THORNTON STREET
SANITARY SEWER

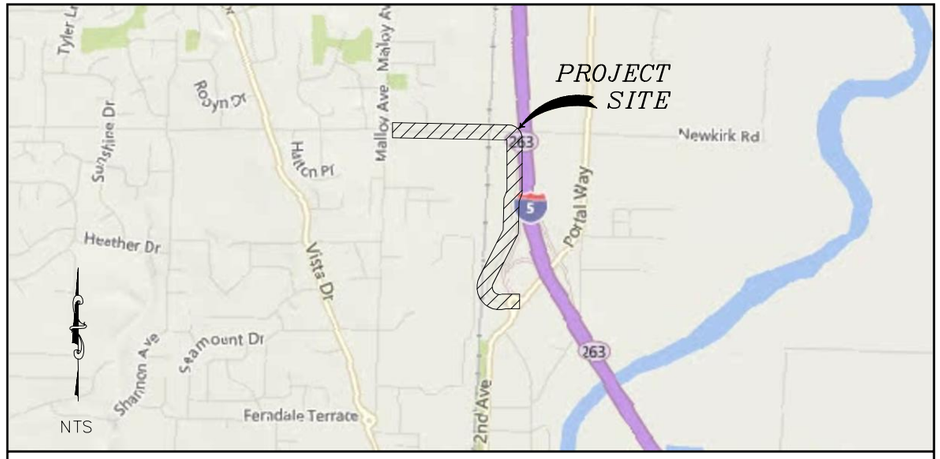
FERNDALE, WA

CITY OF FERNDALE

PROJECT NO. SS2015-03

VICINITY MAP

PROJECT LOCATED IN SECTION 17 & 20, TOWNSHIP 39N, RANGE 2E, W.M.



SHEET SERIES INDEX

LUIS PONCE
STATE OF WASHINGTON
38378
REGISTERED
PROFESSIONAL ENGINEER
9/13/17

BID SET

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DRAWN BY KJK/LMH
CHECKED BY LP

R&E Reichhardt & Ebe ENGINEERING INC
P.O. Box 978 | 423 Front Street, Lynden, WA 98264 (360) 354-3687
813 Metcalf Street, Sedro-Woolley, WA 98284 (360) 855-1713

NO.	DATE	DESCRIPTION	BY

CITY OF FERNDALE
2095 MAIN STREET
FERNDALE, WA 98248

THORNTON ST
SANITARY SEWER
COVER

DWG 16034 COVER
DATE 9/13/2017
JOB# 16034
SCALE H: N/A V: N/A
SHEET 1 of 24

LEGEND

LINETYPES

EXISTING

- TB — TOP OF BANK
- BB — BOTTOM OF BANK
- DITCH ℄
- GRADE BREAK
- 95 — MAJOR CONTOUR
- 95 — MINOR CONTOUR
- GUARDRAIL
- X — FENCE
- HANDRAIL
- GRAVEL
- WALL
- BUILDING
- PROPERTY BOUNDARY
- RIGHT OF WAY
- RIGHT OF WAY ℄
- EASEMENT
- SECTION LINE
- ROAD ℄
- WETLANDS BOUNDARY
- STRIPE
- EDGE OF PAVEMENT
- FLOWLINE
- TOP BACK OF CURB
- SIDEWALK
- UGP — BURIED POWER
- OHP — OVERHEAD POWER
- UGC — BURIED COMMUNICATIONS
- OHC — OVERHEAD COMMUNICATIONS
- FO — BURIED FIBER OPTICS
- TV — BURIED TV
- T — BURIED TELEPHONE
- C — CONDUIT
- G — GAS MAIN
- W — WATER MAIN
- IRR — IRRIGATION LINE
- FM — SANITARY SEWER FORCE MAIN
- SS — SANITARY SEWER
- SD — STORM DRAIN
- OHW — ORDINARY HIGH WATER
- RR TRACKS
- CULVERT
- TREE LINE
- CONCRETE

PROPOSED

- TB — TOP OF BANK
- BB — TOE OF BANK
- DITCH ℄
- GRADE BREAK
- 95 — MAJOR CONTOUR
- 95 — MINOR CONTOUR
- GUARDRAIL
- X — FENCE
- HANDRAIL
- GRAVEL
- WALL
- BUILDING
- PAVEMENT VALLEY
- RIGHT OF WAY
- CONSTRUCTION EASEMENT
- ROAD ℄
- SAWCUT
- STRIPE
- EDGE OF PAVEMENT
- CURB AND GUTTER
- PATH
- SIDEWALK
- UGP — BURIED POWER
- OHP — OVERHEAD POWER
- TS — TRAFFIC SIGNAL CONDUCTOR
- FO — FIBER OPTICS
- UGC — BURIED COMMUNICATIONS
- OHC — OVERHEAD COMMUNICATIONS
- X — SILT FENCE
- C — CONDUIT
- IRR — IRRIGATION LINE
- W — WATER MAIN
- FM — SANITARY SEWER FORCE MAIN
- SS — SANITARY SEWER
- SD — STORM DRAIN
- CULVERT
- TREE/SHRUB LINE
- CONC. SIDEWALK/DRIVEWAY
- INFILTRATION TRENCH
- INFILTRATION FILTER MEDIA
- GRIND
- DEMOLITION AREA
- ASPHALT
- RIGHT OF WAY TAKE

SYMBOLS

EXISTING

- SIGNAL POLE
- SIGNAL POLE W/ LUMINARE
- STREET LIGHT ASSEMBLY
- YARD LIGHT
- GUY WIRE
- GAS METER
- GAS VALVE
- TRANSFORMER PAD
- POWER VAULT
- JBOX
- SOIL BORING LOCATION
- MB — MAIL BOX
- WATER SPIGOT
- WATER BLOW OFF
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- TRAFFIC SIGNAL VAULT
- SEWER MANHOLE
- STORM AREA DRAIN
- STORM DRAIN CATCH BASIN TYPE I/INLET
- STORM DRAIN CATCH BASIN TYPE II
- UTILITY POLE
- MONITORING WELL
- STORM CLEANOUT
- SEWER CLEANOUT
- SIGN
- TELEPHONE PEDESTAL
- COMMUNICATIONS VAULT
- BENCH MARK
- NAIL AND SHINER
- IRON PIPE
- MONUMENT (IN CASE)
- MONUMENT (SURFACE)
- ANGLE POINT
- ROCK WALL
- TREE STUMP
- SHRUB
- TREE

PROPOSED

- PROPOSED STORM AREA DRAIN
- PROPOSED COUPLER
- PROPOSED WATER METER
- PROPOSED WATER VALVE
- OR — PROPOSED STORM DRAIN CATCH BASIN TYPE II
- PROPOSED SANITARY SEWER MANHOLE
- PROPOSED STORM DRAIN CATCH BASIN TYPE I/INLET
- PROPOSED HYDRANT
- PROPOSED UTILITY POLE
- M C I — PROPOSED JBOX (TYPE I, II, III)
- PROPOSED MONITORING WELL
- PROPOSED STORM CLEANOUT
- PROPOSED SANITARY SEWER CLEAN OUT
- PROPOSED SIGN
- FLOW ARROW
- PROPOSED ROCK WALL
- PROPOSED TREE
- DETAIL NUMBER / SHEET NUMBER — SECTION MARK

ABBREVIATIONS

ø	= DIAMETER	EVCE	= END VERTICAL CURVE ELEVATION	MIN	= MINIMUM	RET	= RETAINING
AC	= ASBESTOS CEMENT	EVLS	= END VERTICAL CURVE STATION	MJ	= MECHANICAL JOINT	ROW	= RIGHT OF WAY
AD	= ALGEBRAIC DIFFERENCE	EX, EXIST	= EXISTING	MOD	= MODIFIED	RT	= RIGHT
ASPH	= ASPHALT	IR	= EXISTING IRRIGATION	MON	= MONUMENT	S	= SOUTH
BLDG	= BUILDING	F&C	= FRAME & COVER	MPOC	= MID-POINT ON CURVE	SCH	= SCHEDULE
BVCE	= BEGIN VERTICAL CURVE ELEVATION	F&G	= FRAME & GRATE	MTR	= METER	SD	= STORM DRAIN
BVCE	= BEGIN VERTICAL CURVE STATION	FF	= FINISHED FLOOR	MW	= MONITORING WELL	SDCB	= STORM DRAIN CATCH BASIN
C&G	= CURB & GUTTER	FG	= FINISHED GRADE	N	= NORTH	SDMH	= STORM DRAIN MANHOLE
CATV	= CABLE TELEVISION	FL	= FLOW LINE, FLANGE	N/A	= NOT APPLICABLE	SE	= SOUTHEAST
CDF	= CONTROLLED DENSITY FILL	FND	= FOUND	NE	= NORTHEAST	SN	= EXISTING SIGN
℄	= CENTERLINE	FT	= FEET	NW	= NORTHWEST	SP	= STANDARD PLAN
CL	= CLASS	FT/FT	= FEET PER FOOT	NTS	= NOT TO SCALE	SSMH	= SANITARY SEWER MANHOLE
CMP	= CORRUGATED METAL PIPE	GALV	= GALVANIZED	OC	= ON CENTER	STA	= STATION
CMU	= CONCRETE MASONRY UNIT	GRVL	= GRAVEL	PVMNT	= PAVEMENT	STD	= STANDARD
COMP	= COMPACTED	GV	= GATE VALVE	PC	= POINT OF CURVATURE	SW	= SOUTHWEST
CON	= CONIFER	HDPE	= HIGH DENSITY POLYETHYLENE	PCC	= POINT OF COMPOUND CURVATURE, PORTLAND CEMENT CONCRETE	TBC	= TOP BACK OF CONCRETE
CONC	= CONCRETE	HMA	= HOT MIX ASPHALT			TEL	= TELEPHONE
CONT	= CONTOUR	HP	= HIGH POINT	PED	= PEDESTAL	TL	= TRAFFIC LOOP
CPSSP	= CORRUGATED POLYETHYLENE STORM SEWER PIPE	HYD	= HYDRANT	POC	= POINT ON CURVE	TYP	= TYPICAL
		IE, INV	= INVERT ELEVATION	POSS	= POSSIBLE	UP	= UTILITY POLE
CULV	= CULVERT	IW	= INJECTION WELL	PRC	= POINT OF REVERSE CURVE	UTIL	= UTILITY
D/W	= DRIVEWAY	L	= LENGTH	PROP	= PROPOSED	VC	= VERTICAL CURVE
DEC	= DECIDUOUS	LDSC	= LANDSCAPING	PT	= POINT OF TANGENCY	VLT	= VAULT
DI	= DUCTILE IRON	LF	= LINEAR FEET	PVC	= POLYVINYL CHLORIDE	VPC	= VERTICAL POINT OF CURVATURE
E	= EAST	LOC	= LOCATION	PVI	= POINT OF VERTICAL INTERSECTION	VPI	= VERTICAL POINT OF INTERSECTION
EL	= ELEVATION	LP	= LOW POINT	PWR	= POWER	VPT	= VERTICAL POINT OF TANGENCY
EOP, EP	= EDGE OF PAVEMENT	LT	= LEFT	R	= RADIUS	W	= WEST
EQUIV	= EQUIVALENT	MAX	= MAXIMUM	R&C	= RING & COVER	WM	= WATER METER / WATER MAIN
						WSDOT	= WASHINGTON STATE DEPARTMENT OF TRANSPORTATION

LUIS PONCE — STATE OF WASHINGTON — 38378 — REGISTERED PROFESSIONAL ENGINEER — 9/13/17

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THORNTON ST
SANITARY SEWER
LEGEND AND ABBREVIATIONS

DWG 16034 COVER
DATE 9/13/2017
JOB# 16034
SCALE H: N/A V: N/A
SHEET 2 of 24

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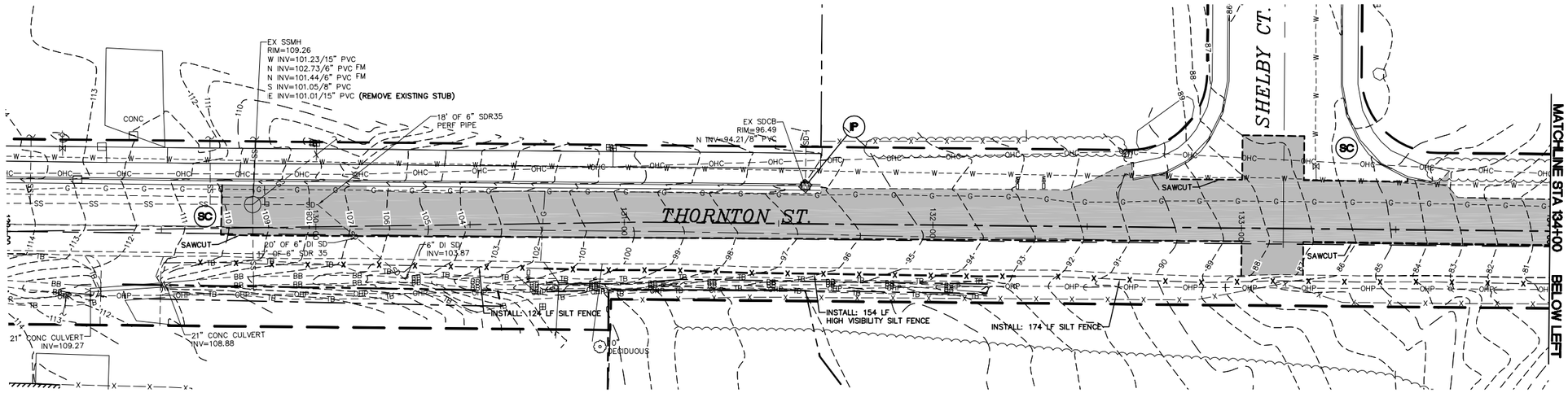


GRAPHIC SCALE
20 0 10 20
(IN FEET)
1"=20' (22x34), 1"=40' (11x17)

EROSION CONTROL LEGEND

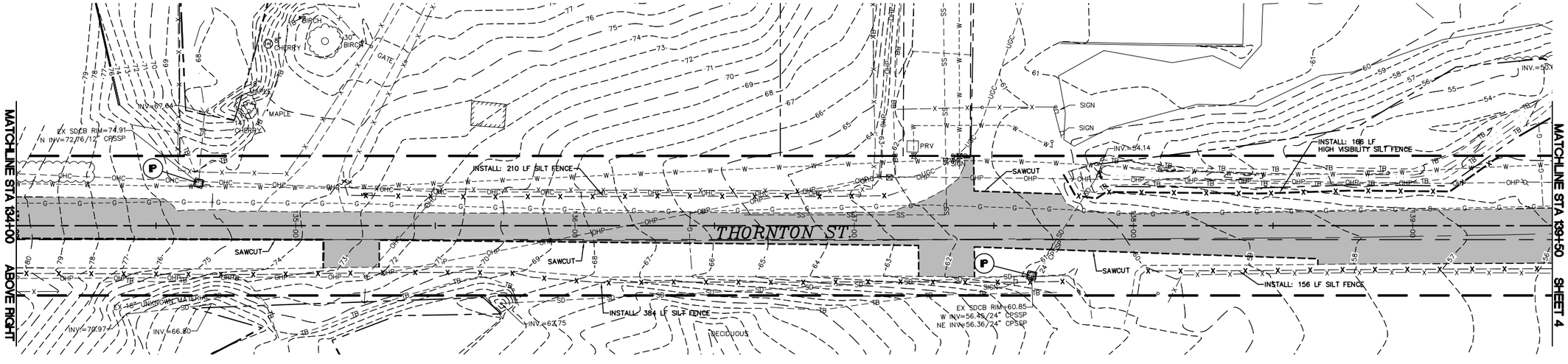
WASHINGTON STATE DEPT. OF ECOLOGY
BEST MANAGEMENT PRACTICES (BMP)
REF.: STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON, 2012

NOTES:
1. SEE TESC DETAILS, TESC GENERAL NOTES AND SURFACE ROUGHENING, SHEET 17.
2. GENERALLY THE SILT FENCE AND CLEARING LIMITS FOLLOW THE RIGHT OF WAY UNLESS OTHERWISE DRAWN ON THE PLANS. THERE ARE AREAS WHERE THE HIGH VISIBILITY SILT FENCE IS DELINEATING WETLAND LOCATION IMPACTS.

- (SF) = BMP C103 AND C233: CLEARING LIMITS AND SILT FENCE – SEE DETAIL SHEET 17
- = BMP C103 AND C233: CLEARING LIMITS AND HIGH VISIBILITY SILT FENCE – SEE DETAIL SHEET 17
- (CE) = BMP C105/C106: STABILIZED CONSTRUCTION ENTRANCE – SEE DETAIL SHEET 17
- (IP) = BMP C220: INLET PROTECTION – CB INSERT – SEE DETAIL SHEET 17
- (SC) = BMP C105 AND C140: STREET CLEANING
- (DC) = BMP C140: DUST CONTROL
- (PV) = BMP C101: PRESERVE EXISTING VEGETATION

DEMOLITION LEGEND

- = PROPOSED SAWCUT
- = PROPOSED DEMOLITION AREA



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CITY OF FERNDALE
2095 MAIN STREET
FERNDALE, WA 98248

THORNTON ST
SANITARY SEWER
STA 129+00 TO 139+50

DWG 16034 EX COND		DATE 9/13/2017
JOB# 16034	SCALE H: 1"=20' V: N/A	SHEET 3 of 24

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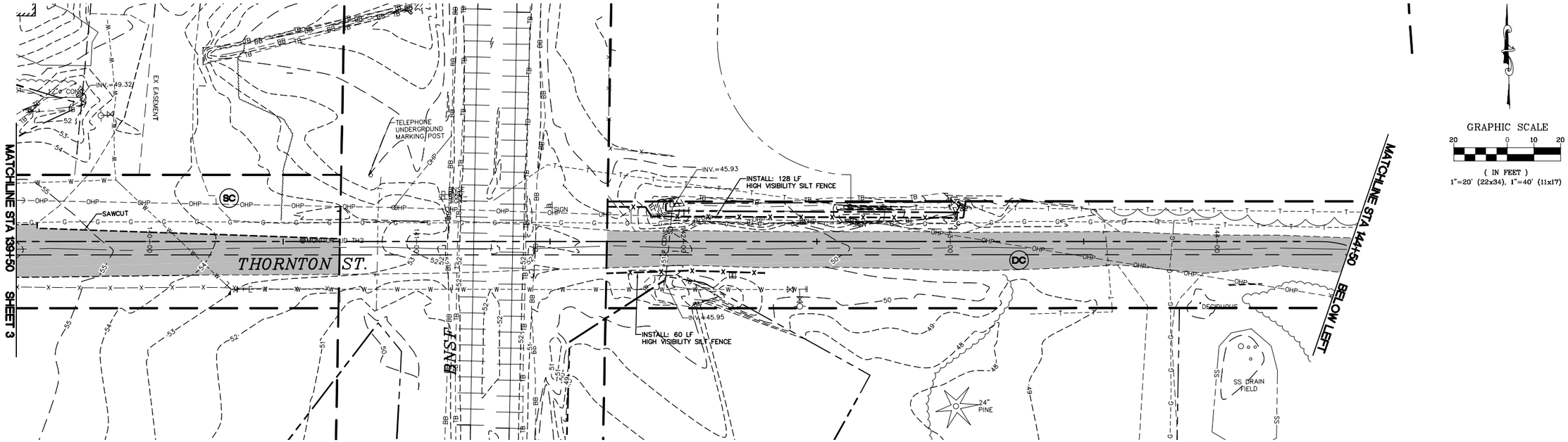

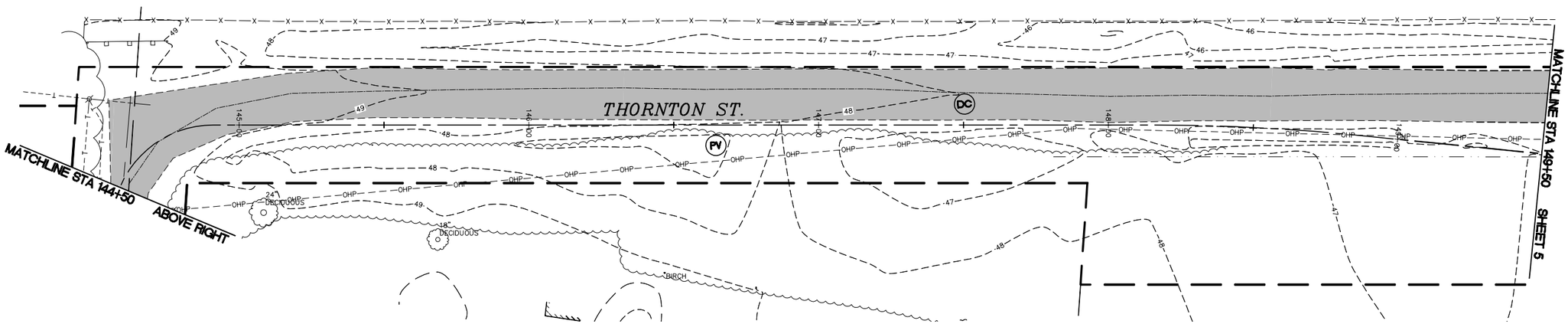

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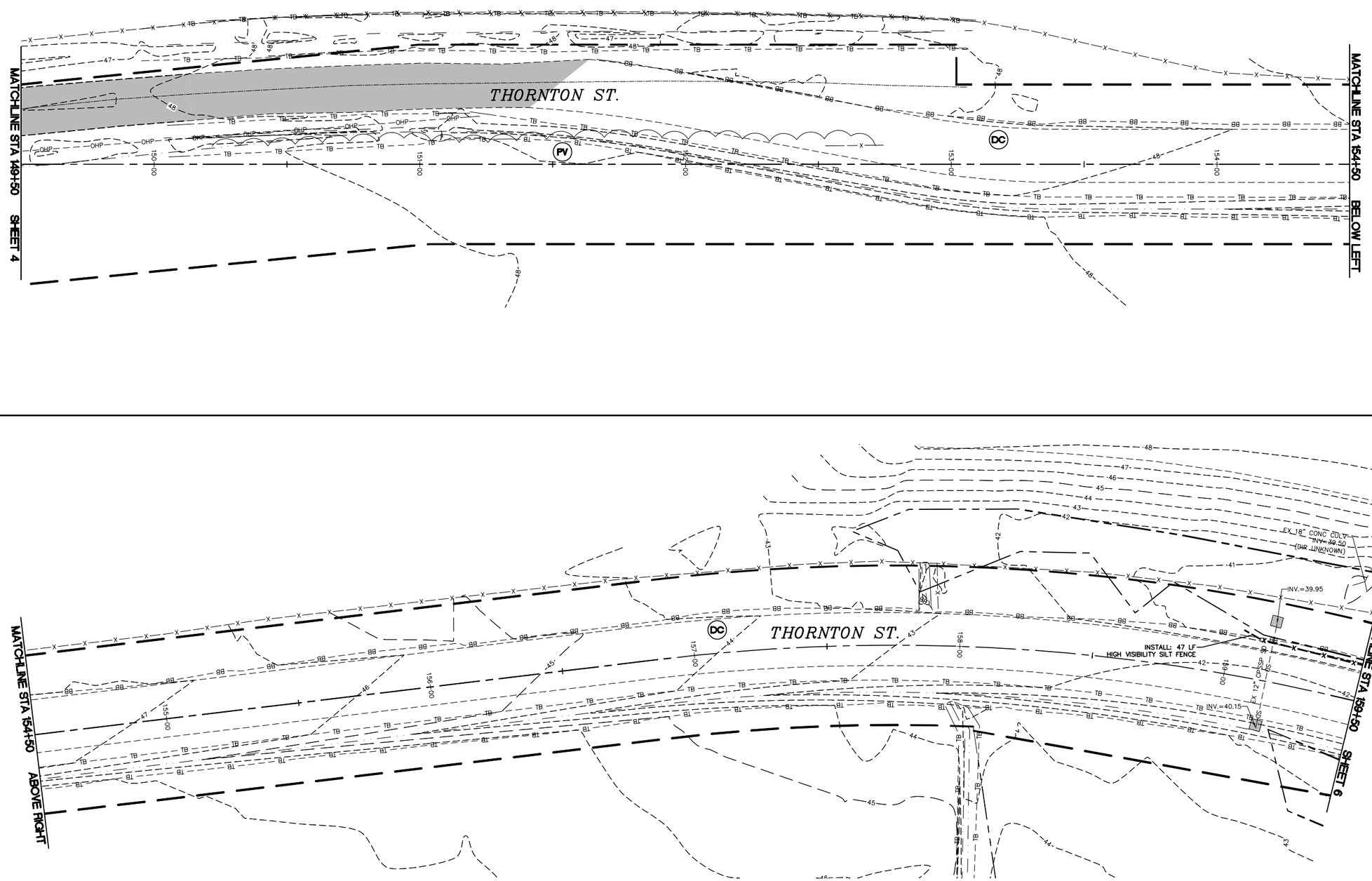

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SANITARY SEWER
STA 149+50 TO 159+50

DWG 16034 EX COND			DATE 9/13/2017
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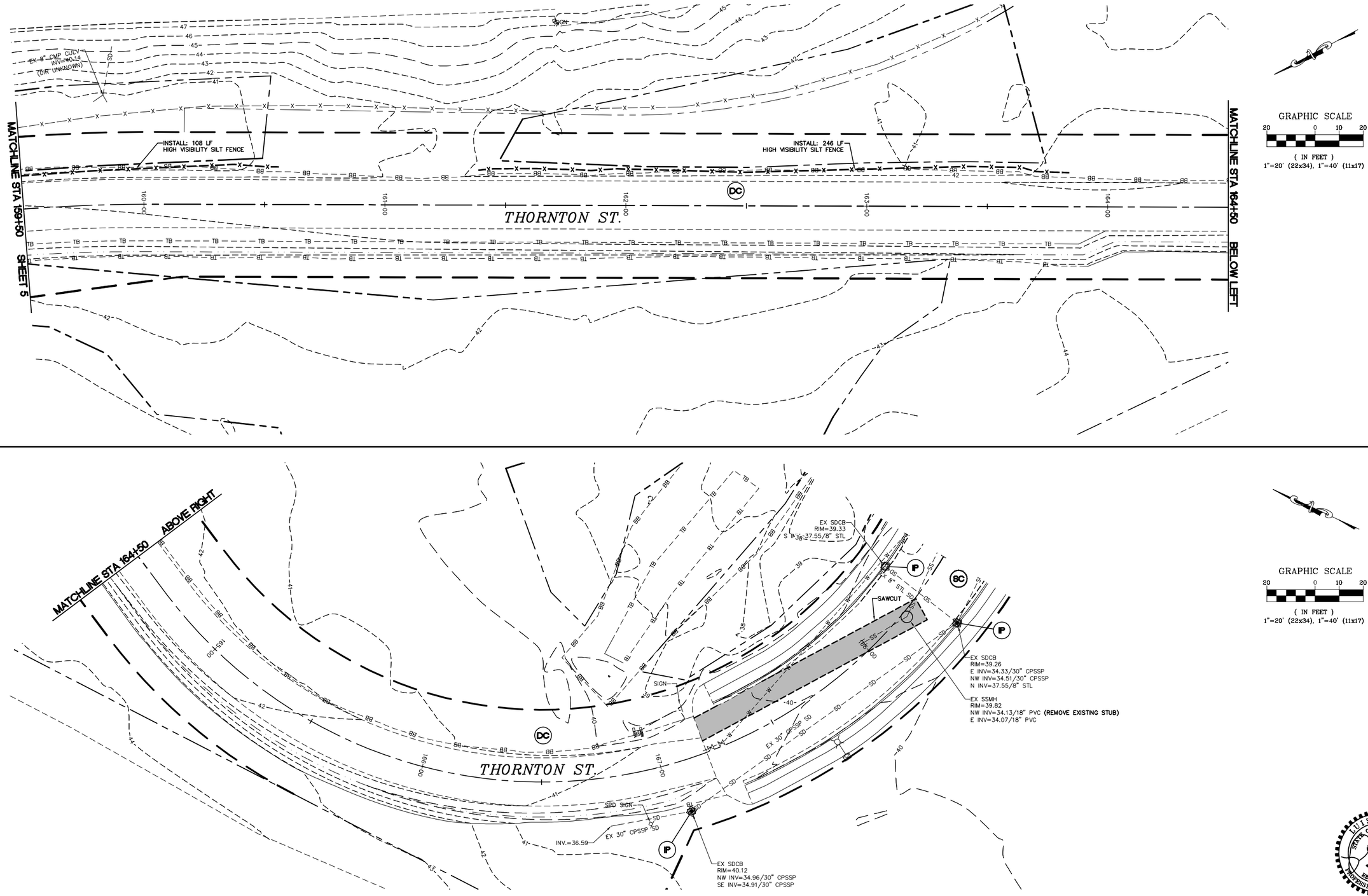

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SHEET 6 of 24

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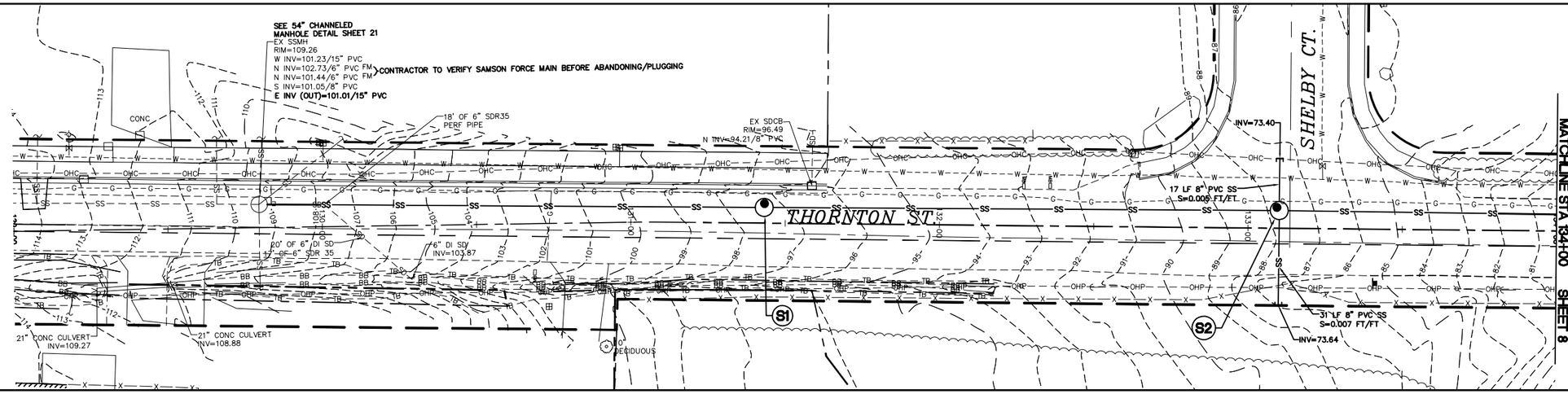

GRAPHIC SCALE

20 0 10 20

(IN FEET)
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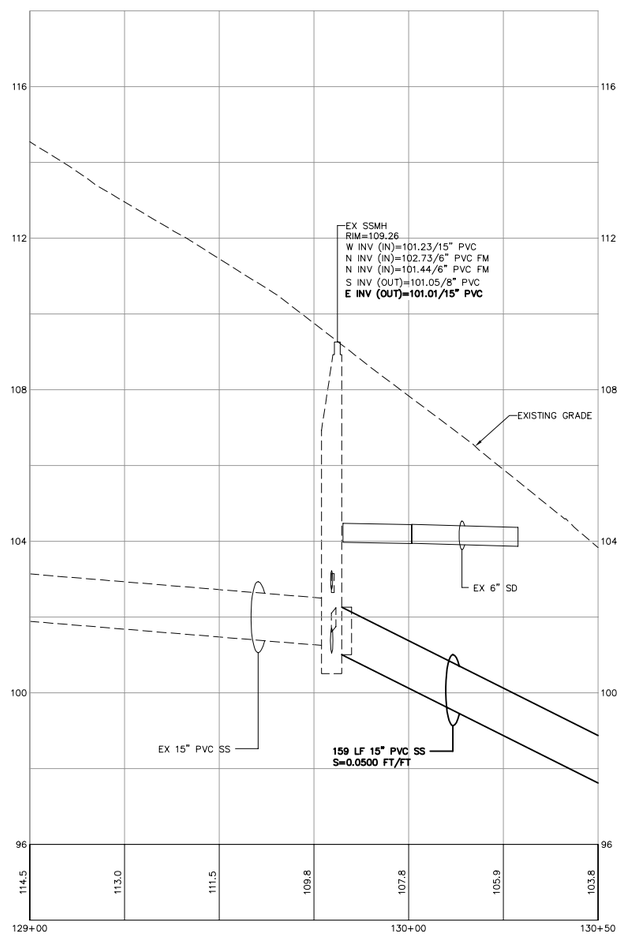
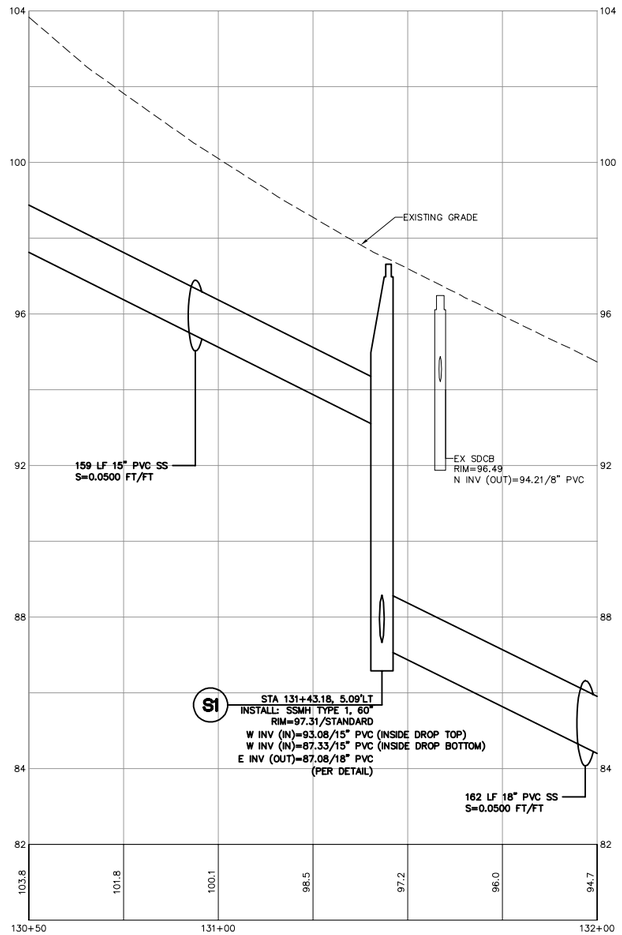
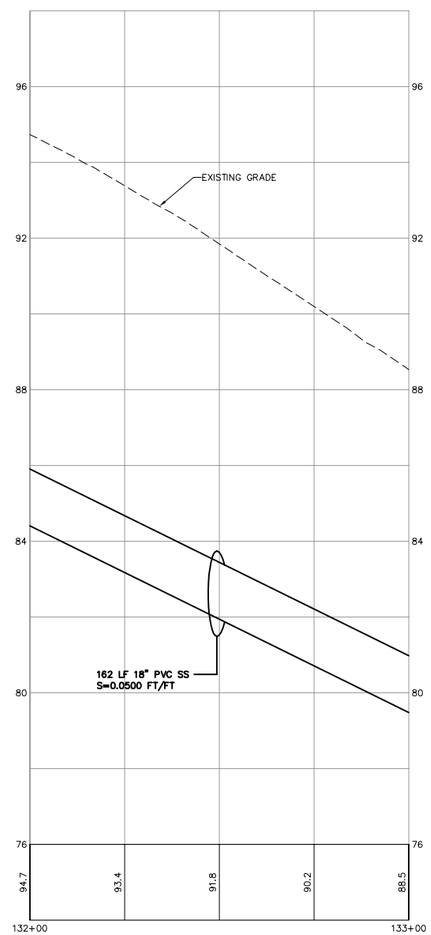
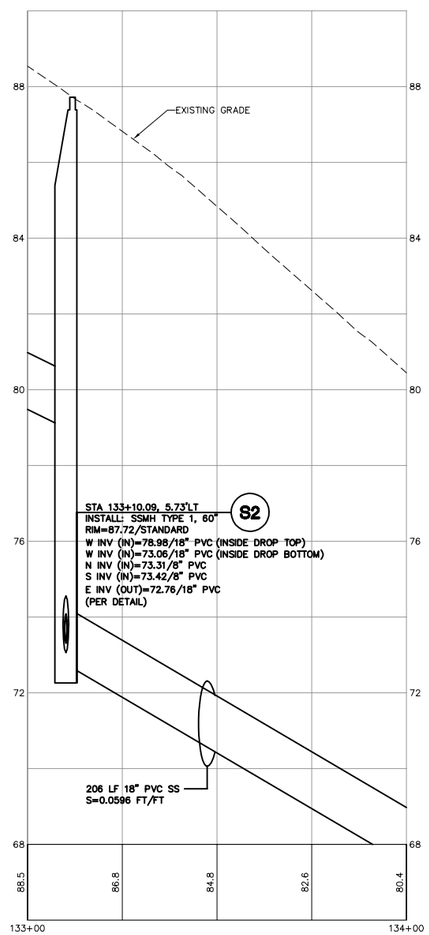
1"=40' H, 1"=4' V (11x17)









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THORNTON ST
SANITARY SEWER
STA 129+00 TO 134+00

DWG 16034 SEWER
DATE 9/13/2017
JOB# 16034
SCALE H: 1"=20' V: 1"=2'
SHEET 7 of 24

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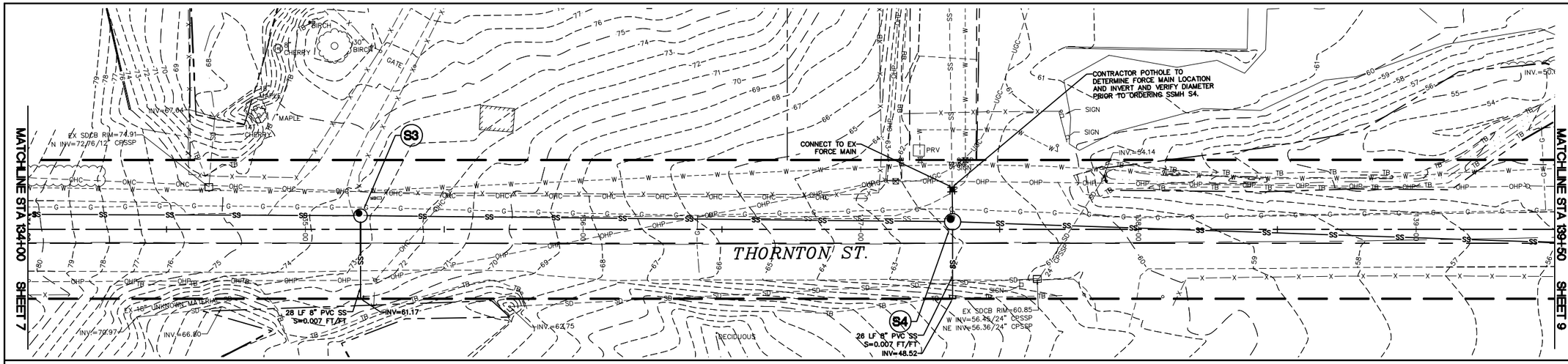
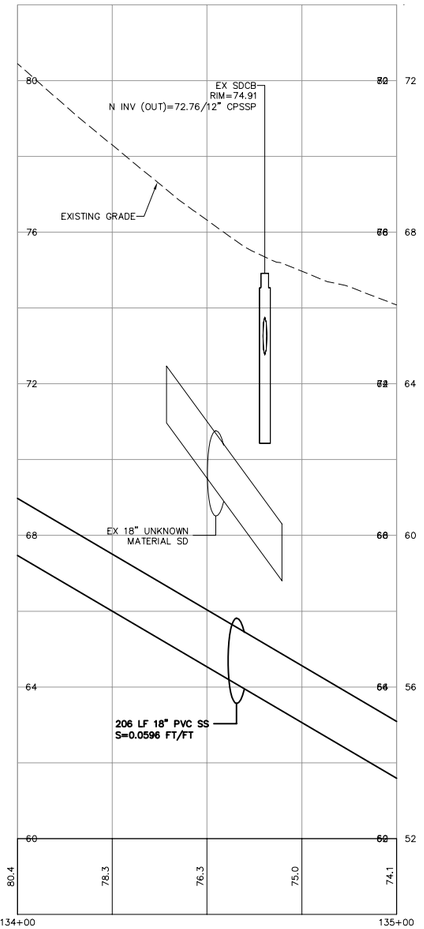
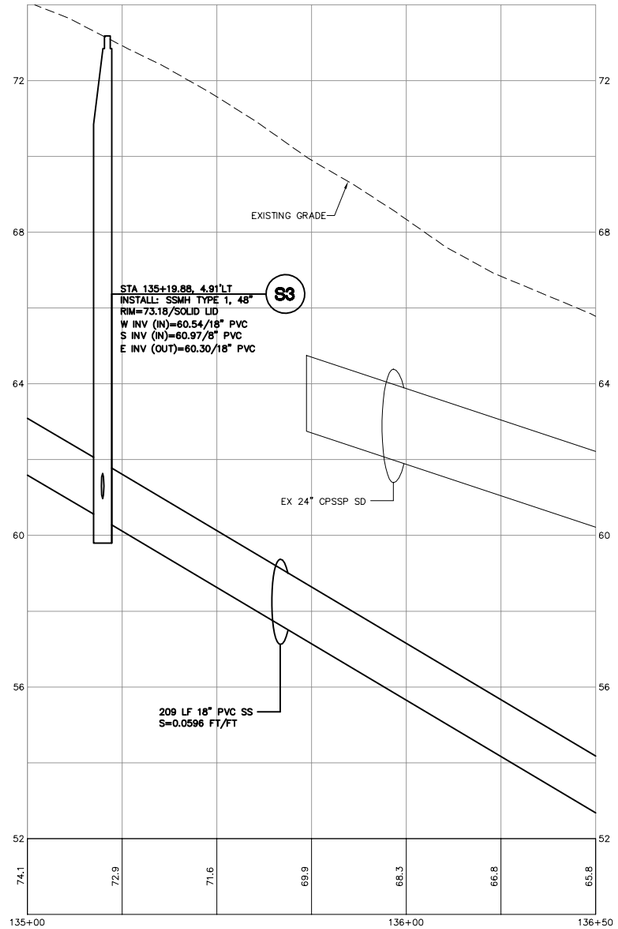
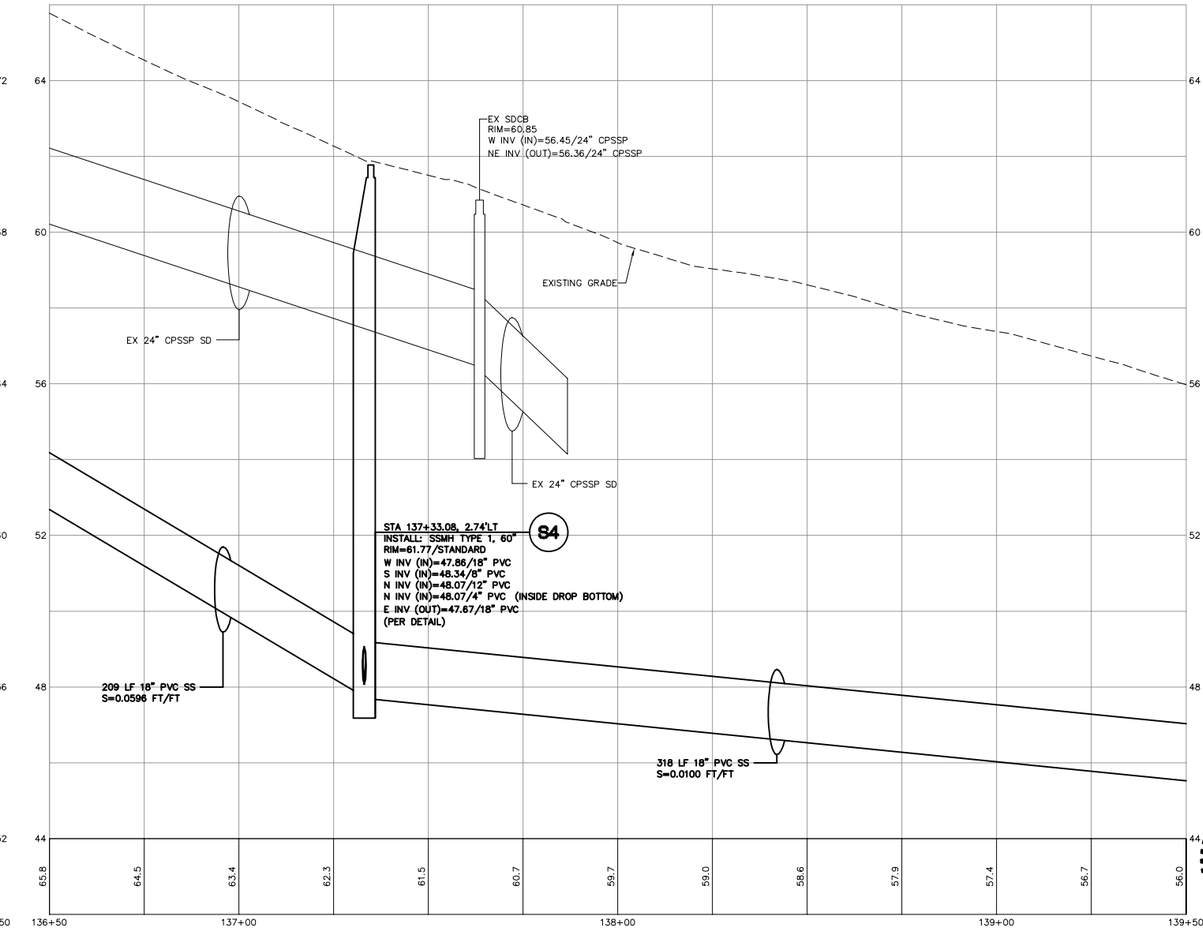
MATCHLINE STA 134+00 SHEET 7

MATCHLINE STA 139+50 SHEET 9









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SHEET 8 of 24

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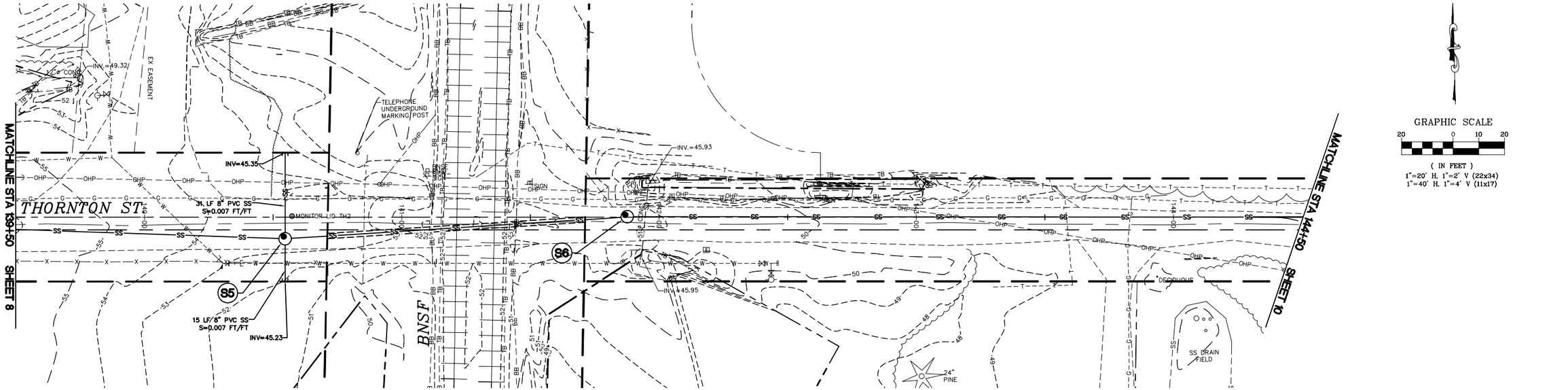

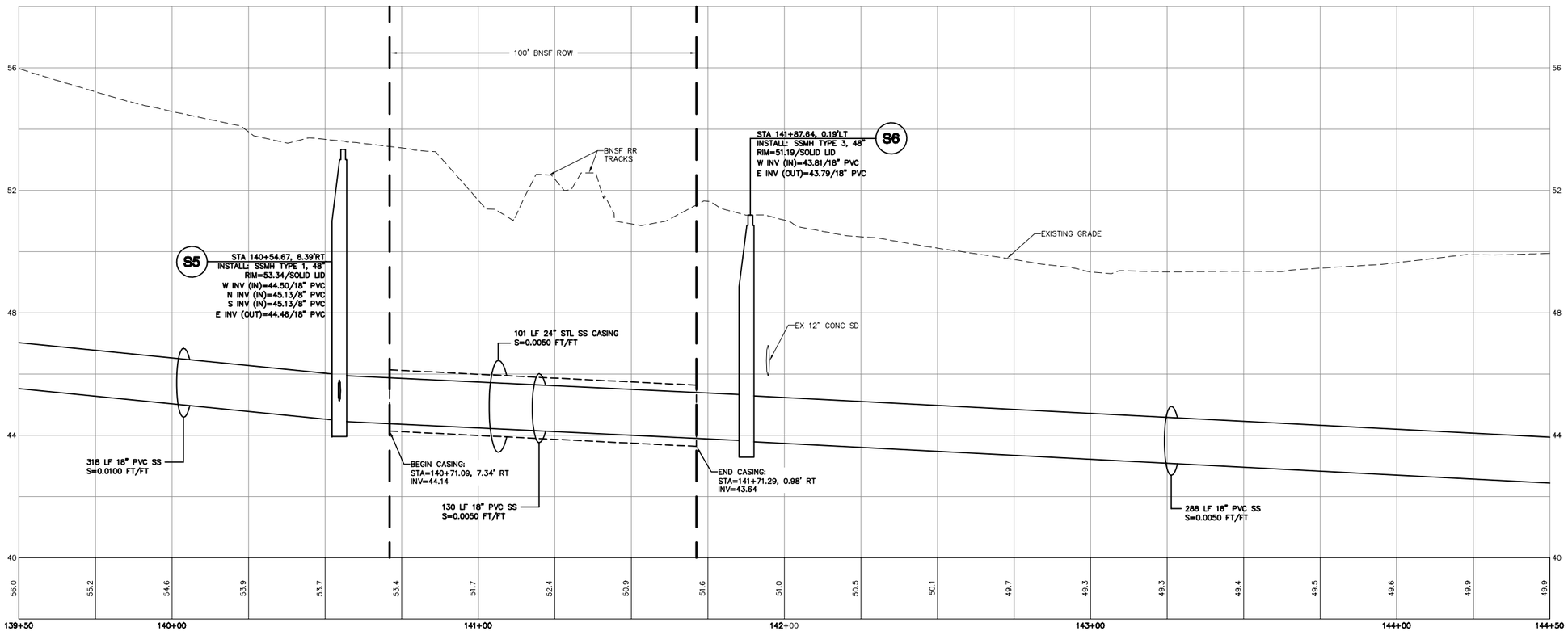

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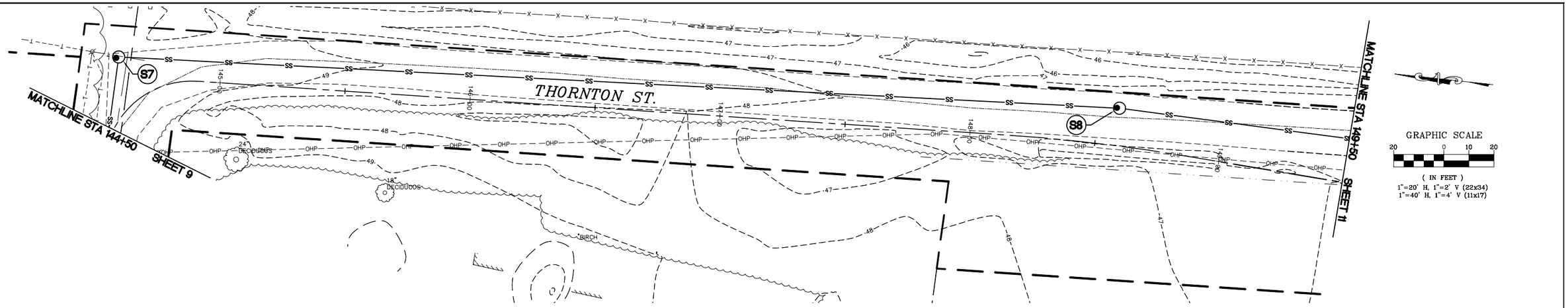

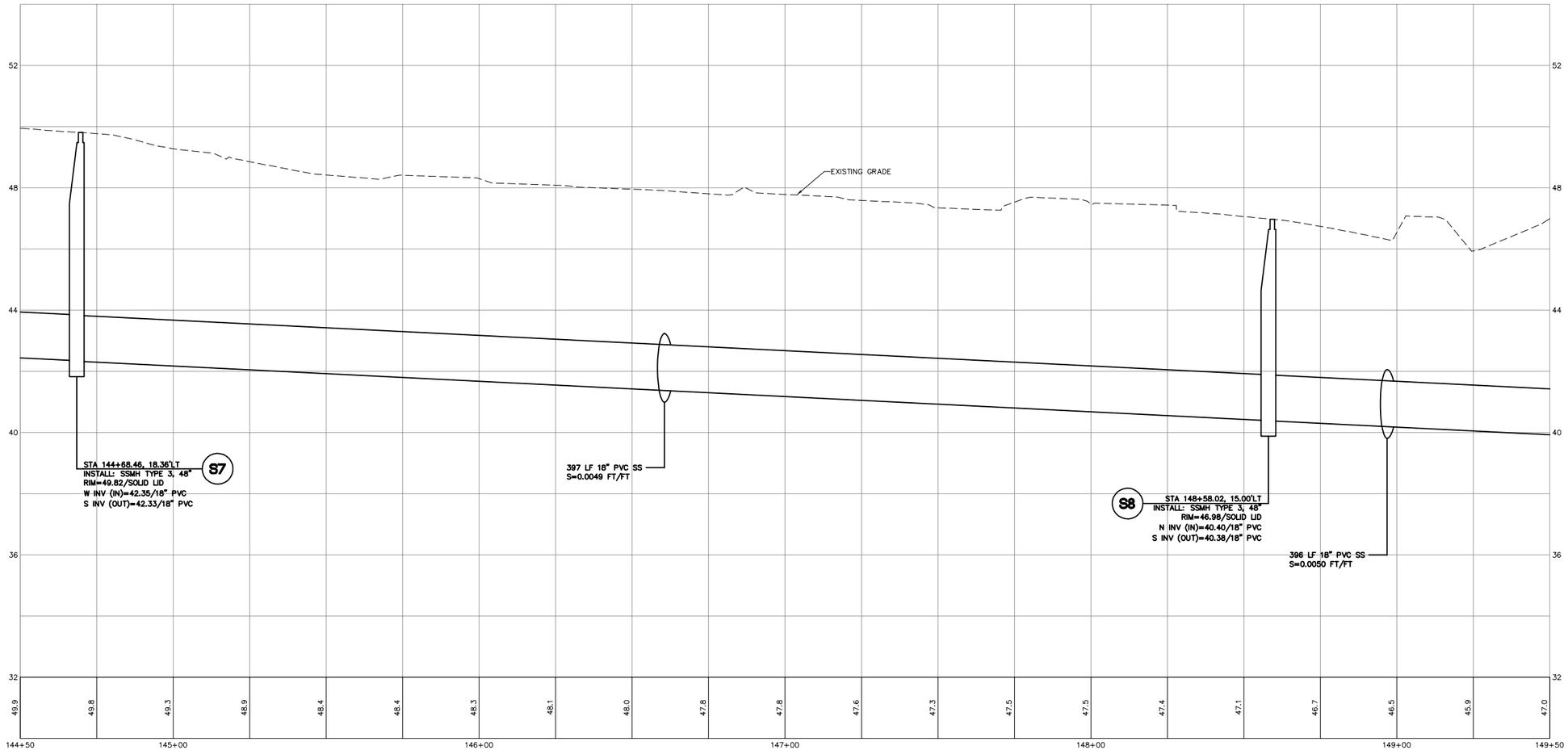

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REGISTERED
PROFESSIONAL ENGINEER
9/13/17

BID SET

DESIGNED BY	KJK
DRAWN BY	KJK/LMH
CHECKED BY	LP

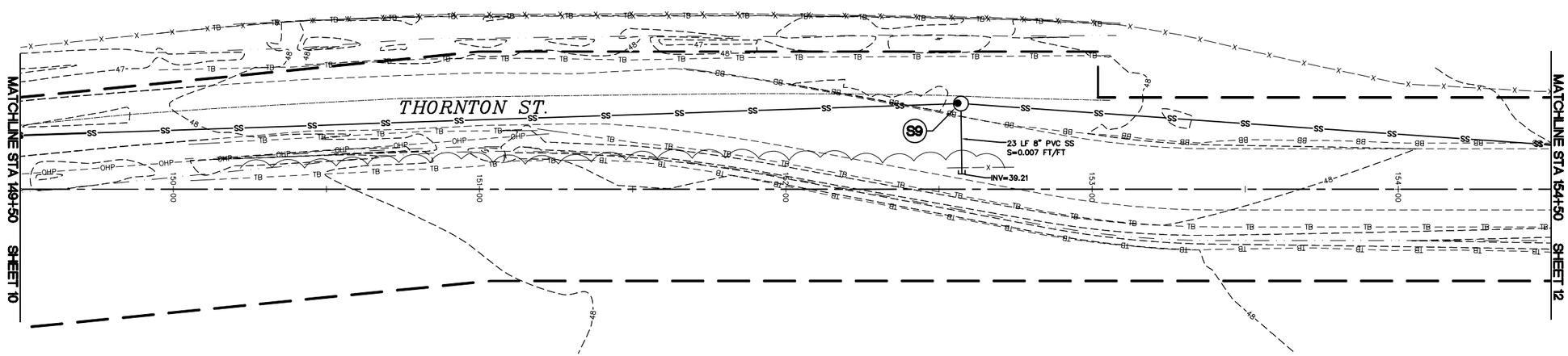
R&E Reichhardt & Ebe
ENGINEERING INC
P.O. Box 978 | 423 Front Street, Lynden, WA 98264 (360) 354-3687
813 Metcalf Street, Sedro-Woolley, WA 98284 (360) 855-1713

NO.	DATE	DESCRIPTION	BY

CITY OF FERNDALE
2095 MAIN STREET
FERNDALE, WA 98248

THORNTON ST
SANITARY SEWER
STA 144+50 TO 149+50

DWG 16034 SEWER			DATE 9/13/2017
JOB# 16034	SCALE H: 1"=20' V: 1"=2'		SHEET 10 of 24



GRAPHIC SCALE

20 0 10 20

(IN FEET)
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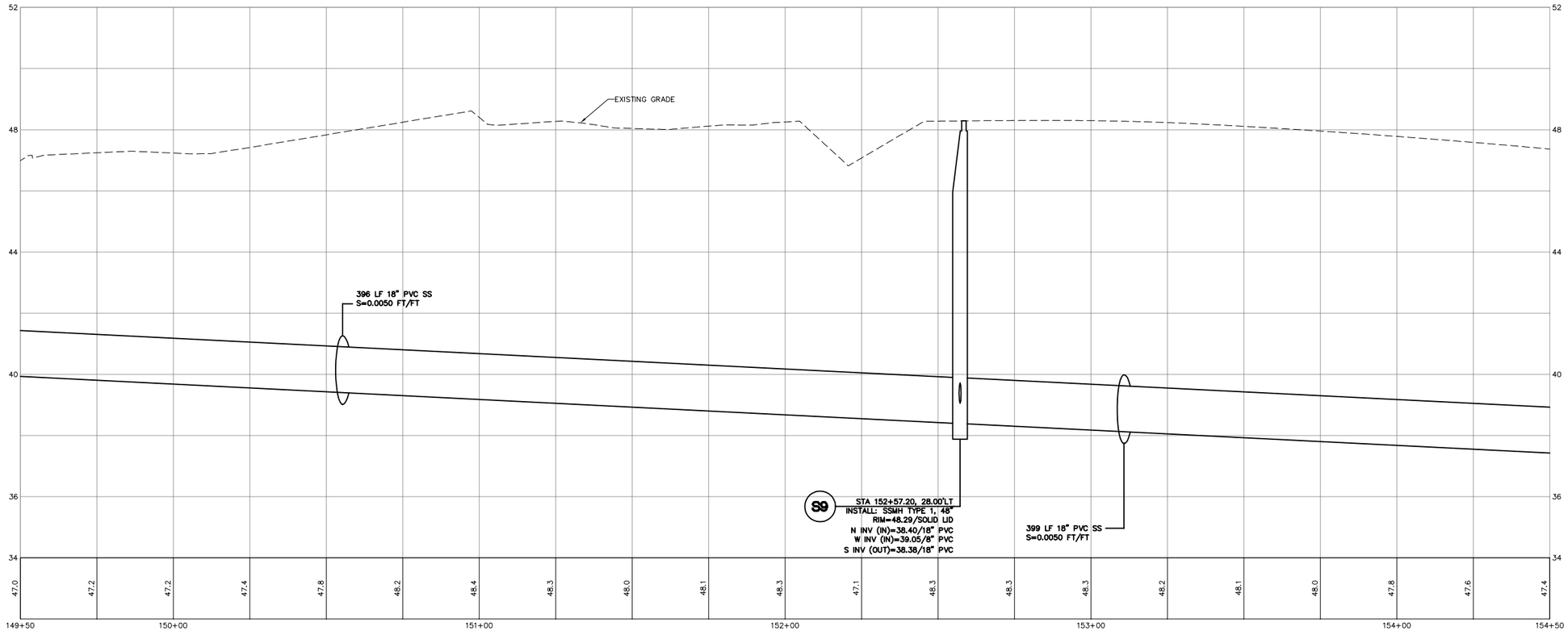
1"=40' H, 1"=4' V (11x17)



LUIS PONCE
STATE OF WASHINGTON
38378
REGISTERED
PROFESSIONAL ENGINEER

9/13/17

BID SET

DESIGNED BY	DRAWN BY	CHECKED BY
KJK	KJK/LMH	LP

Reichhardt & Ebe
ENGINEERING INC
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813 Metcalf Street, Sedro-Woolley, WA 98284 (360) 855-1713

NO.	DATE	DESCRIPTION	BY

CITY OF FERNDALE
2095 MAIN STREET
FERNDALE, WA 98248

THORNTON ST
SANITARY SEWER
STA 149+50 TO 154+50

DWG	DATE
16034 SEWER	9/13/2017
JOB# 16034	SCALE H: 1"=20' V: 1"=2'
	SHEET 11 of 24

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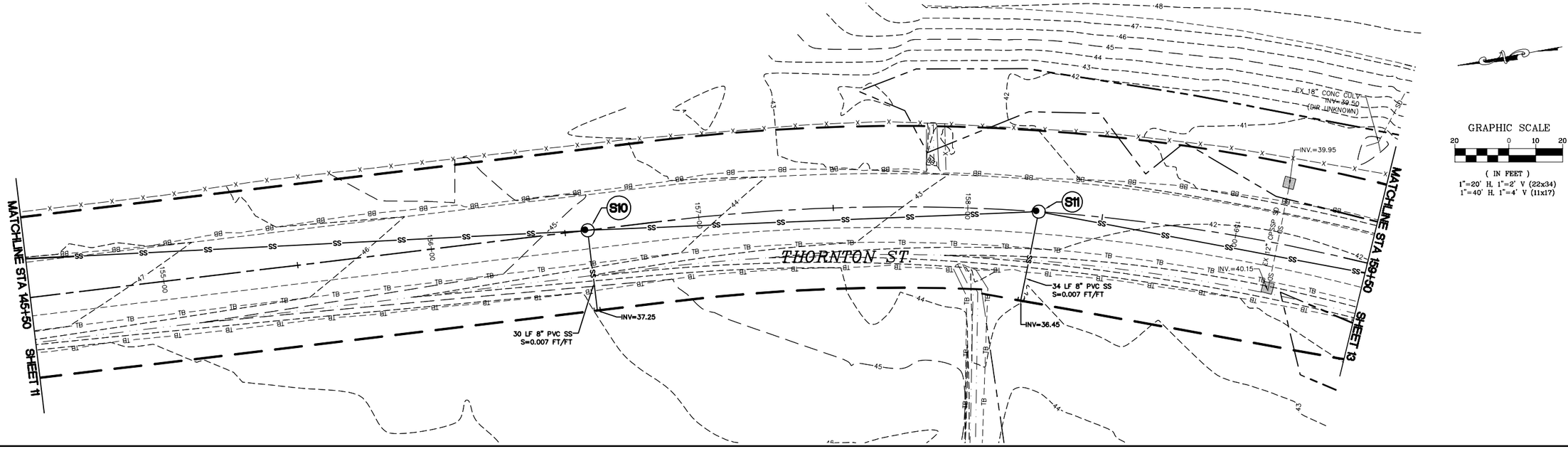

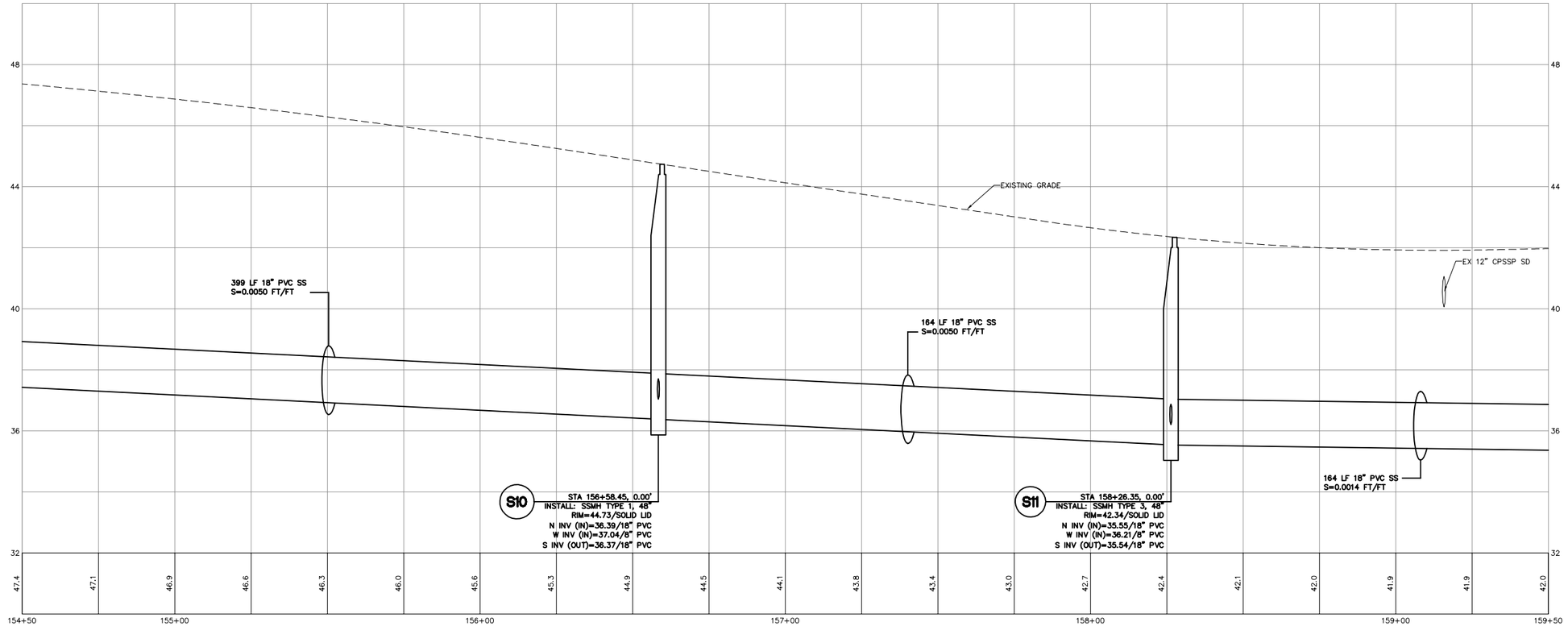

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REGISTERED
PROFESSIONAL ENGINEER
9/13/17

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813 Metcalf Street, Sedro-Woolley, WA 98284 (360) 855-1713

NO.	DATE	DESCRIPTION	BY

CITY OF FERNDALE
2095 MAIN STREET
FERNDALE, WA 98248

THORNTON ST
SANITARY SEWER
STA 154+50 TO 159+50

DWG 16034 SEWER
DATE 9/13/2017
JOB# 16034
SCALE H: 1"=20' V: 1"=2'
SHEET 12 of 24

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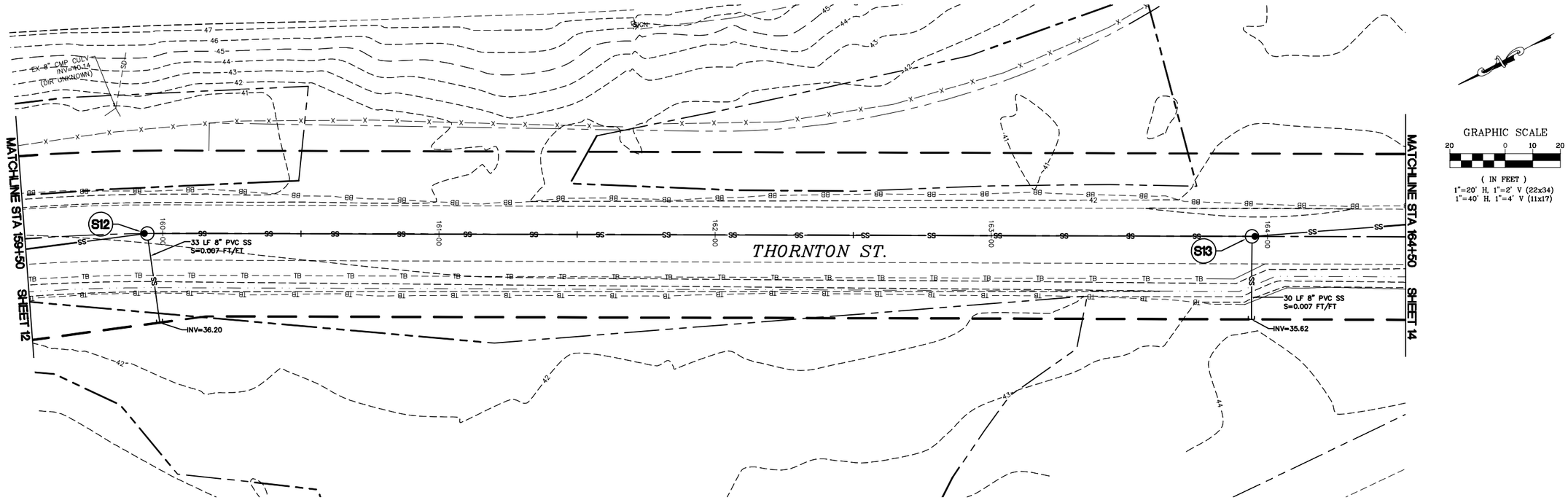

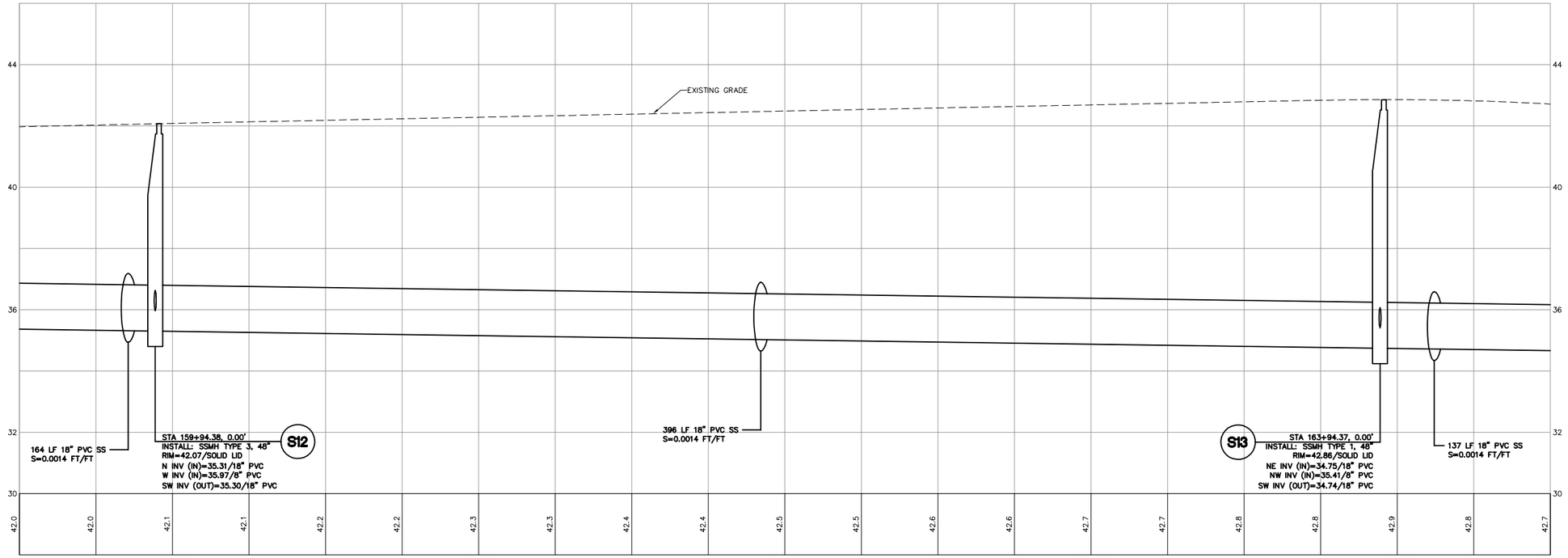

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813 Metcalf Street, Sedro-Woolley, WA 98284 (360) 855-1713

NO.	DATE	DESCRIPTION	BY

CITY OF FERNDALE
2095 MAIN STREET
FERNDALE, WA 98248

THORNTON ST
SANITARY SEWER
STA 159+50 TO 164+50

DWG 16034 SEWER			DATE 9/13/2017
JOB# 16034	SCALE H: 1"=20' V: 1"=2'		SHEET 13 of 24

LUIS PONCE STATE OF WASHINGTON 38378 REGISTERED PROFESSIONAL ENGINEER 9/13/17

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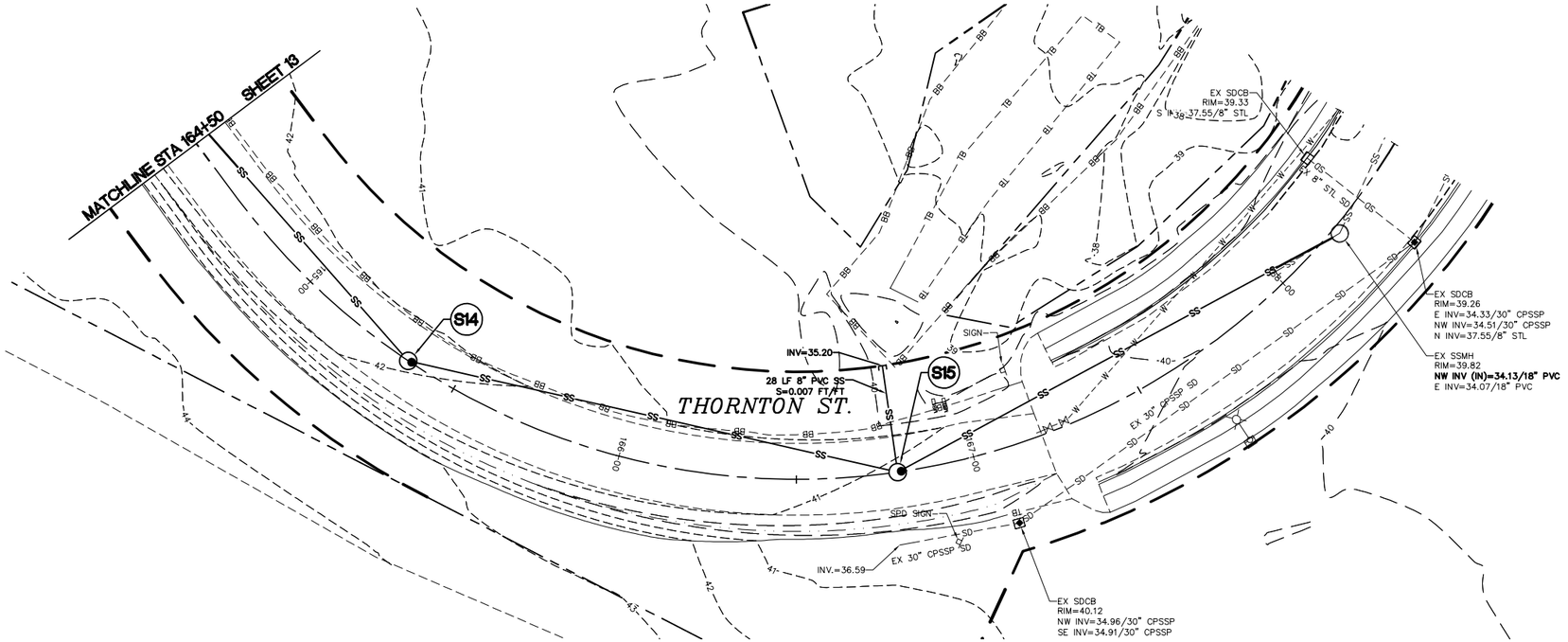

GRAPHIC SCALE

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(IN FEET)
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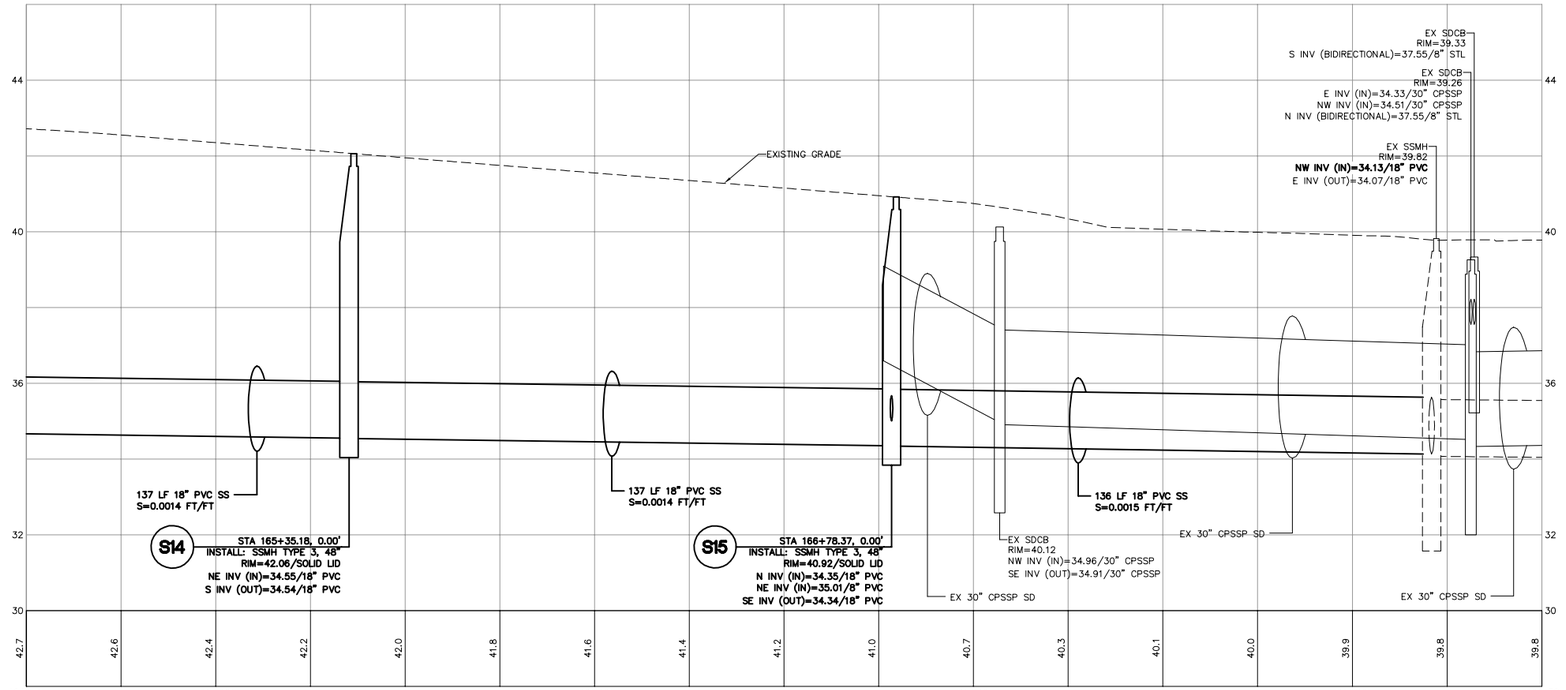
1"=40' H, 1"=4' V (11x17)



LUIS PONCE
STATE OF WASHINGTON
38378
REGISTERED
PROFESSIONAL ENGINEER
9/13/17

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ENGINEERING INC
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813 Metcalf Street, Sedro-Woolley, WA 98284 (360) 855-1713

NO.	DATE	DESCRIPTION	BY

CITY OF FERNDALE
2095 MAIN STREET
FERNDALE, WA 98248

THORNTON ST
SANITARY SEWER
STA 164+50 TO 168+50

DWG 16034 SEWER		DATE 9/13/2017
JOB# 16034	SCALE H: 1"=20' V: 1"=2'	SHEET 14 of 24

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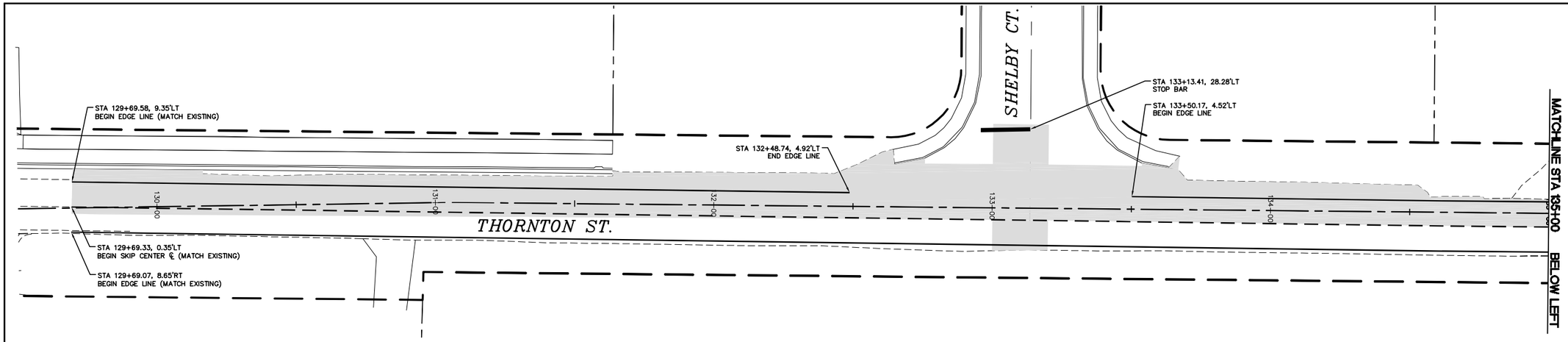

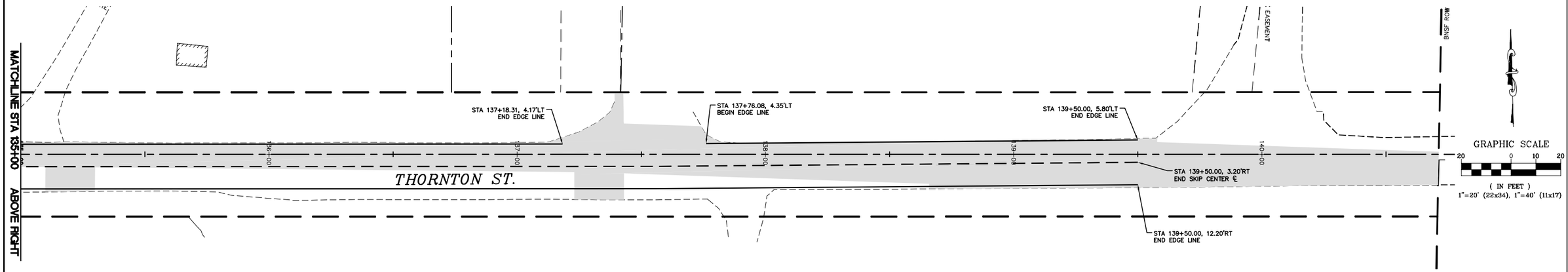

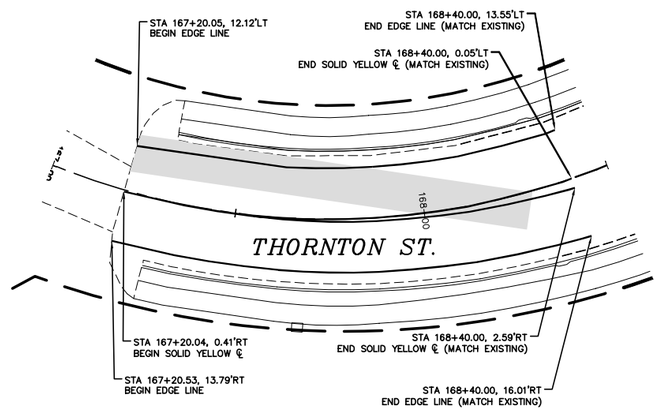

LUIS PONCE
STATE OF WASHINGTON
38378
REGISTERED
PROFESSIONAL ENGINEER
9/13/17

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P.O. Box 978 | 423 Front Street, Lynden, WA 98264 (360) 354-3687
813 Metcalf Street, Sedro-Woolley, WA 98284 (360) 855-1713

NO.	DATE	DESCRIPTION	BY

CITY OF FERNDALE
2095 MAIN STREET
FERNDALE, WA 98248

THORNTON ST
SANITARY SEWER
STA 129+50 TO 140+75 AND STA 167+00 TO 168+50

DWG 16034 CHAN			DATE 9/13/2017
JOB# 16034	SCALE H: 1"=20'	V: N/A	SHEET 15 of 24

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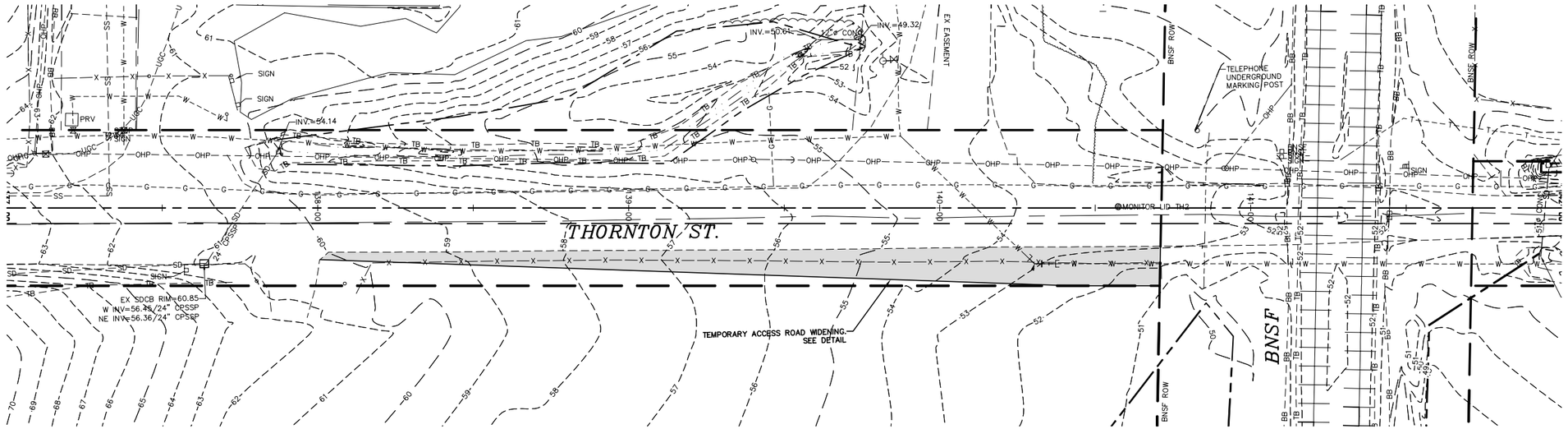
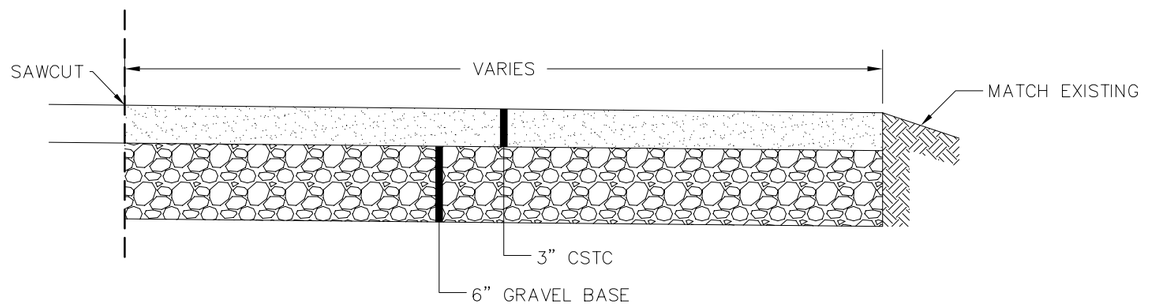


GRAPHIC SCALE

20 0 10 20

(IN FEET)

1"=20' (22x34), 1"=40' (11x17)



TEMPORARY ACCESS ROAD DETAIL

NTS

LUIS PONCE — STATE OF WASHINGTON — 38378 — REGISTERED PROFESSIONAL ENGINEER

9/13/17

BID SET

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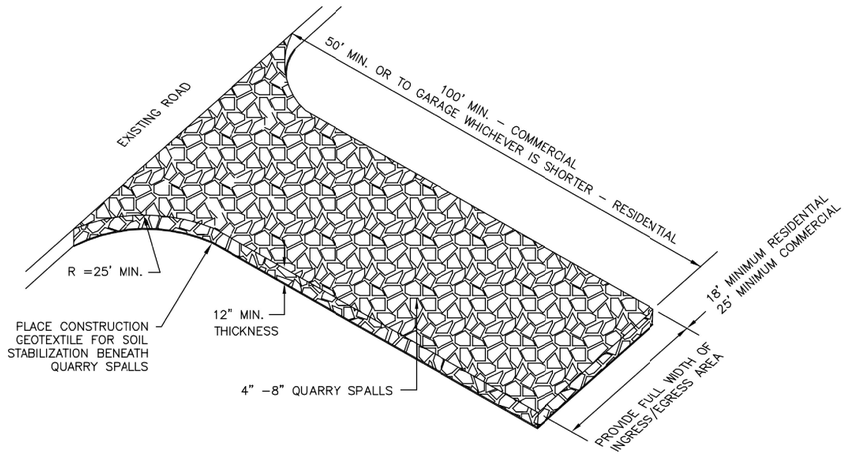
813 Metcalf Street, Sedro-Woolley, WA 98284 (360) 855-1713

NO.	DATE	DESCRIPTION	BY

CITY OF FERNDALE
2095 MAIN STREET
FERNDALE, WA 98248

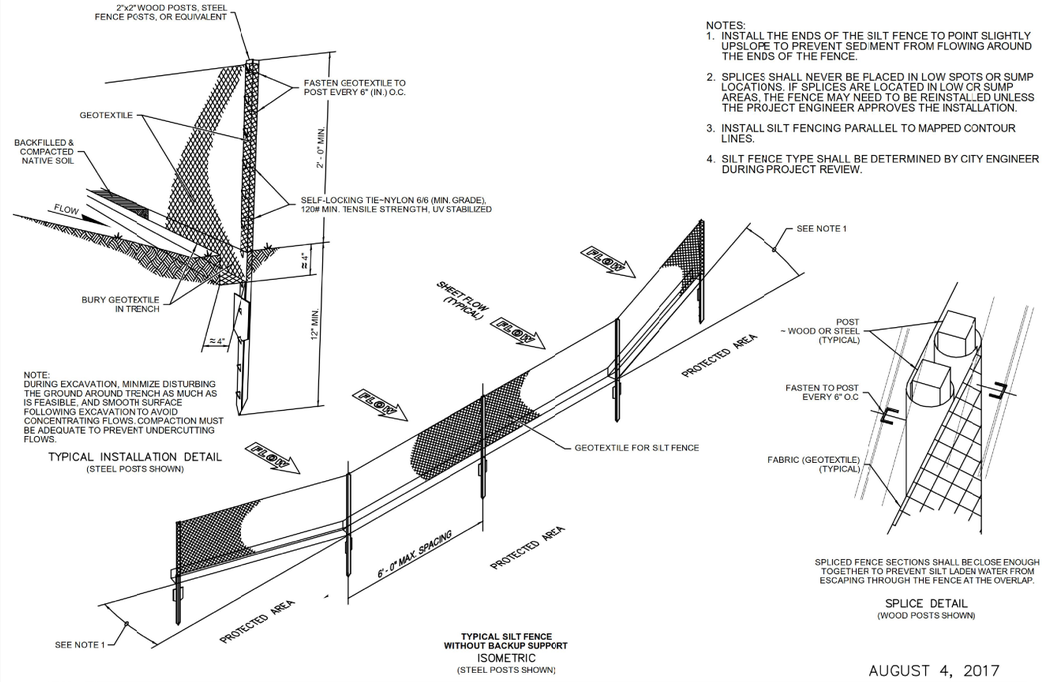
THORNTON ST
SANITARY SEWER
TEMPORARY ACCESS ROAD

DWG 16034 ACCESS RD
DATE 9/13/2017
JOB# 16034
SCALE H: 1"=20' V: N/A
SHEET 16 of 24



NOVEMBER 29, 2016

APPROVED		TEMPORARY CONSTRUCTION ENTRANCE
Public Works Director	8/11/17 Date	STANDARD DETAIL ST–25
		NOT TO SCALE



AUGUST 4, 2017

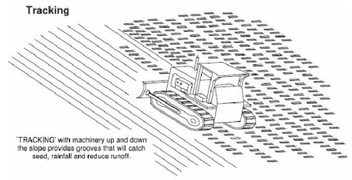
APPROVED		SILT FENCE
Public Works Director	8/11/17 Date	STANDARD DETAIL ST–27
		NOT TO SCALE

TESC GENERAL NOTES

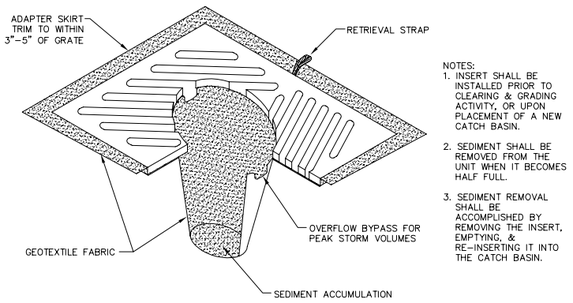
1. THIS PLAN REPRESENTS THE MINIMUM REQUIREMENTS FOR THIS PROJECT. ADDITIONAL EROSION CONTROL MAY BE REQUIRED BY THE ENGINEER AS ARE FOUND NECESSARY.
2. THE TEMPORARY EROSION CONTROL SYSTEMS SHALL BE INSTALLED PRIOR TO ALL OTHER SITE CONSTRUCTION.
3. ALL CLEARING LIMITS SHALL BE VISIBLY MARKED PRIOR TO CLEARING.
4. ANY VEGETATION NOT IN THE CONSTRUCTION AREA SHALL BE LEFT UNDISTURBED.
5. CONTRACTOR SHALL INFORM THE ENGINEER AND OBTAIN APPROVAL FROM THE ENGINEER OF ANY PROPOSED CHANGES IN PLAN PRIOR TO CONSTRUCTION OF THAT CHANGE. CONTRACTOR SHALL KEEP RECORD OF DEVIATIONS AND FORWARD TO THE ENGINEER.
6. MAINTENANCE AND OPERATION OF THE EROSION CONTROL AND SEDIMENTATION SYSTEM SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTATION OF THE SEDIMENTATION AND EROSION CONTROL MEASURES, AS SHOWN AND AS INSTALLED ON AN AS NEEDED BASIS.
7. THE CONSTRUCTED EROSION CONTROL AND SEDIMENTATION PLAN SHALL BE APPROVED BY THE ENGINEER PRIOR TO PERFORMING ANY SITE GRADING OR CLEARING.
8. CONTRACTOR WILL HAVE A WATER TRUCK AVAILABLE ON SITE AT ALL TIMES. CONTRACTOR WILL WATER SURFACES OFTEN ENOUGH TO ABATE DUST AS APPROVED BY THE ENGINEER. WATERING WILL INCLUDE WEEKENDS AND HOLIDAYS.
9. THE CONTRACTOR SHALL PERFORM ALL STREET CLEANING BY HAND OR WITH A SELF–PROPELLED PICKUP STREET SWEEPER. A STANDARD SELF–PROPELLED STREET SWEEPER WILL NOT BE ALLOWED.
10. ALL DISTURBED AREAS SHALL BE HYDROSEEDED. GRASS SEEDING SHALL BE BROADCAST IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
11. ALL CUT AND FILL SLOPES SHALL BE SEEDED AND FERTILIZED FOR EROSION CONTROL. CONTRACTOR SHALL BE RESPONSIBLE FOR SLOPE EROSION UNTIL VEGETATION IS FIRMLY ESTABLISHED.
12. ALL STORM DRAIN FACILITIES WITHIN THE PROJECT BOUNDARY, OR WHICH ARE IMPACTED BY THE PROJECT ARE TO BE CLEARED OF SEDIMENT AND DEBRIS PRIOR TO FINAL ACCEPTANCE OF THE PROJECT.
13. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

DUST CONTROL:
CONTRACTOR SHALL LIMIT DUST GENERATION BY CLEARING ONLY THOSE AREAS WHERE IMMEDIATE EXCAVATION AND GRADING SHALL TAKE PLACE MAINTAINING THE ORIGINAL GROUND COVER AS LONG AS PRACTICAL. DUST CONTROL METHODS SHALL BE PERFORMED BY METHODS LISTED IN NOTE NUMBER EIGHT OF THE TESC GENERAL NOTES. SURFACES SHALL BE SPRAYED WITH WATER AS NEEDED IN ORDER TO ABATE DUST AS APPROVED BY THE ENGINEER.

STREET CLEANING:
CONTRACTOR SHALL PERFORM ALL STREET CLEANING AT A MINIMUM OF AT LEAST ONCE AT THE END OF EVERY DAY WORKED AND ON AN AS NEEDED BASIS BASED ON VEHICLE TRACK OUT. STREET CLEANING SHALL BE PERFORMED BY THE METHODS LISTED IN NOTE NUMBER 10 OF THE TESC GENERAL NOTES AND SHALL NOT ALLOW SEDIMENT INTO STORMWATER CONVEYANCE DITCHES OR STRUCTURES. STREET CLEANING METHODS SHALL BE APPROVED BY THE ENGINEER PRIOR TO THE BEGINNING OF CONSTRUCTION.



SURFACE ROUGHENING
NTS



NOTES:
1. INSERT SHALL BE INSTALLED PRIOR TO CLEARING & GRADING ACTIVITY, OR UPON PLACEMENT OF A NEW CATCH BASIN.
2. SEDIMENT SHALL BE REMOVED FROM THE UNIT WHEN IT BECOMES HALF FULL.
3. SEDIMENT REMOVAL SHALL BE ACCOMPLISHED BY REMOVING THE INSERT, EMPTYING, & RE–INSERTING IT INTO THE CATCH BASIN.

INLET PROTECTION
NTS

LUIS PONCE — STATE OF WASHINGTON — 38378 — REGISTERED PROFESSIONAL ENGINEER
9/13/17

BID SET

DESIGNED BY KJK / DRAWN BY KJK/LMH / CHECKED BY LP	R&E Reichhardt & Ebe ENGINEERING INC P.O. Box 978 | 423 Front Street, Lynden, WA 98264 (360) 354-3687 813 Metcalf Street, Sedro-Woolley, WA 98284 (360) 855-1713	NO.	DATE	DESCRIPTION	BY	CITY OF FERNDALE 2095 MAIN STREET FERNDALE, WA 98248	THORNTON ST SANITARY SEWER EROSION TESC-DETAIL 1	DWG 16034 DETAIL JOB# 16034 SCALE H: N/A V: N/A DATE 9/13/2017 SHEET 17 of 24

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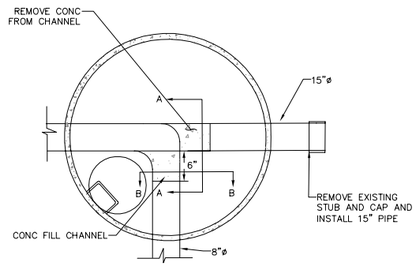
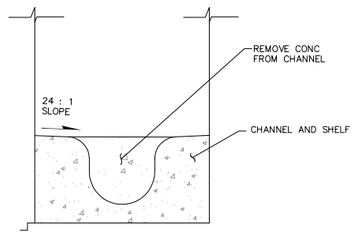
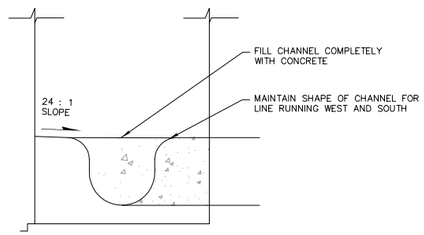


PLAN

NOTE:
1. INSIDE DROP TO NORTH NOT SHOWN FOR CLARITY



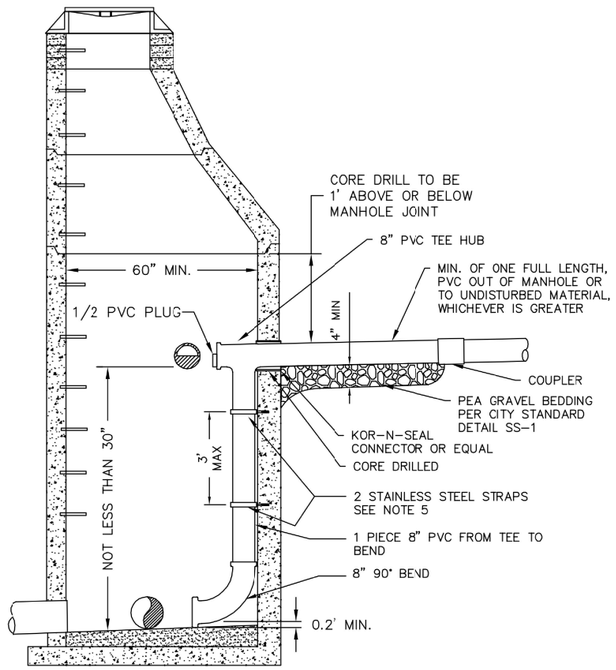
SECTION AA



SECTION BB

54" CHANNELED MANHOLE AT STA 129+80

NTS



NOTES:
1. DROP TEE TO EE INSTALLED MINIMUM OF 3' BELOW CONE SECTION.
2. INSIDE DROP MANHOLE SHALL BE INSTALLED ONLY WHERE APPROVED BY THE PUBLIC WORKS DIRECTOR.
3. SIZE OF MANHOLE WILL INCREASE WITH LARGER DIAMETER PIPE AND SHALL BE APPROVED BY THE PUBLIC WORKS DIRECTOR.
4. CHANNEL TO OUTLET.
5. STAINLESS ADJUSTABLE PIPE BRACKETS AS MANUFACTURED BY RELINER-DURAN INC. OR APPROVED EQUAL. ATTACH TO WALL WITH ⅜" SS ANCHOR BOLTS.
6. INSIDE DROP SEWER MANHOLE CONNECTION FOR EXISTING SANITARY MANHOLE STRUCTURES.

AUGUST 1, 2017

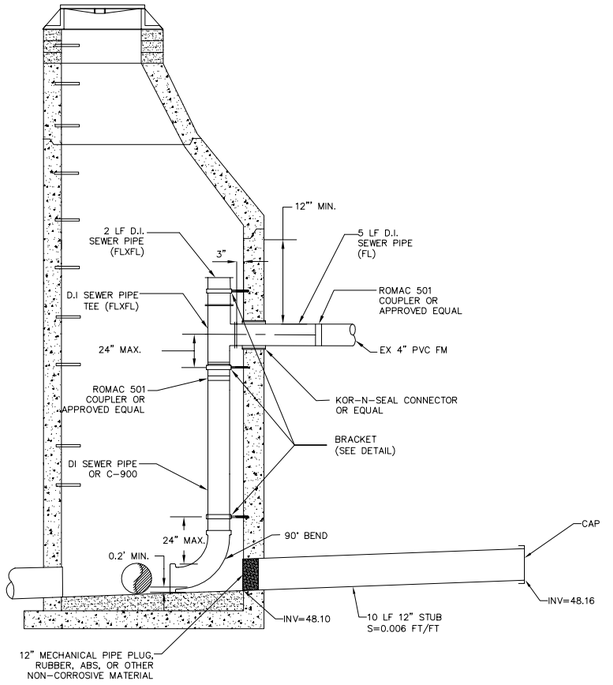
APPROVED

Public Works Director — 8/11/17 Date

INSIDE DROP SEWER MANHOLE CONNECTION

STANDARD DETAIL SS-13

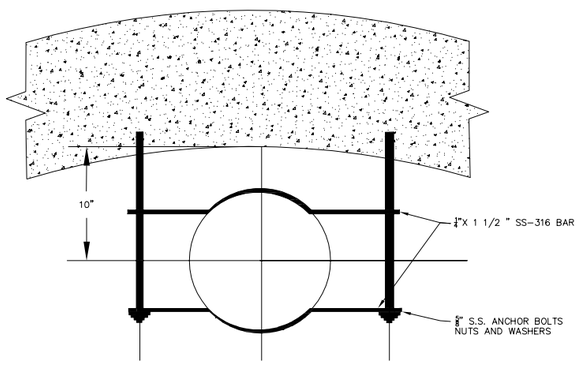
NOT TO SCALE



NOTES:
1. DROP TEE TO BE INSTALLED MINIMUM OF 12" BELOW CONE SECTION.
2. CHANNEL TO OUTLET.
3. LADDER MUST BE INSTALLED ONE FOOT FROM THE DROP STRUCTURE (MEASURED EDGE TO EDGE) FROM THE MANHOLE SHELF TO THE D.I TEE

INSIDE FM DROP SEWER MANHOLE CONNECTION, SSMH S4

NTS



BRACKET DETAIL, SSMH S4

NTS

LUIS PONCE — STATE OF WASHINGTON — 38378 — REGISTERED PROFESSIONAL ENGINEER — 9/13/17

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CHECKED BY	LP

R&E Reichhardt & Ebe ENGINEERING INC
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813 Metcalf Street, Sedro-Woolley, WA 98284 (360) 855-1713

NO.	DATE	DESCRIPTION	BY

CITY OF FERNDALE
2095 MAIN STREET
FERNDALE, WA 98248

THORNTON ST
SANITARY SEWER
SEWER DETAILS 1

DWG 16034 DETAIL			DATE 9/13/2017
JOB# 16034	SCALE H: N/A	V: N/A	SHEET 18 of 24

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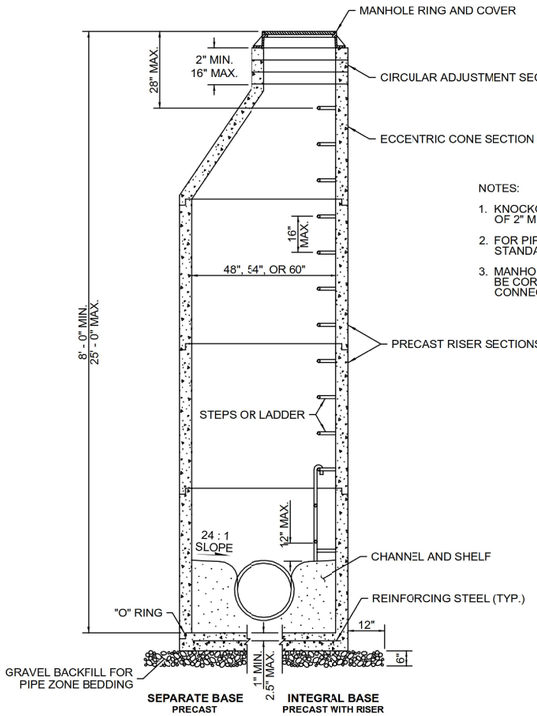


NOTES:

1. KNOCKOUTS SHALL HAVE A WALL THICKNESS OF 2" MINIMUM TO 2.5" MAXIMUM.
2. FOR PIPE ALLOWANCES, SEE WSDOT STANDARD PLAN B-10.20.
3. MANHOLE WALL PIPE PENETRATIONS SHALL BE CORED AND SEALED WITH KOR-N-SEAL CONNECTOR OR APPROVED EQUAL.

MANHOLE DIMENSION TABLE

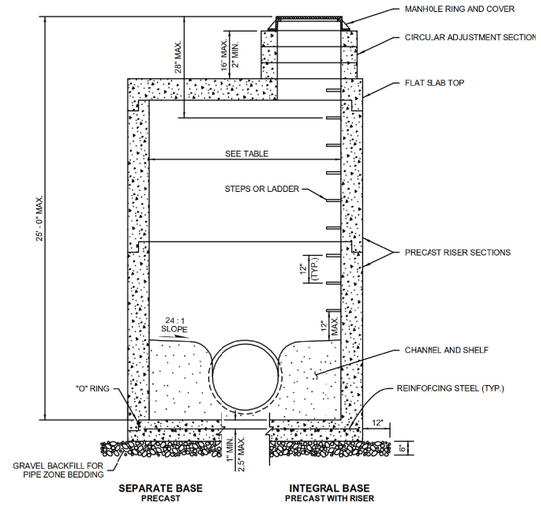
DIAM.	MIN. WALL THICKNESS	MIN. BASE THICKNESS	MAXIMUM KNOCKOUT SIZE	MINIMUM DISTANCE BETWEEN KNOCKOUTS	BASE REINFORCING STEEL SQ IN/FT EACH DIRECTION	
					INTEGRAL BASE	SEPARATE BASE
48"	4"	6"	36"	8"	0.15	0.23
54"	4.5"	8"	42"	8"	0.19	0.19
60"	5"	8"	48"	8"	0.25	0.25

AUGUST 1, 2017

APPROVED

Public Works Director — 8/11/17 Date

SANITARY SEWER MANHOLE TYPE 1
STANDARD DETAIL SS-3
NOT TO SCALE



NOTES:

1. Knockouts shall have a wall thickness of 2" minimum to 2.5" maximum.
2. For pipe allowances, see **WSDOT Standard Plan B-10.20.**
3. No steps are required when height is 4' or less.
4. Manhole wall pipe penetrations shall be cored and sealed with Kor-N-Seal connector or approved equal.

MANHOLE DIMENSION TABLE

DIAM.	MIN. WALL THICKNESS	MIN. BASE THICKNESS	MAXIMUM KNOCKOUT SIZE	MINIMUM DISTANCE BETWEEN KNOCKOUTS
48"	4"	6"	36"	8"
54"	4.5"	8"	42"	8"
60"	5"	8"	48"	8"
72"	6"	8"	60"	12"
84"	8"	12"	72"	12"
96"	8"	12"	84"	12"
120"	10"	12"	42"	12"
144"	12"	12"	108"	12"

SEPTEMBER 11, 2017

APPROVED

Public Works Director — Date

SANITARY SEWER MANHOLE TYPE 3
STANDARD DETAIL SS-4
NOT TO SCALE

LUIS PONCE — STATE OF WASHINGTON — 38378 — REGISTERED PROFESSIONAL ENGINEER — 9/13/17

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CHECKED BY LP

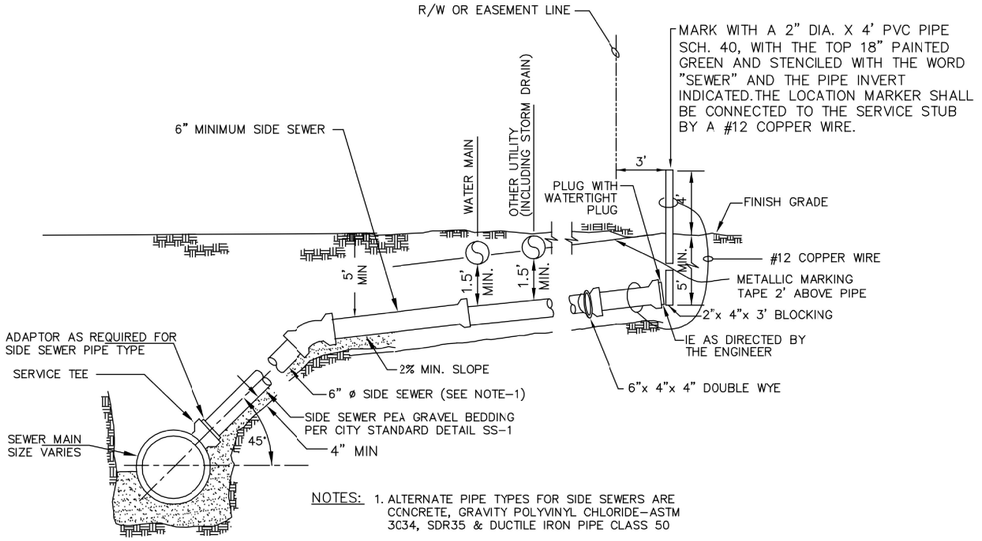
R&E Reichhardt & Ebe ENGINEERING INC
P.O. Box 978 | 423 Front Street, Lynden, WA 98264 (360) 354-3687
813 Metcalf Street, Sedro-Woolley, WA 98284 (360) 855-1713

NO.	DATE	DESCRIPTION	BY

CITY OF FERNDALE
2095 MAIN STREET
FERNDALE, WA 98248

THORNTON ST
SANITARY SEWER
SEWER DETAILS 2

DWG 16034 DETAIL
DATE 9/13/2017
JOB# 16034
SCALE H: N/A V: N/A
SHEET 19 of 24



NOTES: 1. ALTERNATE PIPE TYPES FOR SIDE SEWERS ARE CONCRETE, GRAVITY POLYVINYL CHLORIDE-ASTM 3034, SDR35 & DUCTILE IRON PIPE CLASS 50

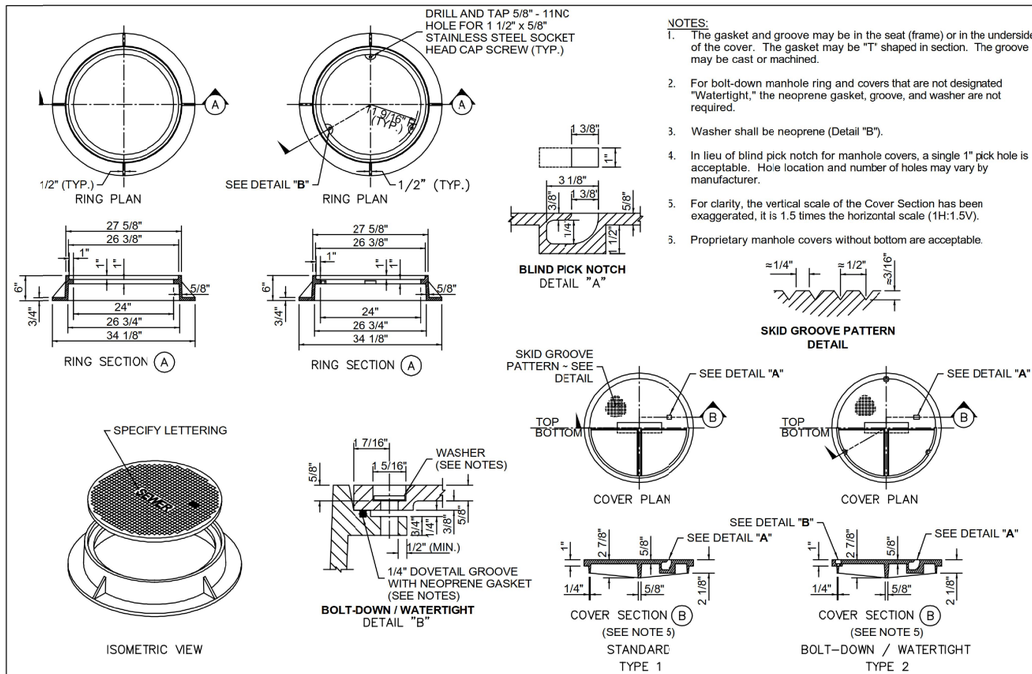
NOVEMBER 25, 2016

APPROVED

Public Works Director

8/11/17
Date

SANITARY SEWER SERVICE CONNECTION 18" AND LARGER MAINS
STANDARD DETAIL SS-7
NOT TO SCALE



NOTES:
1. The gasket and groove may be in the seat (frame) or in the underside of the cover. The gasket may be "T" shaped in section. The groove may be cast or machined.
2. For bolt-down manhole ring and covers that are not designated "Watertight," the neoprene gasket, groove, and washer are not required.
3. Washer shall be neoprene (Detail "B").
4. In lieu of blind pick notch for manhole covers, a single 1" pick hole is acceptable. Hole location and number of holes may vary by manufacturer.
5. For clarity, the vertical scale of the Cover Section has been exaggerated, it is 1.5 times the horizontal scale (1H:1.5V).
6. Proprietary manhole covers without bottom are acceptable.

JUNE 14, 2017

APPROVED

Public Works Director

8/11/17
Date

CIRCULAR FRAME AND COVER
STANDARD DETAIL SS-10
NOT TO SCALE

BID SET

DESIGNED BY	KJK
DRAWN BY	KJK/LMH
CHECKED BY	LP

Reichhardt & Ebe ENGINEERING INC
P.O. Box 978 | 423 Front Street, Lynden, WA 98264 (360) 354-3687
813 Metcalf Street, Sedro-Woolley, WA 98284 (360) 855-1713

NO.	DATE	DESCRIPTION	BY

CITY OF FERNDALE
2095 MAIN STREET
FERNDALE, WA 98248

THORNTON ST
SANITARY SEWER
SEWER DETAILS 3

DWG 16034 DETAIL		DATE 9/13/2017
JOB# 16034	SCALE H: N/A V: N/A	SHEET 20 of 24

LUIS PONCE STATE OF WASHINGTON 38378 REGISTERED PROFESSIONAL ENGINEER 9/13/17

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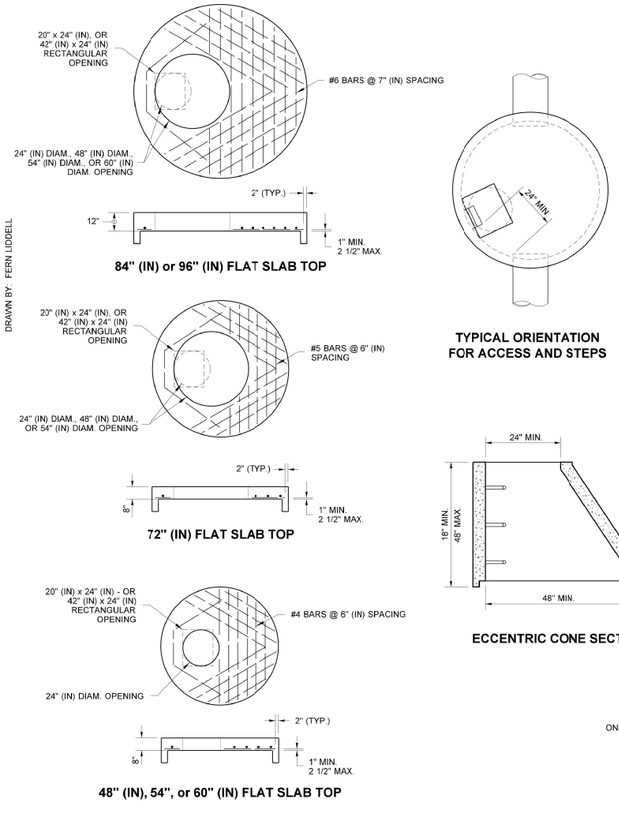
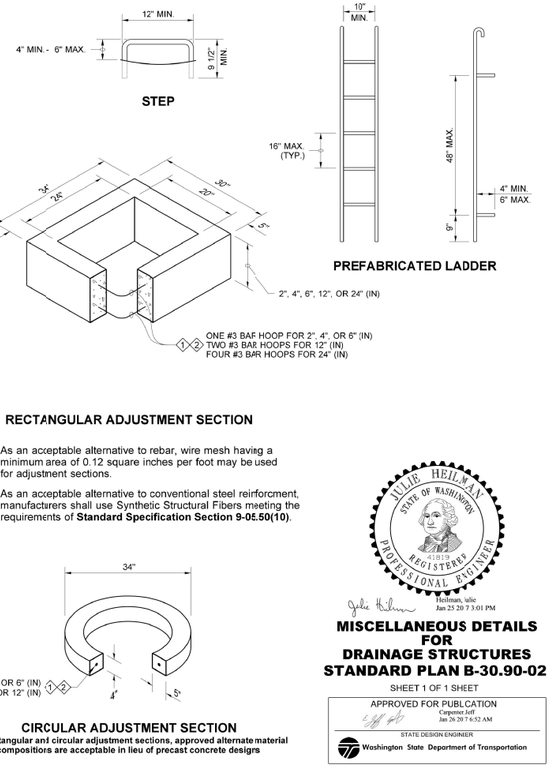
DRAWN BY: FERN LIDDELL



NOTE

1. Ladder rungs for manholes and catch basins shall meet the requirements of **AASHTO M 199.**



RECTANGULAR ADJUSTMENT SECTION

1. As an acceptable alternative to rebar, wire mesh having a minimum area of 0.12 square inches per foot may be used for adjustment sections.
2. As an acceptable alternative to conventional steel reinforcment, manufacturers shall use Synthetic Structural Fibers meeting the requirements of **Standard Specification Section 9-05.50(10)**.

CIRCULAR ADJUSTMENT SECTION

For rectangular and circular adjustment sections, approved alternate material compositions are acceptable in lieu of precast concrete designs

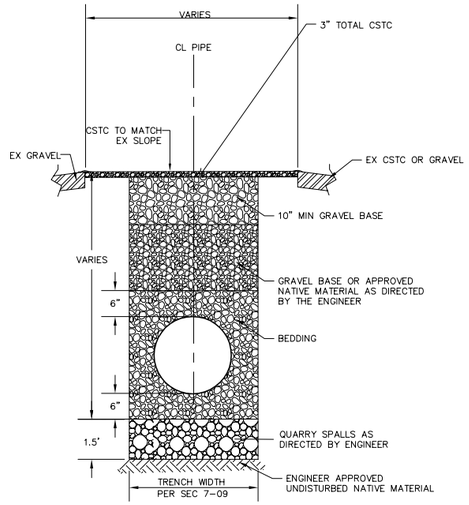
JULIE HEILMAN STATE OF WASHINGTON 43815 REGISTERED PROFESSIONAL ENGINEER

Heilman, Julie
Jan 25 20 7:3:01 PM

MISCELLANEOUS DETAILS FOR DRAINAGE STRUCTURES STANDARD PLAN B-30.90-02

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLCATION
Carpenter Jeff
Jan 26 20 7:6:52 AM
STATE DESIGN ENGINEER
Washington State Department of Transportation



TYPICAL TRENCH SECTION
GRAVEL ROAD SECTION

NTS

TYPICAL TRENCH SECTION
ASPHALT CONCRETE PAVEMENT SECTION

NTS

LUIS PONCE STATE OF WASHINGTON 38378 REGISTERED PROFESSIONAL ENGINEER

9/13/17

BID SET	DESIGNED BY KJK DRAWN BY KJK/LMH CHECKED BY LP	R&E Reichhardt & Ebe ENGINEERING INC P.O. Box 978 | 423 Front Street, Lynden, WA 98264 (360) 354-3687 813 Metcalf Street, Sedro-Woolley, WA 98284 (360) 855-1713	NO.	DATE	DESCRIPTION	BY	CITY OF FERNDALE 2095 MAIN STREET FERNDALE, WA 98248	THORNTON ST SANITARY SEWER SEWER DETAILS 4	DWG 16034 DETAIL JOB# 16034 SCALE H: N/A V: N/A DATE 9/13/2017 SHEET 21 of 24

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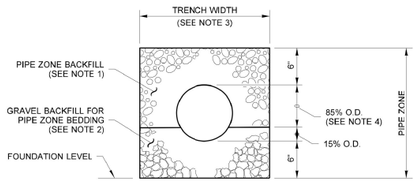
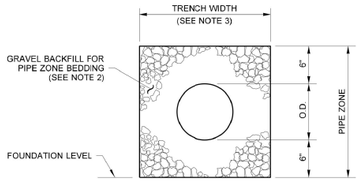
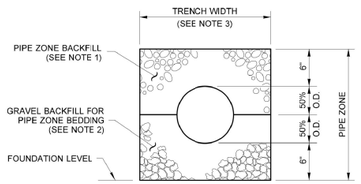
DRAWN BY: FERN LIDDELL



CONCRETE AND DUCTILE IRON PIPE



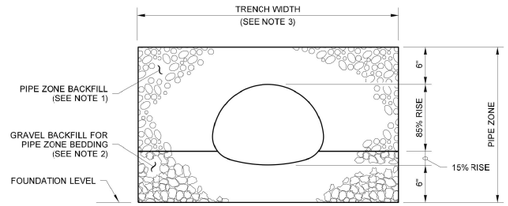
THERMOPLASTIC PIPE



METAL AND STEEL RIB
REINFORCED POLYETHYLENE PIPE

NOTES

1. See **Standard Specifications Section 7-08.3(3)** for Pipe Zone Backfill.
2. See **Standard Specifications Section 9-03.12(3)** for Gravel Backfill for Pipe Zone Bedding.
3. See **Standard Specifications Section 2-09.4** for Measurement of Trench Width.
4. For sanitary sewer installation, concrete pipe shall be bedded to spring line.



PIPE ARCHES

CLEARANCE BETWEEN PIPES FOR MULTIPLE INSTALLATIONS		
PIPE	**SIZE**	**MINIMUM DISTANCE BETWEEN BARRELS**
CIRCULAR PIPE (DIAMETER)	12" to 24"	12"
	30" to 96"	DIAM. /2
	102" to 180"	48"
PIPE ARCH (SPAN) METAL ONLY	18" to 36"	12"
	43" to 142"	SPAN /3
	148" to 200"	48"

JULIE HEILMAN — STATE OF WASHINGTON — 21819 — REGISTERED PROFESSIONAL ENGINEER

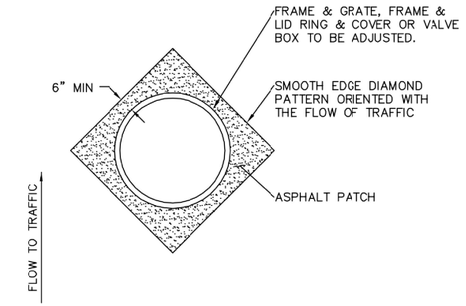
Julie Heilman
Heilman, Julie
Jan 25 2017 3:01 PM

PIPE ZONE BEDDING AND BACKFILL

STANDARD PLAN B-55.20-01

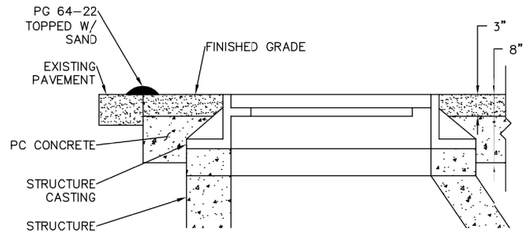
SHEET 1 OF 1 SHEET

APPROVED FOR PUBLCATION
Carpenter, jeff
Jan 26 2017 6:53 AM
STATE DESIGN ENGINEER
Washington State Department of Transportation



NOTES:
ALL FRAMES, COVERS & VALVE BOXES SHALL BE ADJUSTED TO FINISHED GRADE AFTER THE FINAL LIFT OF PAVING HAS BEEN COMPLETED. THE FOLLOWING PROCEDURE SHALL BE USED:

1. CUT THE ASPHALT IN A DIAMOND AROUND THE STRUCTURE CASTING TO BE ADJUSTED.
2. REMOVE THE FILL MATERIAL WITHIN THE CUT PAVEMENT AREA TO 8 INCHES MIN. BELOW FINISH GRADE.
3. PLACE THE CASTING AT FINISH GRADE.
4. PLACE PORTLAND CEMENT CONCRETE TO WITHIN THE TOP 3 INCHES OF FINISH GRADE.
5. APPLY TACK TO THE STRUCTURE CASTING, CUT PAVEMENT, & PC CONCRETE.
6. PLACE & COMPACT 3 INCHES OF HMA TO FINISH GRADE.
7. SEAL PAVEMENT JOINTS W/ HOT PG 64-22 & TOP W/ SAND.



AUGUST 1, 2017

CITY OF FERNDALE — WASHINGTON

APPROVED

Public Works Director — 8/11/17 Date

ADJUSTING CASINGS TO FINISHED GRADE
STANDARD DETAIL SS-19
NOT TO SCALE

LUIS PONCE — STATE OF WASHINGTON — 38378 — REGISTERED PROFESSIONAL ENGINEER
9/13/17

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BID SET

DESIGNED BY	KJK
DRAWN BY	KJK/LMH
CHECKED BY	LP

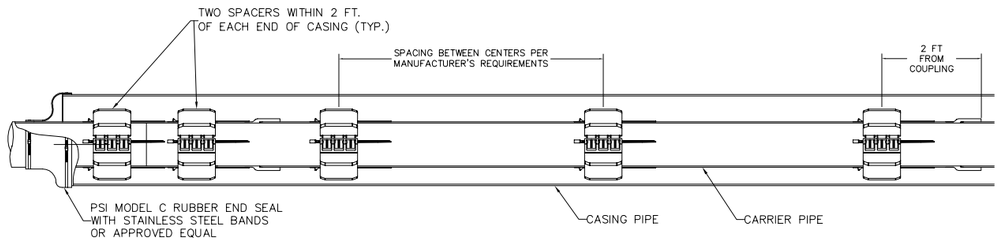
R&E Reichhardt & Ebe ENGINEERING INC
P.O. Box 978 | 423 Front Street, Lynden, WA 98264 (360) 354-3687
813 Metcalf Street, Sedro-Woolley, WA 98284 (360) 855-1713

NO.	DATE	DESCRIPTION	BY

CITY OF FERNDALE
2095 MAIN STREET
FERNDALE, WA 98248

THORNTON ST
SANITARY SEWER
SEWER DETAILS 5

DWG 16034 DETAIL
DATE 9/13/2017
JOB# 16034
SCALE H: N/A V: N/A
SHEET 22 of 24



NOTES:

A. CASING SPACERS
UPON COMPLETION OF THE INSTALLATION OF THE STEEL PIPE ENCASEMENT, THE CONTRACTOR SHALL FURNISH AND INSTALL A RANGER II® BOLTLESS CASING SPACER (OR APPROVED EQUAL) ON THE CARRIER PIPE AS DESCRIBED BELOW. WOOD SKIDS ARE NOT AN ACCEPTABLE METHOD OF SUPPORTING THE CARRIER PIPE.

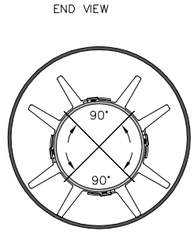
1. CASING SPACERS SHALL BE ALL NON-METALLIC (POLYPROPYLENE), MOLDED IN SEGMENTS FOR FIELD ASSEMBLY WITHOUT ANY SPECIAL TOOLS. SPACER SEGMENTS SHALL BE SECURED AROUND CARRIER PIPE BY INSERTION OF A SLIDE-LOCK. THE CASING SPACER POLYMER SHALL CONTAIN ULTRAVIOLET INHIBITORS AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI, AN 800 VOLTS/MIL DIELECTRIC STRENGTH AND IMPACT STRENGTH OF 1.5 FT-LBS./INCH. EACH CASING SPACER SHALL HAVE FULL LENGTH, INTEGRALLY MOLDED SKIDS EXTENDING BEYOND THE BELL OR MECHANICAL JOINT OF THE CARRIER PIPE. CASING SPACERS SHALL BE SPECIFIED TO "CLEAR BELL ONLY" OR "CENTERED/RESTRAINED".

2. SPACERS SHALL BE AT LEAST AS WIDE AS LISTED BELOW.

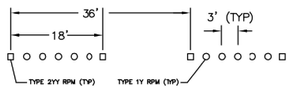
CARRIER PIPE DIAMETER INCHES	(MM)	RANGER II MODEL	LENGTH INCHES	(MM)
0.83 TO 3.07"	(21 TO 78)	MICRO	2.13"	(54)
2.48 TO 5.51"	(63 TO 140)	MINI	3.15"	(80)
5.51 TO 16.65"	(140 TO 423)	MIDI	5.12"	(130)
16.77 TO 25.98"	(426 TO 660)	MEDI	6.87"	(175)
21.22 TO 37.60"	(539 TO 955)	MAXI	8.86"	(225)

B. END SEALS
AFTER INSERTION OF THE CARRIER PIPE INTO THE CASING, THE ENDS OF THE CASING SHALL BE CLOSED BY INSTALLING 1/8" THICK SYNTHETIC RUBBER END SEALS EQUAL TO THE PSI MODEL "C" END SEAL AS MANUFACTURED BY PIPELINE SEAL AND INSULATOR, INC., HOUSTON, TEXAS OR APPROVED EQUAL.

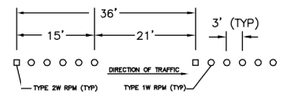
END VIEW



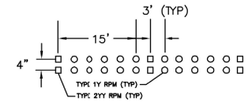
CASING SPACER DETAIL
NTS



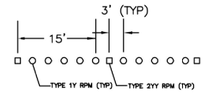
SKIP CENTER STRIPE DETAIL
RAISED PAVEMENT MARKER SUBSTITUTION
PER CITY OF FERNDALE



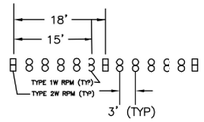
LANE STRIPE DETAIL
RAISED PAVEMENT
MARKER SUBSTITUTION
PER CITY OF FERNDALE



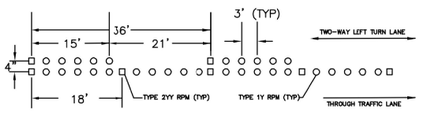
DOUBLE YELLOW STRIPE DETAIL
RAISED PAVEMENT MARKER SUBSTITUTON
PER CITY OF FERNDALE



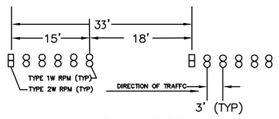
NO PASS STRIPE
RAISED PAVEMENT
MARKER SUBSTITUTION
PER CITY OF FERNDALE



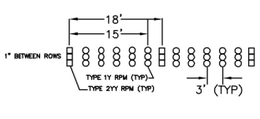
GORE STRIPE DETAIL
RAISED PAVEMENT
MARKER SUBSTITUTION
PER CITY OF FERNDALE



TWO-WAY LEFT TURN STRIPE DETAIL
RAISED PAVEMENT MARKER SUBSTITUTION
PER CITY OF FERNDALE



SKIP GORE STRIPE DETAIL
RAISED PAVEMENT
MARKER SUBSTITUTION
PER CITY OF FERNDALE



BARRIER STRIPE DETAIL
RAISED PAVEMENT
MARKER SUBSTITUTION
PER CITY OF FERNDALE

NOVEMBER 25, 2016

APPROVED

Public Works Director

8/11/17
Date

STRIPING

STANDARD DETAIL R-20

NOT TO SCALE

LUIS PONCE
STATE OF WASHINGTON
38376
REGISTERED
PROFESSIONAL ENGINEER
9/13/17

BID SET

DESIGNED BY KJK
DRAWN BY KJK/LMH
CHECKED BY LP

R&E Reichhardt & Ebe
ENGINEERING INC
P.O. Box 978 | 423 Front Street, Lynden, WA 98264 (360) 354-3687
813 Metcalf Street, Sedro-Woolley, WA 98284 (360) 855-1713

NO.	DATE	DESCRIPTION	BY

CITY OF FERNDALE
2095 MAIN STREET
FERNDALE, WA 98248

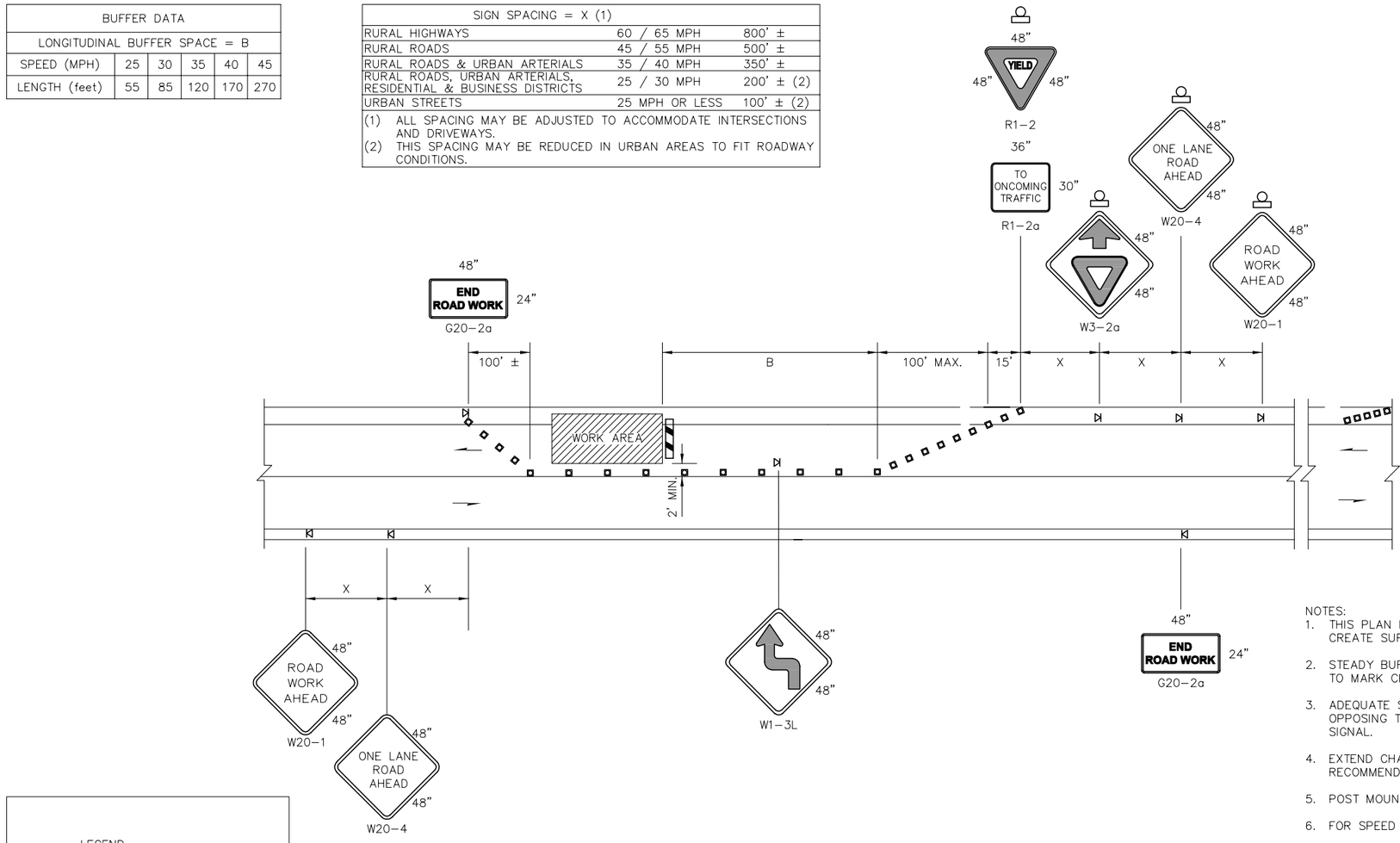
THORNTON ST
SANITARY SEWER
MISC. DETAILS

DWG 16034 DETAIL
DATE 9/13/2017
JOB# 16034
SCALE H: N/A V: N/A
SHEET 23 of 24

BUFFER DATA					
LONGITUDINAL BUFFER SPACE = B					
SPEED (MPH)	25	30	35	40	45
LENGTH (feet)	55	85	120	170	270

SIGN SPACING = X (1)		
RURAL HIGHWAYS	60 / 65 MPH	800' ±
RURAL ROADS	45 / 55 MPH	500' ±
RURAL ROADS & URBAN ARTERIALS	35 / 40 MPH	350' ±
RURAL ROADS, URBAN ARTERIALS, RESIDENTIAL & BUSINESS DISTRICTS	25 / 30 MPH	200' ± (2)
URBAN STREETS	25 MPH OR LESS	100' ± (2)

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



CHANNELIZATION DEVICE SPACING (FEET)		
MPH	TAPER	TANGENT
50/65	10 TO 20	80
35/45	10 TO 20	60
25/30	10 TO 20	40

LEGEND
- TEMPORARY SIGN LOCATION
- CHANNELIZING DEVICES
- BARRICADE ~ TYPE 3 L
- FLASHING WARNING LIGHT

NOTES:
1. THIS PLAN IS INTENDED FOR USE ON ROADWAYS WHEN TRAFFIC VOLUMES CREATE SUFFICIENT GAPS FOR MOTOR VEHICLES TO YIELD.
2. STEADY BURNING WARNING LIGHTS (TYPE C PER MUTCD) SHALL BE USED TO MARK CHANNELIZING DEVICES AT NIGHT.
3. ADEQUATE SIGHT DISTANCE SHALL BE PROVIDED FOR DRIVERS TO SEE OPPOSING TRAFFIC, OTHERWISE USE FLAGGERS AND/OR TEMPORARY SIGNAL.
4. EXTEND CHANNELIZING DEVICE TAPER ACROSS SHOULDER ~ RECOMMENDED.
5. POST MOUNT SIGNS WHEN IN PLACE FOR 3 DAYS OR LONGER.
6. FOR SPEED LIMIT 35 MPH OR HIGHER REPLACE W1-3R WITH W1-4R.
7. FOR SIGNS SIZE REFER TO MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND WSDOT SIGN FABRICATION MANUAL M55-05.
8. CONSIDER USING A PCMS FOR ADDITIONAL ADVANCE WARNING.

LANE CLOSURE WITHOUT FLAGGERS
˝ LOW VOLUME ROADS
NTS

THORNTON STREET ˝ STA 141+72 TO 168+21

LUIS PONCE
STATE OF WASHINGTON
38578
REGISTERED
PROFESSIONAL ENGINEER
9/13/17

BID SET

DESIGNED BY KJK
DRAWN BY KJK/LMH
CHECKED BY LP

R&E Reichhardt & Ebe ENGINEERING INC
P.O. Box 978 | 423 Front Street, Lynden, WA 98264 (360) 354-3687
813 Metcalf Street, Sedro-Woolley, WA 98284 (360) 855-1713

NO.	DATE	DESCRIPTION	BY

CITY OF FERNDALE
2095 MAIN STREET
FERNDALE, WA 98248

THORNTON ST
SANITARY SEWER
TRAFFIC CONTROL 1

DWG 16034 DETAIL
DATE 9/13/2017
JOB# 16034
SCALE H: N/A V: N/A
SHEET 24 of 24

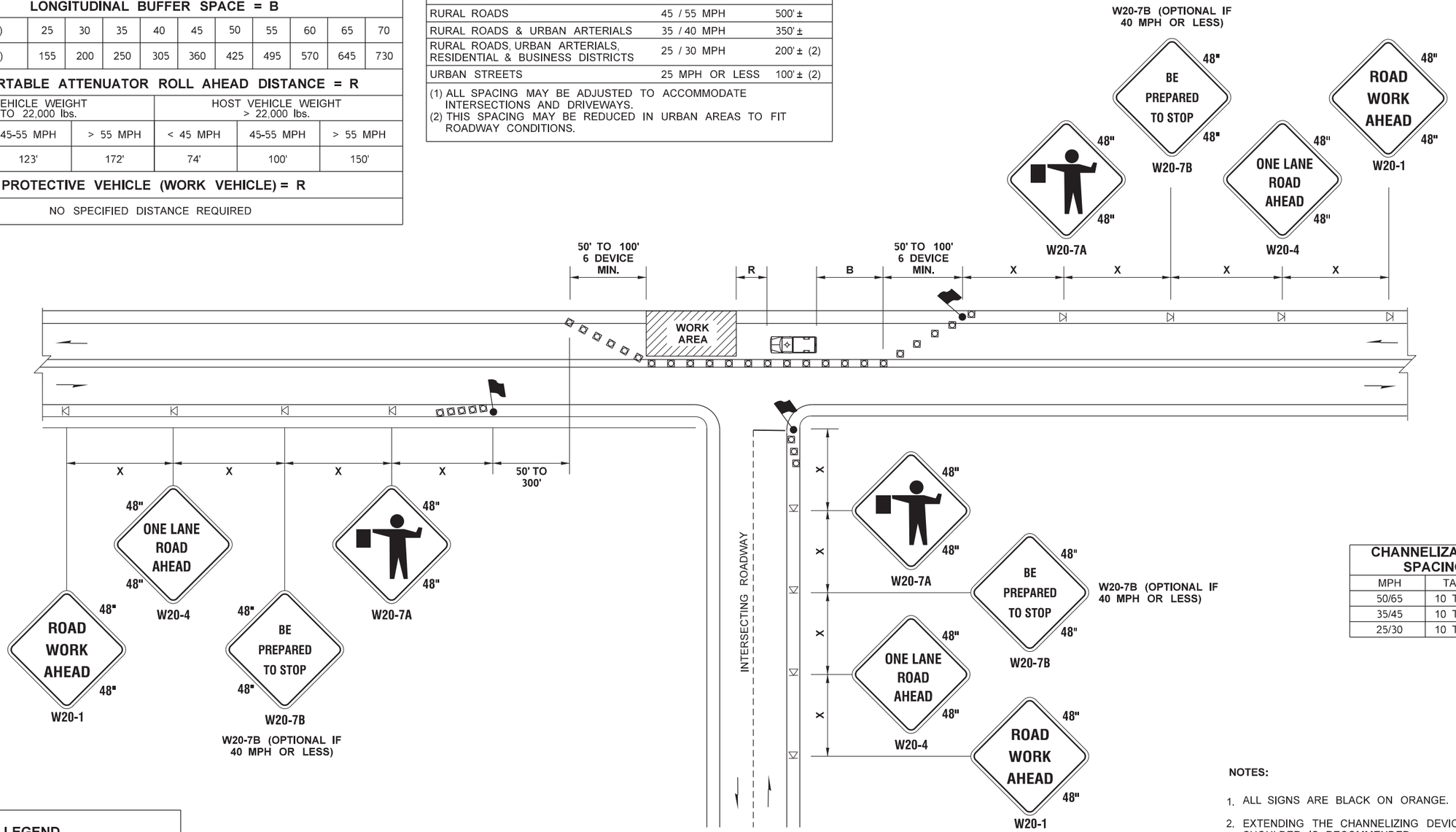
BUFFER DATA										
LONGITUDINAL BUFFER SPACE = B										
SPEED (MPH)	25	30	35	40	45	50	55	60	65	70
LENGTH (feet)	155	200	250	305	360	425	495	570	645	730

TRANSPORTABLE ATTENUATOR ROLL AHEAD DISTANCE = R					
HOST VEHICLE WEIGHT 9,900 TO 22,000 lbs.			HOST VEHICLE WEIGHT > 22,000 lbs.		
< 45 MPH	45-55 MPH	> 55 MPH	< 45 MPH	45-55 MPH	> 55 MPH
100'	123'	172'	74'	100'	150'

PROTECTIVE VEHICLE (WORK VEHICLE) = R
NO SPECIFIED DISTANCE REQUIRED

SIGN SPACING = X (1)		
RURAL HIGHWAYS	60 / 65 MPH	800' ±
RURAL ROADS	45 / 55 MPH	500' ±
RURAL ROADS & URBAN ARTERIALS	35 / 40 MPH	350' ±
RURAL ROADS, URBAN ARTERIALS, RESIDENTIAL & BUSINESS DISTRICTS	25 / 30 MPH	200' ± (2)
URBAN STREETS	25 MPH OR LESS	100' ± (2)

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



CHANNELIZATION DEVICE SPACING (FEET)		
MPH	TAPER	TANGENT
50/65	10 TO 20	80
35/45	10 TO 20	60
25/30	10 TO 20	40

LEGEND

- FLAGGING STATION
- TEMPORARY SIGN LOCATION
- CHANNELIZING DEVICES
- PROTECTIVE VEHICLE

NOTES:

1. ALL SIGNS ARE BLACK ON ORANGE.
2. EXTENDING THE CHANNELIZING DEVICE TAPER ACROSS SHOULDER IS RECOMMENDED.
3. NIGHT WORK REQUIRES ADDITIONAL ROADWAY LIGHTING AT FLAGGING STATIONS. SEE THE STANDARD SPECIFICATIONS FOR ADDITIONAL DETAILS.
4. SEE SPECIAL PROVISIONS FOR WORK HOUR RESTRICTIONS.

ONE-LANE, TWO-WAY TRAFFIC CONTROL WITH FLAGGERS

NOT TO SCALE

FILE NAME	S:\Design R P& S\4-Standards\2-Plan Sheet LIbrary\02-PSL Work In Progress\Fern\TC1 - TC-17 Buffer Data table replacement\TC-1.dgn				REGION NO.	STATE	FED.AID PROJ.NO.
TIME	1:39:43 PM					WASH	
DATE	10/14/2016						
PLOTTED BY	liddelf				JOB NUMBER		
DESIGNED BY							
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PROJ. ENGR.							
REGIONAL ADM.		REVISION	DATE	BY			

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TRAFFIC CONTROL PLAN

Plot 1

PLAN REF NO TC1

SHEET OF SHEETS

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

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

MINIMUM SHOULDER TAPER LENGTH = L/3 (feet)

SHOULDER WIDTH (feet)	Posted Speed (mph)									
	25	30	35	40	45	50	55	60	65	70
8'	40	40	60	90	-	-	-	-	-	-
10'	40	60	90	90	-	-	-	-	-	-

USE A 3 DEVICES TAPER FOR SHOULDERS LESS THEN 8'

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

BUFFER DATA

LONGITUDINAL BUFFER SPACE = B

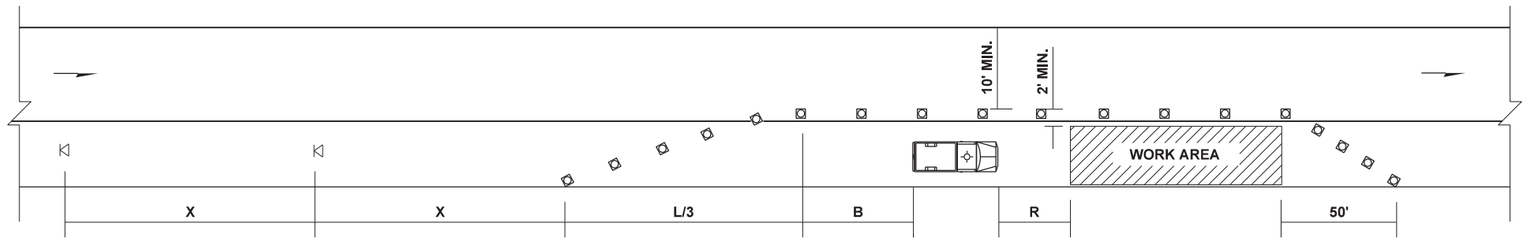
SPEED (MPH)	25	30	35	40	45	50	55	60	65	70
LENGTH (feet)	155	200	250	305	360	425	495	570	645	730

TRANSPORTABLE ATTENUATOR ROLL AHEAD DISTANCE = R

HOST VEHICLE WEIGHT 9,900 TO 22,000 lbs.			HOST VEHICLE WEIGHT > 22,000 lbs.		
< 45 MPH	45-55 MPH	> 55 MPH	< 45 MPH	45-55 MPH	> 55 MPH
100'	123'	172'	74'	100'	150'

PROTECTIVE VEHICLE (WORK VEHICLE) = R

NO SPECIFIED DISTANCE REQUIRED



LEGEND

- TEMPORARY SIGN LOCATION
- CHANNELIZING DEVICES
- PROTECTIVE VEHICLE

SHOULDER CLOSURE - LOW SPEED

(40 MPH OR LESS)

NOT TO SCALE

NOTES:

1. DEVICE SPACING FOR THE DOWNSTREAM TAPER SHALL BE 20' (FT).
2. ALL SIGNS ARE BLACK ON ORANGE.

FILE NAME	S:\Design R P& S\4-Standards\2-Plan Sheet Library\02-PSL Work In Progress\Fern\TC1 - TC-17 Buffer Data table replacement\TC-5.dgn				REGION NO. / STATE	FED.AID PROJ.NO.	Plot 1
TIME	1:26:58 PM				WASH		PLAN REF NO TC5
DATE	10/14/2016				JOB NUMBER		
PLOTTED BY	liddelf						SHEET OF SHEETS
DESIGNED BY					CONTRACT NO.	LOCATION NO.	
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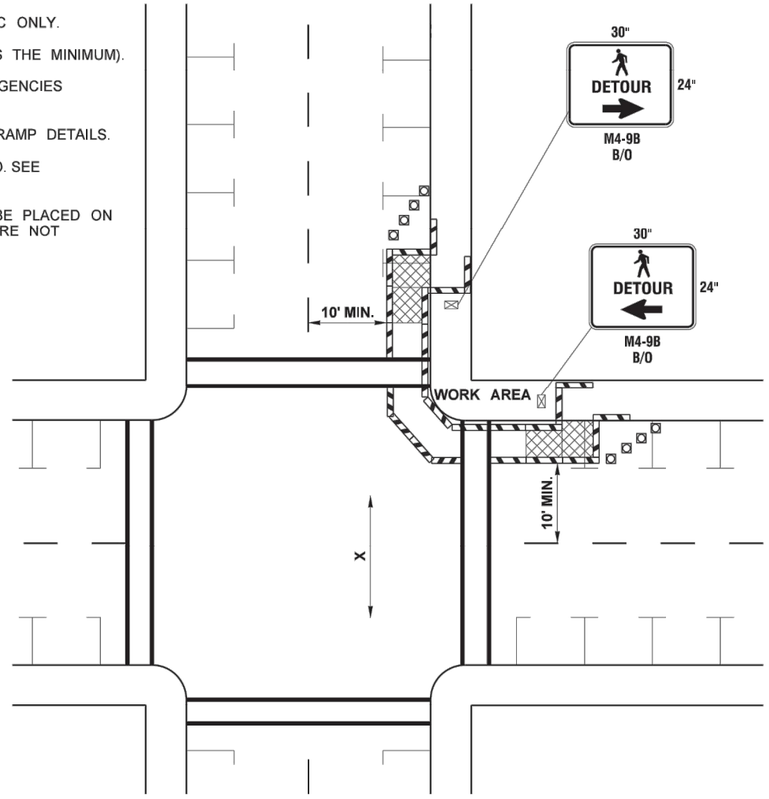
TRAFFIC CONTROL PLAN

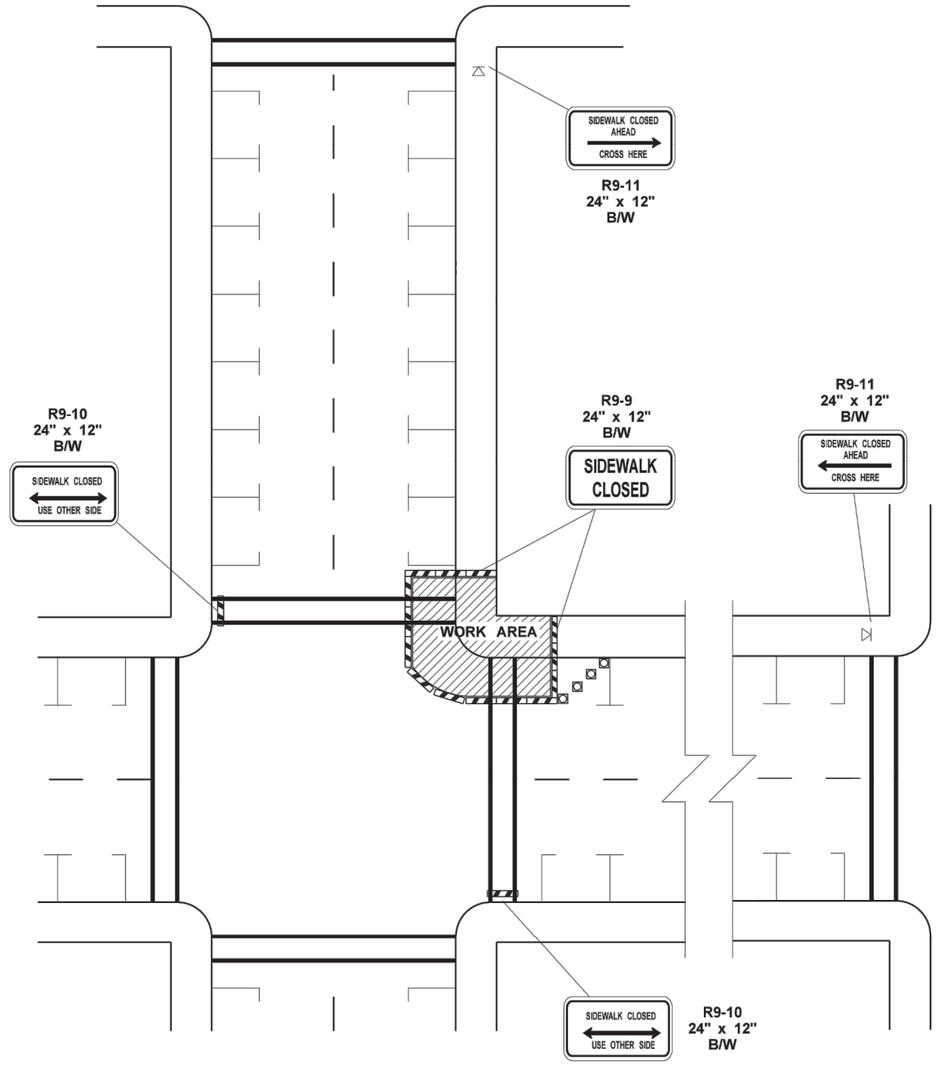
NO PARKING	R8-3 24" x 30" R/W	INSTALL ON TYPE 2 BARRICADES THROUGHOUT THE WORK AREA 24 HOURS PRIOR TO IMPLEMENTING TRAFFIC CONTROL. PRIOR NOTIFICATION OF LOCAL LAW ENFORCEMENT REQUIRED.

NOTES

1. CONTROLS SHOWN ARE FOR PEDESTRIAN TRAFFIC ONLY.
2. A 60" PATH WIDTH SHOULD BE MAINTAINED (48" IS THE MINIMUM).
3. CONTACT AND COORDINATE IMPACTED TRANSIT AGENCIES PRIOR TO IMPLEMENTING ANY CLOSURES.
4. SEE SHEET TC-52 FOR TEMPORARY PEDESTRIAN RAMP DETAILS.
5. ADA PEDESTRIAN FACILITIES MUST BE MAINTAINED. SEE STANDARD SPECIFICATION 1-10.2(1)B.
6. TEMPORARY PEDESTRIAN PUSH BUTTONS SHALL BE PLACED ON THE DIVERTED PATH WHEN EXISTING BUTTONS ARE NOT ACCESSIBLE TO PEDESTRIANS.



SIDEWALK DIVERSION



SIDEWALK DETOUR

LEGEND

- TEMPORARY SIGN LOCATION
- CHANNELIZING DEVICES
- PEDESTRIAN CHANNELIZING DEVICES
- TEMPORARY PEDESTRIAN RAMP FOR SIDEWALKS

INTERSECTION PEDESTRIAN TRAFFIC CONTROL

NOT TO SCALE

FILE NAME	S:\Design R P& S\4-Standards\2-Plan Sheet Library\01-Published PSL\(TC) Work Zone Traffic Control\W(TC-16) Intersection Pedestrian Traffic Control\TC-16.dgn				REGION NO.	STATE	FED.AID PROJ.NO.		Plot 1
TIME	1:28:42 PM					WASH			PLAN REF NO TC16
DATE	9/18/2014								
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PEDESTRIAN CONTROL AND PROTECTION