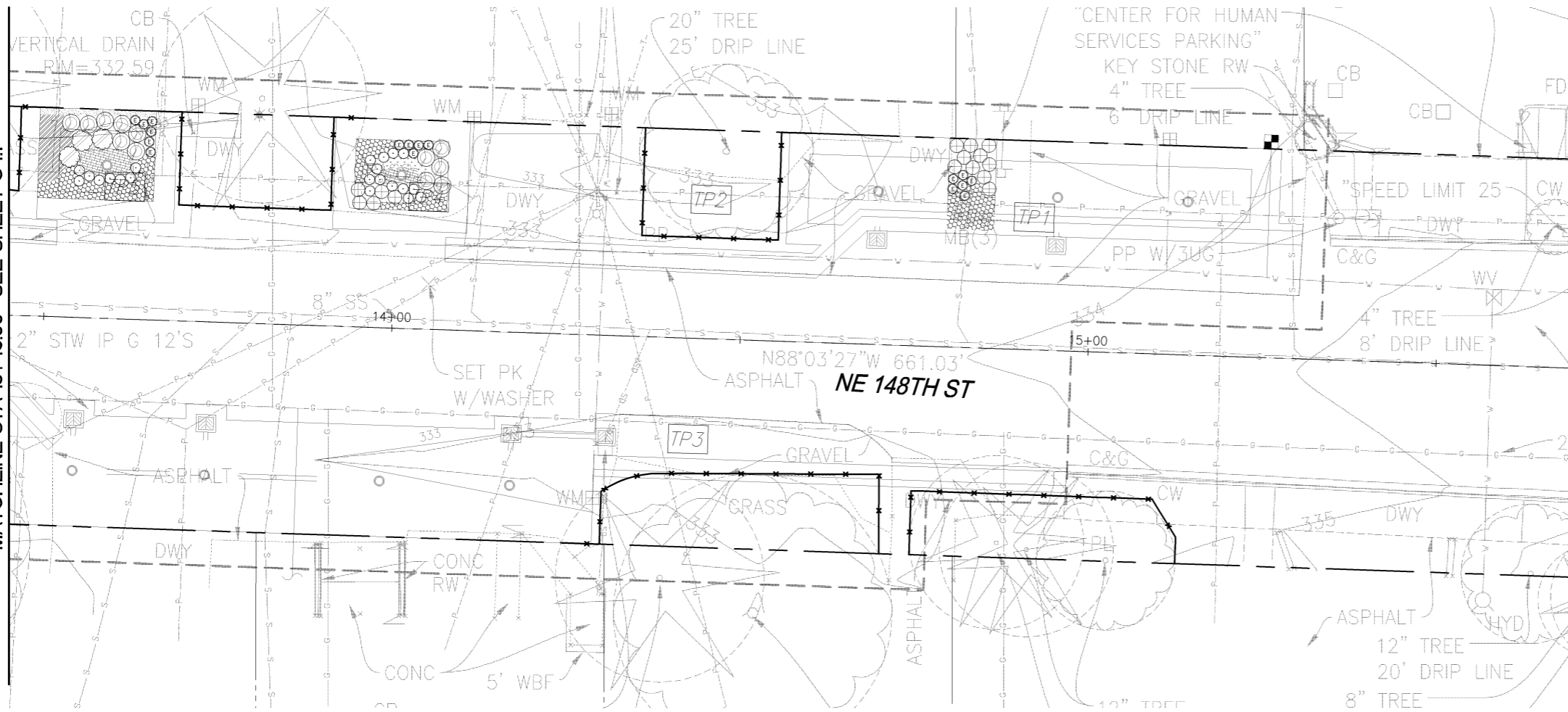
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 Sheet **L1.1**
 Sheet X

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 (206) 801-2700

Revisions	Revisions	Checked	Designed	Drawn	Initials	Date	Description
					KA	11/6/14	95% Grant Application Set
					LK/PB	11/6/14	95% Grant Application Set
					KG	11/6/14	95% Grant Application Set

MATCHLINE STA 13+45.00- SEE SHEET C4.1



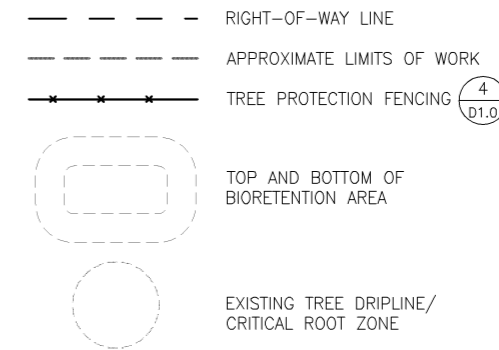
NOTES

- SEE SHEET D1.4 FOR LANDSCAPE DETAILS.

Plant Schedule - Phase 1 DT=DROUGHT TOLERANT, NWN=NORTHWEST NATIVE OR CULTIVAR

SYMBOL	DT	NWN	BOTANICAL NAME	COMMON NAME	SIZE/ SPACING	QTY. NOTES	DETAIL #/ SHEET
	X	X	MAHONIA REPENS	CREeping OREGON GRAPE	1 GAL. / 18" O.C.	56	2/D1.4
		X	SPIREA BETULIFOLIA 'TOR'	BIRCHLEAF SPIREA	2 GAL. / AS SHOWN	15	1/D1.4
	X		ECHINACEA PURPUREA	CONEFLOWER	1 GAL. / 18" O.C.	17	2/D1.4
	X	X	CORNUS SERICEA 'KELSEYII'	REDSTEM DOGWOOD	5 GAL. / AS SHOWN	12	1/D1.4
	X		GERANIUM MACRORRHIZUM 'ALBUM'	HARDY GERANIUM	1 GAL. / 18" O.C.	16	2/D1.4
	X		ILEX GLABRA 'SHAMROCK'	INKBERRY	5 GAL. / 36" O.C.	3	1/D1.4
	X		IRIS FOETIDISSIMA 'VARIEGATA'	VARIEGATED IRIS	1 GAL. / AS SHOWN	21	2/D1.4
	X	X	CAREX OBNUPTA	SLOUGH SEDGE	10 IN. ³ TUBE / 9" O.C.	51	3/D1.4
	X		DESCHAMPSIA FLEXUOSA 'AUREA'	GOLDEN CRINKLED HAIR GRASS	10 IN. ³ TUBE / 9" O.C.	18	3/D1.4

LEGEND



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INFILTRATION FACILITIES
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 LANDSCAPE, PHASE 1

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Description	Date	Initials	Drawn	Designed	Checked	Revisions
95% Grant Application Set	11/6/14	K.A.				
95% Grant Application Set	11/6/14	L.K./P.B.				
95% Grant Application Set	11/6/14	K.G.				

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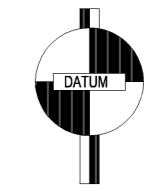
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BRICE MARYMAN
CERTIFICATE NO. 1147

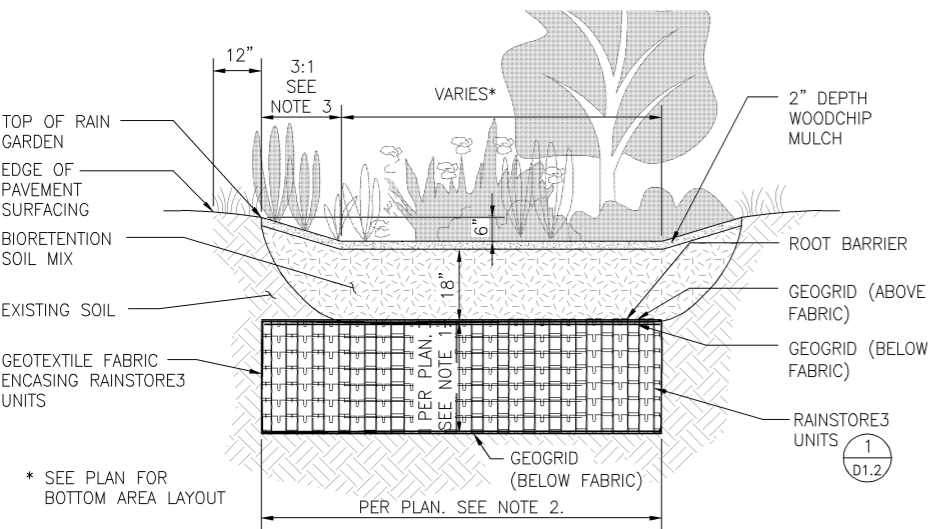
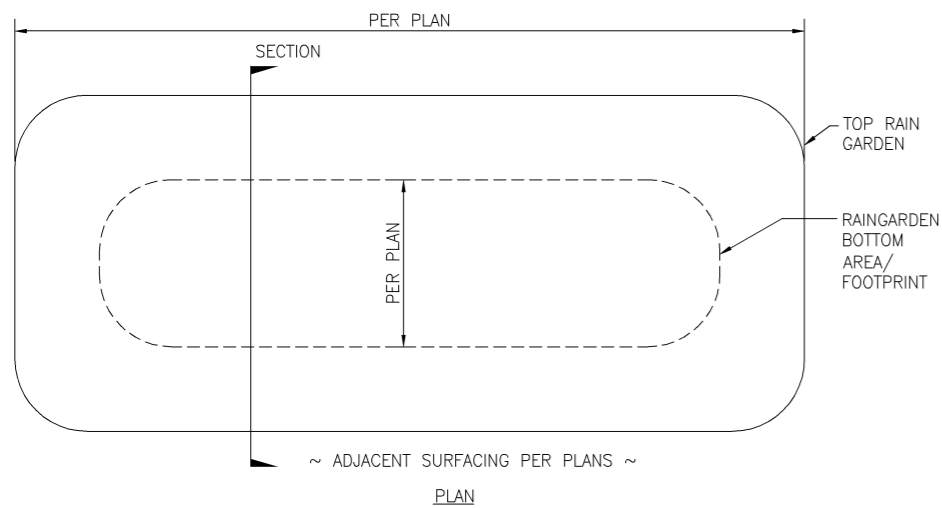


MARGARET ROSE STAHEL
CERTIFICATE NO. 458
QA/QC REVIEWER

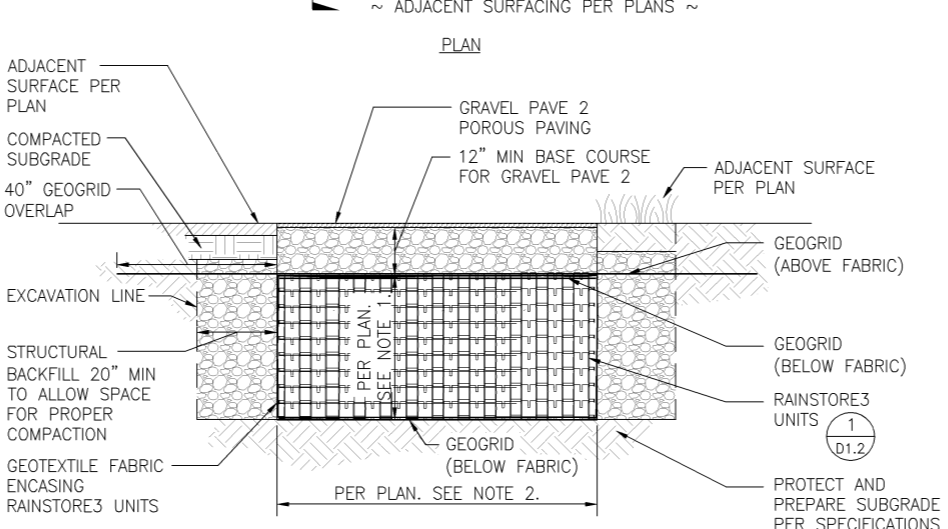
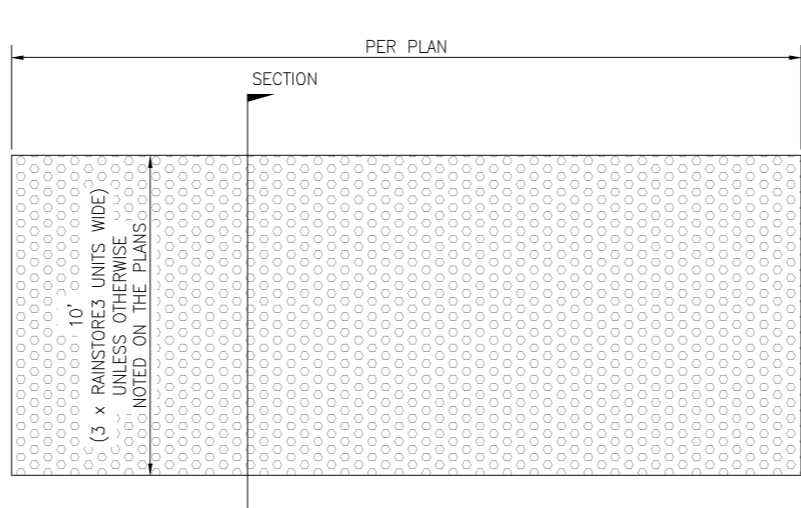


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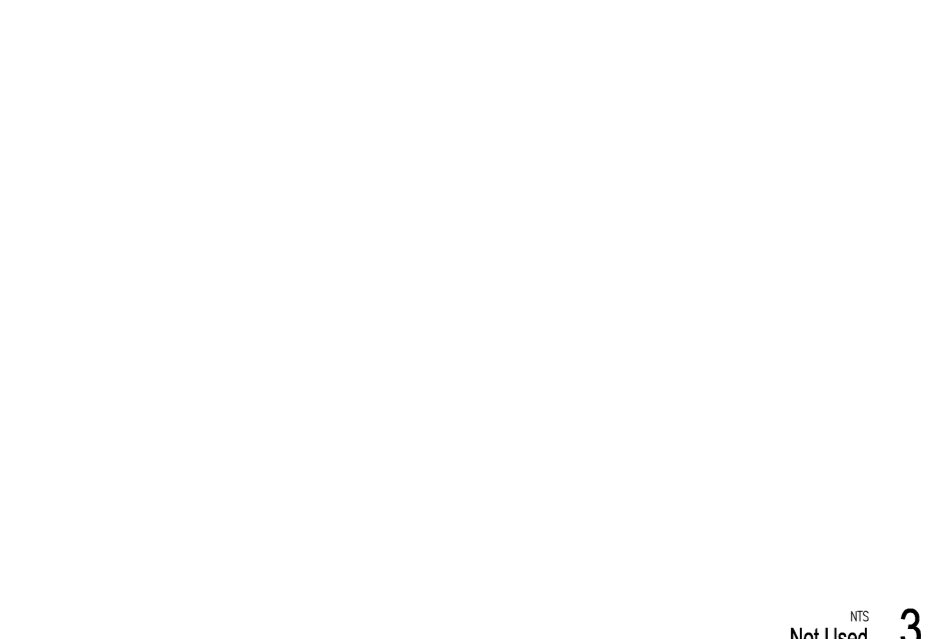
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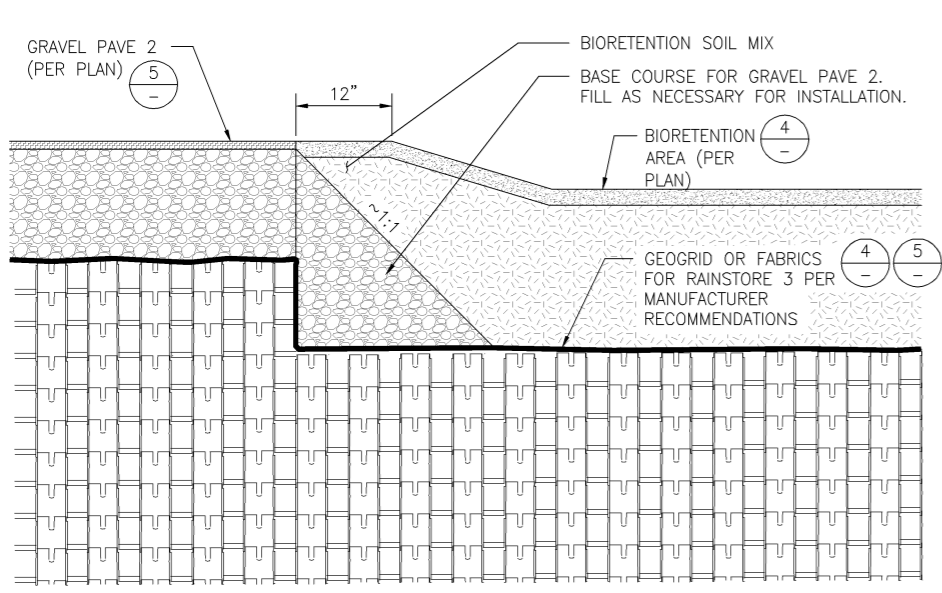
Bioretention Area Surface Rainstore3 Typical Detail **4**



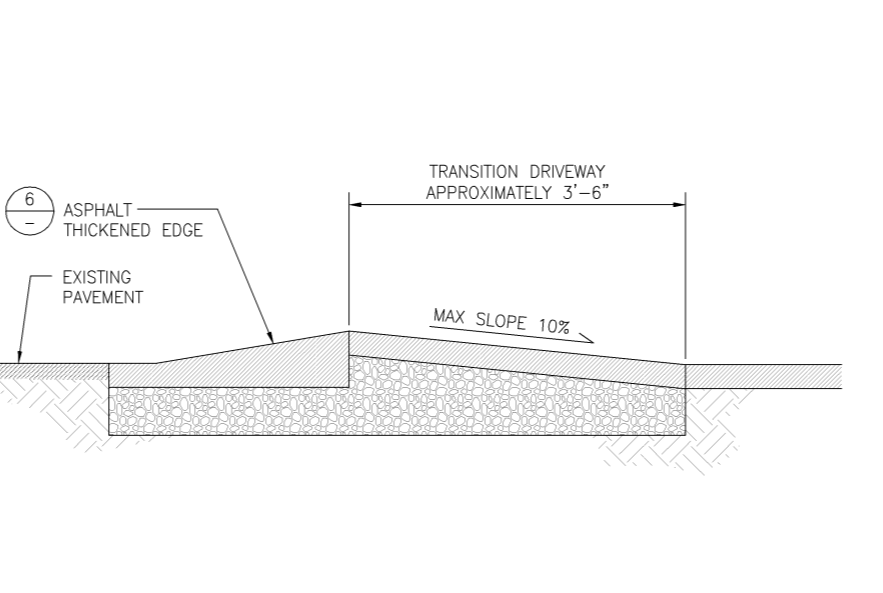
Gravel Pave 2 Surface Rainstore3 Typical Detail **5**



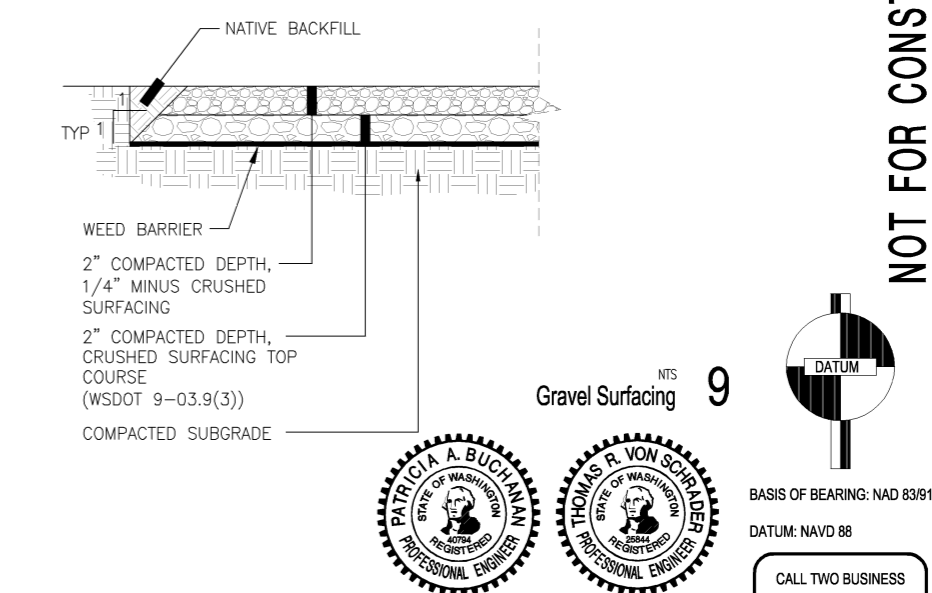
Asphalt Thickened Edge **6**



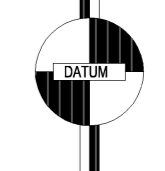
Gravel Pave 2/Bioretention Area Edge **7**



Asphalt Driveway Transition **8**

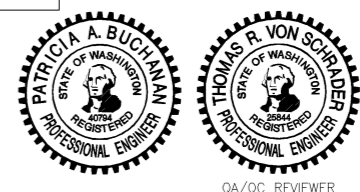


Gravel Surfacing **9**



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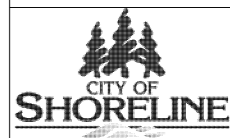
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QA/QC REVIEWER

Initials	Date	Description
K.A.	11/6/14	95% Grant Application Set
L.K./P.B.	11/6/14	95% Grant Application Set
K.G.	11/6/14	95% Grant Application Set

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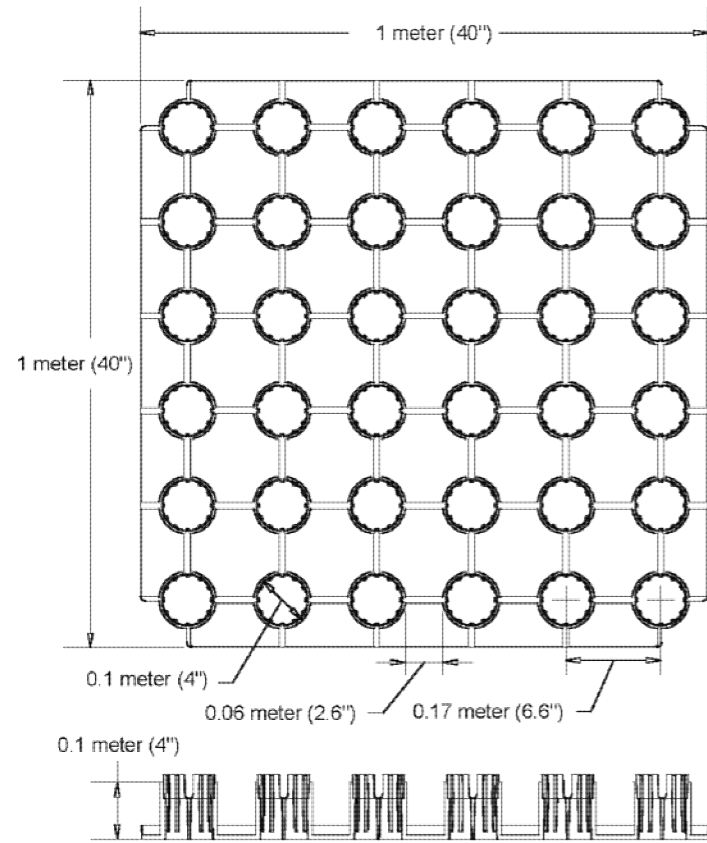
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Sheet	X

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Rainstore3 Unit Dimensions



Rainstore3 Unit Detail

Single Rainstore3 injection molded unit geometry and dimensions

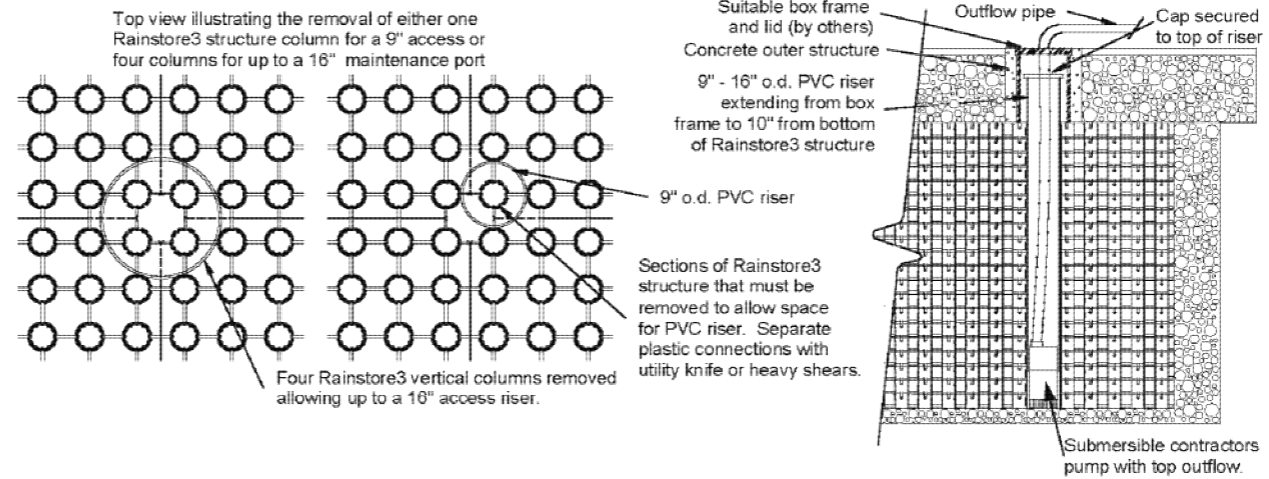
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NTS
Rainstore3 Unit Detail **1**



RS3 Maintenance Port

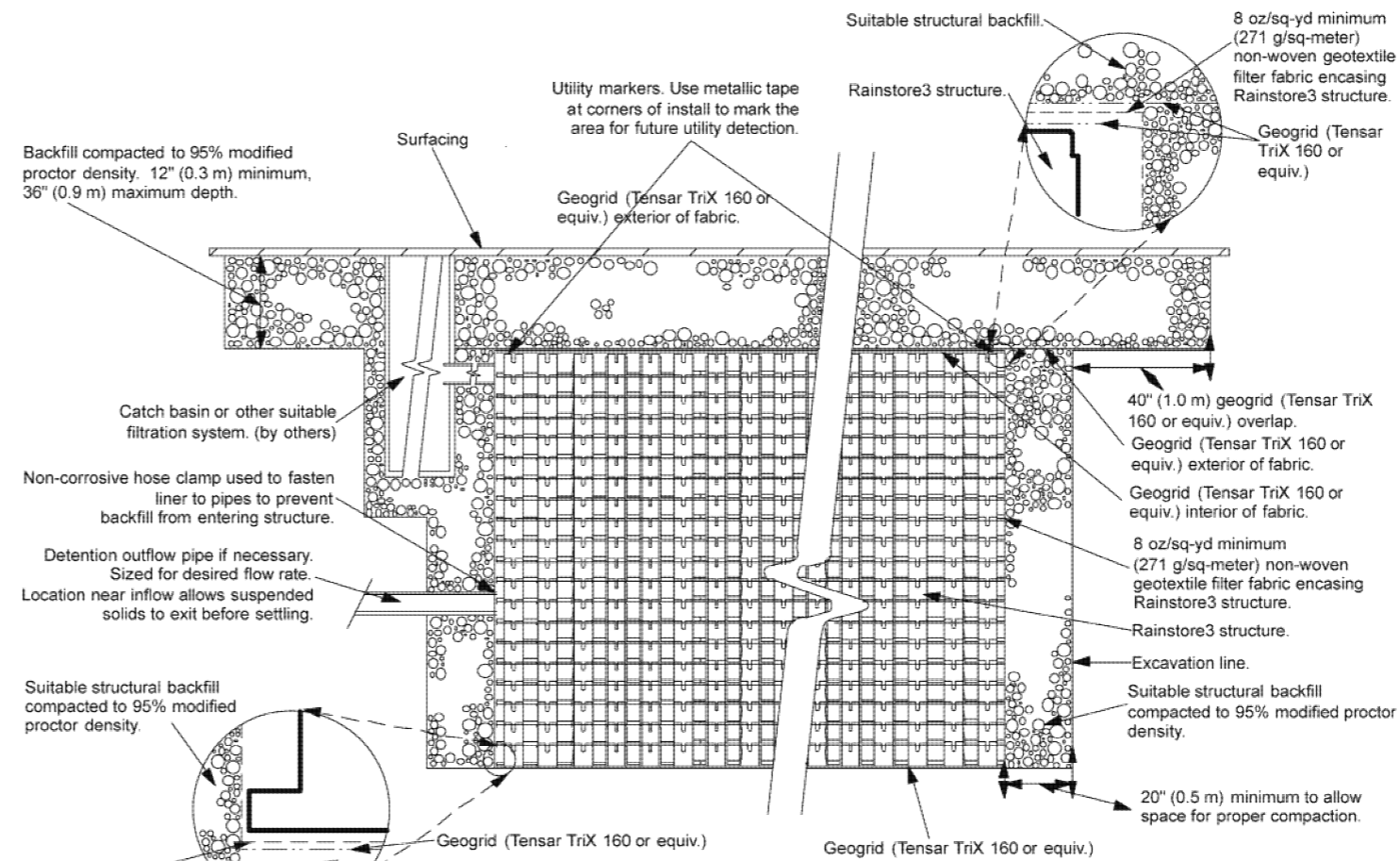
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Method for providing inspection and cleanout access

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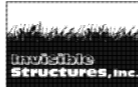
NTS
RS3 Maintenance Port **2**



Rainstore3 System

Typical RS3 installation below paving for stormwater retention or detention

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RS3dret10.dwg

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NTS
Rainstore3 System **4**

Initials	Date	Description
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K.G.	11/6/14	95% Grant Application Set

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DETAILS, INVISIBLE STRUCTURES



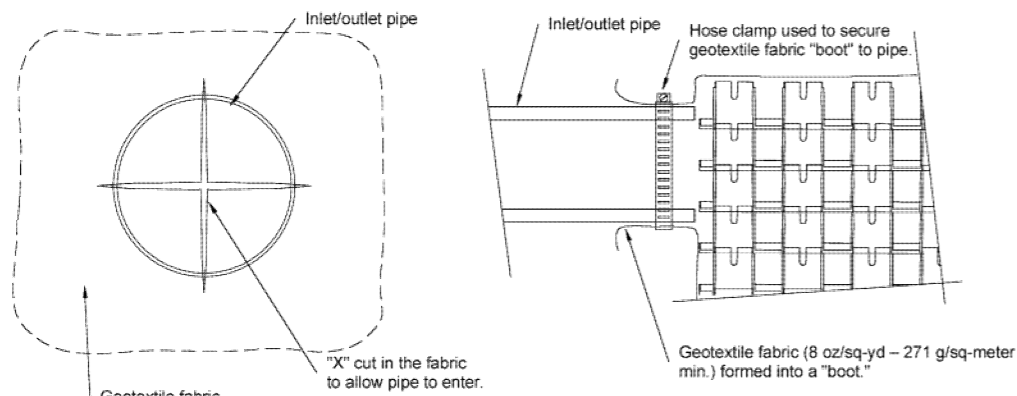
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End view of pipe/fabric connection. Cut an X in the fabric slightly larger than pipe, pull the fabric around the pipe to create the "boot" and then secure with a hose-clamp.



End View

Side View

Rainstore3 Inlets/Outlets With Fabric

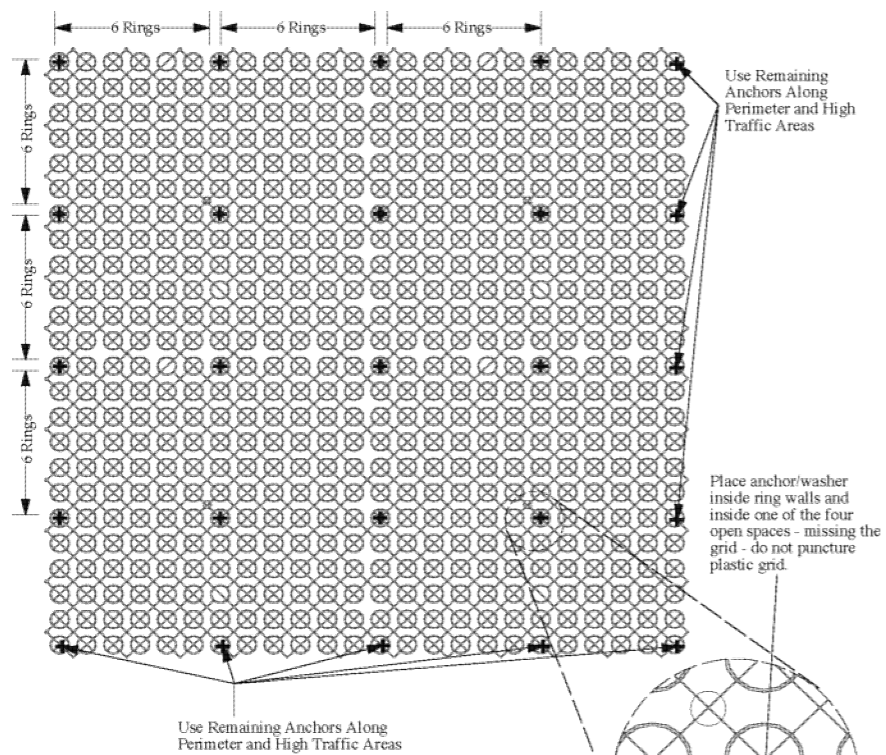
Connecting pipe to the Rainstore3 structure

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Rainstore3 Inlets/Outlets With Fabric **1**



Gravelpave2 Pinning Instructions

60 anchors supplied per 108 sq ft (10 sq m)
Size and type of anchor may vary

1. Place one anchor (minimum) every six rings
2. Place anchor inside rings, in one of the four open spaces (do not puncture grid).
3. Place remaining anchors around perimeter of site and in high traffic areas

GRAVELPAVE2 PINNING INSTRUCTIONS

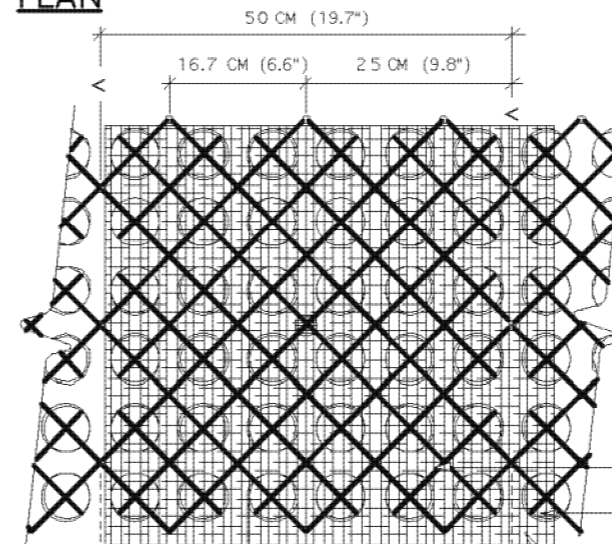
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Rev. 05/05

Typical Gravelpave2 Detail **3**

NOTES: TURN OFF DOFF LAYER PRIOR TO PLOTTING.
HATCH DOFF HATCH LIMITS IN PLAN & ENLARGEMENT TO MATCH YOUR PLOT CONFIG.

PLAN



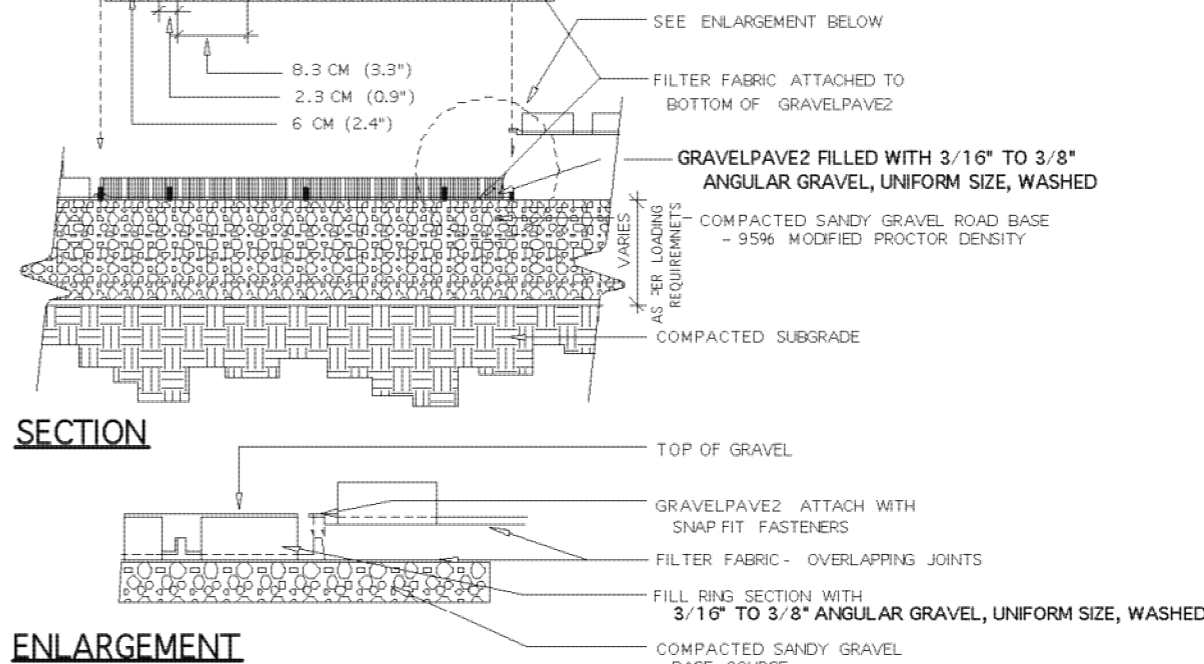
SPECIFICATIONS

UNITS
UNIT SIZE - 50 CM X 50 CM X 2.5 CM
(20" X 20" X 1")
AVAILABLE IN 9 STANDARD ROLL SIZES

UNIT WEIGHT - 538 GRAMS (19 OZ.)
OR 2.2 KG (4.8 POUNDS)

STRENGTH - 402 KG/CM² (5720 PSI)
COLOR - BLACK (STANDARD)
RESIN - 100% POST-CONSUMER
RECYCLED HDPE/LDPE

FABRIC
WEIGHT - 3.5 OZ/SY (120 GM/M²)
TENSILE - 120 LB/FT² (585 KG/M²)
FLOW - 275 GAL/MIN/SF (11,200 L/MIN/M²)
OPTIONS - CUSTOM FABRIC TO 6 OZ
AVAILABLE.



TYPICAL GRAVELPAVE2 DETAIL

NOT TO SCALE

CHOOSE THIS PRODUCT FOR REINFORCING GRAVEL WEARING SURFACES

1
1 OF 1

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Gvdet.dwg

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Version 05/10

Gravelpave2 Pinning Instructions **2**



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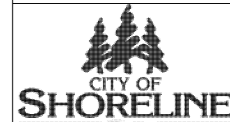
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INFILTRATION FACILITIES
95% GRANT APPLICATION SET
DETAILS, INVISIBLE STRUCTURES

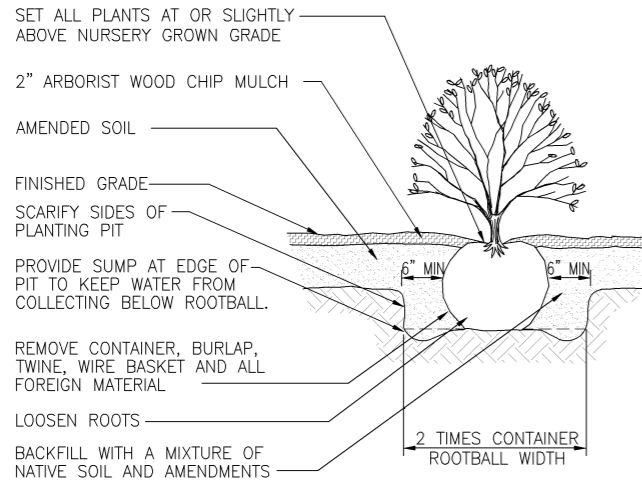
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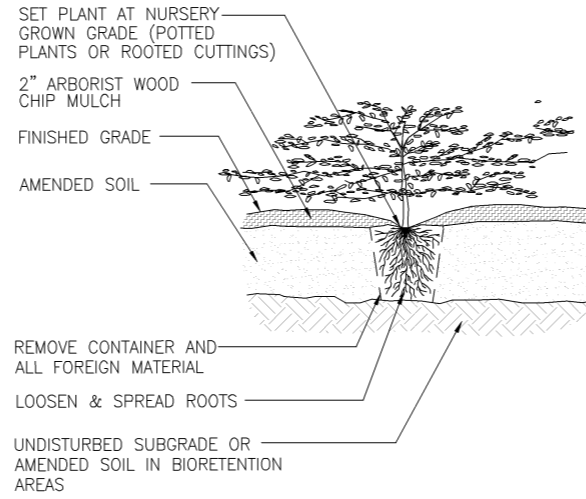
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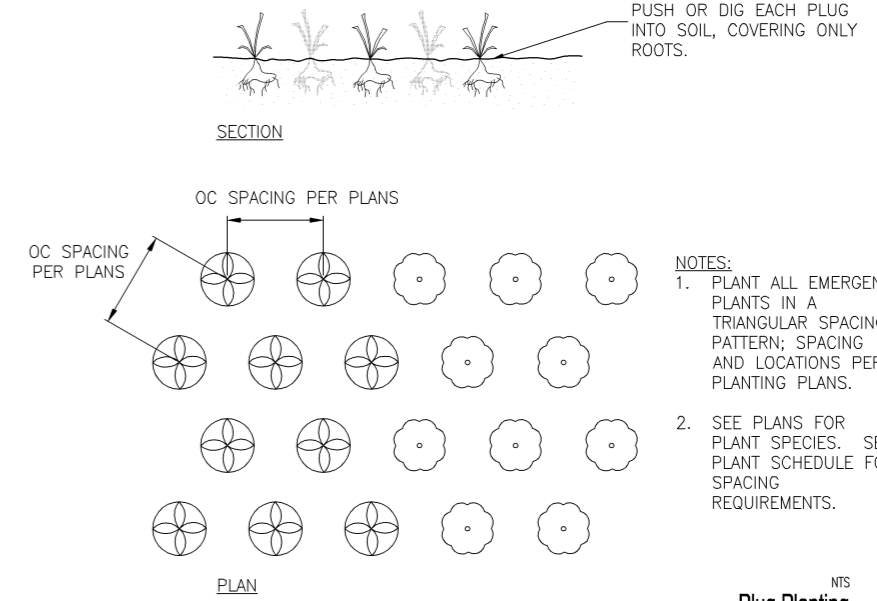
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Shrub Planting ^{NTS} 1



Groundcover Planting ^{NTS} 2



Plug Planting ^{NTS} 3

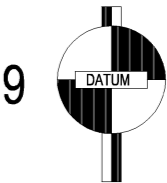
Not Used ^{NTS} 4

Not Used ^{NTS} 5

Not Used ^{NTS} 6

Not Used ^{NTS} 7

Not Used ^{NTS} 8



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95% Grant Application Set	11/6/14	LK/PB					
95% Grant Application Set	11/6/14	KG					

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