



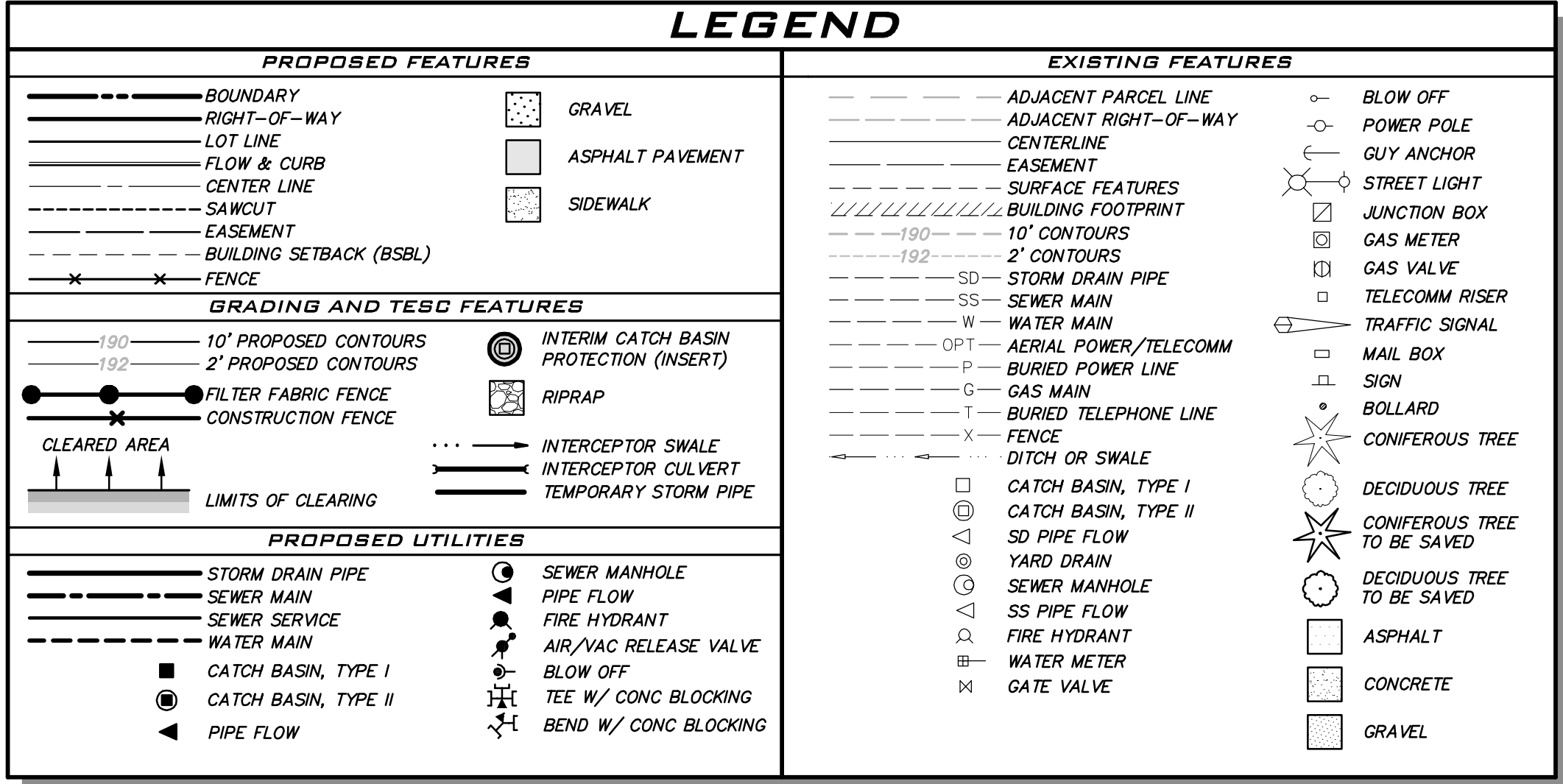


GENERAL NOTES

1. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH CURRENT CITY OF MUKILTEO DEVELOPMENT STANDARDS; THE CURRENT EDITION OF THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION; AND THE ADOPTED EDITION OF THE WASHINGTON STATE DEPARTMENT OF ECOLOGY STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON.
2. ALL WORK WITHIN THE PLAT AND CITY RIGHT-OF-WAY SHALL BE SUBJECT TO THE INSPECTION OF THE CITY.
3. PRIOR TO ANY SITE CONSTRUCTION INCLUDING CLEARING/LOGGING OR GRADING, THE SITE CLEARING LIMITS SHALL BE LOCATED AND FIELD IDENTIFIED BY THE PROJECT SURVEYOR (OR PROJECT ENGINEER) AS REQUIRED BY THESE PLANS. THE PROJECT SURVEYOR'S NAME AND PHONE NUMBER IS DARREN RIDDLE (425) 512-7099.
4. THE DEVELOPER, CONTRACTOR AND PROJECT ENGINEER SHALL BE RESPONSIBLE FOR WATER QUALITY AS DETERMINED BY THE MONITORING PROGRAM ESTABLISHED BY THE PROJECT ENGINEER. THE PROJECT ENGINEER'S NAME AND PHONE NUMBER IS KRISTAL KEATING, PE (425) 216-4051.
5. PRIOR TO ANY SITE WORK, THE CONTRACTOR SHALL CONTACT THE CITY OF MUKILTEO COMMUNITY DEVELOPMENT DEPARTMENT AT 425-263-8000 TO SCHEDULE A PRECONSTRUCTION CONFERENCE.
6. ENGINEERED AS-BUILT DRAWINGS IN ACCORDANCE WITH THE CURRENT ADOPTED INTERNATIONAL BUILDING CODE SHALL BE REQUIRED PRIOR TO FINAL SITE APPROVAL.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS FOR UTILITY, ROAD, AND RIGHT-OF-WAY CONSTRUCTION. THE CONTRACTOR FOR THIS PROJECT IS  
CONTACT PERSON: TBD  
PHONE: TBD  
MOBILE: TBD  
24-HOUR EMERGENCY CONTACT AND PHONE: TBD
8. THE CONSTRUCTION STORMWATER POLLUTION PREVENTION (SWPP) FACILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPROVED SWPPP PLANS PRIOR TO ANY GRADING OR LAND CLEARING. THESE FACILITIES MUST BE SATISFACTORILY MAINTAINED UNTIL CONSTRUCTION AND LANDSCAPING IS COMPLETED AND THE POTENTIAL FOR ON-SITE EROSION HAS PASSED. SEDIMENT LADEN WATERS SHALL NOT ENTER THE NATURAL DRAINAGE SYSTEM.
9. A CERTIFIED EROSION AND SEDIMENT CONTROL LEAD (CESCL) OR SWPPP SUPERVISOR SHALL BE RESPONSIBLE FOR MAINTAINING THE CONSTRUCTION SWPP FACILITIES, AS OUTLINED IN THE APPROVED SWPPP, OR AS MODIFIED FROM TIME TO TIME. CONTACT INFORMATION FOR THE CESCL (OR SWPPP SUPERVISOR) FOR THE PROJECT SHALL BE GIVEN TO THE CITY PRIOR TO THE START OF CONSTRUCTION.
10. NONCOMPLIANCE WITH THE REQUIREMENTS FOR EROSION CONTROLS, WATER QUALITY AND CLEARING LIMITS MAY RESULT IN REVOCATION OF PROJECT PERMITS, PLAN APPROVAL, AND BOND FORECLOSURES.
11. REFER TO THE GEOTECHNICAL ENGINEERING STUDY PREPARED BY EARTH SOLUTIONS NW LLC DATED JULY 28, 2022 FOR STRUCTURAL FILL SPECIFICATIONS.
12. TRENCH BACKFILL OF NEW UTILITIES AND STORM DRAINAGE FACILITIES SHALL BE COMPACTED TO 95% MAXIMUM DENSITY (MODIFIED PROCTOR) UNDER ROADWAYS AND 90% MAXIMUM DENSITY (MODIFIED PROCTOR) OFF ROADWAYS. COMPACTION SHALL BE PERFORMED IN ACCORDANCE WITH SECTIONS 7-08.3(3) AND 2-03.3(14) D OF THE WSDOT STANDARD SPECIFICATIONS.
13. THE OWNER AND CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING ALL EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION. LOCATION OF UTILITIES SHOWN ON CONSTRUCTION PLANS ARE BASED ON BEST RECORDS AVAILABLE AND ARE SUBJECT TO VARIATION. FOR ASSISTANCE IN UTILITY LOCATION, CALL 811.
14. PRIOR TO CONSTRUCTION THE OWNER AND/OR CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER AND THE PUBLIC WORKS DIRECTOR WHEN CONFLICTS EXIST BETWEEN THE PLANS AND FIELD CONDITIONS. CONFLICTS SHALL BE RESOLVED (INCLUDING PLAN AND PROFILE REVISIONS) AND RESUBMITTED FOR APPROVAL PRIOR TO PROCEEDING WITH CONSTRUCTION.
15. THE CONTRACTOR SHALL KEEP TWO SETS OF PLANS ON SITE AT ALL TIMES FOR RECORDING AS-BUILT INFORMATION; ONE SET SHALL BE SUBMITTED TO THE PROJECT ENGINEER, AND ONE SET SHALL BE SUBMITTED TO THE CITY AT COMPLETION OF CONSTRUCTION AND PRIOR TO FINAL ACCEPTANCE OF WORK.
16. A GRADING PERMIT ISSUED PURSUANT TO THE CURRENT ADOPTED INTERNATIONAL BUILDING CODE, AND APPROVAL OF THE TEMPORARY EROSION AND SEDIMENTATION CONTROL PLAN SHALL BE OBTAINED FROM THE COMMUNITY DEVELOPMENT DEPARTMENT PRIOR TO ANY ON-SITE GRADING WORK NOT EXPRESSLY EXEMPT BY THE CURRENT ADOPTED INTERNATIONAL BUILDING

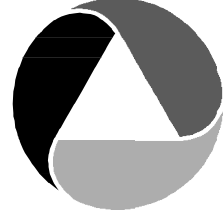
STORM DRAINAGE GENERAL NOTES

1. ALL PIPE SHALL BE PLACED ACCORDING DIVISION Y OF THE WSDOT STANDARD SPECIFICATIONS.
2. BACKFILL SHALL BE PLACED EQUALLY ON BOTH SIDES OF THE PIPE OR PIPE-ARCH IN 6" AVERAGE DEPTH LOOSE LIFTS. MAXIMUM LIFT DEPTH SHALL NOT EXCEED 9". EACH LIFT SHALL BE THOROUGHLY COMPACTED. COMPACTED LIFTS MUST EXTEND AT LEAST ONE PIPE DIAMETER ON EACH SIDE OF THE PIPE OR TO THE SIDE OF THE TRENCH. BACKFILL OVER THE PIPE SHALL BE PERFORMED IN ACCORDANCE WITH SECTIONS 7-08.3(3) THE WSDOT STANDARD SPECIFICATIONS.
3. ALL GRATES LOCATED IN THE GUTTER FLOW LINE (INLET AND CATCH BASIN) SHALL BE DEPRESSED 0.1 FEET BELOW PAVEMENT LEVEL.
4. ALL CATCH BASINS ARE TO BE TYPE I UNLESS OTHERWISE APPROVED BY THE CITY OR DESIGNATED REPRESENTATIVE. THE USE AND INSTALLATION OF INLETS IS NOT ALLOWED.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING ALL MANHOLE, INLET AND CATCH BASIN FRAMES AND GRATES TO GRADE JUST PRIOR TO CURB INSTALLATION AND/OR PAVING.
6. ALL CATCH BASINS WITH A DEPTH OF 5 FEET OR GREATER TO THE FLOW LINE SHALL BE TYPE II CATCH BASINS.
7. VANED GRATES ARE REQUIRED ON ALL STORM STRUCTURES. ALL CATCH BASINS AND MANHOLES SHALL HAVE LOCKING LIDS. ROLLED GRATES ARE NOT APPROVED FOR USE.
8. POLYPROPYLENE SAFETY STEPS AND LADDER STEPS SHALL BE PROVIDED IN ALL MANHOLES AND SHALL BE POSITIONED CORRECTLY WITH THE BOLT AREAS ON THE RIM.
9. CATCH BASIN FRAMES AND GRATES SHALL BE OLYMPIC FOUNDRY MODEL SM60, SMS-, OR SM 44. LOCKING TYPE OR EQUIVALENT. MODEL SM52 SHALL BE REFERRED TO AS A "THROUGH CURB INLET" ON THE PLANS.
10. DETENTION PONDS WITH SIDE SLOPES STEEPER THAN 3:1 OR WITH A MAXIMUM WATER DEPTH GREATER THAN 3 FEET SHALL REQUIRE A VINYL COATED CHAIN LINK PERIMETER FENCE. SIDE SLOPE AVERAGING SHALL NOT BE ALLOWED. ALL INLET AND OUTFALL PIPES SHALL HAVE A TRASH RACK INSTALLED AND A MORTARED RIPRAP HEADWALL.
11. PRIOR TO SIDEWALK CONSTRUCTION, LOT DRAINAGE SYSTEMS, STUB-OUTS AND ANY BEHIND SIDEWALK DRAINS MUST BE INSTALLED AS REQUIRED. PIPE SHALL BE PVC 3/4" OR SDR-35 STUB-OUTS SHALL BE MARKED WITH A 2" X 4" WITH 3 FEET VISIBLE ABOVE GRADE AND MARKED "STORM". LOCATIONS OF THESE INSTALLATIONS SHALL BE SHOWN ON THE AS-BUILT CONSTRUCTION PLANS SUBMITTED TO THE CITY.
12. STORM WATER RETENTION/DETENTION FACILITIES, STORM DRAINAGE PIPE AND CATCH BASINS SHALL BE FLUSHED AND CLEANED BY THE DEVELOPER PRIOR TO:
- a. CITY OF MUKILTEO FINAL ACCEPTANCE OF THE PROJECT AND;
- b. UPON COMMENCEMENT AND COMPLETION OF THE 2 YEAR WARRANTY PERIOD FOR THE STORM DRAINAGE SYSTEM. AN INVOICE DETAILING THE FLUSHING AND CLEANING SHALL BE PROVIDED TO THE CITY.
13. ALL PIPES SHALL BE INSTALLED WITH RUBBER GASKETS AS PER MANUFACTURER'S RECOMMENDATIONS.
14. CORRUGATED POLYETHYLENE PIPE (CPP):
- a. ALL PIPE SHALL BE SMOOTH INTERIOR. CPP SHALL BE DOUBLE-WALLED. ALL PIPE SHALL MEET AASHTO AND ASTM SPECIFICATIONS.
- b. UPON REQUEST BY THE CITY INSPECTOR, ALL PIPE RUNS SHALL PASS THE LOW PRESSURE AIR TEST REQUIREMENTS OF SECTION 7-04.3(1) E & F OF THE WSDOT STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION. PIPE RUNS SHALL BE TESTED WITH PIPE LOADED AND COMPACTED TO FINISH GRADE.
- c. UPON REQUEST BY THE CITY INSPECTOR, PIPE SHALL BE SUBJECT TO MANDREL TESTING (MANDREL SIZE = 90% OF NOMINAL PIPE DIAMETER).
- d. PIPE SHALL BE STORED ON SITE IN SHIPPING BUNKS ON A FLAT LEVEL SURFACE. THIS REQUIREMENT WILL BE STRICTLY ENFORCED; FAILURE TO COMPLY MAY RESULT IN REJECTION OF THE PIPE AND/OR FUTURE RESTRICTION ON USE OF MATERIAL.
- e. MINIMUM DEPTH OF COVER SHALL BE 2 FEET.
- f. COUPLINGS SHALL BE INTEGRAL BELL AND SPIGOT OR DOUBLE BELL. SEPARATE COUPLINGS, SPLIT COUPLINGS WILL NOT BE ALLOWED.
- g. BACKFILL SHALL COMPLY WITH SECTION Y-08.3(3) OF THE WSDOT STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION WITH THE EXCEPTION THAT THE SECOND PARAGRAPH OF SECTION 7-08.3(3) IS DELETED AND REPLACED WITH:
- THE MATERIAL USED FOR BACKFILLING AROUND AND TO A POINT 1 FOOT ABOVE THE TOP OF THE PIPE SHALL BE CLEAN EARTH OR SAND, FREE FROM CLAY. ANY GRAVEL OR STONES INCLUDED IN THE BACKFILL SHALL PASS THROUGH A 1/4" INCH SIEVE.
15. CULVERT ENDS SHALL BE BEVELED TO MATCH SIDE SLOPES. FIELD CUTTING OF CULVERT ENDS IS PERMITTED WHEN APPROVED BY THE CITY.
16. ALL FIELD CUT CULVERT PIPE SHALL BE TREATED AS REQUIRED IN THE STANDARD SPECIFICATIONS OR GENERAL SPECIAL PROVISIONS.



EXISTING UTILITY NOTE

EXISTING UTILITIES ARE SHOWN IN THE APPROXIMATE LOCATION. THERE IS NO GUARANTEE THAT ALL UTILITY LINES ARE SHOWN, OR THAT THE LOCATION, SIZE AND MATERIAL IS ACCURATE. THE CONTRACTOR SHALL UNCOVER ALL INDICATED PIPING WHERE CROSSING, INTERFERENCES, OR CONNECTIONS OCCUR PRIOR TO TRENCHING OR EXCAVATION FOR ANY PIPE OR STRUCTURES, TO DETERMINE ACTUAL LOCATIONS, SIZE AND MATERIAL. THE CONTRACTOR SHALL MAKE THE APPROPRIATE PROVISION FOR PROTECTION OF SAID FACILITIES. THE CONTRACTOR SHALL NOTIFY ONE CALL AT 8-1-1 (WASHINGTON811.COM) AND ARRANGE FOR FIELD LOCATION OF EXISTING FACILITIES BEFORE CONSTRUCTION.



ATWELL

25 CENTRAL WAY, SUITE 400,  
KIRKLAND, WA 98033  
P: 425.216.4051 F: 425.216.4052  
WWW.ATWELL-GROUP.COM

SCALE:

AS NOTED

PROJECT MANAGER:

T.C. COLLERAN, PLA, AICP

PROJECT ENGINEER:

LUCAS ZIROTTI

DESIGNER:

LEE M. TOMKINS

ISSUE DATE:

9/8/2023

NO	DATE	BY	REVISIONS
1	8/9/23	LCZ	REVISIONS PER CITY 1ST ROUND COMMENTS
2	4/21/23	LCZ	REVISIONS PER CITY 2ND ROUND COMMENTS
3	9/8/23	LCZ	REVISIONS PER CITY 3RD ROUND COMMENTS

GENERAL NOTES & LEGEND

HARBOR GROVE  
CIVIL PLANS

9110 53RD AVE W  
SNOHOMISH COUNTY  
WASHINGTON



9/8/23

JOB NUMBER:

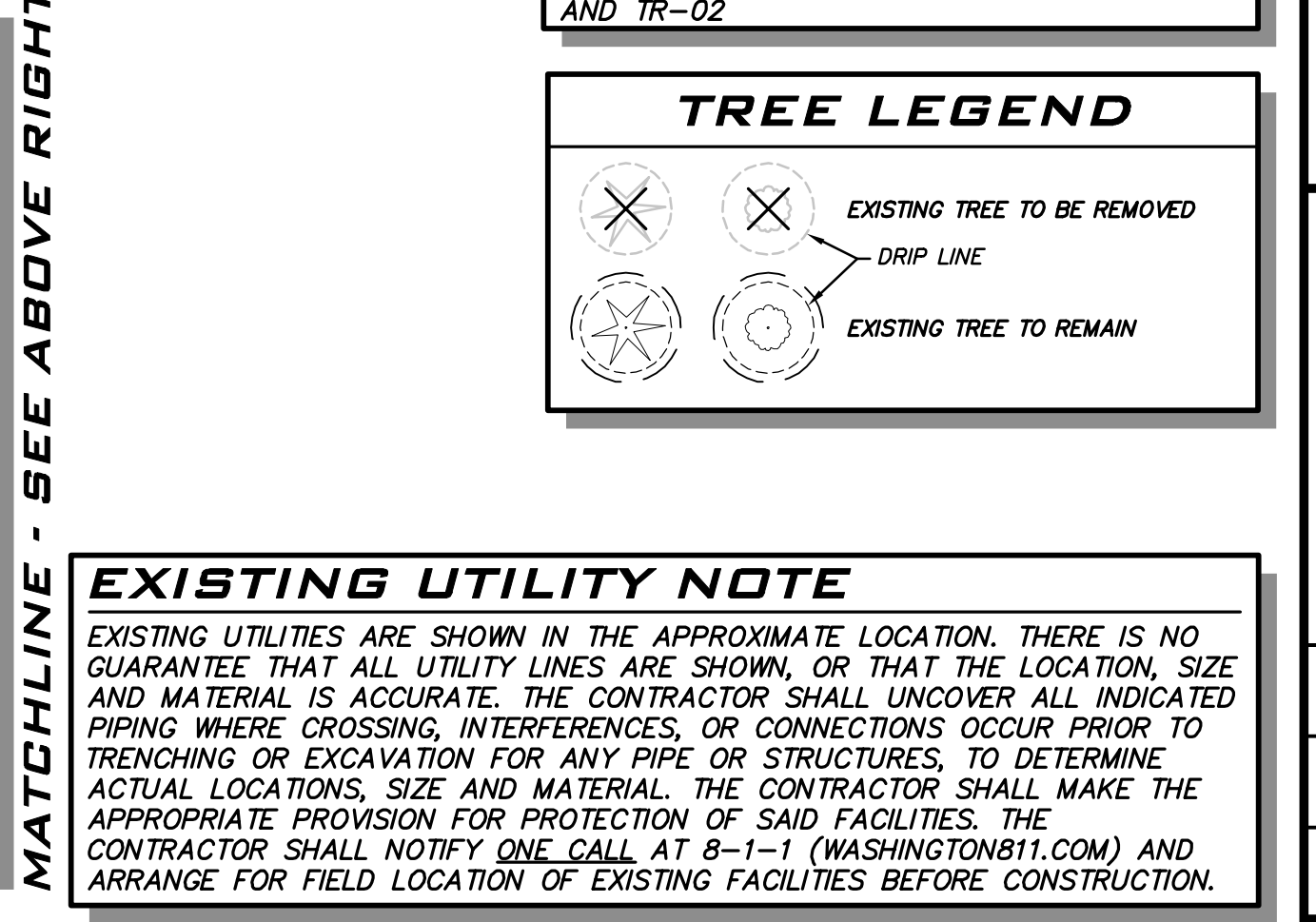
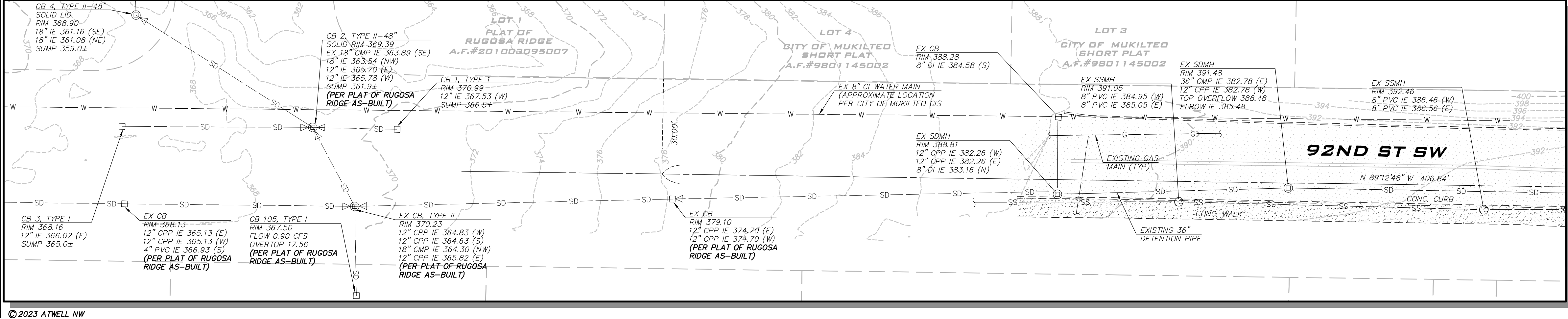
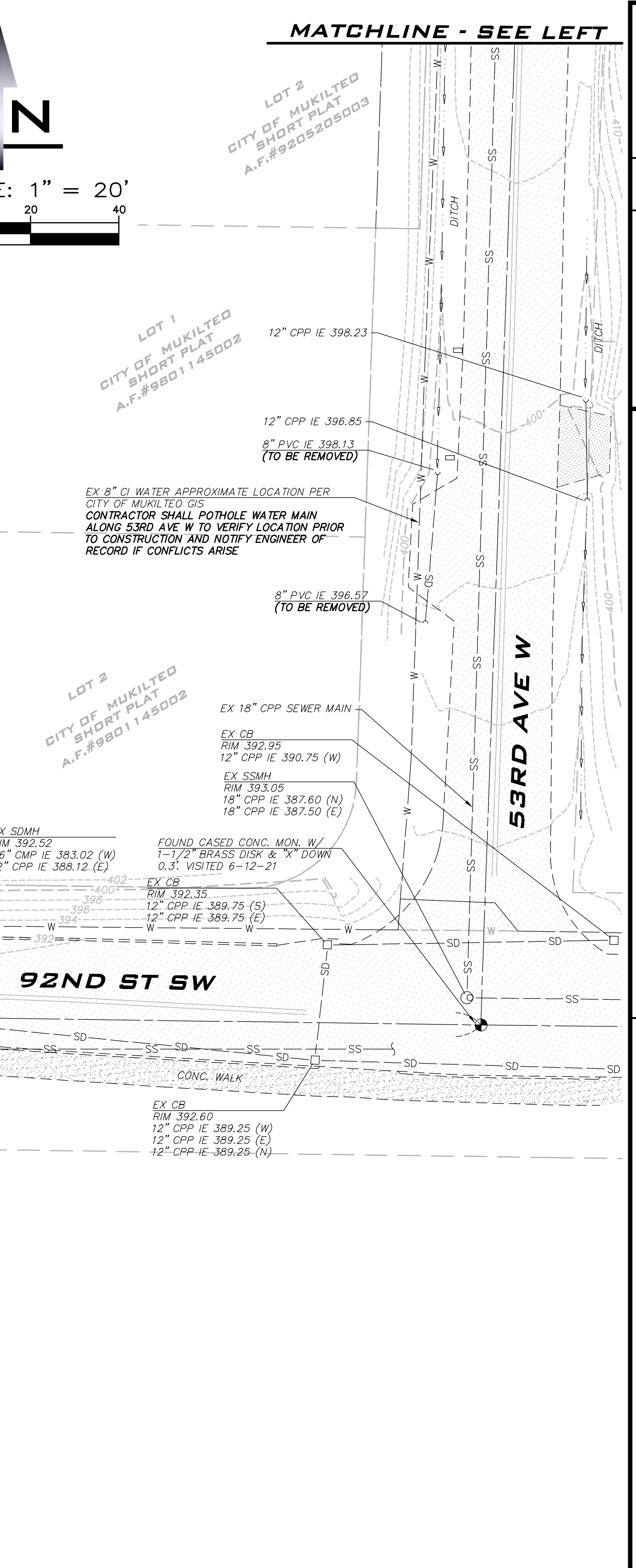
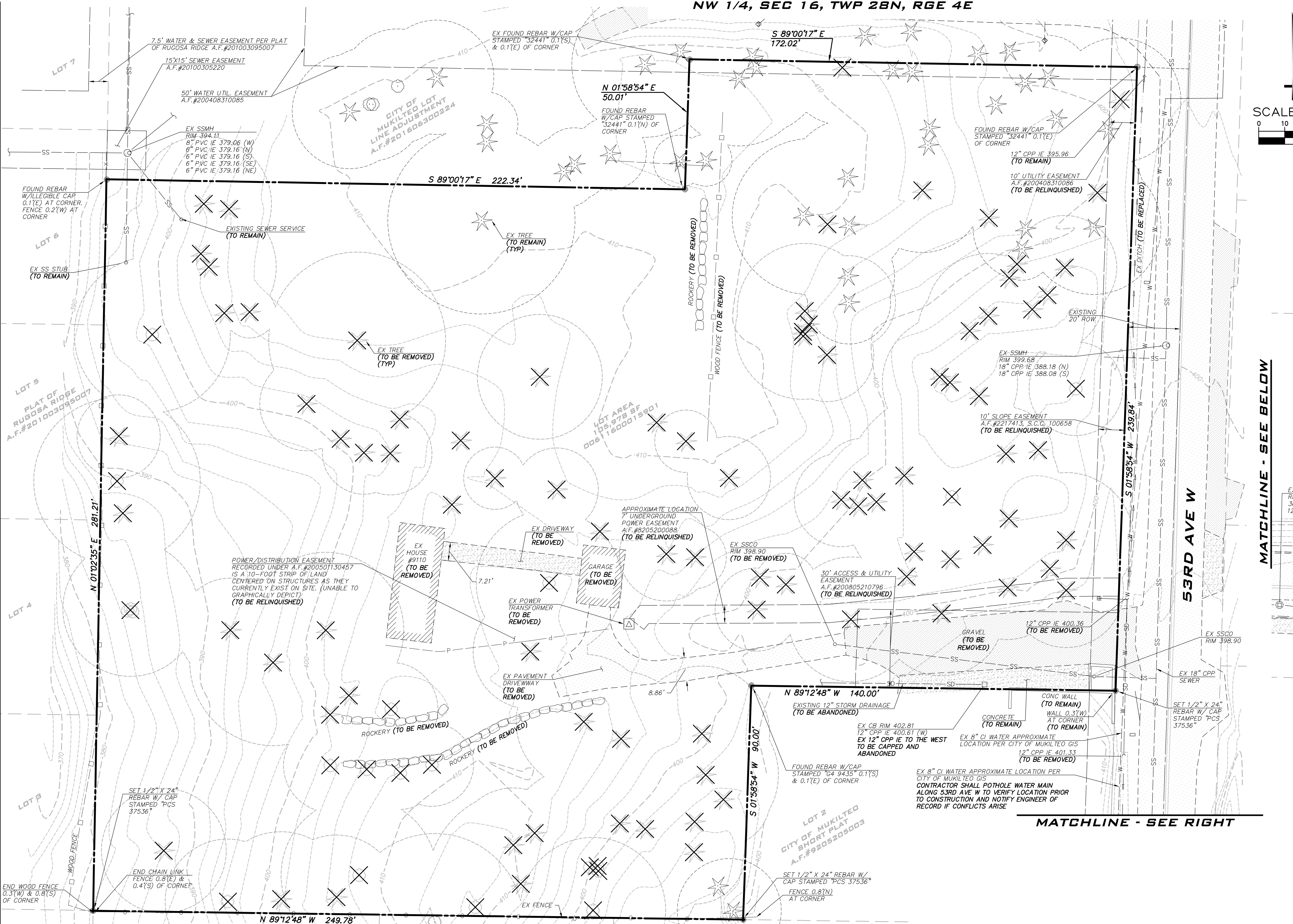
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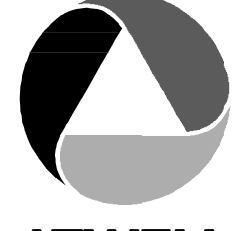
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GN-01

SHT 2 OF 22







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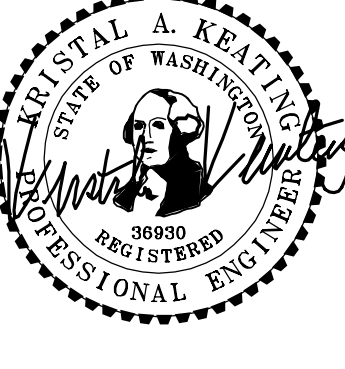
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EXISTING CONDITIONS & DEMO  
PLAN

HARBOR GROVE  
CIVIL PLANS

9110 53RD AVE W  
SNOHOMISH COUNTY  
WASHINGTON



9/8/23

JOB NUMBER:  
**21-073**

SHEET NAME:  
**EC-01**

SHT **3** OF **22**

SCALE:  
AS NOTED

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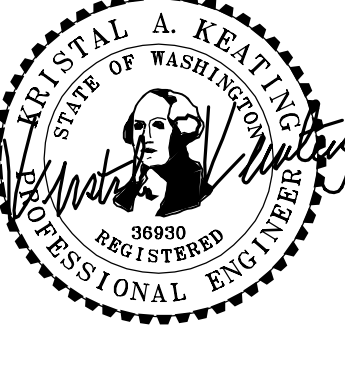
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EXISTING CONDITIONS & DEMO  
PLAN

HARBOR GROVE  
CIVIL PLANS

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9/8/23

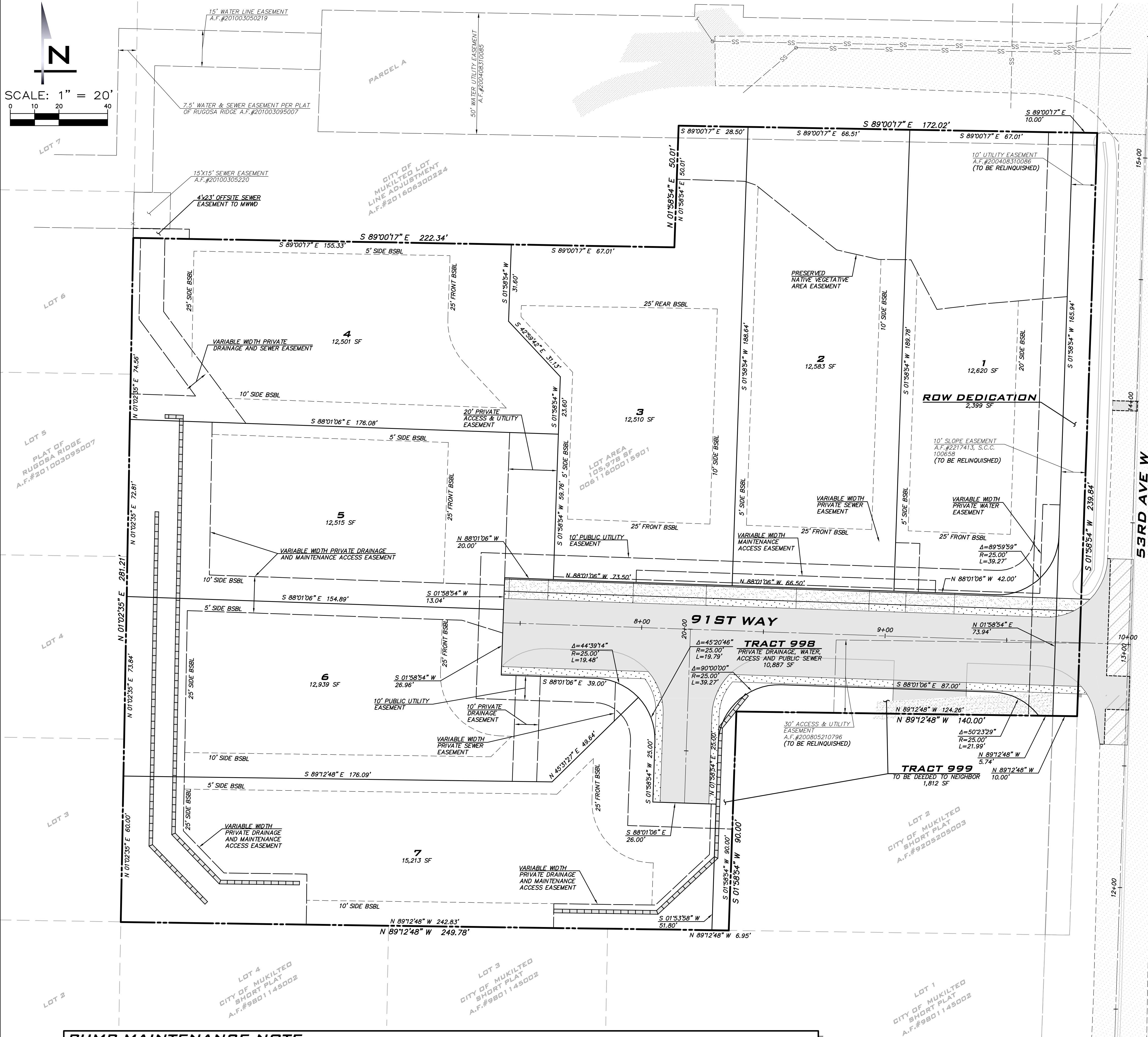
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**21-073**

SHEET NAME:  
**EC-01**

SHT **3** OF **22**

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TRACT 999 COVENANT NOTE

COVENANT SHALL BE PREPARED AT FINAL PLAT TO ALLOW ACCESS FOR PARCEL #00611600015902 DRIVEWAY AND ALLOW ACCESS WITHIN TRACT 999 TO MAINTAIN PROPOSED RETAINING WALL & STORM SYSTEM

DRAINAGE FACILITY MAINTENANCE NOTE

I, THE OWNER AND CONTRACT PURCHASERS OF THE LANDS HEREIN PLATTED (GRANTOR), AGREE THAT THE OBLIGATIONS OF GRANTOR SHALL INURE TO THE BENEFIT OF AND BE BINDING UPON THE HEIRS, SUCCESSORS, AND ASSIGNS. GRANTOR AGREES THAT THIS COVENANT TOUCHES AND CONCERNS THE LAND DESCRIBED HEREIN AND SHALL RUN WITH THE LAND.

GRANTOR BY EXECUTION OF THIS COVENANT ACKNOWLEDGES THAT THE BENEFITS OF THIS COVENANT INURE TO GRANTOR, DOWNSTREAM PROPERTY OWNERS, AND THE GENERAL PUBLIC, AND THAT THE CITY OF MUKILTEO (CITY) AS THIRD-PARTY BENEFICIARY OF THIS COVENANT HAS THE RIGHT, BUT NOT THE OBLIGATION, TO ENFORCE THIS COVENANT ON BEHALF OF DOWNSTREAM PROPERTY OWNERS AND THE GENERAL PUBLIC. CITY REQUIRES THIS COVENANT TO PROTECT PUBLIC AND PRIVATE AND PUBLIC DRAINAGE INFRASTRUCTURE, AND NATURAL RESOURCES OF DOWNSTREAM PROPERTY OWNERS AND THE GENERAL PUBLIC.

GRANTOR, IN CONSIDERATION OF THE APPROVAL OF THIS SUBDIVISION, HEREBY COVENANTS TO PERFORM REGULAR MAINTENANCE UPON THE DRAINAGE FACILITIES INSTALLED, OR TO BE INSTALLED, UPON GRANTOR'S PROPERTY. REGULAR MAINTENANCE SHALL INCLUDE, AT A MINIMUM, ANNUAL INSPECTION OF THE STORMWATER DRAINAGE SYSTEM, AS APPLICABLE, THE SYSTEM SHALL INCLUDE THE STORMWATER CONVEYANCE SYSTEM PIPES, DITCHES, SWALES, AND CATCH BASINS; STORMWATER FLOW REGULATION SYSTEM DETENTION PONDS, VAULTS, PIPES, RETENTION PONDS, FLOW REGULATION AND CONTROL STRUCTURES; INFILTRATION SYSTEMS AND WATER QUALITY CONTROL SYSTEM.

THE SCOPE OF THIS COVENANT AND RIGHT OF ENTRY SHALL BE ADEQUATE TO PROVIDE FOR THE ACCESS, INSPECTION, AND MAINTENANCE OF THE STORMWATER DRAINAGE SYSTEM, AND SHALL BE SUBJECT TO THE FOLLOWING TERMS AND CONDITIONS:

- CITY SHALL HAVE THE PERPETUAL RIGHT OF ENTRY ACROSS ADJACENT LANDS OF THE GRANTOR FOR PURPOSES OF INSPECTING, AUDITING OR CONDUCTING REQUIRED MAINTENANCE OF THE DRAINAGE FACILITY.
- IF CITY INSPECTION DETERMINES THAT MAINTENANCE IS NOT BEING PERFORMED, CITY SHALL ENDEAVOR TO PROVIDE GRANTOR REASONABLE ADVANCE NOTIFICATION OF THE NEED TO PERFORM THE MAINTENANCE AND A REASONABLE OPPORTUNITY FOR GRANTOR TO PERFORM IT. IN THE EVENT THAT GRANTOR FAILS TO COMPLETE THE REQUIRED MAINTENANCE WITHIN A REASONABLE TIME PERIOD, CITY SHALL HAVE THE RIGHT TO PERFORM OR CONTRACT WITH OTHERS TO PERFORM IT AT THE SOLE EXPENSE OF THE GRANTOR. IF CITY IN ITS SOLE DISCRETION DETERMINES THAT AN IMMINENT OR PRESENT DANGER EXISTS, REQUIRED MAINTENANCE AND/OR REPAIR MAY BEGIN IMMEDIATELY AT GRANTOR'S EXPENSE WITHOUT PRIOR NOTICE TO GRANTOR. IN SUCH EVENT, CITY SHALL PROVIDE GRANTOR WITH A WRITTEN STATEMENT AND ACCOUNTING OF ALL WORK PERFORMED AND THE FEES, CHARGES, AND EXPENSES INCURRED IN MAKING SUCH REPAIRS. GRANTOR SHALL AGREE TO REIMBURSE CITY OR PAY CITY'S VENDORS DIRECTLY FOR ALL REASONABLE FEES, CHARGES, AND EXPENSES IDENTIFIED IN CITY'S STATEMENT.
- IF CITY IS REQUIRED TO ACT AS A RESULT OF GRANTOR'S FAILURE TO COMPLY WITH THIS COVENANT, CITY MAY REMOVE ANY OBSTRUCTIONS AND/OR INTERFERENCES THAT IN THE SOLE OPINION OF COUNTY IMPAIR THE OPERATION OF THE DRAINAGE FACILITY OR THE MAINTENANCE THEREOF. GRANTOR AGREES TO HOLD CITY, ITS OFFICERS, EMPLOYEES, AND AGENTS HARMLESS FROM ANY AND ALL CLAIMS, ACTIONS, SUITS, LIABILITY, LOSS, EXPENSES, DAMAGES AND JUDGMENTS OF ANY NATURE WHATSOEVER, INCLUDING COSTS AND ATTORNEY'S FEES, INCURRED BY THE REMOVAL OF VEGETATION OR PHYSICAL INTERFERENCE FROM THE DRAINAGE FACILITY.
- WHEN EXERCISING THE MAINTENANCE PROVISIONS OF THE COVENANT, IN THE EVENT OF NONPAYMENT, CITY MAY BRING SUIT TO RECOVER SUCH COSTS INCLUDING ATTORNEY'S FEES, AND UPON OBTAINING JUDGMENT, SUCH AMOUNT SHALL BECOME A LIEN AGAINST THE PROPERTY OF GRANTOR AS PROVIDED IN RCW 4.56.190.
- GRANTOR COVENANTS THAT ALL OF THE OWNERS, CONTRACT PURCHASERS AND LIEN HOLDERS OF THE PROPERTY DESCRIBED HEREIN HAVE SIGNED THE DEDICATION AND/OR DECLARATION OF THIS SUBDIVISION, THAT THEY HAVE THE RIGHT TO GRANT THIS COVENANT ON THE PROPERTY, AND THAT THE TITLE TO THE PROPERTY IS FREE AND CLEAR OF ANY ENCUMBRANCES WHICH WOULD INTERFERE WITH THE ABILITY TO GRANT THIS COVENANT.

DRAFT EASEMENT LANGUAGE

SUBJECT TO A PRIVATE WATER EASEMENT FOR THE PURPOSES SHOWN THEREIN AND RIGHTS INCIDENTAL THERETO, AS GRANTED IN A DOCUMENT RECORDED UNDER SNOHOMISH COUNTY AUDITOR'S FILE NUMBER \_\_\_\_\_ (SHOWN ON MAP).

SUBJECT TO A PRIVATE SEWER EASEMENT FOR THE PURPOSE SHOWN THEREIN AND RIGHTS INCIDENTAL THERETO, AS GRANTED IN A DOCUMENT RECORDED UNDER SNOHOMISH COUNTY AUDITOR'S FILE NUMBER \_\_\_\_\_ (SHOWN ON MAP).

SUBJECT TO A PUBLIC MAINTENANCE ACCESS EASEMENT FOR THE PURPOSE SHOWN THEREIN AND RIGHTS INCIDENTAL THERETO, AS GRANTED IN A DOCUMENT RECORDED UNDER SNOHOMISH COUNTY AUDITOR'S FILE NUMBER \_\_\_\_\_ (SHOWN ON MAP).

SUBJECT TO A PRIVATE ACCESS & UTILITY EASEMENT FOR THE PURPOSE SHOWN THEREIN AND RIGHTS INCIDENTAL THERETO, AS GRANTED IN A DOCUMENT RECORDED UNDER SNOHOMISH COUNTY AUDITOR'S FILE NUMBER \_\_\_\_\_ (SHOWN ON MAP).

SUBJECT TO A PRIVATE DRAINAGE AND MAINTENANCE ACCESS EASEMENT FOR THE PURPOSE SHOWN THEREIN AND RIGHTS INCIDENTAL THERETO, AS GRANTED IN A DOCUMENT RECORDED UNDER SNOHOMISH COUNTY AUDITOR'S FILE NUMBER \_\_\_\_\_ (SHOWN ON MAP).

SUBJECT TO A PRIVATE EXISTING DRIVEWAY EASEMENT FOR THE PURPOSE SHOWN THEREIN AND RIGHTS INCIDENTAL THERETO, AS GRANTED IN A DOCUMENT RECORDED UNDER SNOHOMISH COUNTY AUDITOR'S FILE NUMBER \_\_\_\_\_ (SHOWN ON MAP).

SUBJECT TO A PUBLIC UNDERGROUND AND/OR OVERHEAD ELECTRIC TRANSMISSION AND/OR DISTRIBUTION SYSTEM EASEMENT FOR THE PURPOSE SHOWN THEREIN AND RIGHTS INCIDENTAL THERETO, AS GRANTED IN A DOCUMENT RECORDED UNDER SNOHOMISH COUNTY AUDITOR'S FILE NUMBER \_\_\_\_\_ (SHOWN ON MAP).

SUBJECT TO A NATIVE GROWTH PROTECTION EASEMENT FOR THE PURPOSE SHOWN THEREIN AND RIGHTS INCIDENTAL THERETO, AS GRANTED IN A DOCUMENT RECORDED UNDER SNOHOMISH COUNTY AUDITOR'S FILE NUMBER \_\_\_\_\_ (SHOWN ON MAP).

EXISTING UTILITY NOTE

EXISTING UTILITIES ARE SHOWN IN THE APPROXIMATE LOCATION. THERE IS NO GUARANTEE THAT ALL UTILITY LINES ARE SHOWN, OR THAT THE LOCATION, SIZE AND MATERIAL IS ACCURATE. THE CONTRACTOR SHALL UNCOVER ALL INDICATED PIPING WHERE CROSSING, INTERFERENCES, OR CONNECTIONS OCCUR PRIOR TO TRENCHING OR EXCAVATION FOR ANY PIPE OR STRUCTURES, TO DETERMINE ACTUAL LOCATIONS, SIZE AND MATERIAL. THE CONTRACTOR SHALL MAKE THE APPROPRIATE PROVISION FOR PROTECTION OF SAID FACILITIES. THE CONTRACTOR SHALL NOTIFY THE CITY OF MUKILTEO (CITY) (WWW.MUKILTEO.COM) AND ARRANGE FOR FIELD LOCATION OF EXISTING FACILITIES BEFORE CONSTRUCTION.

PUMP MAINTENANCE NOTE

HOMEOWNERS ASSOCIATION (HOA) WILL BE RESPONSIBLE TO MAINTAIN/REPAIR THE PUMP. EASEMENTS AS DESCRIBED BELOW SHALL BE PROVIDED TO MAINTAIN/REPAIR THE PUMP. MAINTENANCE COVENANT SHALL BE PROVIDED TO HOLD HOA RESPONSIBLE TO MAINTAIN/REPAIR THE PUMP (CITY ATTORNEY TO CONFIRM DOCUMENTATION REQUIRED TO HOLD HOA RESPONSIBLE). SUBJECT EASEMENTS AND COVENANTS SHALL BE RECORDED WITH THE FINAL PLAT MAP AND CC&R'S.

SUBJECT PLAT IS PROVIDING A VARIABLE WIDTH PRIVATE DRAINAGE AND MAINTENANCE ACCESS EASEMENT BETWEEN LOT 5 & 6 AND ALONG THE WEST PORTION OF LOTS 4-7 TO ALLOW ACCESS TO INSPECT/MAINTAIN PUMP AS NECESSARY. PERSONNEL TO INSPECT/MAINTAIN PUMP WILL ACCESS THE VARIABLE WIDTH PRIVATE DRAINAGE AND MAINTENANCE ACCESS EASEMENT FROM TRACT 998, CONTINUE WEST ALONG LOT 5 & 6 SHARED PROPERTY LINE, TRAVEL NORTH TOWARDS LOT 4 TO PROCEED AROUND RETAINING WALLS, AND TRAVEL SOUTH TO THE PUMP STATION.



ATWELL

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AS NOTED

PROJECT MANAGER:

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PROJECT ENGINEER:

LUCAS ZIROTTI

DESIGNER:

LEE M. TOMKINS

ISSUE DATE:

9/8/2023

REVISIONS

NO

DATE

BY

REVISIONS PER CITY 1ST ROUND COMMENTS

REVISIONS PER CITY 2ND ROUND COMMENTS

REVISIONS PER CITY 3RD ROUND COMMENTS

REVISIONS PER CITY 4TH ROUND COMMENTS

REVISIONS PER CITY 5TH ROUND COMMENTS

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REVISIONS PER CITY 35TH ROUND COMMENTS

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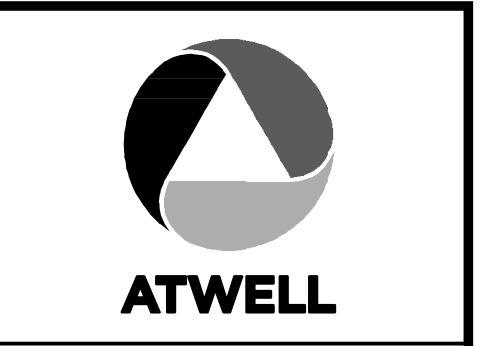
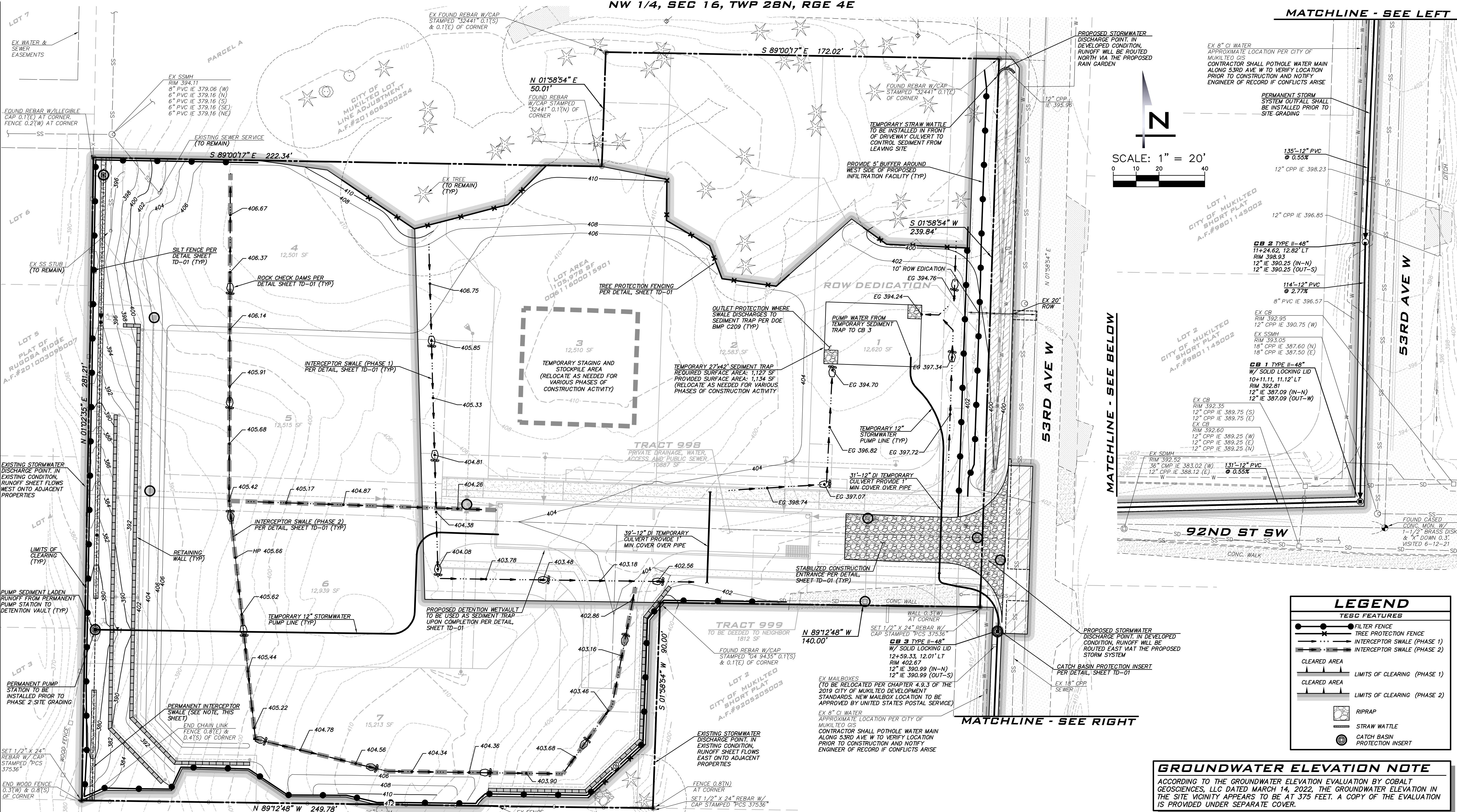
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REVISIONS PER CITY 187TH ROUND COMMENTS

REVISIONS PER CITY 188TH ROUND COMMENTS

REVISIONS PER CITY 189TH ROUND COMMENTS





25 CENTRAL WAY, SUITE 400,  
KIRKLAND, WA 98033  
P: 425.216.4051 F: 425.216.4052  
WWW.ATWELL-GROUP.COM

SCALE:  
AS NOTED

PROJECT MANAGER:  
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PROJECT ENGINEER:  
LUCAS ZIROTTI

DESIGNER:  
LEE M. TOMKINS

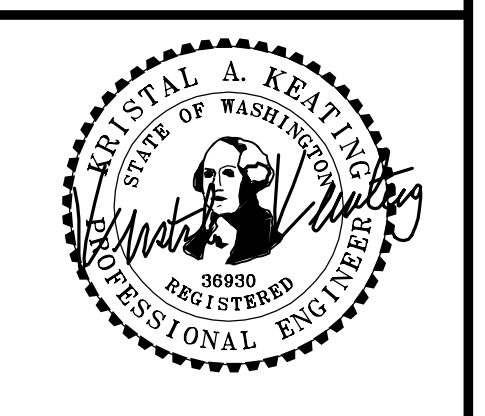
ISSUE DATE:  
9/8/2023

NO	DATE	BY	REVISIONS
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2	4/29/23	LMT	REVISIONS PER CITY 2ND ROUND COMMENTS
3	9/8/23	LMT	REVISIONS PER CITY 3RD ROUND COMMENTS

TESC PLAN

HARBOR GROVE  
CIVIL PLANS

9110 53RD AVE W  
SNOHOMISH COUNTY WASHINGTON



9/8/23

JOB NUMBER:  
21-073

SHEET NAME:  
TP-01

SHT 5 OF 22

**GROUNDWATER ELEVATION NOTE**

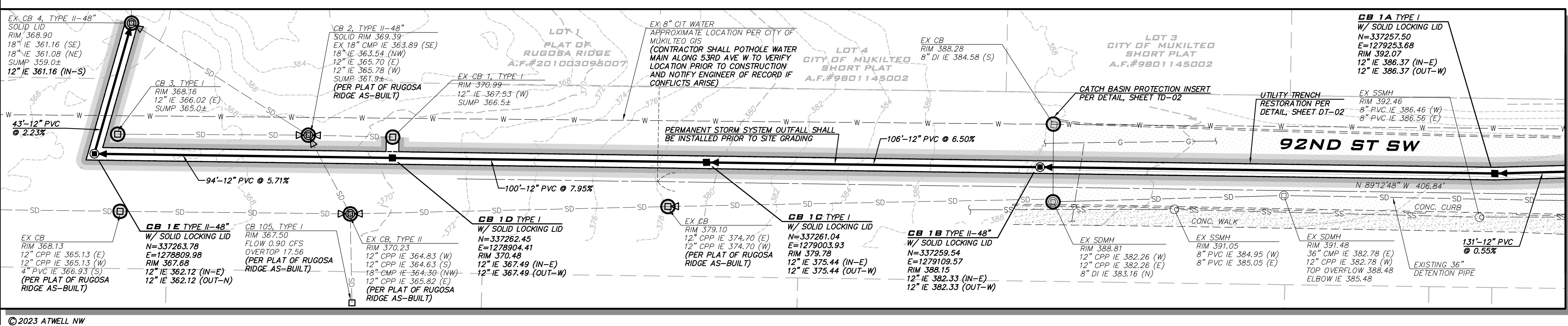
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**PERMANENT INTERCEPTOR SWALE NOTE**

- INSTALL PERMANENT PUMP STATION AND PERMANENT INTERCEPTOR SWALE AS SHOWN PRIOR TO CLEARING AND GRADING WITHIN PHASE 2 CLEARING LIMITS.
- PERMANENT INTERCEPTOR SWALE SHALL COLLECT AND ROUTE SEDIMENT LADEN RUNOFF TO PUMP STATION. PUMP STATION UTILIZED TO SEND SEDIMENT LADEN RUNOFF TO DETENTION VAULT.
- FRENCH DRAIN BENEATH SWALE SHALL NOT BE INSTALLED AND BROUGHT ONLINE UNTIL SITE IMPROVEMENTS ARE COMPLETED, SITE IS STABILIZED, AND RUNOFF IS CLEAR.

**EXISTING UTILITY NOTE**

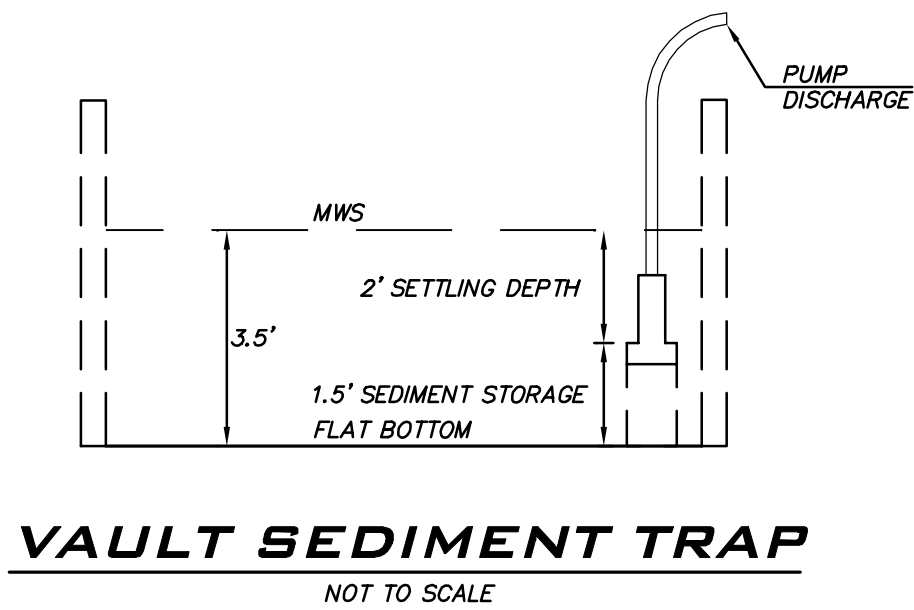
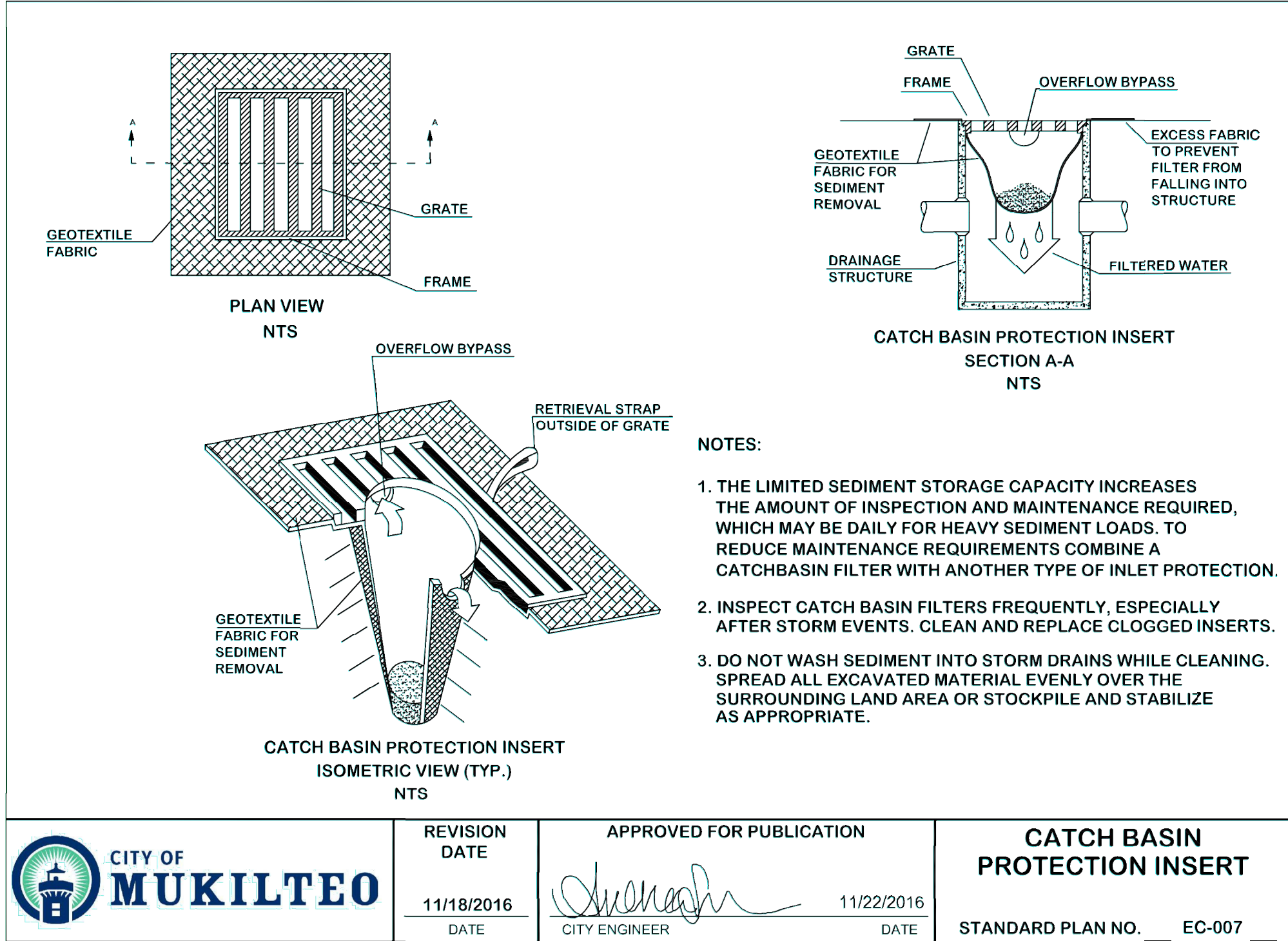
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**ATWELL**

25 CENTRAL WAY, SUITE 400,  
KIRKLAND, WA 98033  
P: 425.216.4051 F: 425.216.4052  
WWW.ATWELL-GROUP.COM

SCALE:  
AS NOTED

PROJECT MANAGER:  
T.C. COLLERAN, PLA, AICP

PROJECT ENGINEER:  
LUCAS ZIROTTI

DESIGNER:  
LEE M. TOMKINS

ISSUE DATE:  
9/8/2023

NO	DATE	BY	REVISIONS		
			REVISIONS PER CITY 1ST ROUND COMMENTS	REVISIONS PER CITY 2ND ROUND COMMENTS	REVISIONS PER CITY 3RD ROUND COMMENTS
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2	4/21/23	LMT			
3	9/8/23	LMT			

**TESC NOTES & DETAILS**

**HARBOR GROVE**

**CIVIL PLANS**

9110 53RD AVE W

SNODOMISH COUNTY

WASHINGTON

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9/8/23

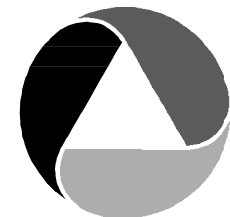
JOB NUMBER:  
**21-073**

SHEET NAME:  
**TD-02**

SHT **7** OF **22**



NW 1/4, SEC 16, TWP 28N, RGE 4E



ATWELL

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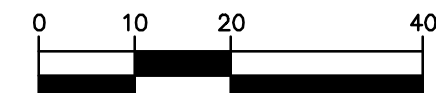
LEE M. TOMKINS

ISSUE DATE:

9/8/2023



SCALE: 1" = 20'



REVISIONS

REVISIONS PER CITY 1ST ROUND COMMENTS

REVISIONS PER CITY 2ND ROUND COMMENTS

REVISIONS PER CITY 3RD ROUND COMMENTS

NO

DATE

BY

1

8/9/23

LCZ

2

4/29/23

LMT

3

9/8/23

LMT

HORIZONTAL CONTROL PLAN

HARBOR GROVE

CIVIL PLANS

9110 53RD AVE W

SNOHOMISH COUNTY

WASHINGTON



9/8/23

JOB NUMBER:

21-073

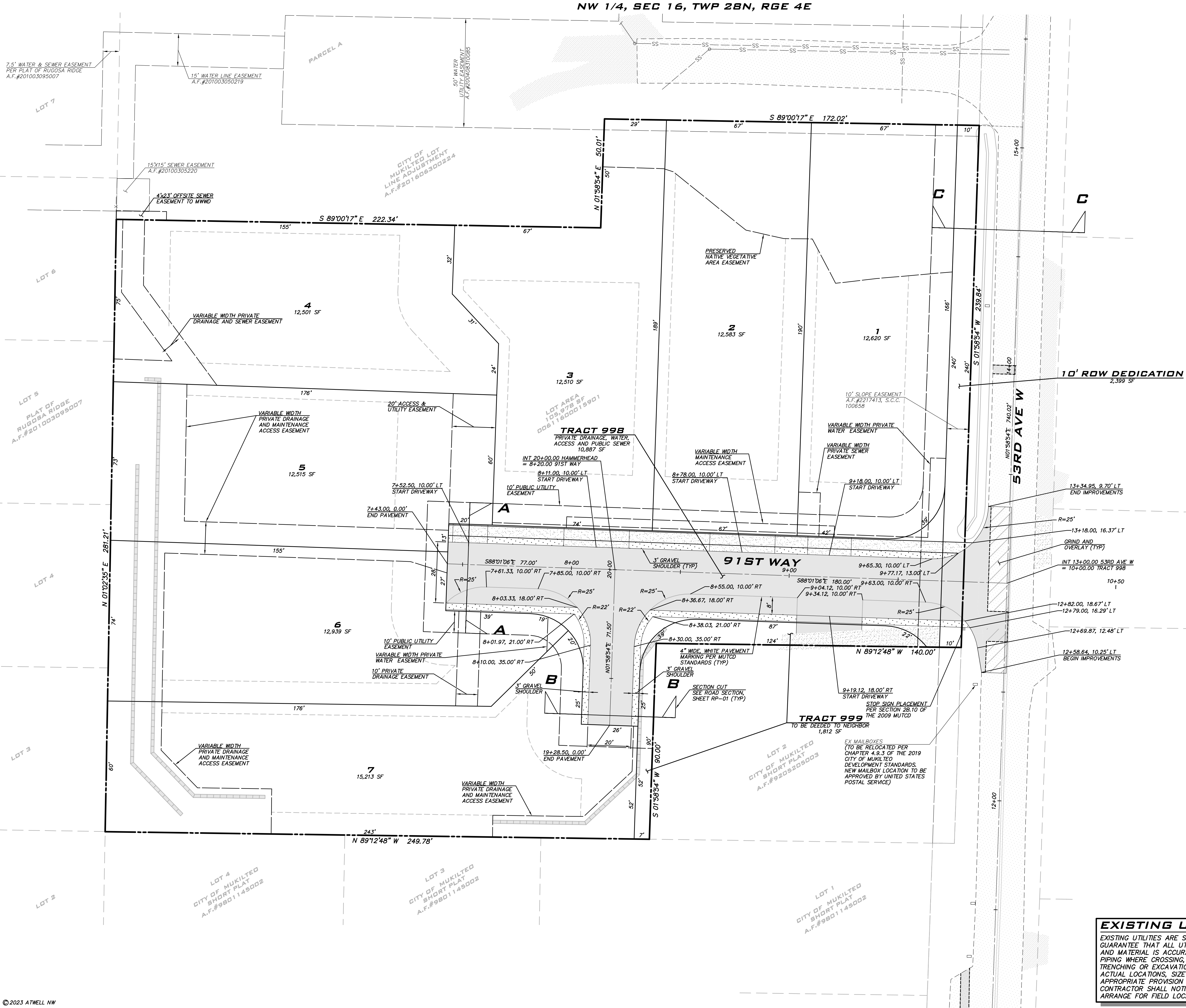
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HC-01

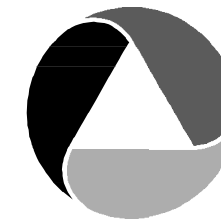
SHT 8 OF 22

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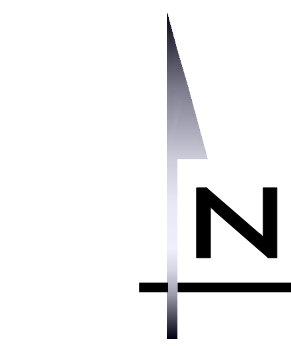
LUCAS ZIOTTI

DESIGNER:

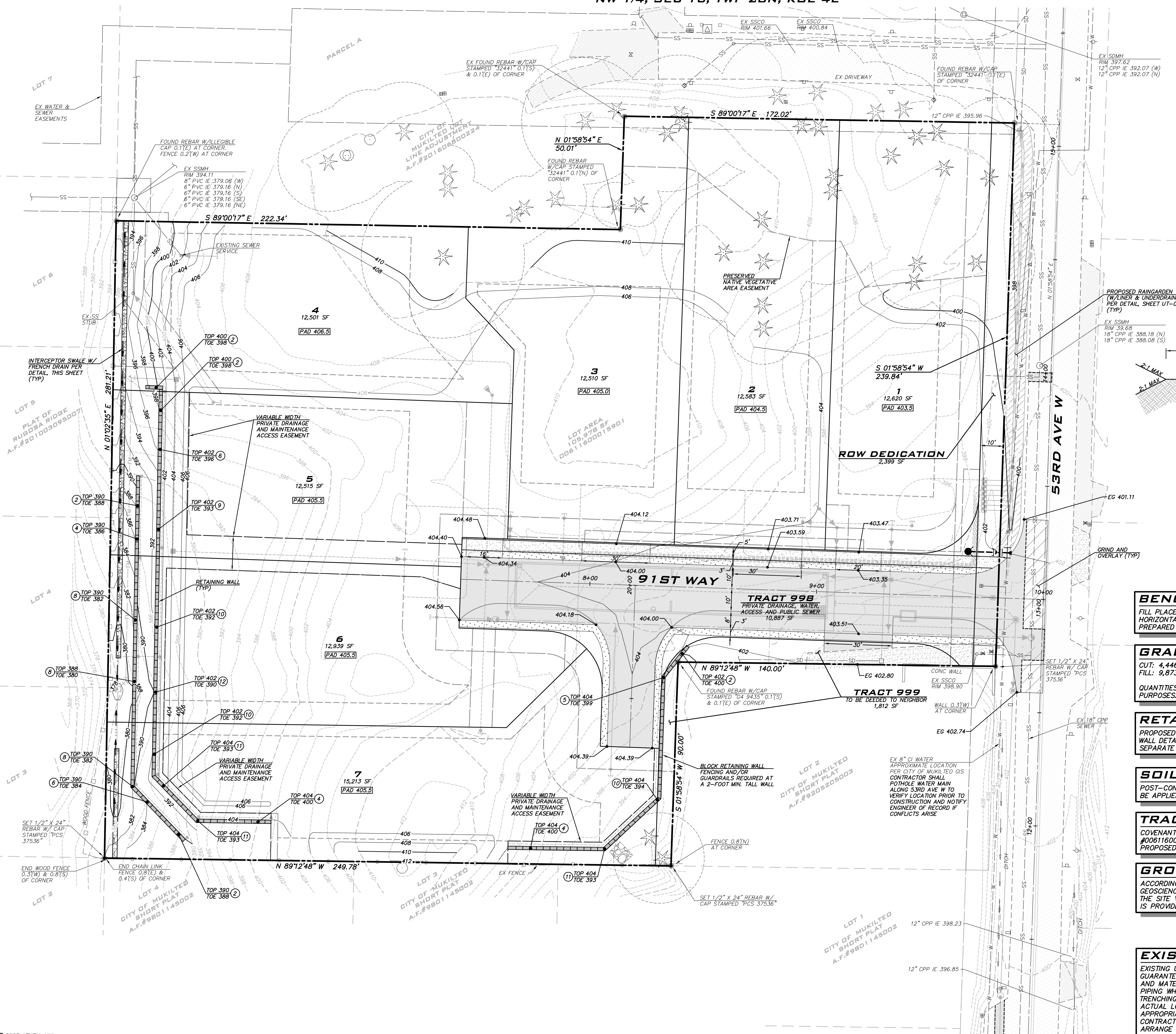
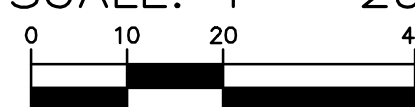
LEE M. TOMKINS

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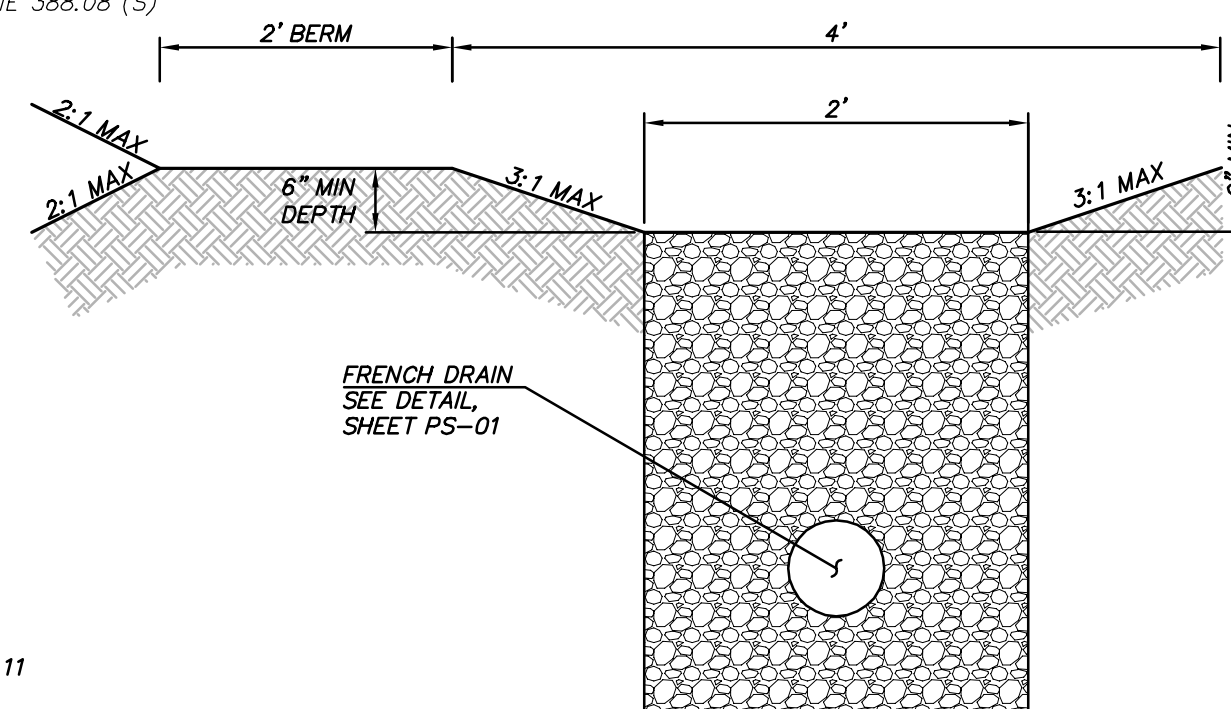


SCALE: 1" = 20'



PROPOSED RAINGARDEN  
(W/LINER & UNDERDRAIN)  
PER DETAIL, SHEET UT-01  
(TYP)

EX SSMH  
RIM 397.62  
12" CPP IE 392.07 (W)  
12" CPP IE 392.07 (N)



**INTERCEPTOR SWALE  
W/ FRENCH DRAIN**

NOT TO SCALE

**BENCHING NOTES**

FILL PLACED ON EXISTING SLOPES EXCEEDING 20% SHALL BE PLACED IN HORIZONTAL LIFTS ON BENCHES CUT INTO THE SLOPES. BENCHING DETAILS TO BE PREPARED BY EARTH SOLUTIONS NW, LLC PROVIDED UNDER SEPARATE COVER.

**GRADING QUANTITIES**

CUT: 4,446 CY (INCLUDING 1,051 CY FROM VAULT EXCAVATION)  
FILL: 9,873 CY

QUANTITIES ARE APPROXIMATE AND SHALL NOT BE USED FOR CONTRACTUAL PURPOSES.

**RETAINING WALL NOTE**

PROPOSED ONSITE RETAINING WALLS TO BE LOCK & LOAD DESIGNED BY OTHERS. WALL DETAILS TO BE PREPARED BY EARTH SOLUTIONS NW, LLC PROVIDED UNDER SEPARATE COVER.

**SOIL AMENDMENT NOTE**

POST-CONSTRUCTION SOIL QUALITY DEPTH PER DETAIL ON SHEET DT-03 SHALL BE APPLIED TO ALL NEW/REPLACED LAWN AND LANDSCAPED SURFACES.

**TRACT 999 COVENANT NOTE**

COVENANT SHALL BE PREPARED AT FINAL PLAT TO ALLOW ACCESS FOR PARCEL #00611600015902 DRIVEWAY AND ALLOW ACCESS WITHIN TRACT 999 TO MAINTAIN PROPOSED RETAINING WALL & STORM SYSTEM

**GROUNDWATER ELEVATION NOTE**

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GRADING PLAN

HARBOR GROVE

CIVIL PLANS

9110 53RD AVE W

SNOHOMISH COUNTY

WASHINGTON



9/8/23

JOB NUMBER:

21-073

SHEET NAME:

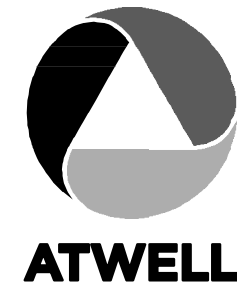
GP-01

SHT 9 OF 22









25 CENTRAL WAY, SUITE 400,  
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SCALE:  
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PROJECT ENGINEER:  
LUCAS ZIROTTI

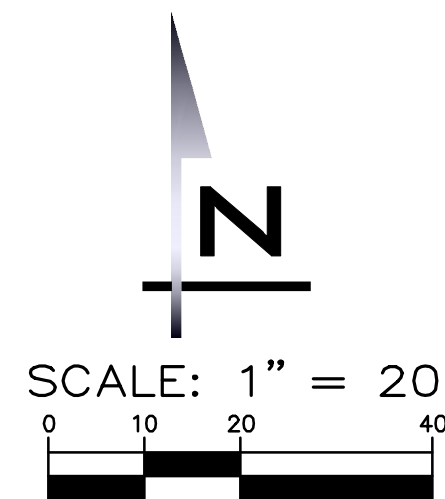
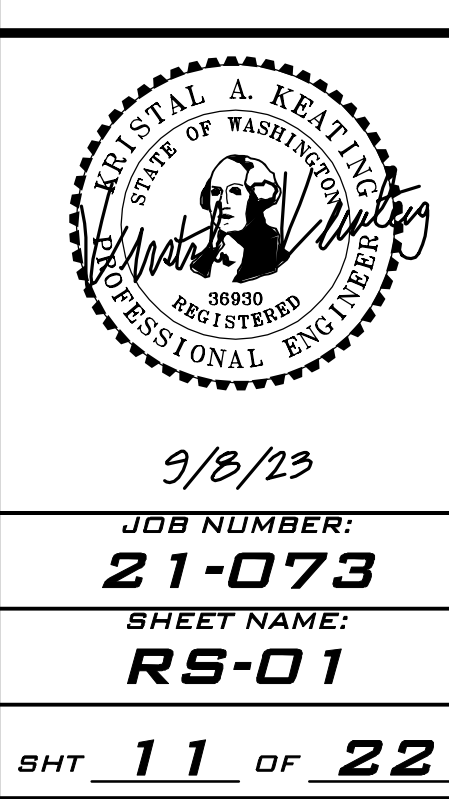
DESIGNER:  
LEE M. TOMKINS

ISSUE DATE:  
9/8/2023

NO	DATE	BY	REVISIONS
1	8/9/22	CCZ	REVISIONS PER CITY 1ST ROUND COMMENTS
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ROAD & STORM PLAN  
HARBOR GROVE  
CIVIL PLANS  
9110 53RD AVE W  
SNOHOMISH COUNTY

9/8/23  
JOB NUMBER:  
**21-073**  
SHEET NAME:  
**RS-01**  
SHT 11 OF 22



EXISTING 8" CI WATER (APPROXIMATE LOCATION PER CITY OF MUKILTEO GIS). CONTRACTOR SHALL POTHOLE WATER MAIN ALONG 53RD AVE W TO VERIFY LOCATION PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER OF RECORD IF CONFLICTS ARISE

MATCHLINE - SEE BELOW

MATCHLINE - SEE RIGHT

### PUMP STATION NOTES

CONTROL PANEL AND POWER SOURCE PER MANUFACTURER'S RECOMMENDATIONS (DESIGN BY OTHERS).

PROVIDE EXTERNAL VISUAL AND AUDIBLE ALARM SYSTEM NEAR PRIVATE ACCESS ROAD VISIBLE TO MAJORITY OF PROPERTY OWNERS.

### GROUNDWATER ELEVATION NOTE

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### SDCO/YARD DRAIN NOTE

ALL YARD DRAINS AND SDCO INSTALLED IN ANY DRIVEWAY OR ROAD AREAS SHALL BE INSTALLED WITH TRAFFIC RATED LIDS. DETAILS PROVIDED ON DT-02.

### LOT HARD SURFACE NOTE

HARD SURFACE IS DEFINED AS AN IMPERVIOUS SURFACE, A PERMEABLE PAVEMENT, A DECK OR A VEGETATED ROOF. THE MAXIMUM HARD SURFACE ALLOWED FOR EACH LOT IS AS FOLLOWS:

LOT 1: 4,038 SF  
LOT 2: 4,057 SF  
LOT 3: 3,973 SF  
LOT 4: 4,000 SF  
LOT 5: 4,005 SF  
LOT 6: 4,140 SF  
LOT 7: 4,868 SF  
TOTAL: 29,081

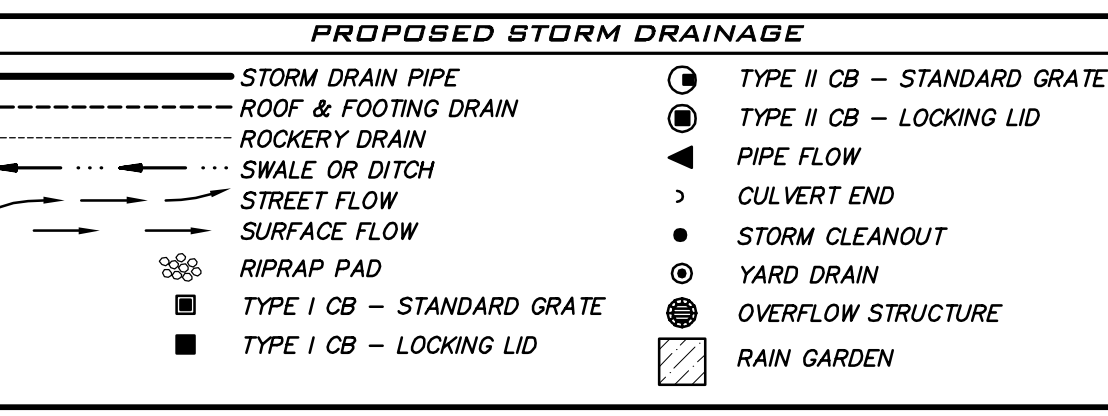
NO ADDITIONAL HARD SURFACE IS ALLOWED FOR THESE LOTS OR THE PLAT WITHOUT ADDITIONAL STORMWATER MITIGATION.

### FOOTING DRAIN NOTE

FOOTING DRAINS THAT DRAIN TO STORMWATER DETENTION SYSTEM SHALL BE INSTALLED AT ELEVATION 400.40 OR HIGHER.

### EXISTING UTILITY NOTE

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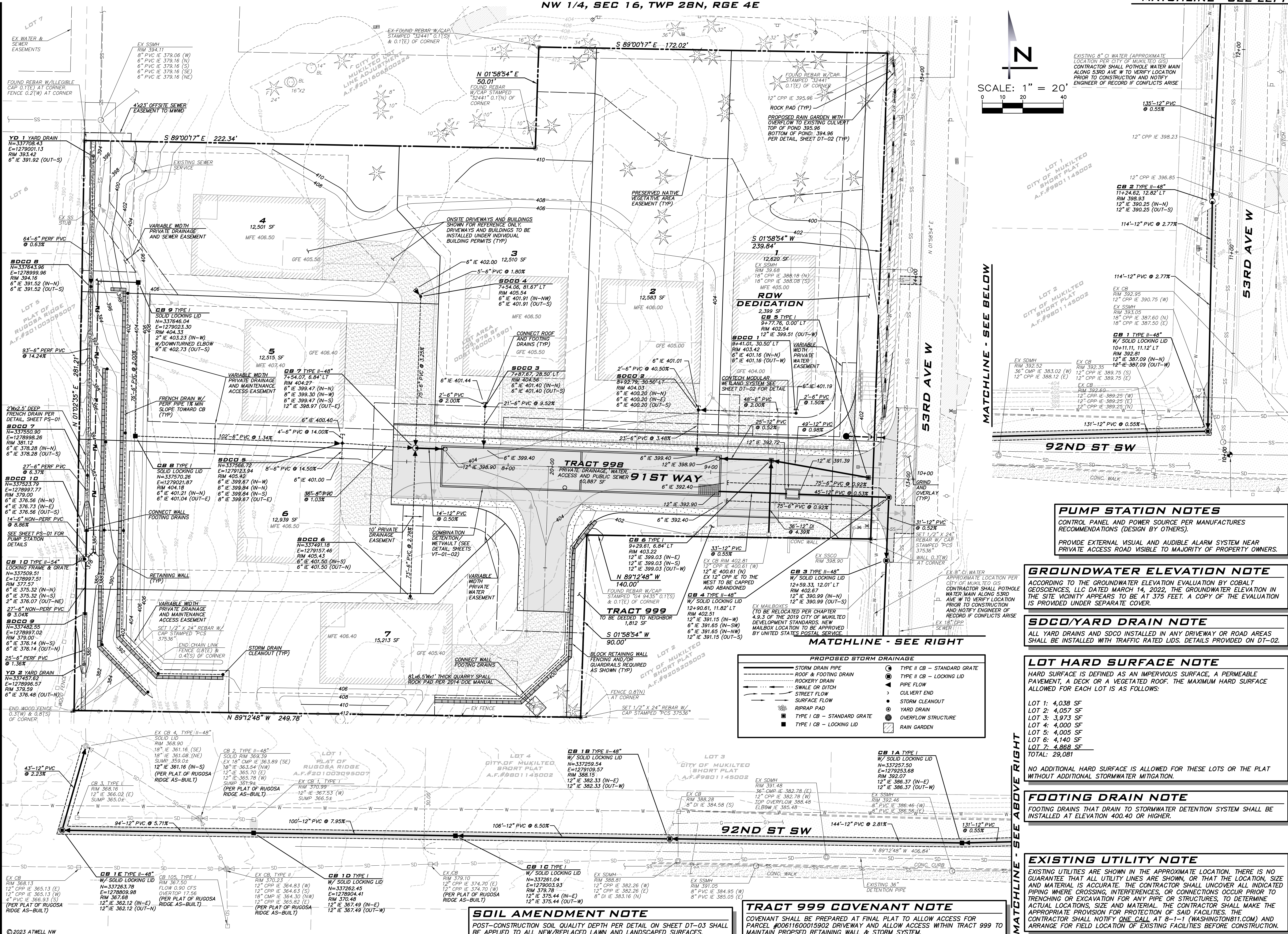


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### SOIL AMENDMENT NOTE

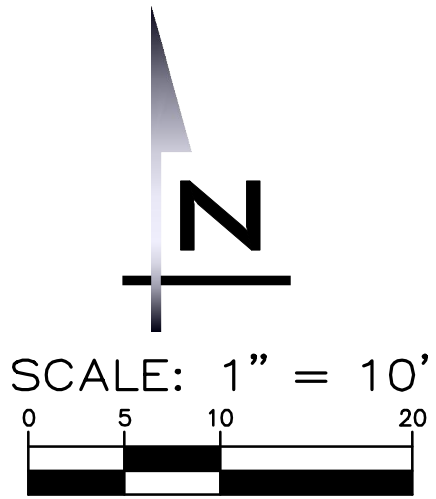
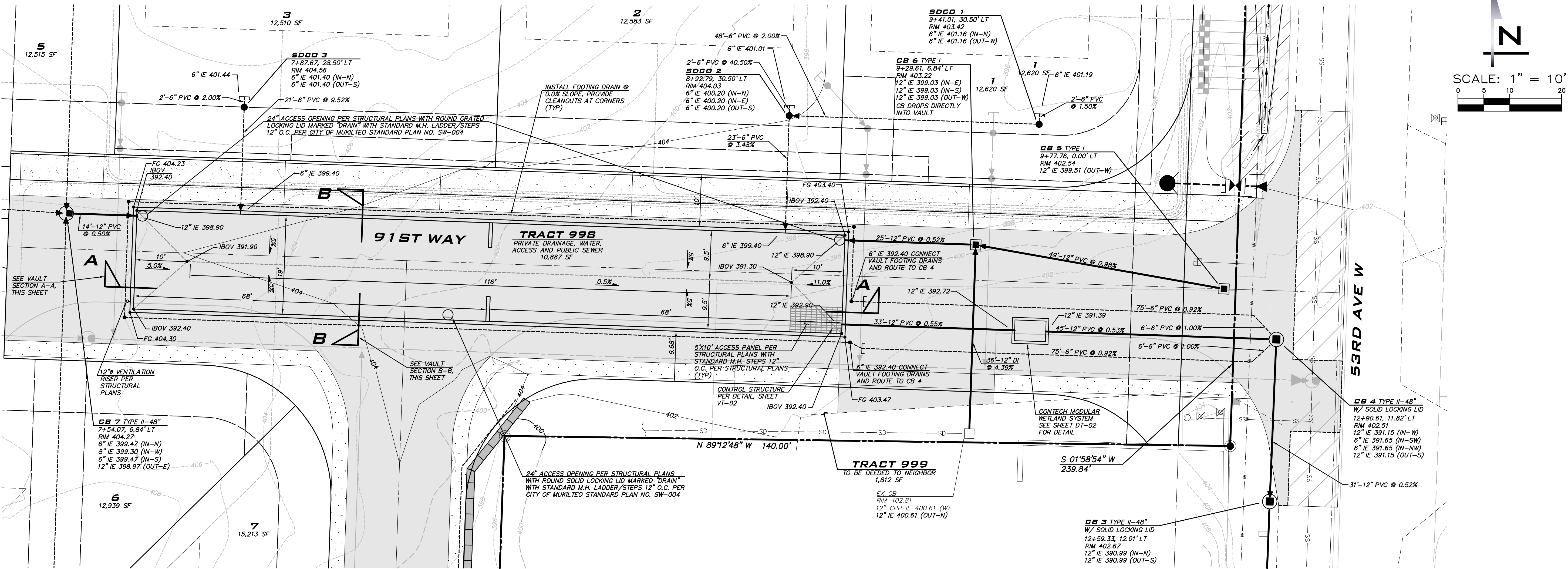
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VAULT PLANS & SECTIONS

**HARBOR GROVE**

CIVIL PLANS

9110 53RD AVE W

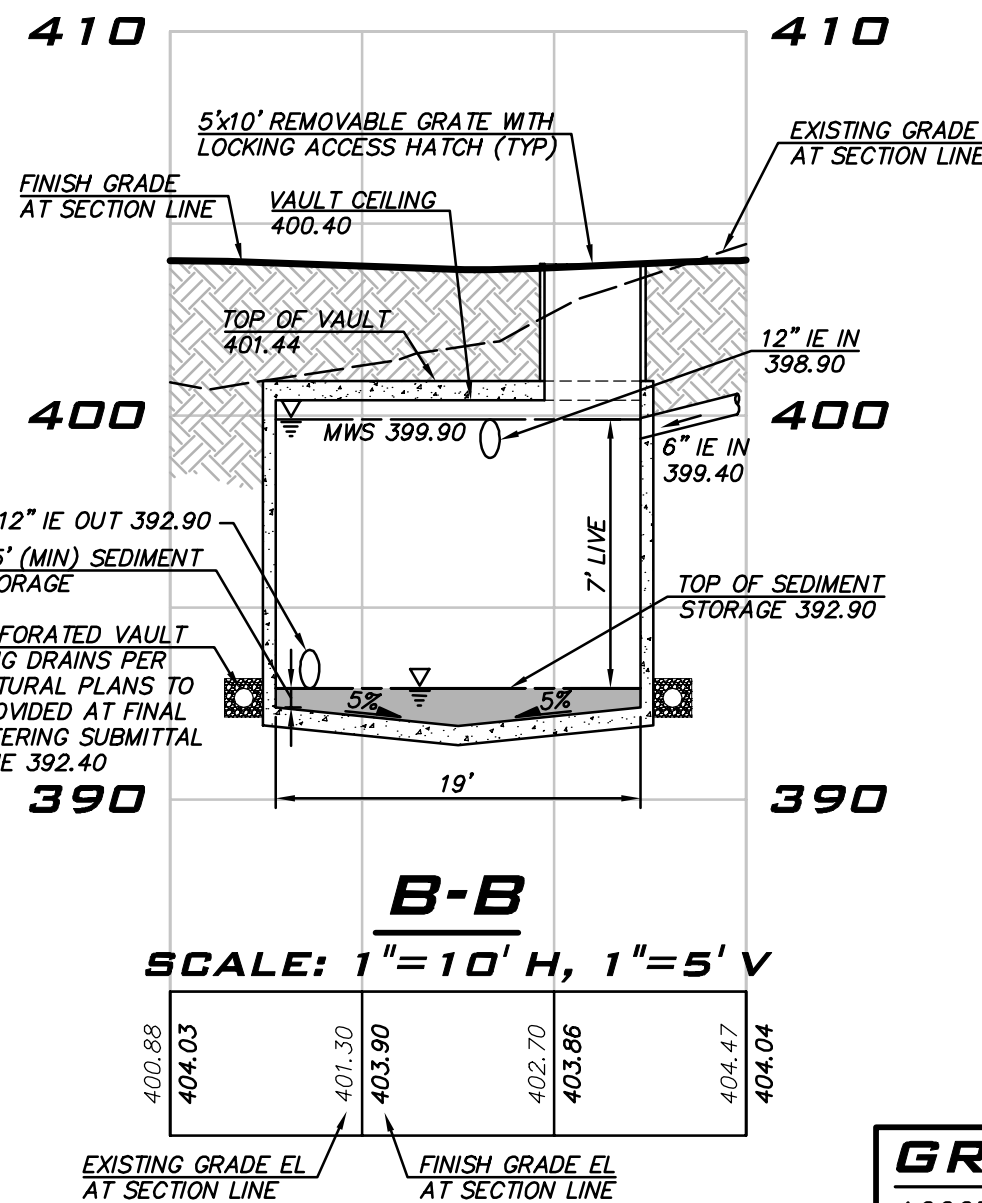
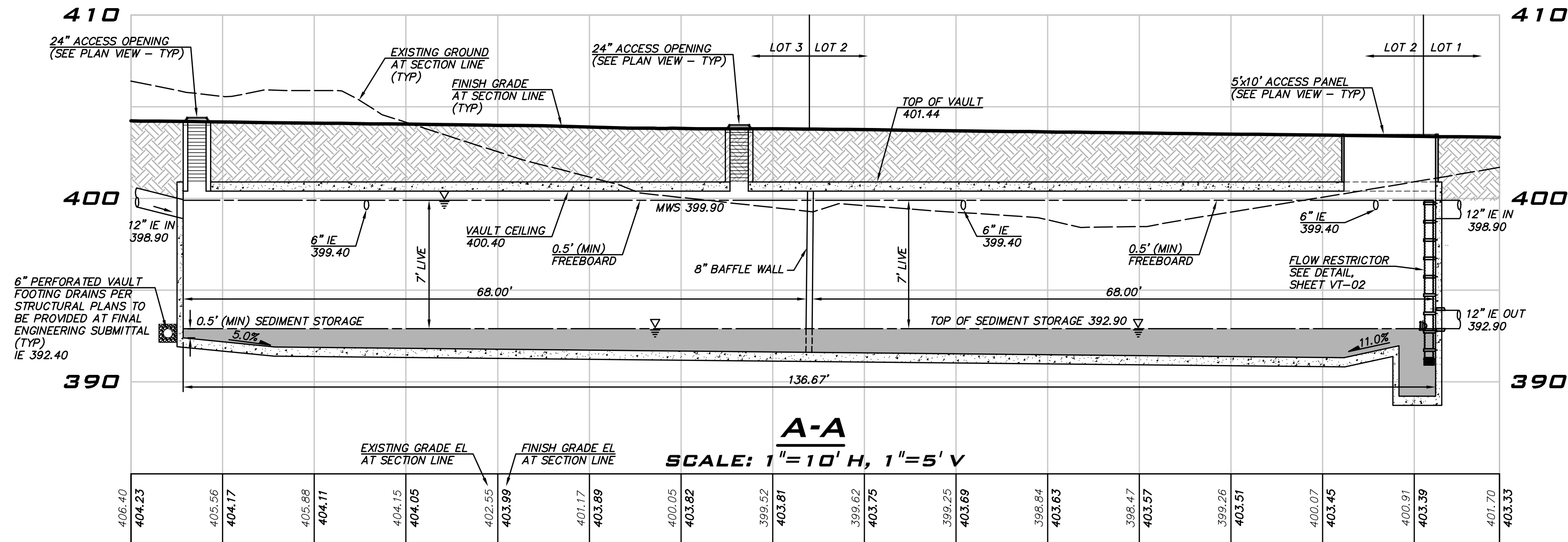
SNODOMISH COUNTY WASHINGTON

9/8/23

JOB NUMBER:  
**21-073**

SHEET NAME:  
**VT-01**

SHT **13** OF **22**



**GROUNDWATER ELEVATION NOTE**

ACCORDING TO THE GROUNDWATER ELEVATION EVALUATION BY COBALT GEOSCIENCES, LLC DATED MARCH 14, 2022, THE GROUNDWATER ELEVATION IN THE SITE VICINITY APPEARS TO BE AT 375 FEET. A COPY OF THE EVALUATION IS PROVIDED UNDER SEPARATE COVER.

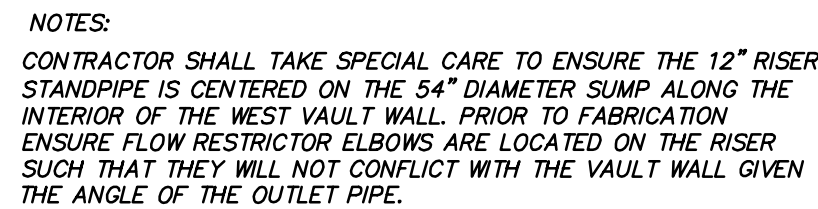
VAULT VOLUMES			
	REQ'D	PROVIDED	ASBUILT
LIVE	17,080	18,088	XX,XXX
DEAD	3,946	4,256	X,XXX

**EXISTING UTILITY NOTE**

EXISTING UTILITIES ARE SHOWN IN THE APPROXIMATE LOCATION. THERE IS NO GUARANTEE THAT ALL UTILITY LINES ARE SHOWN, OR THAT THE LOCATION, SIZE AND MATERIAL IS ACCURATE. THE CONTRACTOR SHALL UNCOVER ALL INDICATED PIPING WHERE CROSSING, INTERFERENCES, OR CONNECTIONS OCCUR PRIOR TO TRENCHING OR EXCAVATION FOR ANY PIPE OR STRUCTURES, TO DETERMINE ACTUAL LOCATIONS, SIZE AND MATERIAL. THE CONTRACTOR SHALL MAKE THE APPROPRIATE PROVISION FOR PROTECTION OF SAID FACILITIES. THE CONTRACTOR SHALL NOTIFY ONE CALL AT 8-1-1 (WASHINGTON11.COM) AND ARRANGE FOR FIELD LOCATION OF EXISTING FACILITIES BEFORE CONSTRUCTION.

VAULT INFO	
FG OVER VAULT:	403.40 (MIN) 404.30 (MAX)
MAX WATER SURFACE:	399.90
BOTTOM OF LIVE:	392.90
BOTTOM OF DEAD:	388.90





SCALE: 1" = 2'

1. DIMENSIONS DETERMINING OVERALL SIZE OF VAULT ARE FOR REFERENCE ONLY. SEE STRUCTURAL PLANS FOR TOTAL LENGTH, WIDTH, HEIGHT AND WALL THICKNESS DESIGN, AS WELL AS LOCATIONS FOR ALL MAINTENANCE ACCESS POINTS AND PROPOSED PENETRATIONS.
2. JOINTS AND PENETRATIONS IN VAULT AND LID TO BE WATER TIGHT. PROVIDE WATERSTOPS IN CEMENTS.
3. ALL WATERSTOPS TO BE INSTALLED PER PLAN AND SPECIFICATION AND TO BE INSPECTED BY CITY.
4. PIPES SEALED WITH GROUT.
5. VENTILATION PIPES (MIN 12 INCH DIAMETER) PROVIDED AT CORNERS. VENT PIPE SHALL BE SCHEDULE 40 PVC OR BETTER AND SHALL HAVE LOCKING DUCTILE IRON RINGS AND LIDS.
6. WALL DRAINS TO BE CONSTRUCTED OF A MINIMUM 6-INCH PERFORATED PVC PIPE, SURROUNDED BY 18 INCH THICK WASHCOB (ALL SIDES) UNLESS OTHERWISE NOTED BY STRUCTURAL ENGINEER. DRAIN TO BE LOCATED AT THE WALL BASE, SHALL INCLUDE CLEANOUT AT ALL CORNERS, AND SHALL GRAVITY FLOW TO DISCHARGE POINT. NO ONE-WAY VALVES ALLOWED. DRAINS TO BE INSTALLED AT ELEVATION SHOWN, CONNECT PERFORATED DRAIN TO A 6" SOLID DRAIN AT 2% SLOPE DIRECTED TO DOWNSTREAM CATCH BASIN. INSTALL CLEANOUT AT BENDS TOTALING 90° AND 10° AT 100" MAX O.C.
7. ACCESS OPENINGS TO HAVE OSHA CONFINED SPACE WARNING.
8. PIPE SIZES AND SLOPES: PER PLANS.
9. FINISHED GRADE OVER VAULT TO BE PER PLAN.
10. VAULT EXCAVATION TO BE FENCED AND SECURED BY CONTRACTOR. SAFETY FENCING, SHORING, EXCAVATION SAFETY, AND OTHER SAFETY ITEMS ARE THE RESPONSIBILITY OF THE CONTRACTOR. ALL ACCESS TO HAVE SECURE COVERING DURING CONSTRUCTION.
11. ALL STORMWATER FACILITIES, CATCH BASINS, AND CONVEYANCE SHALL BE CLEANED FOR CITY INSPECTION PRIOR TO AND ALSO FOR CITY INSPECTION PRIOR TO PERFORMANCE AND MAINTENANCE BOND RELEASE.
12. THE CONTRACTOR AND HIS SUBCONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL DIMENSION AND ELEVATIONS SHOWN ON THESE DRAWINGS WITH THE CURRENT PERMITTED SET OF STRUCTURAL DRAWINGS, AND SHALL NOTIFY BOTH THE STRUCTURAL & CIVIL ENGINEERS IN WRITING OF ALL DISAGREEMENTS BETWEEN THE CIVIL DRAWINGS AND THESE DRAWINGS TO CONSTRUCTION.
13. CONCRETE FINISH TO BE SMOOTH WITH NO FINS, VOIDS, ROCK POCKETS, OR OTHER IRREGULARITIES.
14. CONE SNAP TIES ARE REQUIRED FOR FORMWORK AND EPOXY GROUT SEALED AT ALL INTERIOR WALL SURFACES. NO LAT TIES ALLOWED.
15. PER THE 2014 SMMWMM, ALL VAULTS SHALL BE DESIGNED FOR H 20 LOADING.
16. MINIMUM AND MAXIMUM GRADES OVER VAULT AS SHOWN. FOOTING DRAIN ELEVATIONS ARE PROVIDED FOR REFERENCE.



1. SHEAR GATE SHALL BE:  
A. CAST IRON BODY AND GATE, OLYMPIC FDY, STD., OR  
EQUAL.  
B. ALUMINUM, DRAINAGE SPECIALTIES (SAVANNA, GA) STD.,  
OR EQUAL.
2. GATE SHALL BE 8" DIAMETER UNLESS OTHERWISE SPECIFIED.
3. GATE SHALL BE JOINED TO TEE SECTION BY BOLTING  
(THROUGH FLANGE), WELDING, OR OTHER SECURE MEANS.
4. LIFT ROD: AS SPECIFIED BY MANUFACTURER WITH HANDLE  
EXTENDED TO WITHIN ONE FOOT OF COVER AND ADJUSTABLE  
HOOK LOCK FASTENED TO FRAME OR UPPER HANDHOLD.

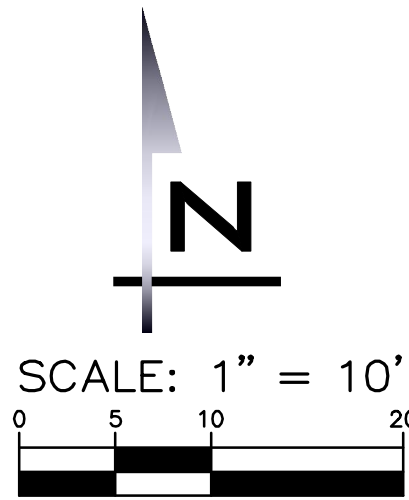
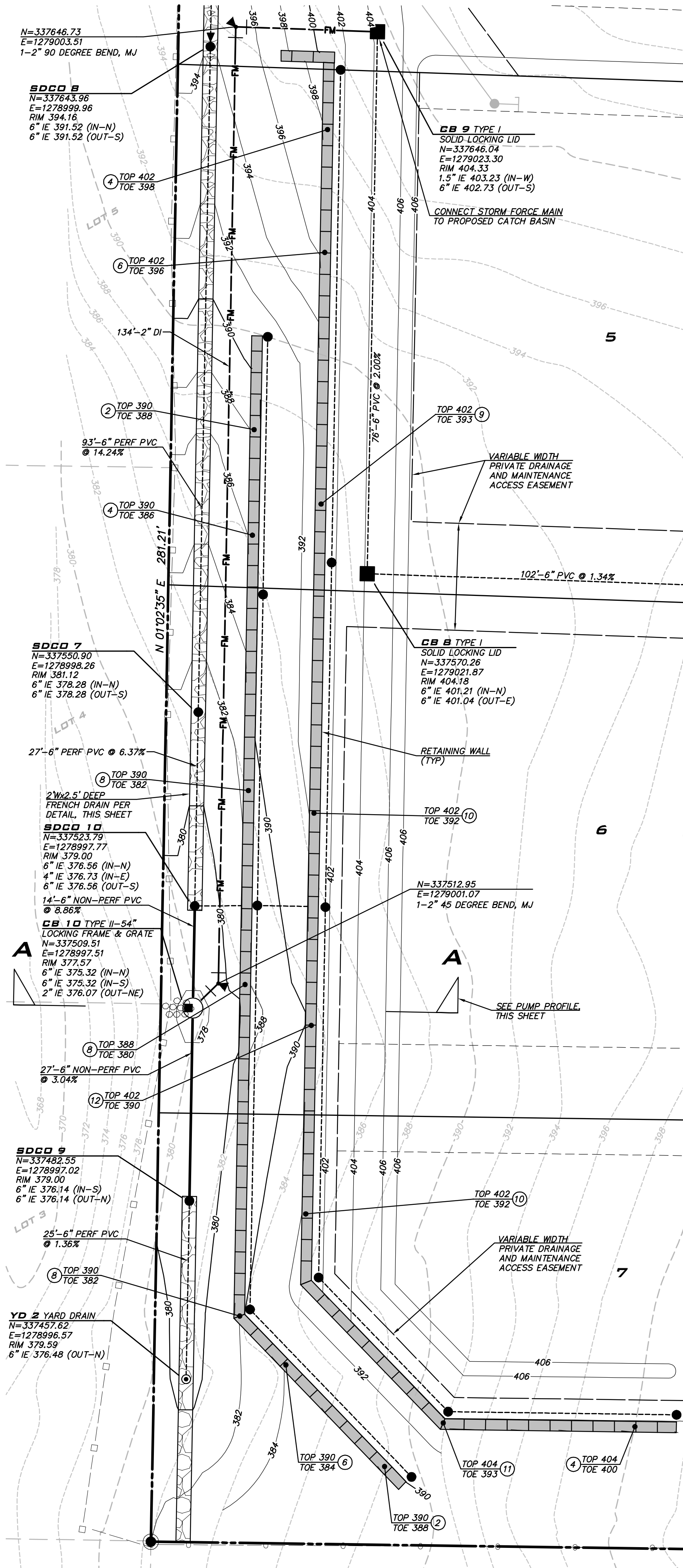
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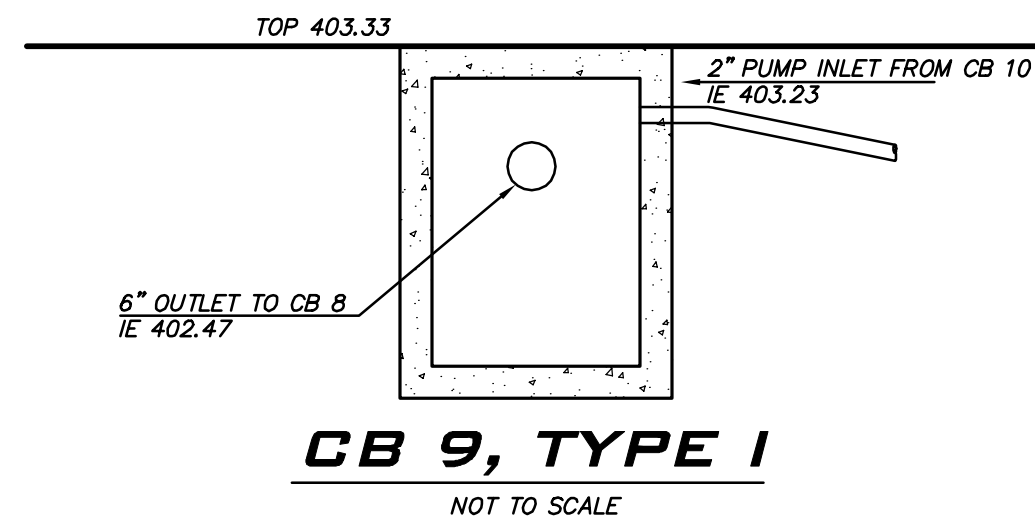
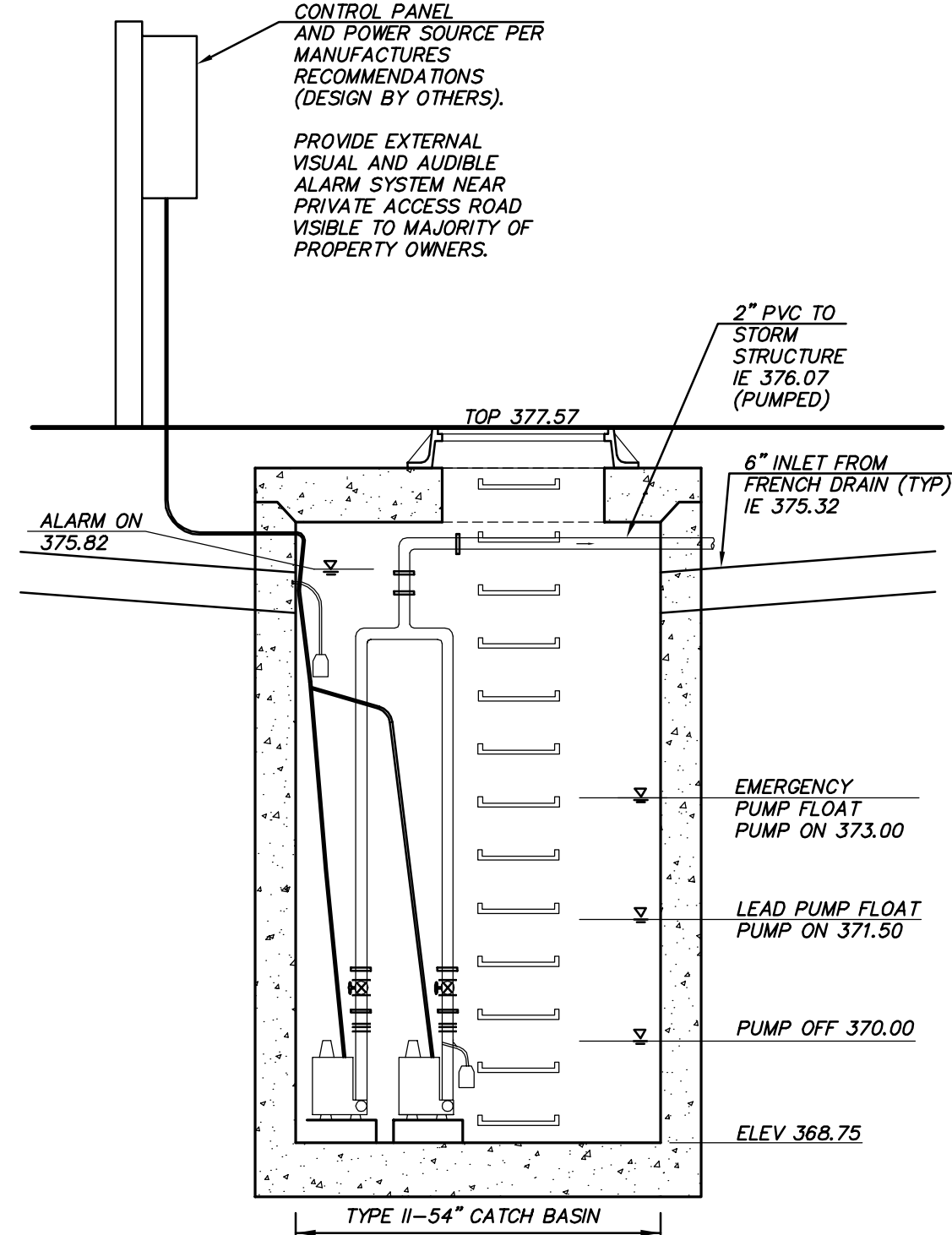
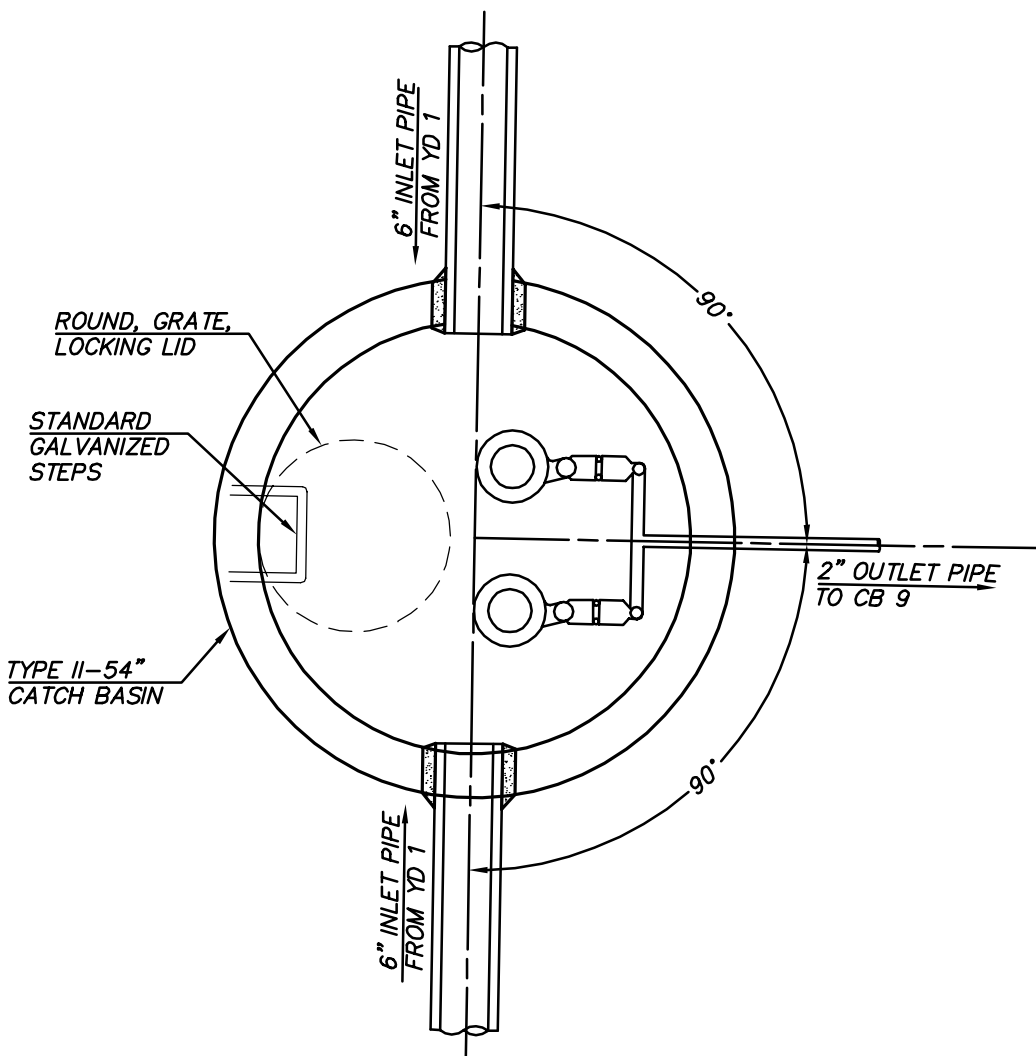
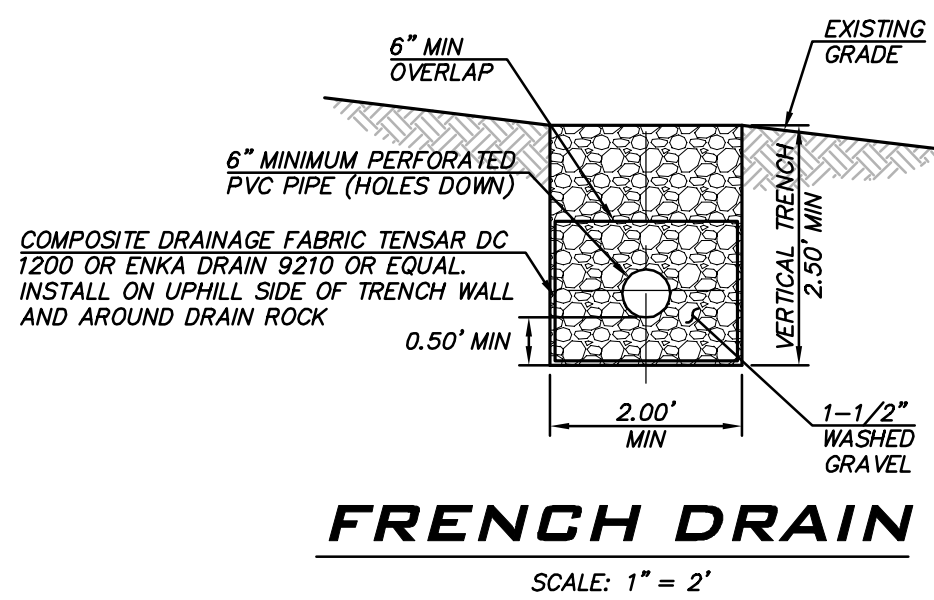
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**PUMP SPECIFICATIONS & NOTES**

- THIS PUMP STATION DETAIL IS FOR SCHEMATIC PURPOSES ONLY AND TO OUTLINE THE BASIC PERFORMANCE REQUIREMENTS FOR THE SYSTEM. THE CONTRACTOR SHALL FOLLOW THE INSTALLATION REQUIREMENTS SPECIFIED BY THE PUMP MANUFACTURER. A REPRESENTATIVE OF THE PUMP MANUFACTURER SHALL BE ON-SITE TO INSPECT THE INSTALLATION OF THE SYSTEM.
- DUPLEX SUBMERSIBLE PUMP STATION REQUIREMENTS:  
SUGGESTED PUMP: ZOELLER 153 DEWATERING SUBMERSIBLE PUMP  
TOTAL HEAD = 34.11 FT  
FLOW= 24.0 GPM / PUMP (0.054 CFS / PUMP)  
PROVIDE ADJUSTABLE FLOW RESTRICTION VALVES ON DISCHARGE LINE  
PUMPS SHALL BE RATED CONTINUOUS DUTY, SINGLE PHASED, 115V  
2" NPT DISCHARGE LINE  
INSTALL PUMPS ON DISCONNECT RAIL SYSTEM  
PROVIDE ON, OFF AND ALARM FLOAT SWITCHES  
ALTERNATING DUPLEX PUMP SYSTEM CONTROL PANEL TO BE INSTALLED BY QUALIFIED ELECTRICIAN PER NATIONAL ELECTRICAL CODE  
SECURE/LOCKABLE OUTDOOR DUPLEX CONTROL PANEL WITH BATTERY BACKUP ALARM  
PUMPS SHALL ALTERNATE WITH ONLY ONE PUMP ON AT A TIME (NO TWO PUMP ON CONDITION) WITH MAXIMUM RUN TIME OF 30 MINUTES PER PUMP



**PUMP MAINTENANCE NOTE**

HOMEOWNERS ASSOCIATION (HOA) WILL BE RESPONSIBLE TO MAINTAIN/REPAIR THE PUMP. EASEMENTS AS DESCRIBED BELOW SHALL BE PROVIDED TO MAINTAIN/REPAIR THE PUMP. MAINTENANCE COVENANT SHALL BE PROVIDED TO HOLD HOA RESPONSIBLE TO MAINTAIN/REPAIR THE PUMP (CITY ATTORNEY TO CONFIRM DOCUMENTATION REQUIRED TO HOLD HOA RESPONSIBLE). SUBJECT EASEMENTS AND COVENANTS SHALL BE RECORDED WITH THE FINAL PLAT MAP AND CC&R'S.

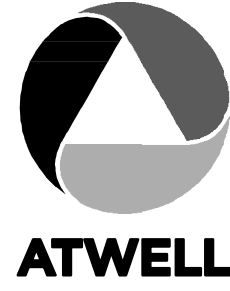
SUBJECT PLAT IS PROVIDING A VARIABLE WIDTH PRIVATE DRAINAGE AND MAINTENANCE ACCESS EASEMENT BETWEEN LOT 5 & 6 AND ALONG THE WEST PORTION OF LOTS 4-7 TO ALLOW ACCESS TO INSPECT/MAINTAIN PUMP AS NECESSARY. PERSONNEL TO INSPECT/MAINTAIN PUMP WILL ACCESS THE VARIABLE WIDTH PRIVATE DRAINAGE AND MAINTENANCE ACCESS EASEMENT FROM TRACT 998, CONTINUE WEST ALONG LOT 5 & 6 SHARED PROPERTY LINE, TRAVEL NORTH TOWARDS LOT 4 TO PROCEED AROUND RETAINING WALLS, AND TRAVEL SOUTH TO THE PUMP STATION.

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25 CENTRAL WAY, SUITE 400,  
KIRKLAND, WA 98033  
P: 425.216.4051 F: 425.216.4052  
WWW.ATWELL-GROUP.COM

SCALE:  
AS NOTED  
PROJECT MANAGER:  
T.C. COLLIERAN, PLA, AICP  
PROJECT ENGINEER:  
LUCAS ZIROTTI  
DESIGNER:  
LEE M. TOMKINS  
ISSUE DATE:  
9/8/2023

NO	DATE	BY	REVISIONS	REVISIONS PER CITY/ST/ROUND COMMENTS
1	8/9/22	LCZ		REVISIONS PER CITY/ST/ROUND COMMENTS
2	4/21/23	LCZ		REVISIONS PER CITY/ST/ROUND COMMENTS
3	9/8/23	LCZ		REVISIONS PER CITY/ST/ROUND COMMENTS

PUMP STATION DETAILS

HARBOR GROVE  
CIVIL PLANS

9110 53RD AVE W  
SNOHOMISH COUNTY WASHINGTON



9/8/23

JOB NUMBER:

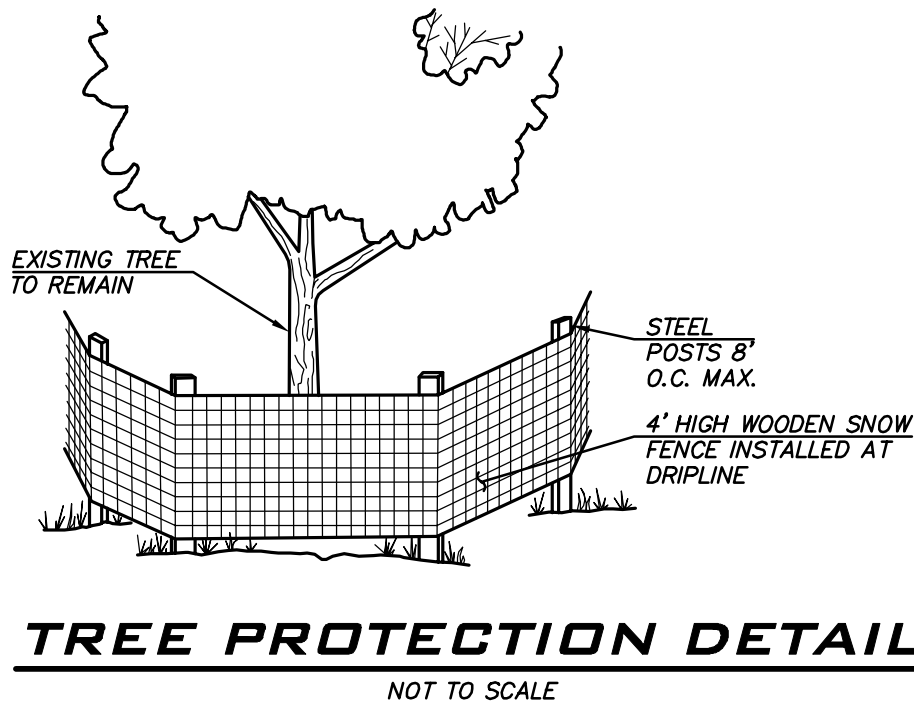
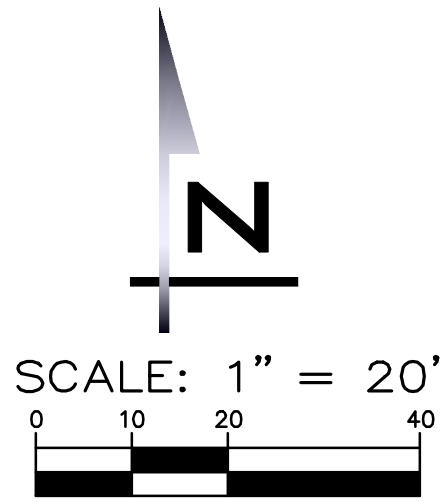
21-073

SHEET NAME:

PS-01

SHT 15 OF 22





TREE LEGEND	
	EXISTING TREE TO BE REMOVED
	EXISTING TREE TO REMAIN
	EXISTING OFF-SITE TREE
	EXISTING TREE IN POOR CONDITION

AVERAGE SLOPE CALCULATION	
ELEVATION AT NORTHEAST CORNER = 400	
ELEVATION AT SOUTHWEST CORNER = 382	
DISTANCE BETWEEN TWO POINTS = 492'	
AVERAGE SLOPE = 18/492 = 4% AVERAGE GRADE	

SUMMARY OF ON-SITE TREE RETENTION				
TREE TYPE	TOTAL	RETAINED	REMOVAL	MIN % SIG TREES REQUIRED PER ≤ 15% SLOPE
SIGNIFICANT CONIFER (8"+)	83	23	60	SEE BELOW
SIGNIFICANT DECIDUOUS (12"+)	7	0	7	SEE BELOW
TOTALS	90	23	67	(25% OF 90) = 22.5 (PER CALCULATIONS ABOVE)
REPLACEMENT TREES	23 REQUIRED	23 RETAINED		
PER MUKILTEO CITY CODE 15.16.050 TREE RETENTION AND NATIVE VEGETATION RETENTION TABLE. REQUIRED TREES THAT ARE TO BE REMOVED TO BE REPLACED AT A RATE OF 3:1. **SEE LS-01 FOR REPLACEMENT TREES				

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TREE RETENTION PLANS

HARBOR GROVE  
CIVIL PLANS

9110 53RD AVE W  
SNOHOMISH COUNTY WASHINGTON

9/8/23

JOB NUMBER:  
21-073

SHEET NAME:  
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SHT 16 OF 22

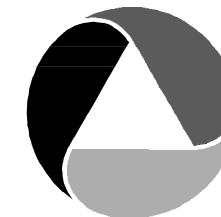


Tree Tag #	Species ID	DBH (in)	Adj. DBH (in)	Drip- line radius (ft)	Wind- firm	OK in Grove	Health	Defects/Comments	Proposed Action			CRZ/TPZ/LOD			
									Ret.	Poor	Rem.	Radius in feet			
									Viable	Unhealthy	Remove	N	W	E	S
301	Douglas fir	25	25	15		Y	Fair	Abnormal bark, shedding bark, popping bark, previous top loss, elongated branches, woodpecker activity, torque crack @ root crown up to 15' towards west			1	15	15	15	15
302	Red alder	20	20	12			Poor	Dead top, previous top loss @ 30', dead scaffold		1		12	12	12	12
303	Douglas fir	42	42	14		Y	Fair	Exposed roots, cavity @ root crown towards west, previous top loss, elongated branches, typical of species, woodpecker activity			1	14	14	14	14
304	Douglas fir	48	48	18			OK	Previous top loss, elongated branches, dead wood, broken branches, typical of species			1	18	18	18	18
305	Bigleaf maple	16.7	16.7	16		Y	Fair	Co-dominant leaders with included bark x2 @ 6', weak leaders			1	16	16	16	16
306	Red alder	10.4	10.4	12			Fair	Suppressed canopy, low live crown ratio <10%, moss and lichen, falling south		1		12	12	12	12
307	Japanese maple	10.7	10.7	14			OK	Moss and lichen, lean towards north, dead wood, broken branches, typical of species			1	14	14	14	14
308	Japanese maple	10	10	16	Y	OK/Fai r		Moss and lichen, lean towards north, typical of species, cavity @ 5' up to 6' towards east			1	16	16	16	16
309	Japanese maple	10, 8	13	18			Fair	Co-dominant leaders with included bark x2 @ 2', cavity on scaffold, dead scaffolds, dead wood, moss and lichen			1	18	18	18	18
310	Japanese maple	10	10	18			Fair	Ivy @ root crown up to 20', lean towards west, moss and lichen, typical of species			1	18	18	18	18
311	Madrona	14, 4	14.5	14			OK	Co-dominant leaders with included bark x2 @ root crown, ivy @ root crown up to 15', typical of species			1	14	14	14	14
312	Western red cedar	16, 8	18	10			OK	Co-dominant leaders with included bark x2 @ root crown, ivy @ root crown up to 6', twisted trunk, typical of species			1	10	10	10	10
313	Western red cedar	4, 20	20.5	13	Y	Fair		Co-dominant leaders with included bark x2 @ root crown, dead top, ivy @ root crown up to 30', woodpecker activity			1	13	13	13	13
314	Douglas fir	28	28	15		Y	Fair	Ivy @ root crown up to 10', thin canopy, dead wood, broken branches, typical of species			1	15	15	15	15
315	Douglas fir	34	34	18			OK	Thin canopy, dead wood, broken branches, ivy @ root crown up to 20'			1	18	18	18	18
316	Scots pine	14	14	15			OK	Ivy @ root crown up to 20', serpentine trunk, moss and lichen, typical of species			1	15	15	15	15
317	Hemlock	26	26	21			OK	Nurse tree, thin canopy, dead wood, broken branches, typical of species			1	21	21	21	21
318	Beech	18	18	24			Good	Typical of species			1	24	24	24	24
319	Hemlock	16	16	14	Y	Fair		Thin canopy, dead wood, broken branches, exposed roots, typical of species			1	14	14	14	14
320	Western red cedar	44	44	18			OK	Nurse tree, large cavity up to 8', carpenter ants , typical of species			1	18	18	18	18
321	Eastern white pine	8, 4, 6	12.5	10			OK	Co-dominant leaders with included bark x4 @ root crown, typical of species			1	10	10	10	10
322	Douglas fir	10	10	10			OK	Dead wood, broken branches, typical of species			1	10	10	10	10
323	Douglas fir	10	10	14			OK	Thin canopy, low live crown ratio <30%, typical of species			1	14	14	14	14
324	Douglas fir	10	10	14	Y	Fair		Thin canopy, co-dominant canopy, typical of species			1	14	14	14	14
325	Douglas fir	4, 12	12.5	14			OK	Co-dominant leaders with included bark x2 @ root crown, failing south, thin canopy, typical of species			1	14	14	14	14
326	Western red cedar	14	14	14			OK	Thin canopy, typical of species			1	14	14	14	14
327	Western red cedar	9	9	13			OK	Typical of species			1	13	13	13	13
328	Western red cedar	8	8	10			OK	Thin canopy, typical of species			1	10	10	10	10
329	Douglas fir	72	72	45				Previous top loss, elongated branches, scraping wound 30' up to 40' towards east, typical of species			1	45	45	45	45
330	Douglas fir	61	61	45			OK	Previous top loss, elongated branches, dead wood, broken branches, previous ivy @ root crown up to 50'	1			45	45	45	45
331	Western red cedar	14	14	14			OK	Thin canopy, typical of species			1	14	14	14	14
332	Norway spruce	8	8	8			Fair	Dead wood, broken branches, spruce adelgid, ivy @ root crown up to 50'		1		8	8	8	8
333	Douglas fir	35	35	22	Y	Fair		Previous ivy @ root crown up to 80', racoon scat, dead wood, broken branches, previous top loss, elongated branches			1	22	22	22	22
334	Douglas fir	32	32	22			OK	Asymmetric canopy towards east, previous top loss, elongated branches, dead wood, broken branches, typical of species			1	22	22	22	22
335	Douglas fir	8	8	12			OK	Asymmetric canopy towards west, perennial canker, typical of species			1	12	12	12	12
336	Douglas fir	8	8	8			OK	Asymmetric canopy towards west, ivy @ root crown up to 20', typical of species			1	8	8	8	8
337	Bigleaf maple	30	30	18			OK	Moss and lichen, typical of species, slight lean towards west			1	18	18	18	18
338	Douglas fir	13	13	14			OK	Low live crown ratio <30%, previous top loss, elongated branches, typical of species			1	14	14	14	14
339	Bigleaf maple	22	22	18			OK	Moss and lichen, typical of species			1	18	18	18	18
340	Lodgepole pine	16	16	18	Y	Fair		Woodpecker activity, horizontal crack @ 12' towards east, asymmetric canopy towards south, typical of species			1	18	18	18	18

341	Bigleaf maple	22	22	20			OK	Tagged on #340, co-dominant leaders with included bark x2 @ 10', moss and lichen, typical of species				1	20	20	20	20
342	Douglas fir	8	8	6			OK	Suppressed canopy, typical of species	1				6	6	6	6
343	Hemlock	6, 7	9	10			OK	Co-dominant leaders with included bark x2 @ root crown, typical of species				1	10	10	10	10
344	Western red cedar	9	9	9			OK	Typical of species				1	9	9	9	9
345	Black pine	12	12	16			Fair	Trunk gall, serpentine trunk, typical of species		1			16	16	16	16
346	Western red cedar	9	9	8			Fair	Co-dominant leaders with included bark x2 @ 10', typical of species		1			8	8	8	8
347	Hemlock	18	18	12	Y	Fair		Nurse tree @ 6', typical of species				1	12	12	12	12
348	Hemlock	18	18	13			OK	Thin canopy, dead wood, broken branches, exposed roots, typical of species				1	13	13	13	13
349	Douglas fir	29.8	29.8	18			Poor	Topped @ 30', weak laterals, abnormal bark, shedding bark, popping bark		1			18	18	18	18
350	Douglas fir	34	34	20	Y	Fair		Kink @ 50', dead wood, broken branches, previous top loss, elongated branches				1	20	20	20	20
351	Douglas fir	32	32	19			OK	Previous top loss, elongated branches, dead wood, broken branches, asymmetric canopy towards north				1	19	19	19	19
352	Douglas fir	32	32	24			Fair	Exposed roots, cavity @ root crown up to 1' towards west, woodpecker activity	1				24	24	24	24
353	Douglas fir	18	18	16	Y	Fair		Calloused wound @ root crown up to 1' towards west, low live crown ratio <20%, previous top loss, elongated branches				1	16	16	16	16
354	Douglas fir	16	16	16			OK	Dead wood, broken branches, no taper, suppressed canopy, typical of species				1	16	16	16	16
355	Douglas fir	14	14	12			Fair	Previous top loss @ 30', strong leader, suppressed canopy, dead wood, broken branches, thin canopy, asymmetric canopy towards south, lean towards south		1			12	12	12	12
356	Hemlock	12	12	12	Y	Fair		Nurse tree, exposed roots, asymmetric canopy towards east, typical of species	1				12	12	12	12
357	Hemlock	20	20	14	Y	Fair		Nurse tree, exposed roots, asymmetric canopy towards west, typical of species	1				14	14	14	14
358	Douglas fir	49.7	49.7	21	Y	Fair		Abnormal bark, shedding bark, popping bark, low live crown ratio <30%, dead wood, broken branches, typical of species				1	21	21	21	21
359	Douglas fir	34	34	20	Y	Fair		Low live crown ratio <20%, asymmetric canopy towards west, previous top loss, elongated branches, calloused wound @ 15' towards south, typical of species, abnormal bark, shedding bark				1	20	20	20	20
360	Bigleaf maple	14, 28, 18	36	30	Y	Fair		Co-dominant leaders with included bark x3 @ 4', cavity @ crotch, exposed roots, moss and lichen, hypoxylon canker				1	30	30	30	30
361	Bigleaf maple	18	18	20			Fair	Previous top loss @ 50', asymmetric canopy towards south, dead scaffolds		1			20	20	20	20
362	Douglas fir	14, 40	42.5	24			OK	Co-dominant leaders with included bark x2 @ root crown, abnormal bark, shedding bark, popping bark, woodpecker activity, previous top loss, elongated branches, typical of species				1	24	24	24	24
363	Douglas fir	28	28	28			Poor	Previous top loss @ 50', weak leader, abnormal bark, shedding bark, popping bark, failing towards north, laminated root rot?		1			28	28	28	28
364	Douglas fir	18	18	18			Poor	No taper, abnormal bark, shedding bark, popping bark, previous top loss, elongated branches, laminated root rot?		1			18	18	18	18
365	Hemlock	15	15	14			OK	Asymmetric canopy towards north, dead wood, broken branches, exposed roots, typical of species				1	14	14	14	14
366	Hemlock	7	7	8	Y	Fair		Dead wood, broken branches, suppressed canopy				1	8	8	8	8
367	Douglas fir	14	14	14	Y	Fair		Dead wood, broken branches, suppressed canopy, typical of species				1	14	14	14	14
368	Douglas fir	32	32	18			OK	Dead wood, broken branches, previous top loss, elongated branches, typical of species				1	18	18	18	18
369	Douglas fir	26	26	16			Fair	Kink @ 25', asymmetric canopy towards west, previous top loss, elongated branches, self-corrected lean		1			16	16	16	16
370	Douglas fir	13	13	12			Poor	Previous top loss @ 30', moss and lichen, falling towards south		1			12	12	12	12
371	Douglas fir	21.5	21.5	18			OK	Dead wood, broken branches, previous top loss, elongated branches, low live crown ratio <30%				1	18	18	18	18
372	Western red cedar	18	18	14			OK	Asymmetric canopy towards west, dead top, co-dominant canopy, typical of species				1	14	14	14	14
373	Western red cedar	31	31	14			Fair	Cavity @ root crown up to 6' towards east, previous top loss @ 10', weak leader, co-dominant canopy		1			14	14	14	14
374	Bigleaf maple	36, 12	38	21			OK	Co-dominant leaders with included bark x2 @ root crown, moss and lichen, dead wood, broken branches, hanger, typical of species				1	21	21	21	21
375	Douglas fir	16	16	15			OK	Low live crown ratio <5%, previous top loss, elongated branches, dead wood, broken branches, typical of species				1	15	15	15	15
376	Douglas fir	12, 16	20	14			Fair	Co-dominant leaders with included bark x2 @ root crown, previous top loss, dead wood, broken branches, asymmetric canopy towards west		1			14	14	14	14

									Ivy @ root crown up to 15', free flowing sap, previous top loss, elongated branches, epicormic branch formation @ 20' towards east				1	18	18	18	18
377	Douglas fir	38	38	18			OK		Self-corrected lean towards east, serpentine trunk, suppressed canopy				1	15	15	15	15
378	Douglas fir	16	16	15			Poor		Serpentine trunk, self-corrected lean towards south, previous top loss, asymmetric canopy towards south				1	12	12	12	12
379	Douglas fir	14	14	12			Poor		Self-corrected lean towards north, serpentine trunk, previous top loss, elongated branches, dead wood, broken branches, asymmetric canopy towards south				1	14	14	14	14
380	Douglas fir	16	16	14			Fair		Lean towards north, dead wood, broken branches, dead twigs, moss and lichen, previous top loss, elongated branches				1	16	16	16	16
381	Douglas fir	18	18	16			Fair		Serpentine trunk, asymmetric canopy towards north, dead wood, broken branches, typical of species				1	18	18	18	18
382	Douglas fir	22	22	18			OK		Moss and lichen, serpentine trunk, lean towards east, previous top loss, elongated branches				1	20	20	20	20
383	Douglas fir	29.5	29.5	20			Poor		Bulge @ 20', low live crown ratio <20%, previous top loss, elongated branches, lean towards north				1	16	16	16	16
384	Douglas fir	23.6	23.6	16			Fair		Previous top loss, elongated branches, dead wood, broken branches, moss and lichen, typical of species				1	18	18	18	18
385	Douglas fir	21	21	18			OK		Lean towards east, moss and lichen				1	16	16	16	16
386	Red alder	11	11	16			Fair		Low live crown ratio <30%, asymmetric canopy towards south, dead wood, broken branches, co-dominant canopy, typical of species				1	16	16	16	16
387	Douglas fir	23.5	23.5	16			OK/Fair		No taper, kink @ 20', previous top loss @ 40'				1	16	16	16	16
388	Douglas fir	16	16	16			Fair		Abnormal bark, shedding bark, popping bark, dead wood, broken branches, previous top loss, elongated branches, typical of species				1	15	15	15	15
389	Douglas fir	34.2	34.2	15		Y	Fair		Asymmetric canopy towards west, low live crown ratio <30%, abnormal bark, shedding bark, horizontal crack @ 6' towards east				1	16	16	16	16
390	Douglas fir	22	22	16		Y	Fair		Low live crown ratio <20%, previous top loss, elongated branches, red ring rot, typical of species				1	18	18	18	18
391	Douglas fir	29	29	18		Y	Fair		Suppressed canopy, dead wood, broken branches, previous top loss				1	12	12	12	12
392	Douglas fir	13	13	12		Y	Fair		Dead wood, broken branches, previous top loss, elongated branches				1	18	18	18	18
393	Douglas fir	35	35	18			OK		Previous top loss, elongated branches, asymmetric canopy towards east, dead wood, broken branches, typical of species				1	22	22	22	22
394	Douglas fir	36.6	36.6	22			OK		Abnormal bark, shedding bark, previous top loss @ 6', dead spur, asymmetric canopy towards east, taps hollow				1	16	16	16	16
395	Douglas fir	22	22	16			Poor		Suppressed canopy, previous top loss, lean towards east, asymmetric canopy towards east				1	12	12	12	12
396	Douglas fir	11	11	12			OK		Thin canopy, dead wood, broken branches, asymmetric canopy towards northeast				1	16	16	16	16
397	Douglas fir	15	15	16			Fair		Previous top loss, elongated branches, dead wood, broken branches, typical of species				1	22	22	22	22
398	Douglas fir	42	42	22			OK		Previously girdled with wire @ 4', free flowing sap				1	14	14	14	14
94	Douglas fir	9	9	14			Poor		Suppressed canopy, serpentine trunk, dead wood, broken branches				1	8	8	8	8
99	Douglas fir	13.8	13.8	8		Y	Fair		Previous top loss, elongated branches, dead wood, broken branches, typical of species				1	18	18	18	18
400	Douglas fir	26.2	26.2	18		Y	Fair		Low live crown ratio <30%, previous top loss, elongated branches, dead wood, broken branches, typical of species				1	18	18	18	18
513	Douglas fir	28.8	28.8	18			OK		Suppressed canopy, thin canopy				1	8	8	8	8
93	Douglas fir	8	8	8		Y	Fair		Ivy @ root crown up to 25', co-dominant canopy, asymmetric canopy towards west, previous top loss, elongated branches				1	18	18	18	18
299	Douglas fir	24	24	18		Y	Fair		Self-corrected lean towards north, woodpecker activity, carpenter ants, dead wood, broken branches				1	20	20	20	20
53	Douglas fir	26	26	20			Poor		Girdled by barb wire fencing @ 4', co-dominant canopy, low live crown ratio <30%, previous top loss, elongated branches, dead wood, broken branches				1	22	22	22	22
217	Douglas fir	30	30	22		Y	Fair		Suppressed canopy, asymmetric canopy towards south, no taper, typical of species				1	10	10	10	10
433	Douglas fir	16	16	10		Y	Fair		Previous top loss, elongated branches, asymmetric canopy towards west, dead wood, broken branches, typical of species				1	18	18	18	18
246	Douglas fir	22	22	18			OK		Asymmetric canopy towards east, dead wood, broken branches, previous top loss, elongated branches, exposed roots, moss and lichen				1	18	18	18	18
243	Douglas fir	22	22	18		Y	Fair		Ivy @ root crown up to 15', hanger, dead wood, broken branches, typical of species				1	18	18	18	18
537	Douglas fir	36	36	18			OK		Ivy @ root crown up to 30', pin point crack @ 5', free flowing sap, dead wood, broken branches, previous top loss, elongated branches				1	18	18	18	18
497	Douglas fir	19.7	19.7	18		Y	Fair						1	18	18	18	18





ATWELL

25 CENTRAL WAY, SUITE 400,  
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WWW.ATWELL-GROUP.COM

SCALE:

AS NOTED

PROJECT MANAGER:

T.C. COLLIERAN, PLA, AICP

PROJECT ENGINEER:

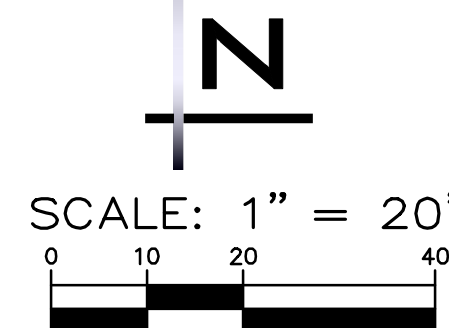
LUCAS ZIOTTI

DESIGNER:

LEE M. TOMKINS

ISSUE DATE:

9/8/2023



SCALE: 1" = 20'

## PLANT SCHEDULE

TREES	QTY	BOTANICAL / COMMON NAME
	3	ACER CIRCINATUM WINE MAPLE
	9	ACER RUBRUM 'FRANKSRED' TM RED SUNSET MAPLE
	4	CERCIDIPHYLLUM JAPONICUM KATSURA TREE
REPLACEMENT TREES	QTY	BOTANICAL / COMMON NAME
	4	THUJA PLICATA 'EXCELSA' WESTERN RED CEDAR
SHRUBS	QTY	BOTANICAL / COMMON NAME
	42	CORNUS SERICEA 'ARTIC FIRE' ARTIC FIRE DOGWOOD
	9	LONICERA INVOLUCRATA TWINBERRY
	20	LONICERA NITIDA 'BAGGESEN'S GOLD' BOXLEAF HONEYSUCKLE
	55	PANICUM VIRGATUM 'NORTHWIND' NORTHWIND SWITCH GRASS
	20	RHUS AROMATICA 'GRO-LOW' GRO-LOW FRAGRANT SUMAC
	36	SYMPHORICARPOS ALBUS COMMON WHITE SNOWBERRY
	48	VACCINIUM OVATUM EVERGREEN HUCKLEBERRY
GROUND COVERS	QTY	BOTANICAL / COMMON NAME
	4,692	COTONEASTER DAMMERI 'CORAL BEAUTY' CORAL BEAUTY COTONEASTER
RAIN GARDEN	QTY	BOTANICAL / COMMON NAME
	2,494 SF	RAIN GARDEN PLANTS PER SW-047

## SOIL AMENDMENT NOTE

POST-CONSTRUCTION SOIL QUALITY DEPTH PER DETAIL ON SHEET DT-03 SHALL BE APPLIED TO ALL NEW/REPLACED LAWN AND LANDSCAPED SURFACES.

## EXISTING UTILITY NOTE

EXISTING UTILITIES ARE SHOWN IN THE APPROXIMATE LOCATION. THERE IS NO GUARANTEE THAT ALL UTILITY LINES ARE SHOWN, OR THAT THE LOCATION, SIZE AND MATERIAL IS ACCURATE. THE CONTRACTOR SHALL UNCOVER ALL INDICATED PIPING WHERE CROSSING, INTERFERENCES, OR CONNECTIONS OCCUR PRIOR TO TRENCHING OR EXCAVATION FOR ANY PIPE OR STRUCTURES, TO DETERMINE ACTUAL LOCATIONS, SIZE AND MATERIAL. THE CONTRACTOR SHALL MAKE THE APPROPRIATE PROVISION FOR PROTECTION OF SAID FACILITIES. THE CONTRACTOR SHALL NOTIFY ONE CALL AT 8-1-1 (WASHINGTON811.COM) AND ARRANGE FOR FIELD LOCATION OF EXISTING FACILITIES BEFORE CONSTRUCTION.

LANDSCAPE PLANS

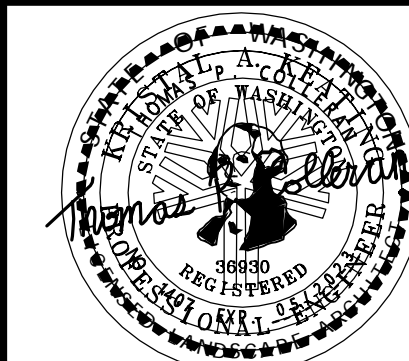
HARBOR GROVE

CIVIL PLANS

9110 53RD AVE W

SNOHOMISH COUNTY

WASHINGTON



9/8/23

JOB NUMBER:

21-073

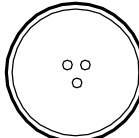
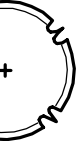
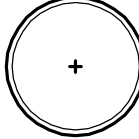








SHEET NAME:


LS-01

SHT 18 OF 22



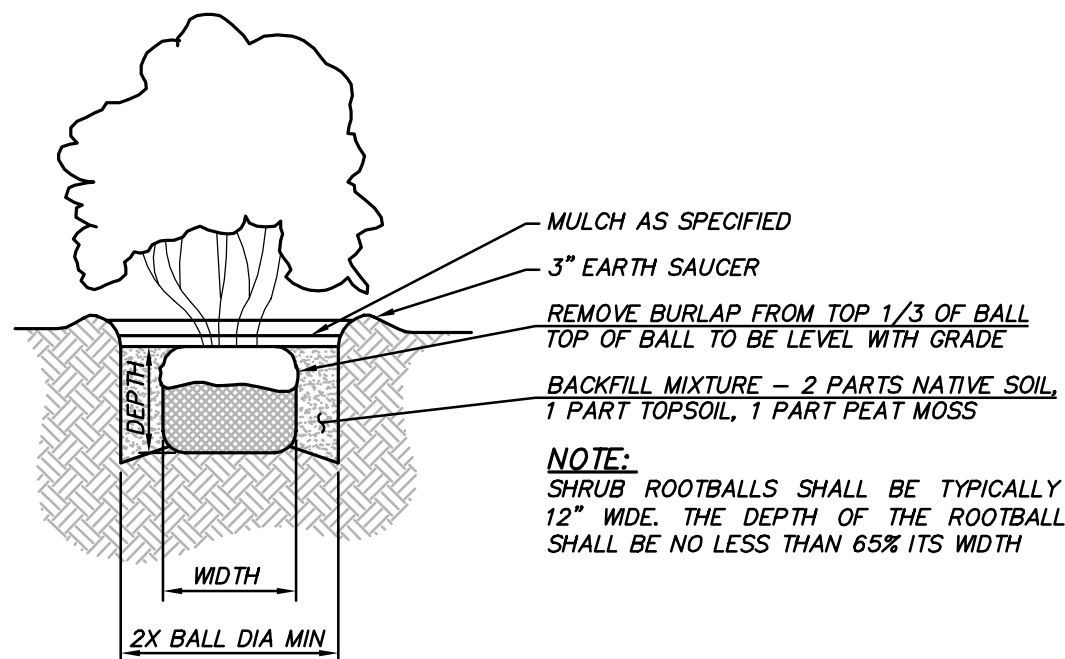
## PLANT SCHEDULE

<u>TREES</u>	<u>QTY</u>	<u>BOTANICAL / COMMON NAME</u>	<u>CONT</u>	<u>SIZE</u>	
	3	ACER CIRCINATUM VINE MAPLE	B & B	2" CAL	
	9	ACER RUBRUM 'FRANKSRED' TM RED SUNSET MAPLE	B & B	2" CAL	
	4	CERCIDIPHYLLUM JAPONICUM KATSURA TREE	B & B	2" CAL	
<u>REPLACEMENT TREES</u>	<u>QTY</u>	<u>BOTANICAL / COMMON NAME</u>	<u>CONT</u>	<u>SIZE</u>	
	4	THUJA PLICATA 'EXCELSA' WESTERN RED CEDAR	B & B	8' MIN PLANTED HT.	
<u>SHRUBS</u>	<u>QTY</u>	<u>BOTANICAL / COMMON NAME</u>	<u>SIZE</u>	<u>HEIGHT</u>	<u>SPACING</u>
	42	CORNUS SERICEA 'ARTIC FIRE' ARTIC FIRE DOGWOOD	5 GAL		42" o.c.
	9	LONICERA INVOLUCRATA TWINBERRY	5 GAL		48" o.c.
	20	LONICERA NITIDA 'BAGGESEN'S GOLD' BOXLEAF HONEYSUCKLE	5 GAL		48" o.c.
	55	PANICUM VIRGATUM 'NORTHWIND' NORTHWIND SWITCH GRASS	1 GAL		36" o.c.
	20	RHUS AROMATICA 'GRO-LOW' GRO-LOW FRAGRANT SUMAC	5 GAL		48" o.c.
	36	SYMPHORICARPOS ALBUS COMMON WHITE SNOWBERRY	3 GAL		42" o.c.
	48	VACCINIUM OVATUM EVERGREEN HUCKLEBERRY	5 GAL		48" o.c.

GROUND COVERS	QTY	BOTANICAL / COMMON NAME	CONT	SIZE	SPACING	DETAIL
	4,692	COTONEASTER DAMMERI 'CORAL BEAUTY' CORAL BEAUTY COTONEASTER	FLAT		4" o.c.	

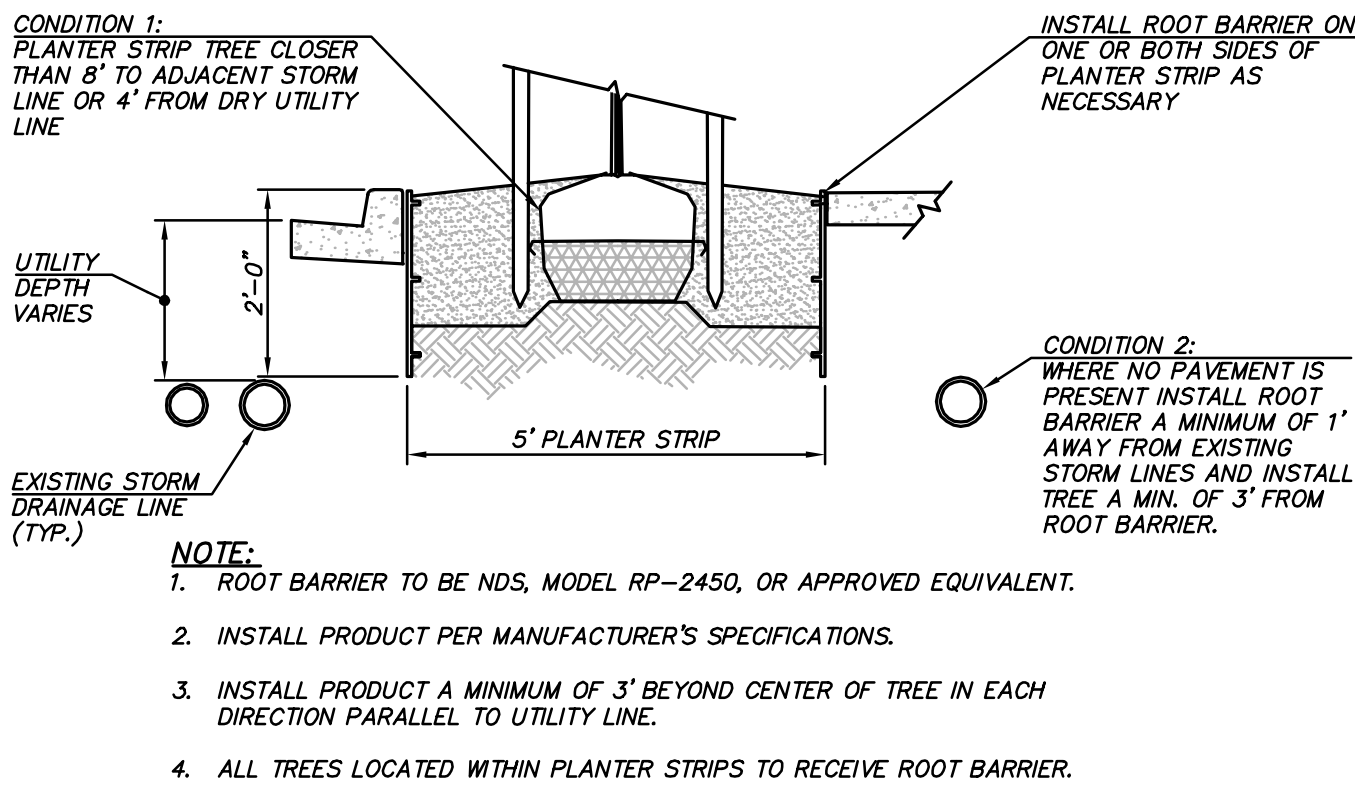
## RAIN GARDEN

	RAIN GARDEN PLANTS PER SW-047	2,494 SF
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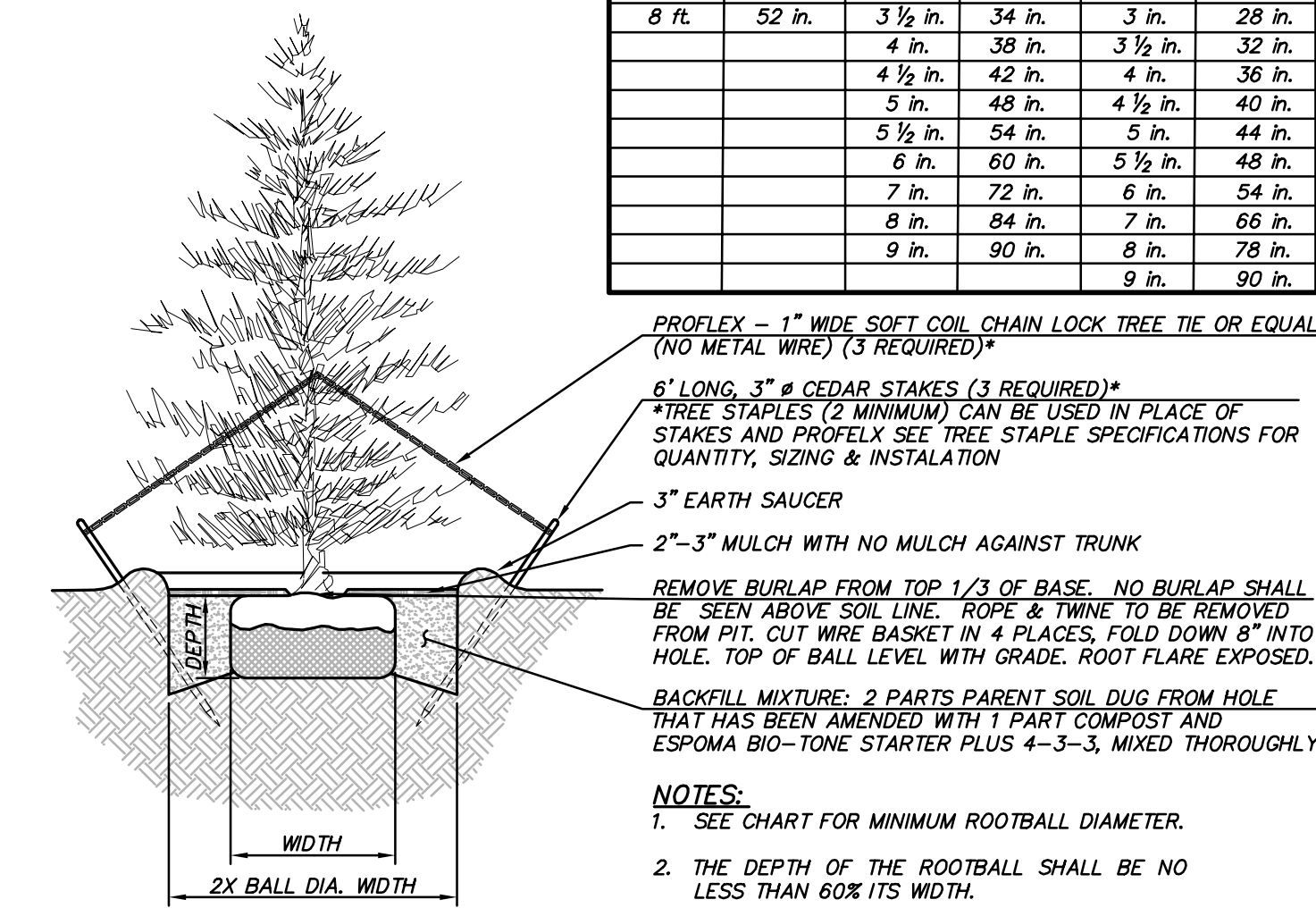
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NOT TO SCALE



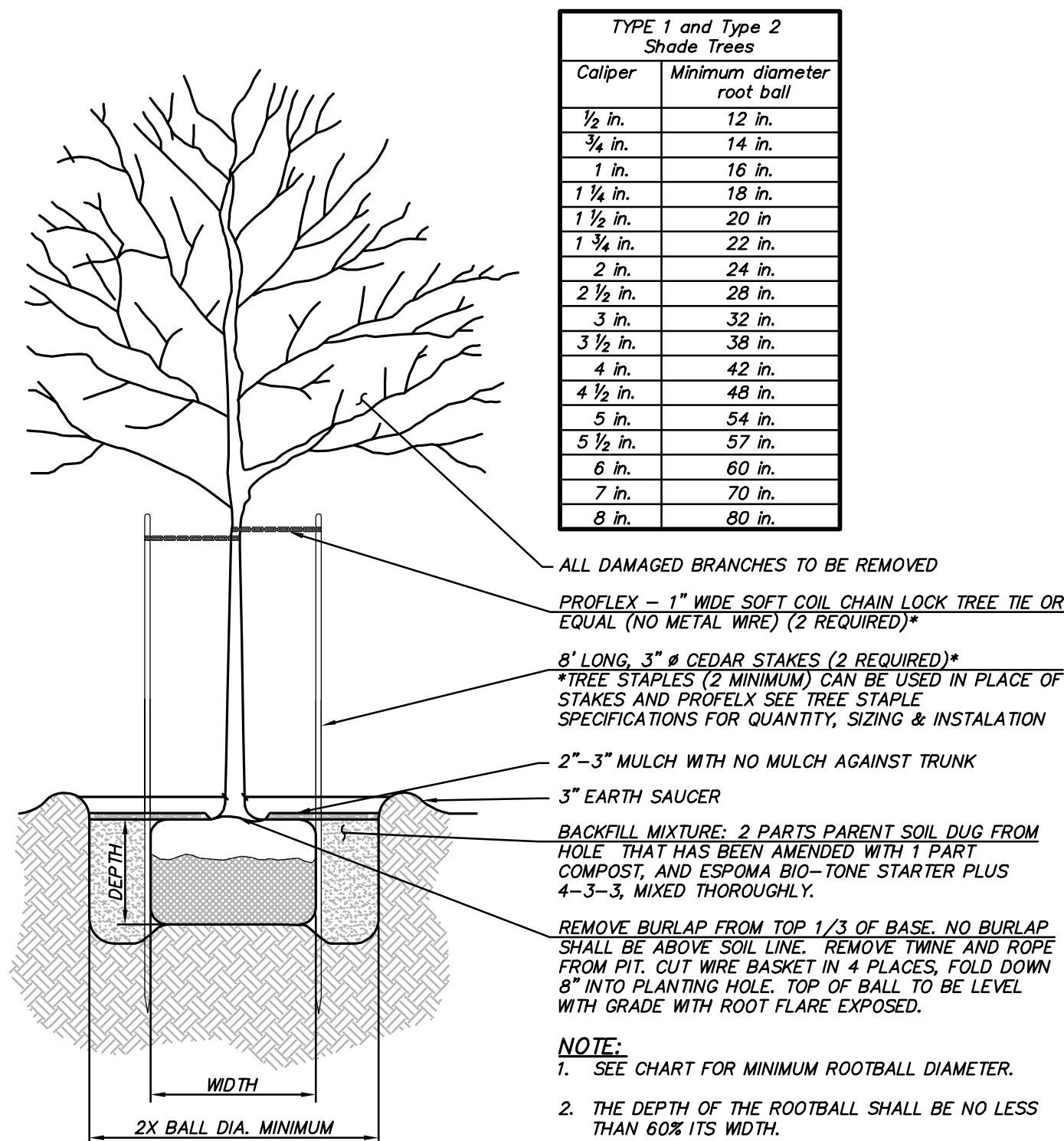
## ROOT BARRIER DETAIL

NOT TO SCALE



## CONIFER DETAIL

NOT TO SCALE



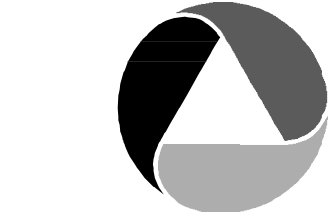
## DECIDUOUS DETAIL

NOT TO SCALE

TYPES 1, 2, AND 3 Spreading, semi- spreading, broad spreading, globe, and compact upright		Types 4 & 5 Pyramidal, broad upright		Type 6* Columnar	
Spread (Types 1 and 2) Height (Type 3)	Minimum diameter ball	Height/ Caliper	Minimum diameter ball	Height/ Caliper	Minimum diameter ball
9 in.	8 in.	12 in.	8 in.	12 in.	7 in.
12 in.	10 in.	15 in.	10 in.	15 in.	8 in.
15 in.	12 in.	18 in.	12 in.	18 in.	9 in.
18 in.	14 in.	24 in.	14 in.	24 in.	11 in.
24 in.	16 in.	30 in.	16 in.	30 in.	13 in.
30 in.	18 in.	3 ft.	18 in.	3 ft.	14 in.
36 in.	24 in.	4 ft.	20 in.	4 ft.	16 in.
42 in.	26 in.	5 ft.	22 in.	5 ft.	18 in.
4 ft.	28 in.	6 ft.	24 in.	6 ft.	20 in.
5 ft.	36 in.	7 ft.	26 in.	7 ft.	22 in.
6 ft.	40 in.	8 ft.	28 in.	8 ft.	24 in.
7 ft.	46 in.	9 ft./3 in.	32 in.	9 ft./2 1/2 in.	26 in.
8 ft.	52 in.	3 1/2 in.	34 in.	3 in.	28 in.
		4 in.	36 in.	3 1/2 in.	32 in.
		4 1/2 in.	42 in.	4 in.	36 in.
		5 in.	48 in.	4 1/2 in.	40 in.
		5 1/2 in.	54 in.	5 in.	44 in.
		6 in.	60 in.	5 1/2 in.	48 in.
		7 in.	72 in.	6 in.	54 in.
		8 in.	84 in.	7 in.	66 in.
		9 in.	90 in.	8 in.	78 in.
				9 in.	90 in.

## LANDSCAPE NOTES:

- IN THE EVENT THAT ANY DISCREPANCIES BETWEEN THE QUANTITIES OF PLANTS INDICATED ON THE PLANT SCHEDULE AND THOSE INDICATED ON THE PLAN, THE QUANTITIES INDICATED ON THE PLAN SHALL GOVERN.
- NO SUBSTITUTIONS SHALL BE ACCEPTED, EXCEPT WITH THE WRITTEN PERMISSION OF THE LANDSCAPE ARCHITECT OR HIS AGENT.
- THE LANDSCAPE ARCHITECT OR HIS AGENT SHALL BE THE SOLE JUDGE OF THE QUALITY AND ACCEPTABILITY OF THE MATERIALS. ALL REJECTED MATERIALS SHALL BE IMMEDIATELY REPLACED WITH ACCEPTABLE MATERIAL AT NO ADDITIONAL COST.
- ALL PLANT BEDS SHALL BE MULCHED WITH A MINIMUM OF 3" SHREDDED BARK MULCH OR OTHER MATERIAL APPROVED BY THE LANDSCAPE ARCHITECT. ALL PROPOSED PLANT MATERIAL SHALL BE FULLY GUARANTEED FOR ONE (1) YEAR FROM DATE OF ACCEPTANCE AND SHALL BE IN HEALTHY AND VIGOROUS CONDITION. ANY PLANT MATERIAL WHICH DIES WITHIN THAT PERIOD SHALL BE REPLACED WITH THE SAME SIZE AND SPECIES OF PLANT MATERIAL.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PLANTING AT CORRECT GRADES AND ALIGNMENT.
- PLANTS SHALL BE TYPICAL OF THEIR SPECIES AND VARIETY; HAVE NORMAL GROWTH HABITS; WELL DEVELOPED BRANCHES, DENSELY FOLIATED, VIGOROUS ROOT SYSTEMS AND BE FREE FROM DEFECTS AND INJURIES.
- THE CONTRACTOR SHALL REPORT ANY SOIL OR DRAINAGE CONDITION CONSIDERED DETRIMENTAL TO THE GROWTH OF PLANT MATERIAL.
- QUALITY AND SIZE OF PLANTS, SPREAD OF ROOTS AND SIZE OF BALLS SHALL BE IN ACCORDANCE WITH "AMERICAN STANDARDS FOR NURSERY STOCK" ANSI Z60 (MOST RECENT EDITION) AS PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INC.
- B & B PLANTS SHALL BE HANDLED FROM THE BOTTOM OF THE ROOT BALL ONLY. PLANTS WITH BROKEN, SPLIT OR DAMAGED ROOT BALLS SHALL BE REJECTED.
- TREES SHALL BE LOCATED IN A MANNER WHICH WILL NOT OBSTRUCT ACCESS TO FIRE HYDRANT OR VISIBILITY OF STREET OR TRAFFIC SIGNS.
- PLANTING OPERATIONS SHALL BE PERFORMED DURING PERIODS WITHIN THE PLANTING SEASON WHEN WEATHER AND SOIL CONDITION ARE SUITABLE.
- SET ALL PLANTS PLUMB AND STRAIGHT. SET AT SUCH LEVEL THAT, AFTER SETTLEMENT, A NORMAL OR NATURAL RELATIONSHIP TO THE CROWN OF THE PLANT WITH THE GROUND SURFACE WILL BE ESTABLISHED. LOCATE PLANTS IN THE CENTER OF THE PLANTING PIT.
- TREES SHALL BE SUPPORTED IMMEDIATELY AFTER PLANTING IN ACCORDANCE WITH THE PLANTING DETAILS.
- THE LOCATION OF ALL PLANT MATERIAL IS DIAGRAMMATIC. FINAL LOCATION OF ALL PLANT MATERIAL SHALL BE DETERMINED IN THE FIELD UNDER THE DIRECTION OF THE LANDSCAPE ARCHITECT OR HIS AGENT.
- THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY BEARING UPON THE PERFORMANCE OF THE WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO CALL FOR UTILITY LOCATIONS, IF NECESSARY.
- AMENDED SOIL AS REQUIRED IN ALL LANDSCAPED AREAS (OTHER THAN BIORETENTION AREAS). SOIL MUST MEET WA STATE DEPARTMENT OF ECOLOGY BMP TS.13.



ATWELL

25 CENTRAL WAY, SUITE 400,  
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WWW.ATWELL-GROUP.COM

## SCALE:

AS NOTED

PROJECT MANAGER:  
T.C. COLLERAN, PLA, AICPPROJECT ENGINEER:  
LUCAS ZIROTTIDESIGNER:  
LEE M. TOMKINSISSUE DATE:  
9/8/2023

NO	DATE	BY	REVISIONS		
			REVISIONS PER CITY 1ST ROUND COMMENTS	REVISIONS PER CITY 2ND ROUND COMMENTS	REVISIONS PER CITY 3RD ROUND COMMENTS
1	8/9/23	LCZ			
2	4/21/23	LMT			
3	9/8/23	LMT			

LANDSCAPE DETAILS

HARBOR GROVE

CIVIL PLANS

9110 53RD AVE W

SNOHOMISH COUNTY

WASHINGTON



9/8/23

JOB NUMBER:

21-073

SHEET NAME:

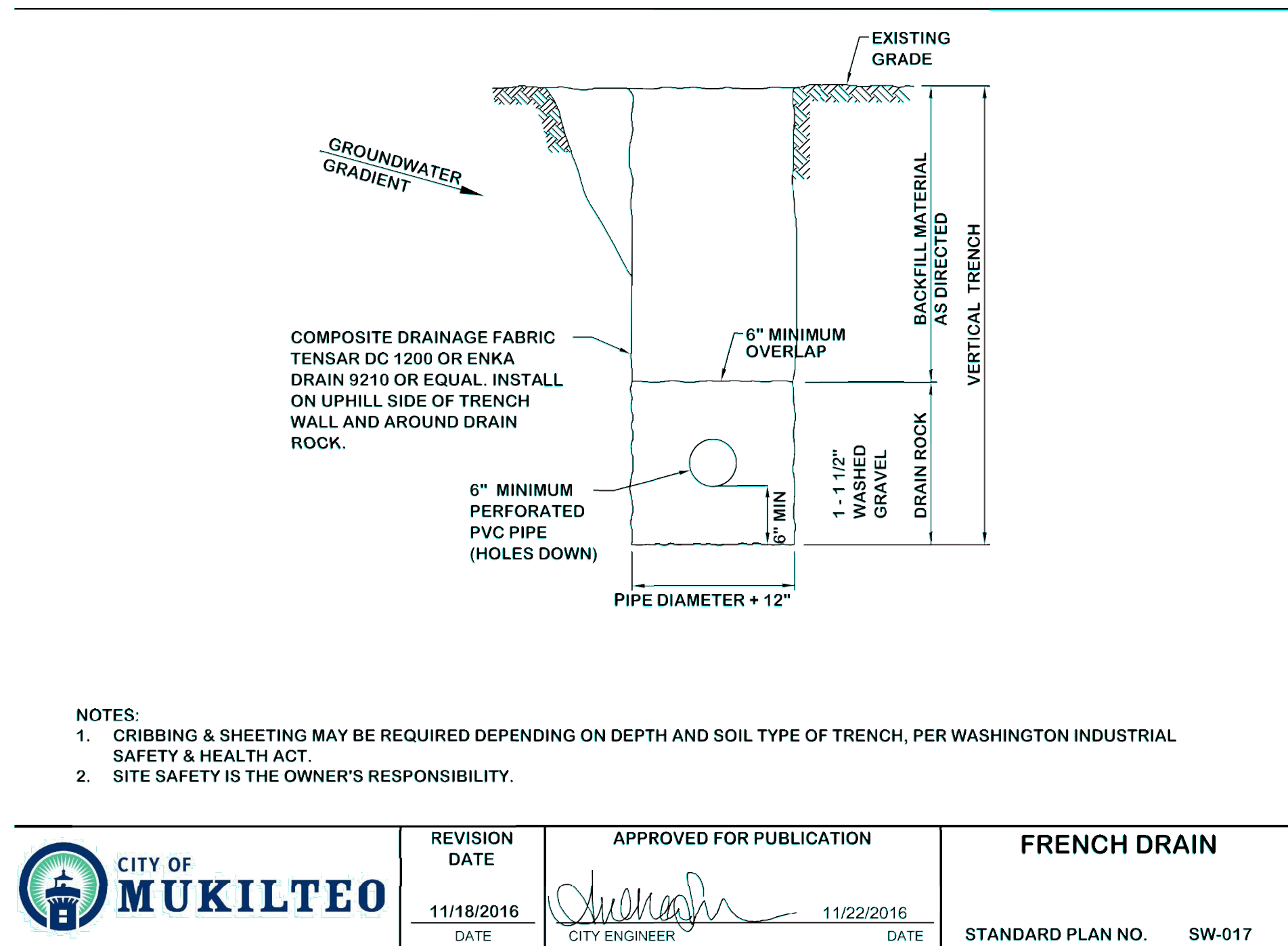
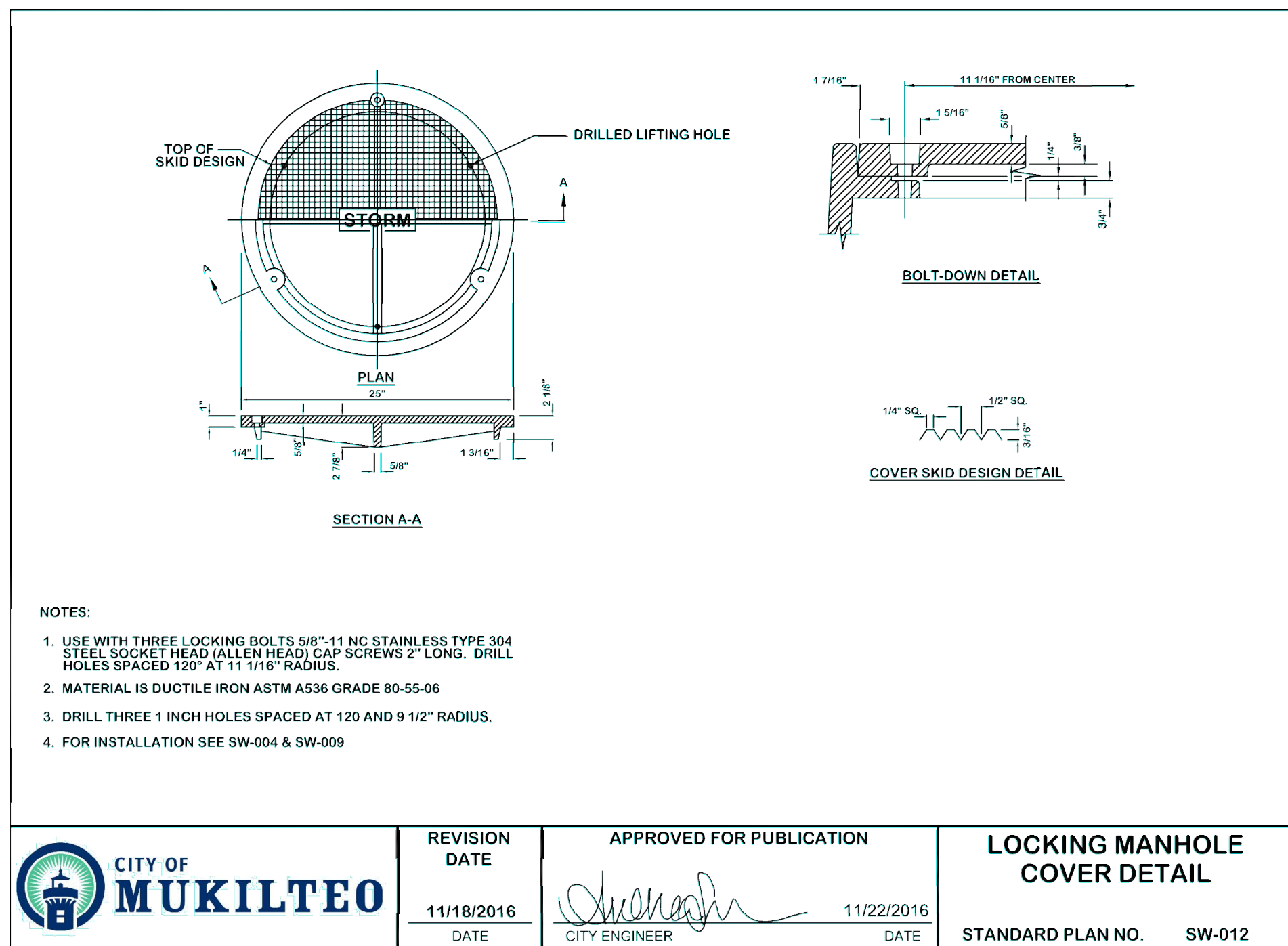
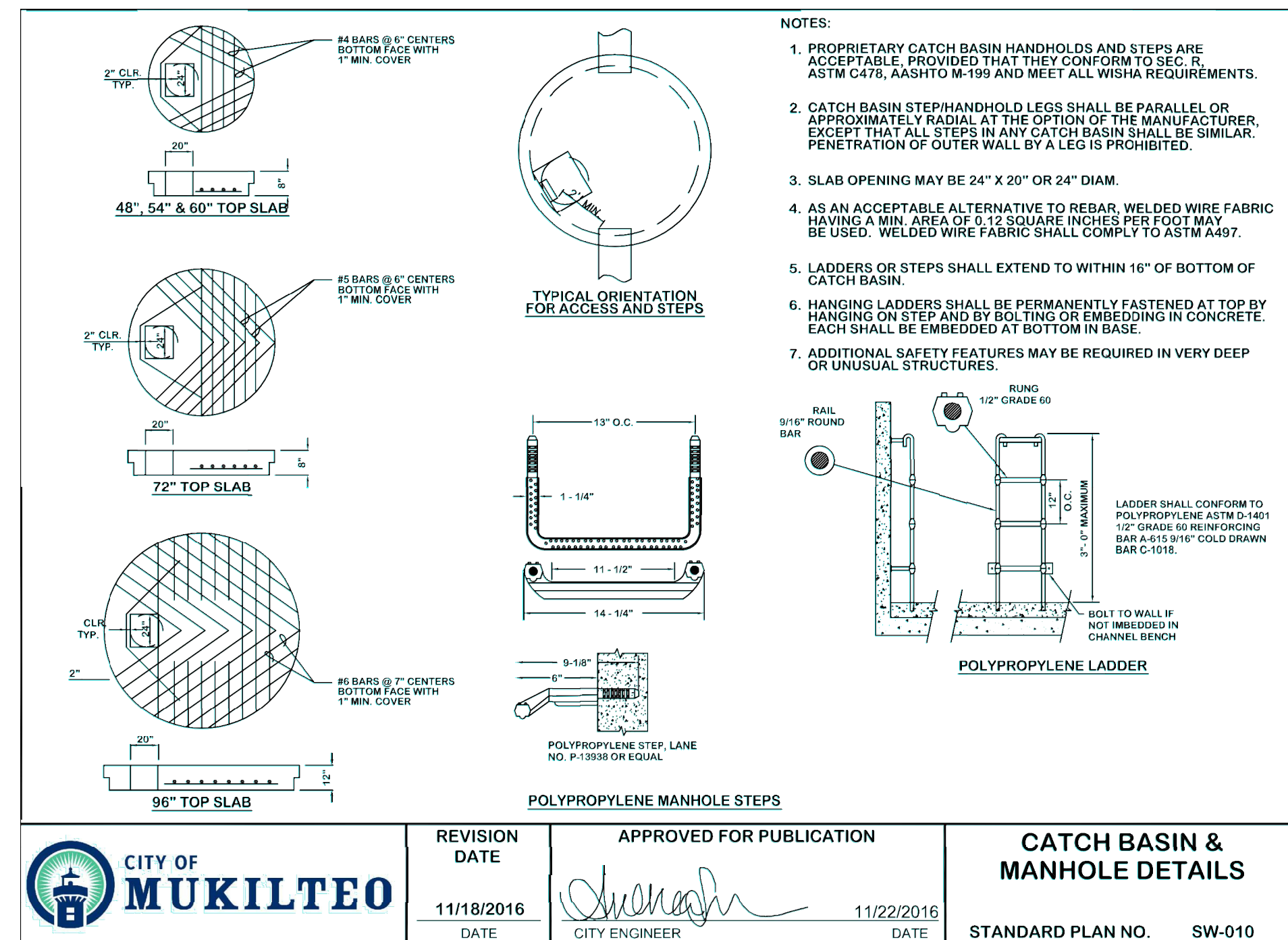
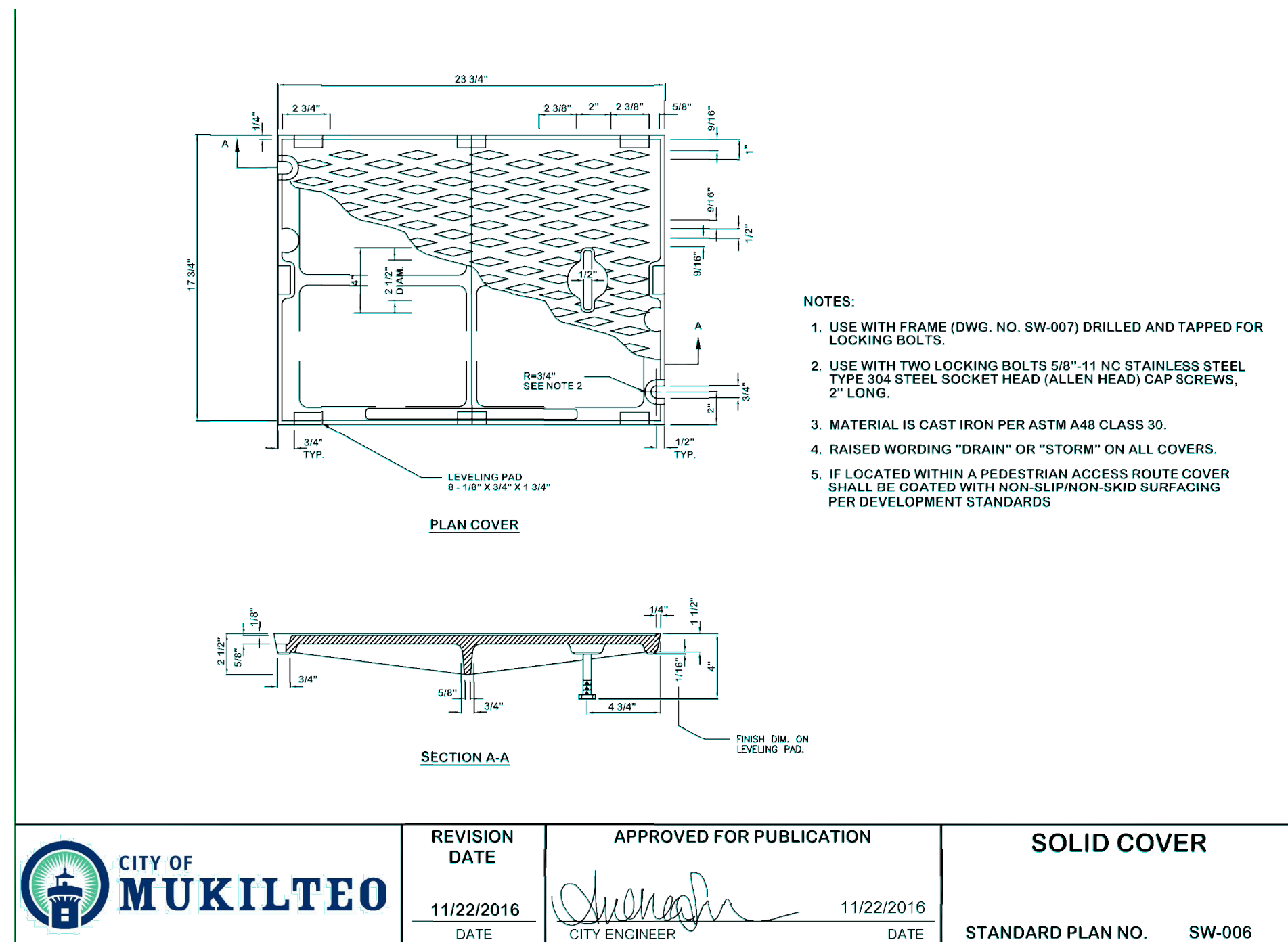
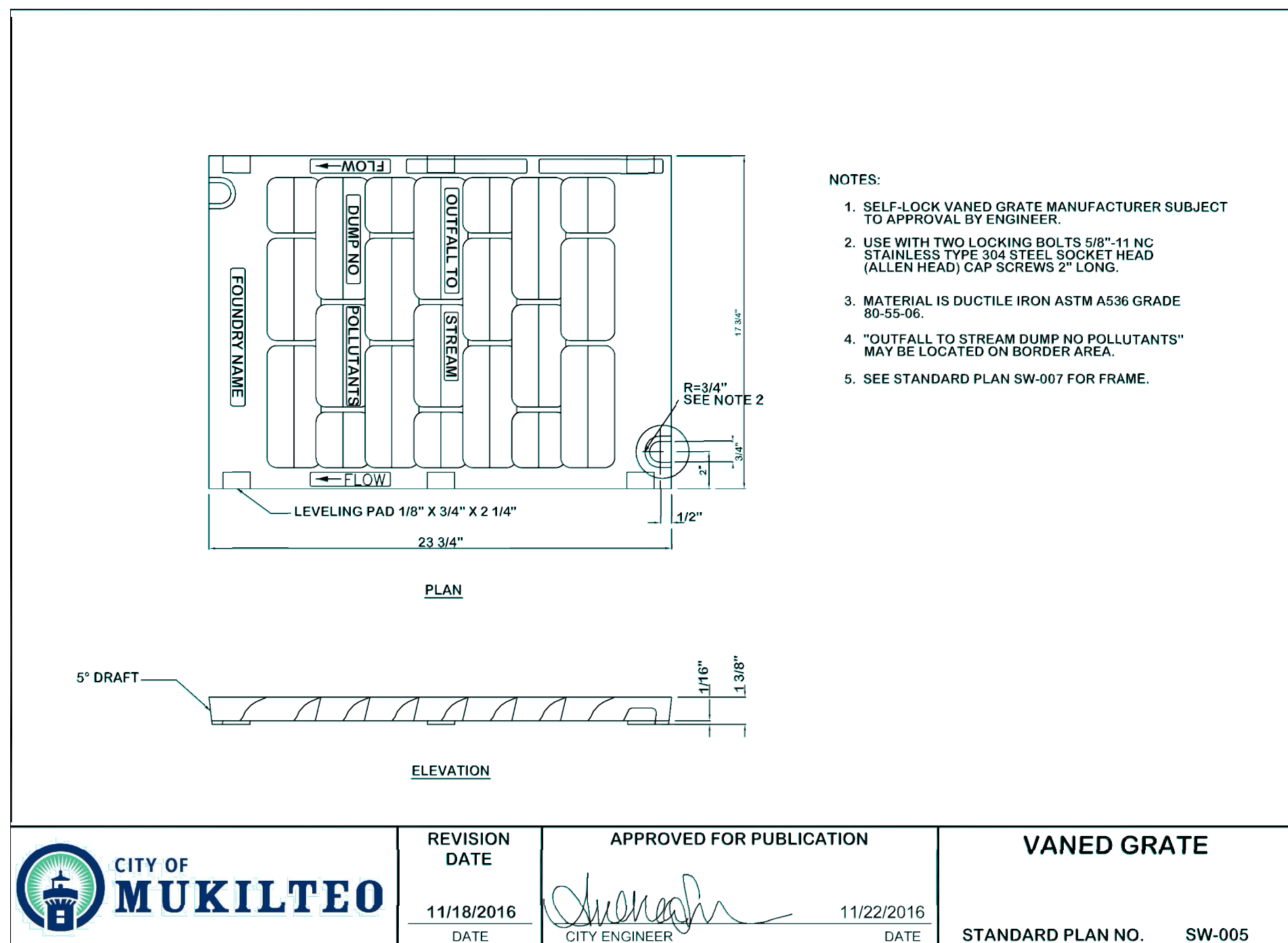
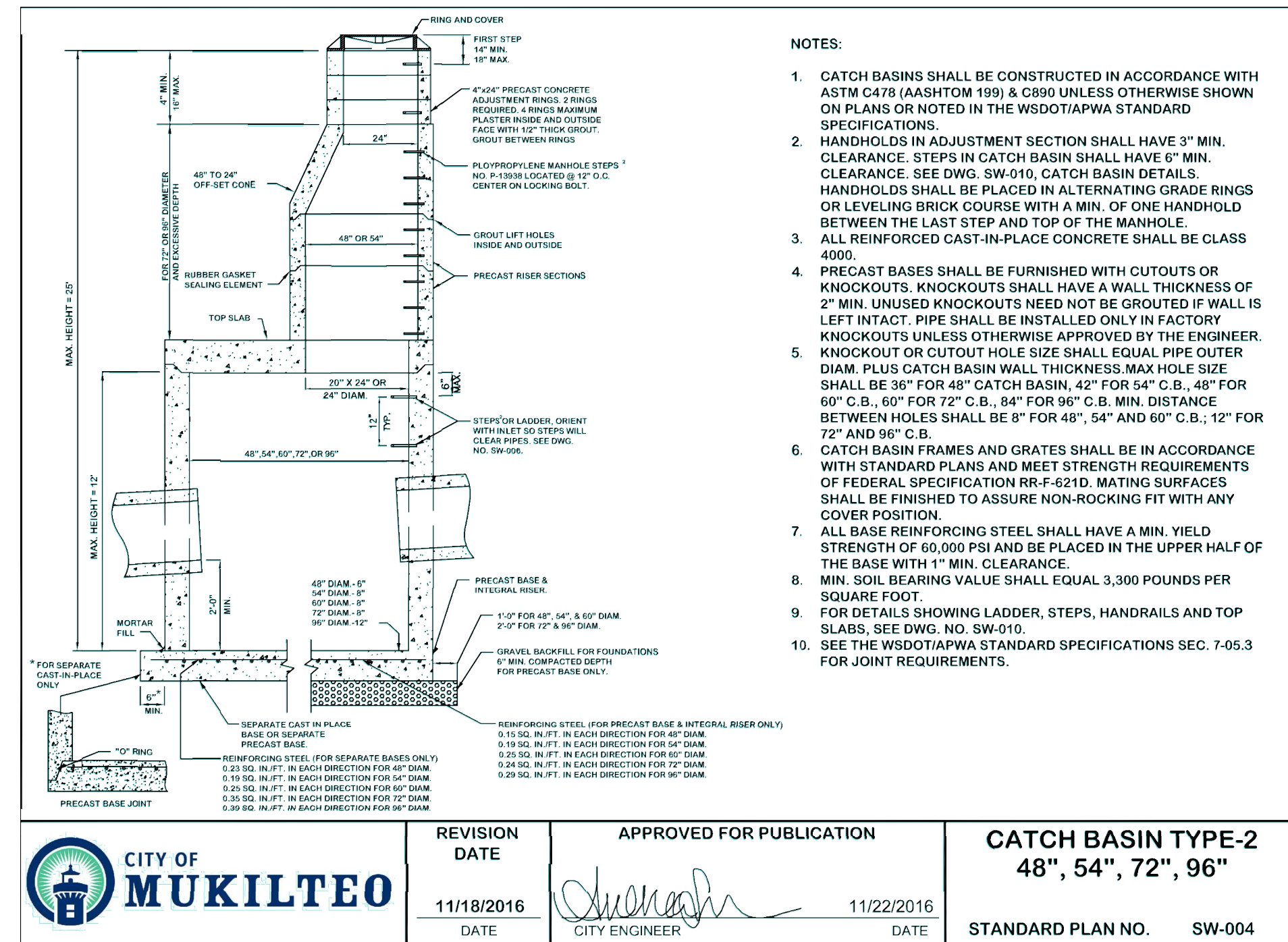
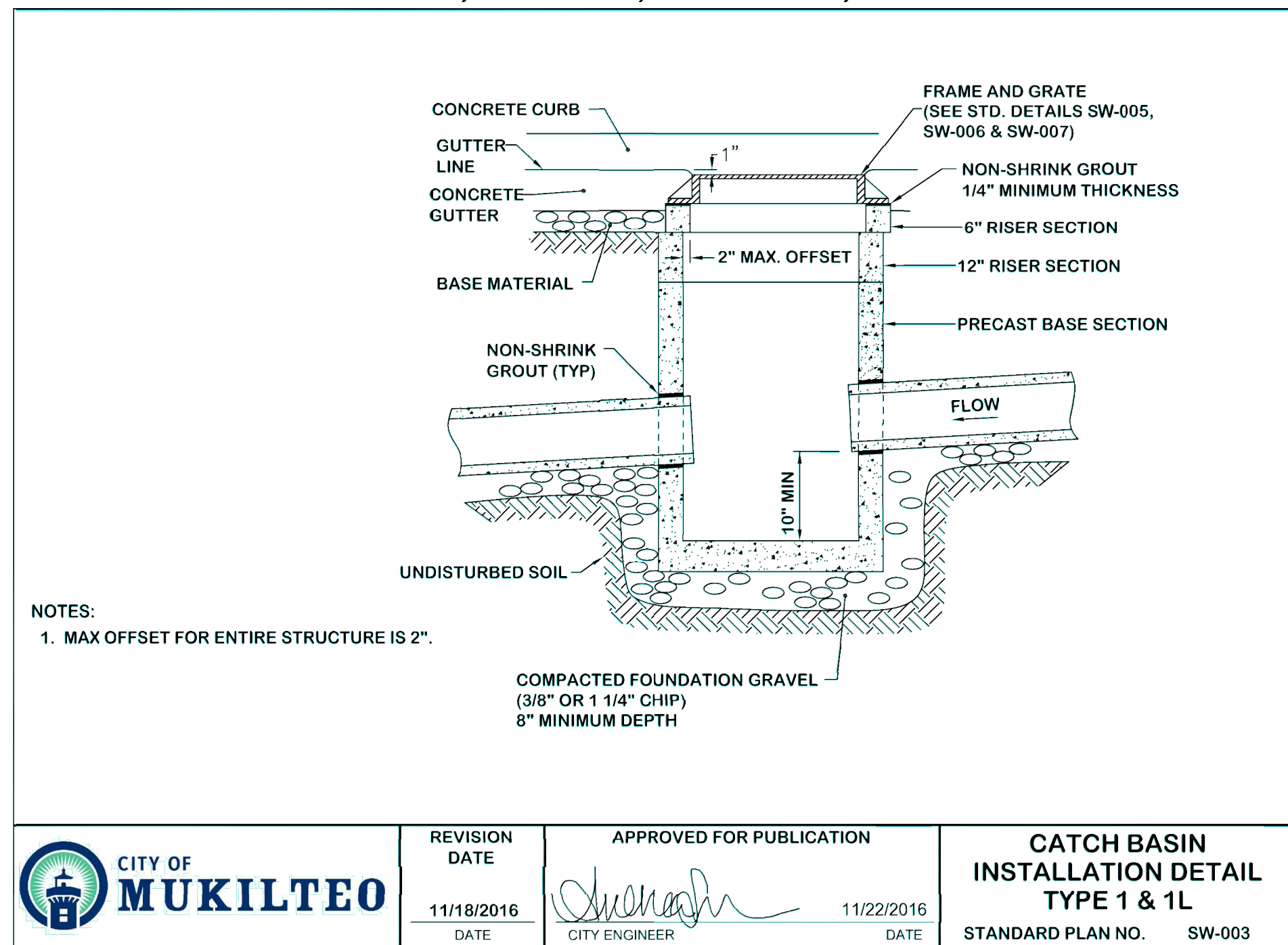
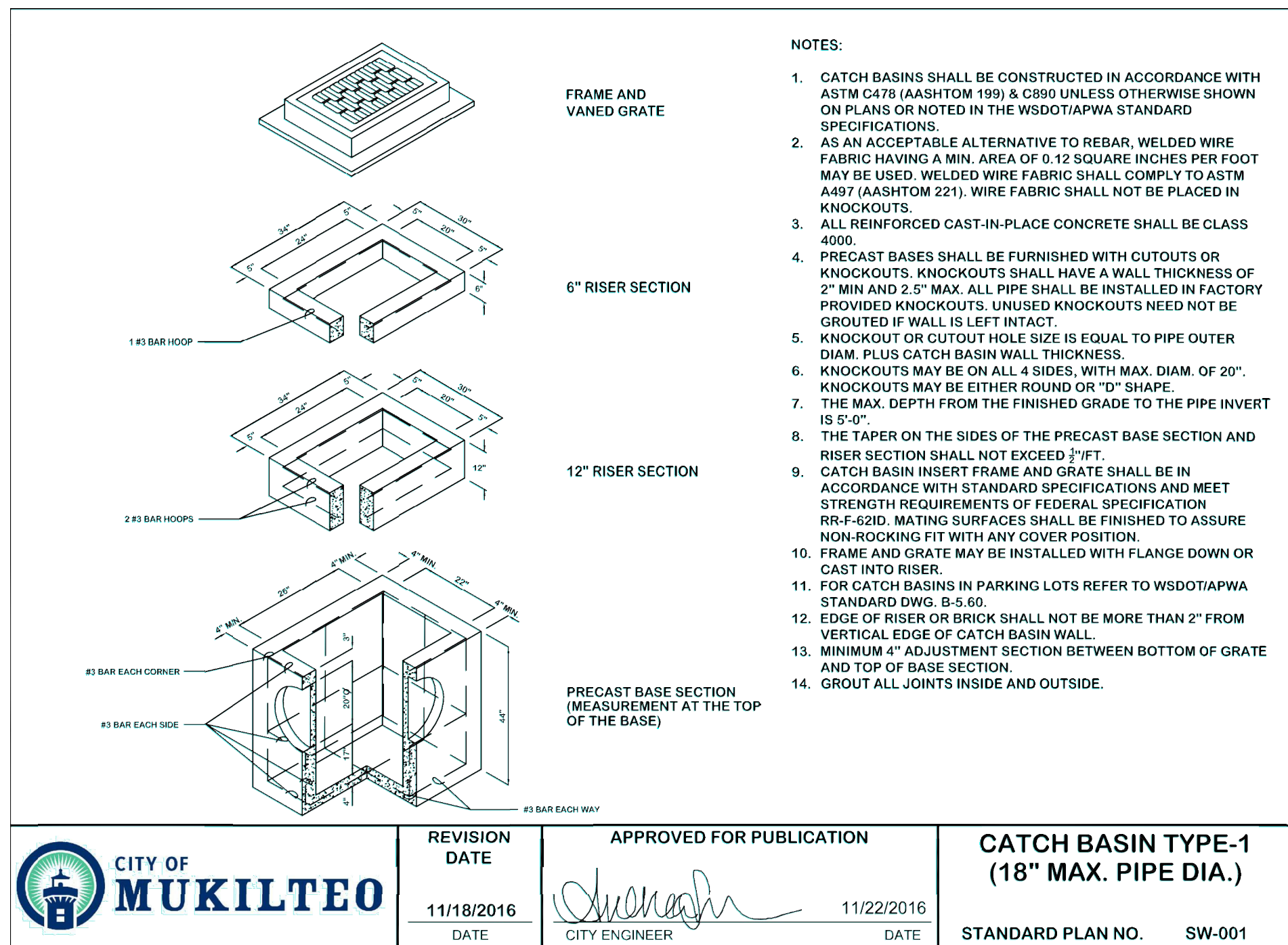
LS-02

SHT 19 OF 22

## EXISTING UTILITY NOTE

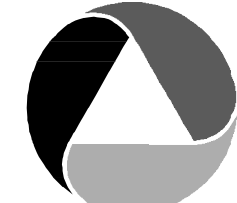
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## EXISTING UTILITY NOTE

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SCALE:

AS NOTED

PROJECT MANAGER:

T.C. COLLERAN, P.L.A., AICP

PROJECT ENGINEER:

LUCAS ZIROTTI

DESIGNER:

LEE M. TOMKINS

ISSUE DATE:

9/8/2023

NO	DATE	BY	REVISIONS		
			REVISIONS FOR CITY 1ST ROUND COMMENTS	REVISIONS FOR CITY 2ND ROUND COMMENTS	REVISIONS FOR CITY 3RD ROUND COMMENTS
1	8/9/23	LCZ			
2	4/29/23	LMT			
3	9/8/23	LMT			

STANDARD DETAILS

HARBOR GROVE

CIVIL PLANS

9110 53RD AVE W

SNOHOMISH COUNTY

WASHINGTON



9/8/23

JOB NUMBER:

21-073

SHEET NAME:

DT-01

SHT 20 OF 22







SITE SPECIFIC DATA			
PROJECT NUMBER		738522	
PROJECT NAME		9110 53rd Ave W	
PROJECT LOCATION		Mukilteo, WA	
STRUCTURE ID		Modular Wetland	
TREATMENT REQUIRED			
FLOW BASED (CFS)			
0.0305			
PEAK BYPASS REQUIRED (CFS) - IF APPLICABLE		0.0888 (CFS)	
PIPE DATA	I.E.	MATERIAL	DIAMETER
INLET PIPE 1	392.72	PVC	12"
INLET PIPE 2	N/A	N/A	N/A
OUTLET PIPE	391.39	PVC	12"
	PRETREATMENT	BIOFILTRATION	DISCHARGE
RIM ELEVATION	403.20		
SURFACE LOAD	DIRECT TRAFFIC		
NOTES: HS-20 LOAD RATED			

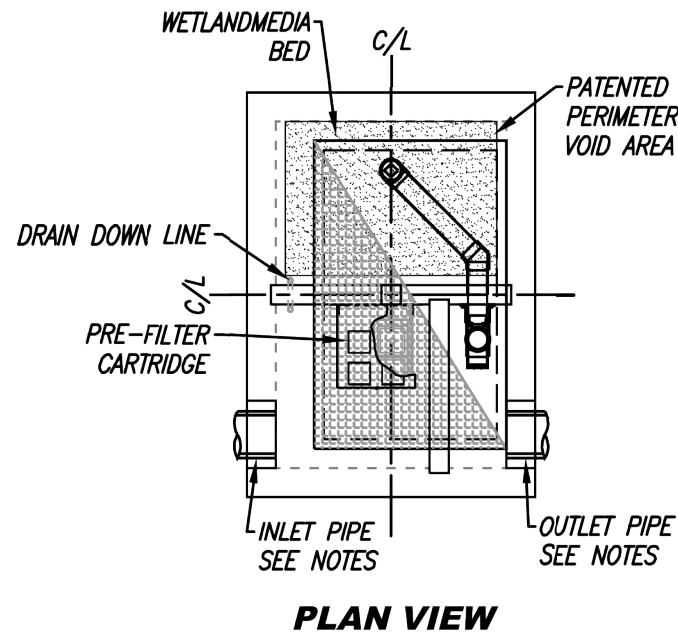
\* PRELIMINARY NOT FOR CONSTRUCTION

INSTALLATION NOTES

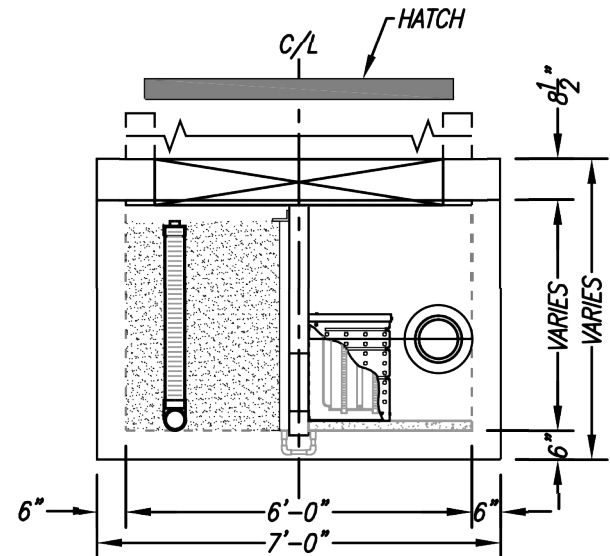
- CONTRACTOR TO PROVIDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS REQUIRED TO OFFLOAD AND INSTALL THE SYSTEM AND APPURTENANCES IN ACCORDANCE WITH THIS DRAWING AND THE MANUFACTURER'S SPECIFICATIONS, UNLESS OTHERWISE STATED IN MANUFACTURER'S CONTRACT.
- UNIT MUST BE INSTALLED ON LEVEL BASE. MANUFACTURER RECOMMENDS A MINIMUM 6" LEVEL ROCK BASE UNLESS SPECIFIED BY THE PROJECT ENGINEER. CONTRACTOR IS RESPONSIBLE FOR VERIFYING PROJECT ENGINEER'S RECOMMENDED BASE SPECIFICATIONS.
- CONTRACTOR TO SUPPLY AND INSTALL ALL EXTERNAL CONNECTING PIPES. ALL PIPES MUST BE FLUSH WITH INSIDE SURFACE OF CONCRETE (PIPES CANNOT INTRUDE BEYOND FLUSH). INVERT OF OUTFLOW PIPE MUST BE FLUSH WITH DISCHARGE CHAMBER FLOOR. ALL PIPES SHALL BE SEALED WATER TIGHT PER MANUFACTURER'S STANDARD CONNECTION DETAIL.
- CONTRACTOR RESPONSIBLE FOR INSTALLATION OF ALL PIPES, RISERS, MANHOLES, AND HATCHES. CONTRACTOR TO USE GROUT AND/OR BRICKS TO MATCH COVERS WITH FINISHED SURFACE UNLESS SPECIFIED OTHERWISE.
- VEGETATION SUPPLIED AND INSTALLED BY OTHERS. ALL UNITS WITH VEGETATION MUST HAVE DRIP OR SPRAY IRRIGATION SUPPLIED AND INSTALLED BY OTHERS.
- CONTRACTOR RESPONSIBLE FOR CONTACTING CONTECH FOR ACTIVATION OF UNIT. MANUFACTURER'S WARRANTY IS VOID WITHOUT PROPER ACTIVATION BY A CONTECH REPRESENTATIVE.

GENERAL NOTES

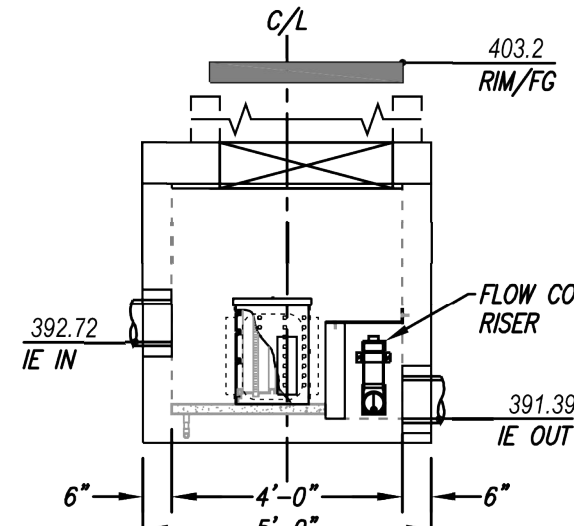
- MANUFACTURER TO PROVIDE ALL MATERIALS UNLESS OTHERWISE NOTED.
- ALL DIMENSIONS, ELEVATIONS, SPECIFICATIONS AND CAPACITIES ARE SUBJECT TO CHANGE. FOR PROJECT SPECIFIC DRAWINGS DETAILING EXACT DIMENSIONS, WEIGHTS AND ACCESSORIES PLEASE CONTACT CONTECH.



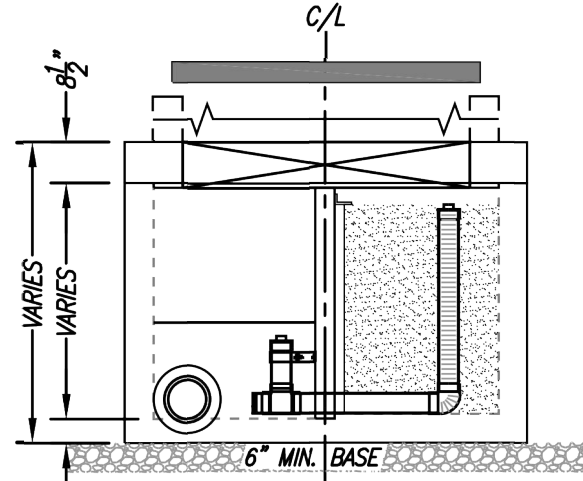
PLAN VIEW



LEFT END VIEW



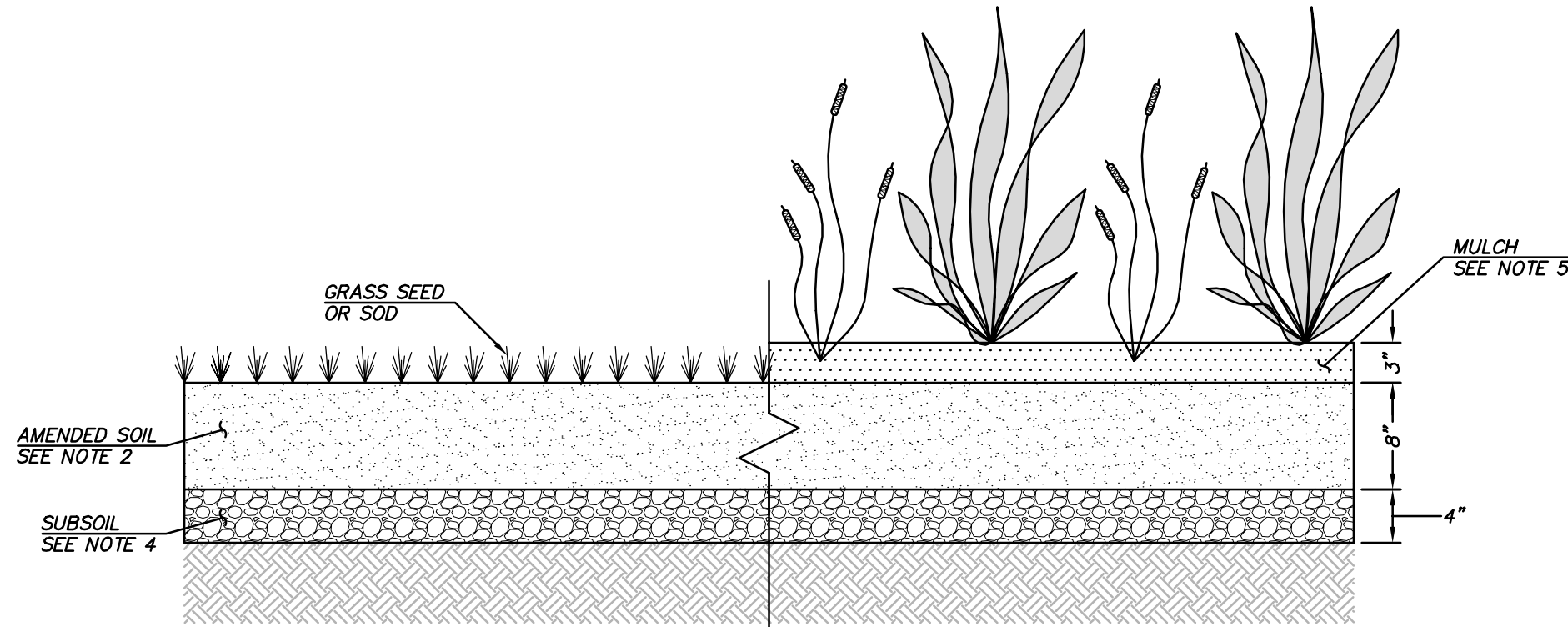
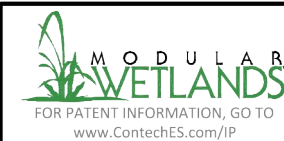
ELEVATION VIEW



RIGHT END VIEW

TREATMENT FLOW (CFS)	0.0305
OPERATING HEAD (FT)	1.4
PRETREATMENT LOADING RATE (GPM/SF)	0.5
WETLAND MEDIA LOADING RATE (GPM/SF)	1.0

**MWS-L-4-6-V-UG**  
STORMWATER BIOFILTRATION SYSTEM  
STANDARD DETAIL



**SOIL AMENDMENT NOTES FOR BMP TS.1.3**

REFERENCE: WA STATE DEPT. OF ECOLOGY'S STORMWATER MANAGEMENT MANUAL FOR W. WA  
NOT TO SCALE

NOTES FOR SOIL AMENDMENT:

GENERAL:

- FOR PLANTING AREAS, THE MINIMUM ACCEPTABLE ORGANIC MATTER CONTENT BY DRY WEIGHT IS 10% (LOSS-ON-IGNITION TESTING).
- FOR TURF AREAS, THE MINIMUM ACCEPTABLE ORGANIC MATTER CONTENT BY DRY WEIGHT IS 5% (LOSS-ON-IGNITION TESTING).
- A MINIMUM ORGANIC-AMENDED DEPTH OF 8 INCHES (EXCEPT IN TREE PROTECTION AREAS) IS REQUIRED.
- SUBSOIL SHALL BE SCARIFIED 4 INCHES BELOW AMENDED LAYER TO PRODUCE 12-INCH DEPTH OF UN-COMPACTED SOIL.
- PLANTING BEDS SHOULD BE MULCHED AFTER PLANTING WITH 2 TO 3 INCHES OF ORGANIC MATERIAL SUCH AS ARBORIST WOOD CHIP MULCH.
- SOIL AMENDMENT CANNOT BE PLACED IN OVERLY SATURATED SOILS. IT IS RECOMMENDED THAT THE SOIL AMENDMENT BE PLACED BETWEEN MAY 1 AND OCTOBER 1, WHEN SOILS ARE TYPICALLY DRIEST AND LESS SUBJECT TO COMPACTION.
- PRIOR TO SOIL INSTALLATION, APPLICANT WILL SUBMIT SOIL TEST VERIFICATION, INCLUDING TESTS FROM EITHER SUPPLIER OR CONTRACTOR (DEPENDENT ON OPTION CHOSEN) TO VERIFY ORGANIC MATTER CONTENT AND THAT COMPOST MEETS WAC SPECIFICATIONS. SOIL VERIFICATION TEST METHOD MUST MEET ASTM D2974. THE VERIFICATION SHALL CLEARLY STATE THE FOLLOWING (AT A MINIMUM): TEST DATE, TEST METHOD USED, TESTING COMPANY, AND LOSS-ON-IGNITION (LOI) RESULTS.

FOR PROJECTS 4 LOTS OR LESS - YOU MUST IMPORT AMENDED SOIL MEETING THE REQUIREMENTS BELOW:

- FOR PLANTING BEDS, A MIX BY VOLUME OF 40% COMPOST (MEETING WAC 173-350-220) WITH 60% MINERAL AGGREGATE IS PRE-APPROVED TO MEET THE ORGANIC MATTER CONTENT BY DRY WEIGHT (LOSS-ON-IGNITION TEST).
- FOR TURF AREAS, A MIX BY VOLUME OF 25% COMPOST (MEETING WAC 173-350-220) WITH 75% MINERAL AGGREGATE IS PRE-APPROVED TO MEET THE ORGANIC MATTER CONTENT BY DRY WEIGHT (LOSS-ON-IGNITION TEST).

FOR PROJECTS 5 LOTS OR GREATER - YOU MAY EITHER IMPORT AMENDED SOIL MEETING THE REQUIREMENTS ABOVE OR FOLLOW OPTION 1 OR OPTION 2 BELOW:

OPTION 1 - AMENDING EXISTING DISTURBED TOPSOIL:

- FOR PLANTING BEDS, 3 INCHES OF COMPOST (MEETING WAC 173-350-220) ON 9 INCHES SCARIFIED OR TILLED SOIL (TOTAL AMENDED DEPTH OF 12") IS PRE-APPROVED TO MEET THE ORGANIC MATTER CONTENT BY DRY WEIGHT (LOSS-ON-IGNITION TEST).
- FOR TURF AREAS, 1.75 INCHES OF COMPOST (MEETING WAC 173-350-220) ON 10 INCHES SCARIFIED OR TILLED SOIL (TOTAL AMENDED DEPTH OF 12") IS PRE-APPROVED TO MEET THE ORGANIC MATTER CONTENT BY DRY WEIGHT.

OPTION 2 - AMENDING STOCKPILED TOPSOIL AND CLEARED AREAS:

- STOCKPILE AND COVER SOIL WITH 3 INCHES OF WOOD CHIPS, WEED BARRIER, OR OTHER BREATHABLE MATERIALS THAT SHEDS MOISTURE YET ALLOWS AIR TRANSMISSION.
- TEST STOCKPILE MATERIAL (PRIOR TO ADDING COMPOST) FOR ORGANIC MATTER CONTENT TO DETERMINE WHETHER ADDITIONAL COMPOST MUST BE TILLED INTO THE STOCKPILED MATERIAL TO MEET THE REQUIRED ORGANIC MATTER CONTENT BY DRY WEIGHT (LOSS-ON-IGNITION TEST).
- AFTER THE STOCKPILED MATERIAL HAS BEEN LAID, A SOIL SAMPLE WILL BE TAKEN BY THE APPLICANT/CONTRACTOR FOR EVERY 5,000 SF OR EVERY LOT (WHICHEVER IS LESS) TO TEST THAT THE SITE MEETS THE REQUIRED ORGANIC MATTER CONTENT BY DRY WEIGHT (LOSS-ON-IGNITION TEST).

**EXISTING UTILITY NOTE**

EXISTING UTILITIES ARE SHOWN IN THE APPROXIMATE LOCATION. THERE IS NO GUARANTEE THAT ALL UTILITY LINES ARE SHOWN, OR THAT THE LOCATION, SIZE AND MATERIAL IS ACCURATE. THE CONTRACTOR SHALL UNCOVER ALL INDICATED PIPING WHERE CROSSING, INTERFERENCES, OR CONNECTIONS OCCUR PRIOR TO TRENCHING OR EXCAVATION FOR ANY PIPE OR STRUCTURES, TO DETERMINE ACTUAL LOCATIONS, SIZE AND MATERIAL. THE CONTRACTOR SHALL MAKE THE APPROPRIATE PROVISION FOR PROTECTION OF SAID FACILITIES. THE CONTRACTOR SHALL NOTIFY ONE CALL AT 8-1-1 (WASHINGTON811.COM) AND ARRANGE FOR FIELD LOCATION OF EXISTING FACILITIES BEFORE CONSTRUCTION.



**ATWELL**

25 CENTRAL WAY, SUITE 400,  
KIRKLAND, WA 98033  
P: 425.216.4051 F: 425.216.4052  
WWW.ATWELL-GROUP.COM

SCALE:

AS NOTED

PROJECT MANAGER:

T.C. COLLERAN, PLA, AICP

PROJECT ENGINEER:

LUCAS ZIROTTI

DESIGNER:

LEE M. TOMKINS

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SHT 22 OF 22