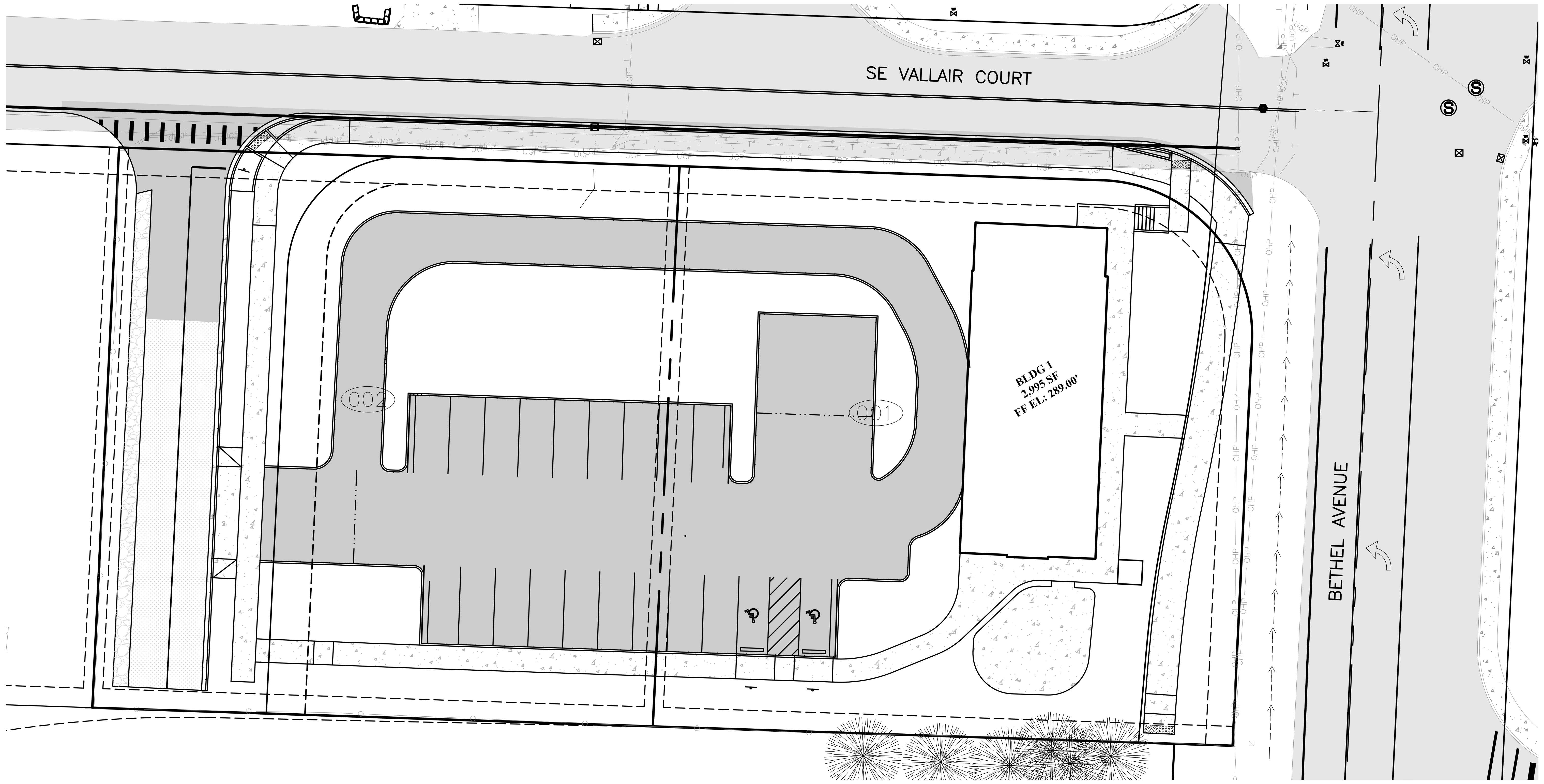
PORT ORCHARD – KFC

COVER SHEET



DATUM
NAD 88

LEGEND (PROPOSED)

	T4–P–ALIGNMENT MARKER
	T4–P–BENCHMARK
	T4–P–BUILDING
SAMPLE TEXT	T4–P–BUILDING–TEXT
	T4–P–CENTERLINE
	T4–P–CLEARING LIMITS
	T4–P–ESMT
SAMPLE TEXT	T4–P–ESMT–TEXT
	T4–P–LOTLINE
	T4–P–OPENSPACE HATCH
3	T4–P–PARKING
3	T4–P–PARKING–TEXT
	T4–P–PAVEMENT
	T4–P–PAVEMENT–HATCH
	T4–P–ROW
SAMPLE TEXT	T4–P–ROW–TEXT
SS	T4–P–SEWER
	T4–P–SEWER–CLEAN–OUT
SSFM	T4–P–SEWER–FORCEMAIN
Ⓢ	T4–P–SEWER–MANHOLE
	T4–P–SEWER–SERVICE
SAMPLE TEXT	T4–P–SEWER–TEXT
	T4–P–SIDEWALK
	T4–P–SIDEWALK–DRIVECUT–HATCH
	T4–P–SIDEWALK–HATCH
	T4–P–SIDEWALK–RAMP–HATCH
SAMPLE TEXT	T4–P–SITE–TEXT
	T4–P–SPOTS
SD	T4–P–STORM
	T4–P–STORM–DISPERSION TRENCH
	T4–P–STORM FLOW ARROWS
	T4–P–STORM–RIPRAP–HATCH
⊠	T4–P–STORM–STRUCTURES (TYPE 1)
	T4–P–STORM–STRUCTURES (TYPE 2)
SAMPLE TEXT	T4–P–STORM–TEXT
	T4–P–WALL–CONCRETE
	T4–P–WALL–ROCK (<4' CONFIG)
	T4–P–WALL–ROCK (>4' CONFIG)
	T4–P–WALL–ULTRABLOCK (<5' CONFIG)
	T4–P–WALL–ULTRABLOCK (>5' CONFIG)
	T4–P–WATER
	T4–P–WATER–FIRE HYDRANT
	T4–P–WATER–SERVICE
	T4–P–WATER–SERVICE (METER)
SAMPLE TEXT	T4–P–WATER–TEXT
	T4–P–WATER–VALVE

SITE DATA

LOCATION: 1570 & 1600 VALLAIR CT, PORT ORCHARD, WA.

TAX PARCEL NO.: 4737–000–001–0001 & 4737–000–002–0000

EXISTING ZONING: COMMERCIAL CORRIDOR (CC)

COMP. PLAN DES.: COMMERCIAL

INTENDED USE: COMMERCIAL

SITE AREAS:		AREA (ACRES)	% OF TOTAL
LOTS 1 & 2		0.97	91.5
	PERVIOUS SURFACES	0.31	29.3
	IMPERVIOUS SURFACES	0.61	18.3
	UNDEVELOPED AREA	0.05	57.6
EXIST ROW		0.09	8.5
	PERVIOUS SURFACES	0.07	6.6
	IMPERVIOUS SURFACES	0.02	1.9
	TOTAL	1.06	100.0

OWNER OF RECORD: RIDGE RACING, LLC
4550 NW NEWBERRY HILL RD, STE 201
SILVERDALE, WA 98383

LEGAL DESCRIPTION: 4727–000–001–0001

LOT 1 VALLAIR, AS RECORDED IN VOLUME 20 OF PLATS, PAGE 140, RECORDS OF KITSAP COUNTY, WASHINGTON.

4727–000–002–0000

LOT 2 VALLAIR, AS RECORDED IN VOLUME 20 OF PLATS, PAGE 140, RECORDS OF KITSAP COUNTY, WASHINGTON

UTILITIES:
- POWER: PUGET SOUND ENERGY SERVICES
- WATER: WESTSOUND
- SEWER: WESTSOUND
- TELEPHONE: QWEST
- REFUSE: WASTE MANAGEMENT
- FIRE PROTECTION: SOUTH KITSAP FIRE & RESCUE

PARKING REQUIRED

VEHICLE: MIN 5 PER SF (POMC 20.124.140) — 5 SPACES * 2.990 = 15 SPACES

BICYCLE: 5% REQ'D VEHICLE PARKING (POMC 20.124.140) — 15 SPACES * 5% = 1 SPACE

PARKING PROVIDED

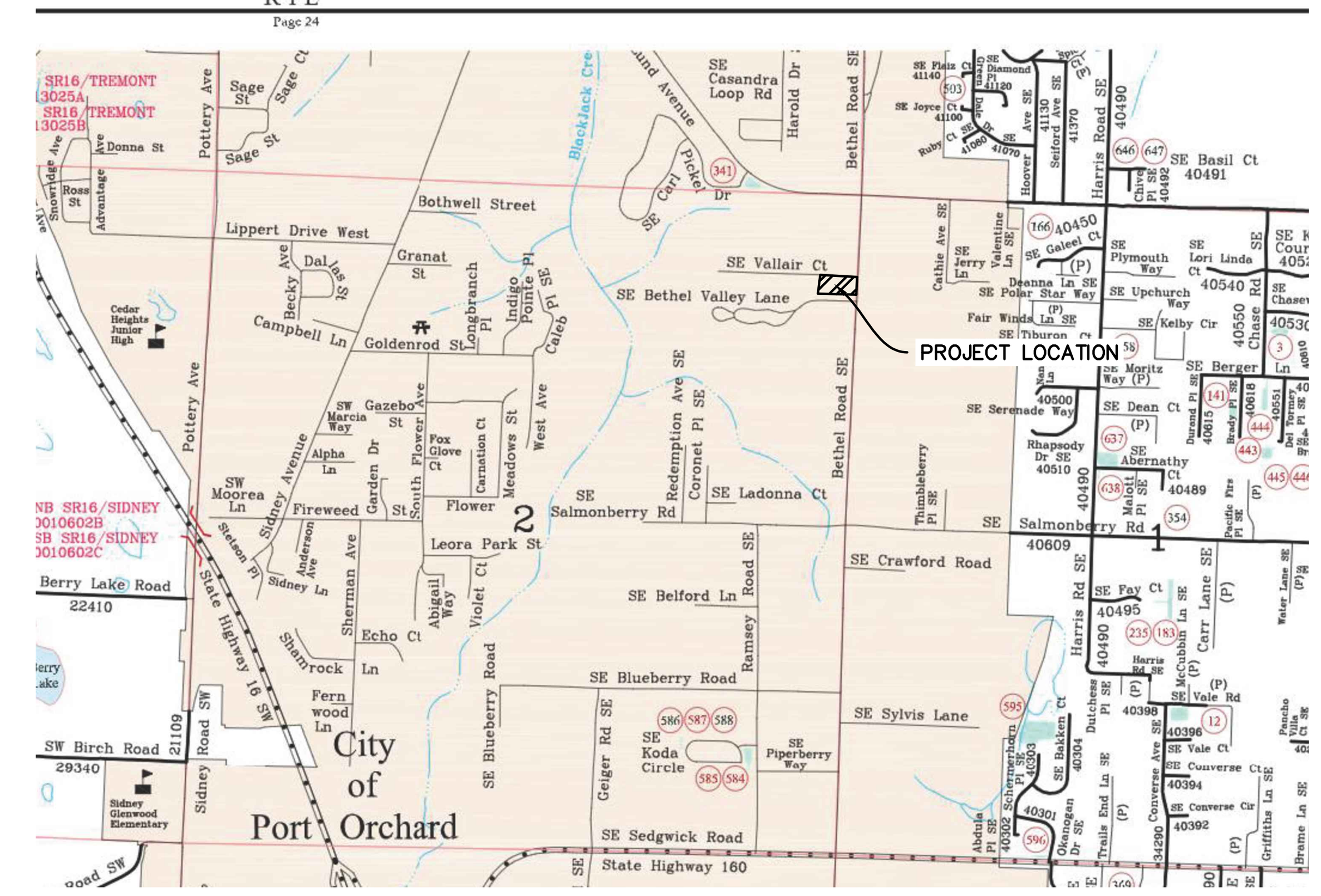
OFF–STREET
- STANDARD STALLS = 16 SPACES
- COMPACT STALLS = 2 SPACES, 10%
- ADA STALLS = 2 SPACES
- TOTAL = 20 SPACES

BICYCLE (REQUIRED) = 1 SPACE (3 MIN)

Sheet List Table	
Sheet Number	Sheet Title
1	COVER SHEET
2	SITE PLAN
3	EXISTING CONDITIONS
4	TESC PLAN
5	TESC DETAILS
6	STANDARD NOTES – AMMENDED SOIL NOTES
7	GRADING PLAN
8	STORM PLAN & PROFILE
9	UTILITY PLAN
10	ROAD A PLAN & PROFILE
11	DETAILS
12	DETAILS
13	DETAILS
14	DETAILS
15	DETAILS
16	DETAILS
17	DETAILS
18	DETAILS
19	STRIPING & SIGNAGE PLAN

GRAPHIC SCALE
20 0 10 20
(IN FEET)
1 inch = 20 feet

COUNTER COMPLETE
Permit Center
JUN 18, 2021
City of Port Orchard
Community Development



VICINITY MAP NTS

BOUNDARY INFORMATION PROVIDED BY NL OLSON & ASSOCIATES
RECORDED 200507290730

ADDITIONAL TOPO PROVIDED BY TEAM 4 ENGINEERING

PW21-036
PW21-037

DESIGN	MAK
DRAWN	JKA
CHECKED	MAK
SEC	2 T 23N R 1E
DISC NO	DATE 1/7/21
SCALE	1" = 20'

REV NO	REVISION DESCRIPTION	DATE	BY

MARK A. KUHLMAN — STATE OF WASHINGTON — 18648 — REGISTERED PROFESSIONAL ENGINEER
6/3/2021

SIGNATURE:

TITLE: PORT ORCHARD – KFC
COVER SHEET

CLIENT: ORCHARD FOODS
PETER BRAUN
4550 NEWBERYY HILL, STE 201
SILVERDALE, WA 98383
360–698–8600

PROJECT MANAGEMENT • CONSULTING • PLANNING • ENGINEERING
TEAM

PROJECT MANAGER: JASON K ANDERSON

TEAM 4 ENGINEERING
5819 NE MINDER RD
POULSBO, WA. 98370
(360) 297-5560
(360) 297-7951 (FAX)

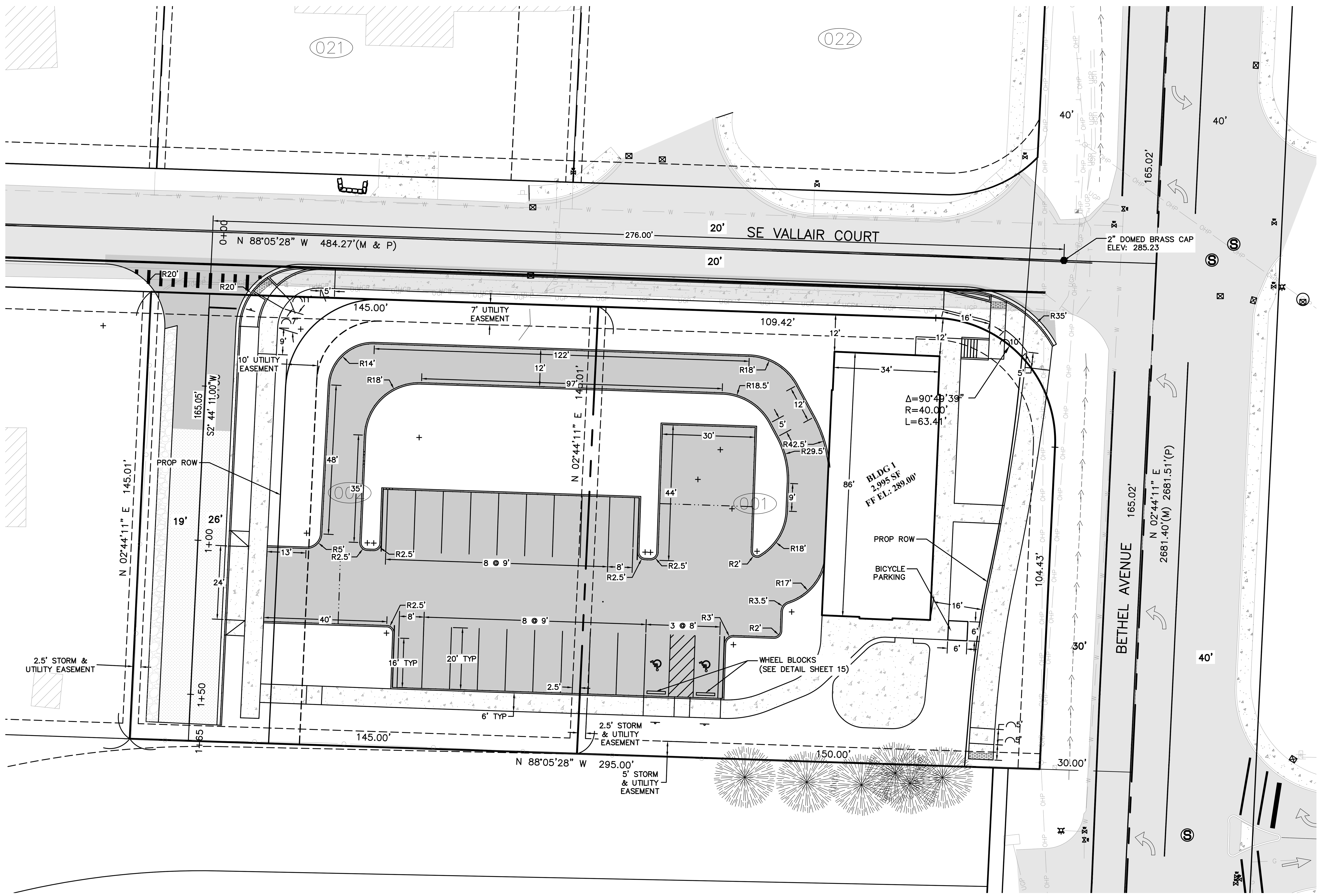
SHEET 1 OF 19

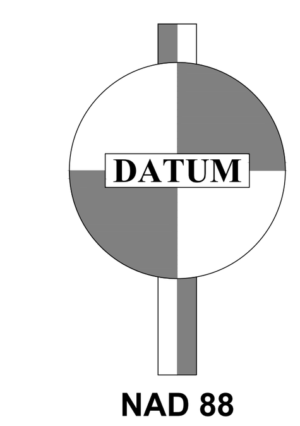
FILE NO 1279

X:\1279 Orchard Foods KFC Port Orchard\1279_3D MASTER.dwg, 6/3/2021 12:33:14 PM, 1:1

PORT ORCHARD – KFC

SITE PLAN





GRAPHIC SCALE

(IN FEET)
1 inch = 20 feet

COUNTER COMPLETE
Permit Center
JUN 18, 2021
City of Port Orchard
Community Development

PW21-036
PW21-037

DESIGN	MAK
DRAWN	JKA
CHECKED	MAK
SEC	2 T 23N R 1E
DISC NO	DATE 1/7/21
SCALE	1" = 20'

REV NO	REVISION DESCRIPTION	DATE	BY

MARK A. KUHLMAN — STATE OF WASHINGTON — 18648 — REGISTERED PROFESSIONAL ENGINEER
6/3/2021

SIGNATURE:
TITLE: PORT ORCHARD – KFC
SITE PLAN
CLIENT: ORCHARD FOODS
PETER BRAUN
4550 NEWBERRY HILL, STE 201
SILVERDALE, WA 98383
360-698-8600

PROJECT MANAGER: JASON K ANDERSON
TEAM 4 ENGINEERING
5819 NE MINDER RD
POULSBO, WA. 98370
(360) 297-5560
(360) 297-7951 (FAX)

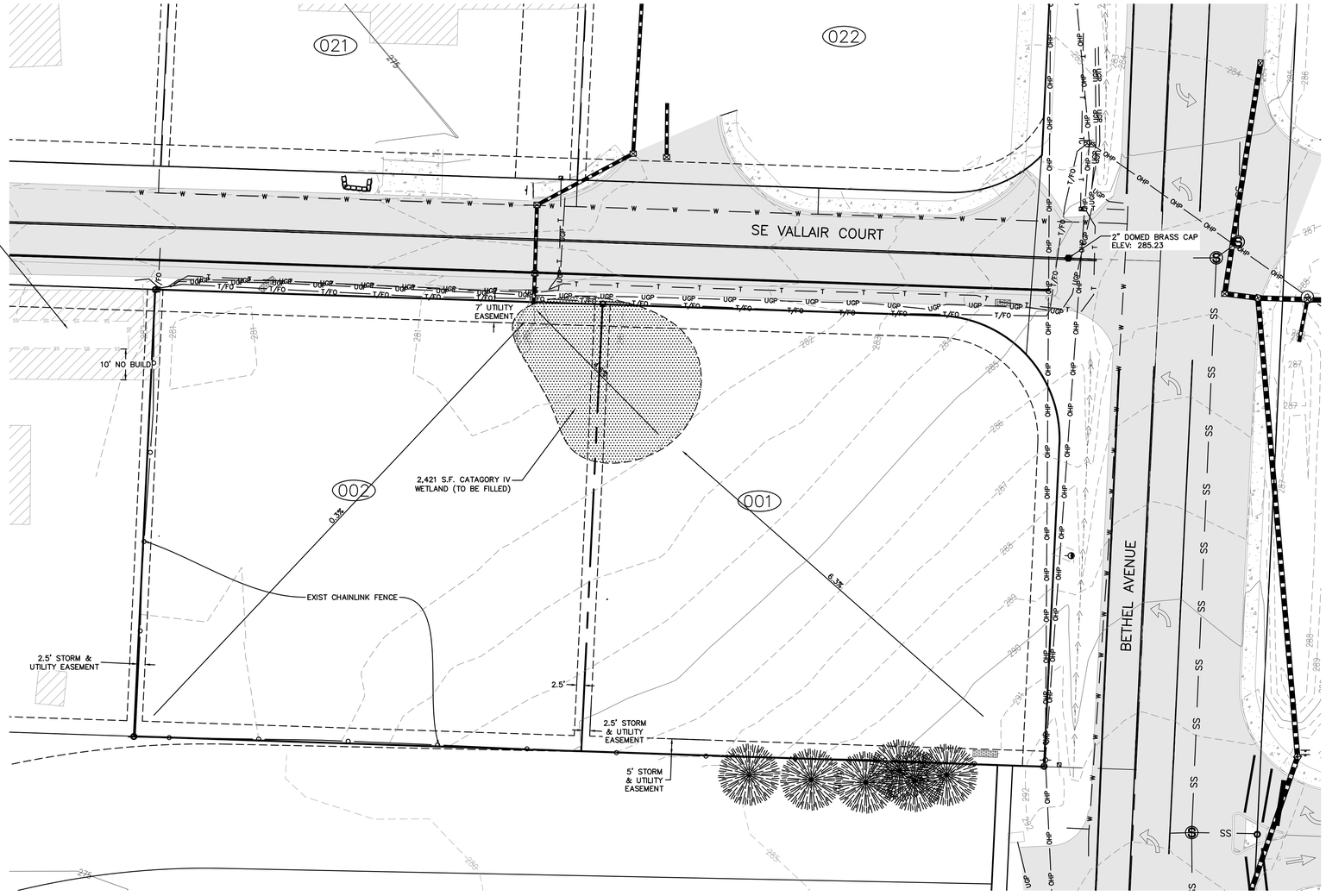
FILE NO 1279

NOTE: EXISTING LOCATION OF WELLS AND DRAINFIELDS ARE APPROXIMATE FROM COUNTY RECORDS.

NOTE: WETLAND DELINEATED BY CASCARRA CONSULTING.

PORT ORCHARD – KFC

EXISTING CONDITIONS



LEGEND (EXISTING)

———	T4–EX–BOUNDARY
SAMPLE TEXT	T4–EX–BOUNDARY–TEXT
	T4–EX–BUILDING
SAMPLE TEXT	T4–EX–BUILDING–TEXT
----------	T4–EX–CREEK BANK
——— - ———	T4–EX–CREEK CENTERLINE
	T4–EX–CREEK–HATCH
SAMPLE TEXT	T4–EX–CREEK–TEXT
	T4–EX–CRITICAL AREA
	T4–EX–CRITICAL AREA–HATCH
SAMPLE TEXT	T4–EX–CRITICAL AREA–TEXT
----------	T4–EX–ESMT
SAMPLE TEXT	T4–EX–ESMT–TEXT
	T4–EX–GRAVEL
	T4–EX–GRAVEL–HATCH
SAMPLE TEXT	T4–EX–GRAVEL–TEXT
	T4–EX–GUARDRAIL
094 OR 094	T4–EX–PARCEL ID
	T4–EX–PAVEMENT
	T4–EX–PAVEMENT–HATCH
SAMPLE TEXT	T4–EX–PAVEMENT–TEXT
	T4–EX–POWER–OVERHEAD
SAMPLE TEXT	T4–EX–POWER–TEXT
UGP	T4–EX–POWER–UNDERGROUND
	T4–EX–ROW
SAMPLE TEXT	T4–EX–ROW–TEXT
SS	T4–EX–SEWER
SSFM	T4–EX–SEWER FORCEMAIN
SAMPLE TEXT	T4–EX–SEWER–TEXT
	T4–EX–SIDEWALK
	T4–EX–SIDEWALK–HATCH
SD	T4–EX–STORM
	T4–EX–STORM–DITCH
SAMPLE TEXT	T4–EX–STORM–TEXT
T	T4–EX–TELECOM
W	T4–EX–WATER
	T4–EX–WATER–APPURTENANCES
SAMPLE TEXT	T4–EX–WATER–TEXT
	T4–EX–WATER–VALVE
----------	T4–EX–WETLAND BOUNDARY
	T4–EX–WETLAND–HATCH
SAMPLE TEXT	T4–EX–WETLAND–TEXT
	T4–EX–RETAINING WALL
	T4–EX–ROCKERY

DATUM
NAD 88

GRAPHIC SCALE
20 0 10 20
(IN FEET)
1 inch = 20 feet

COUNTER COMPLETE
Permit Center
JUN 18, 2021
City of Port Orchard
Community Development

PW21-036
PW21-037

DESIGN	MAK
DRAWN	JKA
CHECKED	MAK
SEC 2 T 23N R 1E	
DISC NO	DATE 1/7/21
SCALE	1" = 20'

REV NO	REVISION DESCRIPTION	DATE	BY

6/3/2021

SIGNATURE

TITLE PORT ORCHARD – KFC
EXISTING CONDITIONS

CLIENT ORCHARD FOODS
PETER BRAUN
4550 NEWBERRY HILL, STE 201
SILVERDALE, WA 98383
360-698-8600

PROJECT MANAGER JASON K. ANDERSON

TEAM 4 ENGINEERING
5189 NE MINDER RD
POULSBO, WA. 98370
(360) 297-5560
(360) 297-7951 (FAX)

SHEET 3 OF 19

FILE NO 1279

X:\1279 Orchard Foods KFC Port Orchard\1279_3D MASTER.dwg, 6/3/2021 12:33:29 PM, 1:1

PORT ORCHARD – KFC

TESC PLAN

DATUM

NAD 88

COUNTER COMPLETE
Permit Center
JUN 18, 2021
City of Port Orchard
Community Development

GRAPHIC SCALE

20 0 10 20

(IN FEET)
1 inch = 20 feet

PW21-036
PW21-037

REV NO	REVISION DESCRIPTION	DATE	BY

DESIGN MAK
DRAWN JKA
CHECKED MAK
SEC 2 T 23N R 1E
DISC NO DATE 1/7/21
SCALE 1" = 20'

SIGNATURE

6/3/2021

TITLE PORT ORCHARD – KFC
TESC PLAN

CLIENT ORCHARD FOODS
PETER BRAUN
4550 NEWBERRY HILL, STE 201
SILVERDALE, WA 98383
360-698-8600

PROJECT MANAGER JASON K. ANDERSON

TEAM 4 ENGINEERING
5189 NE MINDER RD
POULSBO, WA. 98370
(360) 297-5560
(360) 297-7951 (FAX)

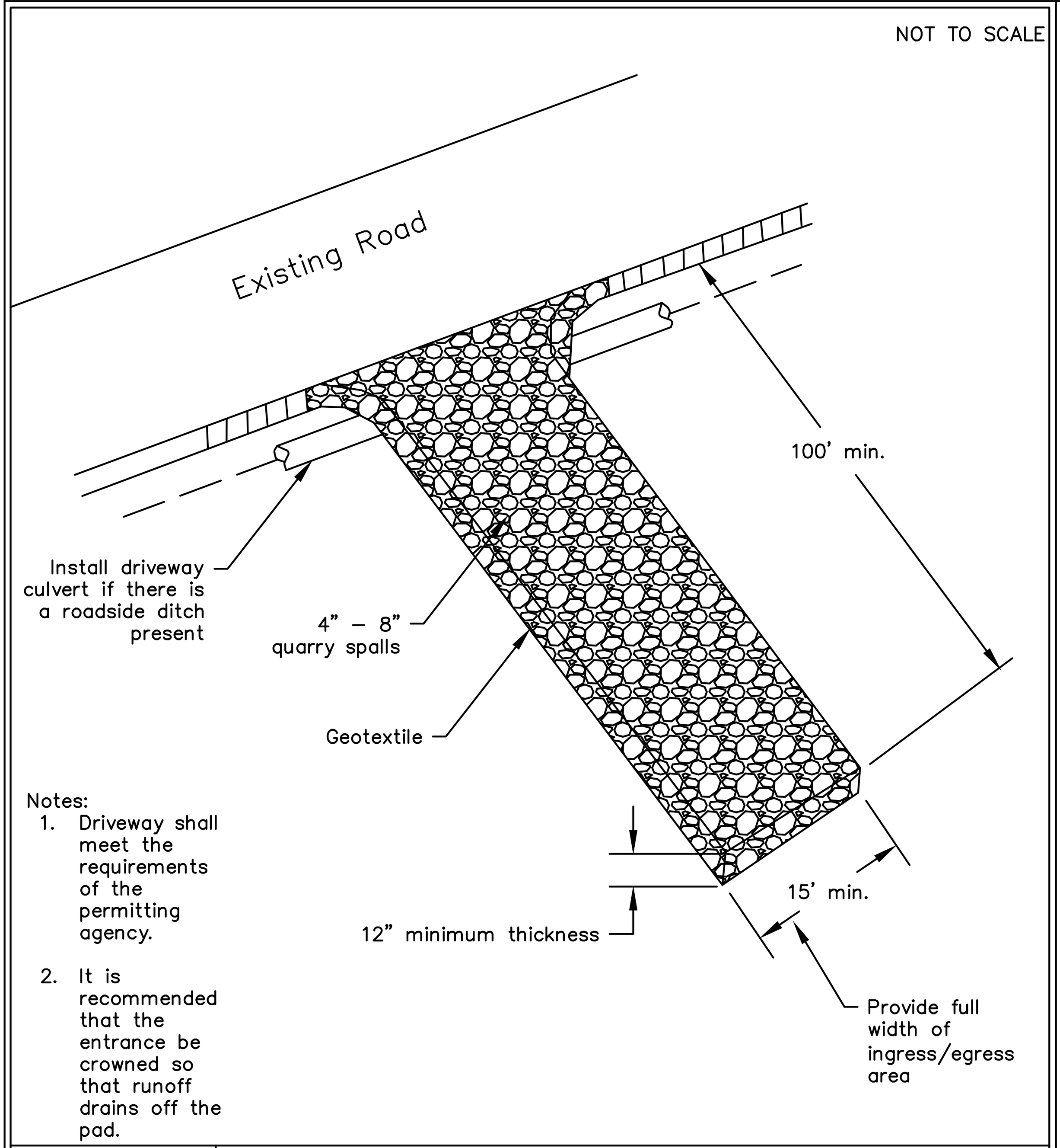
SHEET 4 OF 19

FILE NO 1279

PORT ORCHARD – KFC

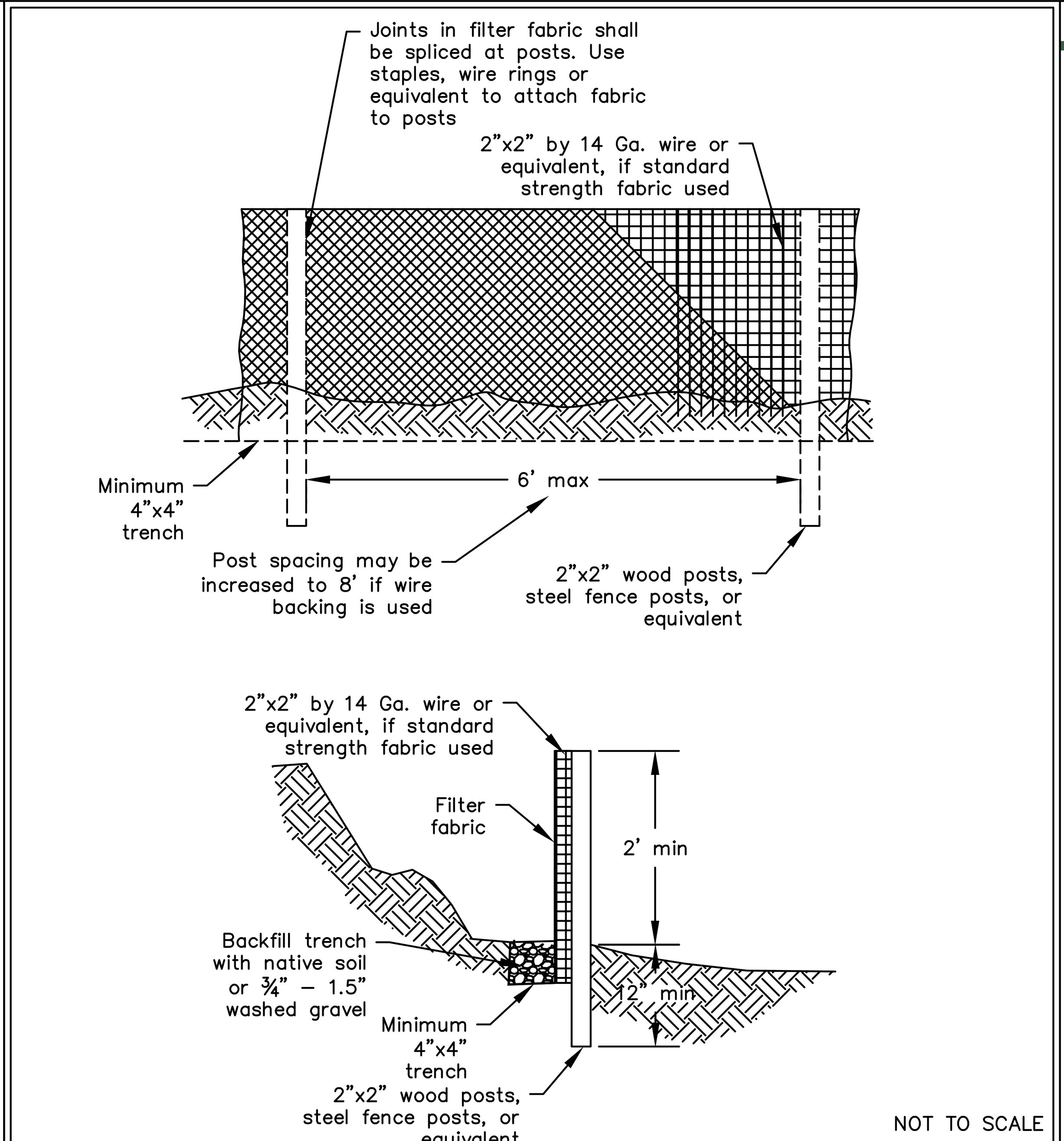
TESC DETAILS

NOT TO SCALE



Notes:
1. Driveway shall meet the requirements of the permitting agency.
2. It is recommended that the entrance be crowned so that runoff drains off the pad.

Figure II–4.1.1
Stabilized Construction Entrance
Revised June 2015



NOT TO SCALE

Figure II–4.2.12
Silt Fence
Revised October 2014

ULTRATECH INTERNATIONAL, INC.

Ultra-Drain Guards® Specifications

Material Specifications

Properties	ASTM Test	Value
Material: Non-woven, Polypropylene Geotextile		
Grab Tensile	D 4632	205 lbs
Elongation	D 4632	50%
Trapezoid Tear	D 4533	80 lbs
Puncture	D 4833	525 lbs
CBR Puncture	D 6241	600 lbs
Mullen Burst	D 3786	420 psi
Permittivity	D 4491	1.5 sec^{-1}
A.O.S. (U.S. sieve no.) / Microns	D 4751	80 / 180
UV Stability (strength retained %) 500 hrs	D 4355	70%
Fabric Weight (oz/yd2) (typical)	D 5261	8 oz/yd^2
Flow (through material)	D 4491	90 gpm/ft^2
Flow (bypass ports gpm) *		770 gpm
Flow (bypass ports cfs) *		1.7 cfs

* Larger bypass flow rate designs are available

Unit Specifications

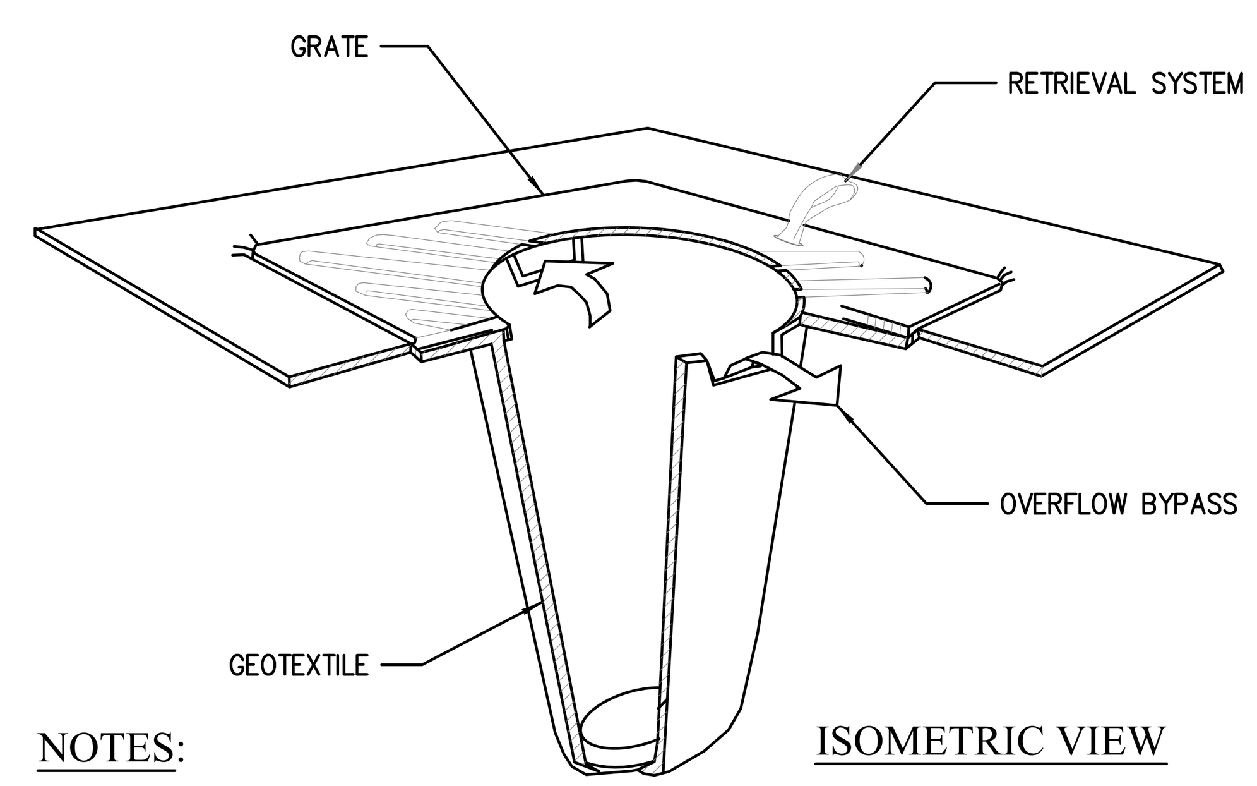
Model	Oil Capture (Gal)	Sediment Capture (lbs)	Collection Area (dia x depth)	Flow Rate (gpm)	Dimensions
Oil & Sediment[2] Part # 9217	.87	40	10" x 18"	500	48" x 36" x 18"
Oil & Sediment[2] Part # 9356	1.55	40	10" x 18"	900	60" x 60" x 18"
Oil & Sediment Plus[2] Part # 9219	1.38	40	10" x 18"	500	48" x 36" x 18"
Oil & Sediment Plus[2] Part # 9358	2.06	40	10" x 18"	900	60" x 60" x 18"
Trash & Debris Part # 9227	----	40	10" x 18"	500	48" x 36" x 18"
Ultimate[3] Part # 9376	1.57	40	10" x 18"	500	48" x 36" x 38"
High Capacity Part # 9393	1.9	300	24" x 24"	1000	60" x 60" x 24"
Adjustable Frame Model Part# 8930	1.26	40	10" x 18"	500	Varies

UltraTech International, Inc. · 11542 Davis Creek Court, Jacksonville, Florida 32256 USA
(800) 353-1611 · 1-904-292-1611 · stormwaterproducts.com

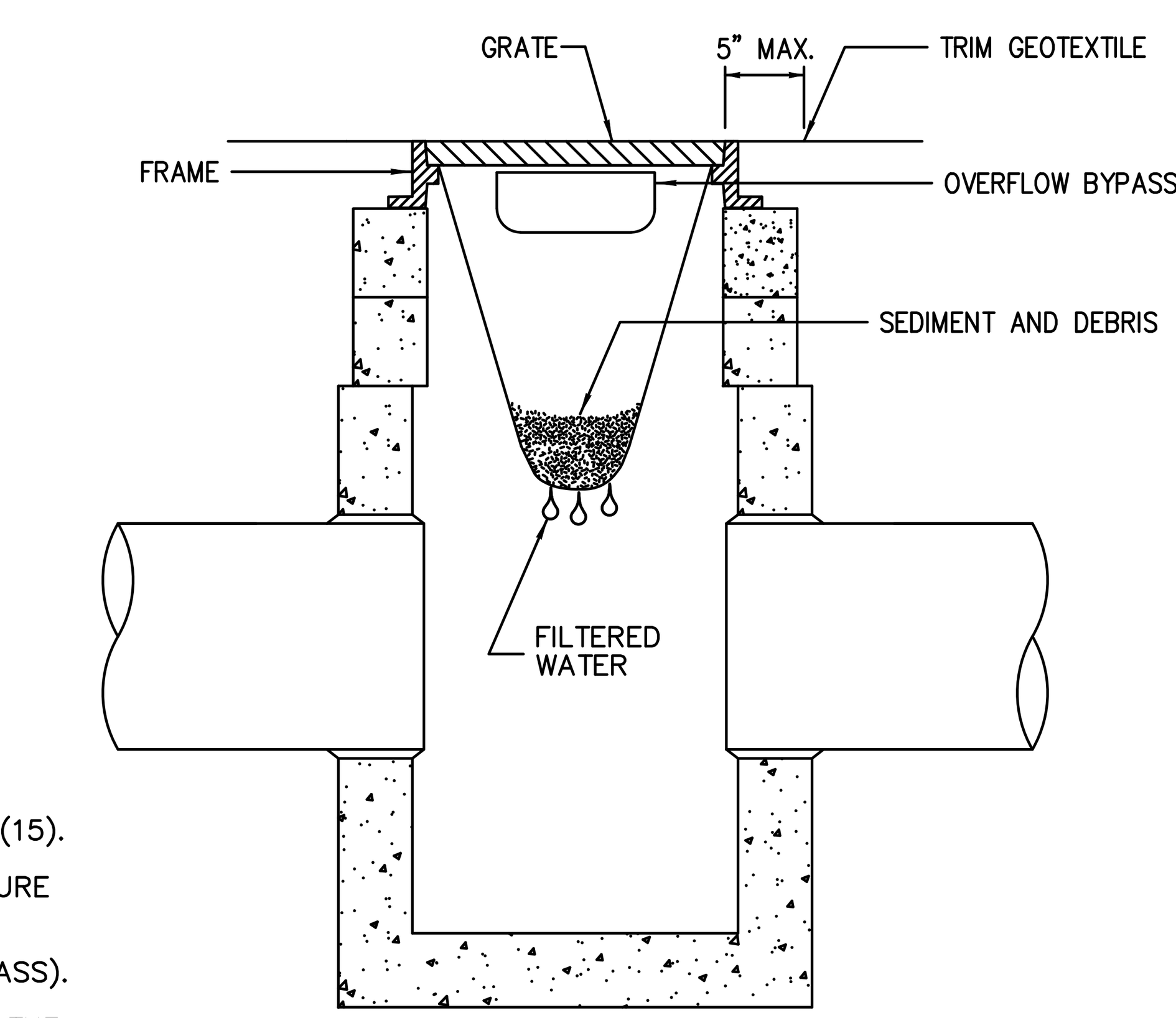
COUNTER COMPLETE
Permit Center
JUN 18, 2021
City of Port Orchard
Community Development

TABLE 2.1			
TEMPORARY EROSION CONTROL SEED MIX			
	% WEIGHT	% PURITY	% GERMINATION
CHEWINGS OR ANNUAL BLUE GRASS FESTUCA RUBRA VAR. COMMUTATA OR POA ANNUA	40	98	90
PERRENIAL RYE LOLIUM PERENNE	50	98	90
REDTOP OR COLONIAL BENTGRASS AGROSTIS ALBA OR AGROSTIS TENIUS	5	92	85
WHITE DUTCH CLOVER TRIFOLIUM REPENS	5	98	90

TABLE 2.2			
LANDSCAPING SEED MIX			
	% WEIGHT	% PURITY	% GERMINATION
PERENNIAL RYE BLEND LOLIUM PERENNE	70	98	90
CHEWINGS AND RED FESCUE BLEND FESTUCA RUBRA VAR. COMMUTATA OR FESTUCA RUBRA	30	98	90



ISOMETRIC VIEW



CROSS SECTION

NOTES:
1. PERFORM MAINTENANCE IN ACCORDANCE WITH STANDARD SPECIFICATION 8–01.3(15).
2. SIZE THE "BELOW GRATE INLET DEVICE" (BGID) FOR THE STORM WATER STRUCTURE IT WILL SERVICE.
3. THE BGID SHALL HAVE A BUILT–IN HIGH–FLOW RELIEF SYSTEM (OVERFLOW BYPASS).
4. THE RETRIEVAL SYSTEM MUST ALLOW REMOVAL OF THE BGID WITHOUT SPILLING THE COLLECTED MATERIAL.

STORM DRAIN INLET PROTECTION DETAIL
NOT TO SCALE

PW21-036
PW21-037

DESIGN MAK
DRAWN JKA
CHECKED MAK
SEC 2 T 23N R 1E
DISC NO DATE 1/7/21
SCALE 1" = 20'

REV NO	REVISION DESCRIPTION	DATE	BY

MARK A. KUHLMAN, STATE OF WASHINGTON, 18848, PROFESSIONAL ENGINEER
6/3/2021

TITLE PORT ORCHARD – KFC
TESC DETAILS

CLIENT ORCHARD FOODS
PETER BRAUN
4550 NEWBERRY HILL, STE 201
SILVERDALE, WA 98383
360–698–8600

SIGNATURE:

PROJECT MANAGER: JASON K ANDERSON

PROJECT MANAGEMENT • ENGINEERING • PLANNING • CONSULTING

TEAM 4 ENGINEERING
5819 NE MINDER RD
POULSBO, WA. 98370
(360) 297-5560
(360) 297-7951 (FAX)

FILE NO 1279

PORT ORCHARD – KFC

STANDARD NOTES – AMMENDED SOIL NOTES

General Notes:

1. All construction shall be in accordance with all currently adopted WSDOT and APWA Specifications and Plans, and the City of Port Orchard Municipal Code, the currently adopted City of Port Orchard Developer's Handbook, the currently adopted Surface Water Design Manual and the conditions of preliminary subdivision approval. It shall be the sole responsibility of the applicant and the professional civil engineer to correct any error, omission, or variation from the above requirements found in these plans. All corrections shall be at no additional cost or liability to the City of Port Orchard.
2. The design elements within these plans have been reviewed according to the Port Orchard Design Standards. Some elements may have been overlooked or missed by the City of Port Orchard City Engineer. Any deviation from adopted standards is not allowed unless specifically approved by the City of Port Orchard City Engineer, prior to construction.
3. Approval of these engineering plans such as for roads, grading, or drainage does not constitute an approval of any other design (e.g., water, sewer, gas, electrical, etc.).
4. Before any construction or development activity, a preconstruction meeting must be held between the City of Port Orchard Public Works Department, the Applicant and the Applicant's Construction Representative.
5. Proof of liability insurance shall be submitted to the City of Port Orchard prior to the preconstruction meeting.
6. A copy of these approved plans must be on the job site whenever construction is in progress.
7. Construction noise shall comply with the current POMC Section 9.24.050.
8. It shall be the Applicant /Contractor's responsibility to obtain all right–of–way permits and construction easements necessary before initiating off–site work within a City of Port Orchard street right–of–way.
9. Franchised utilities or other installations that are not shown on these approved plans shall not be constructed unless an approved set of plans is submitted to the City of Port Orchard prior to construction.
10. The vertical datum shall be NAVD 1988 and the horizontal datum shall be NAD 1983 HARN State Plane Washington North FIPS 4601 feet.
11. Groundwater system construction shall be within a right–of–way or appropriate drainage easement, but not underneath the roadway section.
12. All utility trenches shall be backfilled and compacted in accordance with the City of Port Orchard Standards.
13. All roadway subgrade shall be backfilled, compacted to 95% maximum density and prepared for surfacing in accordance with WSDOT Standard Specification 2–06.3.
14. Open cutting of existing roadways is not allowed unless specifically approved by the City of Port Orchard City Engineer and noted on these approved plans. Any open cut shall be restored in accordance with the City of Port Orchard Standard Specifications.
15. The Contractor shall be responsible for providing adequate safeguards, safety devices, protective equipment, flaggers, and any other needed actions to protect the life, health, and safety of the public, and to protect property in connection with the performance of work covered by the contract. Any work within the traveled right–of–way that may interrupt normal traffic flow shall require at least one flagger for each lane of traffic affected. Refer to "Traffic Control," of the WSDOT Standard Specifications shall apply in its entirety. Traffic control plans shall follow the currently adopted MUTCD Manual as applicable.
To protect significant trees from the impacts of the proposed development, the Applicant shall provide the best protection for significant trees per the regulations. At a minimum, any significant trees to be retained shall be fenced two feet outward from the identified drip line. Trees that sustain damage during construction shall be replaced pursuant to POMC. A representative of the City of Port Orchard DCD Staff shall verify protective fencing placement per this condition prior to issuance of a notice to proceed for grading and clearing. The City shall inspect for compliance with the tree plan prior to a final inspection. The inspection shall also evaluate the condition of retained trees and any and all corrections will be required to be completed prior to a final inspection and release of any post financial guarantees for the site.

Drainage Notes (also refer to Chapter 9 Surface Water Drainage):

16. All storm pipe and appurtenances shall be laid in accordance with City of Port Orchard Design and Construction Standards. This shall include leveling and compacting the trench bottom, the top of the foundation material and any required bedding to a uniform grade so that the entire drainage facility is supported by a uniformly dense unyielding base.
17. All storm pipe shall be subject to a low–pressure air test in accordance with WSDOT Standard Specification 7–04.3(1)F and a video inspection in accordance with the Port Orchard Design Standards.
18. Storm pipe cover, measured from the finished grade elevation to the top of the outside surface of the pipe, shall be 2 feet minimum, unless authorized by the City of Port Orchard City Engineer under the following circumstances:
a. Under driveways the pipe cover may be reduced to 1 foot minimum if the 2–feet cannot be achieved and the cover is consistent with the pipe manufacturer's recommendations.
b. In areas not subject to vehicular loads, such as landscape planters and yards, the pipe cover may be reduced to 1 foot minimum.
c. If ductile iron pipe or C900 pipe is used, the pipe cover may be reduced to 1 foot minimum.
19. Steel pipe shall be galvanized and have asphalt treatment #1 or better inside and out (WSDOT Standard Specification 9–05.4(3)).
20. Any drainage structure, such as a catch basin or a manhole, not receiving surface runoff and not located within a traveled roadway or sidewalk shall have a solid locking lid. Any drainage structure associated with a permanent retention/detention facility, not receiving surface runoff, shall have a solid locking lid.
21. All catch basin grates shall conform to the currently adopted Stormwater Management Manual and the WSDOT Standard Plans when located within the right–of–way, and shall include a combination inlet frame (open–curb–face frame), when located in a sump condition or before an intersection with a 4% grade or above. A herringbone grate may be used outside the right–of–way. All catch basins within the gutter line shall be installed in accordance with the City of Port Orchard Standard Details as applicable. Maximum catch basin height from finished grade to pipe invert shall be per the applicable detail.
22. For any curb grade less than 0.8% (0.0080 ft/ft), including curb returns, a professional Land Surveyor, currently licensed in the State of Washington, shall verify that the curb forms or string lines are at the grades noted on the approved plans prior to placement of concrete. The contractor is responsible for survey coordination and costs.
23. For any drainage pipe grade less than 0.5% (0.0050 ft/ft), a professional Land Surveyor, currently licensed in the State of Washington, shall verify that the as–built pipe matches the grades noted on the approved plans prior to completion of subgrade. The contractor is responsible for survey coordination and costs.
24. All driveway culverts located within the City of Port Orchard right–of–way shall be of sufficient length to provide a minimum 3:1 slope from the edge of the driveway to the bottom of the ditch. Culverts shall have beveled end sections to match the side slope.
25. Rock for erosion protection of ditches, where required, must be of sound quarry rock, placed to a depth of one foot (1'), and must meet the following specifications: 100% must pass the 8" sieve, 40% maximum can pass the 3" sieve and 10% maximum can pass the 3/4" sieve.
26. Drainage outlets (stub–outs) shall be provided for each individual lot, except for those lots approved for infiltration by the City of Port Orchard. Stub–outs shall conform to the following:
a. Each outlet shall be suitably located at the lowest elevation on the lot to service all future roof downspouts and footing drains, driveways, yard drains, and any other surface or subsurface drains necessary to render the lots suitable for their intended use. Each outlet shall have free–flowing, positive drainage to an approved stormwater conveyance system or to an approved outfall location.
b. Outlets on each lot shall be located with a five–foot–high, 2" x 4" stake marked "storm" or "drain". The stub–out shall extend above surface level, be visible, and be secured to the stake.
c. Pipe material shall be in accordance with Port Orchard Design Standards. If non– metallic, the pipe shall contain a wire or use other acceptable means of detection.
d. Drainage easements are required for drainage systems designed to convey flows through individual lots.
e. The Applicant/Contractor is responsible for coordinating the locations of all stubout conveyance lines with respect to other utilities (e.g., power, gas, telephone, television, etc.).
f. All individual stub–outs shall be privately owned and maintained by the lot homeowner.

Erosion and Sediment Control Notes (also refer to Chapter 9 Surface Water Drainage):

27. Approval of these Temporary Erosion and Sediment Control (TESC) plans does not constitute an approval of permanent road or drainage design (e.g., size and location of roads, pipes, restrictors, channels, retention facilities, utilities, etc.).
28. The implementation of these TESC plans and the construction, maintenance, replacement, and upgrading of these TESC facilities is the responsibility of the applicant/CESCL until all construction is approved.
29. The boundaries of the clearing limits shown on these plans shall be clearly flagged by a continuous length of survey tape (or fencing, if required) prior to construction. During the construction period, no disturbance beyond the clearing limits shall be permitted. The clearing limits shall be maintained by the applicant/CESCL for the duration of construction.
30. Stabilized construction entrances, in accordance with Standard Details shall be installed at the beginning of construction and maintained for the duration of the project. Additional measures, such as constructed wheel wash systems or wash pads, may be required to ensure that all paved areas are kept clean and track–out to street right–of– way does not occur for the duration of the project.
31. The TESC facilities shown on these plans must be constructed prior to all clearing and grading to ensure that the transport of sediment to surface waters, drainage systems, and adjacent properties is reduced to required levels.
32. The TESC facilities shown on these plans are the minimum requirements for anticipated site conditions. During the construction period, these TESC facilities shall be upgraded as needed for unexpected storm events and modified to account for changing site conditions (e.g., additional cover measures, additional sump pumps, relocation of ditches and silt fences, additional perimeter protection, etc.), as directed by the City Engineer.
33. The TESC facilities shall be inspected daily by the applicant/CESCL and maintained to ensure continued proper functioning. Written records shall be kept of weekly reviews of the TESC facilities and of samples taken during the wet season (October 1 to April 30) and of monthly reviews during the dry season (May 1 to September 30).
34. Any areas of exposed soils, including roadway embankments, that will not be disturbed for two days during the wet season or seven days during the dry season shall be immediately stabilized with the approved TESC methods (e.g., seeding, mulching, plastic covering, etc.).
35. Any area needing TESC measures not requiring immediate attention shall be addressed within seven (7) days.
36. The TESC facilities on inactive sites shall be inspected and maintained a minimum of once a month or within twenty–four (24) hours following a storm event.
37. At no time shall more than one (1) foot of sediment be allowed to accumulate within a catch basin. All catch basins and conveyance lines shall be cleaned prior to final inspection. The cleaning operation shall not flush sediment–laden water into a downstream system.
38. Any permanent flow control facility used as a temporary settling basin shall be modified with the necessary erosion control measures and shall provide adequate storage capacity. If the facility is to function ultimately as an infiltration system, the temporary facility must be graded so that the bottom and sides are at least three (3) feet above the final grade of the permanent facility.
39. Where straw mulch for temporary erosion control is required, it shall be applied at a minimum thickness of 2 to 3 inches.
40. Prior to the beginning of the wet season (October 1), all disturbed areas shall be reviewed to identify which areas can be seeded in preparation for the winter rains. Disturbed areas shall be seeded within one week of the beginning of the wet season. –A sketch map of those areas to be seeded and those areas to remain uncovered shall be submitted to the City of Port Orchard City Engineer. The Inspector can require seeding of additional areas in order to protect surface waters, adjacent properties, or drainage facilities.

Structural Notes, (also refer to Chapter 8 Structures):

41. These plans are approved for construction of the standard road and drainage improvements only. Plans for structures such as bridges, vaults, and retaining walls require a separate review, approval and building permit by the City of Port Orchard Department of Community Development prior to construction.
42. Rockeries are considered to be a method of bank stabilization and erosion control. Rockeries shall not be constructed in fill conditions to serve as retaining walls. All rockeries shall be constructed in accordance with the rock wall construction guidelines published by the Associated Rockery Contractors.
43. Mechanically stabilized earth, or reinforced soil, walls shall be designed and stamped by a professional engineer licensed in Washington State.

Recommended Construction Sequence:

44. Conduct a pre–construction meeting with the Public Works Department.
45. Post "Notice of Construction Activity" sign with name and phone number of the CESCL.
46. Flag or fence clearing limits and significant trees.
47. Install catch basin protection, if required.
48. Grade and install construction entrance(s).
49. Install perimeter protection (silt fence, brush barrier, etc.).
50. Construct sediment ponds and traps.
51. Grade and stabilize construction roads.
52. Construct surface water controls (interceptor ditches, pipe slope drains, etc.) simultaneously with clearing and grading for project development.
53. Maintain erosion control measures in accordance with the City of Port Orchard standards and manufacturer's recommendations.
54. Relocate surface water controls and erosion control measures, or install new measures to ensure that as site conditions change the erosion and sediment control is always in accordance with the City of Port Orchard Erosion and Sediment Control Standards.
55. Cover all areas that will be idle for more than seven days during the dry season or two days during the wet season with straw, wood fiber mulch, compost, plastic sheeting, or equivalent.
56. Stabilize all areas that reach final grade within seven days.
57. Seed or sod any areas to remain idle until seed or sod is established.
58. Upon completion of the project, all disturbed areas must be stabilized and best management practices removed, if appropriate.

Design Standard: Amendment of Disturbed Soils

Application

Amend existing or imported soils to provide flow control (quantity) and water quality treatment. Use in new construction where soils have been disturbed, renovations where plant health is poor and near runoff source where pesticides would cause contamination.
This technique can be used under conventional stormwater ponds, filter strips, bioretention area, or dispersion areas.

Naturally occurring (undisturbed) soil and vegetation provide important stormwater management 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 minimal soil and sod. Not only are these important stormwater management 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 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 by amending disturbed soils with compost regains greater stormwater management 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.

Variables

Application rates and techniques for incorporating amendments will vary with the use and plant requirements of the area. Landscape with high pedestrian traffic (notably lawns) during wet months will require specific amendments to prevent spongy soils.

Post construction soil quality and depth restoration is required on all sites wherever existing soil or vegetation is disturbed. Areas of sites where existing vegetation and soil are not compacted or disturbed do not have to be restored.

Advantages & Disadvantages (Whole System Perspective)

Native soil protection and amendments should be first LID strategies considered. Soil amendments improve the quality and health of the soil and plantings. Some of the issues
include:

Advantages

- Reduced stormwater runoff / increased moisture retention;
- Reduced irrigation needs;
- Improved water quality through pollutant adsorption and biofiltration;
- Plant establishment and health;
- Improved infiltration;
- Increased sediment filtration;
- Reduced erosion;
- Reduced compaction;
- Reduced fertilizer/pesticide use.

Disadvantages

- Increased cost;
- Designating an area for staging materials and amending soils;
- Increased export and import costs;
- Foot–traffic issues associated with slow–draining soils.

Data Requirements

Determine soils quality, including organic material; hydrologic characteristics; soil texture, structure, and depth; and biota. Be careful using soils amendments in areas that will have the potential to become compacted.

Schematic

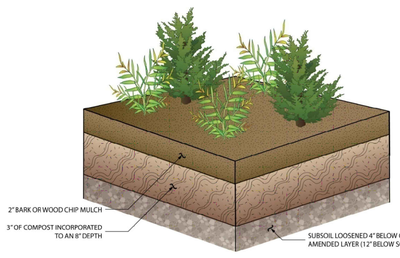


Figure 6.1: Cross Section of Planting Bed Soil Amendment. (Source: Seattle Public
Utilities/Seattle Department of Planning and Development)

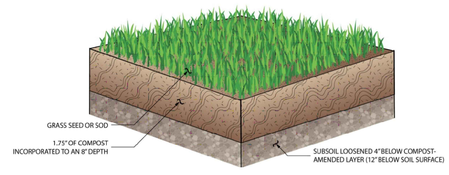


Figure 6.2: Cross Section of Turf Soil Amendment. (Source: Seattle Public
Utilities/Seattle Department of Planning and Development)

Specification

It is important that the compost or other organic materials used to meet the soil quality and depth necessary 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 or silt fines that might restrict stormwater infiltration.

Soil Retention

The duff layer and native topsoil should be retained in an undisturbed state and protected from compaction to the maximum extent practical. 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:

- A topsoil layer meeting these requirements:
  - o Topsoil shall have a minimum organic matter content by the loss–on–ignition test of 8 percent dry weight in planting beds, or 4 percent organic matter content in turf areas, and a pH from 6.0 to 8.0 or matching the pH of the original undisturbed soil. (Acceptable test methods for determining loss–on ignition soil organic matter include the most current version of ASTM D2974 'Test Methods for Moisture, Ash, and Organic Matter of Peat and Other Organic Soils' and TMECC 05.07A 'Loss–On–Ignition Organic Matter Method');
  - o The topsoil layer shall have a minimum depth of 8 inches;
  - o Where tree roots limit the depth of incorporation of amendments, those root zones are exempted from this requirement only if they are fenced and protected from stripping of soil, grading, or compaction to the maximum extent practical;
  - o Subsoils below the topsoil layer should be scarified at least 4 inches, for a finished minimum depth of 12 inches of uncompacted soil, with some incorporation of the upper material to avoid stratified layers, where feasible;
- Planting beds must be mulched after planting with 2 inches of organic material such as wood chip, shredded leaves, compost, etc.;
- Quality of compost and other materials used to meet the organic content requirements:
  - o 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 section 220. This code is available at the Dept. of Ecology's website:
    http://www.ecy.wa.gov/programs/swfa/compost/.
    The compost must also have an organic matter content of 40 percent to 65 percent, 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;
  - o 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 specified in WAC 173–350 section 220. The method for calculating custom amendment rates is established in the Building Soil
    manual referenced below;

The resulting soil should be conducive to the type of vegetation to be established.

General Installation Requirements

Implementation Options

The soil quality design guidelines listed above can be met by using one of the four methods listed below:

- Leave undisturbed vegetation and soil, protect from compaction by fencing and keeping materials storage and equipment off these areas during construction;
- Amend existing site topsoil or subsoil either at default 'pre–approved' rates, or at custom calculated rates to meet the soil quality guidelines above based on specifiers' tests of the soil and amendment. The default pre–approved rates are:
  - o In planting beds, place 3 inches of compost and till in to an 8 inch depth;
  - o In turf areas, place 1.75 inches of compost and till in to an 8 inch depth;
- Stockpile existing topsoil during grading, and replace it prior to planting. Stockpiled topsoil must also be amended if needed to meet the organic matter or depth requirements, either at the default 'pre–approved' rate or at a custom calculated rate (see Building Soil manual or website, below, for custom calculation method);Import topsoil mix of sufficient organic content and depth to meet the requirements. Imported soils should not contain excessive clay or silt fines (excessive is defined as more than 5% passing the No. 200 sieve) because that could restrict stormwater infiltration. The default pre–approved rates for imported topsoils are:
  - o For planting beds, a mix by volume of 35 percent compost with 65 percent mineral soil is pre–approved to achieve the requirement of 8 percent organic matter by loss–on–ignition test;
  - o For turf areas, a mix by volume of 20 percent compost with 80 percent mineral soil is pre–approved to achieve the requirement of 4 percent organic matter by loss–on–ignition test.

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.

Soil Management Plan

A 'Soil Management Plan' is required, including:

- A site map showing areas to be fenced and left undisturbed during construction, and areas that will be amended at the turf or planting bed rates;
- Calculations of the amounts of compost, compost amended topsoil, and mulch to be used on the site;
- Sample forms for the Soil Management Plan, and more guidance on these procedures, can be found in the Building Soil manual, available on the www.soilsforsalmon.org website.

Construction Specifications and Criteria

Minimum construction requirements include the following:

- 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;
- Soil should be planted and mulched after installation;
- Inspection and verification procedures will include:
  - o Inspection of delivery tickets for compost, amended soil, and mulch to verify types and quantities match those specified on the Soil Management Plan;
  - o Digging or coring several holes to verify appearance of compost–amended soil to a minimum 8–inch depth and subsoil scarification or uncompacted soil to a minimum 12–inch depth;
  - o Use of a rod pentrometer (3/8 inch rod with handle) every 20 feet across site,to verify that the rod can be pushed into the soil at least 12 inches by the inspector's weight;
  - o Use of a shovel to scrape aside mulch on planting beds in several places to verify a minimum 2–inch mulch depth;
  - o Sample forms for Field Verification, can be found in the Building Soil manual or on the
    www.soilsforsalmon.org website;

Operations & Maintenance Requirement

Plant debris or its equivalent should be left on the soil surface through mulch–mowing of turf areas, and blowing shredded fall leaves into beds or annual mulching to replenish organic matter.

It should be possible to reduce use of irrigation, fertilizers, herbicides and pesticides. These activities should be adjusted where possible, rather than continuing to implement formerly established practices. In particular, regular use of soluble fertilizers, broadcast herbicides and insecticides degrades soil life and compacts soils. Instead, fertilization can be reduced, using slow–release or organic products, and integrated pest management techniques will minimize the need for pesticides.

Flow Credit

This standard is a required BMP for construction impacted soils, therefore there are no flow credits for implementing this standard.

Enhanced Treatment

Dispersion BMPs –see relevant Standards Sheets.

Permit Requirements – Refer to Jurisdiction Addenda in Appendix J

References

Material for this section was taken directly from Seattle Public Utilities' BMP for Post–Construction Soil Quality and Depth.

DESIGN MAK
DRAWN JKA
CHECKED MAK
SEC 2 T 23N R 1E
DISC NO ____ DATE 1/7/21
SCALE 1" = 20'

REV NO	REVISION DESCRIPTION	DATE	BY

6/3/2021

COUNTER COMPLETE
Permit Center
JUN 18, 2021
City of Port Orchard
Community Development

PW21-036
PW21-037

SIGNATURE:

TITLE PORT ORCHARD – KFC
STANDARD NOTES – AMMENDED SOIL NOTES

CLIENT ORCHARD FOODS
PETER BRAUN
4550 NEWBERRY HILL, STE 201
SILVERDALE, WA 98383
360–698–8600

PROJECT MANAGER JASON K. ANDERSON

TEAM 4 ENGINEERING
5819 NE MINDER RD
POULSBO, WA. 98370
(360) 297–5560
(360) 297–7951 (FAX)

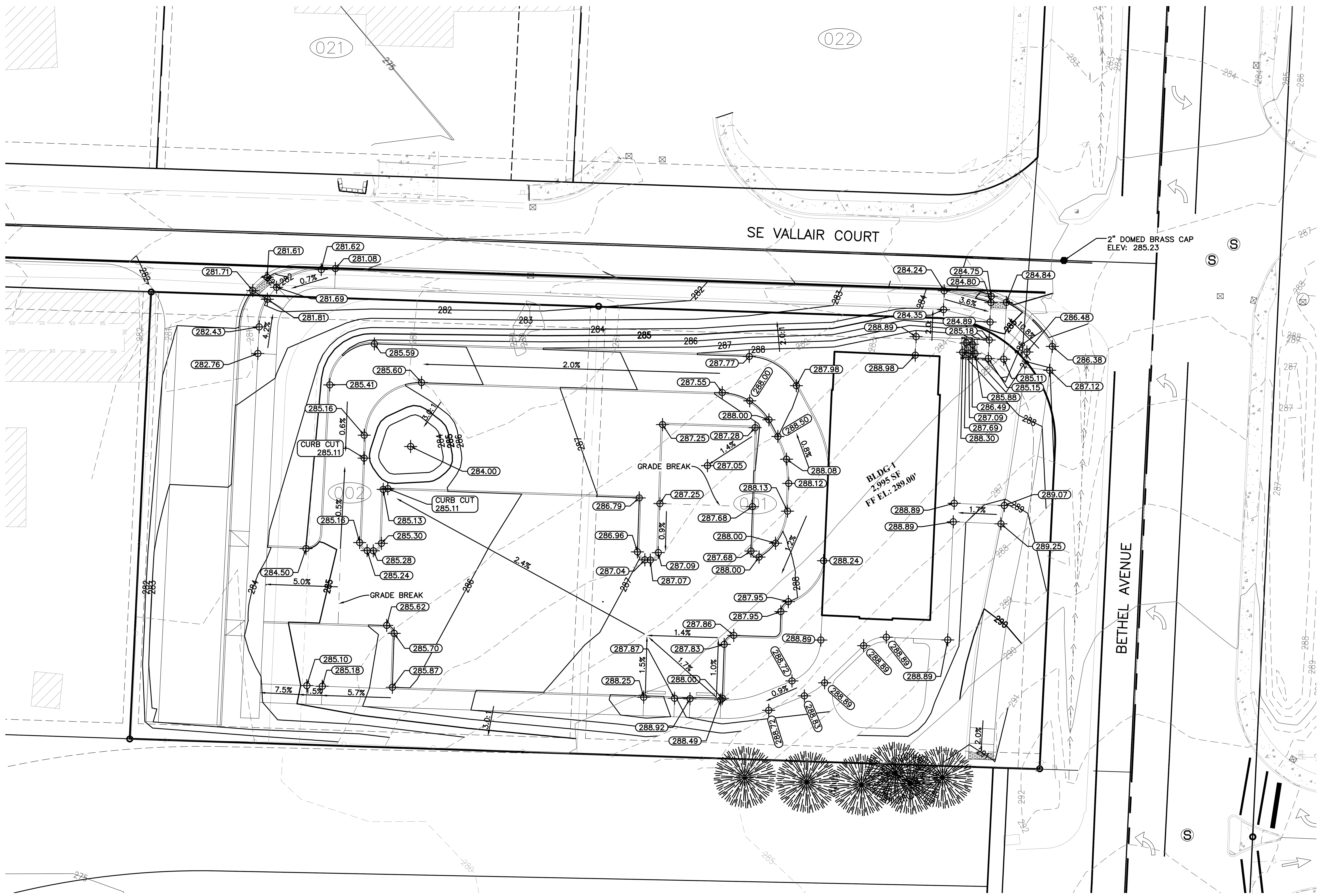
SHEET 6 OF 19

FILE NO 1279

X:\1279 Orchard Foods KFC Port Orchard\1279_3D MASTER.dwg, 6/3/2021 12:33:36 PM, 1:1

PORT ORCHARD – KFC

GRADING PLAN



DATUM
NAD 88

GRAPHIC SCALE
20 0 10 20
(IN FEET)
1 inch = 20 feet

Cut/Fill Summary

Name	Cut Factor	Fill Factor	2d Area	Cut	Fill	Net
GRADING VOLUME	1.000	1.000	43548.06 Sq. Ft.	0.02 Cu. Yd.	5951.60 Cu. Yd.	5951.58 Cu. Yd.<Fill>
9" STRIPPING VOLUME	1.000	1.000	43893.22 Sq. Ft.	1219.26 Cu. Yd.	0.00 Cu. Yd.	1219.26 Cu. Yd.<Cut>
Subotal			43893.22 Sq. Ft.	1219.27 Cu. Yd.	5951.60 Cu. Yd.	4732.32 Cu. Yd.<Fill>

STORM FACILITY VOLUME	1053.07 Cu. Yd.
ROAD,PAVING & SIDEWALK VOLUME	~750.00 Cu. Yd.
TOTAL	~2929.25 Cu. Yd.<Fill>

NOTE: ALL VOLUMES ARE IN-SITU WITH NO REDUCTION FOR SHRINKING OR SWELLING. CONTRACTOR TO INDEPENDENTLY VERIFY VOLUMES FOR BIDDING PURPOSES.

PW21-036
PW21-037

DESIGN MAK
DRAWN JKA
CHECKED MAK
SEC 2 T 23N R 1E
DISC NO ___ DATE 1/7/21
SCALE 1" = 20'

REV NO | REVISION DESCRIPTION | DATE | BY

MARK A. KUHLMAN, STATE OF WASHINGTON, 18648, PROFESSIONAL ENGINEER
6/3/2021

TITLE PORT ORCHARD – KFC
GRADING PLAN

CLIENT ORCHARD FOODS
PETER BRAUN
4550 NEWBERRY HILL, STE 201
SILVERDALE, WA 98383
360-698-8600

SIGNATURE:

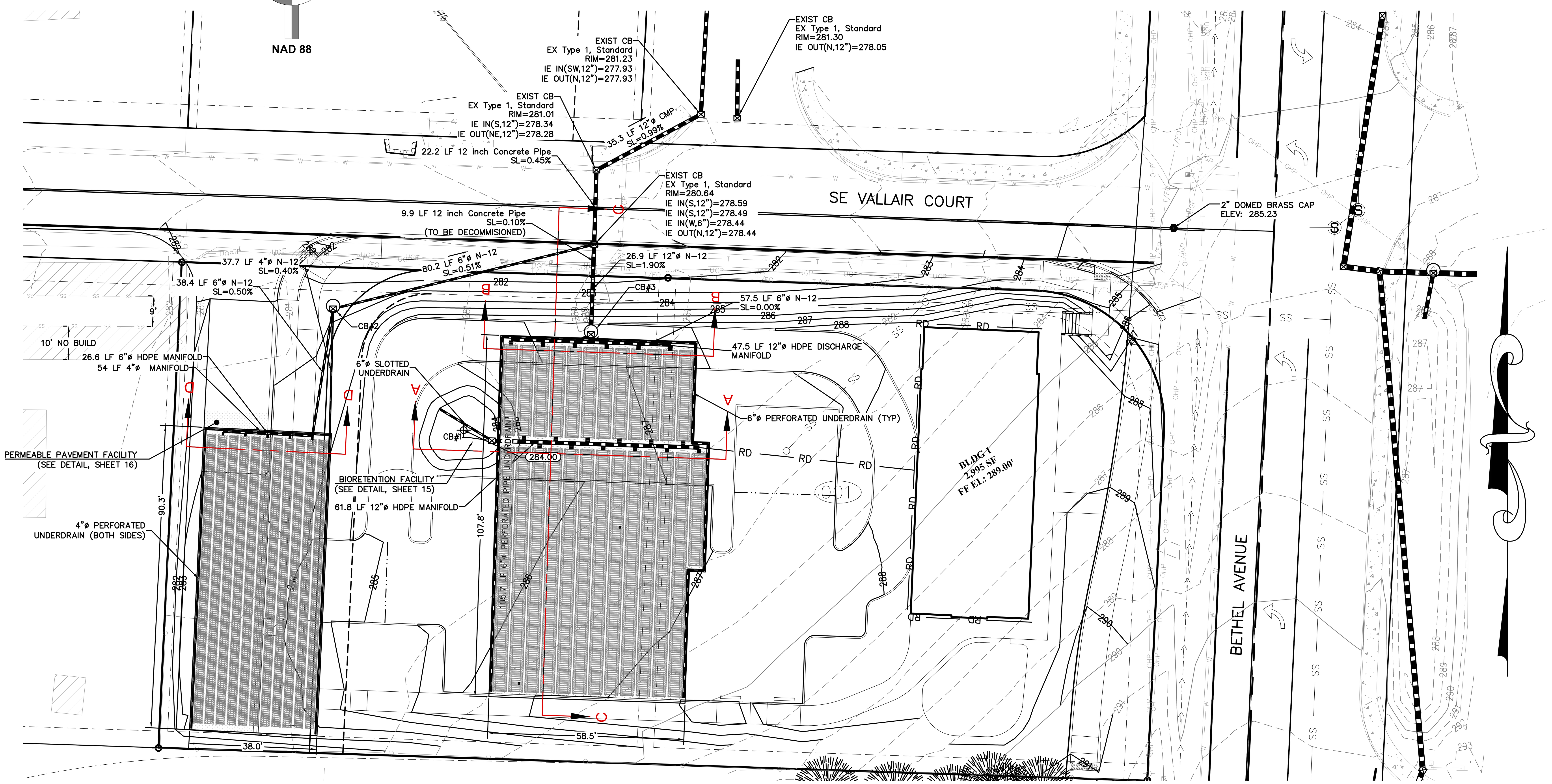
PROJECT MANAGER: JASON K ANDERSON

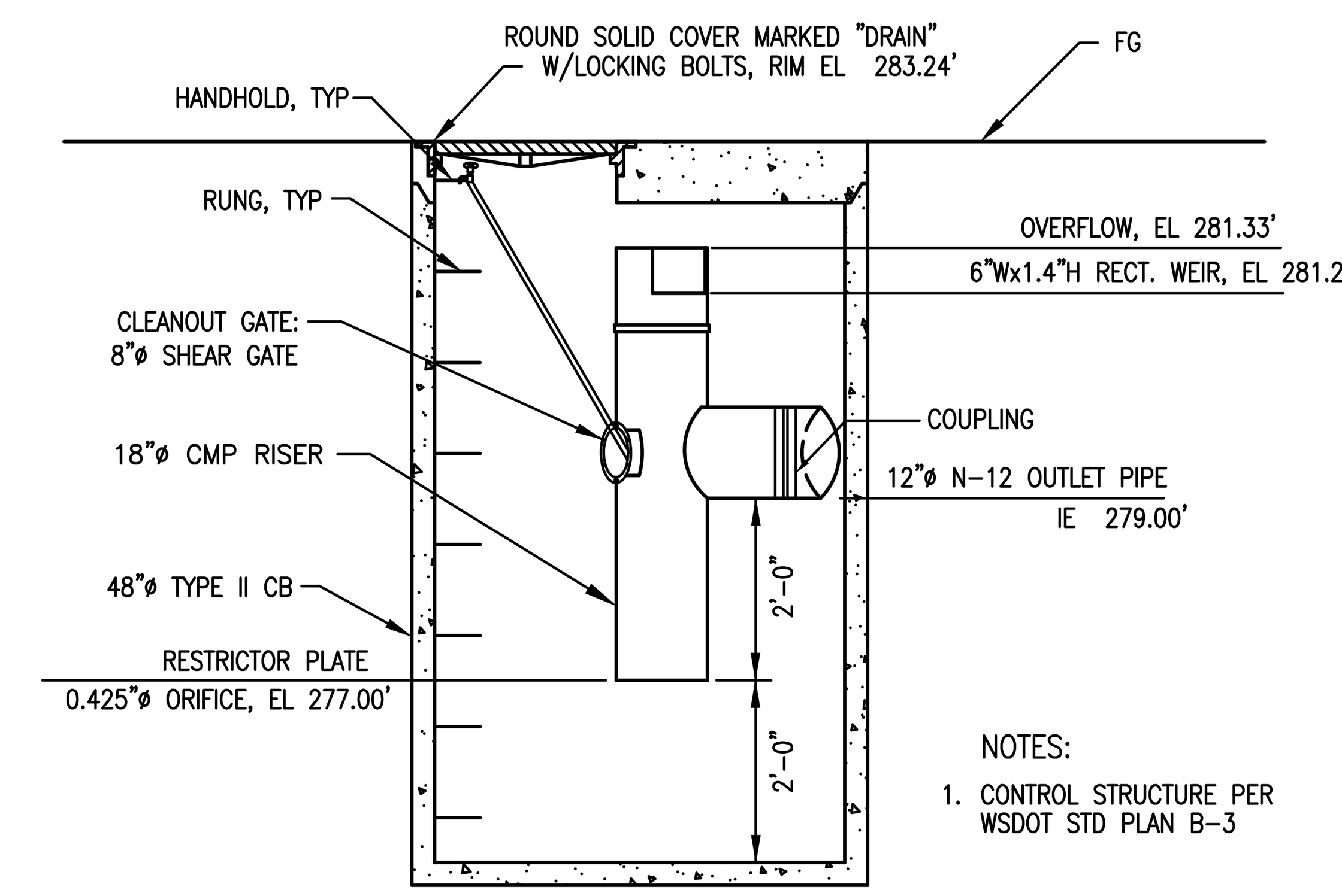
TEAM 4 ENGINEERING
5819 NE MINDER RD
POULSBO, WA. 98370
(360) 297-5560
(360) 297-7951 (FAX)

PORT ORCHARD – KFC

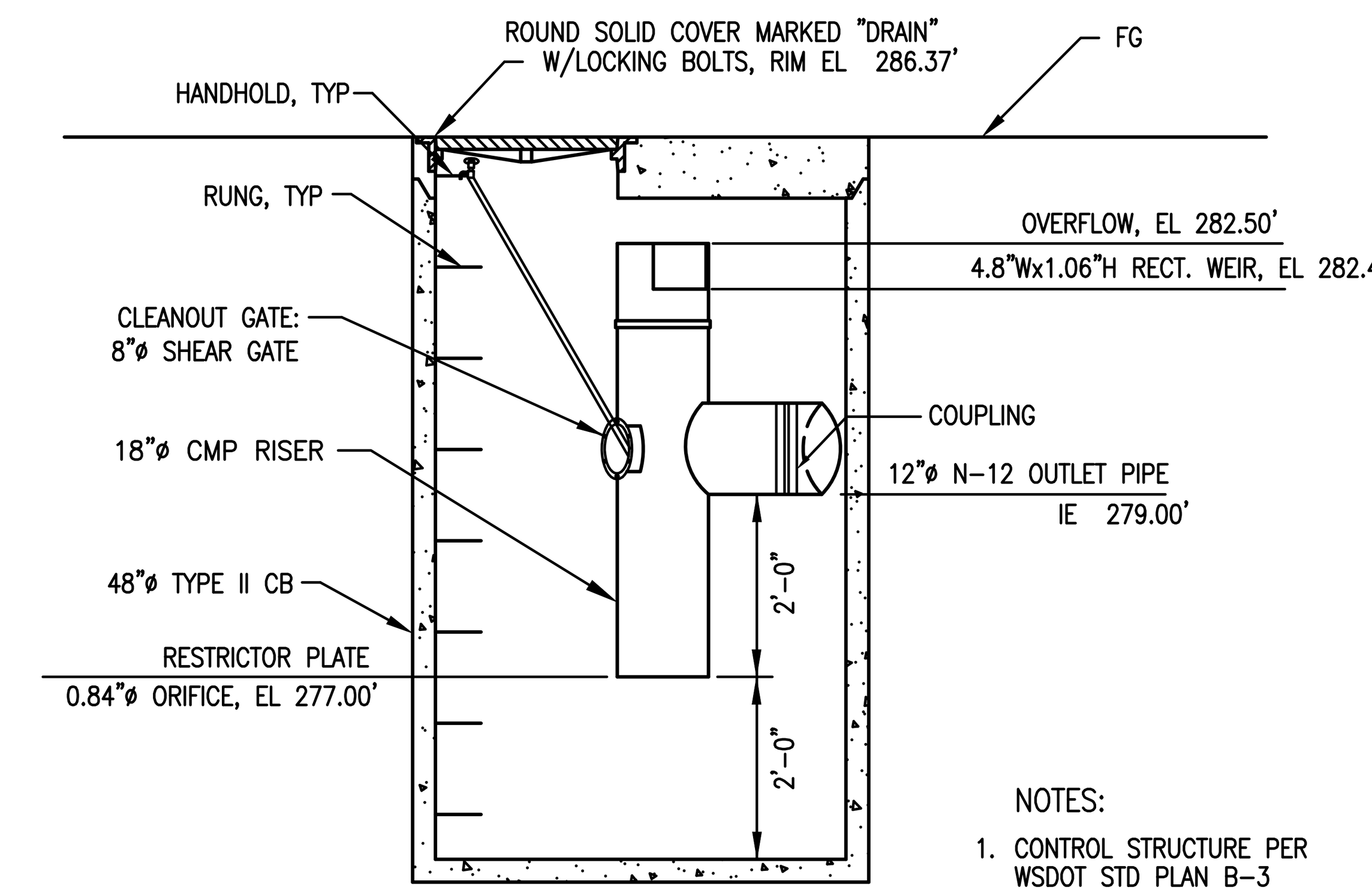
STORM PLAN & PROFILE

DATUM
NAD 88

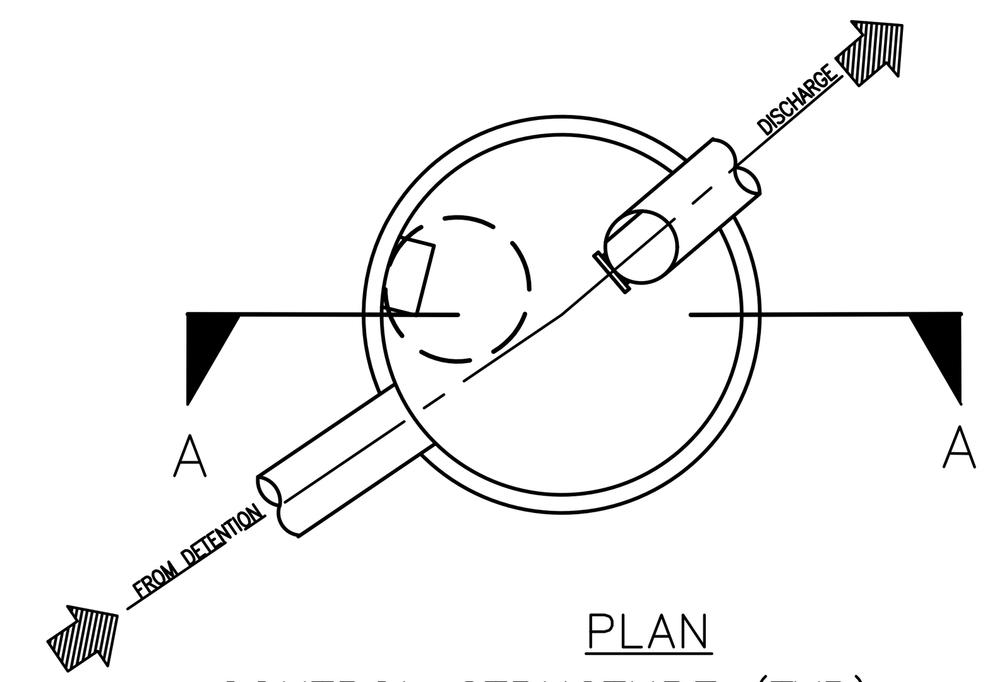




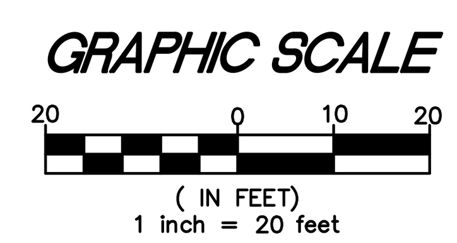
CB #2 SECTION A–A



CB #3 SECTION A–A

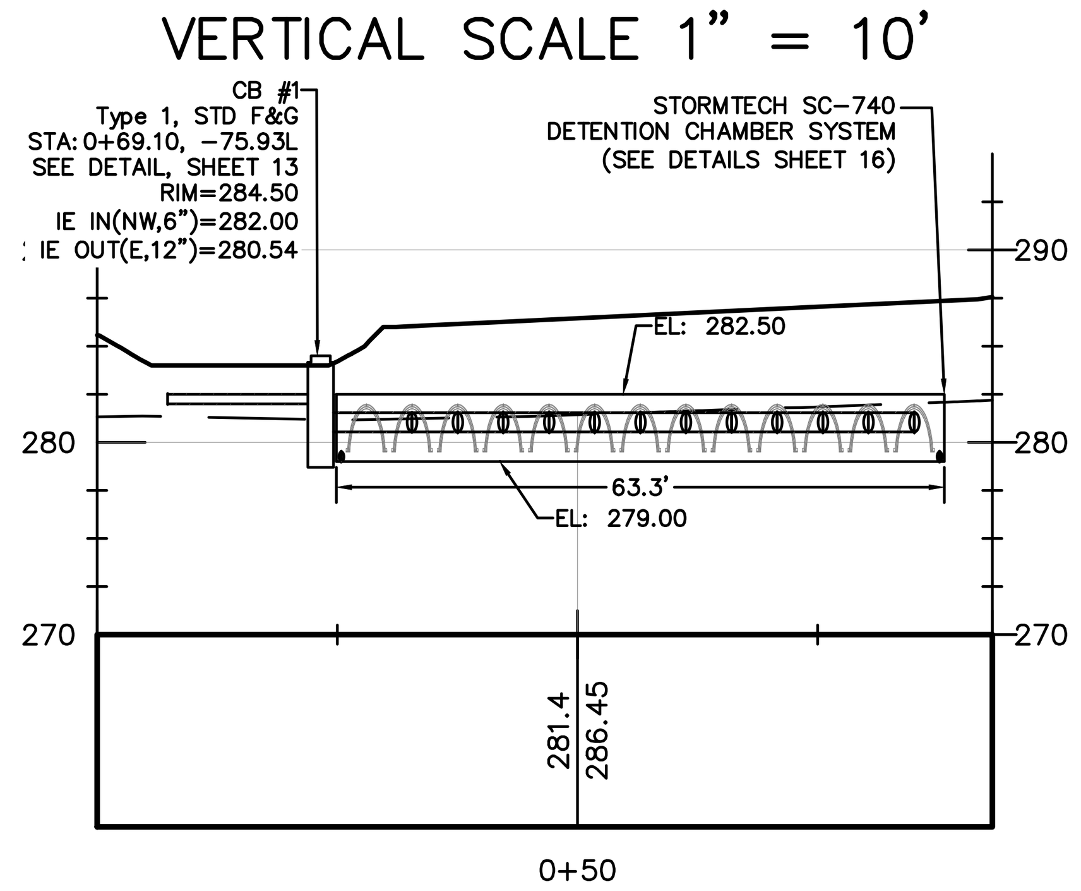


PLAN
CONTROL STRUCTURE (TYP)

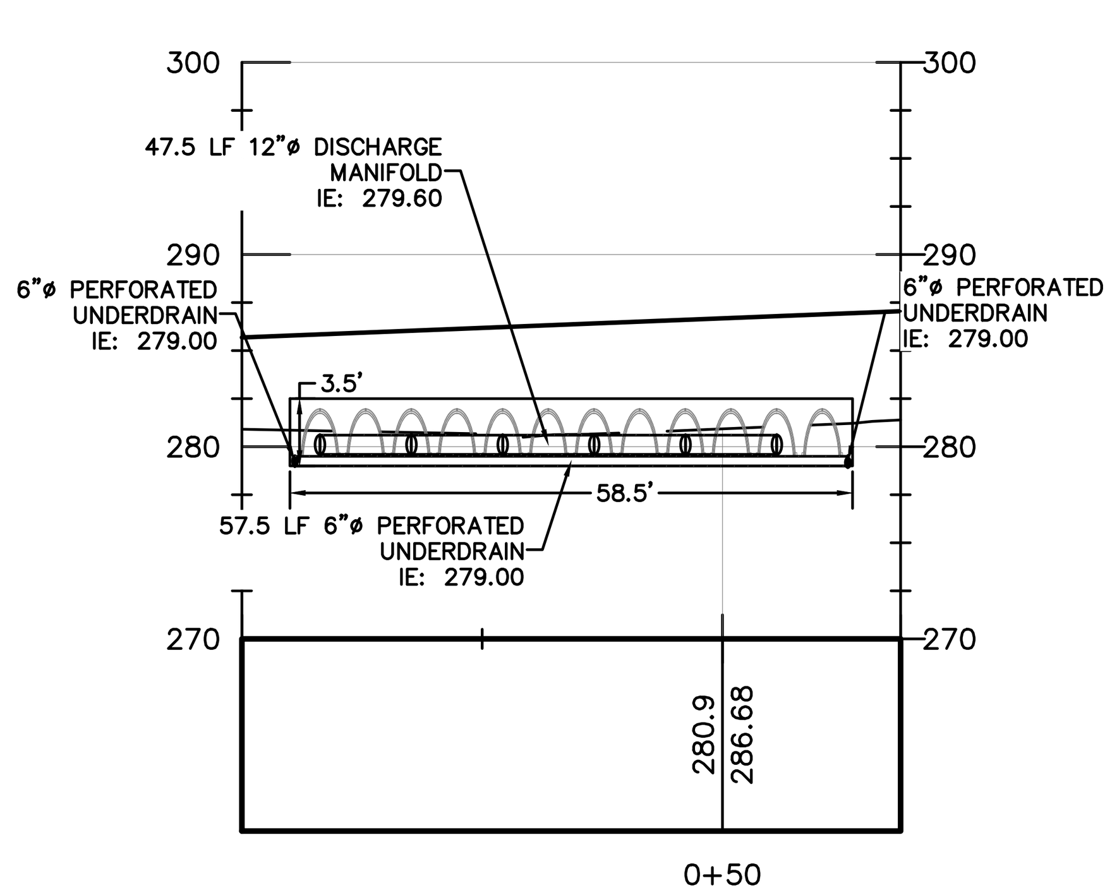


COUNTER COMPLETE
Permit Center
JUN 18, 2021
City of Port Orchard
Community Development

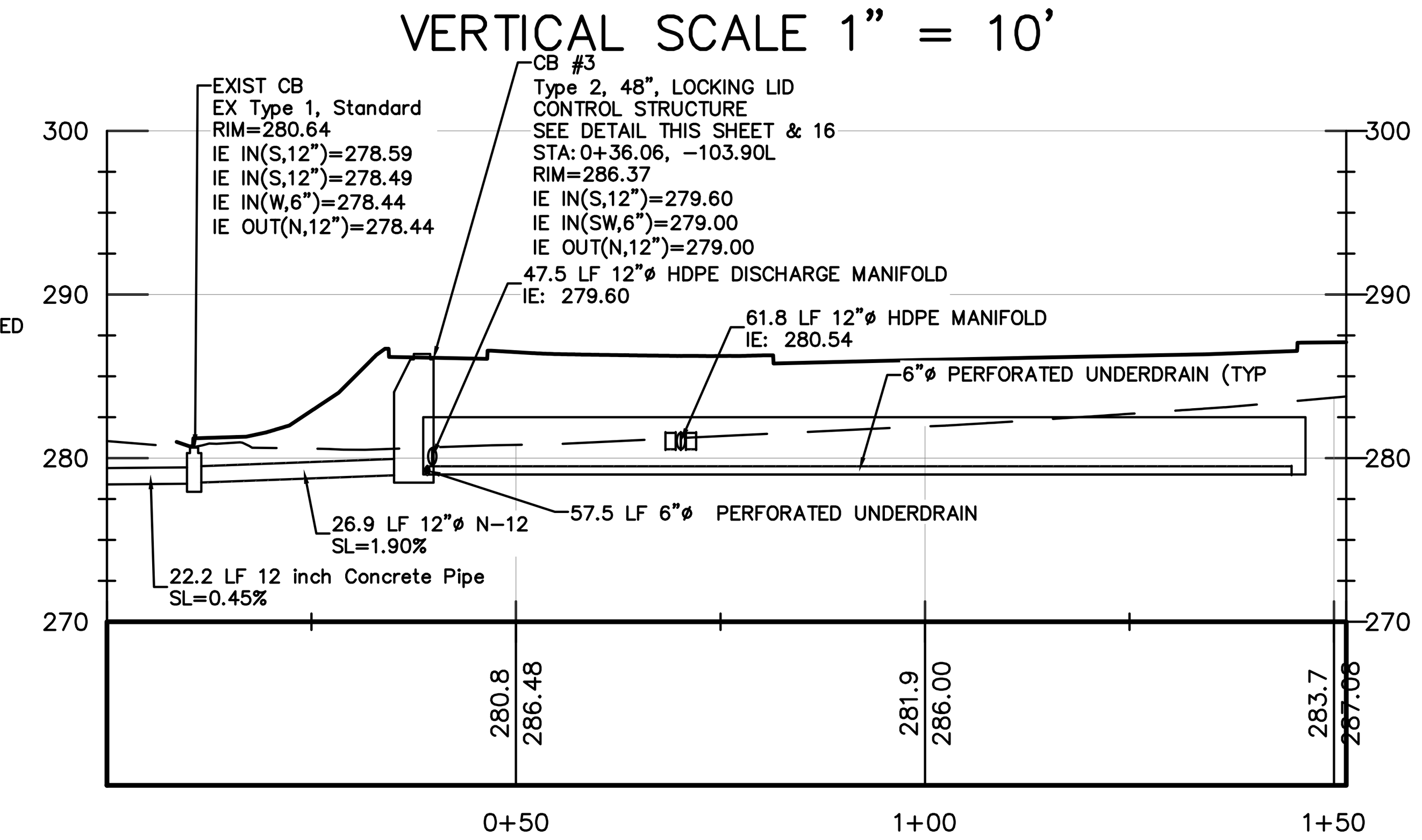
SECTION A–A 0+00.00 TO 0+93.18
HORIZONTAL SCALE 1" = 20'
VERTICAL SCALE 1" = 10'



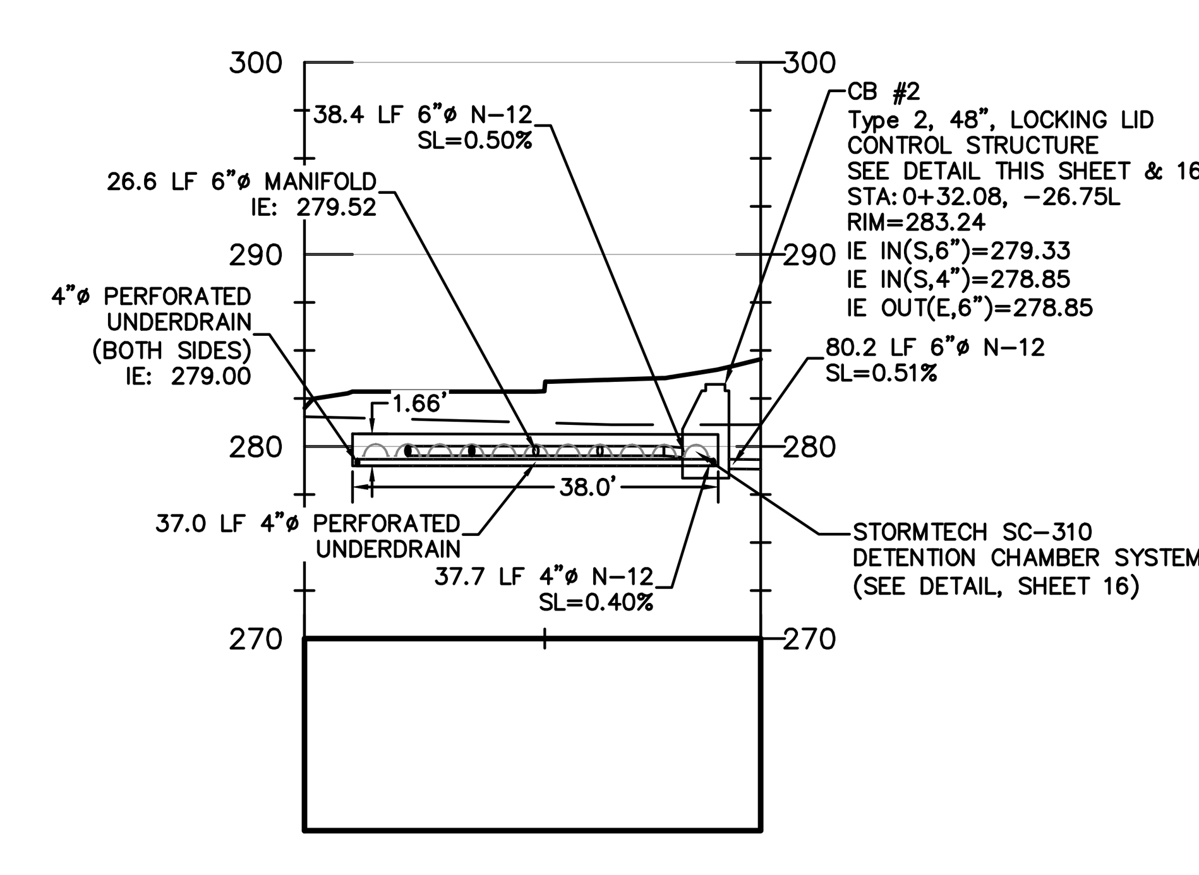
SECTION B–B 0+00.00 TO 0+68.54
HORIZONTAL SCALE 1" = 20'
VERTICAL SCALE 1" = 10'



SECTION C–C 0+00.00 TO 1+51.49
HORIZONTAL SCALE 1" = 20'
VERTICAL SCALE 1" = 10'



SECTION D–D 0+00.00 TO 0+47.45
HORIZONTAL SCALE 1" = 20'
VERTICAL SCALE 1" = 10'



PW21-036
PW21-037

DESIGN	MAK
DRAWN	JKA
CHECKED	MAK
SEC 2 T 23N R 1E	
DISC NO	DATE 1/7/21
SCALE	1" = 20'

REV NO	REVISION DESCRIPTION	DATE	BY

6/3/2021

TITLE: PORT ORCHARD – KFC
STORM PLAN & PROFILE

CLIENT: ORCHARD FOODS
PETER BRAUN
4550 NEWBERRY HILL, STE 201
SILVERDALE, WA 98383
360-698-8600

SIGNATURE:

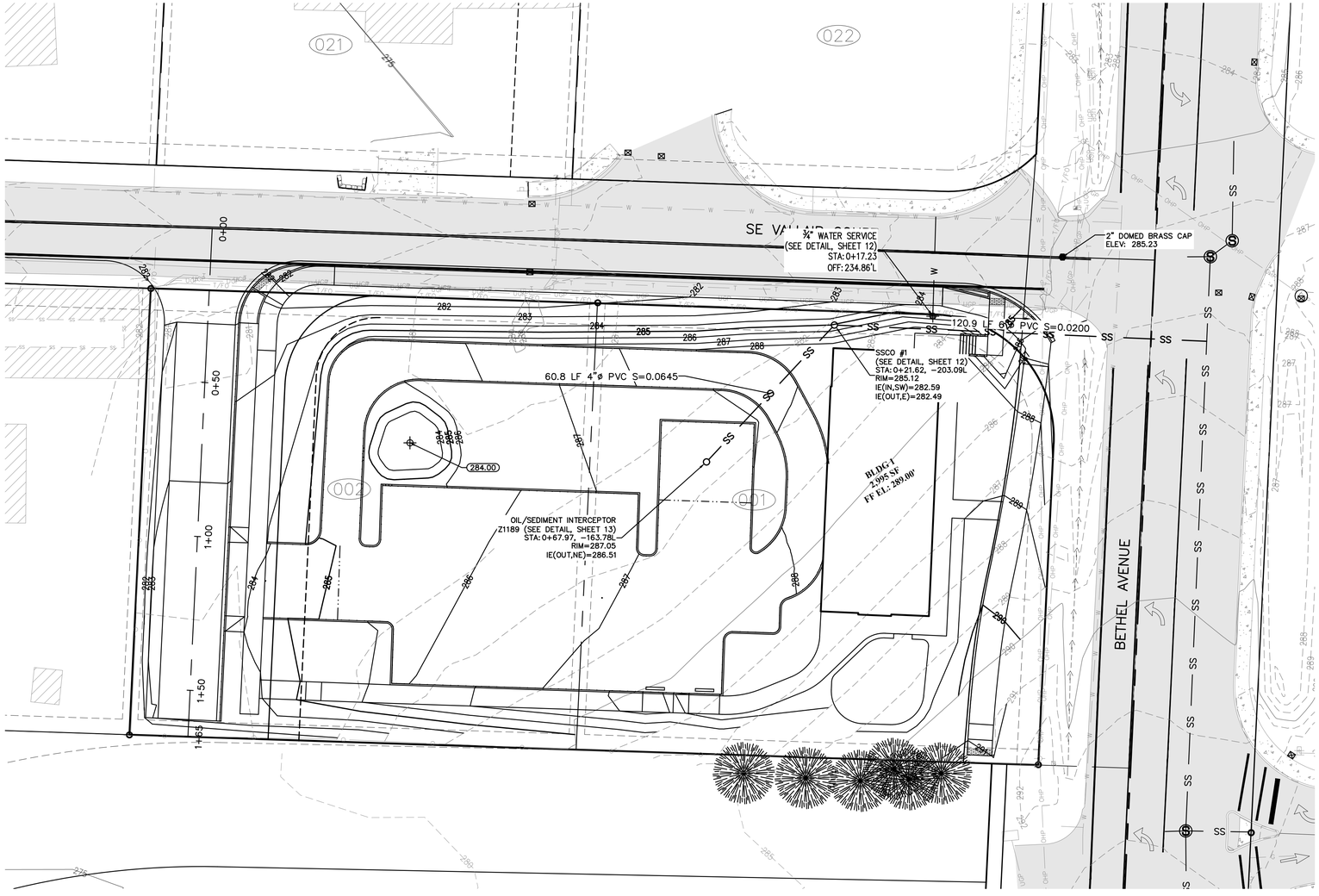
PROJECT MANAGER: JASON K. ANDERSON

TEAM 4 ENGINEERING
5819 NE MINDER RD
POULSBO, WA. 98370
(360) 297-5560
(360) 297-7951 (FAX)

FILE NO 1279

PORT ORCHARD – KFC

UTILITY PLAN



GRAPHIC SCALE

20 0 10 20

(IN FEET)
1 inch = 20 feet

COUNTER COMPLETE
Permit Center
JUN 18, 2021
City of Port Orchard
Community Development

PW21-036
PW21-037

DESIGN MAK
DRAWN JKA
CHECKED MAK
SEC 2 T 23N R 1E
DISC NO DATE 1/7/21
SCALE 1" = 20'

REV NO	REVISION DESCRIPTION	DATE	BY

6/3/2021

TITLE PORT ORCHARD – KFC
UTILITY PLAN

CLIENT ORCHARD FOODS
PETER BRAUN
4550 NEWBERYY HILL, STE 201
SILVERDALE, WA 98383
360-698-8600

SIGNATURE:

PROJECT MANAGER JASON K. ANDERSON

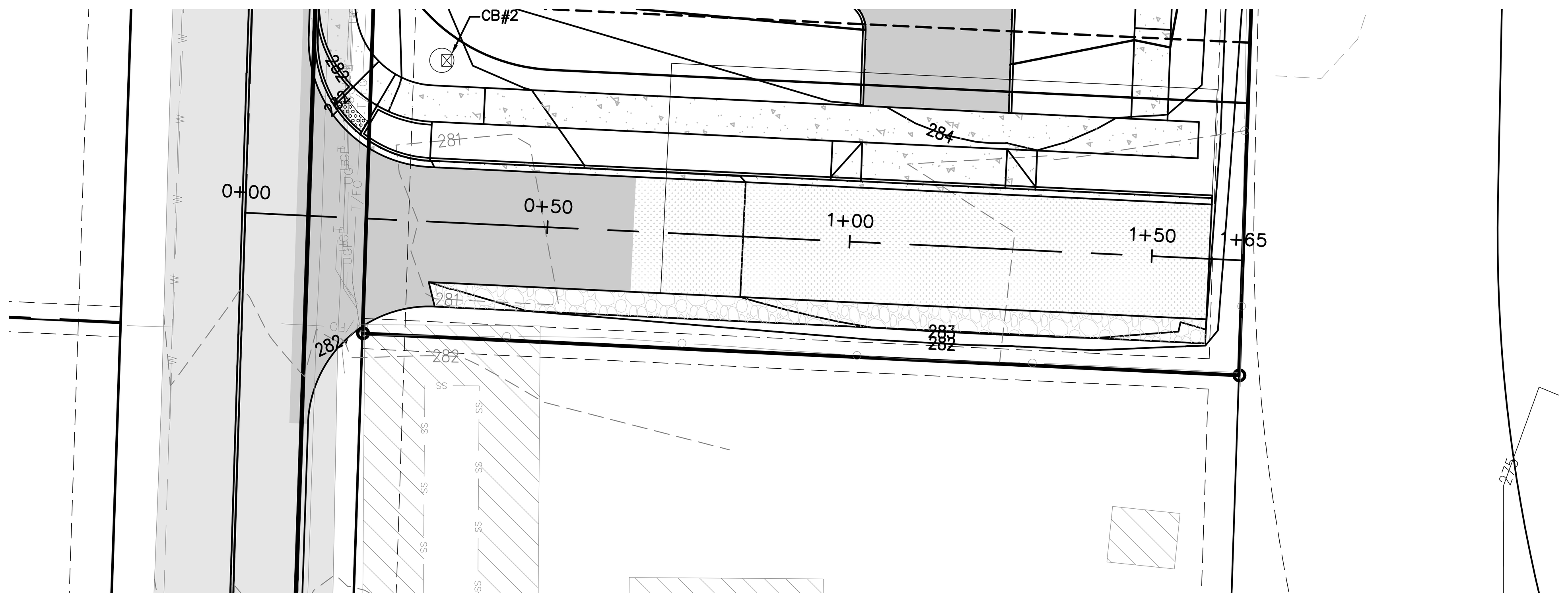
TEAM 4 ENGINEERING
5819 NE MINDER RD
POULSBO, WA. 98370
(360) 297-5560
(360) 297-7951 (FAX)

SHEET 9 OF 19

FILE NO 1279

PORT ORCHARD – KFC

ROAD A PLAN & PROFILE



GRAPHIC SCALE

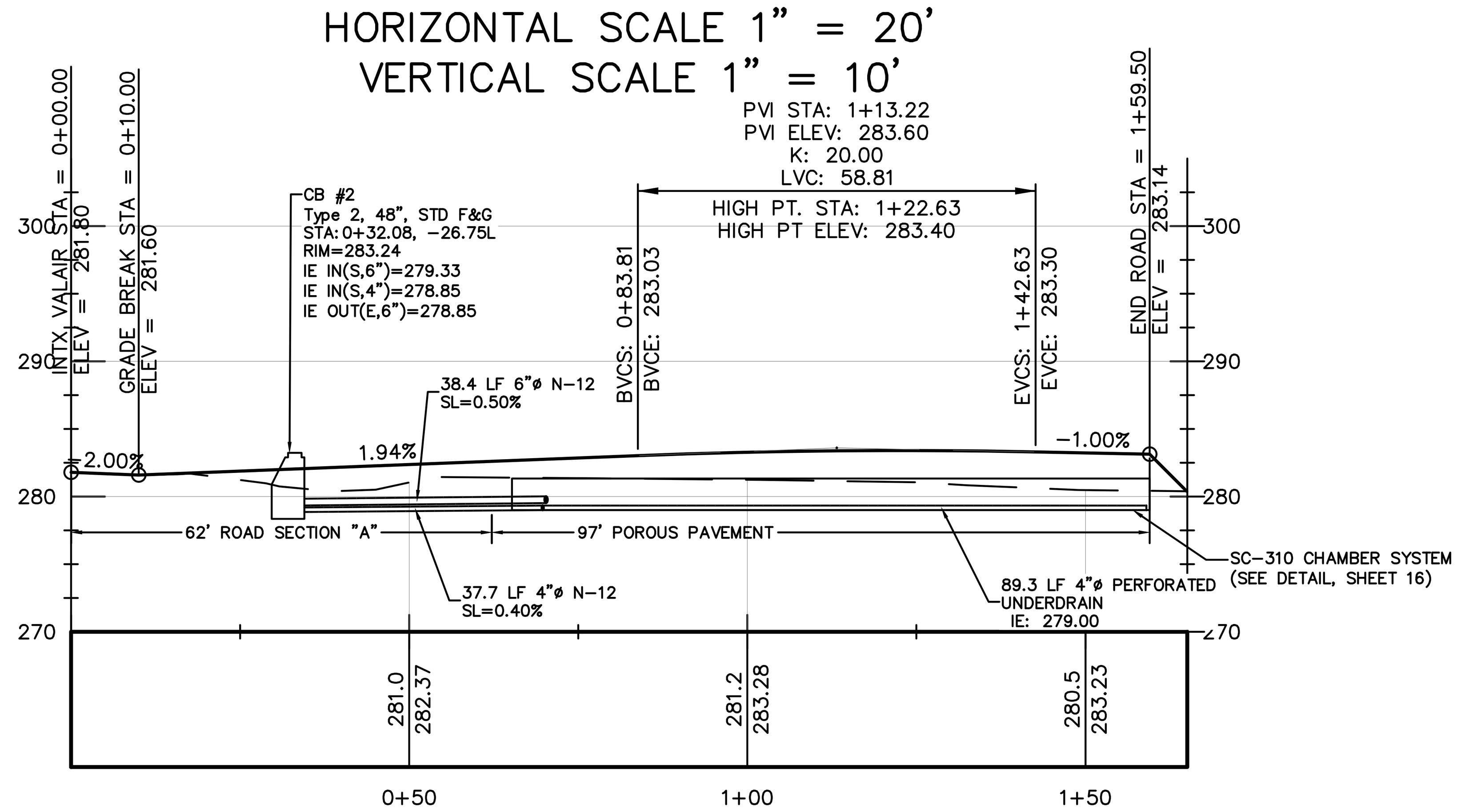
20 0 10 20

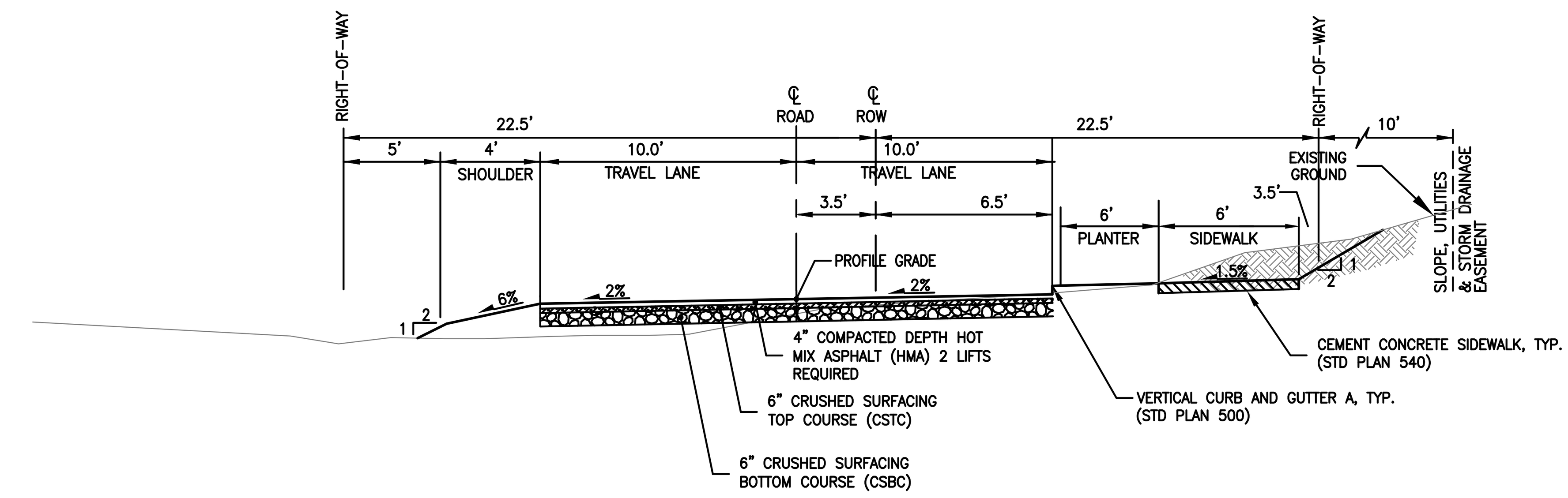
(IN FEET)
1 inch = 20 feet

DATUM

NAD 88

ROAD A 0+00.00 TO 1+65.05
HORIZONTAL SCALE 1" = 20'
VERTICAL SCALE 1" = 10'

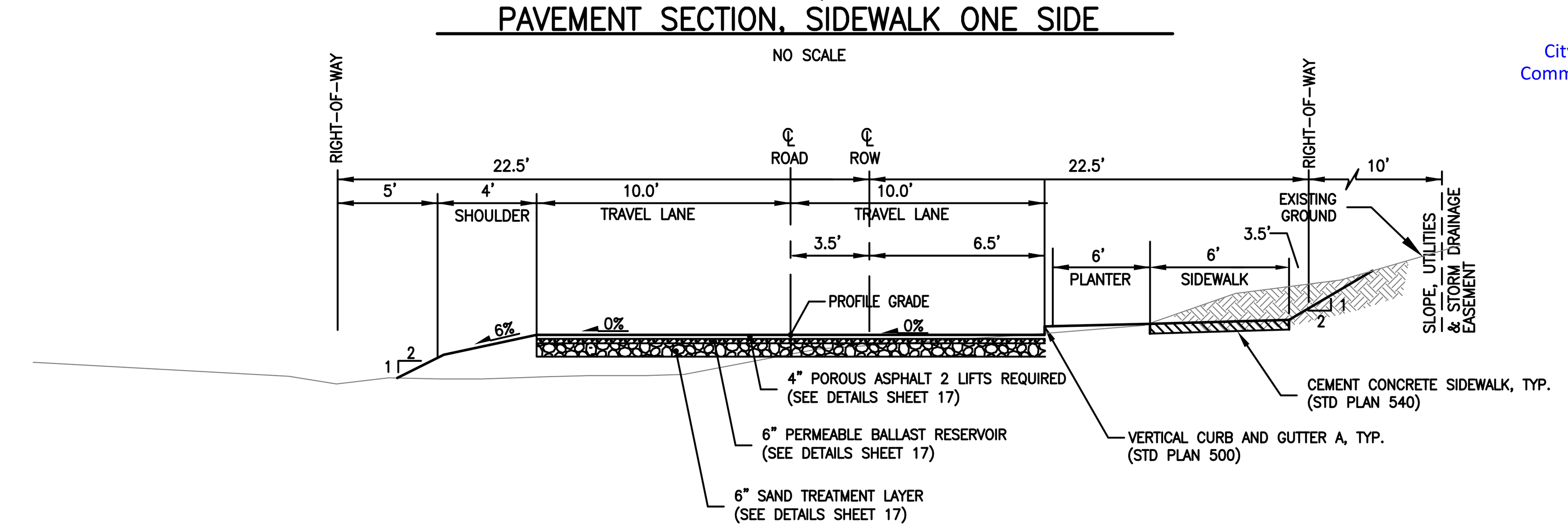




ROAD SECTION "A"

20' WIDE ROADWAY, NO PARKING
PAVEMENT SECTION, SIDEWALK ONE SIDE

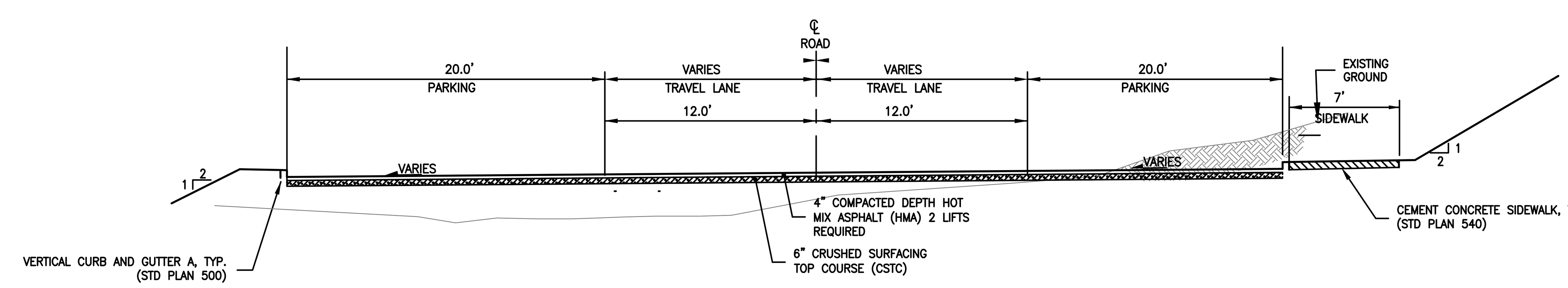
NO SCALE



POROUS PAVEMENT

20' WIDE ROADWAY, NO PARKING
PAVEMENT SECTION, SIDEWALK ONE SIDE

NO SCALE



DRIVE AISLE AND PARKING

62' – 65' WIDE DRIVING AND PARKING
PAVEMENT SECTION, SIDEWALK ONE SIDE

NO SCALE

COUNTER COMPLETE
Permit Center
JUN 18, 2021
City of Port Orchard
Community Development

PW21-036
PW21-037

DESIGN	MAK
DRAWN	JKA
CHECKED	MAK
SEC 2 T 23N R 1E	
DISC NO	DATE 1/7/21
SCALE	1" = 20'

REV NO	REVISION DESCRIPTION	DATE	BY

MARK A. KUHLMAN, STATE OF WASHINGTON, REGISTERED PROFESSIONAL ENGINEER, 18648
6/3/2021

SIGNATURE:

TITLE: PORT ORCHARD – KFC
ROAD A PLAN & PROFILE

CLIENT: ORCHARD FOODS
PETER BRAUN
4550 NEWBERRY HILL, STE 201
SILVERDALE, WA 98383
360-698-8600

PROJECT MANAGEMENT • CONSULTING • PLANNING • ENGINEERING

PROJECT MANAGER: JASON K. ANDERSON

TEAM 4 ENGINEERING
5819 NE MINDER RD
POULSBO, WA. 98370
(360) 297-5560
(360) 297-7951 (FAX)

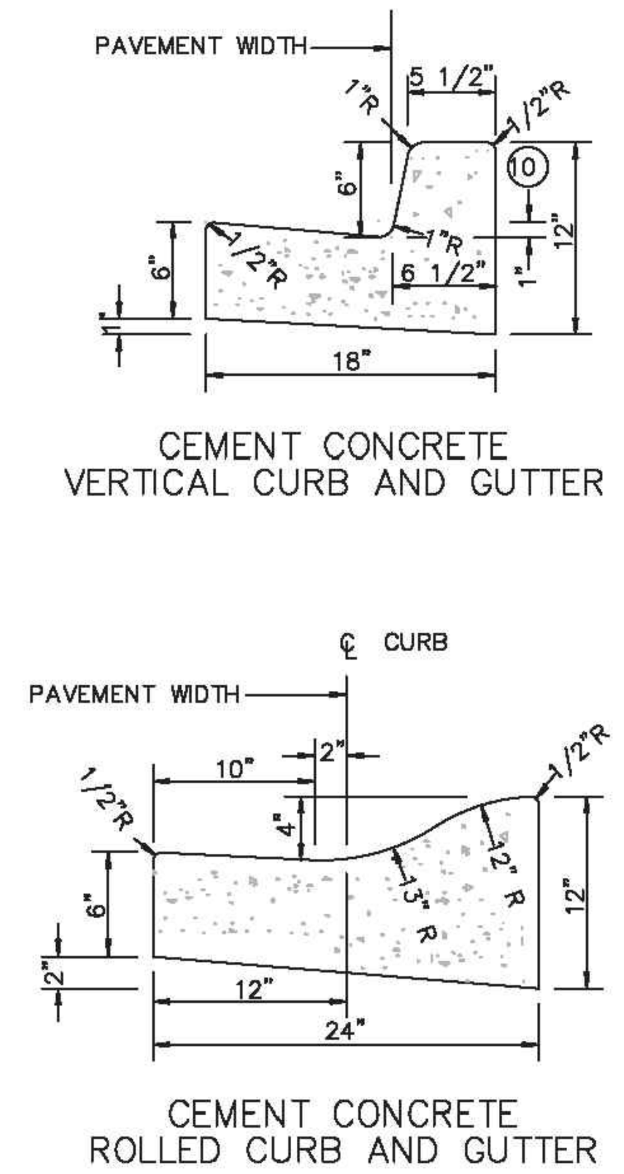
FILE NO 1279

PORT ORCHARD – KFC

DETAILS

NOTES:

1. CONSTRUCTION OF CURB DETAILS SHALL BE IN ACCORDANCE WITH THE CURRENTLY ADOPTED STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION AS PUBLISHED BY THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION AND THE AMERICAN PUBLIC WORKS ASSOCIATION. (WSDOT/APWA SPECIFICATIONS) UNLESS OTHERWISE MODIFIED BELOW.
2. ALL CONCRETE SHALL BE COMMERCIAL CLASS PER WSDOT/APWA SPECIFICATIONS.
3. FORMS SHALL BE TRUE TO LINE AND GRADE AND SECURELY STAKED. STEEL FORMS ONLY SHALL BE USED ON TANGENT SECTIONS. WOOD FORMS MAY BE USED ON CURVED SECTIONS.
4. FULL DEPTH EXPANSION JOINTS CONSISTING OF 3/8 INCH MINIMUM PREMOLDED JOINT MATERIAL SHALL BE PLACED ADJACENT TO CATCH BASINS, INLETS AND AT POINTS OF TANGENCY ON STREETS AND DRIVEWAY RETURNS. MAXIMUM SPACING SHALL BE 20 FEET.
5. CONTRACTION JOINTS (DUMMY JOINTS) CONSISTING OF 3/8" MIN. X 2" OF PREMOLDED JOINT MATERIAL SHALL BE CONSTRUCTED AT INTERVALS OF 10 FEET.
6. ALL JOINTS SHALL BE CLEAN AND EDGED.
7. FINISH SHALL BE A LIGHT BROOM FINISH.
8. FINISHED CURBS AND GUTTERS SHALL BE SPRAYED WITH A CLEAR CURING COMPOUND.
9. SUBGRADE COMPACTION FOR CURBS AND GUTTERS SHALL MEET A MINIMUM 95% OF MAXIMUM DENSITY IN ACCORDANCE WITH SEC. 2-03.3(14) OF THE WSDOT/APWA SPECIFICATIONS.

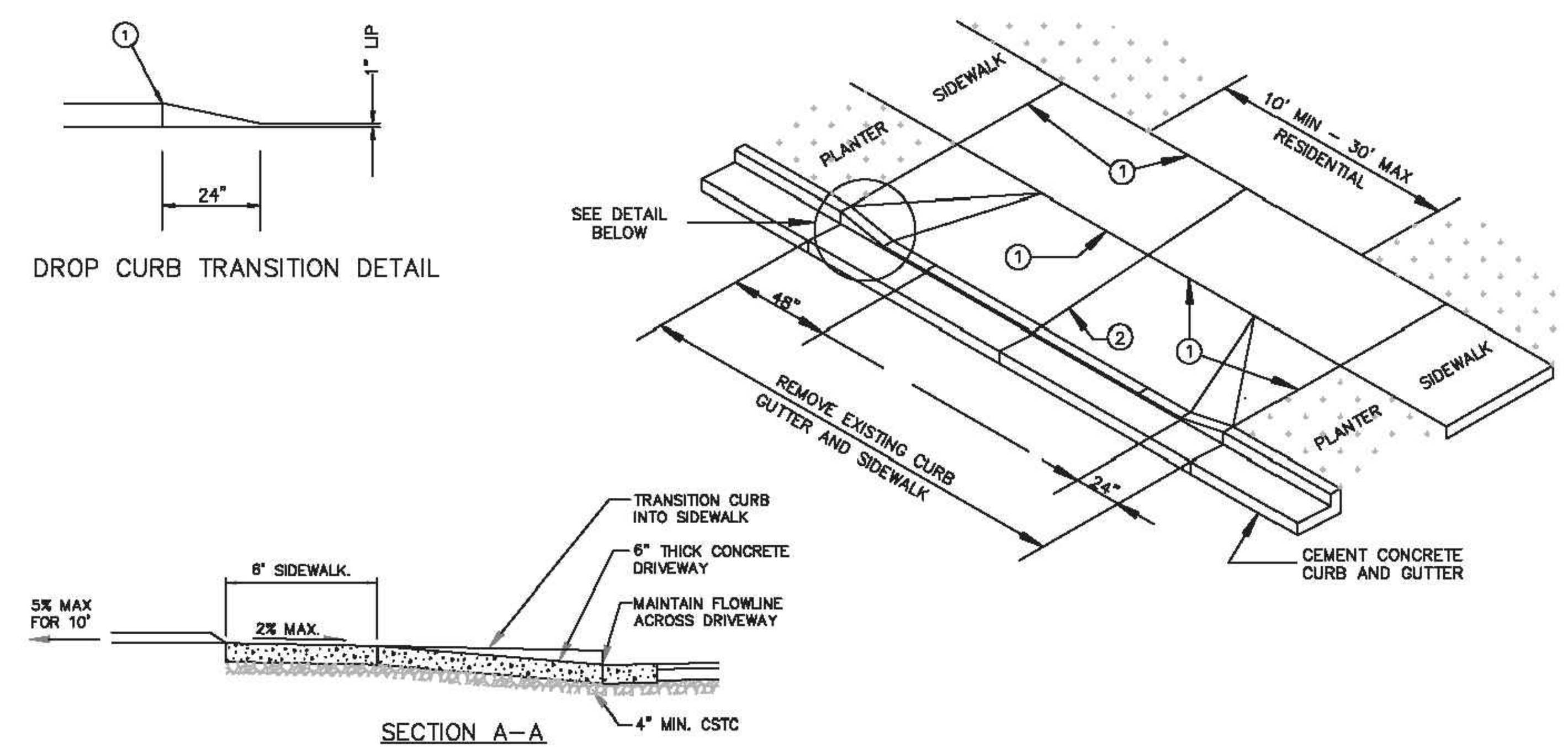


Port ORCHARD Est. 1890

CURB AND GUTTER A

CEMENT CONCRETE CURB AND GUTTER

DRAWN BY	IDS
DATE	1/29/2019
SCALE	NTS
DRAWING NUMBER	300



NOTES:

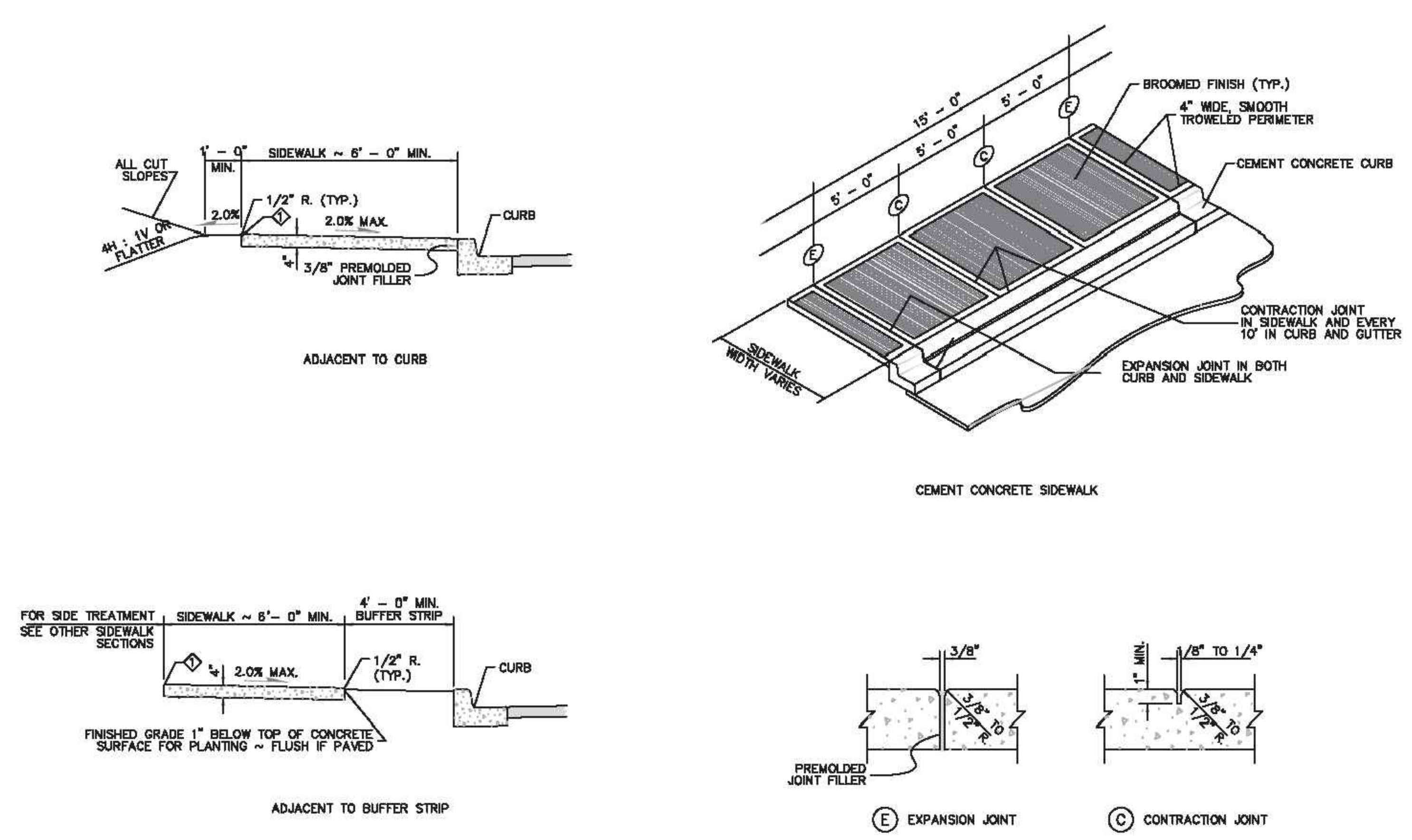
1. FULL DEPTH EXPANSION JOINT, 3/8" MINIMUM THICKNESS.
2. FULL DEPTH EXPANSION JOINT, 3/8" MINIMUM THICKNESS IF WIDTH OF DRIVEWAY IS 15 FEET OR GREATER.
3. DRIVEWAY SECTION WITHIN PUBLIC RIGHT-OF-WAY IS TO BE SURFACED WITH ASPHALT OR CONCRETE.
4. DRIVEWAY CEMENT CONCRETE DEPTH SHALL BE A MINIMUM OF 6" AND PLACED ON COMPACTED GRADE.
5. CONCRETE SHALL BE COMMERCIAL CLASS CONCRETE PER WSDOT/APWA SPECIFICATIONS.
6. CLEAN AND EDGE ALL JOINTS.

Port ORCHARD Est. 1890

DRIVEWAYS B

RESIDENTIAL DRIVEWAY

DRAWN BY	IDS
DATE	1/01/2019
SCALE	NTS
DRAWING NUMBER	321

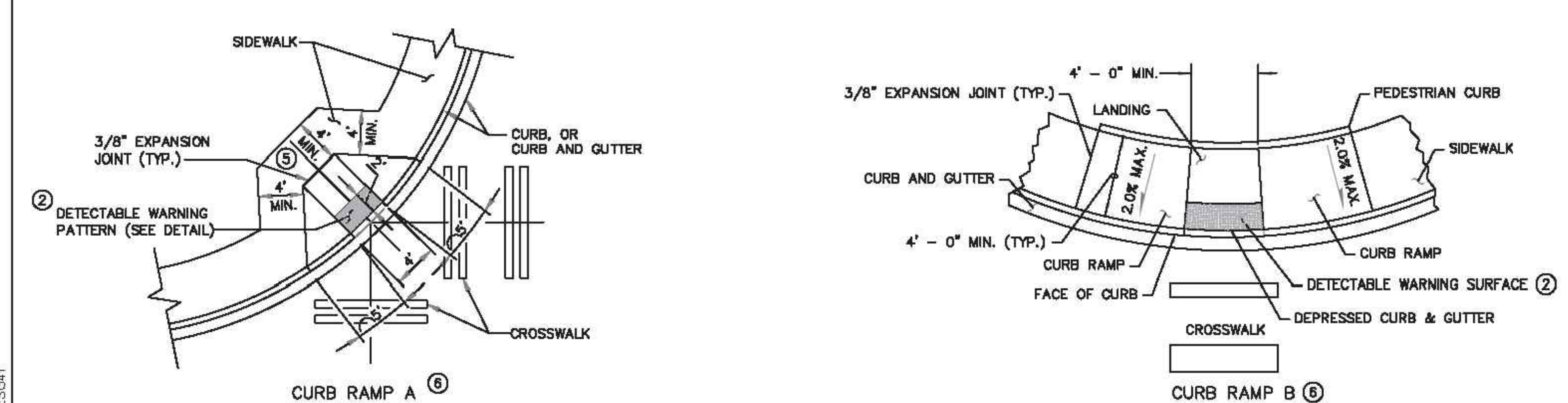


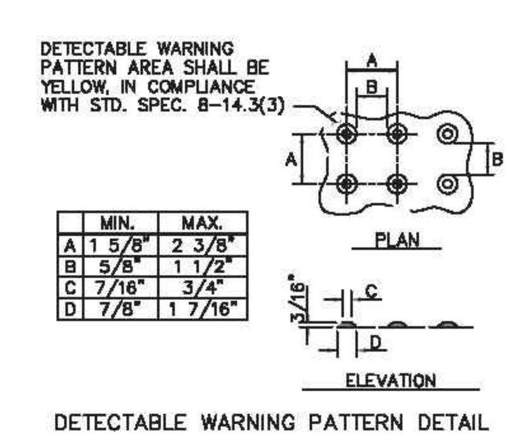
Port ORCHARD Est. 1890

SIDEWALK A

CEMENT CONCRETE SIDEWALK

DRAWN BY	IDS
DATE	1/01/2019
SCALE	NTS
DRAWING NUMBER	340





NOTES

1. PLACEMENT OF GRATINGS, ACCESS COVERS AND OTHER APPURTENANCES SHALL NOT BE LOCATED ON CURB RAMPS, LANDINGS AND GUTTERS WITHIN THE PEDESTRIAN ACCESS ROUTE.
2. RAMPS SHALL BE TEXTURED USING TRUNCATED DOME PATTERN (SEE DETAIL THIS PAGE). DETECTABLE WARNING PATTERN SHALL BE YELLOW IN COMPLIANCE WITH WSDOT STANDARD SPECIFICATION 8-14.3(3)
3. RAMP CENTER LINE SHALL BE PERPENDICULAR TO OR RADIAL TO CURB RETURNS UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
4. RAMPS SHALL BE CONSTRUCTED AT CORRESPONDING SIDEWALK LOCATIONS ON OPPOSITE SIDE OF STREETS WHEN RAMPS ARE CONSTRUCTED ON ONE SIDE OF STREET.
5. LANDING SHALL BE MINIMUM 4 X 4'.
6. CURB RAMP A MUST BE INSTALLED UNLESS OTHERWISE APPROVED.

Port ORCHARD Est. 1890

SIDEWALKS B

ADA CURB RAMP

DRAWN BY	IDS
DATE	1/29/2019
SCALE	NTS
DRAWING NUMBER	341

COUNTER COMPLETE
Permit Center
JUN 18, 2021
City of Port Orchard
Community Development

PW21-036
PW21-037

DESIGN	MAK
DRAWN	JKA
CHECKED	MAK
SEC 2 T 23N R 1E	
DISC NO	DATE 1/7/21
SCALE	1" = 20'

REV NO	REVISION DESCRIPTION	DATE	BY

6/3/2021

TITLE: PORT ORCHARD – KFC DETAILS

CLIENT: ORCHARD FOODS, PETER BRAUN, 4550 NEWBERRY HILL, STE 201, SILVERDALE, WA 98383, 360-698-8600

SIGNATURE:

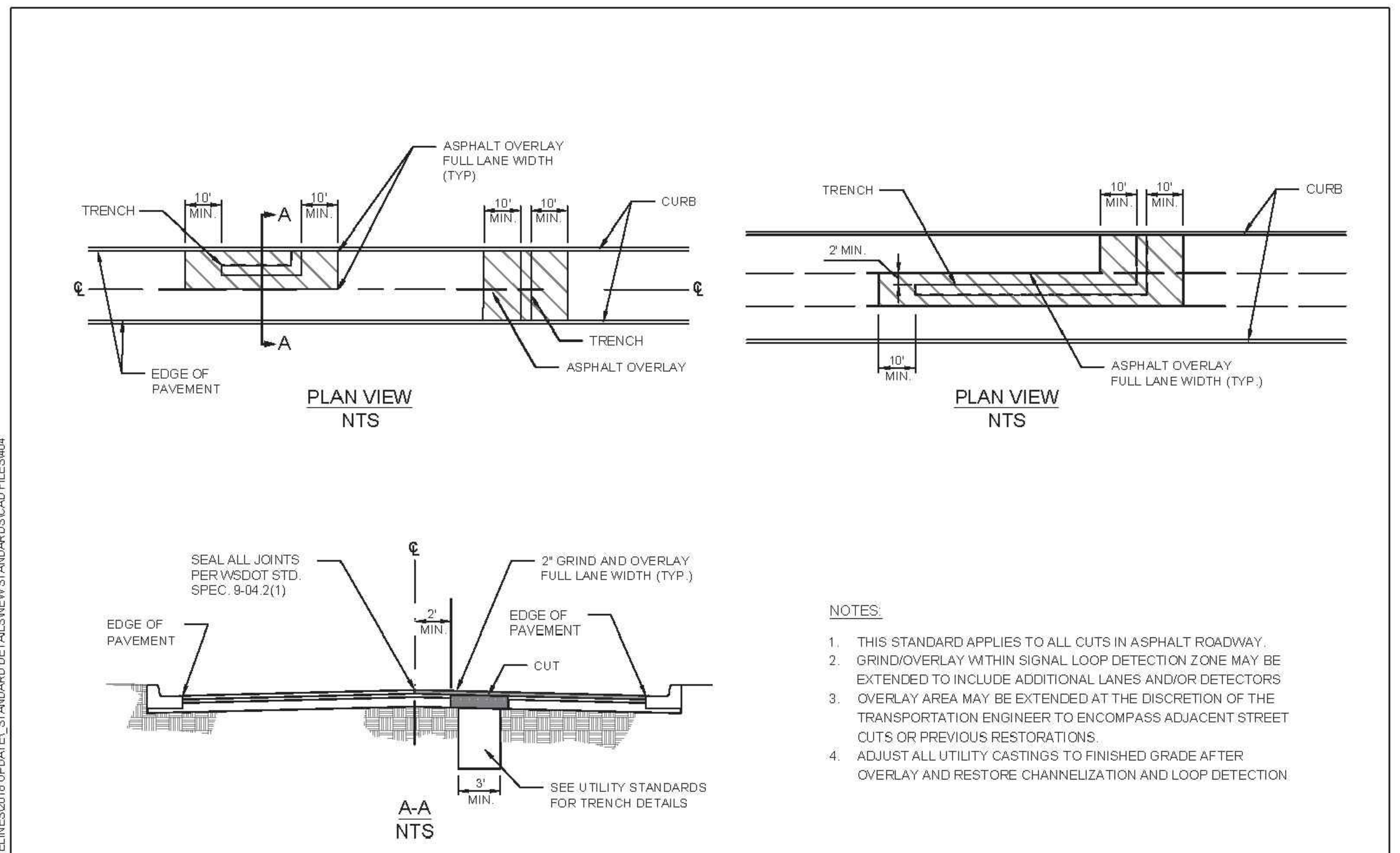
PROJECT MANAGER: JASON K ANDERSON

TEAM 4 ENGINEERING
5819 NE MINDER RD
POULSBO, WA. 98370
(360) 297-5560
(360) 297-7951 (FAX)

FILE NO 1279

PORT ORCHARD – KFC

DETAILS



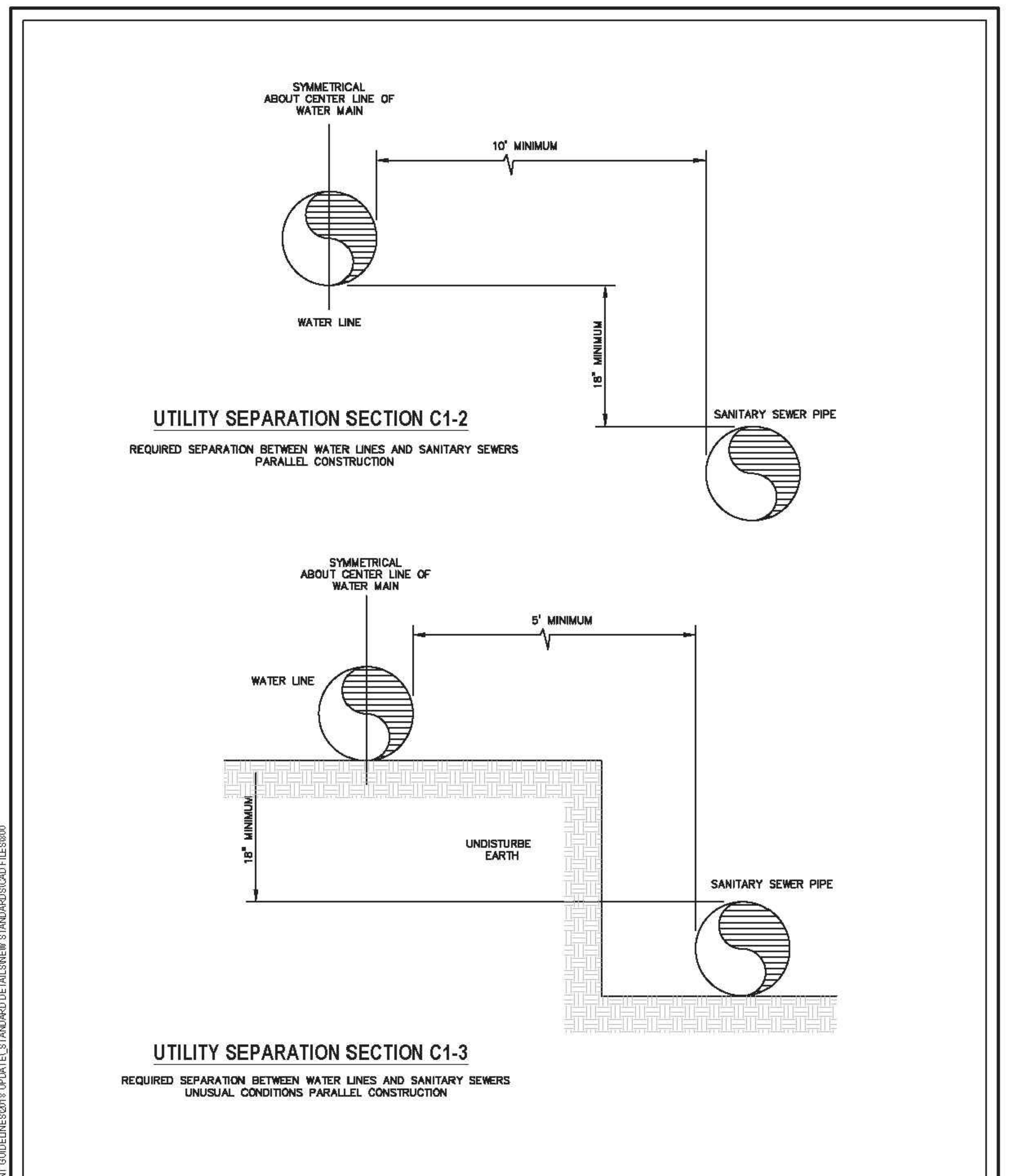
ASPHALT OVERLAY FULL LANE WIDTH (TYP)
TRENCH
10' MIN.
CURB
EDGE OF PAVEMENT
ASPHALT OVERLAY
PLAN VIEW
NTS
2' MIN.
ASPHALT OVERLAY FULL LANE WIDTH (TYP.)
SEAL ALL JOINTS PER WSDOT STD. SPEC. 9-04.2(1)
2" GRIND AND OVERLAY FULL LANE WIDTH (TYP.)
EDGE OF PAVEMENT
CUT
SEE UTILITY STANDARDS FOR TRENCH DETAILS
A-A
NTS

NOTES:

1. THIS STANDARD APPLIES TO ALL CUTS IN ASPHALT ROADWAY.
2. GRIND/OVERLAY WITHIN SIGNAL LOOP DETECTION ZONE MAY BE EXTENDED TO INCLUDE ADDITIONAL LANES AND/OR DETECTORS.
3. OVERLAY AREA MAY BE EXTENDED AT THE DISCRETION OF THE TRANSPORTATION ENGINEER TO ENCOMPASS ADJACENT STREET CUTS OR PREVIOUS RESTORATIONS.
4. ADJUST ALL UTILITY CASTINGS TO FINISHED GRADE AFTER OVERLAY AND RESTORE CHANNELIZATION AND LOOP DETECTION.

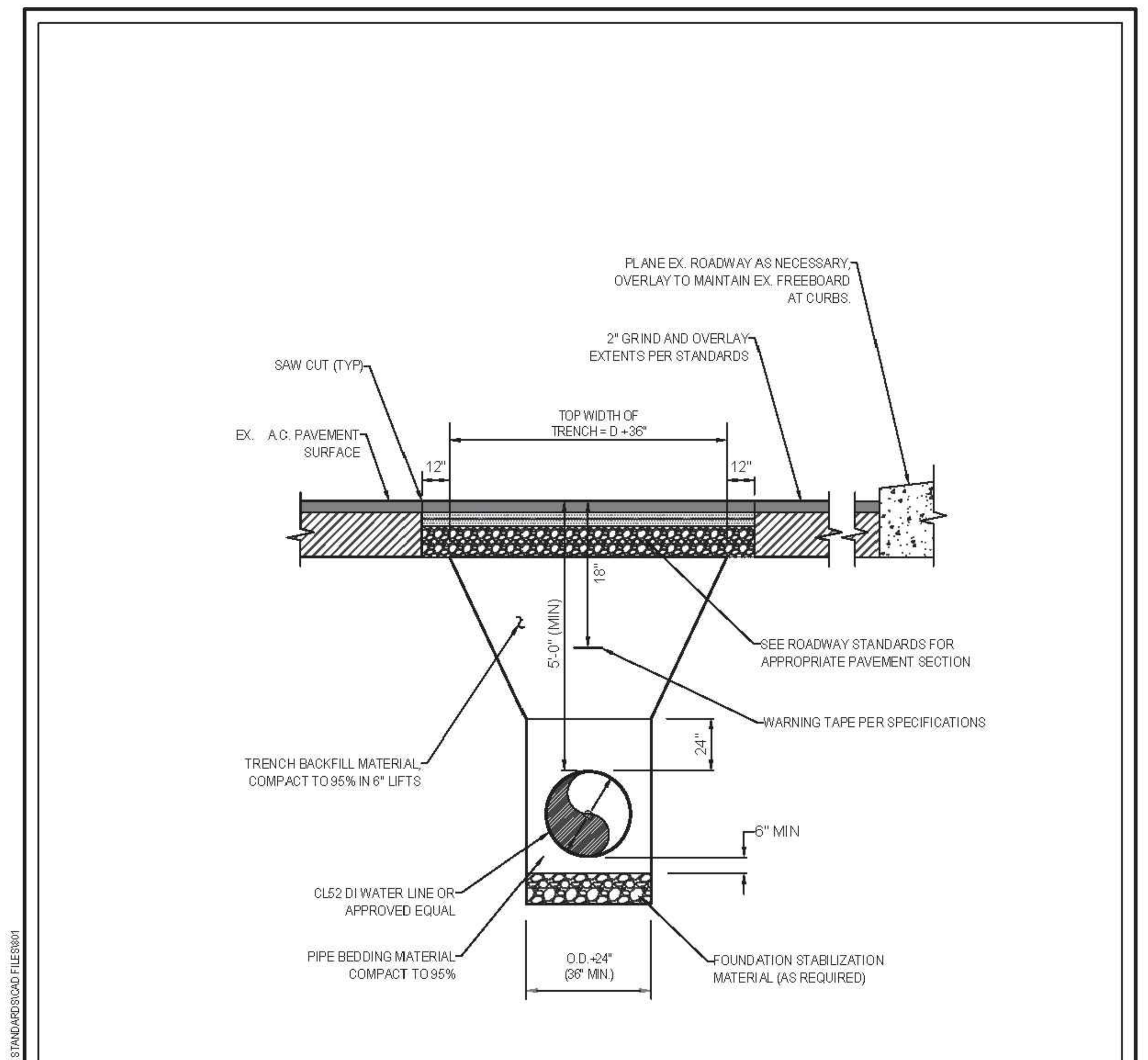
Port ORCHARD Est. 1890 — TYPICAL STREET RESTORATION — ASPHALT OVERLAY FOR ROADWAY TRENCH RESTORATION

DRAWN BY	IDS
DATE	1/24/2019
SCALE	NTS
DRAWING NUMBER	404



SYMMETRICAL ABOUT CENTER LINE OF WATER MAIN
10' MINIMUM
WATER LINE
18" MINIMUM
SANITARY SEWER PIPE
UTILITY SEPARATION SECTION C1-2
REQUIRED SEPARATION BETWEEN WATER LINES AND SANITARY SEWERS PARALLEL CONSTRUCTION
5' MINIMUM
UNDISTURBED EARTH
UTILITY SEPARATION SECTION C1-3
REQUIRED SEPARATION BETWEEN WATER LINES AND SANITARY SEWERS UNUSUAL CONDITIONS PARALLEL CONSTRUCTION

Port ORCHARD Est. 1890 — RESTORATION, TAPS, AND BLOCKING A — SEPARATION STANDARDS

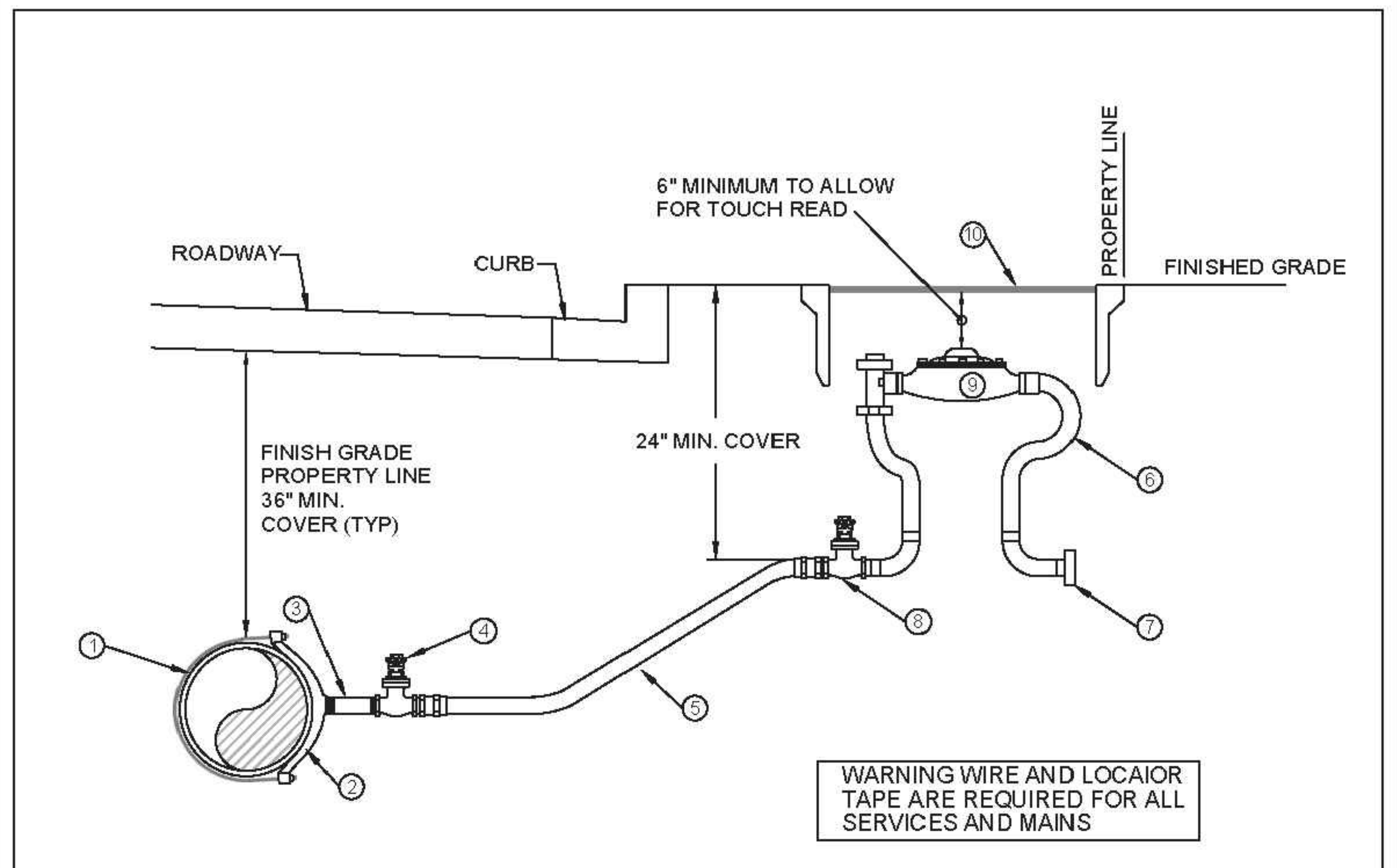


PLANE EX. ROADWAY AS NECESSARY OVERLAY TO MAINTAIN EX. FREEBOARD AT CURBS
2" GRIND AND OVERLAY EXTENTS PER STANDARDS
SAW CUT (TYP)
TOP WIDTH OF TRENCH = D +36"
EX. A.C. PAVEMENT SURFACE
12"
SEE ROADWAY STANDARDS FOR APPROPRIATE PAVEMENT SECTION
WARNING TAPE PER SPECIFICATIONS
TRENCH BACKFILL MATERIAL COMPACT TO 95% IN 6" LIFTS
6" MIN
CL52 DI WATER LINE OR APPROVED EQUAL
PIPE BEDDING MATERIAL COMPACT TO 95%
O.D.+24" (36" MIN.)
FOUNDATION STABILIZATION MATERIAL (AS REQUIRED)

NOTES:

1) BED THE ENTIRE WIDTH OF THE TRENCH PAVEMENT
2) RESTORATION SHALL BE PER THE APPROPRIATE SECTION IN CHAPTER 6 (PAVEMENT SURFACING)
3) INSTALL TRACER WIRE PER SPECIFICATIONS

Port ORCHARD Est. 1890 — RESTORATION, TAPS, AND BLOCKING B — WATER MAIN TRENCH

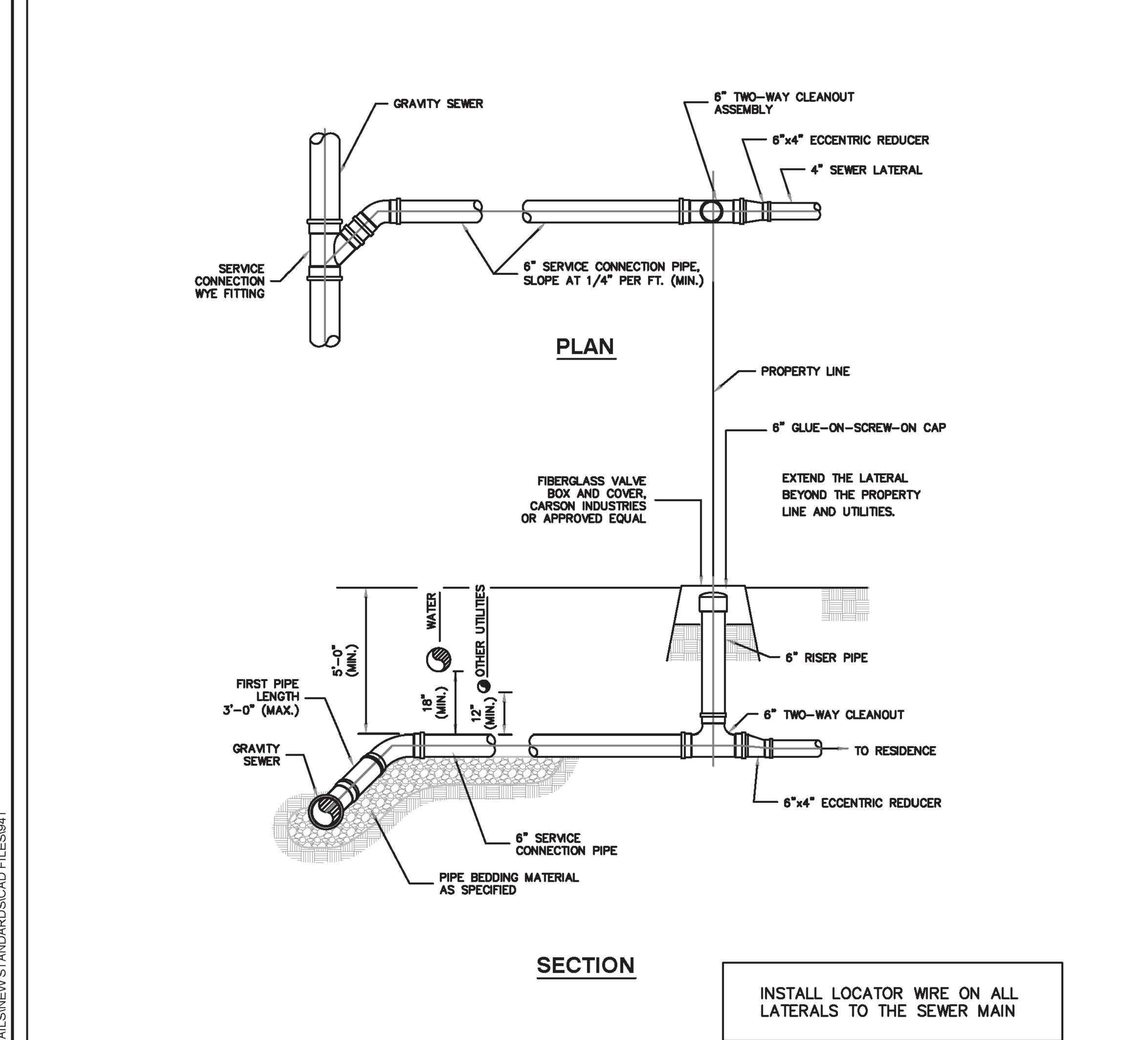


NOTES:

1. EXISTING WATER MAIN
2. 1" (IP THREAD) SINGLE STRAP SADDLE ROMAC STYLE 101S OR APPROVED EQUAL
3. 1" BRASS NIPPLE, 3" LONG
4. CORP. STOP, FORD FB1100 OR APPROVED EQUAL
5. 1" POLYETHYLENE PIPE, MAINTAIN 36" COVER FROM WATER MAIN TO WITHIN 48" OF METER BOX
6. 1" METER SETTER MUELLER 1434 OR APPROVED EQUAL HORIZONTAL IN, HORIZONTAL OUT. M.I.P. THREAD ENDS.
7. SCHEDULE 40 1" PVC THREADED PLUG. REMOVED WHEN CONNECTION MADE TO CUSTOMER LINE
8. BRASS CURB STOP, FORD B41-444-NL OR EQUAL.
9. WATER METER - TO BE SUPPLIED BY THE CITY
10. METER BOX SHALL BE SIGMA RAVEN HDPE METER BOX MODEL 1324-SW. PROVIDE HDPE LID WITH TOUCH READ AND METER READER LID. PLACE BACK OF METER BOX FLUSH WITH PROPERTY LINE.

Port ORCHARD Est. 1890 — SERVICES A — 5/8, 3/4, OR 1-INCH WATER SERVICE

DRAWN BY	IDS
DATE	1/22/2019
SCALE	NTS
DRAWING NUMBER	860

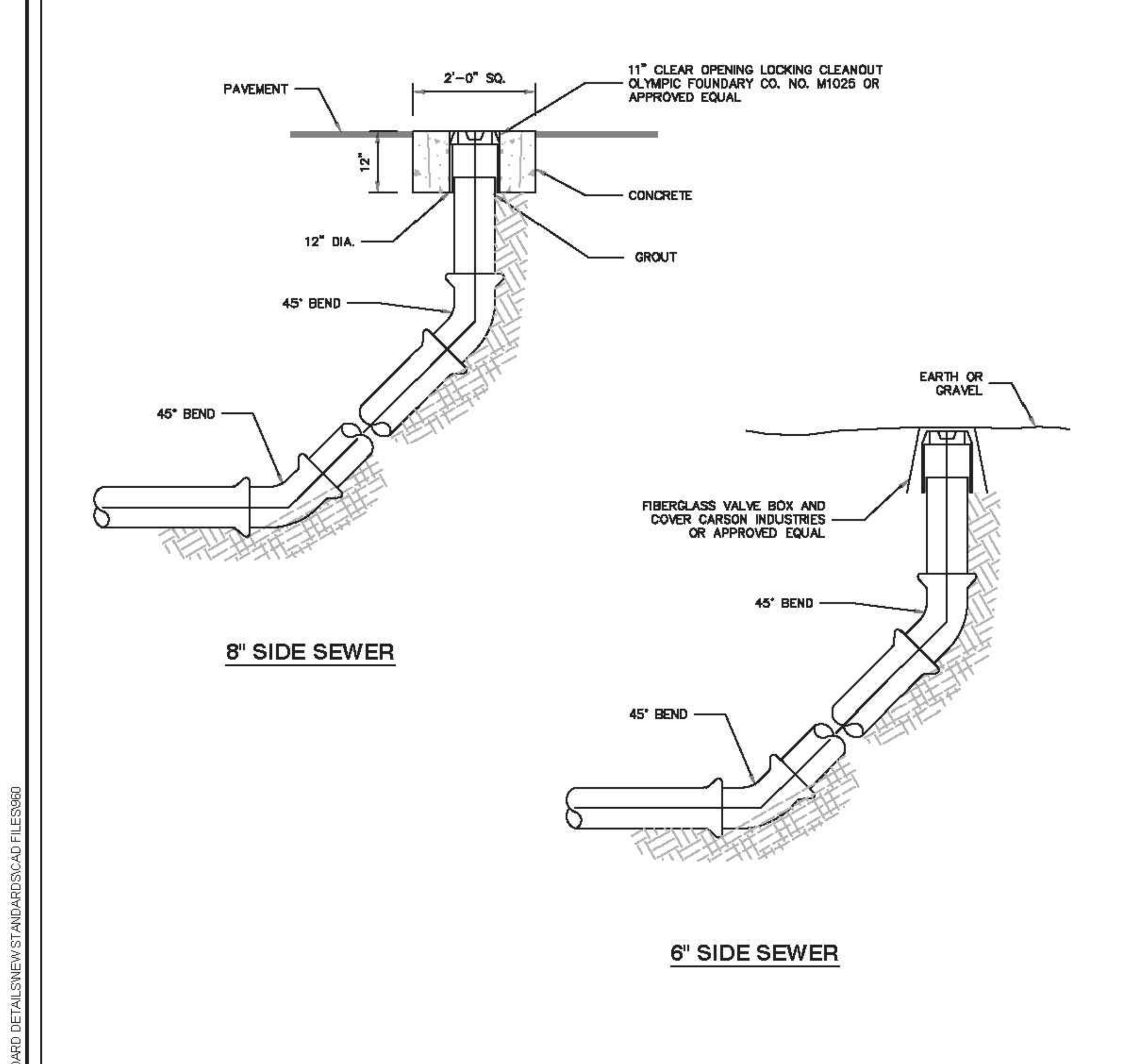


GRAVITY SEWER
6" TWO-WAY CLEANOUT ASSEMBLY
8"x4" ECCENTRIC REDUCER
4" SEWER LATERAL
SERVICE CONNECTION WYE FITTING
6" SERVICE CONNECTION PIPE, SLOPE AT 1/4" PER FT. (MIN.)
PLAN
PROPERTY LINE
6" GLUE-ON-SCREW-ON CAP
FIBERGLASS VALVE BOX AND COVER, CARSON INDUSTRIES OR APPROVED EQUAL
EXTEND THE LATERAL BEYOND THE PROPERTY LINE AND UTILITIES.
6" RISER PIPE
6" TWO-WAY CLEANOUT
TO RESIDENCE
6"x4" ECCENTRIC REDUCER
FIRST PIPE LENGTH 3'-0" (MAX.)
GRAVITY SEWER
6" SERVICE CONNECTION PIPE
PIPE BEDDING MATERIAL AS SPECIFIED
SECTION
INSTALL LOCATOR WIRE ON ALL LATERALS TO THE SEWER MAIN

NOTE:
CONNECT ALL SERVICE CONNECTIONS 8" AND LARGER AT MANHOLE.
DETAILS TO BE APPROVED BY CITY ENGINEER.

Port ORCHARD Est. 1890 — LATERALS AND SERVICE CONNECTIONS B — SINGLE SERVICE CONNECTION

DRAWN BY	IDS
DATE	1/31/2019
SCALE	NTS
DRAWING NUMBER	841



PAVEMENT
2'-0" SQ.
11" CLEAR OPENING LOCKING CLEANOUT OLYMPIC FOUNDARY CO. NO. M1025 OR APPROVED EQUAL
12"
CONCRETE
GROUT
12" DIA.
45° BEND
8" SIDE SEWER
EARTH OR GRAVEL
FIBERGLASS VALVE BOX AND COVER CARSON INDUSTRIES OR APPROVED EQUAL
45° BEND
6" SIDE SEWER

NOTES:

1. IF NOT PERMANENT END OF SEWER, USE TYLOX GASKET OR APPROVED EQUAL, AND SECURE WITH #8 WIRE PIN THRU HOLES DRILLED IN HUB. IF PERMANENT END OF SEWER USE MORTAR TO SECURE PLUG.
2. IF INSTALLATION OCCURS IN UNPAVED AREA USE CONCRETE ANCHOR AS SHOWN FOR ASPHALT PAVING AND BACKFILL TO TOP OF CAST IRON RING WITH SOIL.
3. RESTORATION SHALL BE IN ACCORDANCE WITH CHAPTER 6.
4. TRENCH BACKFILL SHALL BE COMPACTED AND TESTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS.

Port ORCHARD Est. 1890 — CLEANOUTS A — SEWER CLEANOUT DETAIL

DRAWN BY	IDS
DATE	1/30/2019
SCALE	NTS
DRAWING NUMBER	860

COUNTER COMPLETE
Permit Center
JUN 18, 2021
City of Port Orchard
Community Development

PW21-036
PW21-037

DESIGN	MAK
DRAWN	JKA
CHECKED	MAK
SEC	2 T 23N R 1E
DISC NO	DATE 1/7/21
SCALE	1" = 20'

REV NO	REVISION DESCRIPTION	DATE	BY

6/3/2021

TITLE: PORT ORCHARD – KFC DETAILS

CLIENT: ORCHARD FOODS, PETER BRAUN, 4550 NEWBERRY HILL, STE 201, SILVERDALE, WA 98383, 360-698-8600

PROJECT MANAGER: JASON K ANDERSON

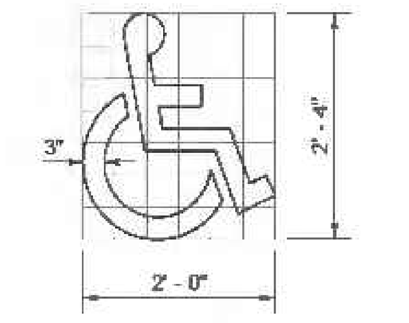
SIGNATURE:

TEAM 4 ENGINEERING
5819 NE MINDER RD
POULSBO, WA. 98370
(360) 297-5560
(360) 297-7951 (FAX)

SHEET 12 OF 19
FILE NO 1279

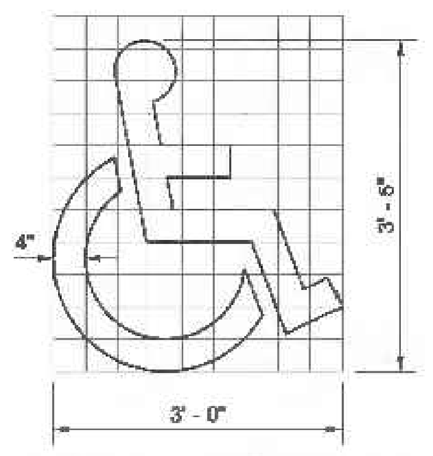
X:\1279 Orchard Foods KFC Port Orchard\1279_30 MASTER.dwg, 6/3/2021 12:34:38 PM, 1:1

DRAWN BY: LISA CYFORD



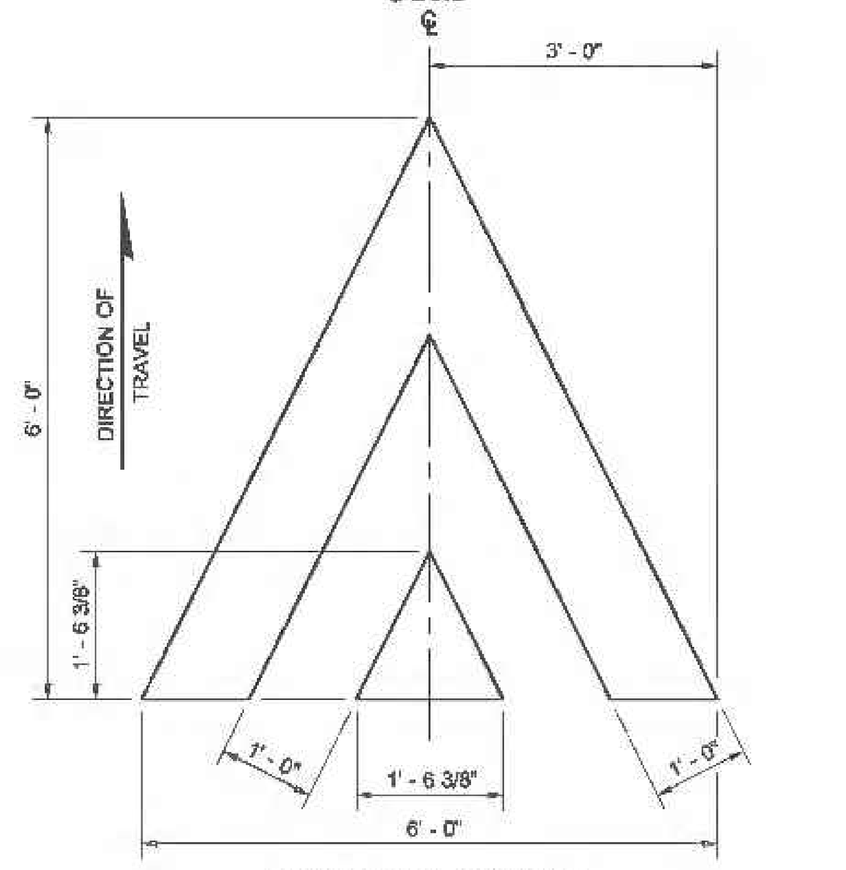
GRID IS 4" (IN) SQUARE MARKING AREA = 1.41 SQ.FT.

ACCESS PARKING SPACE SYMBOL (MINIMUM)



GRID IS 4" (IN) SQUARE MARKING AREA = 3.09 SQ.FT.

ACCESS PARKING SPACE SYMBOL (STANDARD)

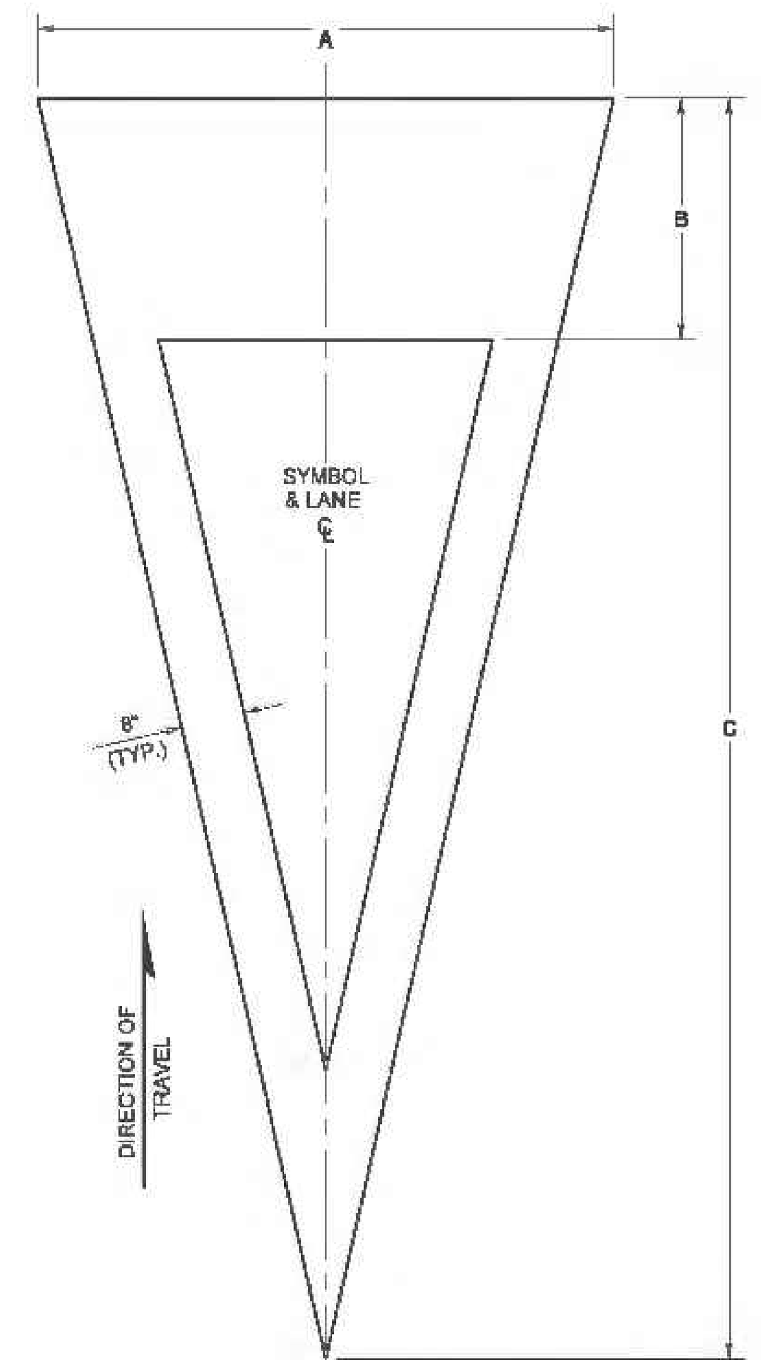


MARKING AREA = 12.08 SQ.FT.

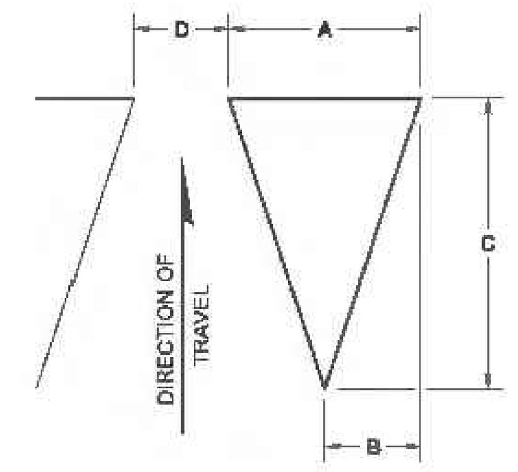
SPEED BUMP SYMBOL

SYMBOL MARKING		A	B	C	D	USE	MARKING AREA
YIELD AHEAD SYMBOL	TYPE 1	6' - 0"	2' - 6"	13' - 0"	N/A	LESS THAN 45 MPH	25.90 SQ.FT.
	TYPE 2	6' - 0"	3' - 0"	20' - 0"	N/A	45 MPH OR GREATER	36.54 SQ.FT.
YIELD LINE SYMBOL	TYPE 1	1' - 0"	6"	1' - 6"	6"	LESS THAN 45 MPH	0.75 SQ.FT.
	TYPE 2	2' - 0"	1' - 0"	3' - 0"	1' - 0"	45 MPH OR GREATER	3.00 SQ.FT.
	TYPE 2	2' - 0"	1' - 0"	3' - 0"	1' - 0"	ROUNDABOUT ENTRY *	3.00 SQ.FT.

* MINIMUM OF 4 IN LANE

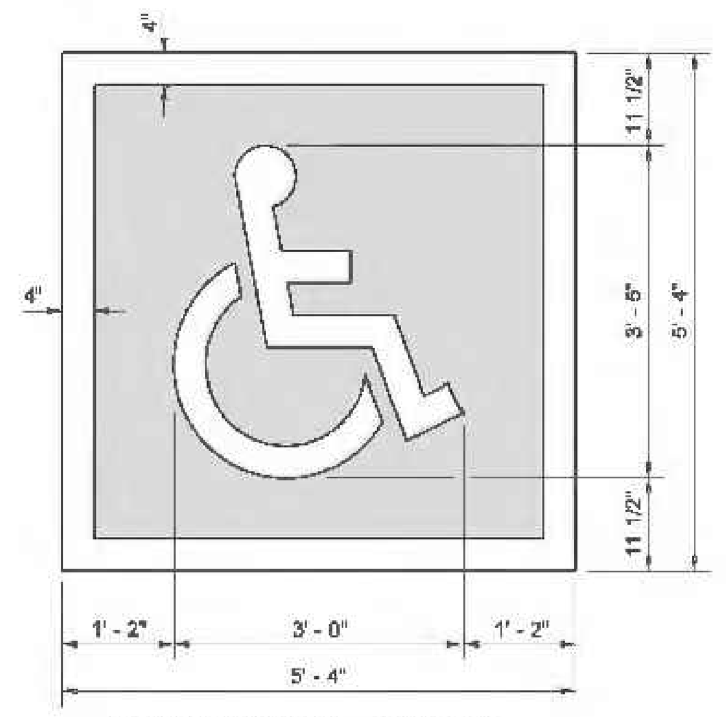


YIELD AHEAD SYMBOL



YIELD LINE SYMBOL

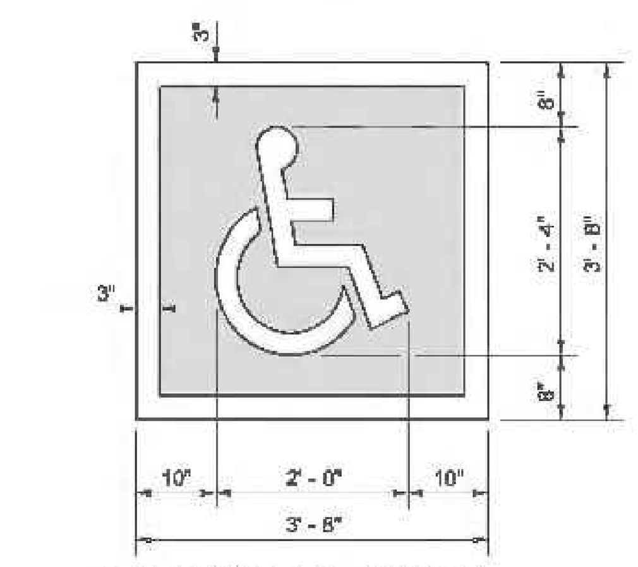
(MULTIPLE SYMBOLS REQUIRED FOR TRANSVERSE YIELD LINE – SEE CONTRACT)



TOTAL MARKING AREA = 28.44 SQ.FT.
WHITE = 9.76 SQ.FT. BLUE = 18.69 SQ.FT.

ACCESS PARKING SPACE SYMBOL (STANDARD) WITH BLUE BACKGROUND AND WHITE BORDER

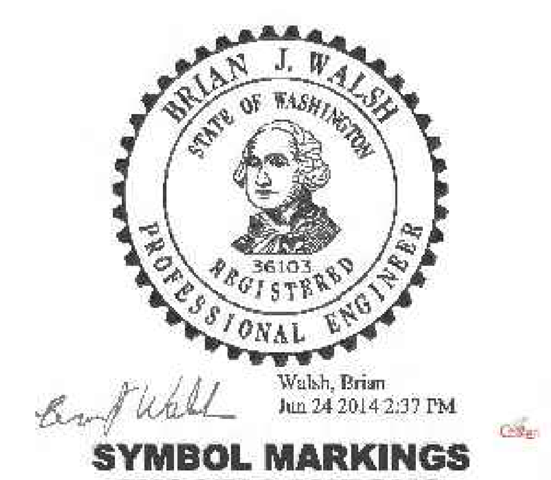
(REQUIRED FOR CEMENT CONCRETE SURFACES)



TOTAL MARKING AREA = 13.44 SQ.FT.
WHITE = 4.82 SQ.FT. BLUE = 8.62 SQ.FT.

ACCESS PARKING SPACE SYMBOL (MINIMUM) WITH BLUE BACKGROUND AND WHITE BORDER

(REQUIRED FOR CEMENT CONCRETE SURFACES)



Walsh, Brian
Jun 24 2014 2:37 PM

SYMBOL MARKINGS MISCELLANEOUS

STANDARD PLAN M-24.60-04

SHEET 2 OF 2 SHEETS

APPROVED FOR PUBLICATION

Jun 24 2014 4:43 PM

STATE DESIGN ENGINEER

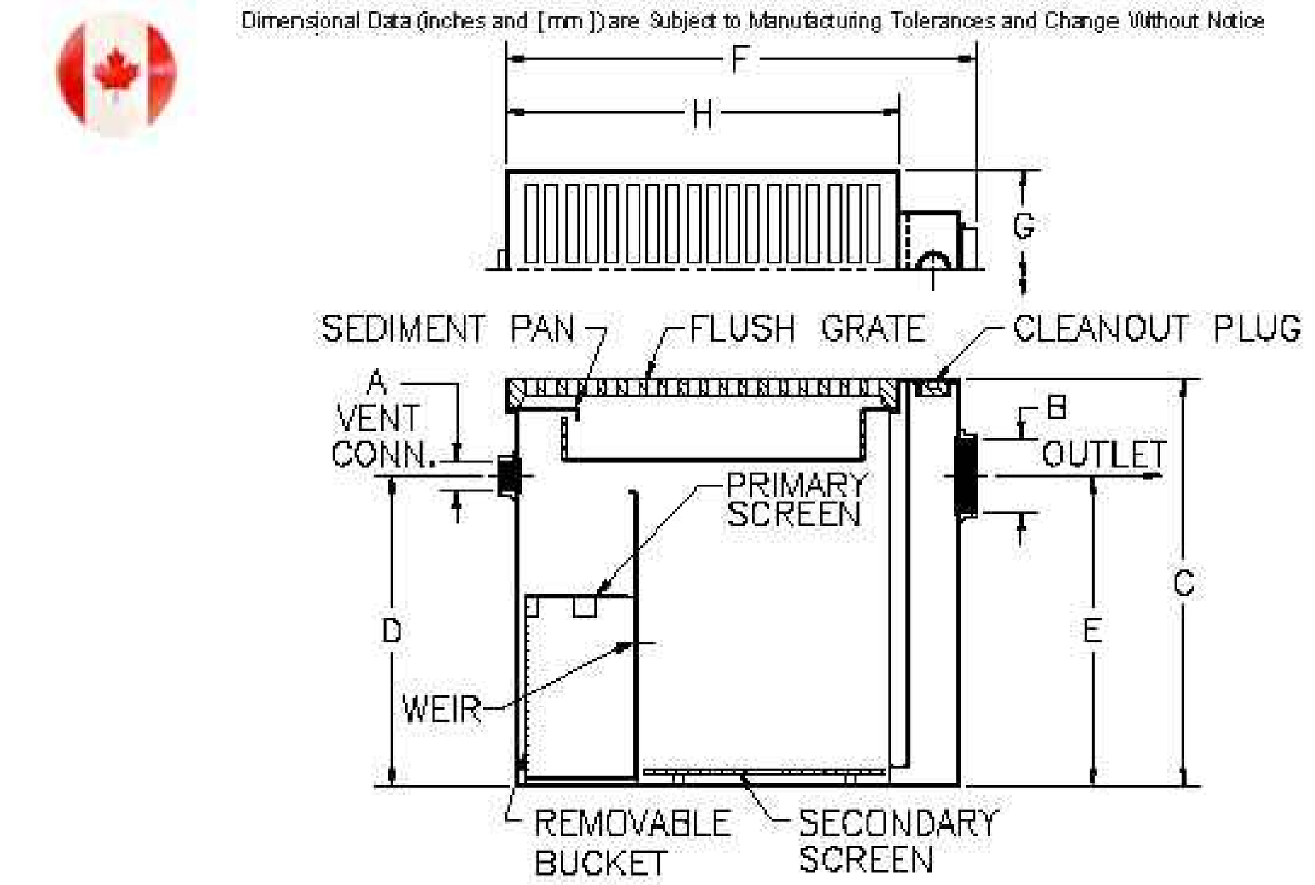
Washington State Department of Transportation

ZURN

Z1189
OIL/SEDIMENT INTERCEPTOR WITH HEAVY-DUTY GRATE

SPECIFICATION SHEET
TAG ________

Dimensional Data (inches and [mm]) are Subject to Manufacturing Tolerances and Change Without Notice



Size	Sludge Capacity Lbs. [kg]	Grate Open Area [cm2]	No. of Grates	No. of Pans	Approx. Wt. Lbs. [kg]	A Vent Size	B Pipe Size	Dimension In Inches C	D	E	F	G	H
12	12 [5]	49 [316]	1	1	70 [32]	----	2 [50]	15 [381]	----	10-1/2 [267]	17-1/8 [435]	11-3/8 [289]	12-3/8 [314]
60	60 [27]	131 [845]	1	1	175 [79]	2 [51]	4 [75]	25-1/4 [641]	19-1/4 [489]	17-5/8 [448]	29-1/8 [740]	12-3/8 [314]	24-3/8 [619]
100	100 [45]	262 [1690]	2	1	280 [127]	2 [51]	4 [75]	33 [838]	27 [686]	22 [559]	29-1/8 [740]	24-3/8 [619]	24-3/8 [619]
200	200 [91]	393 [2535]	3	1	370 [168]	2 [51]	4 [75]	33 [838]	27 [686]	22 [559]	41-1/8 [1044]	24-3/8 [619]	36-3/8 [924]
300	300 [136]	524 [3380]	4	1	460 [208]	2 [51]	4 [75]	33 [838]	27 [686]	22 [559]	53-1/8 [1349]	24-3/8 [619]	48-3/8 [1229]

ENGINEERING SPECIFICATION: ZURN Z1189
Dura-Coated interior and exterior fabricated steel oil/sediment interceptor, bronze cleanout plug and visible double wall trap seal, removable sediment bucket, horizontal baffle, internal vent connection, with Dura-Coated heavy-duty cast iron grate.

PREFIXES
____ Z Dura-Coated Fabricated Steel*

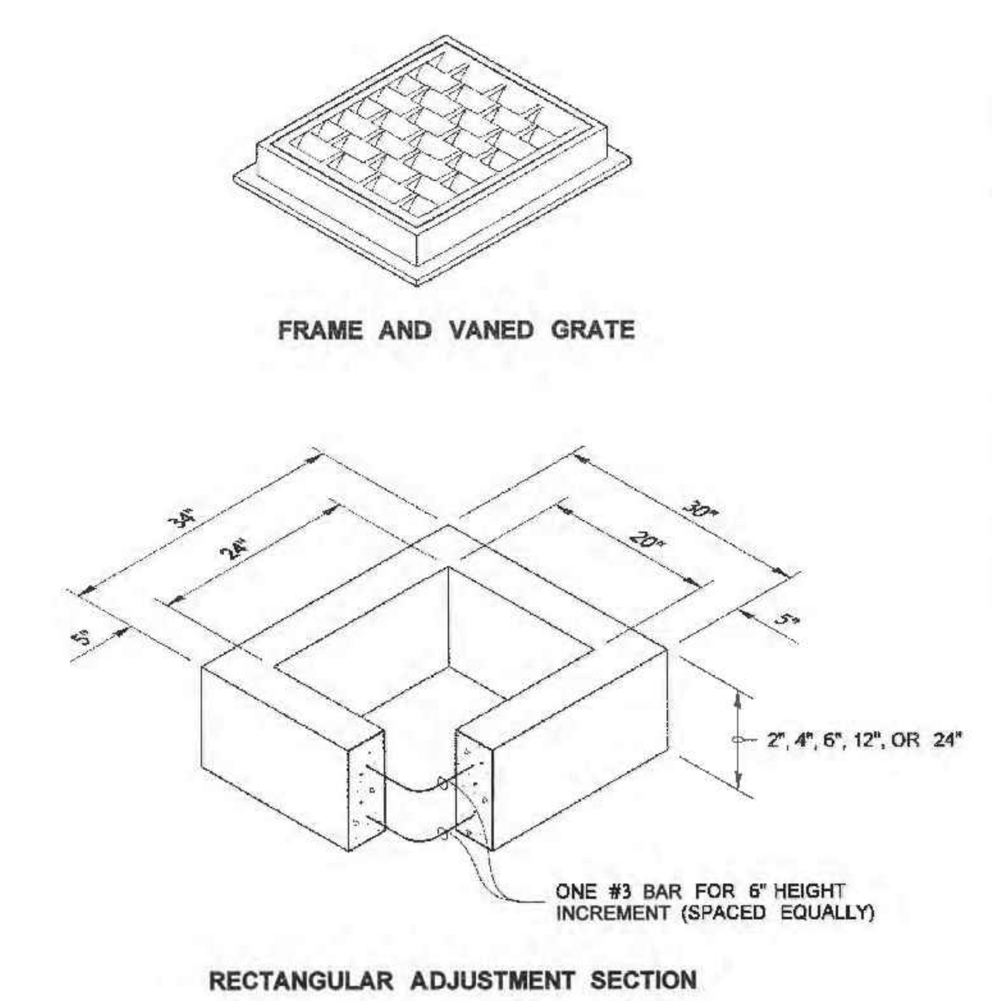
SUFFIXES
____ -DG Duresist Grate
____ -E Dura-Coated Interior and exterior fabricated steel extension section. (Specify 'C' Dim. required)
____ -K Anchor flange 1 3/4 [44] down from top and 2 [51] wide.
____ -KC Anchor flange 1 3/4 [44] down from top and 2 [51] wide with seepage holes and clamp collar.
____ -SC Heavy-Duty Solid Traffic Cover (max. safe live load 10,000 lbs. [4536 kg.])

*REGULARLY FURNISHED UNLESS OTHERWISE SPECIFIED

REV. C DATE: 4/16/12 C.N. NO. 124157
DWG. NO. 65084 PRODUCT NO. Z1189

ZURN INDUSTRIES LIMITED ♦ 3544 Nashua Drive ♦ Mississauga, Ontario L4V1L2 ♦ Phone: 905/405-8272 Fax: 905/405-1292
In the U.S.: ZURN INDUSTRIES, INC ♦ SPECIFICATION DRAINAGE OPERATION ♦ 1801 Pittsburgh Ave. ♦ Erie, PA 16514
Phone: 814/455-0921 ♦ Fax: 814/454-7929 ♦ World Wide Web: www.zurn.com

DRAWN BY: LISA CYFORD



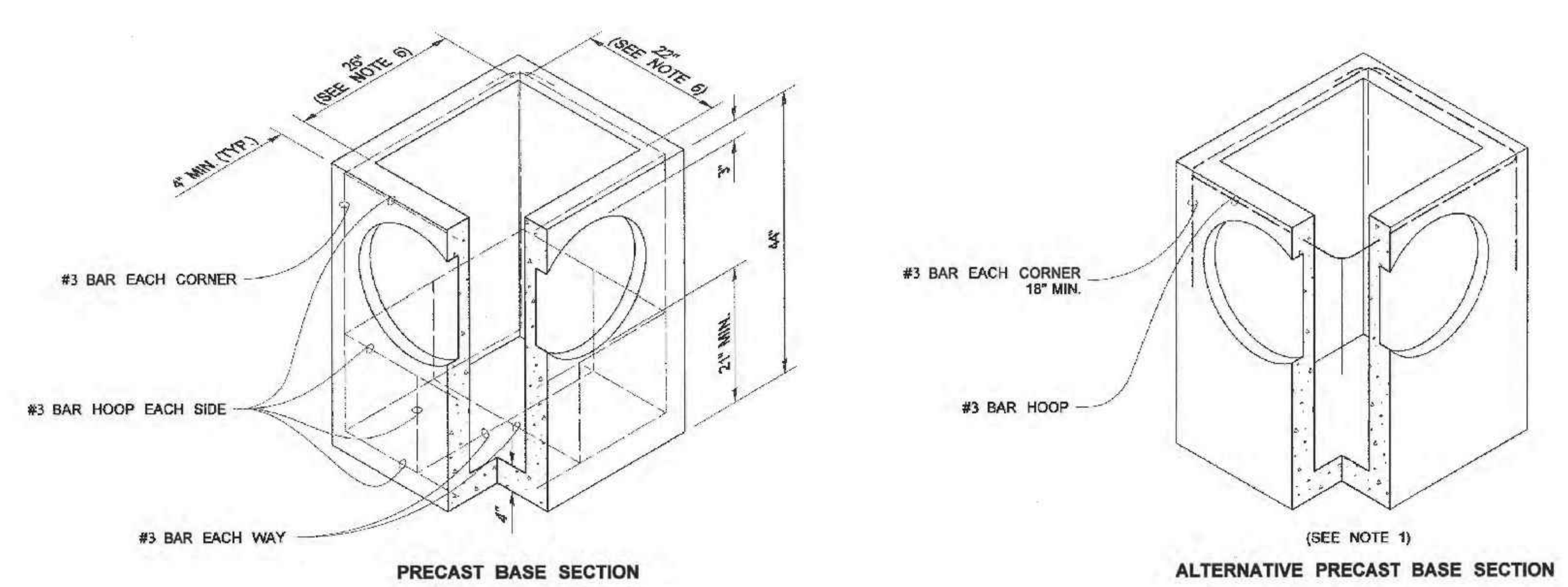
PIPE MATERIAL	MAXIMUM INSIDE DIAMETER
REINFORCED OR PLAIN CONCRETE	12"
ALL METAL PIPE	15"
CPSSP * (STD. SPEC. 9-05.20)	12"
SOLID WALL PVC (STD. SPEC. 9-05.12(1))	15"
PROFILE WALL PVC (STD. SPEC. 9-05.12(2))	15"

PIPE ALLOWANCES

* CORRUGATED POLYETHYLENE STORM SEWER PIPE

NOTES

1. As acceptable alternatives to the rebar shown in the PRECAST BASE SECTION, fibers (placed according to the Standard Specifications), or wire mesh having a minimum area of 0.12 square inches per foot shall be used with the minimum required rebar shown in the ALTERNATIVE PRECAST BASE SECTION. Wire mesh shall not be placed in the knockouts.
2. The knockout diameter shall not be greater than 20". Knockouts shall have a wall thickness of 2" minimum to 2.5" maximum. Provide a 1.5" minimum gap between the knockout wall and the outside of the pipe. After the pipe is installed, fill the gap with joint mortar in accordance with Standard Specification 9-04.3.
3. The maximum depth from the finished grade to the lowest pipe invert shall be 5'.
4. The frame and grate may be installed with the flange down, or integrally cast into the adjustment section with flange up.
5. The Precast Base Section may have a rounded floor, and the walls may be sloped at a rate of 1:24 or steeper.
6. The opening shall be measured at the top of the Precast Base Section.
7. All pickup holes shall be grouted full after the basin has been placed.



CATCH BASIN TYPE 1

STANDARD PLAN B-5.20-01

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

6/16/11

STATE DESIGN ENGINEER DATE

Washington State Department of Transportation

COUNTER COMPLETE
Permit Center
JUN 18, 2021
City of Port Orchard
Community Development

PW21-036
PW21-037

DESIGN	MAK
DRAWN	JKA
CHECKED	MAK
SEC 2	T 23N R 1E
DISC NO	DATE 1/7/21
SCALE	1" = 20'

REV NO	REVISION DESCRIPTION	DATE	BY

6/3/2021

SIGNATURE:

TITLE PORT ORCHARD — KFC
DETAILS

CLIENT ORCHARD FOODS
PETER BRAUN
4550 NEWBERRY HILL, STE 201
SILVERDALE, WA 98383
360-698-8600

PROJECT MANAGER: JASON K. ANDERSON

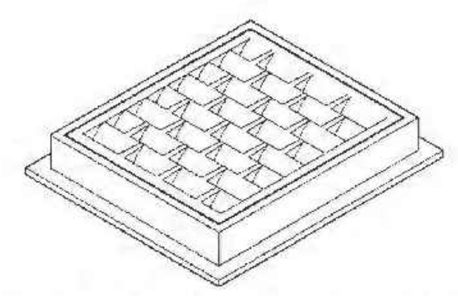
TEAM 4 ENGINEERING
5819 NE MINDER RD
POULSBO, WA. 98370
(360) 297-5560
(360) 297-7951 (FAX)

SHEET 13 OF 19

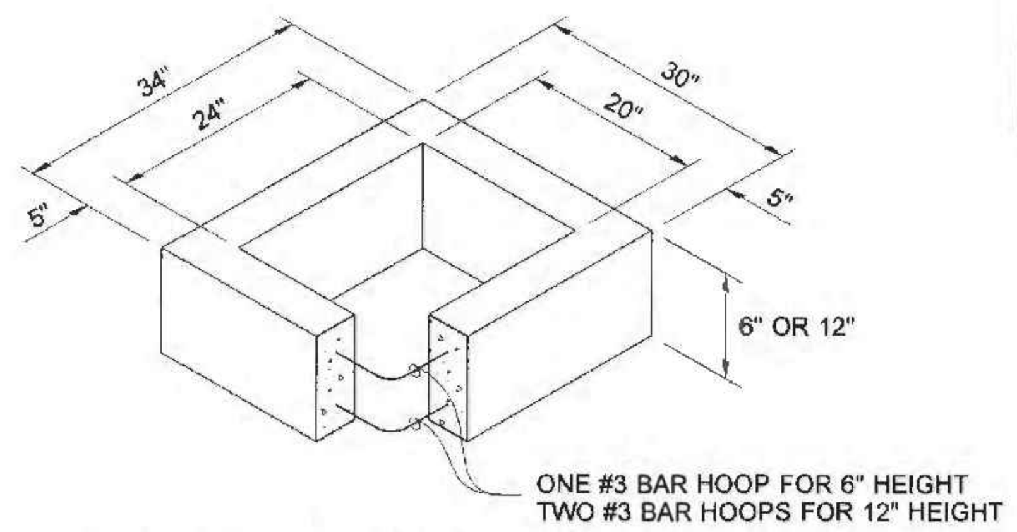
FILE NO 1279

PORT ORCHARD — KFC

DRAWN BY: MARK SUJKA



FRAME AND VANED GRATE



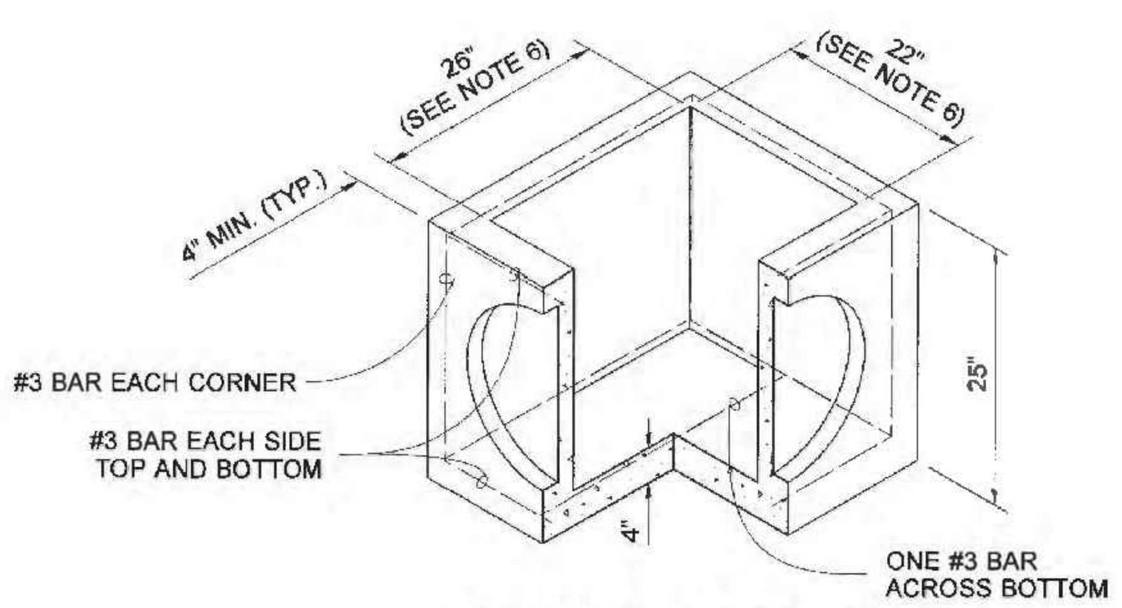
RECTANGULAR ADJUSTMENT SECTION

PIPE ALLOWANCES	
PIPE MATERIAL	MAXIMUM INSIDE DIAMETER
REINFORCED OR PLAIN CONCRETE	12"
ALL METAL PIPE	15"
CPSSP * (STD. SPEC. 9-05.20)	12"
SOLID WALL PVC (STD. SPEC. 9-05.12(1))	15"
PROFILE WALL PVC (STD. SPEC. 9-05.12(2))	15"

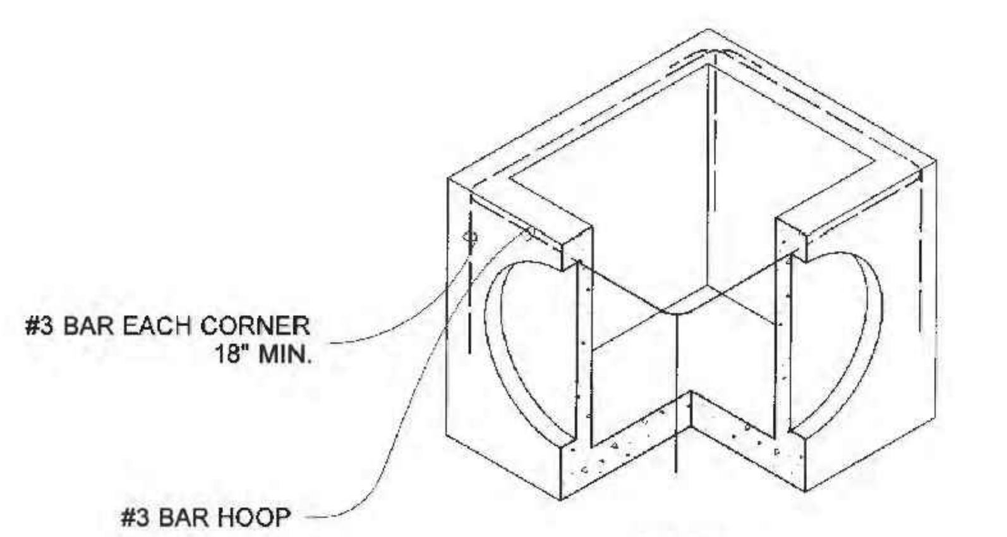
* CORRUGATED POLYETHYLENE STORM SEWER PIPE

NOTES

1. As acceptable alternatives to the rebar shown in the **PRECAST BASE SECTION**, fibers (placed according to the Standard Specifications), or wire mesh having a minimum area of 0.12 square inches per foot shall be used with the minimum required rebar shown in the **ALTERNATIVE PRECAST BASE SECTION**. Wire mesh shall not be placed in the knockouts.
2. The knockout diameter shall not be greater than 18". Knockouts shall have a wall thickness of 2" minimum to 2.5" maximum. Provide a 1.5" minimum gap between the knockout wall and the outside of the pipe. After the pipe is installed, fill the gap with joint mortar in accordance with Standard Specification 9-04.3.
3. The maximum depth from the finished grade to the lowest pipe invert shall be 5'.
4. The frame and grate may be installed with the flange up or down. The frame may be cast into the adjustment section.
5. The Precast Base Section may have a rounded floor, and the walls may be sloped at a rate of 1:24 or steeper.
6. The opening shall be measured at the top of the precast base section.
7. All pickup holes shall be grouted full after the inlet has been placed.



PRECAST BASE SECTION



SEE NOTE 1

ALTERNATIVE PRECAST BASE SECTION

MATTHEW J. WITECKI, STATE OF WASHINGTON, REGISTERED PROFESSIONAL ENGINEER
6/1/06
EXPIRES JULY 1, 2007

CONCRETE INLET

STANDARD PLAN B-25.60-00

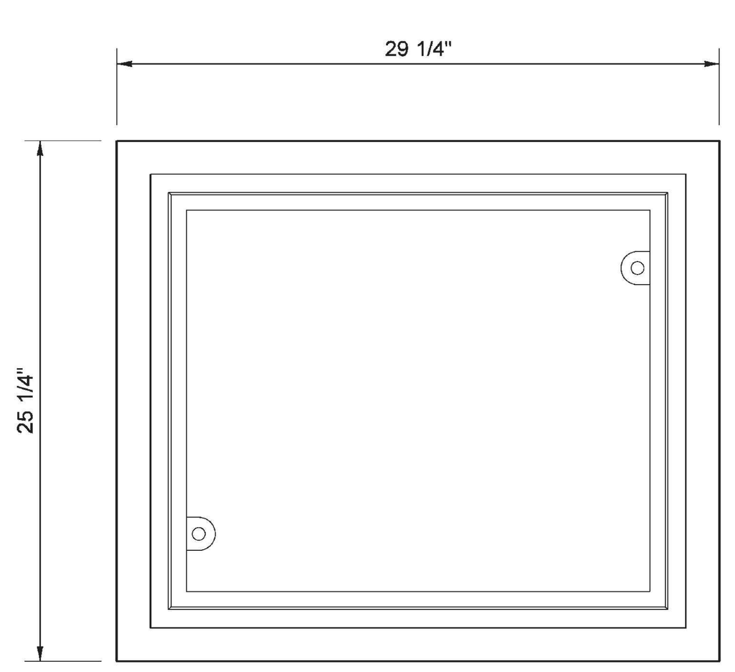
SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION
6-1-06
STATE DESIGN ENGINEER DATE
Washington State Department of Transportation

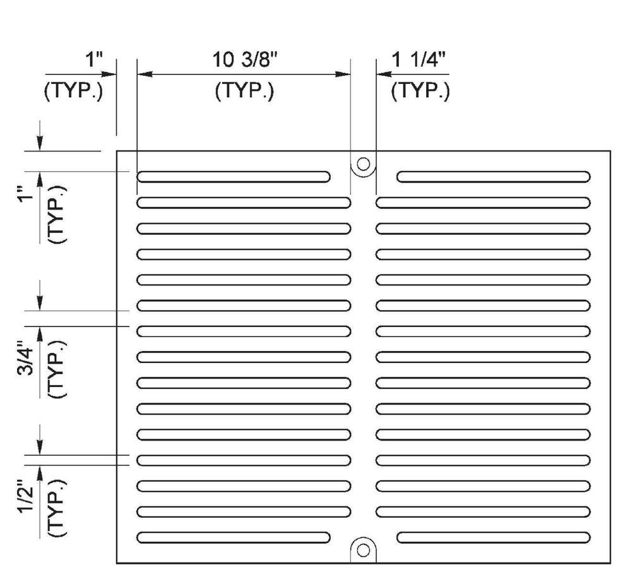
DRAWN BY: BILL BERENS

NOTES

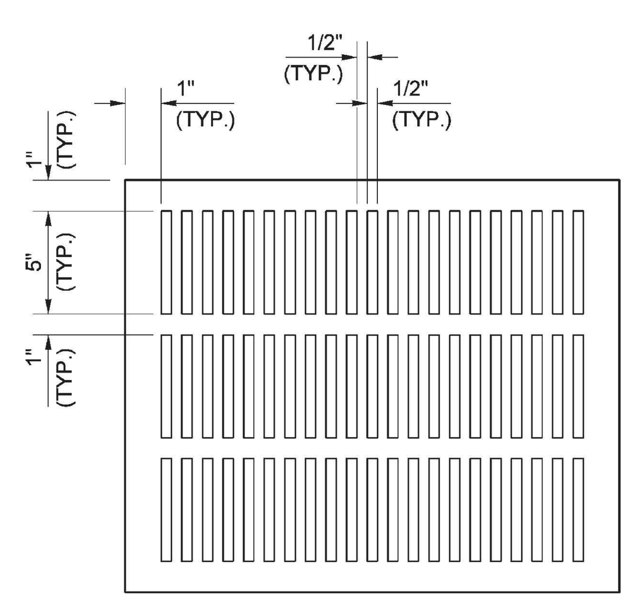
1. Bolt-down capability is required on all frames, grates, and covers, unless specified otherwise in the Contract. Provide 2 holes in the frame that are vertically aligned with the grate or cover slots. The frame shall accept the 304 Stainless Steel (S.S.) 5/8" (in) - 11 NC × 2" (in) Allen head cap screw by being tapped, or other approved mechanism. Location of bolt-down holes varies by manufacturer.
2. All grates shall be 20" (in) x 24" (in).
3. Grate alternatives shown for informational purposes. Grate design varies by manufacturer and must meet ADA requirements.
4. Refer to **Standard Specification Section 9-05.15 and 9-05.15 (2)** for additional requirements.



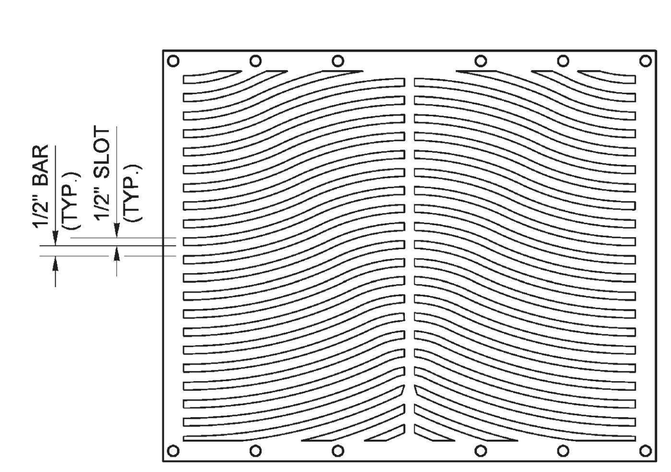
PLAN VIEW
GRATE FRAME
FOR DETAILS NOT SHOWN, SEE STANDARD PLAN B-30.10



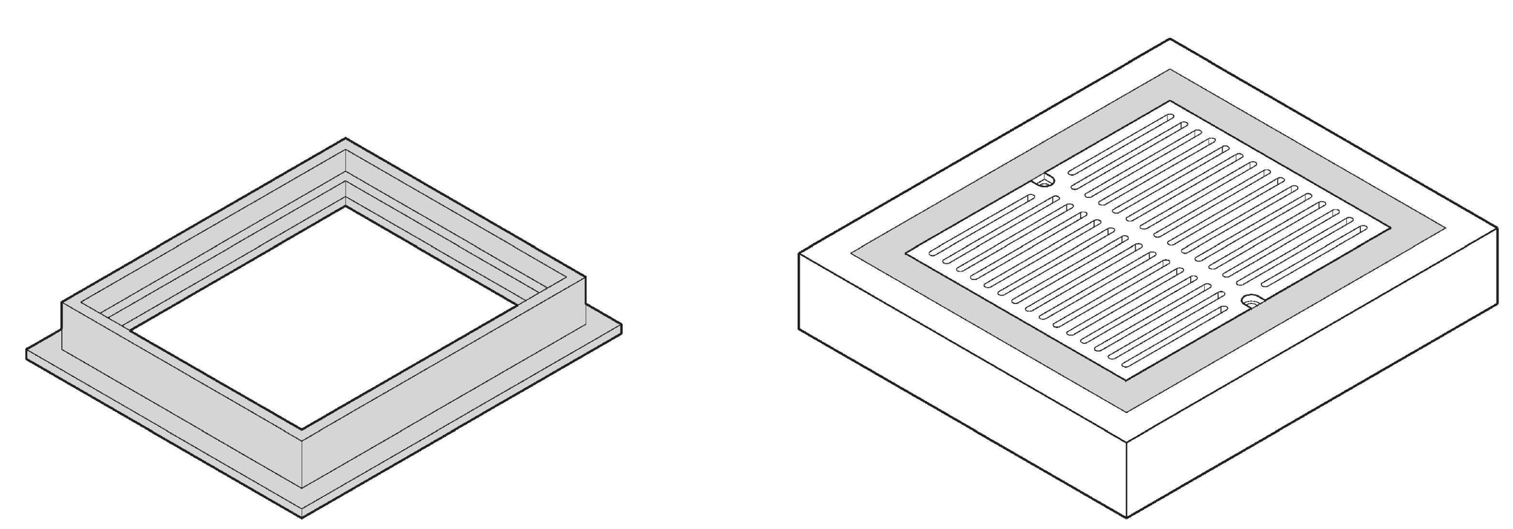
PLAN VIEW
GRATE
ALTERNATIVE 1



PLAN VIEW
GRATE
ALTERNATIVE 2



PLAN VIEW
GRATE
ALTERNATIVE 3



ISOMETRIC VIEWS
(GRATE ALTERNATIVE 1 SHOWN)

JULIE HEILMAN, STATE OF WASHINGTON, REGISTERED PROFESSIONAL ENGINEER 41819
Heilman, Julie
Feb 20 2018 12:53 PM

ADA GRATES FOR RECTANGULAR FRAMES

STANDARD PLAN B-30.15-00

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION
Carpenter, Jeff
Feb 27 2018 7:56 AM
STATE DESIGN ENGINEER
Washington State Department of Transportation

COUNTER COMPLETE
Permit Center
JUN 18, 2021
City of Port Orchard
Community Development

PW21-036
PW21-037

DESIGN	MAK
DRAWN	JKA
CHECKED	MAK
SEC	2 T 23N R 1E
DISC NO	DATE 1/7/21
SCALE	1" = 20'

REV NO	REVISION DESCRIPTION	DATE	BY

MARK A. KUHLMAN, STATE OF WASHINGTON, REGISTERED PROFESSIONAL ENGINEER 18848
6/3/2021

TITLE PORT ORCHARD — KFC
DETAILS

CLIENT ORCHARD FOODS
PETER BRAUN
4550 NEWBERYY HILL, STE 201
SILVERDALE, WA 98383
360-698-8600

SIGNATURE:

PROJECT MANAGER: JASON K ANDERSON

TEAM 4 ENGINEERING
5819 NE MINDER RD
POULSBO, WA. 98370
(360) 297-5560
(360) 297-7951 (FAX)

PROJECT MANAGEMENT • CONSULTING • PLANNING • ENGINEERING

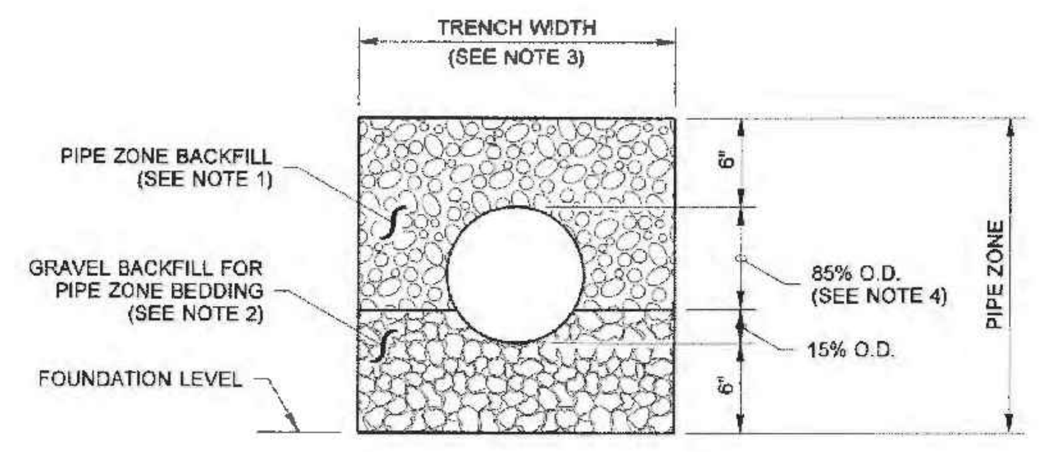
SHEET 14 OF 19

FILE NO 1279

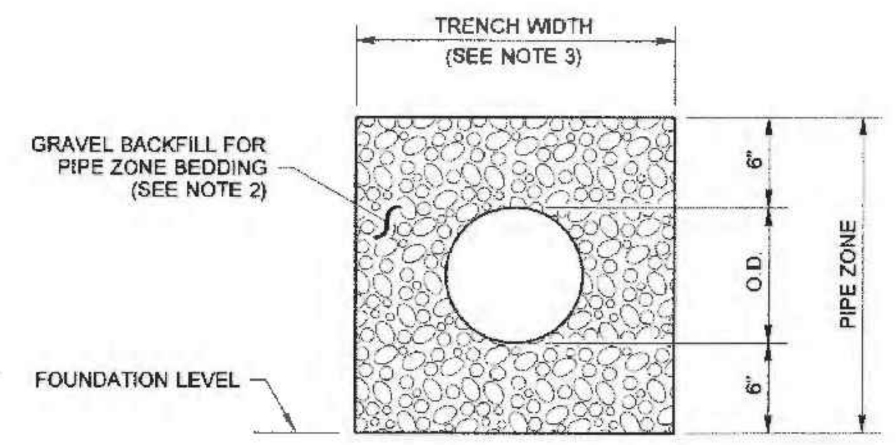
X:\1279 Orchard Foods KFC Port Orchard\1279_30 MASTER.dwg, 6/3/2021 12:34:39 PM, 1:1

PORT ORCHARD – KFC

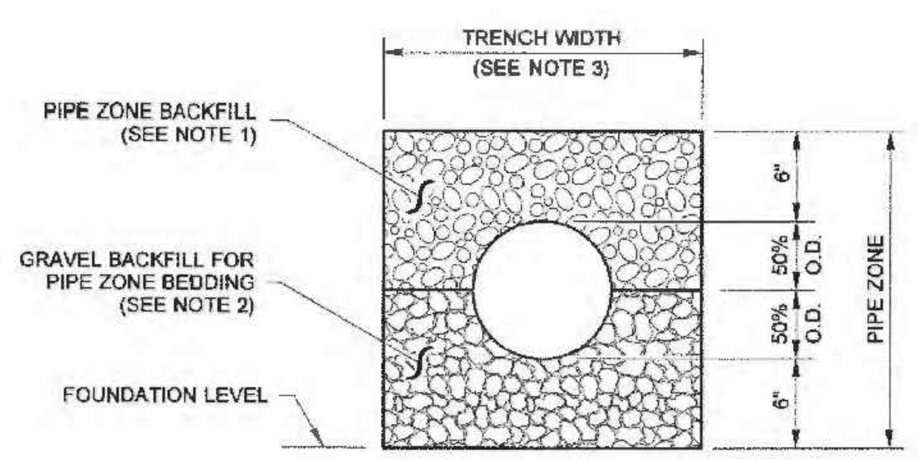
DETAILS



CONCRETE AND DUCTILE IRON PIPE



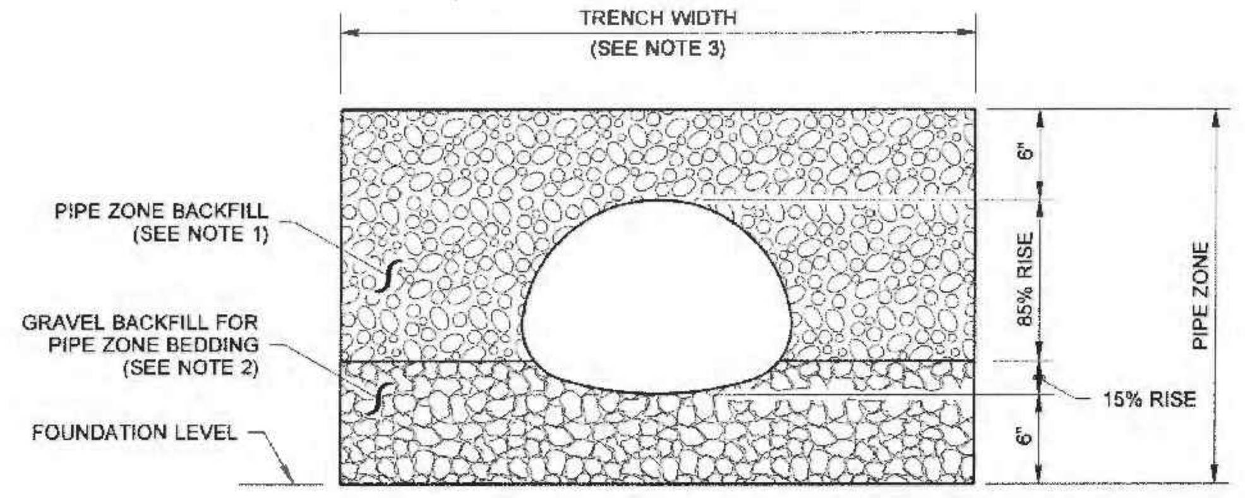
THERMOPLASTIC PIPE



METAL PIPE

NOTES

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



PIPE ARCHES

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

MATTHEW J. WITECKI, STATE OF WASHINGTON, REGISTERED PROFESSIONAL ENGINEER 6/1/06
EXPIRES JULY 1, 2007

PIPE ZONE BEDDING AND BACKFILL

STANDARD PLAN B-55.20-00

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION
STATE DESIGN ENGINEER 6·1·06 DATE
Washington State Department of Transportation

R7-801

11/97

DIMENSIONS (MILLIMETERS)										
A	B	C	D	E	F	G	H	J	K	L
300	450	10	16	50C	19C	25	13	19	150	38

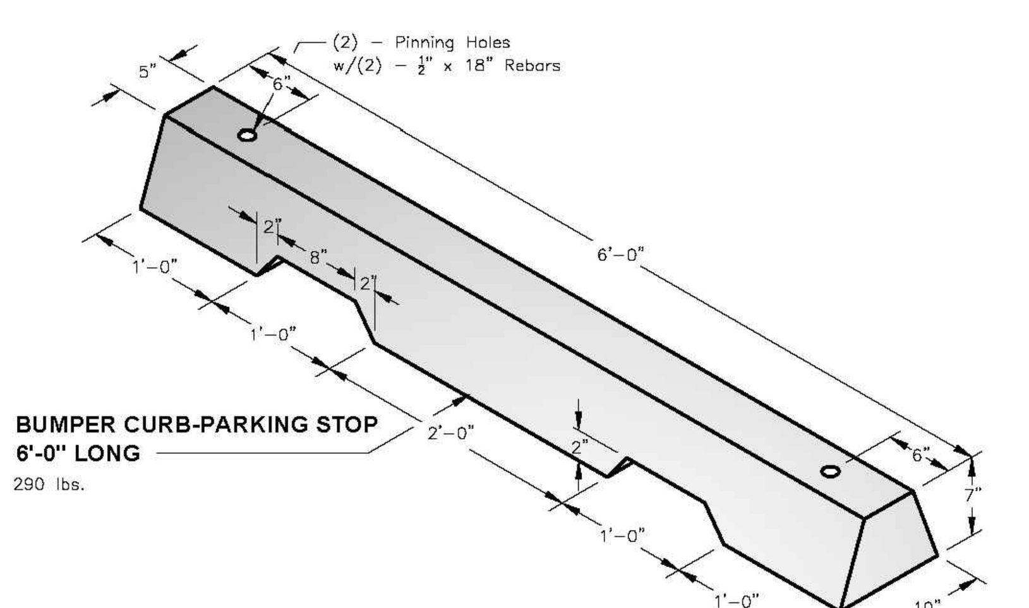
DIMENSIONS (INCHES)										
A	B	C	D	E	F	G	H	J	K	L
12	18	3/8	5/8	2C	3/4C	1	1/2	3/4	6	1 1/2

COLORS

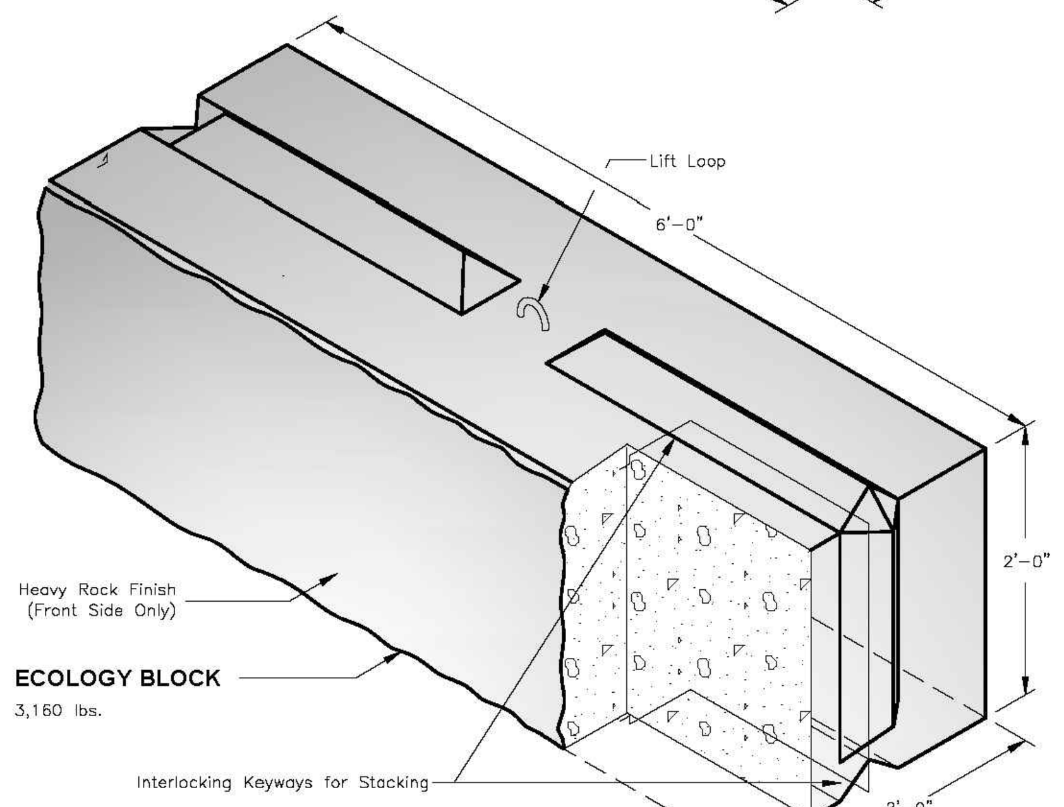
LEGEND - GREEN (REFL)
SYMBOL - BLUE (REFL)
BACKGROUND - WHITE (REFL)

Page 362 — *WSDOT Sign Fabrication Manual M 55-05 May 2020*

BUMPER CURBS / ECOLOGY BLOCK



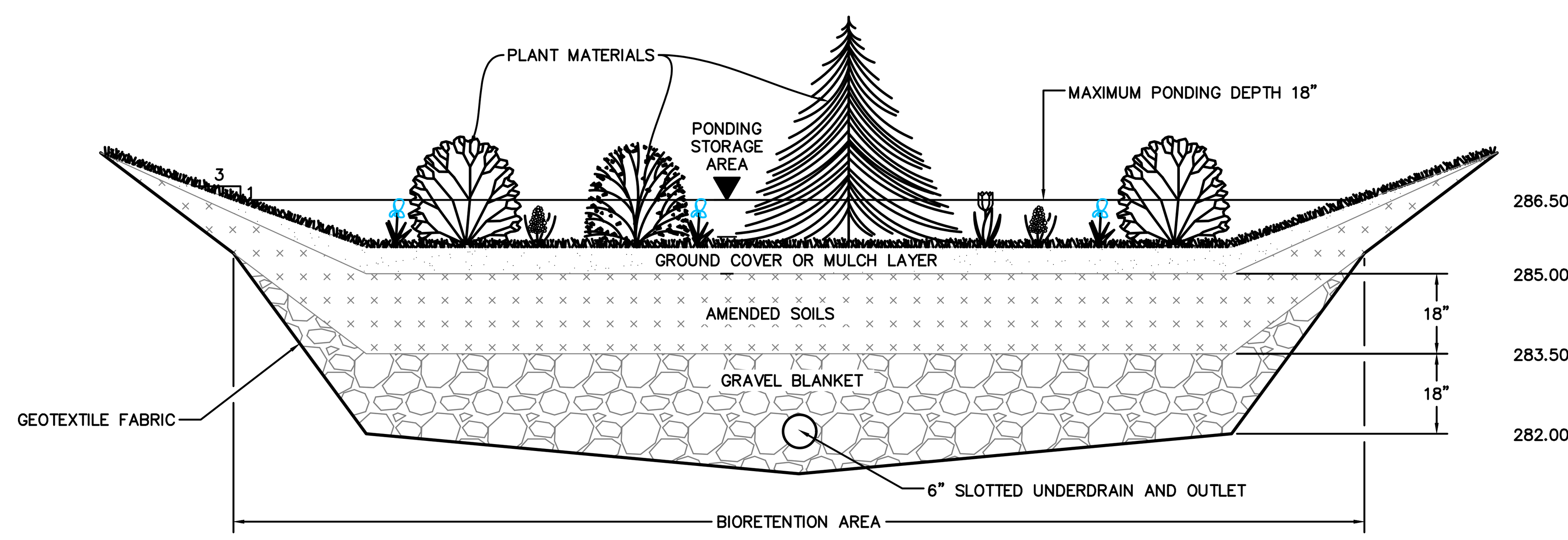
BUMPER CURB-PARKING STOP
6'-0" LONG
290 lbs.



ECOLOGY BLOCK
3,160 lbs.

Oldcastle Precast® PO Box 323, Wilsonville, Oregon 97070-0323 Tel: (503) 682-2844 Fax: (503) 682-2657	B. CURB / E. BLOCK File Name: 020-CRBBLK Issue Date: 2016 oldcastleprecast.com/wilsonville	BUMPER CURBS ECOLOGY BLOCK

6.0



BIORETENTION DETAIL

NO SCALE

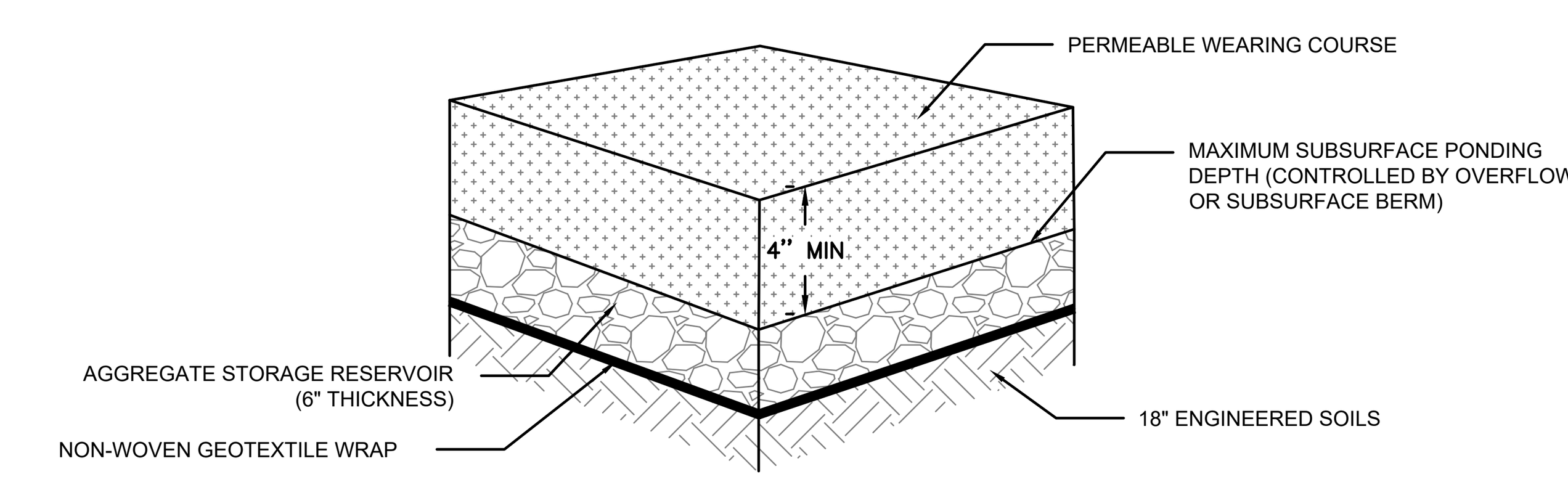


FIGURE 2.2: PERMEABLE PAVEMENT FACILITY SECTION - (MAXIMUM PONDING DEPTH KEP TO A MINIMUM OF 6" BELOW THE SURFACE OF THE WEARING COURSE TO PREVENT SATURATION OF WEARING COURSE AND POSSIBLE FREEZE/THAW DAMAGE)

COUNTER COMPLETE
Permit Center
JUN 18, 2021
City of Port Orchard
Community Development

PW21-036
PW21-037

DESIGN MAK
DRAWN JKA
CHECKED MAK
SEC 2 T 23N R 1E
DISC NO ___ DATE 1/7/21
SCALE 1" = 20'

REV NO	REVISION DESCRIPTION	DATE	BY

MARK A. KUHLMANN, STATE OF WASHINGTON, REGISTERED PROFESSIONAL ENGINEER 6/3/2021

SIGNATURE:

TITLE PORT ORCHARD – KFC DETAILS

CLIENT ORCHARD FOODS
PETER BRAUN
4550 NEWBERRY HILL, STE 201
SILVERDALE, WA 98383
360-698-8600

PROJECT MANAGEMENT • ENGINEERING • PLANNING • CONSULTING — TEAM 4

PROJECT MANAGER: JASON K ANDERSON

TEAM 4 ENGINEERING
5819 NE MINDER RD
POULSBO, WA. 98370
(360) 297-5560
(360) 297-7951 (FAX)

FILE NO 1279

X:\1279 Orchard Foods KFC Port Orchard\1279_30 MASTER.dwg, 6/3/2021 12:34:42 PM, 1:1

PORT ORCHARD — KFC
DETAILS

StormTech SC-310 Chamber

Designed to meet the most stringent industry performance standards for superior structural integrity while providing designers with a cost-effective method to save valuable land and protect water resources. The StormTech system is designed primarily to be used under parking lots, thus maximizing land usage for private (commercial) and public applications. StormTech chambers can also be used in conjunction with Green Infrastructure, thus enhancing the performance and extending the service life of these practices.

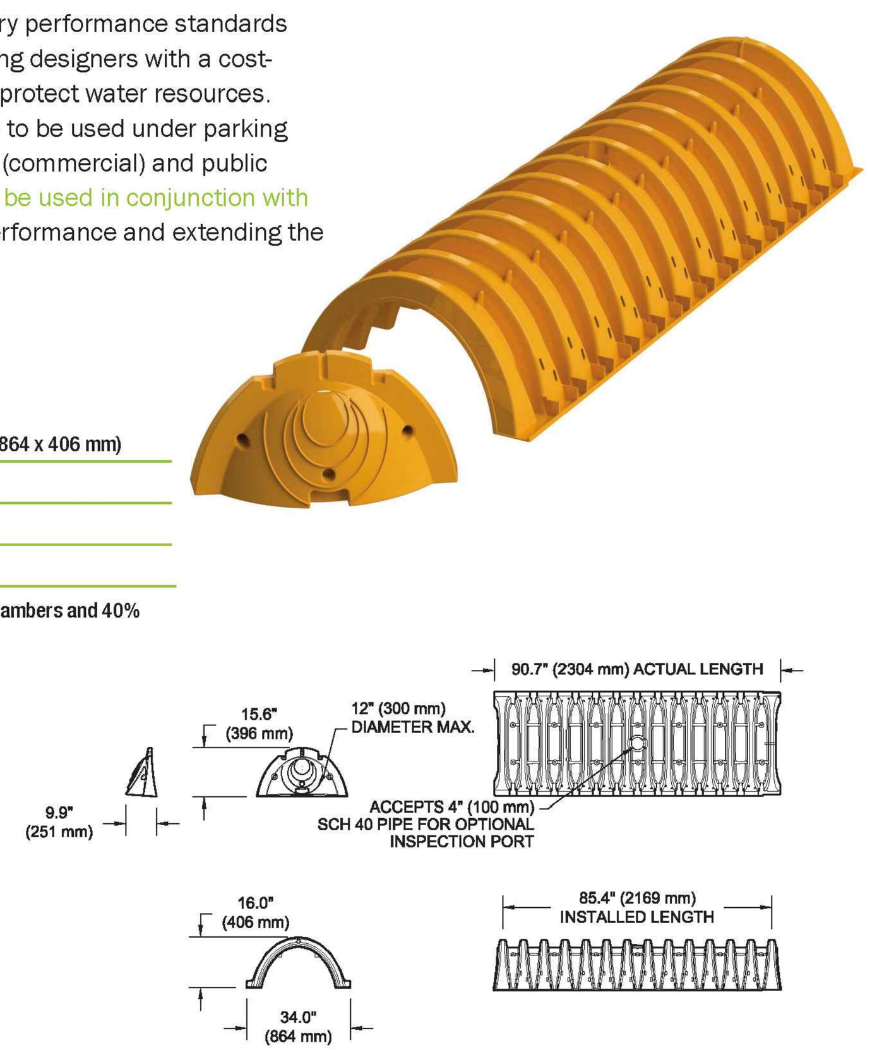
StormTech SC-310 Chamber (not to scale)
Nominal Chamber Specifications

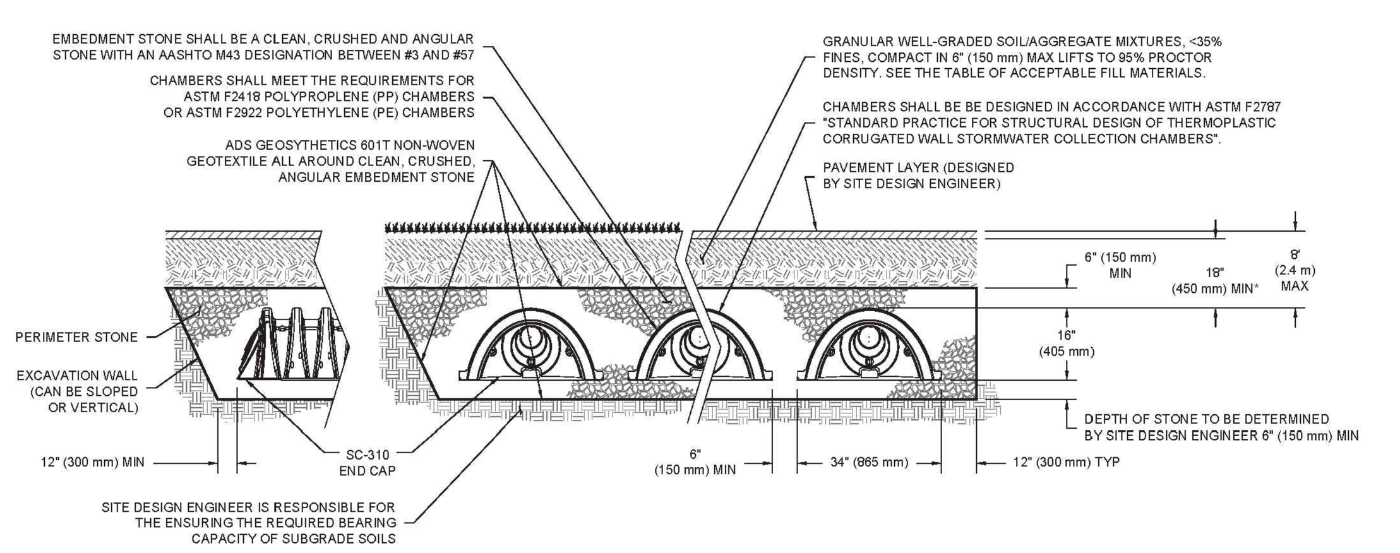
Size (L x W x H)	85.4" x 34.0" x 16.0" (2170 x 864 x 406 mm)
Chamber Storage	14.7 ft^3 (0.42 m^3)
Min. Installed Storage*	31.0 ft^3 (0.88 m^3)
Weight	37.0 lbs (16.8 kg)

*Assumes 6" (150 mm) stone above, below and between chambers and 40% stone porosity.

Shipping

- 41 chambers/pallet
- 108 end caps/pallet
- 18 pallets/truck





*MINIMUM COVER TO BOTTOM OF FLEXIBLE PAVEMENT. FOR UNPAVED INSTALLATIONS WHERE RUTTING FROM VEHICLES MAY OCCUR, INCREASE COVER TO 24" (600 mm).

THE INSTALLED CHAMBER SYSTEM SHALL PROVIDE THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS SECTION 12.12 FOR EARTH AND LIVE LOADS, WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.

6 Call StormTech at **860.529.8188** or **888.892.2694** or visit our website at **www.stormtech.com** for technical and product information.

StormTech SC-740 Chamber

Designed to meet the most stringent industry performance standards for superior structural integrity while providing designers with a cost-effective method to save valuable land and protect water resources. The StormTech system is designed primarily to be used under parking lots, thus maximizing land usage for private (commercial) and public applications. StormTech chambers can also be used in conjunction with Green Infrastructure, thus enhancing the performance and extending the service life of these practices.

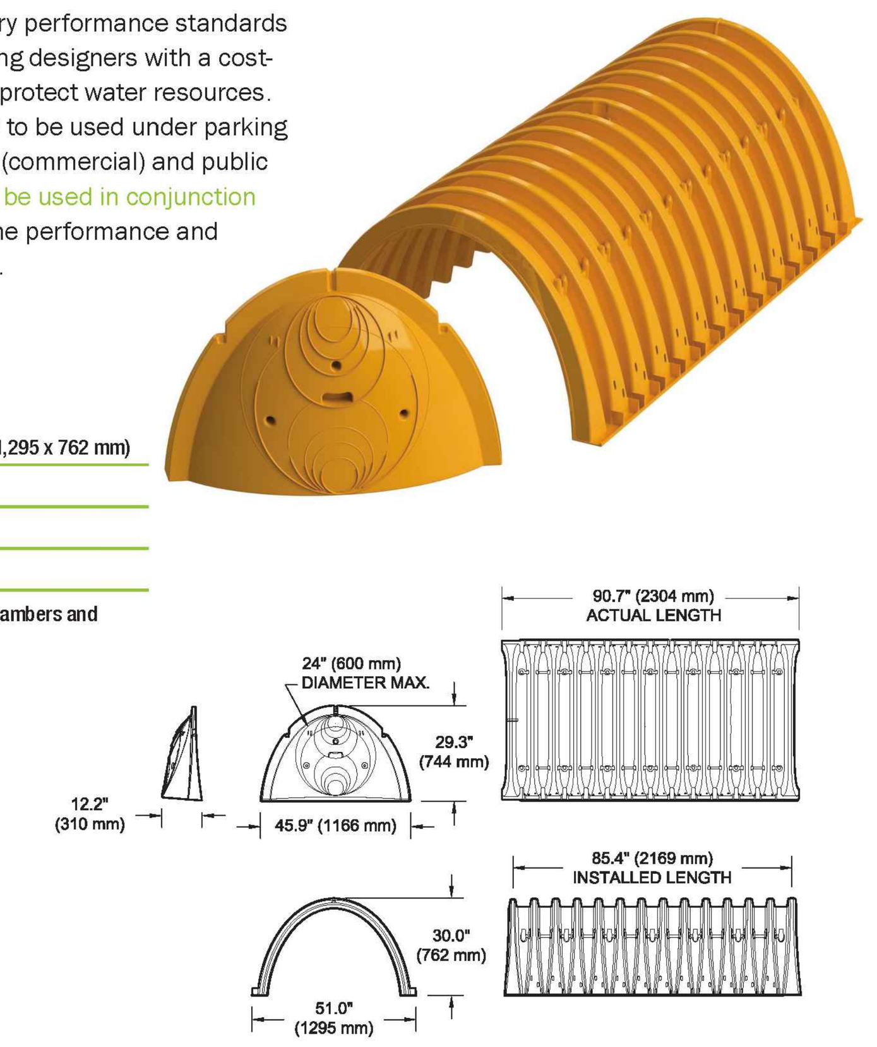
StormTech SC-740 Chamber (not to scale)
Nominal Chamber Specifications

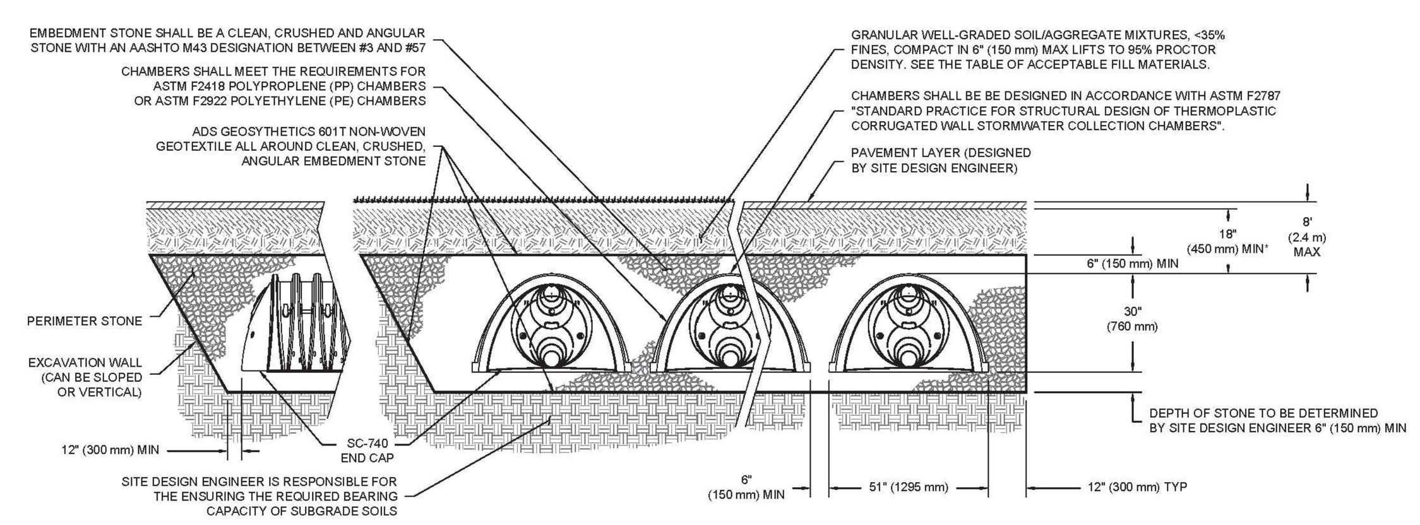
Size (L x W x H)	85.4" x 51.0" x 30.0" (2,170 x 1,295 x 762 mm)
Chamber Storage	45.9 ft^3 (1.30 m^3)
Min. Installed Storage*	74.9 ft^3 (2.12 m^3)
Weight	74.0 lbs (33.6 kg)

*Assumes 6" (150 mm) stone above, below and between chambers and 40% stone porosity.

Shipping

- 30 chambers/pallet
- 60 end caps/pallet
- 12 pallets/truck



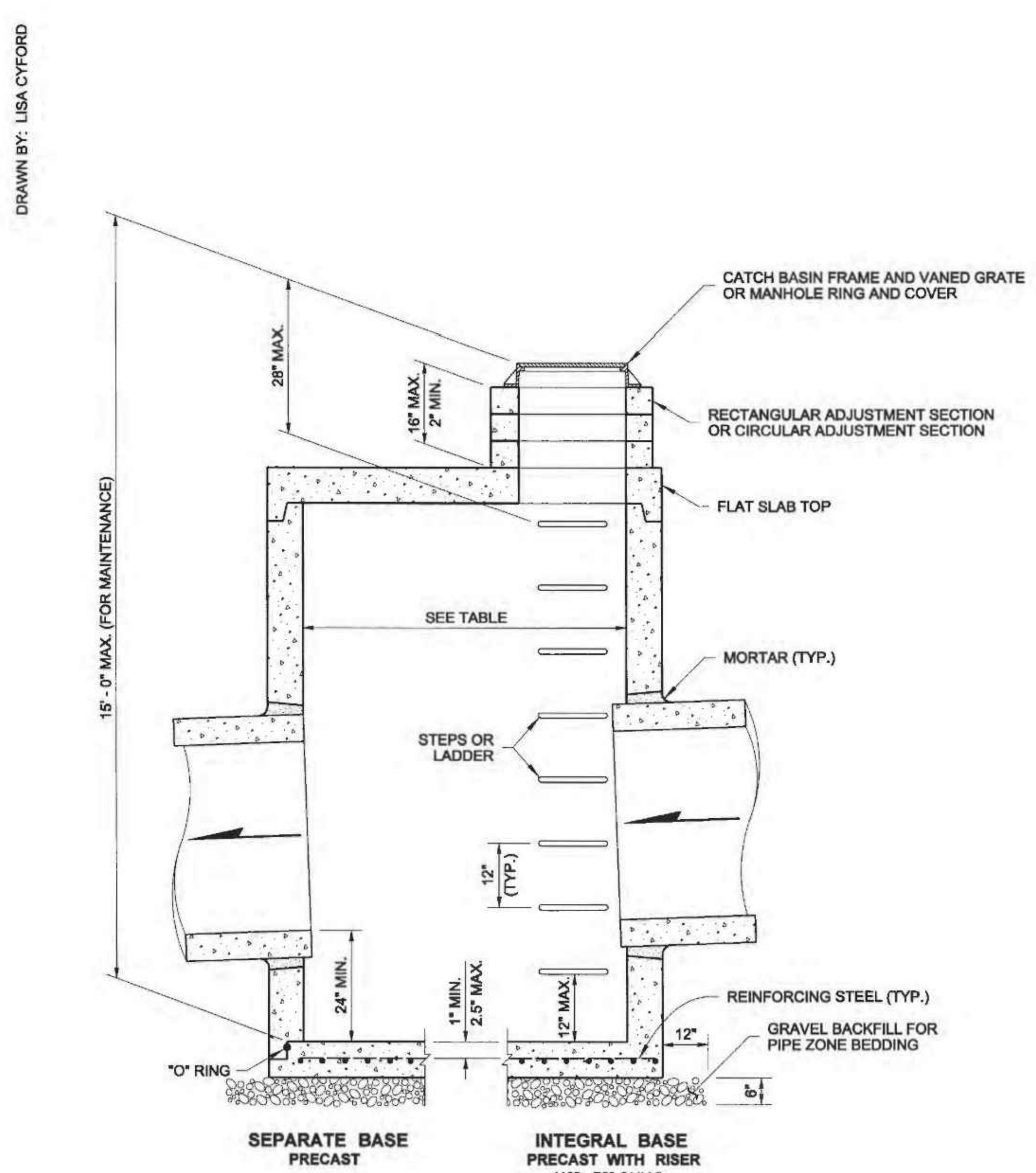


*MINIMUM COVER TO BOTTOM OF FLEXIBLE PAVEMENT. FOR UNPAVED INSTALLATIONS WHERE RUTTING FROM VEHICLES MAY OCCUR, INCREASE COVER TO 24" (600 mm).

THE INSTALLED CHAMBER SYSTEM SHALL PROVIDE THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS SECTION 12.12 FOR EARTH AND LIVE LOADS, WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.

10 Call StormTech at **860.529.8188** or **888.892.2694** or visit our website at **www.stormtech.com** for technical and product information.

DRAWN BY: LISA CYFORD



NOTES

1. No steps are required when height is 4' or less.
2. The bottom of the precast catch basin may be sloped to facilitate cleaning.
3. The rectangular frame and grate may be installed with the flange up or down. The frame may be cast into the adjustment section.
4. Knockouts shall have a wall thickness of 2" minimum to 2.5" maximum. Provide a 1.5" minimum gap between the knockout wall and the outside of the pipe. After the pipe is installed, fill the gap with joint mortar in accordance with **Standard Specification 9-04.3.**

CATCH BASIN DIMENSIONS

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

PIPE ALLOWANCES

CATCH BASIN DIAMETER	PIPE MATERIAL WITH MAXIMUM INSIDE DIAMETER: CONCRETE	ALL METAL	CPSSP ①	SOLID WALL PVC ②	PROFILE WALL PVC ③
48"	24"	30"	24"	30"	30"
54"	30"	36"	30"	36"	36"
60"	36"	42"	36"	42"	42"
72"	42"	54"	42"	48"	48"
84"	54"	60"	54"	48"	48"
96"	60"	72"	60"	48"	48"
120"	66"	84"	60"	48"	48"
144"	78"	96"	60"	48"	48"

① Corrugated Polyethylene Storm Sewer Pipe (**Standard Specification 9-05.20**)
② (**Standard Specification 9-05.12(1)**)
③ (**Standard Specification 9-05.12(2)**)

CASEY M. KRAMER, STATE OF WASHINGTON, 44535, REGISTERED PROFESSIONAL ENGINEER
1-3-12

CATCH BASIN TYPE 2

STANDARD PLAN B-10.20-01

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION
STATE DESIGN ENGINEER 2/7/12 DATE
Washington State Department of Transportation

COUNTER COMPLETE
Permit Center
JUN 18, 2021
City of Port Orchard
Community Development

PW21-036
PW21-037

DESIGN	MAK
DRAWN	JKA
CHECKED	MAK
SEC	2 T 23N R 1E
DISC NO	DATE 1/7/21
SCALE	1" = 20'

REV NO	REVISION DESCRIPTION	DATE	BY

MARK A. KUHLMAN, STATE OF WASHINGTON, 18646, PROFESSIONAL ENGINEER
6/3/2021

TITLE: PORT ORCHARD — KFC
DETAILS

CLIENT: ORCHARD FOODS
PETER BRAUN
4550 NEWBERRY HILL, STE 201
SILVERDALE, WA 98383
360-698-8600

SIGNATURE:

PROJECT MANAGEMENT • CONSULTING • PLANNING • ENGINEERING

PROJECT MANAGER: JASON K ANDERSON

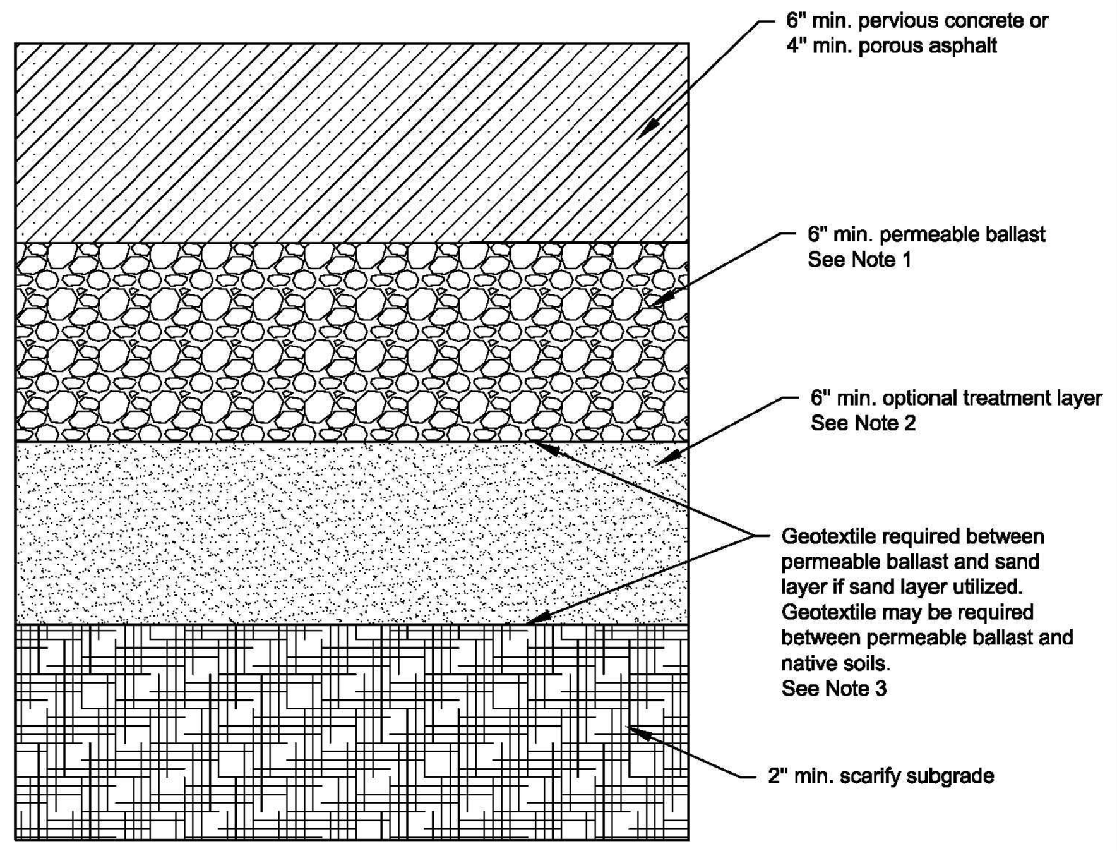
TEAM 4 ENGINEERING
5819 NE MINDER RD
POULSBO, WA. 98370
(360) 297-5560
(360) 297-7951 (FAX)

SHEET 16 OF 19
FILE NO 1279

PORT ORCHARD – KFC

DETAILS

Figure V-5.1: Example of a Permeable Pavement (Concrete or Asphalt) Section



Notes:
1. Thicker section of ballast may be required to establish sufficient reservoir capacity. Engineer to provide calculations.
2. 6" minimum treatment layer of sand or media if required.
3. Geotextile may be required between native soils and permeable pavement section, per soils professional recommendation. Geotextile will be required between permeable ballast and sand layer. Geotextile shall be geotextile for seperation per WSDOT 9.33.2(1), woven, Table 3, and installed per WSDOT 2-12.3(1).

NOT TO SCALE

DEPARTMENT OF ECOLOGY
State of Washington

Example of a Permeable Pavement (Concrete or Asphalt) Section

Revised May 2019

Base Course Aggregate Mix*	
U.S. Standard Sieve	% Passing
2 1/2"	100
2"	90-100
1 1/2"	35-70
1"	0-15
1/2"	0-5

**Coarse aggregate is 0.5- to 2.5-inch uniformly graded stone with a wash loss of no more than 0.5% (AASHTO size number 3).*

Typical Layer Depths for pervious asphalt parking and driveways				
	Min. Base Depth	Max. Base Depth~	Choker Course	Wearing Course
Layer Depths	6"	Designed for Load	1-2"	2-4"

General Installation Requirements

Soil Infiltration Rates

- Soils with infiltration less than 0.1 inches per hour should use an under-drain to prevent saturated soils for long periods;
- Directing surface flows to pervious paving surfaces from adjacent areas is not recommended due to possible introduction of excess sediment;
- Storage and infiltration facility depths will be determined by soil infiltration rates, storage requirements, run-on from adjacent surfaces and design storm capacity.

Grading

- Subgrade can be excavated to with 6 inches of final grade before later stages of construction. Final grading to be done towards the end of construction;
- After grading, prevent soil from compaction and construction equipment traffic;
- Bases to be used as storage should be graded completely flat to maximize infiltration area (See Sloped Installations, below;
- Immediately before base aggregate is installed, excavate down to final grade by removing the remaining 6 inches of fill plus any accumulations of fine materials. Scarify remaining soil to a depth of at least 6 inches.

Sloped Installations

- Asphalt should never be installed on slopes of greater than 6%. Asphalt is a "plastic" phase material, not solid; it will "creep" downslope under heat and shear load, causing slumping, cracking and failure;
- For pervious paving *facilities* where the subsurface soil slope is less than 2%, at least one low-permeability check dam should be installed at the downslope end to contain water in the facility;
- For pervious paving *facilities* where the subsurface soil slope is between 2% and 5%, the subbase must be designed with multiple low-permeability berms or check dams to create subsurface ponding in the storage subbase (note that flow control credit is only given for the average subsurface ponding depth);
- Pervious paving *surfaces* may be installed where the subsurface soil slope is less than 5% without ponding control structures.

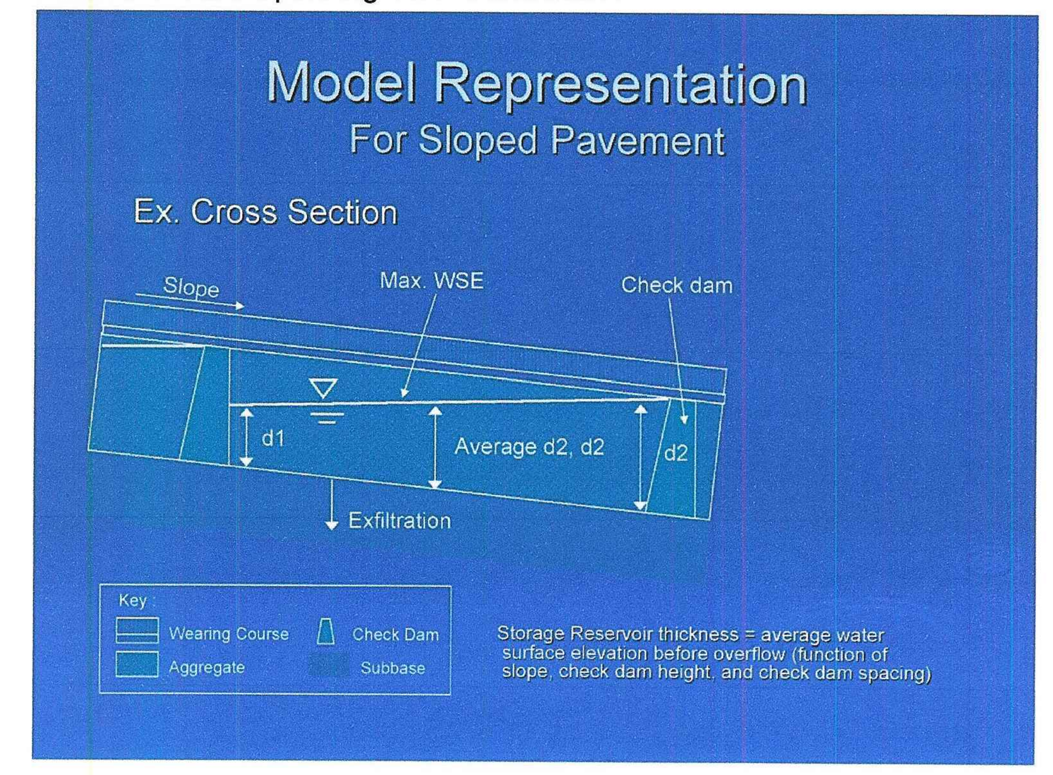


Figure 1.4: Modeling representation of sloped base storage with check dams
Source: Herrera Environmental Consultants

Erosion and Sedimentation Control

- Erosion and sedimentation should be highly controlled during and after construction to prevent fine material loading of the infiltration area. Controls should stay in place until surrounding soils have been stabilized, landscaping or other approved methods have been established.

Aggregate Base/Storage

- Stabilize area and install erosion and sedimentation control;
- Do not compact sub-base;
- Install base aggregate course in 8 inch lifts and lightly compact between lifts;
- Install 1 inch choker course over entire surface of base aggregate course.

Wearing Course

- Pervious paving systems should be installed towards the end of construction activity on site to minimize the risk of site sediments clogging the top course and base;
- Pervious asphalt is an open-graded asphalt mixture ranging from depths of 2 to 4 inches depending on required bearing strength and pavement design requirements;
- Test patches of pervious paving should be installed to ensure mix design meets infiltration rate design;
- Use insulated covers during transportation to lengthen working time on-site;
- Lay top course in one lift;
- Compact when cool enough to resist 10-ton roller. One or two passes is sufficient to achieve proper compaction, any more may affect surface course's infiltration rate;
- Install pervious paving systems towards the end of construction.

Infiltration Rates

The infiltration rate used to size permeable pavement BMPs must be the design, or "long-term", rate calculated using correction factors (safety factors) per the Ecology manual. The recommended correction factors for permeable pavement BMPs vary by contributing area as shown in Table 1.1.

Table 1.1: Correction Factors for calculating design infiltration rates

	Correction Factors	
	Permeable Pavement Surface	Permeable Pavement Facility
Not receiving run-on	2	2
Receiving run-on from an area less than twice that of the facility	NA	2
Receiving run-on from an area larger than twice that of the facility	NA	4

- A geotextile fabric (specifications in Appendix V-C) must be used between the sand layer and drain rock or gravel and placed so that 1-inch of drain rock/gravel is above the fabric. Drain rock should be 0.75-1.5 inch rock or gravel backfill, washed free of clay and organic material. (King County, 1998)

Cleanout wyes with caps or junction boxes must be provided at both ends of the collector pipes. Cleanouts must extend to the surface of the filter. A valve box must be provided for access to the cleanouts. Access for cleaning all underdrain piping should be provided. This may consist of installing cleanout ports, which tee into the underdrain system and surface above the top of the sand bed. To facilitate maintenance of the sand filter an inlet shutoff/bypass valve is recommended.

Note: Other equivalent energy dissipaters can be used if needed.

4. Sand specification: The sand in a filter must consist of a medium sand meeting the size gradation (by weight) given in Table 8.1 below. The contractor must obtain a grain size analysis from the supplier to certify that the No. 100 and No. 200 sieve requirements are met. *(Note: Standard backfill for sand drains, Wa. Std. Spec. 9-03.13, does not meet this specification and should not be used for sand filters.)*

Table 8.1 – Sand Medium Specification	
U.S. Sieve Number	**Percent Passing**
4	95-100
8	70-100
16	40-90
30	25-75
50	2-25
100	<4
200	<2

Source: King County Surface Water Design Manual, September 1998

COUNTER COMPLETE
Permit Center
JUN 18, 2021
City of Port Orchard
Community Development

PW21-036
PW21-037

DESIGN	MAK
DRAWN	JKA
CHECKED	MAK
SEC 2 T 23N R 1E	
DISC NO	DATE 1/7/21
SCALE	1" = 20'

REV NO	REVISION DESCRIPTION	DATE	BY

MARK A. KUHLMAN
STATE OF WASHINGTON
18648
PROFESSIONAL ENGINEER
6/3/2021

TITLE PORT ORCHARD – KFC
DETAILS

CLIENT ORCHARD FOODS
PETER BRAUN
4550 NEWBERYY HILL, STE 201
SILVERDALE, WA 98383
360-698-8600

SIGNATURE:

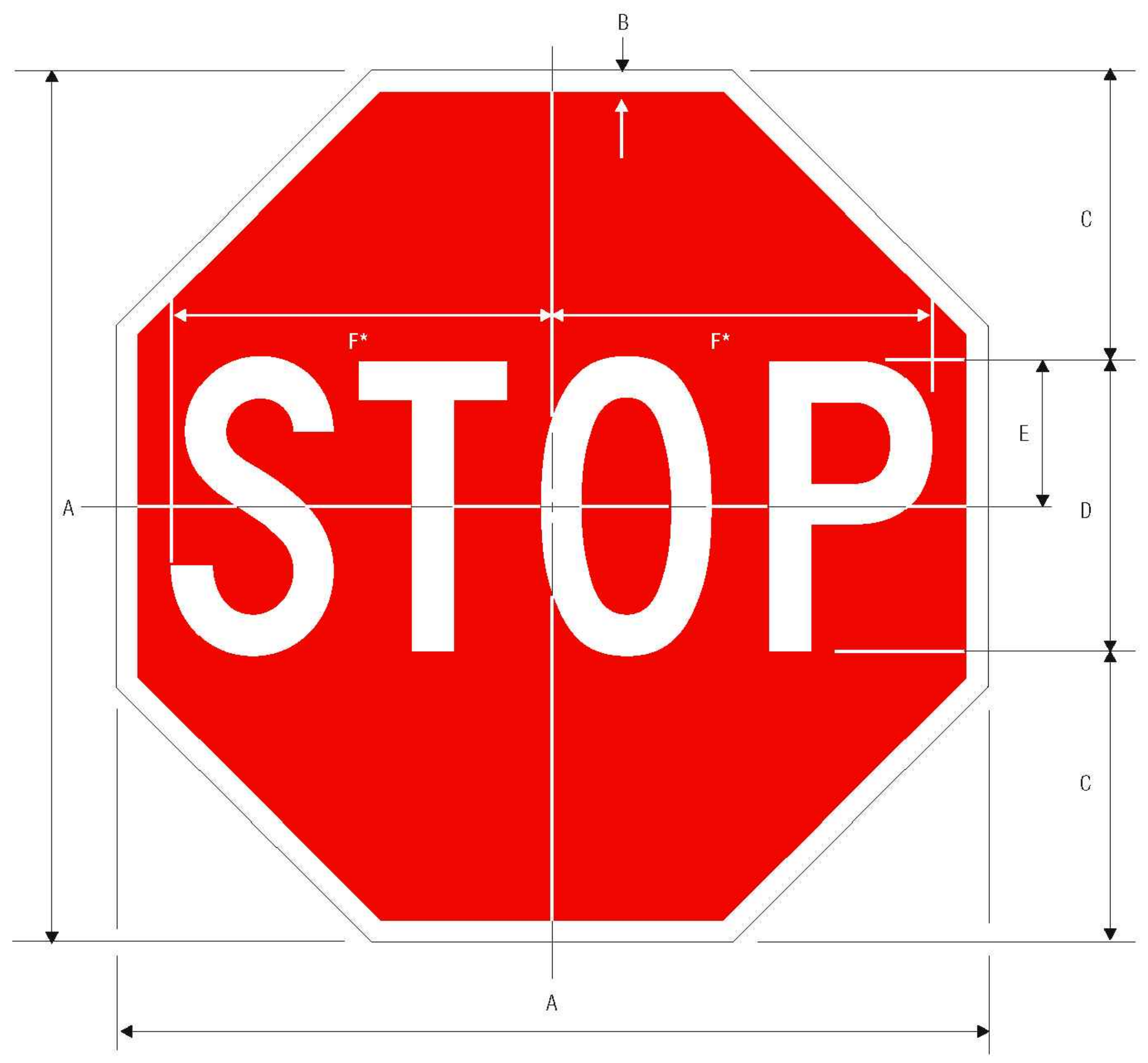
PROJECT MANAGER: JASON K ANDERSON

TEAM 4 ENGINEERING
5819 NE MINDER RD
POULSBO, WA. 98370
(360) 297-5560
(360) 297-7951 (FAX)

SHEET 17 OF 19

FILE NO 1279

PORT ORCHARD – KFC
DETAILS



R1-1
STOP
*Reduce spacing 40%

	A	B	C	D	E	F
	18	.375	6	6 C	3	7.75
	24	.625	8	8 C	4	10
C	30	.75	10	10 C	5	12.5
	36	.875	12	12 C	6	15
	48	1.25	16	16 C	8	20

COLORS: LEGEND – WHITE (RETROREFLECTIVE)
BACKGROUND – RED (RETROREFLECTIVE)

1-1

R7-801
11/97

DIMENSIONS (MILLIMETERS)

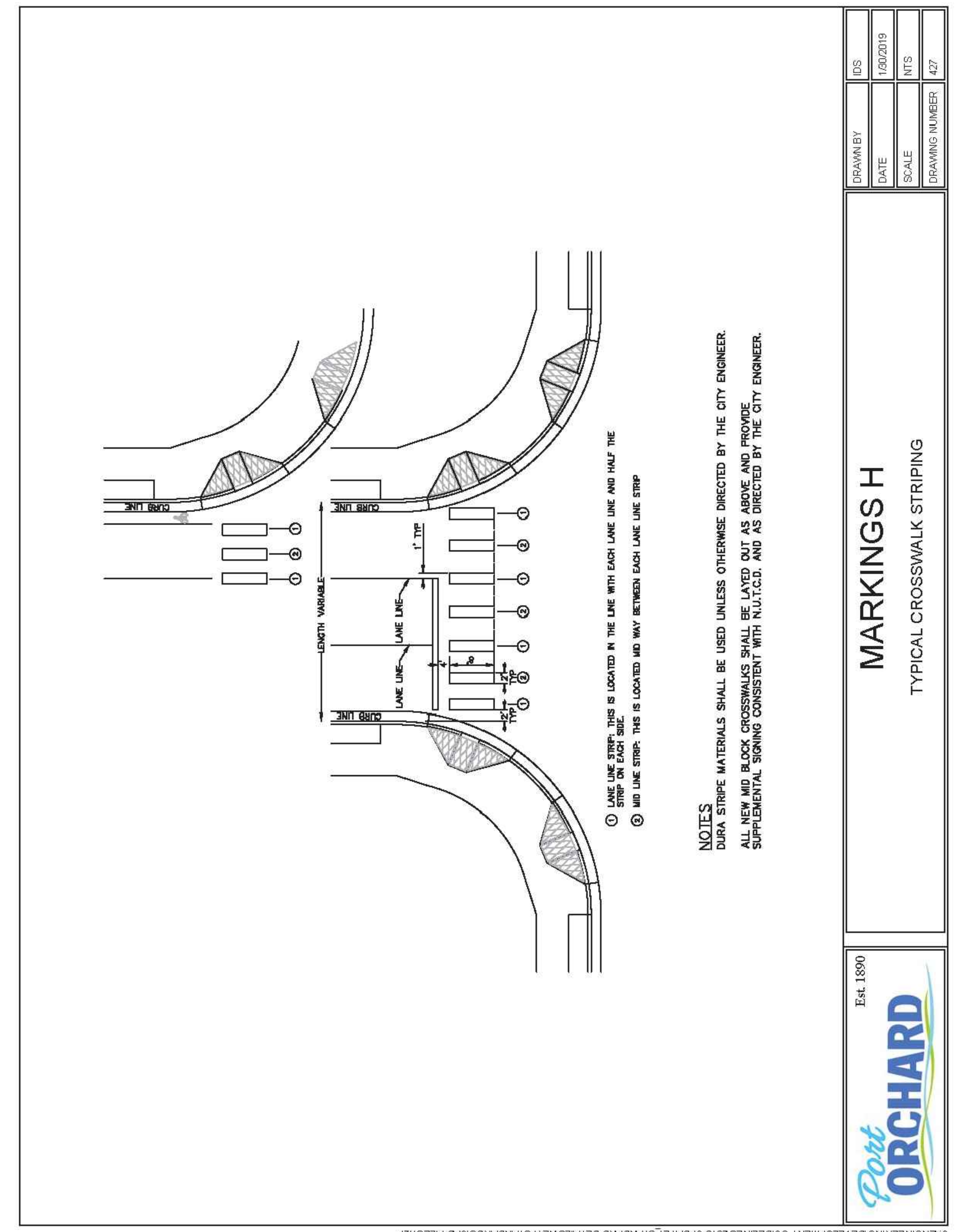
A	B	C	D	E	F	G	H	J	K	L
300	450	10	16	50C	19C	25	13	19	150	38

DIMENSIONS (INCHES)

A	B	C	D	E	F	G	H	J	K	L
12	18	3/8	5/8	2C	3/4C	1	1/2	3/4	6	1 1/2

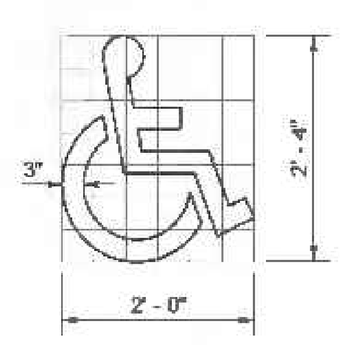
COLORS
LEGEND - GREEN (REFL)
SYMBOL - BLUE (REFL)
BACKGROUND - WHITE (REFL)

Page 362 *WSDOT Sign Fabrication Manual M 55-05 May 2020*

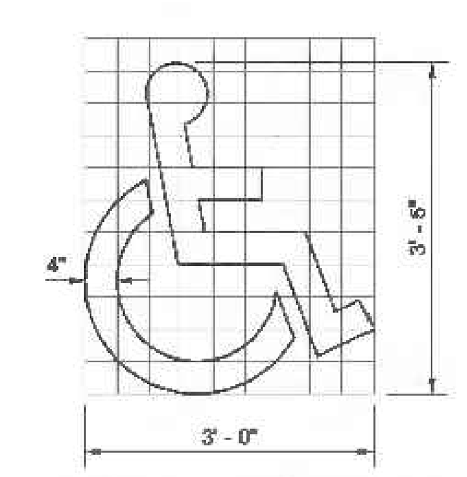


COUNTER COMPLETE
Permit Center
JUN 18, 2021
City of Port Orchard
Community Development

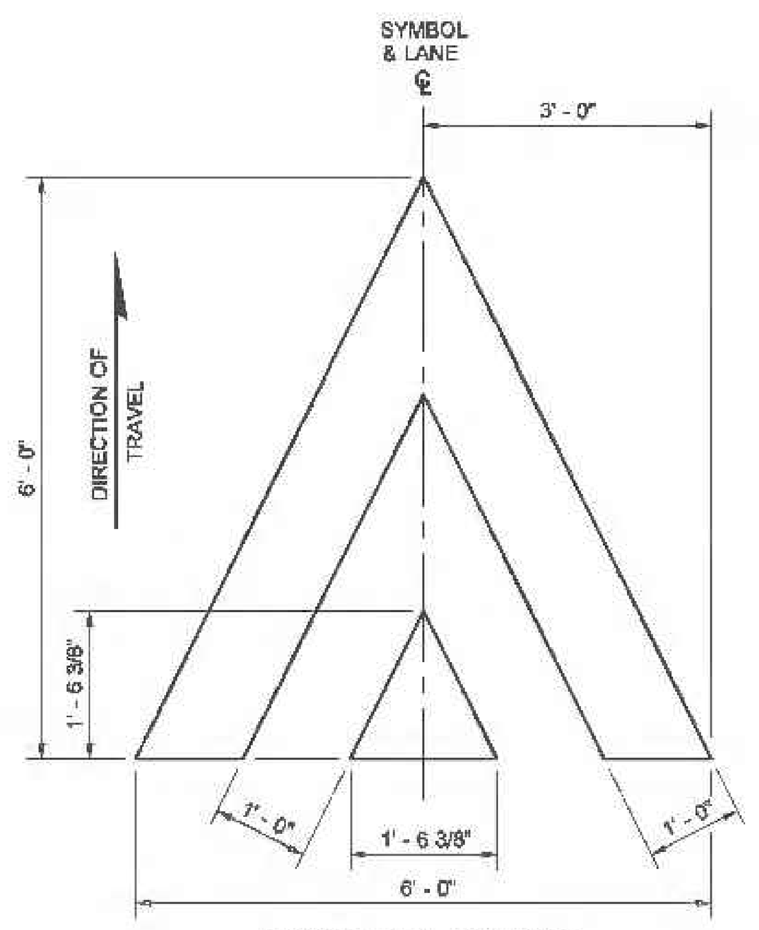
DRAWN BY: LISA CYFORD



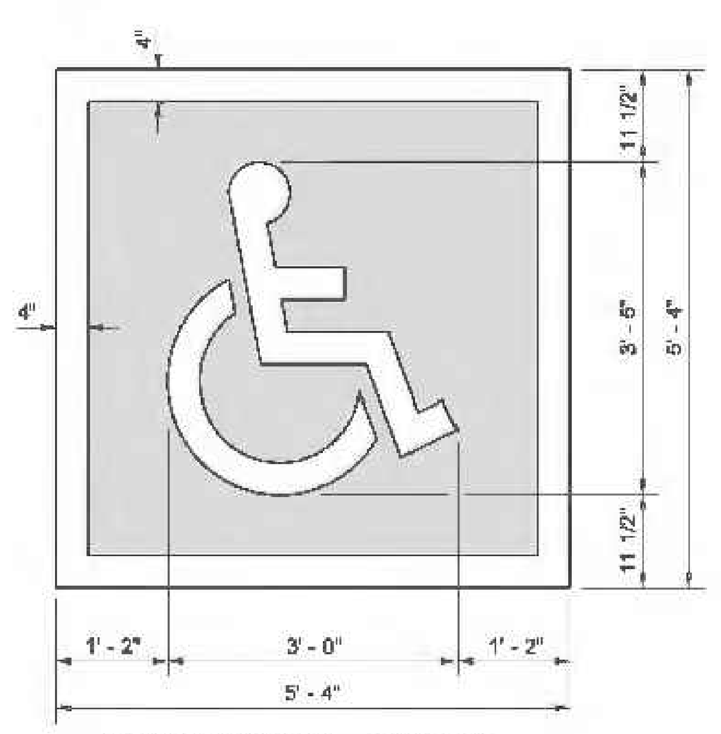
GRID IS 4" (IN) SQUARE MARKING AREA = 1.41 SQ.FT.
ACCESS PARKING SPACE SYMBOL (MINIMUM)



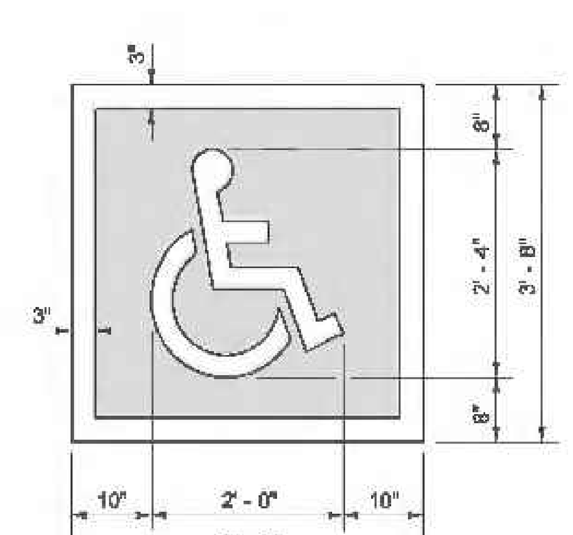
GRID IS 4" (IN) SQUARE MARKING AREA = 3.09 SQ.FT.
ACCESS PARKING SPACE SYMBOL (STANDARD)



MARKING AREA = 12.08 SQ.FT.
SPEED BUMP SYMBOL



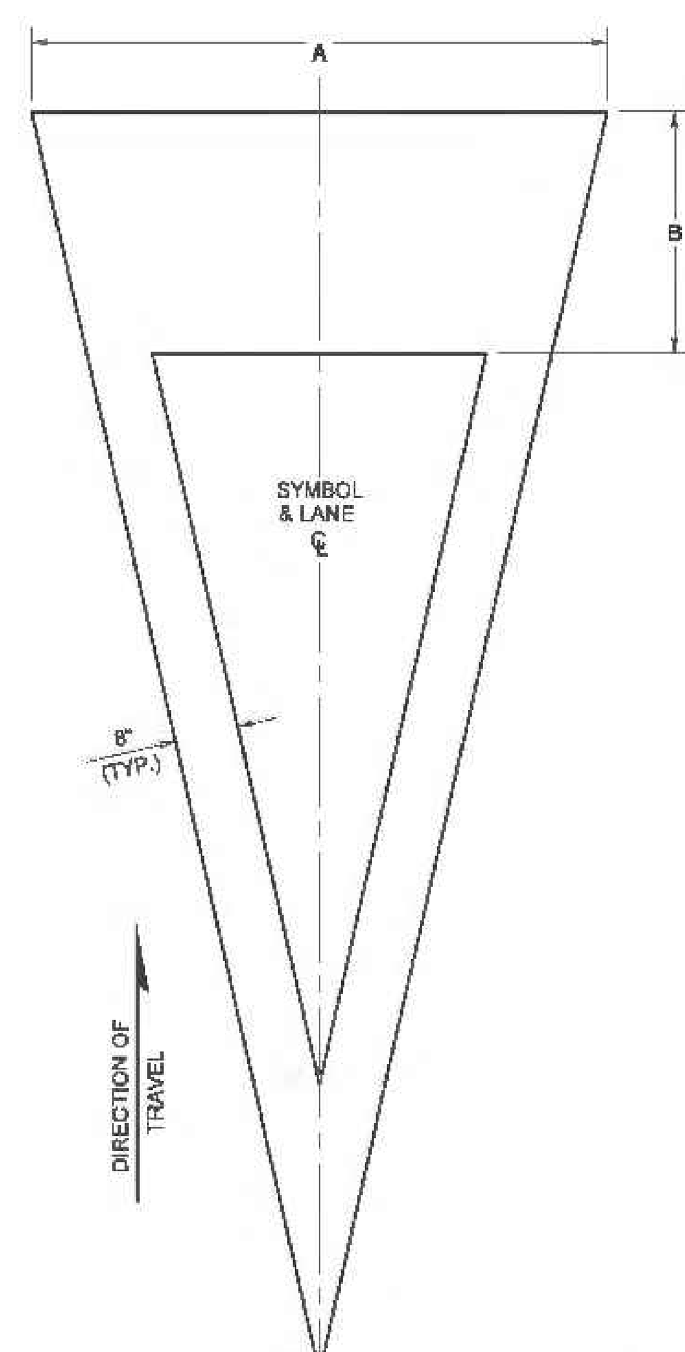
TOTAL MARKING AREA = 28.44 SQ.FT.
WHITE = 9.76 SQ.FT. BLUE = 18.69 SQ.FT.
ACCESS PARKING SPACE SYMBOL (STANDARD) WITH BLUE BACKGROUND AND WHITE BORDER (REQUIRED FOR CEMENT CONCRETE SURFACES)



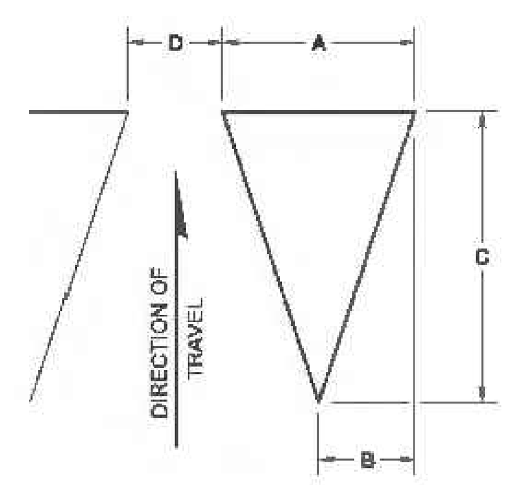
TOTAL MARKING AREA = 13.44 SQ.FT.
WHITE = 4.82 SQ.FT. BLUE = 8.62 SQ.FT.
ACCESS PARKING SPACE SYMBOL (MINIMUM) WITH BLUE BACKGROUND AND WHITE BORDER (REQUIRED FOR CEMENT CONCRETE SURFACES)

SYMBOL MARKING		A	B	C	D	USE	MARKING AREA
YIELD AHEAD SYMBOL	TYPE 1	6' - 0"	2' - 6"	13' - 0"	N/A	LESS THAN 45 MPH	25.90 SQ.FT.
	TYPE 2	6' - 0"	3' - 0"	20' - 0"	N/A	45 MPH OR GREATER	36.54 SQ.FT.
YIELD LINE SYMBOL	TYPE 1	1' - 0"	6"	1' - 6"	6"	LESS THAN 45 MPH	0.75 SQ.FT.
	TYPE 2	2' - 0"	1' - 0"	3' - 0"	1' - 0"	45 MPH OR GREATER	3.00 SQ.FT.
	TYPE 2	2' - 0"	1' - 0"	3' - 0"	1' - 0"	ROUNDABOUT ENTRY *	3.00 SQ.FT.

* MINIMUM OF 4 IN LANE



YIELD AHEAD SYMBOL



YIELD LINE SYMBOL
(MULTIPLE SYMBOLS REQUIRED FOR TRANSVERSE YIELD LINE – SEE CONTRACT)

Walsh, Brian
Jun 24 2014 2:37 PM

SYMBOL MARKINGS MISCELLANEOUS

STANDARD PLAN M-24.60-04

SHEET 2 OF 2 SHEETS

APPROVED FOR PUBLICATION
STATE DESIGN ENGINEER
Washington State Department of Transportation

PW21-036
PW21-037

6/3/2021

REV NO	REVISION DESCRIPTION	DATE	BY

DESIGN MAK
DRAWN JKA
CHECKED MAK
SEC 2 T 23N R 1E
DISC NO ___ DATE 1/7/21
SCALE 1" = 20'

TITLE PORT ORCHARD – KFC
DETAILS

CLIENT ORCHARD FOODS
PETER BRAUN
4550 NEWBERYY HILL, STE 201
SILVERDALE, WA 98383
360-698-8600

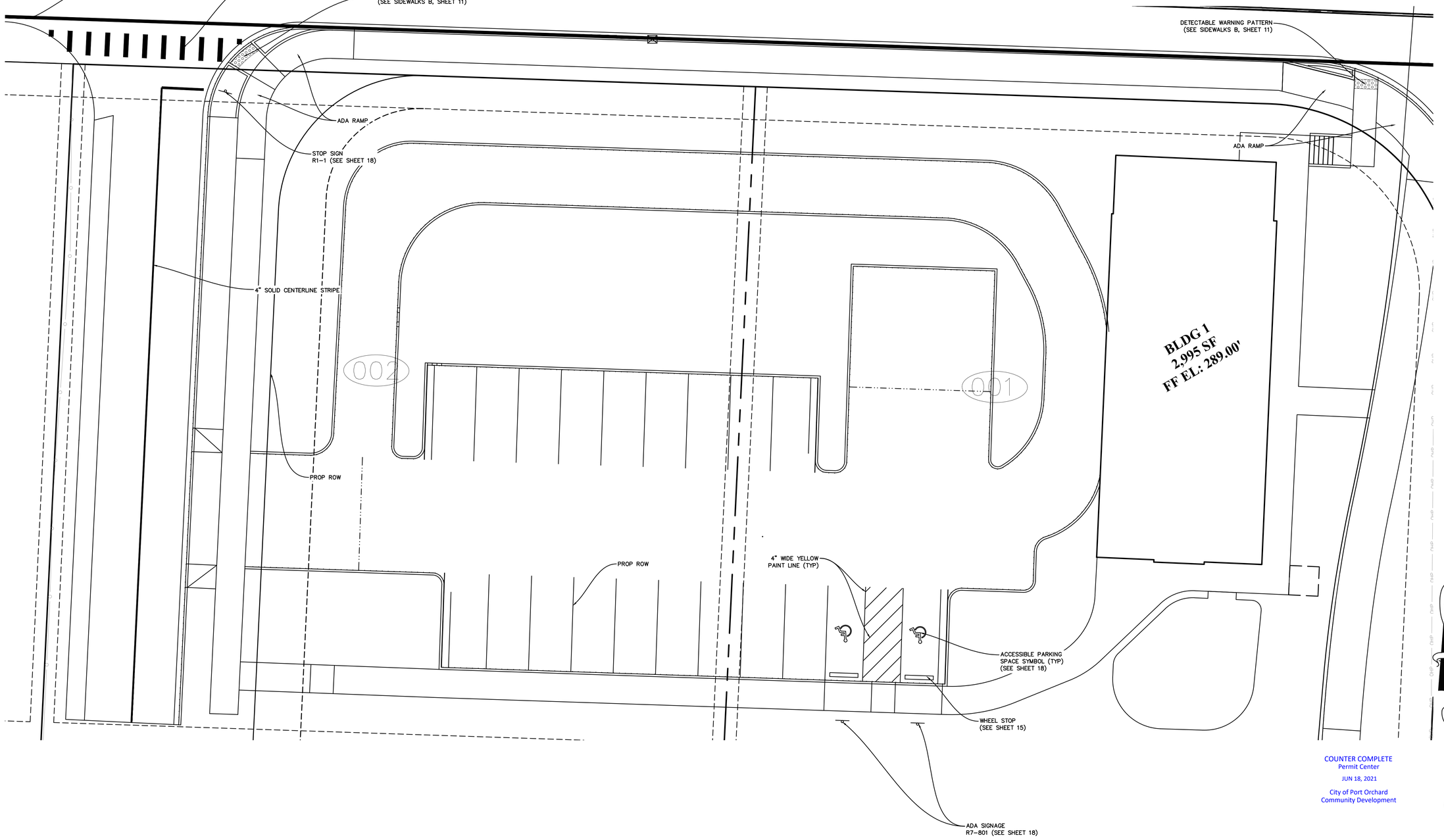
PROJECT MANAGER: JASON K ANDERSON
SIGNATURE:

TEAM 4 ENGINEERING
5819 NE MINDER RD
POULSBO, WA. 98370
(360) 297-5560
(360) 297-7951 (FAX)

SHEET 18 OF 19
FILE NO 1279

PORT ORCHARD – KFC

STRIPING & SIGNAGE PLAN



COUNTER COMPLETE
Permit Center
JUN 18, 2021
City of Port Orchard
Community Development

GRAPHIC SCALE
10 0 5 10
(IN FEET)
1 inch = 10 feet

PW21-036
PW21-037

REV NO	REVISION DESCRIPTION	DATE	BY

DESIGN MAK
DRAWN JKA
CHECKED MAK
SEC 2 T 23N R 1E
DISC NO DATE 1/7/21
SCALE 1" = 10'

SIGNATURE:
6/3/2021

TITLE PORT ORCHARD – KFC
STRIPING & SIGNAGE PLAN

CLIENT ORCHARD FOODS
PETER BRAUN
4550 NEWBERYY HILL, STE 201
SILVERDALE, WA 98383
360-698-8600

PROJECT MANAGER: JASON K. ANDERSON

TEAM 4 ENGINEERING
5819 NE MINDER RD
POULSBO, WA. 98370
(360) 297-5560
(360) 297-7951 (FAX)

SHEET 19 OF 19

FILE NO 1279