

MEEK STREET PIPE INSTALLATION

ENGINEERING CONSTRUCTION PLANS SOUTH PHASE

PROJECT CONTACTS

CITY OF MILWAUKIE

JENNIFER GARBELY, P.E.
ENGINEERING DEPARTMENT
6101 SE JOHNSON CREEK BLVD.
MILWAUKIE, OR 97206
PH: (503) 786-7609
FAX: (503) 774-8236

ENGINEERING/SURVEYING FIRM

AKS ENGINEERING & FORESTRY, LLC
CONTACT: JOHN CHRISTIANSEN, P.E.
12965 SW HERMAN ROAD, SUITE 100
TUALATIN, OR 97062
PH: (503) 563-6151
FAX: (503) 563-6152

UTILITY CONTACTS

EROSION CONTROL

JERE SONNE
CITY OF MILWAUKIE PUBLIC WORKS
6101 SE JOHNSON CREEK BLVD.
MILWAUKIE, OR 97206
PH: (503) 786-7674
FAX: (503) 786-7676

WATER/STREETS

RONELLE SEARS
CITY OF MILWAUKIE PUBLIC WORKS
6101 SE JOHNSON CREEK BLVD.
MILWAUKIE, OR 97206
PH: (503) 786-7615
FAX: (503) 786-7676

SANITARY/STORMWATER

SHANE HART
CITY OF MILWAUKIE PUBLIC WORKS
6101 SE JOHNSON CREEK BLVD.
MILWAUKIE, OR 97206
PH: (503) 786-7679
FAX: (503) 786-7676

POWER

PORTLAND GENERAL ELECTRIC
3700 SE 17TH AVENUE
PORTLAND, OR 97202
PH: (503) 736-5450

GAS

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

COMMUNICATIONS

LEVEL 3 COMMUNICATIONS
1201 4TH AVENUE
SEATTLE, WA 98101
PH: (877) 366-8344

COMMUNICATIONS

ELECTRIC LIGHTWAVE
1201 NE LLOYD BLVD.
SUITE 750
PORTLAND, OR 97232
PH: (877) 953-7747

COMMUNICATIONS

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



VICINITY MAP
NTS

SHEET SET INDEX

GENERAL SHEETS	
C000	COVER SHEET WITH VICINITY MAP
C001	GENERAL NOTES AND LEGEND
C002	SITE MAP
DEMOLITION, TREE REMOVAL AND PROTECTION PLANS	
C037	DEMOLITION, TREE REMOVAL AND PROTECTION PLANS
C038	DEMOLITION, TREE REMOVAL AND PROTECTION PLANS
C039	DEMOLITION, TREE REMOVAL AND PROTECTION PLANS
C040	DEMOLITION, TREE REMOVAL AND PROTECTION PLANS
C041	DEMOLITION, TREE REMOVAL AND PROTECTION PLANS
C042	DEMOLITION, TREE REMOVAL AND PROTECTION PLANS
C043	TREE TABLE AND NOTES
EROSION PREVENTION AND SEDIMENT CONTROL PLANS	
C050-C	1200-C EROSION PREVENTION AND SEDIMENT CONTROL COVER SHEET
C057	STM (STA 38+00 - 43+50) EROSION CONTROL PLANS
C058	STM (43+50 - 48+00) EROSION CONTROL PLANS
C059	STM (48+00 - 52+25) EROSION CONTROL PLANS
C060	STM (52+25 - 57+25) EROSION CONTROL PLANS
C061	STM (57+25 - 61+25) EROSION CONTROL PLANS
C062	STM (61+25 - 65+10) EROSION CONTROL PLANS
C063	EROSION PREVENTION AND SEDIMENT CONTROL DETAILS
C064	EROSION PREVENTION AND SEDIMENT CONTROL DETAILS
STORM SEWER CONSTRUCTION PLANS	
C208	STM (38+00 - 43+50) - PLAN AND PROFILE
C209	STM (43+50 - 48+00) - PLAN AND PROFILE
C210	STM (48+00 - 52+25) - PLAN AND PROFILE
C211	STM (52+25 - 57+25) - PLAN AND PROFILE
C212	STM (57+25 - 61+25) - PLAN AND PROFILE
C213	STM (61+25 - 65+10) - PLAN AND PROFILE
C214	CONSTRUCTION DETAILS
C215	CONSTRUCTION DETAILS
C216	CONSTRUCTION DETAILS
C217	CONSTRUCTION DETAILS
SURFACE RESTORATION PLANS	
C507	STM (38+00 - 43+50) - SURFACE RESTORATION PLANS
C508	STM (43+50 - 48+00) - SURFACE RESTORATION PLANS
C509	STM (48+00 - 52+25) - SURFACE RESTORATION PLANS
C510	STM (52+25 - 57+25) - SURFACE RESTORATION PLANS
C511	STM (57+25 - 61+25) - SURFACE RESTORATION PLANS
C512	STM (61+25 - 65+10) - SURFACE RESTORATION PLANS
C550	SITE RESTORATION DETAILS
C551	SITE RESTORATION DETAILS
C552	SITE RESTORATION DETAILS
LANDSCAPE PLANS	
L101	OAK STREET WATER QUALITY FACILITY LANDSCAPE PLAN
L102	WATER QUALITY FACILITY LANDSCAPE DETAILS

ATTENTION EXCAVATORS:

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



GENERAL REQUIREMENTS NOTES

- THE LOCATION AND DESCRIPTION OF UTILITIES SHOWN ARE COMPILED FROM AVAILABLE RECORDS AND FIELD SURVEYS. THE CITY AND UTILITY COMPANIES DO NOT GUARANTEE THE ACCURACY NOR THE COMPLETENESS OF SUCH RECORDS.
- CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THESE REQUIREMENTS ARE SET FORTH IN OAR 952-001-0010 THROUGH 952-001-0100.
- UTILITY LOCATIONS SHALL BE VERIFIED BY OREGON UTILITIES NOTIFICATION CENTER IMMEDIATELY PRIOR TO ANY EXCAVATION. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING UTILITY LOCATE MARKINGS FOR THE DURATION OF THE PROJECT.
- CONTRACTOR SHALL COMPLY WITH THE CURRENT EDITION OF THE CITY OF MILWAUKIE PUBLIC WORKS STANDARDS DATED NOVEMBER 28, 2018 IN ITS ENTIRETY.
- PROVISIONS SHALL BE MADE BY THE CONTRACTOR TO KEEP ALL EXISTING UTILITIES IN SERVICE AND PROTECT THEM DURING CONSTRUCTION. THE UTILITY OWNER SHALL BE NOTIFIED IN THE EVENT OF DAMAGE. REPAIRS WILL BE MADE AT THE CONTRACTOR'S EXPENSE.
- FOR ANY EXISTING UNDERGROUND UTILITY CONFLICTING WITH THE PROPOSED WORK DESCRIBED HEREIN, CONTRACTOR SHALL NOTIFY PROJECT MANAGER OF THE CONFLICTS.
- UTILITIES OR INTERFERING PORTIONS OF UTILITIES THAT ARE ABANDONED IN PLACE SHALL BE REMOVED BY THE CONTRACTOR TO THE EXTENT NECESSARY TO ACCOMPLISH THE WORK. ABANDONED UTILITIES SHALL BE VERIFIED BY CITY STAFF PRIOR TO REMOVAL. THE CONTRACTOR SHALL PLUG THE REMAINING EXPOSED ENDS OF ABANDONED UTILITIES WITH CONCRETE A MINIMUM OF 2 FEET INTO THE PIPE.
- ALL UTILITY CROSSINGS SHALL BE POTHOLED PRIOR TO EXCAVATION TO ALLOW FOR GRADE ADJUSTMENTS DUE TO ALIGNMENT CONFLICTS. THE USE OF BENDS TO AVOID ALIGNMENT CONFLICTS WILL NOT BE ALLOWED UNLESS OTHERWISE INDICATED.
- ALL UTILITY POINTS OF CONNECTION TO THE EXISTING SYSTEM SHALL BE POTHOLED PRIOR TO THE START OF NEW UTILITY INSTALLATION TO VERIFY ALIGNMENT, DEPTH, PIPE SIZE, AND PIPE MATERIAL. THE CONTRACTOR SHALL ARRANGE A PRE-CONNECTION MEETING WITH THE CITY PRIOR TO THE START OF CONNECTION WORK.
- CONTRACTOR SHALL INSTALL, UTILIZE, AND MAINTAIN EROSION PREVENTION AND SEDIMENT CONTROL DEVICES IN ACCORDANCE WITH THE DEQ 1200-C EROSION PREVENTION & SEDIMENT CONTROL NOTES AND DETAILS.
- CONTRACTOR SHALL PROVIDE A TRAFFIC CONTROL PLAN IN ACCORDANCE WITH THE REQUIREMENTS ON SHEET TR1 THROUGH TR3 PRIOR TO START OF WORK. CONTRACTOR TO INSTALL, MAINTAIN, AND REMOVE TRAFFIC CONTROL DEVICES AS NEEDED OR DIRECTED. ADDITIONS AND/OR DEVIATIONS FROM THE TCP SHALL BE APPROVED BY THE PROJECT MANAGER.
- ALL SALVAGED TRAFFIC SIGNS SHALL BE STORED SAFELY TO PREVENT DAMAGES. DAMAGED STREET SIGNAGE SHALL BE REPLACED AT CONTRACTORS EXPENSE.
- ALL EXCAVATIONS WITHIN THE PAVED STREET SHALL BE TEMPORARILY RESURFACED AT THE END OF EACH WORK DAY AND PRIOR TO ALLOWING VEHICULAR TRAFFIC ONTO EXCAVATED AREAS. CONTRACTOR SHALL BE RESPONSIBLE FOR PLACING, MAINTAINING, AND REMOVING TEMPORARY SURFACING MATERIALS. NO MEASUREMENT WILL BE MADE FOR TEMPORARY SURFACING MATERIALS AND IS CONSIDERED INCIDENTAL TO THE WORK. THE USE OF STEEL PLATES WILL NOT BE ALLOWED WITHOUT PRIOR APPROVAL BY THE CITY ENGINEER.
- CONTRACTOR SHALL NOT REMOVE ANY STREET SIGNAGE WITHOUT PRIOR CITY APPROVAL.
- CONTRACTOR SHALL REPLACE DAMAGED OR REMOVED PAVEMENT MARKINGS UPON COMPLETION OF FINAL PAVING.
- PRIOR TO FINAL PAYMENT, CONTRACTOR SHALL SUBMIT COMPLETE "AS BUILT" PLANS TO THE CITY SHOWING ANY CHANGES FROM THE ORIGINAL PLAN. THE CONTRACTOR SHALL KEEP A COMPLETE SET OF "AS BUILTS" ON SITE THAT MUST BE KEPT UP TO DATE AT ALL TIMES AND AVAILABLE FOR CITY INSPECTION.
- ALL MATERIALS AND WORKMANSHIP SHALL BE SUBJECT TO INSPECTION BY THE CITY. THE CITY RESERVES THE RIGHT TO ACCEPT OR REJECT ANY MATERIALS OR WORKMANSHIP THAT DOES NOT CONFORM TO THE CITY STANDARDS AND SPECIFICATIONS.
- CONTRACTOR SHALL CONTACT THE CITY PROJECT MANAGER AT LEAST 24 HOURS IN ADVANCE TO SCHEDULE AN INSPECTION.
- NEITHER THE AGENCY NOR THE OWNER WILL ENFORCE SAFETY MEASURES OR REGULATIONS. THE CONTRACTOR SHALL DESIGN, CONSTRUCT, AND MAINTAIN ALL SAFETY DEVICES, INCLUDING SHORING. THE CONTRACTOR SHALL SOLELY BE RESPONSIBLE FOR CONFORMING TO ALL LOCAL, STATE, AND FEDERAL SAFETY AND HEALTH STANDARDS, LAWS, AND REGULATIONS.

GENERAL UTILITY NOTES

- AKS ENGINEERING CIVIL/SITE INSPECTION STAFF SHALL BE NOTIFIED 48 HOURS BEFORE ANY CONSTRUCTION BEGINS.
- ALL CONSTRUCTION IN THE CITY OF MILWAUKIE RIGHT-OF-WAY, OR EASEMENT, SHALL CONFORM TO THE CURRENT EDITION OF THE CITY OF MILWAUKIE PUBLIC WORKS STANDARDS DATED NOVEMBER 28, 2018 IN ITS ENTIRETY.
- TRAFFIC REGULATIONS: ALL WORK MUST COMPLY WITH REQUIREMENTS STATED IN OREGON TEMPORARY TRAFFIC CONTROL HANDBOOK DATED DECEMBER 2011.
- ALL LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES ARE ESTIMATE. CONTRACTOR IS RESPONSIBLE FOR LOCATING AND CONFIRMING DEPTHS OF ALL EXISTING UTILITIES.

STORM SEWER NOTES

- STORM SEWER SYSTEMS SHALL BE AS SPECIFIED IN THE CITY OF MILWAUKIE PUBLIC WORKS STANDARDS UNLESS OTHERWISE SHOWN ON THE PLANS OR APPROVED BY THE CITY ENGINEER.
- ALL STORM SEWER PIPE TO BE INSTALLED WITH WATER TIGHT JOINTS AND PLUGS.
- ALL STORM SEWER MAINS MUST PASS ALL REQUIRED TESTING PER THE CITY OF MILWAUKIE PUBLIC WORKS STANDARDS, DIVISION 6, BEFORE ACCEPTED AS COMPLETE. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TESTING.
- ALL STORM SEWER MANHOLE LID COVERS AND CATCH BASINS GRATE TO MATCH FINISHED GRADE.

SURVEY NOTES:

- UTILITIES SHOWN ARE BASED ON UNDERGROUND UTILITY LOCATE MARKINGS AS PROVIDED BY OTHERS, PROVIDED PER UTILITY LOCATE TICKET NUMBER 17061614, 17061626, 17063534, 17063551, 17070748, 1700757, 17070769, 17070775, 17070787, 17070797, 17070830, AND 17070868. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND LOCATES REPRESENT THE ONLY UTILITIES IN THE AREA. CONTRACTORS ARE RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITIONS PRIOR TO BEGINNING CONSTRUCTION.
- FIELD WORK WAS CONDUCTED MARCH 27 - APRIL 21, 2017.
- HORIZONTAL DATUM: A LOCAL DATUM PLANE DERIVED FROM OREGON STATE PLANE NORTH 3601 NAD83 (2011) EPOCH 2010.0000 BY HOLDING A PROJECT MEAN GROUND COMBINED SCALE FACTOR OF 1.0000950510 AT A CALCULATED CENTRAL PROJECT POINT WITH INTERNATIONAL FOOT GRID VALUES OF (NORTH 656,290.37, EAST 7,655,277.32). THE MERIDIAN CONVERGENCE ANGLE AT THE CALCULATED CENTRAL POINT IS -130'40".
- VERTICAL DATUM: ELEVATIONS ARE BASED ON THE SOUTH ONE-QUARTER OF SECTION 34, TOWNSHIP 1 SOUTH, RANGE 2 EAST, PER CLACKAMAS COUNTY SURVEY NUMBER 2005-084 AND USBT 1991-011, ELEVATION OF 342.50 FEET (NAVD 88).
- THIS MAP DOES NOT CONSTITUTE A PROPERTY BOUNDARY SURVEY.
- SURVEY IS ONLY VALID WITH SURVEYOR'S STAMP AND SIGNATURE.
- BUILDING FOOTPRINTS ARE MEASURED TO SIDING UNLESS NOTED OTHERWISE. CONTACT SURVEYOR WITH QUESTIONS REGARDING BUILDING TIES.
- CONTOUR INTERVAL IS 1 FOOT.
- TREES WITH DIAMETER OF 6" AND GREATER ARE SHOWN. TREE DIAMETERS WERE MEASURED UTILIZING A DIAMETER TAPE AT BREST HEIGHT. TREE INFORMATION IS SUBJECT TO CHANGE UPON ARBORIST INSPECTION.

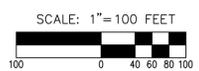
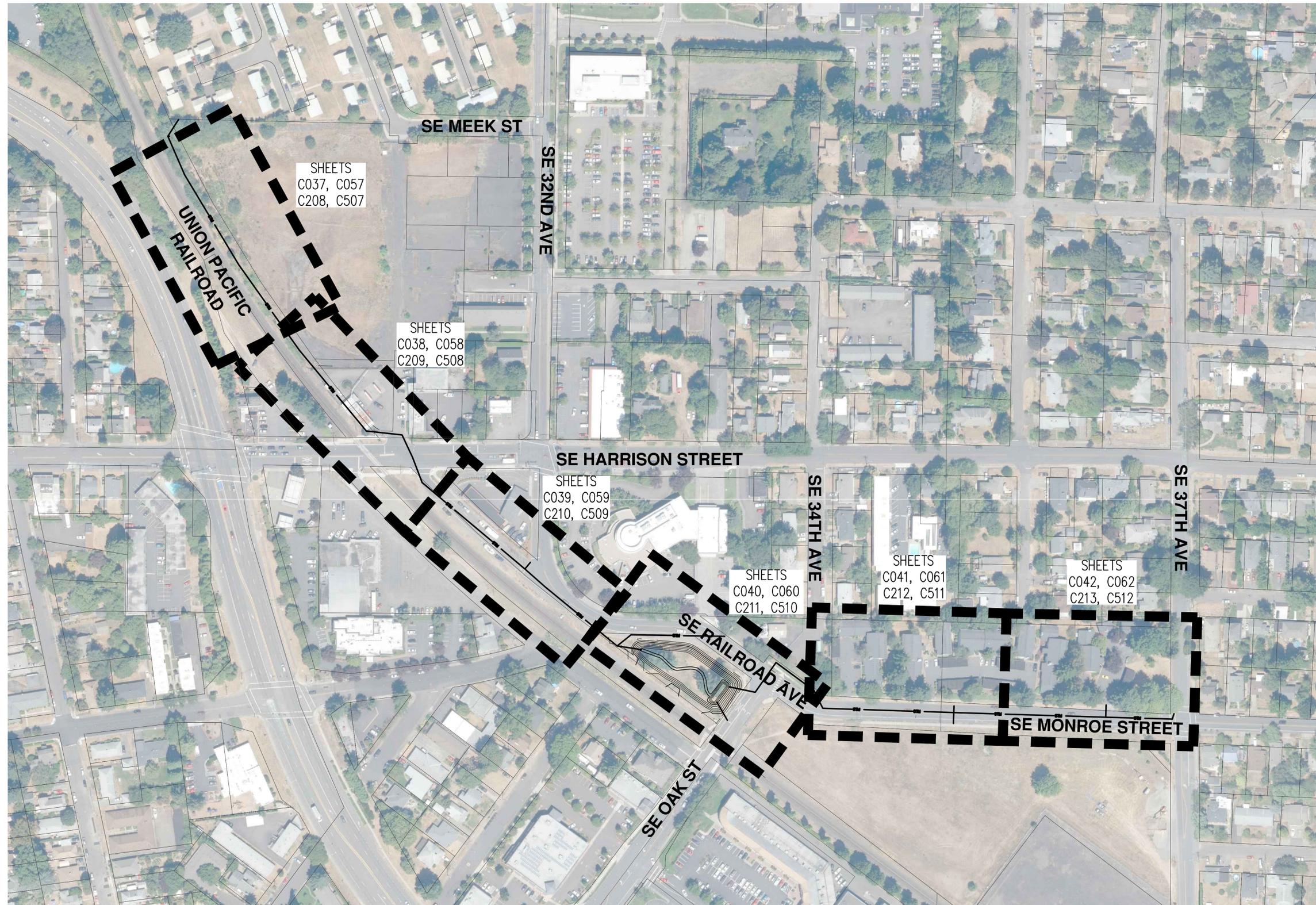
LEGEND

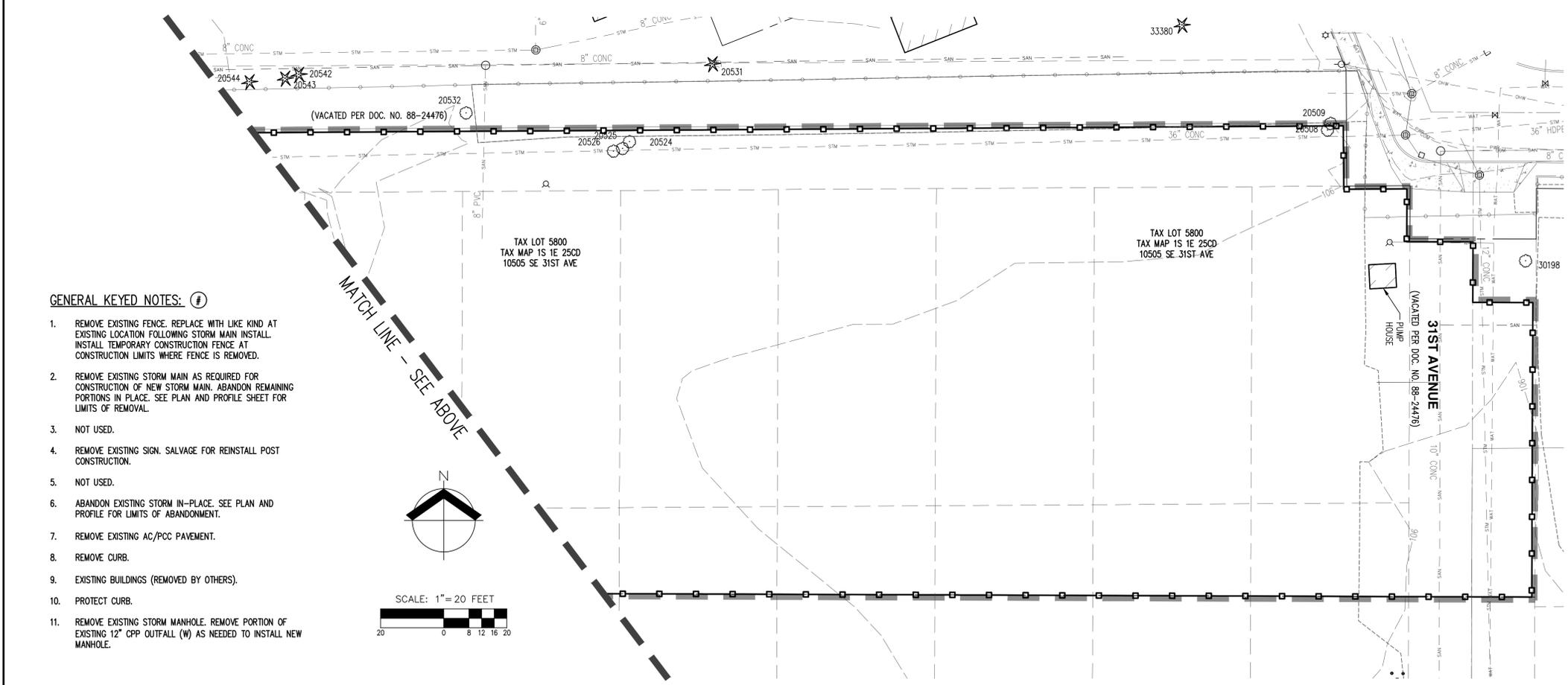
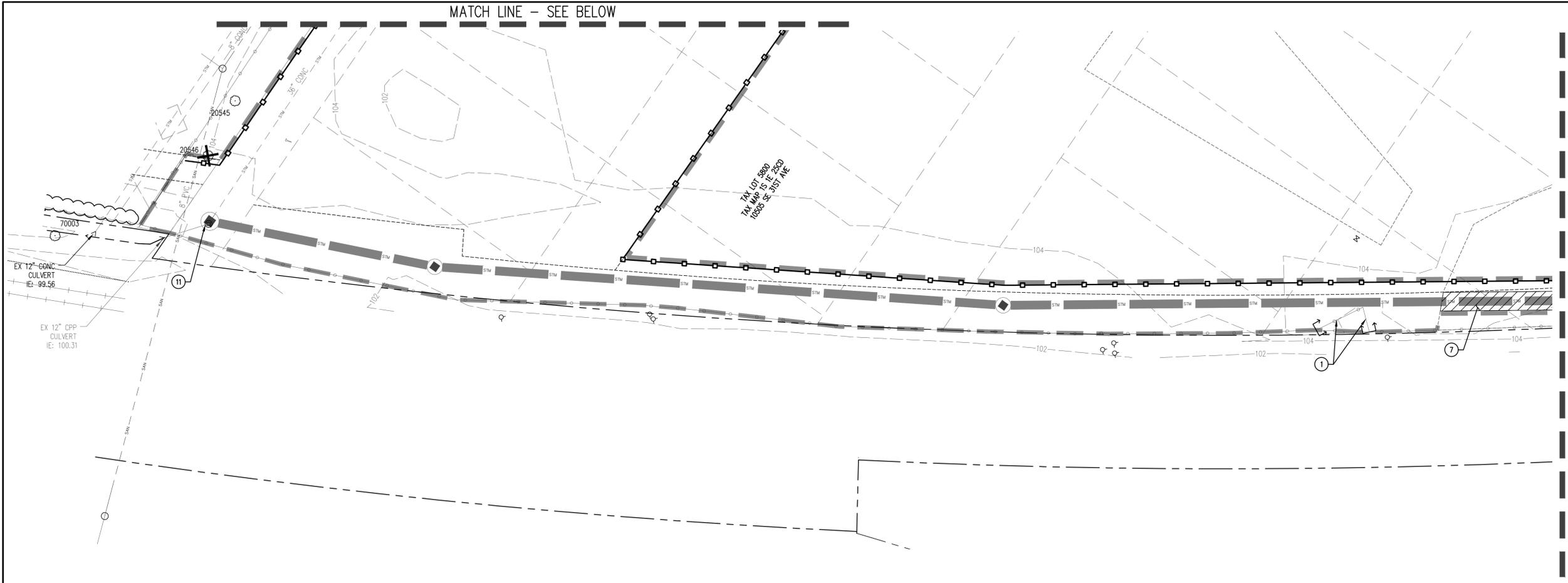
	EXISTING	EXISTING	PROPOSED
DECIDUOUS TREE			
CONIFEROUS TREE			
FIRE HYDRANT			
WATER BLOWOFF			
WATER METER			
WATER VALVE			
DOUBLE CHECK VALVE			
AIR RELEASE VALVE			
SANITARY SEWER CLEAN OUT			
SANITARY SEWER MANHOLE			
SIGN			
STREET LIGHT			
MAILBOX			
STORM SEWER CLEAN OUT			
STORM SEWER CATCH BASIN			
STORM SEWER AREA DRAIN			
STORM SEWER MANHOLE			
GAS METER			
GAS VALVE			
GUY WIRE ANCHOR			
POWER POLE			
POWER VAULT			
POWER JUNCTION BOX			
POWER PEDESTAL			
COMMUNICATIONS VAULT			
COMMUNICATIONS JUNCTION BOX			
COMMUNICATIONS RISER			
RIGHT-OF-WAY LINE			
BOUNDARY LINE			
PROPERTY LINE			
CENTERLINE			
DITCH			
CURB			
EDGE OF PAVEMENT			
EASEMENT			
FENCE LINE			
GRAVEL EDGE			
POWER LINE			
OVERHEAD WIRE			
COMMUNICATIONS LINE			
FIBER OPTIC LINE			
GAS LINE			
STORM SEWER LINE			
SANITARY SEWER LINE			
WATER LINE			

ABBREVIATIONS

AD: AREA DRAIN
 CB: CATCH BASIN
 DI: DITCH INLET
 ESM: EASEMENT
 EX: EXISTING
 MH: MANHOLE
 SD: STORM DRAIN
 SAN: SANITARY
 SS: SANITARY SEWER
 STM: STORM







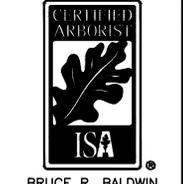
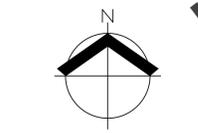
LEGEND

EXISTING GROUND CONTOUR (2 FT)	---	348
EXISTING GROUND CONTOUR (10 FT)	---	350
TREE TO REMAIN	☆	CONFEROUS
TREE TO REMOVE	✕	DECIDUOUS
FENCE REMOVAL LIMITS	---	
SEDIMENT FENCE (SEE ERC PLANS)	---	
ORANGE CONSTRUCTION/TREE PROTECTION FENCE	---	
EXISTING STORM MAIN TO BE REMOVED	---	
EXISTING STORM MAIN TO BE ABANDONED IN-PLACE	---	
DISTURBED LIMITS	---	
TRENCH SAWCUT IN PAVEMENT	---	
AC/PCC PAVEMENT REMOVAL	---	

- NOTES:**
1. EROSION CONTROL MEASURES SHOWN FOR REFERENCE ONLY. SEE EROSION CONTROL PLANS FOR EROSION CONTROL MEASURES.
 2. SEE SHEET C044 FOR TREE REMOVAL AND PROTECTION NOTES.
 3. INVASIVE SPECIES SHALL BE REMOVED BY CONTRACTOR WITHIN THE DISTURBED LIMITS.

GENERAL KEYED NOTES:

1. REMOVE EXISTING FENCE. REPLACE WITH LIKE KIND AT EXISTING LOCATION FOLLOWING STORM MAIN INSTALL. INSTALL TEMPORARY CONSTRUCTION FENCE AT CONSTRUCTION LIMITS WHERE FENCE IS REMOVED.
2. REMOVE EXISTING STORM MAIN AS REQUIRED FOR CONSTRUCTION OF NEW STORM MAIN. ABANDON REMAINING PORTIONS IN PLACE. SEE PLAN AND PROFILE SHEET FOR LIMITS OF REMOVAL.
3. NOT USED.
4. REMOVE EXISTING SIGN. SALVAGE FOR REINSTALL POST CONSTRUCTION.
5. NOT USED.
6. ABANDON EXISTING STORM IN-PLACE. SEE PLAN AND PROFILE FOR LIMITS OF ABANDONMENT.
7. REMOVE EXISTING AC/PCC PAVEMENT.
8. REMOVE CURB.
9. EXISTING BUILDINGS (REMOVED BY OTHERS).
10. PROTECT CURB.
11. REMOVE EXISTING STORM MANHOLE. REMOVE PORTION OF EXISTING 12" CPP OUTFALL (W) AS NEEDED TO INSTALL NEW MANHOLE.



BRUCE R. BALDWIN
 CERTIFICATE NUMBER: PN-6665A
 EXPIRATION DATE: 12/31/20



LEGEND

EXISTING GROUND CONTOUR (2 FT)	---
EXISTING GROUND CONTOUR (10 FT)	---
TREE TO REMAIN	✱
TREE TO REMOVE	✕
FENCE REMOVAL LIMITS	—
SEDIMENT FENCE (SEE ERC PLANS)	—
ORANGE CONSTRUCTION/TREE PROTECTION FENCE	—
EXISTING STORM MAIN TO BE REMOVED	—
EXISTING STORM MAIN TO BE ABANDONED IN-PLACE	—
DISTURBED LIMITS	—
TRENCH SAWCUT IN PAVEMENT	—
AC/PCC PAVEMENT REMOVAL	▨

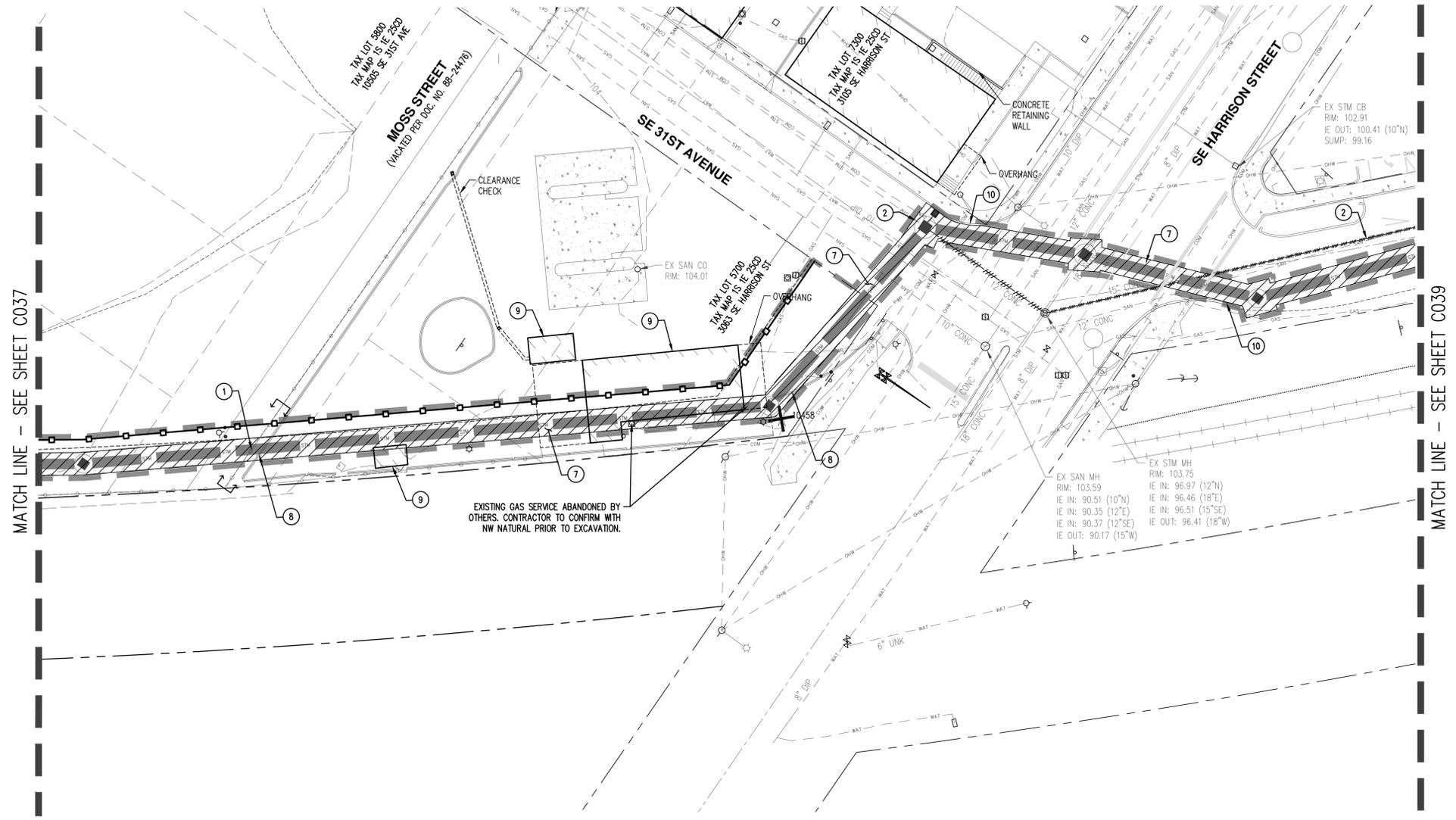
CONIFEROUS DECIDUOUS

NOTES:

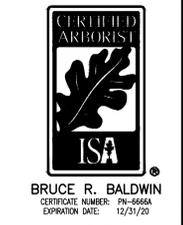
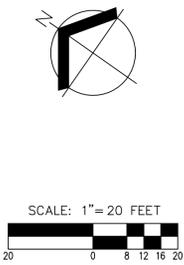
1. EROSION CONTROL MEASURES SHOWN FOR REFERENCE ONLY. SEE EROSION CONTROL PLANS FOR EROSION CONTROL MEASURES.
2. SEE SHEET C044 FOR TREE REMOVAL AND PROTECTION NOTES.
3. INVASIVE SPECIES SHALL BE REMOVED BY CONTRACTOR WITHIN THE DISTURBED LIMITS.

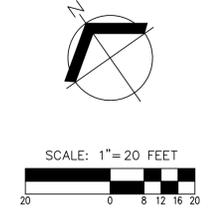
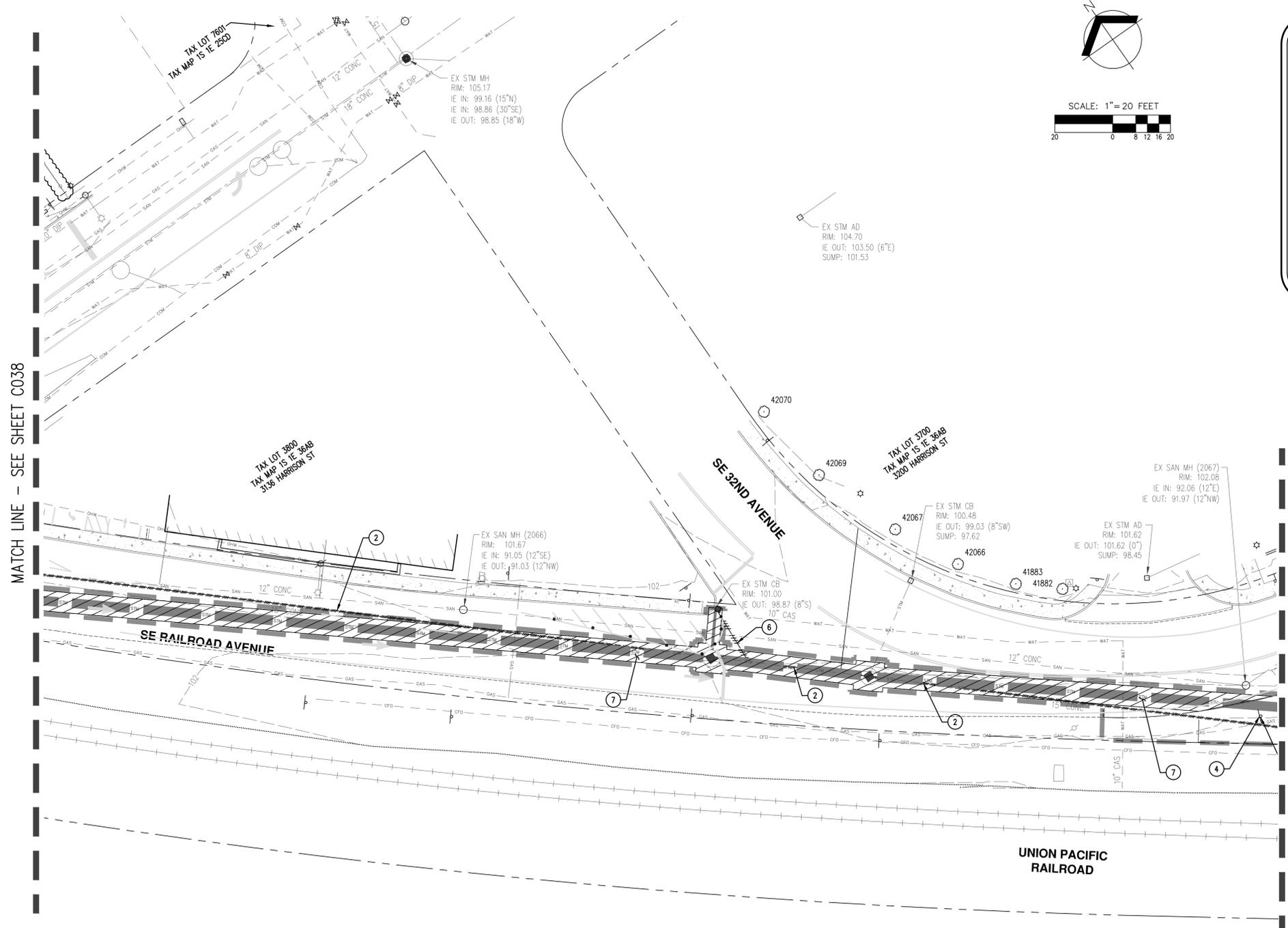
GENERAL KEYED NOTES: #

1. REMOVE EXISTING FENCE. REPLACE WITH LIKE KIND AT EXISTING LOCATION FOLLOWING STORM MAIN INSTALL. INSTALL TEMPORARY CONSTRUCTION FENCE AT CONSTRUCTION LIMITS WHERE FENCE IS REMOVED.
2. REMOVE EXISTING STORM MAIN AS REQUIRED FOR CONSTRUCTION OF NEW STORM MAIN. ABANDON REMAINING PORTIONS IN PLACE. SEE PLAN AND PROFILE SHEET FOR LIMITS OF REMOVAL.
3. NOT USED.
4. REMOVE EXISTING SIGN. SALVAGE FOR REINSTALL POST CONSTRUCTION.
5. NOT USED.
6. ABANDON EXISTING STORM IN-PLACE. SEE PLAN AND PROFILE FOR LIMITS OF ABANDONMENT.
7. REMOVE EXISTING AC/PCC PAVEMENT.
8. REMOVE CURB.
9. EXISTING BUILDINGS (REMOVED BY OTHERS).
10. PROTECT CURB.
11. REMOVE EXISTING STORM MANHOLE. REMOVE PORTION OF EXISTING 12" CPP OUTFALL (W) AS NEEDED TO INSTALL NEW MANHOLE.



ALL WORK WITHIN HARRISON STREET RIGHT-OF-WAY WILL OCCUR DURING NIGHT WORK ONLY.





LEGEND

EXISTING GROUND CONTOUR (2 FT)	---	348
EXISTING GROUND CONTOUR (10 FT)	---	350
TREE TO REMAIN		CONFEROUS
TREE TO REMOVE		DECIDUOUS
FENCE REMOVAL LIMITS		
SEDIMENT FENCE (SEE ERC PLANS)		
ORANGE CONSTRUCTION/TREE PROTECTION FENCE		
EXISTING STORM MAIN TO BE REMOVED		
EXISTING STORM MAIN TO BE ABANDONED IN-PLACE		
DISTURBED LIMITS		
TRENCH SAWCUT IN PAVEMENT		
AC/PCC PAVEMENT REMOVAL		

- NOTES:**
- EROSION CONTROL MEASURES SHOWN FOR REFERENCE ONLY. SEE EROSION CONTROL PLANS FOR EROSION CONTROL MEASURES.
 - SEE SHEET C044 FOR TREE REMOVAL AND PROTECTION NOTES.
 - INVASIVE SPECIES SHALL BE REMOVED BY CONTRACTOR WITHIN THE DISTURBED LIMITS.

- GENERAL KEYED NOTES: (1)**
- REMOVE EXISTING FENCE. REPLACE WITH LIKE KIND AT EXISTING LOCATION FOLLOWING STORM MAIN INSTALL. INSTALL TEMPORARY CONSTRUCTION FENCE AT CONSTRUCTION LIMITS WHERE FENCE IS REMOVED.
 - REMOVE EXISTING STORM MAIN AS REQUIRED FOR CONSTRUCTION OF NEW STORM MAIN. ABANDON REMAINING PORTIONS IN PLACE. SEE PLAN AND PROFILE SHEET FOR LIMITS OF REMOVAL.
 - NOT USED.
 - REMOVE EXISTING SIGN. SALVAGE FOR REINSTALL POST CONSTRUCTION.
 - NOT USED.
 - ABANDON EXISTING STORM IN-PLACE. SEE PLAN AND PROFILE FOR LIMITS OF ABANDONMENT.
 - REMOVE EXISTING AC/PCC PAVEMENT.
 - REMOVE CURB.
 - EXISTING BUILDINGS (REMOVED BY OTHERS).
 - PROTECT CURB.
 - REMOVE EXISTING STORM MANHOLE. REMOVE PORTION OF EXISTING 12" CPP OUTFALL (W) AS NEEDED TO INSTALL NEW MANHOLE.

DESIGNED BY: JPC
 DRAWN BY: NAD
 CHECKED BY: JPC
 SCALE: AS NOTED
 DATE: 01/14/2020

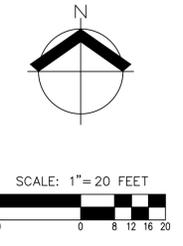
BRUCE R. BALDWIN
 CERTIFICATE NUMBER: PE-6666A
 EXPIRATION DATE: 12/31/20

REVISIONS

JOB NUMBER
5122

SHEET
C039



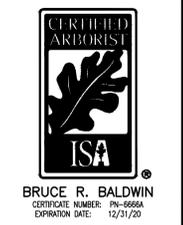
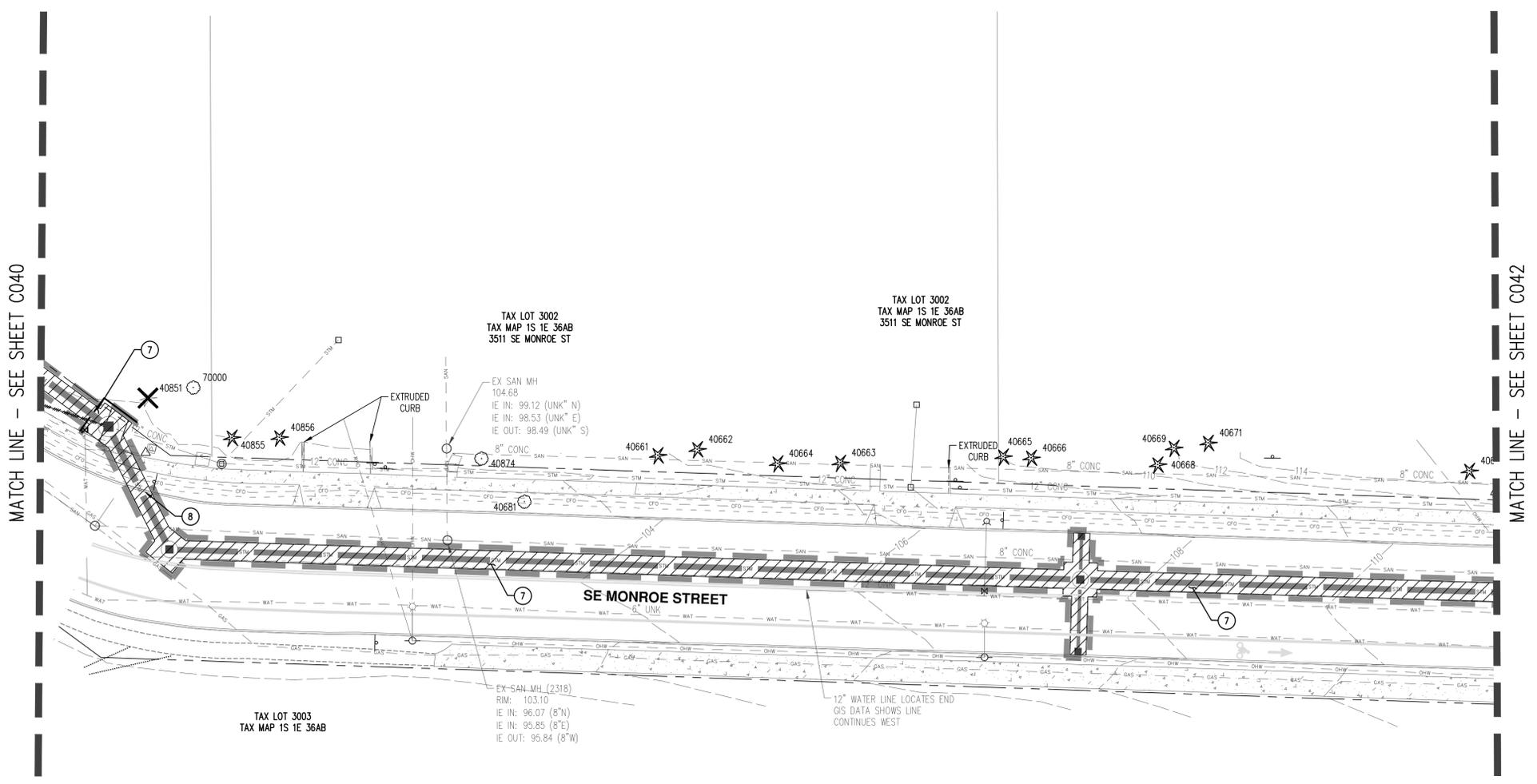


LEGEND

EXISTING GROUND CONTOUR (2 FT)	---
EXISTING GROUND CONTOUR (10 FT)	---
TREE TO REMAIN	✱
TREE TO REMOVE	✱
FENCE REMOVAL LIMITS	X
SEDIMENT FENCE (SEE ERC PLANS)	X
ORANGE CONSTRUCTION/TREE PROTECTION FENCE	—
EXISTING STORM MAIN TO BE REMOVED	—
EXISTING STORM MAIN TO BE ABANDONED IN-PLACE	—
DISTURBED LIMITS	—
TRENCH SAWCUT IN PAVEMENT	—
AC/PCC PAVEMENT REMOVAL	▨

- NOTES:**
- EROSION CONTROL MEASURES SHOWN FOR REFERENCE ONLY. SEE EROSION CONTROL PLANS FOR EROSION CONTROL MEASURES.
 - SEE SHEET C044 FOR TREE REMOVAL AND PROTECTION NOTES.
 - INVASIVE SPECIES SHALL BE REMOVED BY CONTRACTOR WITHIN THE DISTURBED LIMITS.

- GENERAL KEYED NOTES: #**
- REMOVE EXISTING FENCE. REPLACE WITH LIKE KIND AT EXISTING LOCATION FOLLOWING STORM MAIN INSTALL. INSTALL TEMPORARY CONSTRUCTION FENCE AT CONSTRUCTION LIMITS WHERE FENCE IS REMOVED.
 - REMOVE EXISTING STORM MAIN AS REQUIRED FOR CONSTRUCTION OF NEW STORM MAIN. ABANDON REMAINING PORTIONS IN PLACE. SEE PLAN AND PROFILE SHEET FOR LIMITS OF REMOVAL.
 - NOT USED.
 - REMOVE EXISTING SIGN. SALVAGE FOR REINSTALL POST CONSTRUCTION.
 - NOT USED.
 - ABANDON EXISTING STORM IN-PLACE. SEE PLAN AND PROFILE FOR LIMITS OF ABANDONMENT.
 - REMOVE EXISTING AC/PCC PAVEMENT.
 - REMOVE CURB.
 - EXISTING BUILDINGS (REMOVED BY OTHERS).
 - PROTECT CURB.
 - REMOVE EXISTING STORM MANHOLE. REMOVE PORTION OF EXISTING 12" CPP OUTFALL (W) AS NEEDED TO INSTALL NEW MANHOLE.



Detailed Tree Inventory for Meek Street Pipe Installation Schedule B (STA 38+43.70 to STA 65+02.61)

AKS Job No. 5122 - Evaluation Date: 1/25/2018

Tree #	DBH (in.)	Tree Species Common Name (Scientific name)	Comments	Health Rating*	Structure Rating**	Reason For Removal
10458	14	Lodgepole Pine (<i>Pinus contorta</i>)		1	1	Remove
20545	6	Locust (<i>Gleditsia sp.</i>)		1	1	Remove
20546	15	Locust (<i>Gleditsia sp.</i>)	Codominant	1	1	Remove
40256	23, 15	Bigleaf Maple (<i>Acer macrophyllum</i>)		1	1	Preserve
40257	19, 15, 15, 12, 11	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
40259	37, 16, 26, 29, 29	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Codominant, several cavities and scars, cavity on 16 inch stem has decay	1	2	Preserve
40262	32	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
40400	32	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Some branch pruning on stem	1	1	Preserve
40401	11	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Some branch pruning on stem	1	1	Preserve
40403	22	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Some branch pruning on stem	1	1	Preserve
40405	17	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
40407	17	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Some branch pruning on stem	1	1	Preserve
40409	24	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
40410	8, 14, 10	Lodgepole Pine (<i>Pinus contorta</i>)	Some branch pruning on stem	1	1	Preserve
40661	25	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Some branch pruning on stem	1	1	Preserve
40662	8	Lodgepole Pine (<i>Pinus contorta</i>)	Codominant, branch on north dead, heavily weighted to south	1	2	Preserve
40663	28	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Some branch pruning on stem	1	1	Preserve
40664	20	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Some branch pruning on stem	1	1	Preserve
40665	9, 6	Mountain Hemlock (<i>Tsuga mertensiana</i>)	Codominant	1	1	Preserve
40666	11, 10	Mountain Hemlock (<i>Tsuga mertensiana</i>)	Codominant	1	1	Preserve
40668	15	Lodgepole Pine (<i>Pinus contorta</i>)	Broken top	1	2	Preserve
40669	12	Lodgepole Pine (<i>Pinus contorta</i>)		1	1	Preserve
40671	9, 14	Lodgepole Pine (<i>Pinus contorta</i>)	Several broken branches	1	2	Preserve
40677	32	Western Redcedar (<i>Thuja plicata</i>)	Codominant	1	1	Preserve
40678	12	Mountain Hemlock (<i>Tsuga mertensiana</i>)		1	1	Preserve
40679	29	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Preserve
40680	12	Mountain Hemlock (<i>Tsuga mertensiana</i>)		1	1	Preserve
40681	10, 8	Cherry (<i>Prunus sp.</i>)	Codominant with poor attachment at base at the location of old cut, weighted to the south	1	2	Preserve
40851	17	Lodgepole Pine (<i>Pinus contorta</i>)	All foliage to south/southwest, leans (S)	1	2	Remove
40855	15	Mountain Hemlock (<i>Tsuga mertensiana</i>)		1	1	Preserve
40856	12	Mountain Hemlock (<i>Tsuga mertensiana</i>)	Leans (E)	1	2	Preserve
40874	23	Bigleaf Maple (<i>Acer macrophyllum</i>)		1	1	Preserve
40947	19	Lodgepole Pine (<i>Pinus contorta</i>)	Topped for overhead wires	2	3	Preserve
40948	15	Lodgepole Pine (<i>Pinus contorta</i>)	Topped for overhead wires	2	3	Preserve
40949	12	Lodgepole Pine (<i>Pinus contorta</i>)	Topped for overhead wires	2	3	Preserve
40950	17	Lodgepole Pine (<i>Pinus contorta</i>)	Topped for overhead wires	2	3	Preserve
40994	12	Lodgepole Pine (<i>Pinus contorta</i>)		1	1	Remove
40995	9, 9	Lodgepole Pine (<i>Pinus contorta</i>)	Broken top	1	2	Remove
41037	22	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Some branch pruning on stem	1	1	Remove
41038	14	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Some branch pruning on stem, top out of alignment with rest of stem from old broken top	1	2	Remove
41039	15	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Some branch pruning on stem	1	1	Remove
41040	13	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Some branch pruning on stem	1	1	Remove
41041	15	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Some branch pruning on stem	1	1	Remove
41042	15	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Some branch pruning on stem	1	1	Remove
41043	14	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Some branch pruning on stem	1	1	Remove
41044	18	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Some branch pruning on stem	1	1	Remove
41045	21	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Some branch pruning on stem	1	1	Remove
41046	15	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Some branch pruning on stem	1	1	Remove
41047	14	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Top dead	3	2	Remove
41048	20	Douglas-fir (<i>Pseudotsuga menziesii</i>)	Some branch pruning on stem	1	1	Remove
41049	45	Cottonwood (<i>Populus sp.</i>)	Codominant	1	1	Remove
41520	16	Lodgepole Pine (<i>Pinus contorta</i>)	Topped for overhead wires	2	3	Preserve
41591	13	Oak (<i>Quercus sp.</i>)		1	1	Preserve
41592	16	Oak (<i>Quercus sp.</i>)		1	1	Preserve
41594	16	Maple (<i>Acer sp.</i>)		1	1	Preserve
41598	13	Maple (<i>Acer sp.</i>)		1	1	Preserve
41599	10	Maple (<i>Acer sp.</i>)		1	1	Preserve
41600	11	Maple (<i>Acer sp.</i>)		1	1	Preserve
41882	11	Cherry (<i>Prunus sp.</i>)		1	1	Preserve
41883	11	Cherry (<i>Prunus sp.</i>)		1	1	Preserve
42066	8	Maple (<i>Acer sp.</i>)		1	1	Preserve
42067	6	Maple (<i>Acer sp.</i>)		1	1	Preserve
42069	6	Maple (<i>Acer sp.</i>)		1	1	Preserve
42070	6	Maple (<i>Acer sp.</i>)		1	1	Preserve
70000	18, 15, 15	Bigleaf Maple (<i>Acer macrophyllum</i>)	Codominant	1	1	Preserve
70001	14	Douglas-fir (<i>Pseudotsuga menziesii</i>)		1	1	Remove
70002	17	Lodgepole Pine (<i>Pinus contorta</i>)	Topped for overhead wires	2	3	Preserve
70003	6	European White Birch (<i>Betula pendula</i>)		1	1	Preserve

Total # of Existing Trees Inventoried = 68

Total # of Existing Trees to be Preserved= 48

Total # of Existing Trees to be Removed= 20

***Health Rating:**

- 1 = Good Health - A tree that exhibits typical foliage, bark, and root characteristics, for its respective species, shows no signs of infection or infestation, and has a high level of vigor and vitality.
- 2 = Fair Health - A tree that exhibits some abnormal health characteristics and/or shows some signs of infection or infestation, but may be reversed or abated with supplemental treatment.
- 3 = Poor Health - A tree that is in significant decline, to the extent that supplemental treatment would not likely result in reversing or abating its decline.

****Structure Rating:**

- 1 = Good Structure - A tree that exhibits typical physical form characteristics, for its respective species, shows no signs of structural defects of the canopy, trunk, and/or root system.
- 2 = Fair Structure - A tree that exhibits some abnormal physical form characteristics and/or some signs of structural defects, which reduce the structural integrity of the tree, but are not indicative of imminent physical failure, and may be corrected using arboricultural abatement methods.
- 3 = Poor Structure - A tree that exhibits extensively abnormal physical form characteristics and/or significant structural defects that substantially reduces the structural viability of the tree, cannot feasibly be abated, and are indicative of imminent physical failure.

Arborist Disclosure Statement:

Arborists are tree specialists who use their education, knowledge, training, and experience to examine trees, recommend measures to enhance the health of trees, and attempt to reduce the risk of living near trees. The Client and Jurisdiction may choose to accept or disregard the recommendations of the arborist, or seek additional advice. Arborists cannot detect every condition that could possibly lead to the structural failure of a tree. Trees are living organisms that fail in ways we do not fully understand. Conditions are often hidden within trees and below ground. Arborists cannot guarantee that a tree will be healthy or safe under all circumstances, or for a specified period of time. Likewise, remedial treatments, like medicine, can be guaranteed. Trees can be managed, but they cannot be controlled. To live near trees is to accept some degree of risk. The only way to eliminate all risk associated with trees is to eliminate all trees. Neither this author nor AKS Engineering & Forestry, LLC have assumed any responsibility for liability associated with the trees on or adjacent to this site.

At the completion of construction, all trees should once again be reviewed. Land clearing and removal of adjacent trees can expose previously unseen defects and otherwise healthy trees can be damaged during construction.

TREE PRESERVATION NOTES:

PLACING MATERIALS NEAR TREES:

- NO PERSON MAY CONDUCT ANY ACTIVITY WITHIN THE TREE PROTECTION AREA OF ANY TREE DESIGNATED TO REMAIN, INCLUDING, BUT NOT LIMITED TO, PARKING EQUIPMENT, PLACING SOLVENTS, STORING BUILDING MATERIAL AND SOIL DEPOSITS, DUMPING CONCRETE WASHOUT.

ATTACHMENTS TO TREES:

- DURING CONSTRUCTION, NO PERSON SHALL ATTACH ANY OBJECT TO ANY TREE DESIGNATED FOR PROTECTION.

GRADING NEAR TREES:

- THE GRADE ADJACENT TO A PRESERVED TREE IS RAISED SUCH THAT IT COULD SLOUGH OR ERODE INTO THE TREE PROTECTION AREA. IT SHALL BE PERMANENTLY STABILIZED TO PREVENT SUFFOCATION OF THE ROOTS.
- IF THE GRADE ADJACENT TO A PRESERVED TREE IS RAISED SUCH THAT IT COULD SLOUGH OR ERODE INTO THE TREE PROTECTION AREA, IT SHALL BE PERMANENTLY STABILIZED TO PREVENT SUFFOCATION OF THE ROOTS.
- THE APPLICANT SHALL NOT INSTALL AN IMPERVIOUS SURFACE WITHIN THE TREE PROTECTION AREA WITHOUT THE AUTHORIZATION OF THE PROJECT ARBORIST. THE PROJECT ARBORIST MAY REQUIRE SPECIFIC CONSTRUCTION METHODS AND/OR USE OF AERATION DEVICES TO ENSURE THE TREE'S SURVIVAL AND TO MINIMIZE THE POTENTIAL FOR ROOT INDUCED DAMAGE TO THE IMPERVIOUS SURFACE.
- TO THE GREATEST EXTENT PRACTICAL, UTILITY TRENCHES SHALL BE LOCATED OUTSIDE OF THE TREE PROTECTION AREA. THE PROJECT ARBORIST MAY REQUIRE THAT UTILITIES BE TUNNELED UNDER THE ROOTS OF TREES TO BE RETAINED IF THE PROJECT ARBORIST DETERMINES THAT TRENCHING WOULD SIGNIFICANTLY REDUCE THE CHANCES OF THE TREE'S SURVIVAL.
- TREES AND OTHER VEGETATION TO BE RETAINED SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION. CLEARING OPERATIONS SHALL BE CONDUCTED SO AS TO EXPOSE THE SMALLEST PRACTICAL AREA OF SOIL FOR THE LEAST POSSIBLE AMOUNT OF TIME. SHRUBS, GROUND COVER, AND STUMPS SHALL BE MAINTAINED TO CONTROL EROSION, WHERE FEASIBLE. WHERE NOT FEASIBLE, APPROPRIATE EROSION CONTROL PRACTICES SHALL BE IMPLEMENTED.

ADDITIONAL REQUIREMENTS:

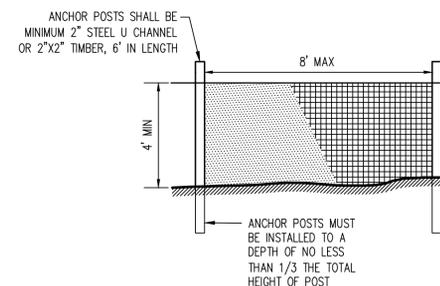
- THE PROJECT ARBORIST MAY REQUIRE ADDITIONAL TREE PROTECTION MEASURES WHICH ARE CONSISTENT WITH ACCEPTED URBAN FORESTRY PRACTICES.

EXCAVATION WITHIN OPTIMAL TREE ROOT PROTECTION ZONES:

- EXCAVATION IN THE TOP 24 INCHES OF SOIL IN THE OPTIMAL TREE ROOT PROTECTION ZONE SHOULD BEGIN AT THE EXCAVATION LINE THAT IS CLOSEST TO THE TREE.
- THE EXCAVATION SHOULD BE DONE BY HAND/SHOVEL OR WITH AN EXCAVATOR AND A PERSON WITH A SHOVEL, PRUNING SHEARS, AND A PRUNING SAW.
- IF DONE BY HAND, ALL ROOTS 1-INCH DIAMETER OR LARGER SHOULD BE PRUNED AT THE EXCAVATION LINE.
- IF DONE WITH AN EXCAVATOR (MOST LIKELY SCENARIO), THEN THE OPERATOR SHALL START THE CUT AT THE EXCAVATION LINE AND CAREFULLY "FEEL" FOR ROOTS/RESISTANCE. WHEN THERE IS RESISTANCE, THE PERSON WITH THE SHOVEL HAND DIGS AROUND THE ROOTS AND PRUNES THE ROOTS 1-INCH DIAMETER OR LARGER.
- THE EXCAVATOR IS TO REMAIN OFF OF THE TREE ROOTS TO BE PRESERVED AT ALL TIMES.
- ALL ROOTS SHALL BE CUT CLEANLY WITH PRUNING SHEARS OR A PRUNING SAW.
- THE PROJECT ARBORIST MUST BE ON SITE DURING ANY WORK WITHIN THE OPTIMAL TREE ROOT PROTECTION ZONE THAT IS WITHIN THE TREE PROTECTION AREA.

PRUNING/TREE REMOVAL NOTES:

- THE CONTRACTOR SHALL PROVIDE AN ADEQUATE CREW OF PERSONNEL, EQUIPMENT, AND MATERIALS TO SAFELY AND EFFICIENTLY COMPLETE THE ASSIGNED WORK. EACH SUCH CREW SHALL INCLUDE AN INDIVIDUAL WHO SHALL BE DESIGNATED AS THE CREW SUPERVISOR, BE RESPONSIBLE FOR THE CREW'S ACTIVITIES, RECEIVE INSTRUCTION FROM THE OWNER OR THE OWNER'S REPRESENTATIVE, AND DIRECT THE CREW TO ACCOMPLISH SUCH WORK.
- WHenever a tree, which is not scheduled to be removed, must be trimmed or pruned, the contractor shall ensure that such trimming and pruning is carried out under the direct supervision of a certified arborist. All pruning and trimming shall be performed in accordance with the provisions of ANSI A300 "STANDARD PRACTICES FOR TREE, SHRUB AND OTHER WOODY PLANT MAINTENANCE".
- UNLESS AS OTHERWISE DIRECTED BY THE OWNER, ROOT BALLS FROM TREES BEING REMOVED SHALL BE COMPLETELY REMOVED UNLESS THE ROOT REMOVAL CROSSES ONTO ADJACENT PROPERTIES OR WOULD COMPROMISE TREES BEING PRESERVED. IN THOSE CASES, THE STUMPS SHALL BE GROUND AS NECESSARY SO AS NOT TO CAUSE DAMAGE TO THE ROOT ZONES OF ADJACENT TREES TO BE PRESERVED ON THE SUBJECT PARCEL OR ADJUTING PARCELS. STUMPS NEAR PROPERTY LINES SHALL ALSO BE GROUND AS NECESSARY SO AS NOT TO CAUSE DISTURBANCE TO ADJACENT PARCELS.
- THE CONTRACTOR SHALL PERFORM ALL WORK IN ACCORDANCE WITH THE LATEST GOVERNMENTAL SAFETY REGULATIONS. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ANSI Z133.1 "PRUNING, TRIMMING, REPAIRING, MAINTAINING AND REMOVING TREES AND CUTTING BRUSH-SAFETY REQUIREMENTS" WITH SPECIAL EMPHASIS GIVEN TO THE REQUIREMENT THAT ONLY QUALIFIED LINE-CLEARANCE TREE TRIMMERS BE ASSIGNED TO WORK WHERE A POTENTIAL ELECTRICAL HAZARD EXISTS.
- THE CONTRACTOR SHALL MAKE ALL THE NECESSARY ARRANGEMENTS WITH ANY UTILITY THAT MUST BE PROTECTED OR RELOCATED IN ORDER TO ACCOMPLISH THE WORK. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE PROTECTION OF THE OPERATING CONDITION OF ALL ACTIVE UTILITIES WITHIN THE AREA OF CONSTRUCTION AND SHALL TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO EXISTING UTILITIES.
- ANY MATERIAL RESULTING FROM THE TRIMMING OR REMOVAL OF ANY TREES SHALL BECOME THE RESPONSIBILITY OF THE CONTRACTOR TO DISPOSE OF.
- HAZARDOUS TREE REPORTING: ANY PERSON ENGAGED IN TRIMMING OR PRUNING WHO BECOMES AWARE OF A TREE OF DOUBTFUL STRENGTH, THAT COULD BE DANGEROUS TO PERSONS AND PROPERTY, SHALL REPORT SUCH TREE(S) TO THE OWNER OR THE OWNER'S REPRESENTATIVE. SUCH TREES SHALL INCLUDE THOSE THAT ARE OVER MATURE, DISEASED, OR SHOWING SIGNS OF DECAY OR OTHER STRUCTURAL WEAKNESS.
- TREES DETERMINED TO BE A HAZARD SHALL BE REMOVED AS SOON AS POSSIBLE.
- DAMAGES: ANY DAMAGE CAUSED BY THE CONTRACTOR, INCLUDING, BUT NOT LIMITED TO, BROKEN SIDEWALK, CURB, RUTTED LAWN, BROKEN WATER SHUT-OFFS, WIRE DAMAGE, BUILDING DAMAGE, STREET DAMAGE, ETC., WILL BE REPAIRED OR REPLACED IN A TIMELY MANNER, TO THE OWNER'S SATISFACTION, AND ALL COSTS PAID BY THE CONTRACTOR.
- ANY BRUSH CLEARING REQUIRED WITHIN THE TREE PROTECTION AREA SHALL BE ACCOMPLISHED WITH HAND OPERATED EQUIPMENT.
- TREES TO BE REMOVED SHALL BE FELLED SO AS TO FALL AWAY FROM OPTIMAL TREE ROOT PROTECTION ZONES AND TO AVOID PULLING AND BREAKING OF ROOTS TO REMAIN. DIRECTIONAL FELLING OF TREES SHALL BE USED TO AVOID DAMAGE TO TREES DESIGNATED FOR RETENTION.
- ALL DOWNED BRUSH AND TREES SHALL BE REMOVED FROM THE TREE PROTECTION AREA EITHER BY HAND OR WITH EQUIPMENT STAGED OUTSIDE OF THE TREE PROTECTION AREA. EXTRACTION SHALL OCCUR BY LIFTING THE MATERIAL OUT, NOT BY SKIDDING IT ACROSS THE GROUND.
- IF TEMPORARY HAUL OR ACCESS ROADS MUST PASS OVER TREE PROTECTION AREA, A ROADBED OF STEEL PLATES, OR 6 INCHES OF MULCH, OR 6 INCHES OF GRAVEL SHALL BE PLACED TO PREVENT SOIL COMPACTION. IF DETERMINED NECESSARY BY THE PROJECT ARBORIST, THE ROADBED MATERIAL SHALL BE REPLISHED AS NECESSARY TO MAINTAIN A 6-INCH DEPTH.
- PRUNING: THE CONTRACTOR SHALL CONSULT WITH THE PROJECT ARBORIST PRIOR TO ANY PRUNING ACTIVITIES NECESSARY FOR CONSTRUCTION ACTIVITIES. ALL PRUNING ACTIVITIES SHALL BE PERFORMED IN ACCORDANCE WITH ANSI A300 PRUNING STANDARDS. PRUNING SHALL BE COMPLETED PRIOR TO THE START OF CONSTRUCTION ACTIVITIES.
- CUT BRANCHES AND ROOTS WITH SHARP PRUNING INSTRUMENTS THAT DO NOT CHOP OR TEAR.
- FENCING SHALL BE INSTALLED PRIOR TO ANY CONSTRUCTION ACTIVITIES, INCLUDING, BUT NOT LIMITED TO CLEARING, GRADING, EXCAVATION, OR DEMOLITION WORK, AND SHALL BE REMOVED ONLY AFTER THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES, INCLUDING LANDSCAPING AND IRRIGATION INSTALLATION.
- TREE PROTECTION FENCING SHALL BE FLUSH WITH THE INITIAL UNDISTURBED GRADE.



- NOTES:
- BLAZE ORANGE PLASTIC MESH FENCE FOR TREE PROTECTION DEVICE OR APPROVED EQUAL.
 - AVOID DAMAGE TO CRITICAL ROOT ZONE. DO NOT DAMAGE OR SEVER LARGE ROOTS WHEN INSTALLING POSTS.
 - DEVICE SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.

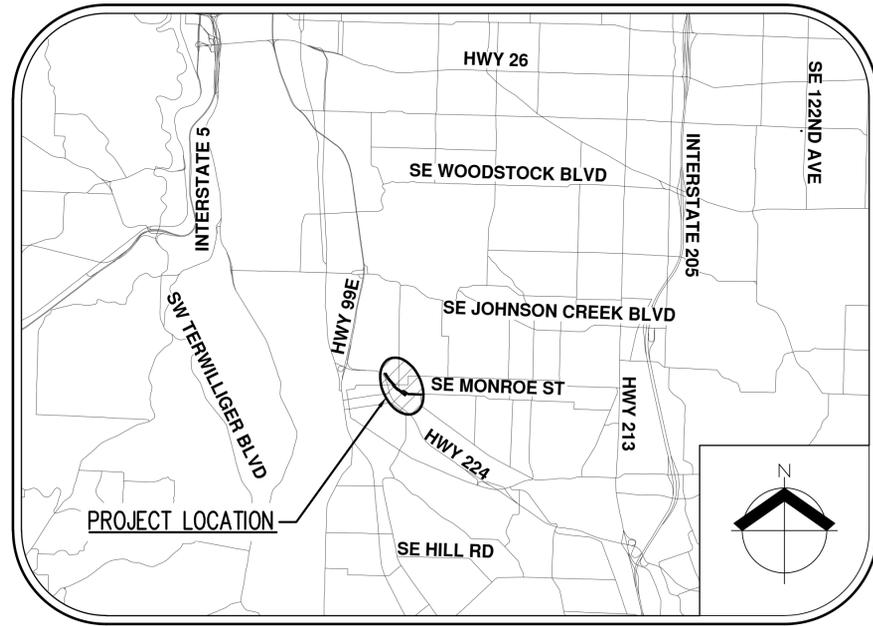
TREE PROTECTION / CONSTRUCTION FENCE



BRUCE R. BALDWIN
CERTIFICATE NUMBER: 791-0664
EXPIRATION DATE: 12/31/20

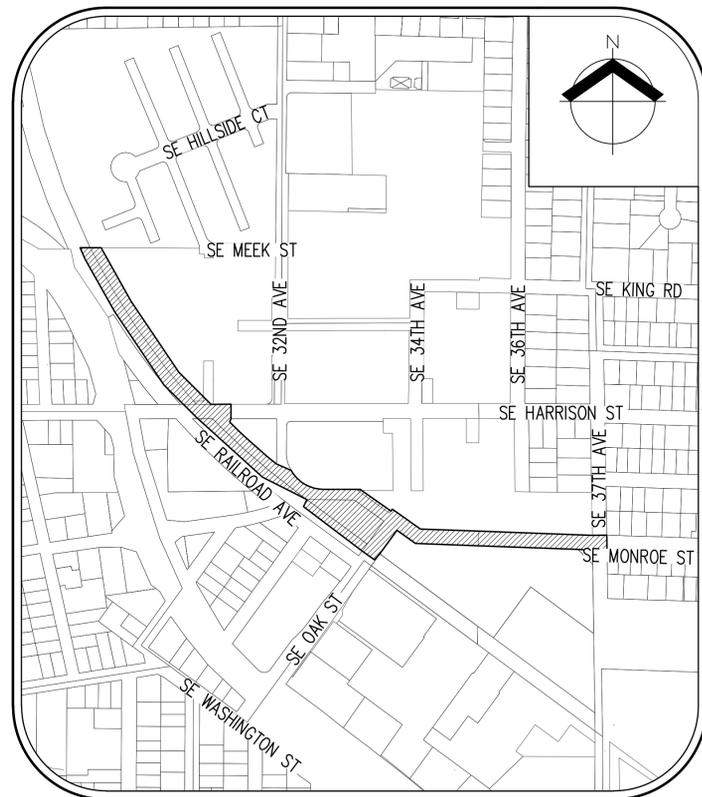


1200-C EROSION AND SEDIMENT CONTROL PLANS



VICINITY MAP

SCALE: 1" = 5000'



SITE MAP

NTS

CIVIL ENGINEERING FIRM

AKS ENGINEERING & FORESTRY, LLC
CONTACT: JOHN CHRISTIANSEN, P.E.
12965 SW HERMAN ROAD, SUITE 100
TUALATIN, OR 97062
PH: (503) 563-6151
FAX: (503) 563-6152

APPLICANT

CITY OF MILWAUKIE
JENNIFER GARBELY, P.E.
ENGINEERING DEPARTMENT
6101 SE JOHNSON CREEK BLVD.
PH: (503) 786-7609
FAX: (503) 774-8236



NOTICE TO EXCAVATORS:

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

NARRATIVE DESCRIPTIONS

EXISTING SITE CONDITIONS
SINGLE FAMILY & MULTI-FAMILY RESIDENCES, GRASSED FIELDS.

PROJECT LOCATION:
CITY OF MILWAUKIE, OREGON.

DEVELOPED CONDITIONS:
INSTALLATION OF ±2,450 LF OF STORM SEWER MAIN INCLUDING 1 DETENTION POND. PROPERTY ACQUISITION FROM UPRR TO CITY OF MILWAUKIE.

PROPERTY DESCRIPTION:
PUBLIC RIGHTS-OF-WAY, AND TAX LOTS 15 1E 36AB 3001 AND 3000, 15 1E 25CB 100 AND 15 1E 25BA 23500.

NATURE OF CONSTRUCTION ACTIVITY AND TIMETABLE FOR MAJOR ACTIVITIES:

- CLEARING (MAY 2020)
- GRADING [EXCAVATION AND FILL] (MAY 2020)
- INSTALLATION OF UTILITIES (JUNE 2020 - SEPTEMBER 2020)
- FINAL STABILIZATION (SEPTEMBER 2020)
- FINAL PAVING (OCTOBER 2020)

TOTAL DISTURBED AREA = 1.12 ACRES±

SITE SOIL CLASSIFICATION:

- 53A - LATOURELL LOAM, 0 TO 3% SLOPES
- 53B - LATOURELL LOAM, 3 TO 8% SLOPES
- 71A - QUATAMA LOAM, 0 TO 3% SLOPES
- 82 - URBAN LAND
- 84 - WAPATO SILTY CLAY LOAM
- 91B - WOODBURN SILT LOAM, 3 TO 8% SLOPES
- 94B - URBAN LAND-QUATAMA COMPLEX, 3 TO 8% SLOPES
- 55 - WAPATO SILT LOAM

RECEIVING WATER BODIES:
WILLAMETTE RIVER VIA JOHNSON CREEK AND PUBLIC STORM SYSTEM

VERTICAL DATUM:
ELEVATIONS ARE BASED ON THE SOUTH ONE-QUARTER OF SECTION 34, TOWNSHIP 1 SOUTH, RANGE 2 EAST, PER CLACKAMAS COUNTY SURVEY NUMBER 2005-084 AND USBT 1991-011, ELEVATION OF 342.50 FEET (NAVD 88).

NOTE:
THE PERMITTEE IS REQUIRED TO MEET ALL THE CONDITIONS OF THE 1200C PERMIT. THIS EROSION AND SEDIMENT CONTROL PLAN AND GENERAL CONDITIONS HAVE BEEN DEVELOPED TO FACILITATE COMPLIANCE WITH THE 1200C PERMIT REQUIREMENTS. IN CASES OF DISCREPANCIES OR OMISSIONS, THE 1200C PERMIT REQUIREMENTS SUPERCEDE REQUIREMENTS OF THIS PLAN.

AKS ENGINEERING FORESTRY LLC SHALL BE RETAINED TO PERFORM EROSION CONTROL INSPECTION SERVICES, OR THE OWNER MUST TRANSFER THE 1200C PERMIT INSPECTION DESIGNATION WITH OREGON DEQ PRIOR TO BEGINNING CONSTRUCTION.

STANDARD EROSION AND SEDIMENT CONTROL PLAN DRAWING NOTES:

- HOLD A PRE-CONSTRUCTION MEETING OF PROJECT CONSTRUCTION PERSONNEL THAT INCLUDES THE INSPECTOR TO DISCUSS EROSION AND SEDIMENT CONTROL MEASURES AND CONSTRUCTION LIMITS. (SCHEDULE A.8.C.I.(3))
- ALL INSPECTIONS MUST BE MADE IN ACCORDANCE WITH DEQ 1200-C PERMIT REQUIREMENTS. (SCHEDULE A.12.B AND SCHEDULE B.1)
- INSPECTION LOGS MUST BE KEPT IN ACCORDANCE WITH DEQ'S 1200-C PERMIT REQUIREMENTS. (SCHEDULE B.1.C AND B.2)
- RETAIN A COPY OF THE ESCP AND ALL REVISIONS ON SITE AND MAKE IT AVAILABLE ON REQUEST TO DEQ, AGENT, OR THE LOCAL MUNICIPALITY. DURING INACTIVE PERIODS OF GREATER THAN SEVEN (7) CONSECUTIVE CALENDAR DAYS, THE ABOVE RECORDS MUST BE RETAINED BY THE PERMIT REGISTRANT BUT DO NOT NEED TO BE AT THE CONSTRUCTION SITE. (SCHEDULE B.2.C)
- ALL PERMIT REGISTRANTS MUST IMPLEMENT THE ESCP. FAILURE TO IMPLEMENT ANY OF THE CONTROL MEASURES OR PRACTICES DESCRIBED IN THE ESCP IS A VIOLATION OF THE PERMIT. (SCHEDULE A.8.A)
- THE ESCP MUST BE ACCURATE AND REFLECT SITE CONDITIONS. (SCHEDULE A.12.C.I)
- SUBMISSION OF ALL ESCP REVISIONS IS NOT REQUIRED. SUBMITTAL OF THE ESCP REVISIONS IS ONLY UNDER SPECIFIC CONDITIONS. SUBMIT ALL NECESSARY REVISION TO DEQ OR AGENT WITHIN 10 DAYS. (SCHEDULE A.12.C.IV AND V)
- PHASE CLEARING AND GRADING TO THE MAXIMUM EXTENT PRACTICAL TO PREVENT EXPOSED INACTIVE AREAS FROM BECOMING A SOURCE OF EROSION. (SCHEDULE A.7.A.II)
- IDENTIFY, MARK, AND PROTECT (BY CONSTRUCTION FENCING OR OTHER MEANS) CRITICAL RIPARIAN AREAS AND VEGETATION INCLUDING IMPORTANT TREES AND ASSOCIATED ROOTING ZONES, AND VEGETATION AREAS TO BE PRESERVED. IDENTIFY VEGETATIVE BUFFER ZONES BETWEEN THE SITE AND SENSITIVE AREAS (E.G., WETLANDS), AND OTHER AREAS TO BE PRESERVED, ESPECIALLY IN PERIMETER AREAS. (SCHEDULE A.8.C.I.(1) AND (2))
- PRESERVE EXISTING VEGETATION WHEN PRACTICAL AND RE-VEGETATE OPEN AREAS. RE-VEGETATE OPEN AREAS WHEN PRACTICABLE BEFORE AND AFTER GRADING OR CONSTRUCTION. IDENTIFY THE TYPE OF VEGETATIVE SEED MIX USED. (SCHEDULE A.7.A.V)
- MAINTAIN AND DELINEATE ANY EXISTING NATURAL BUFFER WITHIN THE 50-FEET OF WATERS OF THE STATE. (SCHEDULE A.7.B.I AND (2)(A)(B))
- INSTALL PERIMETER SEDIMENT CONTROL, INCLUDING STORM DRAIN INLET PROTECTION AS WELL AS ALL SEDIMENT BASINS, TRAPS, AND BARRIERS PRIOR TO LAND DISTURBANCE. (SCHEDULE A.8.C.I.(5))
- CONTROL BOTH PEAK FLOW RATES AND TOTAL STORMWATER VOLUME, TO MINIMIZE EROSION AT OUTLETS AND DOWNSTREAM CHANNELS AND STREAMBANKS. (SCHEDULE A.7.C)
- CONTROL SEDIMENT AS NEEDED ALONG THE SITE PERIMETER AND AT ALL OPERATIONAL INTERNAL STORM DRAIN INLETS AT ALL TIMES DURING CONSTRUCTION, BOTH INTERNALLY AND AT THE SITE BOUNDARY. (SCHEDULE A.7.D.I)
- ESTABLISH CONCRETE TRUCK AND OTHER CONCRETE EQUIPMENT WASHOUT AREAS BEFORE BEGINNING CONCRETE WORK. (SCHEDULE A.8.C.I.(6))
- APPLY TEMPORARY AND/OR PERMANENT SOIL STABILIZATION MEASURES IMMEDIATELY ON ALL DISTURBED AREAS AS GRADING PROGRESSES. TEMPORARY OR PERMANENT STABILIZATION MEASURES ARE NOT REQUIRED FOR AREAS THAT ARE INTENDED TO BE LEFT UNVEGETATED, SUCH AS DIRT ACCESS ROADS OR UTILITY POLE PADS. (SCHEDULE A.8.C.I.(3))
- ESTABLISH MATERIAL AND WASTE STORAGE AREAS, AND OTHER NON-STORMWATER CONTROLS. (SCHEDULE A.8.C.I.(7))
- PREVENT TRACKING OF SEDIMENT ONTO PUBLIC OR PRIVATE ROADS USING BMP'S SUCH AS: CONSTRUCTION ENTRANCE, GRAVELED (OR PAVED) EXITS AND PARKING AREAS, GRAVEL, ALL UNPAVED ROADS LOCATED ONSITE, OR USE AN EXIT TIRE WASH. THESE BMP'S MUST BE IN PLACE PRIOR TO LAND-DISTURBING ACTIVITIES. (SCHEDULE A.7.D.II AND A.8.C.I.(4))
- WHEN TRUCKING SATURATED SOILS FROM THE SITE, EITHER USE WATER-TIGHT TRUCKS OR DRAIN LOADS ON SITE. (SCHEDULE A.7.D.II.(5))
- CONTROL PROHIBITED DISCHARGES FROM LEAVING THE CONSTRUCTION SITE, I.E., CONCRETE WASH-OUT, WASTEWATER FROM CLEANOUT OF STUCCO, PAINT AND CURING COMPOUNDS. (SCHEDULE A.6)
- USE BMP'S TO PREVENT OR MINIMIZE STORMWATER EXPOSURE TO POLLUTANTS FROM SPILLS, VEHICLE AND EQUIPMENT FUELING, MAINTENANCE, AND STORAGE; OTHER CLEANING AND MAINTENANCE ACTIVITIES; AND WASTE HANDLING ACTIVITIES. THESE POLLUTANTS INCLUDE FUEL, HYDRAULIC FLUID, AND OTHER OILS FROM VEHICLES AND MACHINERY, AS WELL AS DEBRIS, FERTILIZER, PESTICIDES AND HERBICIDES, PAINTS, SOLVENTS, CURING COMPOUNDS AND ADHESIVES FROM CONSTRUCTION OPERATIONS. (SCHEDULE A.7.E.I.(2))
- IMPLEMENT THE FOLLOWING BMP'S WHEN APPLICABLE: WRITTEN SPILL PREVENTION AND RESPONSE PROCEDURES, EMPLOYEE TRAINING ON SPILL PREVENTION AND PROPER DISPOSAL PROCEDURES, SPILL KITS IN ALL VEHICLES, REGULAR MAINTENANCE SCHEDULE FOR VEHICLES AND MACHINERY, MATERIAL DELIVERY AND STORAGE CONTROLS, TRAINING AND SIGNAGE, AND COVERED STORAGE AREAS FOR WASTE AND SUPPLIES. (SCHEDULE A.7.E.I.I)
- USE WATER, SOIL-BINDING AGENT OR OTHER DUST CONTROL TECHNIQUE AS NEEDED TO AVOID WIND-BLOWN SOIL. (SCHEDULE A.7.A.IV)
- THE APPLICATION RATE OF FERTILIZERS USED TO REESTABLISH VEGETATION MUST FOLLOW MANUFACTURER'S RECOMMENDATIONS TO MINIMIZE NUTRIENT RELEASES TO SURFACE WATERS. EXERCISE CAUTION WHEN USING TIME-RELEASE FERTILIZERS WITHIN ANY WATERWAY RIPARIAN ZONE. (SCHEDULE A.9.B.III)
- IF AN ACTIVE TREATMENT SYSTEM (FOR EXAMPLE, ELECTRO-COAGULATION, FLOCCULATION, FILTRATION, ETC.) FOR SEDIMENT OR OTHER POLLUTANT REMOVAL IS EMPLOYED, SUBMIT AN OPERATION AND MAINTENANCE PLAN (INCLUDING SYSTEM SCHEMATIC, LOCATION OF SYSTEM, LOCATION OF INLET, LOCATION OF DISCHARGE, DISCHARGE DISPERSION DEVICE DESIGN, AND A SAMPLING PLAN AND FREQUENCY) BEFORE OPERATING THE TREATMENT SYSTEM. OBTAIN PLAN APPROVAL BEFORE OPERATING THE TREATMENT SYSTEM. OPERATE AND MAINTAIN THE TREATMENT SYSTEM ACCORDING TO MANUFACTURER'S SPECIFICATIONS. (SCHEDULE A.9.D)
- TEMPORARILY STABILIZE SOILS AT THE END OF THE SHIFT BEFORE HOLIDAYS AND WEEKENDS, IF NEEDED. THE REGISTRANT IS RESPONSIBLE FOR ENSURING THAT SOILS ARE STABLE DURING RAIN EVENTS AT ALL TIMES OF THE YEAR. (SCHEDULE A.7.B)
- AS NEEDED BASED ON WEATHER CONDITIONS, AT THE END OF EACH WORKDAY SOIL STOCKPILES MUST BE STABILIZED OR COVERED, OR OTHER BMP'S MUST BE IMPLEMENTED TO PREVENT DISCHARGES TO SURFACE WATERS OR CONVEYANCE SYSTEMS LEADING TO SURFACE WATERS. (SCHEDULE A.7.E.II.(2))
- CONSTRUCTION ACTIVITIES MUST AVOID OR MINIMIZE EXCAVATION AND BARE GROUND ACTIVITIES DURING WET WEATHER. (SCHEDULE A.7.A.I)
- SEDIMENT FENCE: REMOVE TRAPPED SEDIMENT BEFORE IT REACHES ONE THIRD OF THE ABOVE GROUND FENCE HEIGHT AND BEFORE FENCE REMOVAL. (SCHEDULE A.9.C.I)
- OTHER SEDIMENT BARRIERS (SUCH AS BIOBAGS): REMOVE SEDIMENT BEFORE IT REACHES TWO INCHES DEPTH ABOVE GROUND HEIGHT AND BEFORE BMP REMOVAL. (SCHEDULE A.9.C.I)
- CATCH BASINS: CLEAN BEFORE RETENTION CAPACITY HAS BEEN REDUCED BY FIFTY PERCENT. SEDIMENT BASINS AND SEDIMENT TRAPS: REMOVE TRAPPED SEDIMENTS BEFORE DESIGN CAPACITY HAS BEEN REDUCED BY FIFTY PERCENT AND AT COMPLETION OF PROJECT. (SCHEDULE A.9.C.II & IV)
- WITHIN 24 HOURS, SIGNIFICANT SEDIMENT THAT HAS LEFT THE CONSTRUCTION SITE, MUST BE REMEDIATED. INVESTIGATE THE CAUSE OF THE SEDIMENT RELEASE AND IMPLEMENT STEPS TO PREVENT A RECURRENCE OF THE DISCHARGE WITHIN THE SAME 24 HOURS. ANY IN-STREAM CLEAN-UP OF SEDIMENT SHALL BE PERFORMED ACCORDING TO THE OREGON DIVISION OF STATE LANDS REQUIRED TIMEFRAME. (SCHEDULE A.9.B.I)
- THE INTENTIONAL WASHING OF SEDIMENT INTO STORM SEWERS OR DRAINAGE WAYS MUST NOT OCCUR. VACUUMING OR DRY SWEEPING AND MATERIAL PICKUP MUST BE USED TO CLEANUP RELEASED SEDIMENTS. (SCHEDULE A.9.B.II)
- THE ENTIRE SITE MUST BE TEMPORARILY STABILIZED USING VEGETATION OR A HEAVY MULCH LAYER, TEMPORARY SEEDING, OR OTHER METHOD SHOULD ALL CONSTRUCTION ACTIVITIES CEASE FOR 30 DAYS OR MORE. (SCHEDULE A.7.F.I)
- PROVIDE TEMPORARY STABILIZATION FOR THAT PORTION OF THE SITE WHERE CONSTRUCTION ACTIVITIES CEASE FOR 14 DAYS OR MORE WITH A COVERING OF BLOWN STRAW AND A TACKIFIER, LOOSE STRAW, OR AN ADEQUATE COVERING OF COMPOST MULCH UNTIL WORK RESUMES ON THAT PORTION OF THE SITE. (SCHEDULE A.7.F.II)
- DO NOT REMOVE TEMPORARY SEDIMENT CONTROL PRACTICES UNTIL PERMANENT VEGETATION OR OTHER COVER OF EXPOSED AREAS IS ESTABLISHED. ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED, ALL TEMPORARY EROSION CONTROLS AND RETAINED SOILS MUST BE REMOVED AND DISPOSED OF PROPERLY, UNLESS DOING SO CONFLICTS WITH LOCAL REQUIREMENTS. (SCHEDULE A.8.C.II.(1) AND D.3.C.II AND III)

CITY OF MILWAUKIE ESC NOTES

- ALL EROSION PREVENTION MEASURES SHALL BE IN PLACE, FUNCTIONAL, AND APPROVED IN ACCORDANCE WITH THE APPROVED EROSION PREVENTION AND SEDIMENT CONTROL PLAN PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES. ALL SOIL DISTURBING AND CONSTRUCTION ACTIVITIES SHALL BE CONDUCTED IN ACCORDANCE WITH MMC CHAPTER 16.28 EROSION CONTROL, AND ANY APPLICABLE LOCAL, STATE OR FEDERAL REQUIREMENTS.
- ALTERNATIVE SEDIMENT CONTROLS MUST PROVIDE A DISCHARGE THAT IS CLEAN AND FREE OF SEDIMENT, SURFACTANTS, AND OTHER POLLUTANTS PRIOR TO ENTERING THE STORM SYSTEM. APPROVAL OF ALTERNATIVE SEDIMENT CONTROLS BY THE CITY OF MILWAUKIE WASTEWATER DIVISION MANAGER IS REQUIRED PRIOR TO INSTALLATION.
- WRITTEN SPILL PREVENTION AND RESPONSE PROCEDURES SHALL BE DEVELOPED, MAINTAINED, AND IMPLEMENTED ON THE CONSTRUCTION SITE.
- DUMPING OR DISPOSAL OF SPILL MATERIALS INTO ANY STREAM CORRIDOR, WETLANDS, SURFACE WATERS OR ON ANY PUBLIC OR PRIVATE PROPERTY NOT SPECIFIED FOR SAID PURPOSE IS PROHIBITED.
- SEDIMENT AND POLLUTANTS SHALL NOT BE WASHED INTO STORM SEWERS, DRAINAGE WAYS, OR WATER BODIES. DRY SWEEPING SHALL BE IMPLEMENTED TO CLEAN UP CONSTRUCTION AREAS TO PREVENT RELEASE OF SEDIMENTS INTO THE STORM SYSTEM.
- DISPOSAL OF SEDIMENT LADEN WATER INTO THE WASTEWATER SYSTEM IS PROHIBITED, UNLESS PRIOR WRITTEN APPROVAL IS RECEIVED FROM THE CITY OF MILWAUKIE WASTEWATER DIVISION MANAGER. SEDIMENT LADEN WATER SHALL BE PUMPED THROUGH AN APPROVED SEDIMENT CONTROL BMP PRIOR TO DISPOSAL INTO THE WASTEWATER SYSTEM.
- SAWCUTTING SLURRY AND DEBRIS SHALL BE VACUUMED AND REMOVED FROM ALL IMPERVIOUS SURFACES. VACUUMED SAWCUTTING SLURRY SHALL BE PROPERLY DISPOSED OF AND NOT DISCHARGED INTO THE STORM SYSTEM.
- WATER TIGHT TRUCKS SHALL BE USED TO TRANSPORT SATURATED SOILS FROM THE CONSTRUCTION SITE.
- TEMPORARY STABILIZATION AND COVERING OF SOIL STOCKPILES SHALL OCCUR AT THE END OF EACH WORK DAY.
- ALL TOXIC OR HAZARDOUS MATERIALS SHALL BE PROPERLY STORED, APPLIED, AND DISPOSED.
- AN AREA SHALL BE DESIGNATED FOR WASHING OUT CONCRETE TRUCKS SUCH THAT RUNOFF FROM WASHING ACTIVITIES ARE CONTAINED AND DO NOT LEAVE THE SITE OR ENTER THE STORM SYSTEM.
- SWEEPINGS FROM EXPOSED AGGREGATE CONCRETE SHALL NOT BE WASHED TO THE STREET OR STORM SYSTEM. SWEEPINGS SHALL BE COLLECTED AND PROPERLY DISPOSED OF IN THE TRASH.
- PAVING IN WET WEATHER WHEN PAVING CHEMICALS CAN RUNOFF INTO THE STORM SYSTEM IS PROHIBITED.
- TRACKING OF DIRT AND DEBRIS ONTO IMPERVIOUS SURFACES, SUCH AS STREETS AND PARKING LOTS, IS PROHIBITED. IMPERVIOUS SURFACES SHALL BE KEPT FREE OF DIRT AND DEBRIS AT ALL TIMES IF IT CAN BE SPREAD BY TRAFFIC OR CAN ENTER THE STORM SYSTEM.
- GRAVEL OR DIRT CURB RAMPS ARE PROHIBITED. ONLY WOOD STEP STYLE CURB RAMPS ARE ALLOWED.
- UPON COMPLETION OF SITE RESTORATION AND APPROVAL FROM THE CITY OF MILWAUKIE ENGINEERING DIRECTOR, ALL TEMPORARY EROSION CONTROL MEASURES MAY BE REMOVED.
- DRAINAGE FROM SPRINGS OR GROUNDWATER MUST BE ADDRESSED DURING CONSTRUCTION BY THE CONTRACTOR. DISCHARGE FROM GROUNDWATER ENCOUNTERED ON THE SITE MUST BE CLEAN OF SEDIMENT OR POLLUTANTS.
- AREAS SUBJECT TO WIND EROSION SHALL USE APPROPRIATE DUST CONTROL MEASURES INCLUDING THE APPLICATION OF A FINE SPRAY OF WATER, PLASTIC SHEETING, STRAW MULCH, OR OTHER APPROVED MEASURES.
- DATES OF IMPLEMENTATION OF WET WEATHER MEASURES ARE OCTOBER 1ST TO APRIL 30TH.
- MATERIALS SHALL NOT BE STOCKPILED ON PUBLIC STREETS OR IN THE RIGHT OF WAY FOR LONGER THAN IMMEDIATE USE.

BMP MATRIX FOR CONSTRUCTION PHASES

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

BMP'S	YEAR:										
	MONTH:	1	2	3	4	5	6	7	8	9	10
PIPE SLOPE DRAINS											
ENERGY DISSIPATORS											
TEMPORARY DIVERSION DIKES											
CHECK DAMS											
TEMPORARY SEEDING AND PLANTING											
PERMANENT SEEDING AND PLANTING											
MYCORRHIZAE/ BIOFERTILIZERS											
STRAW MULCH											
CONSTRUCTION ENTRANCE											
COMPOST BLANKETS											
COMPOST SOCKS											
COMPOST BERM											
SOIL TACKIFIERS											
SEEDING VEGETATIVE BUFFER STRIPS											
PLASTIC SHEETING											
SEDIMENT FENCING #											
EROSION CONTROL BLANKETS AND MATS (COCONUT FIBER)											
EARTH DIKES (STABILIZED)											
DRAINAGE SWALES											
ROCK OUTLET PROTECTION											
SEDIMENT TRAP											
STRAW WATTLES (LOOSE COMPACTION RICE STRAW)											
STORM DRAIN INLET PROTECTION #											
TEMPORARY OR PERMANENT SEDIMENTATION BASINS											
UNPAVED ROADS GRAVELED OR OTHER BMP ON THE ROAD											
DEWATERING (TREATMENT LOCATION, SCHEMATIC, AND SAMPLING PLAN REQUIRED)											
PAVING OPERATION CONTROLS											
CONCRETE TRUCK WASHOUT											

RATIONALE STATEMENT

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

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

- HOLD A PRE-CONSTRUCTION MEETING OF PROJECT CONSTRUCTION PERSONNEL THAT INCLUDES THE INSPECTOR TO DISCUSS EROSION AND SEDIMENT CONTROL MEASURES AND CONSTRUCTION LIMITS.
- ALL INSPECTIONS MUST BE MADE IN ACCORDANCE WITH DEQ 1200-C PERMIT REQUIREMENTS.
- INSPECTION LOGS MUST BE KEPT IN ACCORDANCE WITH DEQ'S 1200-C PERMIT REQUIREMENTS.
- REVISIONS TO APPROVED ESC PLAN OR INSPECTOR MUST BE SUBMITTED TO DEQ OR AGENT IN ACCORDANCE WITH CURRENT 1200-C PERMIT.

PERMITTEE'S SITE INSPECTOR

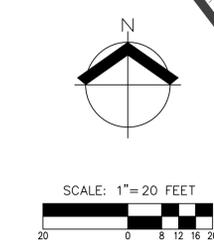
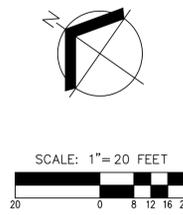
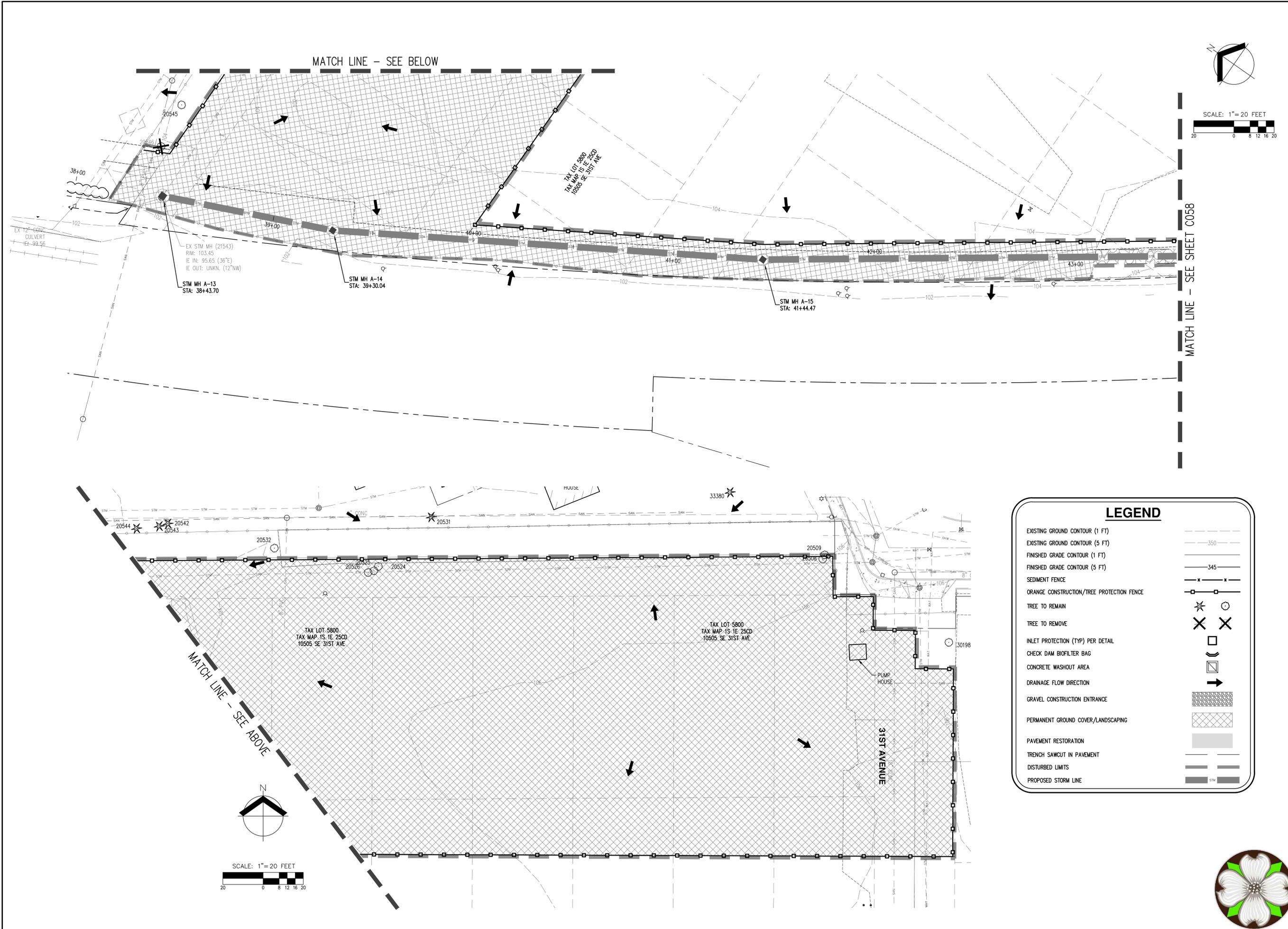
NATHAN MCCARTY
COMPANY/AGENCY: AKS ENGINEERING & FORESTRY, LLC
PHONE: 503-563-6151
FAX: 503-563-6152
E-MAIL: MCCARTY@AKS-ENG.COM
DESCRIPTION OF EXPERIENCE: 5 YEARS INSPECTING EROSION AND SEDIMENT CONTROLS (CESL #2016-009).

EROSION PREVENTION AND SEDIMENT CONTROL PLANS

C050-C	1200-C EROSION PREVENTION AND SEDIMENT CONTROL COVER SHEET
C057	STM (STA 38+00 - 43+50) EROSION CONTROL PLANS
C058	STM (43+50 - 48+00) EROSION CONTROL PLANS
C059	STM (48+00 - 52+25) EROSION CONTROL PLANS
C060	STM (52+25 - 57+25) EROSION CONTROL PLANS
C061	STM (57+25 - 61+25) EROSION CONTROL PLANS
C062	STM (61+25 - 65+10) EROSION CONTROL PLANS
C063	EROSION PREVENTION AND SEDIMENT CONTROL DETAILS
C064	EROSION PREVENTION AND SEDIMENT CONTROL DETAILS



AKS DRAWING FILE: 5122_C050_ESC_PLAN - PHL.DWG | LAYOUT: C057



LEGEND

EXISTING GROUND CONTOUR (1 FT)	
EXISTING GROUND CONTOUR (5 FT)	
FINISHED GRADE CONTOUR (1 FT)	
FINISHED GRADE CONTOUR (5 FT)	
SEDIMENT FENCE	
ORANGE CONSTRUCTION/TREE PROTECTION FENCE	
TREE TO REMAIN	
TREE TO REMOVE	
INLET PROTECTION (TYP) PER DETAIL	
CHECK DAM BIOFILTER BAG	
CONCRETE WASHOUT AREA	
DRAINAGE FLOW DIRECTION	
GRAVEL CONSTRUCTION ENTRANCE	
PERMANENT GROUND COVER/LANDSCAPING	
PAVEMENT RESTORATION	
TRENCH SAWCUT IN PAVEMENT	
DISTURBED LIMITS	
PROPOSED STORM LINE	

AKS
 AKS ENGINEERING & FORESTRY, LLC
 12965 SW HERMAN RD STE 100
 TUALATIN, OR 97062
 P: 503.563.6151
 F: 503.563.6152
 aks-eng.com

CITY OF MILWAUKIE
MEEK STREET PIPE INSTALLATION
MILWAUKIE
 CLATSOP COUNTY TAX LOTS

STM (STA 38+00 - 43+50)
EROSION CONTROL PLANS

DESIGNED BY: JPC
 DRAWN BY: NAD
 CHECKED BY: JPC

SCALE: AS NOTED

DATE: 01/14/2020



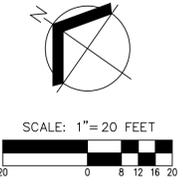
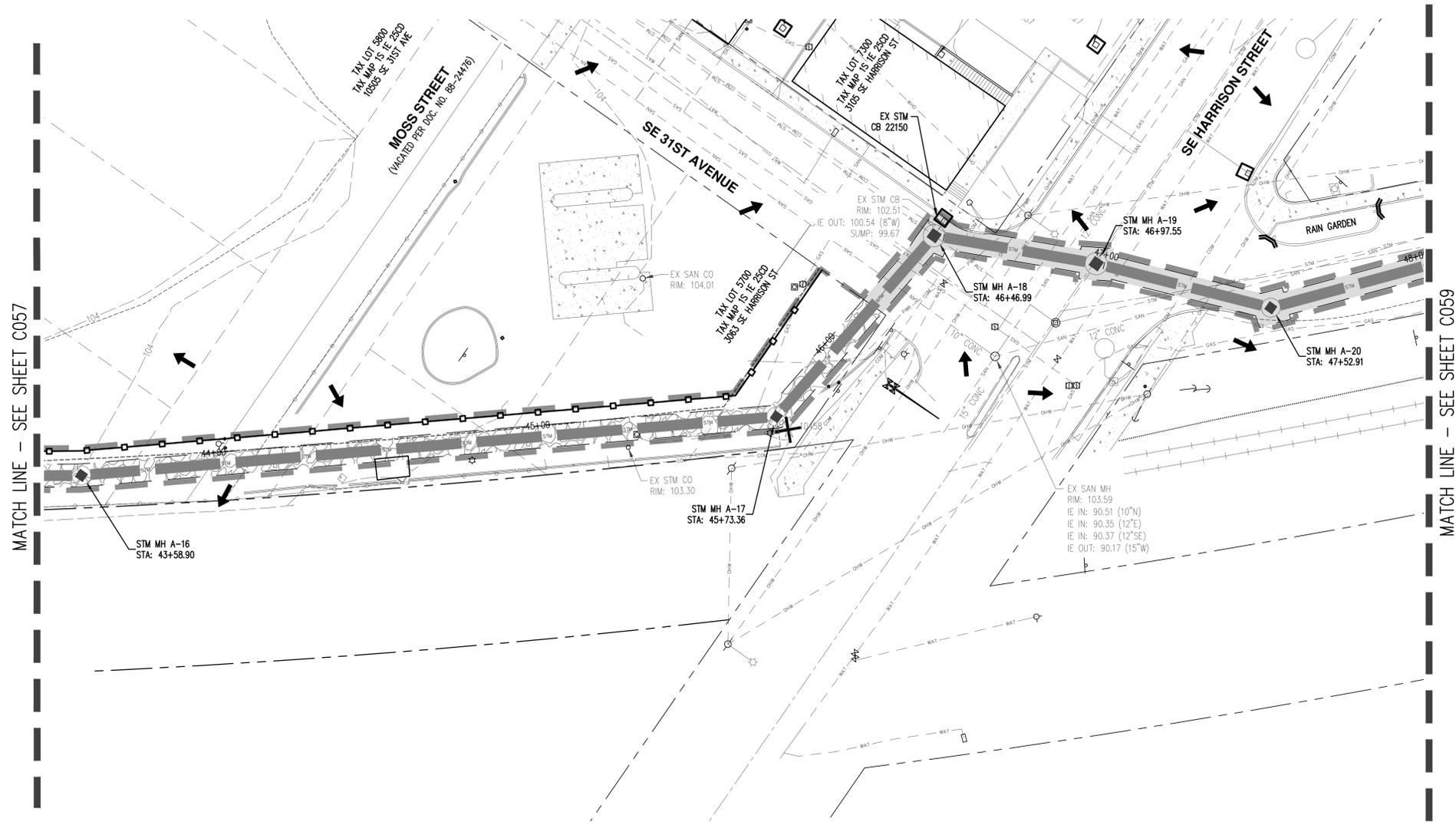
RENEWAL DATE: 12/31/21

REVISIONS

JOB NUMBER
5122

SHEET
C057





ALL WORK WITHIN HARRISON STREET WILL OCCUR DURING NIGHT WORK ONLY.

LEGEND

- EXISTING GROUND CONTOUR (1 FT)
- EXISTING GROUND CONTOUR (5 FT)
- FINISHED GRADE CONTOUR (1 FT)
- FINISHED GRADE CONTOUR (5 FT)
- SEDIMENT FENCE
- ORANGE CONSTRUCTION/TREE PROTECTION FENCE
- TREE TO REMAIN
- TREE TO REMOVE
- INLET PROTECTION (TYP) PER DETAIL
- CHECK DAM BIOFILTER BAG
- CONCRETE WASHOUT AREA
- DRAINAGE FLOW DIRECTION
- GRAVEL CONSTRUCTION ENTRANCE
- PERMANENT GROUND COVER/LANDSCAPING
- PAVEMENT RESTORATION
- TRENCH SAWCUT IN PAVEMENT
- DISTURBED LIMITS
- PROPOSED STORM LINE

DESIGNED BY: JPC
 DRAWN BY: NAD
 CHECKED BY: JPC

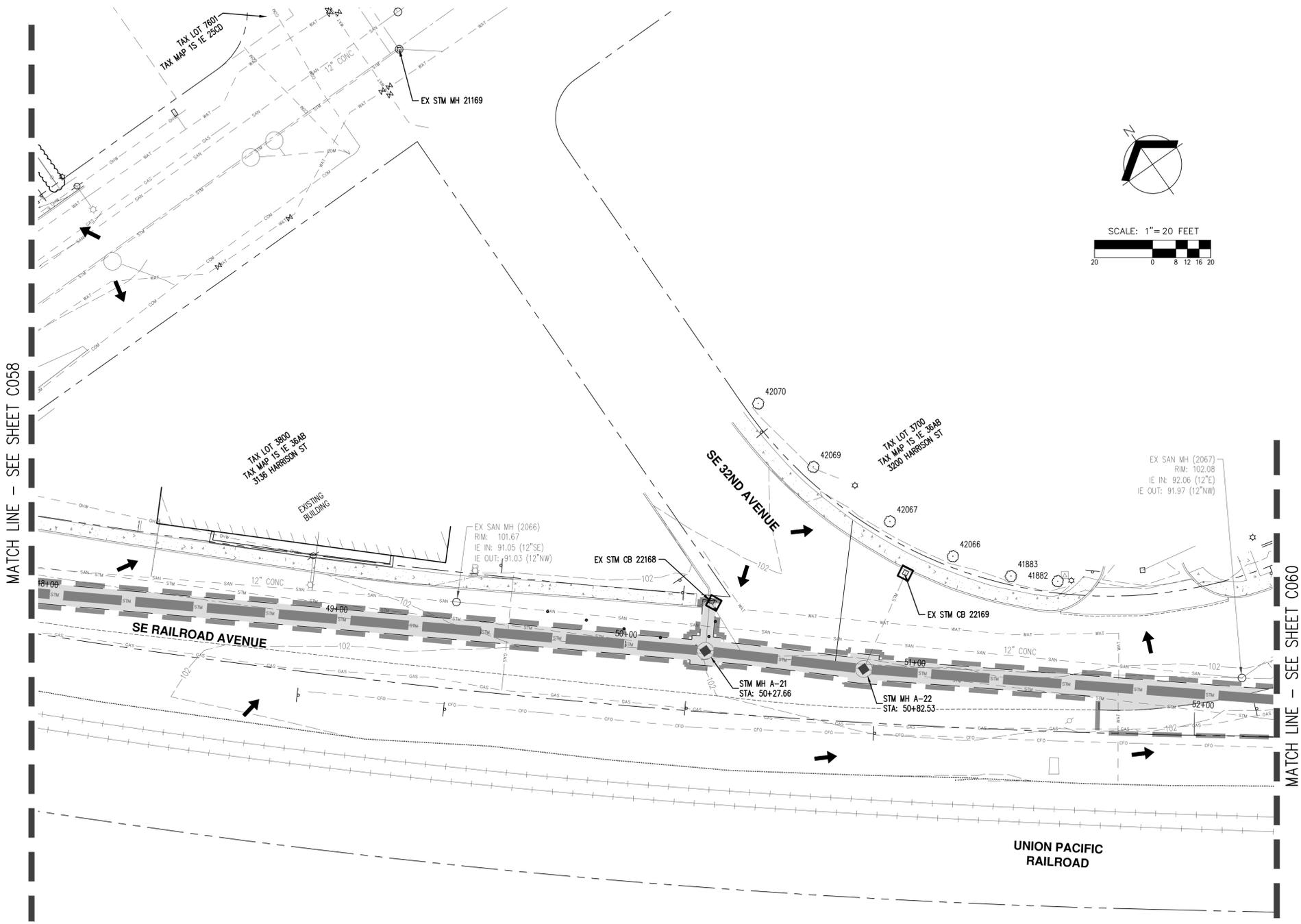
SCALE: AS NOTED
 DATE: 01/14/2020

REVISIONS

JOB NUMBER
5122

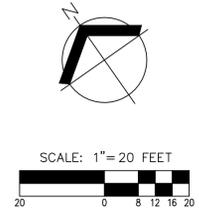
SHEET
C058





MATCH LINE - SEE SHEET C058

MATCH LINE - SEE SHEET C060



LEGEND

- EXISTING GROUND CONTOUR (1 FT)
- EXISTING GROUND CONTOUR (5 FT)
- FINISHED GRADE CONTOUR (1 FT)
- FINISHED GRADE CONTOUR (5 FT)
- SEDIMENT FENCE
- ORANGE CONSTRUCTION/TREE PROTECTION FENCE
- TREE TO REMAIN
- TREE TO REMOVE
- INLET PROTECTION (TYP) PER DETAIL
- CHECK DAM BIOFILTER BAG
- CONCRETE WASHOUT AREA
- DRAINAGE FLOW DIRECTION
- GRAVEL CONSTRUCTION ENTRANCE
- PERMANENT GROUND COVER/LANDSCAPING
- PAVEMENT RESTORATION
- TRENCH SAWCUT IN PAVEMENT
- DISTURBED LIMITS
- PROPOSED STORM LINE

AKS
 AKS ENGINEERING & FORESTRY, LLC
 12205 SW HERMAN RD, STE 100
 TUALUMIN, OR 97062
 P: 503.563.6151
 F: 503.563.6152
 aks-eng.com

CITY OF MILWAUKIE
MEEK STREET PIPE INSTALLATION
MILWAUKIE
 CLATSOP COUNTY TAX LOTS
 OREGON
 11E28BA, 11E25CD, 11E36AB, 11E36AA, 11E25C

STM (48+00 - 52+25)
EROSION CONTROL PLANS

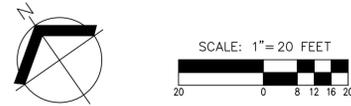
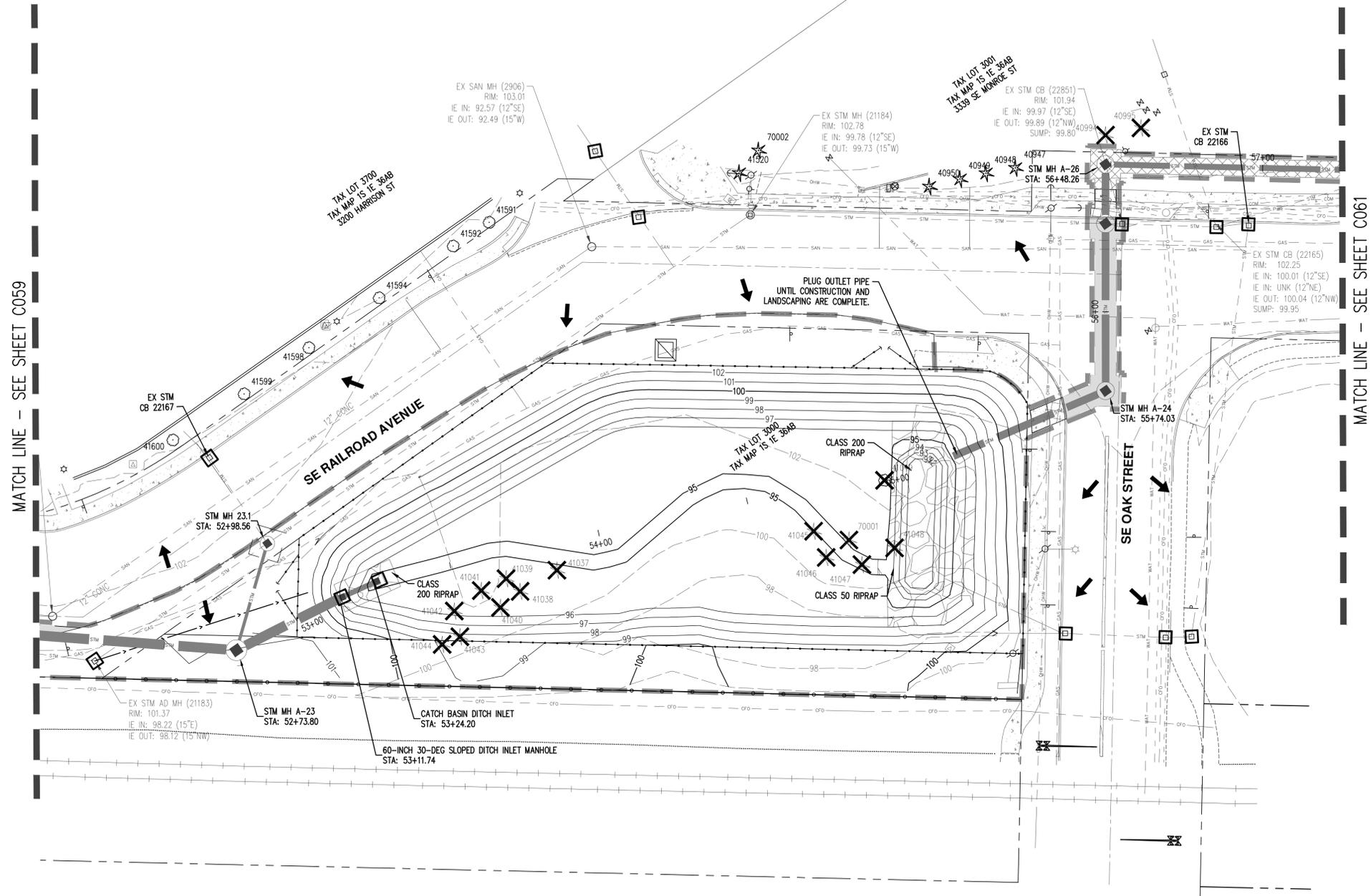
DESIGNED BY: JPC
 DRAWN BY: NAD
 CHECKED BY: JPC
 SCALE: AS NOTED

DATE: 01/14/2020

 RENEWAL DATE: 12/31/21
 REVISIONS:

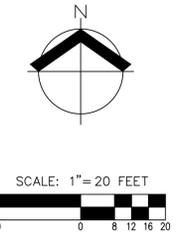
JOB NUMBER
5122
 SHEET
C059





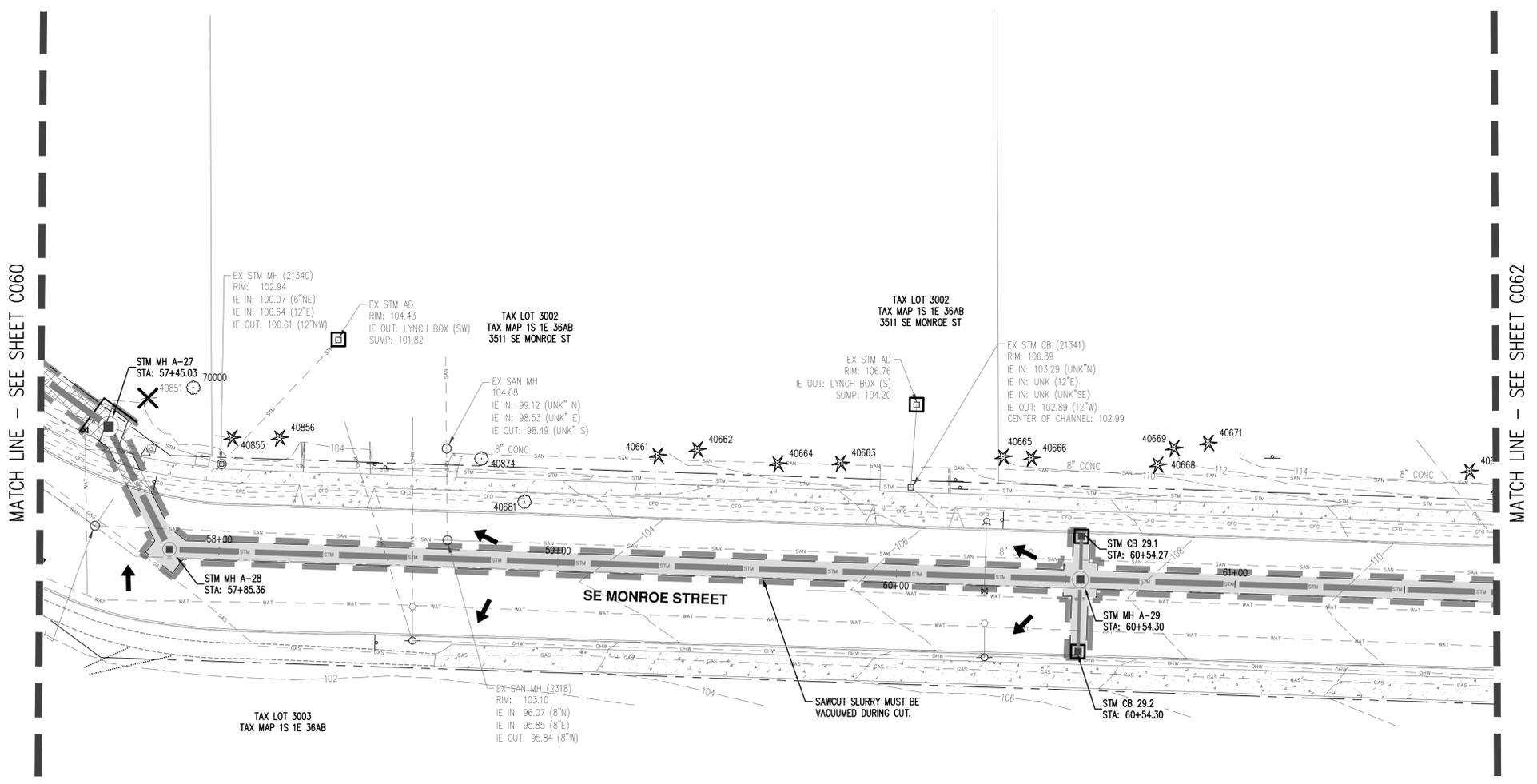
LEGEND	
EXISTING GROUND CONTOUR (1 FT)	
EXISTING GROUND CONTOUR (5 FT)	
FINISHED GRADE CONTOUR (1 FT)	
FINISHED GRADE CONTOUR (5 FT)	
SEDIMENT FENCE	
ORANGE CONSTRUCTION/TREE PROTECTION FENCE	
TREE TO REMAIN	
TREE TO REMOVE	
INLET PROTECTION (TYP) PER DETAIL	
CHECK DAM BIOFILTER BAG	
CONCRETE WASHOUT AREA	
DRAINAGE FLOW DIRECTION	
GRAVEL CONSTRUCTION ENTRANCE	
PERMANENT GROUND COVER/LANDSCAPING	
PAVEMENT RESTORATION	
TRENCH SAWCUT IN PAVEMENT	
DISTURBED LIMITS	
PROPOSED STORM LINE	

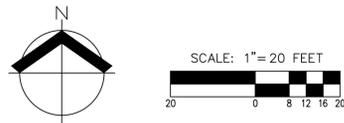




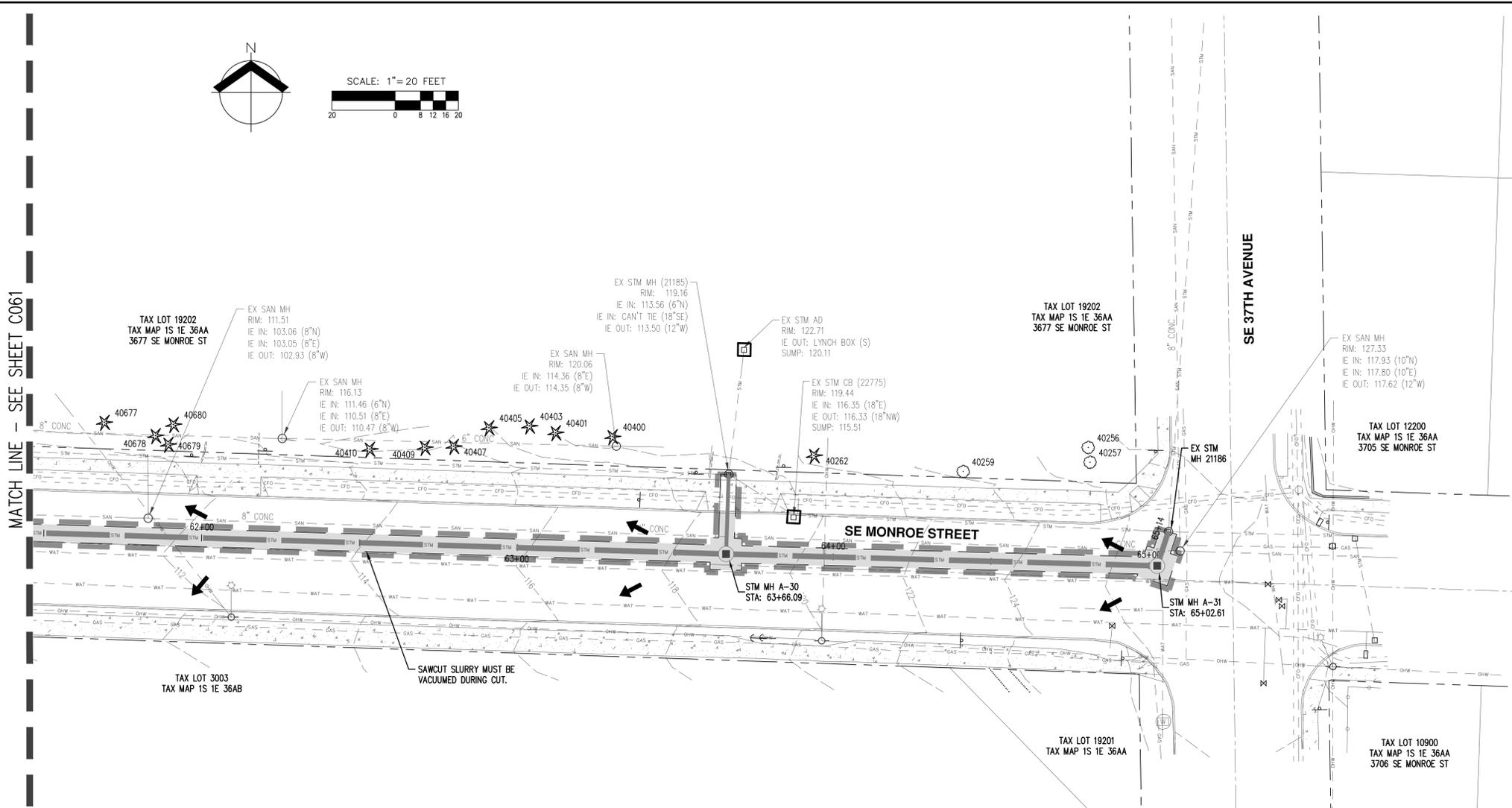
LEGEND

- EXISTING GROUND CONTOUR (1 FT)
- EXISTING GROUND CONTOUR (5 FT)
- FINISHED GRADE CONTOUR (1 FT)
- FINISHED GRADE CONTOUR (5 FT)
- SEDIMENT FENCE
- ORANGE CONSTRUCTION/TREE PROTECTION FENCE
- TREE TO REMAIN
- TREE TO REMOVE
- INLET PROTECTION (TYP) PER DETAIL
- CHECK DAM BIOFILTER BAG
- CONCRETE WASHOUT AREA
- DRAINAGE FLOW DIRECTION
- GRAVEL CONSTRUCTION ENTRANCE
- PERMANENT GROUND COVER/LANDSCAPING
- PAVEMENT RESTORATION
- TRENCH SAWCUT IN PAVEMENT
- DISTURBED LIMITS
- PROPOSED STORM LINE





MATCH LINE - SEE SHEET C061



LEGEND

EXISTING GROUND CONTOUR (1 FT)	
EXISTING GROUND CONTOUR (5 FT)	
FINISHED GRADE CONTOUR (1 FT)	
FINISHED GRADE CONTOUR (5 FT)	
SEDIMENT FENCE	
ORANGE CONSTRUCTION/TREE PROTECTION FENCE	
TREE TO REMAIN	
TREE TO REMOVE	
INLET PROTECTION (TYP) PER DETAIL	
CHECK DAM BIOFILTER BAG	
CONCRETE WASHOUT AREA	
DRAINAGE FLOW DIRECTION	
GRAVEL CONSTRUCTION ENTRANCE	
PERMANENT GROUND COVER/LANDSCAPING	
PAVEMENT RESTORATION	
TRENCH SAWCUT IN PAVEMENT	
DISTURBED LIMITS	
PROPOSED STORM LINE	

AKS
 AKS ENGINEERING & FORESTRY, LLC
 12965 SW HERMAN RD. STE 100
 TUALATIN, OR 97062
 P: 503.563.6151
 F: 503.563.6152
 aks-eng.com

CITY OF MILWAUKIE
MEEK STREET PIPE INSTALLATION
OREGON

MILWAUKIE
 CLATSOP COUNTY TAX LOTS
 11E25BA, 11E25CD, 11E36AB, 11E36AA, 11E25

STM (61+25 - 65+10)
EROSION CONTROL PLANS

DESIGNED BY: JPC
 DRAWN BY: NAD
 CHECKED BY: JPC

SCALE: AS NOTED
 DATE: 01/14/2020

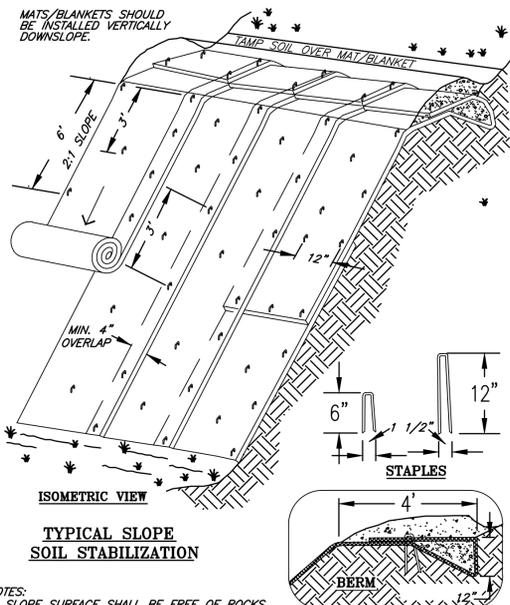
RENEWAL DATE: 12/31/21

REVISIONS

JOB NUMBER
5122

SHEET
C062



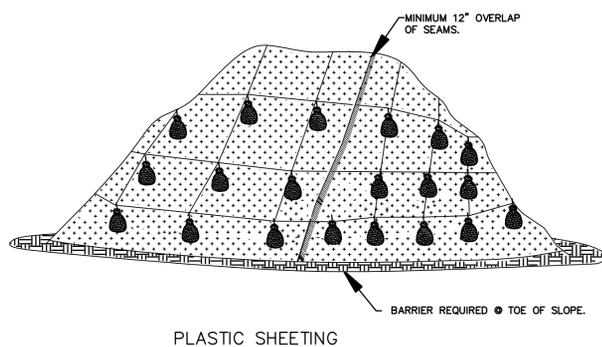


TYPICAL SLOPE SOIL STABILIZATION

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

MATting - SLOPE INSTALLATION

DETAIL DRAWING 4-1 REVISED 01-09

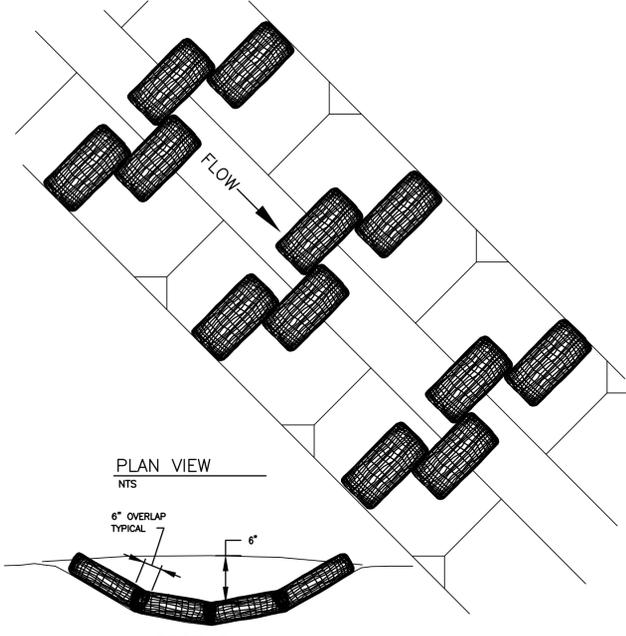


PLASTIC SHEETING

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

PLASTIC SHEETING

DETAIL DRAWING 4-3 REVISED 01-09

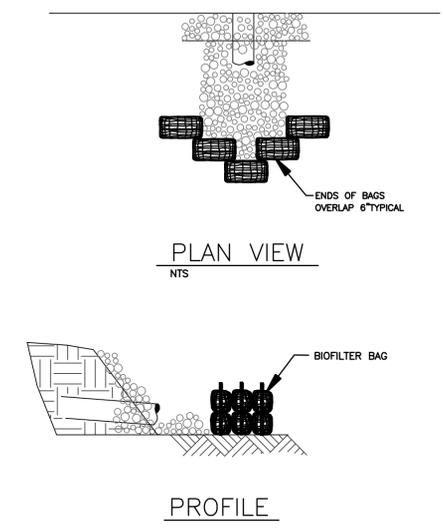


CHECK DAM - BIO-FILTER BAGS

NOTES:
 1. STAKING OF BAGS REQUIRED USING (2) 1"x2" WOOD STAKES OR APPROVED EQUAL PER BAG. SURFACE MUST BE SMOOTH BEFORE APPLICATION.
 2. CHECK DAMS CAN BE CONSTRUCTED USING STRAW WATTLES OR OTHER MATERIALS AS APPROVED BY THE DISTRICT OR CITY.

CHECK DAM - BIO-FILTER BAGS

DETAIL DRAWING 4-5 REVISED 01-09

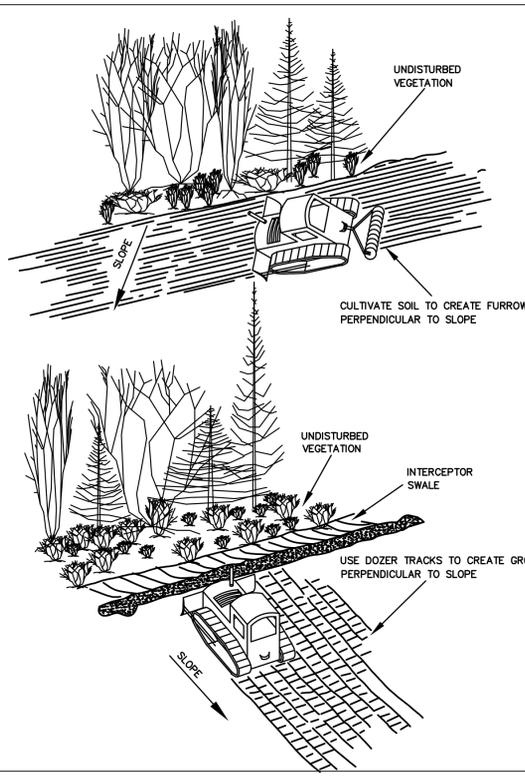


OUTLET PROTECTION - RIP RAP

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

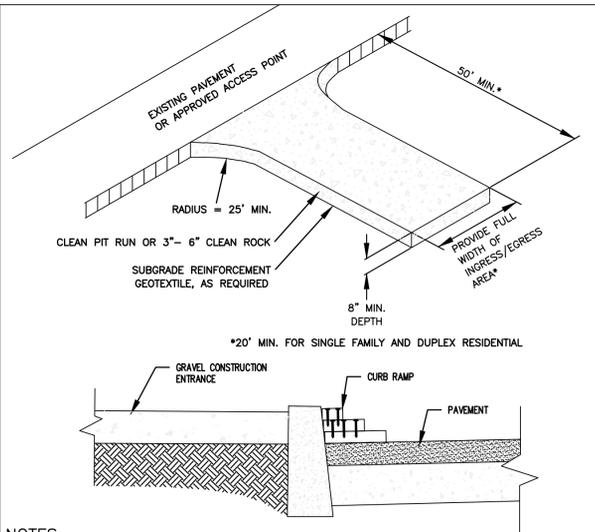
OUTLET PROTECTION - RIP RAP

DETAIL DRAWING 4-7 REVISED 01-09



SURFACE ROUGHENING - CAT TRACKING

DETAIL DRAWING 4-10 REVISED 01-09

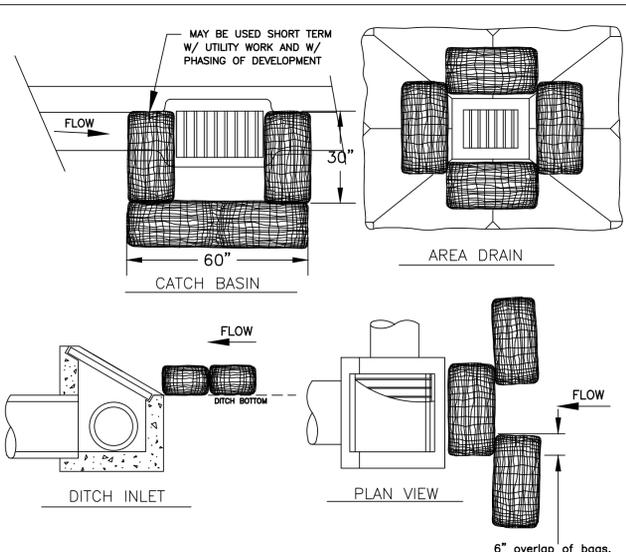


CONSTRUCTION ENTRANCE

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

CONSTRUCTION ENTRANCE

DETAIL DRAWING 4-13 REVISED 01-09

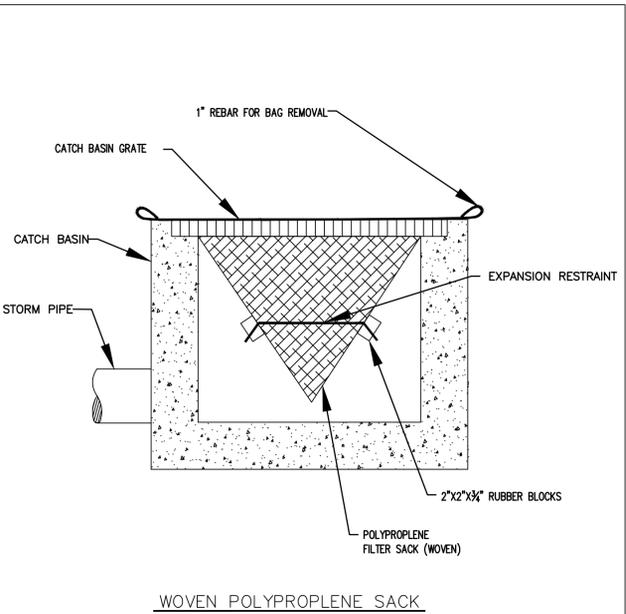


INLET PROTECTION TYPE 4

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

INLET PROTECTION TYPE 4

DETAIL DRAWING 4-18 REVISED 01-09



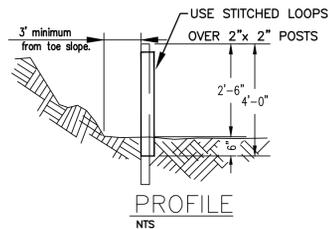
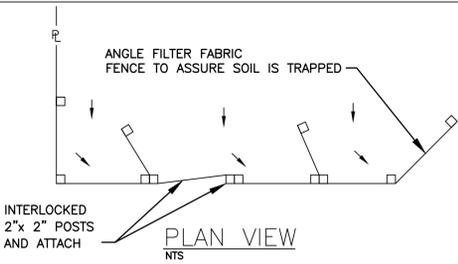
INLET PROTECTION TYPE 5

NOTE:
 1. RECESSED CURB INLET CATCH BASINS MUST BE BLOCKED WHEN USING FILTER FABRIC INLET SACKS. SIZE OF FILTER FABRIC INLET SACKS TO BE DETERMINED BY MANUFACTURER.

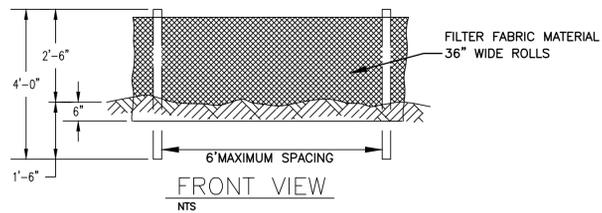
INLET PROTECTION TYPE 5

DETAIL DRAWING 4-19 REVISED 01-09





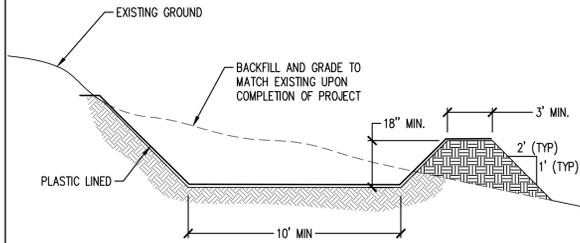
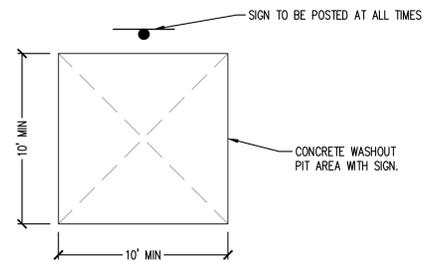
- NOTES:**
1. BURY BOTTOM OF FILTER FABRIC 6" VERTICALLY BELOW FINISHED GRADE.
 2. 2"x 2" FIR, PINE OR STEEL FENCE POSTS.
 3. POSTS TO BE INSTALLED ON UPHILL SIDE OF SLOPE.
 4. COMPACT BOTH SIDES OF FILTER FABRIC TRENCH.
 5. PANELS MUST BE PLACED ACCORDING TO SPACING ON DETAIL NO.940



SEDIMENT FENCE

DETAIL DRAWING 4-23

REVISED 01-09



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

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

CONCRETE TRUCK WASHOUT

10
C064

**EROSION PREVENTION AND
SEDIMENT CONTROL DETAILS**

DESIGNED BY: JPC
DRAWN BY: NAD
CHECKED BY: JPC
SCALE: AS NOTED

DATE: 01/14/2020

RENEWAL DATE: 12/31/21

REVISIONS

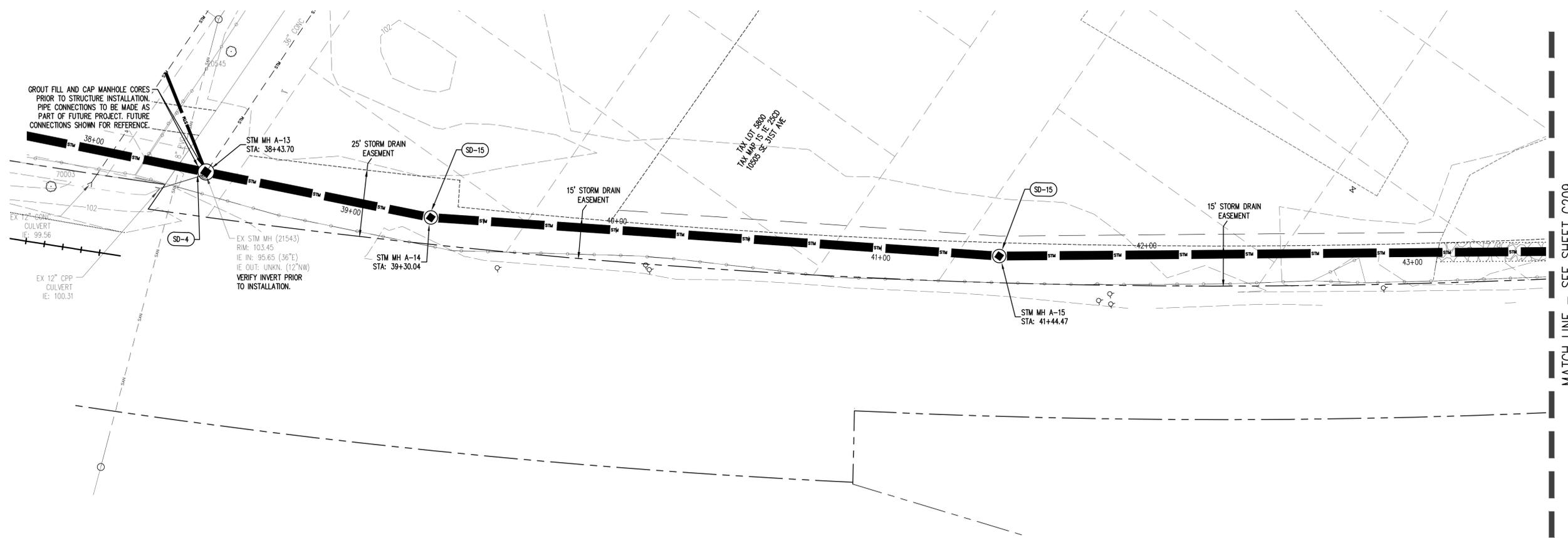
JOB NUMBER
5122

SHEET
C064



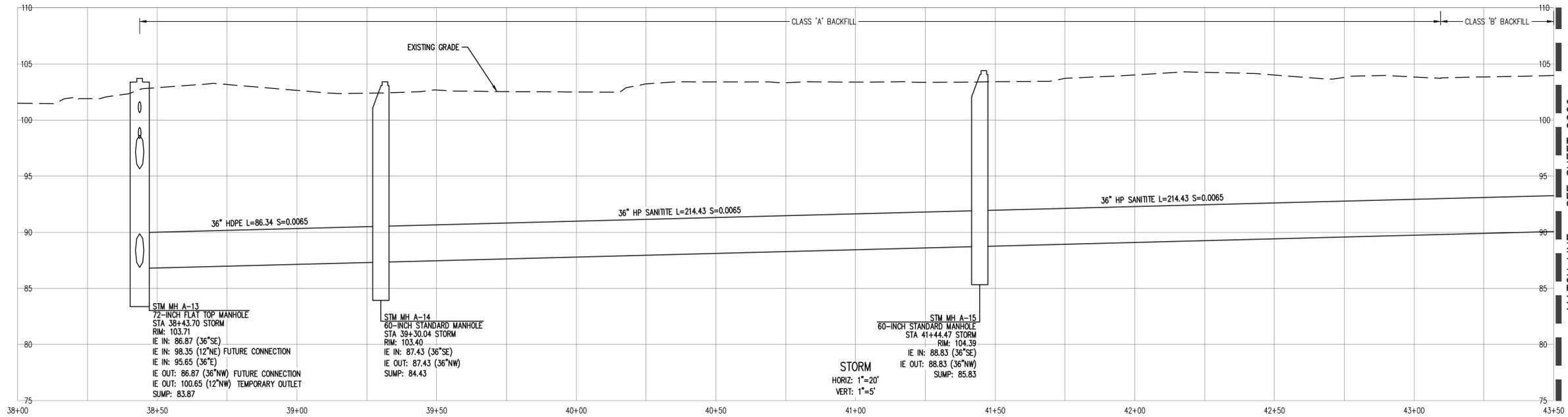


SCALE: 1" = 20 FEET



MATCH LINE - SEE SHEET C209

MATCH LINE - SEE SHEET C209



STORM DRAIN KEYED NOTES:

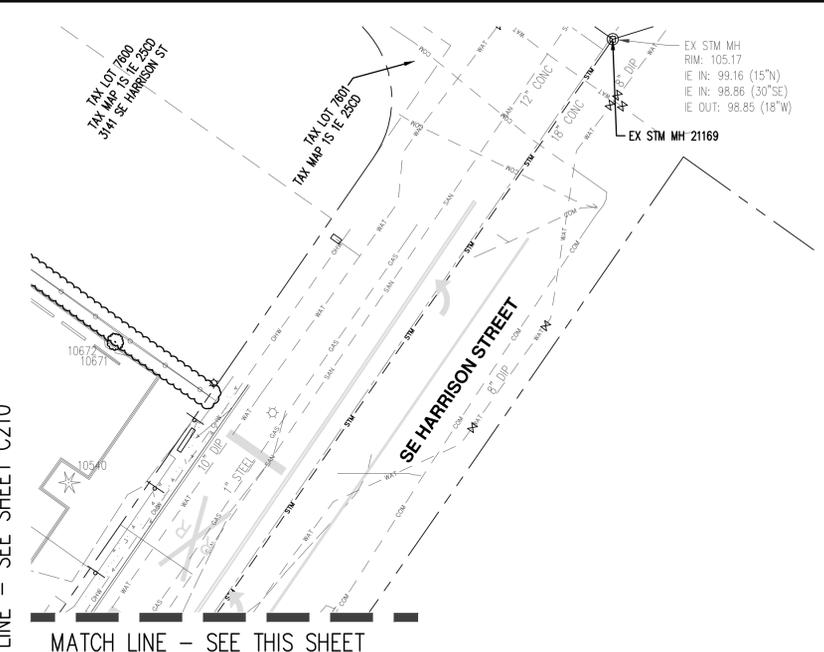
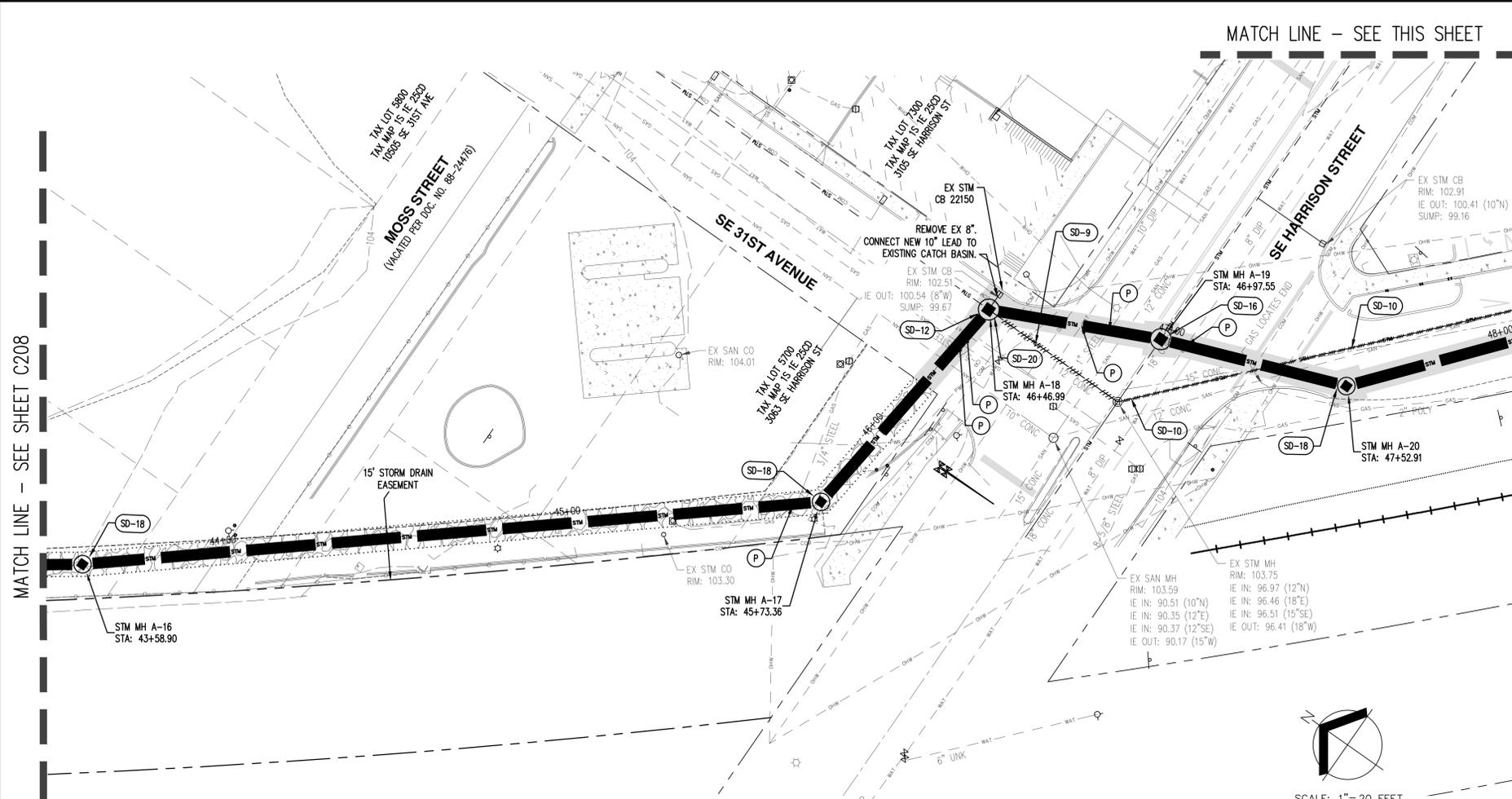
- SD-1 NOT USED.
- SD-2 NOT USED.
- SD-3 CONNECT NEW STORM TO EXISTING STORM STRUCTURE PER PLAN ELEVATIONS (SEE STORM A PROFILE AND STORM STRUCTURE CONNECTION TABLE).
- SD-4 REMOVE EXISTING STORM MANHOLE. INSTALL 72" FLAT TOP MANHOLE WITH WATERPROOF STORM LID PER DETAILS 302, RD335 AND RD345.
- SD-5 INSTALL 72" STANDARD MANHOLE WITH WATERPROOF STORM LID PER DETAILS 302, RD335 AND RD345.
- SD-6 REMOVE EXISTING 12" CONCRETE STORM PIPE AS REQUIRED TO CONSTRUCT NEW STORM MAIN. ABANDON, REMAINING IN PLACE.
- SD-7 CONNECT EXISTING 12" CONCRETE STORM LINE TO NEW MANHOLE PER PLAN ELEVATIONS (SEE STORM A PROFILE).
- SD-8 INSTALL 60" FLAT TOP MANHOLE PER DETAILS 608, RD335 AND RD345.
- SD-9 DECOMMISSION AND ABANDON EXISTING STORM MAIN.
- SD-10 REMOVE EXISTING 15" CONCRETE STORM PIPE AS REQUIRED TO CONSTRUCT NEW STORM MAIN. ABANDON, REMAINING IN PLACE.

- SD-11 CONNECT EXISTING 8" STORM LINE TO NEW STRUCTURE PER PLAN ELEVATIONS (SEE STORM A PROFILE).
- SD-12 NOT USED.
- SD-13 CONNECT EXISTING 10" CONCRETE STORM LINE TO NEW MANHOLE PER PLAN ELEVATIONS (SEE STORM A PROFILE).
- SD-14 NOT USED.
- SD-15 INSTALL 60" STANDARD MANHOLE WITH WATERPROOF STORM LID PER DETAILS 302, RD335 AND RD345.
- SD-16 INSTALL 72" STANDARD MANHOLE OVER EXISTING 18" MAIN PER DETAILS 608, RD335 AND RD345.
- SD-17 INSTALL 48" STANDARD MANHOLE PER DETAILS 608, RD335 AND RD345.
- SD-18 INSTALL 60" STANDARD MANHOLE PER DETAILS 608, RD335 AND RD345.
- SD-19 INSTALL 60" STORM SEWER POLLUTION CONTROL MANHOLE PER DETAILS 608, RD336, RD340 AND RD345.
- SD-20 INSTALL 72" STANDARD MANHOLE PER DETAILS 608, RD338 AND RD345.

GENERAL KEYED NOTES: #

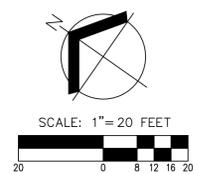
- (P) CONTRACTOR TO POTHOLE LOCATION TO IDENTIFY POTENTIAL CONFLICTS WITH EXISTING UTILITIES. PROVIDE ENGINEER WITH HORIZONTAL AND VERTICAL LOCATIONS PRIOR TO PROCEEDING WITH CONSTRUCTION.
- (CLSM) BACKFILL UTILITY CROSSING WITH CONTROLLED LOW STRENGTH MATERIAL PER DETAIL ON SHEET C217.





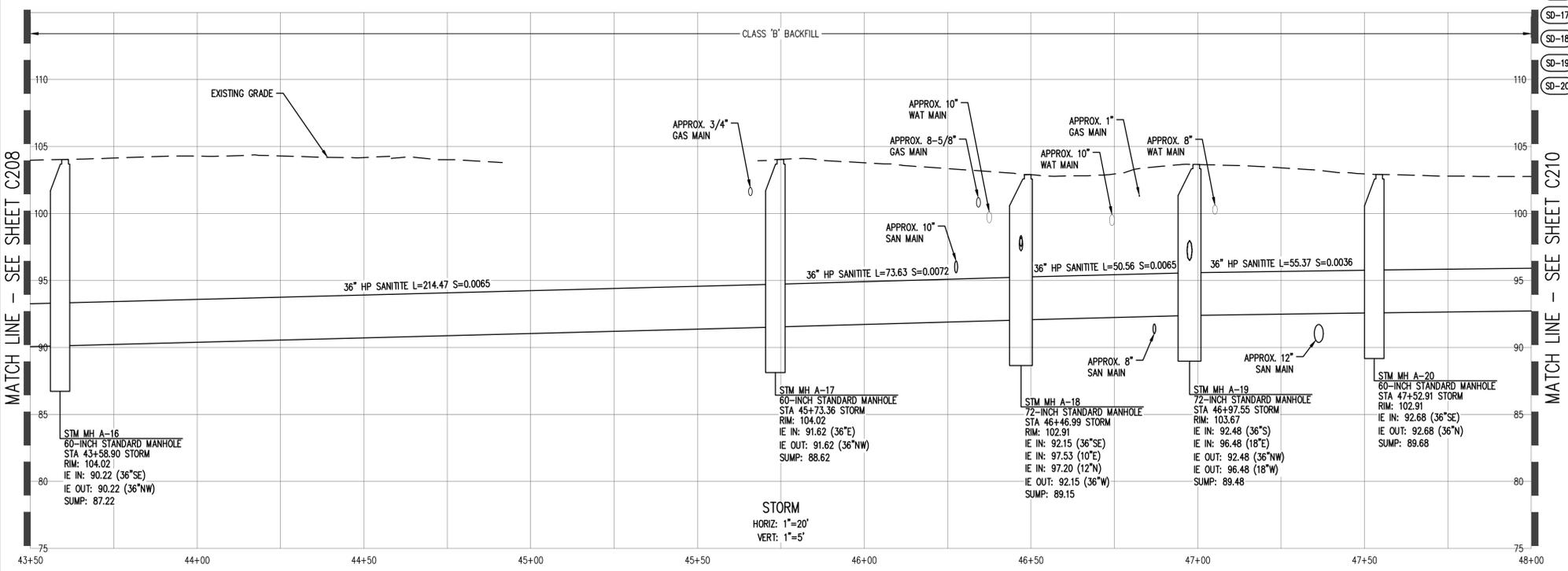
STORM STRUCTURE CONNECTION TABLE

STRUCTURE	MAINTAIN/REPLACE/NEW STRUCTURE	RIM	MAINTAIN/REPLACE/NEW PIPE	IE OUT	SUMP	PIPE	SLOPE	LENGTH	DS MH	STATION & OFFSET	ALIGNMENT
EX STM CB 22150	MAINTAIN EXISTING	102.90	NEW	100.54	1.50'	10"	0.4894	6.15 LF	STM MH A-18	46+49.66 5.54 L	STORM
EX STM MH 21169	MAINTAIN EXISTING	100.88	MAINTAIN EXISTING	98.85	2.00'	18"	0.0090	262.46 LF	STM MH A-19	49+04.94 196.49 L	STORM



STORM DRAIN KEYED NOTES:

- SD-1 NOT USED.
- SD-2 NOT USED.
- SD-3 CONNECT NEW STORM TO EXISTING STORM STRUCTURE PER PLAN ELEVATIONS (SEE STORM A PROFILE AND STORM STRUCTURE CONNECTION TABLE).
- SD-4 REMOVE EXISTING STORM MANHOLE. INSTALL 72" FLAT TOP MANHOLE WITH WATERPROOF STORM LID PER DETAILS 302, RD335 AND RD345.
- SD-5 INSTALL 72" FLAT TOP MANHOLE WITH WATERPROOF STORM LID PER DETAILS 302, RD335 AND RD345.
- SD-6 REMOVE EXISTING 12" CONCRETE STORM PIPE AS REQUIRED TO CONSTRUCT NEW STORM MAIN. ABANDON IN-PLACE, REMAINING PORTIONS.
- SD-7 CONNECT EXISTING 12" CONCRETE STORM LINE TO NEW MANHOLE PER PLAN ELEVATIONS (SEE STORM A PROFILE).
- SD-8 INSTALL 60" FLAT TOP MANHOLE PER DETAILS 608, RD335 AND RD345.
- SD-9 DECOMMISSION AND ABANDON EXISTING STORM MAIN.
- SD-10 REMOVE EXISTING 15" CONCRETE STORM PIPE AS REQUIRED TO CONSTRUCT NEW STORM MAIN. ABANDON IN PLACE, REMAINING PORTIONS.
- SD-11 CONNECT EXISTING 8" STORM LINE TO NEW STRUCTURE PER PLAN ELEVATIONS (SEE STORM A PROFILE).
- SD-12 PLUG MANHOLE CORE (36" WEST).
- SD-13 CONNECT EXISTING 10" CONCRETE STORM LINE TO NEW MANHOLE PER PLAN ELEVATIONS (SEE STORM A PROFILE).
- SD-14 NOT USED.
- SD-15 INSTALL 60" STANDARD MANHOLE WITH WATERPROOF STORM LID PER DETAILS 302, RD335 AND RD345.
- SD-16 INSTALL 72" STANDARD MANHOLE OVER EXISTING 18" MAIN PER DETAILS 608, RD335 AND RD345.
- SD-17 INSTALL 48" STANDARD MANHOLE PER DETAILS 608, RD335 AND RD345.
- SD-18 INSTALL 60" STANDARD MANHOLE PER DETAILS 608, RD335 AND RD345.
- SD-19 INSTALL 60" STORM SEWER POLLUTION CONTROL MANHOLE PER DETAILS 608, RD336, RD340 AND RD345.
- SD-20 INSTALL 72" STANDARD MANHOLE PER DETAILS 608, RD335 AND RD345.



ALL WORK WITHIN HARRISON STREET WILL OCCUR DURING NIGHT WORK ONLY.

- GENERAL KEYED NOTES:**
- (P) CONTRACTOR TO POTHOLE LOCATION TO IDENTIFY POTENTIAL CONFLICTS WITH EXISTING UTILITIES. PROVIDE ENGINEER WITH HORIZONTAL AND VERTICAL LOCATIONS PRIOR TO PROCEEDING WITH CONSTRUCTION.
 - (CLSM) BACKFILL UTILITY CROSSING WITH CONTROLLED LOW STRENGTH MATERIAL PER DETAIL ON SHEET C217.



AKS
 AKS ENGINEERING & FORESTRY, LLC
 12965 SW HERMAN RD STE 100
 TUALATIN, OR 97062
 P: 503.563.6151
 F: 503.563.6152
 aks-eng.com

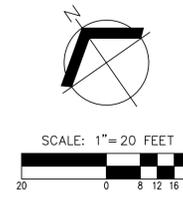
CITY OF MILWAUKIE
MEEK STREET PIPE INSTALLATION
 OREGON
 MILWAUKIE
 CLACKAMAS COUNTY TAX LOTS

STM (43+50 - 48+00) - PLAN AND PROFILE

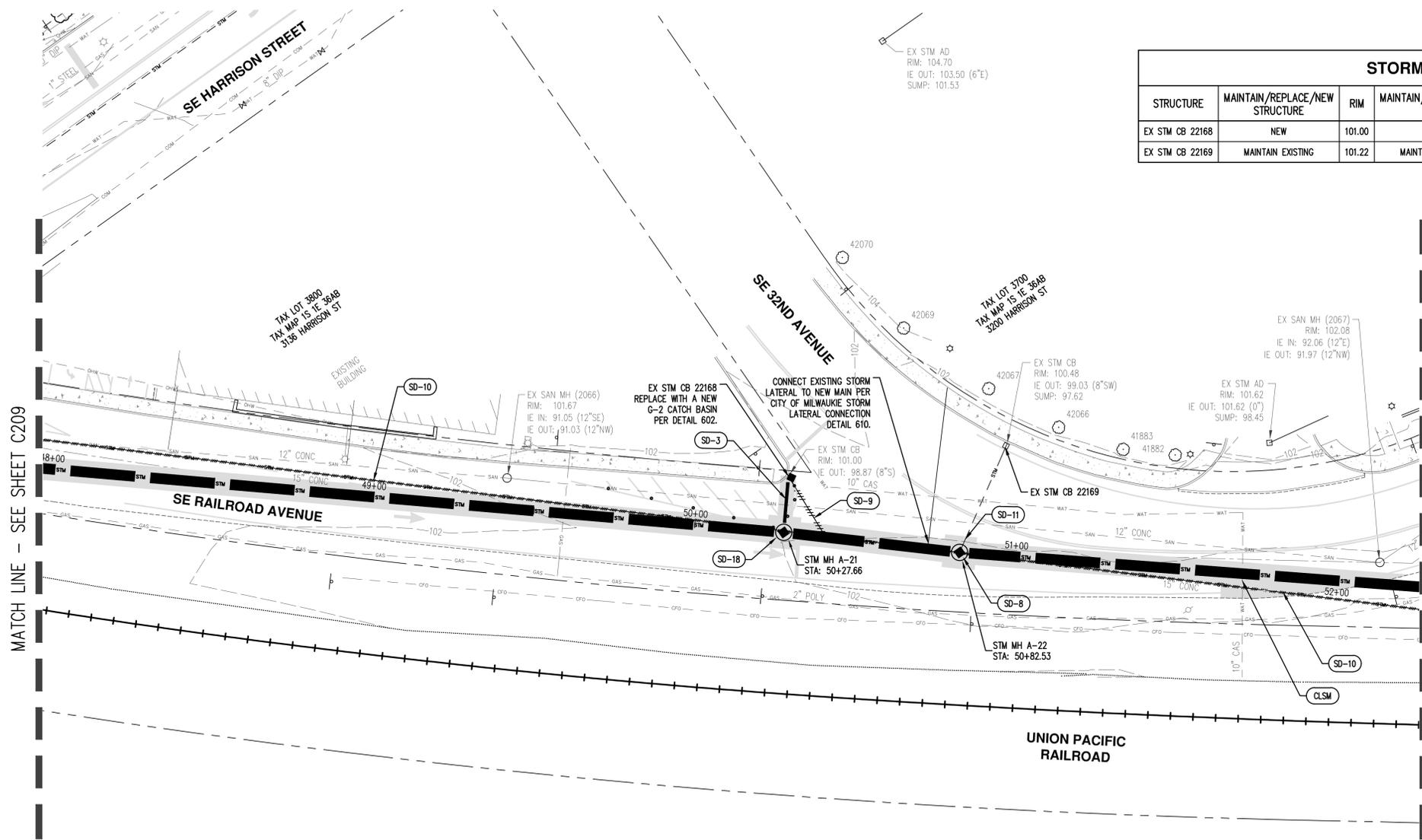
DESIGNED BY: JPC
 DRAWN BY: NAD
 CHECKED BY: JPC
 SCALE: AS NOTED
 DATE: 01/14/2020

REGISTERED PROFESSIONAL ENGINEER
 76382PE
 OREGON
 JOHN P. CHRISTIANSEN
 RENEWAL DATE: 12/31/21

JOB NUMBER
5122
 SHEET
C209



STORM STRUCTURE CONNECTION TABLE											
STRUCTURE	MAINTAIN/REPLACE/NEW STRUCTURE	RIM	MAINTAIN/REPLACE/NEW PIPE	IE OUT	SUMP	PIPE	SLOPE	LENGTH	DS MH	STATION & OFFSET	ALIGNMENT
EX STM CB 22168	NEW	101.00	NEW	97.00	2.00'	10" HDPE	0.0200	17.43 LF	STM MH A-21	50+27.66 17.43 L	STORM
EX STM CB 22169	MAINTAIN EXISTING	101.22	MAINTAIN EXISTING	EXST	EXST	8"	EXST	EXST	STM MH A-22	50+94.74 34.62 L	STORM

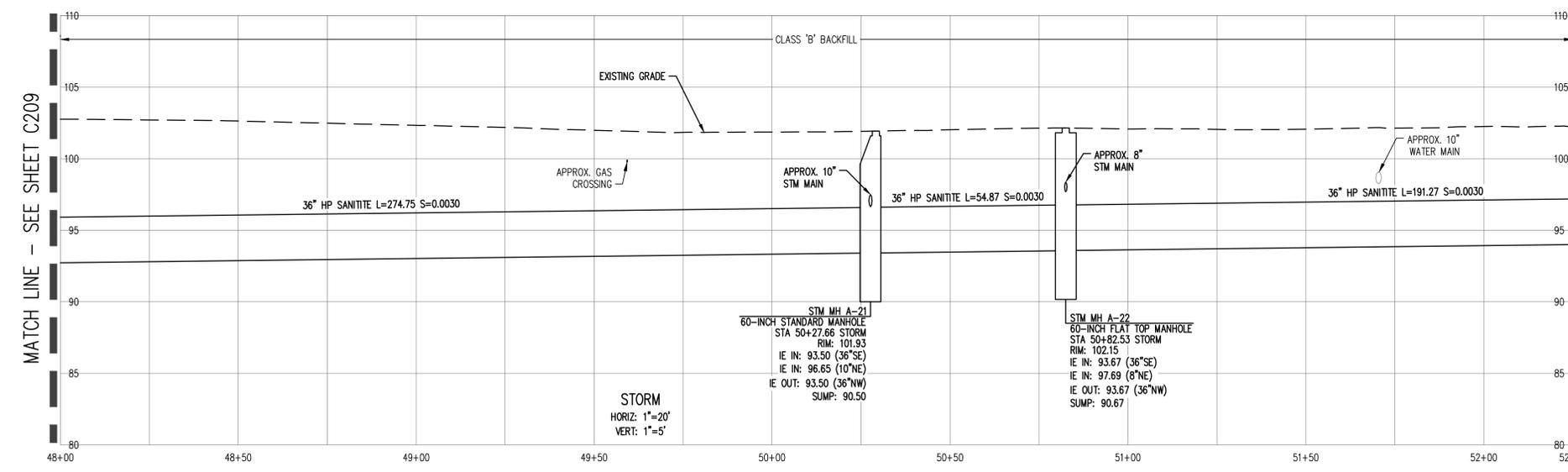


STORM DRAIN KEYED NOTES:

- SD-1 NOT USED.
- SD-2 NOT USED.
- SD-3 CONNECT NEW STORM TO EXISTING STORM STRUCTURE PER PLAN ELEVATIONS (SEE STORM A PROFILE AND STORM STRUCTURE CONNECTION TABLE).
- SD-4 REMOVE EXISTING STORM MANHOLE. INSTALL 72" FLAT TOP MANHOLE WITH WATERPROOF STORM LID PER DETAILS 302, RD335 AND RD345.
- SD-5 INSTALL 72" FLAT TOP MANHOLE WITH WATERPROOF STORM LID PER DETAILS 302, RD335 AND RD345.
- SD-6 REMOVE EXISTING 12" CONCRETE STORM PIPE AS REQUIRED TO CONSTRUCT NEW STORM MAIN. ABANDON IN-PLACE, REMAINING PORTIONS.
- SD-7 CONNECT EXISTING 12" CONCRETE STORM LINE TO NEW MANHOLE PER PLAN ELEVATIONS (SEE STORM A PROFILE).
- SD-8 INSTALL 60" FLAT TOP MANHOLE PER DETAILS 608, RD335 AND RD345.
- SD-9 DECOMMISSION AND ABANDON EXISTING STORM MAIN.
- SD-10 REMOVE EXISTING 15" CONCRETE STORM PIPE AS REQUIRED TO CONSTRUCT NEW STORM MAIN. ABANDON IN PLACE, REMAINING PORTIONS.
- SD-11 CONNECT EXISTING 8" STORM LINE TO NEW STRUCTURE PER PLAN ELEVATIONS (SEE STORM A PROFILE).
- SD-12 PLUG MANHOLE CORE (36" WEST).
- SD-13 CONNECT EXISTING 10" CONCRETE STORM LINE TO NEW MANHOLE PER PLAN ELEVATIONS (SEE STORM A PROFILE).
- SD-14 NOT USED.
- SD-15 INSTALL 60" STANDARD MANHOLE WITH WATERPROOF STORM LID PER DETAILS 302, RD335 AND RD345.
- SD-16 INSTALL 72" STANDARD MANHOLE OVER EXISTING 18" MAIN PER DETAILS 608, RD335 AND RD345.
- SD-17 INSTALL 48" STANDARD MANHOLE PER DETAILS 608, RD335 AND RD345.
- SD-18 INSTALL 60" STANDARD MANHOLE PER DETAILS 608, RD335 AND RD345.
- SD-19 INSTALL 60" STORM SEWER POLLUTION CONTROL MANHOLE PER DETAILS 608, RD336, RD340 AND RD345.
- SD-20 INSTALL 72" STANDARD MANHOLE PER DETAILS 608, RD335 AND RD345.

GENERAL KEYED NOTES:

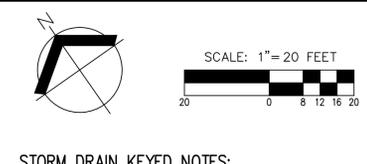
- (P) CONTRACTOR TO POTHOLE LOCATION TO IDENTIFY POTENTIAL CONFLICTS WITH EXISTING UTILITIES. PROVIDE ENGINEER WITH HORIZONTAL AND VERTICAL LOCATIONS PRIOR TO PROCEEDING WITH CONSTRUCTION.
- (CLSM) BACKFILL UTILITY CROSSING WITH CONTROLLED LOW STRENGTH MATERIAL PER DETAIL ON SHEET C217.



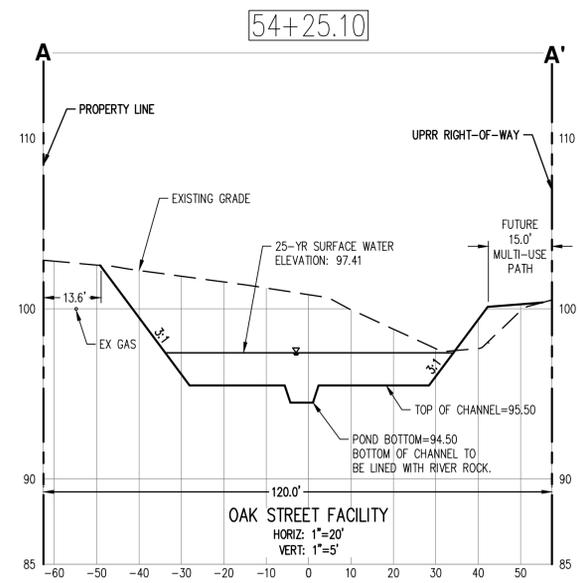
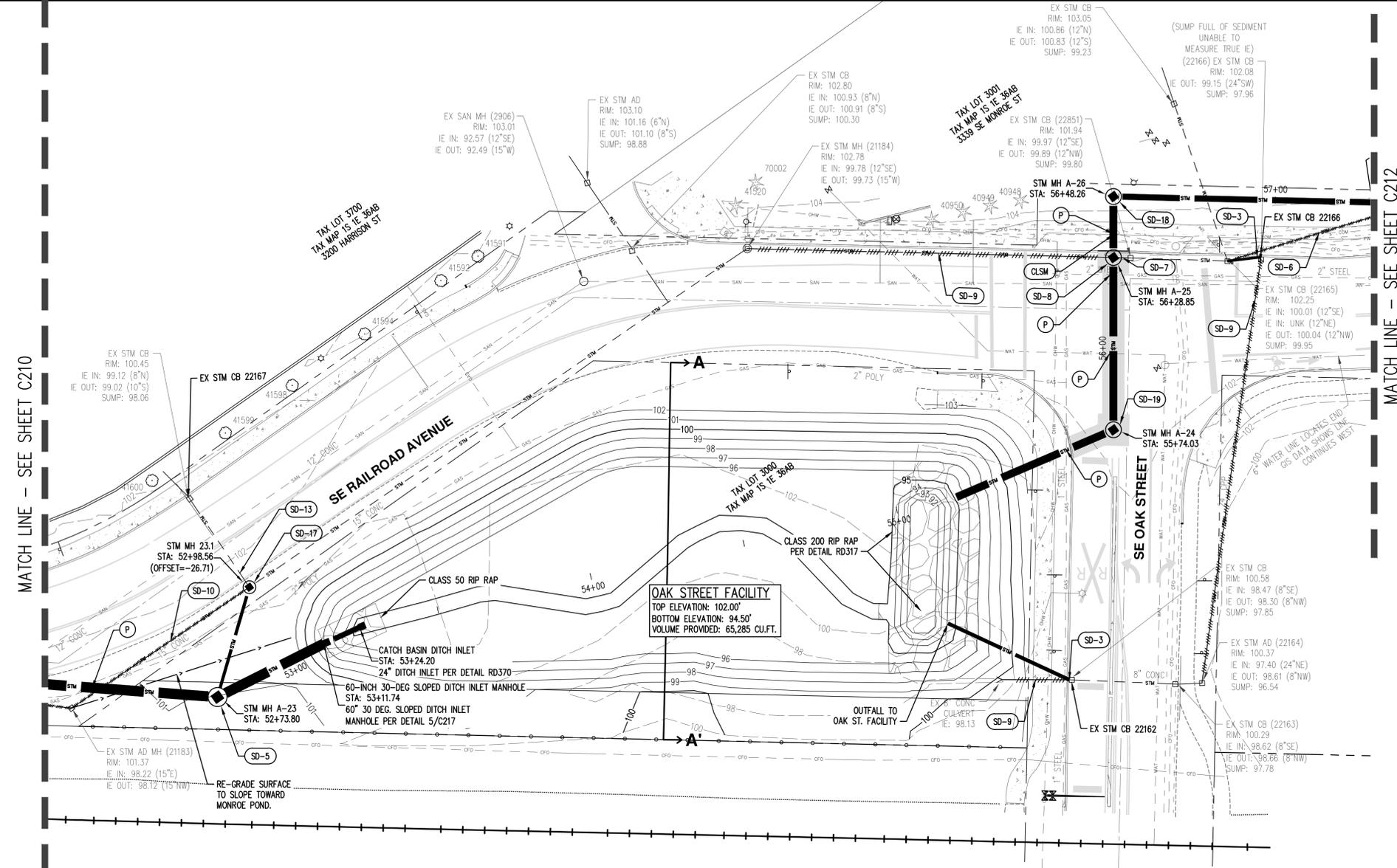
GENERAL KEYED NOTES:

(P) CONTRACTOR TO POTHOLE LOCATION TO IDENTIFY POTENTIAL CONFLICTS WITH EXISTING UTILITIES. PROVIDE ENGINEER WITH HORIZONTAL AND VERTICAL LOCATIONS PRIOR TO PROCEEDING WITH CONSTRUCTION.

(CLSM) BACKFILL UTILITY CROSSING WITH CONTROLLED LOW STRENGTH MATERIAL PER DETAIL ON SHEET C217.

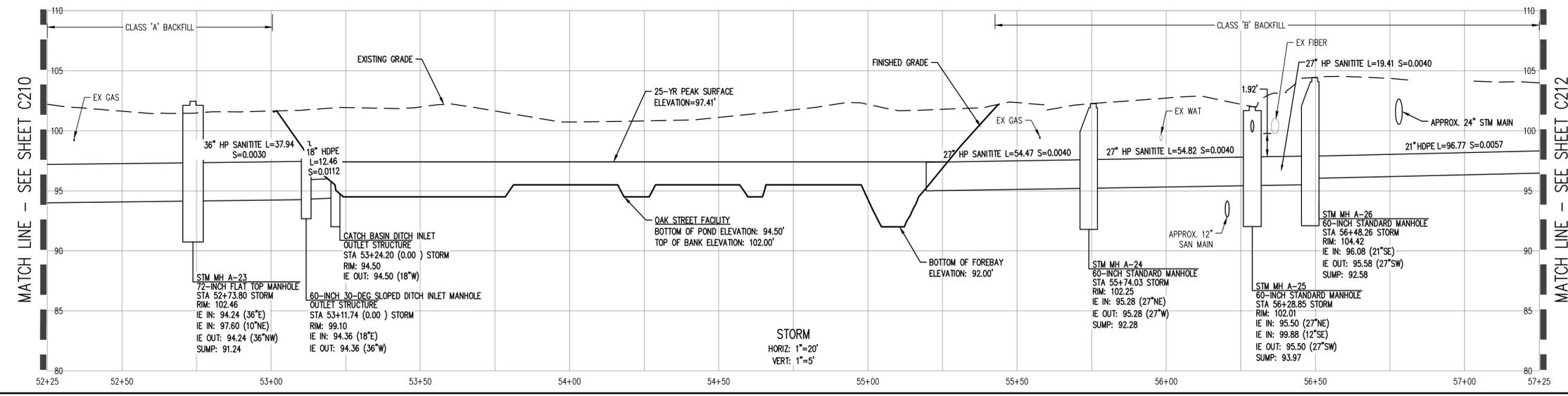


- STORM DRAIN KEYED NOTES:**
- SD-1 NOT USED.
 - SD-2 NOT USED.
 - SD-3 CONNECT NEW STORM TO EXISTING STORM STRUCTURE PER PLAN ELEVATIONS (SEE STORM A PROFILE AND STORM STRUCTURE CONNECTION TABLE).
 - SD-4 REMOVE EXISTING STORM MANHOLE. INSTALL 72" FLAT TOP MANHOLE WITH WATERPROOF STORM LID PER DETAILS 302, RD335 AND RD345.
 - SD-5 INSTALL 72" FLAT TOP MANHOLE WITH WATERPROOF STORM LID PER DETAILS 302, RD335 AND RD345.
 - SD-6 REMOVE EXISTING 12" CONCRETE STORM PIPE AS REQUIRED TO CONSTRUCT NEW STORM MAIN. ABANDON IN-PLACE, REMAINING PORTIONS.
 - SD-7 CONNECT EXISTING 12" CONCRETE STORM LINE TO NEW MANHOLE PER PLAN ELEVATIONS (SEE STORM A PROFILE).
 - SD-8 INSTALL 60" FLAT TOP MANHOLE PER DETAILS 608, RD335 AND RD345.
 - SD-9 DECOMMISSION AND ABANDON EXISTING STORM MAIN.
 - SD-10 REMOVE EXISTING 15" CONCRETE STORM PIPE AS REQUIRED TO CONSTRUCT NEW STORM MAIN. ABANDON IN PLACE, REMAINING PORTIONS.
 - SD-11 CONNECT EXISTING 8" STORM LINE TO NEW STRUCTURE PER PLAN ELEVATIONS (SEE STORM A PROFILE).
 - SD-12 PLUG MANHOLE CORE (36" WEST).
 - SD-13 CONNECT EXISTING 10" CONCRETE STORM LINE TO NEW MANHOLE PER PLAN ELEVATIONS (SEE STORM A PROFILE).
 - SD-14 NOT USED.
 - SD-15 INSTALL 60" STANDARD MANHOLE WITH WATERPROOF STORM LID PER DETAILS 302, RD335 AND RD345.
 - SD-16 INSTALL 72" STANDARD MANHOLE OVER EXISTING 18" MAIN PER DETAILS 608, RD335 AND RD345.
 - SD-17 INSTALL 48" STANDARD MANHOLE PER DETAILS 608, RD335 AND RD345.
 - SD-18 INSTALL 60" STANDARD MANHOLE PER DETAILS 608, RD335 AND RD345.
 - SD-19 INSTALL 60" STORM SEWER POLLUTION CONTROL MANHOLE PER DETAILS 608, RD336, RD340 AND RD345.
 - SD-20 INSTALL 72" STANDARD MANHOLE PER DETAILS 608, RD335 AND RD345.



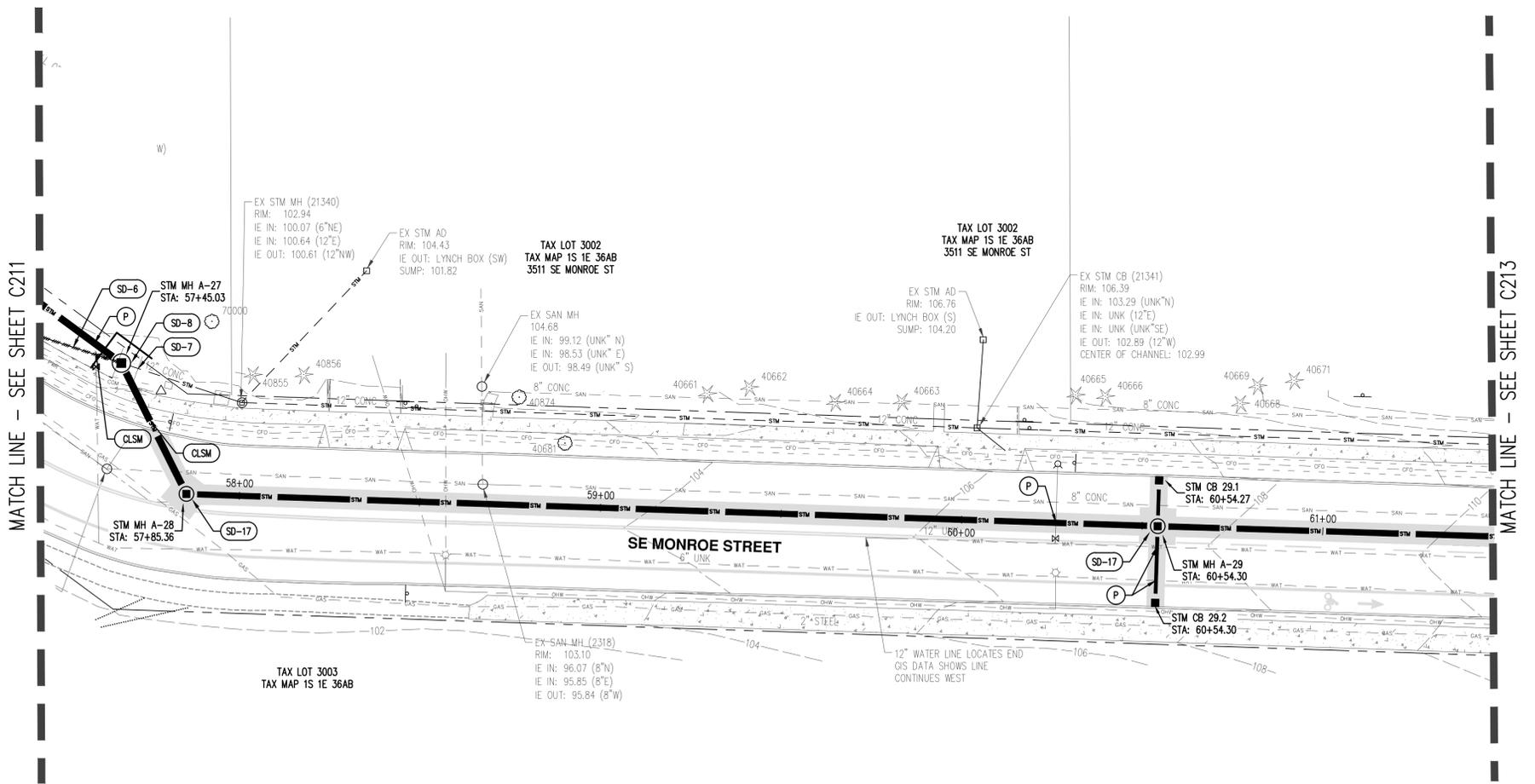
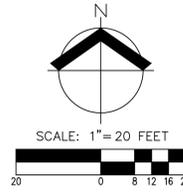
STORM STRUCTURE CONNECTION TABLE

STRUCTURE	MAINTAIN/REPLACE/NEW STRUCTURE	RIM	MAINTAIN/REPLACE/NEW PIPE	IE OUT	SUMP	PIPE	SLOPE	LENGTH	DS MH	STATION & OFFSET	ALIGNMENT
EX STM CB 22162	MAINTAIN EXISTING	100.85	NEW	98.30	2.00'	12" HDPE	0.0890	42.68 LF	OUTFALL	55+29.84 67.58 R	STORM
EX STM CB 22166	MAINTAIN EXISTING	102.46	NEW	100.25	2.00'	8" HDPE	0.0100	10.78 LF	EX CB 22165	56+95.84 18.17 R	STORM
EX STM CB 22167	MAINTAIN EXISTING	101.38	MAINTAIN EXISTING	EXST	EXST	10"	EXST	EXST	STM MH 23.1	52+94.00 61.17 L	STORM
STM MH 23.1	NEW	102.17	NEW	98.47	2.00'	10" HDPE	0.0240	36.42 LF	STM MH A-23	52+98.56 26.71 L	STORM



NOTES:
 1. PROPERTY LINE BASED ON ANTICIPATED REAL ESTATE TRANSACTION WITH THE CITY OF MILWAUKIE. PROCESS IN LAND USE REVIEW.



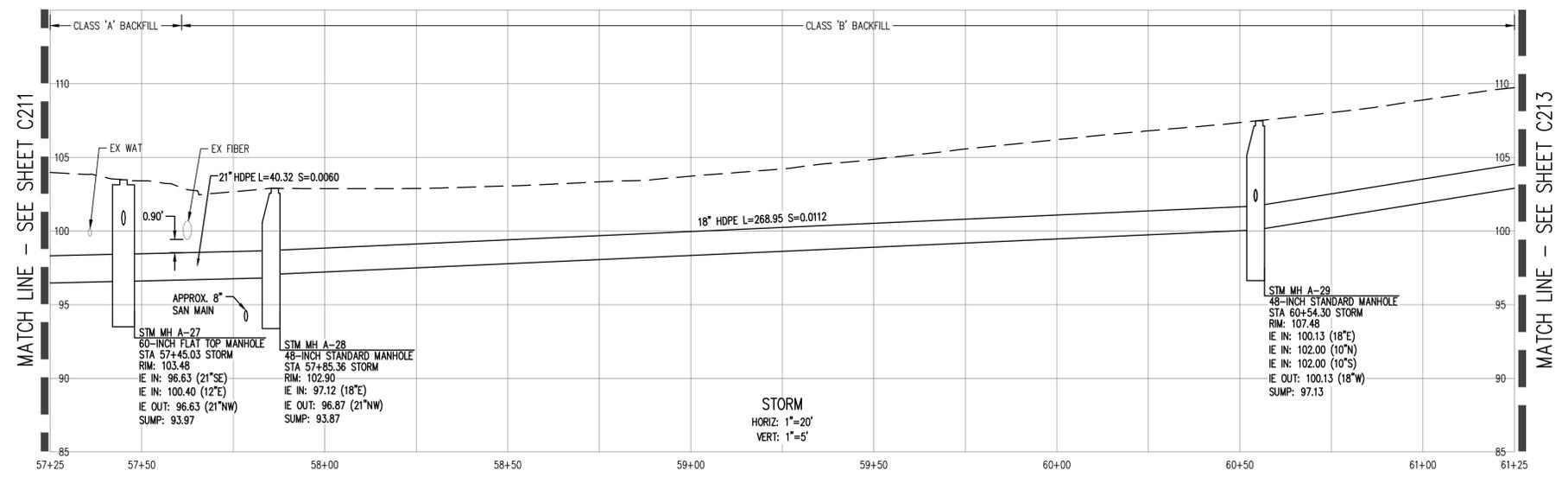


STORM DRAIN KEYED NOTES:

- (SD-1) NOT USED.
- (SD-2) NOT USED.
- (SD-3) CONNECT NEW STORM TO EXISTING STORM STRUCTURE PER PLAN ELEVATIONS (SEE STORM A PROFILE AND STORM STRUCTURE CONNECTION TABLE).
- (SD-4) REMOVE EXISTING STORM MANHOLE. INSTALL 72" FLAT TOP MANHOLE WITH WATERPROOF STORM LID PER DETAILS 302, RD335 AND RD345.
- (SD-5) INSTALL 72" FLAT TOP MANHOLE WITH WATERPROOF STORM LID PER DETAILS 302, RD335 AND RD345.
- (SD-6) REMOVE EXISTING 12" CONCRETE STORM PIPE AS REQUIRED TO CONSTRUCT NEW STORM MAIN. ABANDON IN-PLACE, REMAINING PORTIONS.
- (SD-7) CONNECT EXISTING 12" CONCRETE STORM LINE TO NEW MANHOLE PER PLAN ELEVATIONS (SEE STORM A PROFILE).
- (SD-8) INSTALL 60" FLAT TOP MANHOLE PER DETAILS 608, RD335 AND RD345.
- (SD-9) DECOMMISSION AND ABANDON EXISTING STORM MAIN.
- (SD-10) REMOVE EXISTING 15" CONCRETE STORM PIPE AS REQUIRED TO CONSTRUCT NEW STORM MAIN. ABANDON IN PLACE, REMAINING PORTIONS.
- (SD-11) CONNECT EXISTING 8" STORM LINE TO NEW STRUCTURE PER PLAN ELEVATIONS (SEE STORM A PROFILE).
- (SD-12) PLUG MANHOLE CORE (36" WEST).
- (SD-13) CONNECT EXISTING 10" CONCRETE STORM LINE TO NEW MANHOLE PER PLAN ELEVATIONS (SEE STORM A PROFILE).
- (SD-14) NOT USED.
- (SD-15) INSTALL 60" STANDARD MANHOLE WITH WATERPROOF STORM LID PER DETAILS 302, RD335 AND RD345.
- (SD-16) INSTALL 72" STANDARD MANHOLE OVER EXISTING 18" MAIN PER DETAILS 608, RD335 AND RD345.
- (SD-17) INSTALL 48" STANDARD MANHOLE PER DETAILS 608, RD335 AND RD345.
- (SD-18) INSTALL 60" STANDARD MANHOLE PER DETAILS 608, RD335 AND RD345.
- (SD-19) INSTALL 60" STORM SEWER POLLUTION CONTROL MANHOLE PER DETAILS 608, RD336, RD340 AND RD345.
- (SD-20) INSTALL 72" STANDARD MANHOLE PER DETAILS 608, RD335 AND RD345.

STORM STRUCTURE CONNECTION TABLE

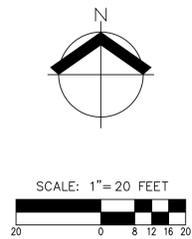
STRUCTURE	MAINTAIN/REPLACE/NEW STRUCTURE	RIM	MAINTAIN/REPLACE/NEW PIPE	IE OUT	SUMP	PIPE	SLOPE	LENGTH	DS MH	STATION & OFFSET	ALIGNMENT
EX STM MH 21340	MAINTAIN	102.94	MAINTAIN	100.61	0.00'	12"	0.0061	35.12 LF	STM MH A-27	57+69.72 24.98 L	STORM
STM CB 29.1	NEW	107.11	NEW	103.11	2.00'	10" HDPE	0.0813	13.66 LF	STM MH A-29	60+54.27 13.66 L	STORM
STM CB 29.2	NEW	107.13	NEW	103.80	2.00'	10" HDPE	0.0813	22.14 LF	STM MH A-29	60+54.30 22.14 R	STORM



GENERAL KEYED NOTES:

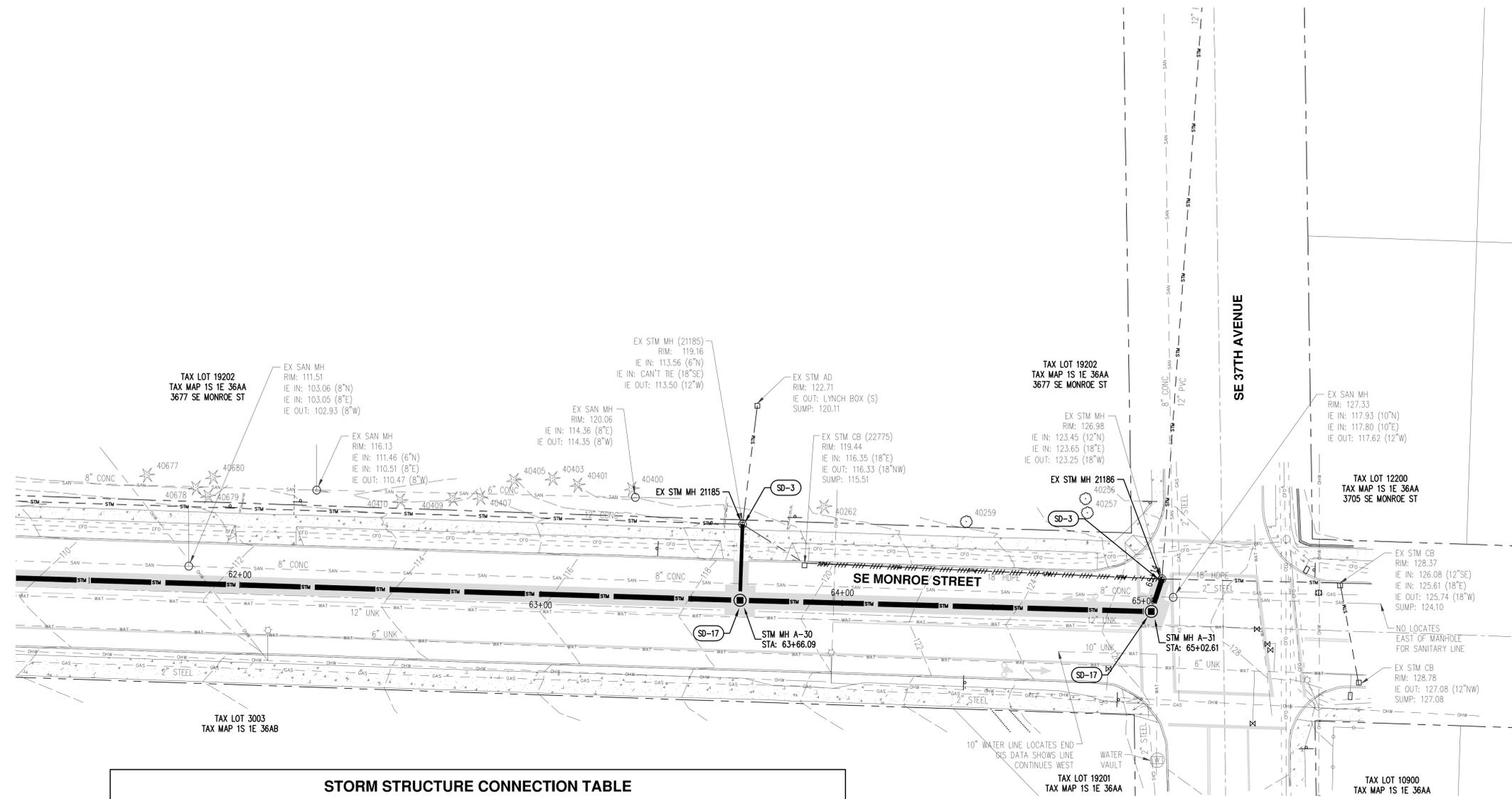
- (P) CONTRACTOR TO POT HOLE LOCATION TO IDENTIFY POTENTIAL CONFLICTS WITH EXISTING UTILITIES. PROVIDE ENGINEER WITH HORIZONTAL AND VERTICAL LOCATIONS PRIOR TO PROCEEDING WITH CONSTRUCTION.
- (CLSM) BACKFILL UTILITY CROSSING WITH CONTROLLED LOW STRENGTH MATERIAL PER DETAIL ON SHEET C217.





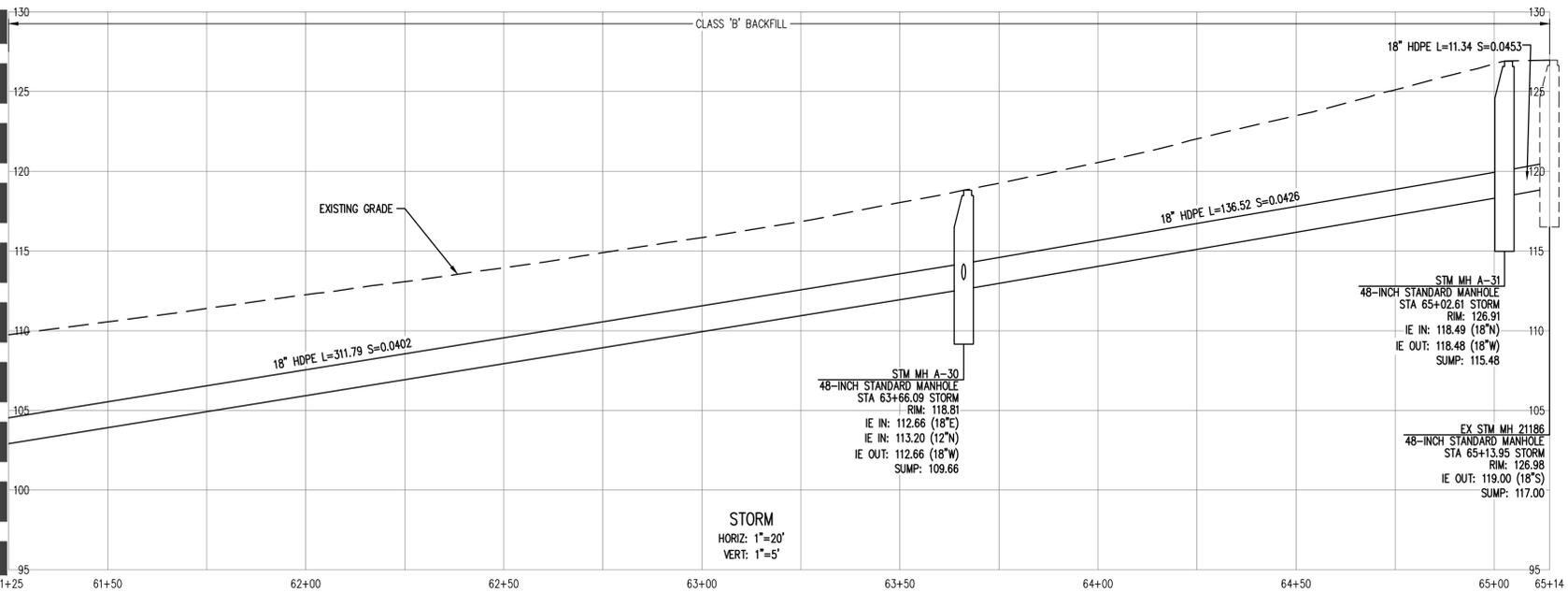
MATCH LINE - SEE SHEET C212

MATCH LINE - SEE SHEET C212



STORM STRUCTURE CONNECTION TABLE

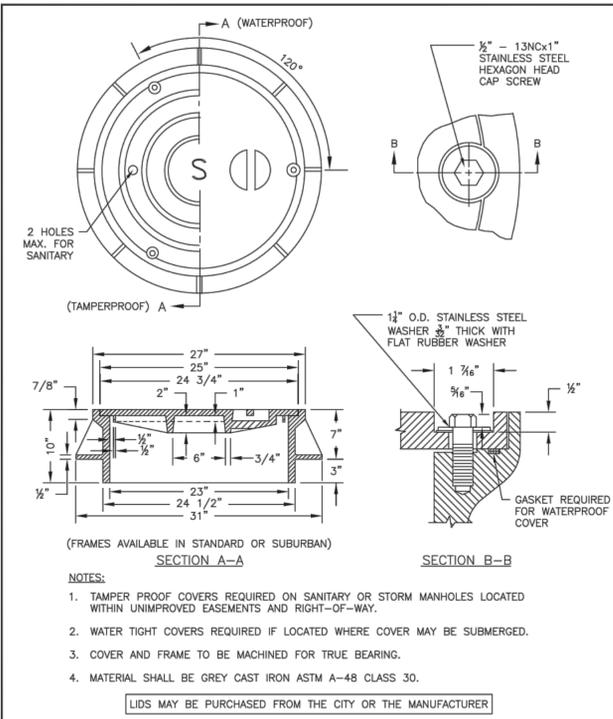
STRUCTURE	MAINTAIN/REPLACE/NEW STRUCTURE	RIM	MAINTAIN/REPLACE/NEW PIPE	IE OUT	SUMP	PIPE	SLOPE	LENGTH	DS MH	STATION & OFFSET	ALIGNMENT
EX STM MH 21185	MAINTAIN EXISTING	119.16	NEW	113.30	2.00'	12" HDPE	0.0040	25.08 LF	STM MH A-30	63+66.23 25.08 L	STORM
EX STM MH 21186	MAINTAIN EXISTING	126.98	NEW	119.00	2.00'	18" HDPE	0.0453	11.34 LF	STM MH A-31	65+13.95 0.00	STORM



STORM DRAIN KEYED NOTES:

- (SD-1) NOT USED.
- (SD-2) NOT USED.
- (SD-3) CONNECT NEW STORM TO EXISTING STORM STRUCTURE PER PLAN ELEVATIONS (SEE STORM A PROFILE AND STORM STRUCTURE CONNECTION TABLE).
- (SD-4) REMOVE EXISTING STORM MANHOLE. INSTALL 72" FLAT TOP MANHOLE WITH WATERPROOF STORM LID PER DETAILS 302, RD335 AND RD345.
- (SD-5) INSTALL 72" FLAT TOP MANHOLE WITH WATERPROOF STORM LID PER DETAILS 302, RD335 AND RD345.
- (SD-6) REMOVE EXISTING 12" CONCRETE STORM PIPE AS REQUIRED TO CONSTRUCT NEW STORM MAIN. ABANDON IN-PLACE, REMAINING PORTIONS.
- (SD-7) CONNECT EXISTING 12" CONCRETE STORM LINE TO NEW MANHOLE PER PLAN ELEVATIONS (SEE STORM A PROFILE).
- (SD-8) INSTALL 60" FLAT TOP MANHOLE PER DETAILS 608, RD335 AND RD345.
- (SD-9) DECOMMISSION AND ABANDON EXISTING STORM MAIN.
- (SD-10) REMOVE EXISTING 15" CONCRETE STORM PIPE AS REQUIRED TO CONSTRUCT NEW STORM MAIN. ABANDON IN PLACE, REMAINING PORTIONS.
- (SD-11) CONNECT EXISTING 8" STORM LINE TO NEW STRUCTURE PER PLAN ELEVATIONS (SEE STORM A PROFILE).
- (SD-12) PLUG MANHOLE CORE (36" WEST).
- (SD-13) CONNECT EXISTING 10" CONCRETE STORM LINE TO NEW MANHOLE PER PLAN ELEVATIONS (SEE STORM A PROFILE).
- (SD-14) NOT USED.
- (SD-15) INSTALL 60" STANDARD MANHOLE WITH WATERPROOF STORM LID PER DETAILS 302, RD335 AND RD345.
- (SD-16) INSTALL 72" STANDARD MANHOLE OVER EXISTING 18" MAIN PER DETAILS 608, RD335 AND RD345.
- (SD-17) INSTALL 48" STANDARD MANHOLE PER DETAILS 608, RD335 AND RD345.
- (SD-18) INSTALL 60" STANDARD MANHOLE PER DETAILS 608, RD335 AND RD345.
- (SD-19) INSTALL 60" STORM SEWER POLLUTION CONTROL MANHOLE PER DETAILS 608, RD336, RD340 AND RD345.
- (SD-20) INSTALL 72" STANDARD MANHOLE PER DETAILS 608, RD335 AND RD345.



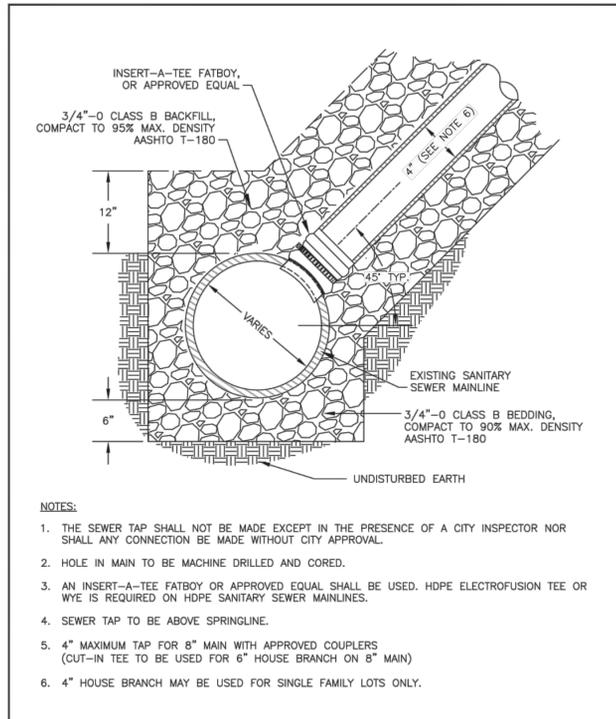


CITY OF MILWAUKIE, OREGON - PUBLIC WORKS DEPT.

Waterproof and Tamperproof Frame and Cover DRAWING NO. 302

NO.	REVISIONS	DATE	BY
1	RECREATED DRAWING	12/10	MCP
2	GENERAL FORMATTING	12/10	MCP
3	CHANGED PURCHASING NOTE	11/18	TAP
4	DRAWING NO. CHANGE	11/18	TAP

APPROVED: *John D. Daniels* 11/18
CITY ENGINEER DATE

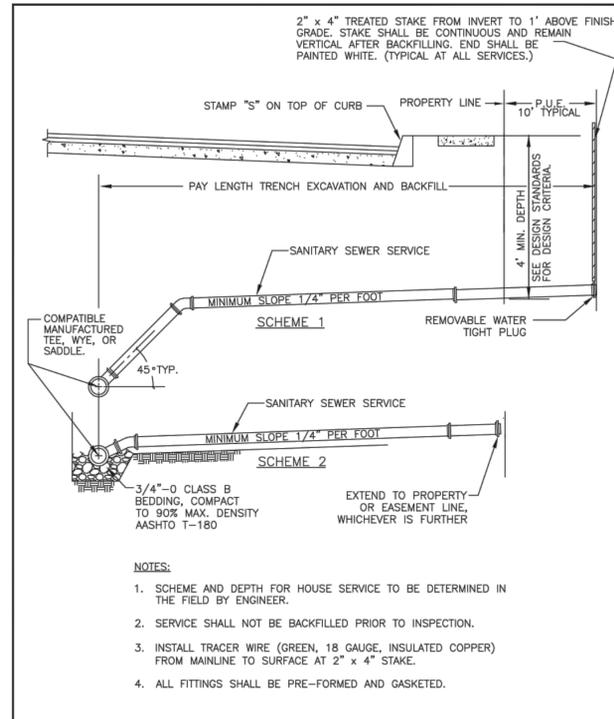


CITY OF MILWAUKIE, OREGON - PUBLIC WORKS DEPT.

Standard Sewer Tap DRAWING NO. 304

NO.	REVISIONS	DATE	BY
1	RECREATED DRAWING	12/10	MCP
2	ADDED BACKFILL COMPACTION NOTES	12/10	MCP
3	ADDED INSERT-TEE, ADDED HOPE NOTES	12/10	MCP
4	DRAWING NO. CHANGE	11/18	TAP

APPROVED: *John D. Daniels* 11/18
CITY ENGINEER DATE

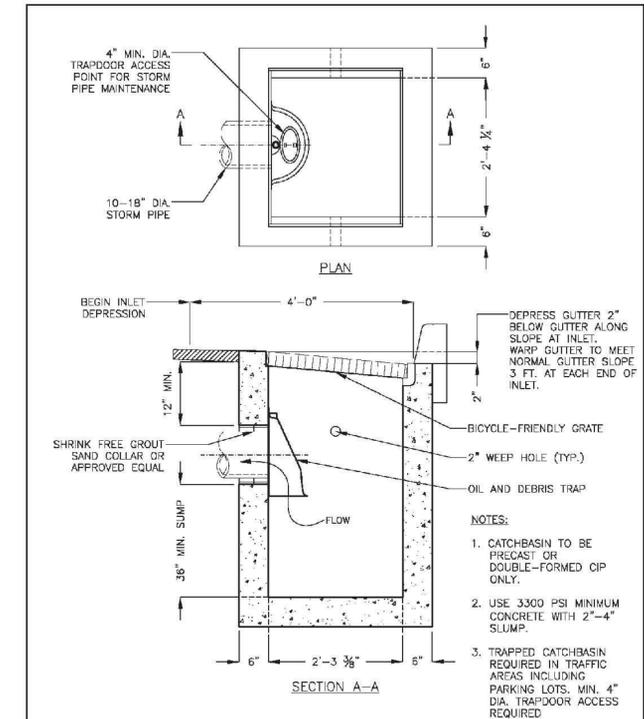


CITY OF MILWAUKIE, OREGON - PUBLIC WORKS DEPT.

Sewer Service Branch DRAWING NO. 305

NO.	REVISIONS	DATE	BY
1	RECREATED DRAWING	12/10	MCP
2	ADDED BACKFILL COMPACTION NOTES	12/10	MCP
3	CHANGED HOUSING OR NOTES	12/10	MCP
4	DRAWING NO. CHANGE	11/18	TAP

APPROVED: *John D. Daniels* 11/18
CITY ENGINEER DATE

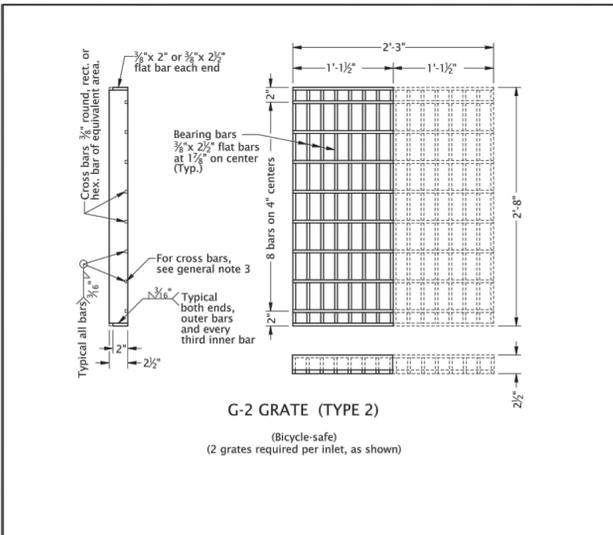


CITY OF MILWAUKIE, OREGON - PUBLIC WORKS DEPT.

G-2 Trapped Catchbasin DRAWING NO. 802

NO.	REVISIONS	DATE	BY
1	ADJUST MIN. FPG SIZE FORMATTING	12/10	MCP
2	REDESIGNED DRAWING, ADDED NOTE	11/18	TAP

APPROVED: *John D. Daniels* 11/18
CITY ENGINEER DATE

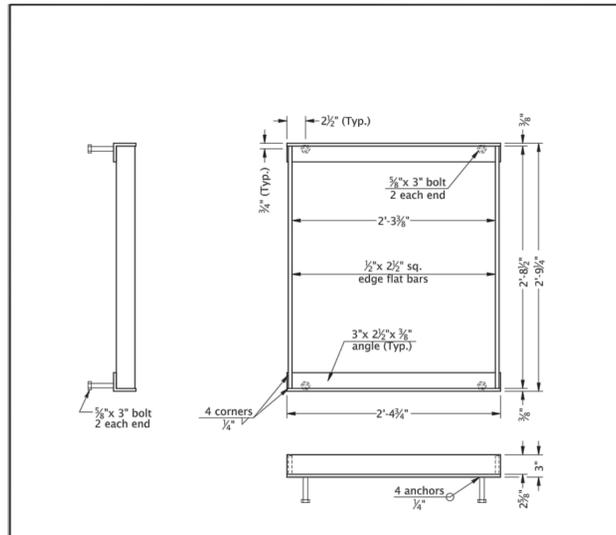


CITY OF MILWAUKIE, OREGON - PUBLIC WORKS DEPT.

G-2 Grate (Type 2) (Bicycle-safe) (2 graters required per inlet, as shown) DRAWING NO. 604

NO.	REVISIONS	DATE	BY
1	RECREATED DRAWING	12/10	MCP
2	DRAWING REMARKED	11/18	TAP

APPROVED: *John D. Daniels* 11/18
CITY ENGINEER DATE

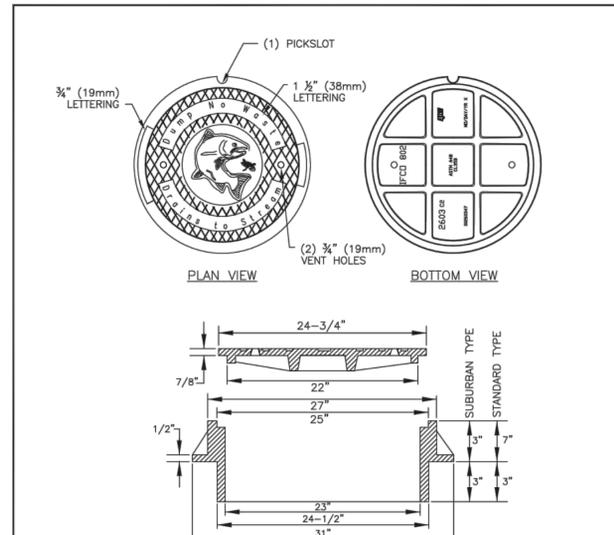


CITY OF MILWAUKIE, OREGON - PUBLIC WORKS DEPT.

G-2 Catchbasin Frame DRAWING NO. 605

NO.	REVISIONS	DATE	BY
1	RECREATED DRAWING	12/10	MCP
2	DRAWING REMARKED	11/18	TAP

APPROVED: *John D. Daniels* 11/18
CITY ENGINEER DATE

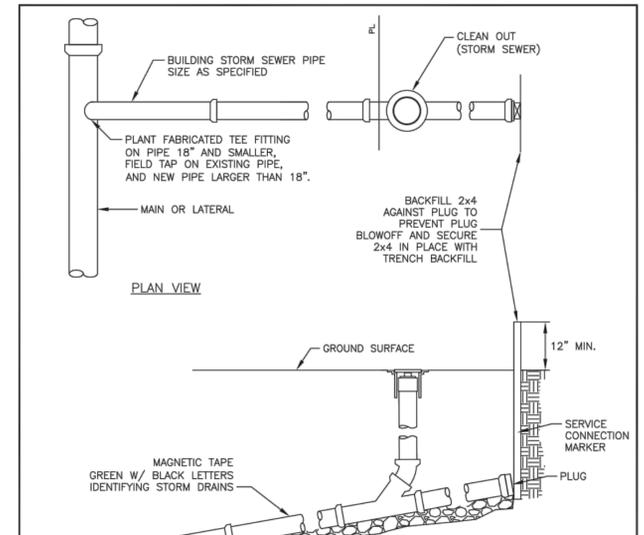


CITY OF MILWAUKIE, OREGON - PUBLIC WORKS DEPT.

Storm Manhole Frame and Lid DRAWING NO. 608

NO.	REVISIONS	DATE	BY
1	RECREATED DRAWING	12/10	MCP
2	REMOVED NOTE ALLOWING OPEN GRATES	12/10	MCP
3	CHANGED LID DETAIL	12/10	MCP
4	CHANGED DRAWING NUMBER	11/18	TAP

APPROVED: *John D. Daniels* 11/18
CITY ENGINEER DATE



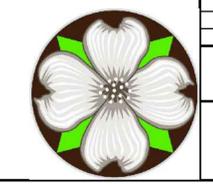
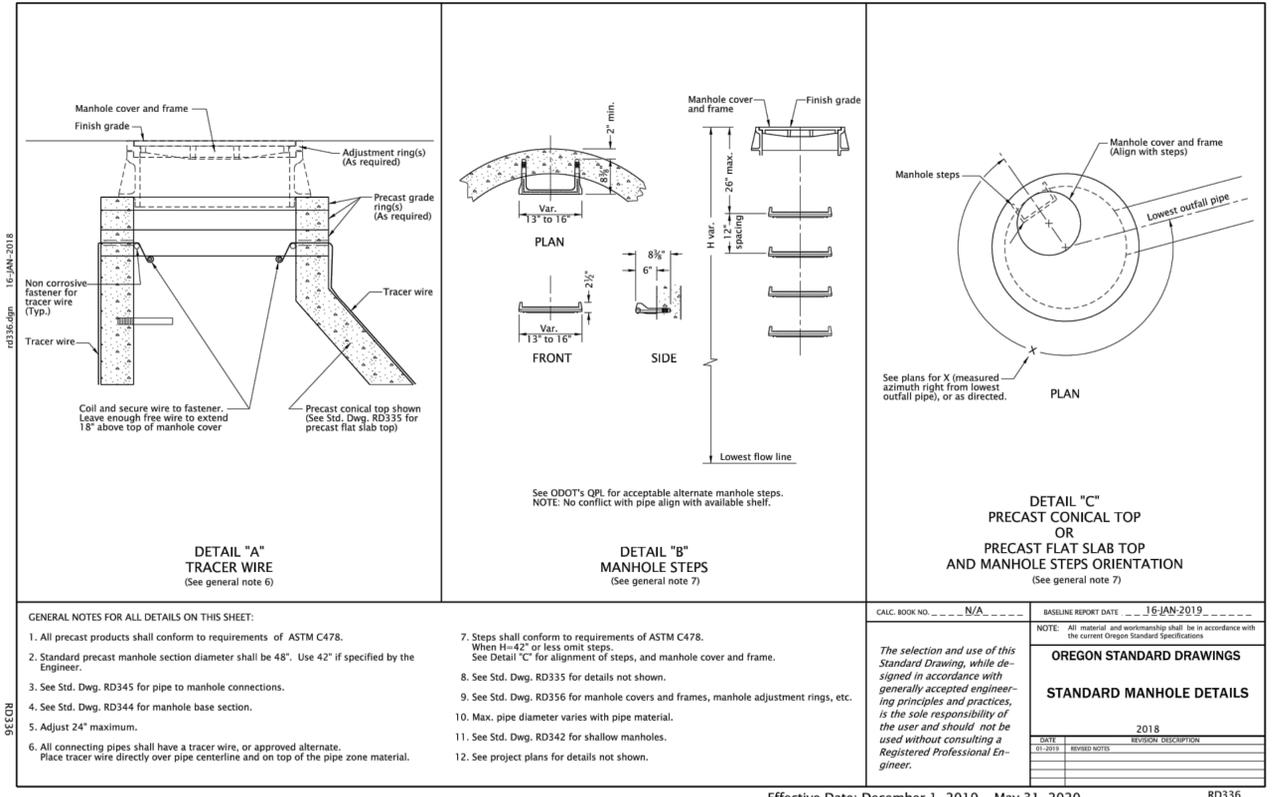
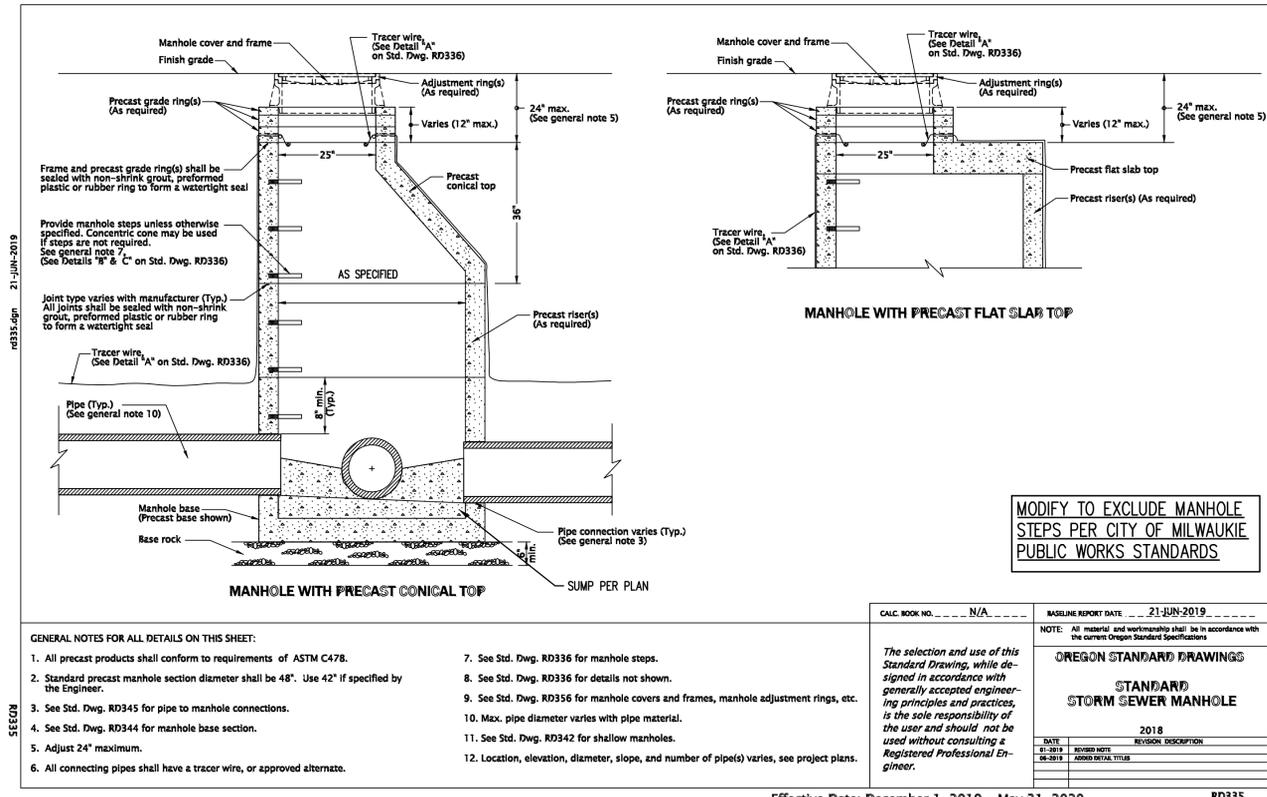
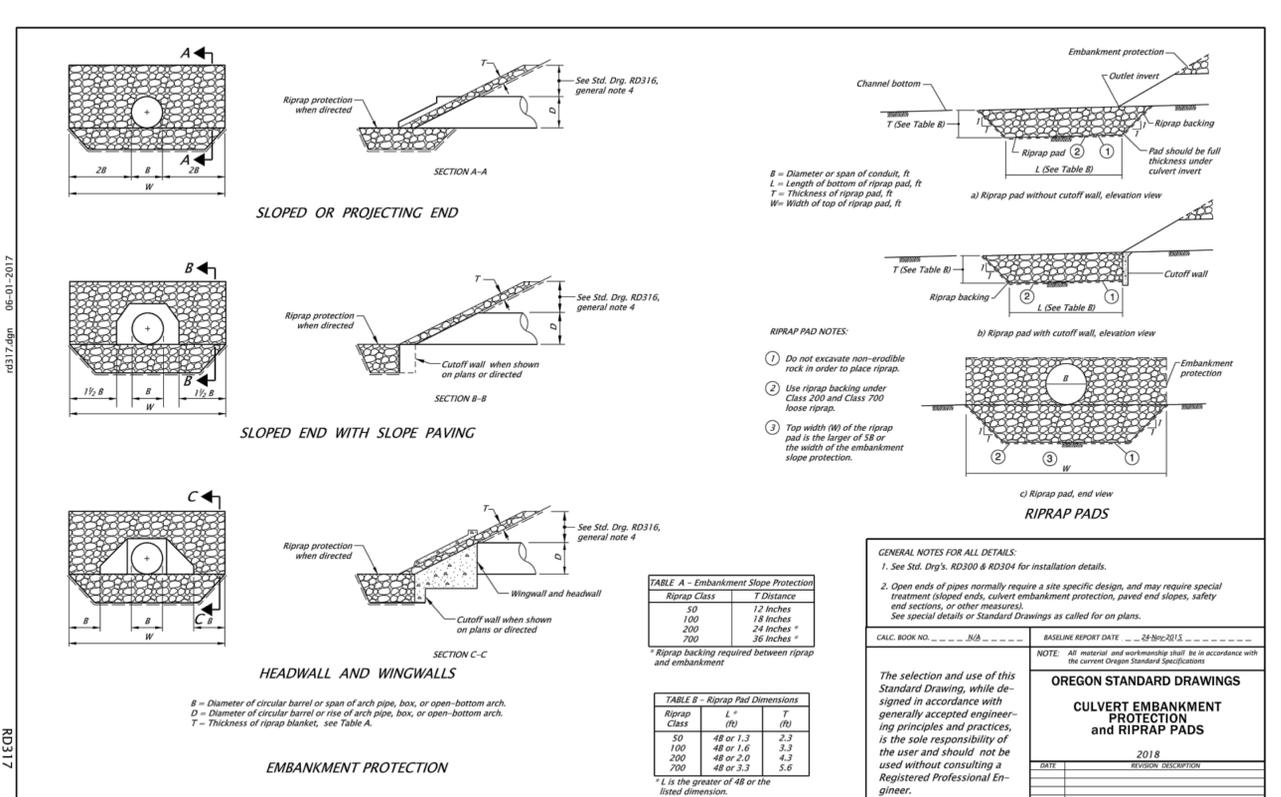
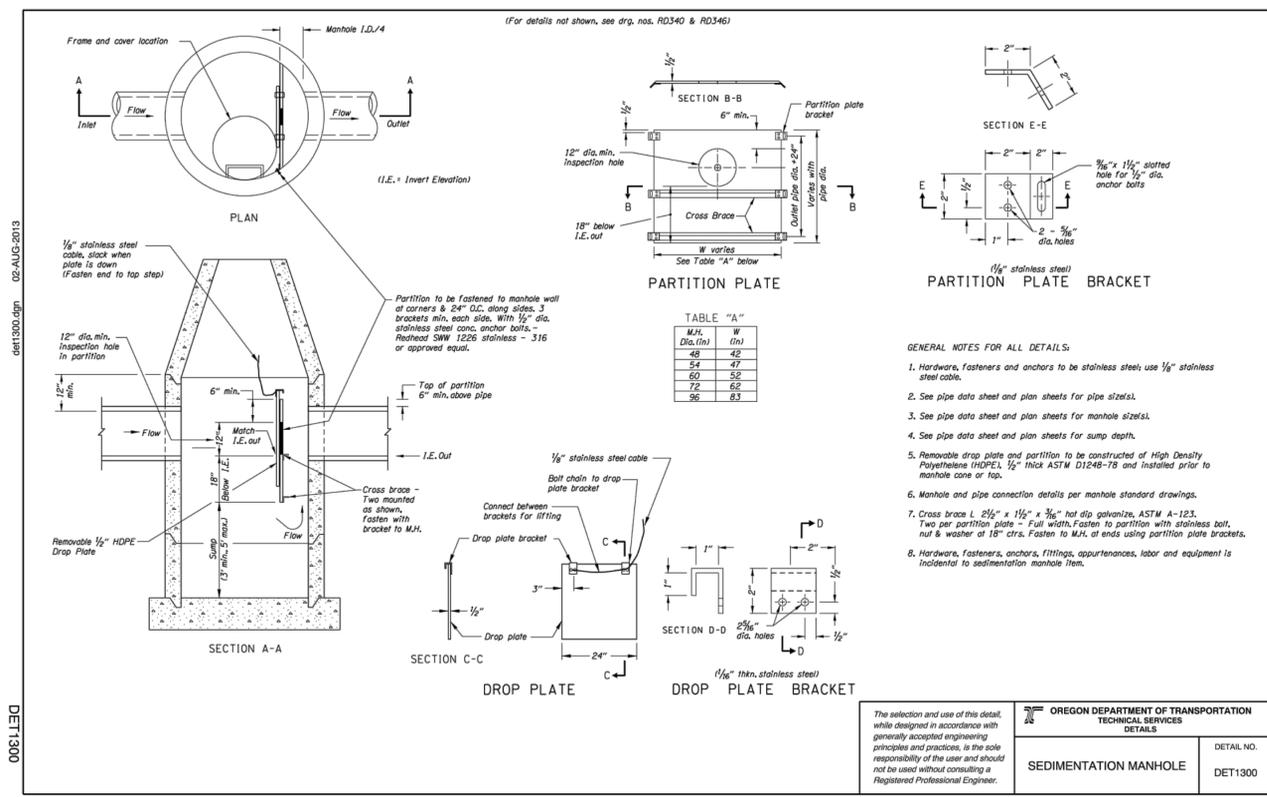
CITY OF MILWAUKIE, OREGON - PUBLIC WORKS DEPT.

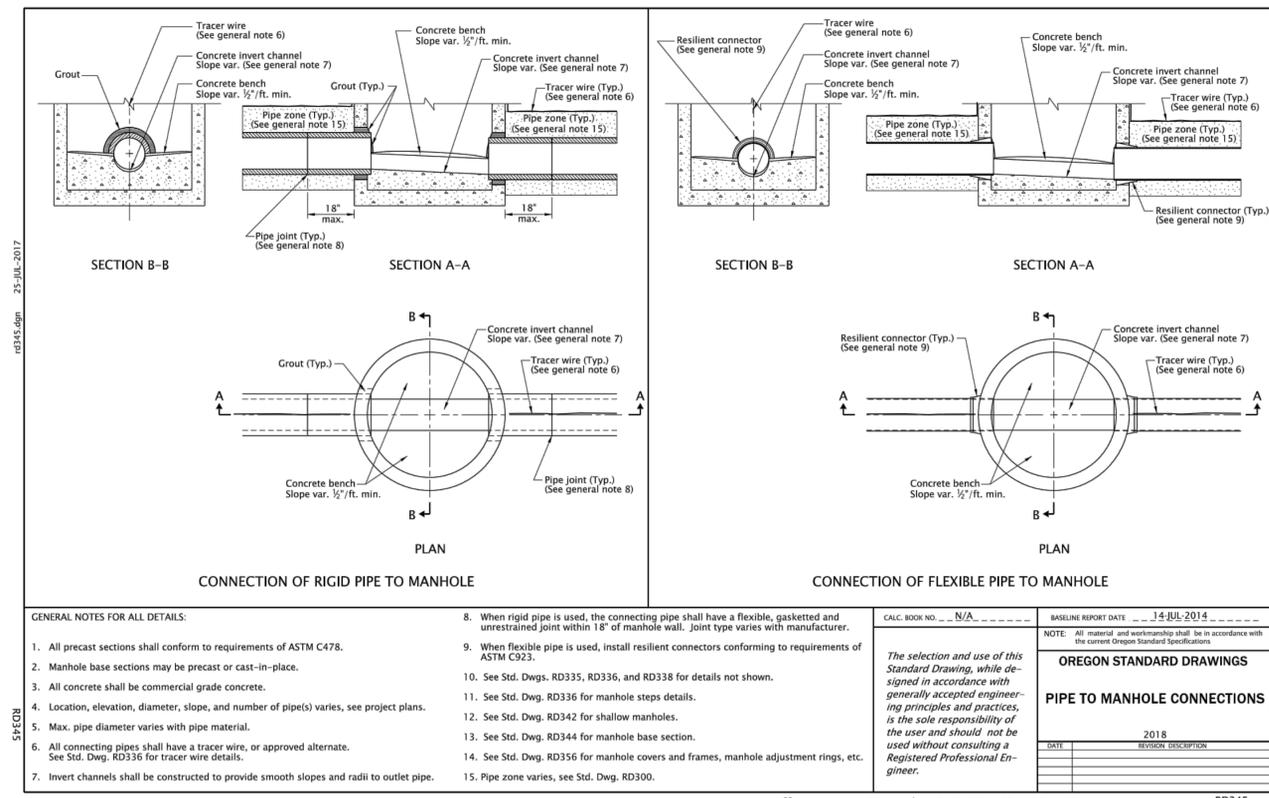
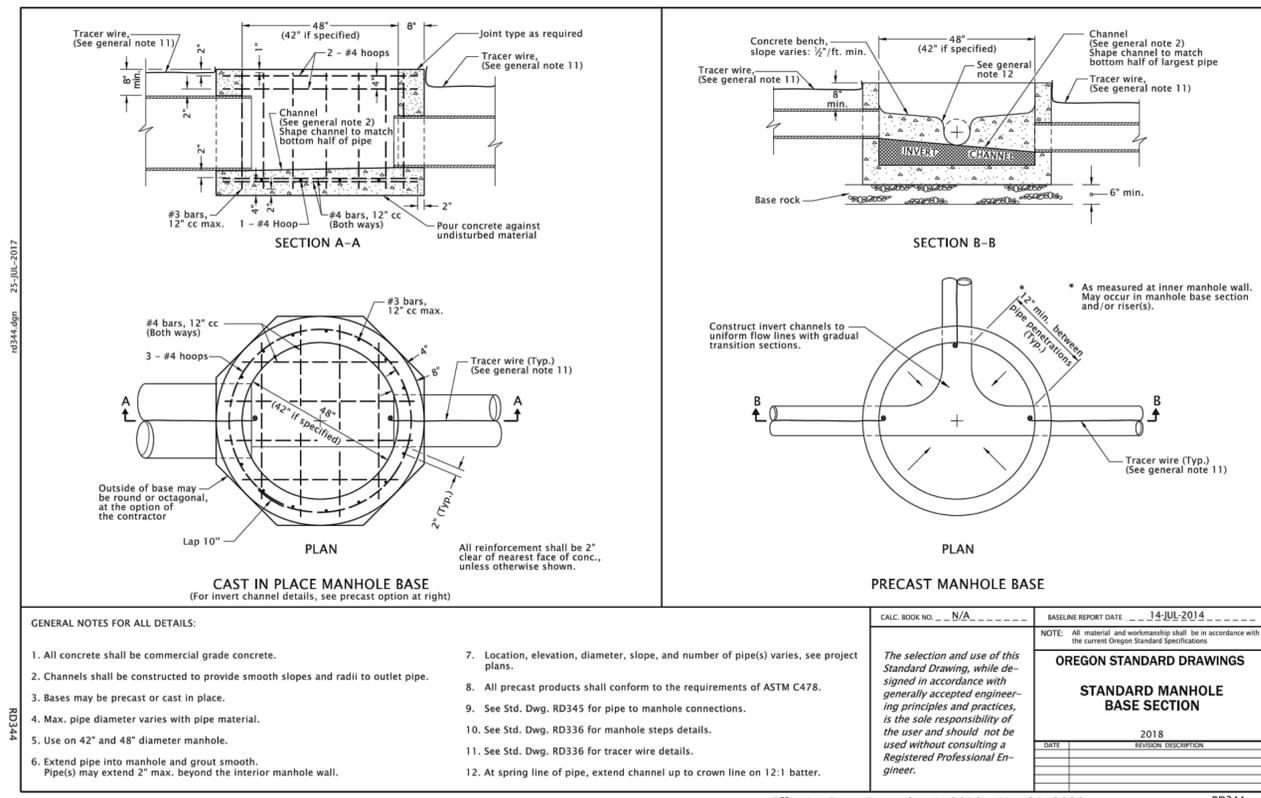
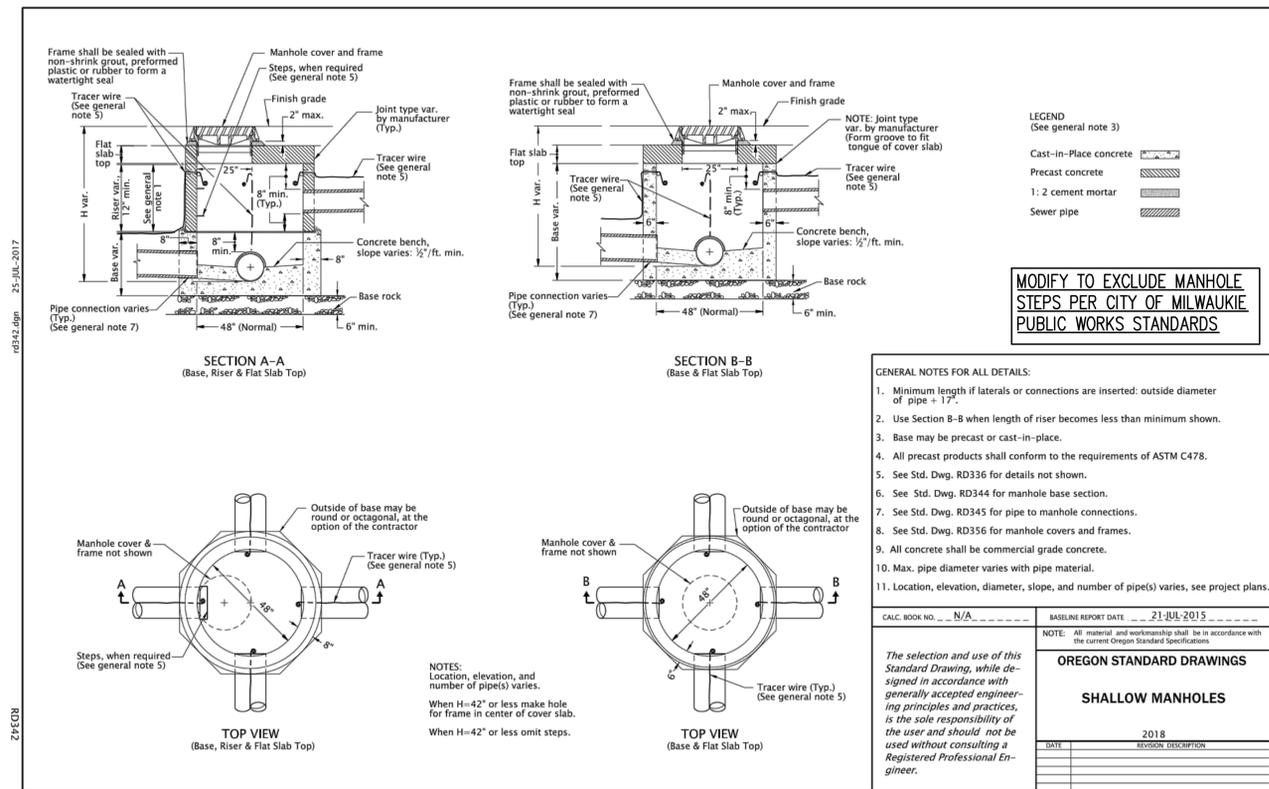
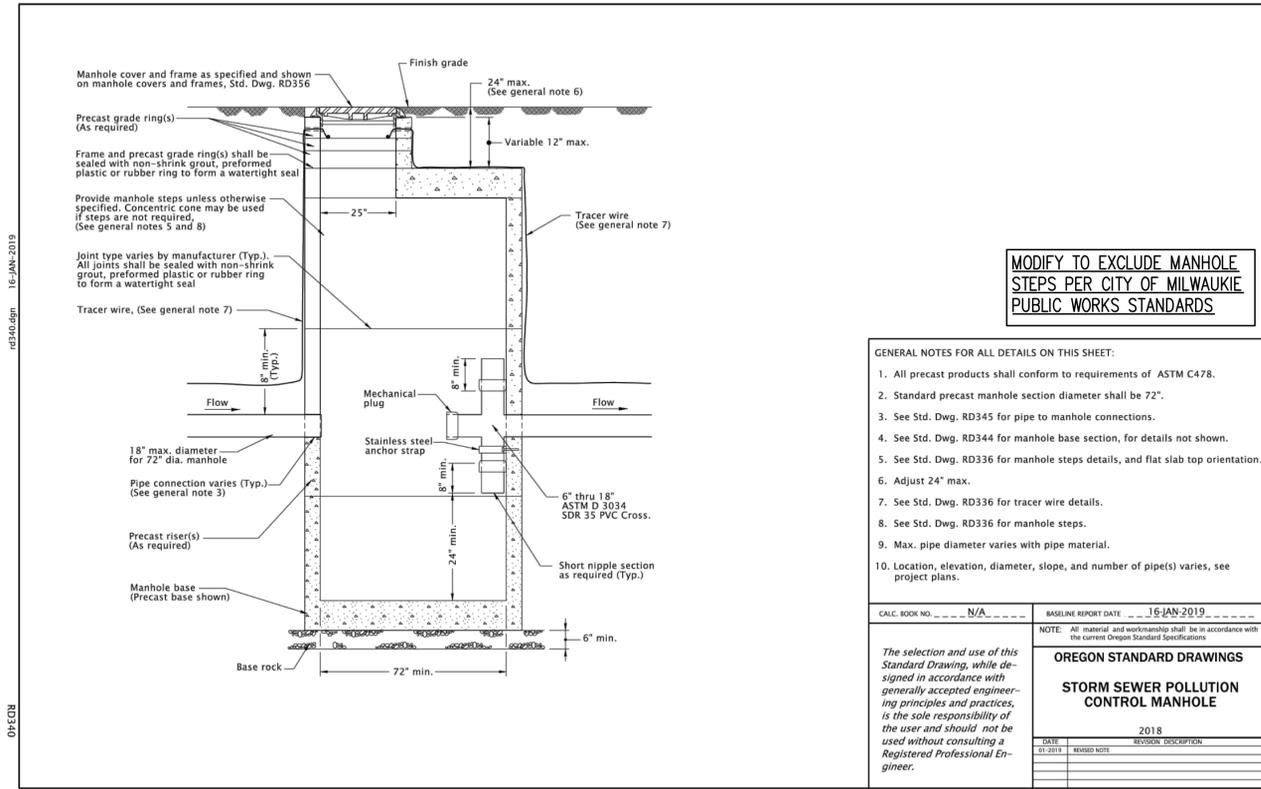
Storm Lateral Connection DRAWING NO. 610

NO.	REVISIONS	DATE	BY
1	ADDED HOUSE LATERAL NOTE	12/10	MCP
2	CHANGED DRAWING NUMBER	12/10	MCP
3	CHANGED DRAWING NUMBER	11/18	TAP

APPROVED: *John D. Daniels* 11/18
CITY ENGINEER DATE







Dia. of largest pipe in manhole (in)	Φ max when D ₁ = D ₀	Base Riser		Base X ₀ when D ₁ = D ₀				
		D _x (in)	W _x (in)	D ₁ = D ₀ - 6"	D ₁ = D ₀ - 12"	D ₁ = D ₀ - 18"	D ₁ = D ₀ - 24"	
30"	75"	60"	6"	10"	2.42	2.63	2.75	2.89
36"	67"	72"	7"	10"	2.75	2.97	3.15	3.29
42"	60"	72"	7"	10"	2.75	2.97	3.15	3.29
48"	54"	84"	8"	10"	3.02	3.27	3.48	3.66
54"	49"	84"	8"	10"	3.02	3.27	3.48	3.66
60"	45"	96"	9"	12"	3.25	3.54	3.78	3.99
66"	42"	96"	9"	12"	3.25	3.54	3.78	3.99
72"	39"	108"	10"	12"	3.48	3.79	4.06	4.29
78"	36"	108"	10"	12"	3.48	3.79	4.06	4.29
84"	34"	120"	11"	12"	3.69	4.03	4.32	4.57
90"	32"	120"	11"	12"	3.69	4.03	4.32	4.57
96"	30"	126"	11 1/2"	12"	3.79	4.15	4.45	4.71

GENERAL NOTES FOR ALL DETAILS:

- All concrete shall be Class 4000. All precast products shall conform to requirements of ASTM C478.
- All reinforcing steel shall conform to ASTM Specification A706 or AASHTO M31 (ASTM A615), Grade 60. The following splice lengths shall be used (unless shown otherwise):
Bar Size: 4, 5, 6
Uncoated: 16", 20", 24"
- All reinforcement shall be placed 2" clear of the nearest face of the concrete unless shown otherwise.
- Eccentric reducing cones or eccentric reducing flat slabs designed in accordance with AASHTO M199 shall be placed on top of the base riser as required by the contract plans. Eccentric reducing flat slabs shall be designed to support a load of 120 lb/ft in addition to the dead load of the slab, the risers above the slab, and the earth overburden above the slab.
- Base riser to be pre-cast unless otherwise shown on the plans.
- Cast-in-place concrete, shown thus: [Symbol]
- See Std. Dwg. RD336 for manhole steps details, and flat slab top orientation.
- See Std. Dwg. RD336 for tracer wire details.
- See Std. Dwg. RD336 for manhole steps.
- Max. pipe diameter varies with pipe material.
- See Std. Dwg. RD345 for pipe to manhole connections.
- Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.

OREGON STANDARD DRAWINGS
LARGE PRECAST MANHOLE
DATE: 2018
REVISION DESCRIPTION:

GENERAL NOTES FOR ALL DETAILS:

- See appropriate manhole standard drawings for details not shown.
- Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans. Only 1 outside drop pipe allowed per manhole. See project plans for pipe material.
- Inlet pipe may be rigid or flexible, maximum diameter 18". The connecting pipe shall have a flexible, gasketed and unrestrained joint within 18" of pipe tee, as shown. Joint type varies with manufacturer.
- Drop pipe, tee, and elbow to match inlet pipe.
- Rigid pipe connection shown. Outlet pipes may be rigid or flexible, see project plans. Max. outlet pipe diameter varies with pipe material. See Std. Dwg. RD345 for pipe to manhole connections.
- Concrete encasement shall be commercial grade concrete. Provide 4" minimum cover over most parts of pipe and fittings.
- Pipe zone varies, see Std. Dwg. RD300.
- All connecting pipes shall have a tracer wire, or approved alternate. See Std. Dwg. RD336 for tracer wire details.
- Invert channels shall be constructed to provide smooth slopes and radii to outlet pipe.
- See Std. Dwg. RD336 for manhole steps details.

OREGON STANDARD DRAWINGS
OUTSIDE DROP MANHOLES
DATE: 2018
REVISION DESCRIPTION:

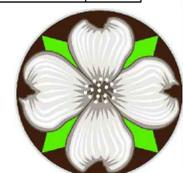
GENERAL NOTES FOR ALL DETAILS:

- All concrete shall be commercial grade concrete.
- For frame & grate details not shown, see Std. Dwg. RD365. Modify anchor bolt attachment to frame as shown in Detail A. G-2 (Type 2) grates may be used if approved by the engineer.
- Catch basin, frame, and grates shall meet 100 loading.
- Provide sump only when shown on plans, and allowed by jurisdiction. For sump details, see Std. Dwg. RD364.
- 5/8" cross bars shall be flush with the grate surface and may be fillet welded, resistance welded or electroformed to bearing bars.
- See Std. Dwg. RD336 for tracer wire details, or approved alternate.
- Max. pipe diameter varies with pipe material.
- Do not use in locations where inlet can be struck by an errant vehicle, or provide shielding of inlet.
- Inlet base may be cast-in-place or precast. Where precast inlet base is used as an alternate, a 4" compacted leveling bed of sand or 1/2"-0 crushed aggregate shall be provided.
- All precast inlets shall conform to requirements of ASTM C913.
- See Std. Dwg. RD339 for pipe to structure connections.
- Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.

OREGON STANDARD DRAWINGS
DITCH INLET TYPE D
DATE: 2018
REVISION DESCRIPTION:

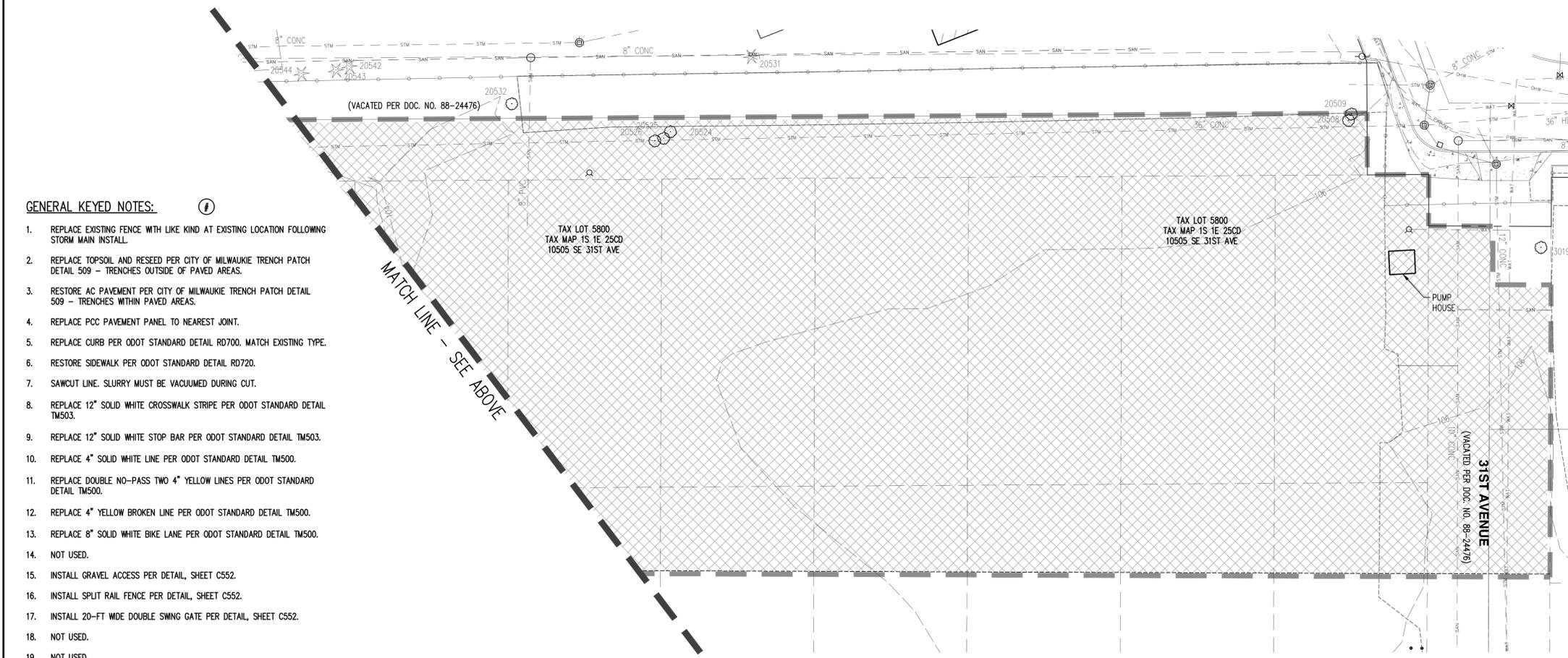
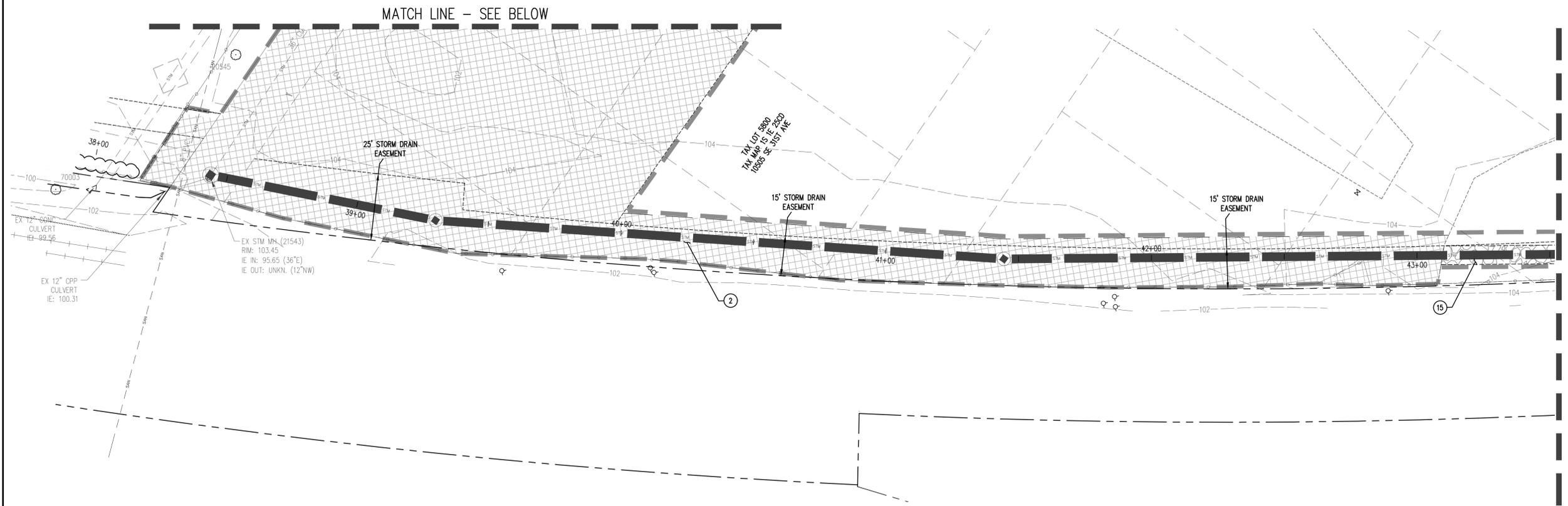
UTILITY CROSSING DETAIL
NTS

60" SLOPED INLET MANHOLE
NTS





SCALE: 1" = 20 FEET



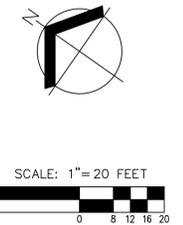
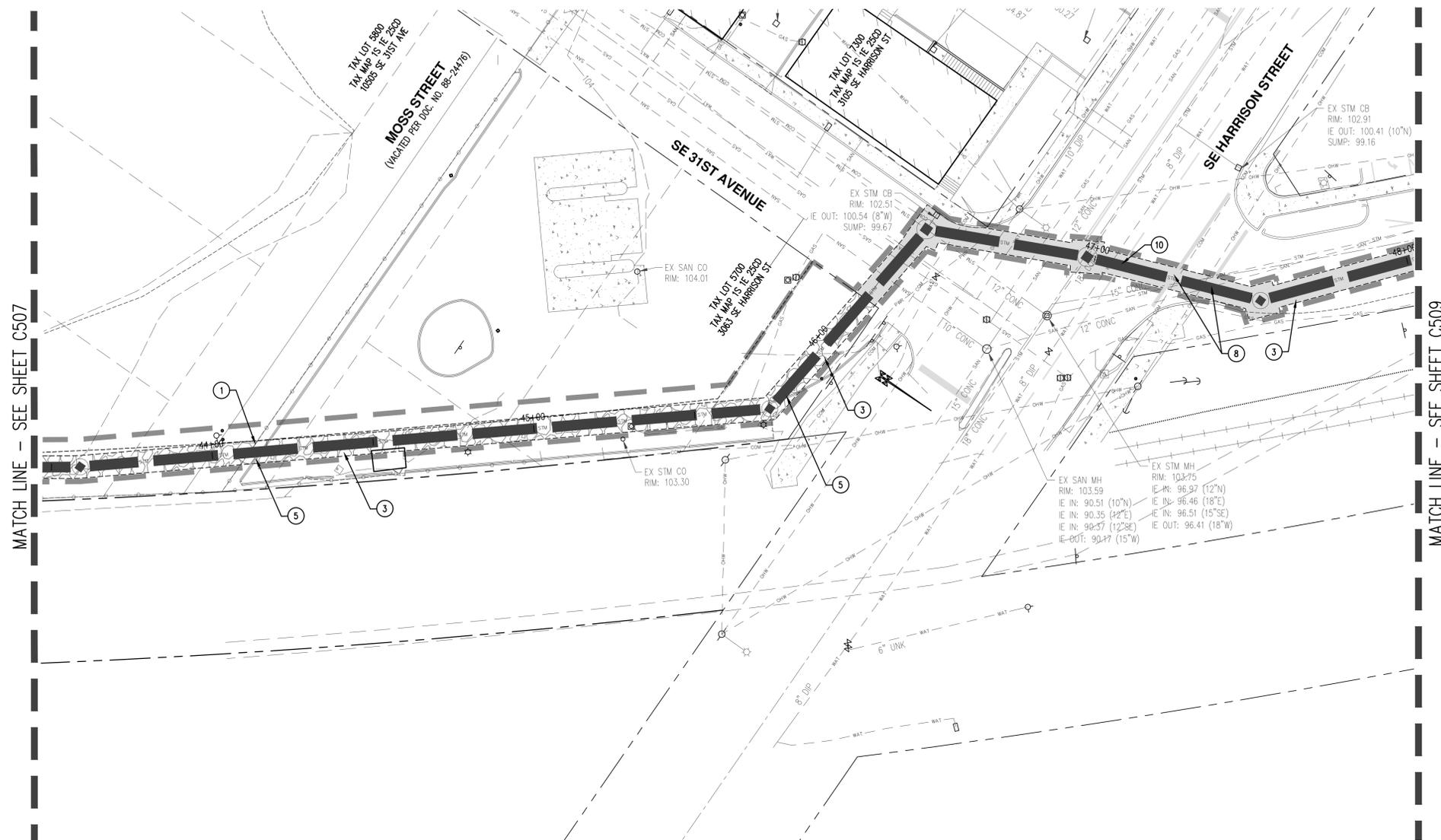
GENERAL KEYED NOTES:

1. REPLACE EXISTING FENCE WITH LIKE KIND AT EXISTING LOCATION FOLLOWING STORM MAIN INSTALL.
2. REPLACE TOPSOIL AND RESEED PER CITY OF MILWAUKIE TRENCH PATCH DETAIL 509 - TRENCHES OUTSIDE OF PAVED AREAS.
3. RESTORE AC PAVEMENT PER CITY OF MILWAUKIE TRENCH PATCH DETAIL 509 - TRENCHES WITHIN PAVED AREAS.
4. REPLACE PCC PAVEMENT PANEL TO NEAREST JOINT.
5. REPLACE CURB PER ODOT STANDARD DETAIL RD700. MATCH EXISTING TYPE.
6. RESTORE SIDEWALK PER ODOT STANDARD DETAIL RD720.
7. SAWCUT LINE. SLURRY MUST BE VACUUMED DURING CUT.
8. REPLACE 12" SOLID WHITE CROSSWALK STRIPE PER ODOT STANDARD DETAIL TM503.
9. REPLACE 12" SOLID WHITE STOP BAR PER ODOT STANDARD DETAIL TM503.
10. REPLACE 4" SOLID WHITE LINE PER ODOT STANDARD DETAIL TM500.
11. REPLACE DOUBLE NO-PASS TWO 4" YELLOW LINES PER ODOT STANDARD DETAIL TM500.
12. REPLACE 4" YELLOW BROKEN LINE PER ODOT STANDARD DETAIL TM500.
13. REPLACE 8" SOLID WHITE BIKE LANE PER ODOT STANDARD DETAIL TM500.
14. NOT USED.
15. INSTALL GRAVEL ACCESS PER DETAIL, SHEET C552.
16. INSTALL SPLIT RAIL FENCE PER DETAIL, SHEET C552.
17. INSTALL 20-FT WIDE DOUBLE SWING GATE PER DETAIL, SHEET C552.
18. NOT USED.
19. NOT USED.
20. REPLACE EXISTING STRAIGHT ARROW (WHITE) PER ODOT STANDARD DETAIL TM501.
21. INSTALL 48" ROUND FLEXIBLE DELINEATOR (TYPE 2 ORANGE).
22. INSTALL 6-FT BLACK VINYL COATED CHAIN LINK FENCE PER DETAIL, SHEET C552.
23. REPLACE BIKE LANE STANDARD STENCIL (WHITE) PER ODOT DETAIL TM503.
24. INSTALL ACCESSIBLE BENCH PER DETAIL, SHEET C552.

LEGEND

EXISTING GROUND CONTOUR (2 FT)	---
EXISTING GROUND CONTOUR (10 FT)	---
FINISHED GRADE CONTOUR (1 FT)	---
FINISHED GRADE CONTOUR (5 FT)	---
FENCE REMOVAL LIMITS	---
AC PAVEMENT RESTORATION	[Pattern]
PCC PAVEMENT RESTORATION	[Pattern]
GRAVEL SURFACE RESTORATION	[Pattern]
REPLACE TOPSOIL AND RESEED PER DETAIL 509	[Pattern]
TRENCH SAWCUT IN PAVEMENT	---
ACCESSIBLE BENCH	[Symbol]





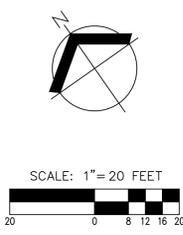
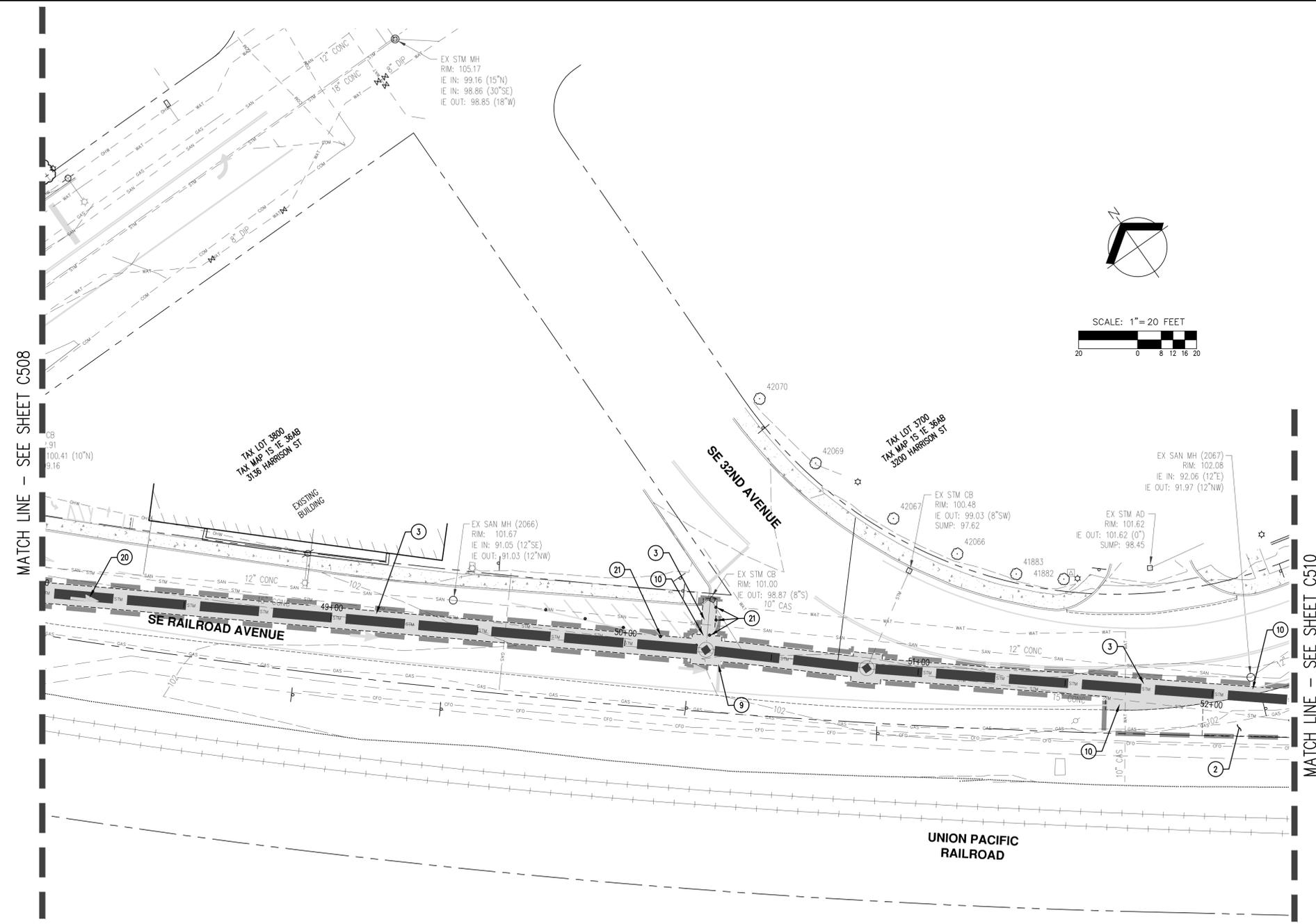
LEGEND	
EXISTING GROUND CONTOUR (2 FT)	--- 348 ---
EXISTING GROUND CONTOUR (10 FT)	--- 350 ---
FINISHED GRADE CONTOUR (1 FT)	--- 344 ---
FINISHED GRADE CONTOUR (5 FT)	--- 345 ---
FENCE REMOVAL LIMITS	[Symbol]
AC PAVEMENT RESTORATION	[Symbol]
PCC PAVEMENT RESTORATION	[Symbol]
GRAVEL SURFACE RESTORATION	[Symbol]
REPLACE TOPSOIL AND RESEED PER DETAIL 509	[Symbol]
TRENCH SAWCUT IN PAVEMENT	[Symbol]
ACCESSIBLE BENCH	[Symbol]

GENERAL KEYED NOTES:

1. REPLACE EXISTING FENCE WITH LIKE KIND AT EXISTING LOCATION FOLLOWING STORM MAIN INSTALL.
2. REPLACE TOPSOIL AND RESEED PER CITY OF MILWAUKIE TRENCH PATCH DETAIL 509 - TRENCHES OUTSIDE OF PAVED AREAS.
3. RESTORE AC PAVEMENT PER CITY OF MILWAUKIE TRENCH PATCH DETAIL 509 - TRENCHES WITHIN PAVED AREAS.
4. REPLACE PCC PAVEMENT PANEL TO NEAREST JOINT.
5. REPLACE CURB PER ODOT STANDARD DETAIL RD700. MATCH EXISTING TYPE.
6. RESTORE SIDEWALK PER ODOT STANDARD DETAIL RD720.
7. SAWCUT LINE. SLURRY MUST BE VACUUMED DURING CUT.
8. REPLACE 12" SOLID WHITE CROSSWALK STRIPE PER ODOT STANDARD DETAIL TM503.
9. REPLACE 12" SOLID WHITE STOP BAR PER ODOT STANDARD DETAIL TM503.
10. REPLACE 4" SOLID WHITE LINE PER ODOT STANDARD DETAIL TM500.
11. REPLACE DOUBLE NO-PASS TWO 4" YELLOW LINES PER ODOT STANDARD DETAIL TM500.
12. REPLACE 4" YELLOW BROKEN LINE PER ODOT STANDARD DETAIL TM500.
13. REPLACE 8" SOLID WHITE BIKE LANE PER ODOT STANDARD DETAIL TM500.
14. NOT USED.
15. INSTALL GRAVEL ACCESS PER DETAIL, SHEET C552.
16. INSTALL SPLIT RAIL FENCE PER DETAIL, SHEET C552.
17. INSTALL 20-FT WIDE DOUBLE SWING GATE PER DETAIL, SHEET C552.
18. NOT USED.
19. NOT USED.
20. REPLACE EXISTING STRAIGHT ARROW (WHITE) PER ODOT STANDARD DETAIL TM501.
21. INSTALL 48" ROUND FLEXIBLE DELINEATOR (TYPE 2 ORANGE).
22. INSTALL 6-FT BLACK VINYL COATED CHAIN LINK FENCE PER DETAIL, SHEET C552.
23. REPLACE BIKE LANE STANDARD STENCIL (WHITE) PER ODOT DETAIL TM503.
24. INSTALL ACCESSIBLE BENCH PER DETAIL, SHEET C552.

ALL WORK WITHIN HARRISON STREET RIGHT-OF-WAY WILL OCCUR DURING NIGHT WORK ONLY.



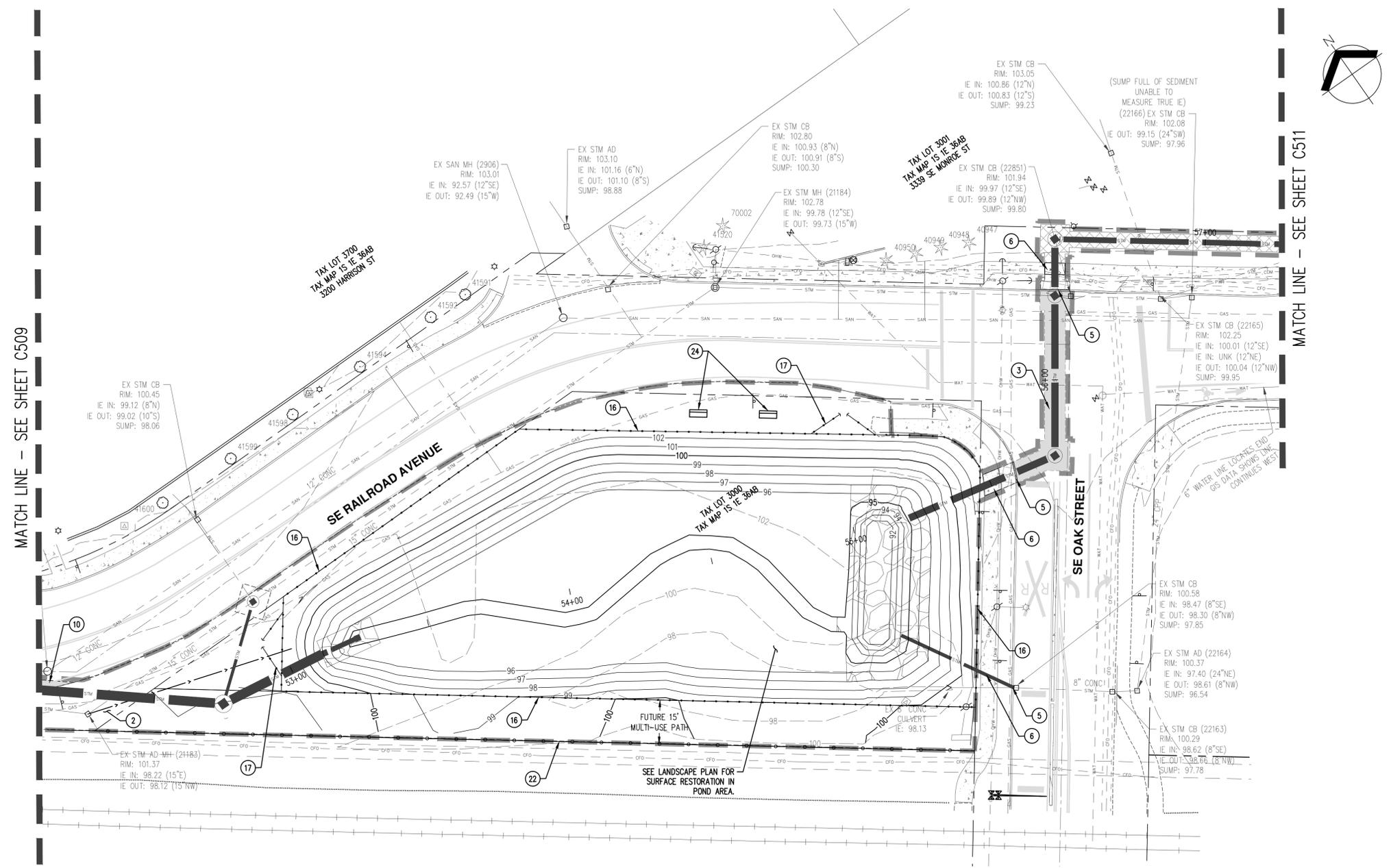


LEGEND

EXISTING GROUND CONTOUR (2 FT)	---348---
EXISTING GROUND CONTOUR (10 FT)	---350---
FINISHED GRADE CONTOUR (1 FT)	---344---
FINISHED GRADE CONTOUR (5 FT)	---345---
FENCE REMOVAL LIMITS	[Symbol]
AC PAVEMENT RESTORATION	[Symbol]
PCC PAVEMENT RESTORATION	[Symbol]
GRAVEL SURFACE RESTORATION	[Symbol]
REPLACE TOPSOIL AND RESEED PER DETAIL 509	[Symbol]
TRENCH SAWCUT IN PAVEMENT	[Symbol]
ACCESSIBLE BENCH	[Symbol]

- GENERAL KEYED NOTES:**
- REPLACE EXISTING FENCE WITH LIKE KIND AT EXISTING LOCATION FOLLOWING STORM MAIN INSTALL.
 - REPLACE TOPSOIL AND RESEED PER CITY OF MILWAUKIE TRENCH PATCH DETAIL 509 - TRENCHES OUTSIDE OF PAVED AREAS.
 - RESTORE AC PAVEMENT PER CITY OF MILWAUKIE TRENCH PATCH DETAIL 509 - TRENCHES WITHIN PAVED AREAS.
 - REPLACE PCC PAVEMENT PANEL TO NEAREST JOINT.
 - REPLACE CURB PER ODOT STANDARD DETAIL RD700. MATCH EXISTING TYPE.
 - RESTORE SIDEWALK PER ODOT STANDARD DETAIL RD720.
 - SAWCUT LINE. SLURRY MUST BE VACUUMED DURING CUT.
 - REPLACE 12" SOLID WHITE CROSSWALK STRIPE PER ODOT STANDARD DETAIL TM503.
 - REPLACE 12" SOLID WHITE STOP BAR PER ODOT STANDARD DETAIL TM503.
 - REPLACE 4" SOLID WHITE LINE PER ODOT STANDARD DETAIL TM500.
 - REPLACE DOUBLE NO-PASS TWO 4" YELLOW LINES PER ODOT STANDARD DETAIL TM500.
 - REPLACE 4" YELLOW BROKEN LINE PER ODOT STANDARD DETAIL TM500.
 - REPLACE 8" SOLID WHITE BIKE LANE PER ODOT STANDARD DETAIL TM500.
 - NOT USED.
 - INSTALL GRAVEL ACCESS PER DETAIL, SHEET C552.
 - INSTALL SPLIT RAIL FENCE PER DETAIL, SHEET C552.
 - INSTALL 20-FT WIDE DOUBLE SWING GATE PER DETAIL, SHEET C552.
 - NOT USED.
 - NOT USED.
 - REPLACE EXISTING STRAIGHT ARROW (WHITE) PER ODOT STANDARD DETAIL TM501.
 - INSTALL 48" ROUND FLEXIBLE DELINEATOR (TYPE 2 ORANGE).
 - INSTALL 6-FT BLACK VINYL COATED CHAIN LINK FENCE PER DETAIL, SHEET C552.
 - REPLACE BIKE LANE STANDARD STENCIL (WHITE) PER ODOT DETAIL TM503.
 - INSTALL ACCESSIBLE BENCH PER DETAIL, SHEET C552.





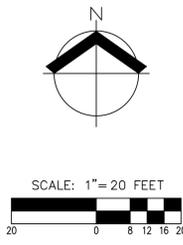
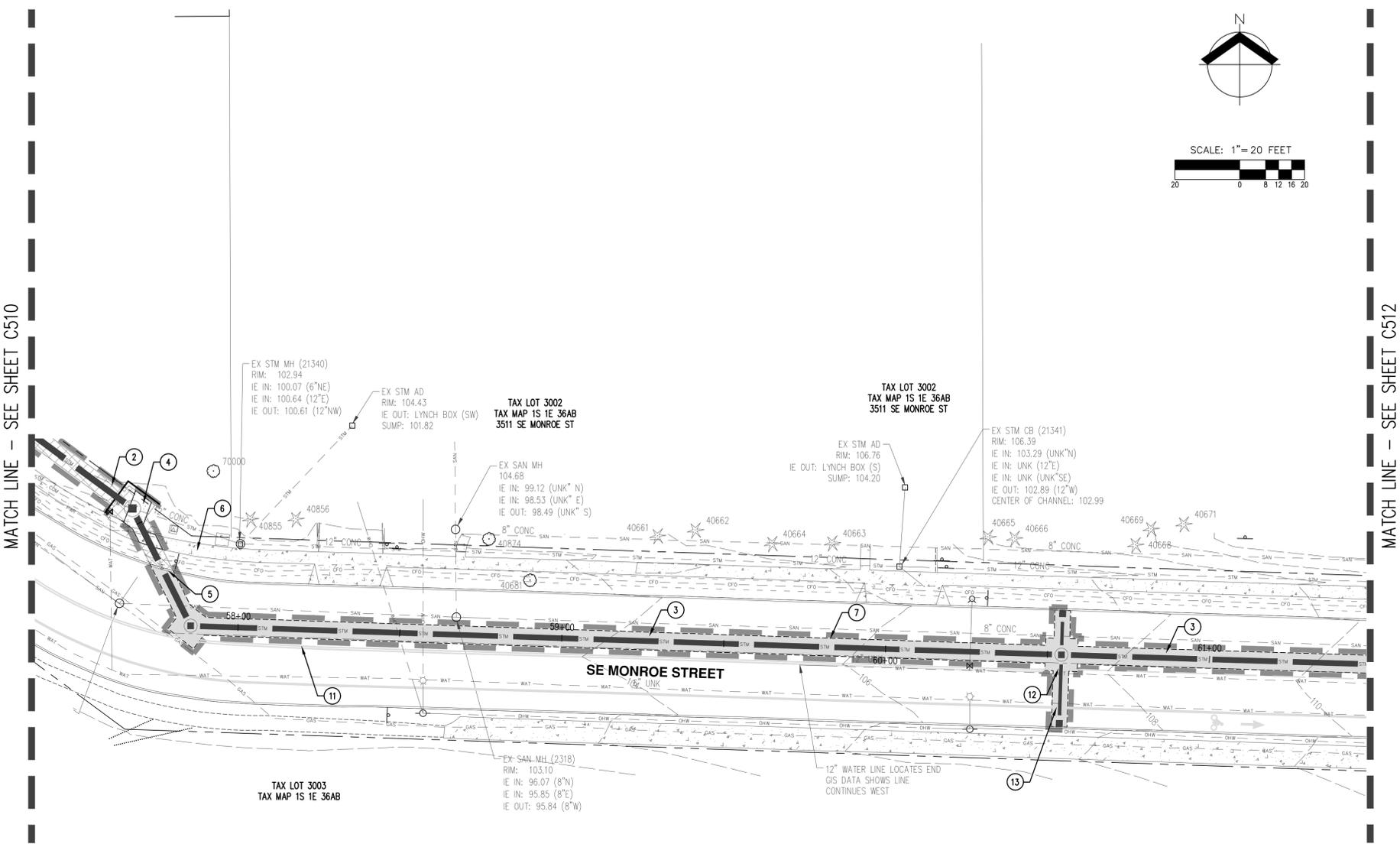
LEGEND

EXISTING GROUND CONTOUR (2 FT)	---	348
EXISTING GROUND CONTOUR (10 FT)	---	350
FINISHED GRADE CONTOUR (1 FT)	---	344
FINISHED GRADE CONTOUR (5 FT)	---	345
FENCE REMOVAL LIMITS	⌋	
AC PAVEMENT RESTORATION		
PCC PAVEMENT RESTORATION		
GRAVEL SURFACE RESTORATION		
REPLACE TOPSOIL AND RESEED PER DETAIL 509		
TRENCH SAWCUT IN PAVEMENT	---	
ACCESSIBLE BENCH		

GENERAL KEYED NOTES:

1. REPLACE EXISTING FENCE WITH LIKE KIND AT EXISTING LOCATION FOLLOWING STORM MAIN INSTALL.
2. REPLACE TOPSOIL AND RESEED PER CITY OF MILWAUKIE TRENCH PATCH DETAIL 509 - TRENCHES OUTSIDE OF PAVED AREAS.
3. RESTORE AC PAVEMENT PER CITY OF MILWAUKIE TRENCH PATCH DETAIL 509 - TRENCHES WITHIN PAVED AREAS.
4. REPLACE PCC PAVEMENT PANEL TO NEAREST JOINT.
5. REPLACE CURB PER ODOT STANDARD DETAIL RD700. MATCH EXISTING TYPE.
6. RESTORE SIDEWALK PER ODOT STANDARD DETAIL RD720.
7. SAWCUT LINE. SLURRY MUST BE VACUUMED DURING CUT.
8. REPLACE 12" SOLID WHITE CROSSWALK STRIPE PER ODOT STANDARD DETAIL TM503.
9. REPLACE 12" SOLID WHITE STOP BAR PER ODOT STANDARD DETAIL TM503.
10. REPLACE 4" SOLID WHITE LINE PER ODOT STANDARD DETAIL TM500.
11. REPLACE DOUBLE NO-PASS TWO 4" YELLOW LINES PER ODOT STANDARD DETAIL TM500.
12. REPLACE 4" YELLOW BROKEN LINE PER ODOT STANDARD DETAIL TM500.
13. REPLACE 8" SOLID WHITE BIKE LANE PER ODOT STANDARD DETAIL TM500.
14. NOT USED.
15. INSTALL GRAVEL ACCESS PER DETAIL, SHEET C552.
16. INSTALL SPLIT RAIL FENCE PER DETAIL, SHEET C552.
17. INSTALL 20-FT WIDE DOUBLE SWING GATE PER DETAIL, SHEET C552.
18. NOT USED.
19. NOT USED.
20. REPLACE EXISTING STRAIGHT ARROW (WHITE) PER ODOT STANDARD DETAIL TM501.
21. INSTALL 48" ROUND FLEXIBLE DELINEATOR (TYPE 2 ORANGE).
22. INSTALL 6-FK BLACK VINYL COATED CHAIN LINK FENCE PER DETAIL, SHEET C552.
23. REPLACE BIKE LANE STANDARD STENCIL (WHITE) PER ODOT DETAIL TM503.
24. INSTALL ACCESSIBLE BENCH PER DETAIL, SHEET C552.



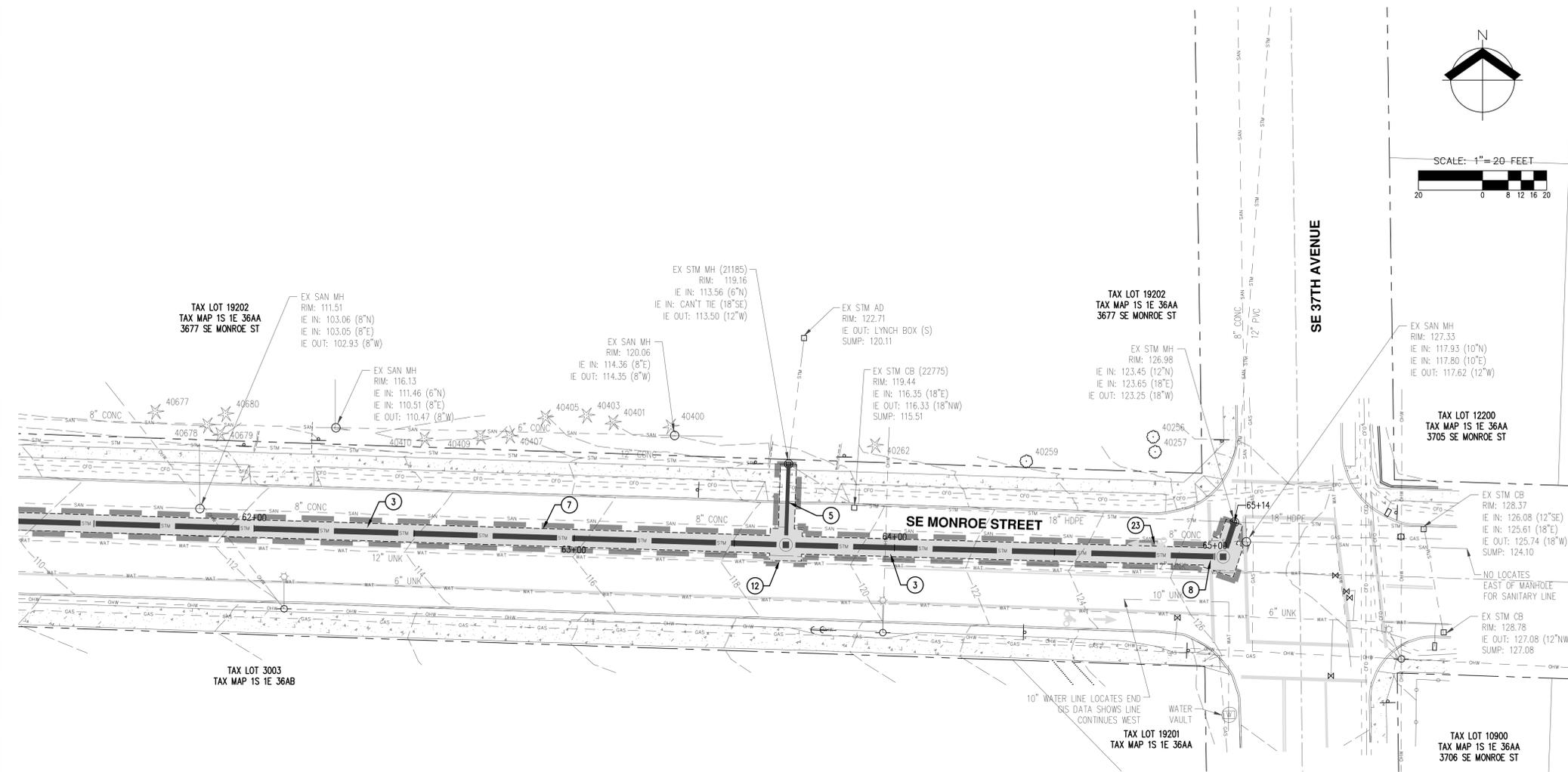


LEGEND	
EXISTING GROUND CONTOUR (2 FT)	--- 348 ---
EXISTING GROUND CONTOUR (10 FT)	--- 350 ---
FINISHED GRADE CONTOUR (1 FT)	--- 344 ---
FINISHED GRADE CONTOUR (5 FT)	--- 345 ---
FENCE REMOVAL LIMITS	— [] —
AC PAVEMENT RESTORATION	[Hatched Pattern]
PCC PAVEMENT RESTORATION	[Dotted Pattern]
GRAVEL SURFACE RESTORATION	[Stippled Pattern]
REPLACE TOPSOIL AND RESEED PER DETAIL 509	[Cross-hatched Pattern]
TRENCH SAWCUT IN PAVEMENT	- - - - -
ACCESSIBLE BENCH	[Bench Symbol]

- GENERAL KEYED NOTES:**
- REPLACE EXISTING FENCE WITH LIKE KIND AT EXISTING LOCATION FOLLOWING STORM MAIN INSTALL.
 - REPLACE TOPSOIL AND RESEED PER CITY OF MILWAUKIE TRENCH PATCH DETAIL 509 – TRENCHES OUTSIDE OF PAVED AREAS.
 - RESTORE AC PAVEMENT PER CITY OF MILWAUKIE TRENCH PATCH DETAIL 509 – TRENCHES WITHIN PAVED AREAS.
 - REPLACE PCC PAVEMENT PANEL TO NEAREST JOINT.
 - REPLACE CURB PER ODOT STANDARD DETAIL R0700. MATCH EXISTING TYPE.
 - RESTORE SIDEWALK PER ODOT STANDARD DETAIL R0720.
 - SAWCUT LINE. SLURRY MUST BE VACUUMED DURING CUT.
 - REPLACE 12" SOLID WHITE CROSSWALK STRIPE PER ODOT STANDARD DETAIL TM503.
 - REPLACE 12" SOLID WHITE STOP BAR PER ODOT STANDARD DETAIL TM503.
 - REPLACE 4" SOLID WHITE LINE PER ODOT STANDARD DETAIL TM500.
 - REPLACE DOUBLE NO-PASS TWO 4" YELLOW LINES PER ODOT STANDARD DETAIL TM500.
 - REPLACE 4" YELLOW BROKEN LINE PER ODOT STANDARD DETAIL TM500.
 - REPLACE 8" SOLID WHITE BIKE LANE PER ODOT STANDARD DETAIL TM500.
 - NOT USED.
 - INSTALL GRAVEL ACCESS PER DETAIL, SHEET C552.
 - INSTALL SPLIT RAIL FENCE PER DETAIL, SHEET C552.
 - INSTALL 20-FT WIDE DOUBLE SWING GATE PER DETAIL, SHEET C552.
 - NOT USED.
 - NOT USED.
 - REPLACE EXISTING STRAIGHT ARROW (WHITE) PER ODOT STANDARD DETAIL TM501.
 - INSTALL 48" ROUND FLEXIBLE DELINEATOR (TYPE 2 ORANGE).
 - INSTALL 6-FIT BLACK VINYL COATED CHAIN LINK FENCE PER DETAIL, SHEET C552.
 - REPLACE BIKE LANE STANDARD STENCIL (WHITE) PER ODOT DETAIL TM503.
 - INSTALL ACCESSIBLE BENCH PER DETAIL, SHEET C552.



MATCH LINE - SEE SHEET C511



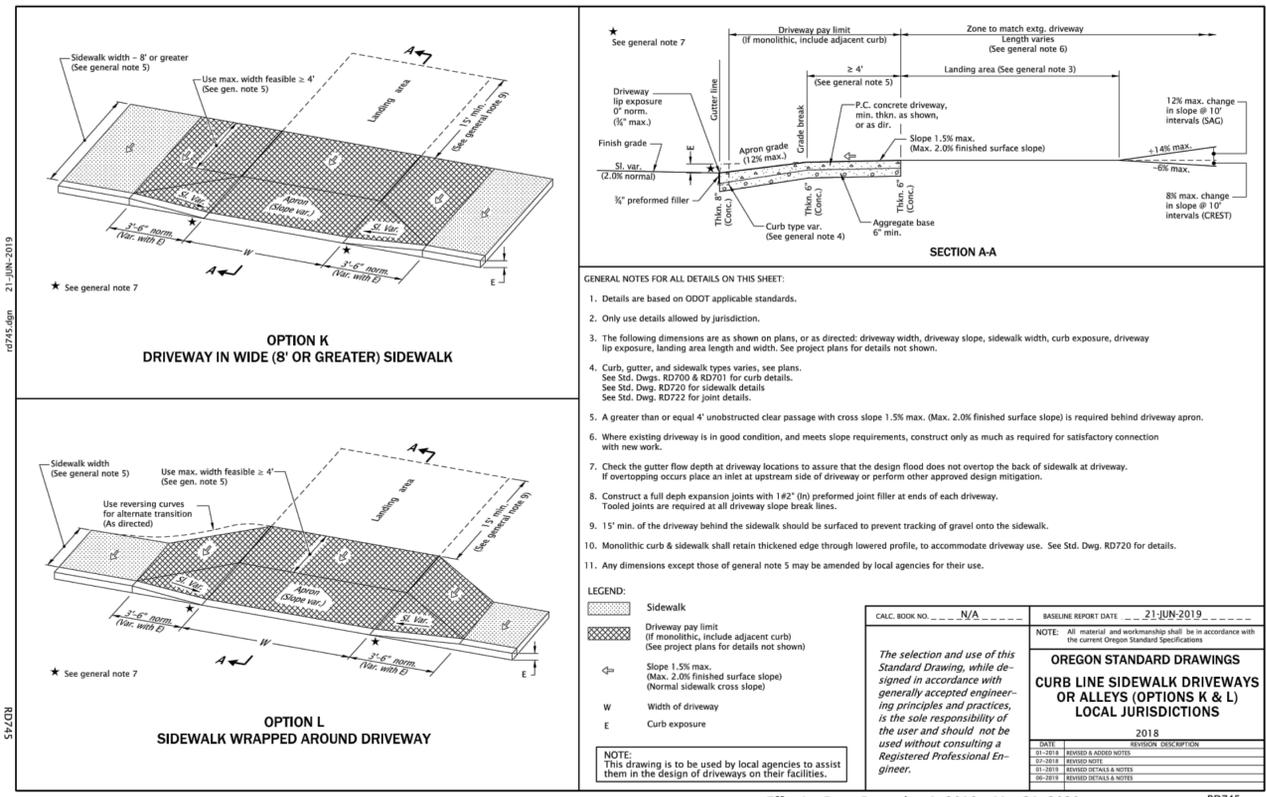
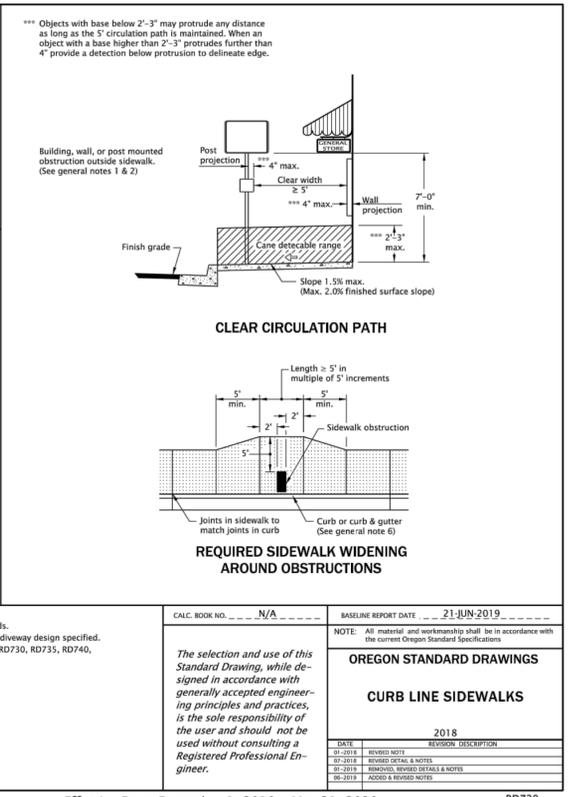
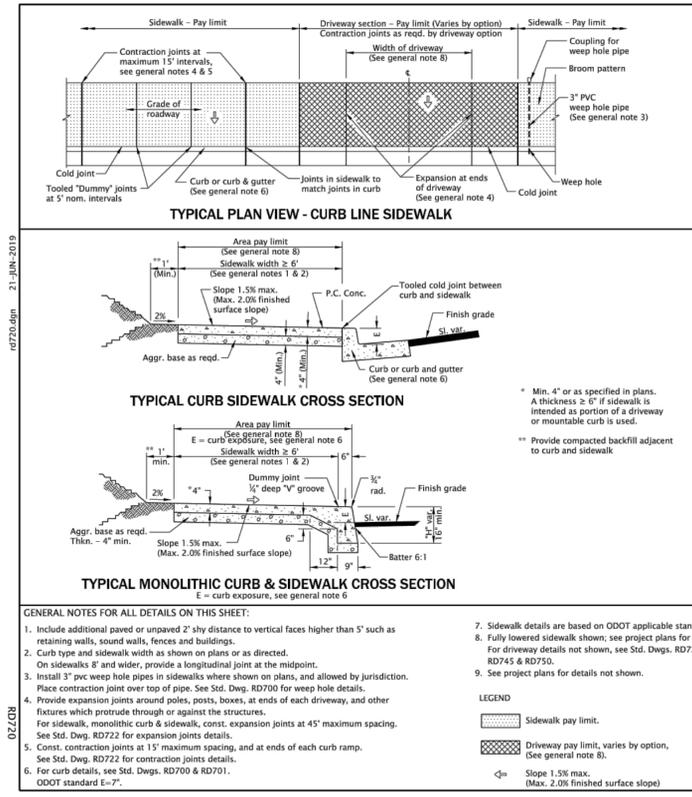
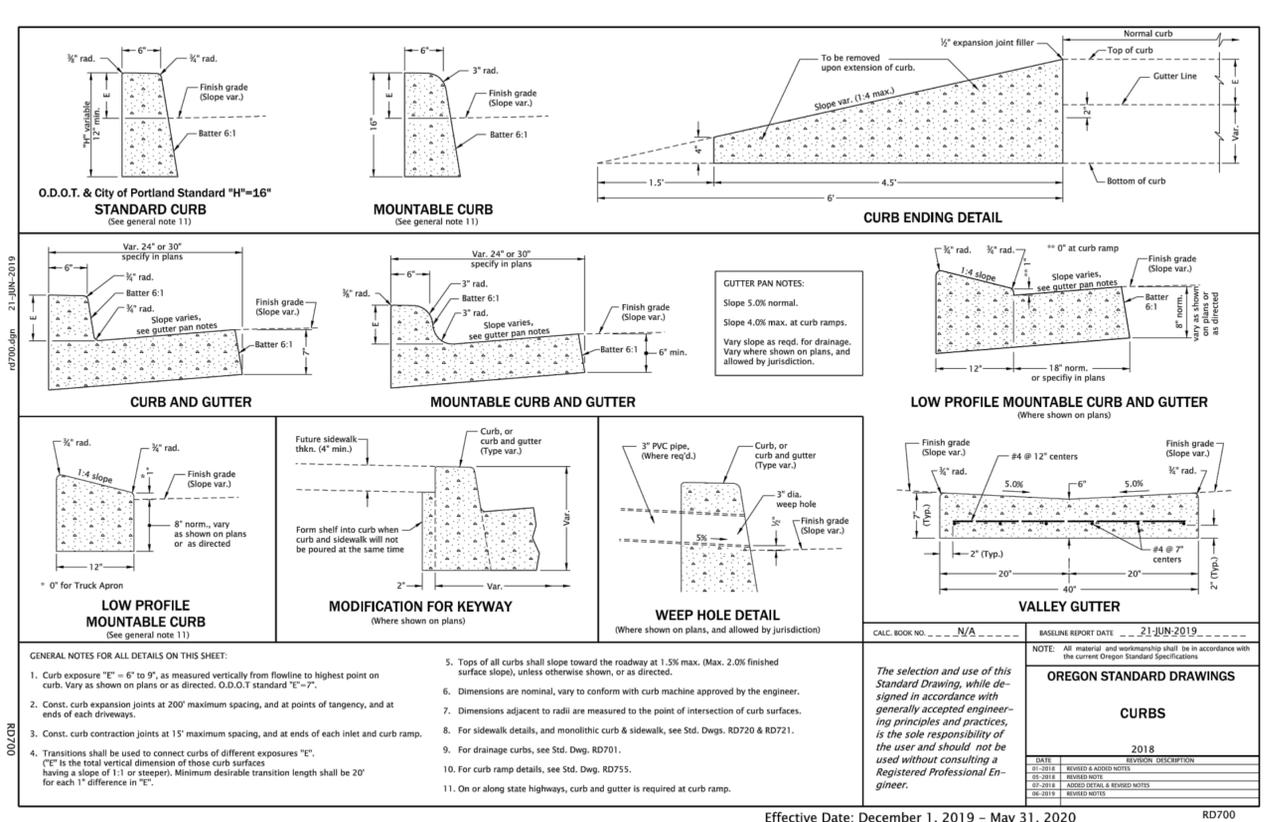
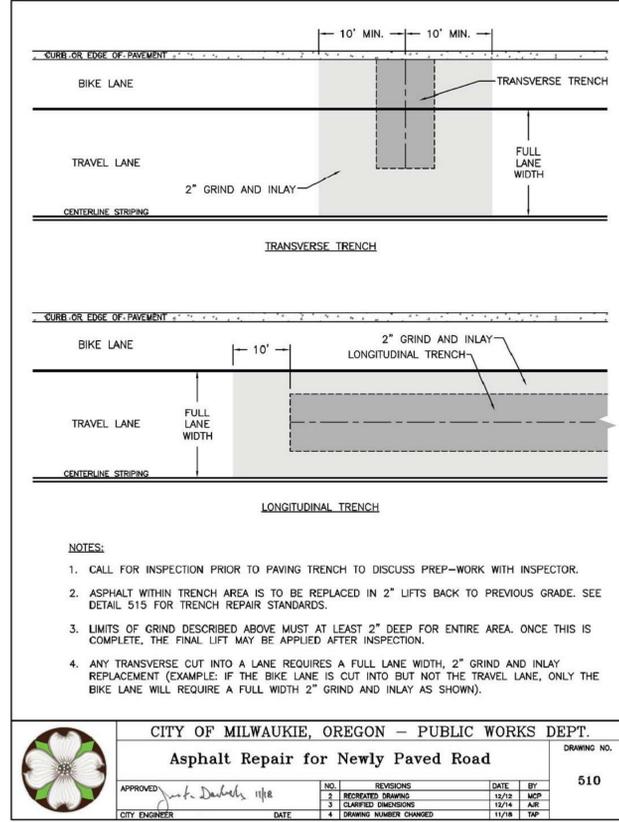
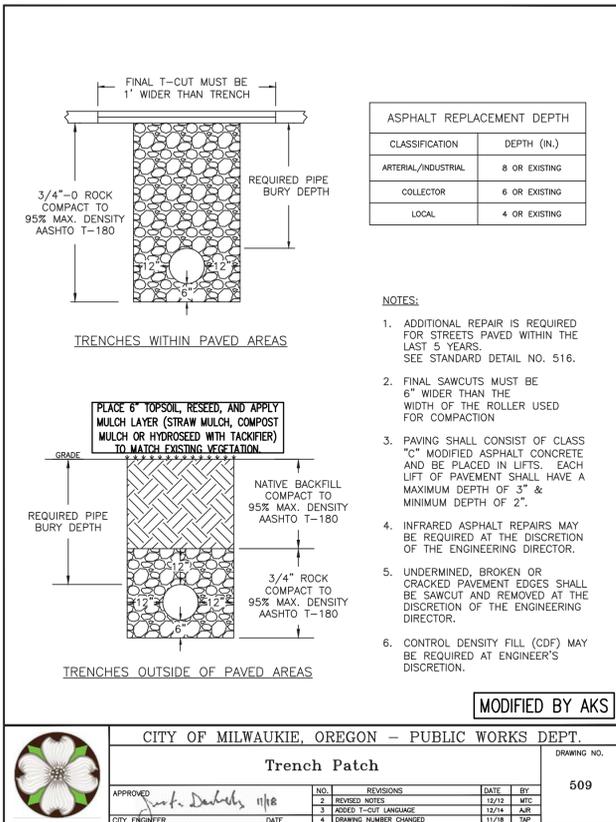
GENERAL KEYED NOTES:

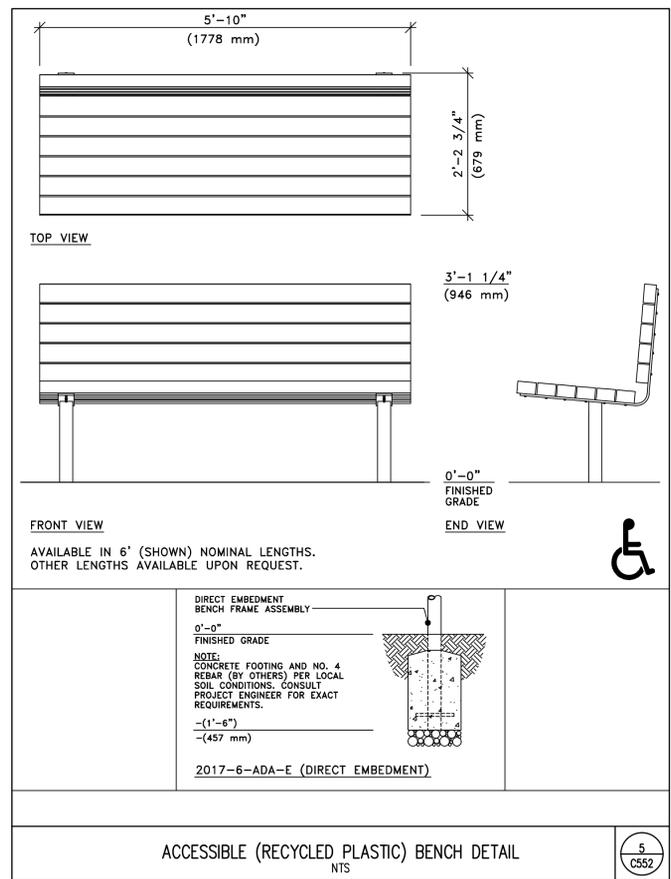
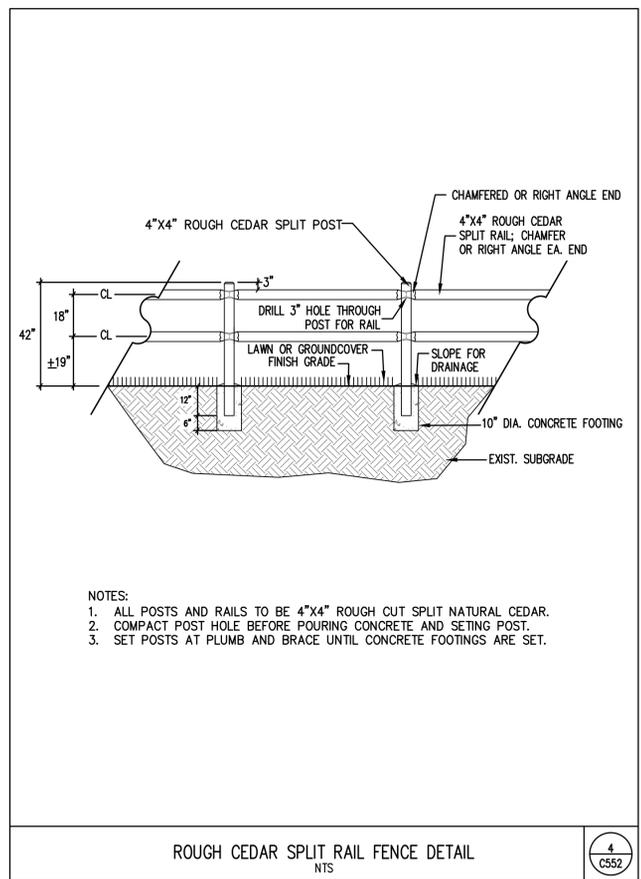
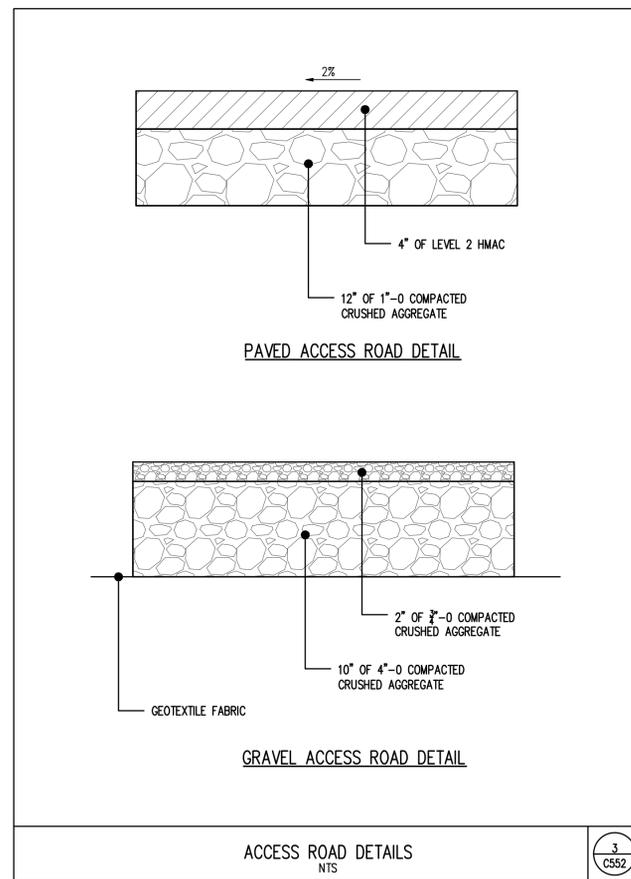
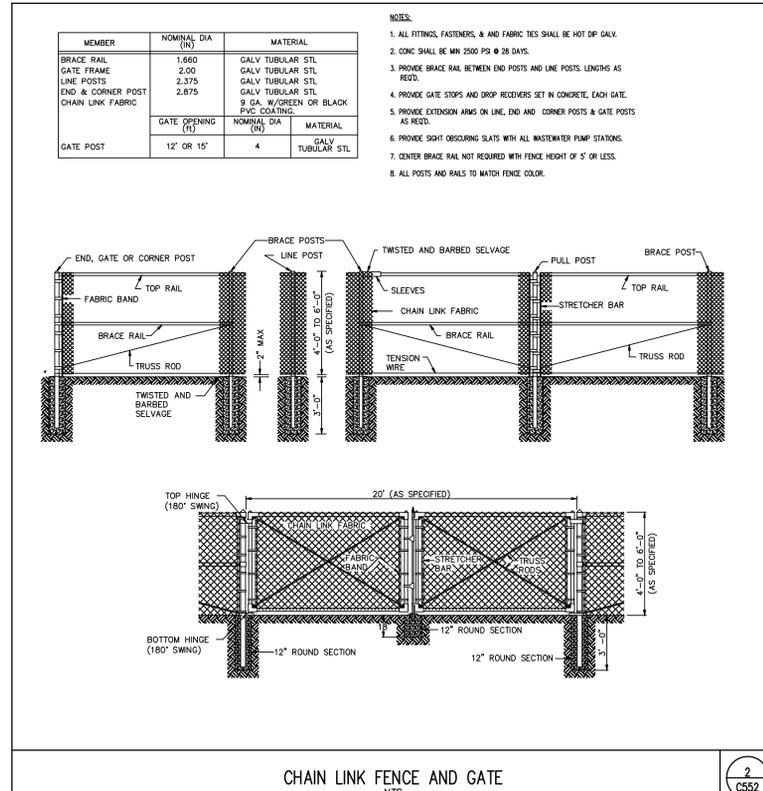
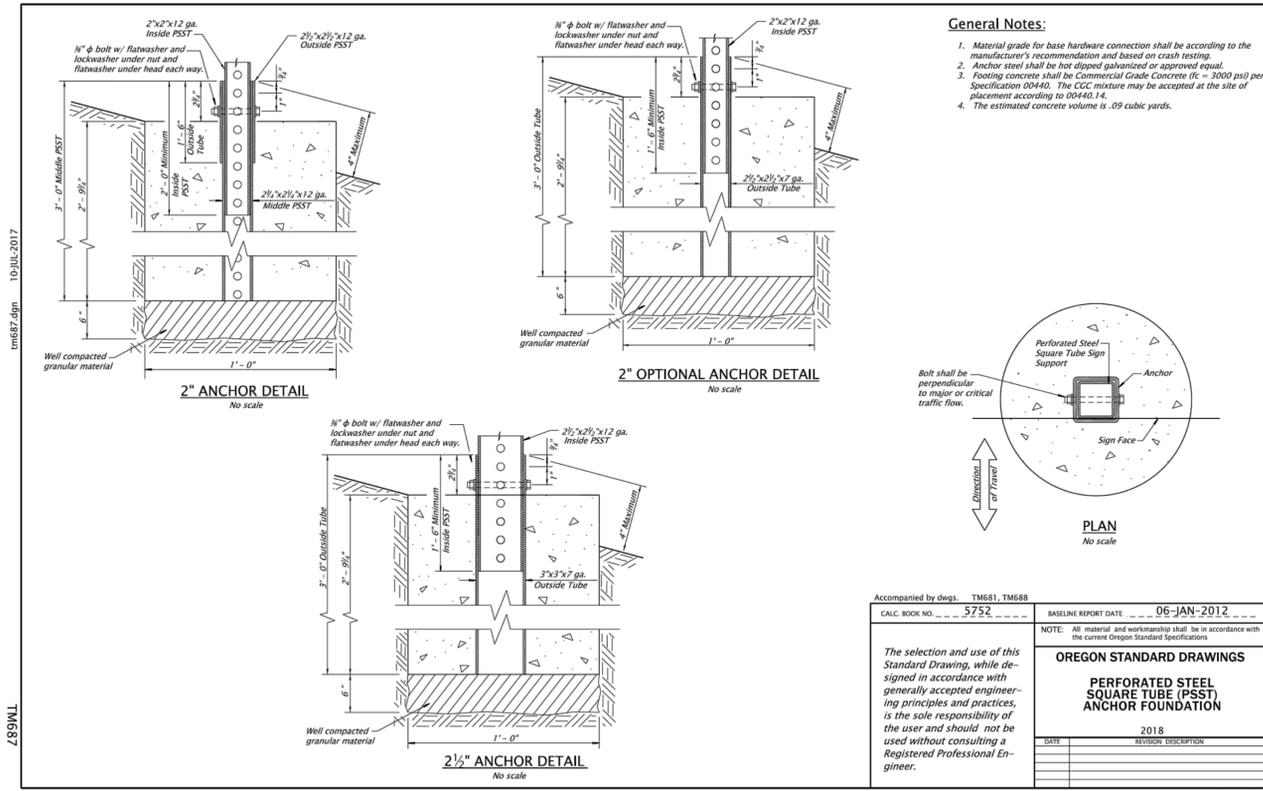
- REPLACE EXISTING FENCE WITH LIKE KIND AT EXISTING LOCATION FOLLOWING STORM MAIN INSTALL.
- REPLACE TOPSOIL AND RESEED PER CITY OF MILWAUKIE TRENCH PATCH DETAIL 509 - TRENCHES OUTSIDE OF PAVED AREAS.
- RESTORE AC PAVEMENT PER CITY OF MILWAUKIE TRENCH PATCH DETAIL 509 - TRENCHES WITHIN PAVED AREAS.
- REPLACE PCC PAVEMENT PANEL TO NEAREST JOINT.
- REPLACE CURB PER ODOT STANDARD DETAIL RD700. MATCH EXISTING TYPE.
- RESTORE SIDEWALK PER ODOT STANDARD DETAIL RD720.
- SAWCUT LINE. SLURRY MUST BE VACUUMED DURING CUT.
- REPLACE 12" SOLID WHITE CROSSWALK STRIPE PER ODOT STANDARD DETAIL TM503.
- REPLACE 12" SOLID WHITE STOP BAR PER ODOT STANDARD DETAIL TM503.
- REPLACE 4" SOLID WHITE LINE PER ODOT STANDARD DETAIL TM500.
- REPLACE DOUBLE NO-PASS TWO 4" YELLOW LINES PER ODOT STANDARD DETAIL TM500.
- REPLACE 4" YELLOW BROKEN LINE PER ODOT STANDARD DETAIL TM500.
- REPLACE 8" SOLID WHITE BIKE LANE PER ODOT STANDARD DETAIL TM500.
- NOT USED.
- INSTALL GRAVEL ACCESS PER DETAIL, SHEET C552.
- INSTALL SPLIT RAIL FENCE PER DETAIL, SHEET C552.
- INSTALL 20-FT WIDE DOUBLE SWING GATE PER DETAIL, SHEET C552.
- NOT USED.
- NOT USED.
- REPLACE EXISTING STRAIGHT ARROW (WHITE) PER ODOT STANDARD DETAIL TM501.
- INSTALL 48" ROUND FLEXIBLE DELINEATOR (TYPE 2 ORANGE).
- INSTALL 6-FT BLACK VINYL COATED CHAIN LINK FENCE PER DETAIL, SHEET C552.
- REPLACE BIKE LANE STANDARD STENCIL (WHITE) PER ODOT DETAIL TM503.
- INSTALL ACCESSIBLE BENCH PER DETAIL, SHEET C552.

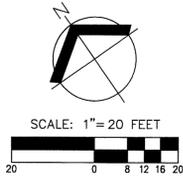
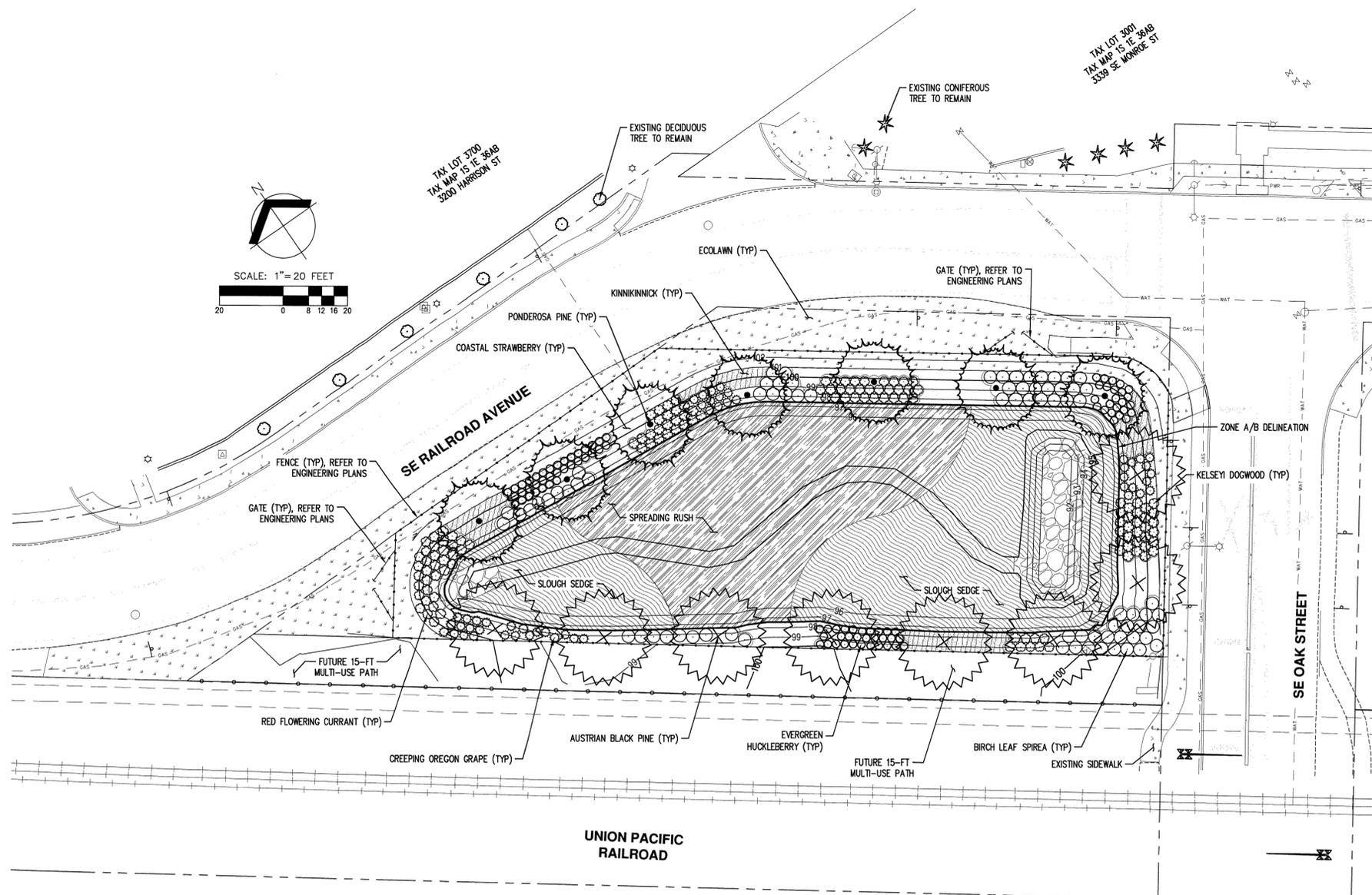
LEGEND

EXISTING GROUND CONTOUR (2 FT)	--- 348 ---
EXISTING GROUND CONTOUR (10 FT)	--- 350 ---
FINISHED GRADE CONTOUR (1 FT)	--- 344 ---
FINISHED GRADE CONTOUR (5 FT)	--- 345 ---
FENCE REMOVAL LIMITS	⌋
AC PAVEMENT RESTORATION	[Pattern]
PCC PAVEMENT RESTORATION	[Pattern]
GRAVEL SURFACE RESTORATION	[Pattern]
REPLACE TOPSOIL AND RESEED PER DETAIL 509	[Pattern]
TRENCH SAWCUT IN PAVEMENT	---
ACCESSIBLE BENCH	[Symbol]









REFER TO SHEET L102 FOR PLANTING DETAILS

PLANT SCHEDULE SE OAK STREET

TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE/CONTAINER	SPACING
	8	PINUS NIGRA	AUSTRIAN BLACK PINE	6' HT. MIN. B&B	AS SHOWN
	7	PINUS PONDEROSA	PONDEROSA PINE	6' HT. MIN. B&B	AS SHOWN

SHRUBS	QTY	BOTANICAL NAME	COMMON NAME	SIZE/CONTAINER	SPACING
	54	CORNUS SERICEA 'KELSEY'	KELSEY DOGWOOD	1 GAL CONT.	36" o.c.
	49	MAHONIA REPENS	CREEPING OREGON GRAPE	1 GAL CONT.	36" o.c.
	74	RIBES SANGUINEUM	RED FLOWERING CURRANT	1 GAL CONT.	36" o.c.
	76	SPIRAEA BETULIFOLIA	BIRCH LEAF SPIREA	1 GAL CONT.	48" o.c.
	90	VACCINIUM OVATUM	EVERGREEN HUCKLEBERRY	1 GAL CONT.	30" o.c.

GROUND COVERS	QTY	BOTANICAL NAME	COMMON NAME	SIZE/CONTAINER	TRIANGULAR SPACING
	629	ARCTOSTAPHYLOS UVA-URSI	KINKINKINICK	1 GAL CONT.	12" o.c.
	888	FRAGARIA CHILOENSIS	COASTAL STRAWBERRY	1 GAL CONT.	12" o.c.

± 6,947 SF
 ECOLAWN: NATIVE ECOTURF ECOLAWN MIX BY SUNMARK NATIVE SEED OR SIMILAR
 45% NATIVE RED FESCUE (FESTUCA RUBRA RUBRA); 25% BLUE GRAMA (BOUPELOUA GRACILIS); 20%
 BUFFALOGRASS (BUCHOLE DACTYLOIDES); 7% PRAIRIE JUNEGRASS (KOELERIA MACRANTHA); 3% STRAWBERRY
 CLOVER (TRIFOLIUM FRAGIFERUM)
 APPLY AT A RATE OF 1LB PER 1,000 SF OR AS INSTRUCTED BY SUPPLIER

HERBACEOUS	QTY	BOTANICAL NAME	COMMON NAME	SIZE/CONTAINER	SPACING
	6,435	CAREX OBNUPTA	SLOUGH SEDGE	1 GAL CONT.	15" o.c.
	2,588	JUNCUS PATENS	SPREADING RUSH	1 GAL CONT.	15" o.c.

PUBLIC STORMWATER FACILITY NOTES – UNLINED BASIN:

- PLANTS AND PLANTINGS ARE SHOWN TO PORTRAY THE CHARACTER OF THE SITE AND CONFORM TO THE CITY OF PORTLAND STORMWATER MANAGEMENT MANUAL. PLAN REVISIONS INCLUDING CHANGES TO PLANT SPECIES, SIZES, SPACING, QUANTITIES, ETC., DUE TO PLANT AVAILABILITY OR UNFORESEEN SITE CONDITIONS MAY BE MADE BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION WHERE ALLOWED BY THE CITY OF MILWAUKIE'S DESIGN STANDARDS. PLANT SPECIES SUBSTITUTIONS MAY BE APPROVED BASED ON AVAILABILITY AT TIME OF INSTALLATION. ALL PLANT SUBSTITUTIONS MUST BE FROM THE CITY OF PORTLAND'S STORMWATER MANAGEMENT MANUAL PUBLIC STORMWATER FACILITY PLANT LIST (SECTION 2.4.1, CURRENT EDITION), AND BE APPROPRIATE FOR SOIL, HYDROLOGIC, SITE CONDITIONS.
- CONTRACTOR IS RESPONSIBLE FOR VERIFYING PLANT QUANTITIES AND ALL MATERIALS PRIOR TO BIDDING AND CONSTRUCTION. IF DISCREPANCIES OCCUR, DESIGN INTENT PREVAILS OVER QUANTITIES LISTED.
- LANDSCAPE INSTALLATION SHALL CONFORM TO THE CITY OF MILWAUKIE'S LANDSCAPE DESIGN STANDARDS AND TO AMERICAN NURSERY STANDARDS ANSI Z60.1 IN ALL WAYS. PLANT IN ACCORDANCE WITH BEST PRACTICE STANDARDS ADOPTED BY THE OREGON LANDSCAPE CONTRACTOR'S BOARD (OLCB) AND THE AMERICAN ASSOCIATION OF NURSERYMEN, INC. FIELD ADJUST PLANT LOCATION AS NECESSARY TO AVOID CONFLICTS WITH UTILITIES, TREE CANOPIES, BUILDING OVERHANGS, EXISTING VEGETATION TO REMAIN, ETC.
- REFER TO TREE, SHRUB AND GROUND COVER PLANTING DETAILS (SHEET L102).
- IRRIGATION P.O.C.s TO BE DETERMINED.
- ALL LANDSCAPING SHALL BE INSTALLED AT THE TIME OF CONSTRUCTION UNLESS OTHERWISE APPROVED BY THE CITY OF MILWAUKIE DUE TO INCLEMENT WEATHER OR TEMPORARY SITE CONDITIONS. UPON INSTALLATION, ALL PLANT MATERIALS SHALL BE VIGOROUS, WELL-BRANCHED, AND WITH HEALTHY, WELL-FURNISHED ROOT SYSTEMS, FREE OF DISEASE, INSECT PESTS, AND INJURIES.
- A TEMPORARY IRRIGATION SYSTEM, WITH A BACKFLOW DEVICE APPROVED BY THE CITY OF MILWAUKIE, SHALL BE PROVIDED FOR ALL STORMWATER FACILITIES FOR THE ESTABLISHMENT AND LONG-TERM HEALTH OF PLANT MATERIAL. THE IRRIGATION SYSTEM SHALL BE "DESIGN-BUILD" BY THE LANDSCAPE CONTRACTOR, USING CURRENT WATER-SAVING TECHNOLOGY, AND INCLUDE ALL MATERIALS, COMPONENTS, CITY APPROVED BACKFLOW OR ANTI-SIPHON DEVICES, VALVES, ETC. NECESSARY FOR THE COMPLETE AND EFFICIENT COVERAGE OF STORMWATER AREAS SHOWN. THE LANDSCAPE CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR AND OWNER FOR POINT-OF-CONNECTION (P.O.C.), SLEEPING LOCATION, AND MAINLINE LAYOUT PRIOR TO ANY PAVING REPAIR OR STRIPING, AND SHALL PROVIDE CITY OF MILWAUKIE WITH IRRIGATION PLAN INCLUDING ZONING AND COMPONENT LAYOUT FOR APPROVAL PRIOR TO INSTALLATION. TEMPORARY IRRIGATION SYSTEM SHALL BE REMOVED ONCE PLANTS ARE FULLY ESTABLISHED, GENERALLY 2 TO 3 YEARS. CONTRACTOR SHALL PROVIDE CITY OF MILWAUKIE WITH IRRIGATION PLAN INCLUDING COMPONENT LAYOUT FOR APPROVAL PRIOR TO INSTALLATION AS A DELAYED SUBMITTAL.
- SOIL: GROWING MEDIUM FOR VEGETATED STORMWATER FACILITIES SHALL BE PLACED AT A MINIMUM DEPTH OF 18" OVER NATIVE SOIL, UNLESS OTHERWISE NOTED. GROWING MEDIUM MUST CONFORM TO SPECIFICATIONS OUTLINED IN 01040.14(D)(1) OF CITY OF PORTLAND STORMWATER MANAGEMENT MANUAL, CURRENT EDITION. A BLEND OF LOAMY SOIL, SAND, AND COMPOST THAT IS 30-40% COMPOST (BY VOLUME) WHICH MEETS OTHER PORTLAND STORMWATER MANAGEMENT MANUAL CRITERIA AS SPECIFIED. MEDIUM SHALL BE LOOSE AND FRIABLE, WELL MIXED AND HOMOGENOUS, FREE OF WOOD PIECES, PLASTIC, AND OTHER FOREIGN MATTER AND HAVE NO VISIBLE FREE WATER.
- MULCH: FINE TO MEDIUM HEMLOCK BARK SHALL BE PLACED AT A DEPTH OF 2"-3" ABOVE HIGH WATER MARK, IN PLANTING ZONE B. MULCH SHALL NOT BE PLACED SUCH THAT IT MAY ENTER WATERWAYS OR CLOG INLETS/OUTLETS. MULCH MUST BE WEED FREE AND APPLIED 2"-3" THICK TO COVER ALL SOIL BETWEEN PLANTS. IT SHOULD NOT BE OVER-APPLIED.

AKS ENGINEERING & FORESTRY, LLC
 12985 SW HERMAN RD. STE 100
 PORTLAND, OREGON 97224
 P: 503.563.6151
 F: 503.563.6152
 aks-eng.com

ENGINEERING - SURVEYING - NATURAL RESOURCES
 FORESTRY - PLANNING - LANDSCAPE ARCHITECTURE

CITY OF MILWAUKIE
 MEEK STREET PIPE INSTALLATION

MILWAUKIE
 CLATSOP COUNTY TAX LOTS

OAK STREET WATER QUALITY
 FACILITY LANDSCAPE PLAN

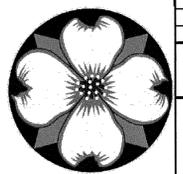
REGISTERED
 1025
 LANDSCAPE ARCHITECT
 TIMOTHY E. BAUER
 OREGON
 11/01/19

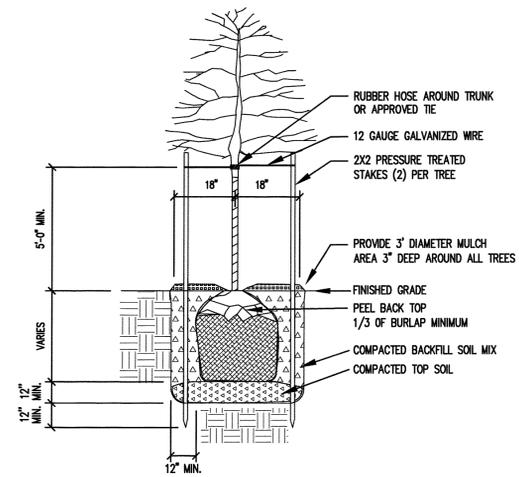
DESIGNED BY: NKP
 DRAWN BY: NKP
 CHECKED BY: TEB
 SCALE: AS NOTED
 DATE: 01/14/2020

REVISIONS

JOB NUMBER
 5122

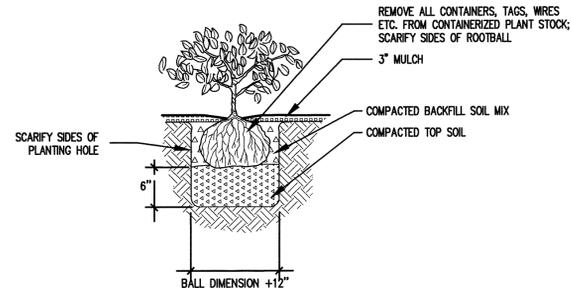
SHEET
 L101





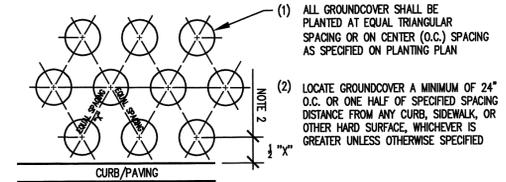
1 TYPICAL TREE PLANTING DETAIL
L102 NTS

- NOTES:
1. DRIVE STAKES OUTSIDE OF ROOTBALL. SINGLE STAKE TREES LESS THAN 6' TALL.
 2. SET TREE 2" ABOVE FINISH GRADE TO ALLOW FOR SETTLING OF SOIL.
 3. BACKFILL SOIL MIX FOR TREE PLANTING TO BE 1/3 ORGANIC MATERIALS, 1/3 TOPSOIL, AND 1/3 SANDY LOAM.
 4. REMOVE ALL WIRES, METAL BASKETS, TWINE, AND OTHER NON-COMPOSTABLE MATERIALS FROM TREE ROOTBALL PRIOR TO PLANTING.



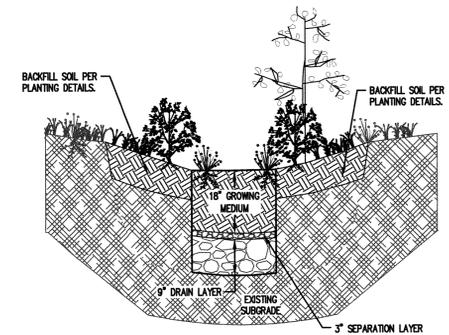
2 TYPICAL SHRUB PLANTING DETAIL
L102 NTS

- NOTES:
1. BACKFILL SOIL MIX SHALL BE 1/3 ORGANIC MATERIALS, 1/3 TOPSOIL, AND 1/3 SANDY LOAM.
 2. REMOVE ALL CONTAINERS, METAL, TWINE, TAGS, AND OTHER NON-BIODEGRADABLE MATERIALS PRIOR TO PLANTING.
 3. ALL CONTAINERIZED PLANT STOCK SHALL BE VIGOROUS, FREE OF DISEASE AND PESTS, EVENLY FORMED, AND BE FULLY ROOTED IN THE CONTAINER IN WHICH THEY ARE DELIVERED. ALL PLANTS SHALL FOLLOW ANSI Z60.1 STANDARDS FOR NURSERY STOCK FOR CONTAINER SIZE, HEIGHT, ETC.
 4. CONTRACTOR SHALL WATER-SETTLE PLANTING HOLES TO REMOVE AIR POCKETS PRIOR TO SPREADING MULCH.
 5. CARE SHALL BE TAKEN TO AVOID COVERING ROOT CROWN OR FOLIAGE OF PLANTS WITH BARK MULCH.



3 TYPICAL GROUNDCOVER PLANTING DETAIL
L102 NTS

- NOTES:
1. BACKFILL SOIL MIX SHALL BE 1/3 ORGANIC MATERIALS, 1/3 TOPSOIL, AND 1/3 SANDY LOAM.
 2. REMOVE ALL CONTAINERS, METAL, TWINE, TAGS, AND OTHER NON-BIODEGRADABLE MATERIALS PRIOR TO PLANTING.
 3. ALL CONTAINERIZED PLANT STOCK SHALL BE VIGOROUS, FREE OF DISEASE AND PESTS, EVENLY FORMED, AND BE FULLY ROOTED IN THE CONTAINER IN WHICH THEY ARE DELIVERED. ALL PLANTS SHALL FOLLOW ANSI Z60.1 STANDARDS FOR NURSERY STOCK FOR CONTAINER SIZE, HEIGHT, ETC.
 4. CONTRACTOR SHALL WATER-SETTLE PLANTING HOLES TO REMOVE AIR POCKETS PRIOR TO SPREADING MULCH. DO NOT COVER FOLIAGE OR ROOT CROWN OF GROUNDCOVER PLANTS.



4 BASIN MATERIAL DETAIL
L102 NTS

- NOTES:
1. GROWING MEDIUM SHALL BE SAND/LOAM/COMPOST 3-WAY MIX, OR APPROVED MIX THAT WILL SUPPORT HEALTHY PLANTS.
 2. DRAIN LAYER: 3/4" - 1" WASHED ROCK.
 3. SEPARATION LAYER: PEA GRAVEL LENS, 2-3 INCHES DEEP.
 4. ENGINEER SHALL INSPECT SUBGRADE BEFORE PLACEMENT OF DRAIN LAYER.

DESIGNED BY: NKP
DRAWN BY: NKP
CHECKED BY: TEB

SCALE: AS NOTED

DATE: 01/14/2020
REGISTERED
1025
JIMOTHY E. BAUER
OREGON
11/01/19
LANDSCAPE ARCHITECT

REVISIONS

JOB NUMBER
5122
SHEET

L102

