SECTION 17, TOWNSHIP 39 NORTH, RANGE 02 EAST, W.M.

HARRINGTON PLACE PUD AS-BUILTS

SHEET INDEX (RECORD DRAWINGS)

SHEET NO.	SHEET DESCRIPTION
C1.0	C1.0 COVER
C4.0	STORM PLAN
C4.1	STORM PROFILES
C4.2	STORM PROFILES
C4.3	NOTES & DETAILS
C4.4	DETAILS
C4.5	VAULT DETAILS
C4.6	VAULT DETAILS
C4.7	ADS DETAILS
C4.8	ADS DETAILS
C5.0	WATER PLAN
C5.1	SEWER PLAN
C5.2	SEWER PROFILES
C6.0	KAAS RD FRONTAGE PLAN AND PROFILE
C6.1	KAAS RD FRONTAGE PLAN AND DETAILS
C6.2	PORTAL WAY & MCKINLEY ST FRONTAGE PLAN & PROFILE

BUILDING FOOTPRINTS

BUILDING ENVELOPES/FOOTPRINTS SHOWN ON THIS PLAN ARE CONCEPTUAL ONLY AND ARE NOT INTENDED TO REPRESENT ACTUAL DESIGNS OR APPROVED SIZES OR LOCATIONS. PROSPECTIVE BUILDERS ARE ADVISED TO DETERMINE SETBACKS, LOT COVERAGE, IMPERVIOUS AREA AND DRAINFIELD PLACEMENT RESTRICTIONS PRIOR TO PLANNING INDIVIDUAL LOT DEVELOPMENT.

NATIVE GROWTH PROTECTION AREAS

ALL NATIVE GROWTH PROTECTION AREAS SHALL BE LEFT PERMANENTLY UNDISTURBED IN A SUBSTANTIALLY NATURAL STATE. NO CLEARING, GRADING, FILLING, BUILDING CONSTRUCTION OR PLACEMENT, OR ROAD CONSTRUCTION OF ANY KIND SHALL OCCUR, EXCEPT FOR REMOVAL OF HAZARDOUS TREES. THE ACTIVITIES AS SET FORTH IN SECTION 30.91N010 (1,3 AND 4) SCC ARE ALLOWED WHEN APPROVED BY THE COUNTY.



CONTACTS

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AHBL
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TACOMA, WA 98403
(253) 383-2422

VERTICAL DATUM
NGVD29
CITY OF FERNDALE
NETWORK

0 100 200 Feet

LEGEND

- FOUND MONUMENT IN CASE
- FOUND REBAR W/CAP "TE BARRY 28067"
- FOUND PLAT MONUMENT
- THEORETICAL PLAT MONUMENT
- CONTROL POINT
- CULVERT END
- SOIL BORING
- POWER POLE
- WETLAND FLAG
- GROUND SHOT
- FENCE LINE
- POWER LINE
- WETLAND BOUNDARY
- ORDINARY HIGH WATER
- PROPERTY LINE
- RIGHT-OF-WAY
- RIGHT-OF-WAY CENTER LINE
- SECTION LINE
- FOG LINE
- CENTER LINE DBLE YELLOW
- ADJOINER

ENGINEER'S CERTIFICATION

I HEREBY CERTIFY THAT THE IMPROVEMENTS IN HARRINGTON PLACE HAVE BEEN INSPECTED BY HARMSEN LLC AND CONSTRUCTED IN CONFORMANCE WITH THE PLANS APPROVED BY THE PUBLIC WORKS DIRECTOR FOR SAID DEVELOPMENT AND THE GENERAL SPECIFICATIONS ADOPTED BY THE CITY OF FERNDALE DEPARTMENT OF PUBLIC WORKS.

DAVID W. HARMSEN STATE OF WASHINGTON 33745 REGISTERED PROFESSIONAL ENGINEER 04/07/26

SURVEYOR'S CERTIFICATION

I CERTIFY THAT THE LOCATIONS, ELEVATIONS, DEPTHS, AND AS-BUILT COMMENTS REFLECTING MATERIALS ACTUALLY USED DURING CONSTRUCTION ACCURATELY REFLECT EXISTING FIELD CONDITIONS AS DETERMINED BY ME OR UNDER MY DIRECT SUPERVISION ON THIS DATE: 5/1/26

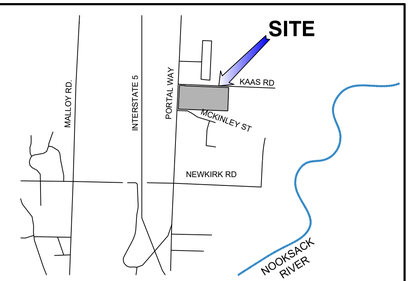
PROJECT SURVEYOR _____ RYAN MICHAEL TWEIT

RYAN MICHAEL TWEIT STATE OF WASHINGTON 240111.38 REGISTERED PROFESSIONAL LAND SURVEYOR 5/1/26

APPROVED
05/01/2026
BY _____
CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

ZONING AREAS

PRE-DEDICATION		POST-DEDICATION	
MXD	375,438 SF	MXD	370,449 SF
RRM	409,571 SF	RRM	403,023 SF



VICINITY MAP
SCALE: 1" = 2000'

LEGAL DESCRIPTION:

THE NORTH HALF OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 17, TOWNSHIP 39 NORTH, RANGE 2 EAST, W.M.;

EXCEPT BEGINNING AT THE INTERSECTION OF THE SOUTH LINE OF THE KAAS ROAD WITH THE EAST LINE OF THE PACIFIC HIGHWAY (NOW KNOWN AS PORTAL WAY) IN THE SOUTHEAST QUARTER OF SAID SECTION 17;
THENCE EAST ALONG THE SOUTH LINE OF SAID KAAS ROAD, 150.00 FEET;
THENCE SOUTH PARALLEL WITH THE PACIFIC HIGHWAY (NOW KNOWN AS PORTAL WAY), 225.00 FEET;
THENCE WEST 150.00 FEET TO THE EAST LINE OF PACIFIC HIGHWAY (NOW KNOWN AS PORTAL WAY);
THENCE NORTH ALONG SAID PACIFIC HIGHWAY TO THE POINT OF BEGINNING.

ALSO EXCEPT THAT PORTION AWARDED TO CHARLOTTE OLSON BY JUDGMENT ENTERED MARCH 5, 1989, UNDER CASE NO. 91-2-00900-3, IN THE NORTH HALF OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 17,
DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHWEST CORNER OF SAID NORTH HALF;
THENCE SOUTH 89°08'40" EAST ALONG THE SOUTH LINE OF SAID NORTH HALF, A DISTANCE OF 39.19 FEET TO THE EAST LINE OF PORTAL WAY AND THE TRUE **POINT OF BEGINNING**;
THENCE CONTINUING SOUTH 89°08'40" EAST ALONG SAID SOUTH LINE, A DISTANCE OF 1305.50 FEET TO THE SOUTHEAST CORNER OF SAID NORTH HALF; THENCE NORTH 00°54'01" EAST ALONG THE EAST LINE OF SAID NORTH HALF, A DISTANCE OF 12.40 FEET TO AN EXISTING FENCE;
THENCE NORTH 89°28'40" WEST ALONG SAID EXISTING FENCE, A DISTANCE OF 1305.51 FEET TO SAID EAST LINE OF PORTAL WAY; THENCE SOUTH 01°03'57" WEST ALONG SAID EAST LINE, A DISTANCE OF 4.80 FEET TO THE TRUE **POINT OF BEGINNING**.
SITUATE IN WHATCOM COUNTY, WASHINGTON.

LEGAL DESCRIPTION - PARK EASEMENT

THAT PORTION OF THE NORTH HALF OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 17, TOWNSHIP 39 NORTH, RANGE 2 EAST, W.M., WHATCOM COUNTY, WASHINGTON, DESCRIBED AS FOLLOWS:

COMMENCING AT A FOUND MONUMENT IN CASE AT THE WEST QUARTER CORNER OF SAID SECTION 17;

THENCE SOUTH 87°48'59" EAST 5393.51 FEET ALONG THE EAST/WEST CENTER SECTION LINE TO A FOUND MONUMENT AT THE EAST QUARTER CORNER OF SAID SECTION 17;
THENCE REVERSING COURSE NORTH 87°48'59" WEST 1,342.74 FEET ALONG SAID EAST/WEST CENTER SECTION LINE TO THE NORTHEAST CORNER OF THE NORTHWEST QUARTER OF SAID SECTION 17;
THENCE SOUTH 02°21'34" WEST 20.00 FEET ALONG THE EAST LINE OF THE NORTHWEST QUARTER OF SAID SECTION 17 TO THE SOUTH MARGIN OF KAAS ROAD AND THE POINT OF BEGINNING;
THENCE CONTINUE SOUTH 02°21'34" WEST 257.89 FEET ALONG SAID EAST LINE;
THENCE SOUTH 40°43'11" WEST 59.45 FEET;
THENCE SOUTH 20°47'11" WEST 56.40 FEET;
THENCE SOUTH 11°47'23" WEST 66.42 FEET ;
THENCE SOUTH 06°57'59" WEST 61.65 FEET ;
THENCE NORTH 76°47'35" WEST 158.44 FEET ;
THENCE NORTH 80°07'25" WEST 31.67 FEET ;
THENCE NORTH 03°51'48" WEST 19.08 FEET ;
THENCE NORTH 42°30'37" WEST 54.02 FEET ;
THENCE NORTH 07°11'25" EAST 127.76 FEET ;
THENCE NORTH 16°43'36" EAST 74.05 FEET ;
THENCE NORTH 51°00'52" EAST 24.20 FEET ;
THENCE NORTH 87°01'06" EAST 54.26 FEET ;
THENCE NORTH 53°13'00" EAST 154.64 FEET ;
THENCE NORTH 19°12'25" EAST 21.63 FEET ;
THENCE NORTH 09°17'49" WEST 56.29 FEET TO THE SOUTH MARGIN OF KAAS ROAD;
THENCE SOUTH 87°48'59" EAST 81.58 FEET ALONG SAID SOUTH MARGIN TO THE POINT OF BEGINNING.

CONTAINING +/- 91,020 SQUARE FEET (2.09 ACRES)

SITUATE IN COUNTY OF WHATCOM, STATE OF WASHINGTON.

SPECIFIC OFF SITE IMPROVEMENTS HAVE BEEN IDENTIFIED THROUGH THE PROJECT TRAFFIC STUDY SUCH AS HIGHWAY AND PORTAL WAY ROUNDABOUT IMPROVEMENTS THAT COULD NEGATIVELY AFFECT THE PROJECT TIMING AND BUILDING OCCUPANCIES. THE REVIEWER BELIEVES THAT THE OWNERSHIP SHOULD REVIEW AND THOROUGHLY UNDERSTAND ALL CITY DEVELOPMENT REQUIREMENTS IN REGARD TO THIS OFF SITE IMPROVEMENT REQUIREMENT TO AVOID POTENTIAL PROJECT AND OR BUILDING OCCUPANCY DELAYS AND POSSIBLE UNEXPECTED FINANCIAL HARDSHIPS.

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REVISIONS

- 11/1/24 REVISED PER CITY COMMENTS
- 6/5/24 REVISED PER CITY COMMENTS
- 3/20/24 REVISED PER CITY COMMENTS
- 1/30/24 REVISED PER CITY COMMENTS
- 8/9/23 REVISED PER CITY COMMENTS

00770.001 05/01/26 RH

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HARRINGTON PLACE
6276 PORTAL WAY
FERNDALE, WA 98248

C1.0 COVER

DATE: 6/5/24

JOB #: 20-267

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

C1.0

SECTION 17, TOWNSHIP 39 NORTH, RANGE 02 EAST, W.M.

FOOTING DRAIN NOTES

1. CONNECT BUILDING PERIMETER FOOTING DRAINS TO STORM COLLECTION SYSTEM. PROVIDE TO THE ENGINEER A CONNECTION PLAN FOR APPROVAL PRIOR TO CONSTRUCTION OF THE FOOTING DRAIN SYSTEM.
2. PROVIDE 6" PVC PIPE WITH MINIMUM PIPE SLOPE OF 2% FROM BOTTOM OF FOOTING DRAIN ELEVATION AT BUILDING TO LOCAL STORM FACILITY..
3. ALL CONNECTIONS TO THE STORM SYSTEM SHALL OCCUR AT AN ELEVATION A MINIMUM OF 1' BELOW THE BOTTOM OF FOOTING ELEVATION.
4. THE CITY OF FERNDALE REQUIRES A POSITIVE DRAIN CONNECTION OUT OF CRAWL SPACES TO THE SYSTEM. THE ENGINEER OF RECORD SHALL DESIGN ALL GRADES AND SLOPES ACCORDINGLY TO FACILITATE THIS REQUIREMENT SHOULD CRAWL SPACE CONSTRUCTION BE UTILIZED.

ROOF DRAIN PIPE NOTES

1. LAYOUT BY CONTRACTOR PER REQUIREMENTS BELOW.
2. VERIFY DOWNSPOUT LOCATIONS WITH ARCHITECTURAL PLANS.
3. PIPE RUNS SHALL HAVE MINIMUM POSITIVE SLOPE OF 1% AND 6" MIN DIAMETER SMOOTH WALL PIPE.
4. INSTALL CLEANOUTS AT TEES, BENDS 45° OR GREATER AND AT INTERVALS NO GREATER THAN 150 LF..
5. PROVIDE NECESSARY FITTINGS TO CONNECT ROOF STUB TO DOWNSPOUT.

YARD DRAIN NOTES

1. YARD DRAINS TO BE CUZ CONCRETE DRIVEWAY CB'S (17"x17") WITH 12"x12" MINIMUM GRATES OR APPROVED EQUAL UNLESS OTHERWISE NOTED
2. FIELD LOCATE YARD DRAINS AS NEEDED..
3. CONNECT YARD DRAINS TO ROOF DRAIN COLLECTOR.

ENGINEER'S CERTIFICATION

I HEREBY CERTIFY THAT THE IMPROVEMENTS IN HARRINGTON PLACE HAVE BEEN INSPECTED BY HARMSEN LLC AND CONSTRUCTED IN CONFORMANCE WITH THE PLANS APPROVED BY THE PUBLIC WORKS DIRECTOR FOR SAID DEVELOPMENT AND THE GENERAL SPECIFICATIONS ADOPTED BY THE CITY OF FERNDALE DEPARTMENT OF PUBLIC WORKS.

DAVID W. HARMSEN — STATE OF WASHINGTON — 13745 — REGISTERED PROFESSIONAL ENGINEER — 04/07/26

VERTICAL DATUM NGVD29 CITY OF FERNDALE NETWORK

0 50 100 Feet

SEE SHEET C6.0 & C6.1 FOR FRONTAGE IMPROVEMENTS

SEE SHEET C4.2 STORM DRAINAGE IN THIS AREA

SEE SHEET C6.2 FOR FRONTAGE IMPROVEMENTS

EX. SSMH RIM=55.02 IE (15" PVC)=42.19±

EXISTING GAS MAINS MAY NEED TO BE RELOCATED TO INSTALL THE NEW PROPOSED INFRASTRUCTURE AS DESIGNED.

SDCB #38 - TYPE II-48" STA 130+38.6, 1.2' LT (AB)

SDCB #39 - TYPE II-48" SOLID COVER STA 132+84.5, 1.0' LT (AB)

SDCB #51 - TYPE 1 DEBRIS CAGE PER DETAIL STA 135+44.5, 21.8' LT (AB)

(AB) 21 LF 12" CPEP (AB) S=0.039 FT/FT

SDCB #40 - TYPE II-48" SOLID COVER REMOVE EX. PIPE STA 135+43.5, 1.1' LT (AB)

SDCB #41 - TYPE II-48" SOLID COVER STA 139+44.2, 2.2' LT (AB)

SDCB #42 - TYPE II-48" STA 142+73.0, 2.9' LT (AB)

SDCB #43 - TYPE II-48" STA 143+46.4, 2.7' LT (AB)

246 LF 18" CPEP (AB)

269 LF 18" CPEP (AB)

401 LF 18" CPEP (AB)

329 LF 18" CPEP (AB)

KAAS RD.

INTERSECTION PORTAL WAY, STA=126+80.13 KASS RD., STA=13+00.00

27 LF 8" CPEP

BUILDING 1 FINISHED FLOOR 52.00

BUILDING 2 FINISHED FLOOR 50.50

BUILDING 3 FINISHED FLOOR 50.50

BUILDING 4 FINISHED FLOOR 50.50

SDCO STA 132+25.7, 127.0' RT

51 LF 8" CPEP

SDCB #17 - TYPE II-48" STA 133+96.2, 155.5' RT (AB)

SDCB #18 - TYPE II-48" STA 125+26.7, 530.5' RT (AB)

SDCB #19 - TYPE II-48" STA 125+27.0, 609.5' RT (AB)

SDCB #20 - TYPE II-48" STA 125+26.3, 889.4' RT (AB)

92 LF 8" PERF PIPE COLLECTOR DRAIN PER DETAIL

SDCB #16 - TYPE I STA 125+27.3, 269.1' RT (AB)

118 LF 8" PERF PIPE COLLECTOR DRAIN PER DETAIL

128 LF 12" CPEP (AB)

133 LF 12" CPEP (AB)

79 LF 12" CPEP (AB)

280 LF 12" CPEP (AB)

80 LF 12" CPEP (AB)

10' RIGHT OF WAY DEDICATION PER AF# 2026-0402442

30 LF 12" CPEP (AB)

STORMFILTER #1 SEE DETAIL STA 142+74.2, 124.0' RT (AB)

12' WIDE ASPHALT PAVED VAULT ACCESS ROAD PER DETAIL

161 LF 12" CPEP

SDCB #1000 - TYPE II-48" STORMTECH CHAMBER SYSTEM PER DETAILS SHEET C4.7

PROPOSED WALL

SDCB #48 - TYPE I STA 123+74.4, 20.2' RT (AB)

SDCB #10 - TYPE II-48" STA 123+74.3, 424.8' RT (AB)

SDCB #9 - TYPE I STA 123+73.8, 268.0' RT (AB)

BUILDING 5 FINISHED FLOOR 52.00

CLUB HOUSE FINISHED FLOOR 50.00

SDCB #11 - TYPE II-48" STA 123+73.9, 555.7' RT (AB)

SDCB #13 - TYPE II-48" STA 123+73.7, 851.2' RT (AB)

SDCB #21 - TYPE II-48" STA 124+55.6, 925.6' RT (AB)

INSTALL IMPERMEABLE LINER UNDER DRAINAGE LAYER (SEE DETAIL 2/L-8), CONNECT UNDERDRAIN TO CIVIL PIPING WITH A TEE.

157 LF 12" CPEP (AB)

111 LF 12" CPEP (AB)

71 LF 12" CPEP (AB)

244 LF 12" CPEP (AB)

73 LF 6" PVC

151 LF 12" CPEP (AB)

51 LF 12" CPEP (AB)

30 LF 12" CPEP (AB)

SDCB #15 - TYPE II-48" STA 123+11.6, 879.6' RT (AB)

12 LF 12" CPEP (AB)

BIOPOD #1 8 X 24 SEE DETAILS STA 138+72.4, 384.7' RT (AB) SEE BIOPOD #1 INSTALLATION SECTION ON SHEET C4.2

OUTLINE OF VAULT

DETENTION VAULT 176' X 180' SPORT COURT ON TOP

SEE SHEETS C4.5 & C4.6

VAULT LID MUST BE DESIGNED TO SUPPORT THE LARGEST POSSIBLE MAINTENANCE VEHICLE IE: VACTOR TRUCK ETC. THAT WOULD BE REQUIRED.

LAWN

SDCB #12 - TYPE II-48" STA 123+73.9, 606.9' RT (AB)

BUILDING 7 FINISHED FLOOR 49.00

SDCB #14 - TYPE II-48" STA 123+22.3, 851.5' RT (AB)

SDCB #3 - TYPE II-48" STA 122+26.2, 420.5' RT (AB)

SDCB #4 - TYPE II-48" STA 122+25.7, 591.4' RT (AB)

MIXED USE BUILDING (14 DU ABOVE) FINISHED FLOOR 54.50

PORTAL WAY

176 LF 12" CPEP (AB)

SDCB #1 - TYPE II-48" (AB) STA 122+25.9, 158.0' RT

6" ROOF DRAIN TYP.

74 LF 12" CPEP (AB)

188 LF 12" CPEP (AB)

171 LF 12" CPEP (AB)

139 LF 12" CPEP (AB)

10 LF 12" CPEP (AB)

96 LF 18" CPEP (AB)

20 LF DI PIPE CASING CENTERED ON WALL SEE NORTH WALL PIPE CASING SECTION ON SHEET C4.2

SDCB #46 - TYPE II-48" STA 122+14.2, 833.4' RT (AB)

SDCB #2 - TYPE II-48" (AB) STA 122+26.1, 232.3' RT

SDCB #49 - TYPE I STA 121+98.3, 20.3' RT (AB)

18 LF 18" CPEP (AB)

85 LF 18" CPEP (AB)

235 LF 18" CPEP (AB)

87 LF 24" CPEP (AB)

INTERNAL FLOW CONTROL DEVICE

SDCB #1001 - TYPE II-48" STA 122+20.9, 1218.0' RT

50 LF 24" CPEP (AB)

BUILDING 8 FINISHED FLOOR 52.00

BUILDING 9 FINISHED FLOOR 50.50

SDCB #6 - TYPE II-48" (AB) STA 121+21.0, 592.2' RT

105 LF 12" CPEP (AB)

20 LF DI PIPE CASING CENTERED ON WALL SEE SOUTH WALL PIPE CASING SECTION ON SHEET C4.2

SDCB #56 - TYPE II-48" STA 121+98.4, 749.8' RT (AB)

SDCB #47 - TYPE II-48" STA 121+73.6, 1064.4' RT (AB)

EMERGENCY OVERFLOW 24" CPEP, IE 35.67 (AB) 72" DIA STILLING BASIN SEE DETAIL

SDCB #50 - TYPE I STA 120+74.2, 19.0' RT (AB)

BIOPOD #2, SEE DETAIL

SDCB #5 - TYPE II-48" STA 122+26.2, 730.3' RT (AB)

12" LF 12" CPEP (AB)

156 LF 12" CPEP (AB)

309 LF 12" CPEP (AB)

200 LF 18" CPEP (AB)

VAULT OUTLET 72" DIA. STILLING BASIN PER DETAIL.

MCKINLEY ST.

SDCB #8 - TYPE II-48" STA 120+58.9, 327.2' RT (AB)

SDCB #7 - TYPE II-48" STA 120+70.8, 482.6' RT (AB)

SHB

SEE SHEET C3.0 PAVING PLAN FOR STOP SIGN AND MCKINLEY ST ADA PROTECTION AND ADDED SPOT ELEVATIONS.

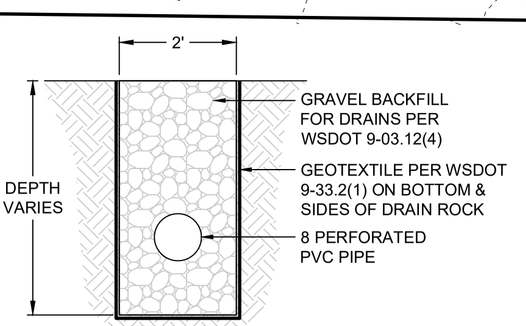
SEE SHEET C5.0 WATER PLAN FOR WATER LAYOUT.

SURVEYOR'S CERTIFICATION

I CERTIFY THAT THE LOCATIONS, ELEVATIONS, DEPTHS, AND AS-BUILT COMMENTS REFLECTING MATERIALS ACTUALLY USED DURING CONSTRUCTION ACCURATELY REFLECT EXISTING FIELD CONDITIONS AS DETERMINED BY ME OR UNDER MY DIRECT SUPERVISION ON THIS DATE: 4/30/26

PROJECT SURVEYOR _____ RYAN MICHAEL TWEIT

RYAN MICHAEL TWEIT — STATE OF WASHINGTON — 24011138 — REGISTERED PROFESSIONAL LAND SURVEYOR — 4/30/26



1 **COLLECTOR DRAIN DETAIL**
SCALE: NONE

APPROVED
05/01/2026
BY: _____ for Kevin Renz
CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

P:\WORK\PROJECTS\2020\20-267 GRANDVIEW HOMES\CE\DWG\SHEETS\RECORD C4.0 STORM PLAN.DWG 4/30/2026

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00770.002 05/01/26 RH

REVISIONS

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FAX: (360) 805-9732

HARRINGTON PLACE
6276 PORTAL WAY
FERNDALE, WA 98248

STORM PLAN

DATE: 6/5/24

JOB #: 20-267

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

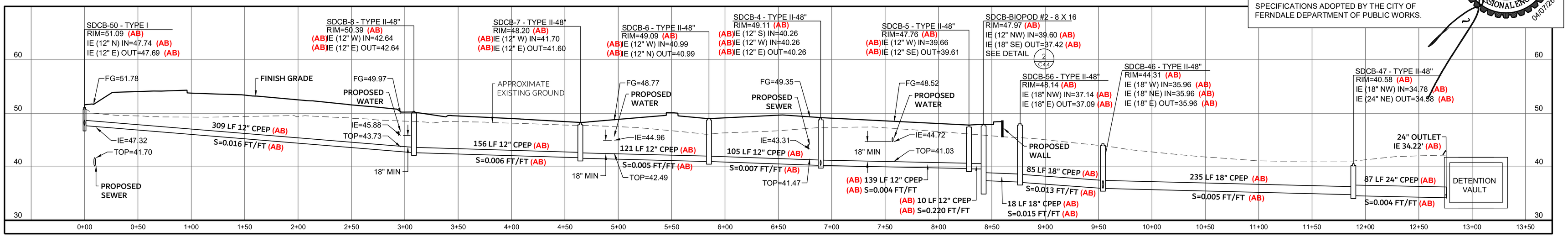
C4.0

SECTION 17, TOWNSHIP 39 NORTH, RANGE 02 EAST, W.M.

ENGINEER'S CERTIFICATION

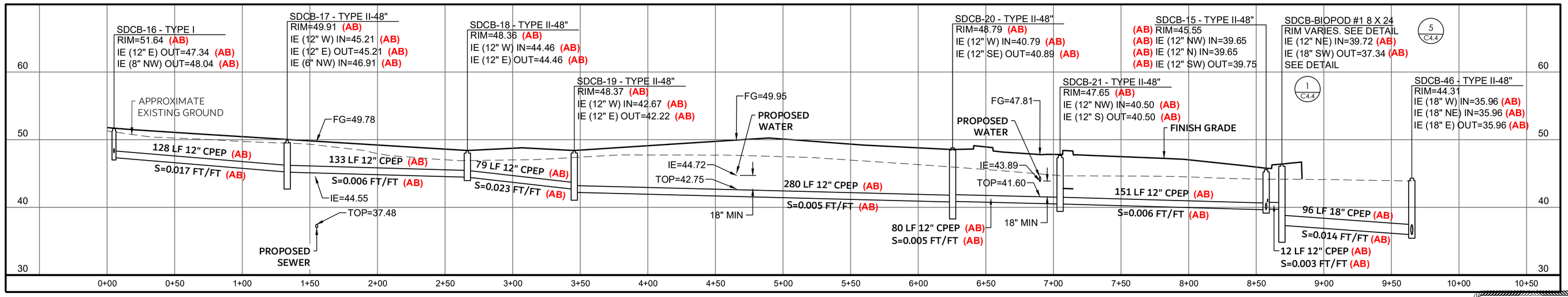
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DAVID W. HARMSEN — STATE OF WASHINGTON — 33745 — REGISTERED PROFESSIONAL ENGINEER — 04/01/26



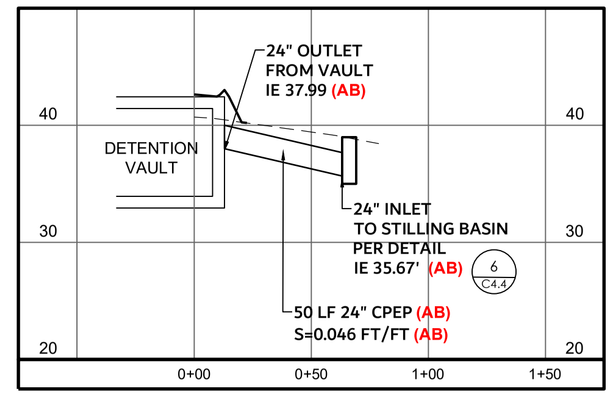
SDCB #50 TO DETENTION VAULT - PROFILE

SCALE: H: 1"=50'
V: 1"=10'



SDCB #16 TO SDCB #46 - PROFILE

SCALE: H: 1"=50'
V: 1"=10'



DETENTION VAULT TO STILLING BASIN - 24" PIPE - PROFILE

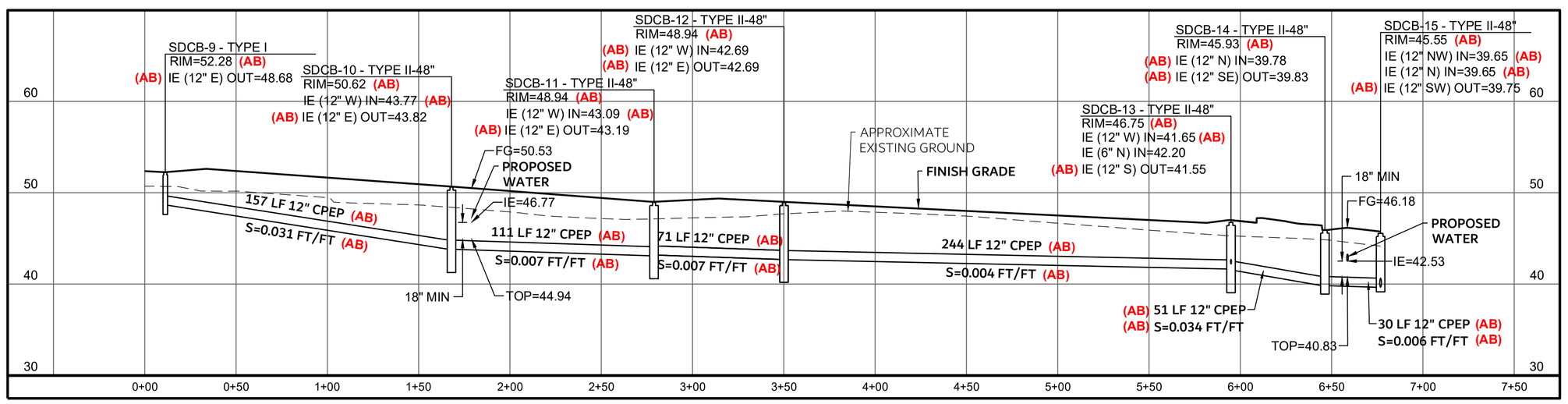
SCALE: H: 1"=50'
V: 1"=10'

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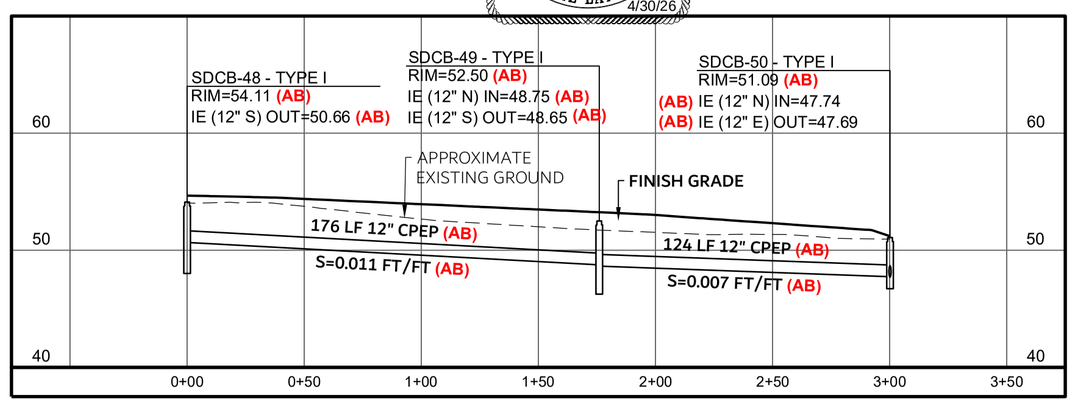
PROJECT SURVEYOR _____ RYAN MICHAEL TWEIT

RYAN MICHAEL TWEIT — STATE OF WASHINGTON — 24011138 — REGISTERED PROFESSIONAL LAND SURVEYOR — 4/30/26



SDCB #9 TO SDCB #15 - PROFILE

SCALE: H: 1"=50'
V: 1"=10'

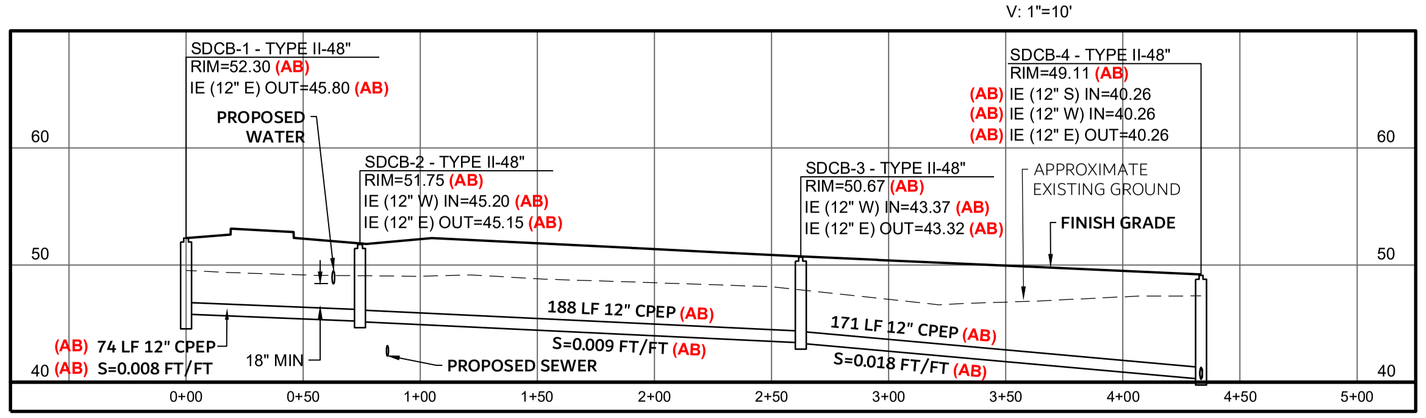


SDCB #48 TO SDCB #50 - PROFILE

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V: 1"=10'

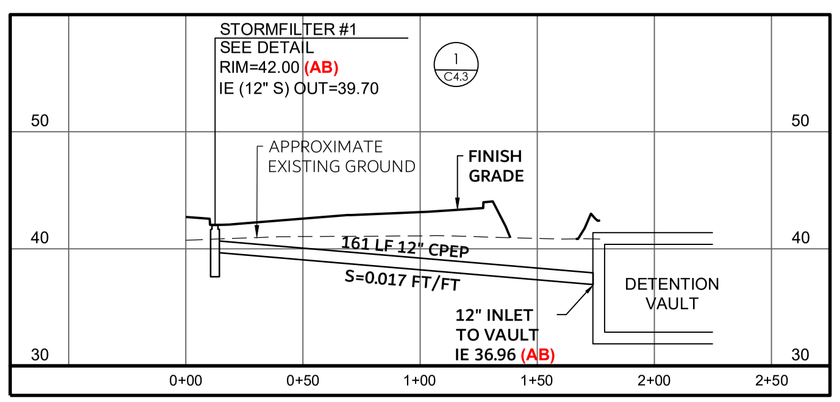
VERTICAL DATUM
NGVD29
CITY OF FERNDALE
NETWORK

0 50 100 Feet



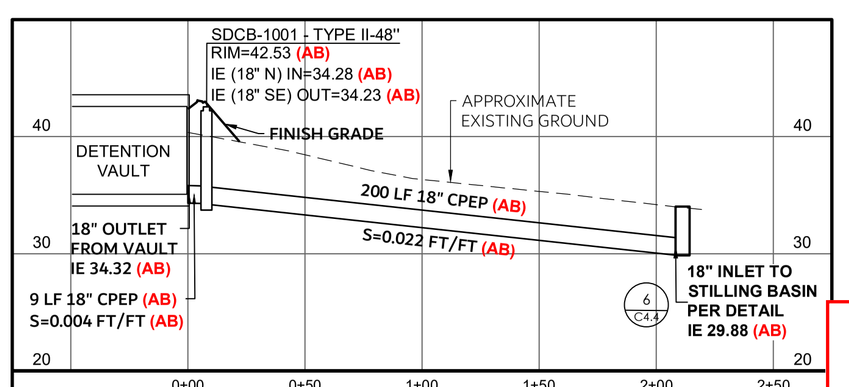
SDCB #1 TO SDCB #4 - PROFILE

SCALE: H: 1"=50'
V: 1"=10'



STORMFILTER #1 TO DETENTION VAULT - PROFILE

SCALE: H: 1"=50'
V: 1"=10'



DETENTION VAULT TO STILLING BASIN - 18" PIPE - PROFILE

SCALE: H: 1"=50'
V: 1"=10'

APPROVED
05/01/2026
BY: _____
CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

HARMSEN ENGINEERS SURVEYORS
2822 COLBY AVENUE, SUITE 300
EVERETT, WA 98201
(360) 794-7811
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REVISIONS

HARRINGTON PLACE
6276 PORTAL WAY
FERNDALE, WA 98248

STORM PROFILES

DATE: 6/5/24

JOB #: 20-267

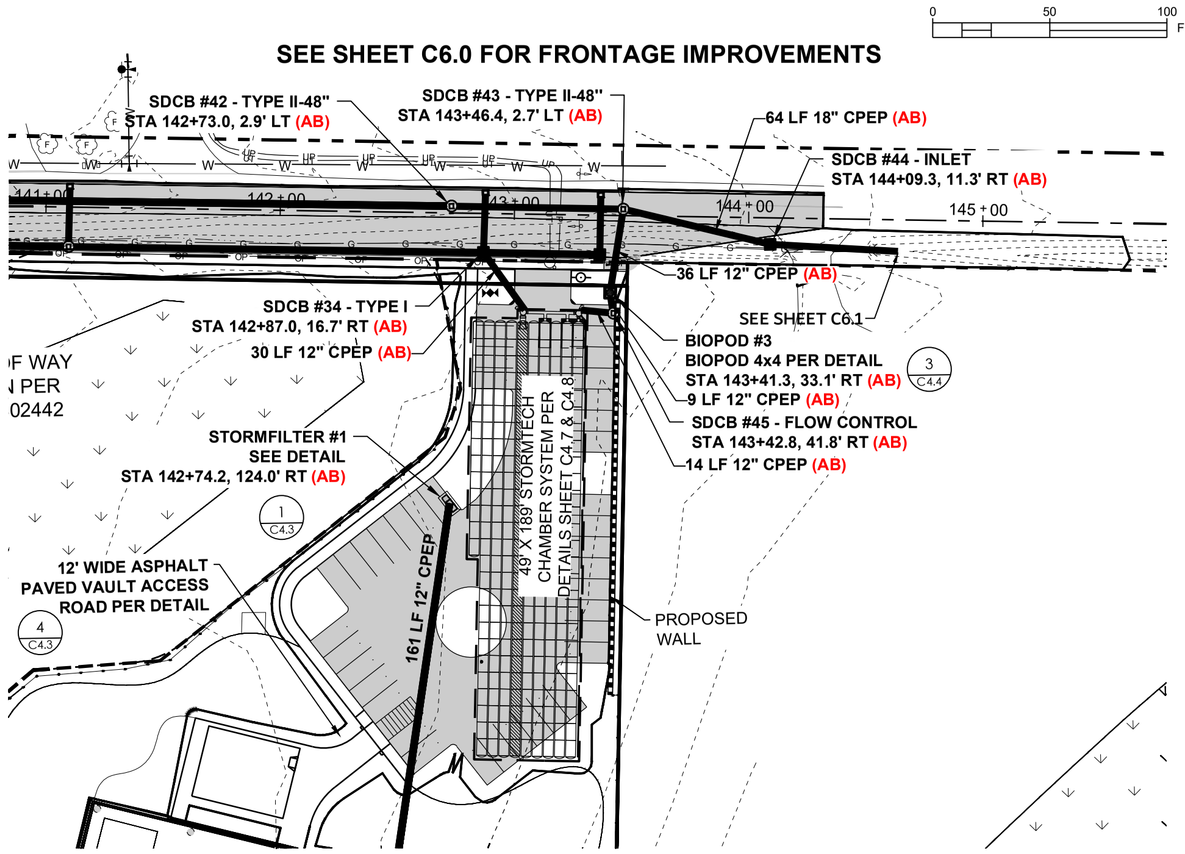
Know what's below. Call before you dig.

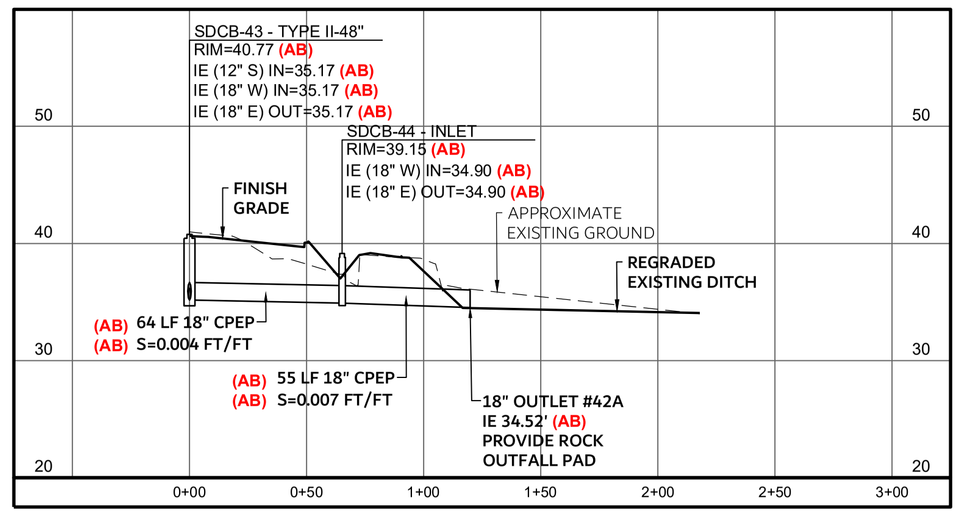
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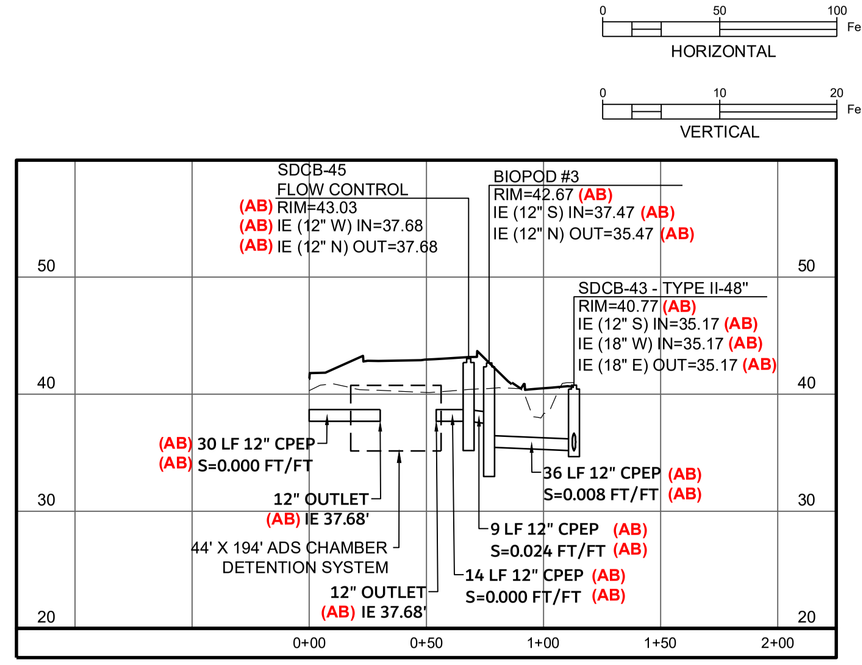
SECTION 17, TOWNSHIP 39 NORTH, RANGE 02 EAST, W.M.





KAAS RD STORM BYPASS DISCHARGE - PROFILE

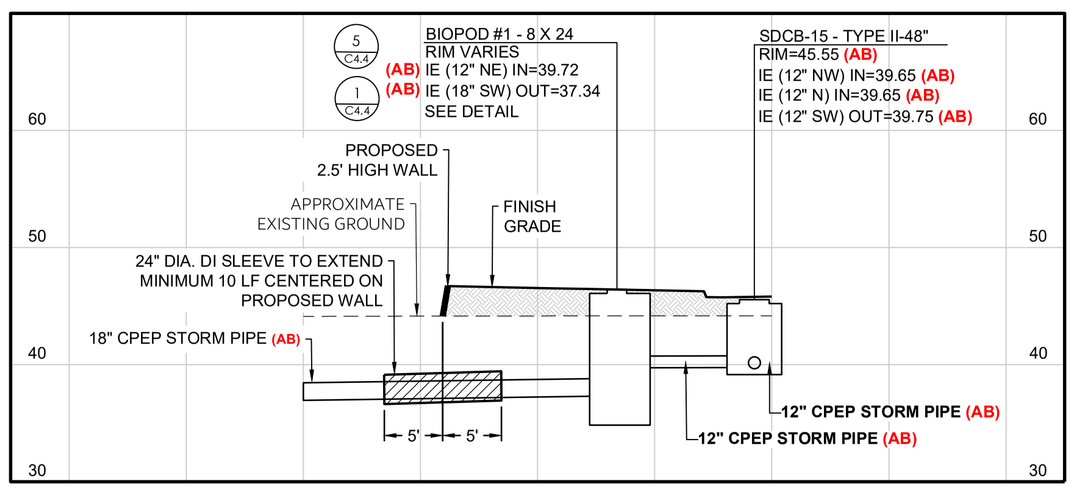
SCALE: H: 1"=50'
V: 1"=10'



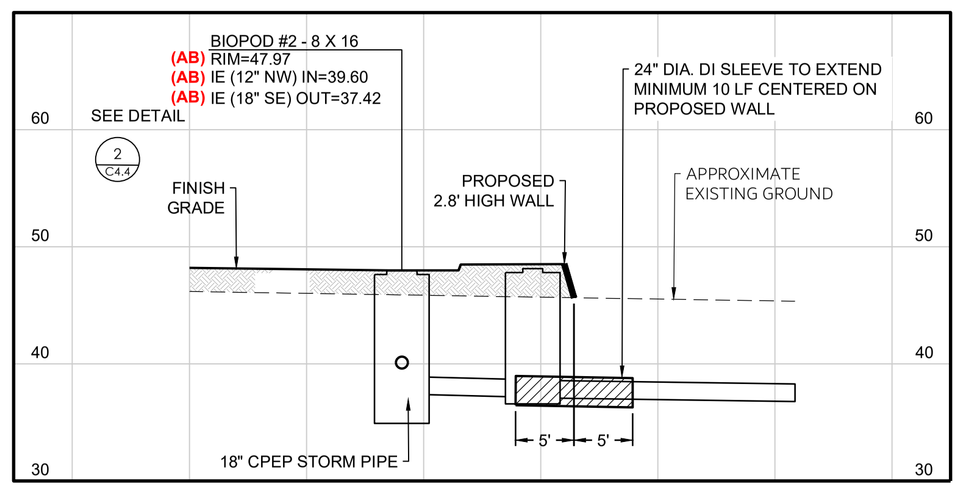
ADS STORMFILTER DETENTION - PROFILE

SCALE: H: 1"=50'
V: 1"=10'

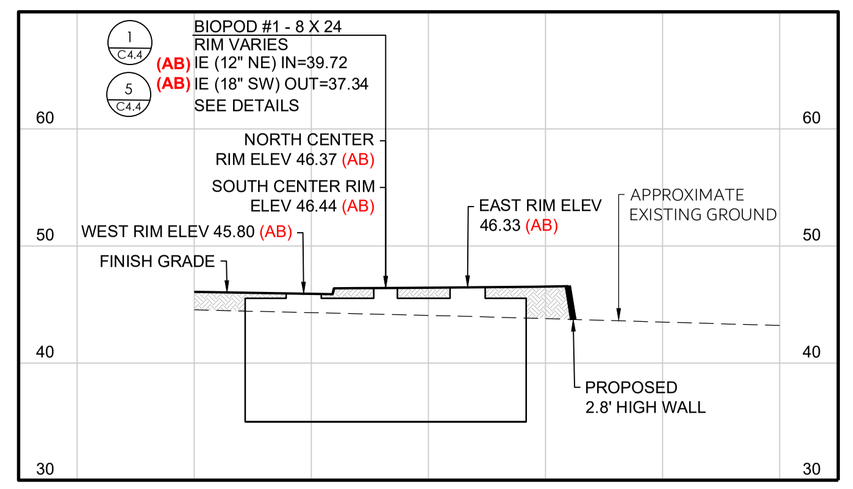
0 10 20 Feet
HORIZONTAL / VERTICAL



NORTH WALL PIPE CASING SECTION



SOUTH WALL PIPE CASING SECTION



BIOPOD #1 INSTALLATION SECTION

SURVEYOR'S CERTIFICATION

I CERTIFY THAT THE LOCATIONS, ELEVATIONS, DEPTHS, AND AS-BUILT COMMENTS REFLECTING MATERIALS ACTUALLY USED DURING CONSTRUCTION ACCURATELY REFLECT EXISTING FIELD CONDITIONS AS DETERMINED BY ME OR UNDER MY DIRECT SUPERVISION ON THIS DATE: 4/30/26

PROJECT SURVEYOR _____ RYAN MICHAEL TWEIT

RYAN MICHAEL TWEIT STATE OF WASHINGTON 24011138 REGISTERED PROFESSIONAL LAND SURVEYOR 4/30/26

ENGINEER'S CERTIFICATION

I HEREBY CERTIFY THAT THE IMPROVEMENTS IN HARRINGTON PLACE HAVE BEEN INSPECTED BY HARMSEN LLC AND CONSTRUCTED IN CONFORMANCE WITH THE PLANS APPROVED BY THE PUBLIC WORKS DIRECTOR FOR SAID DEVELOPMENT AND THE GENERAL SPECIFICATIONS ADOPTED BY THE CITY OF FERNDALE DEPARTMENT OF PUBLIC WORKS.

DAVID W. HARMSEN STATE OF WASHINGTON 33745 REGISTERED PROFESSIONAL ENGINEER 04/07/26

APPROVED
05/01/2026
BY: _____ for Kevin Renz
CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

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P:\WORK\PROJECTS\2020\20-267 GRANDVIEW HOMES\CE\DWG\SHEETS\RECORD C4.0 STORM PLAN.DWG 4/30/2026

00770.004 05/01/26 RH

REVISIONS

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HARRINGTON PLACE
6276 PORTAL WAY
FERNDALE, WA 98248

STORM PROFILES

DATE: 6/5/24

JOB #: 20-267

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

C4.2

SECTION 17, TOWNSHIP 39 NORTH, RANGE 02 EAST, W.M.

BMP T5.13: POST-CONSTRUCTION SOIL QUALITY

THIS BMP SHALL BE USED IN THE LANDSCAPED AREAS ON THE SITE AND ANY OTHER DISTURBED AREAS.

PURPOSE AND DEFINITION

NATURALLY OCCURRING (UNDISTURBED) SOIL AND VEGETATION PROVIDE IMPORTANT STORMWATER FUNCTIONS INCLUDING: WATER INFILTRATION; NUTRIENT, SEDIMENT, AND POLLUTANT ADSORPTION; SEDIMENT AND POLLUTANT BIOFILTRATION; WATER INTERFLOW STORAGE AND TRANSMISSION; AND POLLUTANT DECOMPOSITION. THESE FUNCTIONS ARE LARGELY LOST WHEN DEVELOPMENT STRIPS AWAY NATIVE SOIL AND VEGETATION AND REPLACES IT WITH MINIMA! TOPSOIL AND SOD. NOT ONLY ARE THESE IMPORTANT STORMWATER FUNCTIONS LOST, BUT SUCH LANDSCAPES THEMSELVES BECOME POLLUTION- GENERATING PERVIOUS SURFACES DUE TO INCREASED USE OF PESTICIDES, FERTILIZERS AND OTHER LANDSCAPING AND HOUSEHOLD/INDUSTRIAL CHEMICALS, THE CONCENTRATION OF PET WASTES, AND POLLUTANTS THAT ACCOMPANY ROADSIDE LITTER,

ESTABLISHING SOIL QUALITY AND DEPTH REGAINS GREATER STORMWATER FUNCTIONS IN THE POST DEVELOPMENT LANDSCAPE, PROVIDES INCREASED TREATMENT OF POLLUTANTS AND SEDIMENTS THAT RESULT FROM DEVELOPMENT AND HABITATION, AND MINIMIZES THE NEED FOR SOME LANDSCAPING CHEMICALS, THUS REDUCING POLLUTION THROUGH PREVENTION.

APPLICATIONS AND LIMITATIONS

ESTABLISHING A MINIMUM SOIL QUALITY AND DEPTH IS NOT THE SAME AS PRESERVATION OF NATURALLY OCCURRING SOIL AND VEGETATION. HOWEVER, ESTABLISHING A MINIMUM SOIL QUALITY AND DEPTH WILL PROVIDE IMPROVED ON-SITE MANAGEMENT OF STORMWATER FLOW AND WATER QUALITY.

SOIL ORGANIC MATTER CAN BE ATTAINED THROUGH NUMEROUS MATERIALS SUCH AS COMPOST, COMPOSTED WOODY MATERIAL, BIOSOLIDS, AND FOREST PRODUCT RESIDUALS. IT IS IMPORTANT THAT THE MATERIALS USED TO MEET THE SOIL QUALITY AND DEPTH BMP BE APPROPRIATE AND BENEFICIAL TO THE PLANT COVER TO BE ESTABLISHED. LIKEWISE, IT IS IMPORTANT THAT IMPORTED TOPSOILS IMPROVE SOIL CONDITIONS AND DO NOT HAVE AN EXCESSIVE PERCENT OF CLAY FINES.

DESIGN GUIDELINES

SOIL RETENTION

THE DUFF LAYER AND NATIVE TOPSOIL SHOULD BE RETAINED IN AN UNDISTURBED STATE TO THE MAXIMUM EXTENT PRACTICABLE. IN ANY AREAS REQUIRING GRADING REMOVE AND STOCKPILE THE DUFF LAYER AND TOPSOIL ON SITE IN A DESIGNATED, CONTROLLED AREA, NOT ADJACENT TO PUBLIC RESOURCES AND CRITICAL AREAS, TO BE REAPPLIED TO OTHER PORTIONS OF THE SITE WHERE FEASIBLE.

SOIL QUALITY

ALL AREAS SUBJECT TO CLEARING AND GRADING THAT HAVE NOT BEEN COVERED BY IMPERVIOUS SURFACE, INCORPORATED INTO A DRAINAGE FACILITY OR ENGINEERED AS STRUCTURAL FILL OR SLOPE SHALL, AT PROJECT COMPLETION, DEMONSTRATE THE FOLLOWING:

1. A TOPSOIL LAYER WITH A MINIMUM ORGANIC MATTER CONTENT OF TEN PERCENT DRY WEIGHT IN PLANTING BEDS, AND 5% ORGANIC MATTER CONTENT (BASED ON A LOSS-ON-IGNITION TEST) IN TURF AREAS, AND A PH FROM 6.0 TO 8.0 OR MATCHING THE PH OF THE ORIGINAL UNDISTURBED SOIL. THE TOPSOIL LAYER SHALL HAVE A MINIMUM DEPTH OF EIGHT INCHES EXCEPT WHERE TREE ROOTS LIMIT THE DEPTH OF INCORPORATION OF AMENDMENTS NEEDED TO MEET THE CRITERIA. SUBSOILS BELOW THE TOPSOIL LAYER SHOULD BE SCARIFIED AT LEAST 4 INCHES WITH SOME INCORPORATION OF THE UPPER MATERIAL TO AVOID STRATIFIED LAYERS, WHERE FEASIBLE.

2. PLANTING BEDS MUST BE MULCHED WITH 2 INCHES OF ORGANIC MATERIAL

3. QUALITY OF COMPOST AND OTHER MATERIALS USED TO MEET THE ORGANIC CONTENT REQUIREMENTS:

A. THE ORGANIC CONTENT FOR "PRE-APPROVED" AMENDMENT RATES CAN BE MET ONLY USING COMPOST THAT MEETS THE DEFINITION OF "COMPOSTED MATERIALS" IN WAC 173-350-220. THIS CODE IS AVAILABLE ONLINE AT: HTTP://WWW.ECY.WA.GOVFPROGRAMS/SWFA/FACILITIES/350.HTML.

COMPOST USED IN BIORETENTION AREAS SHOULD BE STABLE, MATURE AND DERIVED FROM YARD DEBRIS, WOOD WASTE, OR OTHER ORGANIC MATERIALS THAT MEET THE INTENT OF THE ORGANIC SOIL AMENDMENT SPECIFICATION. BIOSOLIDS AND MANURE COMPOSTS CAN BE HIGHER IN BIO-AVAILABLE PHOSPHORUS THAN COMPOST DERIVED FROM YARD OR PLANT WASTE AND THEREFORE ARE NOT ALLOWED IN BIORETENTION AREAS DUE TO THE POSSIBILITY OF EXPORTING BIO-AVAILABLE PHOSPHORUS IN EFFLUENT.

THE COMPOST MUST ALSO HAVE AN ORGANIC MATTER CONTENT OF 35% TO 65%, AND A CARBON TO NITROGEN RATIO BELOW 25:1.

THE CARBON TO NITROGEN RATIO MAY BE AS HIGH AS 35:1 FOR PLANTINGS COMPOSED ENTIRELY OF PLANTS NATIVE TO THE PUGET SOUND LOWLANDS REGION.

B. CALCULATED AMENDMENT RATES MAY BE MET THROUGH USE OF COMPOSTED MATERIALS AS DEFINED ABOVE; OR OTHER ORGANIC MATERIALS AMENDED TO MEET THE CARBON TO NITROGEN RATIO REQUIREMENTS, AND MEETING THE CONTAMINANT STANDARDS OF GRADE A COMPOST.

THE RESULTING SOIL SHOULD BE CONDUCIVE TO THE TYPE OF VEGETATION TO BE ESTABLISHED.

IMPLEMENTATION OPTIONS: THE SOIL QUALITY DESIGN GUIDELINES LISTED ABOVE CAN BE MET BY USING ONE OF THE METHODS LISTED BELOW.

1. LEAVE UNDISTURBED NATIVE VEGETATION AND SOIL, AND PROTECT FROM COMPACTION DURING CONSTRUCTION.

2. AMEND DISTURBED SOIL ACCORDING TO THE FOLLOWING PROCEDURES:

A. SCARIFY SUBSOIL TO A DEPTH OF ONE FOOT
B. IN PLANTING BEDS, PLACE THREE INCHES OF COMPOST AND TILL IN TO AN EIGHT-INCH DEPTH.
C. IN TURF AREAS, PLACE TWO INCHES OF COMPOST AND TILL IN TO AN EIGHT-INCH DEPTH.
D. APPLY TWO TO FOUR INCHES OF ARBORIST WOOD CHIP, COARSE BARK MULCH, OR COMPOST MULCH TO PLANTING BEDS AFTER FINAL PLANTING.

ALTERNATIVELY, DISTURBED SOIL CAN BE AMENDED ON A SITE-CUSTOMIZED MALULER SO THAT IT MEETS THE SOIL QUALITY CRITERIA SET FORTH ABOVE, AS DETERMINED BY A LICENSED ENGINEER, GEOLOGIST, LANDSCAPE ARCHITECT, OR OTHER PERSON AS APPROVED BY SNOHOMISH COUNTY.

3. STOCKPILE EXISTING TOPSOIL DURING GRADING, AND REPLACE IT PRIOR TO PLANTING. STOCKPILED TOPSOIL MUST BE AMENDED IF NEEDED TO MEET THE ORGANIC MATTER AND DEPTH REQUIREMENTS BY FOLLOWING THE PROCEDURES IN METHOD (2) ABOVE.

4. IMPORT TOPSOIL MIX OF SUFFICIENT ORGANIC CONTENT AND DEPTH TO MEET THE ORGANIC MATTER AND DEPTH REQUIREMENTS.

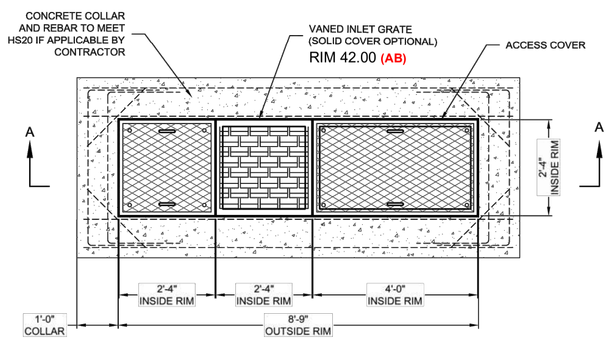
MORE THAN ONE METHOD MAY BE USED ON DIFFERENT PORTIONS OF THE SAME SITE. SOIL THAT ALREADY MEETS THE DEPTH AND ORGANIC MATTER QUALITY STANDARDS, AND IS NOT COMPACTED, DOES NOT NEED TO BE AMENDED.

MAINTENANCE

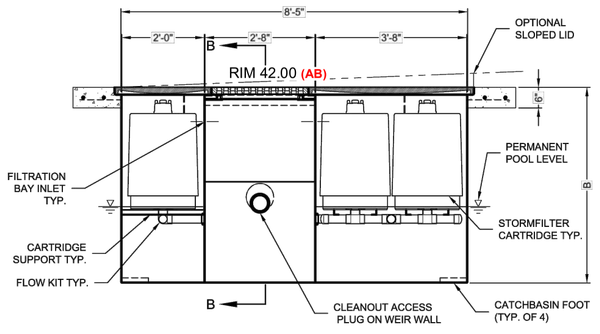
1. SOIL QUALITY AND DEPTH SHOULD BE ESTABLISHED TOWARD THE END OF CONSTRUCTION AND ONCE ESTABLISHED, SHOULD BE PROTECTED FROM COMPACTION, SUCH AS FROM LARGE MACHINERY USE, AND FROM EROSION.

2. SOIL SHOULD BE PLANTED AND MULCHED AFTER INSTALLATION.

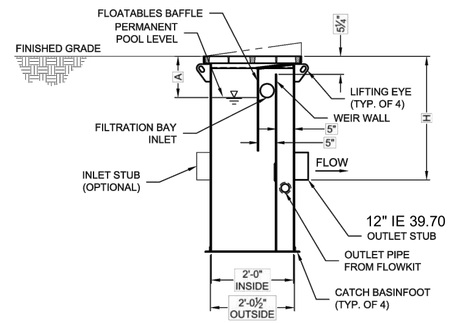
3. PLANT DEBRIS OR ITS EQUIVALENT SHOULD BE LEFT ON THE SOIL SURFACE TO REPLENISH ORGANIC MATTER.



PLAN VIEW



SECTION A-A



SECTION B-B

STORMFILTER STEEL CATCHBASIN DESIGN NOTES

STORMFILTER TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE SELECTION AND THE NUMBER OF CARTRIDGES. 3 CARTRIDGE CATCHBASIN HAS A MAXIMUM OF THREE CARTRIDGES. SYSTEM IS SHOWN WITH A 27" CARTRIDGE, AND IS ALSO AVAILABLE WITH AN 18" CARTRIDGE. STORMFILTER CATCHBASIN CONFIGURATIONS ARE AVAILABLE WITH A DRY INLET BAY FOR VECTOR CONTROL.
PEAK HYDRAULIC CAPACITY PER TABLE BELOW. IF THE SITE CONDITIONS EXCEED PEAK HYDRAULIC CAPACITY, AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.

CARTRIDGE SELECTION									
CARTRIDGE HEIGHT	27"			18"			18" DEEP		
RECOMMENDED HYDRAULIC DROP (H)	3.05'			2.3'			3.3'		
SPECIFIC FLOW RATE (gpm/sf)	2 gpm/sf	1.67* gpm/sf	1 gpm/sf	2 gpm/sf	1.67* gpm/sf	1 gpm/sf	2 gpm/sf	1.67* gpm/sf	1 gpm/sf
CARTRIDGE FLOW RATE (gpm)	22.5	18.79	11.25	15	12.53	7.5	15	12.53	7.5
PEAK HYDRAULIC CAPACITY	1.0			1.0			1.8		
INLET PERMANENT POOL LEVEL (A)	1'-0"			1'-0"			2'-0"		
OVERALL STRUCTURE HEIGHT (B)	4'-8"			3'-9"			4'-9"		

* 1.67 gpm/sf SPECIFIC FLOW RATE IS APPROVED WITH PHOSPHOSORB ® (PSORB) MEDIA ONLY

GENERAL NOTES

1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STORMFILTER CATCHBASIN STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ANGINEERED SOLUTIONS LLC REPRESENTATIVE. www.contechES.com
3. STORMFILTER CATCHBASIN WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
4. INLET SHOULD NOT BE LOWER THAN OUTLET. INLET (IF APPLICABLE) AND OUTLET PIPING TO BE SPECIFIED BY ENGINEER AND PROVIDED BY CONTRACTOR.
5. MANUFACTURER TO APPLY A SURFACE BEAD WELD IN THE SHAPE OF THE LETTER "O" ABOVE THE OUTLET PIPE STUB ON THE EXTERIOR SURFACE OF THE STEEL SFCB.
6. STORMFILTER CATCHBASIN EQUIPPED WITH 4 INCH (APPROXIMATE) LONG STUBS FOR INLET (IF APPLICABLE) AND OUTLET PIPING. STANDARD OUTLET STUB IS 8 INCHES IN DIAMETER. MAXIMUM OUTLET STUB IS 15 INCHES IN DIAMETER. CONNECTION TO COLLECTION PIPING CAN BE MADE USING FLEXIBLE COUPLING BY CONTRACTOR.
7. STEEL STRUCTURE TO BE MANUFACTURED OF 1/4 INCH STEEL PLATE. CASTINGS SHALL MEET AASHTO M306 LOAD RATING. TO MEET HS20 LOAD RATING ON STRUCTURE, A CONCRETE COLLAR IS REQUIRED. WHEN REQUIRED, CONCRETE COLLAR WITH #4 REINFORCING BARS TO BE PROVIDED BY CONTRACTOR.
8. FILTER CARTRIDGES SHALL BE MEDIA-FILLED, PASSIVE, SIPHON ACTUATED, RADIAL FLOW, AND SELF CLEANING. RADIAL MEDIA DEPTH SHALL BE 7-INCHES. FILTER MEDIA CONTACT TIME SHALL BE AT LEAST 38 SECONDS.
9. SPECIFIC FLOW RATE IS EQUAL TO THE FILTER TREATMENT CAPACITY (gpm) DIVIDED BY THE FILTER CONTACT SURFACE AREA (sq ft).

INSTALLATION NOTES

A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CATCHBASIN (LIFTING CLUTCHES PROVIDED).
C. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.

3-CARTRIDGE CATCHBASIN STORMFILTER DATA

STRUCTURE ID	STORMFILTER #1
WATER QUALITY FLOW RATE (cfs)	0.037
PEAK FLOW RATE (<1 cfs)	0.36
RETURN PERIOD OF PEAK FLOW (yrs)	100
CARTRIDGE FLOW RATE (gpm)	7.5
MEDIA TYPE (PERLITE, ZPG, PSORB)	ZPG
RIM ELEVATION	42.00 (AB)

PIPE DATA:	I.E.	DIAMETER
INLET STUB	NA	-
OUTLET STUB	39.70	12"

CONFIGURATION: OUTLET / INLET — OUTLET / INLET

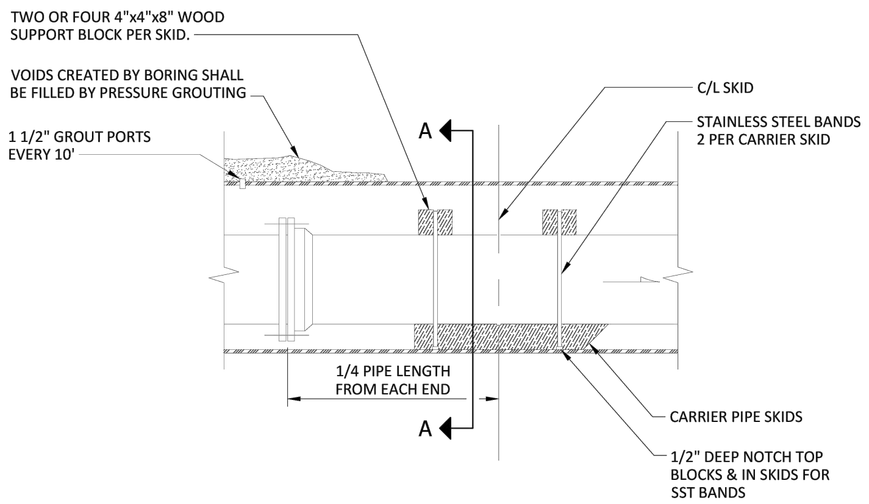
SLOPED LID	YES/NO
SOLID COVER	YES/NO
NOTES/SPECIAL REQUIREMENTS:	

CONTECH ENGINEERED SOLUTIONS LLC
www.contechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-526-3999 513-645-7000 513-645-7993 FAX

3 CARTRIDGE CATCHBASIN STORMFILTER STANDARD DETAIL

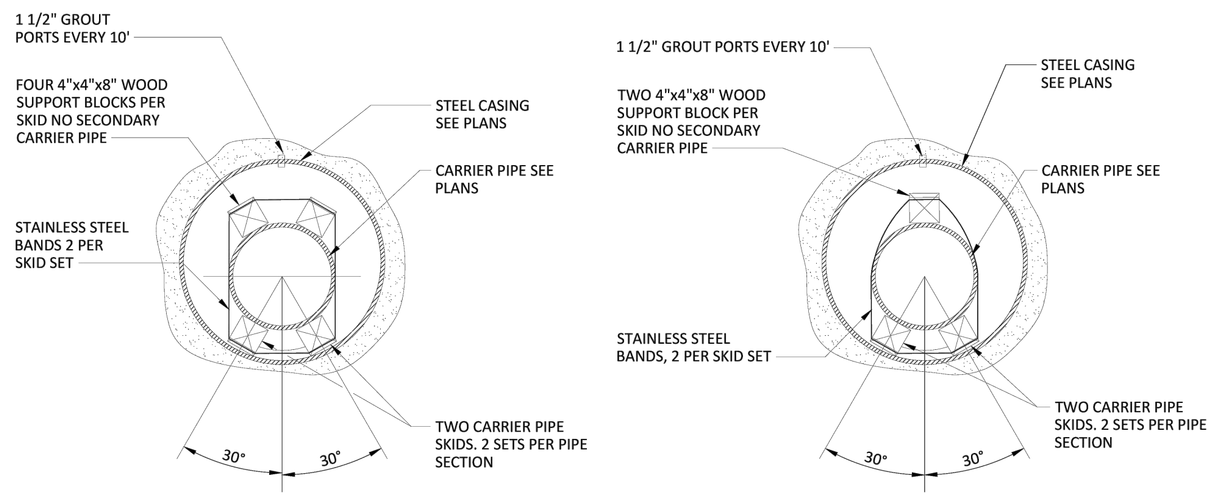
1 STORMFILTER #1 - CARTRIDGE STORMFILTER DETAIL

SCALE: NONE



NOTES

1. ALL JOINTS OF CARRIER PIPE WITHIN CASING SHALL BE FLANGED (FL) OR MECHANICAL JOINT (MJ) FITTINGS WITH MEG-A-LUG RESTRAINTS.
2. CARRIER PIPE WILL BE PRESSURE TESTED BY CONTRACTOR AND TV INSPECTION BY CITY CREWS.
3. CARRIER SKIDS SHALL BE SECURELY ATTACHED TO CARRIER PIPE W/STAINLESS STEEL (SST) BANDS (MIN 2 BANDS PER SKID SET).
4. CARRIER SKIDS SHALL BE ROUNDED OR BEVELED ON LEADING EDGE, AND SHALL BE NOTCHED TO RECEIVE SST BANDS.
5. CARRIER SKIDS SHALL BE PRESSURE TREATED WOOD 4"x4"x48" (2 SETS OF 2 SKIDS PER LENGTH OF PIPE). CONTRACTOR MAY USE APPROVED PREFABRICATED SKIDS PROVIDED A 1" MIN CLEARANCE IS MAINTAINED BETWEEN JOINT FLANGE AND CASING.
6. SECONDARY CARRIER PIPES SHALL BE SECURED TO THE TOP OF THE MAIN CARRIER PIPE AS SHOWN.
7. SECONDARY CARRIER PIPE WILL BE TESTED BEFORE CASING ANNULAR SPACE IS FILLED.
8. END SEALS SHALL BE PROVIDED FOR THE JACKED CASING PIPES. THE END SEALS SHALL BE APS STANDARD MODEL AM AS MANUFACTURED BY ADVANCED PRODUCTS (WWW.APSONLINE.COM) OR APPROVED EQUIVALENT.
9. CASING, APPURTENANCES AND ALL OTHER MISCELLANEOUS ITEMS TO BE FURNISHED BY CONTRACTOR.

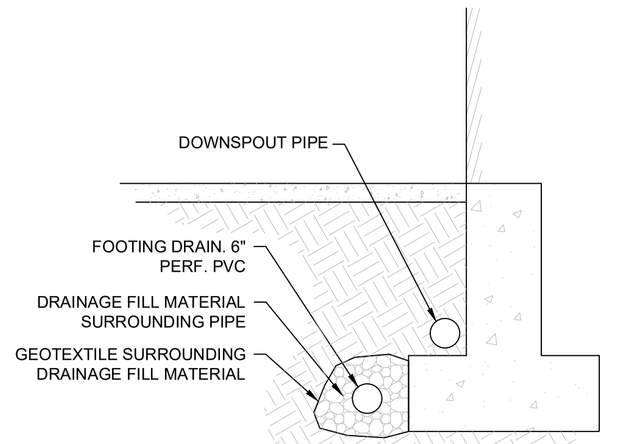


EXAMPLES OF FIELD ASSEMBLED CASING SKIDS

SECTION A-A

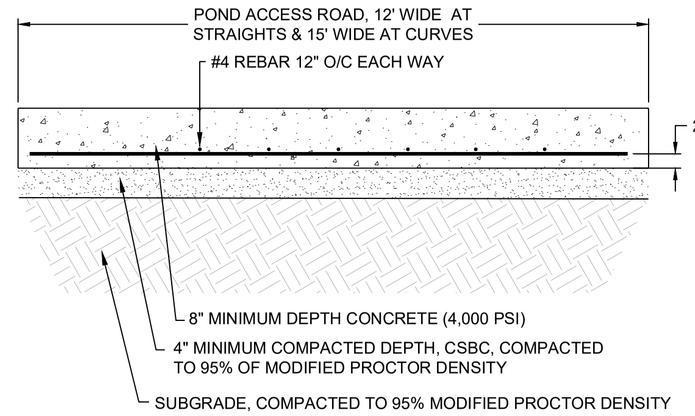
2 TYPICAL PIPE CASING DETAIL

SCALE: NONE



3 FOOTING DRAIN

SCALE: NONE



4 VAULT ACCESS ROAD

SCALE: NONE

RYAN MICHAEL TWEIT — STATE OF WASHINGTON — 24011138 — REGISTERED PROFESSIONAL LAND SURVEYOR — 4/30/26

SURVEYOR'S CERTIFICATION

I CERTIFY THAT THE LOCATIONS, ELEVATIONS, DEPTHS, AND AS-BUILT COMMENTS REFLECTING MATERIALS ACTUALLY USED DURING CONSTRUCTION ACCURATELY REFLECT EXISTING FIELD CONDITIONS AS DETERMINED BY ME OR UNDER MY DIRECT SUPERVISION ON THIS DATE: 4/30/26

PROJECT SURVEYOR _____ RYAN MICHAEL TWEIT

ENGINEER'S CERTIFICATION

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DAVID M HARMSEN — STATE OF WASHINGTON — 33745 — REGISTERED PROFESSIONAL ENGINEER — 04/07/26

APPROVED
05/01/2026
BY _____
CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

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HARMSEN ENGINEERS SURVEYORS
2822 COLBY AVENUE, SUITE 300
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(206) 343-5903
FAX: (360) 805-9732

REVISIONS

HARRINGTON PLACE
6276 PORTAL WAY
FERNDALE, WA 98248

NOTES & DETAILS

DATE: 6/5/24

JOB #: 20-267

Know what's below. Call before you dig.

C4.3

00770.005 05/01/26 RH

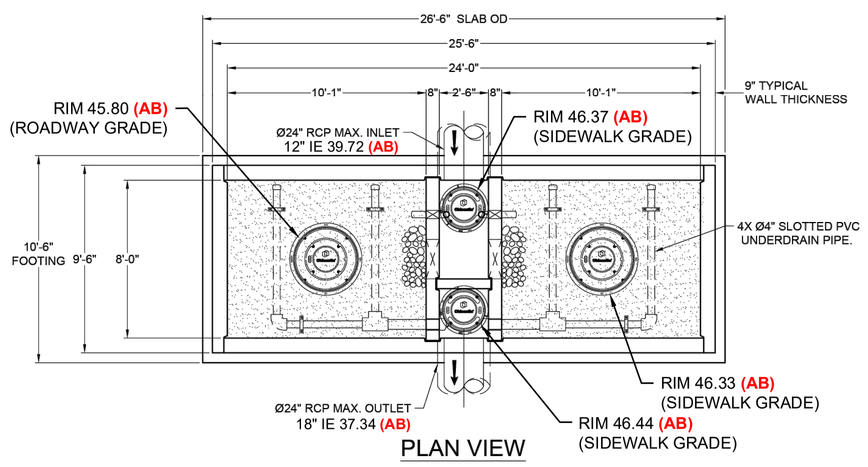
SECTION 17, TOWNSHIP 39 NORTH, RANGE 02 EAST, W.M.

SITE SPECIFIC DATA				
Structure ID				BIOPOD #1
Treatment Flow Rate (cfs)				0.41
Peak Flow Rate (cfs)				4.34
Rim Elevation				*
Top of Vault Elevation				44.51
Pipe Data	**Pipe Location**	**Pipe Size**	**Pipe Type**	**Invert Elevation**
Inlet	NE	12"	CPEP	39.72 (AB)
Outlet	SW	18"	CPEP	37.34 (AB)
Notes:				

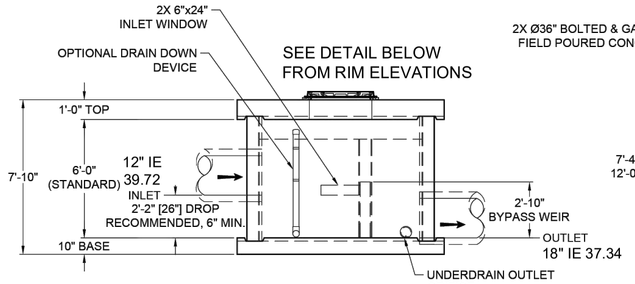
PERFORMANCE SPECIFICATIONS	
Treatment Flow Capacities:	
NJDEP 80% Removal, 75 micron	0.642 cfs
WA Ecology GULD - Basic, Enhanced & Phosphorus Bypass Capacity	0.570 cfs
	20.00 cfs

*Contact Oldcastle for alternative treatment flow capacities.

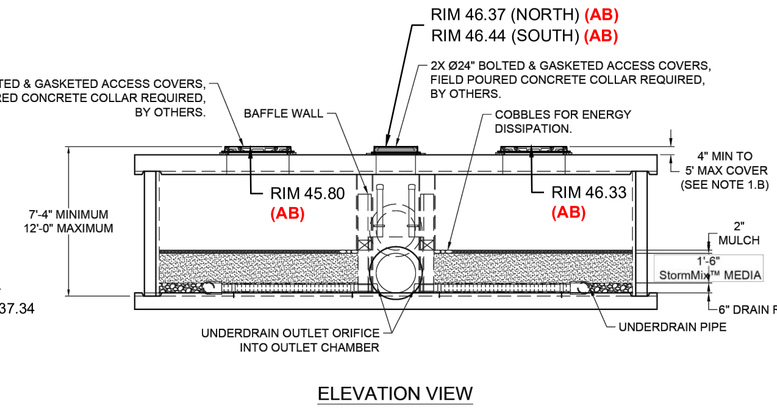
* SEE DETAIL BELOW FROM RIM ELEVATIONS (5 / C4.4)



PLAN VIEW



LEFT END VIEW



ELEVATION VIEW

NOTES:

1. DESIGN LOADINGS:
   A. AASHTO HS-20-44 (WITH IMPACT)
   B. DESIGN SOIL COVER: 5'-0" MAXIMUM
   C. ASSUMED WATER TABLE: BELOW BASE OF PRECAST (ENGINEER-OF-RECORD TO CONFIRM SITE WATER TABLE ELEVATION)
   D. LATERAL EARTH PRESSURE: 45 PCF (DRAINED)
   E. LATERAL LIVE LOAD SURCHARGE: 80 PSF (APPLIED TO 8'-0" BELOW GRADE)
   F. NO LATERAL SURCHARGE FROM ADJACENT BUILDINGS, WALLS, PIERS, OR FOUNDATIONS.
2. CONCRETE 28-DAY MINIMUM COMPRESSIVE STRENGTH: 5,000 PSI MINIMUM.
3. REINFORCING: REBAR, ASTM A615/A706, GRADE 60
4. MESH REINFORCEMENT: ASTM A1064, S1.2, GRADE 80
5. CEMENT: ASTM C150
6. REQUIRED ALLOWABLE SOIL BEARING CAPACITY: 2,500 PSF
7. REFERENCE STANDARD:
   A. ASTM C890
   B. ASTM C913
   C. ACI 318-14
8. THIS STRUCTURE IS DESIGNED TO THE PARAMETERS NOTED HEREIN. ENGINEER-OF-RECORD SHALL VERIFY THAT NOTED PARAMETERS MEET OR EXCEED PROJECT REQUIREMENTS. IF DESIGN PARAMETERS ARE INCORRECT, REVIEWING ENGINEER/AUTHORITY SHALL NOTIFY OLDCASTLE INFRASTRUCTURE UPON REVIEW.
9. OVERSIZED HOLES TO ACCOMMODATE SPECIFIC PIPE TYPE MUST BE CONCENTRIC TO PIPE ID. AFTER PIPES ARE INSTALLED, ALL ANNULAR SPACES SHALL BE FILLED WITH A MINIMUM OF 3,000 PSI CONCRETE FOR FULL THICKNESS OF PRECAST WALLS.
10. CONTRACTOR RESPONSIBLE TO VERIFY ALL SIZES, LOCATIONS, AND ELEVATIONS OF OPENINGS.
11. CONTRACTOR RESPONSIBLE TO ENSURE ADEQUATE BEARING SURFACE IS PROVIDED (I.E. COMPACTED AND LEVEL PER PROJECT SPECIFICATIONS).
12. ADAPTORS/ANGLES AND EXTERNAL PIPING BY OTHERS.
13. SECTION HEIGHTS, SLAB/WALL THICKNESSES, AND KEYWAYS ARE SUBJECT TO CHANGE AS REQUIRED FOR SITE REQUIREMENTS AND/OR DUE TO PRODUCT AVAILABILITY AND PRODUCTION FACILITY CONSTRAINTS.
14. MAXIMUM PICK WEIGHTS:
    A. TOP SLAB: XX,XXX LBS
    B. PANELS: XX,XXX LBS
    C. BASE SLAB: XX,XXX LBS
15. INTERNALS SHALL CONSIST OF UNDERDRAIN PIPE, ROCK, STORMMIX™ MEDIA, MULCH, DIVIDER WALLS, BAFFLE WALLS, BYPASS WEIR AND OPTIONAL DRAIN DOWN.
16. SYSTEM SHIPPED EMPTY. INTERNALS INSTALLED BY CONTRACTOR.
17. CONTRACTOR RESPONSIBLE FOR OFF-LOAD AND INSTALLATION. OLDCASTLE REPRESENTATIVE TO BE ON SITE TO OVERSEE THE INSTALLATION OF ALL INTERNAL COMPONENTS.

Oldcastle Infrastructure
A CRH COMPANY
Ph: 800.579.8819 | www.oldcastleinfrastructure.com/stormwater

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BioPod™ Biofilter System (STANDARD)
Underground Vault with Internal Bypass

CUSTOMER: -
PROJECT NAME: -

SHEET NAME	REVISION	SHEET
Specifier Drawing BPU-824B	- REV DATE -	1 OF 1

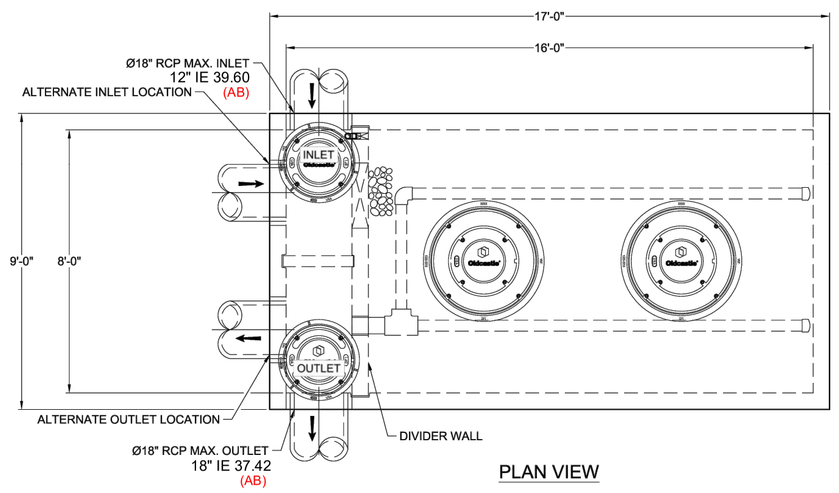
Standard Illustration

1 BIOPOD#1 DETAIL
SCALE: NONE

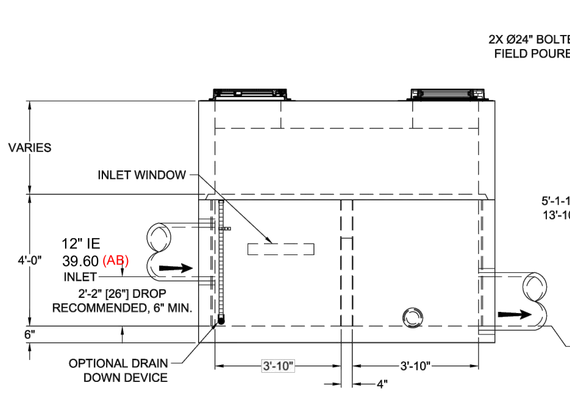
SITE SPECIFIC DATA				
Structure ID				BIOPOD #2
Treatment Flow Rate (cfs)				0.30
Peak Flow Rate (cfs)				3.03
Rim Elevation				47.97 (AB)
Top of Vault Elevation				47.75
Pipe Data	**Pipe Location**	**Pipe Size**	**Pipe Type**	**Invert Elevation**
Inlet	N	12"	CPEP	39.60 (AB)
Outlet	E	18"	CPEP	37.42 (AB)
Notes:				

PERFORMANCE SPECIFICATIONS	
Treatment Flow Capacities:*	
NJDEP 80% Removal, 75 micron	0.432 cfs
WA Ecology GULD - Basic, Enhanced & Phosphorus Bypass Capacity	0.384 cfs
	6.5 cfs

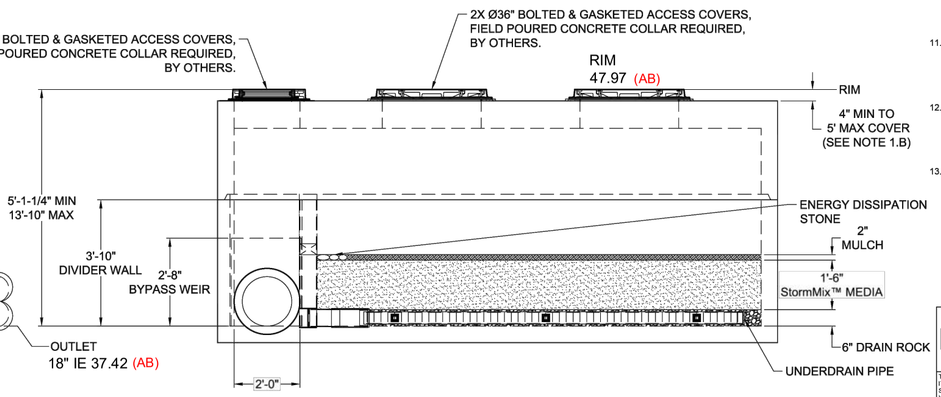
*Contact Oldcastle for alternative treatment flow capacities.



PLAN VIEW



LEFT END VIEW



ELEVATION VIEW

NOTES:

1. DESIGN LOADINGS:
   A. AASHTO HS-20-44 (WITH IMPACT)
   B. DESIGN SOIL COVER: 5'-0" MAXIMUM
   C. ASSUMED WATER TABLE: BELOW BASE OF PRECAST (ENGINEER-OF-RECORD TO CONFIRM SITE WATER TABLE ELEVATION)
   D. LATERAL EARTH PRESSURE: 45 PCF (DRAINED)
   E. LATERAL LIVE LOAD SURCHARGE: 80 PSF (APPLIED TO 8'-0" BELOW GRADE)
   F. NO LATERAL SURCHARGE FROM ADJACENT BUILDINGS, WALLS, PIERS, OR FOUNDATIONS.
2. CONCRETE 28-DAY MINIMUM COMPRESSIVE STRENGTH: 5,000 PSI MINIMUM.
3. REINFORCING: REBAR, ASTM A615/A706, GRADE 60
4. CEMENT: ASTM C150
5. REQUIRED ALLOWABLE SOIL BEARING CAPACITY: 2,500 PSF
6. REFERENCE STANDARD:
   A. ASTM C890
   B. ASTM C913
   C. ACI 318-14
7. THIS STRUCTURE IS DESIGNED TO THE PARAMETERS NOTED HEREIN. ENGINEER-OF-RECORD SHALL VERIFY FY THAT NOTED PARAMETERS MEET OR EXCEED PROJECT REQUIREMENTS. IF DESIGN PARAMETERS ARE INCORRECT, REVIEWING ENGINEER/AUTHORITY SHALL NOTIFY OLDCASTLE INFRASTRUCTURE UPON REVIEW.
8. INLET AND OUTLET HOLES WILL BE FACTORY CORED/CAST PER PLANS AND CUSTOMER REQUIREMENTS. INLET AND OUTLET LOCATIONS CAN BE MIRRORED.
9. CONTRACTOR RESPONSIBLE TO VERIFY ALL SIZES, LOCATIONS, AND ELEVATIONS OF OPENINGS.
10. CONTRACTOR RESPONSIBLE TO ENSURE ADEQUATE BEARING SURFACE IS PROVIDED (I.E. COMPACTED AND LEVEL PER PROJECT SPECIFICATIONS).
11. SECTION HEIGHTS, SLAB/WALL THICKNESSES, AND KEYWAYS ARE SUBJECT TO CHANGE AS REQUIRED FOR SITE REQUIREMENTS AND/OR DUE TO PRODUCT AVAILABILITY AND PRODUCTION FACILITY CONSTRAINTS.
12. MAXIMUM PICK WEIGHTS*:
    A. TOP: XX,XXX LBS
    B. BASE: XX,XXX LBS*
    (* COMBINED WEIGHT OF BASE INCLUDES BYPASS WEIR, DIVIDER WALL, ROCK & MEDIA)
13. INTERNALS SHALL CONSIST OF UNDERDRAIN PIPE, ROCK, STORMMIX™ MEDIA, MULCH, DIVIDER WALL, BYPASS WEIR AND OPTIONAL DRAIN DOWN.

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BioPod™ Biofilter System (STANDARD)
Underground Vault with Internal Bypass

CUSTOMER: -
PROJECT NAME: -

SHEET NAME	REVISION	SHEET
Specifier Drawing BPU-816B	- REV DATE -	1 OF 1

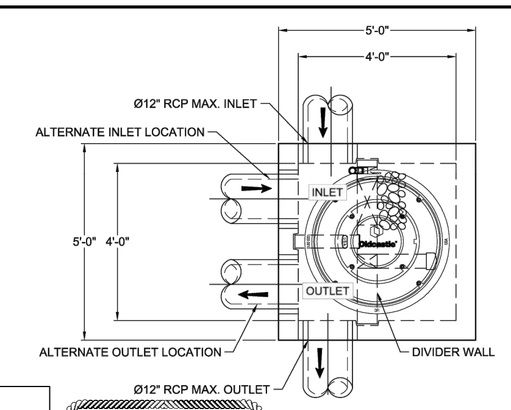
Standard Illustration

2 BIOPOD #2 DETAIL
SCALE: NONE

SITE SPECIFIC DATA				
Structure ID				BIOPOD #3
Treatment Flow Rate (cfs)				0.022
Peak Flow Rate (cfs)				0.754
Rim Elevation				42.67 (AB)
Top of Vault Elevation				42.24
Pipe Data	**Pipe Location**	**Pipe Size**	**Pipe Type**	**Invert Elevation**
Inlet	W	12"	CPEP	37.50
Outlet	N	12"	CPEP	35.30
Notes:				

PERFORMANCE SPECIFICATIONS	
Treatment Flow Capacities:*	
NJDEP 80% Removal, 75 micron	0.032 cfs
WA Ecology GULD - Basic, Enhanced & Phosphorus Bypass Capacity	0.029 cfs
	5.0 cfs

*Contact Oldcastle for alternative treatment flow capacities.



PLAN VIEW

NOTES:

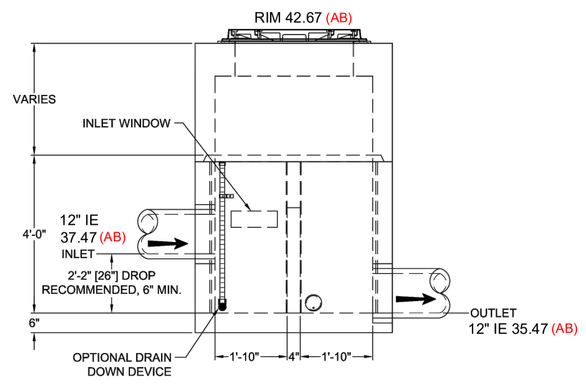
1. DESIGN LOADINGS:
   A. AASHTO HS-20-44 (WITH IMPACT)
   B. DESIGN SOIL COVER: 5'-0" MAXIMUM
   C. ASSUMED WATER TABLE: BELOW BASE OF PRECAST (ENGINEER-OF-RECORD TO CONFIRM SITE WATER TABLE ELEVATION)
   D. LATERAL EARTH PRESSURE: 45 PCF (DRAINED)
   E. LATERAL LIVE LOAD SURCHARGE: 80 PSF (APPLIED TO 8'-0" BELOW GRADE)
   F. NO LATERAL SURCHARGE FROM ADJACENT BUILDINGS, WALLS, PIERS, OR FOUNDATIONS.
2. CONCRETE 28-DAY MINIMUM COMPRESSIVE STRENGTH: 5,000 PSI MINIMUM.
3. REINFORCING: REBAR, ASTM A615/A706, GRADE 60
4. CEMENT: ASTM C150
5. REQUIRED ALLOWABLE SOIL BEARING CAPACITY: 2,500 PSF
6. REFERENCE STANDARD:
   A. ASTM C890
   B. ASTM C913
   C. ACI 318-14
7. THIS STRUCTURE IS DESIGNED TO THE PARAMETERS NOTED HEREIN. ENGINEER-OF-RECORD SHALL VERIFY FY THAT NOTED PARAMETERS MEET OR EXCEED PROJECT REQUIREMENTS. IF DESIGN PARAMETERS ARE INCORRECT, REVIEWING ENGINEER/AUTHORITY SHALL NOTIFY OLDCASTLE INFRASTRUCTURE UPON REVIEW.
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10. CONTRACTOR RESPONSIBLE TO ENSURE ADEQUATE BEARING SURFACE IS PROVIDED (I.E. COMPACTED AND LEVEL PER PROJECT SPECIFICATIONS).
11. SECTION HEIGHTS, SLAB/WALL THICKNESSES, AND KEYWAYS ARE SUBJECT TO CHANGE AS REQUIRED FOR SITE REQUIREMENTS AND/OR DUE TO PRODUCT AVAILABILITY AND PRODUCTION FACILITY CONSTRAINTS.
12. MAXIMUM PICK WEIGHTS*:
    A. TOP: XX,XXX LBS
    B. BASE: XX,XXX LBS*
    (* COMBINED WEIGHT OF BASE INCLUDES BYPASS WEIR, DIVIDER WALL, ROCK & MEDIA)
13. INTERNALS SHALL CONSIST OF UNDERDRAIN PIPE, ROCK, STORMMIX™ MEDIA, MULCH, DIVIDER WALL, BYPASS WEIR AND OPTIONAL DRAIN DOWN.

SURVEYOR'S CERTIFICATION

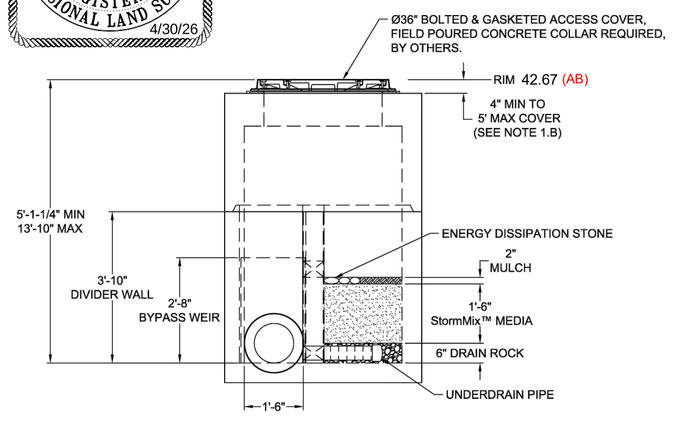
I CERTIFY THAT THE LOCATIONS, ELEVATIONS, DEPTHS, AND AS-BUILT COMMENTS REFLECTING MATERIALS ACTUALLY USED DURING CONSTRUCTION ACCURATELY REFLECT EXISTING FIELD CONDITIONS AS DETERMINED BY ME OR UNDER MY DIRECT SUPERVISION ON THIS DATE: 4/30/26

PROJECT SURVEYOR _____ RYAN MICHAEL TWEIT

STATE OF WASHINGTON RYAN MICHAEL TWEIT 240111.36 REGISTERED PROFESSIONAL LAND SURVEYOR 4/30/26

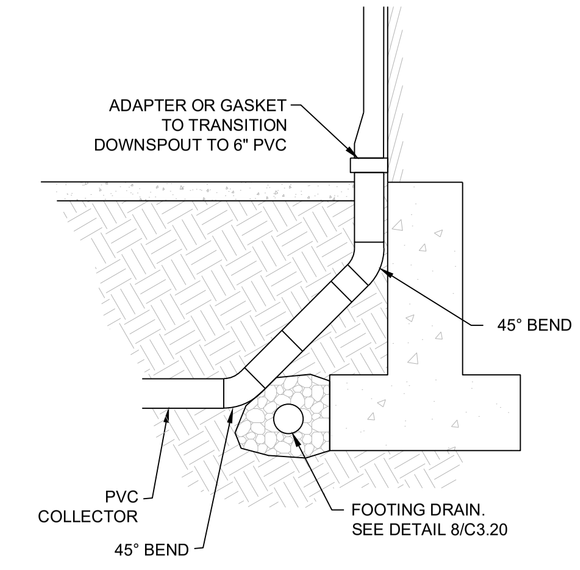


LEFT END VIEW

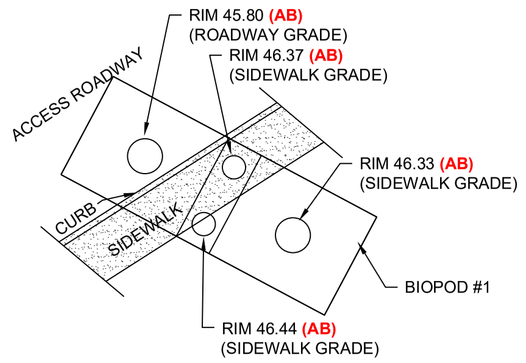


ELEVATION VIEW

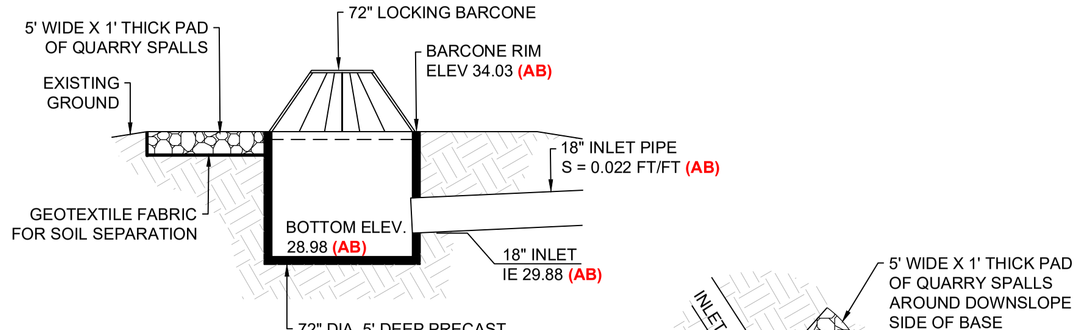
3 BIOPOD #3 DETAIL
SCALE: NONE



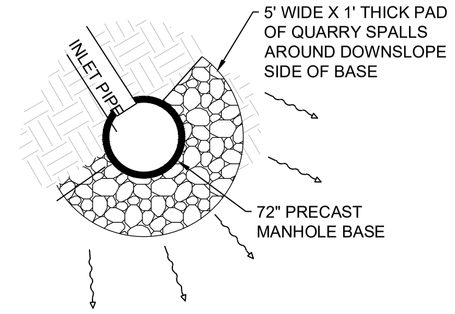
4 DOWNSPOUT CONNECTION
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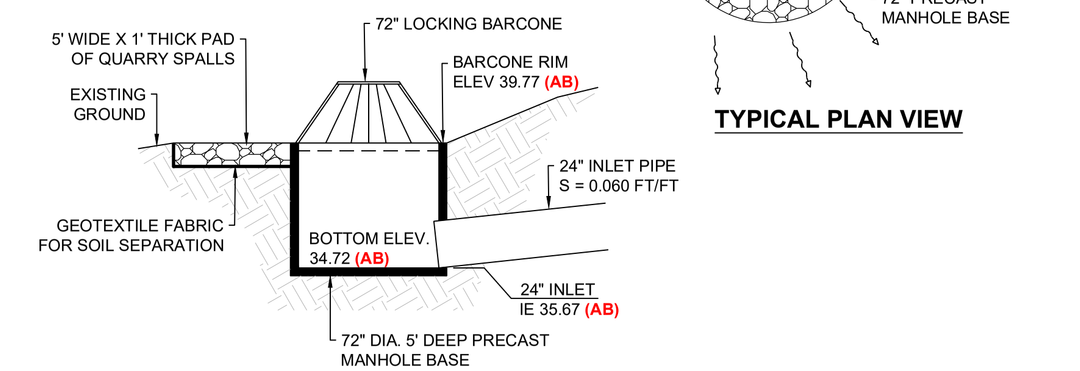
5 BIOPOD #1 RIM ELEVATION DETAIL
SCALE: NONE



18" INLET SECTION



TYPICAL PLAN VIEW



24" INLET SECTION

6 STILLING BASIN
SCALE: NONE

ENGINEER'S CERTIFICATION

I HEREBY CERTIFY THAT THE IMPROVEMENTS IN HARRINGTON PLACE HAVE BEEN INSPECTED BY HARMSEN LLC AND CONSTRUCTED IN CONFORMANCE WITH THE PLANS APPROVED BY THE PUBLIC WORKS DIRECTOR FOR SAID DEVELOPMENT AND THE GENERAL SPECIFICATIONS ADOPTED BY THE CITY OF FERNDALE DEPARTMENT OF PUBLIC WORKS.

DAVID W. HARMSEN STATE OF WASHINGTON 33745 REGISTERED PROFESSIONAL ENGINEER 04/07/26

APPROVED
05/01/2026
BY: _____ FOR KEVIN KENZ
CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

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P:\WORK\PROJECTS\2020\20-267 GRANDVIEW HOMES\CE\DWG\SHEETS\RECORD C4.0 STORM PLAN.DWG 4/30/2026

00770.006 05/01/26 RH

REVISIONS

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(206) 343-5903
FAX: (360) 805-9732

HARRINGTON PLACE
6276 PORTAL WAY
FERNDALE, WA 98248

DETAILS

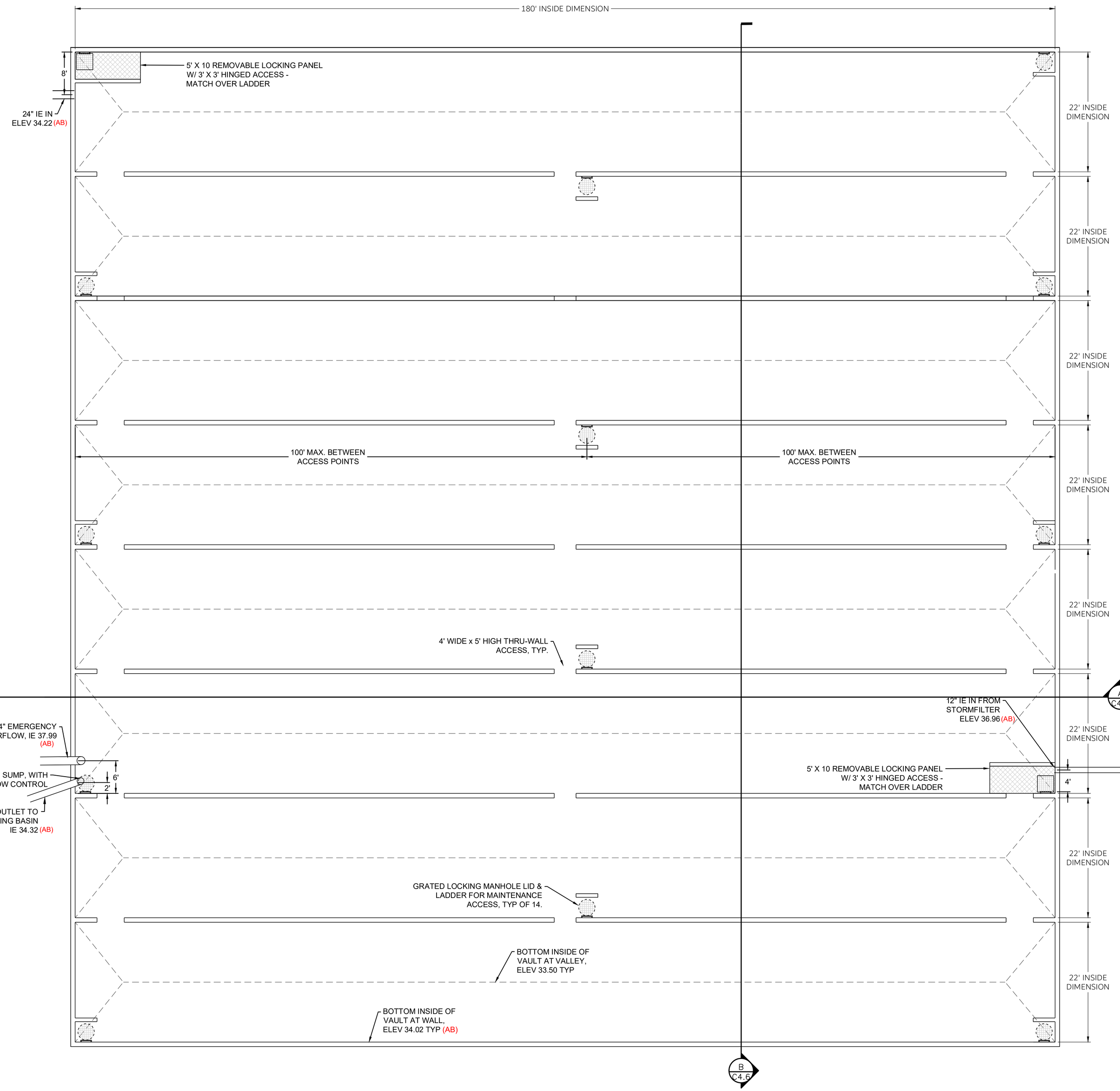
DATE: 6/5/24

JOB #: 20-267

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

C4.4

SECTION 17, TOWNSHIP 39 NORTH, RANGE 02 EAST, W.M.



SURVEYOR'S CERTIFICATION

I CERTIFY THAT THE LOCATIONS, ELEVATIONS, DEPTHS, AND AS-BUILT COMMENTS REFLECTING MATERIALS ACTUALLY USED DURING CONSTRUCTION ACCURATELY REFLECT EXISTING FIELD CONDITIONS AS DETERMINED BY ME OR UNDER MY DIRECT SUPERVISION ON THIS DATE: 4/30/26

PROJECT SURVEYOR _____ RYAN MICHAEL TWEIT

RYAN MICHAEL TWEIT STATE OF WASHINGTON 24011138 REGISTERED PROFESSIONAL LAND SURVEYOR 4/30/26

ENGINEER'S CERTIFICATION

I HEREBY CERTIFY THAT THE IMPROVEMENTS IN HARRINGTON PLACE HAVE BEEN INSPECTED BY HARMSEN LLC AND CONSTRUCTED IN CONFORMANCE WITH THE PLANS APPROVED BY THE PUBLIC WORKS DIRECTOR FOR SAID DEVELOPMENT AND THE GENERAL SPECIFICATIONS ADOPTED BY THE CITY OF FERNDALE DEPARTMENT OF PUBLIC WORKS.

DAVID W HARMSEN STATE OF WASHINGTON 33745 REGISTERED PROFESSIONAL ENGINEER 04/07/26

APPROVED
05/01/2026
BY: _____
CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

REVISIONS

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ENGINEERS
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2822 COLBY AVENUE, SUITE 300
EVERETT, WA 98201
(360) 794-7811
(206) 343-5903
FAX: (360) 805-9732

HARRINGTON PLACE
6276 PORTAL WAY
FERNDALE, WA 98248

VAULT DETAILS

DATE: 6/5/24

JOB #: 20-267

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

C4.5

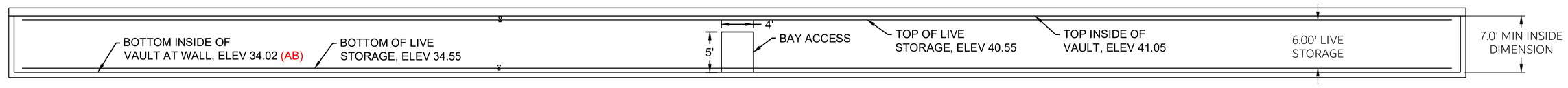
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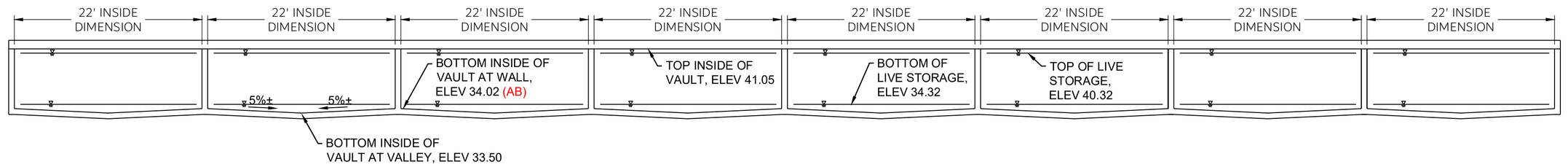
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SECTION 17, TOWNSHIP 39 NORTH, RANGE 02 EAST, W.M.

0 20 40 Feet



A **VAULT SECTION**
SCALE: 1" - 10'



B **VAULT SECTION**
SCALE: 1" - 10'

VAULT GENERAL NOTES

1. A COF BUILDING PERMIT IS REQUIRED FOR CONSTRUCTING THE VAULT.
2. CONCRETE DETENTION VAULTS MUST BE DESIGNED BY A STRUCTURAL ENGINEER OR CIVIL ENGINEER WITH EXPERTISE IN STRUCTURAL DESIGN.
3. VAULT CONSTRUCTION REQUIRES AN APPROVED COF BUILDING PERMIT AND COF LAND DISTURBANCE PERMIT ISSUED.
4. CONCRETE VAULTS MUST BE DESIGNED IN CONFORMANCE WITH VOLUME III, PAGE 3-48 OF THE MOST CURRENT APPLICABLE VERSION OF THE SWMM.
5. COVERED VAULTS: PROVIDE CALCULATIONS TO DEMONSTRATE THE VAULT WILL SUPPORT A MINIMUM 70,000 LB. MAINTENANCE/FIRE APPARATUS LOADING.
6. PROVIDE CONCRETE SPECIFICATIONS.
7. THE ENGINEER OF RECORD WILL BE REQUIRED TO CERTIFY THE VAULT IS CONSTRUCTED IN CONFORMANCE WITH THE APPLICABLE SWMM, THE APPROVED STRUCTURAL DESIGN AND THE APPROVED CIVIL PLAN FOR THE CITY TO PROVIDE PROJECT ACCEPTANCE.
8. THE ENGINEER OF RECORD SHALL PROVIDE THE STRUCTURAL ENGINEER WITH APPLICABLE CIVIL PLAN SHEETS APPROVED BY THE COF IN ORDER FOR THE STRUCTURAL ENGINEER TO BE AWARE OF THE ABOVE DESIGN CONDITIONS.
9. STRUCTURAL PLANS MUST BE STAMPED BY A REGISTERED PROFESSIONAL STRUCTURAL ENGINEER. SEE STRUCTURAL PLANS.
10. ALL METAL PARTS SHALL BE CORROSION RESISTANT.
11. INSTALL VAULT UNDERDRAINS PER STRUCTURAL PLANS, DISCHARGE TO OUTFALL PAD.
12. VAULTS CONSTRUCTED CLOSER THAN 20' FROM PROPERTY LINES AND OR CITY ROW MUST BE DESIGNED APPROPRIATELY BY A STRUCTURAL ENGINEER IN ACCORDANCE WITH SWMM GUIDELINES AND THE CONDITIONS IN WHICH IT WILL BE PLACED. THE PROJECT CIVIL ENGINEER OF RECORD WILL BE REQUIRED TO CERTIFY THAT CONSTRUCTION AND PLACEMENT WAS DONE IN ACCORDANCE WITH SAID GUIDELINES PRIOR TO PROJECT ACCEPTANCE BY PUBLIC WORKS.
13. VAULTS MUST COMPLY WITH THE OSHA CONFINED SPACE REQUIREMENTS, WHICH INCLUDES CLEARLY MARKING ENTRANCES TO CONFINED SPACE AREAS. THIS MAY BE ACCOMPLISHED BY HANGING A REMOVABLE SIGN IN THE ACCESS RISER(S), JUST UNDER THE ACCESS LID.

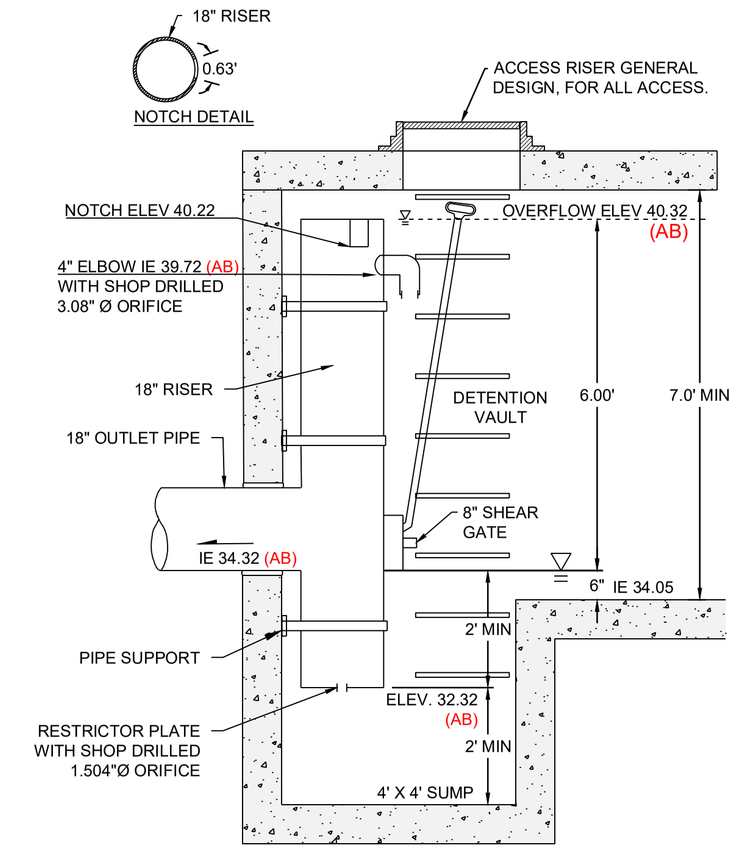
VAULT STRUCTURAL NOTES

14. THE DETENTION FACILITY MUST BE DESIGNED BY A STRUCTURAL ENGINEER.
15. STRUCTURAL CALCULATIONS SHALL ADDRESS CONCRETE VAULT BUOYANCY, SPECIFICALLY BUOYANCY WHEN THE VAULT IS EMPTY. FOR BUOYANCY CALCULATIONS ASSUME THAT THE HIGH GROUND WATER ELEVATION (HGWE) IS AT ELEVATION 79 FT, EXISTING GROUND. IN ORDER TO ACCURATELY ESTABLISH THE HGWE, TESTING SHALL BE PERFORMED DURING FEBRUARY, WHICH TYPICALLY HAS THE HIGHEST GROUND WATER ELEVATION.
16. VAULT MUST BE CONSTRUCTED WITHOUT TEMPORARY IMPACTS TO THE ADJACENT PROPERTY.
17. MINIMUM 3000 PSI STRUCTURAL REINFORCED CONCRETE MUST BE USED PER VOLUME III, PAGES 3-46 OF THE SWMM.
18. WATER STOPS MUST BE PROVIDED AT ALL CONSTRUCTION JOINTS IN THE VAULT PER VOLUME III, PAGES 3-46 OF THE SWMM.
19. VAULT MUST MEET STRUCTURAL REQUIREMENTS FOR OVERBURDEN SUPPORT AND H-20 TRAFFIC LOADING PER VOLUME III, PAGES 3-46 OF THE SWMM.

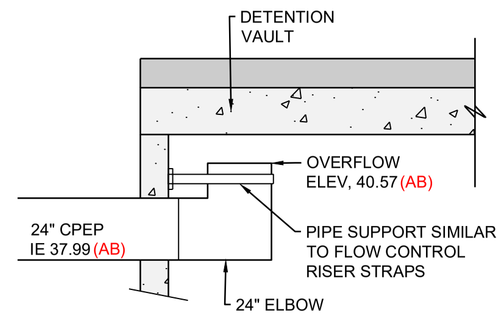
NOTES

1. THE ENGINEER OF RECORD OR THOSE ASSIGNED BY THE ENGINEER OF RECORD, WILL INSPECT AND CERTIFY ALL ASPECTS OF VAULT AND CHAMBER SYSTEM CONSTRUCTION SUCH AS BUT NOT LIMITED TO; VERIFYING EXISTING SOILS CONDITIONS, VERIFYING IMPORT SOILS, VERIFYING COMPACTION OF SAID SOILS, AND VERIFYING THAT THE SIZE,CONFIGURATION AND ELEVATIONS OF SAID FACILITIES MATCH THE APPROVED DESIGN.

2. THE ENGINEER WILL COORDINATE WITH THE SURVEYOR AND CONTRACTOR TO VERIFY AND OR CONFIRM THAT ALL POST CONSTRUCTION FACILITY ELEVATIONS ARE CORRECT, AND THE CONTROL STRUCTURE INVERT ELEVATIONS AND ORIFICE ELEVATIONS ARE INSTALLED CORRECTLY FOR THE FACILITIES TO FUNCTION APPROPRIATELY PRIOR TO PROVIDING CERTIFICATION AND AS-BUILT DRAWINGS FOR THE FACILITIES. PUBLIC WORKS INSPECTORS WILL LIMIT INSPECTION TO CONNECTING INFRASTRUCTURE AND CONVEYANCE LEADING TO AND LEAVING THE FACILITIES. THE ENGINEER WILL BE NOTIFIED SHOULD PUBLIC WORKS INSPECTORS OBSERVE ANY INCONSISTENCIES WITH FACILITY CONSTRUCTION OR DESIGN DURING ON SITE INSPECTION AND WILL DOCUMENT ALL OBSERVATIONS FOR CITY RECORDS.



1 **FLOW CONTROL**
SCALE: 1" = 2'



2 **EMERGENCY OVERFLOW**
SCALE: NONE

SURVEYOR'S CERTIFICATION

I CERTIFY THAT THE LOCATIONS, ELEVATIONS, DEPTHS, AND AS-BUILT COMMENTS REFLECTING MATERIALS ACTUALLY USED DURING CONSTRUCTION ACCURATELY REFLECT EXISTING FIELD CONDITIONS AS DETERMINED BY ME OR UNDER MY DIRECT SUPERVISION ON THIS DATE: 4/30/26

PROJECT SURVEYOR _____ RYAN MICHAEL TWEIT

RYAN MICHAEL TWEIT STATE OF WASHINGTON 240111138 REGISTERED PROFESSIONAL LAND SURVEYOR 4/30/26

ENGINEER'S CERTIFICATION

I HEREBY CERTIFY THAT THE IMPROVEMENTS IN HARRINGTON PLACE HAVE BEEN INSPECTED BY HARMSEN LLC AND CONSTRUCTED IN CONFORMANCE WITH THE PLANS APPROVED BY THE PUBLIC WORKS DIRECTOR FOR SAID DEVELOPMENT AND THE GENERAL SPECIFICATIONS ADOPTED BY THE CITY OF FERNDALE DEPARTMENT OF PUBLIC WORKS.

DAVID M. HARMSEN STATE OF WASHINGTON 33745 REGISTERED PROFESSIONAL ENGINEER 04/07/26

APPROVED
05/01/2026
BY: _____ for ICCV in Perez
CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

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P:\WORK\PROJECTS\2020\20-267 GRANDVIEW HOMES\CE\DWG\SHEETS\RECORD C4.5 VAULT DETAILS.DWG 4/30/2026

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FAX: (360) 805-9732

HARRINGTON PLACE
6276 PORTAL WAY
FERNDALE, WA 98248

VAULT DETAILS

DATE: 6/5/24

JOB #: 20-267

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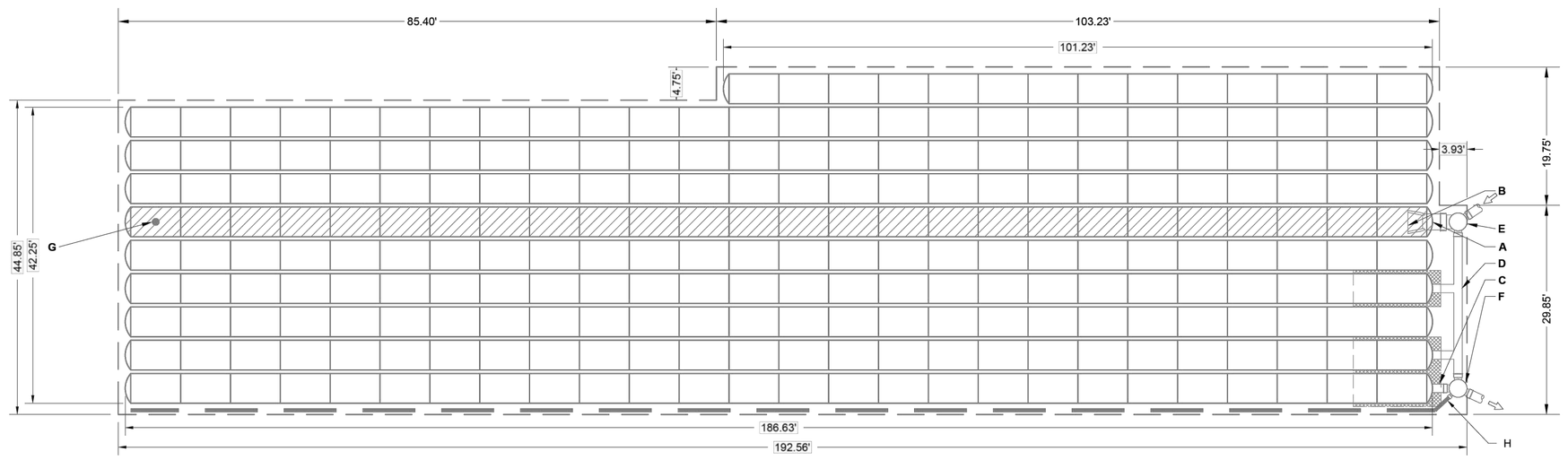
SECTION 17, TOWNSHIP 39 NORTH, RANGE 02 EAST, W.M.

PROPOSED LAYOUT	
248	STORMTECH SC-740 CHAMBERS
20	STORMTECH SC-740 END CAPS
6	STONE ABOVE (in)
6	STONE BELOW (in)
40	% STONE VOID
19,533	**INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED)**
9,068	SYSTEM AREA (ft²)
484	SYSTEM PERIMETER (ft)

PROPOSED ELEVATIONS	
48.00	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED)
42.00	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC)
41.50	MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC)
41.50	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT)
41.50	MINIMUM ALLOWABLE GRADE (TOP OF RIGID PAVEMENT)
40.50	TOP OF STONE
40.00	TOP OF SC-740 CHAMBER
38.54	12" TOP MANIFOLD INVERT
37.60	12" BOTTOM MANIFOLD INVERT
37.51	24" ISOLATOR ROW PLUS CONNECTION INVERT
37.50	BOTTOM OF SC-740 CHAMBER
37.00	UNDERDRAIN INVERT (TIGHTLINE TO SDCB #43. S=0.010 FT/FT MIN.)
37.00	BOTTOM OF STONE

*INVERT ABOVE BASE OF CHAMBER

PART TYPE	ITEM ON LAYOUT	DESCRIPTION	INVERT*	MAX FLOW
PREFABRICATED EZ END CAP	A	24" BOTTOM PREFABRICATED EZ END CAP. PART#: SC740ECEZ / TYP OF ALL 24" BOTTOM CONNECTIONS AND ISOLATOR PLUS ROWS	0.10"	
FLAMP	B	INSTALL FLAMP ON 24" ACCESS PIPE / PART#: SC74024RAMP		
MANIFOLD	C	12" x 12" BOTTOM MANIFOLD, ADS N-12	1.20"	
MANIFOLD	D	12" x 12" TOP MANIFOLD, ADS N-12	12.50"	
NYLOPLAST (INLET W/ ISO PLUS ROW)	E	30" DIAMETER (24.00" SUMP MIN)		5.7 CFS IN
NYLOPLAST (OUTLET)	F	30" DIAMETER (DESIGN BY ENGINEER)		4.0 CFS OUT
INSPECTION PORT	G	4" SEE DETAIL		
UNDERDRAIN	H	6" ADS N-12 DUAL WALL PERFORATED UNDERDRAIN		



ACTUAL LENGTH AND WIDTH DIMENSION REQUIREMENTS MATCHING THIS TO ALL OTHER APPLICABLE SHEETS WILL BE PROVIDED BY THE ENGINEER OF RECORD PRIOR TO CONSTRUCTION.

ISOLATOR ROW PLUS (SEE DETAIL)

PLACE MINIMUM 12.50' OF ADSPLUS125 WOVEN GEOTEXTILE OVER BEDDING STONE AND UNDERNEATH CHAMBER FEET FOR SCOUR PROTECTION AT ALL CHAMBER INLET ROWS

—— —— BED LIMITS

NOTES

- MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH NOTE #6.32 FOR MANIFOLD SIZING GUIDANCE.
- DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
- THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.
- THIS CHAMBER SYSTEM WAS DESIGNED WITHOUT SITE-SPECIFIC INFORMATION ON SOIL CONDITIONS OR BEARING CAPACITY. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR DETERMINING THE SUITABILITY OF THE SOIL AND PROVIDING THE BEARING CAPACITY OF THE INSITU SOILS. THE BASE STONE DEPTH MAY BE INCREASED OR DECREASED ONCE THIS INFORMATION IS PROVIDED.
- **NOT FOR CONSTRUCTION:** THIS LAYOUT IS FOR DIMENSIONAL PURPOSES ONLY TO PROVE CONCEPT & THE REQUIRED STORAGE VOLUME CAN BE ACHIEVED ON SITE.

- **ATTENTION:** THIS DRAWING IS NOT INTENDED FOR USE IN BIDDING OR CONSTRUCTION WITHOUT THE PRIOR APPROVAL OF THE PROJECT'S ENGINEER OF RECORD (EOR). AS WITH ALL PROPOSED ADS LAYOUTS, THE EOR SHOULD REVIEW AND APPROVE THIS DRAWING PRIOR TO USE IN BIDDING AND/OR CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE EOR TO ENSURE THAT THE PRODUCT(S) DEPICTED AND THE ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

SC-740 STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH SC-740.
2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
3. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
5. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
6. CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
7. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 550 LBS/FT/% THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
8. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
   - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
   - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
   - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-740 SYSTEM

1. STORMTECH SC-740 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 6" (150 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4-2" (20-50 mm).
8. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
9. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
2. THE USE OF CONSTRUCTION EQUIPMENT OVER SC-740 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

NOTE:

THE ENGINEER OF RECORD OR THOSE ASSIGNED BY THE ENGINEER OF RECORD, WILL INSPECT AND CERTIFY ALL ASPECTS OF VAULT AND CHAMBER SYSTEM CONSTRUCTION SUCH AS BUT NOT LIMITED TO; VERIFYING EXISTING SOILS CONDITIONS, VERIFYING IMPORT SOILS, VERIFYING COMPACTION OF SAID SOILS, AND VERIFYING THAT THE SIZE,CONFIGURATION AND ELEVATIONS OF SAID FACILITIES MATCH THE APPROVED DESIGN.

THE ENGINEER WILL COORDINATE WITH THE SURVEYOR AND CONTRACTOR TO VERIFY AND OR CONFIRM THAT ALL POST CONSTRUCTION FACILITY ELEVATIONS ARE CORRECT, AND THE CONTROL STRUCTURE INVERT ELEVATIONS AND ORIFICE ELEVATIONS ARE INSTALLED CORRECTLY FOR THE FACILITIES TO FUNCTION APPROPRIATELY PRIOR TO PROVIDING CERTIFICATION AND AS-BUILT DRAWINGS FOR THE FACILITIES. PUBLIC WORKS INSPECTORS WILL LIMIT INSPECTION TO CONNECTING INFRASTRUCTURE AND CONVEYANCE LEADING TO AND LEAVING THE FACILITIES. THE ENGINEER WILL BE NOTIFIED SHOULD PUBLIC WORKS INSPECTORS OBSERVE ANY INCONSISTENCIES WITH FACILITY CONSTRUCTION OR DESIGN DURING ON SITE INSPECTION AND WILL DOCUMENT ALL OBSERVATIONS FOR CITY RECORDS.

RYAN MICHAEL TWEIT — STATE OF WASHINGTON — 240111.38 — REGISTERED PROFESSIONAL LAND SURVEYOR — 4/30/26

SURVEYOR'S CERTIFICATION

I CERTIFY THAT THE LOCATIONS, ELEVATIONS, DEPTHS, AND AS-BUILT COMMENTS REFLECTING MATERIALS ACTUALLY USED DURING CONSTRUCTION ACCURATELY REFLECT EXISTING FIELD CONDITIONS AS DETERMINED BY ME OR UNDER MY DIRECT SUPERVISION ON THIS DATE: 4/30/26

PROJECT SURVEYOR _____ RYAN MICHAEL TWEIT

ENGINEER'S CERTIFICATION

I HEREBY CERTIFY THAT THE IMPROVEMENTS IN HARRINGTON PLACE HAVE BEEN INSPECTED BY HARMSEN LLC AND CONSTRUCTED IN CONFORMANCE WITH THE PLANS APPROVED BY THE PUBLIC WORKS DIRECTOR FOR SAID DEVELOPMENT AND THE GENERAL SPECIFICATIONS ADOPTED BY THE CITY OF FERNDALE DEPARTMENT OF PUBLIC WORKS.

DAVID W. HARMSEN — STATE OF WASHINGTON — 13745 — REGISTERED PROFESSIONAL ENGINEER — 04/07/26

APPROVED
05/01/2026
BY _____ for recv'd
CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

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HARRINGTON PLACE
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FERNDALE, WA 98248

ADS DETAILS

DATE: 6/5/24

JOB #: 20-267

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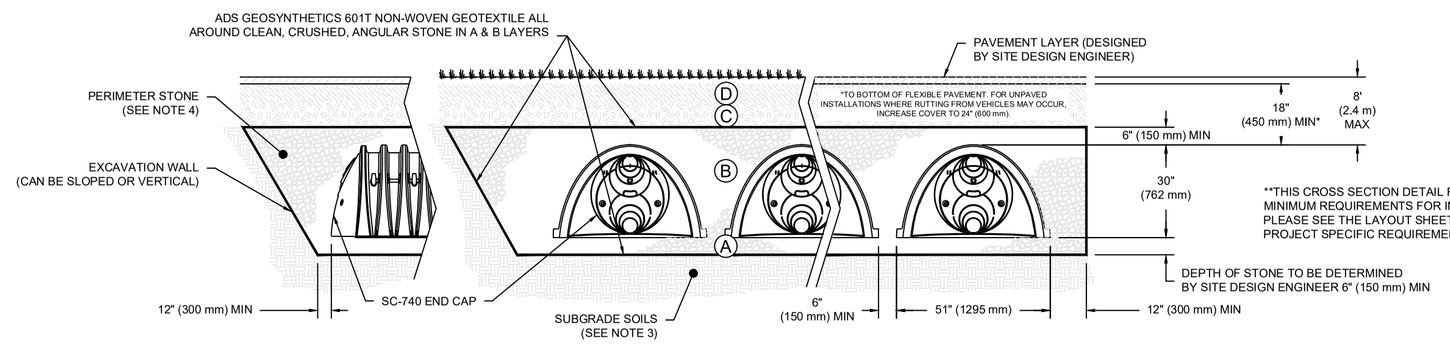
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SECTION 17, TOWNSHIP 39 NORTH, RANGE 02 EAST, W.M.

ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

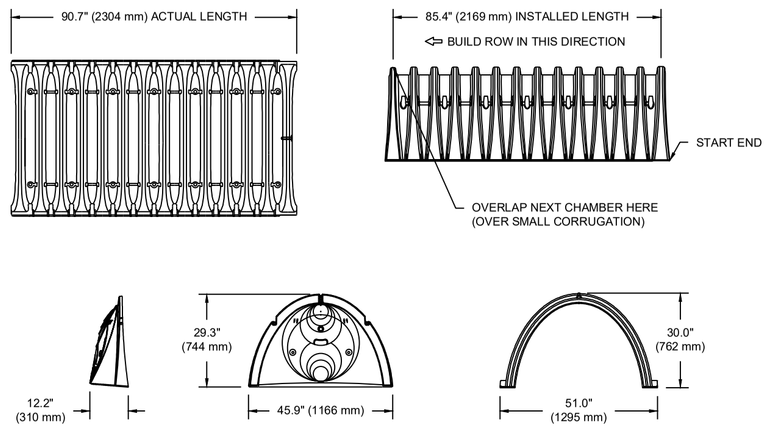
PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 550 LBS/FT/% AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

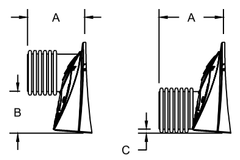
SC-740 TECHNICAL SPECIFICATION
NTS



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	51.0" X 30.0" X 85.4"	(1295 mm X 762 mm X 2169 mm)
CHAMBER STORAGE	45.9 CUBIC FEET	(1.30 m³)
MINIMUM INSTALLED STORAGE*	74.9 CUBIC FEET	(2.12 m³)
WEIGHT	75.0 lbs.	(33.6 kg)

*ASSUMES 6" (152 mm) STONE ABOVE, BELOW, AND BETWEEN CHAMBERS



PRE-FAB STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
PRE-FAB STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
PRE-CORED END CAPS END WITH "PC"

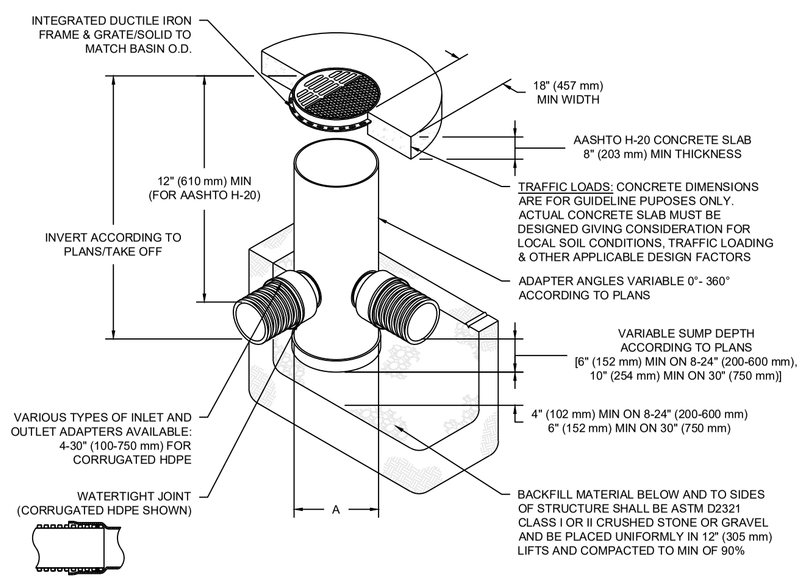
PART #	STUB	A	B	C
SC740EPE06T / SC740EPE06TPC	6" (150 mm)	10.9" (277 mm)	18.5" (470 mm)	---
SC740EPE06B / SC740EPE06BPC			---	0.5" (13 mm)
SC740EPE08T /SC740EPE08TPC	8" (200 mm)	12.2" (310 mm)	16.5" (419 mm)	---
SC740EPE08B / SC740EPE08BPC			---	0.6" (15 mm)
SC740EPE10T / SC740EPE10TPC	10" (250 mm)	13.4" (340 mm)	14.5" (368 mm)	---
SC740EPE10B / SC740EPE10BPC			---	0.7" (18 mm)
SC740EPE12T / SC740EPE12TPC	12" (300 mm)	14.7" (373 mm)	12.5" (318 mm)	---
SC740EPE12B / SC740EPE12BPC			---	1.2" (30 mm)
SC740EPE15T / SC740EPE15TPC	15" (375 mm)	18.4" (467 mm)	9.0" (229 mm)	---
SC740EPE15B / SC740EPE15BPC			---	1.3" (33 mm)
SC740EPE18T / SC740EPE18TPC	18" (450 mm)	19.7" (500 mm)	5.0" (127 mm)	---
SC740EPE18B / SC740EPE18BPC			---	1.6" (41 mm)
SC740ECEZ*	24" (600 mm)	18.5" (470 mm)	---	0.1" (3 mm)

ALL STUBS, EXCEPT FOR THE SC740ECEZ ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

* FOR THE SC740ECEZ THE 24" (600 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 1.75" (44 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

NOTE: ALL DIMENSIONS ARE NOMINAL

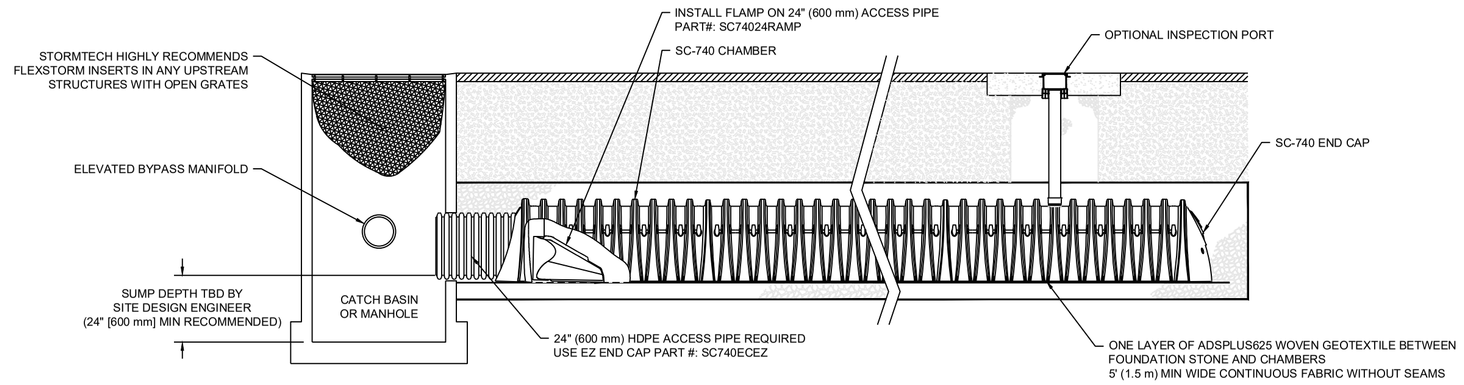
NYLOPLAST DRAIN BASIN
NTS



NOTES

1. 8-30" (200-750 mm) GRATES/SOLID COVERS SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
2. 12-30" (300-750 mm) FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
3. DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS
4. DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS & HANCOR DUAL WALL) & SDR 35 PVC
5. FOR COMPLETE DESIGN AND PRODUCT INFORMATION: **WWW.NYLOPLAST-US.COM**
6. TO ORDER CALL: **800-821-6710**

A	PART #	GRATE/SOLID COVER OPTIONS		
8" (200 mm)	2808AG	PEDESTRIAN LIGHT DUTY	STANDARD LIGHT DUTY	SOLID LIGHT DUTY
10" (250 mm)	2810AG	PEDESTRIAN LIGHT DUTY	STANDARD LIGHT DUTY	SOLID LIGHT DUTY
12" (300 mm)	2812AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-10	SOLID AASHTO H-20
15" (375 mm)	2815AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
18" (450 mm)	2818AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
24" (600 mm)	2824AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
30" (750 mm)	2830AG	PEDESTRIAN AASHTO H-20	STANDARD AASHTO H-20	SOLID AASHTO H-20



SC-740 ISOLATOR ROW PLUS DETAIL
NTS

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR PLUS ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

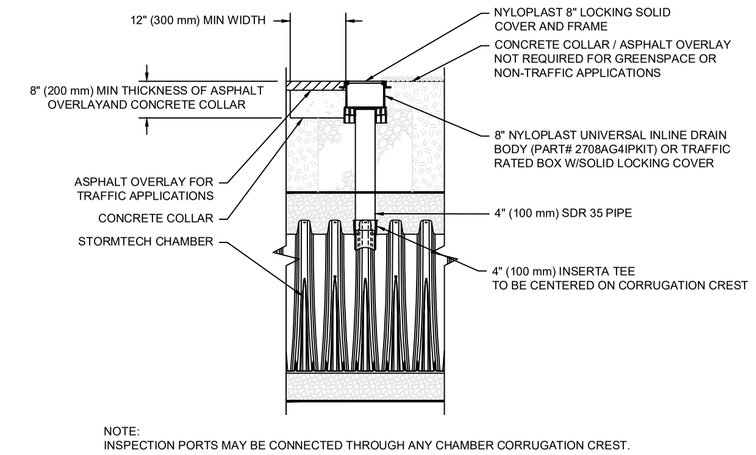
STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45° (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

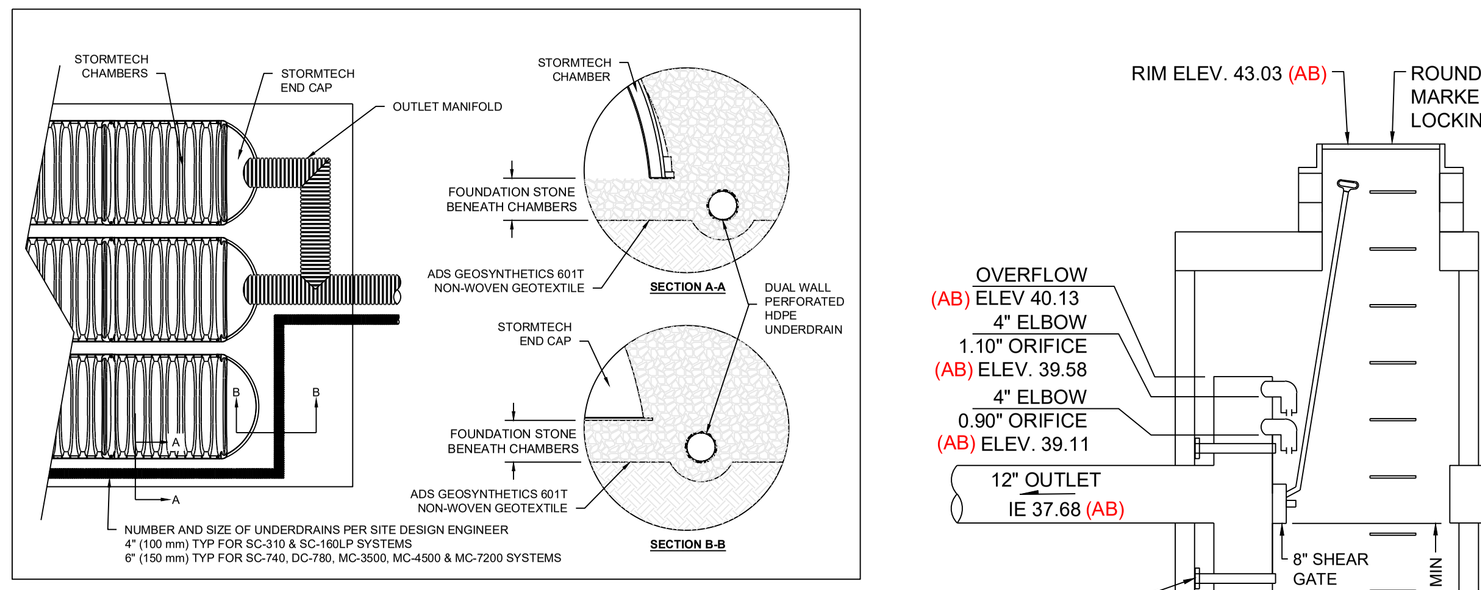
NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



NOTE:
INSPECTION PORTS MAY BE CONNECTED THROUGH ANY CHAMBER CORRUGATION CREST.

4" PVC INSPECTION PORT DETAIL (SC SERIES CHAMBER)
NTS



SURVEYOR'S CERTIFICATION

I CERTIFY THAT THE LOCATIONS, ELEVATIONS, DEPTHS, AND AS-BUILT COMMENTS REFLECTING MATERIALS ACTUALLY USED DURING CONSTRUCTION ACCURATELY REFLECT EXISTING FIELD CONDITIONS AS DETERMINED BY ME OR UNDER MY DIRECT SUPERVISION ON THIS DATE: 4/30/26

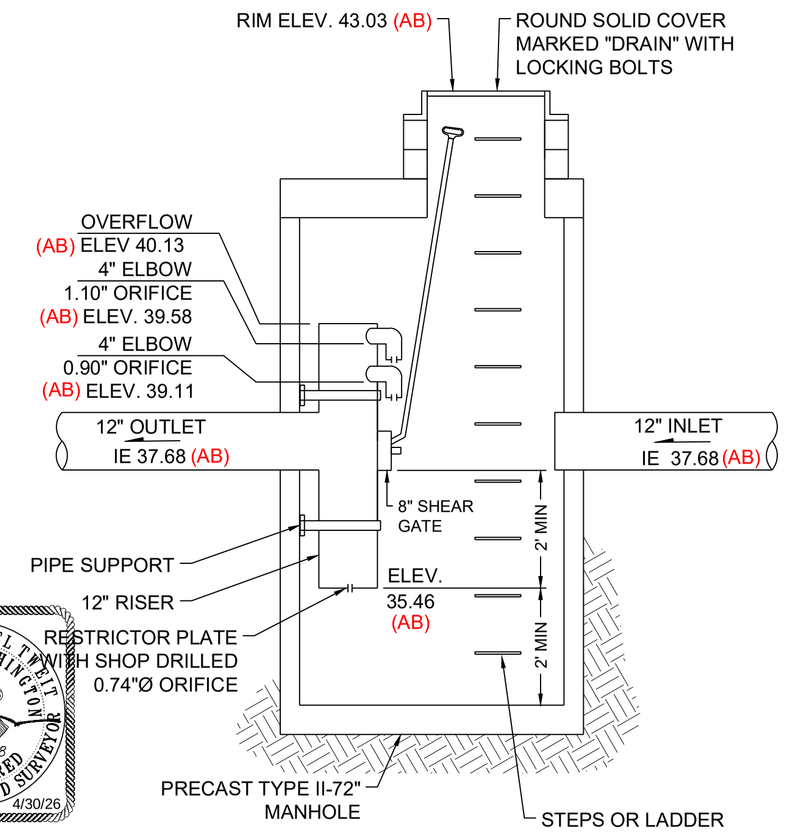
PROJECT SURVEYOR _____ RYAN MICHAEL TWEIT

RYAN MICHAEL TWEIT — STATE OF WASHINGTON — 24011138 — REGISTERED PROFESSIONAL LAND SURVEYOR — 4/30/26

ENGINEER'S CERTIFICATION

I HEREBY CERTIFY THAT THE IMPROVEMENTS IN HARRINGTON PLACE HAVE BEEN INSPECTED BY HARMSEN LLC AND CONSTRUCTED IN CONFORMANCE WITH THE PLANS APPROVED BY THE PUBLIC WORKS DIRECTOR FOR SAID DEVELOPMENT AND THE GENERAL SPECIFICATIONS ADOPTED BY THE CITY OF FERNDALE DEPARTMENT OF PUBLIC WORKS.

DAVID M. HARMSEN — STATE OF WASHINGTON — 53745 — REGISTERED PROFESSIONAL ENGINEER — 04/07/26



SEE CITY OF FERNDALE STANDARD DETAIL ST-7 ON SHEET C7.2

1 FLOW CONTROL (STORMTECH CHAMBER SYSTEM)
SCALE:NONE

APPROVED
05/01/2026
BY _____ FOR KEVIN RENZ
CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

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P:\WORK\PROJECTS\2020\20-267 GRANDVIEW HOMES\CE\DWG\SHEETS\RECORD C4.5 VAULT DETAILS.DWG 4/30/2026

00770.010 05/01/26 RH

REVISIONS

HARMSEN ENGINEERS SURVEYORS
2822 COLBY AVENUE, SUITE 300
EVERETT, WA 98201
(360) 794-7811
(206) 343-5903
FAX: (360) 805-9732

HARRINGTON PLACE
6276 PORTAL WAY
FERNDALE, WA 98248

ADS DETAILS

DATE: 6/5/24

JOB #: 20-267

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

C4.8

SECTION 17, TOWNSHIP 39 NORTH, RANGE 02 EAST, W.M.

NOTES

1. SIDE SEWERS PER COF STD SS-6, TYPICAL
   6" PVC, S = 0.020 FT/FT
   LENGTH AS REQUIRED
   PLACE CLEANOUT 5' FROM BUILDING TYPICAL
2. 4" DCVA & FIRE SUPPRESSION DCVA PROTECTION TO BE LOCATED IN VAULTS PER CITY DETAIL W-16 UNLESS DEEMED OTHERWISE BY THE PUBLIC WORKS DIRECTOR. VAULTS TO BE LOCATED OUT OF DRIVE SURFACES AS MUCH AS POSSIBLE.
3. METER SIZING PER MECHANICAL CONTRACTOR REQUIREMENTS.
4. FIRE SPRINKLER LINE SIZED PER SPRINKLER CONTRACTOR. 4" DI SHOWN. VERIFY PRIOR TO INSTALLATION.
5. SEWER BYPASS SYSTEM DURING CONSTRUCTION OF CUT-IN MANHOLE PER CONTRACTOR.
6. OWNER TO PROVIDE DEWATERING PLAN PRIOR TO CONSTRUCTION
7. A LICENSED FIRE SUPPRESSION PROFESSIONAL HAS SIZED THE SYSTEM.

VERTICAL DATUM
NGVD29
CITY OF FERNDALE
NETWORK

0 50 100 Feet

INTERSECTION
PORTAL WAY, STA=126+80.13
KASS RD., STA=13+00.00

ABANDON THE EXISTING SEWER AND WATER SERVICES NOT BEING USED AT THE MAIN TO CITY STANDARDS.

KAASS RD.

STA 135+81.1, 17.1' LT
1- 8" TAPPING SLEEVE
1- 8" TAPPING GV, FLxRJ
THRUST BLOCK

SEPARATION MUST BE PROVIDED FOR BACTERIAL AND PRESSURE TESTING APPROVAL PRIOR TO CONNECTION

SAWCUT AND PATCH
PER COF STD R-11

1" IRRIGATION METER #1-A
PER LANDSCAPE PLANS (AB)

1" IRRIGATION METER #1-B
& DCVA PER COF STD W-15
SEE LANDSCAPE PLANS

SEPARATION MUST BE PROVIDED FOR BACTERIAL AND PRESSURE TESTING APPROVAL PRIOR TO CONNECTION

STA 132+57.0, 142.8' RT
1-8"x6" DI TEE, MJxFL
1- 6" GV, FLxMJ (HYDRANT) (AB)
1- HYDRANT ASSEMBLY
THRUST BLOCK

29 LF 8" DI

BUILDING 1
FFE
52.00

STA 132+26.6, 142.6' RT
1- 8" 90° BEND, MJ
THRUST BLOCK

STA 129+77.5, 294.0' RT
1- 12" TAPPING SLEEVE
1- 12" TAPPING GV, FLxMJ (AB)
THRUST BLOCK

STA 130+63.1, 245.6' RT
1- TEMPORARY
BLOW-OFF ASSY

ABANDON THE EXISTING SEWER AND WATER SERVICES NOT BEING USED AT THE MAIN TO CITY STANDARDS.

BUILDING 2
FFE
50.50

33 LF 6" DI (AB)

STA 133+96.1, 143.7' RT
1- 8"X6" TEE, MJxFL
1- 6" GV, FLxMJ (AB)
THRUST BLOCK

BUILDING 3
FFE
50.50

STA 136+57.8, 145.3' RT
1-8"x6" DI TEE, MJxFL
1- 6" GV, FLxMJ (HYDRANT) (AB)
THRUST BLOCK

STA 136+57.9, 130.8' RT (AB)
1- FIRE HYDRANT

39 LF 6" DI (AB)

15 LF 6" DI (AB)

STA 137+65.1, 145.9' RT
1-8"X6" TEE, MJxFL
1- 6" GV, FLxMJ (AB)
THRUST BLOCK

BUILDING 4
FFE
50.50

10' RIGHT OF WAY
DEDICATION PER
AF# 2026-0402442

138 LF 8" DI (AB)

183 LF 8" DI (AB)

76 LF 8" DI (AB)

107 LF 8" DI (AB)

155 LF 8" DI (AB)

34 LF 6" DI (AB)

STA 132+25.7, 281.1' RT
1- 8" TEE, FL
2- 8" GV, FLxMJ (AB)
1- 8" ADAPTER, FLxMJ
THRUST BLOCK

STA 135+42.8, 280.6' RT (AB)
1- FIRE HYDRANT

STA 135+80.1, 144.8' RT
1- 8" TEE, FL
2- 8" GV, FLxMJ (AB)
1- 8" ADAPTER, FLxMJ
THRUST BLOCK

STA 135+42.7, 289.1' RT
1-8"x6" DI TEE, MJxFL
1- 6" GV, FLxMJ (HYDRANT)
THRUST BLOCK

STA 139+22.0, 146.9' RT
1- 8" 90° BEND, MJ
1- 8" GV, FLxMJ
THRUST BLOCK

WATER EASEMENT RECORDED UNDER WHATCOM COUNTY AUDITOR'S FILE NO. 2026-0402444

STA 132+56.8, 177.3' RT (AB)
1- FIRE HYDRANT

5 LF 8" DI

137 LF 6" DI (AB)

STA 132+73.8, 281.4' RT
1- 8" 45° BEND, MJ
THRUST BLOCK

8 LF 8" DI

BUILDING 5
FFE
52.00

76 LF 4" DI (AB)

CLUB HOUSE
FFE
50.00

STA 138+93.9, 232.7' RT (AB)
1- FIRE HYDRANT

17 LF 4" DI (AB)

17 LF 6" DI (AB)

STA 139+21.6, 207.6' RT
1- 8" 11-1/4" BEND, MJ
THRUST BLOCK

STA 139+09.7, 239.7' RT
1-8"x6" DI TEE, MJxFL
1- 6" GV, FLxMJ (HYDRANT) (AB)
THRUST BLOCK

VAULT ACCESS

160 LF 12" DI

189 LF 8" DI (AB)

SAWCUT AND PATCH
PER COF STD R-11

STA 132+79.8, 287.4' RT
1- 8" 45° BEND, MJ
THRUST BLOCK

24' WATER EASEMENT

STA 136+57.4, 289.8' RT (AB)
1- 2" BLOW-OFF
REVERSE THRUST BLOCK

STA 136+51.4, 289.8' RT
1- 8"X4" TEE, MJxFL
1- 4" GV, FLxMJ (AB)
THRUST BLOCK

STA 132+26.0, 295.6' RT
1- 12" 90° BEND, FL
1- 12"X8" REDUCER, FLxMJ
1- 8" GV, MJ (AB)
THRUST BLOCK

1" IRRIGATION METER #2 &
DCVA PER COF STD W-15
SEE LANDSCAPE PLANS

60 LF 6" DI (AB)

STA 134+70.0, 288.6' RT
1- 8"X4" TEE, MJxFL
1- 4" GV, FLxMJ (AB)
THRUST BLOCK

BUILDING 6
FFE
51.00

STA 136+17.6, 289.5' RT
1- 8"X6" TEE, MJxFL
1- 6" GV, FLxMJ
THRUST BLOCK

STA 132+19.1, 295.5' RT
1- 12" TEE, FL
1- 12" GV, FLxMJ (AB)
1- 12" ADAPTER, FLxMJ
THRUST BLOCK

BUILDING 7
FFE
49.00

STA 138+50.7, 380.5' RT
1- 8" 11-1/4" BEND, MJ
THRUST BLOCK

20 LF 8" DI

DETENTION VAULT
115' X 180'
SPORT COURT ON TOP

STA 130+63.1, 294.7' RT
1- 12" TEE, MJxFL (AB)
1- 12" GV, FLxMJ
THRUST BLOCK

64 LF 8" DI

20 LF 6" DI

73 LF 8" DI

STA 137+42.0, 431.7' RT (AB)
1- FIRE HYDRANT

14 LF 6" DI

STA 132+17.8, 496.7' RT
1-12"x6" DI TEE, MJxFL
1- 6" GV, FLxMJ (HYDRANT)
THRUST BLOCK

STA 131+58.9, 496.3' RT (AB)
1- FIRE HYDRANT

58 LF 6" DI (AB)

14 LF 8" DI

34 LF 4" DI (AB)

STA 136+07.0, 477.9' RT
1- FIRE HYDRANT

STA 137+54.9, 446.9' RT
1- 8" 45° BEND, MJ
THRUST BLOCK

12 LF 8" DI

28 LF 8" DI

STA 136+00.6, 513.5' RT
1- 8" 45° BEND, MJ
THRUST BLOCK

STA 137+42.2, 446.8' RT
1-8"x6" DI TEE, MJxFL
1- 6" GV, FLxMJ (HYDRANT) (AB)
THRUST BLOCK

MIXED USE
BUILDING
(14 DU ABOVE)
FFE
54.50

61 LF 4" DI (AB)

51 LF 4" DI (AB)

BUILDING 8
FFE
52.00

STA 134+03.7, 585.0' RT (AB)
1- FIRE HYDRANT

1" IRRIGATION METER #4 &
DCVA PER COF STD W-15
SEE LANDSCAPE PLANS

STA 132+17.7, 512.1' RT
1- 8"X4" TEE, MJxFL
1- 4" GV, FLxMJ (AB)
THRUST BLOCK

STA 136+21.6, 492.6' RT
1-8"x6" DI TEE, FL
1- 8" GV, FLxMJ (AB)
1- 8" ADAPTER, FLxMJ
THRUST BLOCK

STA 136+67.8, 446.5' RT
1- 8" 45° BEND, FL
1- 8" GV, FLxMJ (AB)
1- 8" ADAPTOR, FLxMJ
THRUST BLOCK

STA 132+17.6, 523.0' RT
1- 12"X4" TEE, MJxFL
1- 4" GV, FLxMJ (AB)
THRUST BLOCK

83 LF 8" DI (AB)

93 LF 8" DI (AB)

15 LF 6" DI (AB)

184 LF 8" DI (AB)

STA 132+17.1, 600.7' RT
1- 12" 90° BEND, FL
1- 12"X8" REDUCER, FLxMJ
1- 12" ADAPTER, FLxMJ
THRUST BLOCK

STA 135+89.1, 600.0' RT
1- 8"X4" TEE, MJxFL
1- 4" GV, FLxMJ (AB)
THRUST BLOCK

BUILDING 9
FFE
50.50

LF 4" DI (AB)

STA 134+03.7, 600.6' RT
1-8"x6" DI TEE, MJxFL
1- 6" GV, FLxMJ (HYDRANT) (AB)
THRUST BLOCK

STA 136+00.1, 600.0' RT
1- 8" 90° BEND, FL
THRUST BLOCK

STA 135+89.0, 625.9' RT
1- 4" 90° BEND, FL
THRUST BLOCK

24 LF 4" DI (AB)

MCKINLEY ST.

STA 133+09.0, 601.0' RT
1- 8" TEE, FL
2- 8" GV, FLxMJ (AB)
1- 8" ADAPTER, FLxMJ
THRUST BLOCK

SEPARATION MUST BE PROVIDED FOR BACTERIAL AND PRESSURE TESTING APPROVAL PRIOR TO CONNECTION

STA 133+09.3, 666.7' RT
CONNECT TO EXISTING STUB
SAWCUT & PATCH

STA 130+63.1, 294.7' RT
1- 12" TEE, MJxFL (AB)
1- 12" GV, FLxMJ
THRUST BLOCK

PORTAL WAY

STA 131+58.9, 496.3' RT (AB)
1- FIRE HYDRANT

STA 132+17.7, 512.1' RT
1- 8"X4" TEE, MJxFL
1- 4" GV, FLxMJ (AB)
THRUST BLOCK

STA 132+17.6, 523.0' RT
1- 12"X4" TEE, MJxFL
1- 4" GV, FLxMJ (AB)
THRUST BLOCK

STA 132+17.1, 600.7' RT
1- 12" 90° BEND, FL
1- 12"X8" REDUCER, FLxMJ
1- 12" ADAPTER, FLxMJ
THRUST BLOCK

STA 132+19.1, 295.5' RT
1- 12" TEE, FL
1- 12" GV, FLxMJ (AB)
1- 12" ADAPTER, FLxMJ
THRUST BLOCK

STA 130+63.1, 294.7' RT
1- 12" TEE, MJxFL (AB)
1- 12" GV, FLxMJ
THRUST BLOCK

STA 132+26.0, 295.6' RT
1- 12" 90° BEND, FL
1- 12"X8" REDUCER, FLxMJ
1- 8" GV, MJ (AB)
THRUST BLOCK

1" IRRIGATION METER #2 &
DCVA PER COF STD W-15
SEE LANDSCAPE PLANS

38 LF 4" DI (AB)

199 LF 12" DI (AB)

STA 132+79.8, 287.4' RT
1- 8" 45° BEND, MJ
THRUST BLOCK

160 LF 12" DI

48 LF 12" DI

137 LF 6" DI (AB)

5 LF 8" DI

STA 132+56.8, 177.3' RT (AB)
1- FIRE HYDRANT

STA 132+25.7, 281.1' RT
1- 8" TEE, FL
2- 8" GV, FLxMJ (AB)
1- 8" ADAPTER, FLxMJ
THRUST BLOCK

STA 132+26.6, 142.6' RT
1- 8" 90° BEND, MJ
THRUST BLOCK

STA 129+77.5, 294.0' RT
1- 12" TAPPING SLEEVE
1- 12" TAPPING GV, FLxMJ (AB)
THRUST BLOCK

STA 130+63.1, 245.6' RT
1- TEMPORARY
BLOW-OFF ASSY

ABANDON THE EXISTING SEWER AND WATER SERVICES NOT BEING USED AT THE MAIN TO CITY STANDARDS.

29 LF 8" DI

138 LF 8" DI (AB)

34 LF 6" DI (AB)

5 LF 8" DI

137 LF 6" DI (AB)

8 LF 8" DI

160 LF 12" DI

48 LF 12" DI

SAWCUT AND PATCH
PER COF STD R-11

1" IRRIGATION METER #2 &
DCVA PER COF STD W-15
SEE LANDSCAPE PLANS

38 LF 4" DI (AB)

199 LF 12" DI (AB)

STA 130+63.1, 294.7' RT
1- 12" TEE, MJxFL (AB)
1- 12" GV, FLxMJ
THRUST BLOCK

STA 131+58.9, 496.3' RT (AB)
1- FIRE HYDRANT

STA 132+17.8, 496.7' RT
1-12"x6" DI TEE, MJxFL
1- 6" GV, FLxMJ (HYDRANT)
THRUST BLOCK

58 LF 6" DI (AB)

14 LF 8" DI

34 LF 4" DI (AB)

MIXED USE
BUILDING
(14 DU ABOVE)
FFE
54.50

61 LF 4" DI (AB)

STA 132+17.7, 512.1' RT
1- 8"X4" TEE, MJxFL
1- 4" GV, FLxMJ (AB)
THRUST BLOCK

STA 132+17.6, 523.0' RT
1- 12"X4" TEE, MJxFL
1- 4" GV, FLxMJ (AB)
THRUST BLOCK

STA 132+17.1, 600.7' RT
1- 12" 90° BEND, FL
1- 12"X8" REDUCER, FLxMJ
1- 12" ADAPTER, FLxMJ
THRUST BLOCK

MCKINLEY ST.

STA 133+09.0, 601.0' RT
1- 8" TEE, FL
2- 8" GV, FLxMJ (AB)
1- 8" ADAPTER, FLxMJ
THRUST BLOCK

STA 133+09.3, 666.7' RT
CONNECT TO EXISTING STUB
SAWCUT & PATCH

SEPARATION MUST BE PROVIDED FOR BACTERIAL AND PRESSURE TESTING APPROVAL PRIOR TO CONNECTION

STA 134+03.7, 600.6' RT
1-8"x6" DI TEE, MJxFL
1- 6" GV, FLxMJ (HYDRANT) (AB)
THRUST BLOCK

STA 135+89.0, 625.9' RT
1- 4" 90° BEND, FL
THRUST BLOCK

24 LF 4" DI (AB)

STA 136+00.1, 600.0' RT
1- 8" 90° BEND, FL
THRUST BLOCK

STA 136+21.6, 492.6' RT
1-8"x6" DI TEE, FL
1- 8" GV, FLxMJ (AB)
1- 8" ADAPTER, FLxMJ
THRUST BLOCK

STA 136+67.8, 446.5' RT
1- 8" 45° BEND, FL
1- 8" GV, FLxMJ (AB)
1- 8" ADAPTOR, FLxMJ
THRUST BLOCK

1" IRRIGATION METER #4 &
DCVA PER COF STD W-15
SEE LANDSCAPE PLANS

STA 137+42.2, 446.8' RT
1-8"x6" DI TEE, MJxFL
1- 6" GV, FLxMJ (HYDRANT) (AB)
THRUST BLOCK

12 LF 8" DI

STA 137+54.9, 446.9' RT
1- 8" 45° BEND, MJ
THRUST BLOCK

14 LF 6" DI

STA 137+42.0, 431.7' RT (AB)
1- FIRE HYDRANT

73 LF 8" DI

64 LF 8" DI

20 LF 6" DI

STA 136+07.0, 477.9' RT
1- FIRE HYDRANT

28 LF 8" DI

STA 136+00.6, 513.5' RT
1- 8" 45° BEND, MJ
THRUST BLOCK

STA 134+03.7, 585.0' RT (AB)
1- FIRE HYDRANT

BUILDING 8
FFE
52.00

51 LF 4" DI (AB)

61 LF 4" DI (AB)

MIXED USE
BUILDING
(14 DU ABOVE)
FFE
54.50

STA 132+17.7, 512.1' RT
1- 8"X4" TEE, MJxFL
1- 4" GV, FLxMJ (AB)
THRUST BLOCK

STA 132+17.6, 523.0' RT
1- 12"X4" TEE, MJxFL
1- 4" GV, FLxMJ (AB)
THRUST BLOCK

83 LF 8" DI (AB)

93 LF 8" DI (AB)

15 LF 6" DI (AB)

184 LF 8" DI (AB)

STA 132+17.1, 600.7' RT
1- 12" 90° BEND, FL
1- 12"X8" REDUCER, FLxMJ
1- 12" ADAPTER, FLxMJ
THRUST BLOCK

STA 135+89.1, 600.0' RT
1- 8"X4" TEE, MJxFL
1- 4" GV, FLxMJ (AB)
THRUST BLOCK

BUILDING 9
FFE
50.50

LF 4" DI (AB)

STA 134+03.7, 600.6' RT
1-8"x6" DI TEE, MJxFL
1- 6" GV, FLxMJ (HYDRANT) (AB)
THRUST BLOCK

STA 136+00.1, 600.0' RT
1- 8" 90° BEND, FL
THRUST BLOCK

STA 135+89.0, 625.9' RT
1- 4" 90° BEND, FL
THRUST BLOCK

24 LF 4" DI (AB)

STA 133+09.0, 601.0' RT
1- 8" TEE, FL
2- 8" GV, FLxMJ (AB)
1- 8" ADAPTER, FLxMJ
THRUST BLOCK

SEPARATION MUST BE PROVIDED FOR BACTERIAL AND PRESSURE TESTING APPROVAL PRIOR TO CONNECTION

STA 133+09.3, 666.7' RT
CONNECT TO EXISTING STUB
SAWCUT & PATCH

STA 132+73.8, 281.4' RT
1- 8" 45° BEND, MJ
THRUST BLOCK

8 LF 8" DI

BUILDING 5
FFE
52.00

76 LF 4" DI (AB)

STA 132+56.8, 177.3' RT (AB)
1- FIRE HYDRANT

5 LF 8" DI

137 LF 6" DI (AB)

STA 132+25.7, 281.1' RT
1- 8" TEE, FL
2- 8" GV, FLxMJ (AB)
1- 8" ADAPTER, FLxMJ
THRUST BLOCK

STA 135+42.8, 280.6' RT (AB)
1- FIRE HYDRANT

STA 135+80.1, 144.8' RT
1- 8" TEE, FL
2- 8" GV, FLxMJ (AB)
1- 8" ADAPTER, FLxMJ
THRUST BLOCK

STA 135+42.7, 289.1' RT
1-8"x6" DI TEE, MJxFL
1- 6" GV, FLxMJ (HYDRANT)
THRUST BLOCK

STA 138+93.9, 232.7' RT (AB)
1- FIRE HYDRANT

CLUB HOUSE
FFE
50.00

17 LF 4" DI (AB)

17 LF 6" DI (AB)

STA 139+22.0, 146.9' RT
1- 8" 90° BEND, MJ
1- 8" GV, FLxMJ
THRUST BLOCK

WATER EASEMENT RECORDED UNDER WHATCOM COUNTY AUDITOR'S FILE NO. 2026-0402444

STA 139+21.6, 207.6' RT
1- 8" 11-1/4" BEND, MJ
THRUST BLOCK

STA 139+09.7, 239.7' RT
1-8"x6" DI TEE, MJxFL
1- 6" GV, FLxMJ (HYDRANT) (AB)
THRUST BLOCK

VAULT ACCESS

189 LF 8" DI (AB)

STA 132+79.8, 287.4' RT
1- 8" 45° BEND, MJ
THRUST BLOCK

24' WATER EASEMENT

STA 136+57.4, 289.8' RT (AB)
1- 2" BLOW-OFF
REVERSE THRUST BLOCK

STA 136+51.4, 289.8' RT
1- 8"X4" TEE, MJxFL
1- 4" GV, FLxMJ (AB)
THRUST BLOCK

60 LF 6" DI (AB)

STA 134+70.0, 288.6' RT
1- 8"X4" TEE, MJxFL
1- 4" GV, FLxMJ (AB)
THRUST BLOCK

BUILDING 6
FFE
51.00

STA 136+17.6, 289.5' RT
1- 8"X6" TEE, MJxFL
1- 6" GV, FLxMJ
THRUST BLOCK

STA 132+19.1, 295.5' RT
1- 12" TEE, FL
1- 12" GV, FLxMJ (AB)
1- 12" ADAPTER, FLxMJ
THRUST BLOCK

BUILDING 7
FFE
49.00

STA 138+50.7, 380.5' RT
1- 8" 11-1/4" BEND, MJ
THRUST BLOCK

20 LF 8" DI

DETENTION VAULT
115' X 180'
SPORT COURT ON TOP

STA 138+63.9, 363.4' RT
1- 8" 11-1/4" BEND, MJ
THRUST BLOCK

131 LF 8" DI

ALL COMMERCIAL DOMESTIC USE WATER, MULTIFAMILY WATER SERVICE IN BUILDINGS EXCEEDING 35 FEET FROM THE HIGHEST FIXTURE TO THE METER LOCATION ELEVATION AND LANDSCAPE USE WATER SERVICE WILL REQUIRE DCVA PROTECTION INSTALLED WITHIN THREE FEET OF THE METER.

WATER SERVICE LOCATIONS

6" DCVA PER DETAIL W-16
BUILDING 1 & 2 PER DETAIL 1/C5.0 (1)
STA 133+96.5, 115.2' RT

6" DCVA PER DETAIL W-16
BUILDING 3 & 4 PER DETAIL 1/C5.0 (2)
STA 137+65.2, 117.6' RT

4" DCVA PER DETAIL W-16 (3)
STA 131+21.3, 522.5' RT

4" DCVA PER DETAIL W-16 (4)
STA 134+70.1, 272.0' RT

4" DCVA PER DETAIL W-16 (5)
STA 136+51.5, 272.5' RT

6" DCVA PER DETAIL W-16
BUILDING 6 & 7 PER DETAIL 1/C5.0 (6)
STA 136+17.2, 350.7' RT

4" DCVA PER DETAIL W-16 (7)
(AB) STA 120+45.8, 616.3' RT

4" DCVA PER DETAIL W-16 (8)
STA 132+69.2, 512.4' RT

2" METER PER DETAIL W-5A (9)
STA 133+89.5, 117.1' RT

2" METER SIM. DETAIL W-5A (10)
STA 134+03.5, 117.2' RT

2" METER SIM. DETAIL W-5A (11)
STA 137+58.2, 119.5' RT

2" METER PER DETAIL W-5A (12)
STA 137+72.2, 119.6' RT

2" METER SIM. DETAIL W-5A (13) (AB)
STA 131+80.8, 384.1' RT

2" METER PER DETAIL W-5A (14)
STA 134+03.50, 117.2' RT

2" METER SIM. DETAIL W-5A (15)
STA 136+24.0, 349.7' RT

2" METER SIM. DETAIL W-5A (16)
STA 136+04.4, 349.8' RT

2" METER SIM. DETAIL W-5A (17)
STA 136+26.5, 589.4' RT

2" METER SIM. DETAIL W-5A (18)
STA 132+67.1, 529.9' RT

3/4" METER PER DETAIL W-5 (19)
STA 136+44.1, 275.1' RT

4" DCVA PER DETAIL W-16 (20)
STA 131+83.1, 522.6' RT

TO BUILDING MECHANICAL ROOM
TO BUILDING MECHANICAL ROOM
6" X 4" REDUCER
PIV
PIV
CV
CV
CHECK VALVE IN OLDCASTLE VAULT MH2X2 (24" X 24")
CHECK VALVE IN OLDCASTLE VAULT MH2X2 (24" X 24")
4'
2'
2'
4'
DCVA
METER
METER
2" METER PER DETAIL W-5A (24" X 41")
2" METER PER DETAIL W-5A (24" X 41")
FDC
FDC
SIDEWALK
6" DI FROM MAIN
TO WATER MAIN

VAULT SIZING
575 VAULT:
4'-2" X 6'-6"
685 VAULT:
7'-5" X 9'-5"

575 VAULT IS FOR THE 4"-DCVA, 685 VAULT IS FOR THE 6"-DCVA WITH 36" X 72" ALUMINUM HATCH

1 SHARED SPRINKLER CONNECTION
SCALE: NONE

SURVEYOR'S CERTIFICATION

I CERTIFY THAT THE LOCATIONS, ELEVATIONS, DEPTHS, AND AS-BUILT COMMENTS REFLECTING MATERIALS ACTUALLY USED DURING CONSTRUCTION ACCURATELY REFLECT EXISTING FIELD CONDITIONS AS DETERMINED BY ME OR UNDER MY DIRECT SUPERVISION ON THIS DATE: 4/30/26

PROJECT SURVEYOR _____ RYAN MICHAEL TWEIT

RYAN MICHAEL TWEIT
STATE OF WASHINGTON
24011135
REGISTERED
PROFESSIONAL LAND SURVEYOR
4/30/26

ENGINEER'S CERTIFICATION

I HEREBY CERTIFY THAT THE IMPROVEMENTS IN HARRINGTON PLACE HAVE BEEN INSPECTED BY HARMSEN LLC AND CONSTRUCTED IN CONFORMANCE WITH THE PLANS APPROVED BY THE PUBLIC WORKS DIRECTOR FOR SAID DEVELOPMENT AND THE GENERAL SPECIFICATIONS ADOPTED BY THE CITY OF FERNDALE DEPARTMENT OF PUBLIC WORKS.

DAVID W. HARMSEN
STATE OF WASHINGTON
33745
REGISTERED
PROFESSIONAL ENGINEER
04/07/26

APPROVED
05/01/2026
BY _____
CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

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HARMSEN ENGINEERS SURVEYORS
2822 COLBY AVENUE, SUITE 300
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(360) 794-7811
(206) 343-5903
FAX: (360) 805-9732

REVISIONS

HARRINGTON PLACE
6276 PORTAL WAY
FERNDALE, WA 98248

WATER PLAN

DATE: 6/5/24

JOB #: 20-267

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

C5.0

00770.011 05/01/26 RH

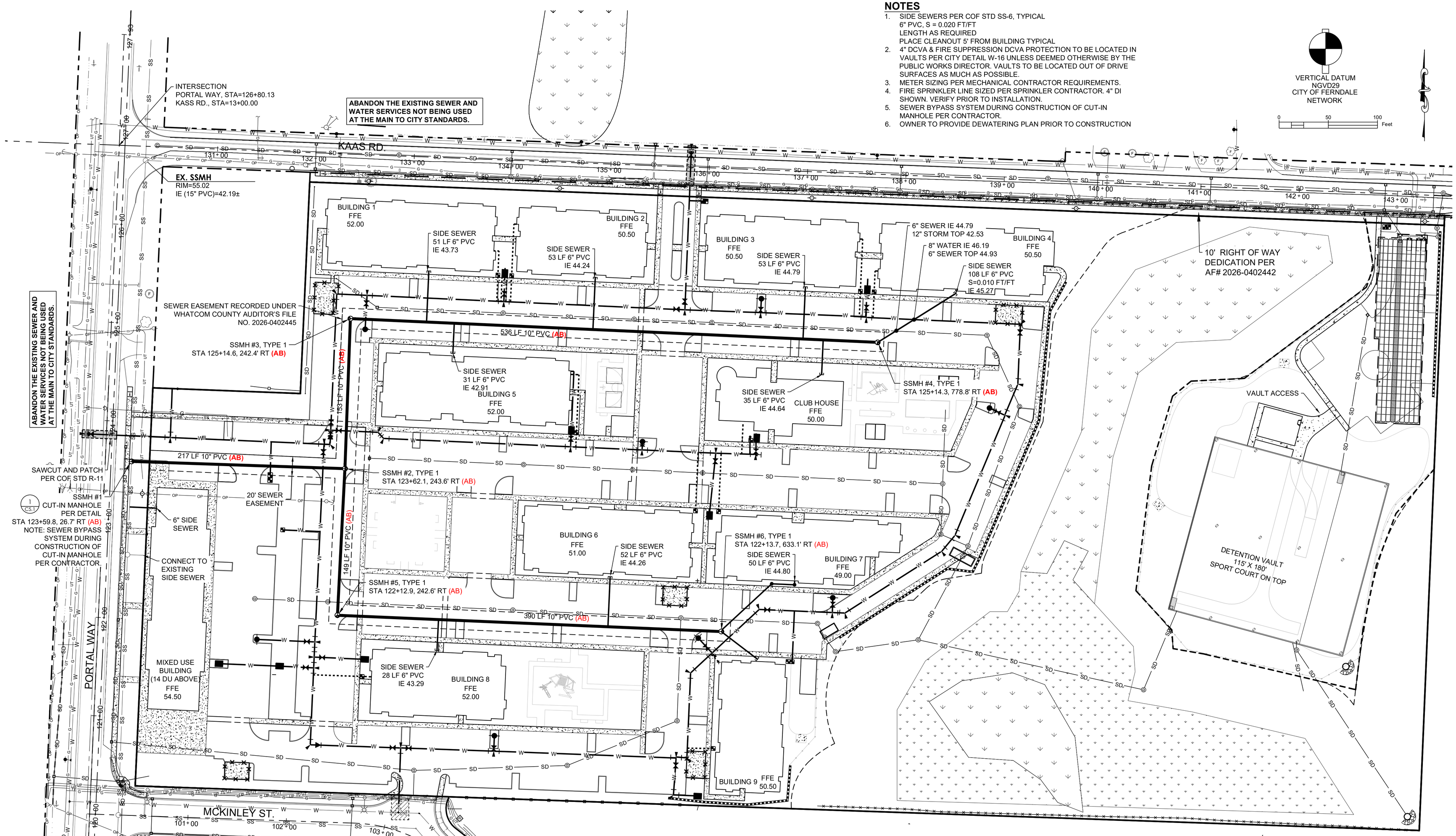
SECTION 17, TOWNSHIP 39 NORTH, RANGE 02 EAST, W.M.

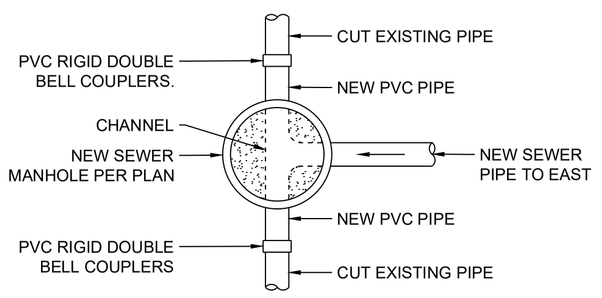
NOTES

1. SIDE SEWERS PER COF STD SS-6, TYPICAL
   6" PVC, S = 0.020 FT/FT
   LENGTH AS REQUIRED
   PLACE CLEANOUT 5' FROM BUILDING TYPICAL
2. 4" DCVA & FIRE SUPPRESSION DCVA PROTECTION TO BE LOCATED IN VAULTS PER CITY DETAIL W-16 UNLESS DEEMED OTHERWISE BY THE PUBLIC WORKS DIRECTOR. VAULTS TO BE LOCATED OUT OF DRIVE SURFACES AS MUCH AS POSSIBLE.
3. METER SIZING PER MECHANICAL CONTRACTOR REQUIREMENTS.
4. FIRE SPRINKLER LINE SIZED PER SPRINKLER CONTRACTOR. 4" DI SHOWN. VERIFY PRIOR TO INSTALLATION.
5. SEWER BYPASS SYSTEM DURING CONSTRUCTION OF CUT-IN MANHOLE PER CONTRACTOR.
6. OWNER TO PROVIDE DEWATERING PLAN PRIOR TO CONSTRUCTION

VERTICAL DATUM
NGVD29
CITY OF FERNDALE
NETWORK

0 50 100 Feet





1 **CUT-IN MANHOLE DETAIL**
SCALE: NONE

SURVEYOR'S CERTIFICATION

I CERTIFY THAT THE LOCATIONS, ELEVATIONS, DEPTHS, AND AS-BUILT COMMENTS REFLECTING MATERIALS ACTUALLY USED DURING CONSTRUCTION ACCURATELY REFLECT EXISTING FIELD CONDITIONS AS DETERMINED BY ME OR UNDER MY DIRECT SUPERVISION ON THIS DATE: 4/30/26

PROJECT SURVEYOR _____ RYAN MICHAEL TWEIT

RYAN MICHAEL TWEIT
STATE OF WASHINGTON
24011136
REGISTERED
PROFESSIONAL LAND SURVEYOR
4/30/26

ENGINEER'S CERTIFICATION

I HEREBY CERTIFY THAT THE IMPROVEMENTS IN HARRINGTON PLACE HAVE BEEN INSPECTED BY HARMSEN LLC AND CONSTRUCTED IN CONFORMANCE WITH THE PLANS APPROVED BY THE PUBLIC WORKS DIRECTOR FOR SAID DEVELOPMENT AND THE GENERAL SPECIFICATIONS ADOPTED BY THE CITY OF FERNDALE DEPARTMENT OF PUBLIC WORKS.

DAVID W. HARMSEN
STATE OF WASHINGTON
33745
REGISTERED
PROFESSIONAL ENGINEER
04/07/26

APPROVED
05/01/2026
BY _____
CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

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00770.012 05/01/26 RH

REVISIONS

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HARRINGTON PLACE
6276 PORTAL WAY
FERNDALE, WA 98248

SEWER PLAN

DATE: 6/5/24
JOB #: 20-267

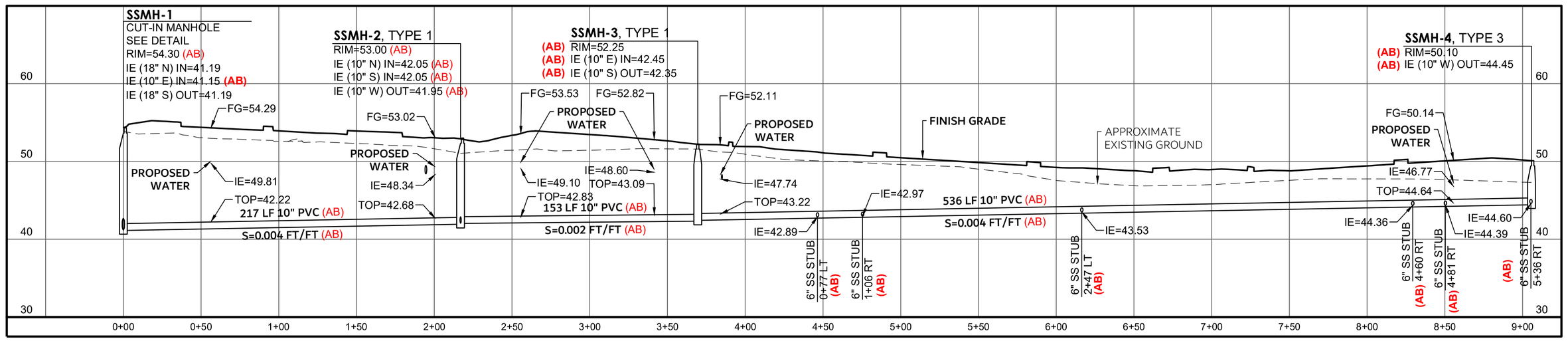
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C5.1

SECTION 17, TOWNSHIP 39 NORTH, RANGE 02 EAST, W.M.

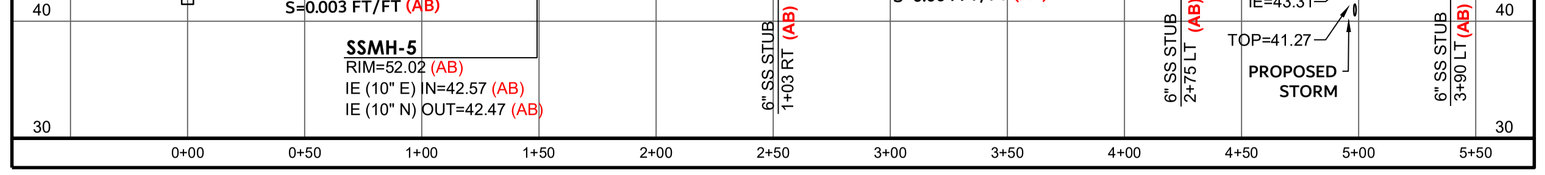
VERTICAL DATUM
NGVD29
CITY OF FERNDALE
NETWORK

0 50 100 Feet



SEWER ALIGNMENT 1 - PROFILE

SCALE: H: 1"=50'
V: 1"=10'



SEWER ALIGNMENT 2 - PROFILE

SCALE: H: 1"=50'
V: 1"=10'

SEWER NOTE

TYPE 1 SANITARY SEWER MANHOLE
PER CITY OF FERNDALE STANDARD SS-3

TYPE 3 SANITARY SEWER MANHOLE
PER CITY OF FERNDALE STANDARD SS-4

SURVEYOR'S CERTIFICATION

I CERTIFY THAT THE LOCATIONS, ELEVATIONS, DEPTHS, AND AS-BUILT COMMENTS REFLECTING MATERIALS ACTUALLY USED DURING CONSTRUCTION ACCURATELY REFLECT EXISTING FIELD CONDITIONS AS DETERMINED BY ME OR UNDER MY DIRECT SUPERVISION ON THIS DATE: 4/30/26

PROJECT SURVEYOR _____ RYAN MICHAEL TWEIT

RYAN MICHAEL TWEIT STATE OF WASHINGTON 24011138 REGISTERED PROFESSIONAL LAND SURVEYOR 4/30/26

ENGINEER'S CERTIFICATION

I HEREBY CERTIFY THAT THE IMPROVEMENTS IN HARRINGTON PLACE HAVE BEEN INSPECTED BY HARMSEN LLC AND CONSTRUCTED IN CONFORMANCE WITH THE PLANS APPROVED BY THE PUBLIC WORKS DIRECTOR FOR SAID DEVELOPMENT AND THE GENERAL SPECIFICATIONS ADOPTED BY THE CITY OF FERNDALE DEPARTMENT OF PUBLIC WORKS.

DAVID W. HARMSEN STATE OF WASHINGTON 33745 REGISTERED PROFESSIONAL ENGINEER 04/07/26

APPROVED
05/01/2026
BY _____
CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

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REVISIONS

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FAX: (360) 805-9732

HARRINGTON PLACE
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FERNDALE, WA 98248

SEWER PROFILES

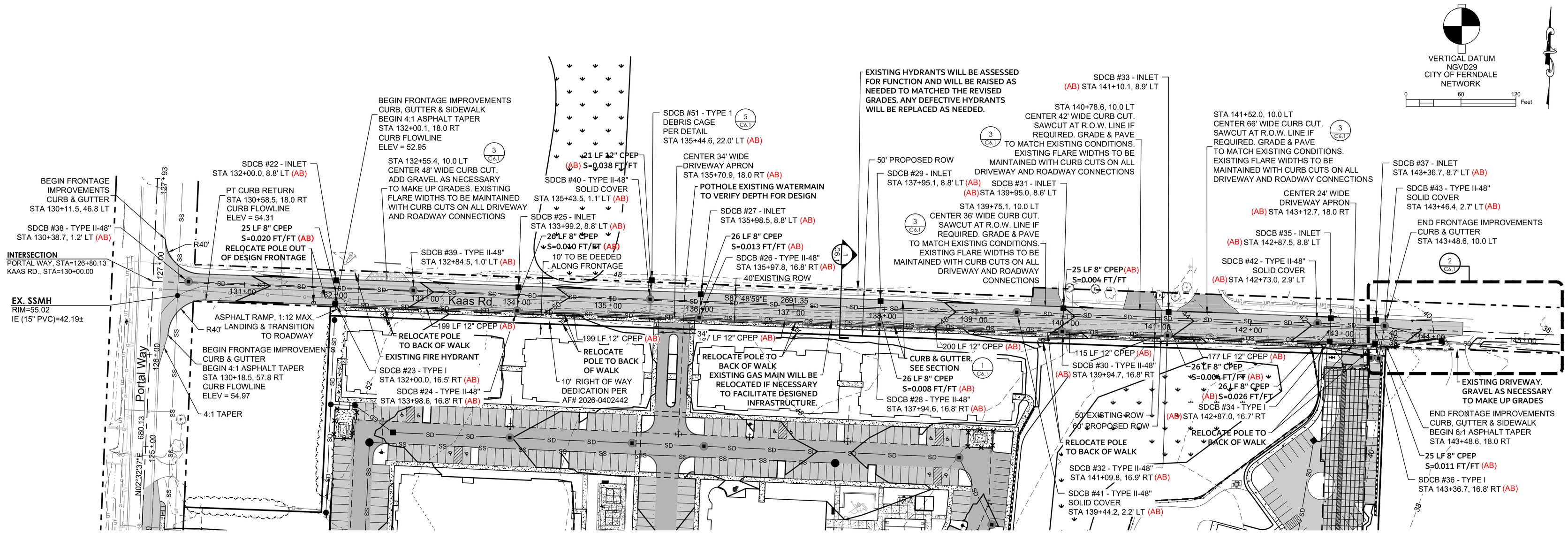
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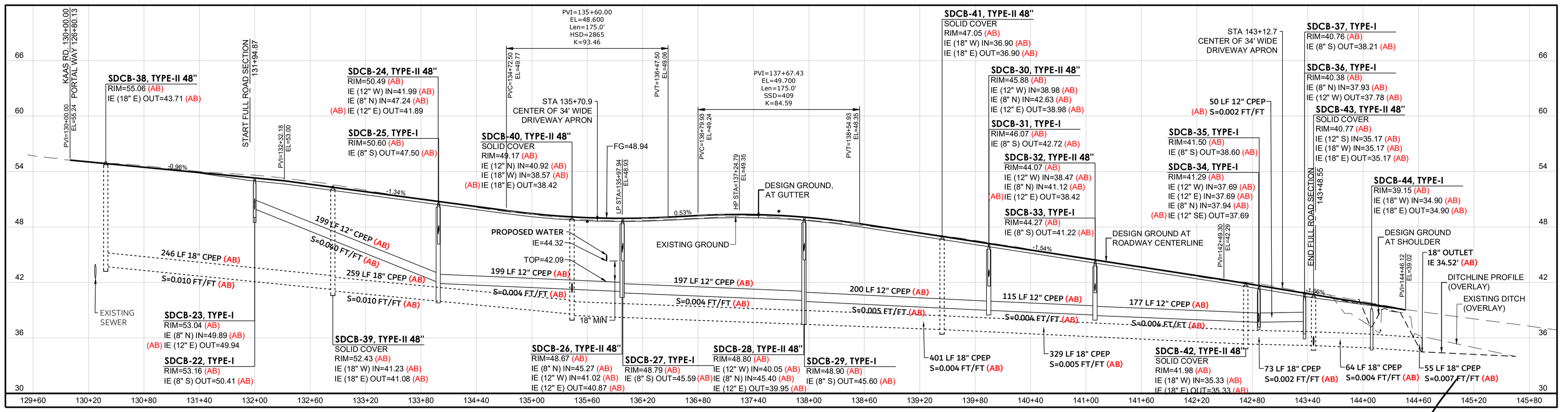
JOB #: 20-267

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C5.2

SECTION 17, TOWNSHIP 39 NORTH, RANGE 02 EAST, W.M.





SURVEYOR'S CERTIFICATION

I CERTIFY THAT THE LOCATIONS, ELEVATIONS, DEPTHS, AND AS-BUILT COMMENTS REFLECTING MATERIALS ACTUALLY USED DURING CONSTRUCTION ACCURATELY REFLECT EXISTING FIELD CONDITIONS AS DETERMINED BY ME OR UNDER MY DIRECT SUPERVISION ON THIS DATE: 4/30/26

PROJECT SURVEYOR _____ RYAN MICHAEL TWEIT

RYAN MICHAEL TWEIT STATE OF WASHINGTON 24011138 REGISTERED PROFESSIONAL LAND SURVEYOR 4/30/26

KAAS RD. - PROFILE

SCALE: H: 1"=60'
V: 1"=6'

ENGINEER'S CERTIFICATION

I HEREBY CERTIFY THAT THE IMPROVEMENTS IN HARRINGTON PLACE HAVE BEEN INSPECTED BY HARMSEN LLC AND CONSTRUCTED IN CONFORMANCE WITH THE PLANS APPROVED BY THE PUBLIC WORKS DIRECTOR FOR SAID DEVELOPMENT AND THE GENERAL SPECIFICATIONS ADOPTED BY THE CITY OF FERNDALE DEPARTMENT OF PUBLIC WORKS.

DAVID W HARMSEN STATE OF WASHINGTON 13745 REGISTERED PROFESSIONAL ENGINEER 04/07/26

APPROVED
05/01/2026
BY: _____ for Iccvin Benz
CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

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P:\WORK\PROJECTS\2020\20-267 GRANDVIEW HOMES\CE\DWG\SHEETS\RECORD C6.0 FRONTAGE PLAN-KAAS.DWG 4/30/2026

REVISIONS

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(206) 343-5903
FAX: (360) 805-9732

HARRINGTON PLACE
6276 PORTAL WAY
FERNDALE, WA 98248

KAAS RD FRONTAGE PLAN AND PROFILE

DATE: 6/5/24

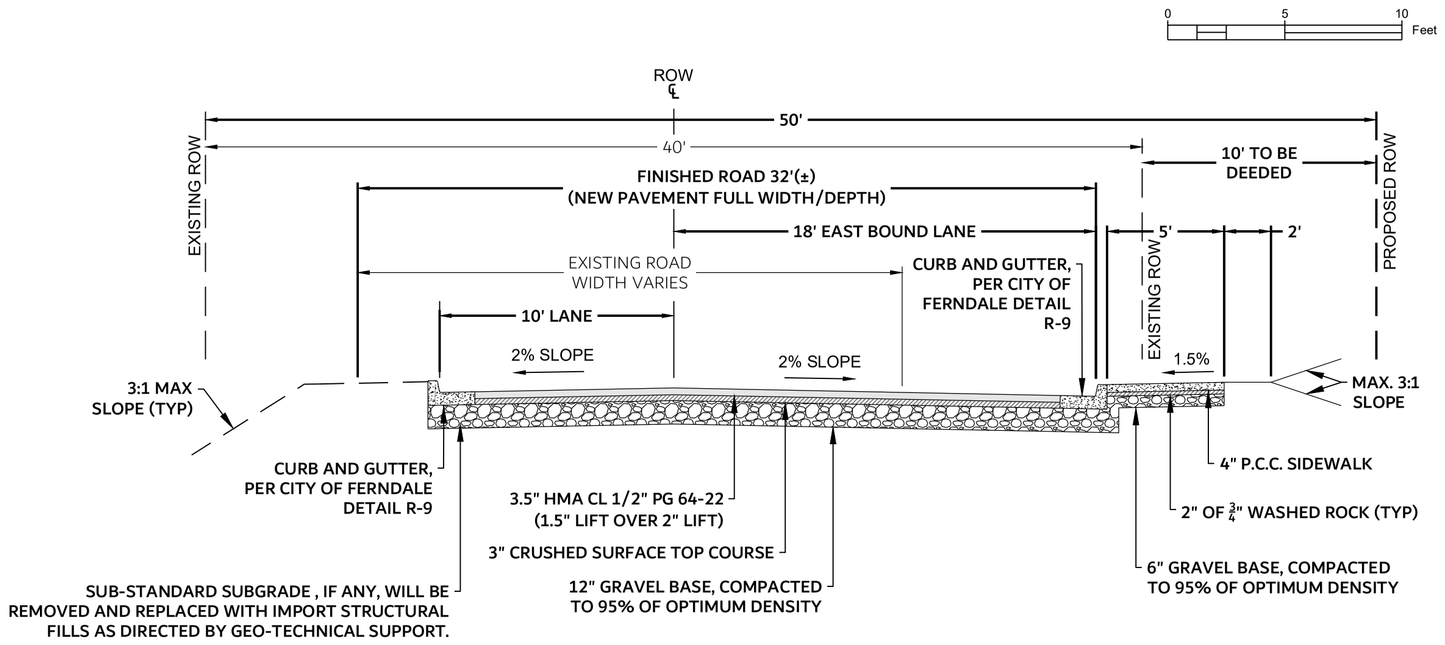
JOB #: 20-267

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C6.0

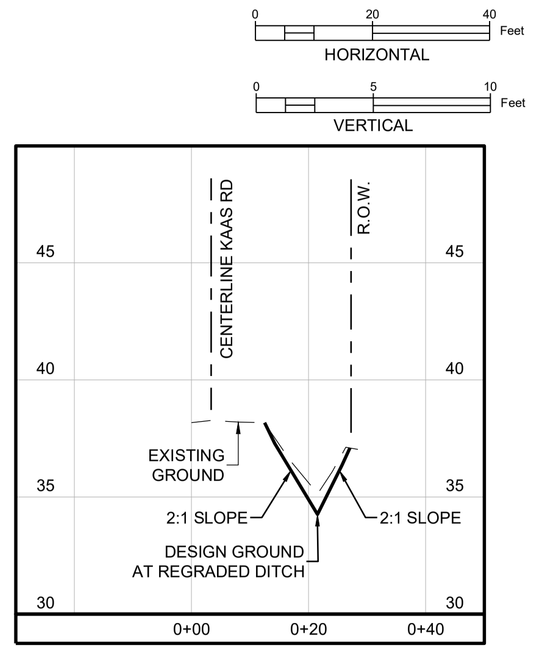
00770.014 05/01/26 RH

SECTION 17, TOWNSHIP 39 NORTH, RANGE 02 EAST, W.M.

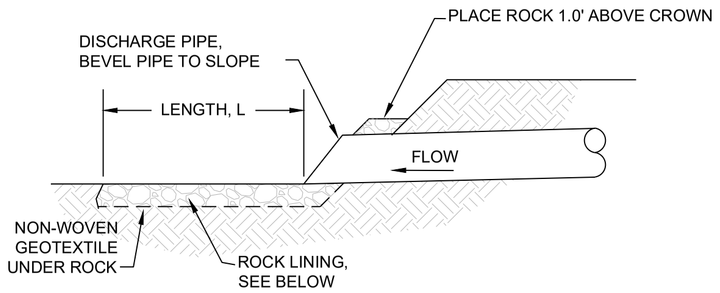


1 KAAS RD SECTION
SCALE: 1" = 5'

City of Ferndale Detail R-4



SECTION A - A
SCALE: H: 1"=20'
V: 1"=5'

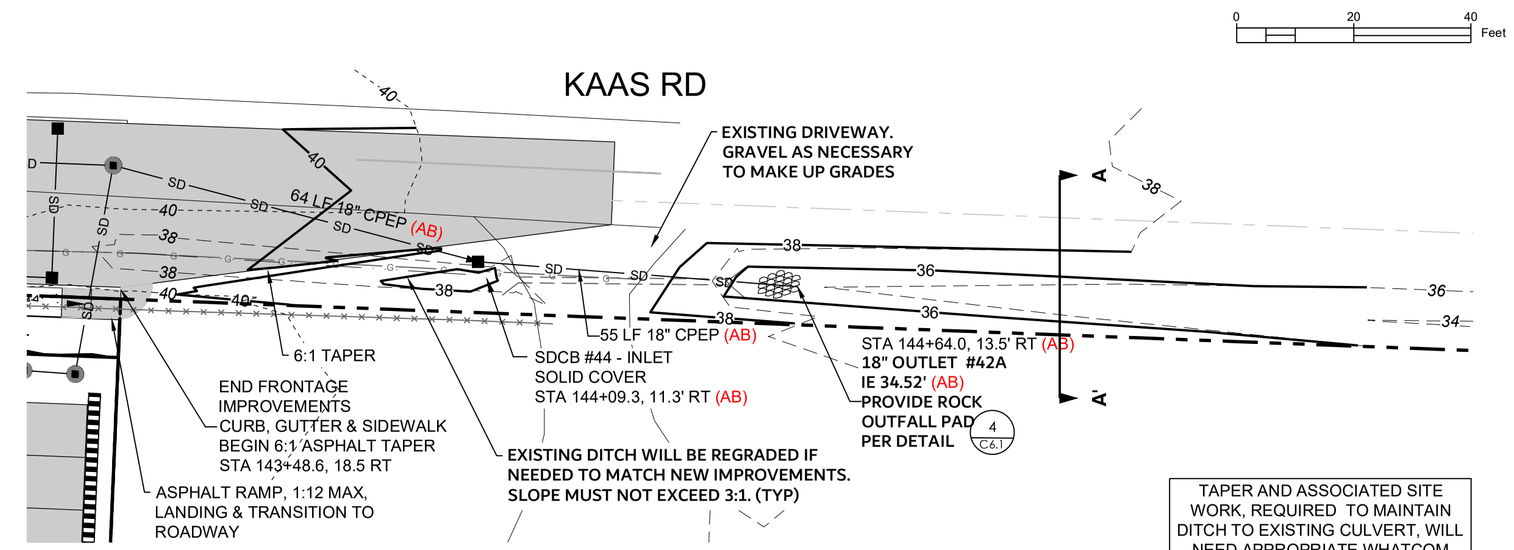


POND DISCHARGE ROCK LINING
TO BE QUARRY SPALLS PER WSDOT 9-13.6

BIORETENTION CELLS ROCK LINING
STREAM BED COBBLES PER WSDOT 9-03.11(2) 8"

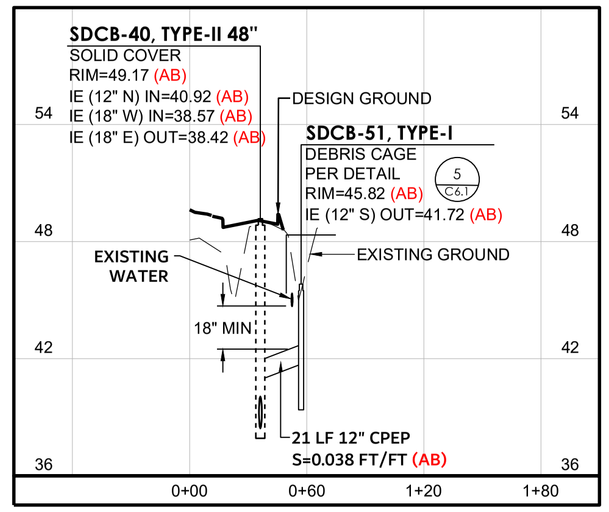
REQUIRED DIMENSIONS			
SIZE	LENGTH	WIDTH	DEPTH OF ROCK
SMALL	4' MIN	3' MIN	12" MIN
LARGE	8' MIN	6' MIN	12" MIN

4 OUTFALL PAD
SCALE: NONE

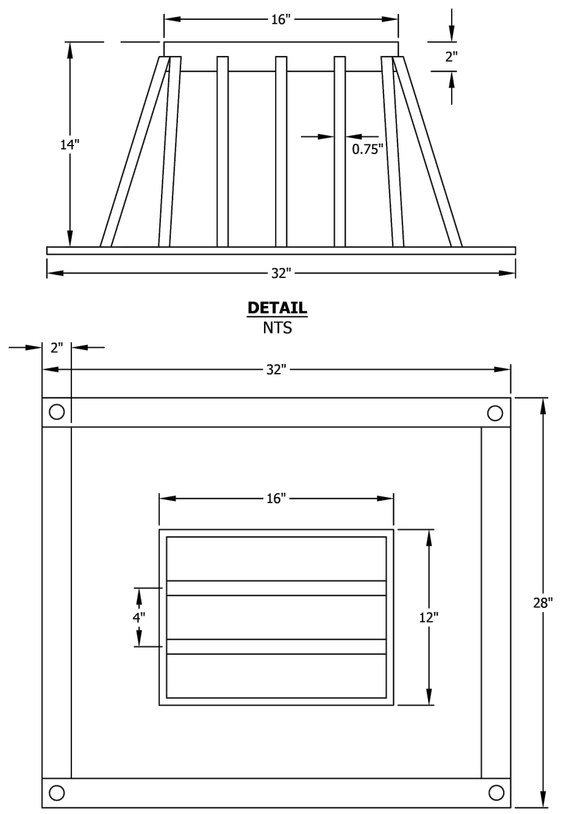


TAPER AND ASSOCIATED SITE WORK, REQUIRED TO MAINTAIN DITCH TO EXISTING CULVERT, WILL NEED APPROPRIATE WHATCOM COUNTY PERMITS AND APPROVALS

2 KAAS RD TAPER
SCALE: 1" = 20'

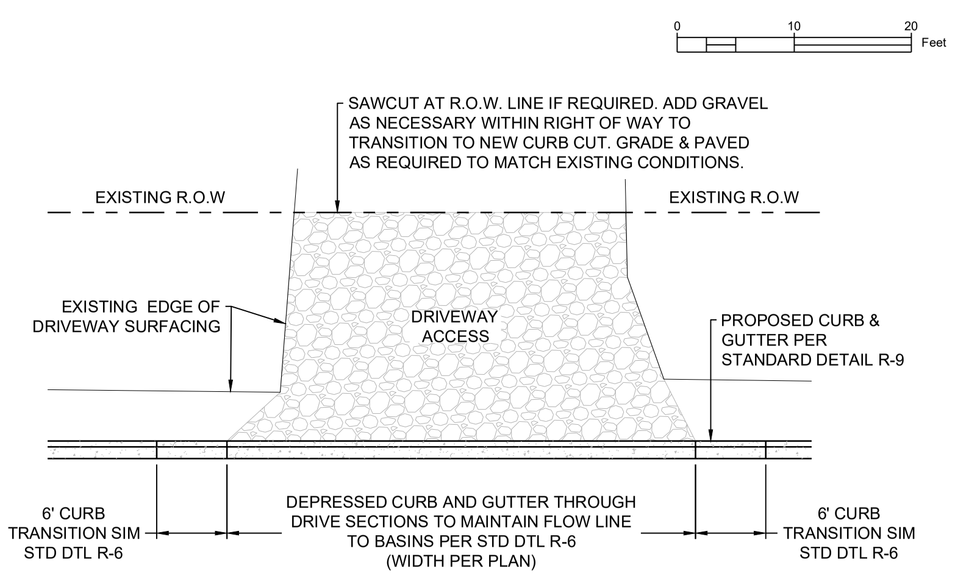


CULVERT REPLACEMENT - PROFILE
SCALE: H: 1"=60'
V: 1"=6'



NOTES
1. TO BE PLACED ON TOP OF VERTICAL OVERFLOW STRUCTURES, I.E., WITHIN BIORETENTION CELLS
2. 3/8" x 2 FLAT BAR
3. 3/4" ROUND BAR
4. 4-5/8" HOLE FOR MOUNTING
5. ALL MATERIAL 6061 ALUMINUM
6. MUST BE ANCHORED TO CONCRETE IN REMOVABLE FASHION WITH CORROSION-RESISTANT HARDWARE
7. PRODUCT: ATWOOD FABRICATION OR EQUAL

5 DEBRIS CAGE
SCALE: NONE



3 TYPICAL CURB CUT AT EXISTING DRIVEWAYS (NORTH SIDE OF KAAS RD)
SCALE: 1" = 10'

SURVEYOR'S CERTIFICATION

I CERTIFY THAT THE LOCATIONS, ELEVATIONS, DEPTHS, AND AS-BUILT COMMENTS REFLECTING MATERIALS ACTUALLY USED DURING CONSTRUCTION ACCURATELY REFLECT EXISTING FIELD CONDITIONS AS DETERMINED BY ME OR UNDER MY DIRECT SUPERVISION ON THIS DATE: 4/30/26

PROJECT SURVEYOR _____ RYAN MICHAEL TWEIT

RYAN MICHAEL TWEIT · STATE OF WASHINGTON · 24011138 · REGISTERED PROFESSIONAL LAND SURVEYOR · 4/30/26

ENGINEER'S CERTIFICATION

I HEREBY CERTIFY THAT THE IMPROVEMENTS IN HARRINGTON PLACE HAVE BEEN INSPECTED BY HARMSEN LLC AND CONSTRUCTED IN CONFORMANCE WITH THE PLANS APPROVED BY THE PUBLIC WORKS DIRECTOR FOR SAID DEVELOPMENT AND THE GENERAL SPECIFICATIONS ADOPTED BY THE CITY OF FERNDALE DEPARTMENT OF PUBLIC WORKS.

DAVID M HARMSEN · STATE OF WASHINGTON · 33745 · REGISTERED PROFESSIONAL ENGINEER · 04/07/26

APPROVED
05/01/2026
BY _____
CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

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P:\WORK\PROJECTS\2020\20-267 GRANDVIEW HOMES\CE\DWG\SHEETS\RECORD C6.0 FRONTAGE PLAN-KAAS.DWG 4/30/2026

00770.015 05/01/26 RH

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EVERETT, WA 98201
(360) 794-7811
(206) 343-5903
FAX: (360) 805-9732

HARRINGTON PLACE
6276 PORTAL WAY
FERNDALE, WA 98248

KAAS RD FRONTAGE PLAN AND DETAILS

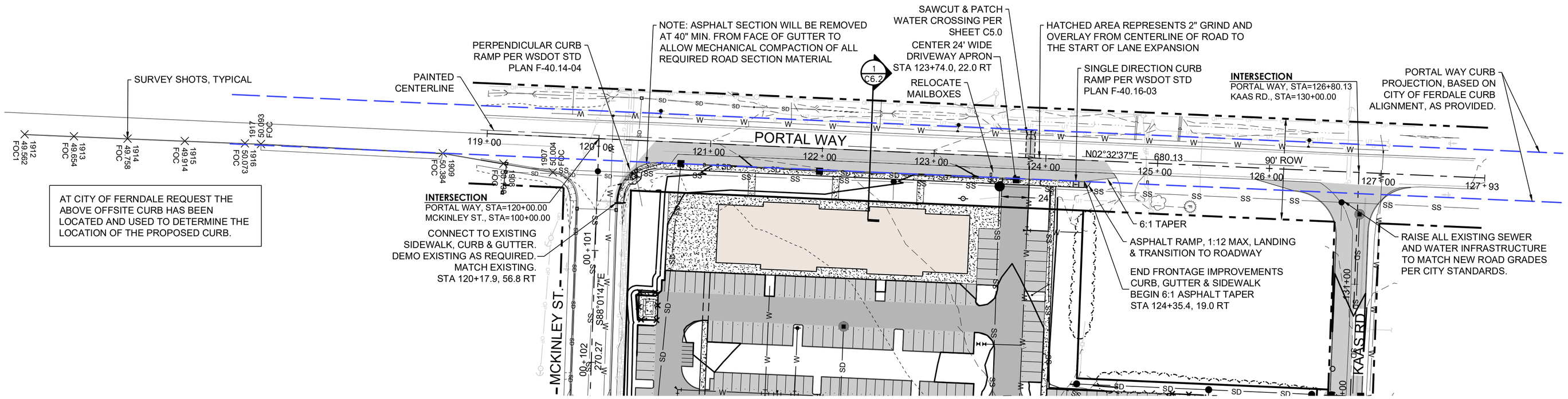
DATE: 6/5/24

JOB #: 20-267

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

C6.1

SECTION 17, TOWNSHIP 39 NORTH, RANGE 02 EAST, W.M.



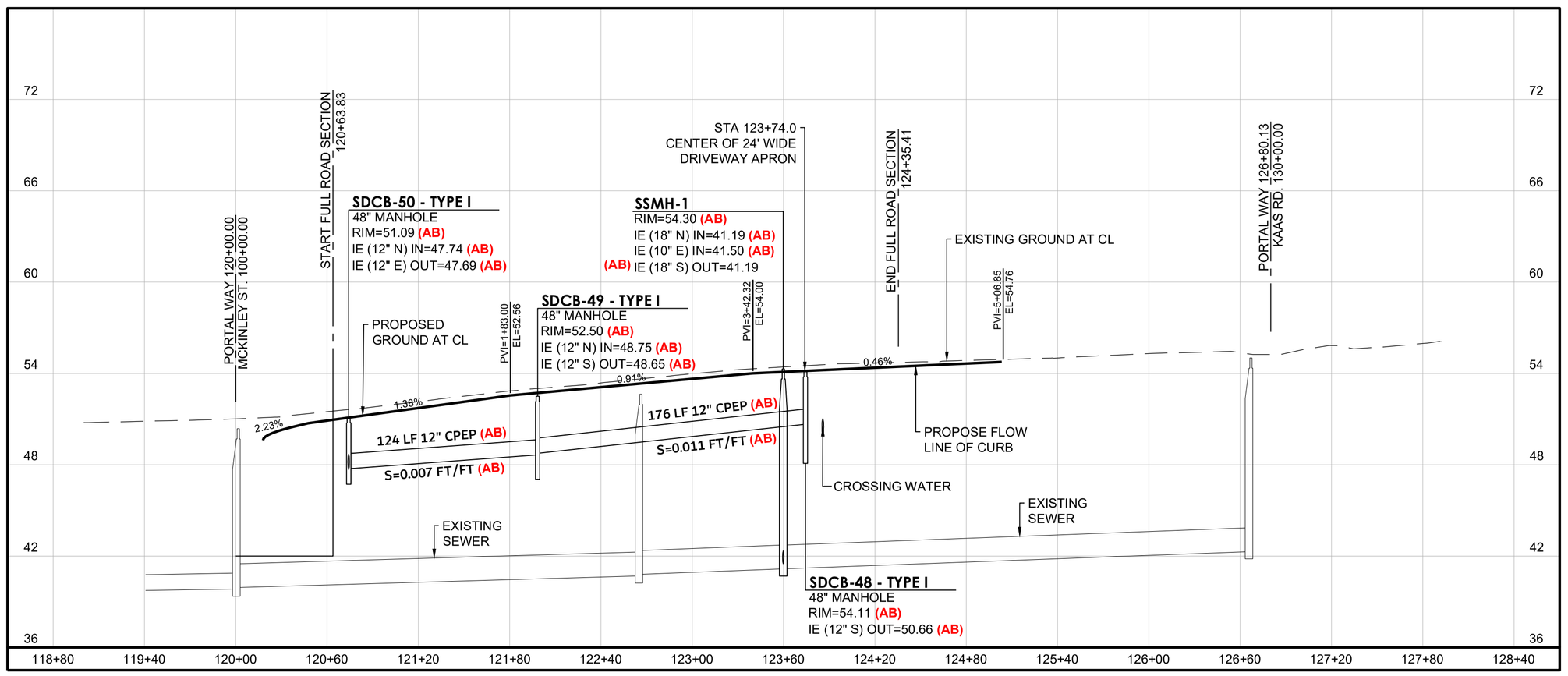
VERTICAL DATUM
NGVD29
CITY OF FERNDALE
NETWORK

0 60 120 Feet

SEE STORM PLAN FOR FRONTAGE CATCHBASINS.

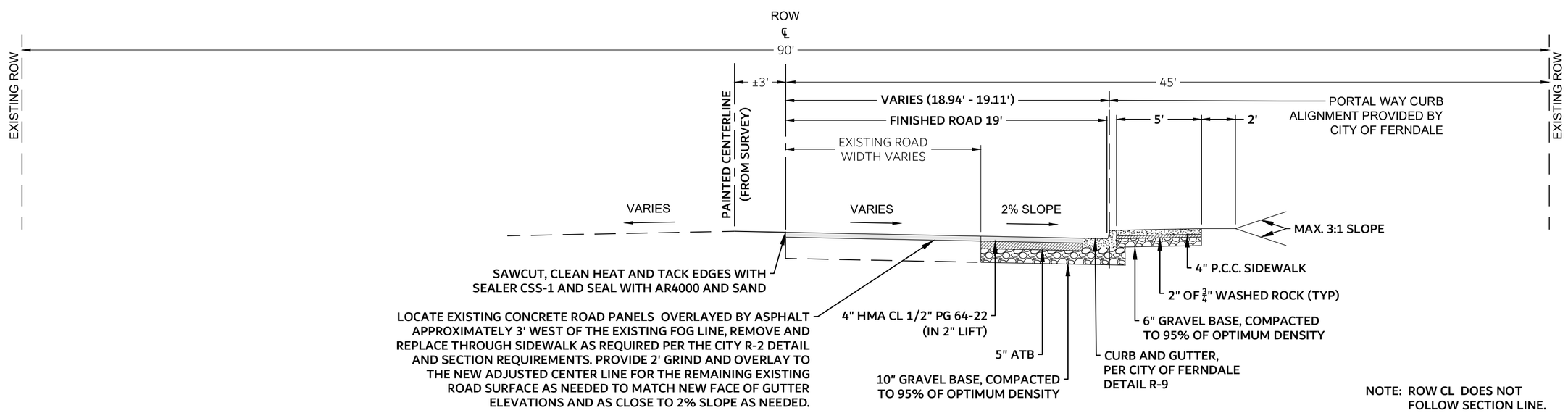
NOTES

1. THE CITY WILL PROVIDE PORTAL WAY SURVEY POINTS PRIOR TO CURB AND ROADWAY STAKING TO MAKE SURE CURB LINES AND SIDEWALK PLACEMENT MEETS THE CURRENT COMPREHENSIVE ROADWAY PLAN FOR PORTAL WAY DICTATED BY PREVIOUS AND ONGOING APPROVED PORTAL WAY PROJECTS.



PORTAL WAY - PROFILE

SCALE: H: 1"=60'
V: 1"=6'



1 PORTAL WAY SECTION
SCALE: 1" = 5'

City of Ferndale Detail R-2

SURVEYOR'S CERTIFICATION

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PROJECT SURVEYOR _____ RYAN MICHAEL TWEIT

RYAN MICHAEL TWEIT
STATE OF WASHINGTON
24011136
REGISTERED PROFESSIONAL LAND SURVEYOR
4/30/26

ENGINEER'S CERTIFICATION

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DAVID M. HARMSEN
STATE OF WASHINGTON
13745
REGISTERED PROFESSIONAL ENGINEER
04/07/26

APPROVED
05/01/2026
BY _____
CITY OF FERNDALE
PUBLIC WORKS DEPARTMENT

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P:\WORK\PROJECTS\2020\20-267 GRANDVIEW HOMES\CE\DWG\SHEETS\RECORD C6.2 FRONTAGE-PORTAL MCKINLEY.DWG 4/30/2026

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PORTAL WAY & MCKINLEY ST FRONTAGE
PLAN & PROFILE

DATE: 6/5/24

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