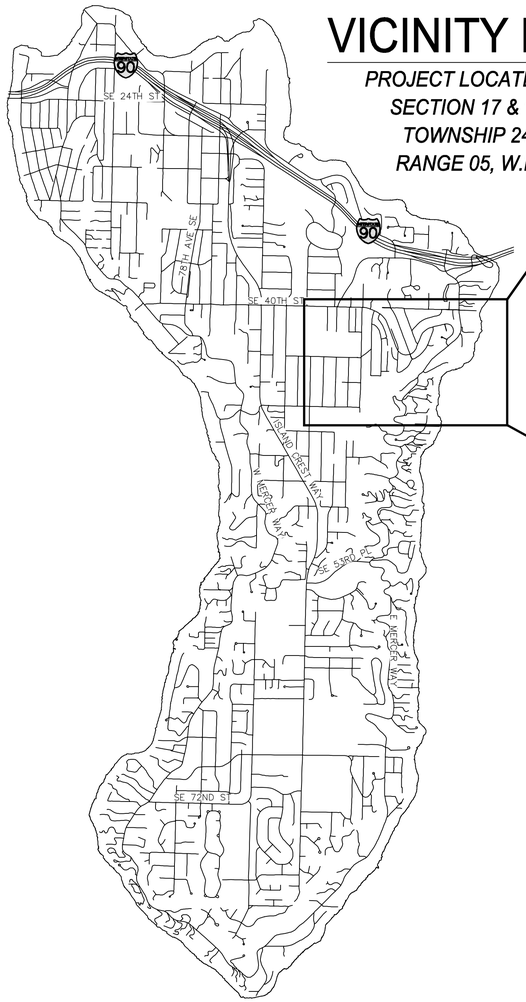
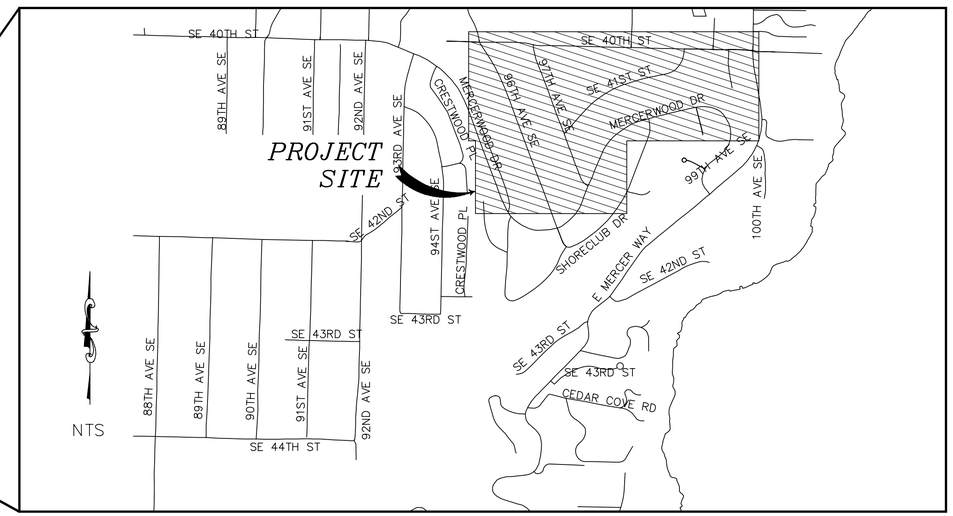
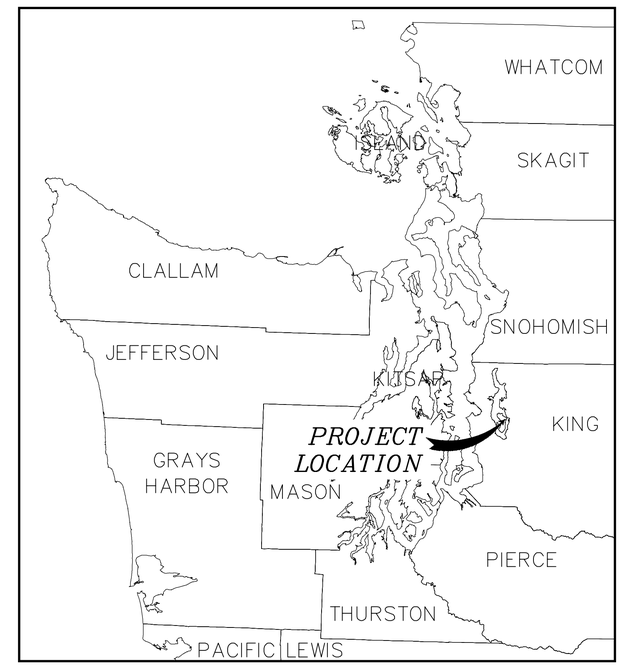
BASIN 40
CIPP SEWER LINING PROJECT - PHASE 1
MERCER ISLAND, WA
CITY - PROJECT NO. 22-33

VICINITY MAP

PROJECT LOCATED IN SECTION 17 & 18, TOWNSHIP 24, RANGE 05, W.M.







SHEET SERIES INDEX

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4	SITE KEY MAP
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NO.	REVISION	BY	DATE

CITY OF MERCER ISLAND PUBLIC WORKS

STAHELI TRENCHLESS CONSULTANTS

R&E Reichhardt & Ebe ENGINEERING INC
P.O. Box 978 | 423 Front Street
Lynden, WA 98264 (360) 354-3687

BID SET

CAD TECH:	J. NORMAN	SCALE: H:	N/A
CAD REVIEW:	E. VAVRA	V:	N/A
DESIGNER:	J. ANDRESEN		
DESIGN REVIEW:	K. STAHELI	DATE:	10/07/22
CITY PROJECT#	22-33		

SEC.	TWN	RNG
17/18	T24N	R5E

BASIN 40
CIPP SEWER LINING PROJECT - PHASE 1

COVER

1

1 of 12

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GENERAL NOTES

1. THE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF CHAPTER 19.122 RCW.
2. All CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE PLANS AND PROJECT SPECIFICATIONS.
3. THE CONTRACTOR SHALL NOTIFY THE CITY REPRESENTATIVE(S) A MINIMUM OF 3 WORKING DAYS PRIOR TO ANY TESTING OR REQUIRED INSPECTION.
4. THE WORK IDENTIFIED ON THESE PLANS AND ASSOCIATED CONSTRUCTION DOCUMENTS INCLUDE WORK ON AN EXISTING PUBLIC SANITARY SEWER SYSTEM. THE EXISTING SANITARY SEWER SYSTEM MUST BE TEMPORARILY BY-PASSED AS SPECIFIED DURING PIPE REHABILITATION. CONTRACTOR SHALL BE RESPONSIBLE FOR SIZING THE PUMPS CAPABLE OF HANDLING ANTICIPATED FLOWS.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING CONSTRUCTION ACTIVITY WITH ALL STAKEHOLDERS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INVESTIGATING AND ASCERTAINING THE REQUIREMENTS OF THE APPROPRIATE PUBLIC AUTHORITIES.
6. EXISTING IMPROVEMENTS REMOVED OR DISTURBED DURING THE WORK SHALL BE RESTORED TO THEIR ORIGINAL CONDITION. ALL RESTORATION SHALL BE MADE AT CONTRACTOR'S EXPENSE.
7. THE CONTRACTOR SHALL EXERCISE DUE CARE TO PROTECT PROPERTY AND THE WORK. THE PROJECT SHALL BE SUPERVISED TO ENSURE PROPERTY IS PROTECTED. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ANY DAMAGE TO THE PROPERTY OR WORK.
8. ALL WORK SHALL BE PERFORMED WITH DUE REGARD TO THE SAFETY AND CONVENIENCE OF THE PUBLIC AND IN A MANNER THAT MINIMIZES INTERFERENCE WITH ALL AUTOMOTIVE, BICYCLE AND PEDESTRIAN TRAFFIC. CERTIFIED FLAGGING PERSONNEL, BARRICADES, SIGNS AND TRAFFIC CONTROL SHALL BE FURNISHED AS REQUIRED BY SPECIFICATION. EMERGENCY VEHICLES SHALL BE PROVIDED ACCESS AT ALL TIMES.
9. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING THE PERFORMANCE OF THE WORK, AND FOR COMPLIANCE WITH ALL FEDERAL, STATE AND LOCAL SAFETY LAWS AND REGULATIONS AT ALL TIMES.
10. LIMIT WORK AREAS TO EXISTING EASEMENT AND PUBLIC RIGHT OF WAY. MINIMIZE WORK AREA AND IMPACT TO SCHOOLS, PUBLIC SPACES, PRIVATE RESIDENTS AND TRAFFIC.
11. SEGMENTS OF THE WORK MAY BE PERFORMED UNDER HIGH VOLTAGE ELECTRICAL OVERHEAD POWER LINES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PERFORM THE WORK IN A SAFE MANNER AND IN ACCORDANCE WITH ANY REQUIREMENTS SET FORTH BY THE UTILITY OWNER AND APPLICABLE LAWS AND REGULATIONS.
12. CONTRACTOR SHALL OBTAIN APPROVAL FROM THE CITY AND FOLLOW CITY PROCEDURES FOR ALL WATER AND SIDE SEWER INTERRUPTIONS, HYDRANT SHUTOFFS, STREET CLOSURES OR OTHER ACCESS RESTRICTIONS.
13. EXISTING DRAINAGE DITCHES, CULVERTS, ETC., SHALL BE KEPT CLEAN AT ALL TIMES. TEMPORARY DIVERSION OF ANY DRAINAGE PIPE WILL NOT BE PERMITTED WITHOUT THE CONSENT OF THE ENGINEER.
14. TEMPORARY EROSION/SEDIMENTATION CONTROL MEASURES SHALL BE EMPLOYED TO PROTECT ADJACENT PROPERTY AND STORM DRAINAGE FACILITIES.
15. FINAL CLEANUP SHALL CONSIST OF COMPLETE RESTORATION OF THE PROJECT SITE TO PRE-EXISTING CONDITION, INCLUDING SHOULDERS, CLEANING OF DITCHES, CULVERTS AND CATCH BASINS AND REMOVAL OF LOOSE MATERIAL FROM BACK SLOPES OF DITCHES.
16. CONTRACTOR SHALL COMPLY WITH ALL PERMIT REQUIREMENTS AND PROVISIONS OF APPLICABLE CITY OF MERCER ISLAND CODES FOR THE RIGHT OF WAY USE PERMIT.
17. A COPY OF THE APPROVED PLANS, THE PROJECTS SPECIFICATIONS AND DETAILS, AND ROW PERMIT SHALL BE ON SITE DURING CONSTRUCTION.
18. THE CONTRACTOR SHALL HAVE ALL UTILITIES VERIFIED ON THE GROUND PRIOR TO ANY EXCAVATION. CALL (811) AT LEAST FIVE WORKING DAYS IN ADVANCE.
19. CONTRACTOR SHALL SUBMIT AND IMPLEMENT AN APPROVED BYPASS PLAN. BYPASS PLAN MUST BE RECEIVED AND ACCEPTED PRIOR TO IMPLEMENTATION. REFER TO THE PROJECT SPECIFICATIONS.
20. PRE AND POST LINING CLOSED CIRCUIT TELEVISION (CCTV) MUST BE SUBMITTED PRIOR TO CIPP ACCEPTANCE FOR A GIVEN SEWER SEGMENT. REFER TO THE PROJECT SPECIFICATIONS.

ABBREVIATIONS:

AC	= ASBESTOS CONCRETE
AVE	= AVENUE
CI	= CAST IRON
CIPP	= CURED IN PLACE PIPE
CONC	= CONCRETE
DI	= DUCTILE IRON
EX	= EXISTING
INV	= PIPE INVERT ELEVATION
GM	= GRAVITY MAIN
MH	= MANHOLE
LF	= LINEAL FEET
LL	= LATERAL LINE
PVC	= POLYVINYL CHLORIDE PIPE
RCP	= REINFORCED CONCRETE PIPE
RCW	= REVISED CODE OF WASHINGTON
RIM	= MANHOLE RIM ELEVATION
SS	= SANITARY SEWER
SSMH	= SANITARY SEWER MANHOLE
ST	= STREET
SE	= SOUTHEAST
SW	= SOUTHWEST
TYP	= TYPICAL
VCP	= VITRIFIED CLAY PIPE
W	= WEST

NO.	REVISION	BY	DATE

CITY OF MERCER ISLAND PUBLIC WORKS

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BID SET

Digitally signed by Jake A. Andresen
Date: 2022.10.07 23:22:

CAD TECH:	J. NORMAN	SCALE:	H:	N/A
CAD REVIEW:	E. VAVRA		V:	N/A
DESIGNER:	J. ANDRESEN			
DESIGN REVIEW:	K. STAHELI	DATE:		10/07/22
CITY PROJECT#	22-33			
		SEC.	TWN	RNG
		17/18	T24N	R5E

BASIN 40
CIPP SEWER LINING PROJECT - PHASE 1

GENERAL NOTES

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CIPP LINING SCHEDULE

GIS REFERENCE	DOWNSTREAM MH	UPSTREAM MH	LENGTH [FT]	DIAMETER [IN]	PIPE MATERIAL	SEWER SERVICE CONNECTIONS	SERVICE CONNECTION SEALS
SS-GM-40-13	40-12	40-13	63	8	CONCRETE	2	1
SS-GM-40-14	40-13	40-14	359	8	CONCRETE	11	4
SS-GM-40-15	40-14	40-15	235	8	CONCRETE	2	2
SS-GM-40-16	40-15	40-16	226	8	CONCRETE	6	5
SS-GM-40-17	40-17	40-16	248	8	CONCRETE	8	6
SS-GM-40-18	40-14	40-18	180	8	CONCRETE	2	2
SS-GM-40-19	40-18	40-19	123	8	CONCRETE	0	0
SS-GM-40-20	40-19	40-20	271	8	CONCRETE	6	5
SS-GM-40-21	40-20	40-21	380	8	CONCRETE	8	6
SS-GM-40-22	40-21	40-22	78	8	CONCRETE	1	1
SS-GM-40-23	40-22	40-23	236	8	CONCRETE	6	4
SS-GM-40-24	40-21	40-24	110	8	CONCRETE	2	1
SS-GM-40-25	40-26	40-25	340	8	CONCRETE	10	6
SS-GM-40-26	40-17	40-26	299	8	CONCRETE	3	1
SS-GM-40-27	40-24	40-27	256	8	CONCRETE	8	7
SS-GM-40-28	40-27	40-28	425	8	CONCRETE	12	4
SS-GM-40-28.1	40-28	40-28.1	74	8	CONCRETE	1	1
SS-GM-40-29	40-27	40-29	408	8	CONCRETE	3	3
TOTAL SEGMENTS: 18			4,310 LF	TOTAL SERVICE CONNECTIONS:		91	59

SEWER STRUCTURE NOTES

EX SSMH 40-11
RIM=126.82
N INV (IN)=112.90/8" CONC (SS-GM-40-12)
S INV (OUT)=112.90/8" CONC (SS-GM-40-11)

EX SSMH 40-12
RIM=124.78
W INV (IN)=114.78/8" CONC (SS-GM-40-13)
N INV (IN)=114.78/8" CONC (SS-GM-40-12.1)
S INV (OUT)=114.78/8" CONC (SS-GM-40-12)

EX SSMH 40-13
RIM=127.19
W INV (IN)=122.61/8" CONC (SS-GM-40-14)
E INV (OUT)=122.61/8" CONC (SS-GM-40-13)

EX SSMH 40-14
RIM=134.08
W INV (IN)=126.08/8" CONC (SS-GM-40-15)
SW INV (IN)=126.08/8" CONC (SS-GM-40-18)
E INV (OUT)=126.08/8" CONC (SS-GM-40-14)

EX SSMH 40-15
RIM=136.59
W INV (IN)=128.51/8" CONC (SS-GM-40-16)
E INV (OUT)=128.51/8" CONC (SS-GM-40-15)

EX SSMH 40-16
RIM=150.85
W INV (IN)=141.60/8" CONC (SS-GM-40-17)
E INV (OUT)=141.60/8" CONC (SS-GM-40-16)

EX SSMH 40-17
RIM=173.00
W INV (IN)=165.70/8" CONC (SS-GM-40-26)
E INV (OUT)=165.70/8" CONC (SS-GM-40-17)

EX SSMH 40-18
RIM=142.75
W INV (IN)=136.33/8" CONC (SS-GM-40-19)
NE INV (OUT)=136.33/8" CONC (SS-GM-40-18)

EX SSMH 40-19
RIM=151.02
W INV (IN)=138.61/8" CONC (SS-GM-40-20)
E INV (OUT)=138.61/8" CONC (SS-GM-40-19)

EX SSMH 40-20
RIM=177.26
SW INV (IN)=168.18/8" CONC (SS-GM-40-21)
E INV (OUT)=168.18/8" CONC (SS-GM-40-20)

EX SSMH 40-21
RIM=188.76
SW INV (IN)=176.76/8" CONC (SS-GM-40-22)
NW INV (IN)=176.76/8" CONC (SS-GM-40-24)
NE INV (OUT)=176.76/8" CONC (SS-GM-40-21)

EX SSMH 40-22
RIM=191.77
S INV (IN)=181.94/8" CONC (SS-GM-40-23)
NE INV (OUT)=181.94/8" CONC (SS-GM-40-22)

EX SSMH 40-23
RIM=210.88
N INV (OUT)=203.13/8" CONC (SS-GM-40-23)

EX SSMH 40-24
RIM=187.46
W INV (IN)=179.96/8" CONC (SS-GM-40-27)
SE INV (OUT)=179.96/8" CONC (SS-GM-40-24)

EX SSMH 40-25
RIM=185.54
N INV (OUT)=176.54/8" CONC (SS-GM-40-25)

EX SSMH 40-26
RIM=180.56
S INV (IN)=169.06/8" CONC (SS-GM-40-25)
E INV (OUT)=169.06/8" CONC (SS-GM-40-26)

EX SSMH 40-27
RIM=204.28
S INV (IN)=194.69/8" CONC (SS-GM-40-28)
N INV (IN)=194.69/8" CONC (SS-GM-40-29)
E INV (OUT)=194.69/8" CONC (SS-GM-40-27)

EX SSMH 40-28
RIM=209.09
S INV (IN)=199.09/8" CONC (SS-GM-40-28.1)
N INV (OUT)=199.09/8" CONC (SS-GM-40-28)

EX SSMH 40-29
RIM=219.78
NW INV (IN)=213.20/8" PVC (SS-GM-40-30)
S INV (OUT)=213.20/8" CONC (SS-GM-40-29)

EX SSMH 40-30
RIM=232.71
SW INV (IN)=224.29/6" PVC (SS-LL-05254)
SE INV (OUT)=222.96/8" PVC (SS-GM-40-30)

EX SSMH 40-35
RIM=230.24
SW INV (IN)=219.08/6" CONC (SS-LL-00248)
E INV (OUT)=219.08/8" CONC (SS-GM-40-35)

EX SSMH 40-47
RIM=194.90
SE INV (OUT)=185.24/8" CONC (SS-GM-40-47)

EX SSMH 40-49
RIM=165.38
W INV (IN)=155.71/8" CONC (SS-GM-40-50)
S INV (OUT)=155.71/8" CONC (SS-GM-40-49)

EX SSMH 40-50
RIM=175.50
W INV (IN)=165.50/8" CONC (SS-GM-40-51)
E INV (OUT)=165.50/8" CONC (SS-GM-40-50)

EX SSMH 40-51
RIM=196.58
SW INV (IN)=188.49/8" CONC (SS-GM-40-52)
E INV (OUT)=188.49/8" CONC (SS-GM-40-51)

EX SSMH 40-52
RIM=208.59
S INV (IN)=196.26/8" CONC (SS-GM-40-53)
NE INV (OUT)=196.26/8" CONC (SS-GM-40-52)

EX SSMH 40-53
RIM=227.87
SW INV (IN)=223.30/8" CONC (SS-GM-40-54)
N INV (OUT)=214.62/8" CONC (SS-GM-40-53)

EX SSMH 40-58.6
RIM=289.06
N INV (IN)=281.81/8" AC (SS-GM-40-58.7)
S INV (OUT)=281.81/8" AC (SS-GM-40-58.6)

EX SSMH 40-58.7
RIM=289.87
S INV (OUT)=285.03/8" AC (SS-GM-40-58.7)

EX SSMH 40-59
RIM=251.72
N INV (IN)=242.47/8" CONC (SS-GM-40-60)
S INV (IN)=242.47/6" AC (SS-LL-00254)
SE INV (OUT)=242.47/8" CONC (SS-GM-40-59)

EX SSMH 40-60
RIM=269.97
N INV (IN)=262.22/8" CONC (SS-GM-40-61)
S INV (OUT)=262.22/8" CONC (SS-GM-40-60)

NO.	REVISION	BY	DATE

CITY OF MERCER ISLAND PUBLIC WORKS

STAHELI TRENCHLESS CONSULTANTS

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BID SET

STATE OF WASHINGTON JAKE A. ANDRESEN REGISTERED PROFESSIONAL ENGINEER
Digitally signed by Jake Andresen
Date: 2022.10.07 23:22:34 -07'00'

CAD TECH:	J. NORMAN	SCALE:	H:	N/A
CAD REVIEW:	E. VAVRA		V:	N/A
DESIGNER:	J. ANDRESEN			
DESIGN REVIEW:	K. STAHELI	DATE:		10/07/22
CITY PROJECT#	22-33			
		SEC.	TWN	RNG
		17/18	T24N	R5E

BASIN 40
CIPP SEWER LINING PROJECT - PHASE 1

PIPE AND STRUCTURE NOTES

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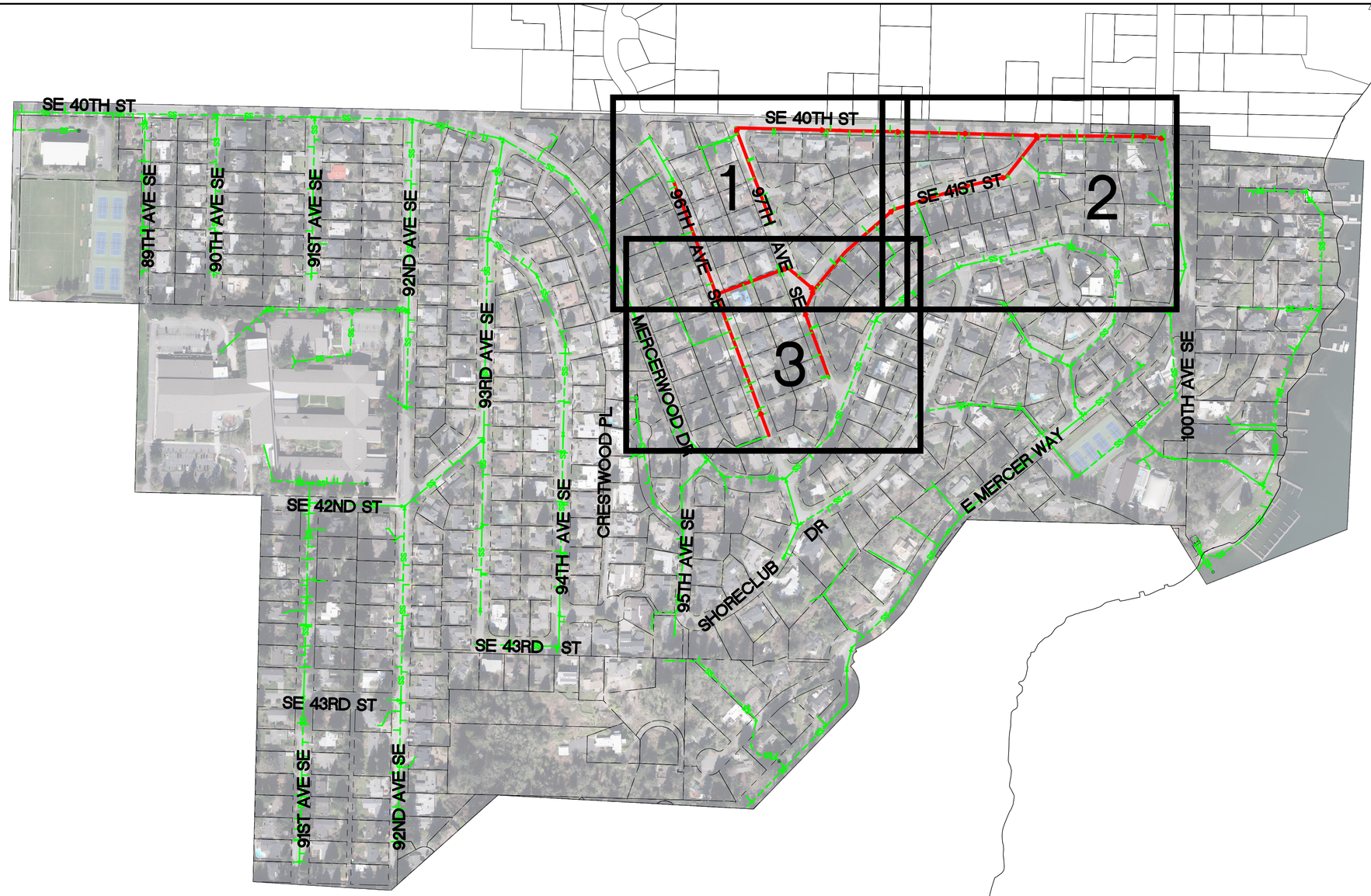

GRAPHIC SCALE

200 0 100 200

(IN FEET)

1"=200' (22x34), 1"=400' (11x17)

LEGEND:

= EXISTING SEWER MAIN TO BE LINED WITH CIPP

NO.	REVISION	BY	DATE

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BID SET

STATE OF WASHINGTON JAKE A. ANDRESEN 38168 Digitally signed by Jake Andresen Date: 2022.10.07 23:27:10 -08'00'

CAD TECH:	J. NORMAN	SCALE: H:	1"=200'
CAD REVIEW:	E. VAVRA	V:	N/A
DESIGNER:	J. ANDRESEN		
DESIGN REVIEW:	K. STAHELI	DATE:	10/07/22
CITY PROJECT#	22-33		

SEC.	TWN	RNG
17/18	T24N	R5E

BASIN 40
CIPP SEWER LINING PROJECT - PHASE 1

SITE KEY MAP

4

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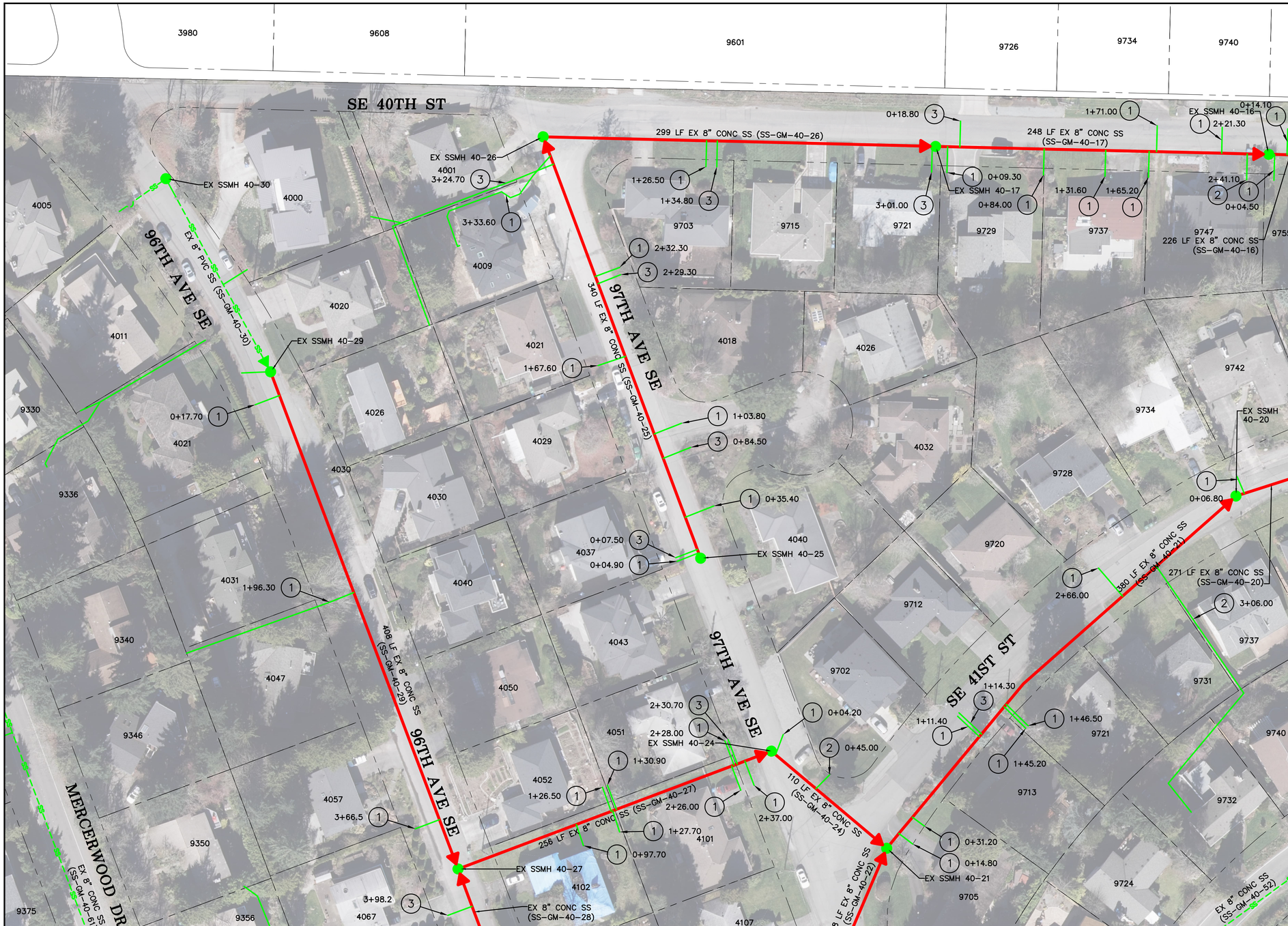

Know what's below. Call before you dig.

GRAPHIC SCALE

40 0 20 40

(IN FEET)
1"=40' (22x34), 1"=80' (11x17)

LEGEND:

- = EXISTING SEWER MAIN TO BE LINED WITH CIPP
- = EXISTING SEWER MAIN
- = EXISTING SEWER LATERAL
- = PROPERTY LINE
- = EXISTING MANHOLE
- = FLOW DIRECTION

PIPE TABLE			
GIS REFERENCE #	LENGTH	SIZE	MATERIAL
SS-GM-40-16	226 LF	8"	CONC
SS-GM-40-17	248 LF	8"	CONC
SS-GM-40-20	271 LF	8"	CONC
SS-GM-40-21	380 LF	8"	CONC
SS-GM-40-22	78 LF	8"	CONC
SS-GM-40-24	110 LF	8"	CONC
SS-GM-40-25	340 LF	8"	CONC
SS-GM-40-26	299 LF	8"	CONC
SS-GM-40-27	256 LF	8"	CONC
SS-GM-40-28	425 LF	8"	CONC
SS-GM-40-29	408 LF	8"	CONC

CONSTRUCTION NOTES:

1. VERIFY LOCATION AND NUMBER OF ALL SEWER SERVICES.
2. THE LOCATION OF EXISTING SEWER MANHOLES, SEWER MAINS, AND SEWER SERVICES ARE APPROXIMATE.
3. WHERE WORK IS TO BE PERFORMED OUTSIDE OF PUBLIC RIGHTS-OF-WAY, THE CONTRACTOR SHALL ADHERE TO THE LIMITATIONS OF CITY EASEMENTS

KEY NOTES:

1. INSTALL SERVICE CONNECTION SEAL.
2. REINSTATE LATERAL
3. ABANDON LATERAL. DO NOT REINSTATE. CONFIRM ALL ABANDONED LATERALS WITH CITY BEFORE CCTV INSPECTIONS.

NO.	REVISION	BY	DATE

CITY OF MERCER ISLAND PUBLIC WORKS

STAHELI TRENCHLESS CONSULTANTS

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BID SET

JAMES A. ANDRESEN, STATE OF WASHINGTON, 45108241, PROFESSIONAL ENGINEER

CAD TECH:	J. NORMAN	SCALE: H:	1"=40'
CAD REVIEW:	E. VAVRA	V:	N/A
DESIGNER:	J. ANDRESEN		
DESIGN REVIEW:	K. STAHELI	DATE:	10/07/22
CITY PROJECT#	22-33		
		SEC. TWN	RNG
		17/18 T24N	R5E

BASIN 40
CIPP SEWER LINING PROJECT - PHASE 1

SEWER PLAN (1)

P:\Projects\21016\Civil 3D 2021\21016 PLOT CPI\dwg, 5 SEWER PLAN (1), 10/7/2022 9:34:31 AM, PDF XChange Standard (Landscape).pc3

Know what's **below.** **Call** before you dig.

GRAPHIC SCALE

40 0 20 40

(IN FEET)
1"=40' (22x34), 1"=80' (11x17)

LEGEND:

- = EXISTING SEWER MAIN TO BE LINED WITH CIPP
- = EXISTING SEWER MAIN
- = EXISTING SEWER LATERAL
- = PROPERTY LINE
- = EXISTING MANHOLE
- = FLOW DIRECTION

PIPE TABLE			
GIS REFERENCE #	LENGTH	SIZE	MATERIAL
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SS-GM-40-14	359 LF	8"	CONC
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SS-GM-40-17	248 LF	8"	CONC
SS-GM-40-18	180 LF	8"	CONC
SS-GM-40-19	123 LF	8"	CONC
SS-GM-40-20	271 LF	8"	CONC
SS-GM-40-21	380 LF	8"	CONC

CONSTRUCTION NOTES:

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KEY NOTES:

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STATE OF WASHINGTON JAKE A. ANDRESEN 01024422.1002 REGISTERED PROFESSIONAL ENGINEER

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DESIGNER:	J. ANDRESEN		
DESIGN REVIEW:	K. STAHELI	DATE:	10/07/22
CITY PROJECT#	22-33		

SEC.	TWN	RNG
17/18	T24N	R5E

BASIN 40
CIPP SEWER LINING PROJECT - PHASE 1

SEWER PLAN (2)

P:\Projects\21015\Civil 3D 2021\21015 PLOT CPI.dwg, 6 SEWER PLAN (2), 10/7/2022 9:34:48 AM, PDF XChange Standard (Landscape).pc3

Know what's **below.** **Call** before you dig.

GRAPHIC SCALE

40 0 20 40

(IN FEET)
1"=40' (22x34), 1"=80' (11x17)

LEGEND:

- = EXISTING SEWER MAIN TO BE LINED WITH CIPP
- = EXISTING SEWER MAIN
- = EXISTING SEWER LATERAL
- = PROPERTY LINE
- = EXISTING MANHOLE
- = FLOW DIRECTION

PIPE TABLE			
GIS REFERENCE #	LENGTH	SIZE	MATERIAL
SS-GM-40-21	380 LF	8"	CONC
SS-GM-40-22	78 LF	8"	CONC
SS-GM-40-23	236 LF	8"	CONC
SS-GM-40-24	110 LF	8"	CONC
SS-GM-40-27	256 LF	8"	CONC
SS-GM-40-28	425 LF	8"	CONC
SS-GM-40-28.1	74 LF	8"	CONC
SS-GM-40-29	408 LF	8"	CONC

CONSTRUCTION NOTES:

1. VERIFY LOCATION AND NUMBER OF ALL SEWER SERVICES.
2. THE LOCATION OF EXISTING SEWER MANHOLES, SEWER MAINS, AND SEWER SERVICES ARE APPROXIMATE.
3. WHERE WORK IS TO BE PERFORMED OUTSIDE OF PUBLIC RIGHTS-OF-WAY, THE CONTRACTOR SHALL ADHERE TO THE LIMITATIONS OF CITY EASEMENTS

KEY NOTES:

1. INSTALL SERVICE CONNECTION SEAL.
2. REINSTATE LATERAL
3. ABANDON LATERAL. DO NOT REINSTATE. CONFIRM ALL ABANDONED LATERALS WITH CITY BEFORE CCTV INSPECTIONS.
4. CONSTRUCT TEMPORARY ACCESS TO SEWER. CONTRACTOR TO SIZE AND POSITION PIT TO ALLOW CIPP LINING. INSTALL CLEANOUT AND RESTORE ROADWAY PER DETAILS ON SHT 8.

NO.	REVISION	BY	DATE

CITY OF MERCER ISLAND PUBLIC WORKS

STAHELI TRENCHLESS CONSULTANTS

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JAKE A. ANDRESEN STATE OF WASHINGTON 201082445 REGISTERED PROFESSIONAL ENGINEER
Date: 2022.10.07

CAD TECH:	J. NORMAN	SCALE: H:	1"=40'
CAD REVIEW:	E. VAVRA	V:	N/A
DESIGNER:	J. ANDRESEN		
DESIGN REVIEW:	K. STAHELI	DATE:	10/07/22
CITY PROJECT#	22-33		

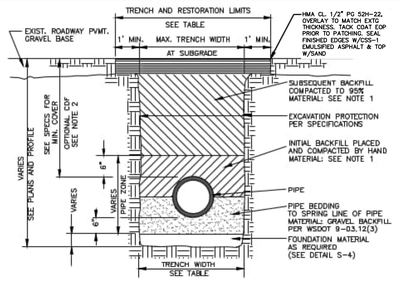
SEC.	TWN	RNG
17/18	T24N	R5E

BASIN 40
CIPP SEWER LINING PROJECT - PHASE 1

SEWER PLAN (3)

7

P:\Projects\2101B\Civil 3D\2021\2101B PLOT CP1.dwg 7 SEWER PLAN (3), 10/7/2022 9:35:06 AM, PDF-XChange Standard (Landscape).pc3



NOTES

1. ALL TRENCH BACKFILL IN PUBLIC RIGHT-OF-WAY OR ROADWAY AREAS SHALL BE CRUSHED SURFACING PER WSDOT 9-09.9(3) OR BANK RUN GRAVEL PER WSDOT 9-03.19, COMPACTED IN 6" LIFTS.
2. CDF FOR BACKFILL MAY BE REQUIRED BY CITY ENGINEER WHEN PROPER COMPACTION AROUND EXISTING UTILITIES MAY NOT BE POSSIBLE. CDF SHALL BE PER WSDOT 2-09.3(1)E.
3. SEE S-4 FOR PIPE BEDDING DETAILS.

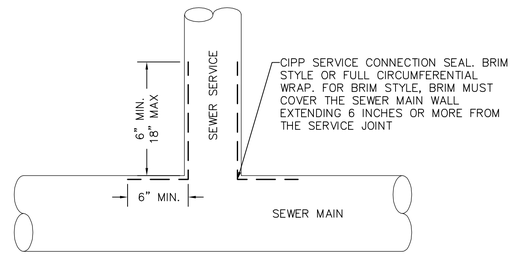
TRENCH WIDTH

PIPE SIZE	PIPE ZONE MAX. TRENCH WIDTH	MAX. TRENCH WIDTH AT SUBGRADE	MAX. RESTORATION WIDTH AT SURFACE
SIDE SEWER	2'-0"	2'-0"	6'-0"
4" OR 6"	2'-2"	3'-0"	8'-0"
8"	2'-4"	4'-0"	8'-0"
10"	2'-6"	4'-0"	8'-0"
12"	2'-8"	4'-6"	8'-6"

CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER
SEWER
TRENCH DETAIL

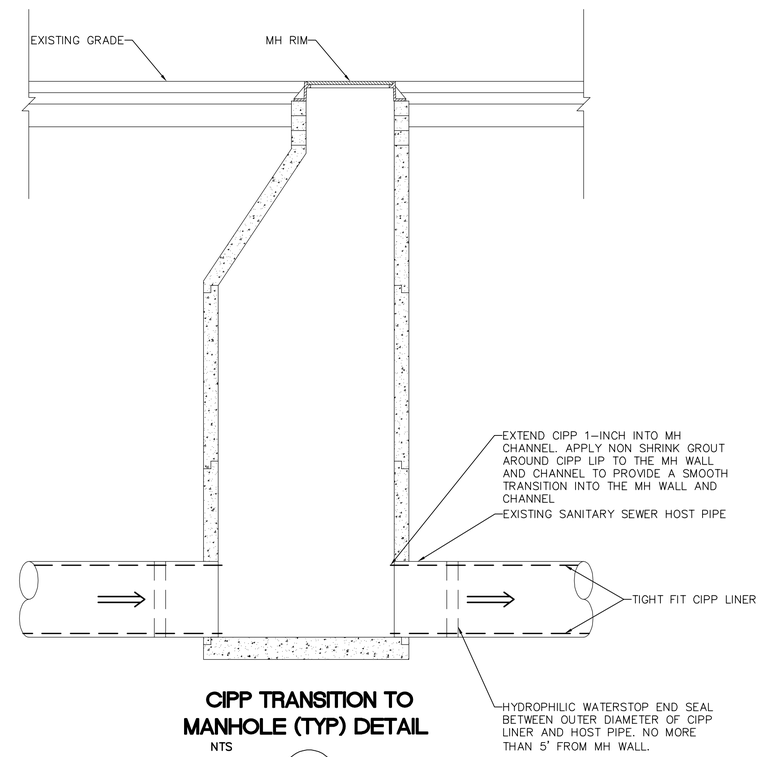
REV DATE						APPROVED
				6-5-2009	NO SCALE	S-3

1



SERVICE CONNECTION SEAL (TYP) DETAIL
NTS

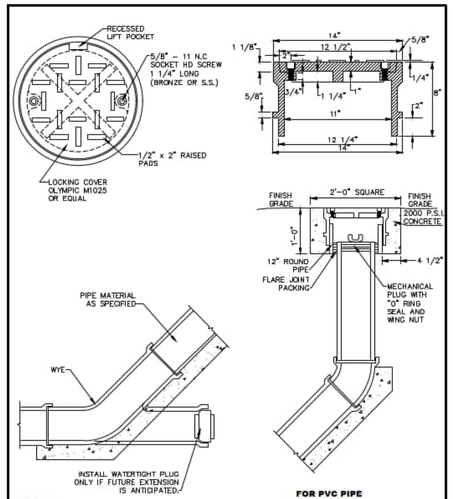
2



CIPP TRANSITION TO MANHOLE (TYP) DETAIL
NTS

5

NOTE:
S-XX REFERS TO CITY OF MERCER ISLAND STANDARD SEWER DETAILS.

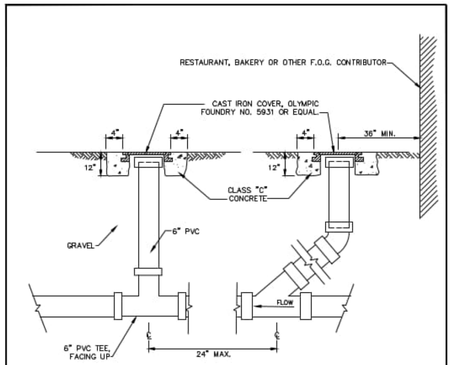


NOTES
1. SEE S-27 FOR INSTALLATION DETAILS.

CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER
CLEAN OUT DETAIL

REV DATE						APPROVED
				6-5-2009	NO SCALE	S-19

3



NOTES
1. INSTALL SAMPLING TEE ON EXISTING OR NEW SIDE SEWER.

CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER
SAMPLING TEE

REV DATE						APPROVED
				6-5-2009	NO SCALE	S-27

4

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STAHELI TRENCHLESS CONSULTANTS

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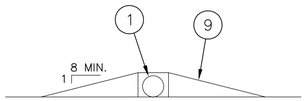
DESIGNER:	J. ANDRESEN		
DESIGN REVIEW:	K. STAHELI	DATE:	10/07/22
CITY PROJECT#	22-33		

SEC.	TWN	RNG
17/18	T24N	R5E

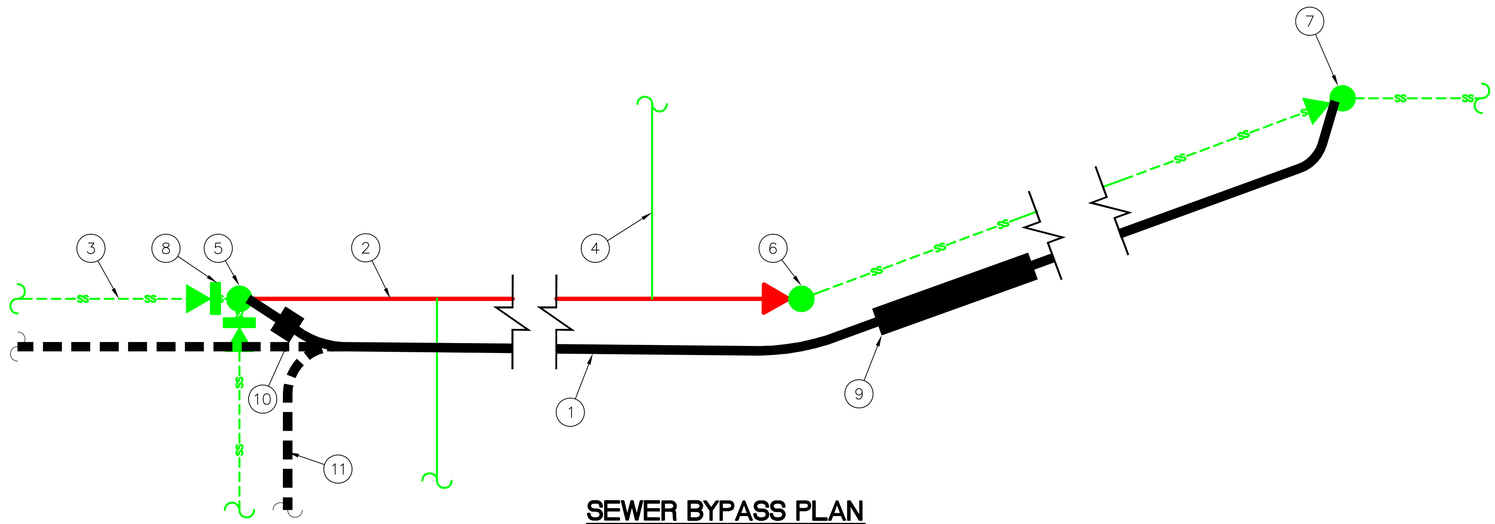
BASIN 40
CIPP SEWER LINING PROJECT - PHASE 1

SEWER DETAILS

P:\Projects\2101\ECivil 3D\2021\2018 PLOT CP1.dwg, 8 SEWER DETAILS, 10/7/2022 9:32:21 AM, PDF-XChange Standard(Landscape).pc3



TYPICAL HOSE RAMP DETAIL
NTS



SEWER BYPASS PLAN
NTS

SEWER BYPASS GENERAL NOTES:

1. DETAIL SHOWN IS GENERIC AND REPRESENTATIVE OF TYPICAL BYPASS PUMPING SCENARIOS. CONTRACTOR IS RESPONSIBLE FOR ADAPTING DETAIL TO PROJECT-SPECIFIC BYPASS PUMPING SCENARIOS. DETAIL IS NOT TO SCALE.
2. CIPP EQUIPMENT AND TRAFFIC CONTROL NOT SHOWN FOR CLARITY.
3. SEE SHEETS 10 TO 12 FOR RELATED TRAFFIC CONTROL DETAILS AND REQUIREMENTS.
4. BYPASS PUMPS SHALL BE CAPABLE OF PUMPING 15 GPM TO 100 GPM AND PASSING SOLIDS AND OTHER MATERIALS TYPICALLY FOUND IN WASTEWATER FLOWS.
5. THE REQUIRED DISTANCE OF PUMPING AND ELEVATION HEAD IS THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE SUFFICIENT TO ALLOW THE WORK TO BE COMPLETED FOR EACH SEWER MAIN TO BE LINED.
6. BYPASS PUMPING HOSE SHALL BE LOCATED IN SUCH A MANNER THAT IT CAUSES THE LEAST DISRUPTION TO TRAFFIC AND DRIVEWAY ACCESS.
7. ALL HOSES CROSSING THE ROADWAY, DRIVEWAYS, OR OTHERWISE CONFLICTING WITH TRAFFIC SHALL BE PROTECTED WITH APPROVED HEAVY-DUTY HOSE RAMPS OR ROAD RAMPS. HOSE AND ROAD RAMPS SHALL BE SIGNED ACCORDINGLY WITH REDUCED SPEED LIMIT WARNINGS AND BUMP SIGNS.

(1) = SEWER BYPASS PUMPING HOSE
(2) = EXISTING SEWER MAIN TO BE LINED WITH CIPP
(3) = EXISTING SEWER MAIN, TYP.
(4) = EXISTING SEWER LATERAL, TYP.
(5) = FIRST UPSTREAM MANHOLE OF SEWER MAIN TO BE LINED
(6) = FIRST DOWNSTREAM MANHOLE OF SEWER MAIN TO BE LINED
(7) = SECOND DOWNSTREAM MANHOLE OF SEWER MAIN TO BE LINED
(8) = UPSTREAM SEWER W/FLOW-THROUGH PLUG, TYP.
(9) = HOSE OR ROAD RAMP AT CROSSING ROADWAY OR DRIVEWAY
(10) = SEWER BYPASS PUMP (CRITICALLY SILENCED)
(11) = ALTERNATE HOSE ARRANGEMENT WHEN MULTIPLE UPSTREAM PIPES NEED TO BE BYPASSED

NO.	REVISION	BY	DATE

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DESIGN REVIEW:	K. STAHELI	DATE:	10/07/22
CITY PROJECT#	22-33		

SEC.	TWN	RNG
17/18	T24N	R5E

BASIN 40
CIPP SEWER LINING PROJECT - PHASE 1

SEWER BYPASS PLAN

P:\Projects\2018\Civil 3D 2021\21018 PLOT CP1.dwg, 9 SEWER BYPASS PLAN, 10/7/2022 9:20:45 AM, PDF-XChange Standard (Landscape).pc3

TRAFFIC CONTROL GENERAL NOTES:

1. TRAFFIC CONTROL PLAN DETAILS PROVIDED DO NOT EXPLICITLY ACCOUNT FOR ALL SCENARIOS EXPECTED TO BE ENCOUNTERED. CONTRACTOR IS RESPONSIBLE FOR ADAPTING PROVIDED DETAILS TO SPECIFIC SITUATIONS AS NECESSARY, INCLUDING IMPLEMENTING MULTIPLE DETAILS CONCURRENTLY.
2. PROVIDED TRAFFIC CONTROL DETAILS DO NOT REPRESENT ALL STAGES OF WORK RELATIVE TO LANE, SHOULDER, INTERSECTION, OR DRIVEWAY CONFIGURATIONS. CONTRACTOR IS RESPONSIBLE FOR ADAPTING PROVIDED DETAILS TO WORK FLOW AND WORK AREAS AS NECESSARY.
3. PROVIDE SPOTTER(S) FOR ALL TRAFFIC CONTROL SCENARIOS WHERE DRIVEWAYS OR OTHER NON-STREET ACCESS POINTS ENTER OR EXIT TO/FROM A SINGLE-LANE CLOSURE.
4. ALL SIGNS SHALL BE WSDOT CLASS B BLACK ON ORANGE UNLESS NOTED OTHERWISE.
5. CONTRACTOR SHALL PROVIDE AN APPROVED, TRAFFIC RATED HOSE RAMP AT ALL LOCATIONS WHERE SEWER BYPASS PUMPING HOSE CROSSES A LANE, SHOULDER, INTERSECTION, OR DRIVEWAY SUBJECT TO VEHICULAR, BICYCLE, OR PEDESTRIAN TRAFFIC. ORIENT RAMPS PERPENDICULAR TO TRAFFIC.
6. SEE SHEET 9 FOR SEWER BYPASS PLAN DETAILS NOT SHOWN.
7. NO WORK, EQUIPMENT STAGING, OR TRAFFIC CONTROL WITHIN TWO BLOCKS OF A SCHOOL SHALL OCCUR BETWEEN THE HOURS OF 7AM – 9AM OR 2PM – 3PM WHEN SCHOOL IS IN SESSION UNLESS DIRECTED OTHERWISE.
8. SEE SHEET 12 FOR SIGN SEQUENCES A.

LEGEND

- = ROAD ℄
- = EDGE OF PAVEMENT
- = SANITARY SEWER
- = SANITARY SEWER BYPASS, SEE SHEET 9 FOR DETAILS
- = HOSE RAMP, SEE SHEET 9 FOR DETAILS
- = WORK AREA
- = SEWER MANHOLE
- = TEMPORARY SIGN LOCATION
- = CHANNELIZING DEVICE
- = PROTECTIVE VEHICLE
- = FLAGGER
- = SPOTTER

MINIMUM LANE TAPER LENGTH = L (feet)										
LANE WIDTH (feet)	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
10	105	150	205	270	450	500	550	–	–	–
11	115	165	225	295	495	550	605	660	–	–
12	125	180	245	320	540	600	660	720	–	–

SIGN SPACING = X (1)		
RURAL ROADS & URBAN ARTERIALS	35 / 40 MPH	350' ±
RURAL ROADS, URBAN ARTERIALS, RESIDENTIAL & BUSINESS DISTRICTS	25 / 30 MPH	200' ±(2)
URBAN STREETS	25 MPH OR LESS	100' ±(2)

(1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERSECTIONS AND DRIVEWAYS.
(2) THIS SPACING MAY BE REDUCED IN URBAN AREAS TO FIT ROADWAY CONDITIONS.

MINIMUM SHOULDER TAPER LENGTH = L/3 (feet)										
SHOULDER WIDTH (feet)	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
8'	40	40	60	90	–	–	–	–	–	–
10'	40	60	90	90	–	–	–	–	–	–
USE A 3 DEVICES TAPER FOR SHOULDERS LESS THEN 8'										

CHANNELIZATION DEVICE SPACING (feet)		
MPH	TAPER	TANGENT
35/40	30	60
25/30	20	40

BUFFER DATA										
LONGITUDINAL BUFFER SPACE = B										
SPEED (MPH)	25	30	35	40	45	50	55	60	65	70
LENGTH (feet)	155	200	250	305	360	425	495	570	645	730
TRANSPORTABLE ATTENUATOR ROLL AHEAD DISTANCE = R										
HOST VEHICLE WEIGHT 9,900 TO 22,000 lbs.					HOST VEHICLE WEIGHT > 22,000 lbs.					
< 45 MPH	45–55 MPH		> 55 MPH		< 45 MPH		45–55 MPH		> 55 MPH	
100'	123'		172'		74'		100'		150'	
PROTECTIVE VEHICLE (WORK VEHICLE) = R										
NO SPECIFIED DISTANCE REQUIRED										

SINGLE LANE CLOSURE NOTES:

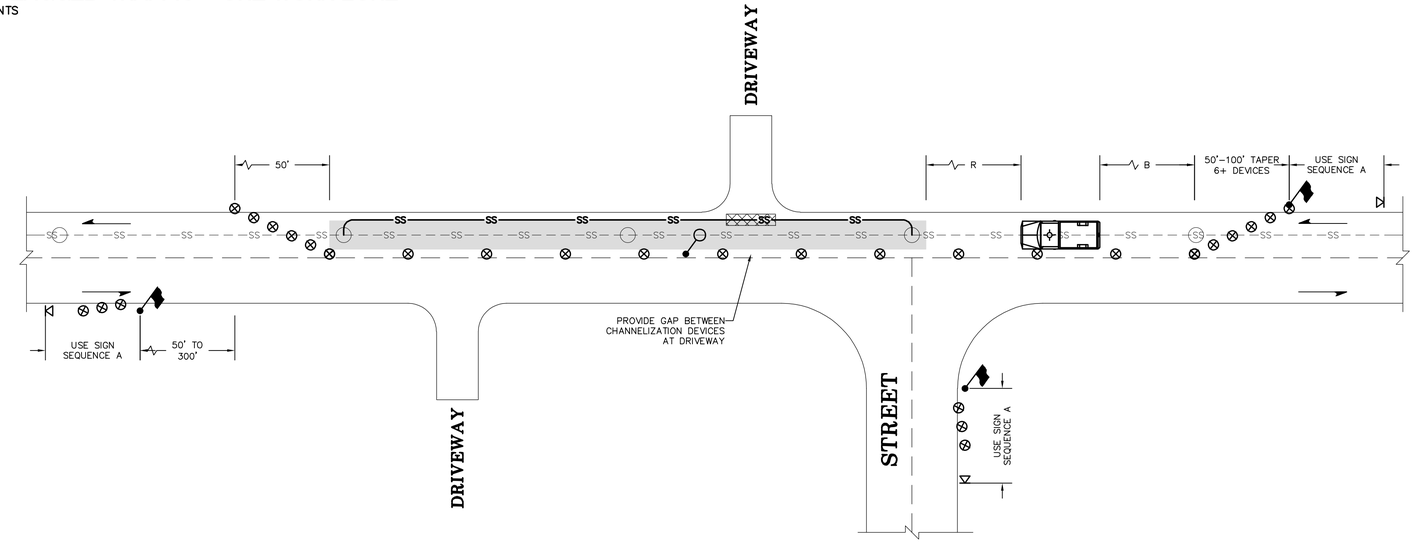
1. RECOMMEND EXTENDING DEVICE TAPER (L/3) ACROSS SHOULDER.
2. IF A SIGNAL IS PRESENT, IT SHALL BE SET TO "RED FLASH MODE" OR TURNED OFF DURING FLAGGING OPERATIONS.
3. FOR SPEED LIMIT OF 30 MPH OR LESS USE SIGN W1-3 IN LIEU OF SIGN W1-4.
4. MAINTAIN A MINIMUM OF ONE ACCESS POINT FOR EACH BUSINESS WITHIN WORK AREA LIMITS.

SHOULDER CLOSURE NOTES:

1. DEVICE SPACING FOR THE DOWNSTREAM TAPER SHALL BE 20' (FT).

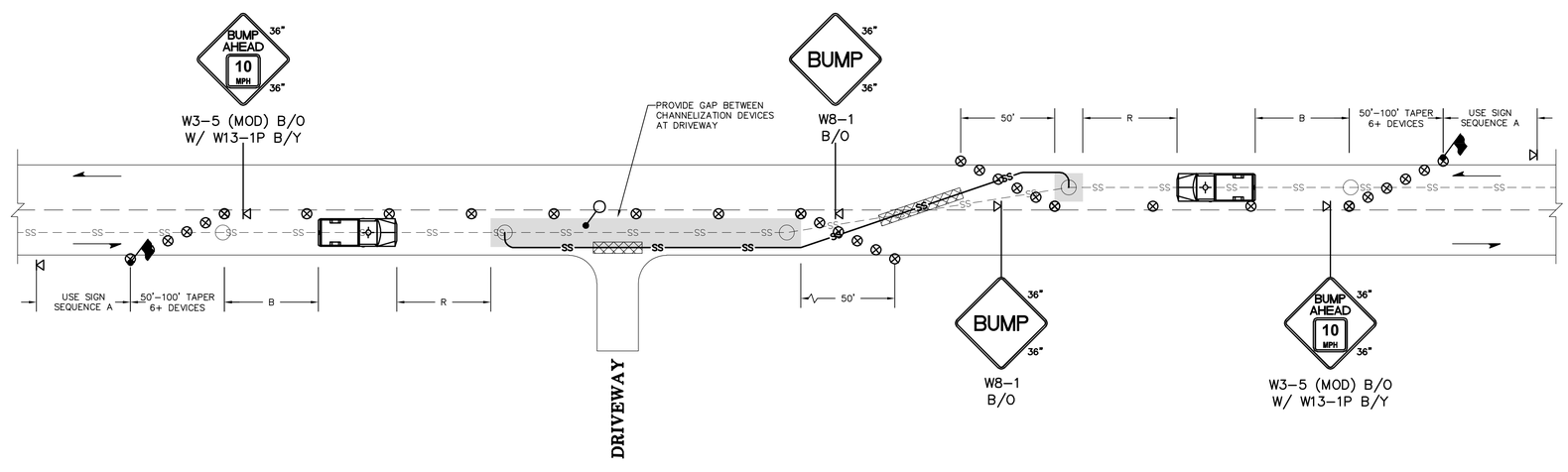
SINGLE LANE CLOSURE
FLAGGED TRAFFIC - ONE WORK ZONE

NTS



SINGLE LANE CLOSURE
FLAGGED TRAFFIC - TWO WORK ZONES

NTS



NO.	REVISION	BY	DATE

CITY OF MERCER ISLAND PUBLIC WORKS

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CAD REVIEW:	E. VAVRA	V:	N/A
DESIGNER:	J. ANDRESEN		
DESIGN REVIEW:	K. STAHELI	DATE:	10/07/22
CITY PROJECT#	22-33		

SEC.	TWN	RNG
17/18	T24N	R5E

BASIN 40
CIPP SEWER LINING PROJECT - PHASE 1

TRAFFIC CONTROL PLAN (1)

10

P:\Projects\21018\Civil 3D 2021\21018 PLOT CPT.dwg, 10 TRAFFIC CONTROL PLAN (1), 10/7/2022 9:20:49 AM, PDF-XChange Standard (Landscape).pc3

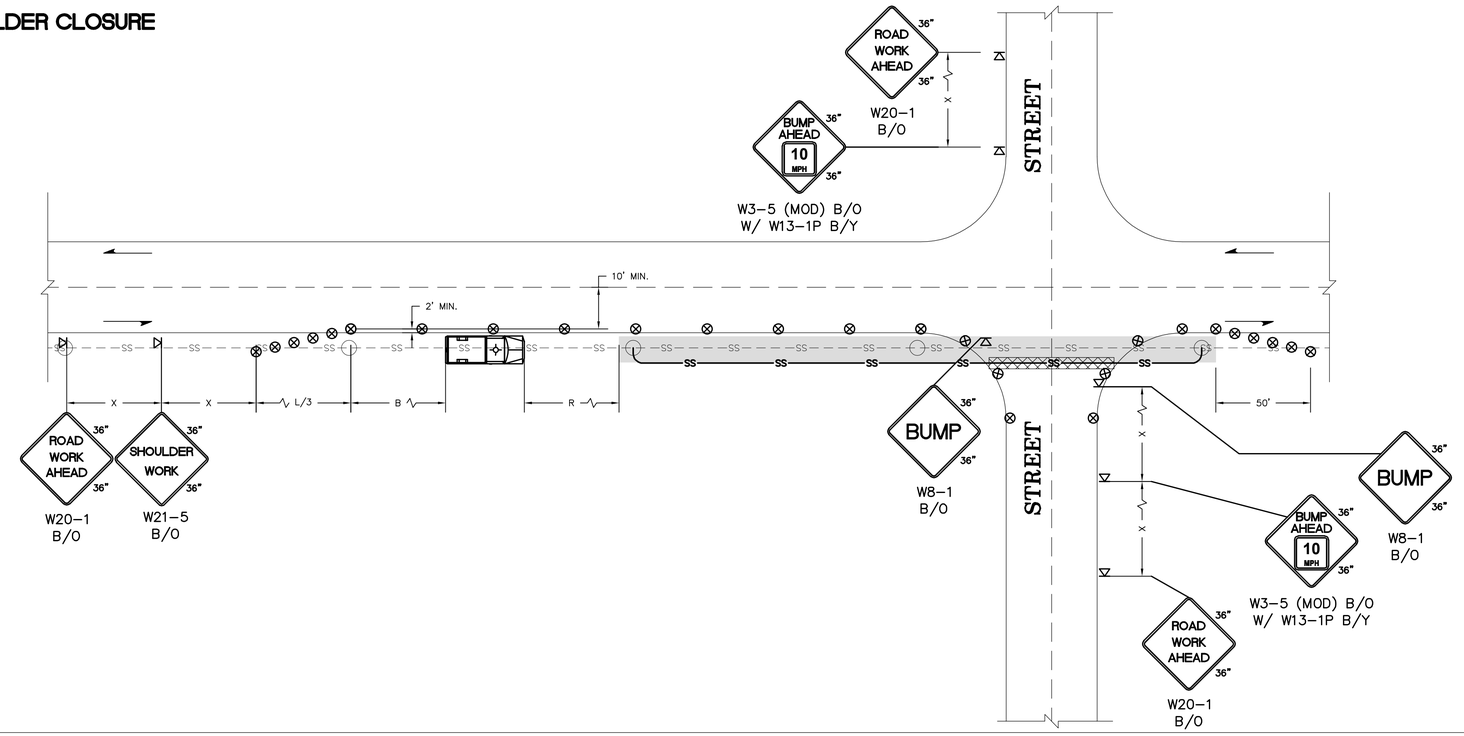
LEGEND

- = ROAD ℄
- = EDGE OF PAVEMENT
- = SANITARY SEWER
- = SANITARY SEWER BYPASS, SEE SHEET 9 FOR DETAILS
- = HOSE RAMP, SEE SHEET 9 FOR DETAILS
- = WORK AREA
- = SEWER MANHOLE
- = TEMPORARY SIGN LOCATION
- = CHANNELIZING DEVICE
- = PROTECTIVE VEHICLE
- = FLAGGER
- = SPOTTER

NOTE: SEE SHEET 10 FOR TRAFFIC CONTROL GENERAL NOTES.

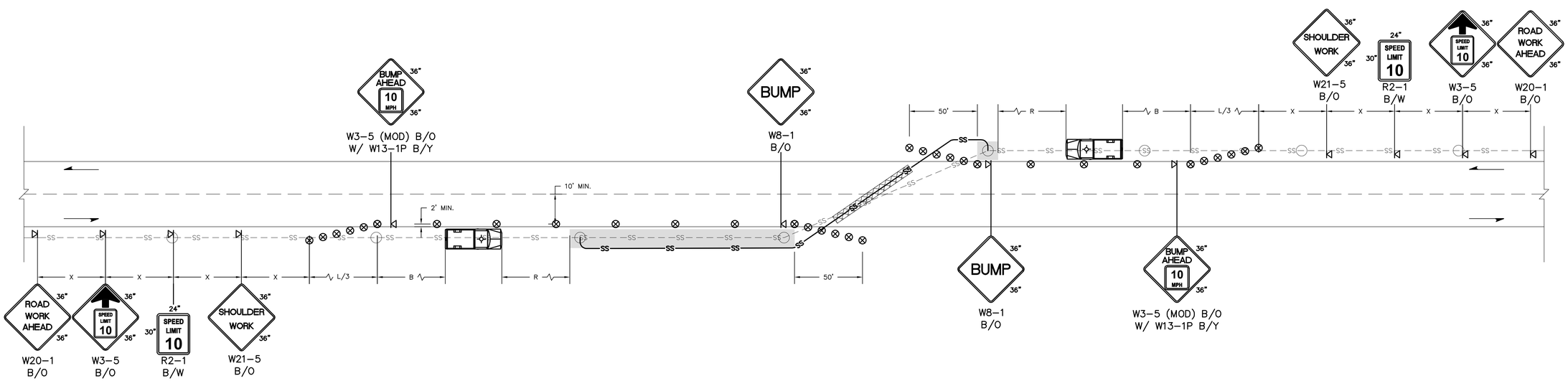
SINGLE SHOULDER CLOSURE

NTS



DOUBLE SHOULDER CLOSURE

NTS



NO.	REVISION	BY	DATE

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DESIGN REVIEW:	K. STAHELI	DATE:	10/07/22
CITY PROJECT#	22-33		

SEC.	TWN	RNG
17/18	T24N	R5E

BASIN 40
CIPP SEWER LINING PROJECT - PHASE 1

TRAFFIC CONTROL PLAN (2)

P:\Projects\21016\Civil 3D 2021\21016 PLOT CP1.dwg, 11 TRAFFIC CONTROL PLAN (2), 10/7/2022 9:20:52 AM, PDF-XChange Standard (Landscape).pc3

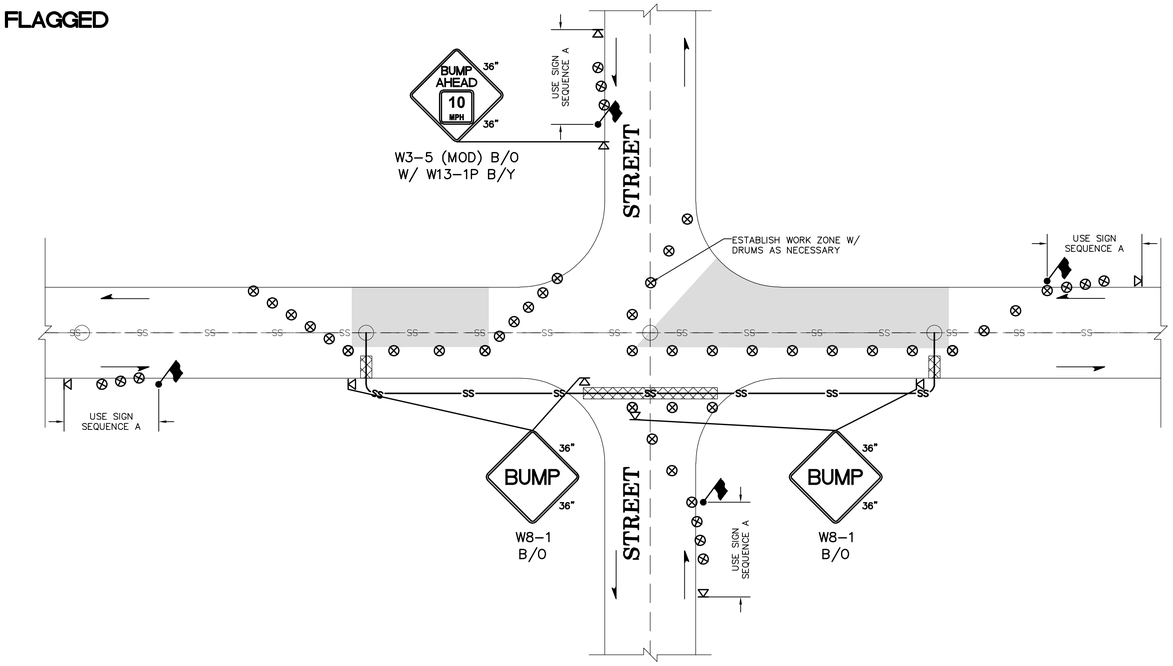
LEGEND

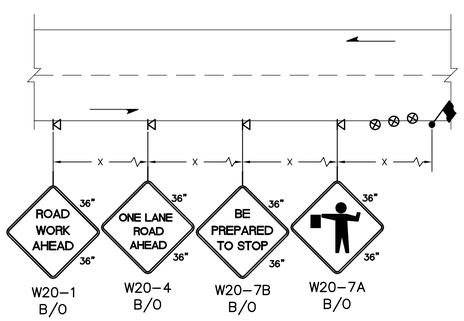
- = ROAD ℄
- = EDGE OF PAVEMENT
- = SANITARY SEWER
- = SANITARY SEWER BYPASS, SEE SHEET 9 FOR DETAILS
- = HOSE RAMP, SEE SHEET 9 FOR DETAILS
- = WORK AREA
- = SEWER MANHOLE
- = TEMPORARY SIGN LOCATION
- = CHANNELIZING DEVICE
- = PROTECTIVE VEHICLE
- = FLAGGER
- = SPOTTER

NOTE: SEE SHEET 10 FOR TRAFFIC CONTROL GENERAL NOTES.

INTERSECTION - FLAGGED

NTS



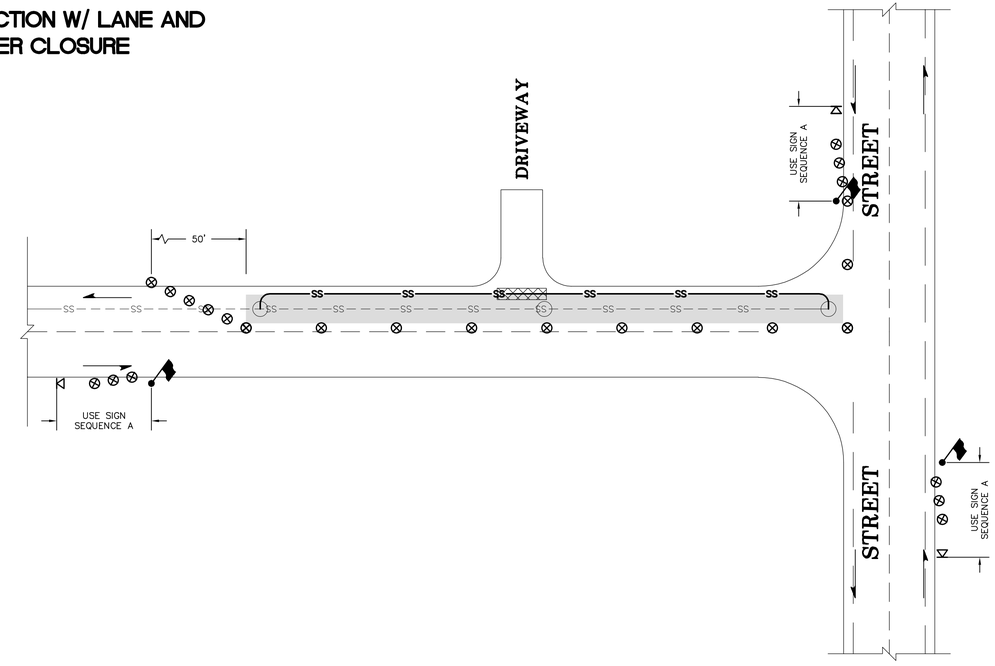


SIGN SEQUENCE A

NTS

INTERSECTION W/ LANE AND SHOULDER CLOSURE

NTS



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CITY OF MERCER ISLAND PUBLIC WORKS

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DESIGNER:	J. ANDRESEN			
DESIGN REVIEW:	K. STAHELI	DATE:	10/07/22	
CITY PROJECT#	22-33			
		SEC.	TWN	RNG
		17/18	T24N	R5E

BASIN 40
CIPP SEWER LINING PROJECT - PHASE 1

TRAFFIC CONTROL PLAN (3)

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