

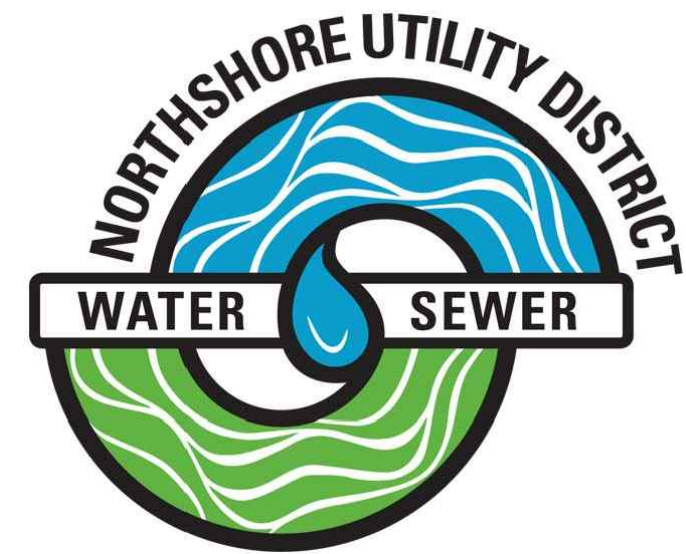
NORTHSHORE UTILITY DISTRICT

King County, Washington

CONTRACT 2022-02
SEWER REPAIR PROJECT

NOVEMBER 2022

BID SET

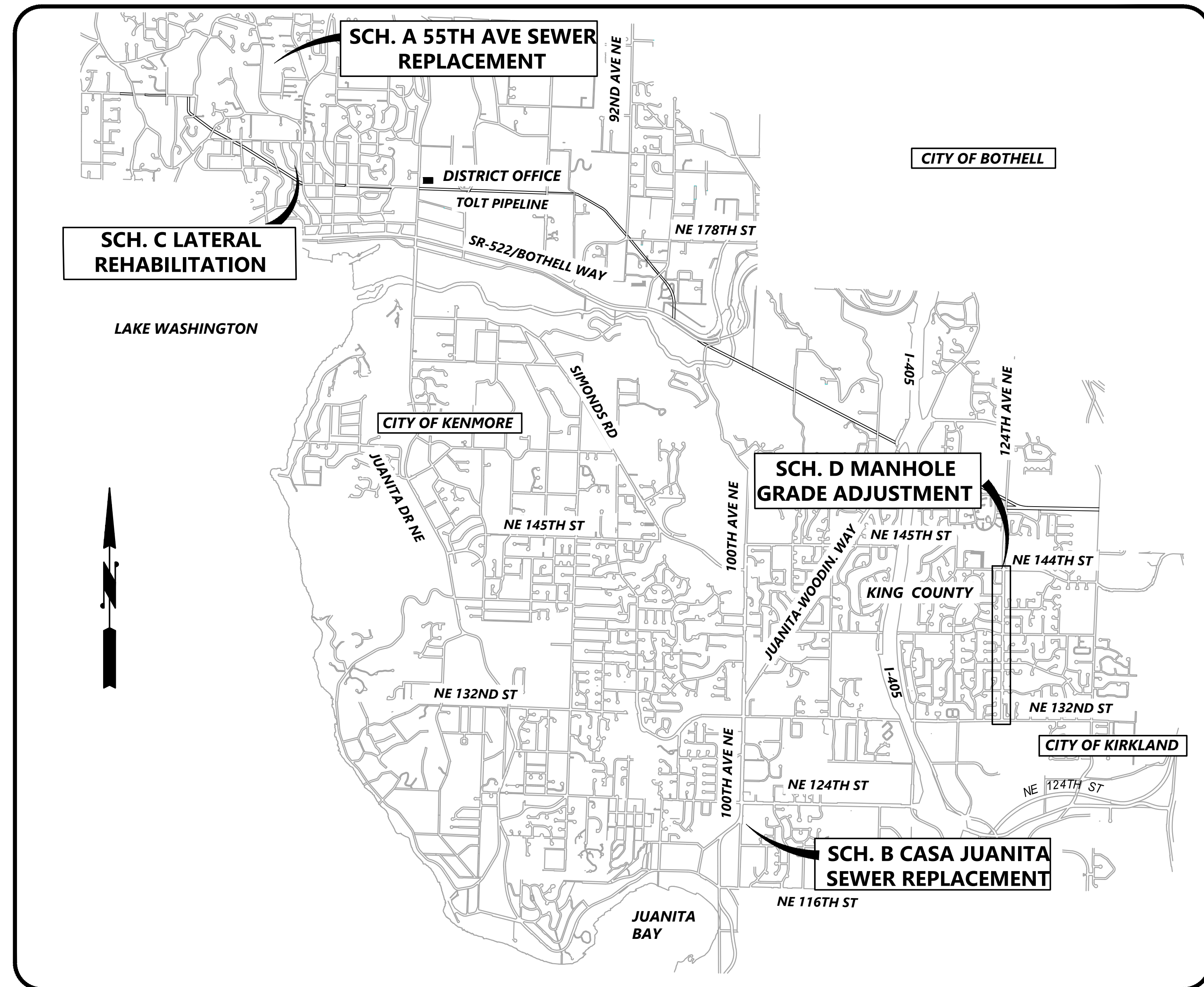


G&O #21572

D. BRUCE GARDINER President of the Board
SUZANNE GREATHOUSE Secretary of the Board
MATT BREYSSE Commissioner
THOMAS D. MORTIMER Commissioner
TRUDY C. ROLLA Commissioner
ALAN G. NELSON General Manager

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VICINITY MAP
NOT TO SCALE

C2102

SHEET
1 OF 31

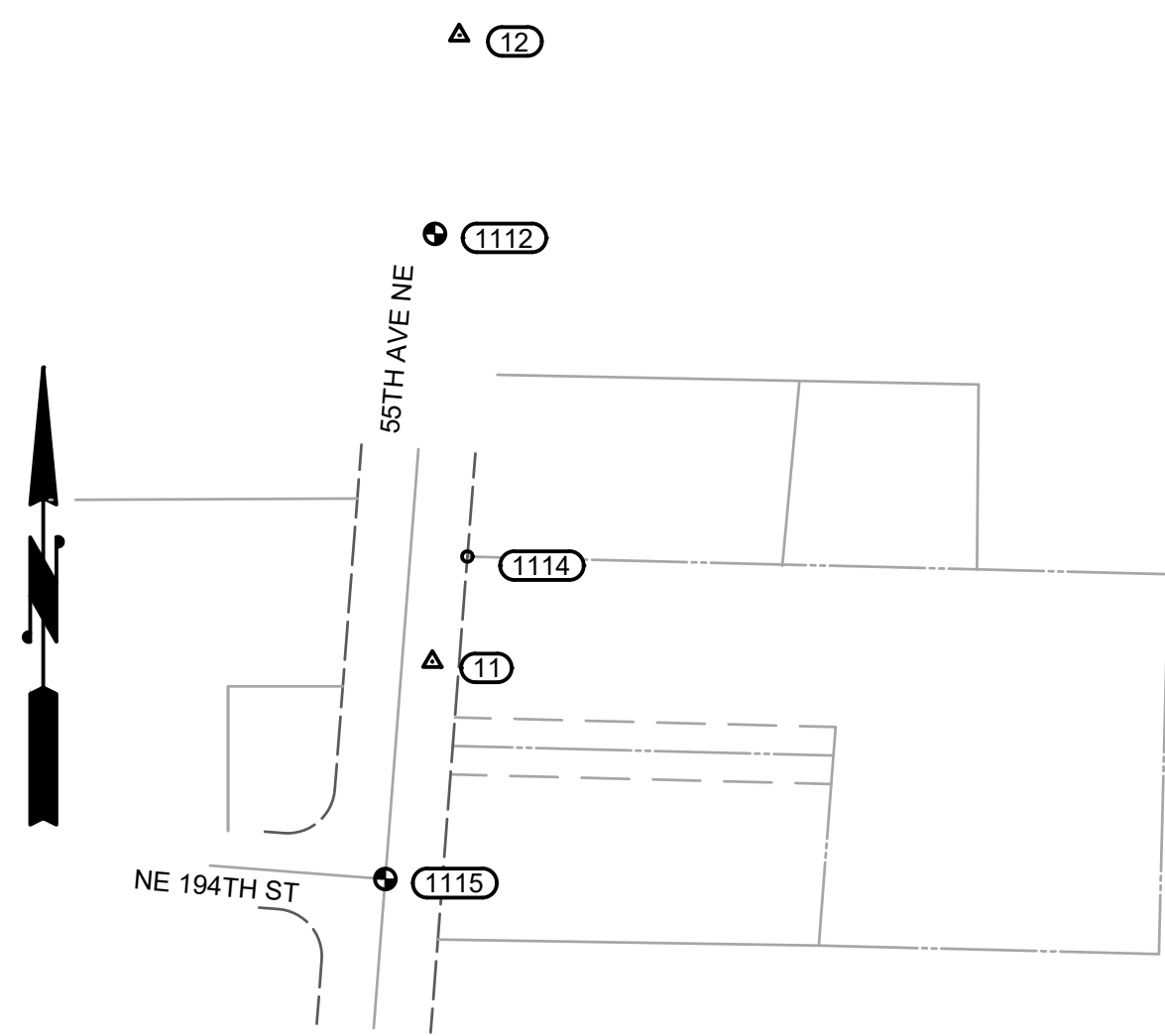
SITE ADDRESS

PROJECT LOCATIONS	
SCHEDULE	ADDRESS
A	19814 55TH AVE NE, KENMORE, WA 98028
B	9821 NE 122ND ST, KIRKLAND, WA 98034
C	18725 60TH AVE NE, KENMORE, WA 98028
D	14330 143RD AVE NE, KIRKLAND, WA 98034

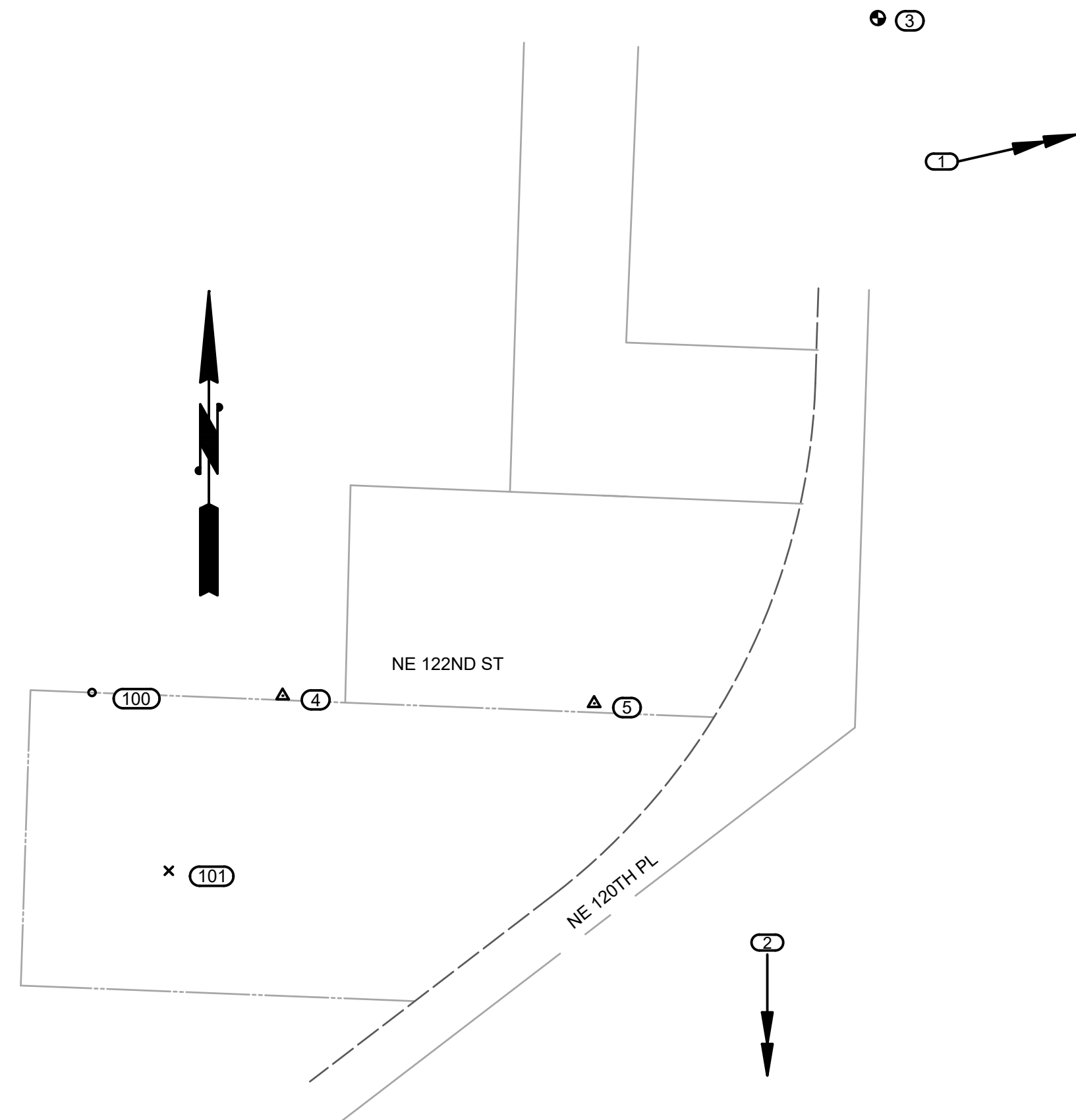
CONTROL COORDINATES TABLE				
NORTHSHORE UTILITY DISTRICT - SIDE SEWER REPAIRS (SCHEDULES A & C)				
JOB NUMBER - 21572				
HORIZONTAL DATUM:		NAD83/2011		
WA. PLANE COORDINATE SYSTEM, NORTH ZONE, GRID NORTH				
MODIFIED GROUND COORDINATES, SCALED TO GROUND USING AVG. CGF OF 0.99995393861 AT BASE POINT G&O #13				
VERTICAL DATUM:		NAVD88		
HOLDING WSDOT PUBLISHED ELEVATION FOR WSDOT "GP17405-329" (G&O #13)				
POINT	NORTHING	EASTING	ELEV.	DESCRIPTION
6	281894.63	1288346.98	144.90	SFMC=FOUND MONUMENT IN CASE. 1" BRASS DISC W/ PUNCH IN CONC. DOWN 1.0' IN CASE. SEL'Y OF TWO MONUMENTS AT INTX 58TH AVE NE & 60TH AVE NE.
7	282239.63	1288356.44	147.68	SFMC, 1" BRASS DISC W/ PUNCH SET IN CONC. DOWN 1.0' IN CASE. AT CENTERLINE 60TH AVE NE AT PC/P.T. AT HOUSE 18716 60TH AVE NE.
8	282499.42	1288242.17	163.13	SFMC, 1" BRASS DISC W/ PUNCH SET IN CONC. DOWN 1.0' IN CASE. CENTERLINE 60TH AVE NE AT PC/P.T. AT HOUSE 18740 60TH AVE NE.
9	282169.63	1288031.46	178.61	SFMC, NAIL IN CONC. DOWN 1.2' IN CASE. CENTERLINE 58TH AVE NE AT PC/P.T. BETWEEN HOUSES 18704 & 18709 58TH AVE NE.
10	282337.39	1287992.47	169.23	SSNT=SET NAIL W/ "G&O CONTROL" TAG. 0.5' W OF E EDGE ASPHALT 58TH AVE NE. 15' ESE OF SEWER MANHOLE. 21' N OF CENTERLINE DRIVEWAYS #18724 & #18719.
11	285254.04	1287308.69	292.21	SSNT, 0.5' W OF E EDGE ASPHALT 55TH AVE NE. 15' N OF NW CORNER S DRIVEWAY TO #19814 (HOPE CHRISTIAN ASSEMBLY CHURCH). 21' S OF SW CORNER N DRIVEWAY TO #19814.
12	285583.14	1287322.74	293.16	SSNT, 0.5' W OF E EDGE ASPHALT 55TH AVE NE. E OF CENTERLINE OF GARAGE DOOR TO #19843 55TH AVE NE. 6' N OF EXTENDED CENTERLINE DRIVEWAY TO #19843. 34' N OF CENTERLINE DRIVEWAY TO #19843.
13	279820.06	1288997.66	59.72	SFM=SURFACE MONUMENT. 1" ALUMINUM CAP W/ PUNCH. "WSDOT CAT3" MON ID: 9021.
102	281959.83	1288118.57	170.09	SSNT, 1.4' E OF W EDGE ASPHALT 58TH AVE NE. 5.1' N OF N FACE MAILBOX POST FOR #18555. 12' N OF CENTERLINE GATE TO ELEVATED WALKWAY TO BOTTOM OF #18555.
103	282432.75	1288313.30	154.68	SSNT, 2.3' W OF E EDGE ASPHALT 60TH AVE NE IN CURVE. 9.6' W OF CENTER OF HYDRANT. 45' S OF CENTERLINE DRIVEWAY TO HOUSE #18725.
104	282285.47	1287882.82	167.43	SSN=SET NAIL. 60D NAIL IN GRASS/LAWN. W SIDE HOUSE 18719. DOWN 0.1'. 10' S69W OF NW EDGE OF CONC WALKWAY ON N SIDE HOUSE #18719. 60D IS AT N FACE CONC WALK EXTENDED (16').
105	282302.68	1287835.24	163.10	SSN, 60D NAIL IN DIRT, DOWN 0.1' BELOW LANDSCAPE FABRIC. 3' W OF FENCE LINE AROUND BACKYARD OF HOUSE. 5.6' S67W OF SW FACE OF 40" FIR TREE.
1112	285478.72	1287310.05	292.62	SFMC, 1" BRASS DISC W/ PUNCH DOWN 1.0' IN CASE. PC MON AT CENTERLINE 55TH AVE NE.
1114	285309.21	1287327.02	291.64	SFRC, 1/2" REBAR W/ YPC "MGA 31545."
1115	285139.83	1287283.92	292.06	SFMC, 1 5/8" BRASS DISC W/ PUNCH SET IN CONC POST, DOWN 0.6' IN CASE. CENTERLINE INTX 55TH AVE NE & NE 198TH PL.
1251	281906.43	1288339.08	147.17	SFMC, SHOT CENTER OF LID. CASE IS EMPTY.
1493	282297.37	1287996.60	168.96	SFMC, 1" BRASS DISC W/ PUNCH. DOWN 1.35' IN CASE. CENTERLINE 58TH AVE NE AT PRC AT HOUSE #18719.

RIGHT-OF-WAY DISCLAIMER
 The right-of-way and/or property lines shown hereon are based on available information, not on a surveyed location and are only approximate.

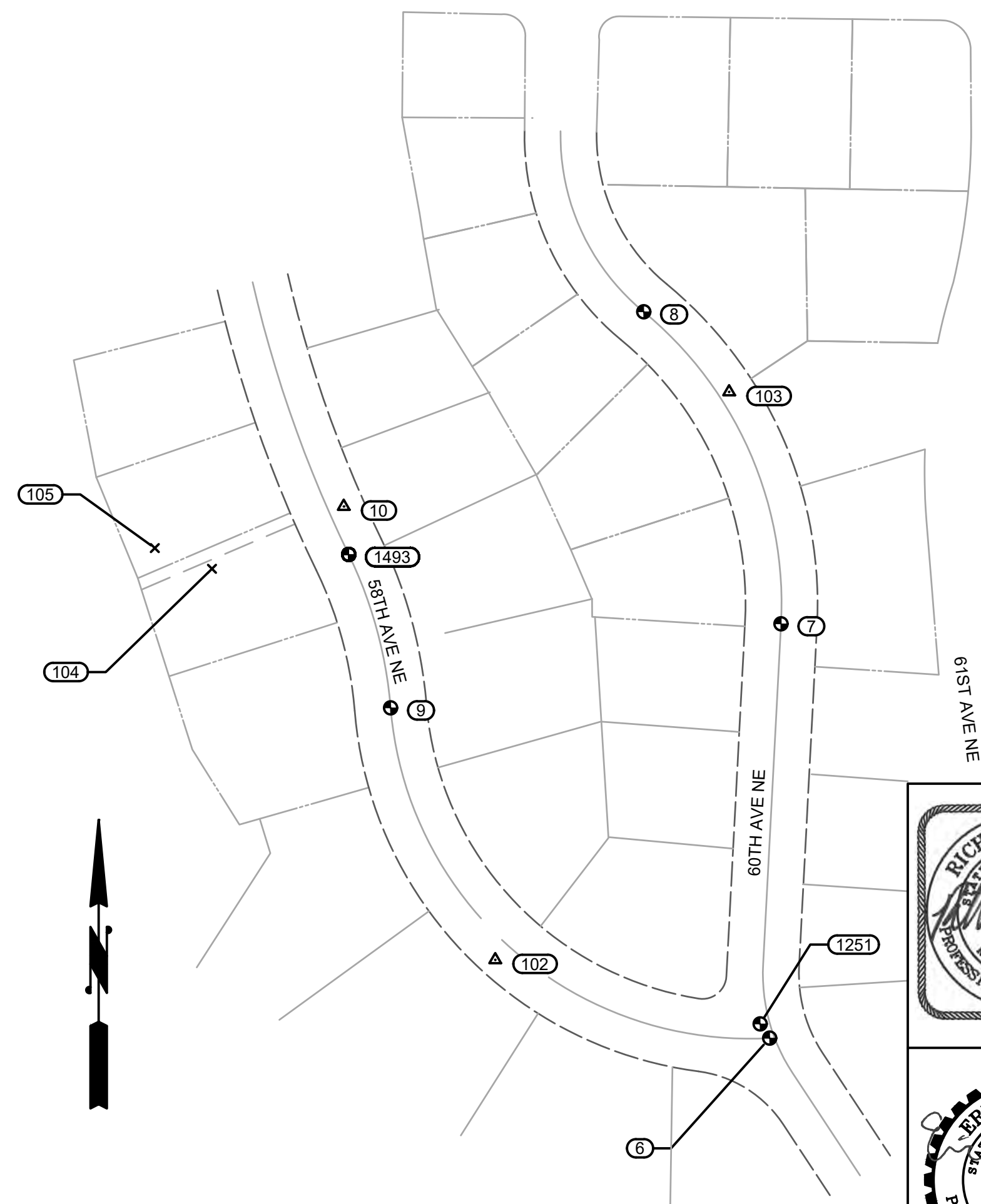
CONTROL COORDINATES TABLE				
NORTHSHORE UTILITY DISTRICT - SIDE SEWER REPAIRS (SCHEDULE B)				
JOB NUMBER - 21572				
HORIZONTAL DATUM:		NAD83/2011		
WA. PLANE COORDINATE SYSTEM, NORTH ZONE, GRID NORTH				
MODIFIED GROUND COORDINATES, SCALED TO GROUND USING AVG. CGF OF 0.99996811389 AT BASE POINT G&O #4				
VERTICAL DATUM:		NAVD88		
HOLDING WSDOT PUBLISHED ELEVATION FOR WSDOT "GP17405-329" (G&O #1)				
POINT	NORTHING	EASTING	ELEV.	DESCRIPTION
1	263724.76	1307736.87	180.87	SFM=FOUND SURFACE MONUMENT. WSDOT MON "GP17405-329." MON ID: 6988.
2	259826.92	1301969.21	81.30	SFMC=FOUND MONUMENT IN CASE. 1/4 CORNER. BRASS PIN IN CONC. DOWN 1.0' IN CASE. CENTER OF INTX 100TH AVE NE & NE 116TH ST.
3	262462.02	1302054.13	76.64	SFMC, 1/4 CORNER. CONC POST W/ NO VISIBLE MARK. SHOT CENTER OF CONC. DOWN 0.2' IN CASE. CENTER OF INTX 100TH AVE NE & NE 124TH ST.
4	261926.41	1301583.74	45.31	SSNT=SET NAIL W/ "G&O CONTROL" TAG. 0.5' N OF S EDGE ASPHALT OF "CASA JUANITA" DRIVEWAY #9821. AT GATE TO SITE (W) OF MAIN BLDG. 3' SE OF N FACE OF CURB AT CENTERLINE S STAIRWELL TO BLDG "U."
5	261920.37	1301829.94	65.91	SSNT, 2' N OF S FACE CURB AT DRIVEWAY #9821 "CASA JUANITA" AT E END CONC CURB/WALK OF SW CORNER DRIVEWAY TO BLDGS "R" & "Q."
100	261928.93	1301433.03	43.33	SFRC=FOUND REBAR W/ CAP. 1/2" REBAR W/ YPC "HART 8409" UP 0.2' ABOVE GRADE. 4.5' W OF SW CORNER CONC BRIDGE DECK. 3.75' S OF S EDGE ASPHALT DRIVEWAY TO #9729. 1' WNW OF TOP OF ROCK WALL.
101	261788.04	1301493.79	45.25	SSN=SET NAIL. 60-D NAIL W/ BLUE WHISKERS IN DIRT. 4' W OF W CHAINLINK FENCE. 3' SW OF 2ND FENCE POST FROM N END. 7' SE OF 28" MAPLE. 13' SSW OF SW BLDG CORNER OF "ANNEX" ON W SIDE "CASA JUANITA" AT RIVER.



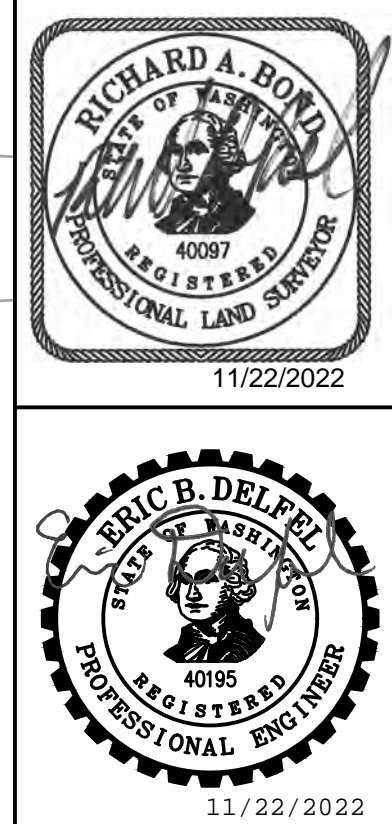
SURVEY CONTROL SCHEDULE A
 1"=100'



SURVEY CONTROL SCHEDULE B
 1"=100'



SURVEY CONTROL SCHEDULE C
 1"=100'



NO	BY	APPD	REVISION	DATE
PRELIMINARY - NOT FOR CONSTRUCTION				

WARNING
 IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE



DESIGNED BY	RTG
DRAWN BY	RAH
CHECKED BY	EBD
APPROVAL	EBD
DATE	NOV 2022



NORTHSHORE UTILITY DISTRICT
 6830 NE 185th St. P.O. Box 82489
 Kenmore, WA 98028-2684 Kenmore, WA 98028-2684
 Ph: (425) 398-4400 | Fax: (425) 398-4430 | www.nud.net

CONTRACT 2022-02
 SEWER REPAIRS PROJECTS
SURVEY CONTROL DATA

C2102
 SHEET
 2 OF 31

LEGEND

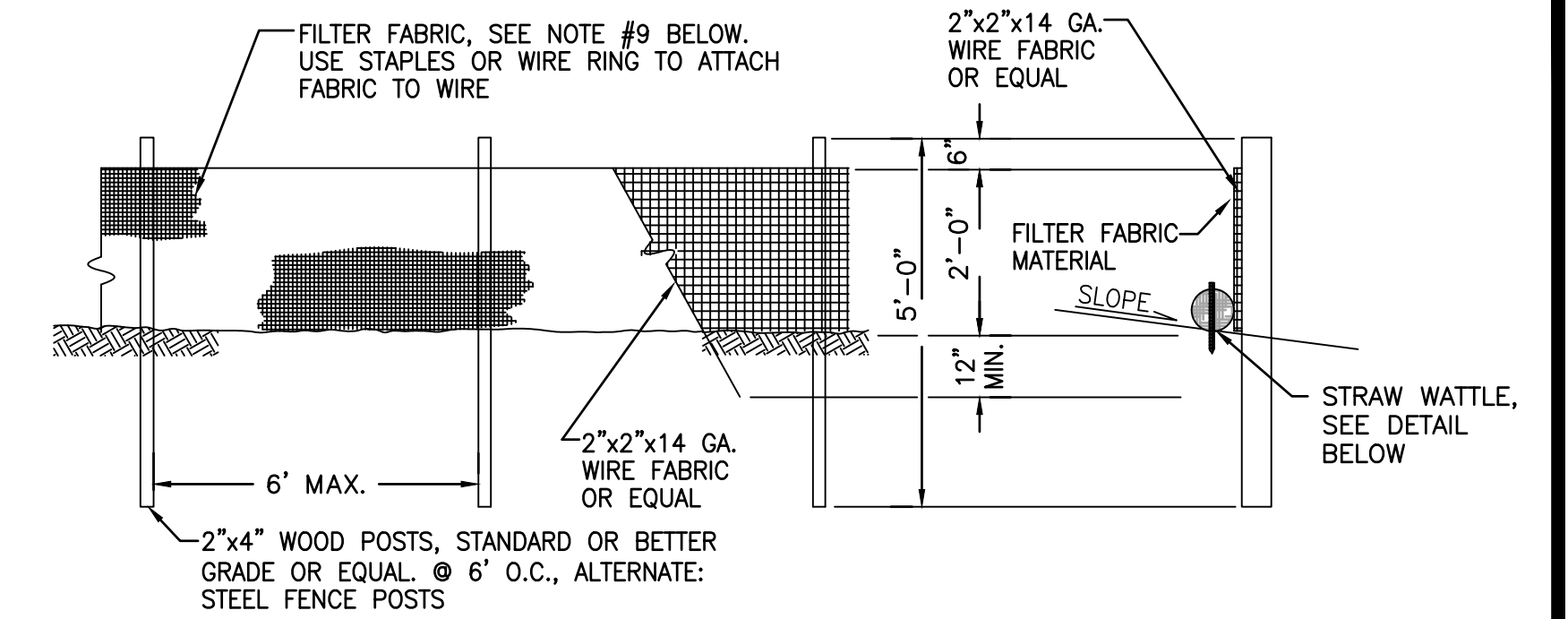
EXISTING	PROPOSED	DESCRIPTION
---	---	PROPERTY LINE
---	---	RIGHT OF WAY LINE
---	---	EASEMENT
--- FL ---	---	DITCH CENTERLINE
---	---	SIDE SLOPE
8" DI W	---	WATER LINE
8" PVC SS	---	SANITARY SEWER LINE
SD	---	STORM DRAIN LINE
12" CONCRETE SD	---	STORM DRAIN CULVERT
FL	---	SWALE OR DITCH
C	---	GAS LINE
UGP	---	UNDERGROUND POWER LINE
OHP	---	OVERHEAD POWER LINE
T	---	TELEPHONE LINE
C	---	CABLE LINE
FO	---	FIBER OPTIC LINE
---	---	WIRE FENCE
---	---	WOOD FENCE
---	---	CHAIN LINK FENCE
⊕	---	WATER METER
⊕	---	FIRE HYDRANT
⊕	---	WATER VALVE
○	●	CLEAN OUT
○	●	SANITARY MANHOLE
⊕	●	STORM DRAIN MANHOLE
⊕	---	STORM DRAIN CATCH BASIN
---	---	SIDE SERVICE T-LINER
---	---	TRANSITION COUPLER
---	---	GAS VALVE
---	---	POWER POLE
---	---	GUY ANCHOR
---	---	LIGHT POLE
---	---	SIGNAL POLE
P	---	ELECTRICAL VAULT
⊕	---	ELECTRICAL HANDHOLE
⊕	---	COMMUNICATIONS VAULT
⊕	---	TELEPHONE HANDHOLE
---	---	SIGN
⊕	---	MONUMENT
---	---	ROCKERY
---	---	ROCK WALL
---	---	MAIL BOX(ES)
---	---	CONIFER TREE
---	---	DECORATIVE TREE
---	---	DECIDUOUS TREE
---	---	SHRUB
---	---	RETAINING WALL
---	---	CEMENT CONCRETE PAVEMENT
---	---	CEMENT CONCRETE CURB
---	---	ASPHALT CONCRETE PAVEMENT
---	---	GRAVEL
---	---	GRASS
---	---	SAWCUT LINE
---	---	FILTER FABRIC FENCE
---	---	TREE PROTECTION FENCING
---	---	PROPERTY ADDRESS

GENERAL NOTES:

- ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS SPECIFIED IN THE CURRENT NORTHSHORE UTILITY DISTRICT STANDARD SPECIFICATIONS AND STANDARD DETAILS.
- THE APPROXIMATE LOCATIONS OF EXISTING UTILITIES ARE SHOWN ON THE PLANS FOR CONVENIENCE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF UTILITY LOCATIONS SHOWN, FOR THE PROTECTION AND REPAIR OF DAMAGED UTILITIES AND FOR THE DISCOVERY OF POSSIBLE ADDITIONAL UTILITIES NOT SHOWN ON THE PLANS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE LOCATED, BY THE APPROPRIATE UTILITY DISTRICTS OR COMPANIES, ALL UNDERGROUND UTILITIES PRIOR TO BEGINNING CONSTRUCTION. FOR UTILITY LOCATES IN KING COUNTY, CALL 1-800-424-5555 PRIOR TO DIGGING.
- A PRE-CONSTRUCTION CONFERENCE WILL BE HELD AT THE DISTRICT OFFICE PRIOR TO START OF CONSTRUCTION.
- A MANDATORY PRE-BID WALK THROUGH WILL BE HELD ON XX/XX/2022.
- THE CONTRACTOR SHALL NOTIFY NORTHSHORE UTILITY DISTRICT A MINIMUM OF FIVE (5) DAYS IN ADVANCE OF BEGINNING CONSTRUCTION. CONSTRUCTION SHALL NOT BEGIN WITHOUT PRIOR WRITTEN NOTICE TO PROCEED BY THE DISTRICT.
- THE CONTRACTOR SHALL NOT OPERATE ANY VALVES OR MAKE ANY CONNECTIONS TO THE EXISTING WATER SYSTEM WITHOUT PRIOR APPROVAL FROM THE DISTRICT.
- THE CONTRACTOR SHALL MAINTAIN TRAFFIC CONTROL DURING ALL WORK IN THE ROAD WAY.
- A GEOTECHNICAL REPORT FOR CASA JUANITA CAN BE FOUND IN THE SPECIFICATION.

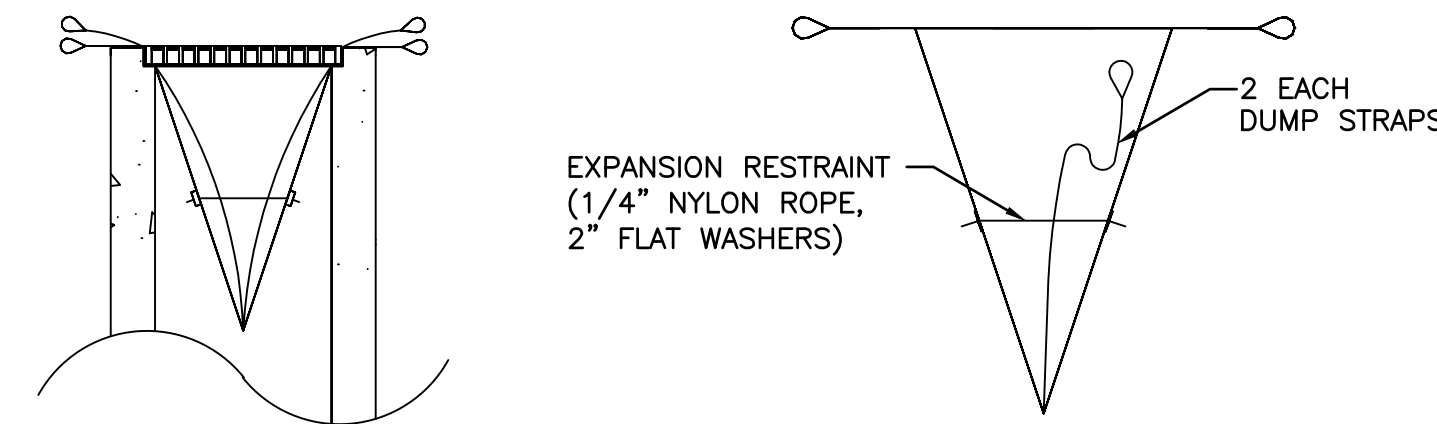
TEMPORARY EROSION AND SEDIMENTATION CONTROL NOTES

- THE TEMPORARY EROSION AND SEDIMENTATION CONTROL (TESC) FACILITIES SHALL BE IMPLEMENTED PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES, AND IN SUCH A MANNER AS TO ENSURE THAT SEDIMENT WATER DOES NOT ENTER THE DRAINAGE SYSTEM OR VIOLATE APPLICABLE WATER STANDARDS. MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE TESC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION IS APPROVED.
- THE STORM DRAIN INLET PROTECTION DEVICE SHALL BE SILT SACK OR EQUAL. ALL CATCH BASINS WITHIN THE VICINITY OF THE CONSTRUCTION SHALL HAVE INLET PROTECTION MEASURES.
- CONTRACTOR SHALL MAINTAIN ALL EXISTING DRAINAGE CHANNELS, CULVERTS, SWALES AND STRUCTURES. WHENEVER EXISTING DRAINAGE FACILITIES ARE DISTURBED, THE CONTRACTOR SHALL PROVIDE SUITABLE MEANS FOR DIVERTING AND MAINTAINING ALL FLOWS DURING CONSTRUCTION IN THAT AREA AT ITS EXPENSE. AFTER CONSTRUCTION HAS BEEN COMPLETED, ALL DRAINAGE CHANNELS, CULVERTS, SWALES AND STRUCTURES DISTURBED SHALL BE RETURNED TO THEIR ORIGINAL CONDITIONS.
- THE TESC FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, TESC FACILITIES SHALL BE MAINTAINED AND UPGRADED AS NECESSARY BY THE CONTRACTOR.
- CONTRACTOR SHALL INSPECT THE TESC FACILITIES AT THE END OF EACH WORKING DAY TO ASSURE ITSELF THAT THEY ARE IN GOOD CONDITIONS. IF TESC FACILITIES REQUIRE REPAIR/MAINTENANCE, IT SHALL BE PERFORMED PRIOR TO THE END OF THE WORKING DAY. ALL DISTURBED AREAS SHALL BE PROMPTLY AND THOROUGHLY STABILIZED AGAINST EROSION DURING PERIODS OF WET WEATHER WHEN WORK IS NOT BEING PERFORMED AT THE SITE.
- ALL UNSUITABLE OR SURPLUS EXCAVATED OR CLEARED MATERIAL SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN AN APPROVED, LEGAL FILL SITE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ACCEPTABLE DISPOSAL SITES AND ASSURE THAT ALL SURPLUS MATERIAL IS DISPOSED OF IN SAME.
- CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING ALL APPROPRIATE MEASURES NEEDED (STREET SWEEPERS, WATER TRUCKS, ETC.) TO KEEP STREETS AND ROADS USED AS HAUL ROUTES FOR EXPORT OR IMPORT OF MATERIAL CLEAN AND FREE FROM DEBRIS, MUD, ETC.. ADDITIONAL MEASURES MAY BE REQUIRED TO ENSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.



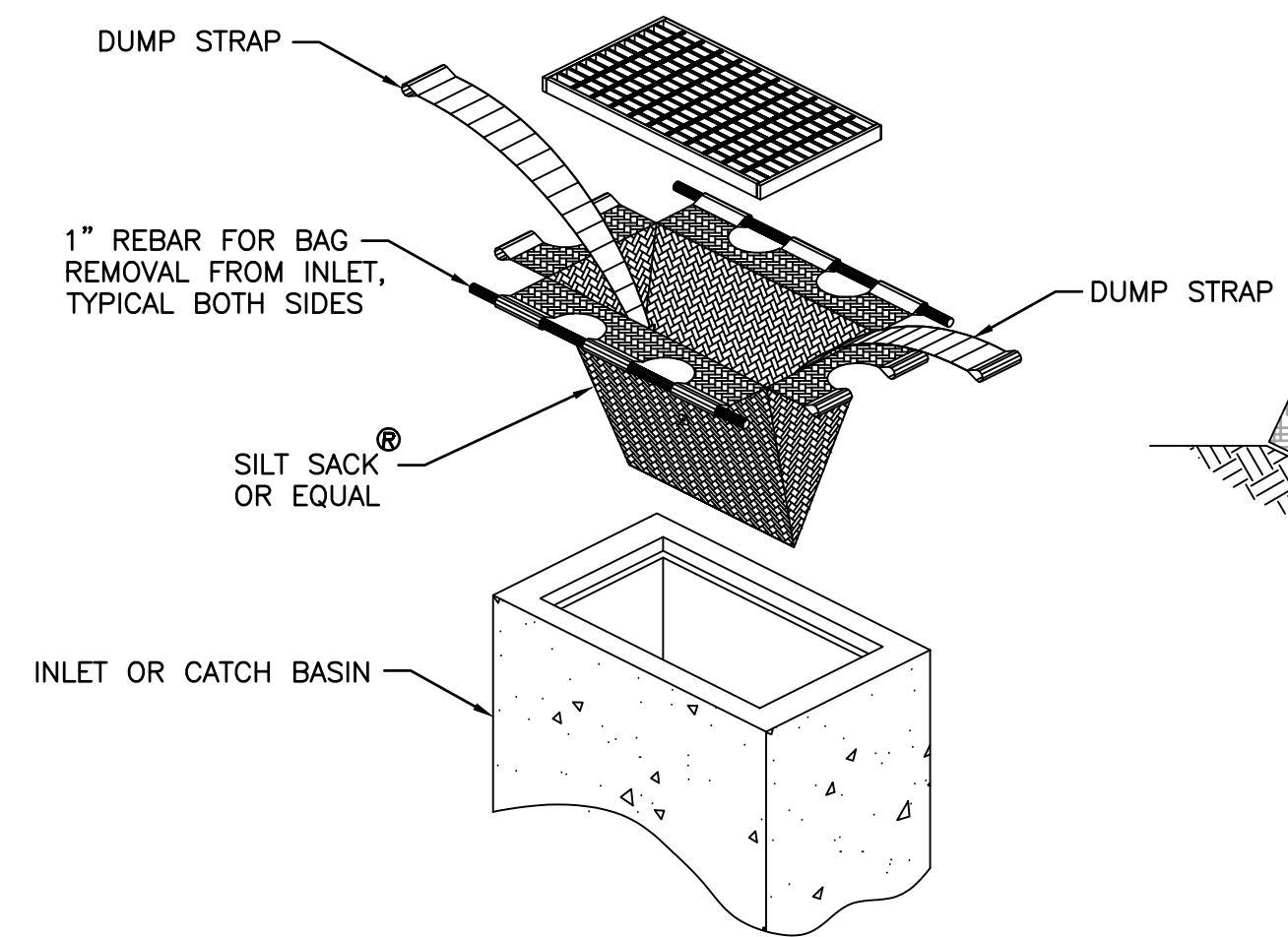
NOTES

- THE FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID USE OF JOINTS. WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SPICED TOGETHER ONLY AT A SUPPORT POST, WITH A MINIMUM 6-INCH OVERLAP AND BOTH ENDS SECURELY FASTENED TO THE POST.
- THE FILTER FABRIC FENCE SHALL BE INSTALLED TO FOLLOW THE CONTOURS (WHERE FEASIBLE). THE FENCE POSTS SHALL BE SPACED A MAXIMUM OF 6 FEET APART AND DRIVEN SECURELY INTO THE GROUND (MINIMUM OF 30 INCHES).
- WHEN STANDARD STRENGTH FILTER FABRIC IS USED, A WIRE MESH SUPPORT FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY-DUTY WIRE STAPLES AT LEAST 1 INCH LONG, TIE WIRE OR HOG RINGS.
- THE STANDARD STRENGTH FILTER FABRIC SHALL BE STAPLED OR WIRED TO THE FENCE, AND 20 INCHES OF THE FABRIC SHALL BE EXTENDED ACROSS THE GROUND, UPSLOPE AND ADJACENT TO THE WOOD POST. THE FABRIC SHALL NOT EXTEND MORE THAN 30 INCHES ABOVE THE ORIGINAL GROUND SURFACE. FILTER FABRIC SHALL NOT BE STAPLED TO EXISTING TREES.
- WHEN EXTRA FILTER FABRIC AND CLOSER POST SPACING ARE USED, THE WIRE MESH SUPPORT FENCE MAY BE ELIMINATED. IN SUCH A CASE, THE FILTER FABRIC IS STAPLED OR WIRED DIRECTLY TO THE POSTS WITH ALL OTHER PROVISIONS OF STANDARD NOTE 3 APPLYING.
- FABRIC SHALL BE SECURED AT THE BASE BY PEA-ROCK FILLED SANDBAGS OR STRAW WATTLES PLACED END TO END.
- FILTER FABRIC FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED.
- FILTER FABRIC FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
- FILTER FABRIC SHALL BE PER CURRENT GEOTEXTILE FABRIC STANDARDS FOR SILT FENCE IN THE DEPARTMENT OF ECOLOGY STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON.

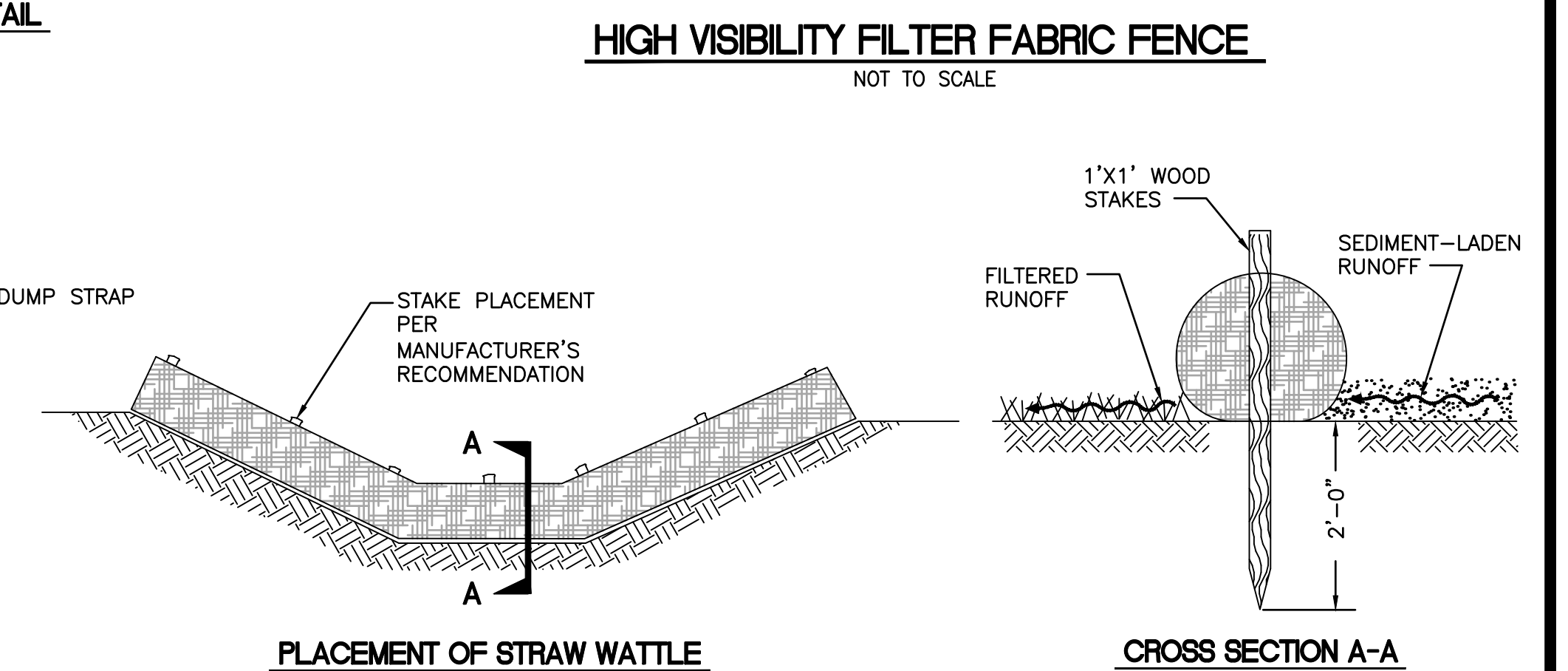


INSTALLATION DETAIL

BAG DETAIL



STORM DRAIN INLET PROTECTION
NOT TO SCALE

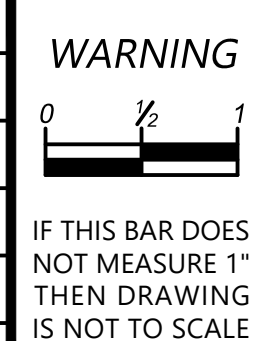


PLACEMENT OF STRAW WATTLE

CROSS SECTION A-A

STRAW WATTLE DAM
NOT TO SCALE

NO	BY	APPD	REVISION	DATE
PRELIMINARY - NOT FOR CONSTRUCTION				



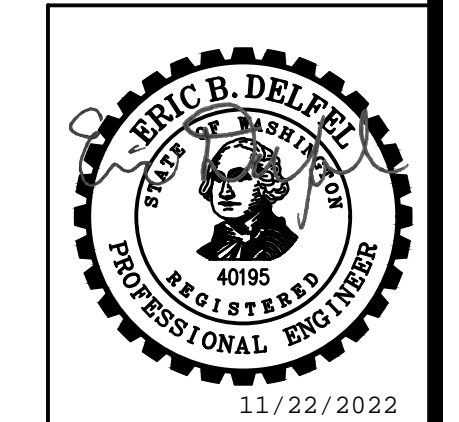
DESIGNED BY	RTG
DRAWN BY	RAH
CHECKED BY	EBD
APPROVAL	EBD
DATE	NOV 2022



NORTHSHORE UTILITY DISTRICT
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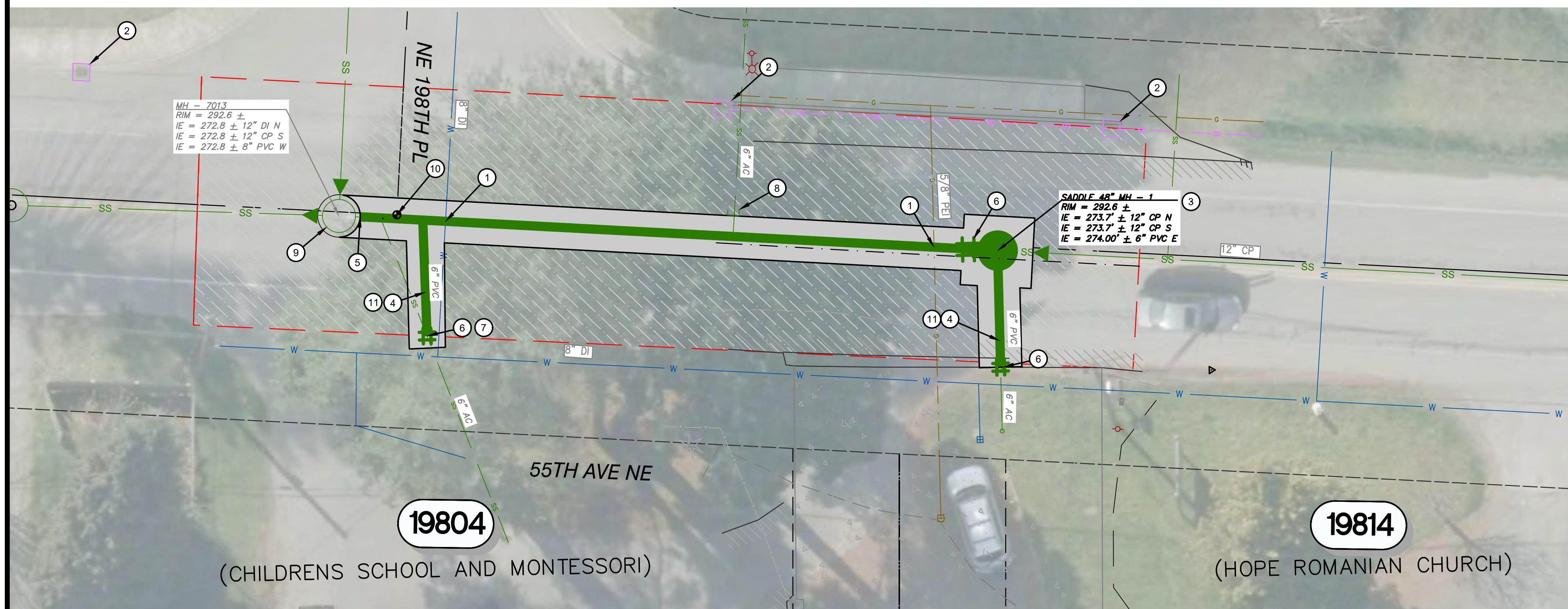
CONTRACT 2022-02
SEWER REPAIRS PROJECTS

LEDGEND, TESC DETAILS AND NOTES



C2102
SHEET
3 OF 31

NW 1/4, SEC 02, T26N, R4E, WM



GENERAL NOTES

1. RESTRICTED WORK HOURS: WORKING HOURS SHALL CONSIDER PRESCHOOL DROP OFF AND PICK UP TIME. THERE WILL BE 30 MINUTES OF HEAVY TRAFFIC AT 9AM, 12PM AND 3PM DURING THE SCHOOL YEAR (AUGUST TILL LATE JUNE).
2. SEE SHEET 2 FOR GENERAL NOTES, LEGEND, AND SURVEY CONTROL INFORMATION.
3. PRIOR TO EXCAVATION, INSTALL TESC FACILITIES PER SHEET 3.
4. TRAFFIC CONTROL IS CONSIDERED INCIDENTAL TO ALL WORK IN THE ROAD WAY.
5. PROJECT IS WITHIN THE CITY OF LAKE FOREST, STANDARD 2.14 ON SHEET 17 FOR TRENCH REPAIR.
6. SEWER MAIN TRENCH SHALL BE OVER EXCAVATED 12 INCH AND REPLACED WITH FOUNDATION GRAVEL FOR THE LENGTH OF THE TRENCH.

CONSTRUCTION NOTES

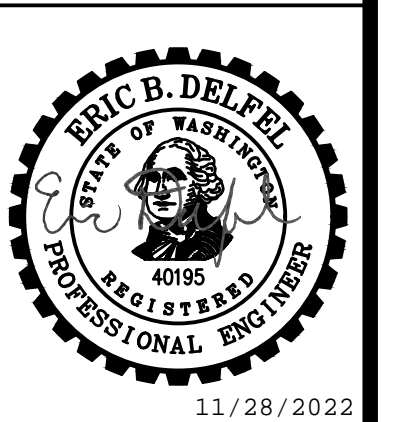
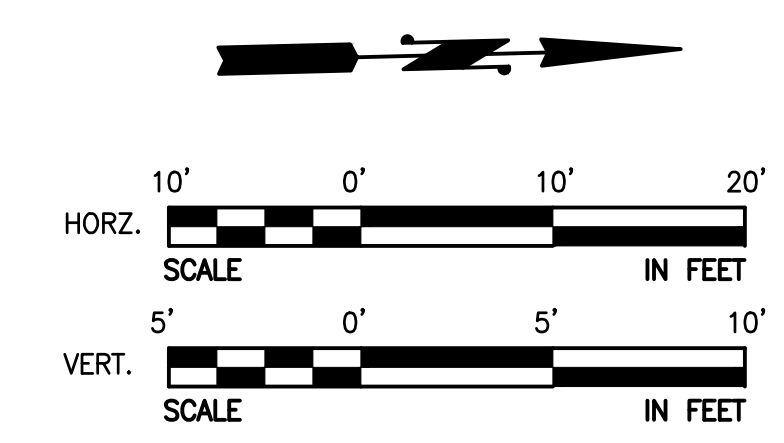
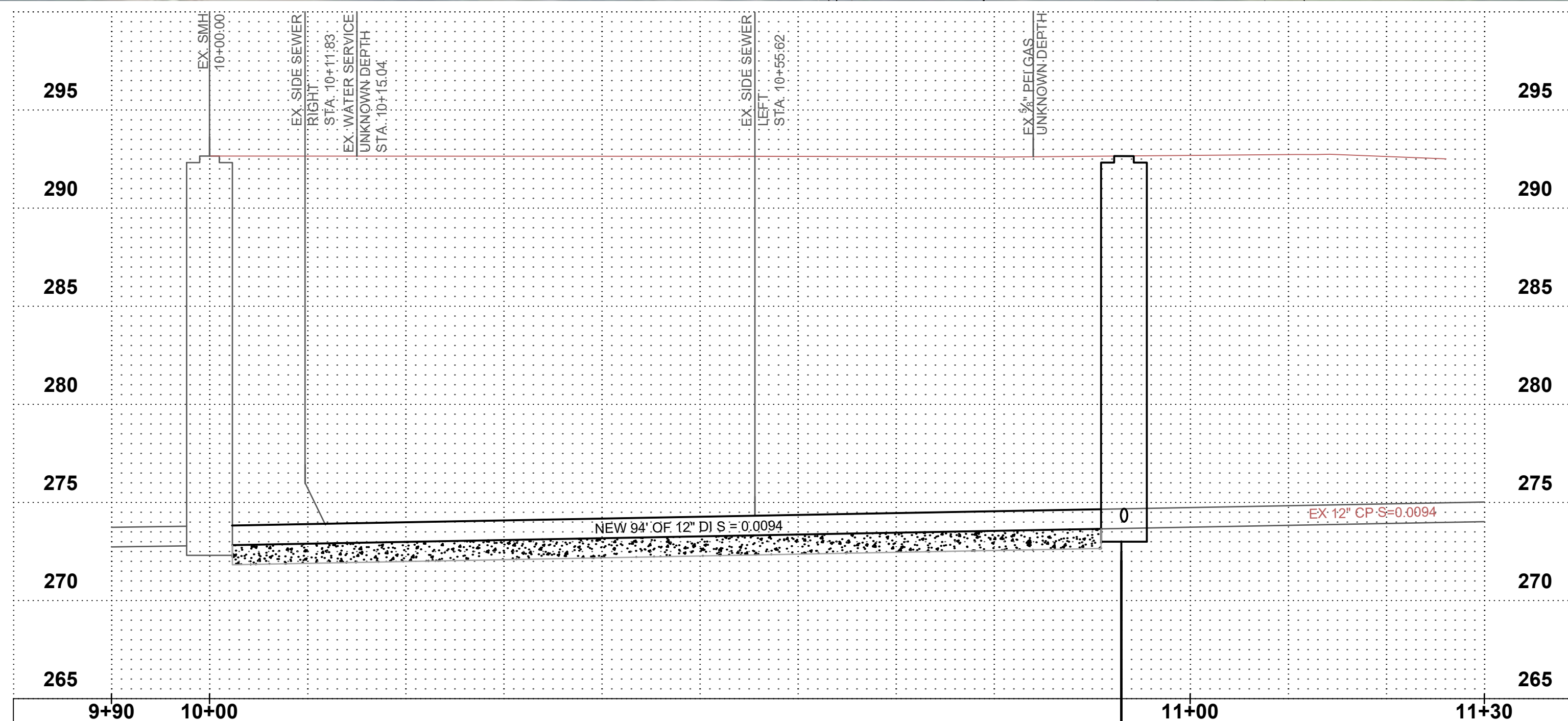
- 1 CAUTION: POTENTIAL UTILITY CONFLICT. POT HOLE TO DETERMINE EXACT LOCATION AND DEPTH OF THOSE EXISTING UTILITIES PRIOR TO CONSTRUCTION. ANY DISCREPANCIES FOUND IN THE FIELD FROM THOSE SHOWN HEREIN SHALL BE REPORTED TO THE OWNER PRIOR TO COMMENCING THE WORK.
- 2 CATCH BASIN AND INLET SEDIMENTATION PROTECTION REQUIRED, SEE SHEET 3 FOR ADDITIONAL INFORMATION.
- 3 INSTALL NEW SADDLE MANHOLE AS PER DETAIL 2 SHEET 17
- 4 INSTALL NEW 6 INCH SEWER SERVICE FROM MANHOLE TO DRIVEWAY/CLEAN OUT.
- 5 CONNECT TO EXISTING MANHOLE AS PER DETAIL 15 SHEET 18.
- 6 CONNECT SEWER WITH TRANSITION COUPLING.
- 7 INSTALL NEW CLEAN OUT AT R.O.W. OR AS DIRECTED BY ENGINEER PER DETAIL 9 ON SHEET 17.
- 8 PLUG WITH WATER TIGHT SEAL AND ABANDON SIDE SEWER.
- 9 REPLACE FRAME, COVER AND ADJUSTMENT RINGS ON EXISTING MANHOLE
- 10 REPLACE SURVEY MONUMENT AS SHOW IN DETAIL 2 ON SHEET 18
- 11 REMOVE AND DISPOSE OF AC PIPE IN ACCORDANCE WITH ALL SAFETY MEASURES.

PROPOSED ORDER OF WORK

- 1 INSTALL PROPOSED SADDLE MANHOLE AT STA. 11+39.17 AS PER DETAIL 2 SHEET 17
- 2 REPLACE AND CONNECT HOPE CHURCH 6 INCH SEWER SERVICE TO THE NEW MANHOLE.
- 3 SET UP BY PASS PUMPING. PLUG SADDLE MH-1 AND PUMP TO EXISTING MH-7013.
- 4 INSTALL NEW 12 INCH DI SEWER MAIN FROM STA. 10+49.19 TO STA. 11+39.17
- 5 TEST AND TV SEWER MAIN.
- 6 ROAD RESTORATION AS PER LAKE FOREST PARK DETAIL 2.14 SHEET 17.

RESTORATION

- 1-FOOT OVER EXCAVATION AND BACK FILL WITH FOUNDATION GRAVEL
- SAW CUT AND ASPHALT REPAIR AS PER CITY OF KENMORE DETAIL 5-002 SHEET 18



NO	BY	APPD	REVISION	DATE
PRELIMINARY - NOT FOR CONSTRUCTION				

WARNING

 IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

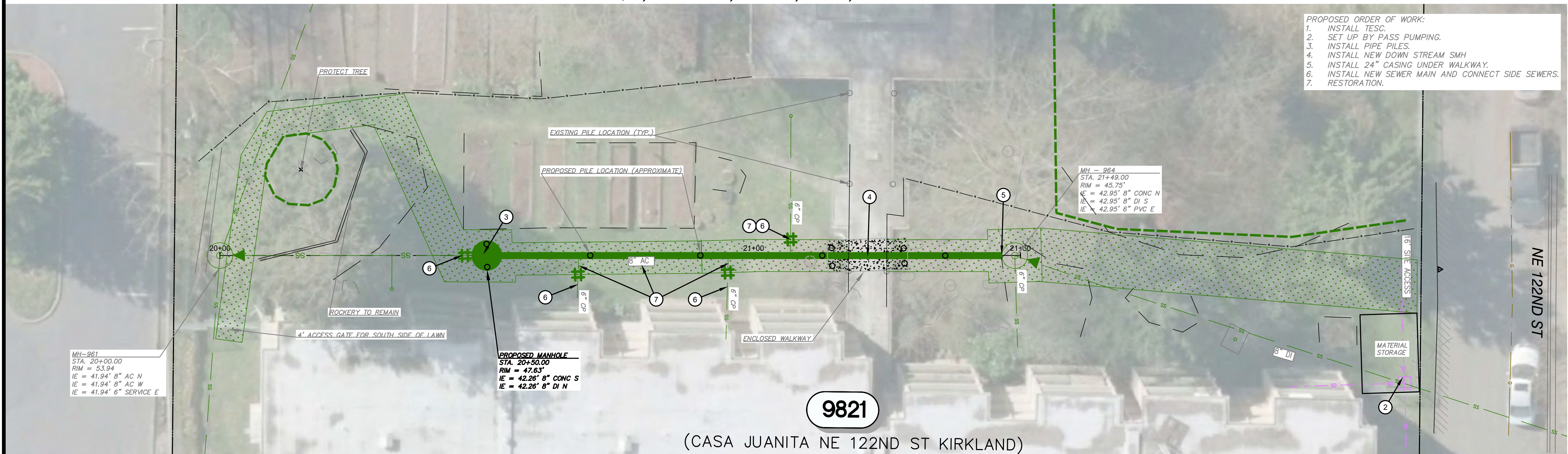
DESIGNED BY: RTG
 DRAWN BY: RAH
 CHECKED BY: EBD
 APPROVAL: EBD
 DATE: NOV 2022

NORTHSHORE UTILITY DISTRICT
 WATER SEWER
 6830 NE 185th St. P.O. Box 82489
 Kenmore, WA 98028-2684 Kenmore, WA 98028-2684
 Ph: (425) 398-4400 | Fax: (425) 398-4430 | www.nud.net

CONTRACT 2022-02
 SEWER REPAIRS PROJECTS
SCH. A
55TH AVE SEWER REPLACEMENT

BASE MAP A3
C2102
SHEET
4 OF 31

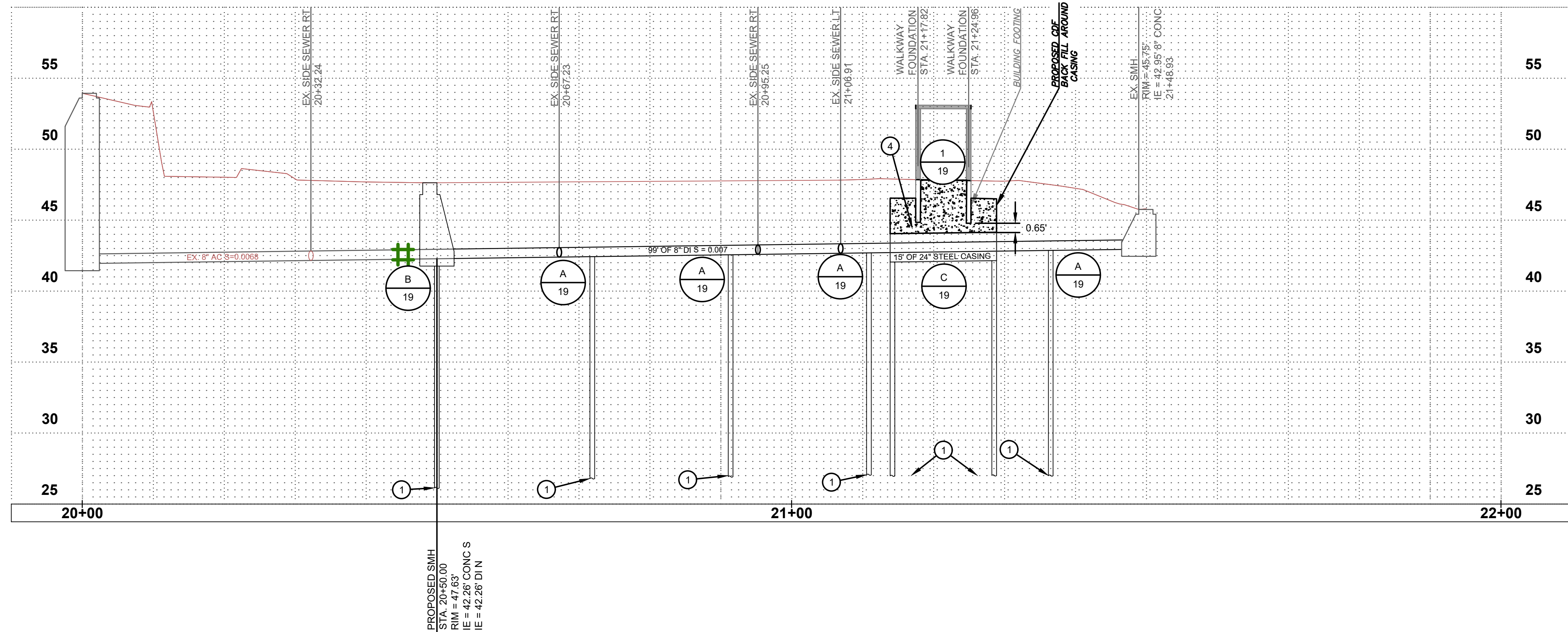
SW 1/4, SEC 30, T26N, R5E, WM



- PROPOSED ORDER OF WORK:**
1. INSTALL TESC.
 2. SET UP BY PASS PUMPING.
 3. INSTALL PIPE PILES.
 4. INSTALL NEW DOWN STREAM SMH.
 5. INSTALL 24\"/>

9821

(CASA JUANITA NE 122ND ST KIRKLAND)



GENERAL NOTES

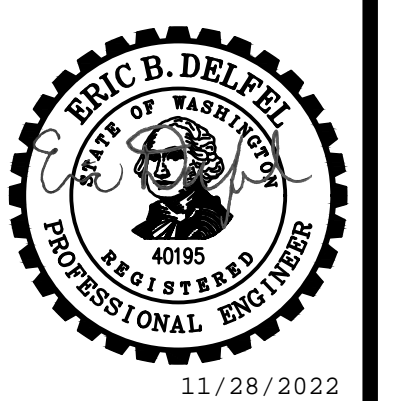
1. SEE SHEET 2 FOR GENERAL NOTES, LEGEND, AND SURVEY CONTROL INFORMATION.
2. PRIOR TO EXCAVATION, INSTALL TESC FACILITIES PER SHEET 3.
3. FOLLOW DETAIL 11 ON SHEET 18 FOR TRENCH REPAIR.
4. REPAIR/REPLACE FENCE AS REQUIRED.
5. PRE BID WALK THROUGH 12/6/2022 AT 10:00
6. ACCESS FOR THE SITE IS DESCRIBED IN THE SPEC SECTION 1.2
7. PLEASE REVIEW THE GEOTECHNICAL REPORT FOR PIPE PILE INFORMATION. SEE APPENDIX A.

CONSTRUCTION NOTES

1. INSTALL 4\"/>

RESTORATION

- YARD RESTORATION
- CDF BACKFILL



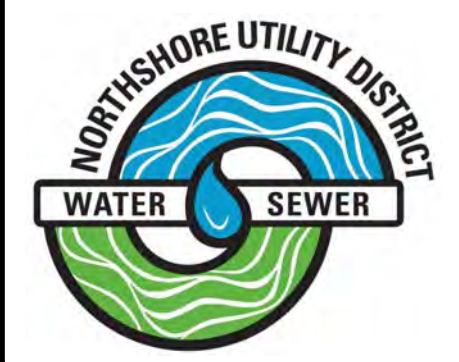
NO	BY	APPD	REVISION	DATE
PRELIMINARY - NOT FOR CONSTRUCTION				

WARNING

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APPROVAL	EBD
DATE	NOV 2022

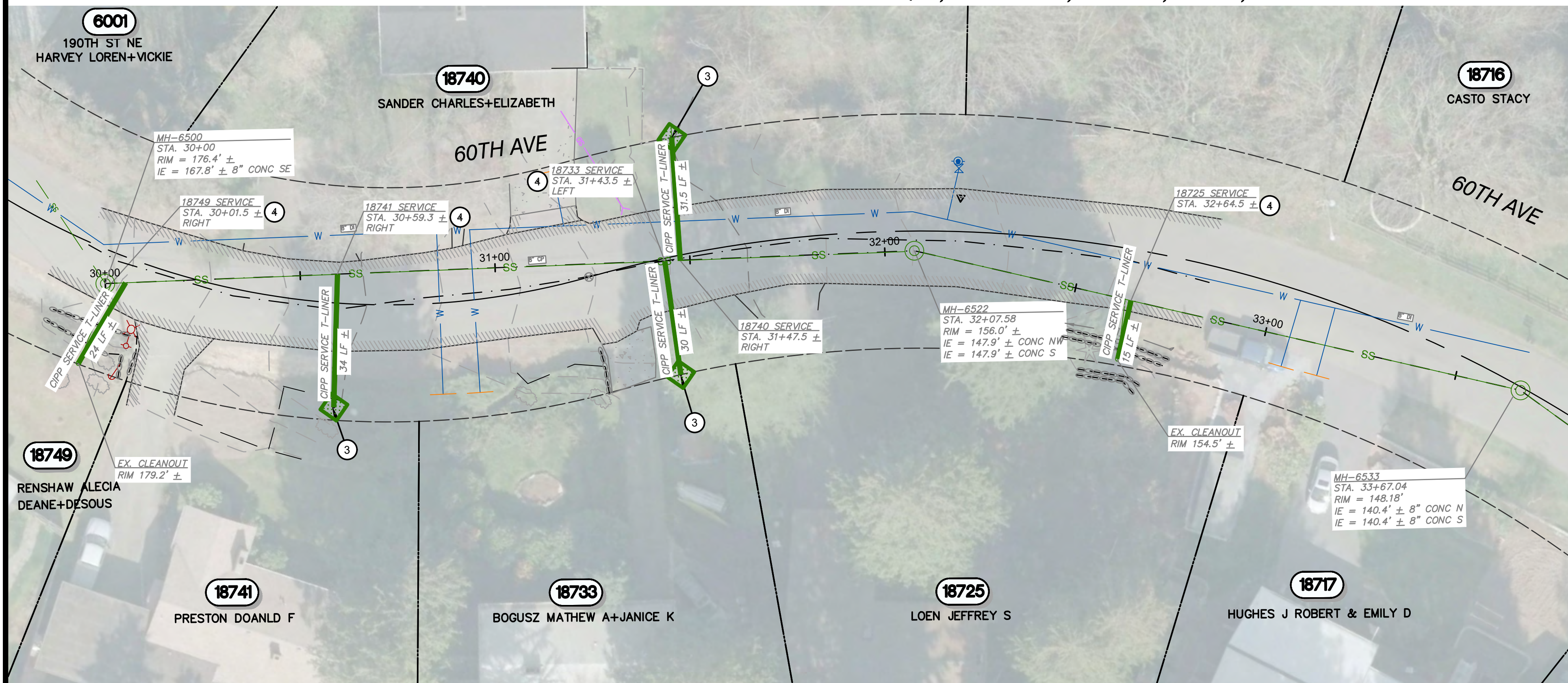


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CONTRACT 2022-02
 SEWER REPAIRS PROJECTS
SCH. B
CASA JUANITA SEWER REPLACEMENT

BASE MAP	K8
	C2102
SHEET	5 OF 31

SW 1/4, SEC 02, T26N, R4E, WM



GENERAL NOTES

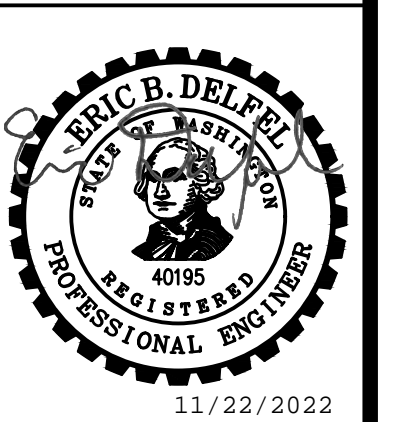
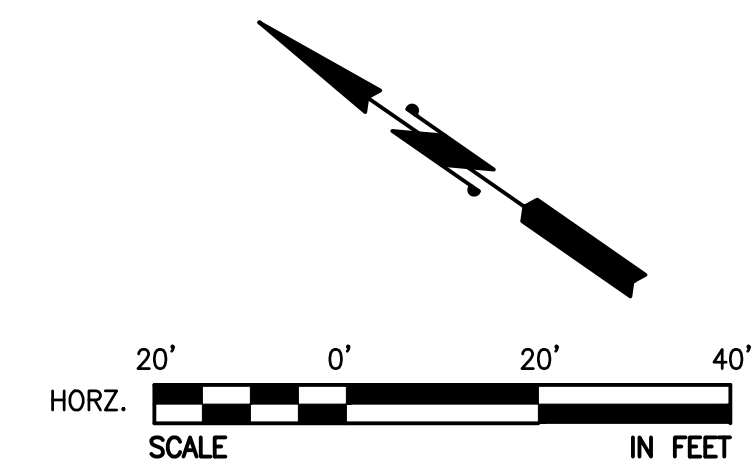
1. SEE SHEET 2 FOR GENERAL NOTES, LEGEND, AND SURVEY CONTROL INFORMATION.
2. PRIOR TO EXCAVATION, INSTALL TESC FACILITIES PER SHEET 3.
3. TRAFFIC CONTROL IS INCIDENT WORK IN THE ROAD WAY.
4. CLEANOUTS SHALL BE INSTALLED AT THE R.O.W.
5. PROJECT IS WITHIN KENMORE, FOLLOW DETAIL 5-002 ON SHEET 17 FOR TRENCH REPAIR.

CONSTRUCTION NOTES

- ① RESERVED
- ② RESERVED
- ③ INSTALL CLEANOUT AT R.O.W. THE T-LINER SHALL STOP AT CLEAN OUT. CLEAN OUTS INSTALLED IN ACCORDANCE WITH DETAIL 9 ON SHEET 17.
- ④ INSTALL CURE IN PLACE PIPE T-LINER INSIDE SEWER FROM MAIN LINE TO CLEAN OUT. CONTRACTOR TO FIELD VERIFY LENGTH OF T-LINER PRIOR TO ORDERING OF MATERIALS.

RESTORATION

YARD RESTORATION



NO	BY	APPD	REVISION	DATE
PRELIMINARY - NOT FOR CONSTRUCTION				

WARNING

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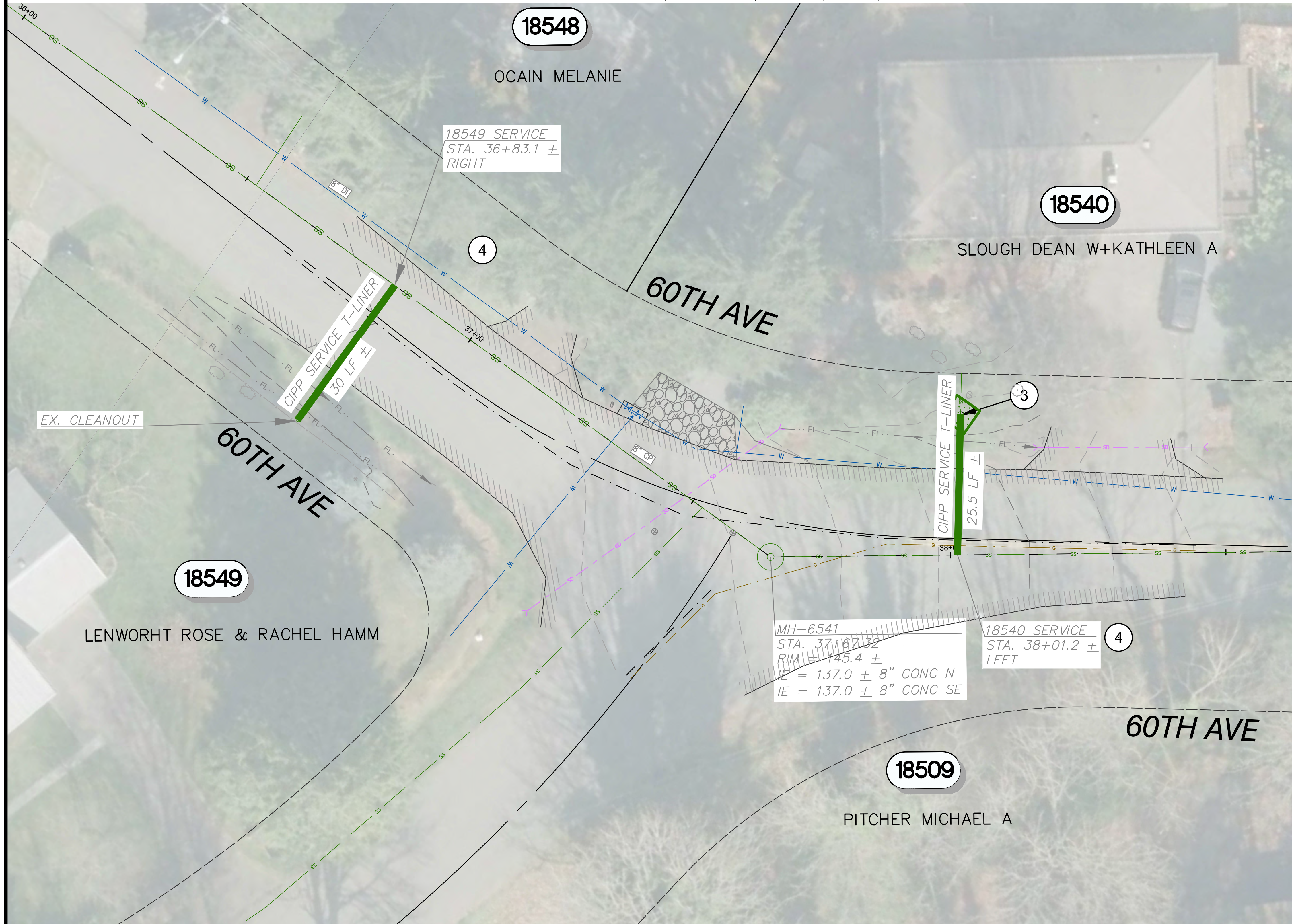
CONTRACT 2022-02
 SEWER REPAIRS PROJECTS

SCH. C

LATERAL REHABILITATION 60TH AVE NORTH

BASE MAP B3
C2102
SHEET
6 OF 31

SW 1/4, SEC 02, T26N, R4E, WM



GENERAL NOTES

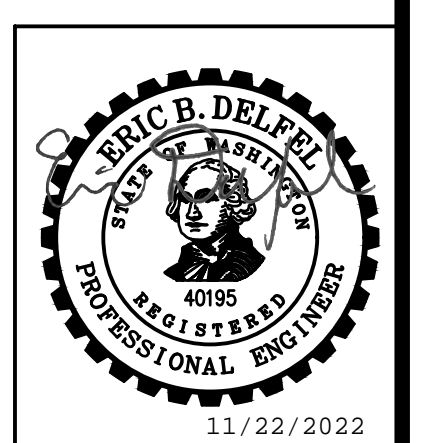
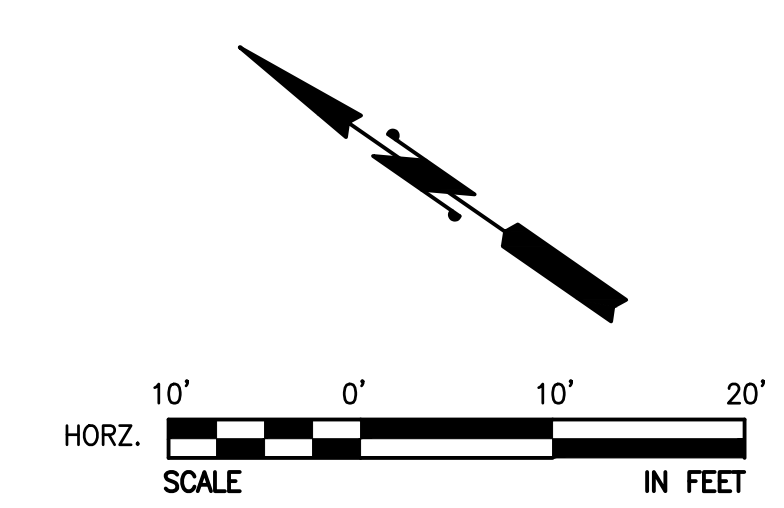
1. SEE SHEET 2 FOR GENERAL NOTES, LEGEND, AND SURVEY CONTROL INFORMATION.
2. PRIOR TO EXCAVATION, INSTALL TESC FACILITIES PER SHEET 3.
3. TRAFFIC CONTROL IS INCIDENT WORK IN THE ROAD WAY.
4. CLEANOUTS SHALL BE INSTALLED AT THE R.O.W.
5. PROJECT IS WITHIN KENMORE, FOLLOW DETAIL 5-002 ON SHEET 17 FOR TRENCH REPAIR.

CONSTRUCTION NOTES

- ① RESERVED
- ② RESERVED
- ③ INSTALL CLEANOUT AT R.O.W. THE T-LINER SHALL STOP AT CLEAN OUT. CLEAN OUTS INSTALLED IN ACCORDANCE WITH DETAIL 9 ON SHEET 17.
- ④ INSTALL CURE IN PLACE PIPE T-LINER INSIDE SEWER FROM MAIN LINE TO CLEAN OUT. CONTRACTOR TO FIELD VERIFY LENGTH OF T-LINER PRIOR TO ORDERING OF MATERIALS.

RESTORATION

YARD RESTORATION



NO	BY	APPD	REVISION	DATE
PRELIMINARY - NOT FOR CONSTRUCTION				

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NORTHSHORE UTILITY DISTRICT

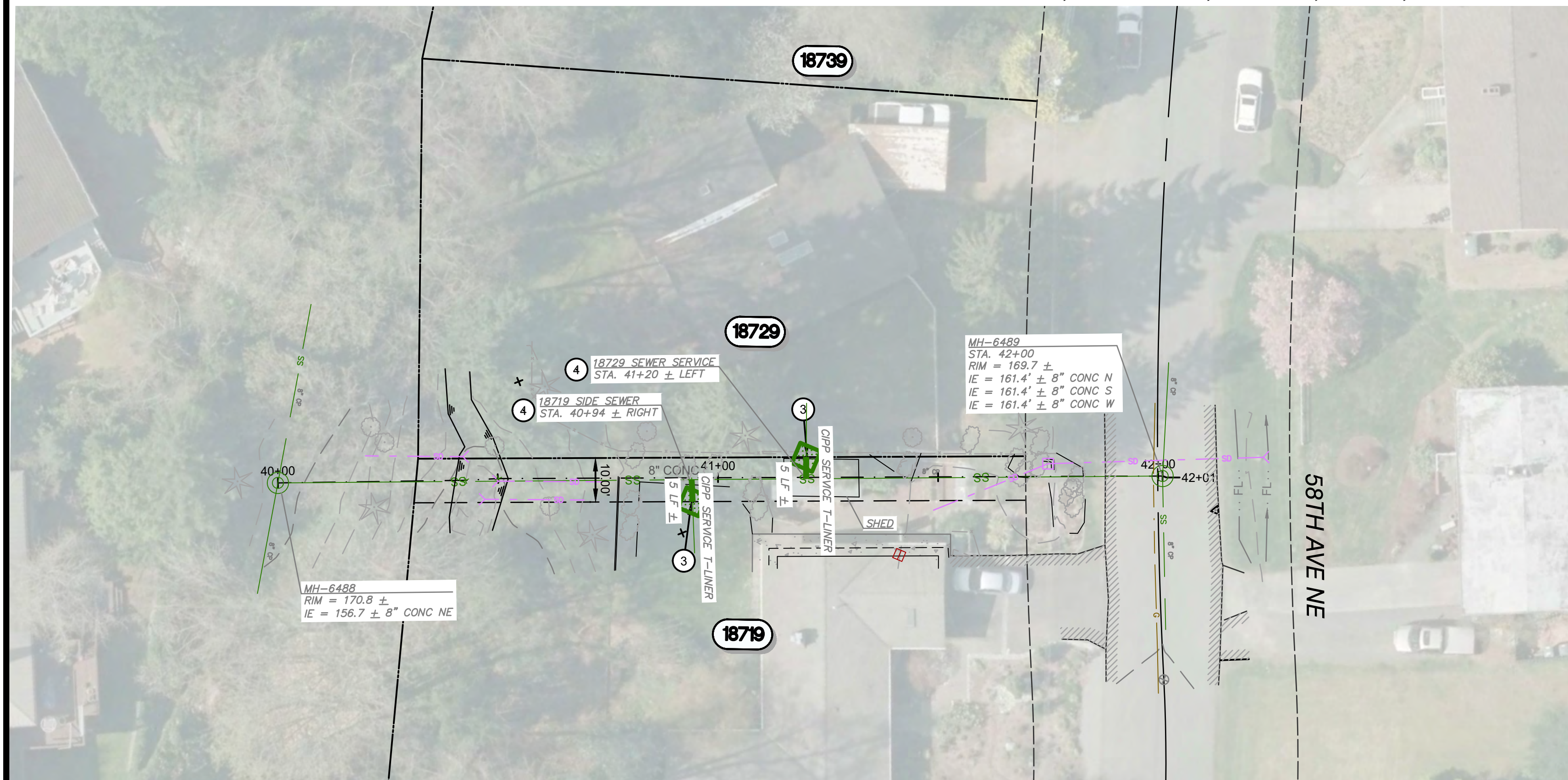
6830 NE 185th St. P.O. Box 82489
 Kenmore, WA 98028-2684 Kenmore, WA 98028-2684

Ph: (425) 398-4400 | Fax: (425) 398-4430 | www.nud.net

CONTRACT 2022-02
 SEWER REPAIRS PROJECTS
SCH. C
LATERAL REHABILITATION 60TH AVE SOUTH

BASE MAP B3
C2102
SHEET
7 OF 31

SW 1/4, SEC 02, T26N, R4E, WM



GENERAL NOTES

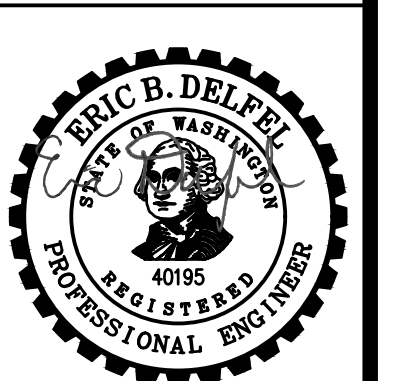
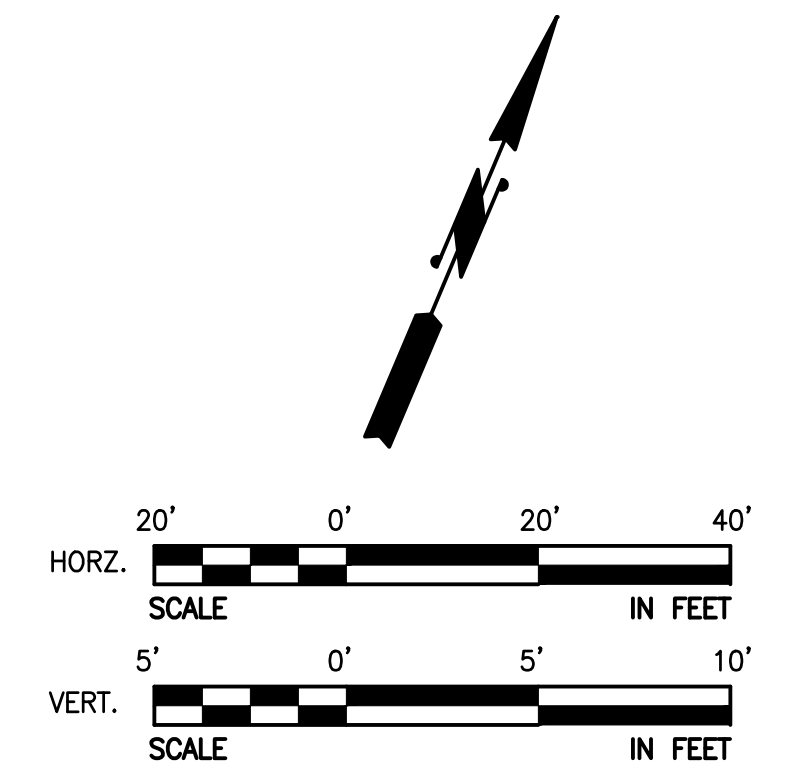
1. SEE SHEET 2 FOR GENERAL NOTES, LEGEND, AND SURVEY CONTROL INFORMATION.
2. PRIOR TO EXCAVATION, INSTALL TESC FACILITIES PER SHEET 3.
3. TRAFFIC CONTROL IS INCIDENT WORK IN THE ROAD WAY.
4. CLEANOUTS SHALL BE INSTALLED AT THE R.O.W.
5. PROJECT IS WITHIN KENMORE, FOLLOW DETAIL 5-002 ON SHEET 17 FOR TRENCH REPAIR.

CONSTRUCTION NOTES

- ① RESERVED
- ② RESERVED
- ③ INSTALL CLEANOUT AT EASEMENT THE T-LINER SHALL STOP AT CLEAN OUT. CLEAN OUTS INSTALLED IN ACCORDANCE WITH DETAIL 9 ON SHEET 17.
- ④ INSTALL CURE IN PLACE PIPE T-LINER INSIDE SEWER FROM MAIN LINE TO CLEAN OUT. CONTRACTOR TO FIELD VERIFY LENGTH OF T-LINER PRIOR TO ORDERING OF MATERIALS.

RESTORATION

	YARD RESTORATION
--	------------------



11/23/2022

NO	BY	APPD	REVISION	DATE
PRELIMINARY - NOT FOR CONSTRUCTION				

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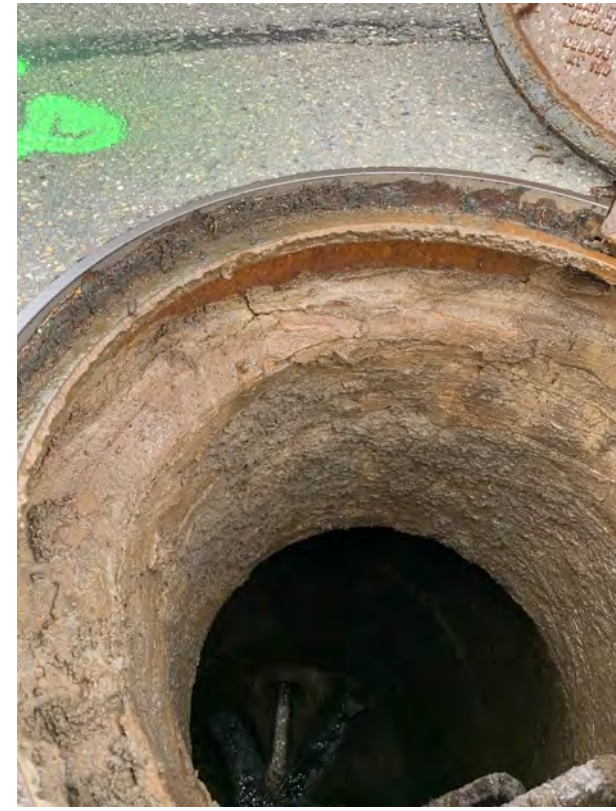
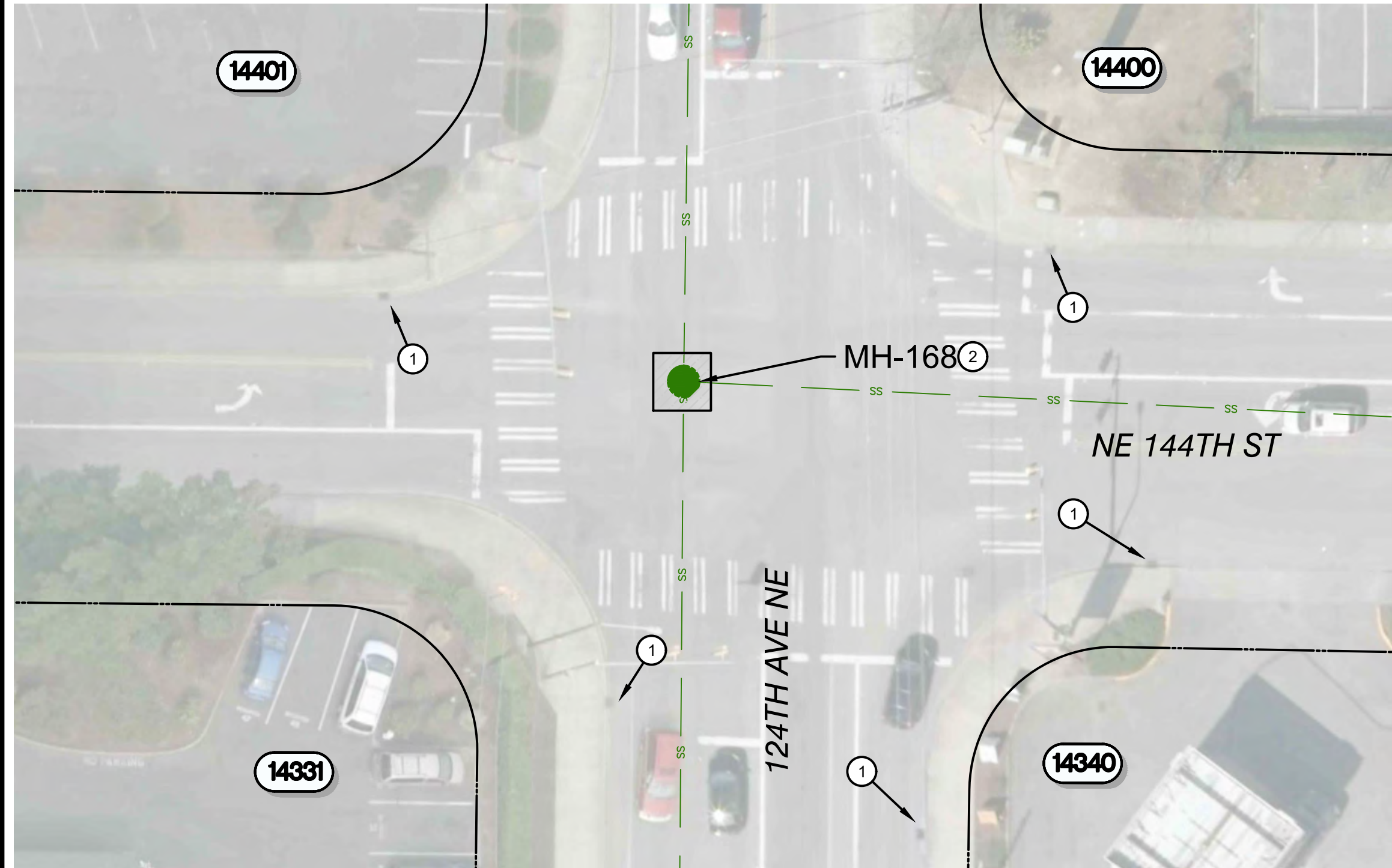
CONTRACT 2022-02
 SEWER REPAIRS PROJECTS

SCH. C

LATERAL REHABILITAION 58TH AVE

BASE MAP B3
C2102
SHEET
8 OF 31

NW 1/4, SEC 21, T26N, R5E, WM



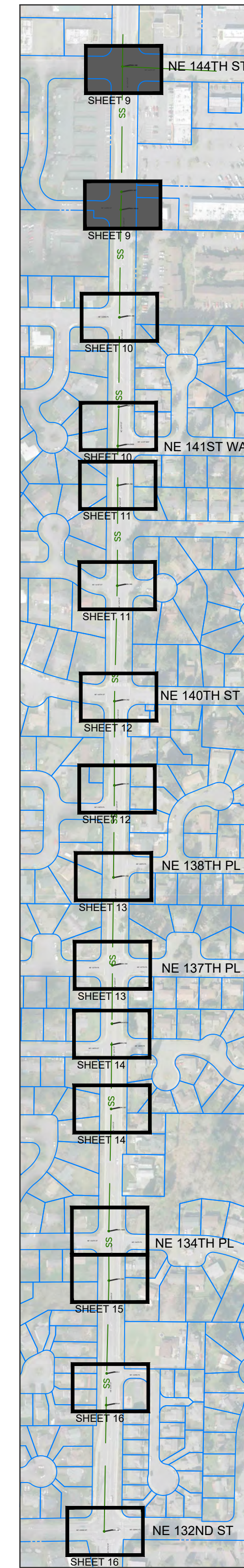
MH - 168 - REPLACE FRAME, COVER AND 10" OF ADJUSTMENT RINGS.



MH - 167 - ADD MAHOLE SECTION, REPLACE MANHOLE CONE, FRAME, COVER AND ADJUSTMENT RINGS AS PER DETAIL 3 SHEET 17. CONFIRM KEY-WAY PRIOR TO INSTALLATION. PROTECT SURVEY MONUMENT



MH - 166A - ADD MAHOLE SECTION, REPLACE MANHOLE CONE, FRAME, COVER AND ADJUSTMENT RINGS AS PER DETAIL 3 SHEET 17. CONFIRM KEY-WAY PRIOR TO INSTALLATION. PROTECT SURVEY MONUMENT



SHEET KEY MAP
NTS

GENERAL NOTES

- SEE SHEET 2 FOR GENERAL NOTES, LEGEND, AND SURVEY CONTROL INFORMATION.
- PRIOR TO EXCAVATION, INSTALL TESC FACILITIES PER SHEET 3.
- TRAFFIC CONTROL IS INCIDENTAL TO WORK IN THE ROAD WAY.
- CONTRACTOR SHALL PROTECT DEBRIS FROM FALLING INTO SEWER MANHOLE DURING CONSTRUCTION
- PROJECT WITHIN KIRKLAND, FOLLOW DETAIL R.12 ON SHEET 17 FOR TRENCH REPAIR.
- CONTRACTOR SHALL RESTORE ALL PAVEMENT MARKINGS TO EXISTING CONDITIONS.
- MANHOLE ADJUSTMENTS MUST BE MADE PRIOR TO MARCH 15TH 2023 SO KIRKLAND CAN OVERLAY THE ROAD

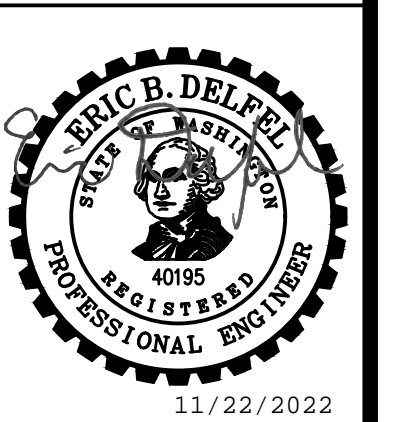
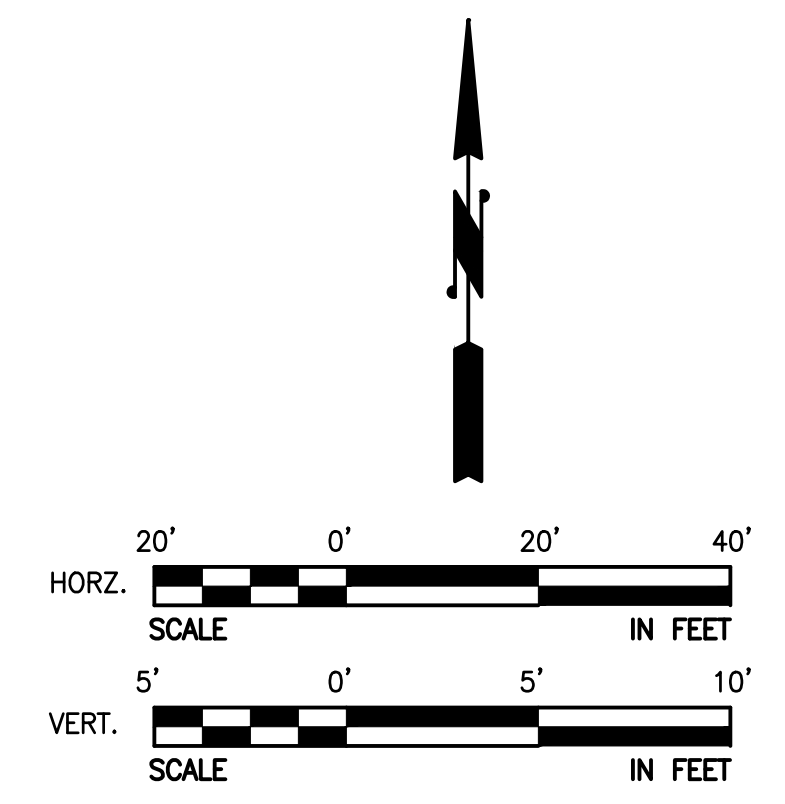
CONSTRUCTION NOTES

- CATCH BASIN AND INLET SEDIMENTATION PROTECTION REQUIRED, SEE SHEET 3 FOR ADDITIONAL INFORMATION.
- TYPE A: REPLACE FRAME, COVER AND ADJUSTMENT RINGS AS PER DETAIL 5 SHEET 17.
- TYPE B: ADD MANHOLE SECTION, REPLACE CONE SECTION, FRAME, COVER AND ADJUSTMENT RINGS AS SHOWN IN DETAILED 3 SHEET 17.
- PROTECT SURVEY MONUMENT.

RESTORATION

SAW CUT AND ASPHALT REPAIR AS PER CITY OF KENMORE DETAIL 5-002 SHEET 18

Riser Replacement Table					
Manhole ID #	Road Surface to Top of Cone (INCHES)	New Frame and Lid (INCHES)	Replacement Risers Depth (INCHES)	Note	Close to Survey Monument
168	16	6	10	Replace Frame, Cover and Adjustment Rings	No
167	37	6	TYPE B	Add manhole section, Replace Cone, Frame, Cover, and Adjustment Rings.	Yes
166a	32	6	TYPE B	Add manhole section, Replace Cone, Frame, Cover, and Adjustment Rings.	Yes
166	14	6	8	Replace Frame, Cover and Adjustment Rings	No
165	16	6	10	Replace Frame, Cover and Adjustment Rings	No
G600	20	6	14	Replace Frame, Cover and Adjustment Rings	Yes
164	N/A	N/A	N/A	Not in Contract	No
163	25	6	19	Replace Frame, Cover and Adjustment Rings	Yes
162	16	6	10	Replace Frame, Cover and Adjustment Rings	Yes
161	24	6	18	Replace Frame, Cover and Adjustment Rings	No
160	24	6	18	Replace Frame, Cover and Adjustment Rings	No
159	24	6	18	Replace Frame, Cover and Adjustment Rings	No
H722	16	6	10	Replace Frame, Cover and Adjustment Rings	No
158	30	6	TYPE B	Add manhole section, Replace Cone, Frame, Cover, and Adjustment Rings.	Yes
157	14	6	8	Replace Frame, Cover and Adjustment Rings	No
156A	16	6	10	Replace Frame, Cover and Adjustment Rings	No
156	24	6	18	Replace Frame, Cover and Adjustment Rings	No
1	29	6	TYPE B	Add manhole section, Replace Cone, Frame, Cover, and Adjustment Rings.	Yes
41	34	6	TYPE B	Add manhole section, Replace Cone, Frame, Cover, and Adjustment Rings.	No
42	28	6	TYPE B	Add manhole section, Replace Cone, Frame, Cover, and Adjustment Rings.	Yes



NO	BY	APPD	REVISION	DATE
PRELIMINARY - NOT FOR CONSTRUCTION				

WARNING

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 DRAWN BY: RAH
 CHECKED BY: EBD
 APPROVAL: EBD
 DATE: NOV 2022

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 Kenmore, WA 98028-2684 Kenmore, WA 98028-2684
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CONTRACT 2022-02
 SEWER REPAIRS PROJECTS
SCH. D
MANHOLE GRADE ADJUSTMENT - MH - 168 - 167 - 166A

BASE MAP G/H11
 C2102
SHEET
 9 OF 31

NW 1/4, SEC 21, T26N, R5E, WM



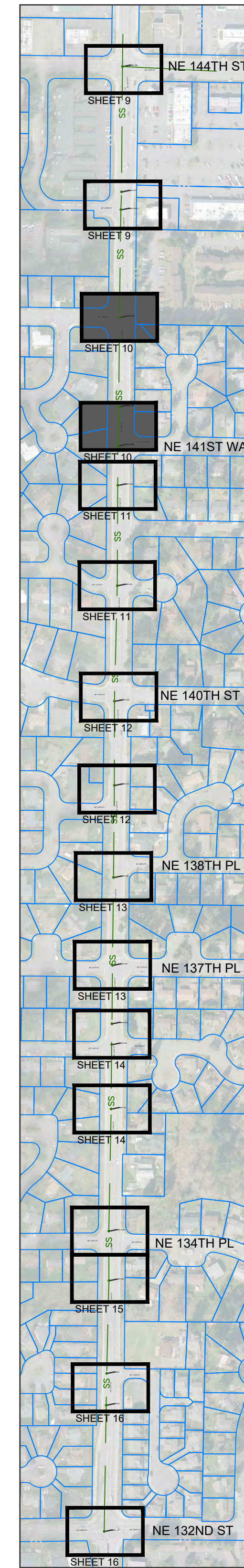
MH - 166 - REPLACE FRAME, COVER AND 8" OF ADJUSTMENT RINGS.



MH - 165 - REPLACE FRAME, COVER AND 10" OF ADJUSTMENT RINGS.



MH - G600 - REPLACE FRAME, COVER AND 14" OF ADJUSTMENT RINGS.



SHEET KEY MAP
NTS

GENERAL NOTES

1. SEE SHEET 2 FOR GENERAL NOTES, LEGEND, AND SURVEY CONTROL INFORMATION.
2. PRIOR TO EXCAVATION, INSTALL TESC FACILITIES PER SHEET 3.
3. TRAFFIC CONTROL IS INCIDENTAL TO WORK IN THE ROAD WAY.
4. CONTRACTOR SHALL PROTECT DEBRIS FROM FALLING INTO SEWER MANHOLE DURING CONSTRUCTION
5. PROJECT WITHIN KIRKLAND, FOLLOW DETAIL R.12 ON SHEET 17 FOR TRENCH REPAIR.
6. CONTRACTOR SHALL RESTORE ALL PAVEMENT MARKINGS TO EXISTING CONDITIONS.
7. MANHOLE ADJUSTMENTS MUST BE MADE PRIOR TO MARCH 15TH 2023 SO KIRKLAND CAN OVERLAY THE ROAD

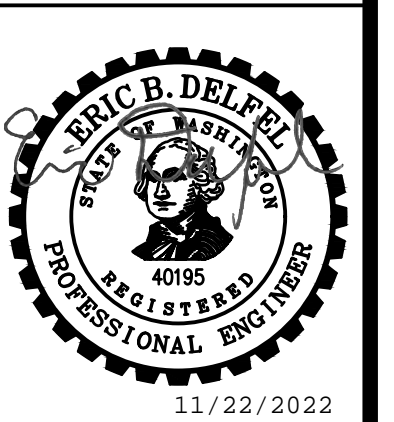
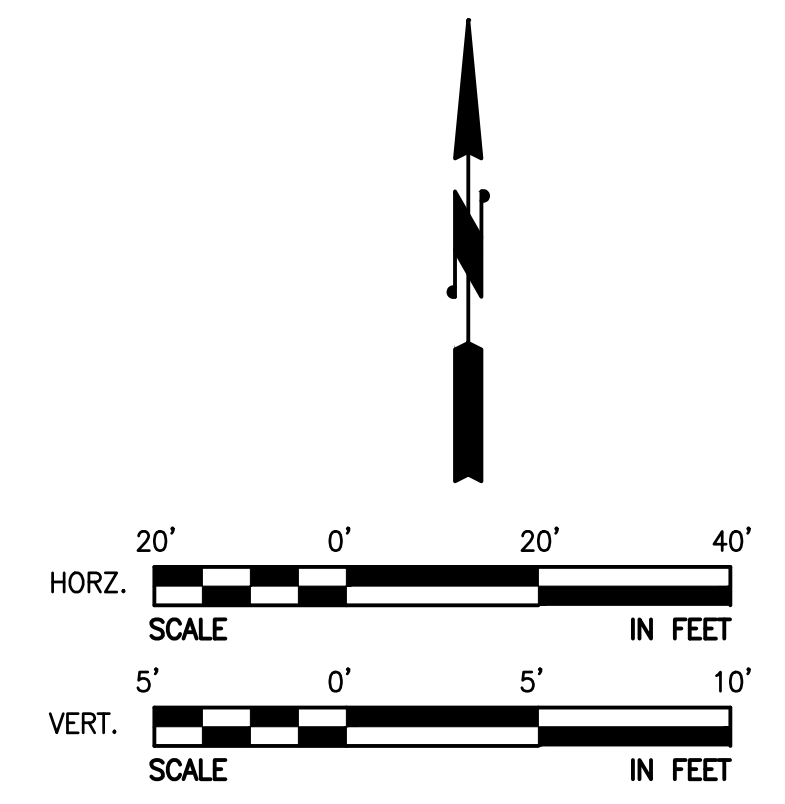
CONSTRUCTION NOTES

- ① CATCH BASIN AND INLET SEDIMENTATION PROTECTION REQUIRED, SEE SHEET 3 FOR ADDITIONAL INFORMATION.
- ② TYPE A: REPLACE FRAME, COVER AND ADJUSTMENT RINGS AS PER DETAIL 5 SHEET 17.
- ③ TYPE B: ADD MANHOLE SECTION, REPLACE CONE SECTION, FRAME, COVER AND ADJUSTMENT RINGS AS SHOWN IN DETAILED 3 SHEET 17.
- ④ PROTECT SURVEY MONUMENT.

RESTORATION

SAW CUT AND ASPHALT REPAIR AS PER CITY OF KENMORE DETAIL 5-002 SHEET 18

Riser Replacement Table					
Manhole ID #	Road Surface to Top of Cone (INCHES)	New Frame and Lid (INCHES)	Replacement Risers Depth (INCHES)	Note	Close to Survey Monument
168	16	6	10	Replace Frame, Cover and Adjustment Rings	No
167	37	6	TYPE B	Add manhole section, Replace Cone, Frame, Cover, and Adjustment Rings.	Yes
166a	32	6	TYPE B	Add manhole section, Replace Cone, Frame, Cover, and Adjustment Rings.	Yes
166	14	6	8	Replace Frame, Cover and Adjustment Rings	No
165	16	6	10	Replace Frame, Cover and Adjustment Rings	No
G600	20	6	14	Replace Frame, Cover and Adjustment Rings	Yes
164	N/A	N/A	N/A	Not in Contract	No
163	25	6	19	Replace Frame, Cover and Adjustment Rings	Yes
162	16	6	10	Replace Frame, Cover and Adjustment Rings	Yes
161	24	6	18	Replace Frame, Cover and Adjustment Rings	No
160	24	6	18	Replace Frame, Cover and Adjustment Rings	No
159	24	6	18	Replace Frame, Cover and Adjustment Rings	No
H722	16	6	10	Replace Frame, Cover and Adjustment Rings	No
158	30	6	TYPE B	Add manhole section, Replace Cone, Frame, Cover, and Adjustment Rings.	Yes
157	14	6	8	Replace Frame, Cover and Adjustment Rings	No
156A	16	6	10	Replace Frame, Cover and Adjustment Rings	No
156	24	6	18	Replace Frame, Cover and Adjustment Rings	No
1	29	6	TYPE B	Add manhole section, Replace Cone, Frame, Cover, and Adjustment Rings.	Yes
41	34	6	TYPE B	Add manhole section, Replace Cone, Frame, Cover, and Adjustment Rings.	No
42	28	6	TYPE B	Add manhole section, Replace Cone, Frame, Cover, and Adjustment Rings.	Yes



NO	BY	APPD	REVISION	DATE

PRELIMINARY - NOT FOR CONSTRUCTION

WARNING
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 DRAWN BY: RAH
 CHECKED BY: EBD
 APPROVAL: EBD
 DATE: NOV 2022

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CONTRACT 2022-02
 SEWER REPAIRS PROJECTS
SCH. D
MANHOLE GRADE ADJUSTMENT - MH-166 - 165 - G600

BASE MAP G/H11
 C2102
 SHEET
 10 OF 31

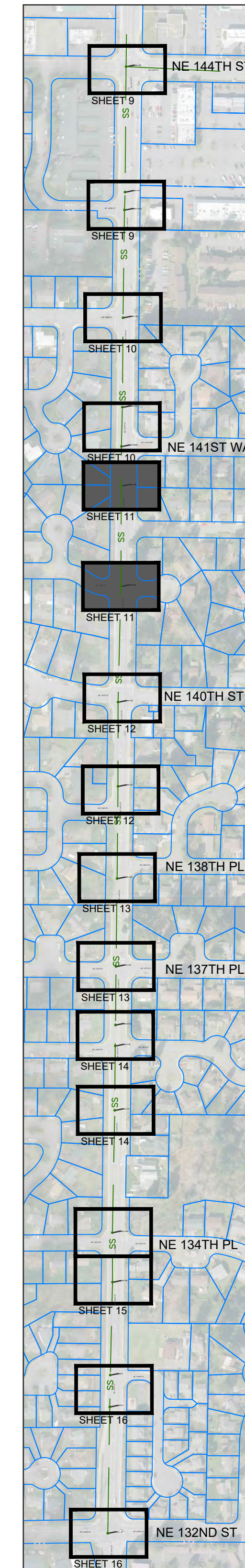
NW 1/4, SEC 21, T26N, R5E, WM



MH - 164 - NOT IN CONTRACT



MH - 163 - REPLACE FRAME, COVER AND 19" OF ADJUSTMENT RINGS. PROTECT SURVEY MONUMENT.



SHEET KEY MAP
NTS

GENERAL NOTES

1. SEE SHEET 2 FOR GENERAL NOTES, LEGEND, AND SURVEY CONTROL INFORMATION.
2. PRIOR TO EXCAVATION, INSTALL TESC FACILITIES PER SHEET 3.
3. TRAFFIC CONTROL IS INCIDENTAL TO WORK IN THE ROAD WAY.
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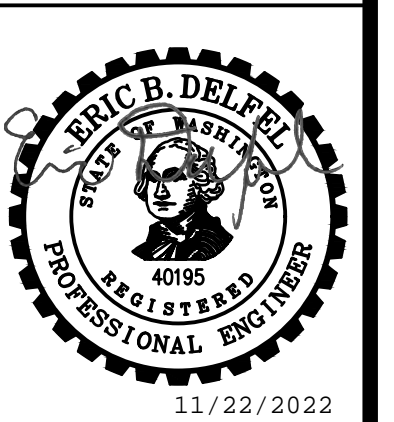
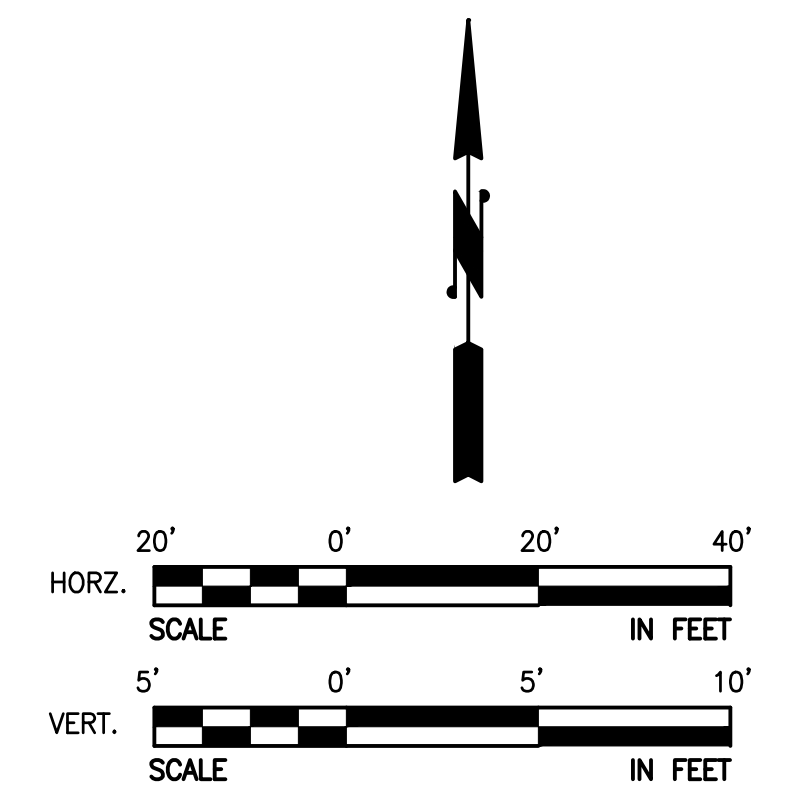
CONSTRUCTION NOTES

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- ② TYPE A: REPLACE FRAME, COVER AND ADJUSTMENT RINGS AS PER DETAIL 5 SHEET 17.
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- ④ PROTECT SURVEY MONUMENT.

RESTORATION

SAW CUT AND ASPHALT REPAIR AS PER CITY OF KENMORE DETAIL 5-002 SHEET 18

Riser Replacement Table					
Manhole ID #	Road Surface to Top of Cone (INCHES)	New Frame and Lid (INCHES)	Replacement Risers Depth (INCHES)	Note	Close to Survey Monument
168	16	6	10	Replace Frame, Cover and Adjustment Rings	No
167	37	6	TYPE B	Add manhole section, Replace Cone, Frame, Cover, and Adjustment Rings.	Yes
166a	32	6	TYPE B	Add manhole section, Replace Cone, Frame, Cover, and Adjustment Rings.	Yes
166	14	6	8	Replace Frame, Cover and Adjustment Rings	No
165	16	6	10	Replace Frame, Cover and Adjustment Rings	No
G600	20	6	14	Replace Frame, Cover and Adjustment Rings	Yes
164	N/A	N/A	N/A	Not in Contract	No
163	25	6	19	Replace Frame, Cover and Adjustment Rings	Yes
162	16	6	10	Replace Frame, Cover and Adjustment Rings	Yes
161	24	6	18	Replace Frame, Cover and Adjustment Rings	No
160	24	6	18	Replace Frame, Cover and Adjustment Rings	No
159	24	6	18	Replace Frame, Cover and Adjustment Rings	No
H722	16	6	10	Replace Frame, Cover and Adjustment Rings	No
158	30	6	TYPE B	Add manhole section, Replace Cone, Frame, Cover, and Adjustment Rings.	Yes
157	14	6	8	Replace Frame, Cover and Adjustment Rings	No
156A	16	6	10	Replace Frame, Cover and Adjustment Rings	No
156	24	6	18	Replace Frame, Cover and Adjustment Rings	No
1	29	6	TYPE B	Add manhole section, Replace Cone, Frame, Cover, and Adjustment Rings.	Yes
41	34	6	TYPE B	Add manhole section, Replace Cone, Frame, Cover, and Adjustment Rings.	No
42	28	6	TYPE B	Add manhole section, Replace Cone, Frame, Cover, and Adjustment Rings.	Yes



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 Kenmore, WA 98028-2684 Kenmore, WA 98028-2684
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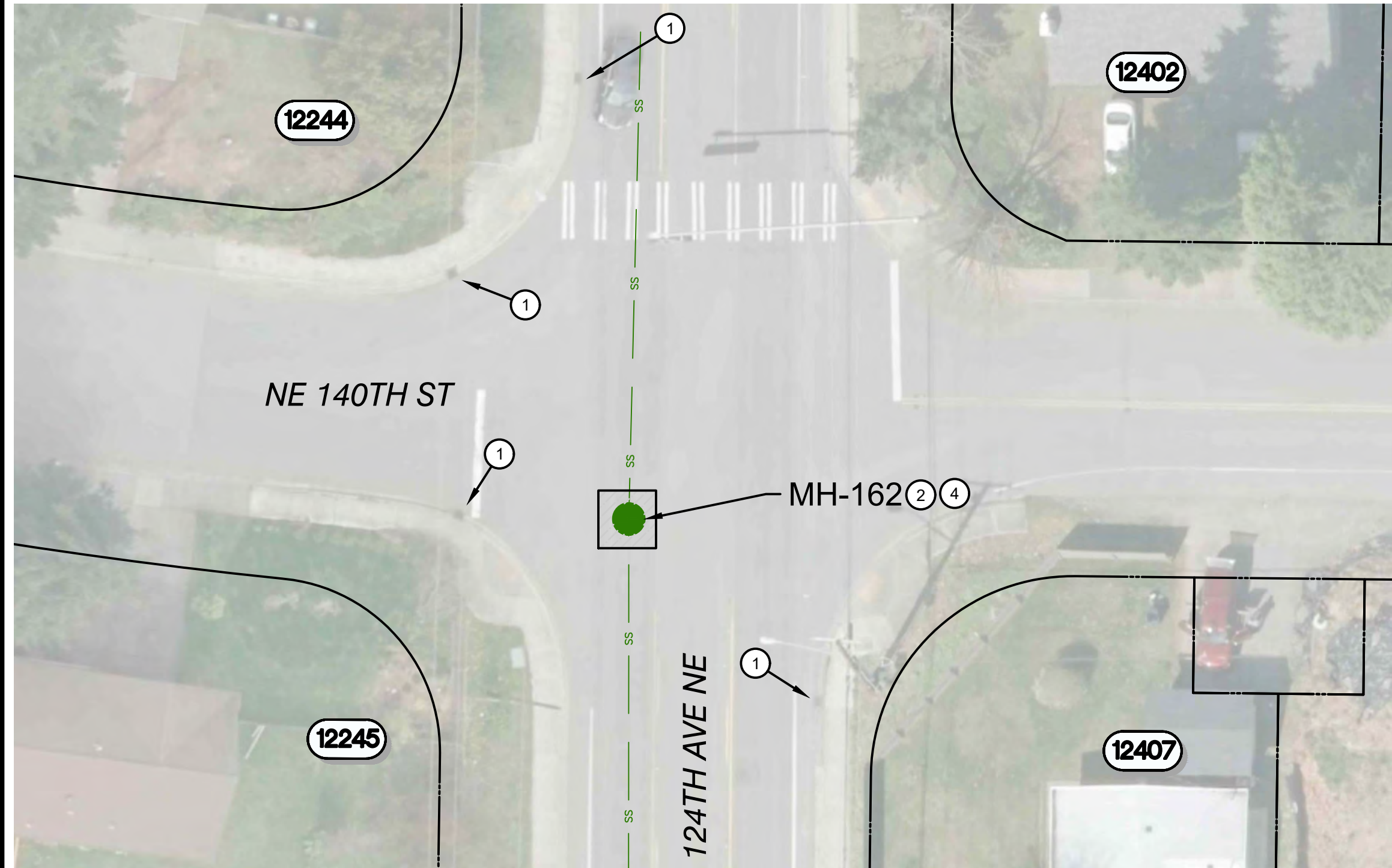
CONTRACT 2022-02
 SEWER REPAIRS PROJECTS

SCH. D

MANHOLE GRADE ADJUSTMENT - MH-164 - 163

BASE MAP G/H11
C2102
SHEET
11 OF 31

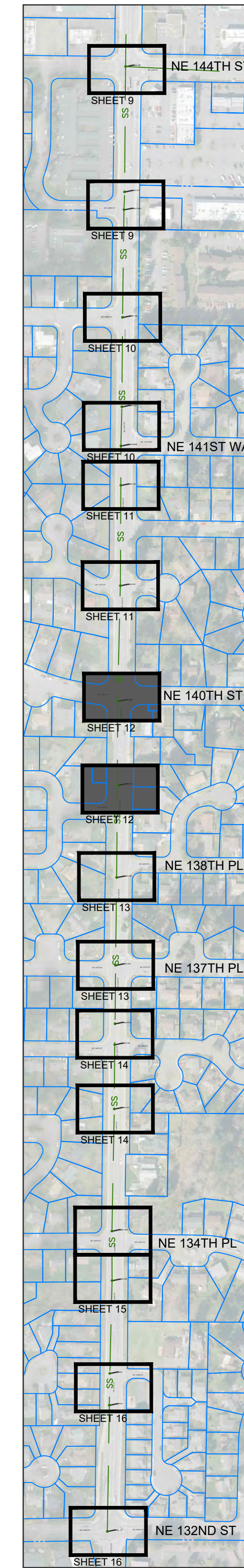
SW 1/4, SEC 21, T26N, R5E, WM



MH - 162 - REPLACE FRAME, COVER AND 10" OF ADJUSTMENT RINGS. PROTECT SURVEY MONUMENT



MH - 161 - REPLACE FRAME, COVER AND 18" OF ADJUSTMENT RINGS.



SHEET KEY MAP
NTS

GENERAL NOTES

- SEE SHEET 2 FOR GENERAL NOTES, LEGEND, AND SURVEY CONTROL INFORMATION.
- PRIOR TO EXCAVATION, INSTALL TESC FACILITIES PER SHEET 3.
- TRAFFIC CONTROL IS INCIDENTAL TO WORK IN THE ROAD WAY.
- CONTRACTOR SHALL PROTECT DEBRIS FROM FALLING INTO SEWER MANHOLE DURING CONSTRUCTION
- PROJECT WITHIN KIRKLAND, FOLLOW DETAIL R.12 ON SHEET 17 FOR TRENCH REPAIR.
- CONTRACTOR SHALL RESTORE ALL PAVEMENT MARKINGS TO EXISTING CONDITIONS.
- MANHOLE ADJUSTMENTS MUST BE MADE PRIOR TO MARCH 15TH 2023 SO KIRKLAND CAN OVERLAY THE ROAD

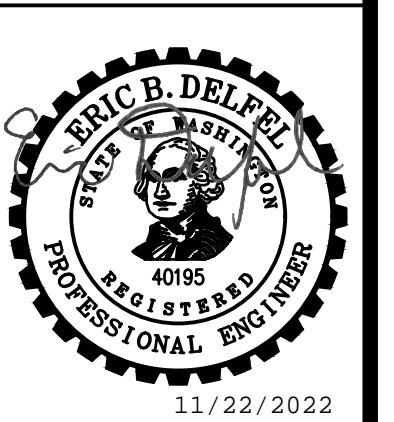
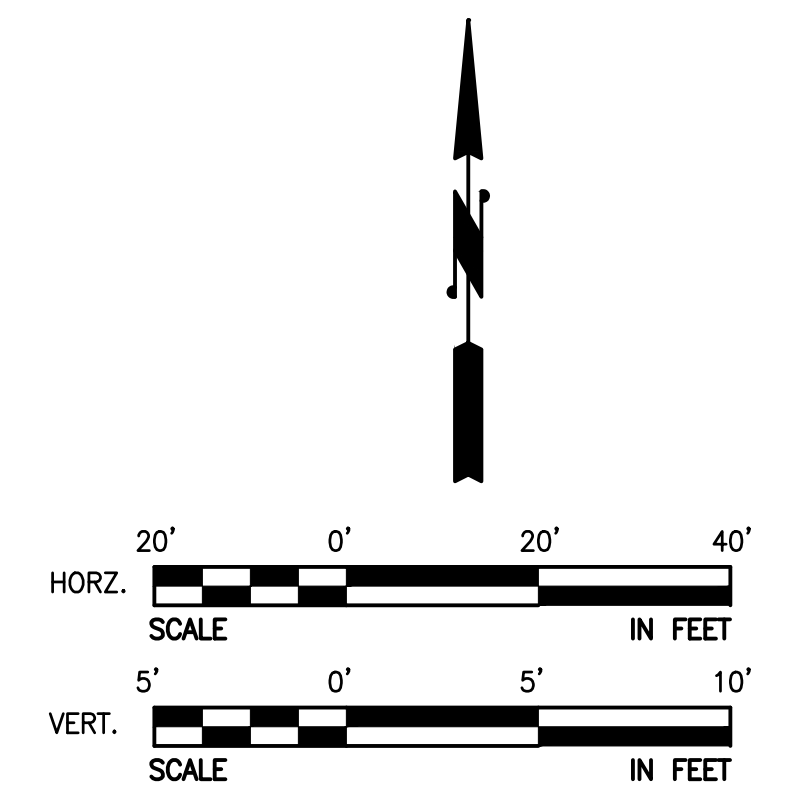
CONSTRUCTION NOTES

- CATCH BASIN AND INLET SEDIMENTATION PROTECTION REQUIRED, SEE SHEET 3 FOR ADDITIONAL INFORMATION.
- TYPE A: REPLACE FRAME, COVER AND ADJUSTMENT RINGS AS PER DETAIL 5 SHEET 17.
- TYPE B: ADD MANHOLE SECTION, REPLACE CONE SECTION, FRAME, COVER AND ADJUSTMENT RINGS AS SHOWN IN DETAILED 3 SHEET 17.
- PROTECT SURVEY MONUMENT.

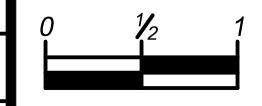
RESTORATION

 SAW CUT AND ASPHALT REPAIR AS PER CITY OF KENMORE DETAIL 5-002 SHEET 18



Riser Replacement Table					
Manhole ID #	Road Surface to Top of Cone (INCHES)	New Frame and Lid (INCHES)	Replacement Risers Depth (INCHES)	Note	Close to Survey Monument
168	16	6	10	Replace Frame, Cover and Adjustment Rings	No
167	37	6	TYPE B	Add manhole section, Replace Cone, Frame, Cover, and Adjustment Rings.	Yes
166a	32	6	TYPE B	Add manhole section, Replace Cone, Frame, Cover, and Adjustment Rings.	Yes
166	14	6	8	Replace Frame, Cover and Adjustment Rings	No
165	16	6	10	Replace Frame, Cover and Adjustment Rings	No
G600	20	6	14	Replace Frame, Cover and Adjustment Rings	Yes
164	N/A	N/A	N/A	Not in Contract	No
163	25	6	19	Replace Frame, Cover and Adjustment Rings	Yes
162	16	6	10	Replace Frame, Cover and Adjustment Rings	Yes
161	24	6	18	Replace Frame, Cover and Adjustment Rings	No
160	24	6	18	Replace Frame, Cover and Adjustment Rings	No
159	24	6	18	Replace Frame, Cover and Adjustment Rings	No
H722	16	6	10	Replace Frame, Cover and Adjustment Rings	No
158	30	6	TYPE B	Add manhole section, Replace Cone, Frame, Cover, and Adjustment Rings.	Yes
157	14	6	8	Replace Frame, Cover and Adjustment Rings	No
156A	16	6	10	Replace Frame, Cover and Adjustment Rings	No
156	24	6	18	Replace Frame, Cover and Adjustment Rings	No
1	29	6	TYPE B	Add manhole section, Replace Cone, Frame, Cover, and Adjustment Rings.	Yes
41	34	6	TYPE B	Add manhole section, Replace Cone, Frame, Cover, and Adjustment Rings.	No
42	28	6	TYPE B	Add manhole section, Replace Cone, Frame, Cover, and Adjustment Rings.	Yes



NO	BY	APPD	REVISION	DATE
PRELIMINARY - NOT FOR CONSTRUCTION				

WARNING

 IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED BY RTG
 DRAWN BY RAH
 CHECKED BY EBD
 APPROVAL EBD
 DATE NOV 2022

NORTHSHORE UTILITY DISTRICT
 6830 NE 185th St. P.O. Box 82489
 Kenmore, WA 98028-2684 Kenmore, WA 98028-2684
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CONTRACT 2022-02
 SEWER REPAIRS PROJECTS

SCH. D

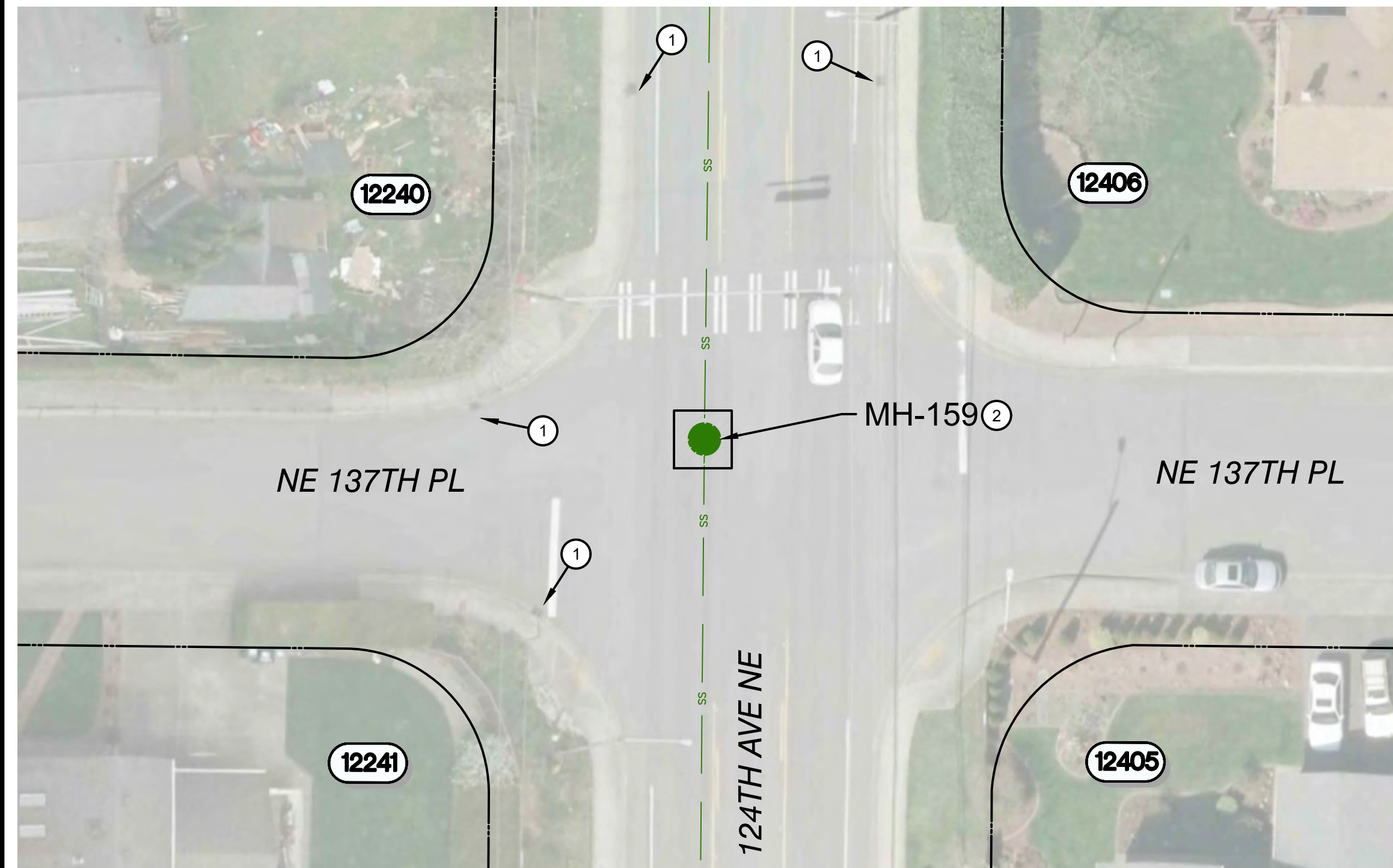
MANHOLE GRADE ADJUSTMENT - MH-162 - 161

BASE MAP G/H11
C2102
SHEET
12 OF 31

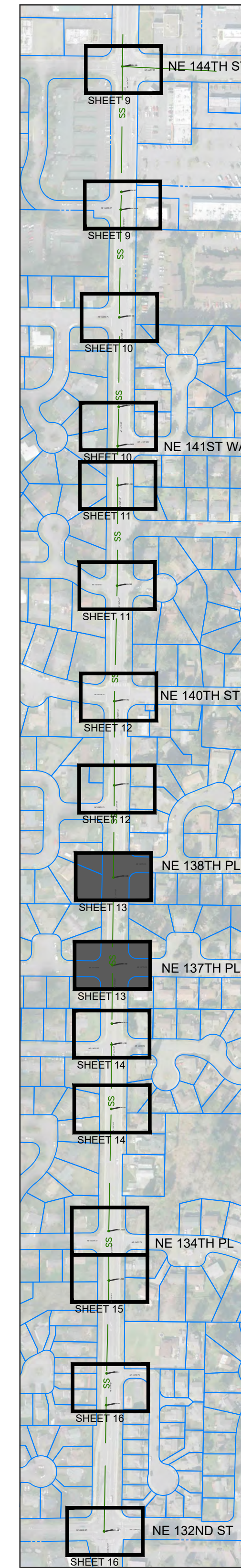
SW 1/4, SEC 21, T26N, R5E, WM



MH - 160 - REPLACE FRAME, COVER AND 18" OF ADJUSTMENT RINGS.



MH - 159 - REPLACE FRAME, COVER AND 18" OF ADJUSTMENT RINGS.



SHEET KEY MAP
NTS

GENERAL NOTES

1. SEE SHEET 2 FOR GENERAL NOTES, LEGEND, AND SURVEY CONTROL INFORMATION.
2. PRIOR TO EXCAVATION, INSTALL TESC FACILITIES PER SHEET 3.
3. TRAFFIC CONTROL IS INCIDENTAL TO WORK IN THE ROAD WAY.
4. CONTRACTOR SHALL PROTECT DEBRIS FROM FALLING INTO SEWER MANHOLE DURING CONSTRUCTION
5. PROJECT WITHIN KIRKLAND, FOLLOW DETAIL R.12 ON SHEET 17 FOR TRENCH REPAIR.
6. CONTRACTOR SHALL RESTORE ALL PAVEMENT MARKINGS TO EXISTING CONDITIONS.
7. MANHOLE ADJUSTMENTS MUST BE MADE PRIOR TO MARCH 15TH 2023 SO KIRKLAND CAN OVERLAY THE ROAD

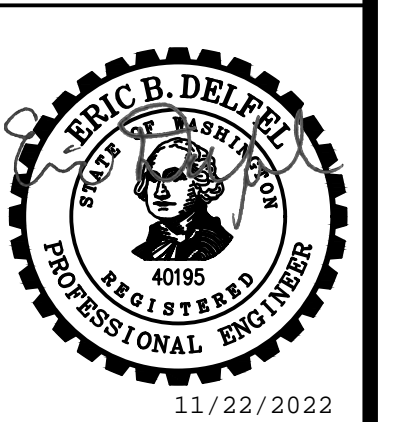
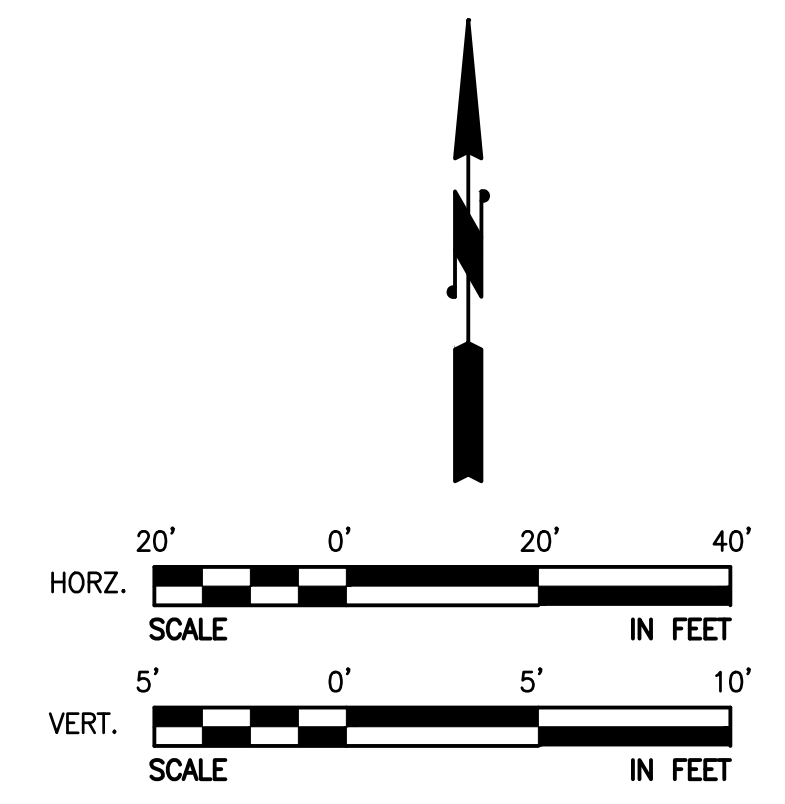
CONSTRUCTION NOTES

- ① CATCH BASIN AND INLET SEDIMENTATION PROTECTION REQUIRED, SEE SHEET 3 FOR ADDITIONAL INFORMATION.
- ② TYPE A: REPLACE FRAME, COVER AND ADJUSTMENT RINGS AS PER DETAIL 5 SHEET 17.
- ③ TYPE B: ADD MANHOLE SECTION, REPLACE CONE SECTION, FRAME, COVER AND ADJUSTMENT RINGS AS SHOWN IN DETAILED 3 SHEET 17.
- ④ PROTECT SURVEY MONUMENT.

RESTORATION

SAW CUT AND ASPHALT REPAIR AS PER CITY OF KENMORE DETAIL 5-002 SHEET 18

Riser Replacement Table					
Manhole ID #	Road Surface to Top of Cone (INCHES)	New Frame and Lid (INCHES)	Replacement Risers Depth (INCHES)	Note	Close to Survey Monument
168	16	6	10	Replace Frame, Cover and Adjustment Rings	No
167	37	6	TYPE B	Add manhole section, Replace Cone, Frame, Cover, and Adjustment Rings.	Yes
166a	32	6	TYPE B	Add manhole section, Replace Cone, Frame, Cover, and Adjustment Rings.	Yes
166	14	6	8	Replace Frame, Cover and Adjustment Rings	No
165	16	6	10	Replace Frame, Cover and Adjustment Rings	No
G600	20	6	14	Replace Frame, Cover and Adjustment Rings	Yes
164	N/A	N/A	N/A	Not in Contract	No
163	25	6	19	Replace Frame, Cover and Adjustment Rings	Yes
162	16	6	10	Replace Frame, Cover and Adjustment Rings	Yes
161	24	6	18	Replace Frame, Cover and Adjustment Rings	No
160	24	6	18	Replace Frame, Cover and Adjustment Rings	No
159	24	6	18	Replace Frame, Cover and Adjustment Rings	No
H722	16	6	10	Replace Frame, Cover and Adjustment Rings	No
158	30	6	TYPE B	Add manhole section, Replace Cone, Frame, Cover, and Adjustment Rings.	Yes
157	14	6	8	Replace Frame, Cover and Adjustment Rings	No
156A	16	6	10	Replace Frame, Cover and Adjustment Rings	No
156	24	6	18	Replace Frame, Cover and Adjustment Rings	No
1	29	6	TYPE B	Add manhole section, Replace Cone, Frame, Cover, and Adjustment Rings.	Yes
41	34	6	TYPE B	Add manhole section, Replace Cone, Frame, Cover, and Adjustment Rings.	No
42	28	6	TYPE B	Add manhole section, Replace Cone, Frame, Cover, and Adjustment Rings.	Yes



NO	BY	APPD	REVISION	DATE
PRELIMINARY - NOT FOR CONSTRUCTION				

WARNING

 IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

	DESIGNED BY	RTG
	DRAWN BY	RAH
	CHECKED BY	EBD
	APPROVAL	EBD
DATE	NOV 2022	

NORTHSHORE UTILITY DISTRICT

6830 NE 185th St. P.O. Box 82489
 Kenmore, WA 98028-2684 Kenmore, WA 98028-2684

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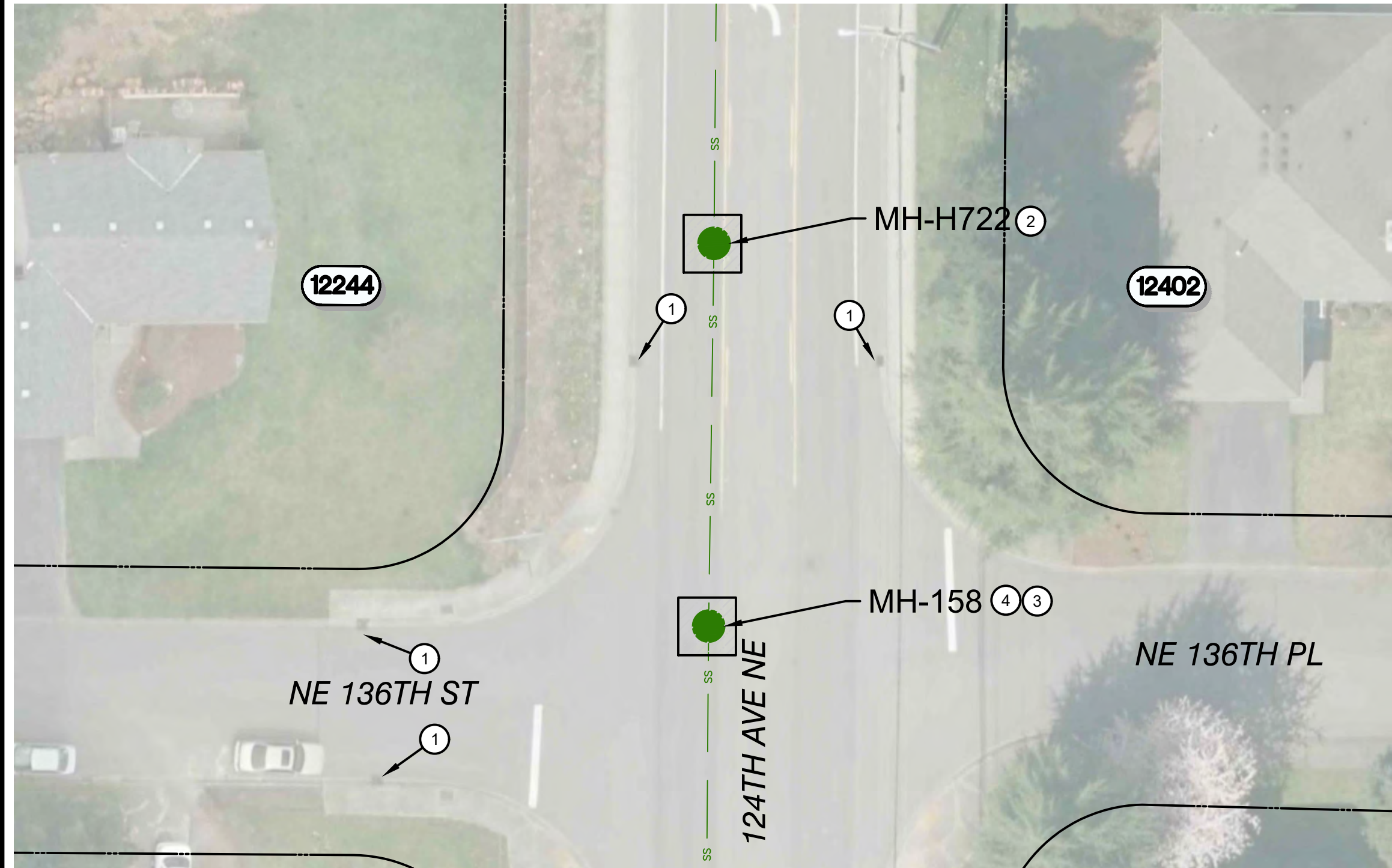
CONTRACT 2022-02
SEWER REPAIRS PROJECTS

SCH. D

MANHOLE GRADE ADJUSTMENT - MH-160 - 159

BASE MAP	G/H11
	C2102
SHEET	13 OF 31

SW 1/4, SEC 21, T26N, R5E, WM



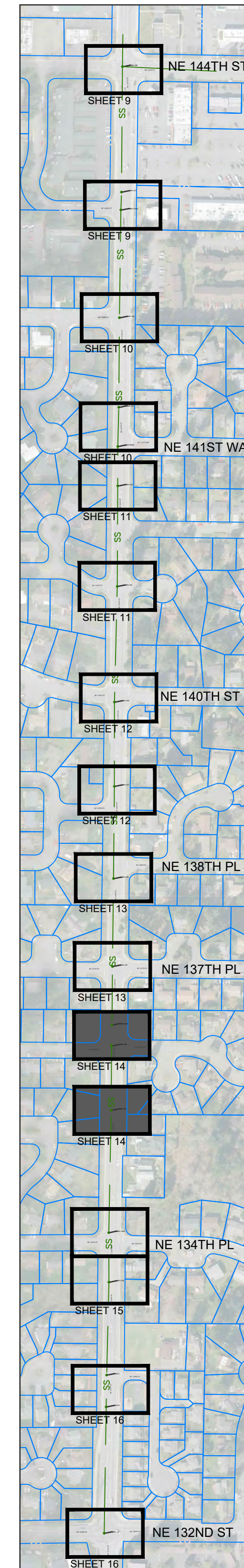
MH - H722 - REPLACE FRAME, COVER AND 10" OF ADJUSTMENT RINGS.



MH - 158 - ADD MAHOLE SECTION, REPLACE MANHOLE CONE, FRAME, COVER AND ADJUSTMENT RINGS AS PER DETAIL 3 SHEET 17. CONFIRM KEY-WAY PRIOR TO INSTALLATION. PROTECT SURVEY MONUMENT



MH - 157 - REPLACE FRAME, COVER AND 8" OF ADJUSTMENT RINGS.



SHEET KEY MAP
NTS

GENERAL NOTES

- SEE SHEET 2 FOR GENERAL NOTES, LEGEND, AND SURVEY CONTROL INFORMATION.
- PRIOR TO EXCAVATION, INSTALL TESC FACILITIES PER SHEET 3.
- TRAFFIC CONTROL IS INCIDENTAL TO WORK IN THE ROAD WAY.
- CONTRACTOR SHALL PROTECT DEBRIS FROM FALLING INTO SEWER MANHOLE DURING CONSTRUCTION
- PROJECT WITHIN KIRKLAND, FOLLOW DETAIL R.12 ON SHEET 17 FOR TRENCH REPAIR.
- CONTRACTOR SHALL RESTORE ALL PAVEMENT MARKINGS TO EXISTING CONDITIONS.
- MANHOLE ADJUSTMENTS MUST BE MADE PRIOR TO MARCH 15TH 2023 SO KIRKLAND CAN OVERLAY THE ROAD

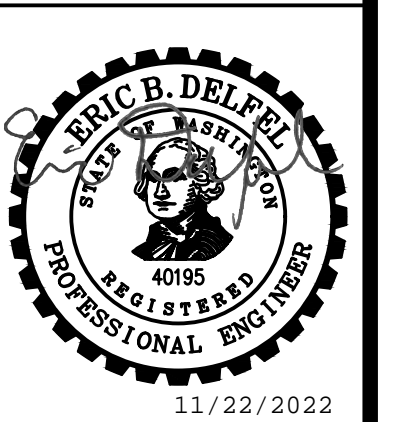
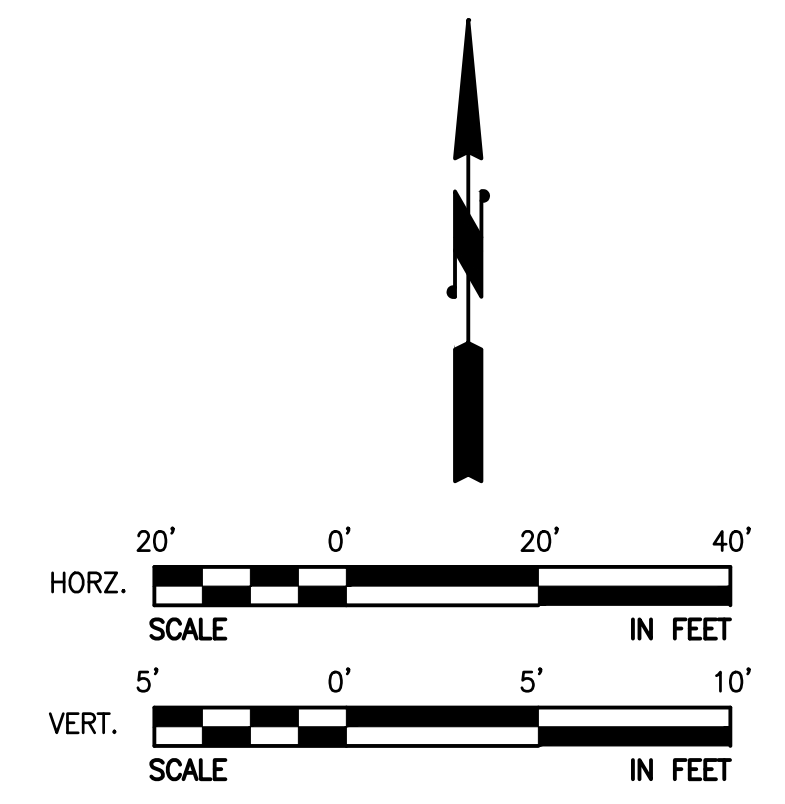
CONSTRUCTION NOTES

- CATCH BASIN AND INLET SEDIMENTATION PROTECTION REQUIRED, SEE SHEET 3 FOR ADDITIONAL INFORMATION.
- TYPE A: REPLACE FRAME, COVER AND ADJUSTMENT RINGS AS PER DETAIL 5 SHEET 17.
- TYPE B: ADD MANHOLE SECTION, REPLACE CONE SECTION, FRAME, COVER AND ADJUSTMENT RINGS AS SHOWN IN DETAILED 3 SHEET 17.
- PROTECT SURVEY MONUMENT.

RESTORATION

SAW CUT AND ASPHALT REPAIR AS PER CITY OF KENMORE DETAIL 5-002 SHEET 18

Riser Replacement Table					
Manhole ID #	Road Surface to Top of Cone (INCHES)	New Frame and Lid (INCHES)	Replacement Risers Depth (INCHES)	Note	Close to Survey Monument
168	16	6	10	Replace Frame, Cover and Adjustment Rings	No
167	37	6	TYPE B	Add manhole section, Replace Cone, Frame, Cover, and Adjustment Rings.	Yes
166a	32	6	TYPE B	Add manhole section, Replace Cone, Frame, Cover, and Adjustment Rings.	Yes
166	14	6	8	Replace Frame, Cover and Adjustment Rings	No
165	16	6	10	Replace Frame, Cover and Adjustment Rings	No
G600	20	6	14	Replace Frame, Cover and Adjustment Rings	Yes
164	N/A	N/A	N/A	Not in Contract	No
163	25	6	19	Replace Frame, Cover and Adjustment Rings	Yes
162	16	6	10	Replace Frame, Cover and Adjustment Rings	Yes
161	24	6	18	Replace Frame, Cover and Adjustment Rings	No
160	24	6	18	Replace Frame, Cover and Adjustment Rings	No
159	24	6	18	Replace Frame, Cover and Adjustment Rings	No
H722	16	6	10	Replace Frame, Cover and Adjustment Rings	No
158	30	6	TYPE B	Add manhole section, Replace Cone, Frame, Cover, and Adjustment Rings.	Yes
157	14	6	8	Replace Frame, Cover and Adjustment Rings	No
156A	16	6	10	Replace Frame, Cover and Adjustment Rings	No
156	24	6	18	Replace Frame, Cover and Adjustment Rings	No
1	29	6	TYPE B	Add manhole section, Replace Cone, Frame, Cover, and Adjustment Rings.	Yes
41	34	6	TYPE B	Add manhole section, Replace Cone, Frame, Cover, and Adjustment Rings.	No
42	28	6	TYPE B	Add manhole section, Replace Cone, Frame, Cover, and Adjustment Rings.	Yes



NO	BY	APPD	REVISION	DATE
PRELIMINARY - NOT FOR CONSTRUCTION				

WARNING

 IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED BY: RTG
 DRAWN BY: RAH
 CHECKED BY: EBD
 APPROVAL: EBD
 DATE: NOV 2022

NORTHSHORE UTILITY DISTRICT
 6830 NE 185th St. P.O. Box 82489
 Kenmore, WA 98028-2684 Kenmore, WA 98028-2684
 Ph: (425) 398-4400 | Fax: (425) 398-4430 | www.nud.net

CONTRACT 2022-02
 SEWER REPAIRS PROJECTS
SCH. D
MANHOLE GRADE ADJUSTMENT - MH-H722 - 158

BASE MAP G/H11
 C2102
SHEET
 14 OF 31

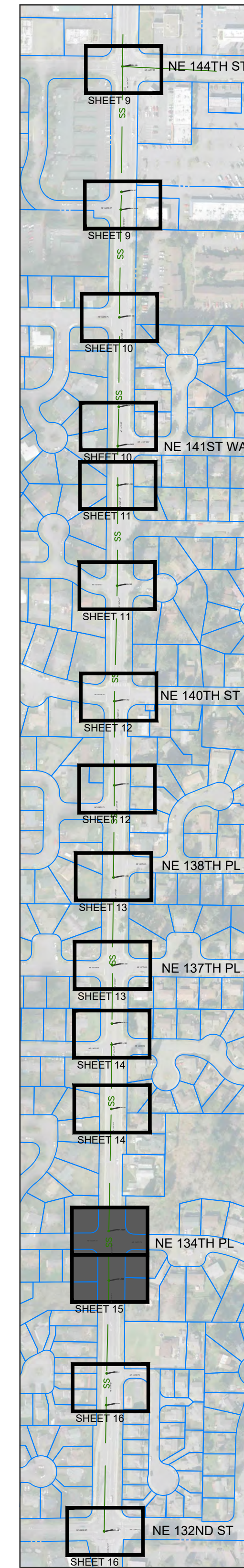
SW 1/4, SEC 21, T26N, R5E, WM



MH - 156A - REPLACE FRAME, COVER AND 10" OF ADJUSTMENT RINGS.



MH - 156 - REPLACE FRAME, COVER AND 18" OF ADJUSTMENT RINGS.



SHEET KEY MAP
NTS

GENERAL NOTES

- SEE SHEET 2 FOR GENERAL NOTES, LEGEND, AND SURVEY CONTROL INFORMATION.
- PRIOR TO EXCAVATION, INSTALL TESC FACILITIES PER SHEET 3.
- TRAFFIC CONTROL IS INCIDENTAL TO WORK IN THE ROAD WAY.
- CONTRACTOR SHALL PROTECT DEBRIS FROM FALLING INTO SEWER MANHOLE DURING CONSTRUCTION
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- CONTRACTOR SHALL RESTORE ALL PAVEMENT MARKINGS TO EXISTING CONDITIONS.
- MANHOLE ADJUSTMENTS MUST BE MADE PRIOR TO MARCH 15TH 2023 SO KIRKLAND CAN OVERLAY THE ROAD

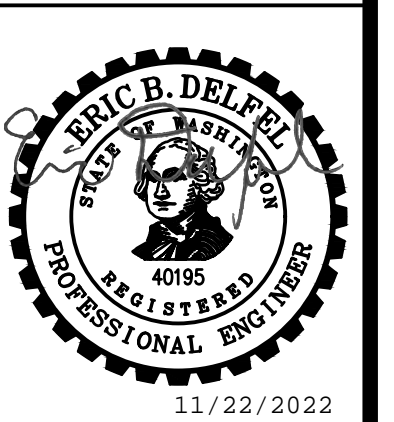
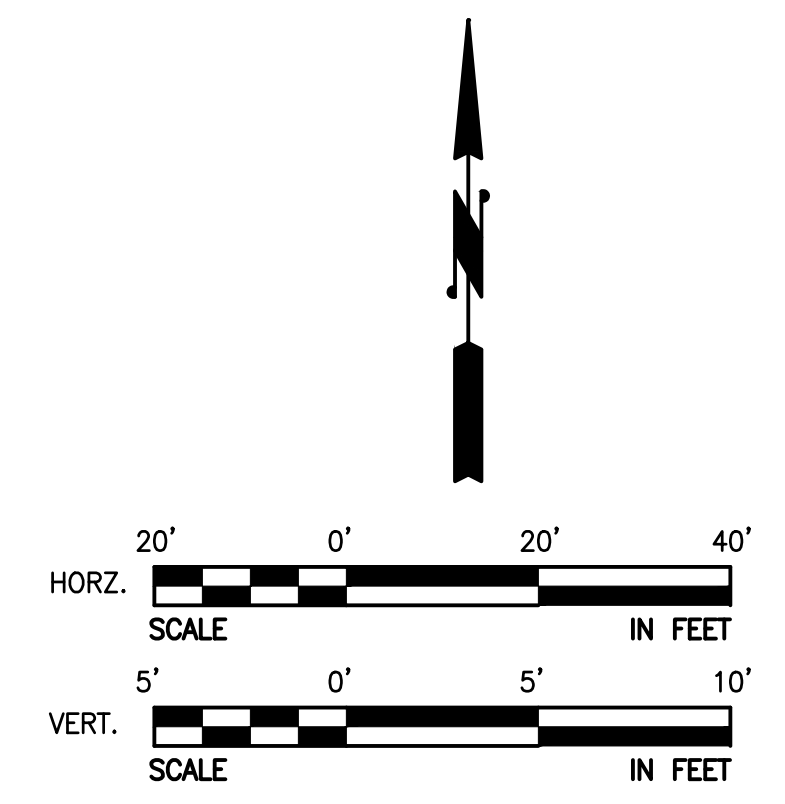
CONSTRUCTION NOTES

- CATCH BASIN AND INLET SEDIMENTATION PROTECTION REQUIRED, SEE SHEET 3 FOR ADDITIONAL INFORMATION.
- TYPE A: REPLACE FRAME, COVER AND ADJUSTMENT RINGS AS PER DETAIL 5 SHEET 17.
- TYPE B: ADD MANHOLE SECTION, REPLACE CONE SECTION, FRAME, COVER AND ADJUSTMENT RINGS AS SHOWN IN DETAILED 3 SHEET 17.
- PROTECT SURVEY MONUMENT.

RESTORATION

SAW CUT AND ASPHALT REPAIR AS PER CITY OF KENMORE DETAIL 5-002 SHEET 18

Riser Replacement Table					
Manhole ID #	Road Surface to Top of Cone (INCHES)	New Frame and Lid (INCHES)	Replacement Risers Depth (INCHES)	Note	Close to Survey Monument
168	16	6	10	Replace Frame, Cover and Adjustment Rings	No
167	37	6	TYPE B	Add manhole section, Replace Cone, Frame, Cover, and Adjustment Rings.	Yes
166a	32	6	TYPE B	Add manhole section, Replace Cone, Frame, Cover, and Adjustment Rings.	Yes
166	14	6	8	Replace Frame, Cover and Adjustment Rings	No
165	16	6	10	Replace Frame, Cover and Adjustment Rings	No
G600	20	6	14	Replace Frame, Cover and Adjustment Rings	Yes
164	N/A	N/A	N/A	Not in Contract	No
163	25	6	19	Replace Frame, Cover and Adjustment Rings	Yes
162	16	6	10	Replace Frame, Cover and Adjustment Rings	Yes
161	24	6	18	Replace Frame, Cover and Adjustment Rings	No
160	24	6	18	Replace Frame, Cover and Adjustment Rings	No
159	24	6	18	Replace Frame, Cover and Adjustment Rings	No
H722	16	6	10	Replace Frame, Cover and Adjustment Rings	No
158	30	6	TYPE B	Add manhole section, Replace Cone, Frame, Cover, and Adjustment Rings.	Yes
157	14	6	8	Replace Frame, Cover and Adjustment Rings	No
156A	16	6	10	Replace Frame, Cover and Adjustment Rings	No
156	24	6	18	Replace Frame, Cover and Adjustment Rings	No
1	29	6	TYPE B	Add manhole section, Replace Cone, Frame, Cover, and Adjustment Rings.	Yes
41	34	6	TYPE B	Add manhole section, Replace Cone, Frame, Cover, and Adjustment Rings.	No
42	28	6	TYPE B	Add manhole section, Replace Cone, Frame, Cover, and Adjustment Rings.	Yes



NO	BY	APPD	REVISION	DATE
PRELIMINARY - NOT FOR CONSTRUCTION				

WARNING

 IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

Gray & Osborne, Inc.
 CONSULTING ENGINEERS

DESIGNED BY	RTG
DRAWN BY	RAH
CHECKED BY	EBD
APPROVAL	EBD
DATE	NOV 2022

NORTHSHORE UTILITY DISTRICT

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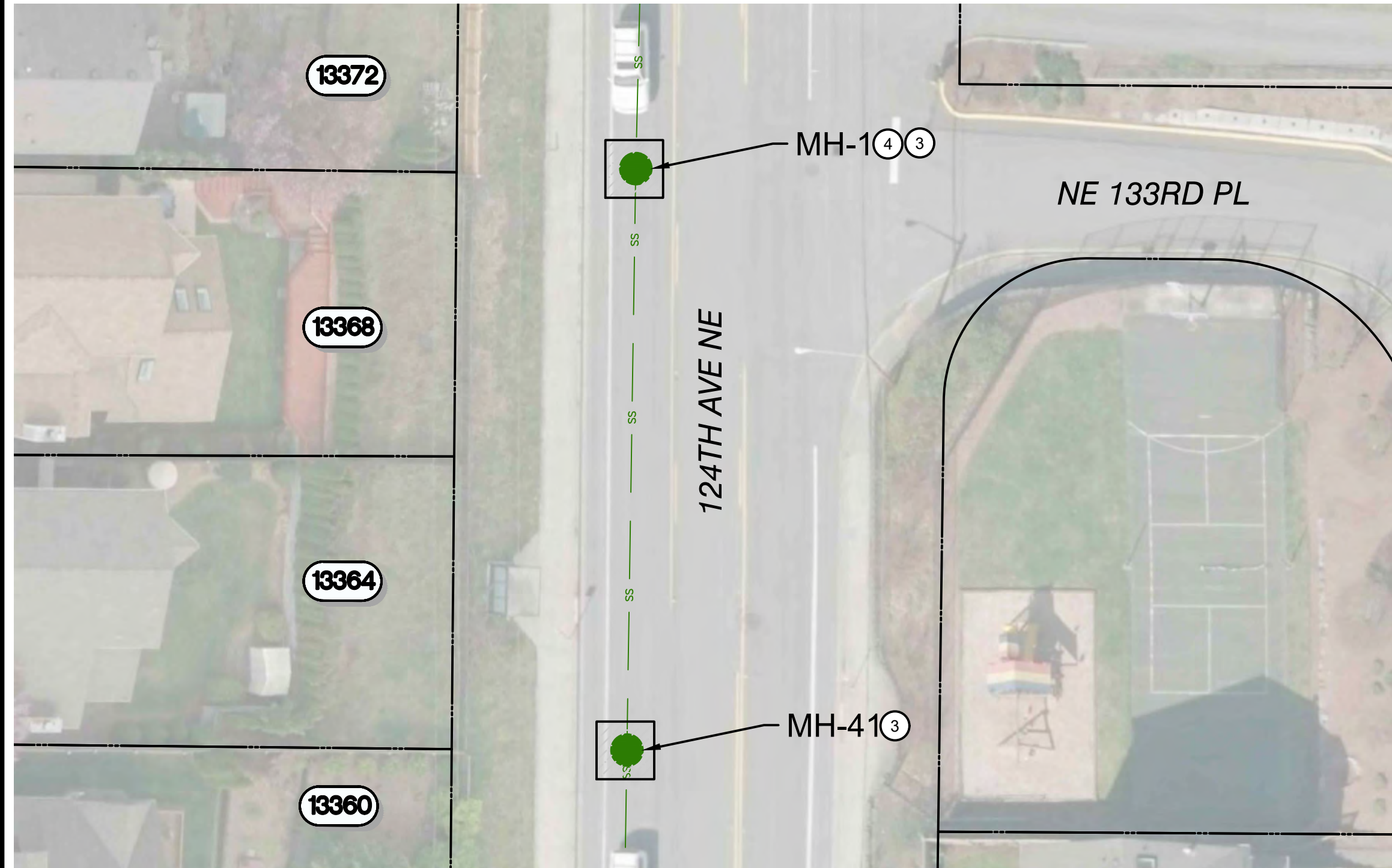
CONTRACT 2022-02
 SEWER REPAIRS PROJECTS

SCH. D

MANHOLE GRADE ADJUSTMENT - MH-156A - 156

BASE MAP	G/H11
	C2102
SHEET	15 OF 31

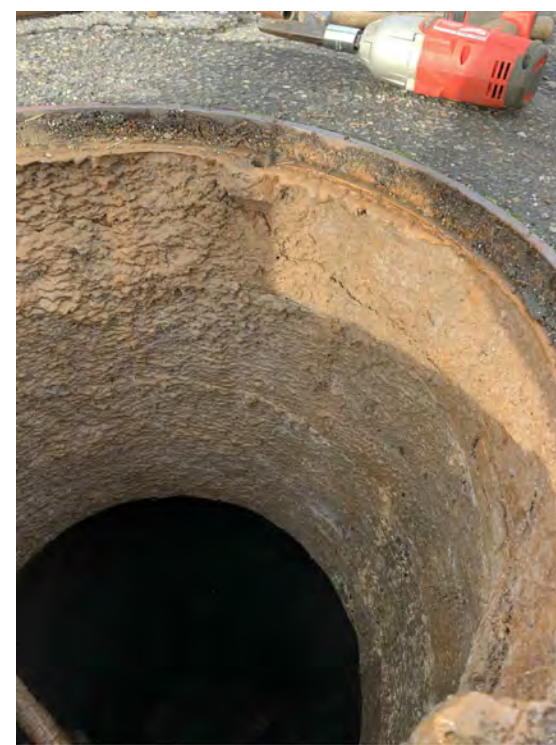
SW 1/4, SEC 21, T26N, R5E, WM



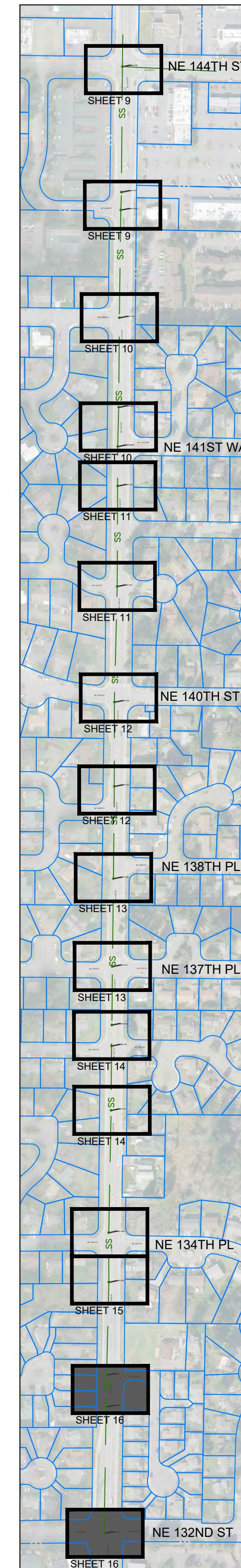
MH - 1 - ADD MAHOLE SECTION, REPLACE MANHOLE CONE, FRAME, COVER AND ADJUSTMENT RINGS AS PER DETAIL 3 SHEET 17. CONFIRM KEY-WAY PRIOR TO INSTALLATION. PROTECT SURVEY MONUMENT



MH - 41 - ADD MAHOLE SECTION, REPLACE MANHOLE CONE, FRAME, COVER AND ADJUSTMENT RINGS AS PER DETAIL 3 SHEET 17. CONFIRM KEY-WAY PRIOR TO INSTALLATION.



MH - 42 - ADD MAHOLE SECTION, REPLACE MANHOLE CONE, FRAME, COVER AND ADJUSTMENT RINGS AS PER DETAIL 3 SHEET 17. CONFIRM KEY-WAY PRIOR TO INSTALLATION. PROTECT SURVEY MONUMENT



SHEET KEY MAP
NTS

GENERAL NOTES

- SEE SHEET 2 FOR GENERAL NOTES, LEGEND, AND SURVEY CONTROL INFORMATION.
- PRIOR TO EXCAVATION, INSTALL TESC FACILITIES PER SHEET 3.
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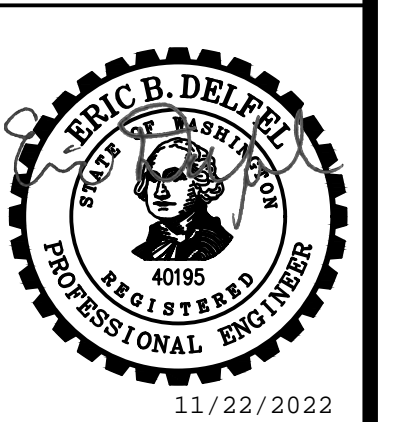
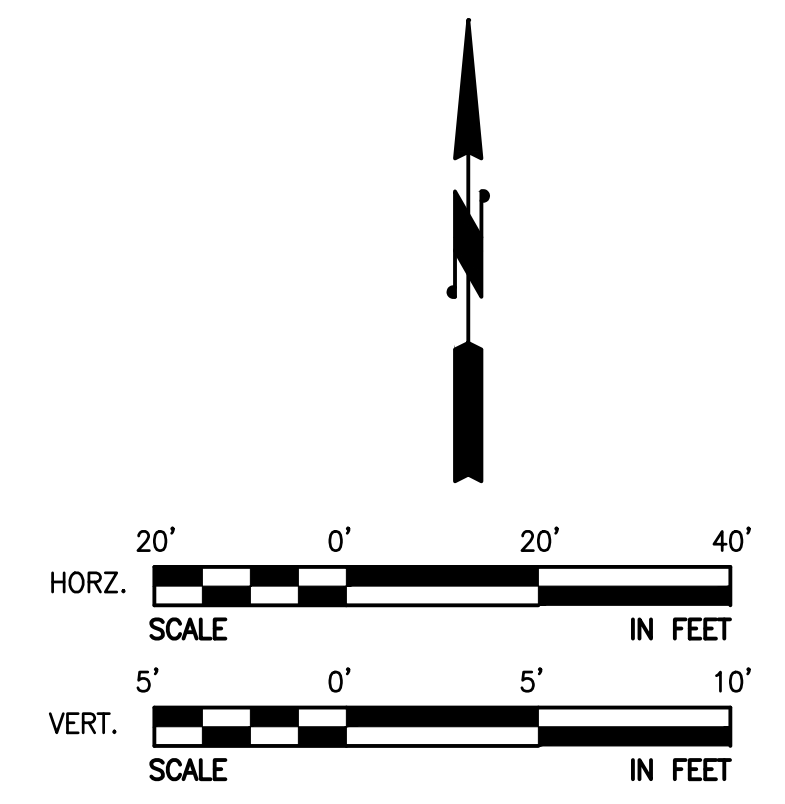
CONSTRUCTION NOTES

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- TYPE A: REPLACE FRAME, COVER AND ADJUSTMENT RINGS AS PER DETAIL 5 SHEET 17.
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- PROTECT SURVEY MONUMENT.

RESTORATION

SAW CUT AND ASPHALT REPAIR AS PER CITY OF KENMORE DETAIL 5-002 SHEET 18

Riser Replacement Table					
Manhole ID #	Road Surface to Top of Cone (INCHES)	New Frame and Lid (INCHES)	Replacement Risers Depth (INCHES)	Note	Close to Survey Monument
168	16	6	10	Replace Frame, Cover and Adjustment Rings	No
167	37	6	TYPE B	Add manhole section, Replace Cone, Frame, Cover, and Adjustment Rings.	Yes
166a	32	6	TYPE B	Add manhole section, Replace Cone, Frame, Cover, and Adjustment Rings.	Yes
166	14	6	8	Replace Frame, Cover and Adjustment Rings	No
165	16	6	10	Replace Frame, Cover and Adjustment Rings	No
G600	20	6	14	Replace Frame, Cover and Adjustment Rings	Yes
164	N/A	N/A	N/A	Not in Contract	No
163	25	6	19	Replace Frame, Cover and Adjustment Rings	Yes
162	16	6	10	Replace Frame, Cover and Adjustment Rings	Yes
161	24	6	18	Replace Frame, Cover and Adjustment Rings	No
160	24	6	18	Replace Frame, Cover and Adjustment Rings	No
159	24	6	18	Replace Frame, Cover and Adjustment Rings	No
H722	16	6	10	Replace Frame, Cover and Adjustment Rings	No
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157	14	6	8	Replace Frame, Cover and Adjustment Rings	No
156A	16	6	10	Replace Frame, Cover and Adjustment Rings	No
156	24	6	18	Replace Frame, Cover and Adjustment Rings	No
1	29	6	TYPE B	Add manhole section, Replace Cone, Frame, Cover, and Adjustment Rings.	Yes
41	34	6	TYPE B	Add manhole section, Replace Cone, Frame, Cover, and Adjustment Rings.	No
42	28	6	TYPE B	Add manhole section, Replace Cone, Frame, Cover, and Adjustment Rings.	Yes



NO	BY	APPD	REVISION	DATE
PRELIMINARY - NOT FOR CONSTRUCTION				

WARNING

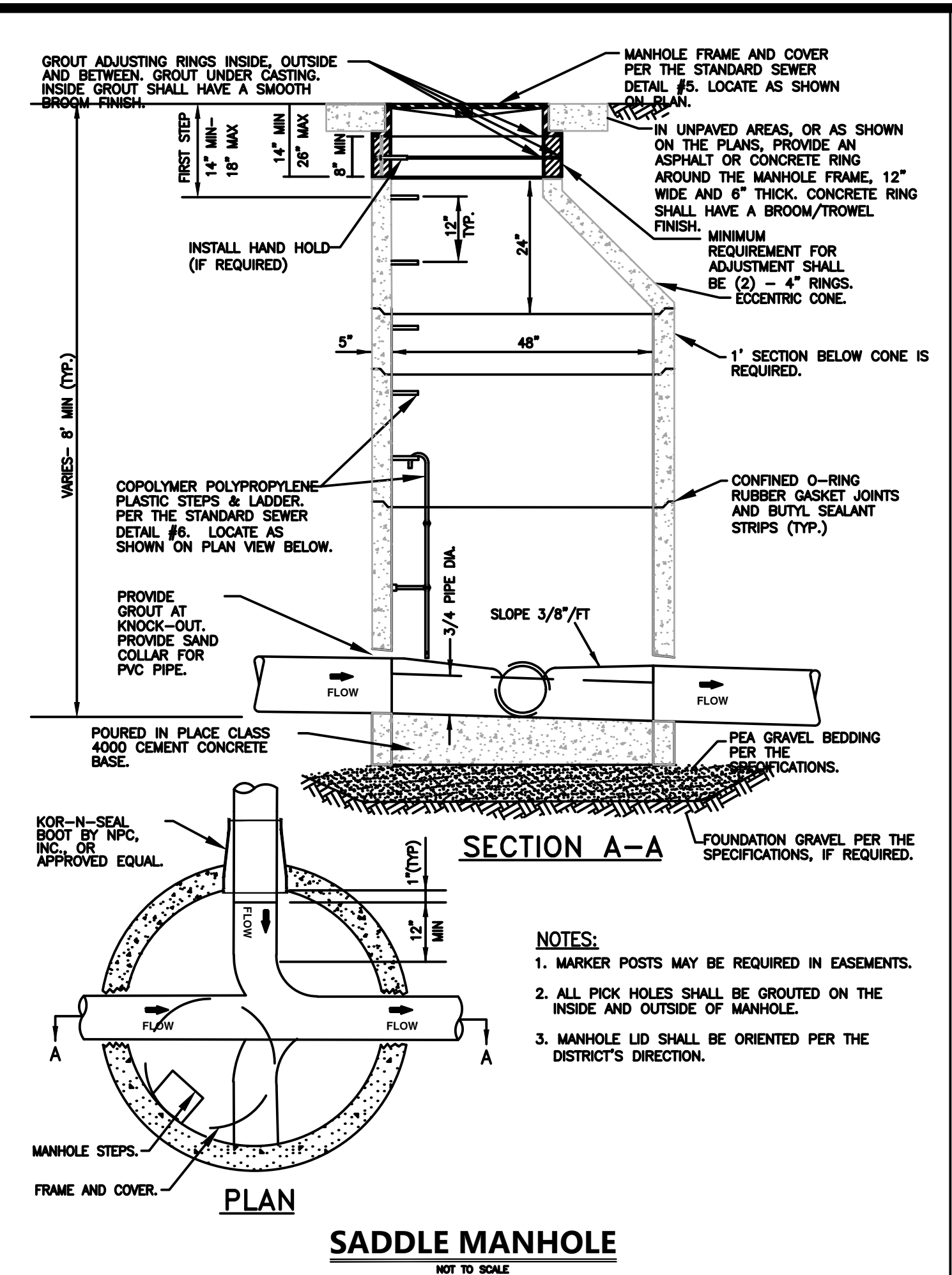
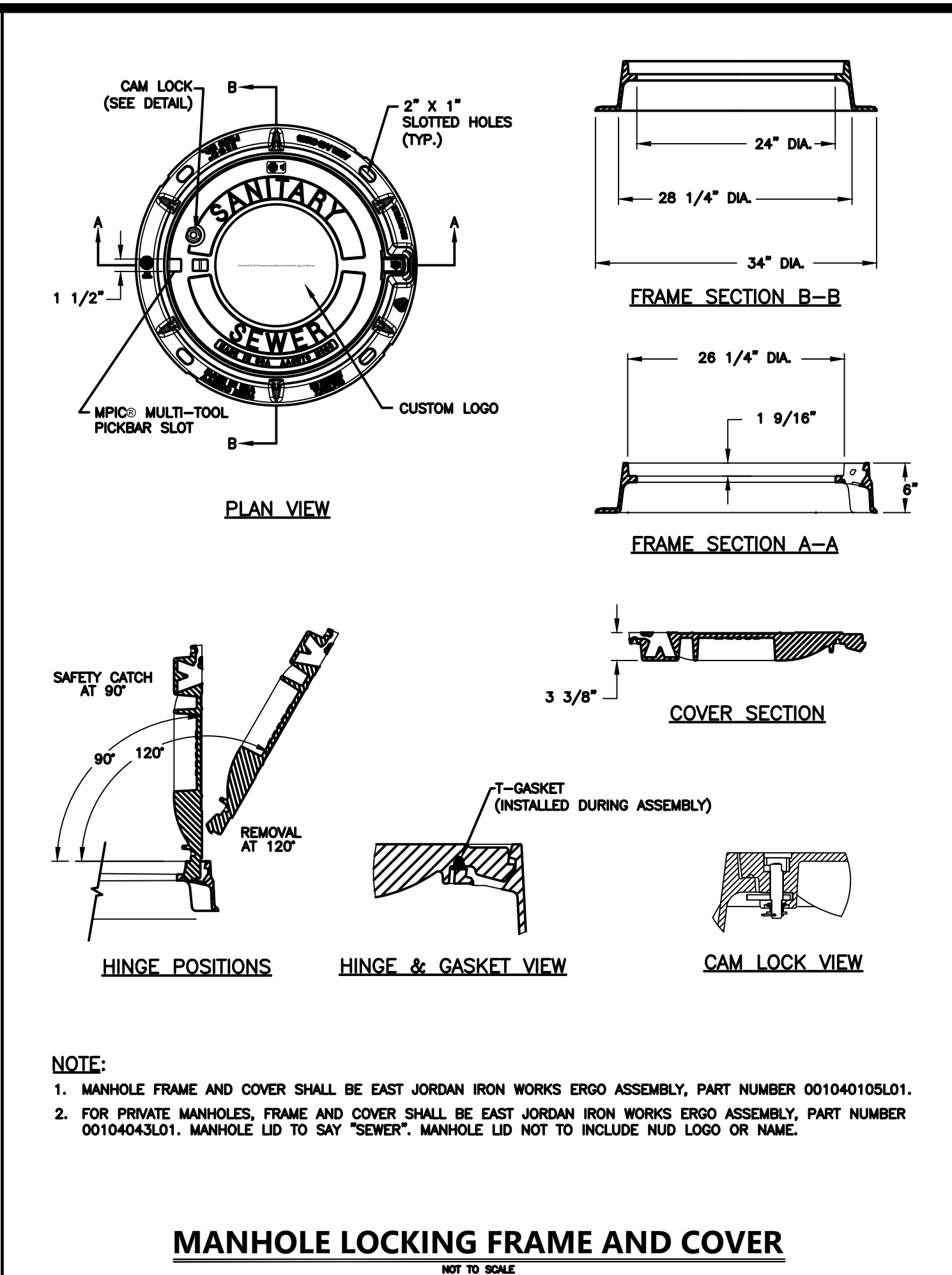
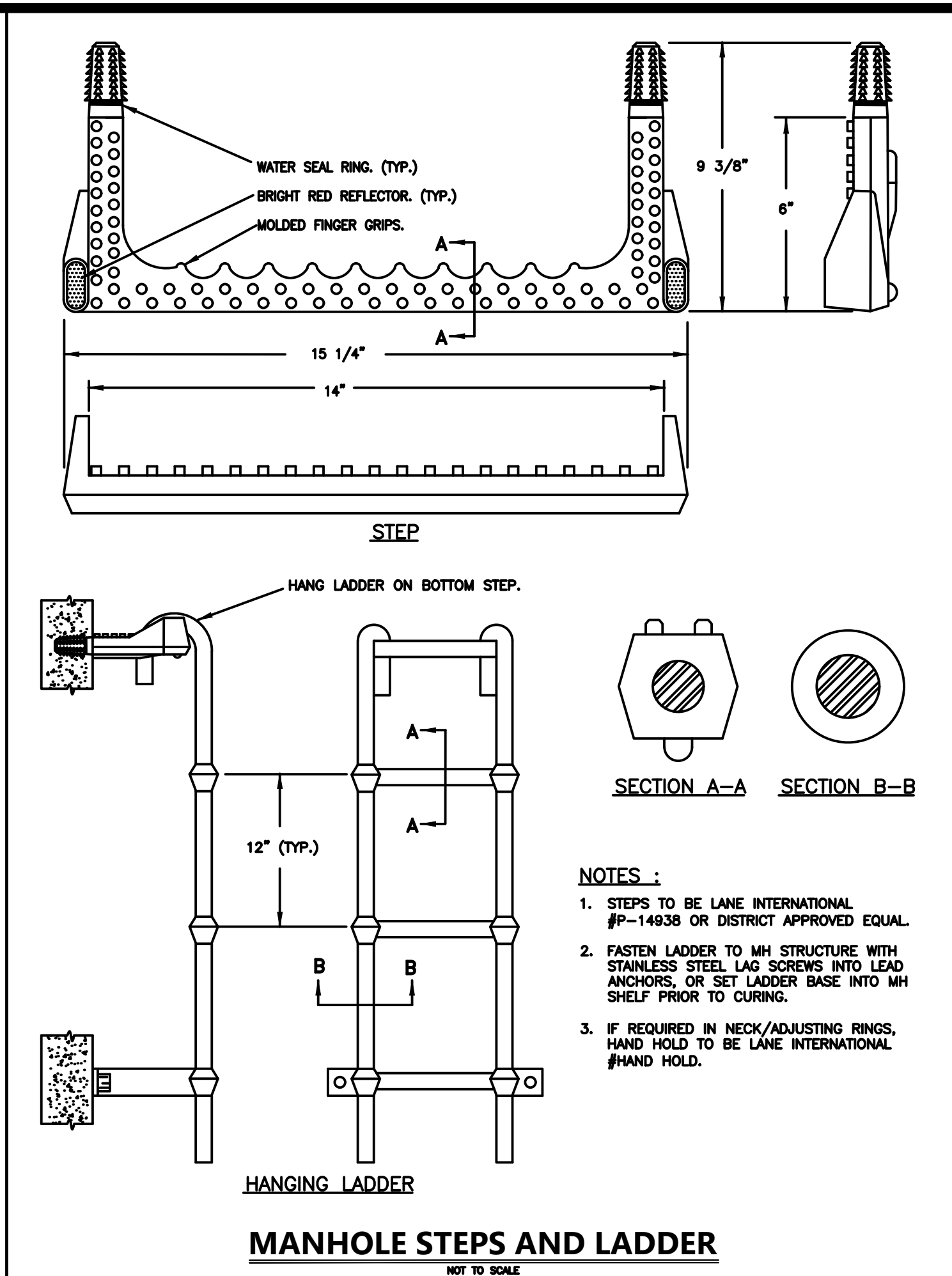
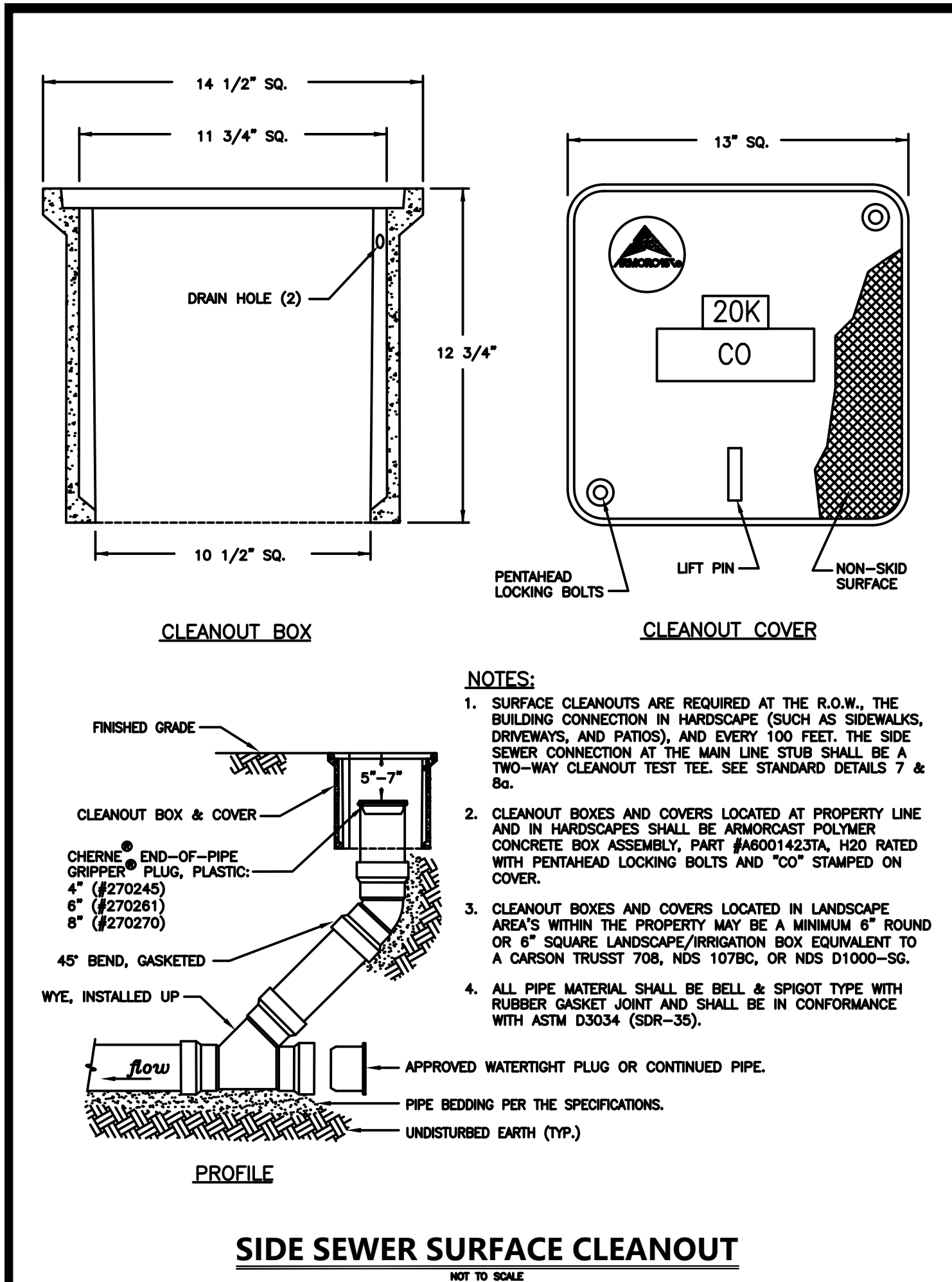
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED BY	RTG
DRAWN BY	RAH
CHECKED BY	EBD
APPROVAL	EBD
DATE	NOV 2022

NORTHSHORE UTILITY DISTRICT
6830 NE 185th St. P.O. Box 82489
Kenmore, WA 98028-2684 Kenmore, WA 98028-2684
Ph: (425) 398-4400 | Fax: (425) 398-4430 | www.nud.net

CONTRACT 2022-02
SEWER REPAIRS PROJECTS
SCH. D
MANHOLE GRADE ADJUSTMENT - MH- 1 - 41 - 42

BASE MAP	G/H11
	C2102
SHEET	16 OF 31



DETAIL APPROVALS
 EDITOR TMC
 MANAGER SJD

NORTHSHORE UTILITY DISTRICT
 2022 STANDARD SEWER DETAILS

9
 LAST UPDATED APRIL 2021

DETAIL APPROVALS
 EDITOR TMC
 MANAGER SJD

NORTHSHORE UTILITY DISTRICT
 2022 STANDARD SEWER DETAILS

6
 LAST UPDATED FEBRUARY 2022

DETAIL APPROVALS
 EDITOR TMC
 MANAGER SJD

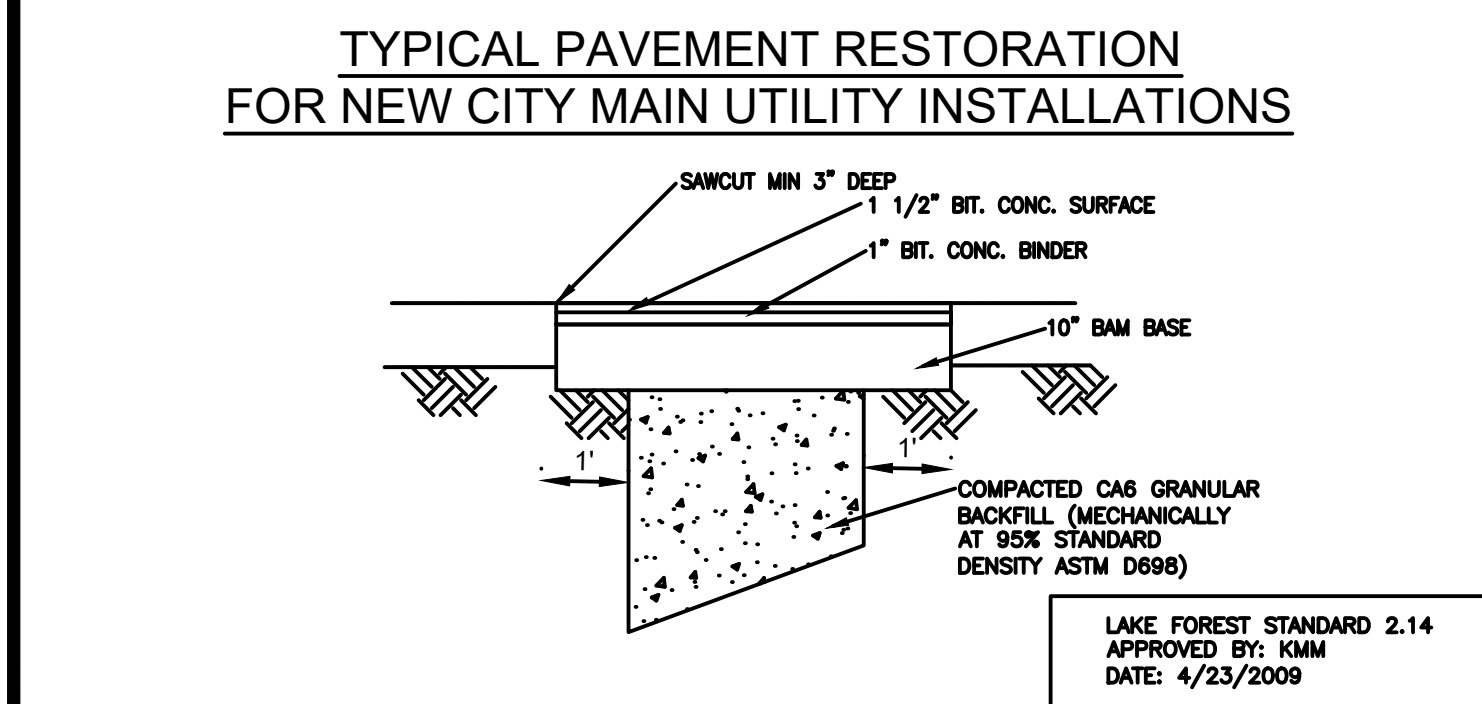
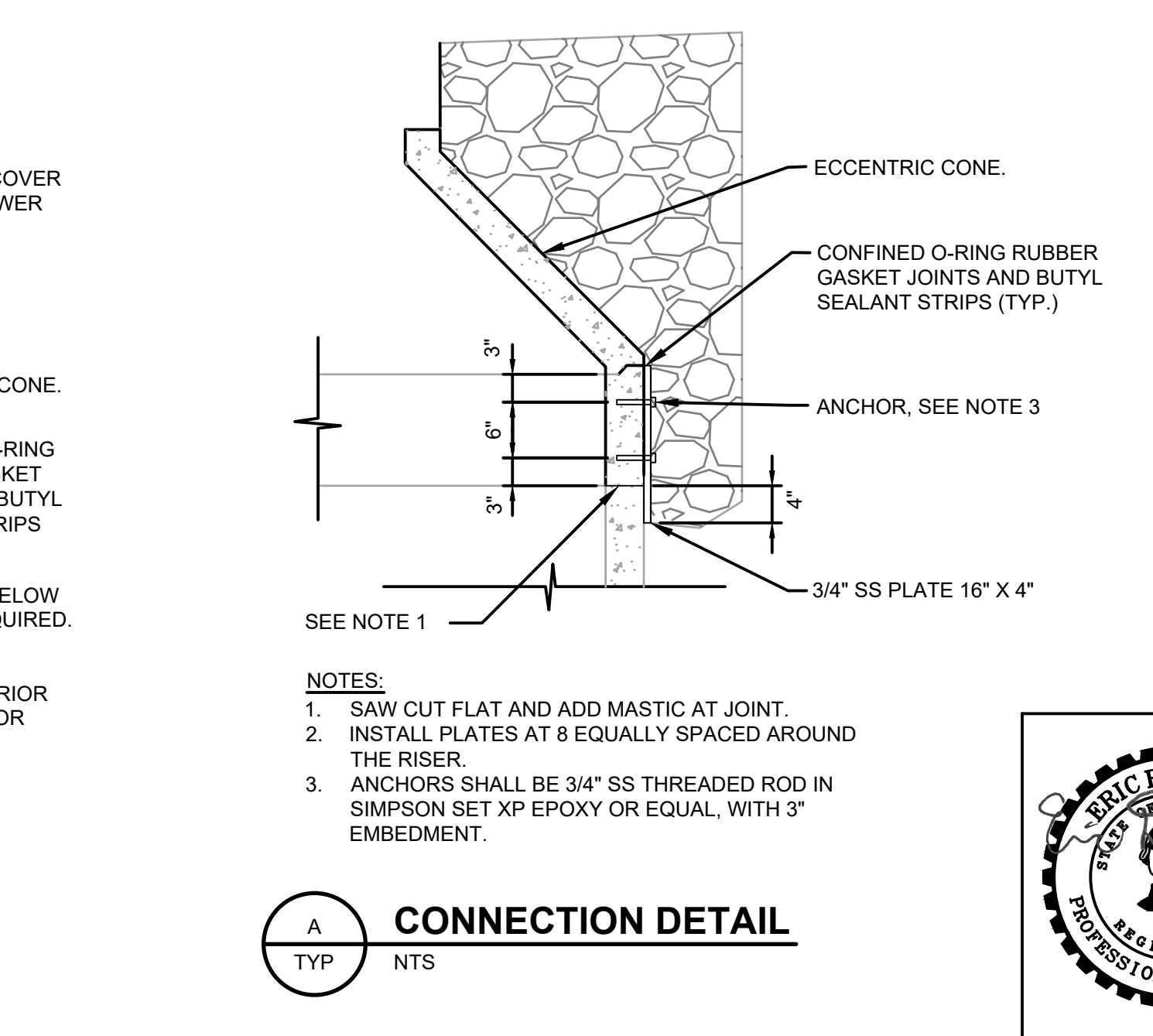
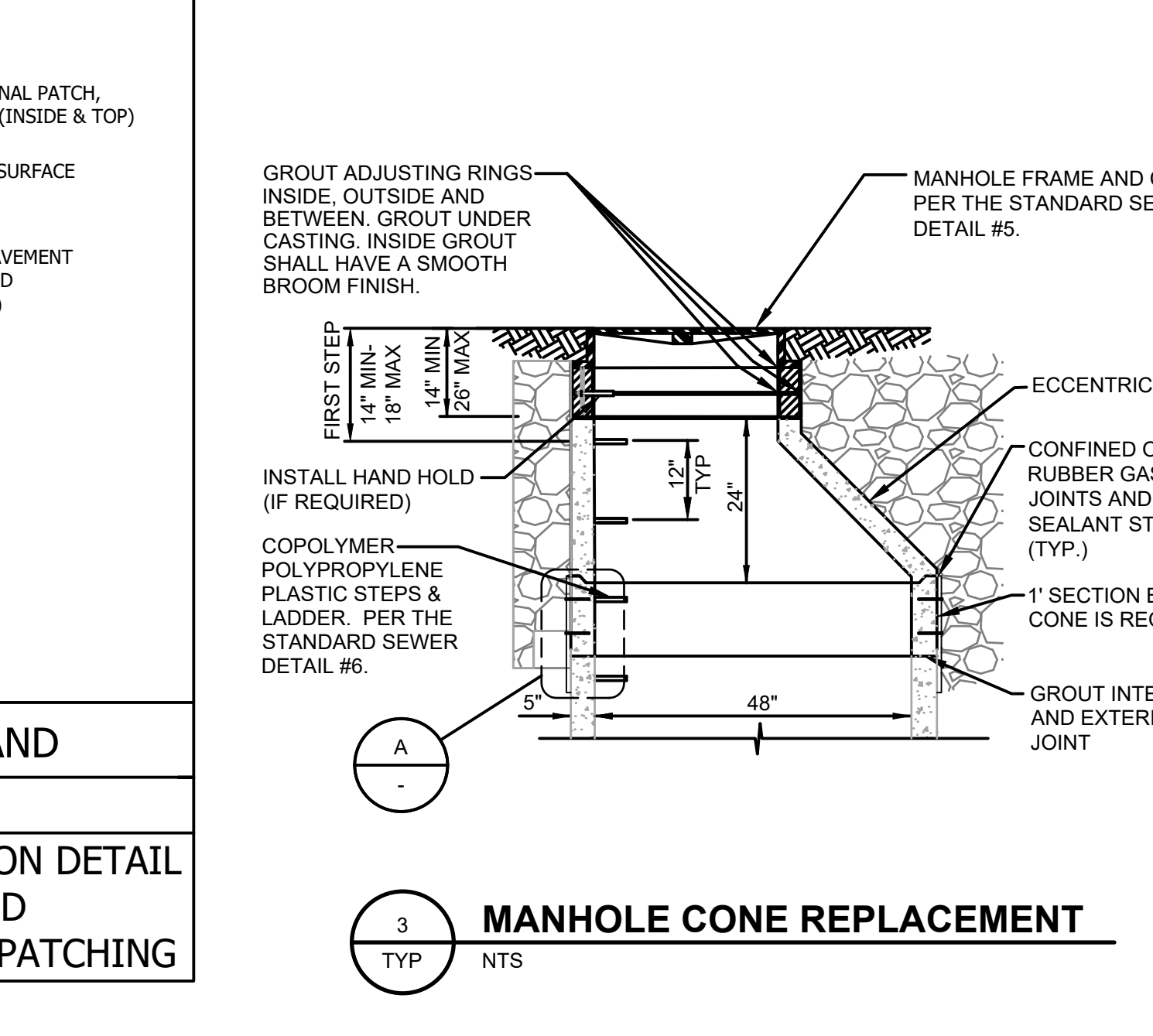
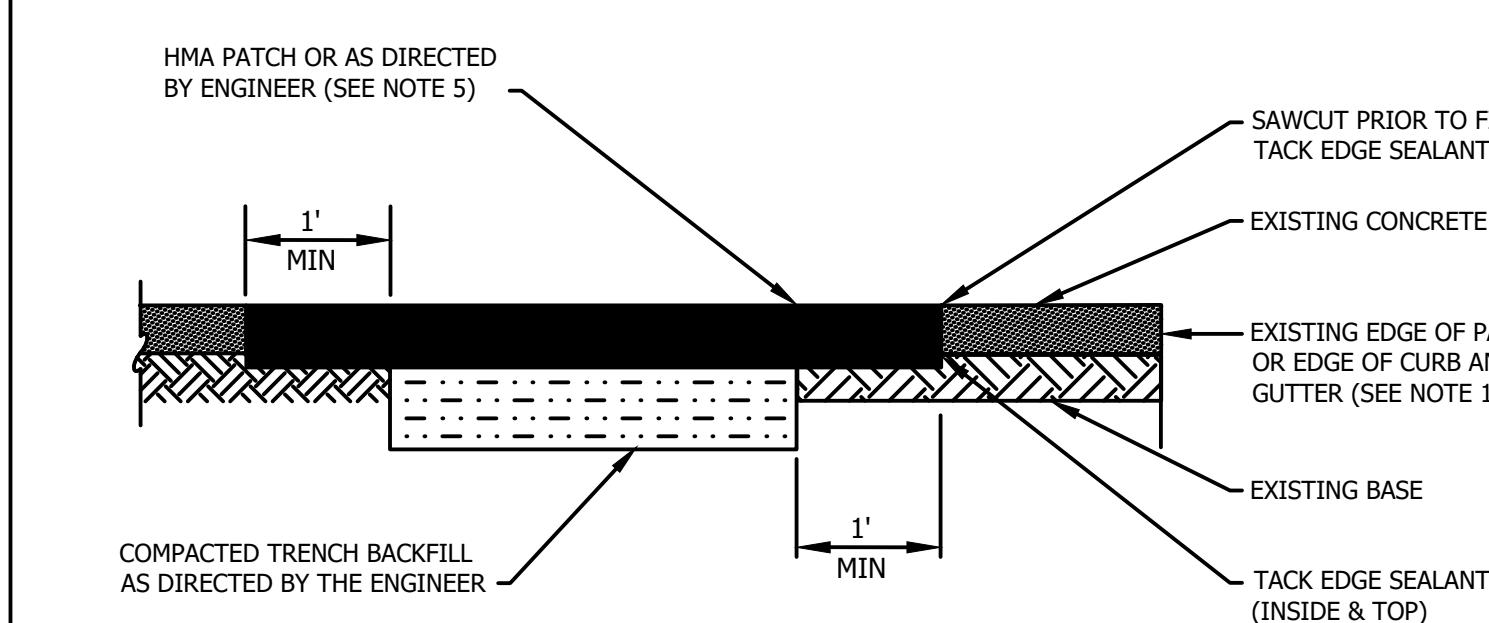
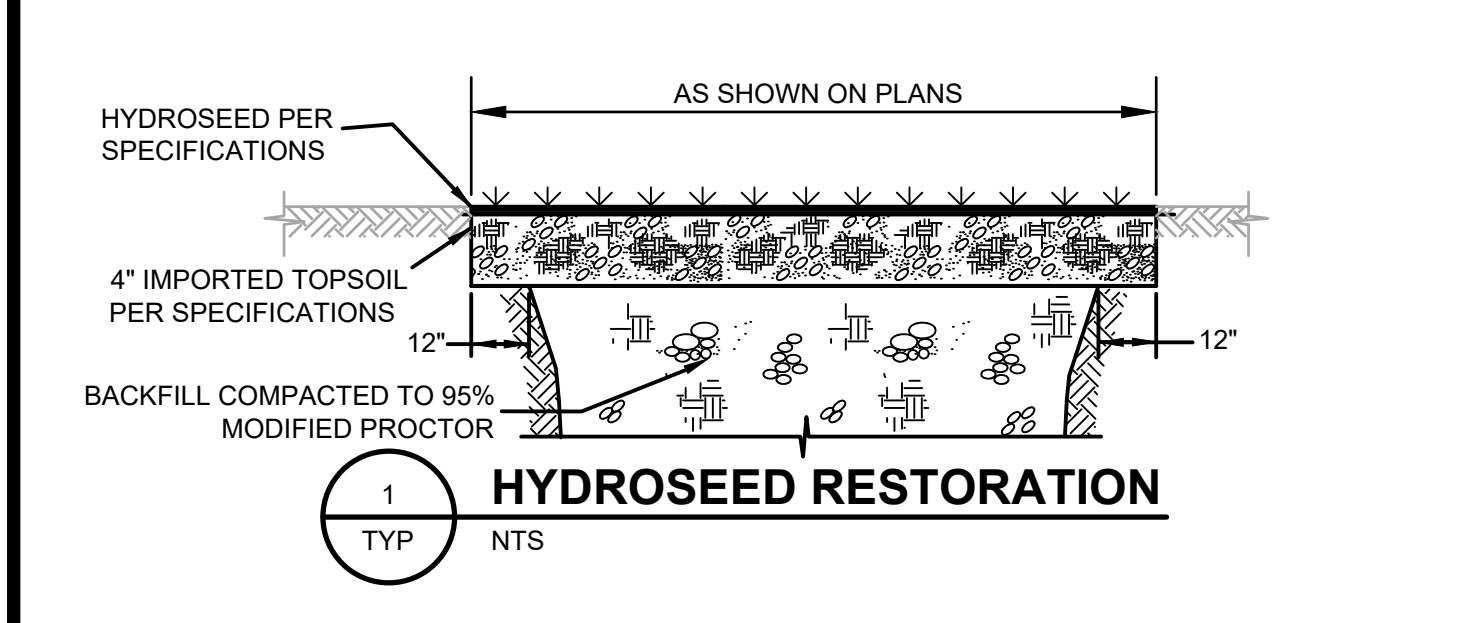
NORTHSHORE UTILITY DISTRICT
 2022 STANDARD SEWER DETAILS

5
 LAST UPDATED FEBRUARY 2020

DETAIL APPROVALS
 EDITOR TMC
 MANAGER SJD

NORTHSHORE UTILITY DISTRICT
 2022 STANDARD SEWER DETAILS

2
 LAST UPDATED FEBRUARY 2020



CITY OF KIRKLAND
 PLAN NO. CK-R.12
 RESTORATION DETAIL AND PAVEMENT PATCHING

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SEWER REPAIRS PROJECTS

GENERAL DETAILS

C2102
 SHEET
 17 OF 31

NO	BY	APPD	REVISION	DATE

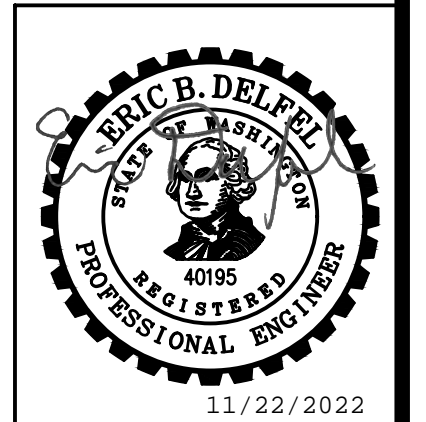
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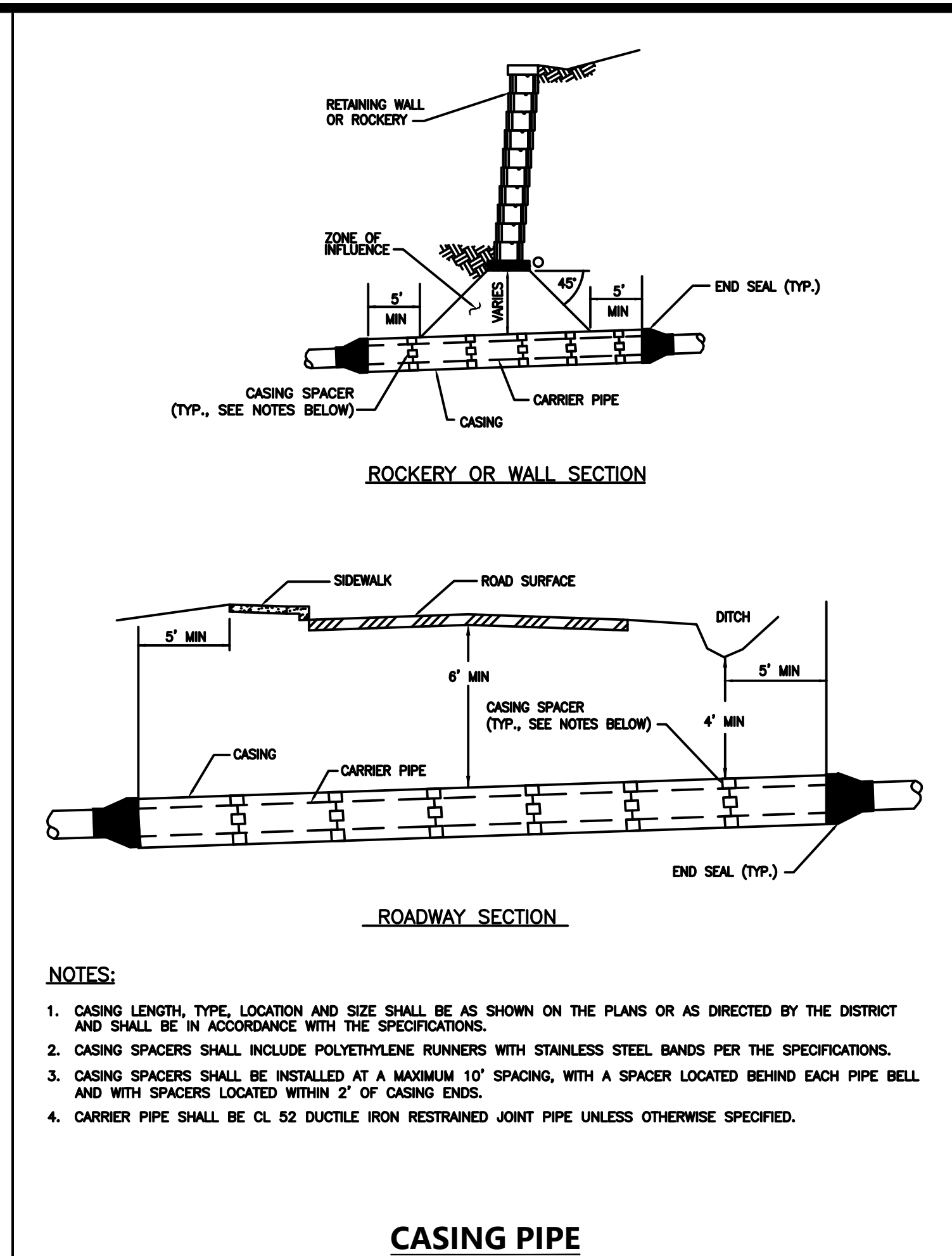
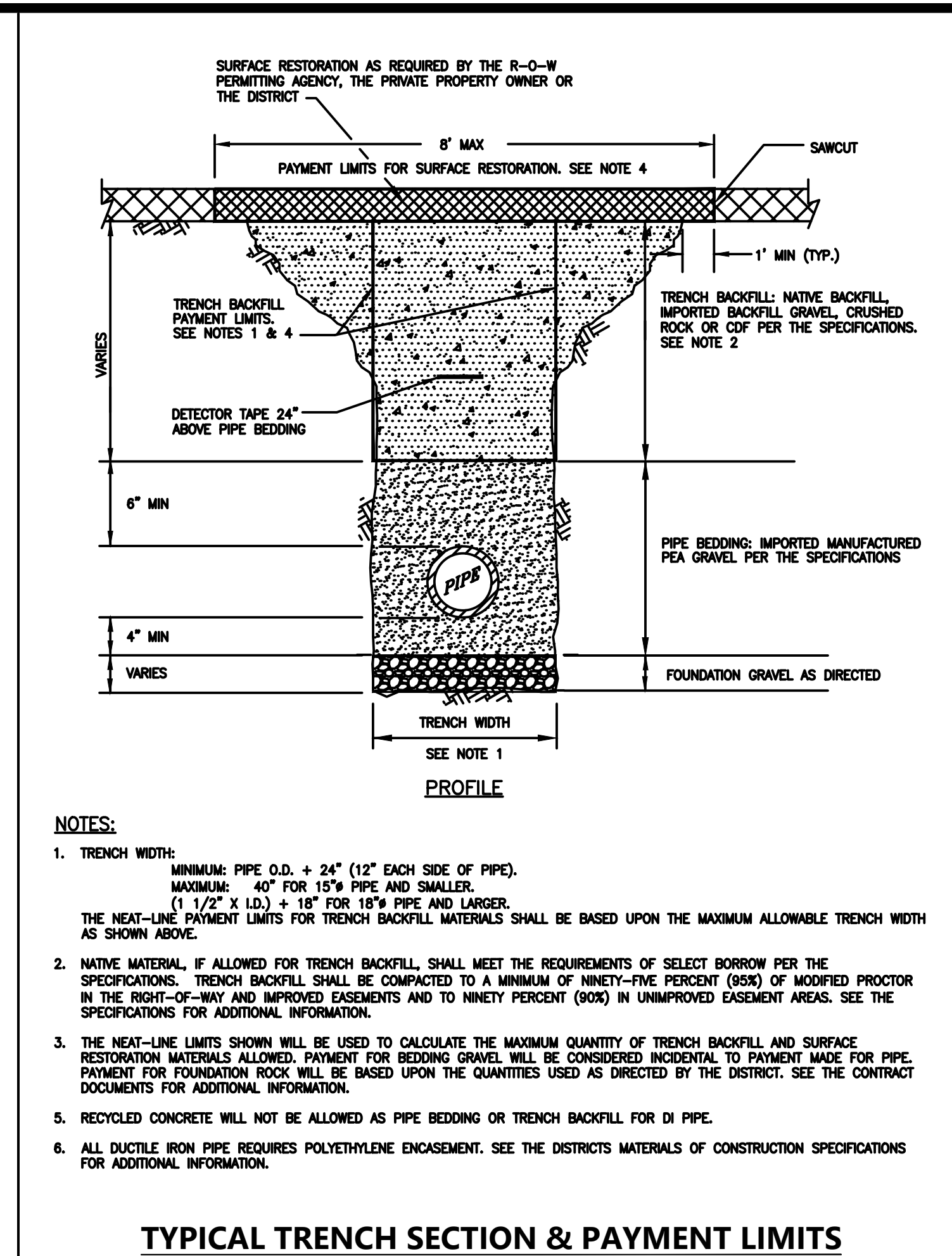
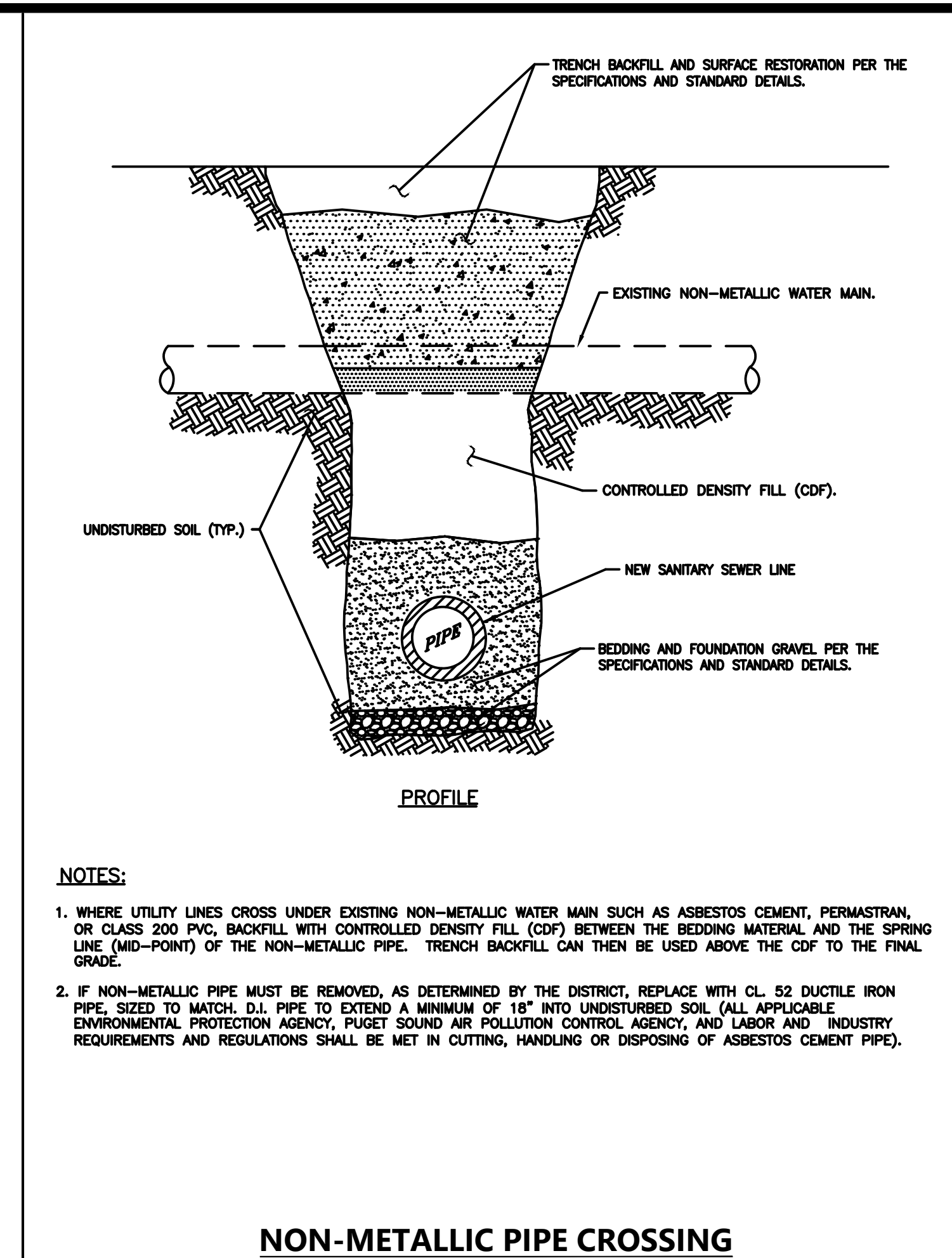
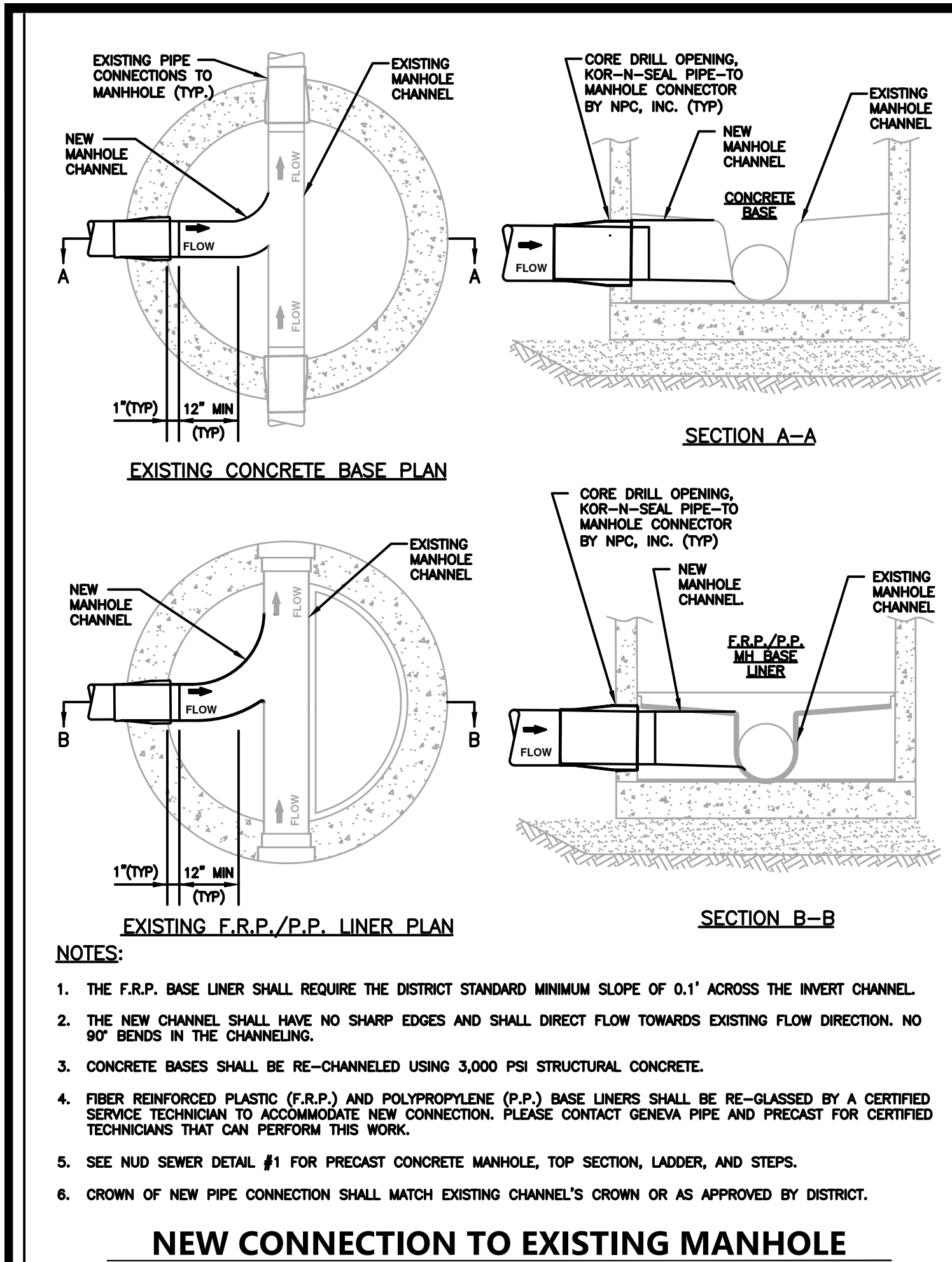
WARNING
 0 1/2 1
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Gray & Osborne, Inc.
 CONSULTING ENGINEERS

DESIGNED BY RTG
 DRAWN BY RAH
 CHECKED BY EBD
 APPROVAL EBD
 DATE NOV 2022

NORTHSHORE UTILITY DISTRICT
 WATER SEWER



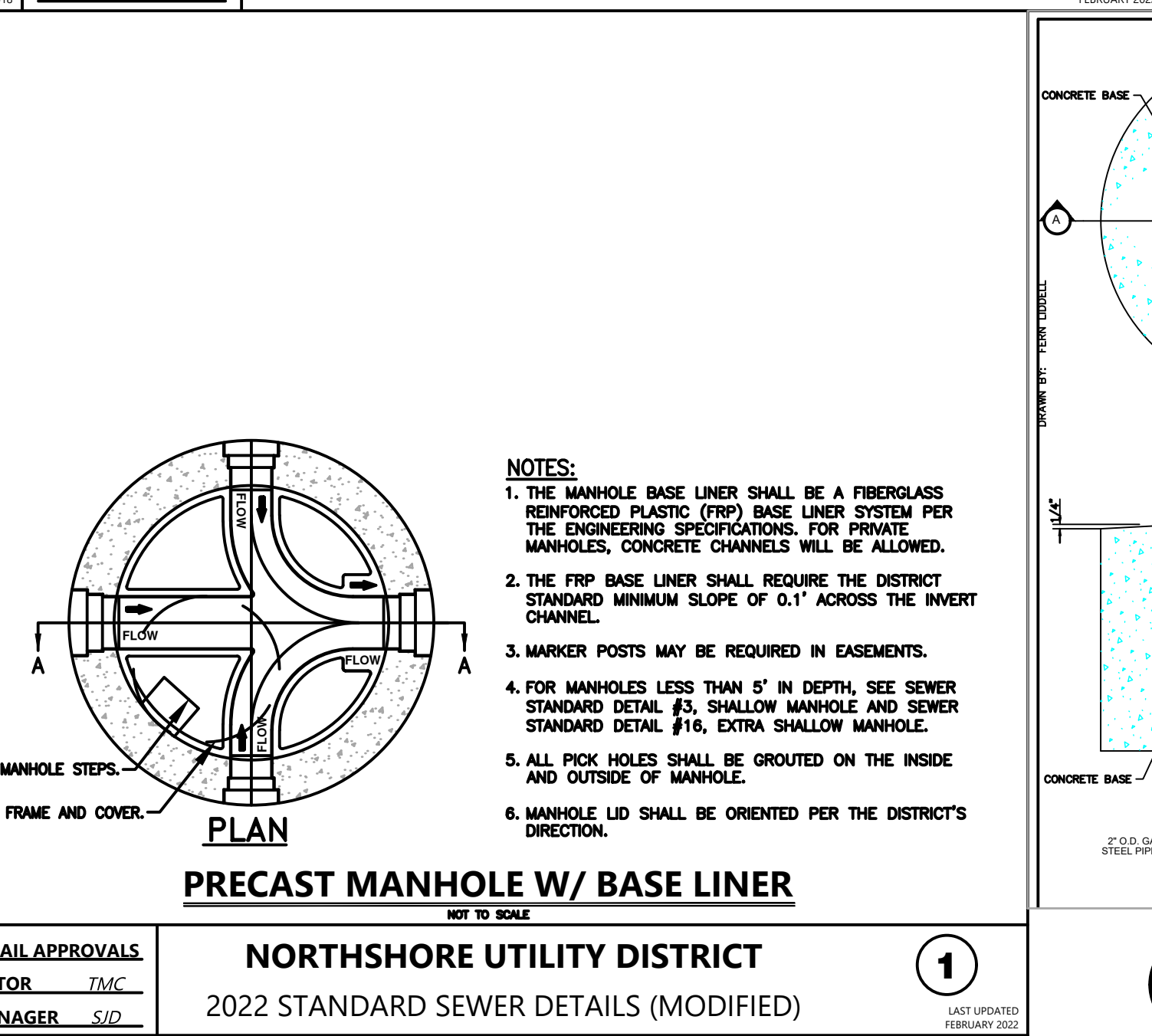
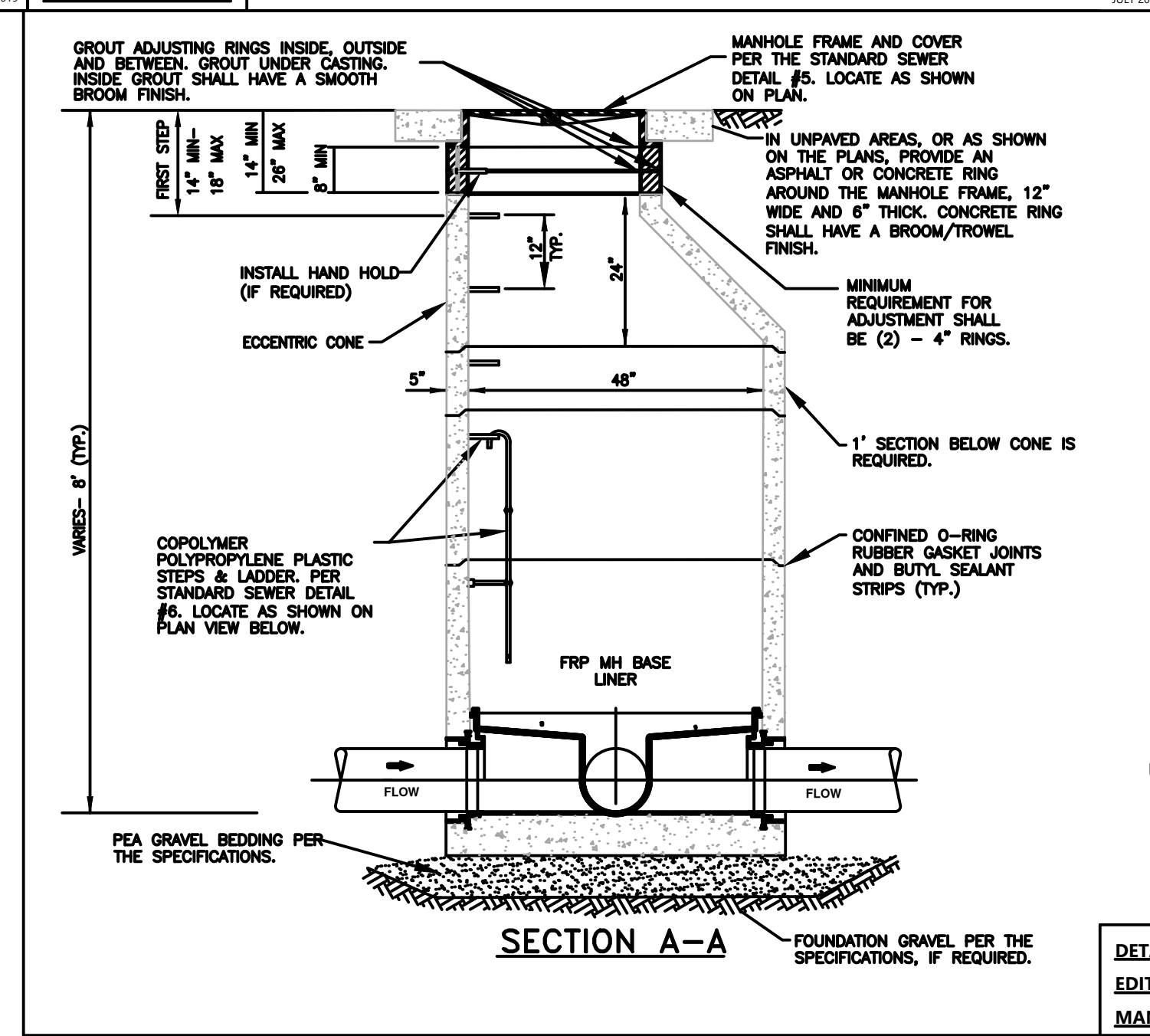
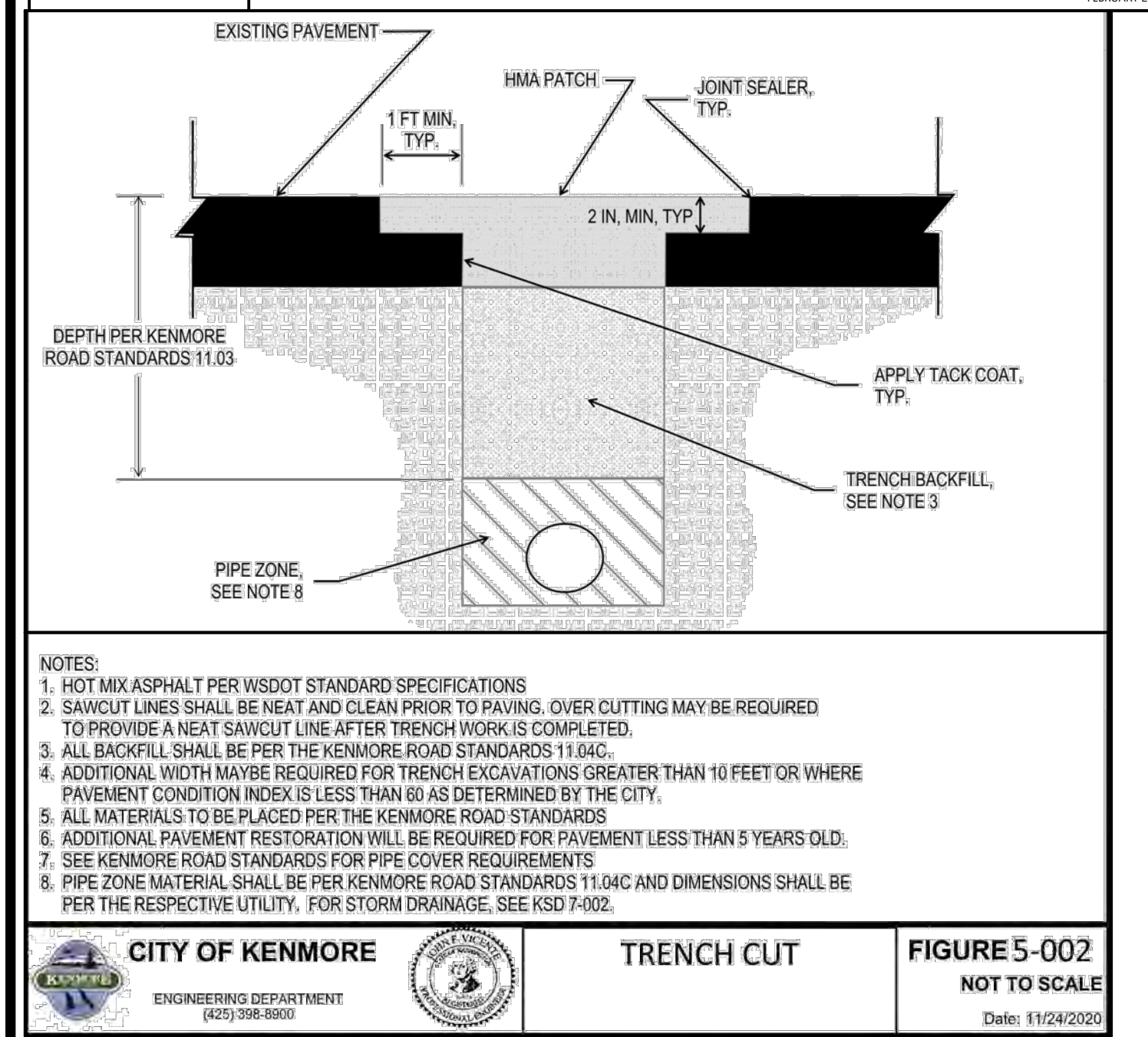


15
NORTHSHORE UTILITY DISTRICT
2022 STANDARD SEWER DETAILS (MODIFIED)
LAST UPDATED FEBRUARY 2019
DETAIL APPROVALS: ENGINEER TMC, MANAGER DPK

12
NORTHSHORE UTILITY DISTRICT
2022 STANDARD SEWER DETAILS
LAST UPDATED JULY 2018
DETAIL APPROVALS: EDITOR TDC, MANAGER DPK

11
NORTHSHORE UTILITY DISTRICT
2022 STANDARD SEWER DETAILS
LAST UPDATED FEBRUARY 2022
DETAIL APPROVALS: EDITOR TMC, MANAGER SJD

10
NORTHSHORE UTILITY DISTRICT
2022 STANDARD SEWER DETAILS
LAST UPDATED FEBRUARY 2014
DETAIL APPROVALS: EDITOR GSM, MANAGER DPK



NO	BY	APPD	REVISION	DATE

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Gray & Osborne, Inc.
CONSULTING ENGINEERS

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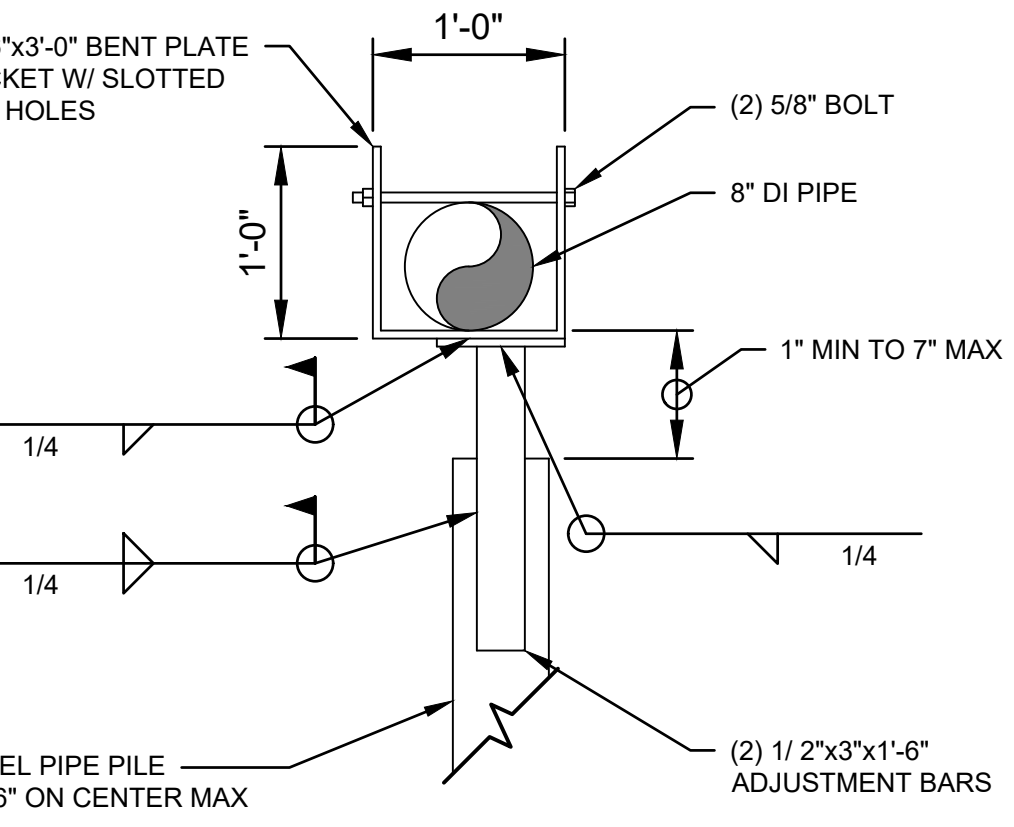
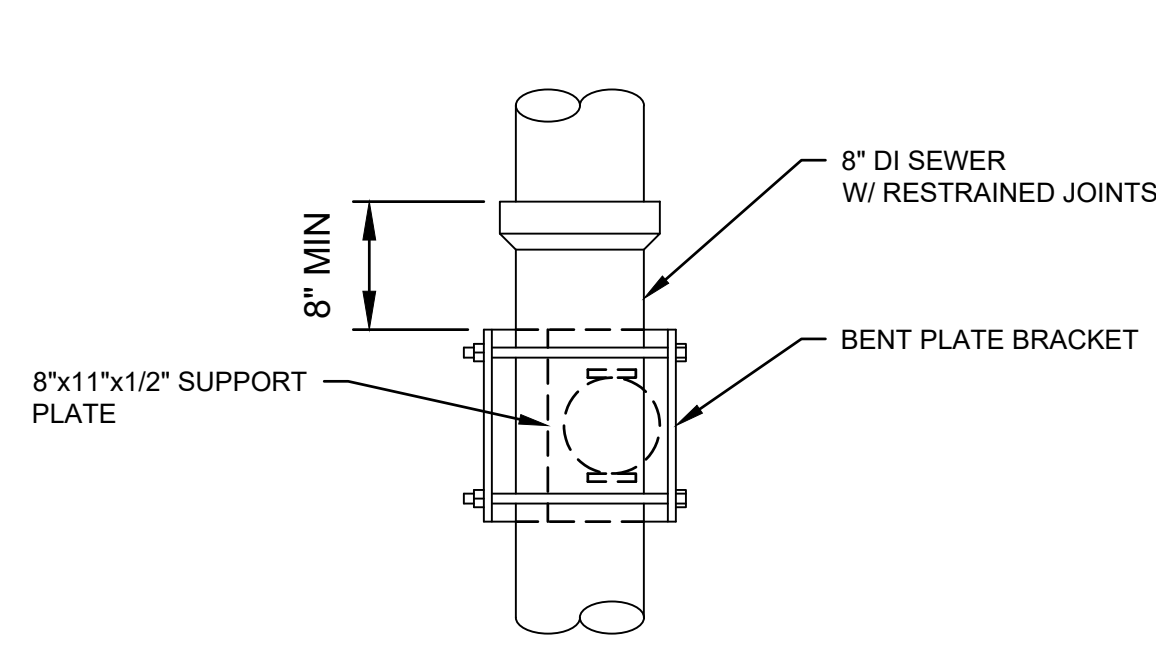
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NORTHSHORE UTILITY DISTRICT
2022 STANDARD SEWER DETAILS (MODIFIED)
LAST UPDATED FEBRUARY 2022
DETAIL APPROVALS: EDITOR TMC, MANAGER SJD

2
TYP

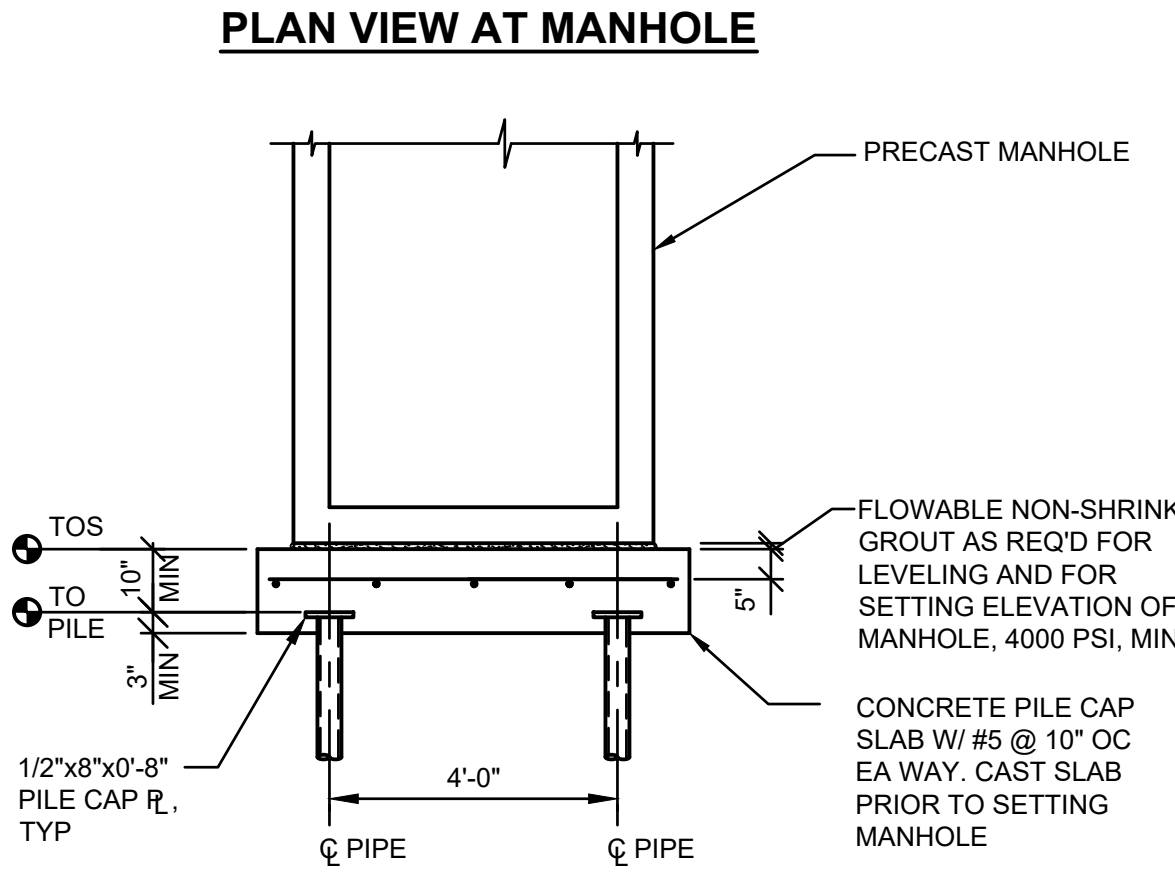
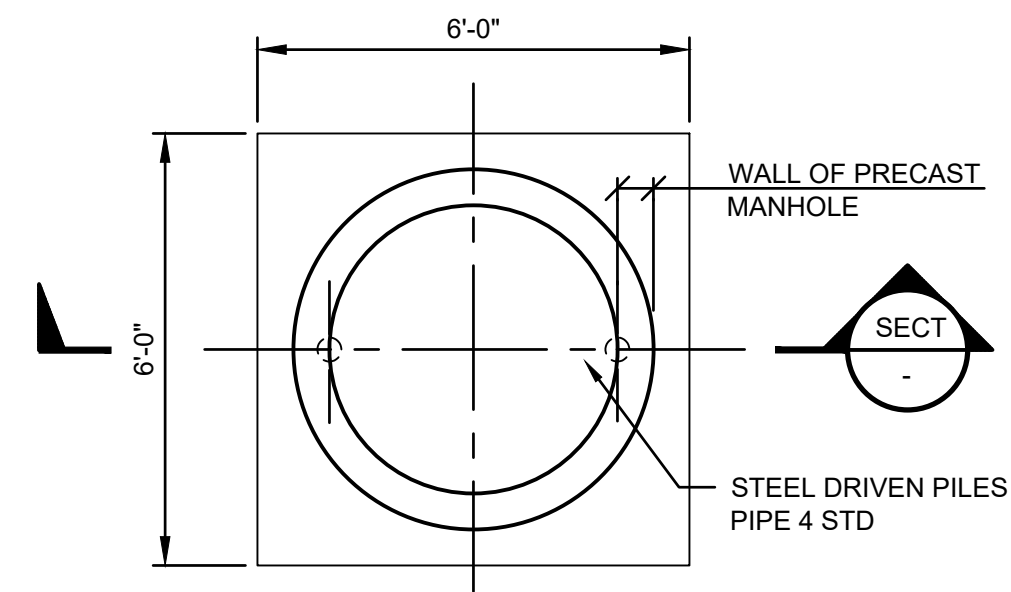
CONTRACT 2022-02
SEWER REPAIRS PROJECTS

GENERAL DETAILS

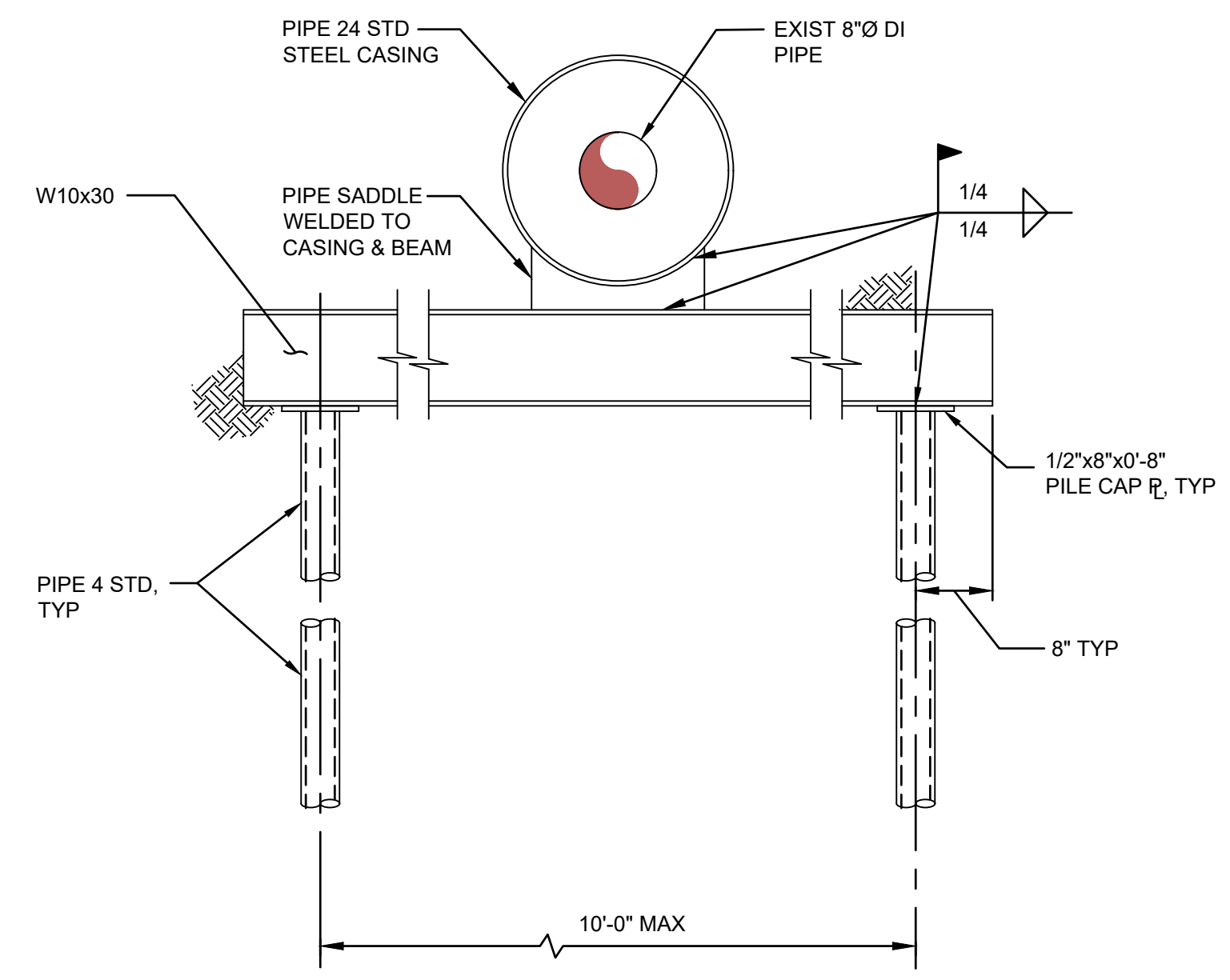
Eric B. Delfino
REGISTERED PROFESSIONAL ENGINEER
40195
11/22/2022



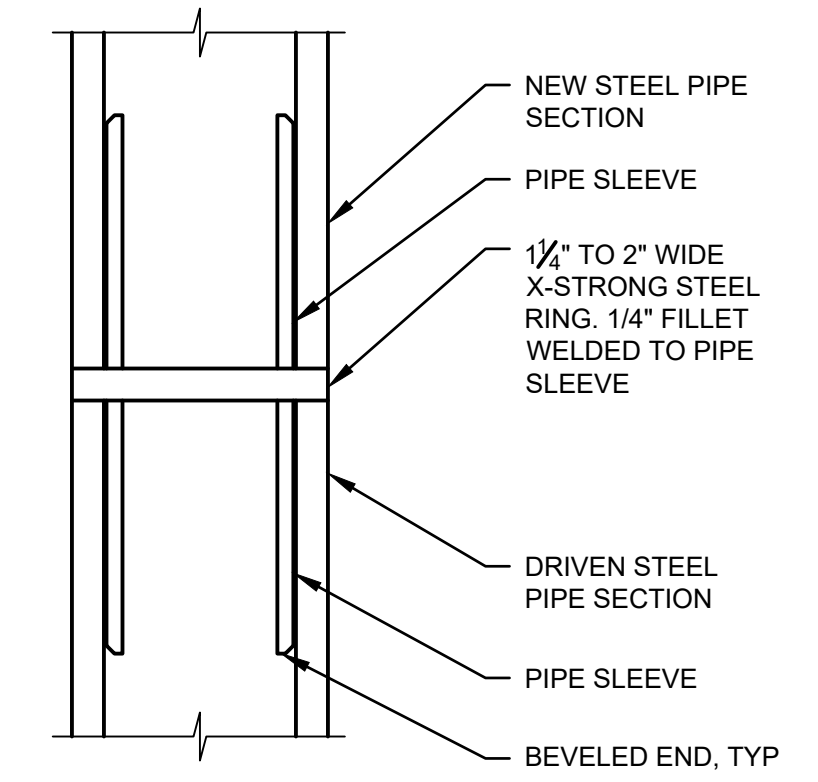
A PIPE JOINT PILE SUPPORT DETAIL
TYP SCALE: 1"=1'-0"



B PILE SUPPORT AT MANHOLE
TYP SCALE: 3/8"=1'-0"

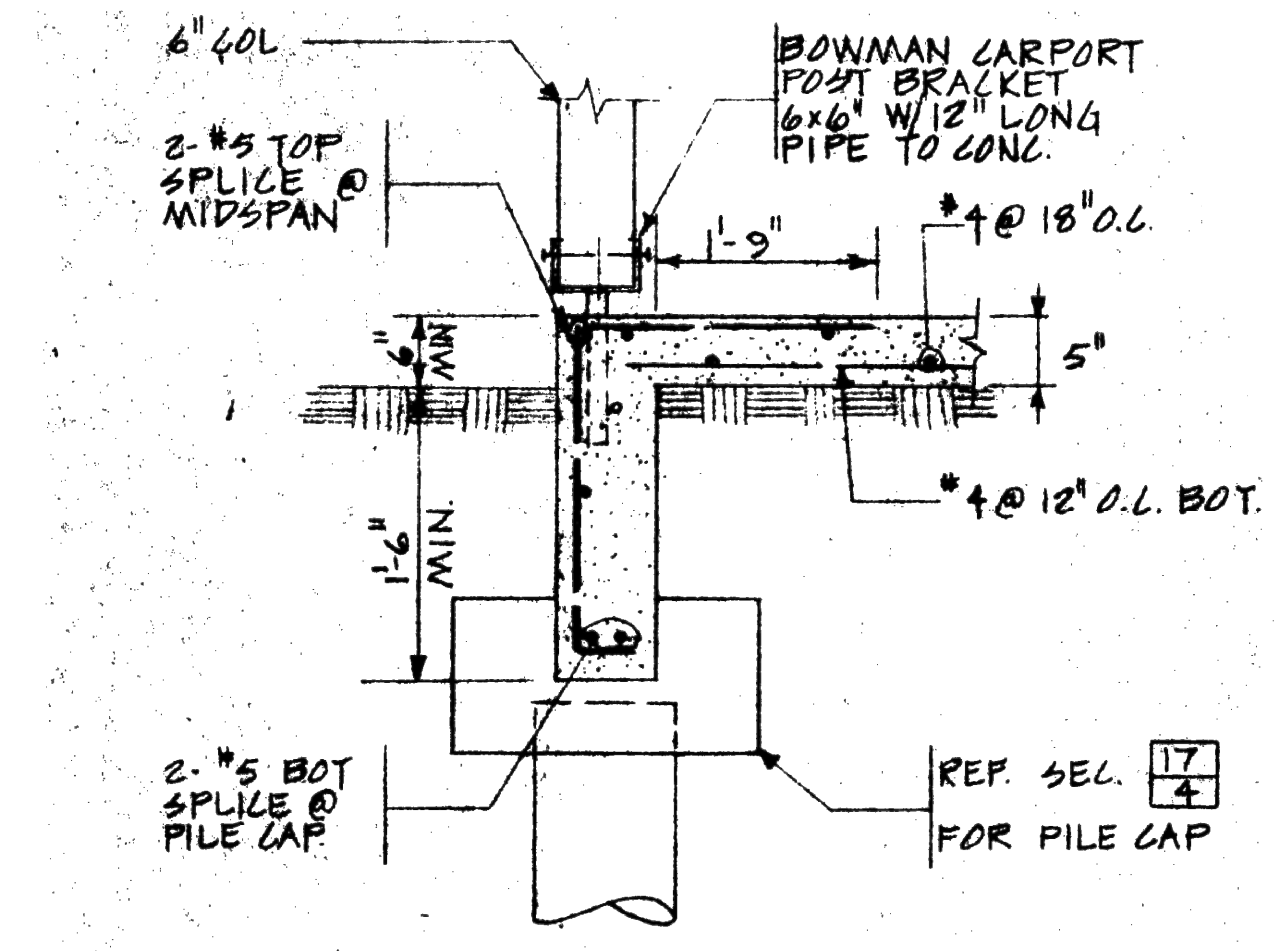


C PILE SUPPORT AT STEEL CASING
TYP SCALE: 3/4"=1'-0"



D TYP PILE SPLICE
TYP SCALE: 1"=1'-0"

NOTE:
PILE SPLICES MAY BE MADE WITH COMPRESSION FITTED SLEEVE PIPE COUPLERS AS SHOWN.



1 EXISTING WALKWAY FOUNDATION
TYP SCALE: NTS

GENERAL STRUCTURAL NOTES

CAST-IN-PLACE CONCRETE
CONCRETE SHALL HAVE THE FOLLOWING PROPERTIES:
28-DAY STRENGTH $f_c=4,000$ PSI
AIR ENTRAINMENT: 5%-7%
MAXIMUM SLUMP: 3" FOR SLABS FOOTINGS, 4" FOR WALLS, COLUMNS AND BEAMS. CONSTRUCTION TO BE IN ACCORDANCE WITH ACI 318.

SUBMIT MIX DESIGN FOR REVIEW AND PROVIDE NOT LESS THAN 6 SACKS OF CEMENT PER CUBIC YARD FOR ALL CONCRETE WITH MAXIMUM W/C=0.45

REINFORCING STEEL
DEFORMED BARS: ASTM A615, GRADE 60 (GRADE 40 FOR #3).
UNLESS OTHERWISE NOTED ON THESE DRAWINGS, MINIMUM CONCRETE COVER FOR REINFORCING BARS SHALL BE AS FOLLOWS:
CONCRETE CAST AGAINST SOIL=3"
FORMED CONCRETE AGAINST SOIL=2"

FOUNDATION DATA
FOUNDATION PILES: 4 STD ASTM A-53 GRADE A STEEL PIPE (HDG)
PILE TIP CONDITION: CLOSED END
ESTIMATED EMBEDMENT: 40 - 50 FT
TOTAL VERTICAL CAPACITY: 20 KIPS

STRUCTURAL STEEL AND MISCELLANEOUS METALS
"W" SHAPES: ASTM A992, $F_y=50$ KSI.
CHANNELS, ANGLES, PLATES, AND BARS: ASTM A36, $F_y=36$ KSI.

ALL BOLTS FOR CONNECTIONS IN SUBMERGED CONDITION SHALL BE: ASTM F593C OR F593D STAINLESS STEEL (SS) BOLTS. ALL OTHERS SHALL BE GALVANIZED ASTM F3125 GRADE A325 BOLTS HIGH STRENGTH BOLTS (H.S.B.), U.N.O. AS ASTM A307 MACHINE BOLTS (M.B.). WHERE HIGH STRENGTH BOLTS ARE USED, THEY SHALL BE INSTALLED WITH LOAD INDICATOR DEVICES (LOAD INDICATOR WASHERS OR SNAP-OFF HEADS).
ADHESIVE ANCHORS: HILTI HIT-RE 500 V3 OR APPROVED EQUAL, U.N.O. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

WELDING ELECTRODES OR WIRES: AWS A5.1 OR A5.5, E70XX; AWS A5.17, E70S-X; AWS A5.20, E7XT-X. FOR ALL SHOP WELDS AND FIELD WELDS OF ALL LATERAL RESISTING ELEMENTS, ELECTRODES SHALL BE E70 WITH A MINIMUM SPECIFIED CVN OF 20 FT-LBS AT -20 DEGREES FAHRENHEIT. ALL WELDS SHALL BE 3/16" MINIMUM U.N.O.

ERECTION AND FABRICATION IN ACCORDANCE WITH AISC "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS." WELDING SHALL CONFORM TO AWS "STRUCTURAL WELDING CODE - STEEL". ALL WELDING SHALL BE PERFORMED BY AWS/WABO CERTIFIED WELDERS.

ALL STEEL SHALL BE HOT-DIP GALVANIZED UNLESS OTHERWISE NOTED AS STAINLESS STEEL.

NO	BY	APPD	REVISION	DATE
PRELIMINARY - NOT FOR CONSTRUCTION				

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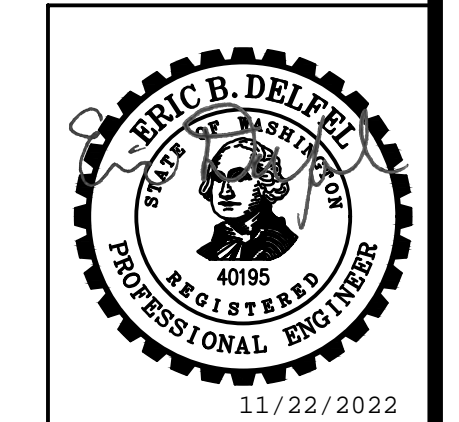
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DATE	NOV 2022



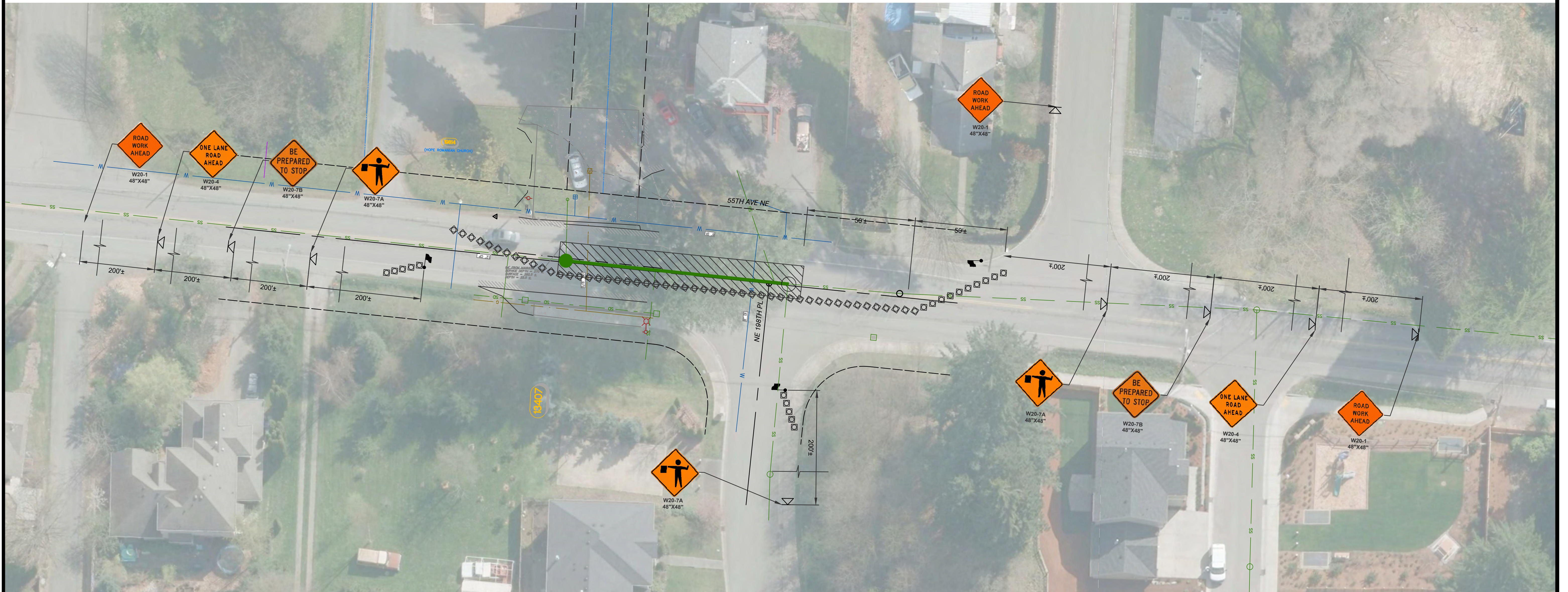
NORTHSHORE UTILITY DISTRICT
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CONTRACT 2022-02
SEWER REPAIRS PROJECTS

GENERAL DETAILS







NW 1/4, SEC 02, T26N, R4E, WM

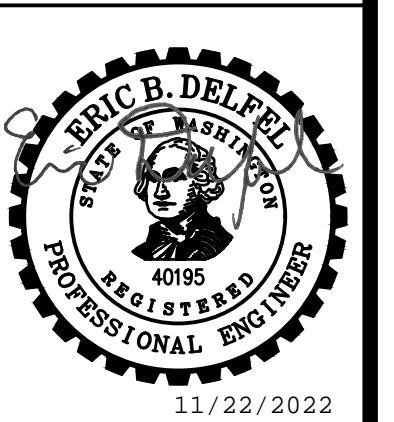
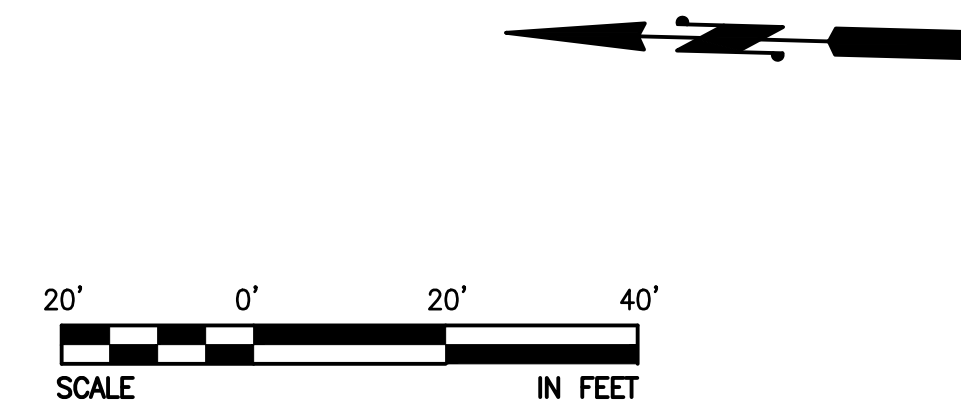


GENERAL NOTES

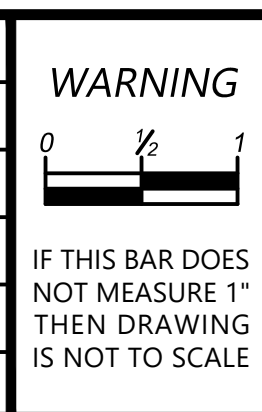
1. SIGNS SHALL BE BLACK (NON REFLECTIVE) ON ORANGE (REFLECTIVE) UNLESS NOTED OTHERWISE.
2. ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERSECTIONS AND DRIVEWAYS.
3. EXTEND TAPER DEVICES ACROSS SHOULDER.
4. MOTORCYCLES USE EXTREME CAUTION SIGNS SHALL BE INSTALLED WHEN THE FOLLOWING ROADWAY CONDITIONS EXIST:
 - GROOVED PAVEMENT
 - ABRUPT LANE EDGE
 - STEEL PLATE
 - LOOSE GRAVEL OR EARTH
5. OPEN TRENCHES WITHIN THE TRAVELED SHALL HAVE A STEEL-PLATE COVER PLACED AND ANCHORED OVER THEM. A WEDGE OF SUITABLE ASPHALT MATERIAL SHALL BE PLACED FOR A SMOOTH TRANSITION BETWEEN THE PAVEMENT AND THE STEEL PLATE. WARNING SIGNS SHALL BE USED TO ALERT MOTORISTS OF THE PRESENCE OF STEEL PLATES.
6. MAINTAIN ALL PRIVATE ROADWAY AND DRIVEWAY ACCESS AT ALL TIMES.
7. SPACING SHOWN IS NOT TO SCALE. FIELD LOCATE TRAFFIC CONTROL DEVICES BASED ON THESE PLANS AND PER THE SPECIFICATIONS.

-  CHANNELIZING DEVICE
-  TEMPORARY SIGN LOCATION
-  FLAGGING STATION
-  WORK ZONE


CHANNELIZATION DEVICE SPACING (FEET)		
MPH	TAPER	TANGENT
35/45	10 TO 20	60
25/30	10 TO 20	40




NO	BY	APPD	REVISION	DATE
PRELIMINARY - NOT FOR CONSTRUCTION				



DESIGNED BY: RTG
 DRAWN BY: RAH
 CHECKED BY: EBD
 APPROVAL: EBD
 DATE: NOV 2022



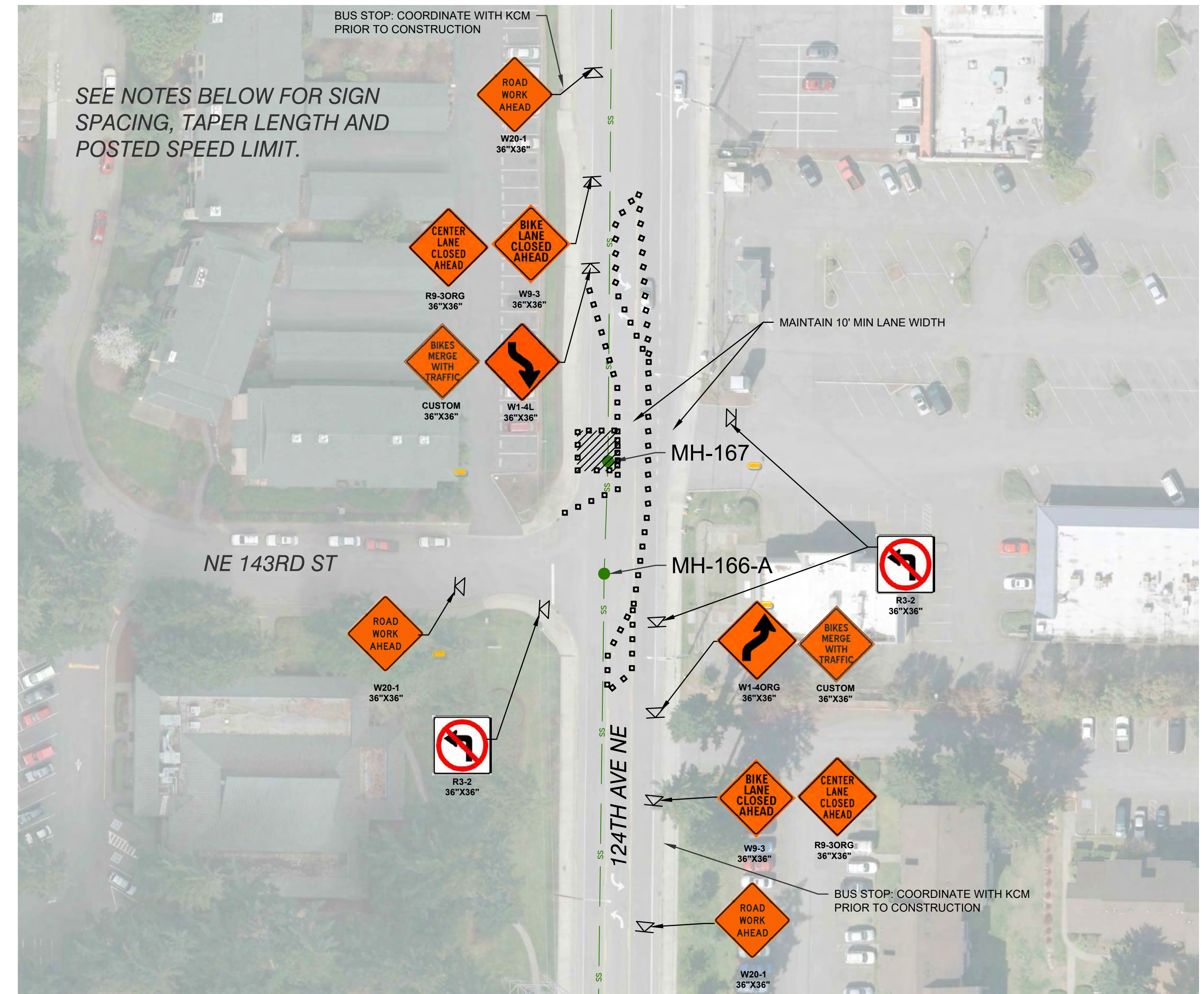
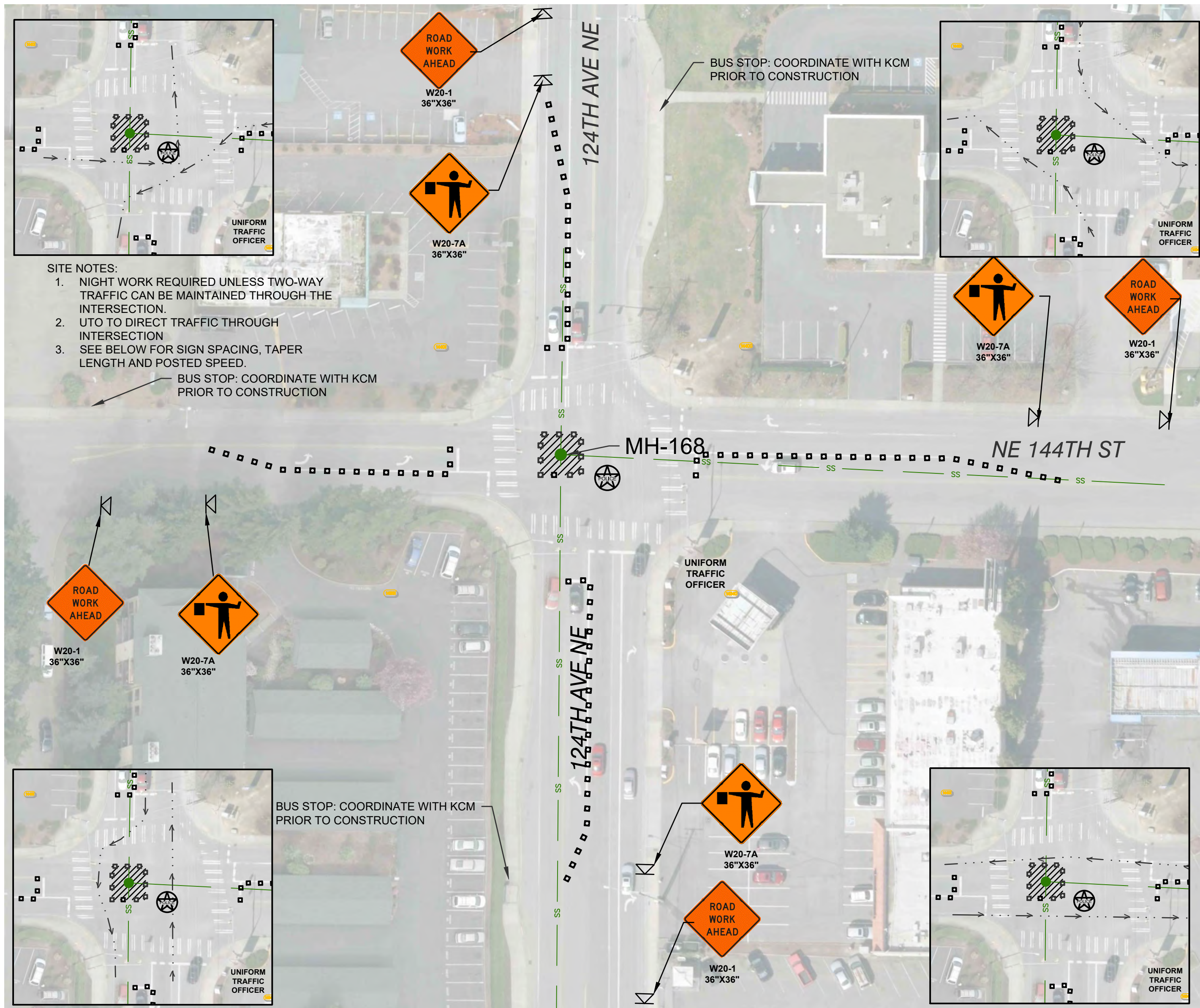
NORTHSHORE UTILITY DISTRICT
 WATER SEWER
 6830 NE 185th St. P.O. Box 82489
 Kenmore, WA 98028-2684 Kenmore, WA 98028-2684
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CONTRACT 2022-02
 SEWER REPAIRS PROJECTS
TRAFFIC CONTROL - 55TH AVE NE
SCH. A

C2102
SHEET
20 OF 31

NW 1/4, SEC 21, T26N, R5E, WM

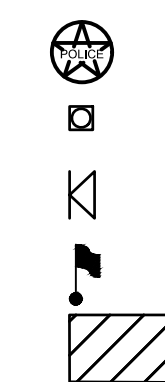


GENERAL NOTES

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- NOTIFY AND COORDINATE KING COUNTY METRO IN ADVANCE OF CONSTRUCTION FOR ANY STOPS THAT WILL BE IMPACTED.
- ALL SHIFTING TAPERS SHALL BE 100' MIN IN LENGTH.
- WORKING HOURS, ARE RESTRICTED TO 9AM TO 3PM.
- 124TH AVE NE POSTED SPEED LIMIT IS 35.

TYPE OF TAPER	TAPER LENGTH	25 MPH	30MPH	35MPH	40MPH
MERGING	L	120 - 150'	150 - 200'	200 - 250'	250 - 300'
SHIFTING	.5L	60 - 80'	80 - 100'	100 - 125'	125 - 150'
SHOULDER	.33L	50'-0"	60'-0"	80'-0"	80'-0"
ONE LANE/TWO-LANE TAPER		50 - 100'	50'-0"	60'-0"	80'-0"
DOWNSTREAM		50 - 100'	50'-0"	60'-0"	80'-0"



UPO
CHANNELIZING DEVICE
TEMPORARY SIGN LOCATION
FLAGGING STATION
WORK ZONE

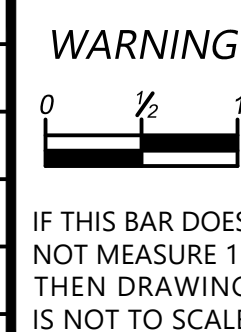
POSTED SPEED LIMIT



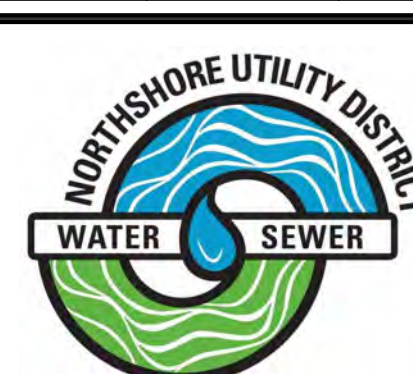
SIGN SPACING (FEET)	
MHP	SPACING (FT)
30	150 - 200
35	200 TO 300

CHANNELIZATION DEVICE SPACING (FEET)		
MPH	TAPPER	TANGENT
35 - 45	30	60
25 - 30	20	40

NO	BY	APPD	REVISION	DATE
PRELIMINARY - NOT FOR CONSTRUCTION				



DESIGNED BY	RTG
DRAWN BY	RAH
CHECKED BY	EBD
APPROVAL	EBD
DATE	NOV 2022



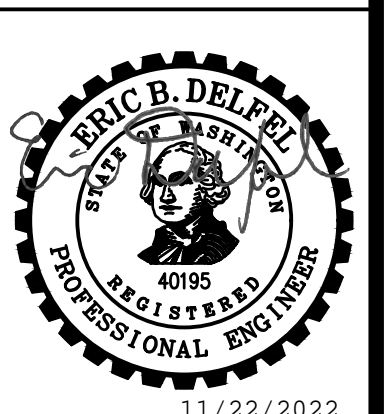
NORTHSHORE UTILITY DISTRICT

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CONTRACT 2022-02
SEWER REPAIRS PROJECTS

**TRAFFIC CONTROL - 124TH - 168 & 167
SCH. D**

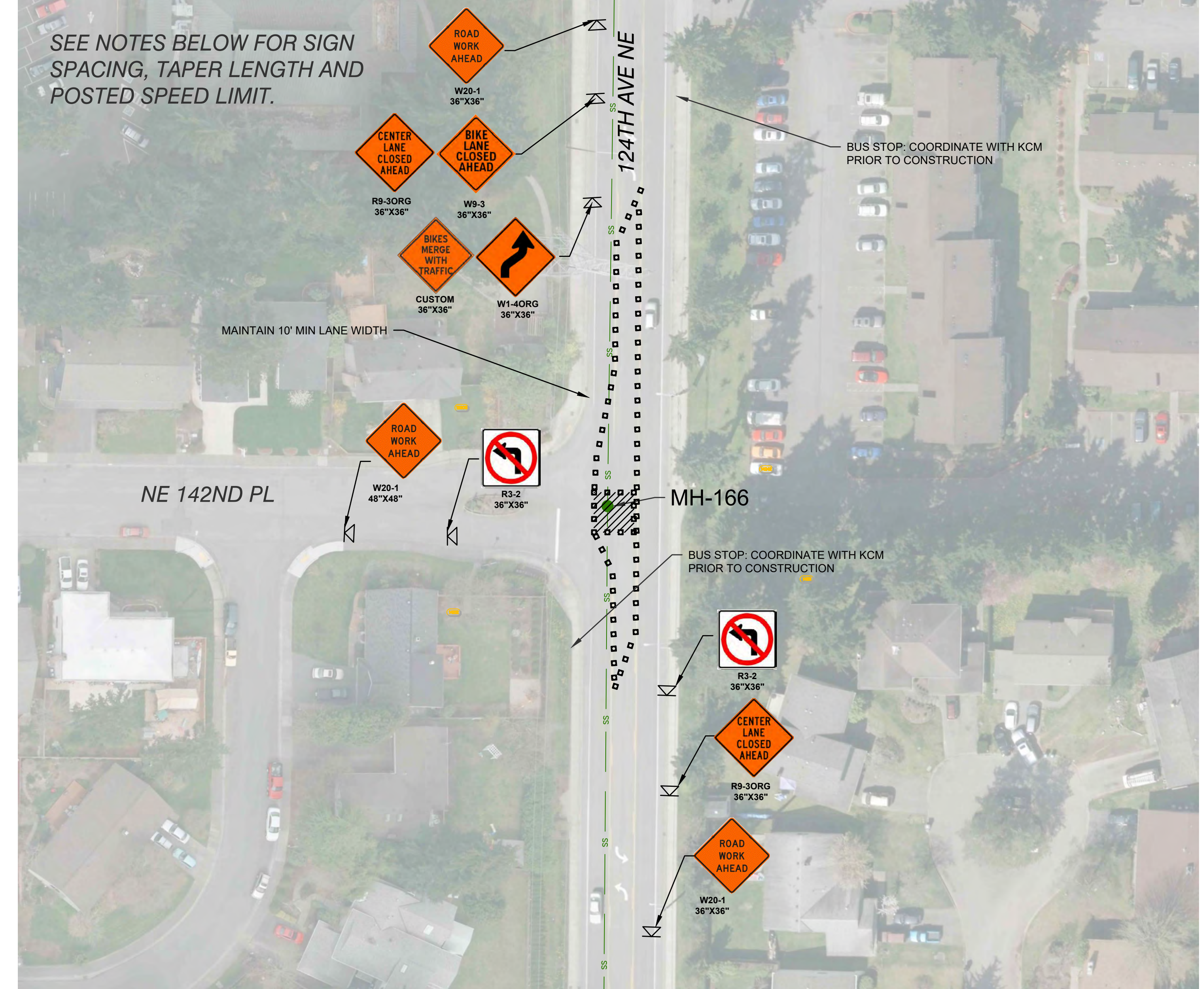


C2102

SHEET

21 OF 31

NW 1/4, SEC 21, T26N, R5E, WM

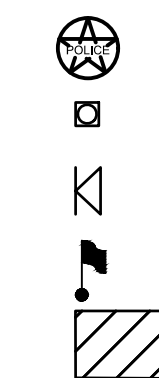


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- WORKING HOURS, ARE RESTRICTED TO 9AM TO 3PM.
- 124TH AVE NE POSTED SPEED LIMIT IS 35.

TYPE OF TAPER	TAPER LENGTH	25 MPH	30MPH	35MPH	40MPH
MERGING	L	120 - 150'	150 - 200'	200 - 250'	250 - 300'
SHIFTING	.5L	60 - 80'	80 - 100'	100 - 125'	125 - 150'
SHOULDER	.33L	50'-0"	60'-0"	80'-0"	80'-0"
ONE LANE/TWO-LANE TAPER					
DOWNSTREAM	50 - 100'	50'-0"	60'-0"	80'-0"	100'-0"



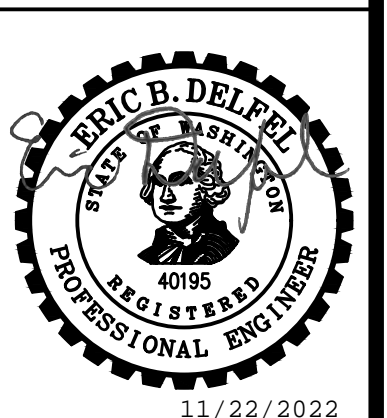
- UPO
- CHANNELIZING DEVICE
- TEMPORARY SIGN LOCATION
- FLAGGING STATION
- WORK ZONE

POSTED SPEED LIMIT



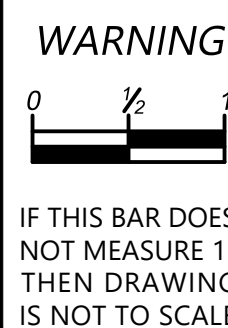
SIGN SPACING (FEET)	
MHP	SPACING (FT)
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CHANNELIZATION DEVICE SPACING (FEET)		
MPH	TAPPER	TANGENT
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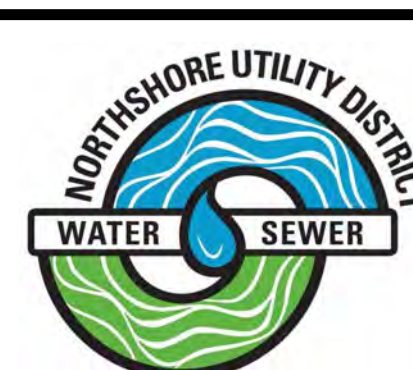


11/22/2022

NO	BY	APPD	REVISION	DATE
PRELIMINARY - NOT FOR CONSTRUCTION				



DESIGNED BY	RTG
DRAWN BY	RAH
CHECKED BY	EBD
APPROVAL	EBD
DATE	NOV 2022



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CONTRACT 2022-02
 SEWER REPAIRS PROJECTS
TRAFFIC CONTROL - 124TH - 166A & 166
SCH. D

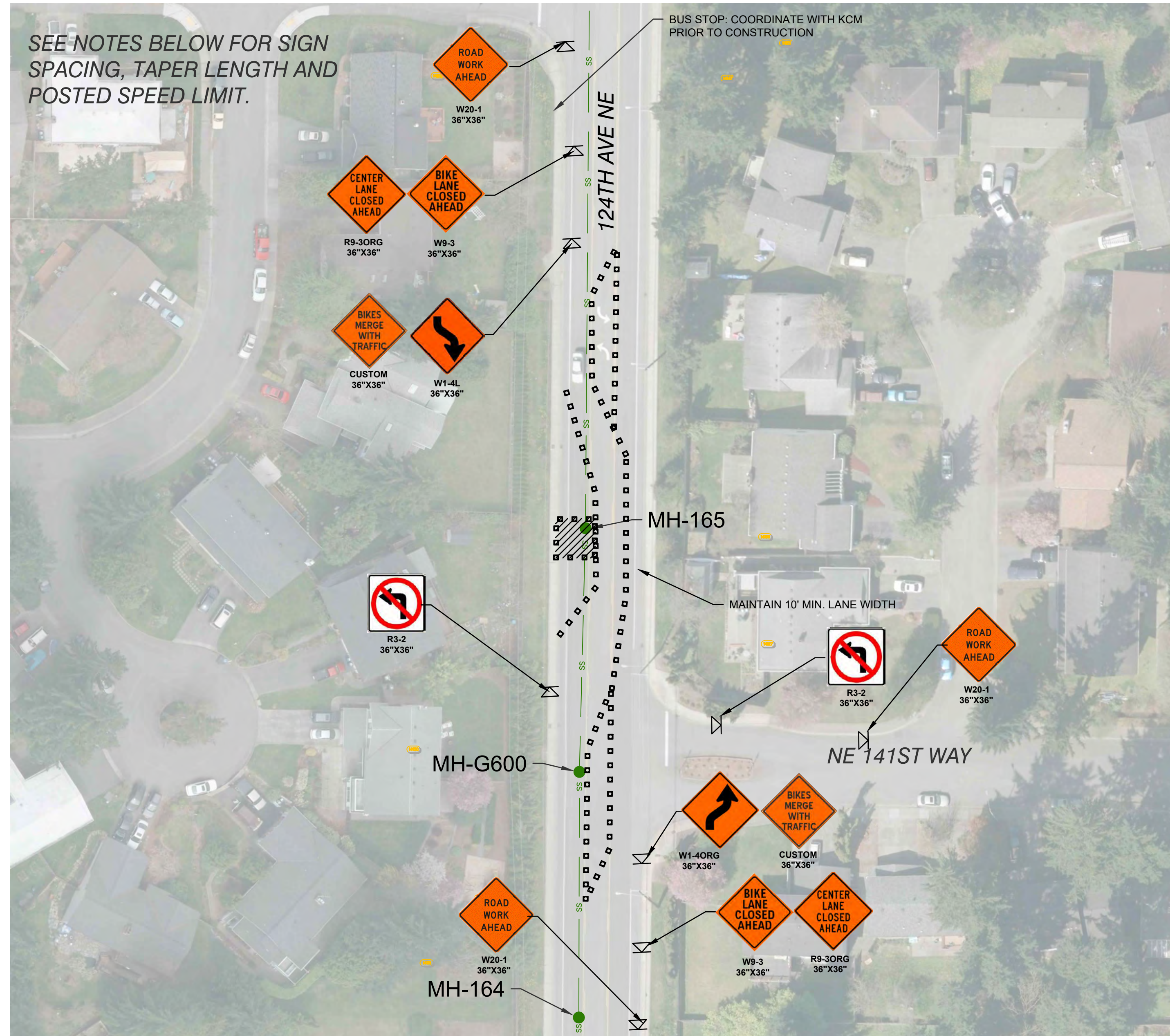
C2102

SHEET

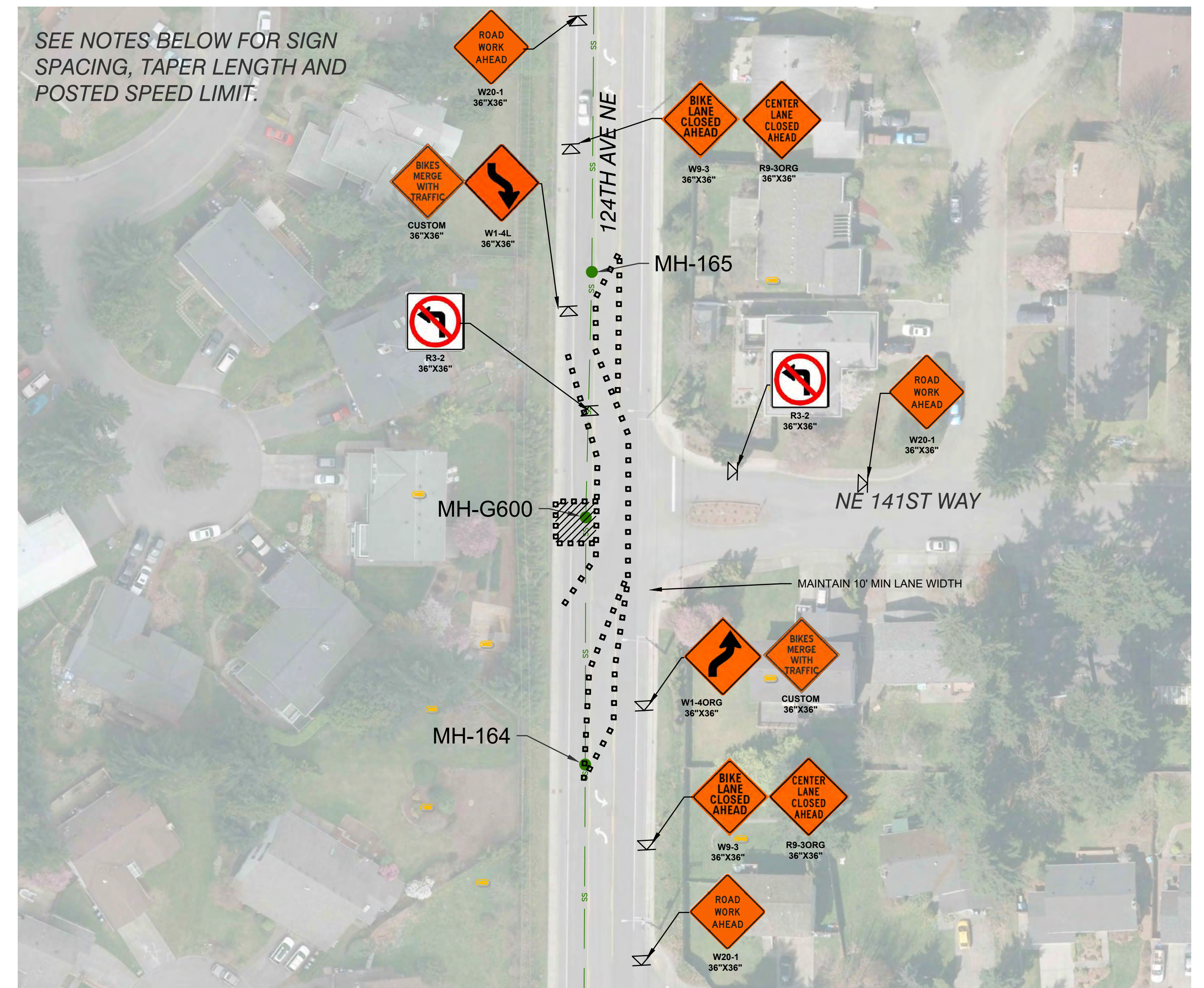
22 OF 31

NW 1/4, SEC 21, T26N, R5E, WM

SEE NOTES BELOW FOR SIGN SPACING, TAPER LENGTH AND POSTED SPEED LIMIT.



SEE NOTES BELOW FOR SIGN SPACING, TAPER LENGTH AND POSTED SPEED LIMIT.

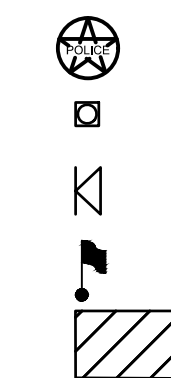


GENERAL NOTES

- SIGNS SHALL BE BLACK (NON REFLECTIVE) ON ORANGE (REFLECTIVE) UNLESS NOTED OTHERWISE. 36"X36" PREFERRED IF AVAILABLE.
- ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERSECTIONS AND DRIVEWAYS.
- EXTEND TAPER DEVICES ACROSS SHOULDER.
- MOTORCYCLES USE EXTREME CAUTION SIGNS SHALL BE INSTALLED WHEN THE FOLLOWING ROADWAY CONDITIONS EXIST:
 - GROOVED PAVEMENT
 - ABRUPT LANE EDGE
 - STEEL PLATE
 - LOOSE GRAVEL OR EARTH
- OPEN TRENCHES WITHIN THE TRAVELED SHALL HAVE A STEEL-PLATE COVER PLACED AND ANCHORED OVER THEM. A WEDGE OF SUITABLE ASPHALT MATERIAL SHALL BE PLACED FOR A SMOOTH TRANSITION BETWEEN THE PAVEMENT AND THE STEEL PLATE. WARNING SIGNS SHALL BE USED TO ALERT MOTORISTS OF THE PRESENCE OF STEEL PLATES.
- MAINTAIN ALL PRIVATE ROADWAY AND DRIVEWAY ACCESS AT ALL TIMES.
- SPACING SHOWN IS NOT TO SCALE. FIELD LOCATE TRAFFIC CONTROL DEVICES BASED ON THESE PLANS AND PER THE SPECIFICATIONS.

- NOTIFY AND COORDINATE KING COUNTY METRO IN ADVANCE OF CONSTRUCTION FOR ANY STOPS THAT WILL BE IMPACTED.
- ALL SHIFTING TAPERS SHALL BE 100' MIN IN LENGTH.
- WORKING HOURS, ARE RESTRICTED TO 9AM TO 3PM.
- 124TH AVE NE POSTED SPEED LIMIT IS 35.

TYPE OF TAPER	TAPER LENGTH	25 MPH	30MPH	35MPH	40MPH
MERGING	L	120 - 150'	150 - 200'	200 - 250'	250 - 300'
SHIFTING	.5L	60 - 80'	80 - 100'	100 - 125'	125 - 150'
SHOULDER	.33L	50'-0"	60'-0"	80'-0"	80'-0"
ONE LANE/TWO-LANE TAPER					
DOWNSTREAM	50 - 100'	50'-0"	60'-0"	80'-0"	100'-0"



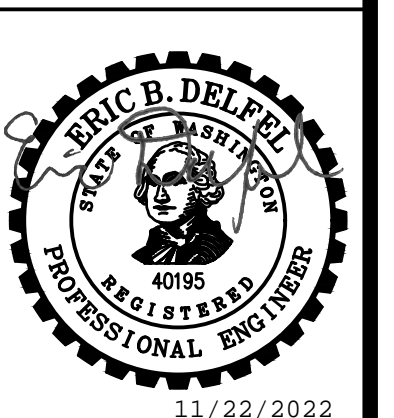
- UPO
- CHANNELIZING DEVICE
- TEMPORARY SIGN LOCATION
- FLAGGING STATION
- WORK ZONE

POSTED SPEED LIMIT

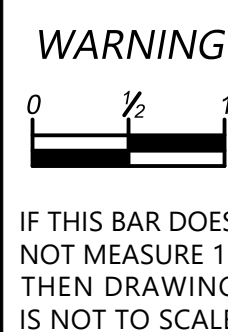


SIGN SPACING (FEET)	
MHP	SPACING (FT)
30	150 - 200
35	200 TO 300

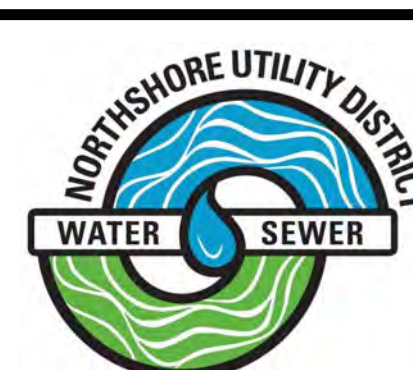
CHANNELIZATION DEVICE SPACING (FEET)		
MPH	TAPPER	TANGENT
35 - 45	30	60
25 - 30	20	40



NO	BY	APPD	REVISION	DATE
PRELIMINARY - NOT FOR CONSTRUCTION				



DESIGNED BY	RTG
DRAWN BY	RAH
CHECKED BY	EBD
APPROVAL	EBD
DATE	NOV 2022



NORTHSHORE UTILITY DISTRICT
 6830 NE 185th St. P.O. Box 82489
 Kenmore, WA 98028-2684 Kenmore, WA 98028-2684
 Ph: (425) 398-4400 | Fax: (425) 398-4430 | www.nud.net

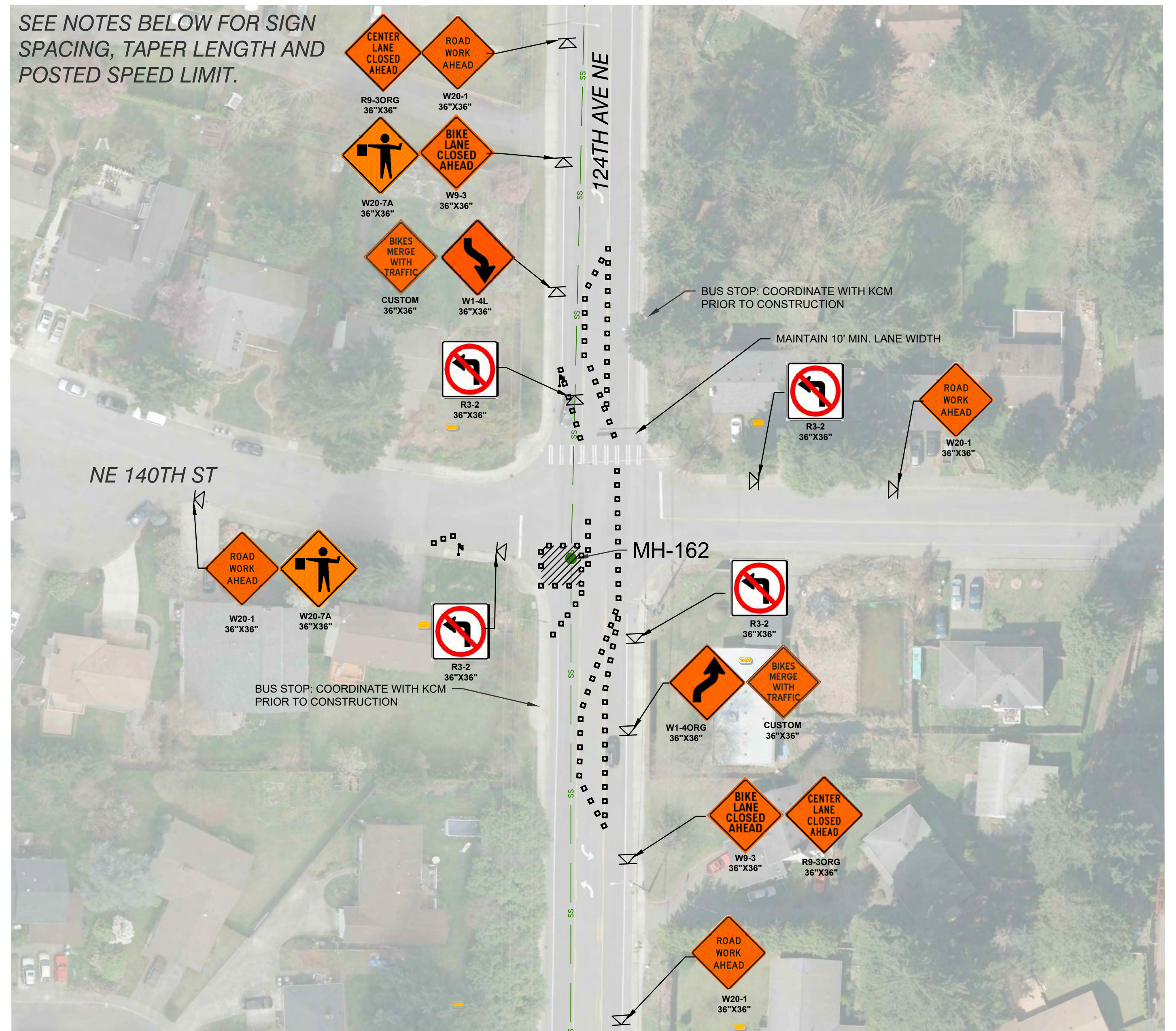
CONTRACT 2022-02
 SEWER REPAIRS PROJECTS
TRAFFIC CONTROL - 124TH - 165 & G600
SCH. D

NW 1/4, SEC 21, T26N, R5E, WM

SEE NOTES BELOW FOR SIGN SPACING, TAPER LENGTH AND POSTED SPEED LIMIT.



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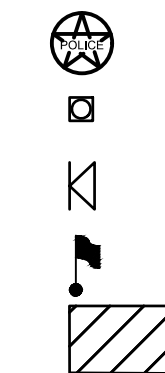


GENERAL NOTES

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- ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERSECTIONS AND DRIVEWAYS.
- EXTEND TAPER DEVICES ACROSS SHOULDER.
- MOTORCYCLES USE EXTREME CAUTION SIGNS SHALL BE INSTALLED WHEN THE FOLLOWING ROADWAY CONDITIONS EXIST:
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- MAINTAIN ALL PRIVATE ROADWAY AND DRIVEWAY ACCESS AT ALL TIMES.
- SPACING SHOWN IS NOT TO SCALE. FIELD LOCATE TRAFFIC CONTROL DEVICES BASED ON THESE PLANS AND PER THE SPECIFICATIONS.

- NOTIFY AND COORDINATE KING COUNTY METRO IN ADVANCE OF CONSTRUCTION FOR ANY STOPS THAT WILL BE IMPACTED.
- ALL SHIFTING TAPERS SHALL BE 100' MIN IN LENGTH.
- WORKING HOURS, ARE RESTRICTED TO 9AM TO 3PM.
- 124TH AVE NE POSTED SPEED LIMIT IS 35.

TYPE OF TAPER	TAPER LENGTH	25 MPH	30MPH	35MPH	40MPH
MERGING	L	120 - 150'	150 - 200'	200 - 250'	250 - 300'
SHIFTING	.5L	60 - 80'	80 - 100'	100 - 125'	125 - 150'
SHOULDER	.33L	50'-0"	60'-0"	80'-0"	80'-0"
ONE LANE/TWO-LANE TAPER					
DOWNSTREAM	50 - 100'	50'-0"	60'-0"	80'-0"	100'-0"



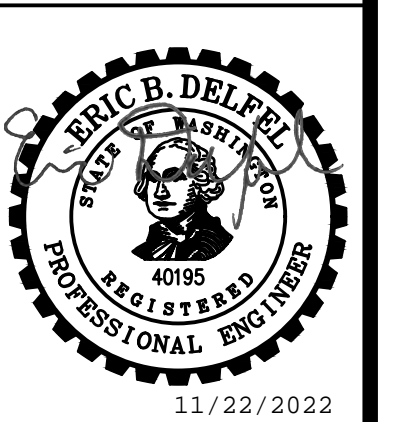
- UPO
- CHANNELIZING DEVICE
- TEMPORARY SIGN LOCATION
- FLAGGING STATION
- WORK ZONE

POSTED SPEED LIMIT

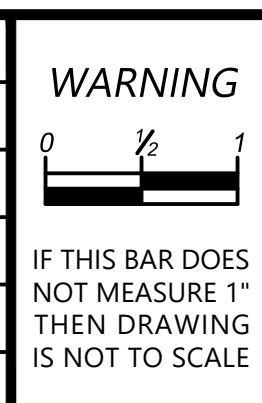


SIGN SPACING (FEET)	
MHP	SPACING (FT)
30	150 - 200
35	200 TO 300

CHANNELIZATION DEVICE SPACING (FEET)		
MPH	TAPPER	TANGENT
35 - 45	30	60
25 - 30	20	40



NO	BY	APPD	REVISION	DATE
PRELIMINARY - NOT FOR CONSTRUCTION				



DESIGNED BY: RTG
 DRAWN BY: RAH
 CHECKED BY: EBD
 APPROVAL: EBD
 DATE: NOV 2022

Gray & Osborne, Inc
 CONSULTING ENGINEERS

NORTHSHORE UTILITY DISTRICT
 WATER SEWER

6830 NE 185th St. P.O. Box 82489
 Kenmore, WA 98028-2684 Kenmore, WA 98028-2684

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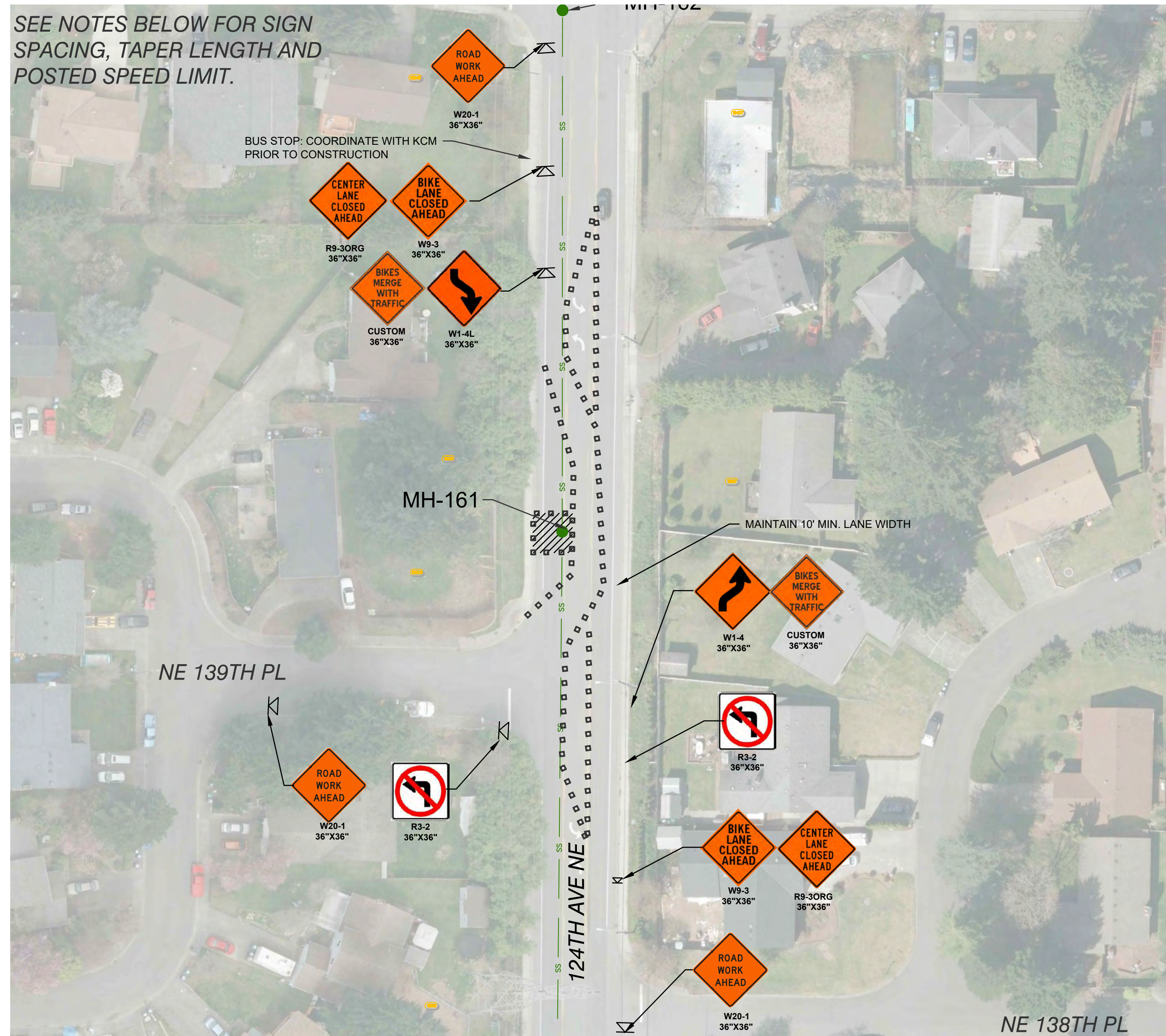
CONTRACT 2022-02
 SEWER REPAIRS PROJECTS

**TRAFFIC CONTROL - 124TH - 163 & 162
 SCH. D**

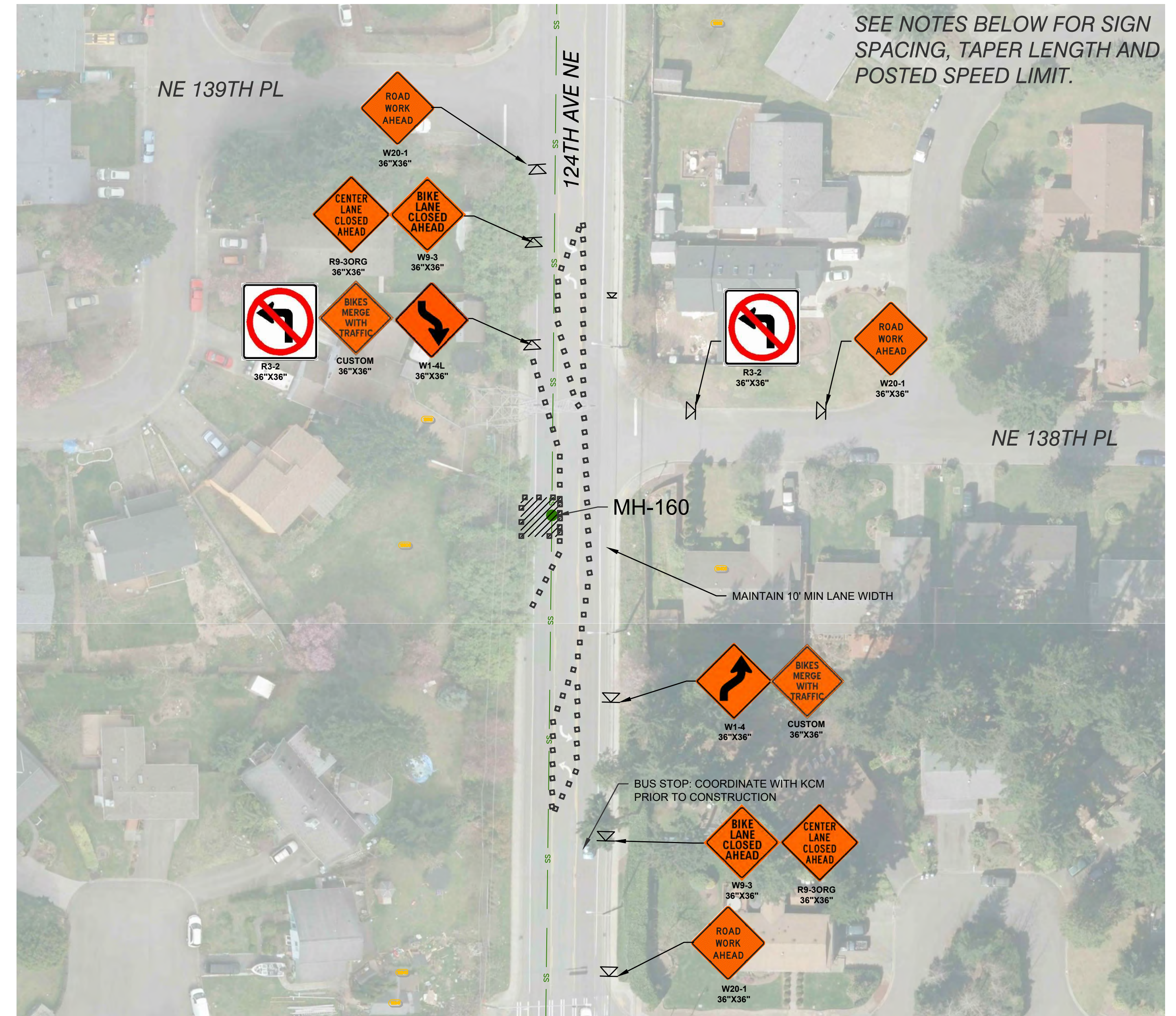
C2102
SHEET
24 OF 31

NW 1/4, SEC 21, T26N, R5E, WM

SEE NOTES BELOW FOR SIGN SPACING, TAPER LENGTH AND POSTED SPEED LIMIT.



SEE NOTES BELOW FOR SIGN SPACING, TAPER LENGTH AND POSTED SPEED LIMIT.

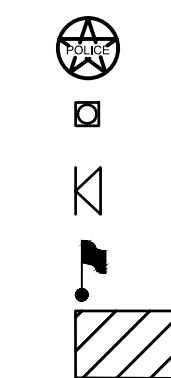


GENERAL NOTES

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- MAINTAIN ALL PRIVATE ROADWAY AND DRIVEWAY ACCESS AT ALL TIMES.
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- ALL SHIFTING TAPERS SHALL BE 100' MIN IN LENGTH.
- WORKING HOURS, ARE RESTRICTED TO 9AM TO 3PM.
- 124TH AVE NE POSTED SPEED LIMIT IS 35.

TYPE OF TAPER	TAPER LENGTH	25 MPH	30MPH	35MPH	40MPH
MERGING	L	120 - 150'	150 - 200'	200 - 250'	250 - 300'
SHIFTING	.5L	60 - 80'	80 - 100'	100 - 125'	125 - 150'
SHOULDER	.33L	50'-0"	60'-0"	80'-0"	80'-0"
ONE LANE/TWO-LANE TAPER					
DOWNSTREAM	50 - 100'	50'-0"	60'-0"	80'-0"	100'-0"



UPO
CHANNELIZING DEVICE
TEMPORARY SIGN LOCATION
FLAGGING STATION
WORK ZONE

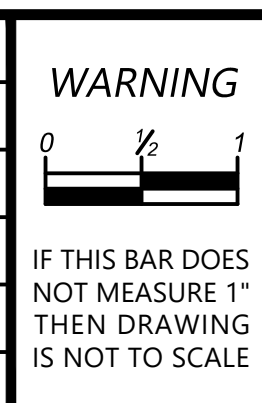


SIGN SPACING (FEET)	
MHP	SPACING (FT)
30	150 - 200
35	200 TO 300

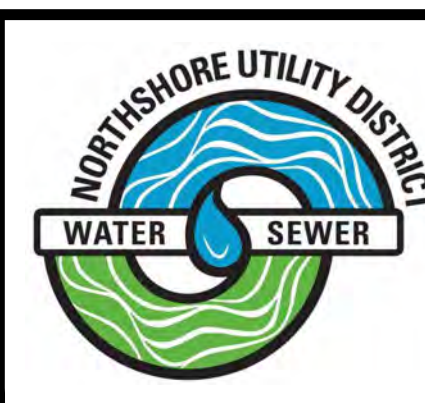
CHANNELIZATION DEVICE SPACING (FEET)		
MPH	TAPPER	TANGENT
35 - 45	30	60
25 - 30	20	40



NO	BY	APPD	REVISION	DATE
PRELIMINARY - NOT FOR CONSTRUCTION				



DESIGNED BY: RTG
 DRAWN BY: RAH
 CHECKED BY: EBD
 APPROVAL: EBD
 DATE: NOV 2022



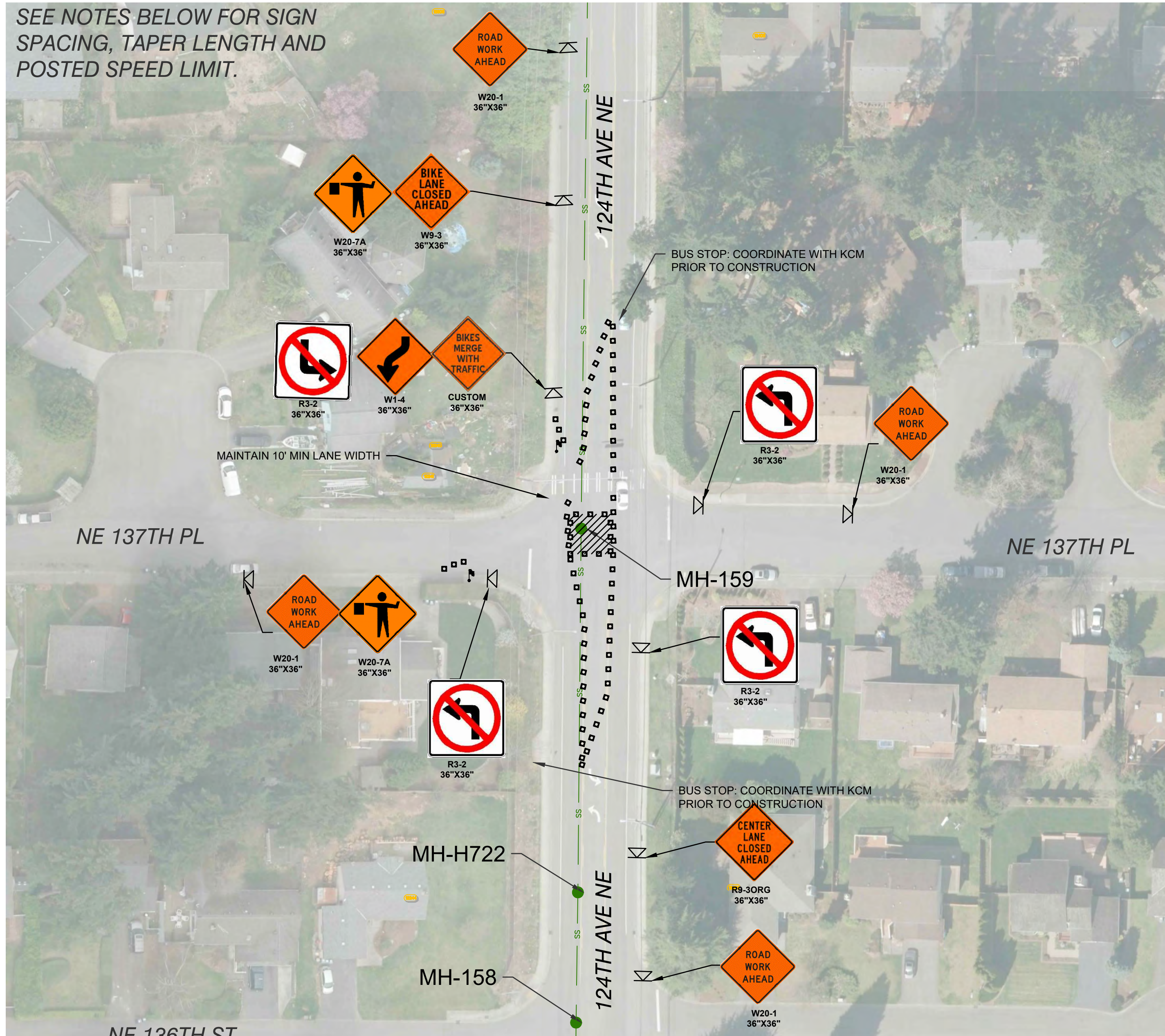
NORTHSHORE UTILITY DISTRICT
 6830 NE 185th St. P.O. Box 82489
 Kenmore, WA 98028-2684 Kenmore, WA 98028-2684
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CONTRACT 2022-02
 SEWER REPAIRS PROJECTS
TRAFFIC CONTROL - 124TH - 161 & 160
SCH. D

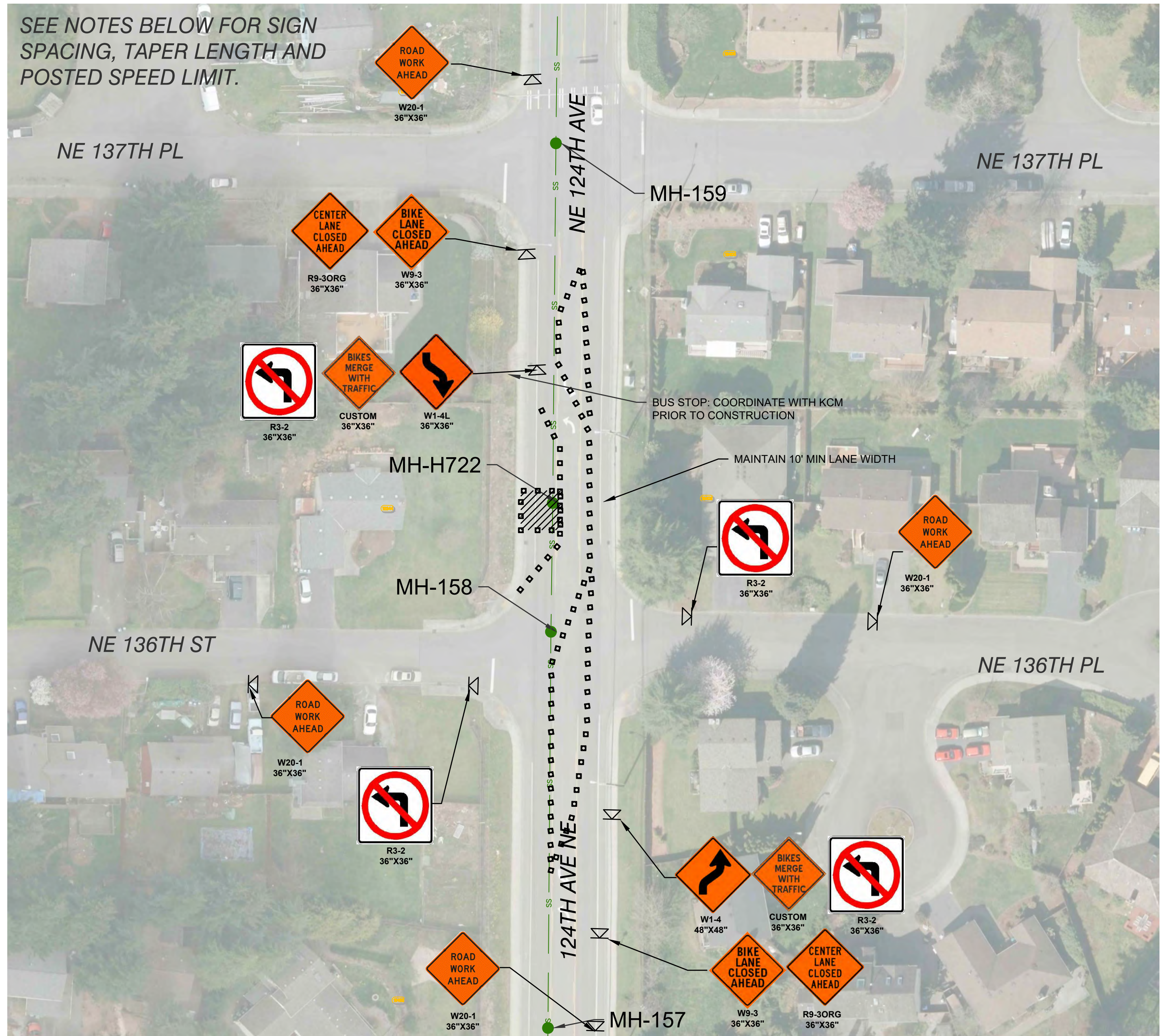
C2102
SHEET
25 OF 31

NW 1/4, SEC 21, T26N, R5E, WM

SEE NOTES BELOW FOR SIGN SPACING, TAPER LENGTH AND POSTED SPEED LIMIT.



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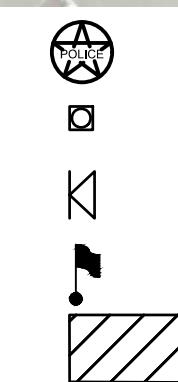


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- WORKING HOURS, ARE RESTRICTED TO 9AM TO 3PM.
- 124TH AVE NE POSTED SPEED LIMIT IS 35.

TYPE OF TAPER	TAPER LENGTH	25 MPH	30MPH	35MPH	40MPH
MERGING	L	120 - 150'	150 - 200'	200 - 250'	250 - 300'
SHIFTING	.5L	60 - 80'	80 - 100'	100 - 125'	125 - 150'
SHOULDER	.33L	50'-0"	60'-0"	80'-0"	80'-0"
ONE LANE/TWO-LANE TAPER		50 - 100'	50'-0"	60'-0"	80'-0"
DOWNSTREAM		50 - 100'	50'-0"	60'-0"	80'-0"

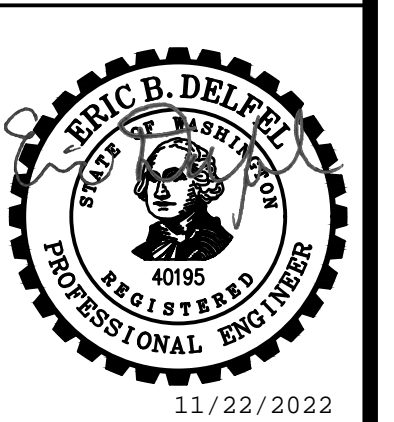


UPO
CHANNELIZING DEVICE
TEMPORARY SIGN LOCATION
FLAGGING STATION
WORK ZONE



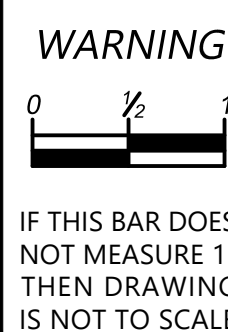
SIGN SPACING (FEET)	
MHP	SPACING (FT)
30	150 - 200
35	200 TO 300

CHANNELIZATION DEVICE SPACING (FEET)		
MPH	TAPPER	TANGENT
35 - 45	30	60
25 - 30	20	40

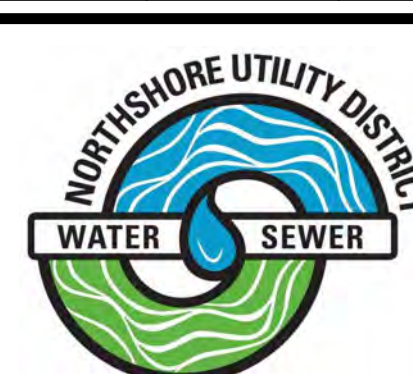


11/22/2022

NO	BY	APPD	REVISION	DATE
PRELIMINARY - NOT FOR CONSTRUCTION				



DESIGNED BY	RTG
DRAWN BY	RAH
CHECKED BY	EBD
APPROVAL	EBD
DATE	NOV 2022



NORTHSHORE UTILITY DISTRICT

6830 NE 185th St. P.O. Box 82489
Kenmore, WA 98028-2684 Kenmore, WA 98028-2684

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CONTRACT 2022-02
SEWER REPAIRS PROJECTS

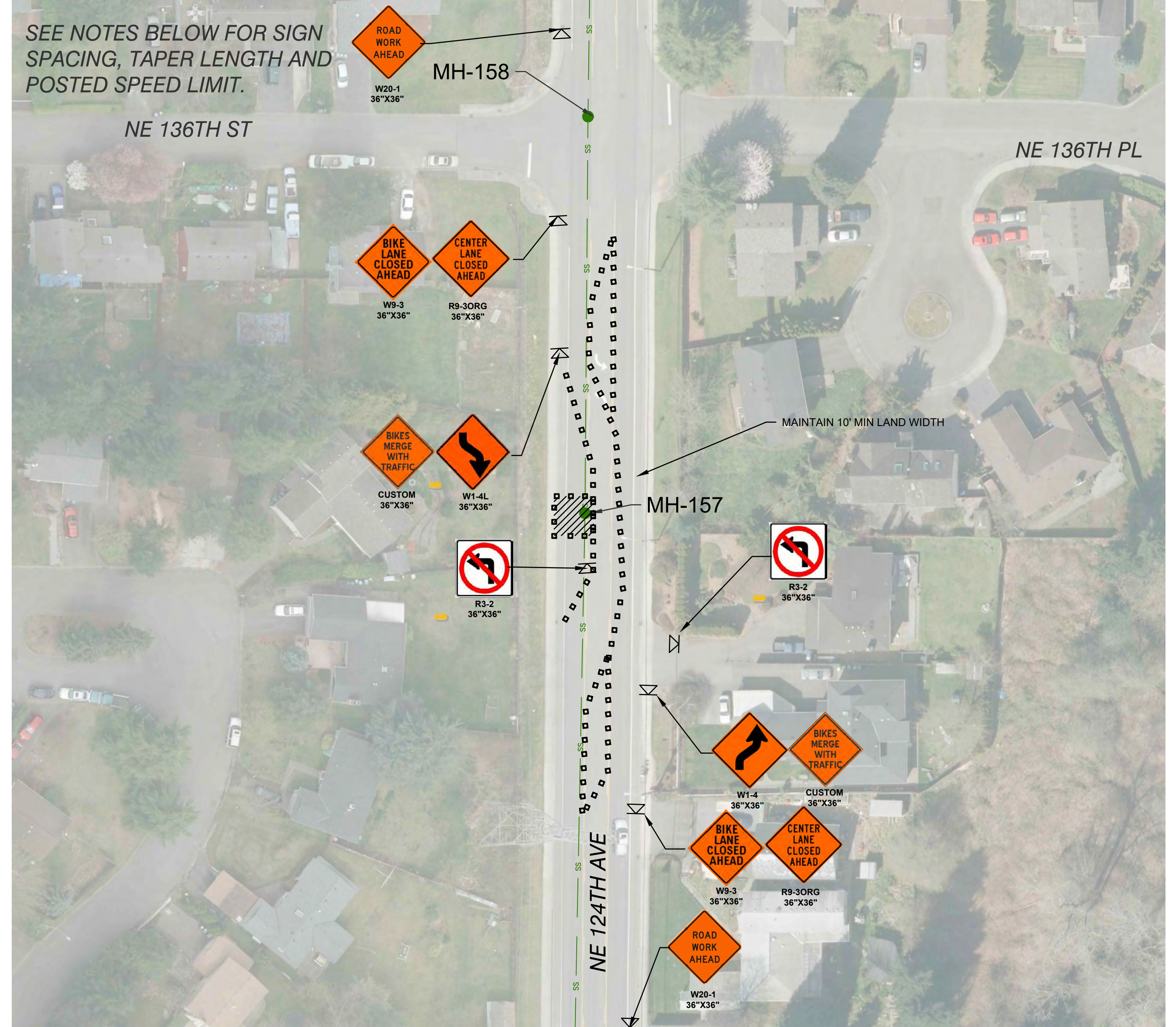
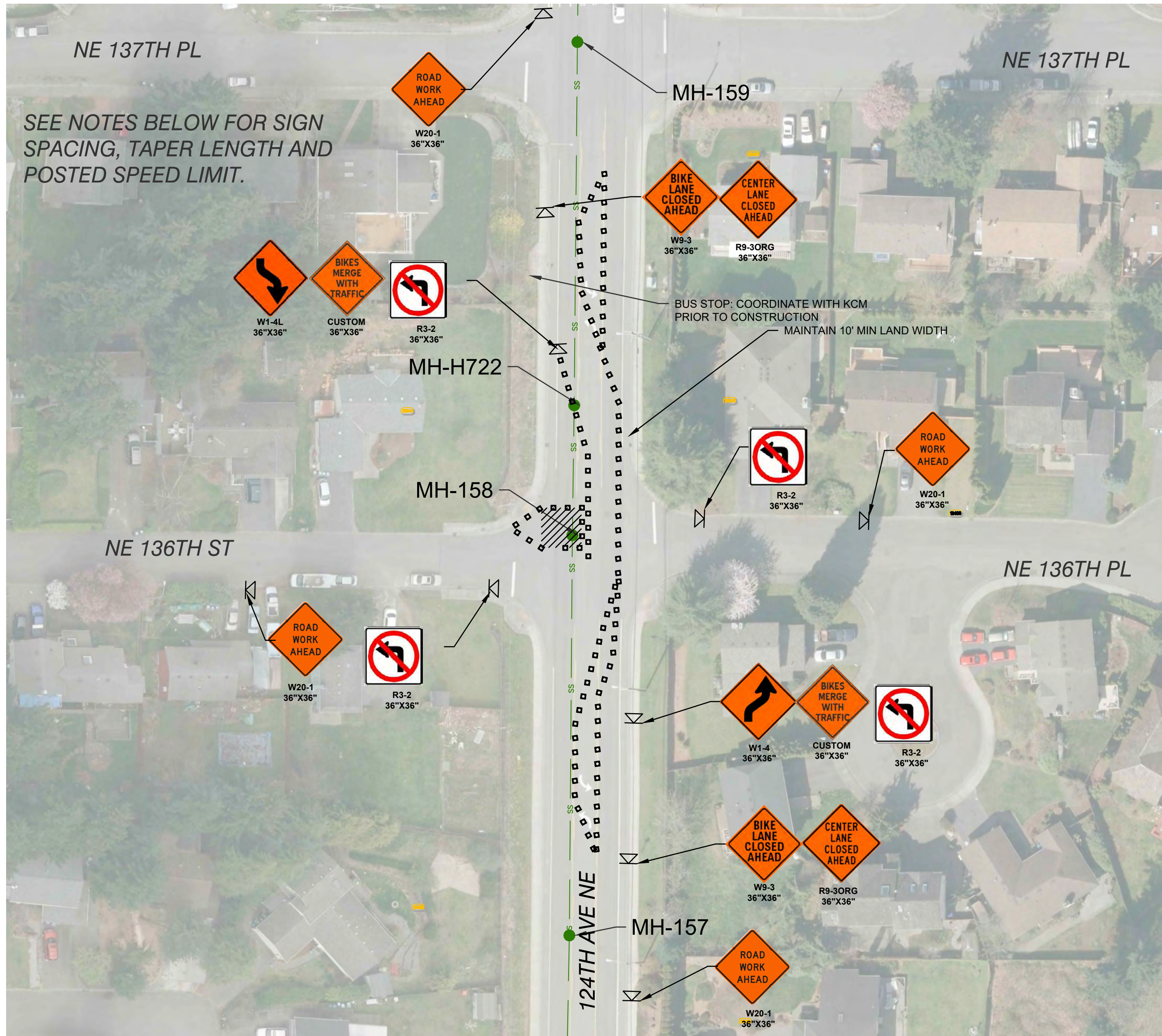
**TRAFFIC CONTROL - 124TH - 159 & H722
SCH. D**

C2102

SHEET

26 OF 31

NW 1/4, SEC 21, T26N, R5E, WM

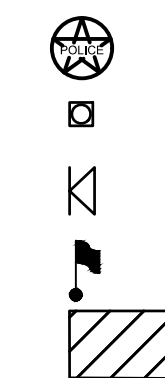


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- WORKING HOURS, ARE RESTRICTED TO 9AM TO 3PM.
- 124TH AVE NE POSTED SPEED LIMIT IS 35.

TYPE OF TAPER	TAPER LENGTH	25 MPH	30MPH	35MPH	40MPH
MERGING	L	120 - 150'	150 - 200'	200 - 250'	250 - 300'
SHIFTING	.5L	60 - 80'	80 - 100'	100 - 125'	125 - 150'
SHOULDER	.33L	50'-0"	60'-0"	80'-0"	80'-0"
ONE LANE/TWO-LANE TAPER					
DOWNSTREAM	50 - 100'	50'-0"	60'-0"	80'-0"	100'-0"



UPO
CHANNELIZING DEVICE
TEMPORARY SIGN LOCATION
FLAGGING STATION
WORK ZONE

POSTED SPEED LIMIT

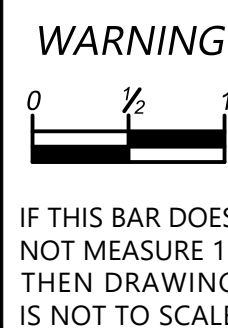


SIGN SPACING (FEET)	
MHP	SPACING (FT)
30	150 - 200
35	200 TO 300

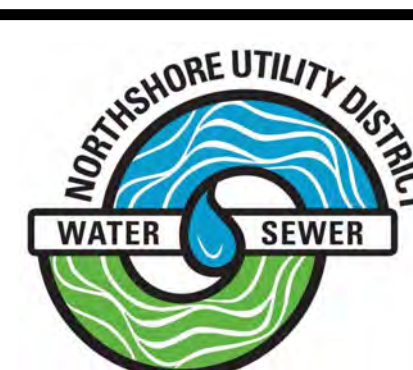
CHANNELIZATION DEVICE SPACING (FEET)		
MPH	TAPPER	TANGENT
35 - 45	30	60
25 - 30	20	40



NO	BY	APPD	REVISION	DATE
PRELIMINARY - NOT FOR CONSTRUCTION				



DESIGNED BY	RTG
DRAWN BY	RAH
CHECKED BY	EBD
APPROVAL	EBD
DATE	NOV 2022

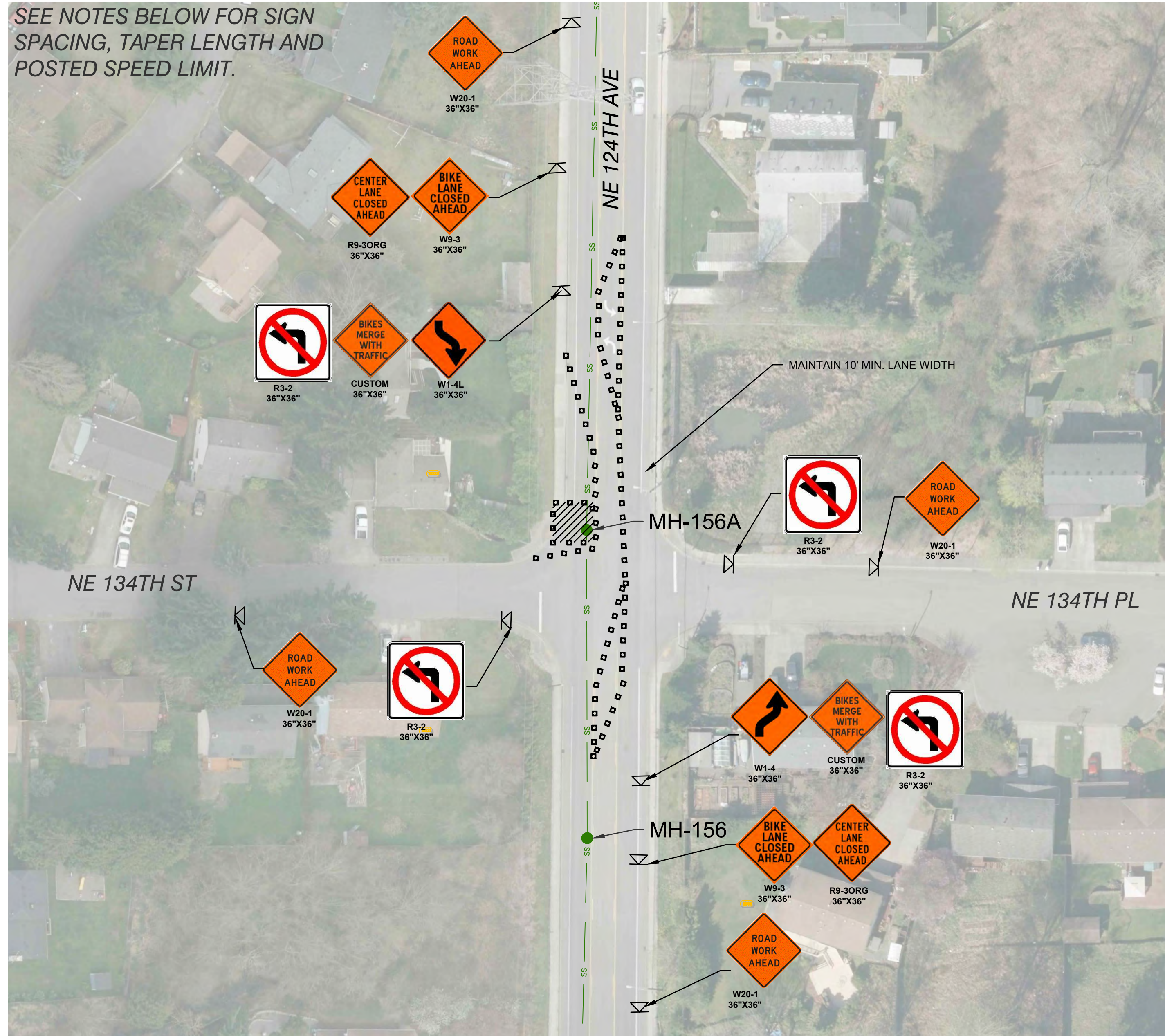


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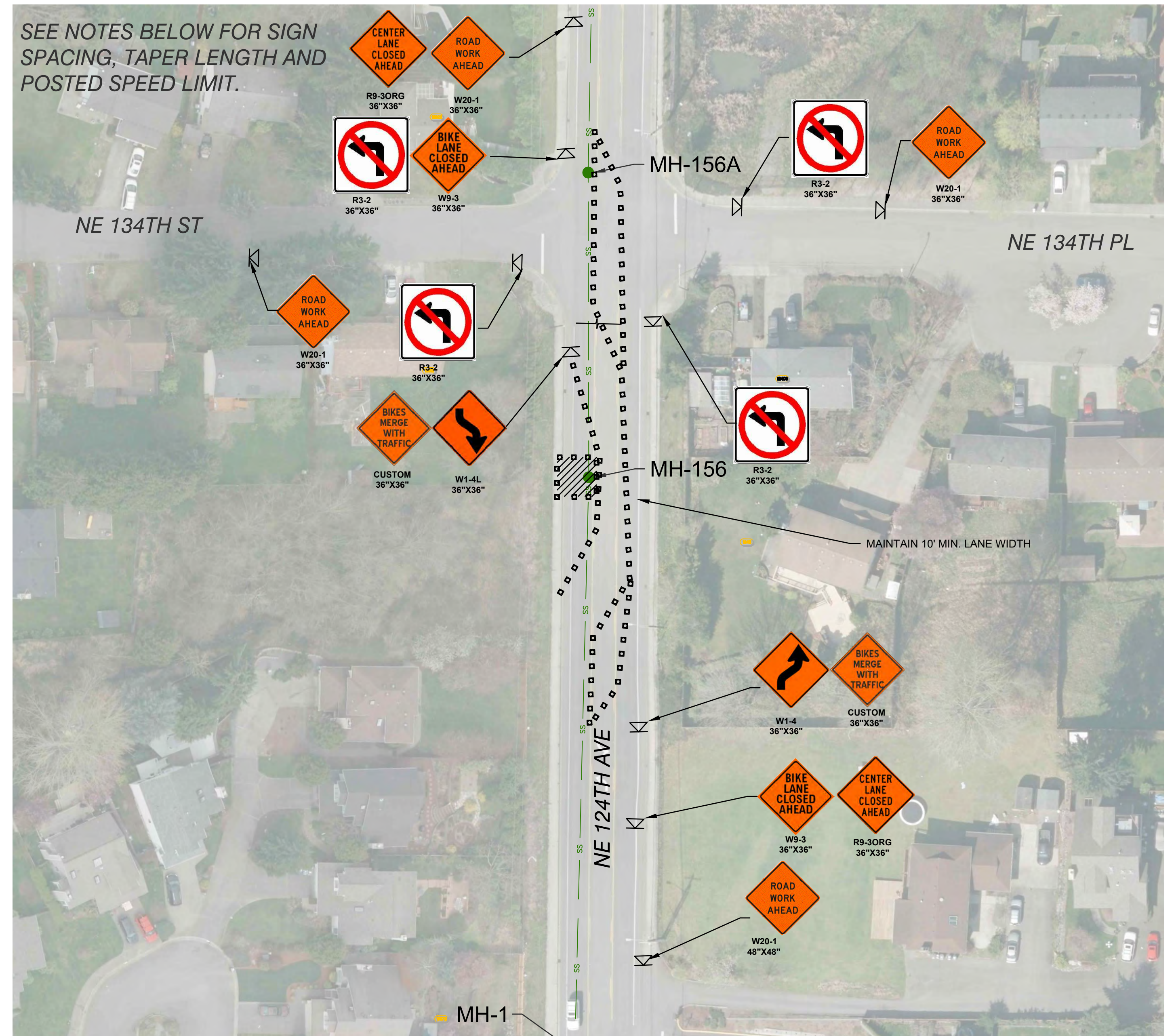
CONTRACT 2022-02
 SEWER REPAIRS PROJECTS
TRAFFIC CONTROL - 124TH - 158 & 157
SCH. D

NW 1/4, SEC 21, T26N, R5E, WM

SEE NOTES BELOW FOR SIGN SPACING, TAPER LENGTH AND POSTED SPEED LIMIT.



SEE NOTES BELOW FOR SIGN SPACING, TAPER LENGTH AND POSTED SPEED LIMIT.

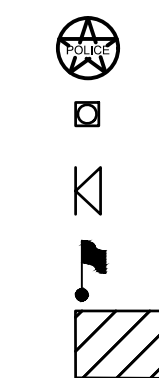


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TYPE OF TAPER	TAPER LENGTH	25 MPH	30MPH	35MPH	40MPH
MERGING	L	120 - 150'	150 - 200'	200 - 250'	250 - 300'
SHIFTING	.5L	60 - 80'	80 - 100'	100 - 125'	125 - 150'
SHOULDER	.33L	50'-0"	60'-0"	80'-0"	80'-0"
ONE LANE/TWO-LANE TAPER					
DOWNSTREAM	50 - 100'	50'-0"	60'-0"	80'-0"	100'-0"



UPO
CHANNELIZING DEVICE
TEMPORARY SIGN LOCATION
FLAGGING STATION
WORK ZONE

POSTED SPEED LIMIT

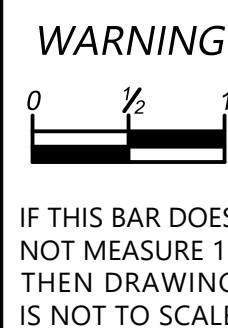


SIGN SPACING (FEET)	
MHP	SPACING (FT)
30	150 - 200
35	200 TO 300

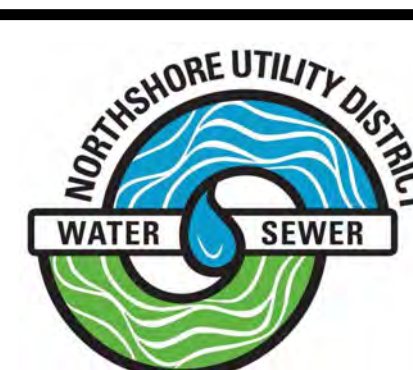
CHANNELIZATION DEVICE SPACING (FEET)		
MPH	TAPPER	TANGENT
35 - 45	30	60
25 - 30	20	40



NO	BY	APPD	REVISION	DATE
PRELIMINARY - NOT FOR CONSTRUCTION				



DESIGNED BY	RTG
DRAWN BY	RAH
CHECKED BY	EBD
APPROVAL	EBD
DATE	NOV 2022

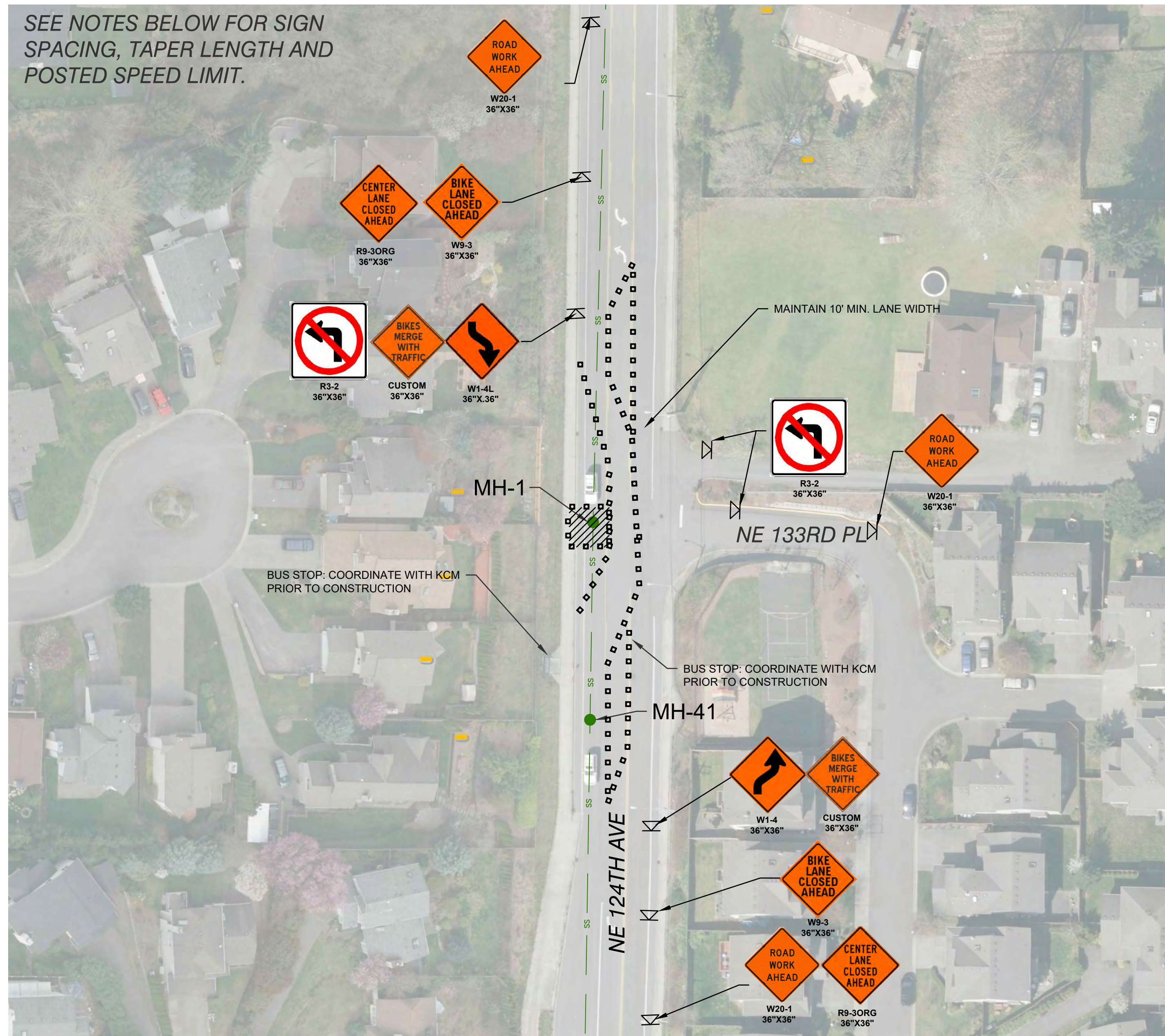


NORTHSHORE UTILITY DISTRICT
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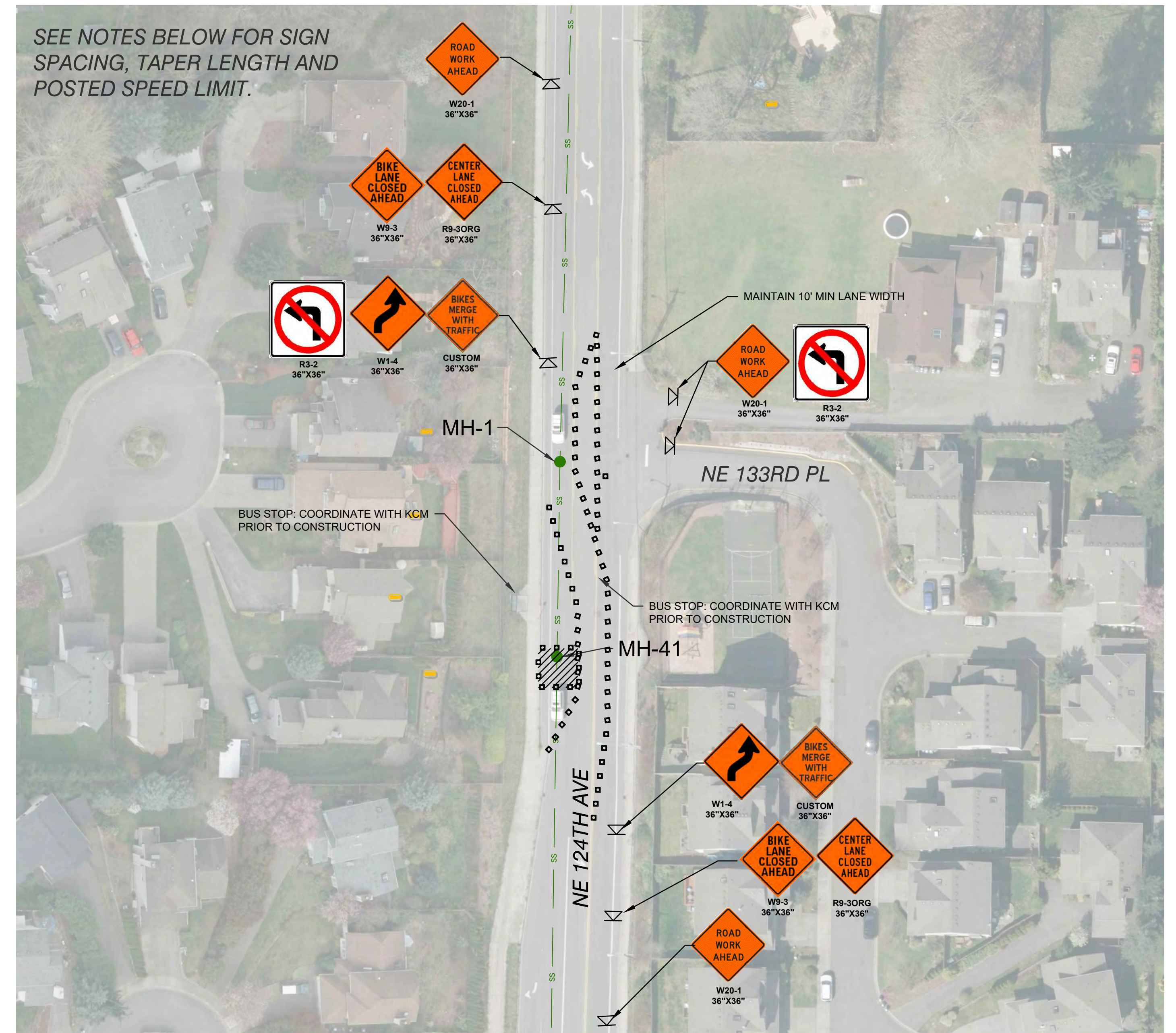
CONTRACT 2022-02
 SEWER REPAIRS PROJECTS
TRAFFIC CONTROL - 124TH - 156A & 156
SCH. D

NW 1/4, SEC 21, T26N, R5E, WM

SEE NOTES BELOW FOR SIGN SPACING, TAPER LENGTH AND POSTED SPEED LIMIT.



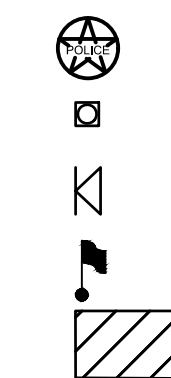
SEE NOTES BELOW FOR SIGN SPACING, TAPER LENGTH AND POSTED SPEED LIMIT.



GENERAL NOTES

- SIGNS SHALL BE BLACK (NON REFLECTIVE) ON ORANGE (REFLECTIVE) UNLESS NOTED OTHERWISE. 36"x36" PREFERRED IF AVAILABLE.
- ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERSECTIONS AND DRIVEWAYS.
- EXTEND TAPER DEVICES ACROSS SHOULDER.
- MOTORCYCLES USE EXTREME CAUTION SIGNS SHALL BE INSTALLED WHEN THE FOLLOWING ROADWAY CONDITIONS EXIST:
 - GROOVED PAVEMENT
 - ABRUPT LANE EDGE
 - STEEL PLATE
 - LOOSE GRAVEL OR EARTH
- OPEN TRENCHES WITHIN THE TRAVELED SHALL HAVE A STEEL-PLATE COVER PLACED AND ANCHORED OVER THEM. A WEDGE OF SUITABLE ASPHALT MATERIAL SHALL BE PLACED FOR A SMOOTH TRANSITION BETWEEN THE PAVEMENT AND THE STEEL PLATE. WARNING SIGNS SHALL BE USED TO ALERT MOTORISTS OF THE PRESENCE OF STEEL PLATES.
- MAINTAIN ALL PRIVATE ROADWAY AND DRIVEWAY ACCESS AT ALL TIMES.
- SPACING SHOWN IS NOT TO SCALE. FIELD LOCATE TRAFFIC CONTROL DEVICES BASED ON THESE PLANS AND PER THE SPECIFICATIONS.
- NOTIFY AND COORDINATE KING COUNTY METRO IN ADVANCE OF CONSTRUCTION FOR ANY STOPS THAT WILL BE IMPACTED.
- ALL SHIFTING TAPERS SHALL BE 100' MIN IN LENGTH.
- WORKING HOURS, ARE RESTRICTED TO 9AM TO 3PM.
- 124TH AVE NE POSTED SPEED LIMIT IS 35.

TYPE OF TAPER	TAPER LENGTH	25 MPH	30MPH	35MPH	40MPH
MERGING	L	120 - 150'	150 - 200'	200 - 250'	250 - 300'
SHIFTING	.5L	60 - 80'	80 - 100'	100 - 125'	125 - 150'
SHOULDER	.33L	50'-0"	60'-0"	80'-0"	80'-0"
ONE LANE/TWO-LANE TAPER					
DOWNSTREAM	50 - 100'	50'-0"	60'-0"	80'-0"	100'-0"

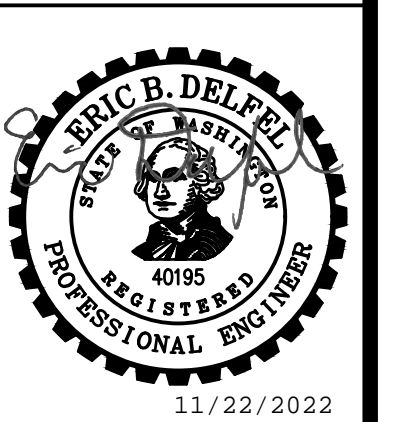


UPO
CHANNELIZING DEVICE
TEMPORARY SIGN LOCATION
FLAGGING STATION
WORK ZONE

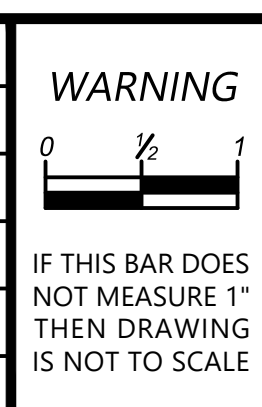


SIGN SPACING (FEET)	
MHP	SPACING (FT)
30	150 - 200
35	200 TO 300

CHANNELIZATION DEVICE SPACING (FEET)		
MPH	TAPPER	TANGENT
35 - 45	30	60
25 - 30	20	40



NO	BY	APPD	REVISION	DATE
PRELIMINARY - NOT FOR CONSTRUCTION				

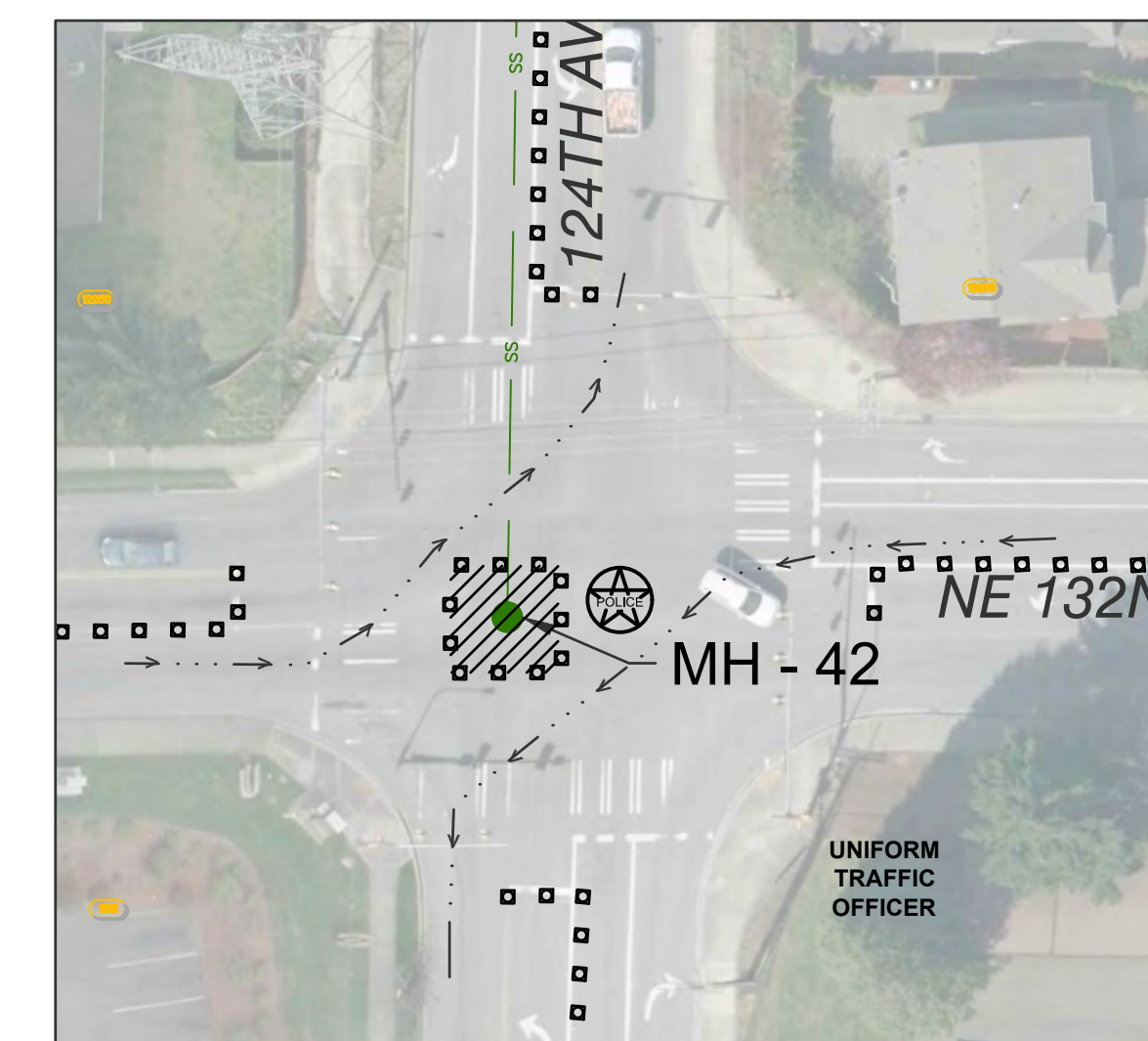
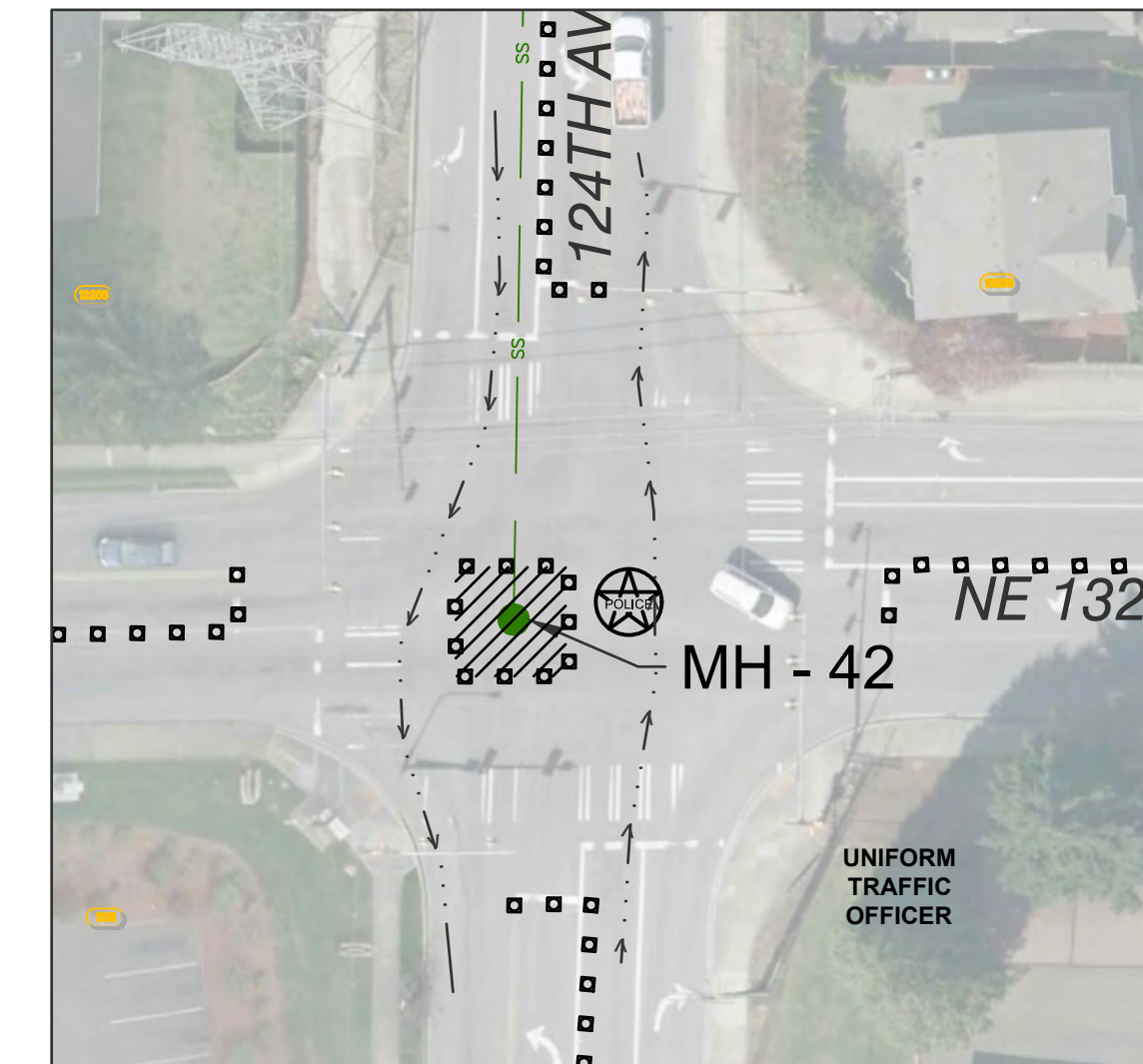
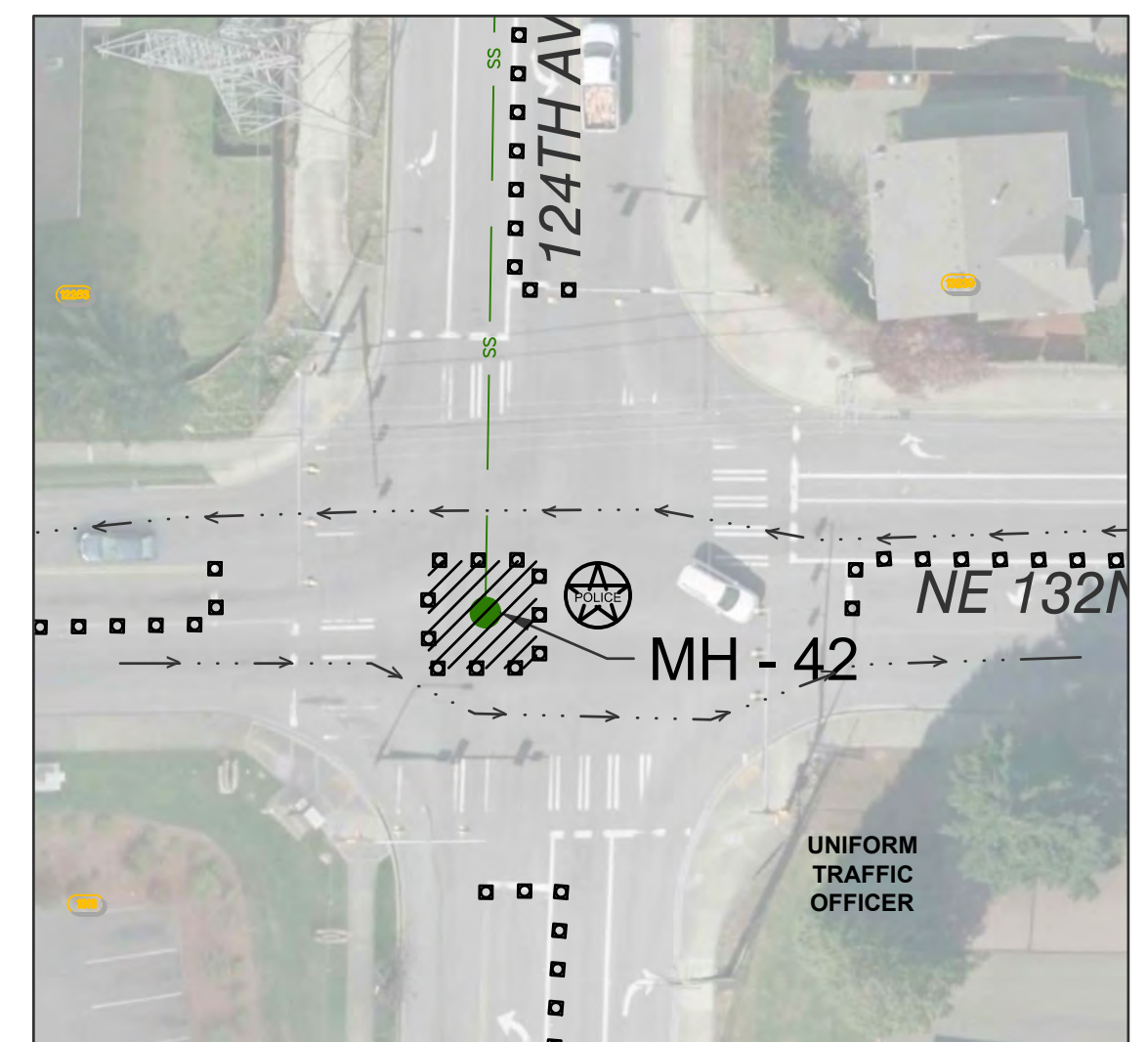
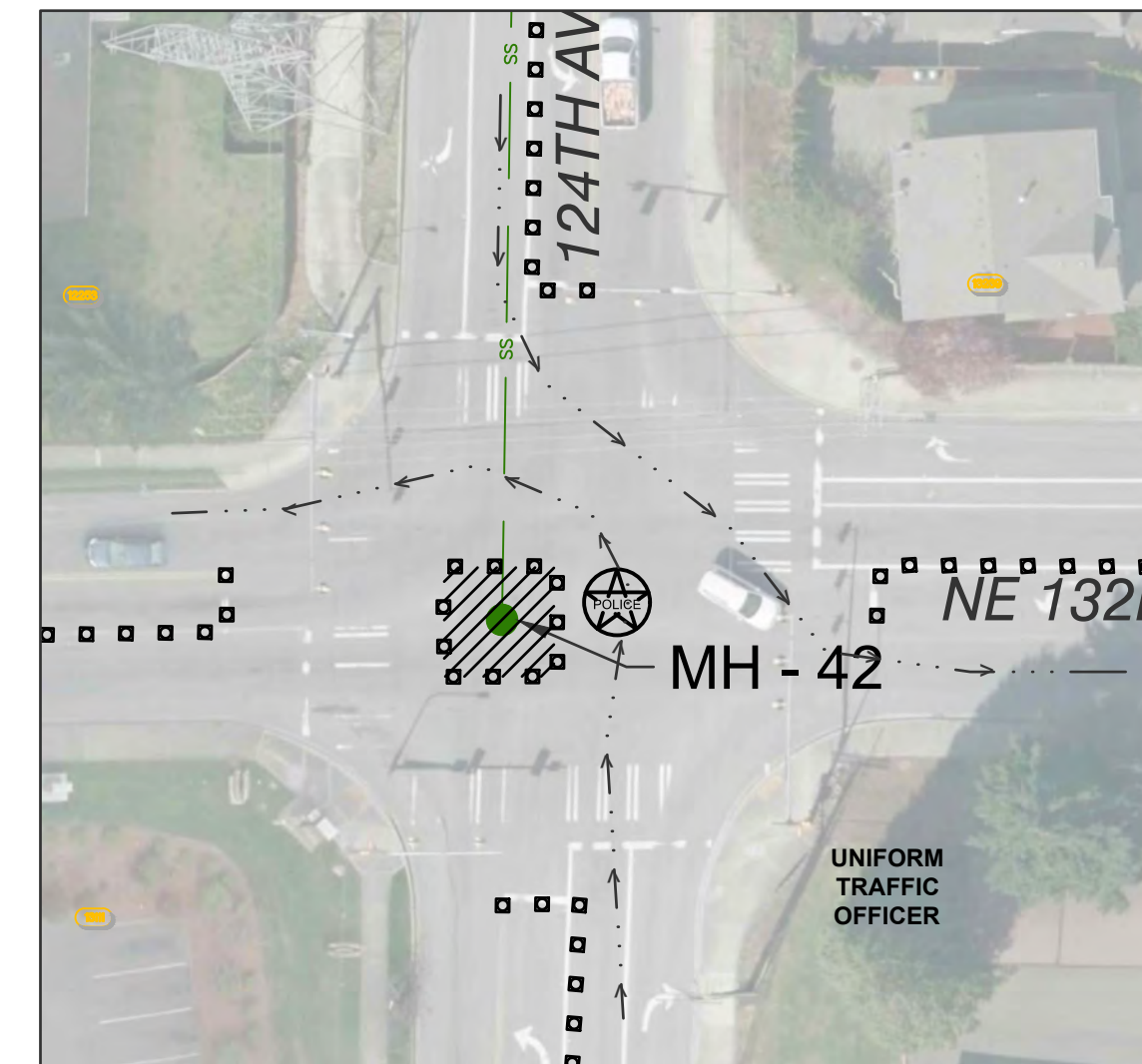
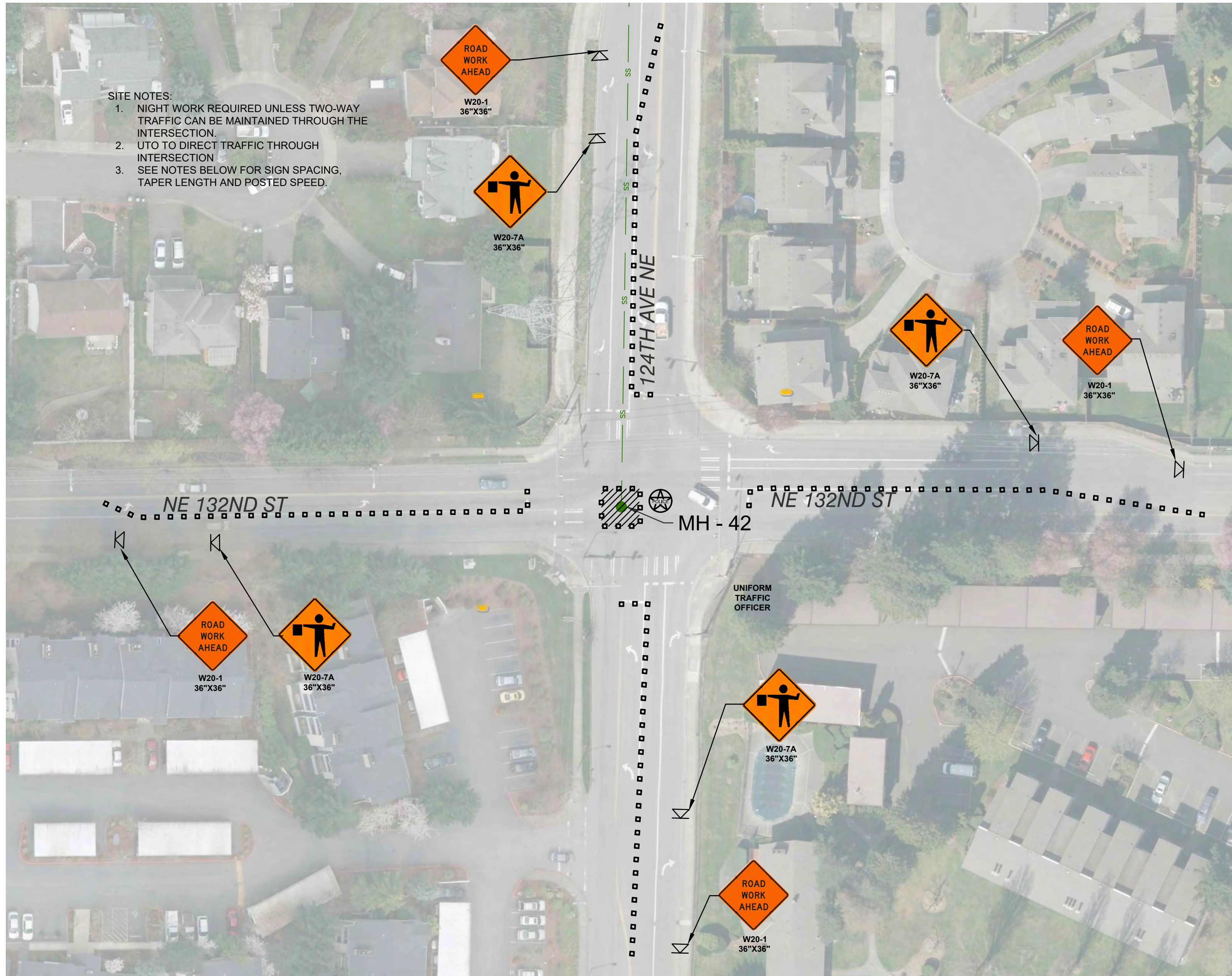


DESIGNED BY: RTG
 DRAWN BY: RAH
 CHECKED BY: EBD
 APPROVAL: EBD
 DATE: NOV 2022

NORTHSHORE UTILITY DISTRICT
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CONTRACT 2022-02
 SEWER REPAIRS PROJECTS
TRAFFIC CONTROL - 124TH - 1&41
SCH. D

NW 1/4, SEC 21, T26N, R5E, WM

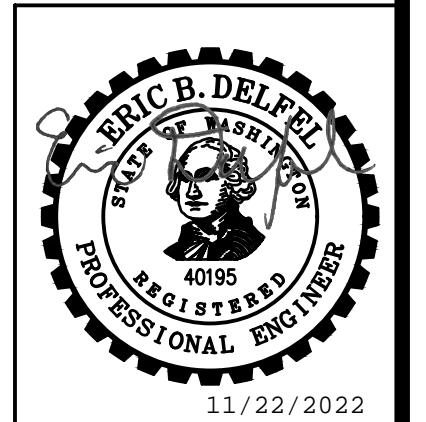
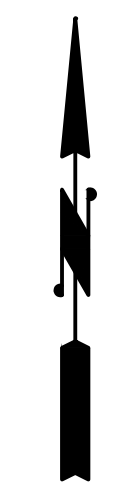
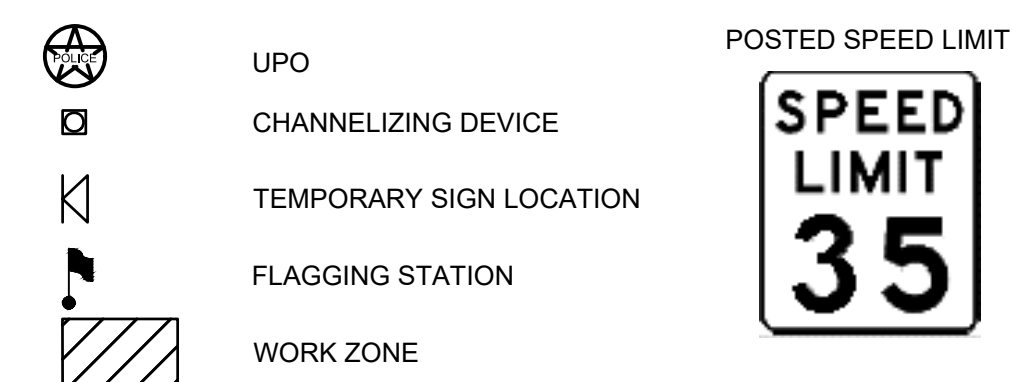


GENERAL NOTES

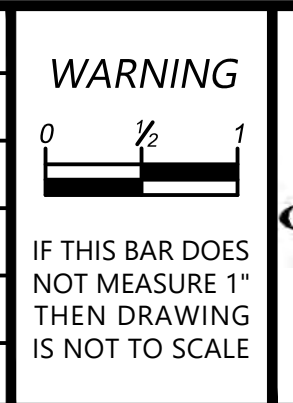
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- EXTEND TAPER DEVICES ACROSS SHOULDER.
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- MAINTAIN ALL PRIVATE ROADWAY AND DRIVEWAY ACCESS AT ALL TIMES.
- SPACING SHOWN IS NOT TO SCALE. FIELD LOCATE TRAFFIC CONTROL DEVICES BASED ON THESE PLANS AND PER THE SPECIFICATIONS.

- NOTIFY AND COORDINATE KING COUNTY METRO IN ADVANCE OF CONSTRUCTION FOR ANY STOPS THAT WILL BE IMPACTED.
- ALL SHIFTING TAPERS SHALL BE 100' MIN IN LENGTH.
- WORKING HOURS, ARE RESTRICTED TO 9AM TO 3PM.
- 124TH AVE NE POSTED SPEED LIMIT IS 35.

TYPE OF TAPER	TAPER LENGTH	25 MPH	30MPH	35MPH	40MPH
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ONE LANE/TWO-LANE TAPER	50 - 100'	50'-0"	60'-0"	80'-0"	100'-0"
DOWNSTREAM	50 - 100'	50'-0"	60'-0"	80'-0"	100'-0"



NO	BY	APPD	REVISION	DATE
PRELIMINARY - NOT FOR CONSTRUCTION				



DESIGNED BY: RTG
 DRAWN BY: RAH
 CHECKED BY: EBD
 APPROVAL: EBD
 DATE: NOV 2022

NORTHSHORE UTILITY DISTRICT
 WATER SEWER
 6830 NE 185th St. P.O. Box 82489
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CONTRACT 2022-02
 SEWER REPAIRS PROJECTS
TRAFFIC CONTROL - 124TH - 42
SCH. D





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30 OF 31

NW 1/4, SEC 02, T26N, R4E, WM

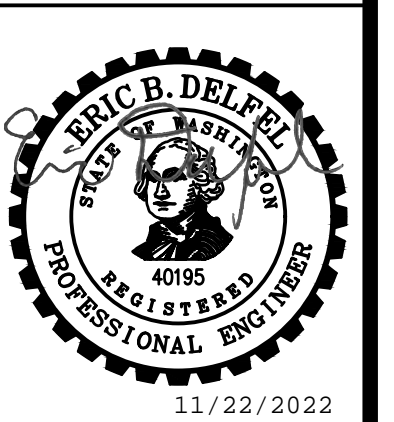


GENERAL NOTES

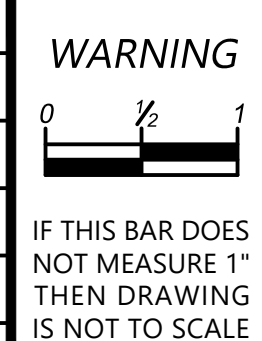
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- MAINTAIN ALL PRIVATE ROADWAY AND DRIVEWAY ACCESS AT ALL TIMES.
- SPACING SHOWN IS NOT TO SCALE. FIELD LOCATE TRAFFIC CONTROL DEVICES BASED ON THESE PLANS AND PER THE SPECIFICATIONS.
- ADJUST SIGNING DEPENDING ON MANHOLE THAT IS CURRENTLY BEING USED FOR TRENCHES CONSTRUCTION.

-  CHANNELIZING DEVICE
-  TEMPORARY SIGN LOCATION
-  FLAGGING STATION
-  WORK ZONE

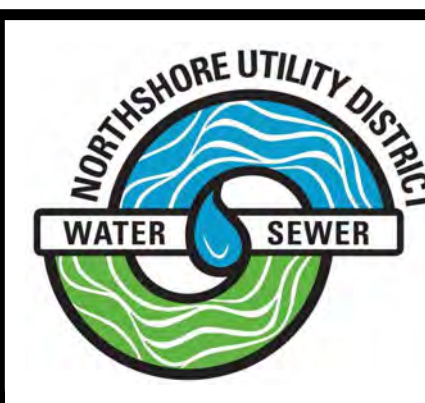
CHANNELIZATION DEVICE SPACING (FEET)		
MPH	TAPER	TANGENT
35/45	10 TO 20	60
25/30	10 TO 20	40



NO	BY	APPD	REVISION	DATE
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DESIGNED BY	RTG
DRAWN BY	RAH
CHECKED BY	EBD
APPROVAL	EBD
DATE	NOV 2022



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CONTRACT 2022-02
 SEWER REPAIRS PROJECTS
Traffic Control - 60th
SCH. C

C2102
 SHEET
 23 OF 31