

FERTILIZERS ARE TO BE USED ACCORDING TO SUPPLIER'S RECOMMENDATIONS. AMOUNTS

USED SHOULD BE MINIMIZED, ESPECIALLY ADJACENT TO WATER BODIES AND WETLANDS.

HOURS BEFORE YOU DIG

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6 OF 40

DOWNSTREAM AND WITHIN 500 FEET OF SITE DISTURBED AREAS. ALL NEW

INLETS, BOTH ON SITE AND OFF SITE INLETS (IF ANY) SHALL HAVE INLET

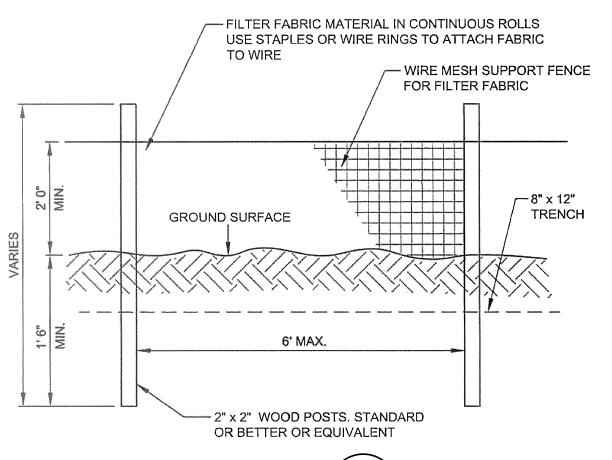
PROTECTION AS WELL.

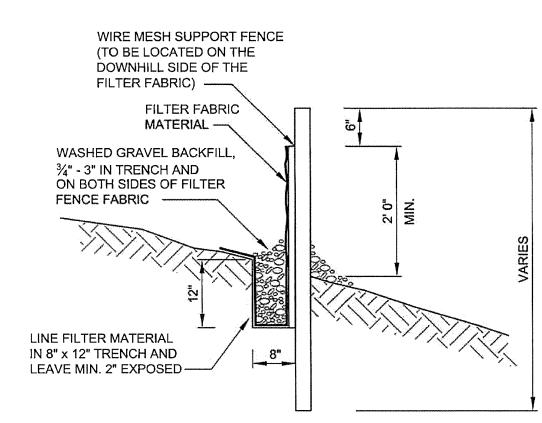
9. ARRANGE FINAL INSPECTION WITH THE CITY.

11. REMOVE TESC MEASURES WHEN ALLOWED BY THE CITY INSPECTOR.

10. ON-SITE SILTATION FENCE TO REMAIN UNTIL THE SITE IS STABILIZED TO THE APPROVAL OF THE INSPECTOR.

A PORTION OF SECTION 2, TOWNSHIP 23N, RANGE 01 E, W.M., CITY OF PORT ORCHARD, KITSAP COUNTY, WASHINGTON







FILTER FABRIC NOTES

- 1. FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL AND CUT TO THE LENGTH OF THE BARRIER TO AVOID USE OF JOINTS. WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST, WITH A MINIMUM 6-INCH OVERLAP, AND SECURELY FASTENED AT BOTH ENDS TO POSTS.
- POSTS SHALL BE SPACED A MAXIMUM OF 6 FEET APART AND DRIVEN SECURELY INTO THE GROUND (MINIMUM OF 30 INCHES).
 A TRENCH SHALL BE EXCAVATED APPROXIMATELY 8 INCHES WIDE AND 12 INCHES DEEP ALONG THE LINE OF
- POSTS AND UPSLOPE FROM THE BARRIER. THIS TRENCH SHALL BE BACKFILLED WITH WASHED GRAVEL.

 4. WHEN STANDARD STRENGTH FILTER FABRIC IS USED, A WIRE MESH SUPPORT FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY-DUTY WIRE STAPLES AT LEAST 1 INCH LONG,

TIE WIRES OR HOG RINGS. THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF 4 INCHES AND SHALL

- NOT EXTEND MORE THAN 24 INCHES ABOVE THE ORIGINAL GROUND SURFACE.

 5. THE STANDARD STRENGTH FILTER FABRIC SHALL BE STAPLED OR WIRED TO THE FENCE, AND 20 INCHES OF THE FABRIC SHALL BE EXTENDED INTO THE TRENCH. THE FABRIC SHALL NOT EXTEND MORE THAN 24 INCHES THE FABRIC SHALL NOT EXTEND MORE THAN 24 INCHES THE FABRIC SHALL NOT EXTEND MORE THAN 24 INCHES THE FABRIC SHALL NOT EXTEND FOR EXAMINED THE FABRIC SHALL NOT EXTEND TO EXTEND THE FABRIC SHALL NOT EXTEND THE FABRIC S
- ABOVE THE ORIGINAL GROUND SURFACE. FILTER FABRIC SHALL NOT BE STAPLED TO EXISTING TREES.

 6. WHEN EXTRA-STRENGTH FILTER FABRIC AND CLOSER POST SPACING IS USED, THE WIRE MESH SUPPORT FENCE MAY BE ELIMINATED. IN SUCH A CASE, THE FILTER FABRIC IS STAPLED OR WIRED DIRECTLY TO THE POSTS WITH ALL OTHER PROVISIONS OF ABOVE NOTES APPLYING.
- 7. FILTER FABRIC FENCES SHALL NOT BE REMOVED BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED.
- 8. FILTER FABRIC FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
- 9. SILT FENCES WILL BE INSTALLED PARALLEL TO ANY SLOPE CONTOURS.
- 10. CONTRIBUTING LENGTH TO FENCE WILL NOT BE GREATER THAN 100 FEET.
- 11. DO NOT INSTALL BELOW AN OUTLET PIPE OR WEIR.
- 12. INSTALL DOWNSLOPE OF EXPOSED AREAS.13. DO NOT DRIVE OVER OR FILL OVER SILT FENCES.

GRADING AND TESC NOTES

1. ON SITE INSPECTIONS ARE REQUIRED AT THE FOLLOWING CONSTRUCTION STAGES:

- INSPECTION NO. 1: INSTALLATION OF EROSION CONTROL FACILITIES PRIOR TO CLEARING
- INSPECTION NO. 2: COMPLETION OF CLEARING
- INSPECTION NO. 3: UPON COMPLETION OF EXCAVATION, FILLING, AND EARTHWORK
- INSPECTION NO. 4: COMPLETION OF PROJECT
- INSPECTION NO. 5: AS NEEDED TO DETERMINE COMPLIANCE WITH APPROVED PLANS AND/OR SPECIFICATIONS
- 2. ALL LIMITS OF CLEARING AND AREAS OF VEGETATION PRESERVATION AS PRESCRIBED ON THE PLANS SHALL BE CLEARLY FLAGGED IN THE FIELD AND OBSERVED DURING CONSTRUCTION.
- 3. ALL TEMPORARY SEDIMENTATION AND EROSION CONTROL MEASURES, AND PROTECTIVE MEASURES FOR CRITICAL AREAS AND SIGNIFICANT TREES SHALL BE INSTALLED PRIOR TO INITIATING ANY CONSTRUCTION ACTIVITIES.
- 4. ALL REQUIRED SEDIMENTATION AND EROSION CONTROL FACILITIES MUST BE CONSTRUCTED AND IN OPERATION PRIOR TO ANY LAND CLEARING AND/OR OTHER CONSTRUCTION TO ENSURE THAT SEDIMENT LADEN WATER DOES NOT ENTER ANY EXISTING DRAINAGE SYSTEM. THE CONTRACTOR SHALL SCHEDULE AN INSPECTION OF THE EROSION CONTROL FACILITIES PRIOR TO ANY LAND CLEARING AND/OR OTHER CONSTRUCTION. ALL EROSION AND SEDIMENT FACILITIES SHALL BE MAINTAINED IN A SATISFACTORY CONDITION AS DETERMINED BY THE CITY, UNTIL SUCH TIME THAT CLEARING AND/OR CONSTRUCTION IS COMPLETED AND THE POTENTIAL FOR ON-SITE EROSION HAS PASSED. THE IMPLEMENTATION, MAINTENANCE, REPLACEMENT, AND ADDITIONS TO THE EROSION AND SEDIMENTATION CONTROL SYSTEMS SHALL BE THE RESPONSIBILITY OF THE PERMITTEE.
- 5. THE EROSION AND SEDIMENTATION CONTROL SYSTEM FACILITIES DEPICTED ON THESE PLANS ARE INTENDED TO BE MINIMUM REQUIREMENTS TO MEET ANTICIPATED SITE CONDITIONS. AS CONSTRUCTION PROGRESSES AND UNEXPECTED OR SEASONAL CONDITIONS DICTATE, FACILITIES WILL BE NECESSARY TO ENSURE COMPLETE SILTATION CONTROL ON THE SITE. DURING THE COURSE OF CONSTRUCTION, IT SHALL BE THE OBLIGATION AND RESPONSIBILITY OF THE PERMITTEE TO ADDRESS ANY NEW CONDITIONS THAT MAY BE CREATED BY HIS ACTIVITIES AND TO PROVIDE ADDITIONAL FACILITIES, OVER AND ABOVE THE MINIMUM REQUIREMENTS, AS MAY BE NEEDED TO PROTECT ADJACENT PROPERTIES, SENSITIVE AREAS, NATURAL WATER COURSES, AND/OR STORM DRAINAGE SYSTEMS.
- 6. ANY DISTURBED AREA WHICH HAS BEEN STRIPPED OF VEGETATION AND WHERE NO FURTHER WORK IS ANTICIPATED FOR A PERIOD OF 7 DAYS OR MORE DURING THE DRY SEASON (MAY 1 SEPT 30) OR 2 DAYS OR MORE IN THE WET SEASON (OCT 1 APR 30), SHALL BE IMMEDIATELY STABILIZED WITH MULCHING, GRASS PLANTING, OR OTHER APPROVED EROSION CONTROL TREATMENT APPLICABLE TO THE TIME OF YEAR IN QUESTION. GRASS SEEDING ALONE WILL BE ACCEPTABLE ONLY DURING THE MONTHS OF MAY THROUGH SEPTEMBER INCLUSIVE. SEEDING MAY PROCEED OUTSIDE THE SPECIFIED TIME PERIOD WHENEVER IT IS IN THE INTEREST OF THE PERMITTEE BUT SHALL BE AUGMENTED WITH MULCHING, NETTING, OR OTHER TREATMENT APPROVED BY THE CITY.
- 7. IN CASE EROSION OR SEDIMENTATION OCCURS TO ADJACENT PROPERTIES, ALL CONSTRUCTION WORK WITHIN THE DEVELOPMENT THAT WILL FURTHER AGGRAVATE THE SITUATION MUST CEASE, AND THE OWNER/CONTRACTOR SHALL IMMEDIATELY COMMENCE RESTORATION METHODS. RESTORATION ACTIVITY WILL CONTINUE UNTIL SUCH TIME AS THE AFFECTED PROPERTY OWNER IS SATISFIED.
- 8. NO TEMPORARY OR PERMANENT STOCKPILING OF MATERIALS OR EQUIPMENT SHALL OCCUR WITHIN CRITICAL AREAS OR ASSOCIATED BUFFERS, OR THE CRITICAL ROOT ZONE FOR VEGETATION PROPOSED FOR RETENTION.

INLET PROTECTION NOTES

- 1. PLACE CONCRETE BLOCKS LENGTHWISE ON THEIR SIDES IN A SINGLE ROW AROUND THE PERIMETER OF THE INLET, SO THAT THE OPEN ENDS FACE OUTWARD, NOT UPWARD. THE ENDS OF ADJACENT BLOCKS SHALL ABUT. THE HEIGHT OF THE BARRIER CAN BE VARIED, DEPENDING ON DESIGN NEEDS, BY STACKING COMBINATIONS OF BLOCKS THAT ARE 4 INCHES, AND 12 INCHES WIDE. THE ROW OF BLOCKS SHALL BE AT LEAST 12 INCHES BUT NO GREATER THAN 24 INCHES.
- 2. PLACE WIRE MESH OVER THE OUTSIDE VERTICAL FACE (OPEN END) OF THE CONCRETE BLOCKS TO PREVENT STONE FROM BEING WASHED THROUGH THE BLOCKS. USE HARDWARE CLOTH OR COMPARABLE WIRE MESH WITH ½ -INCH OPENINGS.
- 3. PILE STONE AGAINST THE WIRE MESH TO THE TOP OF THE BLOCKS. USE $\frac{3}{4}$ TO 3 INCH GRAVEL.
- 4. PLACE WIRE MESH OVER THE DROP INLET SO THAT THE WIRE EXTENDS A MINIMUM OF 1 FOOT BEYOND EACH SIDE OF THE INLET STRUCTURE. USE HARDWARE CLOTH OR COMPARABLE WIRE MESH WITH 1/2-INCH OPENINGS. IF MORE THAN ONE STRIP OF MESH IS NECESSARY, OVERLAP THE STRIPS. PLACE FILTER FABRIC OVER WIRE MESH.
- 5. PLACE ¾ INCH GRAVEL OVER WIRE MESH. THE DEPTH OF STONE SHALL BE AT AT LEAST 12 INCHES OVER THE ENTIRE INLET OPENING. EXTEND THE STONE BEYOND THE INLET OPENING AT LEAST 18 INCHES ON ALL SIDES.
- 6. IF THE STONE FILTER BECOMES CLOGGED WITH SEDIMENT, THE STONES MUST BE PULLED AWAY FORM THE INLET AND CLEANED OR REPLACED.

MULCHING NOTES

- 1. ALL MULCHING SHALL BE IN ACCORDANCE WITH BMP C121.
 STRAW SHALL NOT BE USES AS A MULCHING OPTION.
 CONTRACTOR MAY CHOOSE ANY OTHER MULCHING OPTION
 PER TABLE II-4.1.8 OF THE DEPARTMENT OF ECOLOGY
- 2. MULCHES SHALL BE APPLIED IN ALL AREAS WITH EXPOSED SLOPES GREATER THAN 3:1.
- 3. MULCHING SHALL BE USED IMMEDIATELY AFTER SEEDING OR IN AREAS WHICH CANNOT BE SEEDED BECAUSE OF THE
- 4. ALL AREAS NEEDING MULCH SHALL BE COVERED BY NOVEMBER 1.

FILL SPECIFICATION

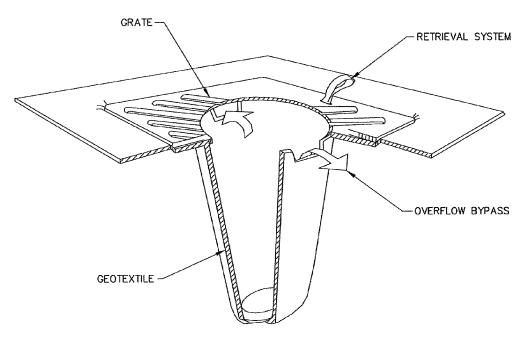
FILL MATERIAL SHALL NOT CONTAIN PETROLEUM PRODUCTS, OR SUBSTANCES WHICH ARE HAZARDOUS, DANGEROUS, TOXIC, OR WHICH OTHERWISE VIOLATE ANY STATE, FEDERAL, OR LOCAL LAW ORDINANCE, CODE, REGULATION, RULE, ORDER, OR STANDARD. ONLY EARTH MATERIAL SHALL BE PLACED IN FILLS.

TRENCH NOTES

IF WORKERS ENTER ANY TRENCH OR OTHER EXCAVATION FOUR OR MORE FEET IN DEPTH THAT DOES NOT MEET THE OPEN PIT REQUIREMENTS OF WSDOT SECTION 2-09.3(3)B, IT SHALL BE SHORED AND CRIBBED. THE CONTRACTOR IS ALONE RESPONSIBLE FOR WORKER SAFETY. ALL TRENCH SAFETY SYSTEMS SHALL MEET THE REQUIREMENTS OF THE WASHINGTON INDUSTRIAL SAFETY AND HEALTH ACT, CHAPTER 49.17 RCW.

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
- 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.

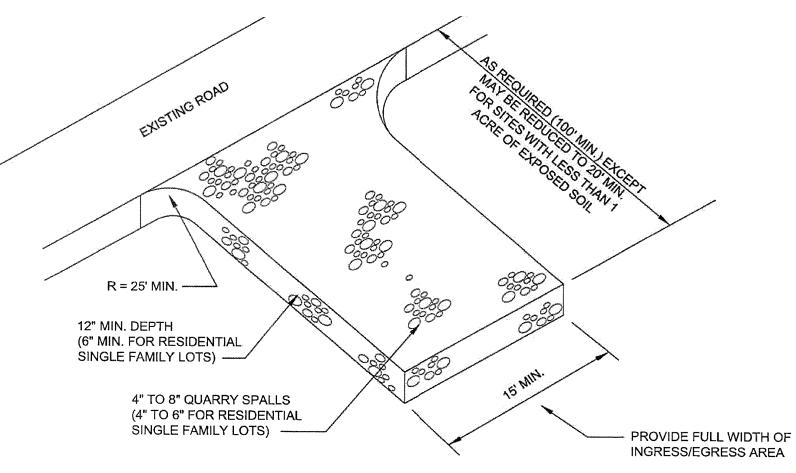


- 1. INSERT SHALL BE INSTALLED PRIOR TO CLEARING AND GRADING ACTIVITY, OR UPON PLACEMENT OF A NEW CATCH BASIN.
- 2. SEDIMENT SHALL BE REMOVED FROM THE UNIT WHEN IT BECOMES HALF FULL.
- 3. SEDIMENT REMOVAL SHALL BE ACCOMPLISHED BY REMOVING THE INSERT, EMPTYING AND RE-INSERTING IT INTO THE CATCH BASIN.



PERMANENT STABILIZATION NOTES

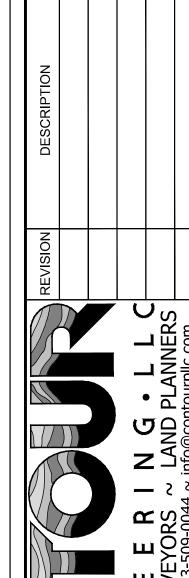
- 1. ALL EXPOSED SLOPES SHALL BE SEEDED AFTER CONSTRUCTION HAS BEEN COMPLETED. SILT FENCE, IF DEEMED APPROPRIATE, SHALL REMAIN FOR A MINIMUM OF 30 DAYS AFTER THE FINAL STABILIZATION OF THE SLOPES HAS OCCURRED.
- 2. ALL TEMPORARY EROSION CONTROL BMP'S SHALL BE REMOVED 30 DAYS AFTER FINAL STABILIZATION HAS OCCURRED.
- 3. SEDIMENT SHALL BE REMOVED FROM ALL CATCH BASINS.



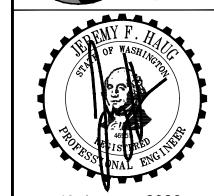
CONSTRUCTION ENTRANCE NOTES

- 1. MATERIAL SHALL BE 4" TO 8" QUARRY SPALLS (4 TO 6 INCH FOR RESIDENTIAL SINGLE FAMILY LOTS) AND MAY BE TOP-DRESSED WITH 1 TO 3 INCH ROCK.
- 2. THE ROCK PAD SHALL BE AT LEAST 12" THICK AND 100' LONG (REDUCED TO 20 FEET FOR SITES LESS THAN 1 ACRE OF DISTURBED SOIL) WIDTH SHALL BE FULL WIDTH OF INGRESS AND EGRESS AREA. SMALLER PADS MAY BE APPROVED FOR SINGLE-FAMILY RESIDENTIAL AND COMMERCIAL SITES.
- 3. ADDITIONAL ROCK SHALL BE ADDED PERIODICALLY TO MAINTAIN FUNCTION OF THE PAD
- 4. IF THE PAD DOES NOT ADEQUATELY REMOVE MUD FROM THE VEHICLE WHEELS, THE WHEELS SHALL BE HOSED OFF BEFORE THE VEHICLE ENTERS A PAVED STREET. THE WASHING SHALL BE DONE ON AN AREA COVERED WITH CRUSHED ROCK AND WASH WATER SHALL DRAIN TO A SEDIMENT RETENTION FACILITY OR THROUGH A SILT FENCE.
- 5. CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT PROPOSED ROAD LOCATION AFTER UTILITY INSTALLATION DURING THE DRY SEASON AND AFTER GRADING IF UTILITIES ARE NOT COMPLETED PRIOR TO THE WET SEASON.





ENGINEERS ~ SURVEYORS ~ LAND PL Phone: 253-857-5454 ~ Fax: 253-509-0044 ~ info@contou



13 January 2022

IOTES & DETAILS

EBERRY APARTMENTS

EET TITLE: TESC NOTES

BLUEBERRY
ENT: KCI COMMERCIAL, INC.

DESIGNER: M. GOULARTE ENGINEER: J. HAUG DRAWN: A. KING S2 T23 N R 01E WM DATE: 12 January 2022 REVISED: --.---

PROJECT: 21-142 DWG NAME: 21-142-C

SHEET REV.

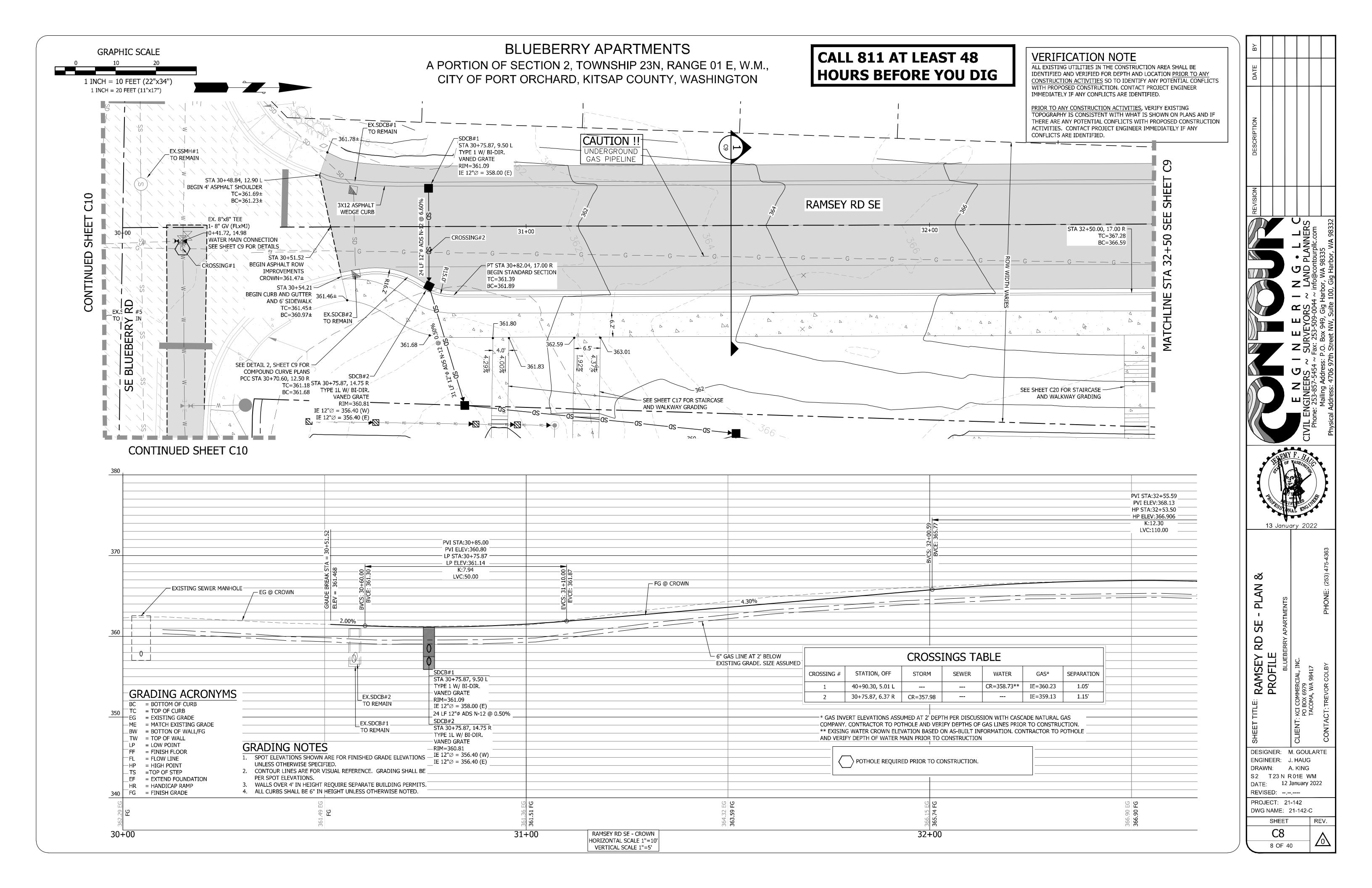
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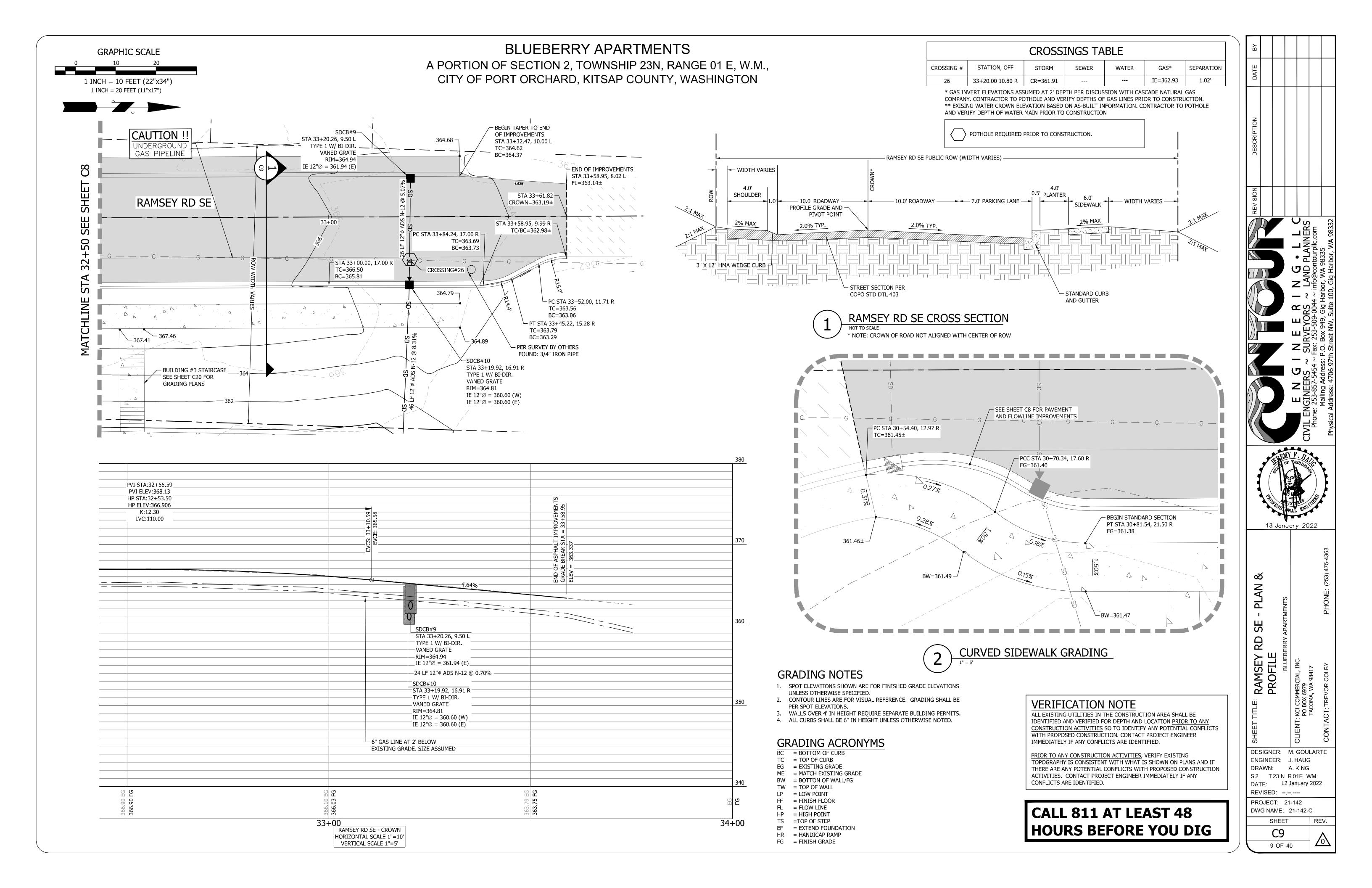
VERIFICATION NOTE

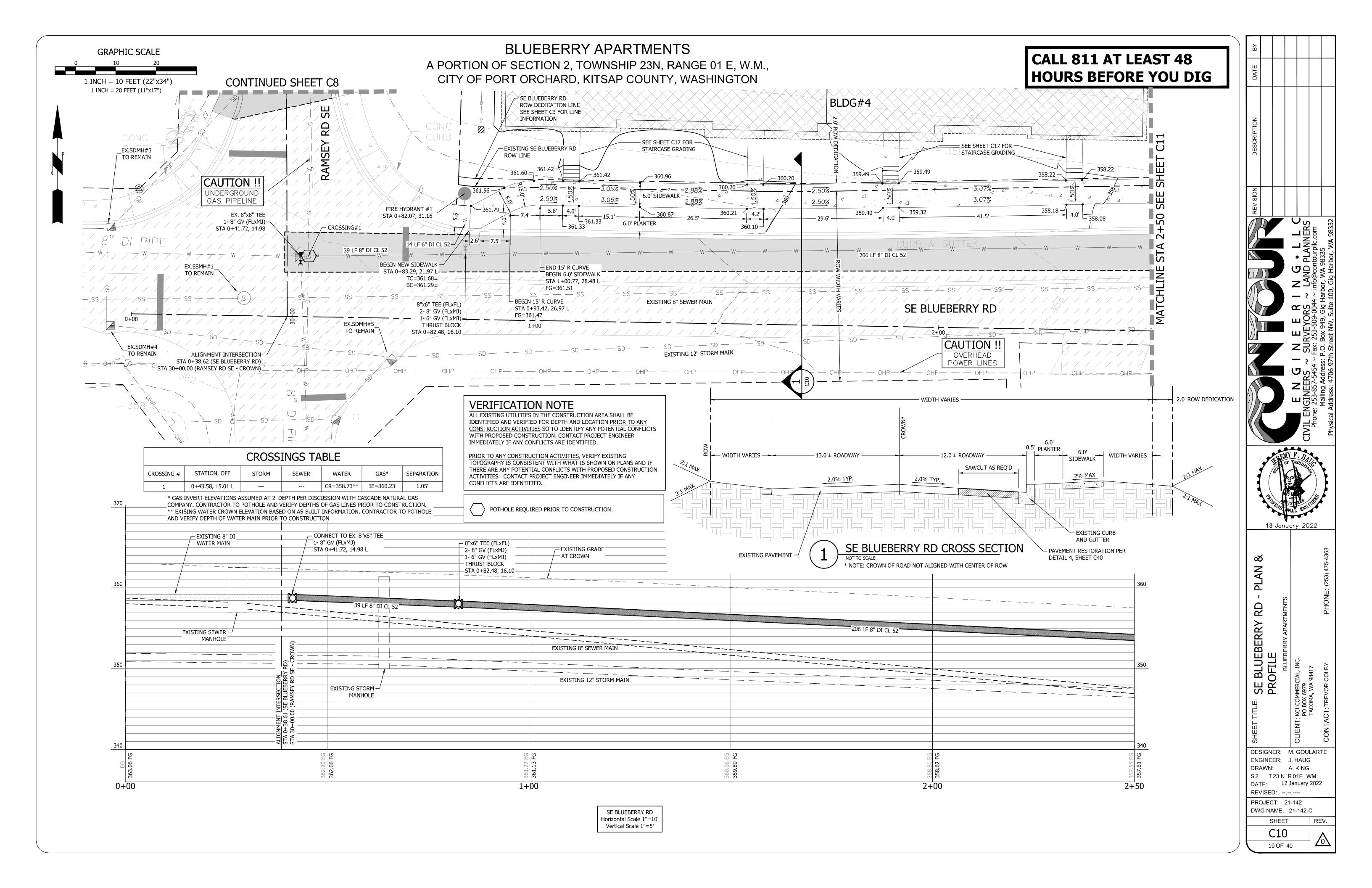
ALL EXISTING UTILITIES IN THE CONSTRUCTION AREA SHALL BE IDENTIFIED AND VERIFIED FOR DEPTH AND LOCATION PRIOR TO ANY CONSTRUCTION ACTIVITIES SO TO IDENTIFY ANY POTENTIAL CONFLICTS WITH PROPOSED CONSTRUCTION. CONTACT PROJECT ENGINEER IMMEDIATELY IF ANY CONFLICTS ARE IDENTIFIED.

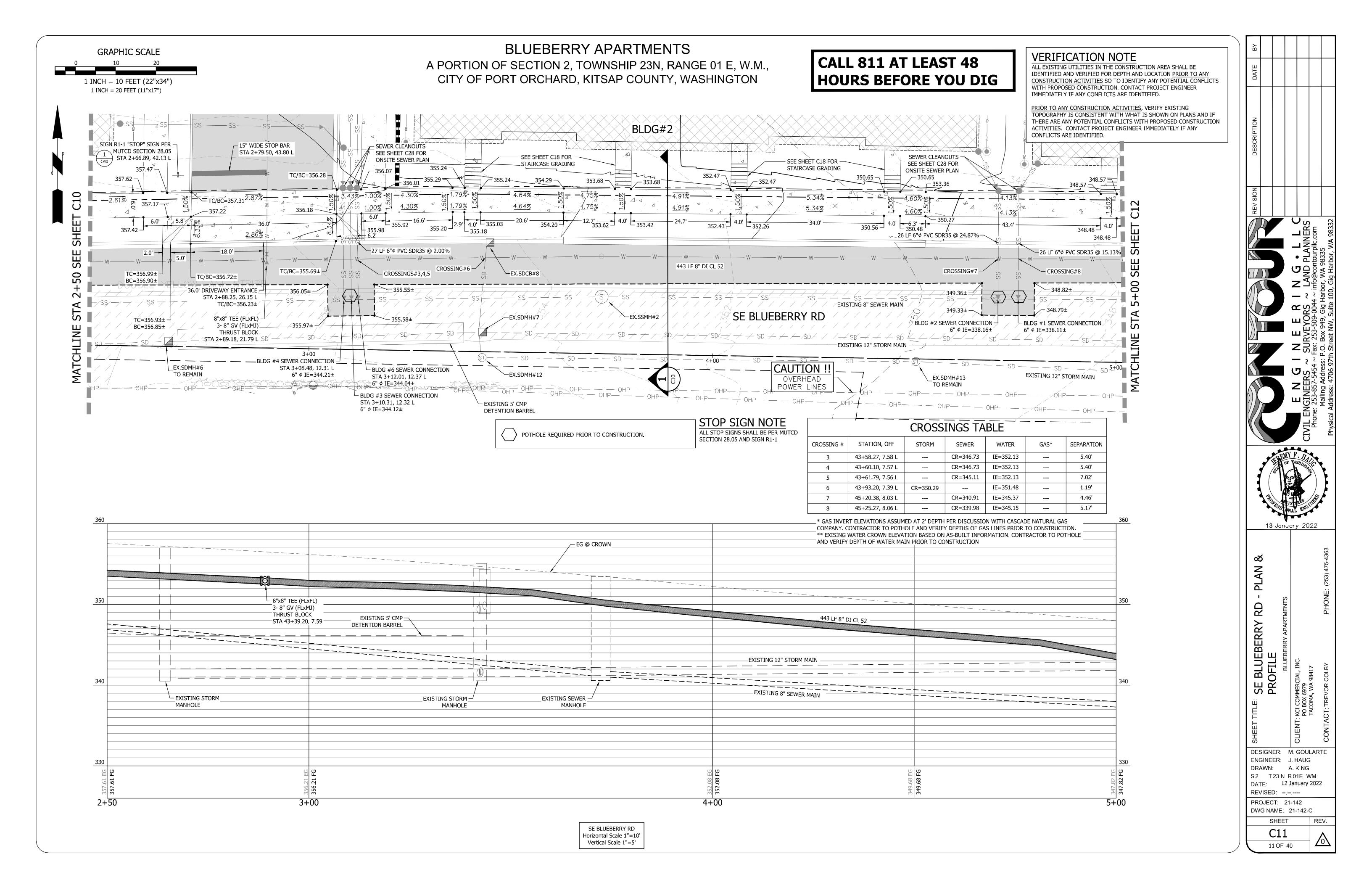
PRIOR TO ANY CONSTRUCTION ACTIVITIES, VERIFY EXISTING TOPOGRAPHY IS CONSISTENT WITH WHAT IS SHOWN ON PLANS AND IF THERE ARE ANY POTENTIAL CONFLICTS WITH PROPOSED CONSTRUCTION ACTIVITIES. CONTACT PROJECT ENGINEER IMMEDIATELY IF ANY CONFLICTS ARE IDENTIFIED.

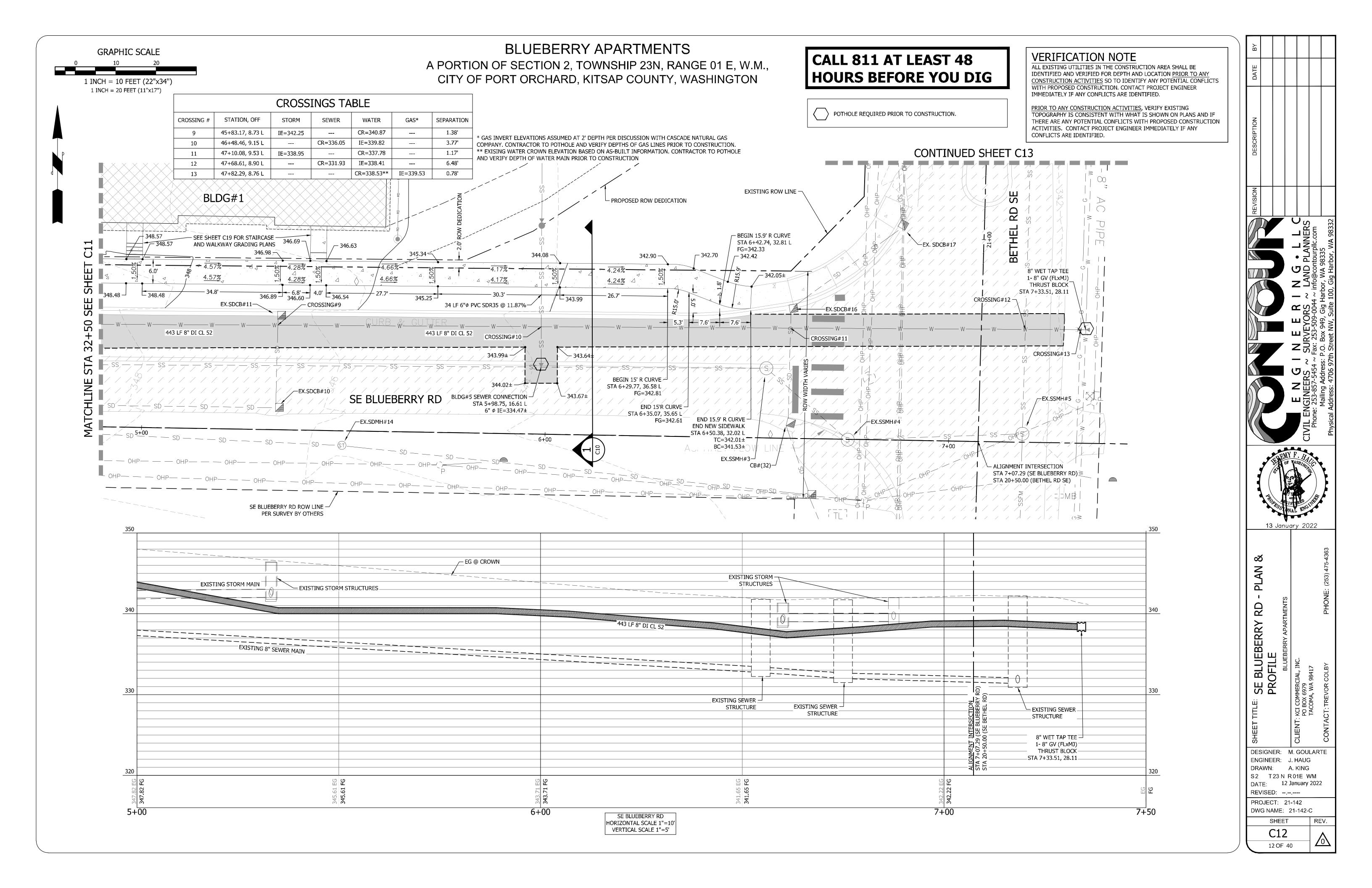
CALL 811 AT LEAST 48
HOURS BEFORE YOU DIG

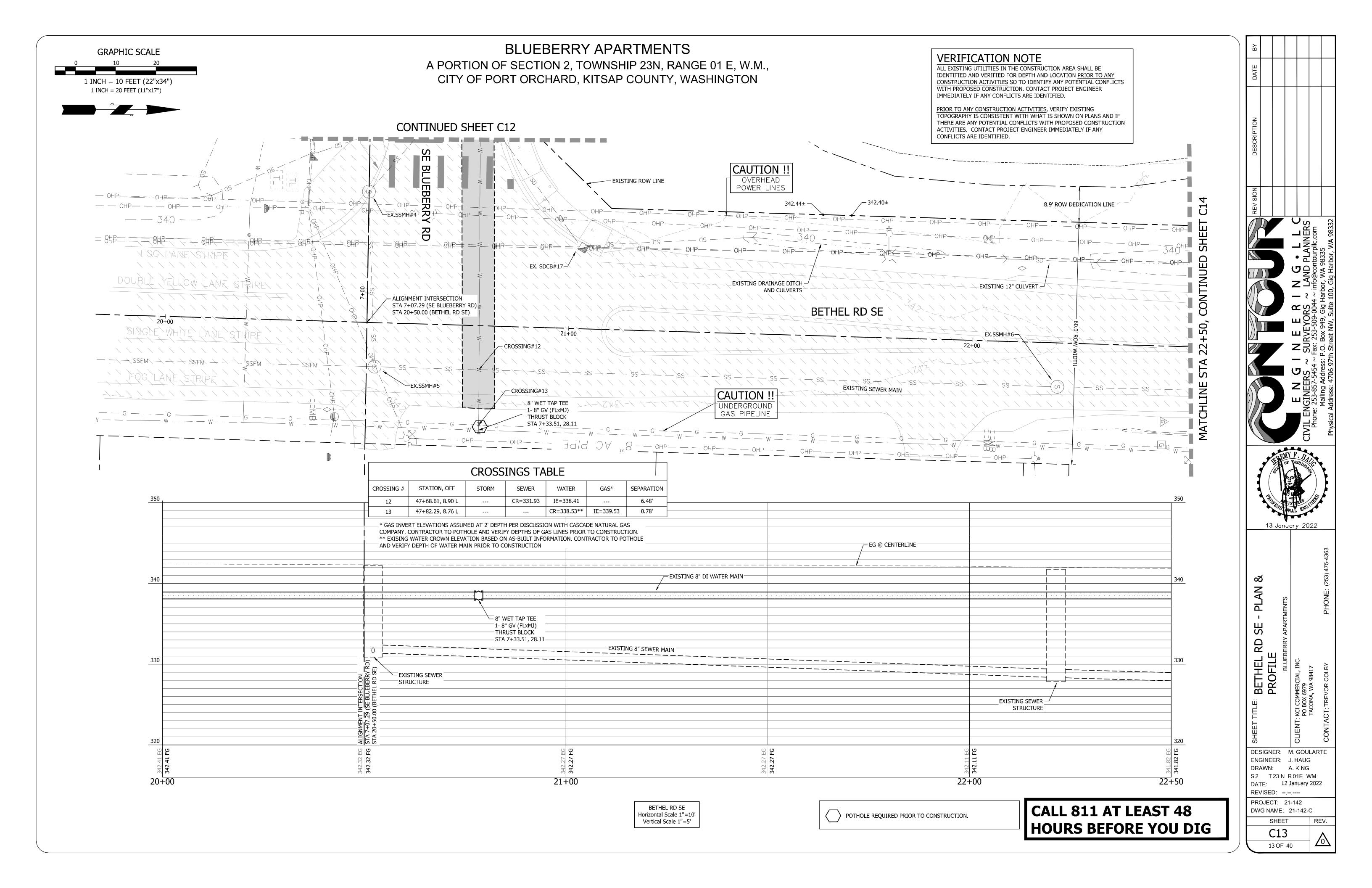












BLUEBERRY APARTMENTS **GRAPHIC SCALE** A PORTION OF SECTION 2, TOWNSHIP 23N, RANGE 01 E, W.M., CITY OF PORT ORCHARD, KITSAP COUNTY, WASHINGTON 1 INCH = 10 FEET (22"x34")1 INCH = 20 FEET (11"x17")STORMWATER DISCHARGE POINT STA 23+74.63, 21.20 L CAUTION !! 18" Ø IE =335.51 EXISTING ROW LINE -ROW DEDICATION LINE INSTALL OUTFALL PROTECTION OVERHEAD WITH RIP-RAP PAD PER DETAIL 3 POWER LINES SHEET C36 -21 LF 12"ø CONC. PIPE @ 4.11% CAUTION !! UNDERGROUND 350 EG @ CROWN-_____ EXISTING 8" DI WATER MAIN **VERIFICATION NOTE** _EXISTING SEWER MAIN ALL EXISTING UTILITIES IN THE CONSTRUCTION AREA SHALL BE IDENTIFIED AND VERIFIED FOR DEPTH AND LOCATION PRIOR TO ANY CONSTRUCTION ACTIVITIES SO TO IDENTIFY ANY POTENTIAL CONFLICTS WITH PROPOSED CONSTRUCTION. CONTACT PROJECT ENGINEER IMMEDIATELY IF ANY CONFLICTS ARE IDENTIFIED. PRIOR TO ANY CONSTRUCTION ACTIVITIES, VERIFY EXISTING TOPOGRAPHY IS CONSISTENT WITH WHAT IS SHOWN ON PLANS AND IF THERE ARE ANY POTENTIAL CONFLICTS WITH PROPOSED CONSTRUCTION ACTIVITIES. CONTACT PROJECT ENGINEER IMMEDIATELY IF ANY CONFLICTS ARE IDENTIFIED. 23+00 24+00 CALL 811 AT LEAST 48 BETHEL RD SE Horizontal Scale 1"=10' HOURS BEFORE YOU DIG Vertical Scale 1"=5'

13 January 2022

BETHEL PROFILE

DESIGNER: M. GOULARTE

ENGINEER: J. HAUG

DRAWN: A. KING

REVISED: --.---PROJECT: 21-142

S2 T23 N R01E WM

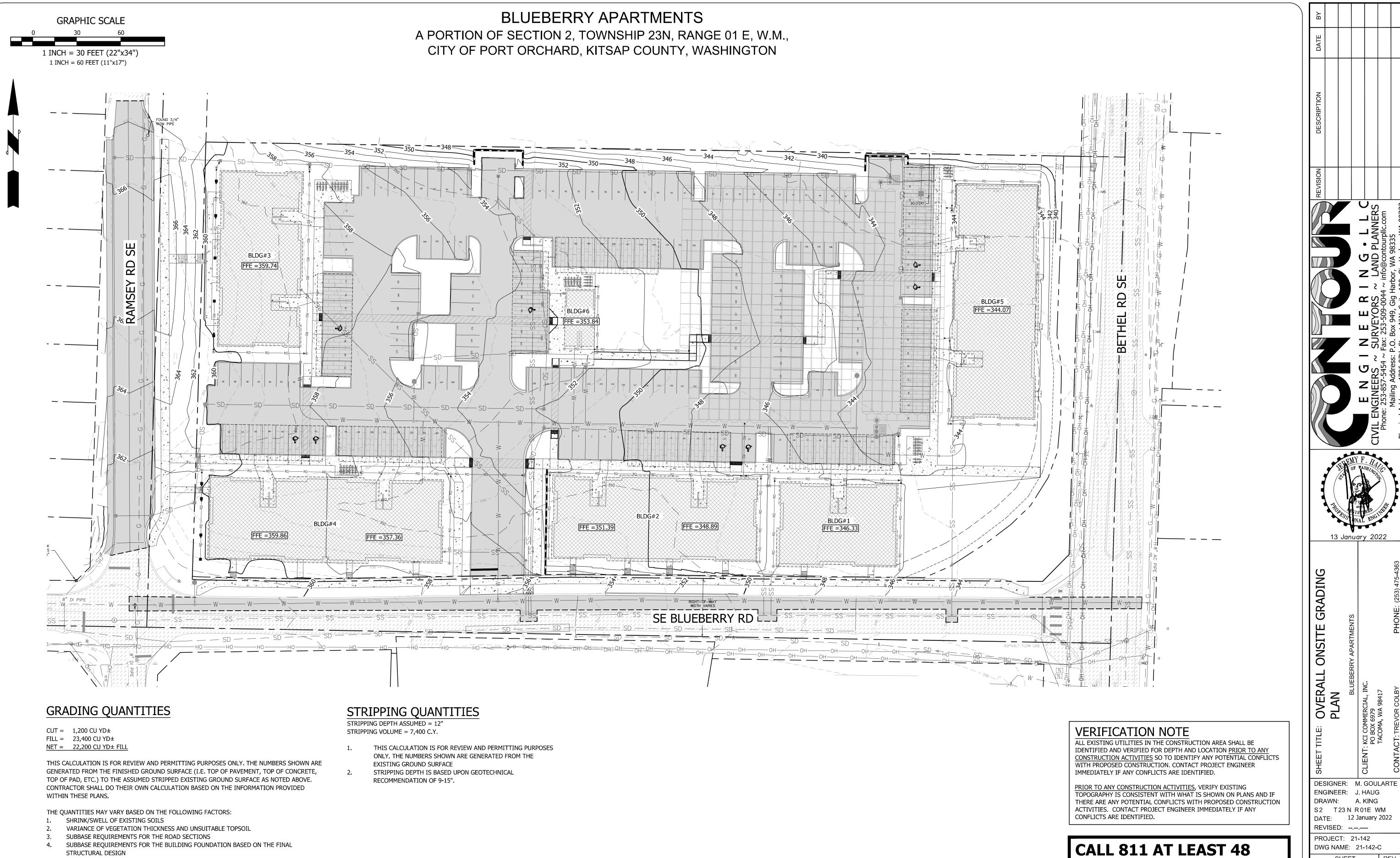
DWG NAME: 21-142-C

REV.

SHEET

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DATE: 12 January 2022



STRUCTURAL DESIGN

TRENCHING EXCAVATION FOR PROPOSED UTILITIES

6. ADDITIONAL CUT/FILL MAY BE REQUIRED FOR FUTURE UTILIZATION OF THE SITE

13 January 2022 OVERALL PLAN

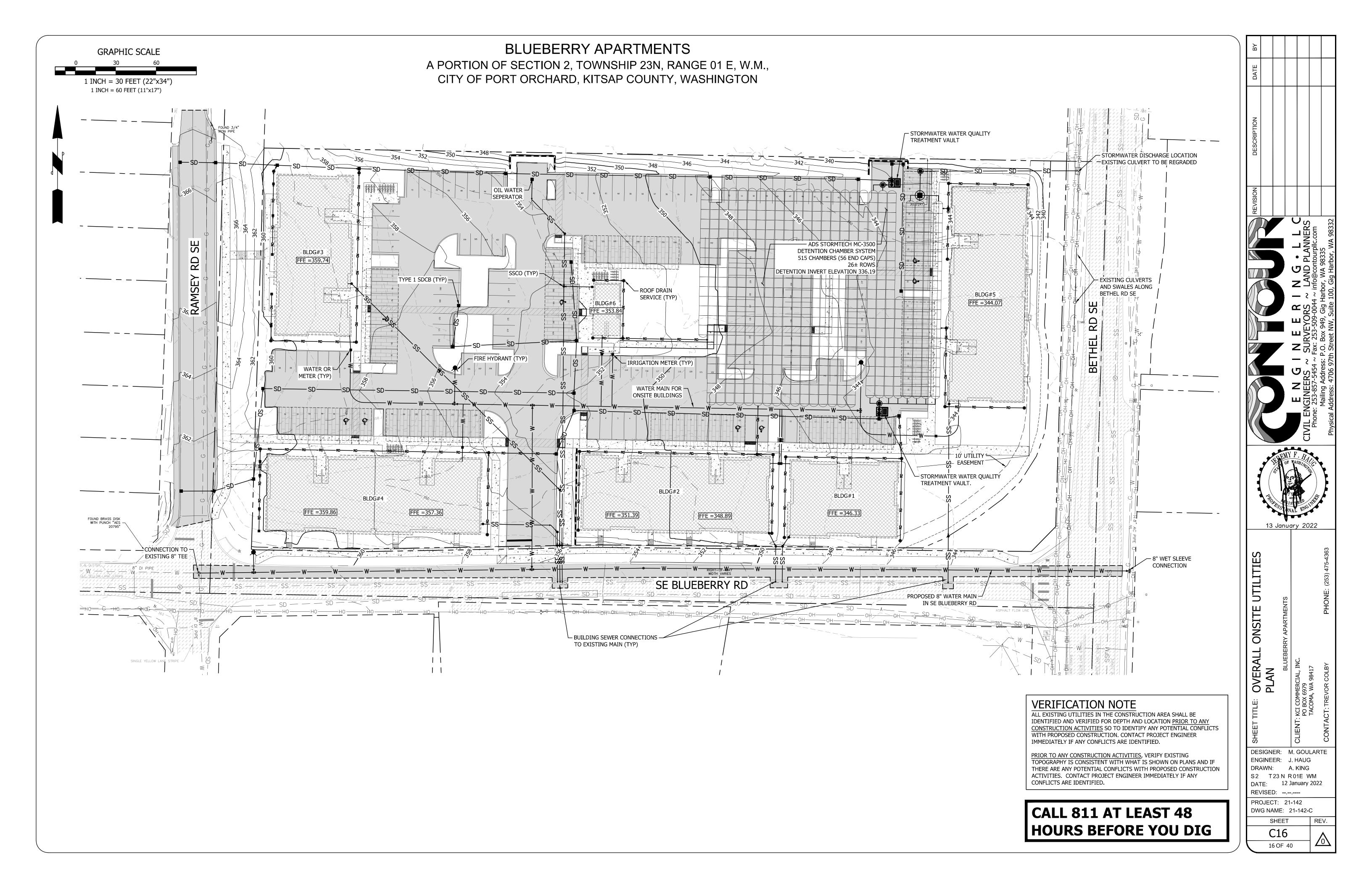
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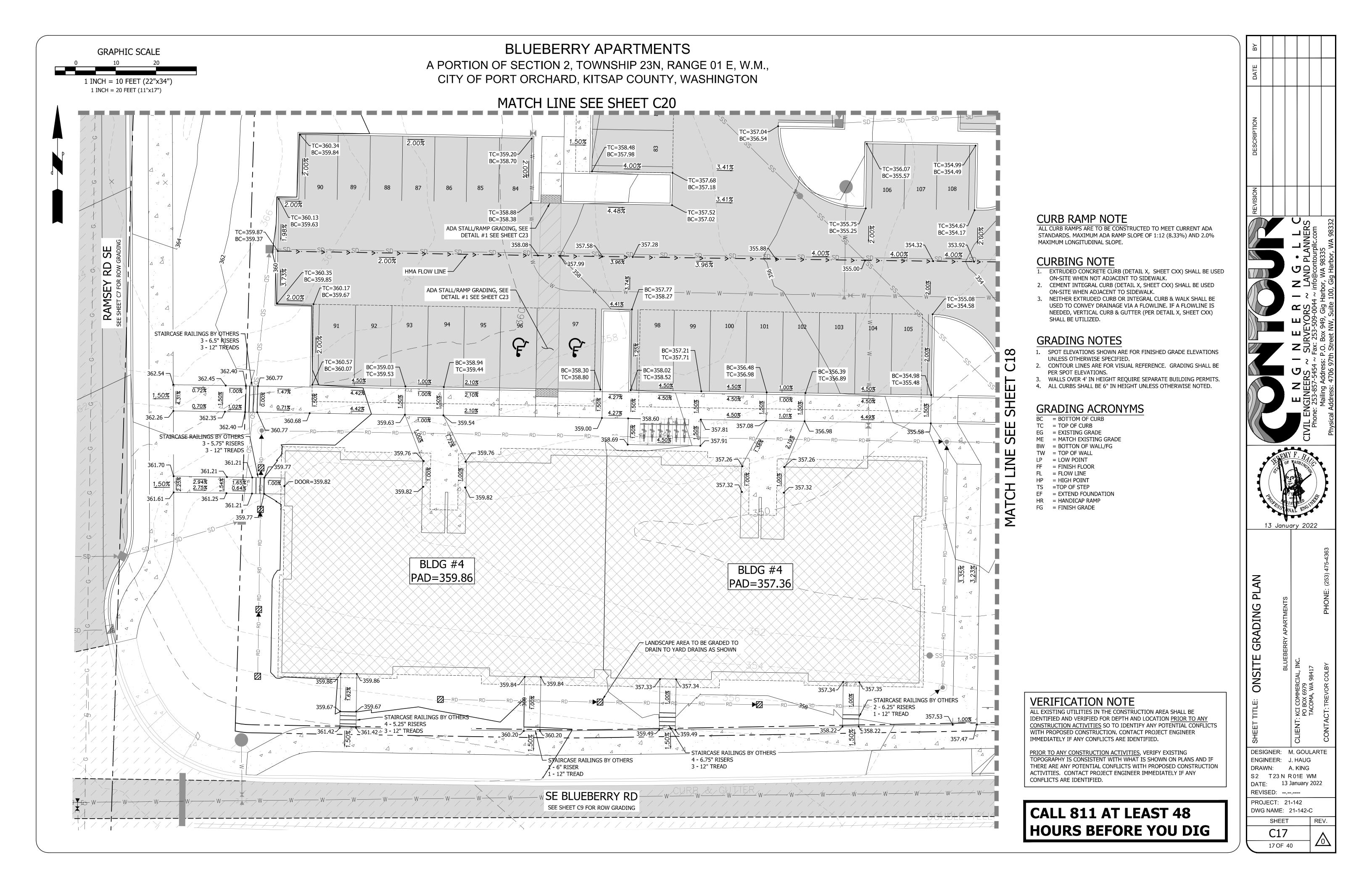
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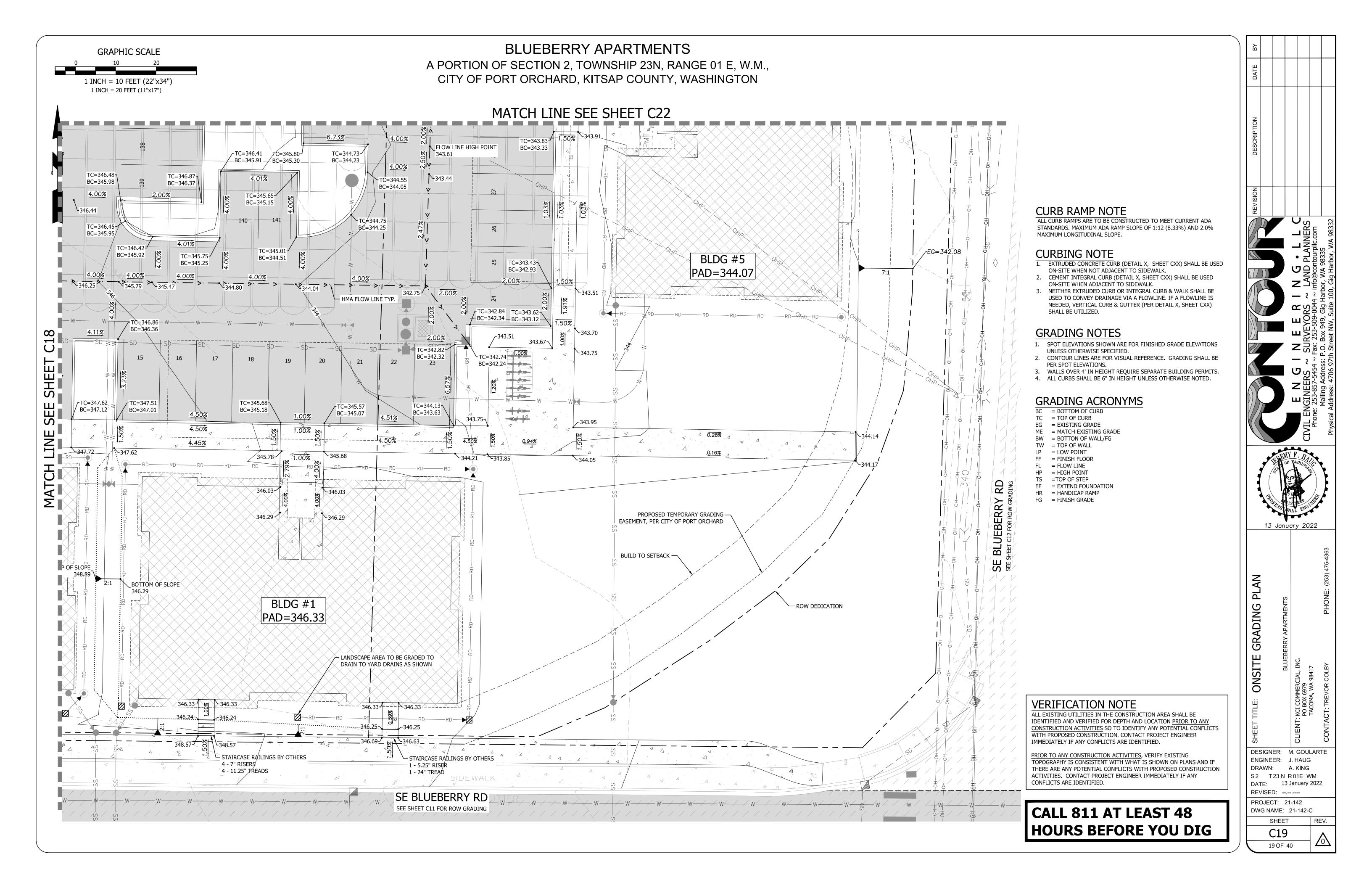
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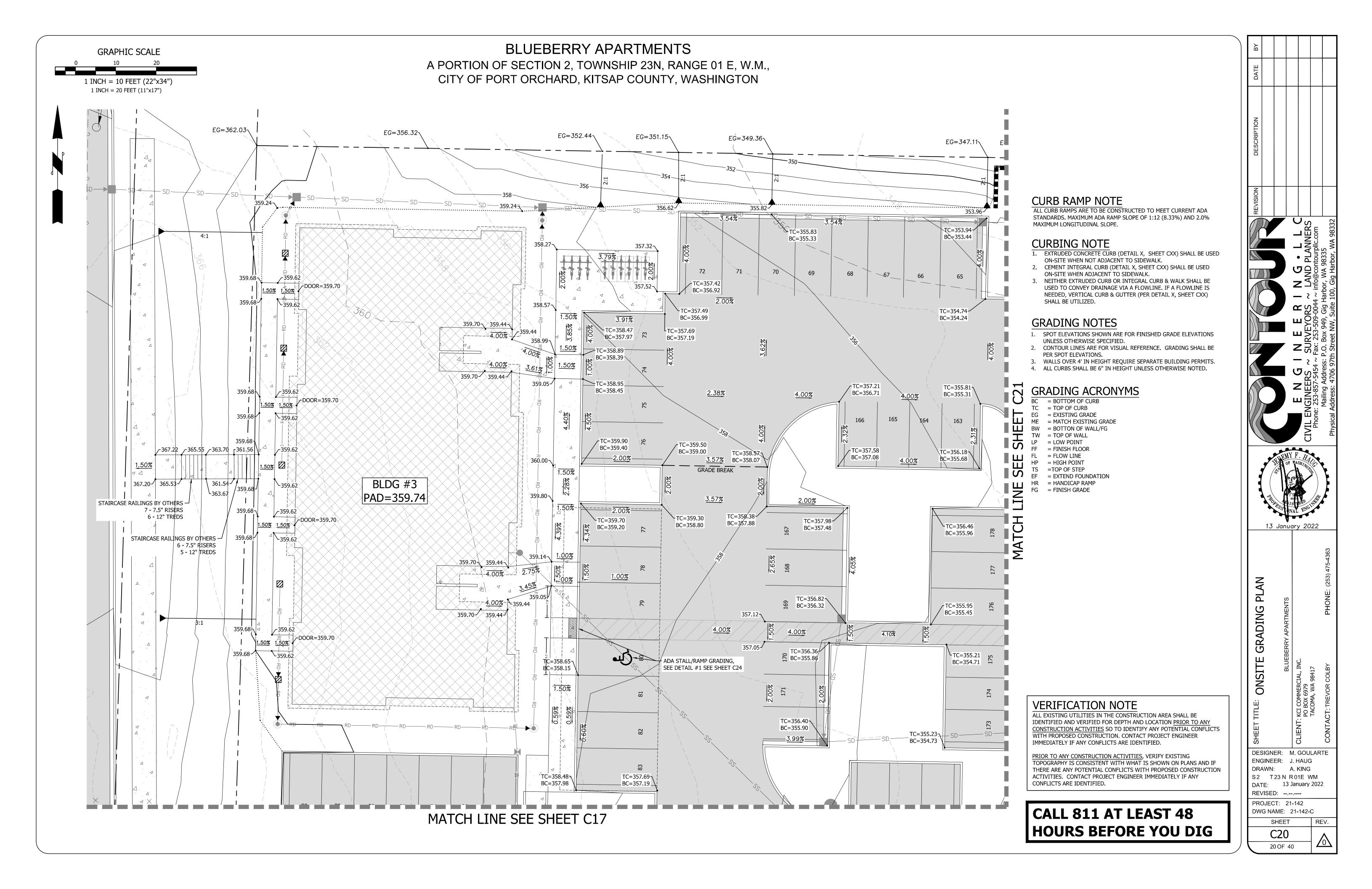
HOURS BEFORE YOU DIG





BLUEBERRY APARTMENTS GRAPHIC SCALE A PORTION OF SECTION 2, TOWNSHIP 23N, RANGE 01 E, W.M., CITY OF PORT ORCHARD, KITSAP COUNTY, WASHINGTON 1 INCH = 10 FEET (22"x34")1 INCH = 20 FEET (11"x17")MATCH LINE SEE SHEET C21 TC=355.23~ BC=354.73 X_{TC=354.59} TC=353.73 | BC=354.09 BC=353.23 № TC=355.01 2.01% BC=354.51 TC=348.53 BC=348.03 rTC=347.36 4.00% TC=353.77 TC=349.37~ BC=346.86 BC=353.27 BC=348.87 -TC=353.35 ≶ TC=353.42-**CURB RAMP NOTE** 4.00% 4.00% BC=352.85 TC=353.51 TC=354.39 BC=352.92 107 BC=353.01 ALL CURB RAMPS ARE TO BE CONSTRUCTED TO MEET CURRENT ADA BC=353.89 111 114 STANDARDS. MAXIMUM ADA RAMP SLOPE OF 1:12 (8.33%) AND 2.0% 122 MAXIMUM LONGITUDINAL SLOPE. TC=353.32~ TC=354.53 BC=352.82 -TC=354.69 BC=354.03 **CURBING NOTE** TC=348.73 BC=354.19 1. EXTRUDED CONCRETE CURB (DETAIL X, SHEET CXX) SHALL BE USED BC=348.23 TC=347.96-ON-SITE WHEN NOT ADJACENT TO SIDEWALK. BC=347.46 2. CEMENT INTEGRAL CURB (DETAIL X, SHEET CXX) SHALL BE USED ON-SITE WHEN ADJACENT TO SIDEWALK. NEITHER EXTRUDED CURB OR INTEGRAL CURB & WALK SHALL BE USED TO CONVEY DRAINAGE VIA A FLOWLINE. IF A FLOWLINE IS NEEDED, VERTICAL CURB & GUTTER (PER DETAIL X, SHEET CXX) HMA FLOW LINE TYP. SHALL BE UTILIZED. ADA STALL/RAMP GRADING, -TC=352.69 BC=352.19 rTC=355.08 SEE DETAIL#2 SEE SHEET C23 BC=354.58 **GRADING NOTES** TC=352.61 BC=352.11 TC=353.06 BC=352.56 1. SPOT ELEVATIONS SHOWN ARE FOR FINISHED GRADE ELEVATIONS UNLESS OTHERWISE SPECIFIED. TC=354.80 BC=354.30 CONTOUR LINES ARE FOR VISUAL REFERENCE. GRADING SHALL BE PER SPOT ELEVATIONS. TC=347.32 WALLS OVER 4' IN HEIGHT REQUIRE SEPARATE BUILDING PERMITS. SHEET ALL CURBS SHALL BE 6" IN HEIGHT UNLESS OTHERWISE NOTED. BC=346.82 TC=355.48 BC=354.98 **GRADING ACRONYMS** 352.62 352.68 1.00% BC = BOTTOM OF CURB TC=351.03 rTC=350.98 TC=348.40 TC=353.57 ∠TC=352.32 BC=354.51 TC=348.47₇ BC=347.90 TC = TOP OF CURB BC=350.48 BC=350.53 BC=351.82 BC=353.07 TC=347.62 SEE BC=347.97 EG = EXISTING GRADE 4.50% BC=347.12 1.05% ME = MATCH EXISTING GRADE 4.50% BW = BOTTON OF WALL/FG le 4.50% TW = TOP OF WALL 1.05% ⁴ 4.50% LINE = LOW POINT 1.00% 347.72~ = FINISH FLOOR -352.50 -352.42 351.14~ TC=355.10 = FLOW LINE 352.72-TAPER WALL TO END 7. -RD-BC=354.60 RD-BC=353.16 - 352.76 351.26 \ = HIGH POINT L347.98 =TOP OF STEP TW/BW=352.6 = EXTEND FOUNDATION 351.26 HR = HANDICAP RAMP - BW=351.35 = FINISH GRADE TW=351.73 13 January 2022 \hat{ullet} install fall protection railing at TOP OF WALL, DESIGNED BY OTHERS TW=353.04 BLDG #2 BLDG #2 PAD=351.39 PAD=348.89 GRADING $^{\leq}$ LANDSCAPE AREA TO BE GRADED TO $_{<}$ DRAIN TO YARD DRAINS AS SHOWN ONSITE → BW=351.35 TW=354.35 △△△351.39≺ **VERIFICATION NOTE** TC=356.78 BC=356.28 ALL EXISTING UTILITIES IN THE CONSTRUCTION AREA SHALL BE STAIRCASE RAILINGS BY OTHERS IDENTIFIED AND VERIFIED FOR DEPTH AND LOCATION PRIOR TO ANY 4 - 5.5" RISERS 4 - 12" TREADS CONSTRUCTION ACTIVITIES SO TO IDENTIFY ANY POTENTIAL CONFLICTS WITH PROPOSED CONSTRUCTION. CONTACT PROJECT ENGINEER IMMEDIATELY IF ANY CONFLICTS ARE IDENTIFIED. $\stackrel{\triangle}{=}$ STAIRCASE RAILINGS BY OTHERS $\stackrel{\triangle}{=}$ DESIGNER: M. GOULARTE - TAPER WALL TO END - STAIRCASE RAILINGS BY OTHERS 5 - 5.75" RISERS ENGINEER: J. HAUG STAIRCASE RAILINGS BY OTHERS TOPOGRAPHY IS CONSISTENT WITH WHAT IS SHOWN ON PLANS AND IF TW/BW=355.77 7 - 6.75" RISERS 5 - 11.25" TREADS 7 - 6.25" RISERS DRAWN: A. KING THERE ARE ANY POTENTIAL CONFLICTS WITH PROPOSED CONSTRUCTION 7 - 12" TREADS 7 - 11.25" TREADS ACTIVITIES. CONTACT PROJECT ENGINEER IMMEDIATELY IF ANY S2 T23 N R01E WM DATE: 13 January 2022 REVISED: --.--PROJECT: 21-142 SEE SHEET C10 FOR ROW GRADING CALL 811 AT LEAST 48 DWG NAME: 21-142-C SHEET **HOURS BEFORE YOU DIG** C18 18 OF 40





BLUEBERRY APARTMENTS GRAPHIC SCALE A PORTION OF SECTION 2, TOWNSHIP 23N, RANGE 01 E, W.M., CITY OF PORT ORCHARD, KITSAP COUNTY, WASHINGTON 1 INCH = 10 FEET (22"x34")1 INCH = 20 FEET (11"x17")_rEG=347.06 EG=346.15√ TW=352.69 ¬ EG=345.23√ − TW=352.62 EG=343.77 BW=347.15 EG=342.27 EG=342.12-BW=346.15 TAPER WALL TO END _/-353.73 353.69~ TW/BW=353.92 TAPER WALL TO END TW/BW=353.94 TC=354.37 TC=354.32 BC=353.42 BC=353.87 BC=353.82 350.82 5.45% SI TC=353.94 LP=353.41~ TC=350.94 TC=353.83 BC=353.44 BC=350.44\ 2.00% TC=347.86 BC=353.33 TC=347.53 BC=347.36 BC=347.03 TC=354.13 TC=353.87 TC=354.15 BC=353.63 BC=353.37 BC=353.65 ∠TC=354.43 BC=353.93 TC=354.74 4.00% BC=354.24 350.72 TC=354.17 BC=353.93 BC=353.67 TC=348.66-TC=348.33 TRASH ENCLOSURE AREA TO BE BC=348.16 BC=347.83 COVERED SEE BUILDING PLANS ADA RAMP GRADING, SEE DETAIL#3 SEE SHEET C24 TC=354.25₁ BC=353.75 ∠TC=353.74 TC=354.32 rTC=353.85 BC=353.24 BC=\$53.82 / BC=353.35 TC=355.81_{\(\cdot\)} 4.00% TC=348.64 TC=349.41~ BC=355.31 4.00% 1.50% BC=348.14 BC=348.91 ₇351.07 4.00% SHEET 4.00% 163 TC=348.44 158 155 153 152 BC=347.94 5.24% BC=353.32 TC=355.53 -3.29%-TC=353.65 Ш TC=356.18√ BC=355.03 TC=354.39^{\(\)} BC=353.15 2.00% BC=355.68 BC=353.89 TC=353.63 S BC=353.23 TC=348.64 TC=348.23 _TC=349.81 BC=353.13 rTC=353.69 BC=348.14 BC=347.73 TC=352.22¬ BC=349.31 INE 0.00% BC=353.19 BC=351.72 4.54% □ 0.00% × 4.00% BC=353.13 MATCH _4.00%TC=355.67_ BC=355.17 TC=353.76~ BC=353.26 BC=353.29 \checkmark 4.16% 0.50% BLDG #6 PAD=353.87 1.00% <u>0.95%</u> TC=355.96 BC=355.46 BC=353.23 · 353.45 4.80% CTC=355.20 % - 353.42 BC=354.70 ADA STALL/RAMP GRADING, SEE DETAIL #2 SEE SHEET C24 350.29 5.0' 10.0' TC=349.99 BC=349.49 BC=349.49 353.84 TC=353.64 4.75% BC=353.14 1.00% 4.75% TC=350.07 1.50% 1.50% 1.61% △ <u>0.02%</u> 353.75₇ BC=349.57 TC=353.57 _____BC=353.07 TC=353.83 _ rTC=355.23 ₽ 0 1.10% BC=353.33 S[BC=354.73 SD-BC=354.09 4.52% / 1.00% 0.03% TC=354.99 TC=353.77 TC=353.42 1.50% TC=353.36 BC=354.49 rTC=354.39 TC=353.51 งู ¹353.69 TC=349.37 BC=353.27 BC=352.92 BC=352.86 BC=353.89 BC=353.01 BC=348.87 MATCH LINE SEE SHEET C18

CURB RAMP NOTE

ALL CURB RAMPS ARE TO BE CONSTRUCTED TO MEET CURRENT ADA STANDARDS. MAXIMUM ADA RAMP SLOPE OF 1:12 (8.33%) AND 2.0% MAXIMUM LONGITUDINAL SLOPE.

CURBING NOTE

- 1. EXTRUDED CONCRETE CURB (DETAIL X, SHEET CXX) SHALL BE USED ON-SITE WHEN NOT ADJACENT TO SIDEWALK.
- 2. CEMENT INTEGRAL CURB (DETAIL X, SHEET CXX) SHALL BE USED ON-SITE WHEN ADJACENT TO SIDEWALK.
- 3. NEITHER EXTRUDED CURB OR INTEGRAL CURB & WALK SHALL BE USED TO CONVEY DRAINAGE VIA A FLOWLINE. IF A FLOWLINE IS NEEDED, VERTICAL CURB & GUTTER (PER DETAIL X, SHEET CXX) SHALL BE UTILIZED.

GRADING NOTES

- 1. SPOT ELEVATIONS SHOWN ARE FOR FINISHED GRADE ELEVATIONS UNLESS OTHERWISE SPECIFIED.
- 2. CONTOUR LINES ARE FOR VISUAL REFERENCE. GRADING SHALL BE
- PER SPOT ELEVATIONS.

 3. WALLS OVER 4' IN HEIGHT REQUIRE SEPARATE BUILDING PERMITS.
- ALL CURBS SHALL BE 6" IN HEIGHT UNLESS OTHERWISE NOTED.

GRADING ACRONYMS

- BC = BOTTOM OF CURB
- TC = TOP OF CURB
- EG = EXISTING GRADE

 ME = MATCH EXISTING GRADE
- BW = BOTTON OF WALL/FG
- TW = TOP OF WALL LP = LOW POINT
- FF = FINISH FLOOR FL = FLOW LINE
- HP = HIGH POINT TS = TOP OF STEP
- EF = EXTEND FOUNDATION
- HR = HANDICAP RAMP
- FG = FINISH GRADE

VERIFICATION NOTE

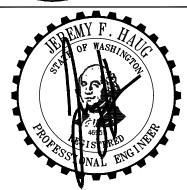
ALL EXISTING UTILITIES IN THE CONSTRUCTION AREA SHALL BE IDENTIFIED AND VERIFIED FOR DEPTH AND LOCATION <u>PRIOR TO ANY CONSTRUCTION ACTIVITIES</u> SO TO IDENTIFY ANY POTENTIAL CONFLICTS WITH PROPOSED CONSTRUCTION. CONTACT PROJECT ENGINEER IMMEDIATELY IF ANY CONFLICTS ARE IDENTIFIED.

PRIOR TO ANY CONSTRUCTION ACTIVITIES, VERIFY EXISTING TOPOGRAPHY IS CONSISTENT WITH WHAT IS SHOWN ON PLANS AND IF THERE ARE ANY POTENTIAL CONFLICTS WITH PROPOSED CONSTRUCTION ACTIVITIES. CONTACT PROJECT ENGINEER IMMEDIATELY IF ANY CONFLICTS ARE IDENTIFIED.

CALL 811 AT LEAST 48
HOURS BEFORE YOU DIG

DESCRIP	DESCR	DES	DES	DESCI	DESCRIP	DESCRIPTION
ESCRIP"	ESCA			ESCI	ESCRIP	SCRIPT

N G I N E E R I N G • L I ERS ~ LAND PLANNIS7-5454 ~ Fax: 253-509-0044 ~ info@contourpllc.cc Address: P.O. Box 949, Gig Harbor, WA 98335 : 4706 97th Street NW, Suite 100, Gig Harbor, WA 9



13 January 2022

GRADING PLAN
ERRY APARTMENTS

ONSITE

BLUEBERRY
INT: KCI COMMERCIAL, INC.
PO BOX 6979
TACOMA, WA 98417

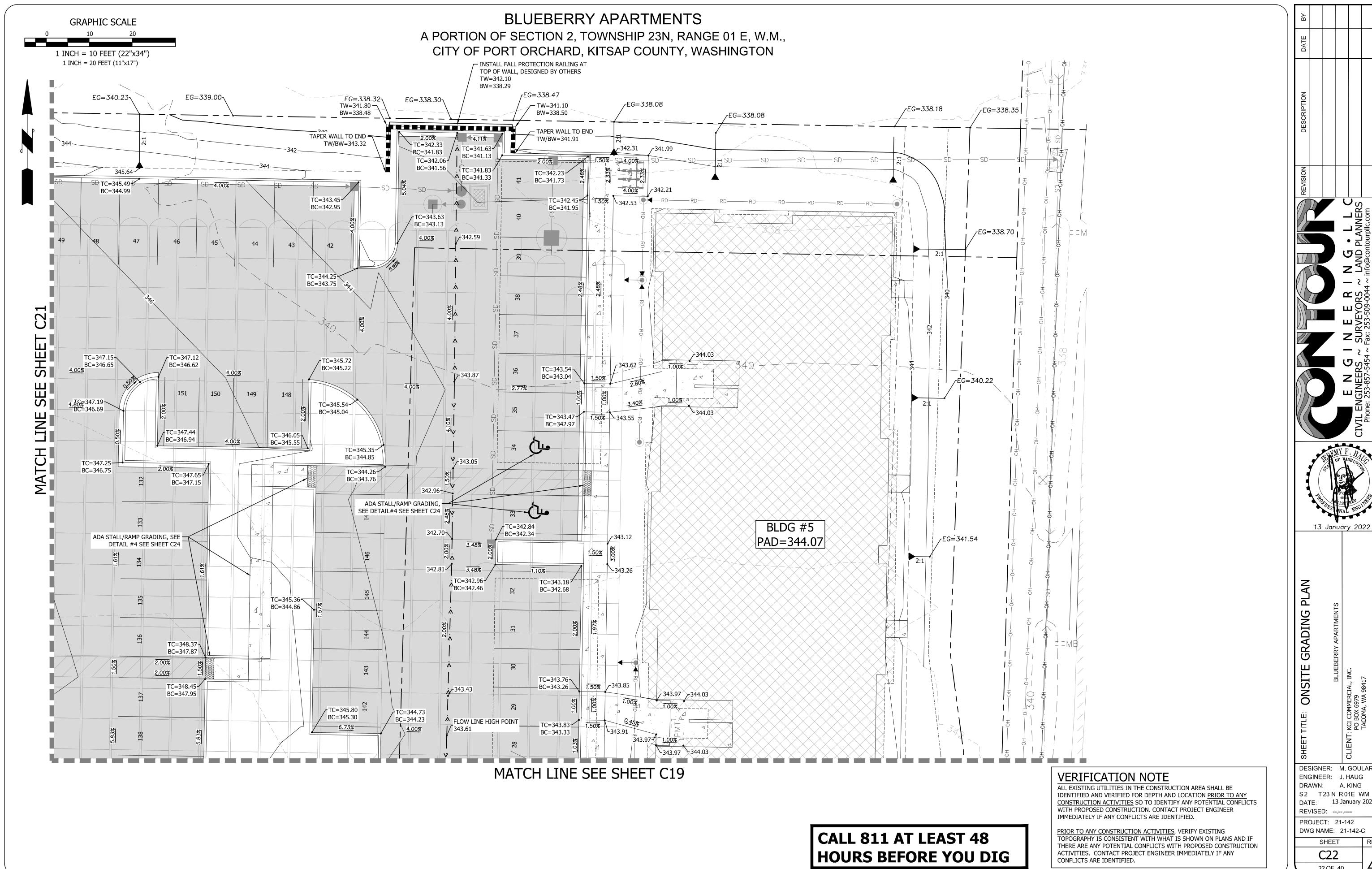
DESIGNER: M. GOULARTE
ENGINEER: J. HAUG
DRAWN: A. KING
S2 T23 N R 01E WM
DATE: 13 January 2022
REVISED: --.---

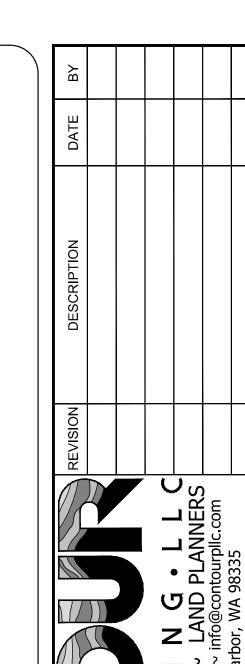
PROJECT: 21-142 DWG NAME: 21-142-C

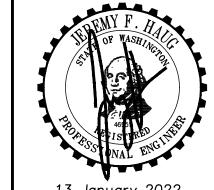
SHEET REV.

C21

21 OF 40







DESIGNER: M. GOULARTE ENGINEER: J. HAUG S2 T23 N R01E WM DATE: 13 January 2022

DWG NAME: 21-142-C

22 OF 40

GRAPHIC SCALE O 5 10 A PORTION OF SECTION 2, TOWNSHIP 23N, RANGE 01 E, W.M., CITY OF PORT ORCHARD, KITSAP COUNTY, WASHINGTON CITY OF PORT ORCHARD, KITSAP COUNTY, WASHINGTON

TC=358.53 BC=358.03

TC=358.48 BC=357.98

1.50%

1.50%

1.00%

1.00%

ADA RAMP GRADING

TC=358.75 BC=358.25

> TC=359.10 BC=358.60

1.00%

TC=358.80~

BC=358.30

1.00%

3.52%

<u>3.52%</u>

97

358.12~

TC=359.20 / BC=358.70

84

TC=358.88 BC=358.38

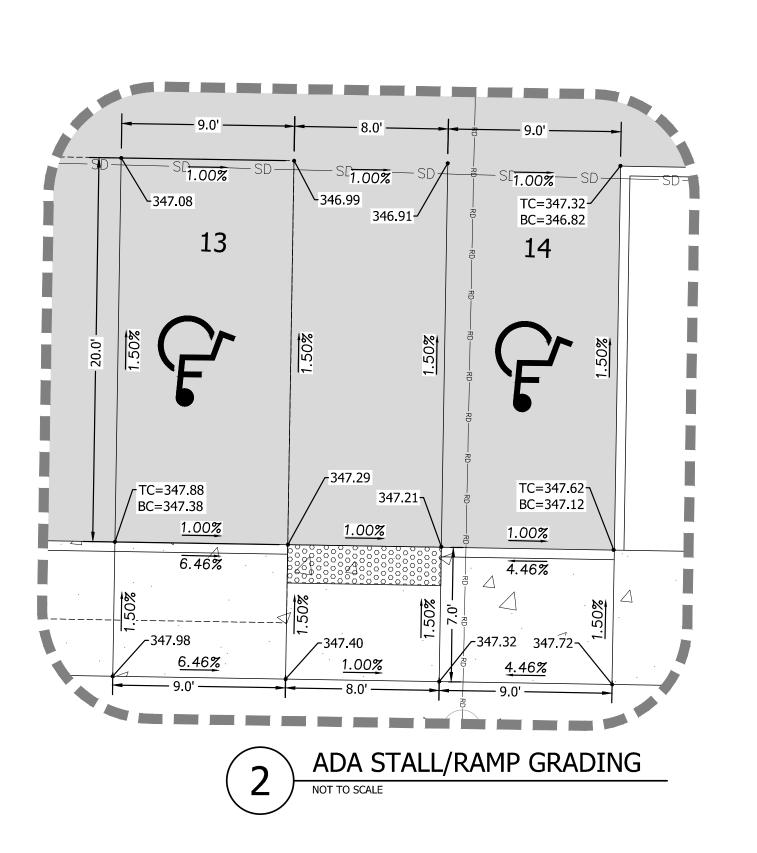
1.00%

rTC=359.15

BC=358.65

7.58%

TC=358.83 ✓ BC=358.33 ≤





C23

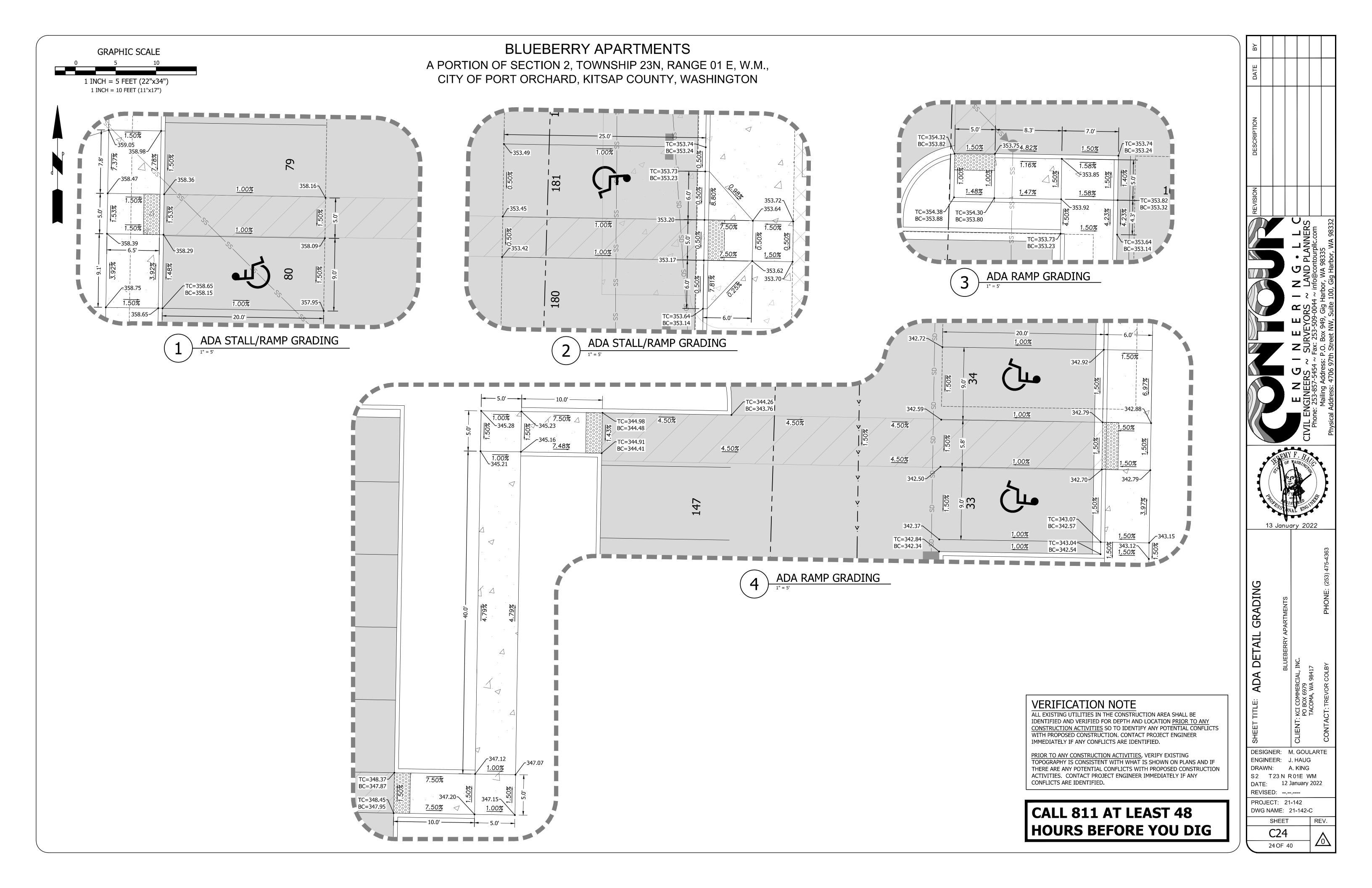
23 OF 40

VERIFICATION NOTE

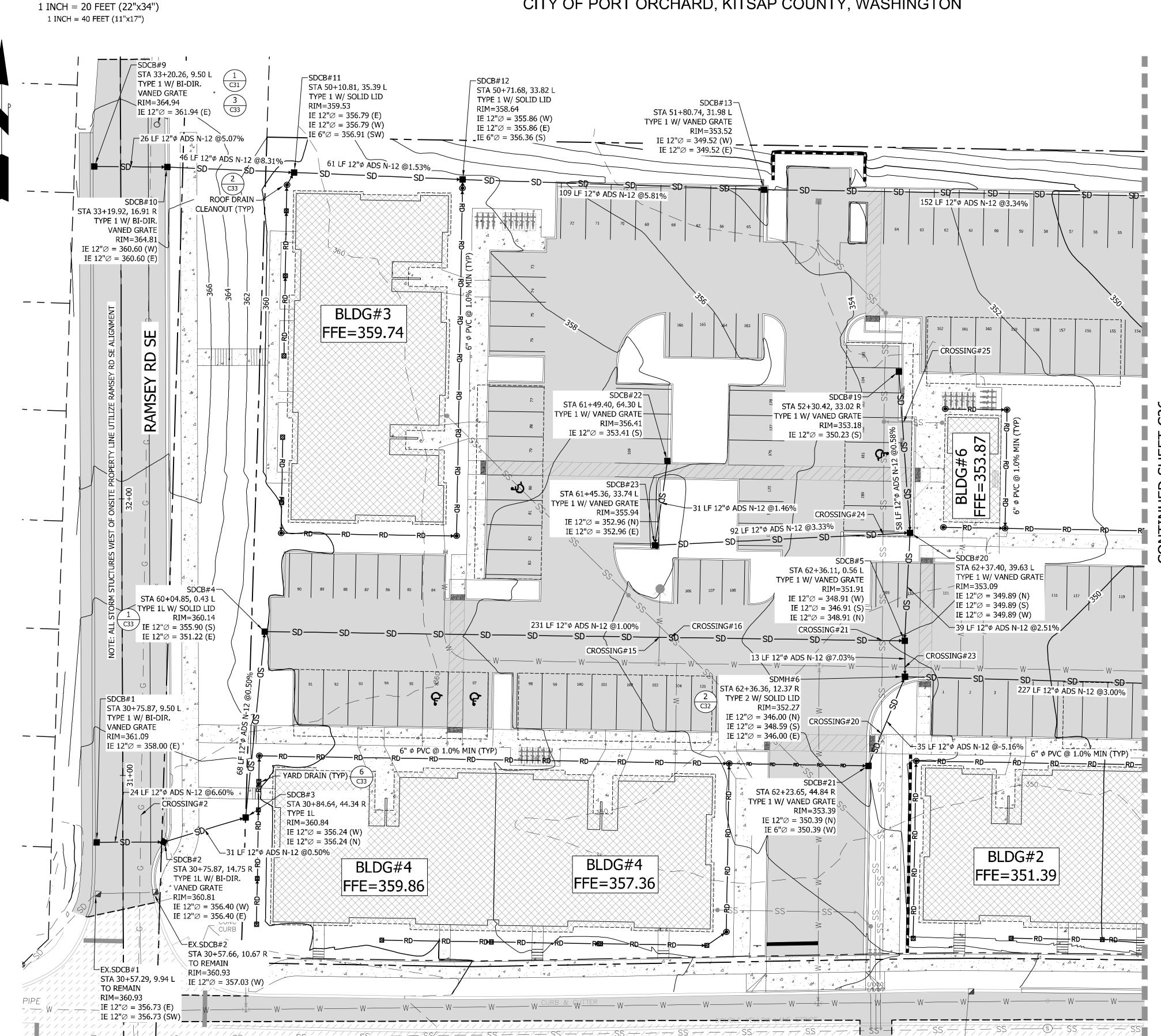
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CALL 811 AT LEAST 48
HOURS BEFORE YOU DIG



A PORTION OF SECTION 2, TOWNSHIP 23N, RANGE 01 E, W.M., CITY OF PORT ORCHARD, KITSAP COUNTY, WASHINGTON



GRAPHIC SCALE

		CROSS	INGS TA	BLE		
CROSSING #	STATION, OFF	STORM	SEWER	WATER	GAS*	SEPARATION
2	30+85.63, 6.54 R	CR=357.98			IE=358.98	1.00'
15	6+47.41, 0.54 L		CR=350.80	IE=351.92		1.12'
16	61+54.65, 0.54 L	IE=349.75	CR=348.33			1.42'
20	62+28.23, 33.13 R	IE=349.75	CR=346.67			3.08'
21	62+27.98, 0.56 L	IE=348.99	CR=347.35			1.64'
23	62+36.29, 8.95 R	CR=347.24		IE=348.32		1.08'
24	62+27.69, 39.01 L	IE=350.22	CR=348.12			2.10'
25	5+32.46, 51.26 R	IE=350.09	CR=349.07			1.02'

* GAS INVERT ELEVATIONS ASSUMED AT 2' DEPTH PER DISCUSSION WITH CASCADE NATURAL GAS COMPANY. CONTRACTOR TO POTHOLE AND VERIFY DEPTHS OF GAS LINES PRIOR TO CONSTRUCTION. ** EXISING WATER CROWN ELEVATION BASED ON AS-BUILT INFORMATION. CONTRACTOR TO POTHOLE AND VERIFY DEPTH OF WATER MAIN PRIOR TO CONSTRUCTION



13 January 2022

ONSITE

DESIGNER: M. GOULARTE ENGINEER: J. HAUG DRAWN: A. KING S2 T23 N R01E WM

REV.

DATE: 13 January 2022 REVISED: --.--PROJECT: 21-142

DWG NAME: 21-142-C

SHEET 25 OF 40

CALL 811 AT LEAST 48 **HOURS BEFORE YOU DIG**

ALL EXISTING UTILITIES IN THE CONSTRUCTION AREA SHALL BE

PRIOR TO ANY CONSTRUCTION ACTIVITIES, VERIFY EXISTING

ACTIVITIES. CONTACT PROJECT ENGINEER IMMEDIATELY IF ANY

IDENTIFIED AND VERIFIED FOR DEPTH AND LOCATION PRIOR TO ANY

CONSTRUCTION ACTIVITIES SO TO IDENTIFY ANY POTENTIAL CONFLICTS WITH PROPOSED CONSTRUCTION. CONTACT PROJECT ENGINEER

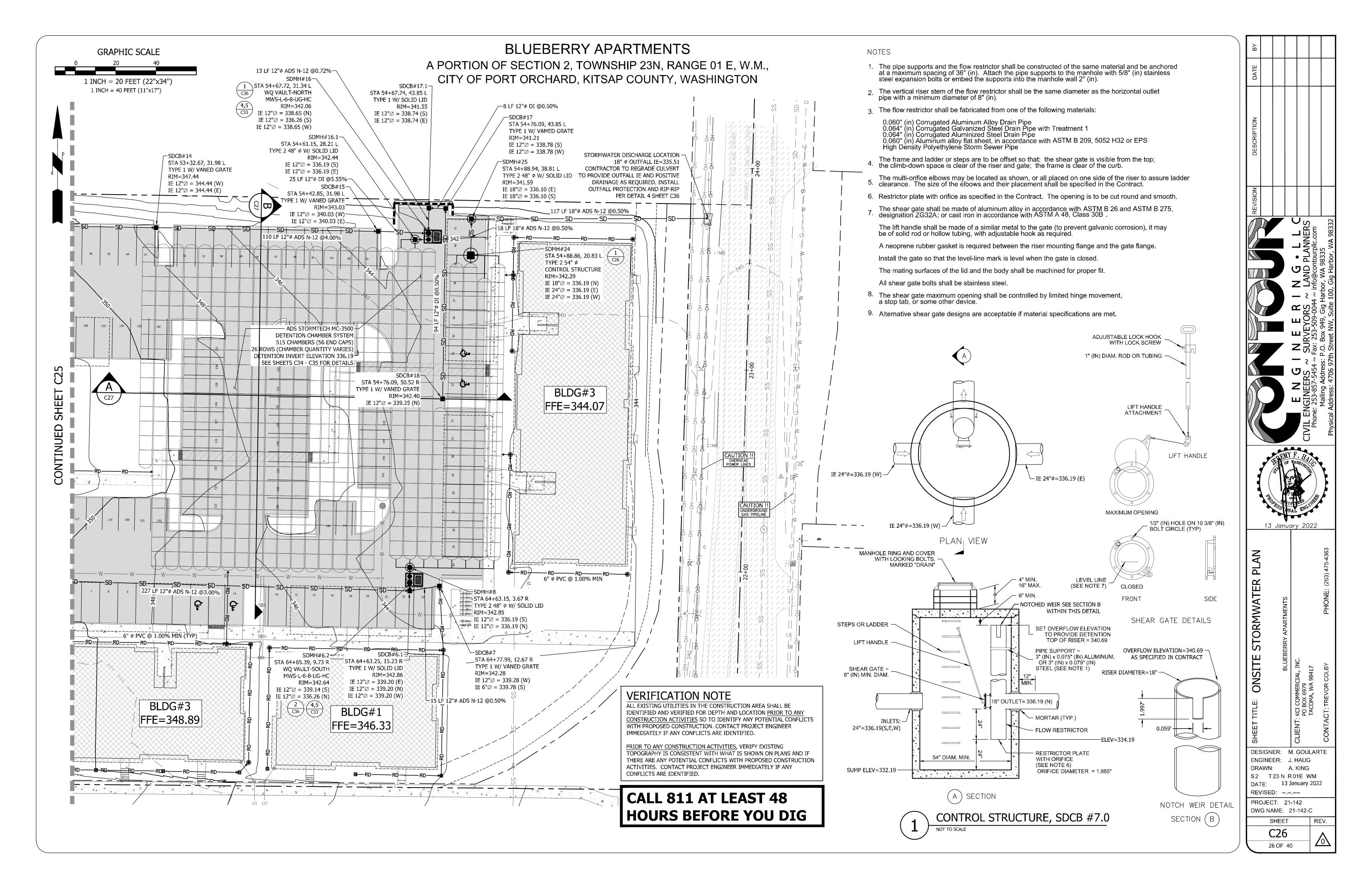
TOPOGRAPHY IS CONSISTENT WITH WHAT IS SHOWN ON PLANS AND IF

THERE ARE ANY POTENTIAL CONFLICTS WITH PROPOSED CONSTRUCTION

VERIFICATION NOTE

CONFLICTS ARE IDENTIFIED

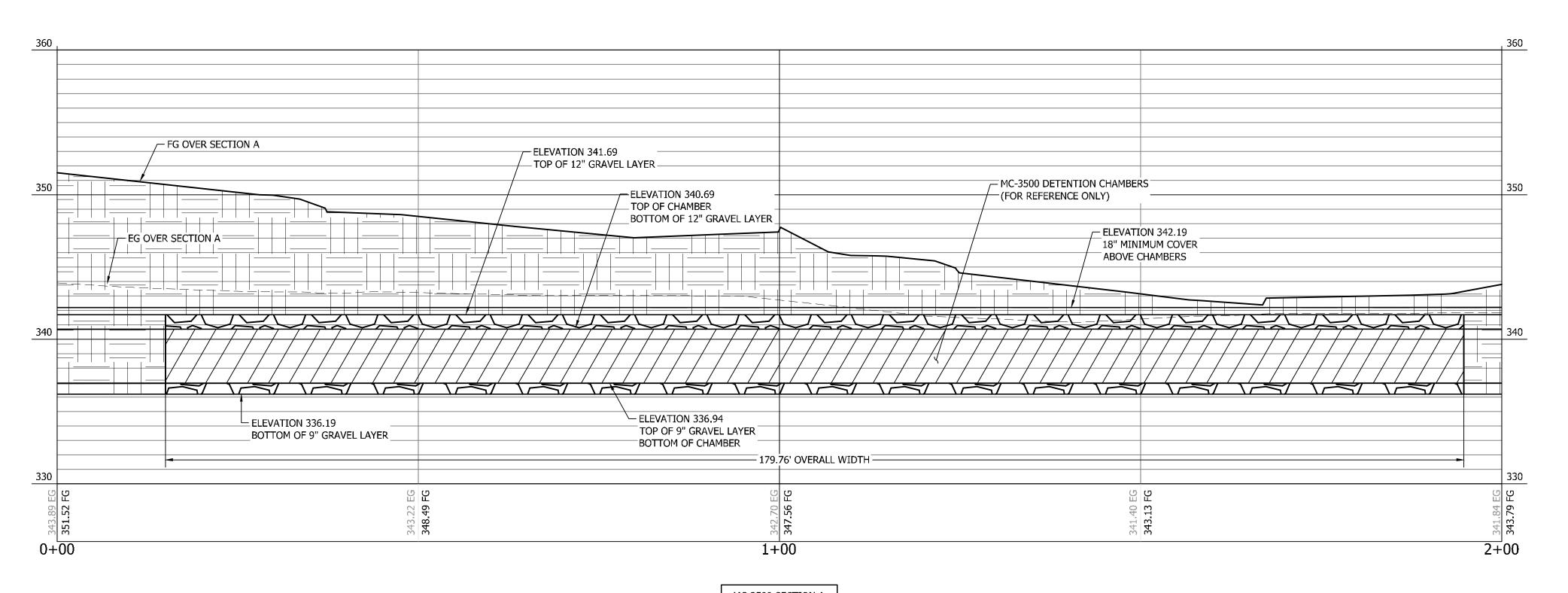
IMMEDIATELY IF ANY CONFLICTS ARE IDENTIFIED.

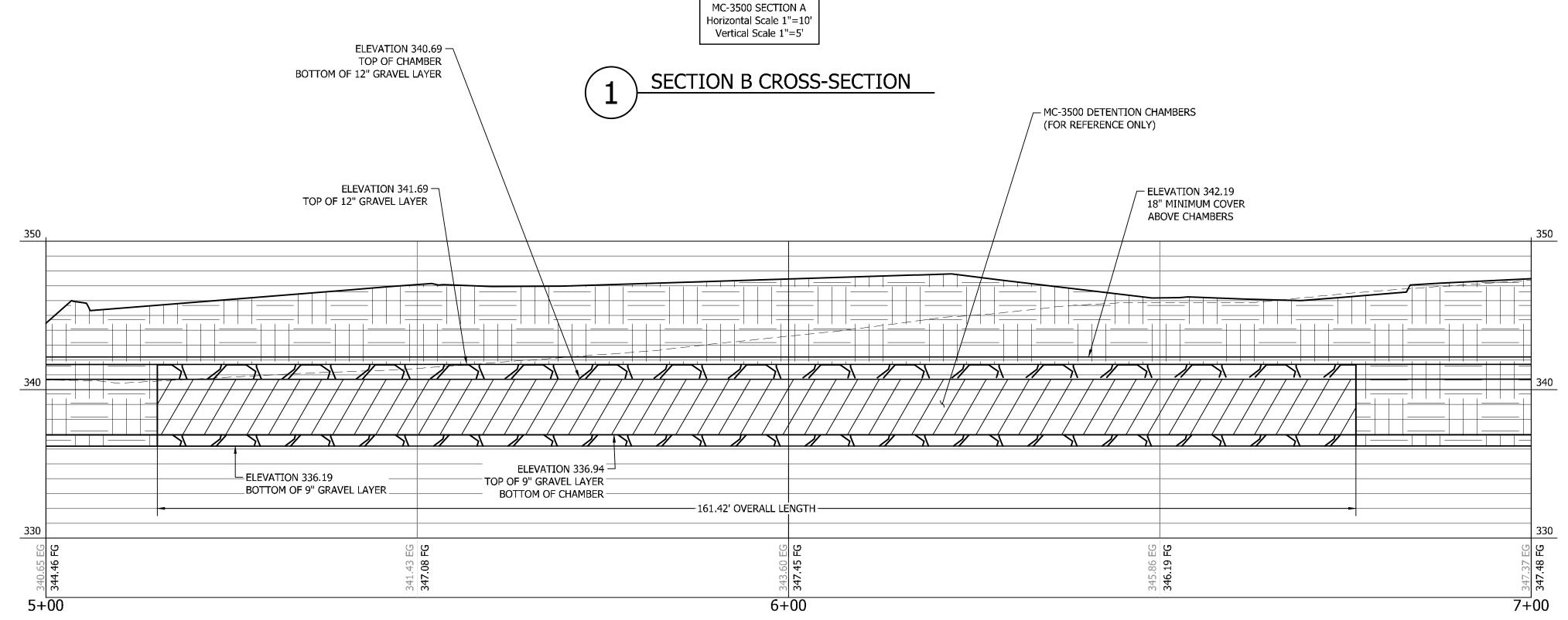


GRAPHIC SCALE 0 20 40 1 INCH = 20 FEET (22"x34") 1 INCH = 40 FEET (11"x17")

BLUEBERRY APARTMENTS

A PORTION OF SECTION 2, TOWNSHIP 23N, RANGE 01 E, W.M., CITY OF PORT ORCHARD, KITSAP COUNTY, WASHINGTON





MC-3500 SECTION B Horizontal Scale 1"=10' Vertical Scale 1"=5'

2 SECTION B CROSS-SECTION

VERIFICATION NOTE

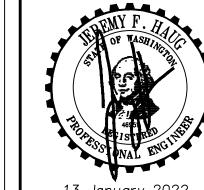
ALL EXISTING UTILITIES IN THE CONSTRUCTION AREA SHALL BE IDENTIFIED AND VERIFIED FOR DEPTH AND LOCATION PRIOR TO ANY CONSTRUCTION ACTIVITIES SO TO IDENTIFY ANY POTENTIAL CONFLICTS WITH PROPOSED CONSTRUCTION. CONTACT PROJECT ENGINEER IMMEDIATELY IF ANY CONFLICTS ARE IDENTIFIED.

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CALL 811 AT LEAST 48
HOURS BEFORE YOU DIG

EVISION DESCRIPTION DATE			
REVISION			

ENGINEERS ~ SURVEYORS ~ LAND PLAN Phone: 253-857-5454 ~ Fax: 253-509-0044 ~ info@contourplisming Address: P.O. Box 949, Gig Harbor, WA 98335



13 January 2022

MC-3500 PROFILE

SERY APARTMENTS

BLUEBEF CLIENT: KCI COMMERCIAL, INC. PO BOX 6979 TACOMA, WA 98417

DESIGNER: M. GOULARTE
ENGINEER: J. HAUG
DRAWN: A. KING
S2 T23 N R 01E WM
DATE: 13 January 2022
REVISED: -----

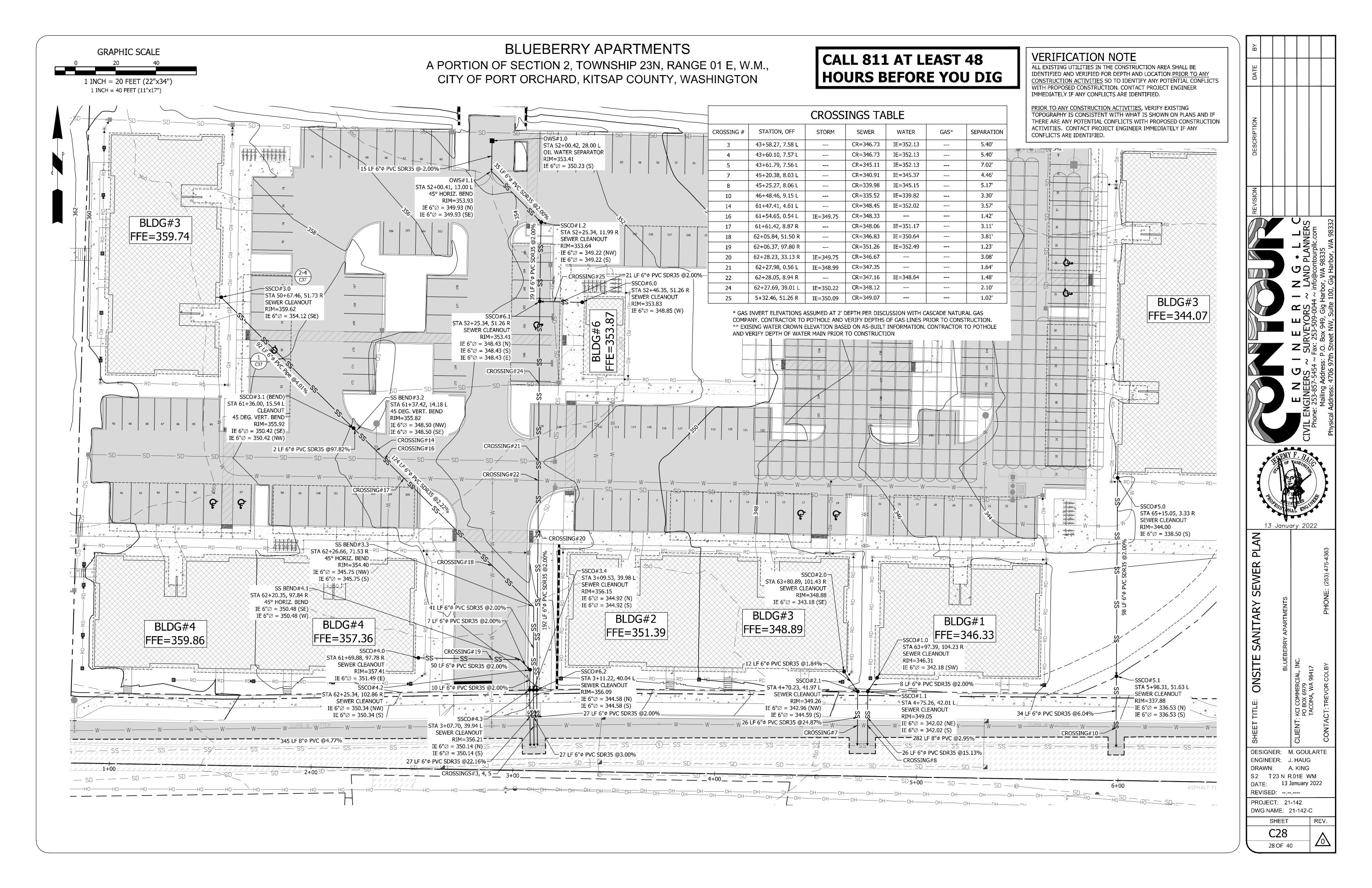
PROJECT: 21-142 DWG NAME: 21-142-C

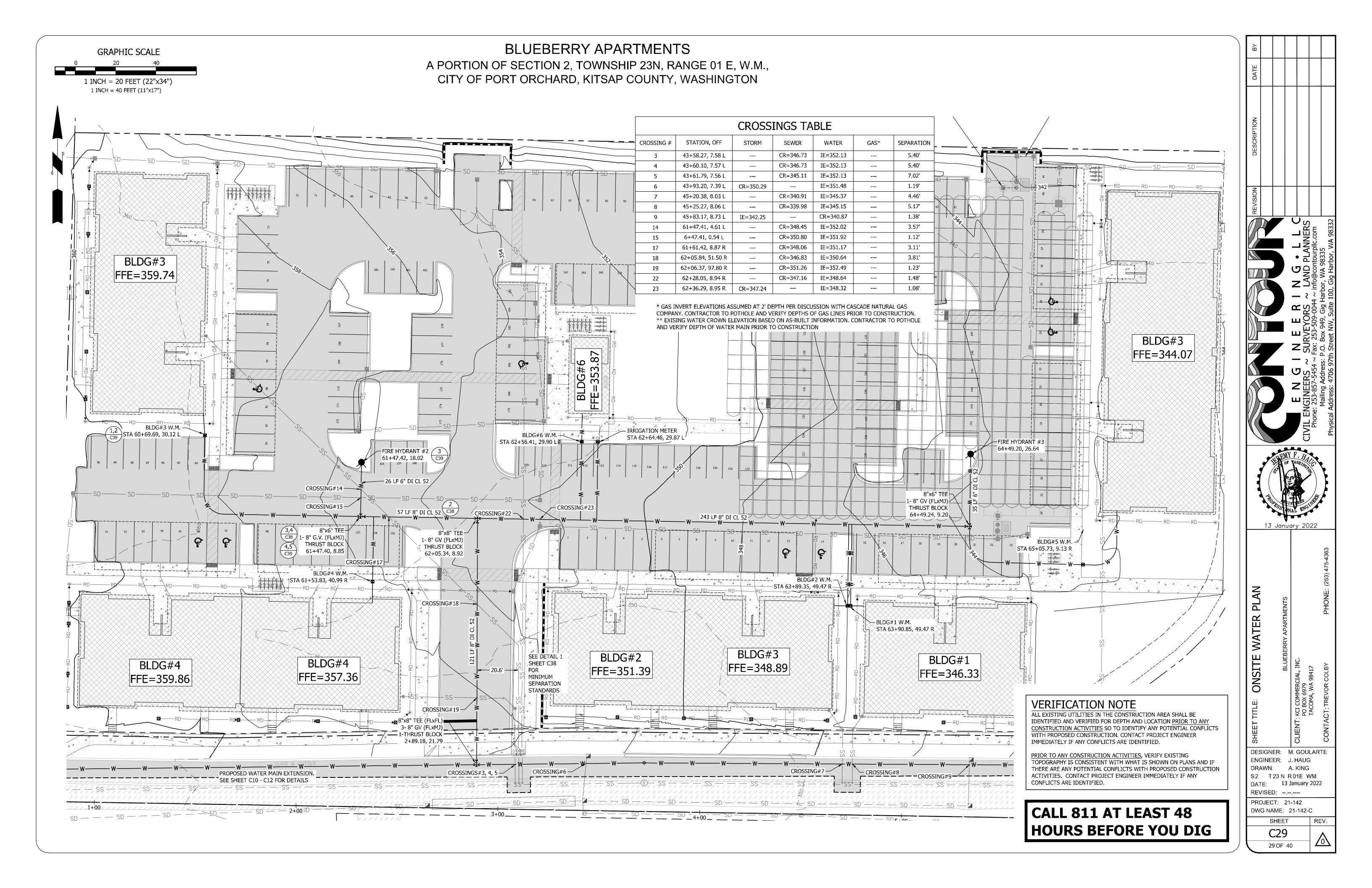
SHEET

C27

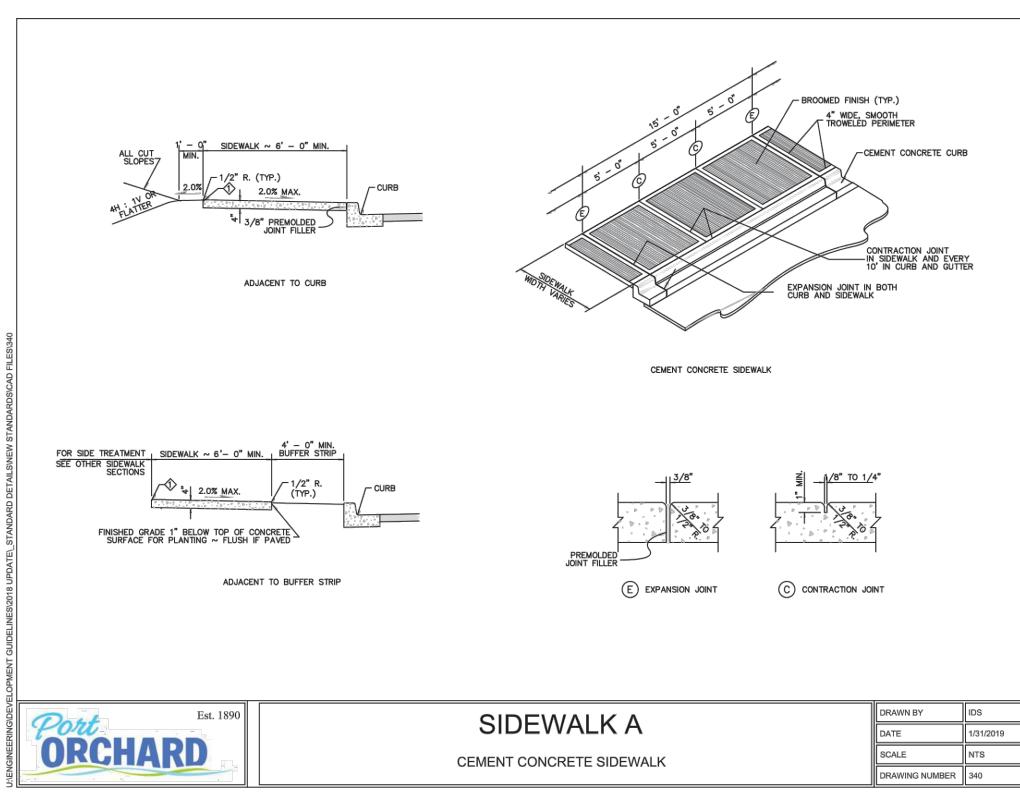
27 OF 40



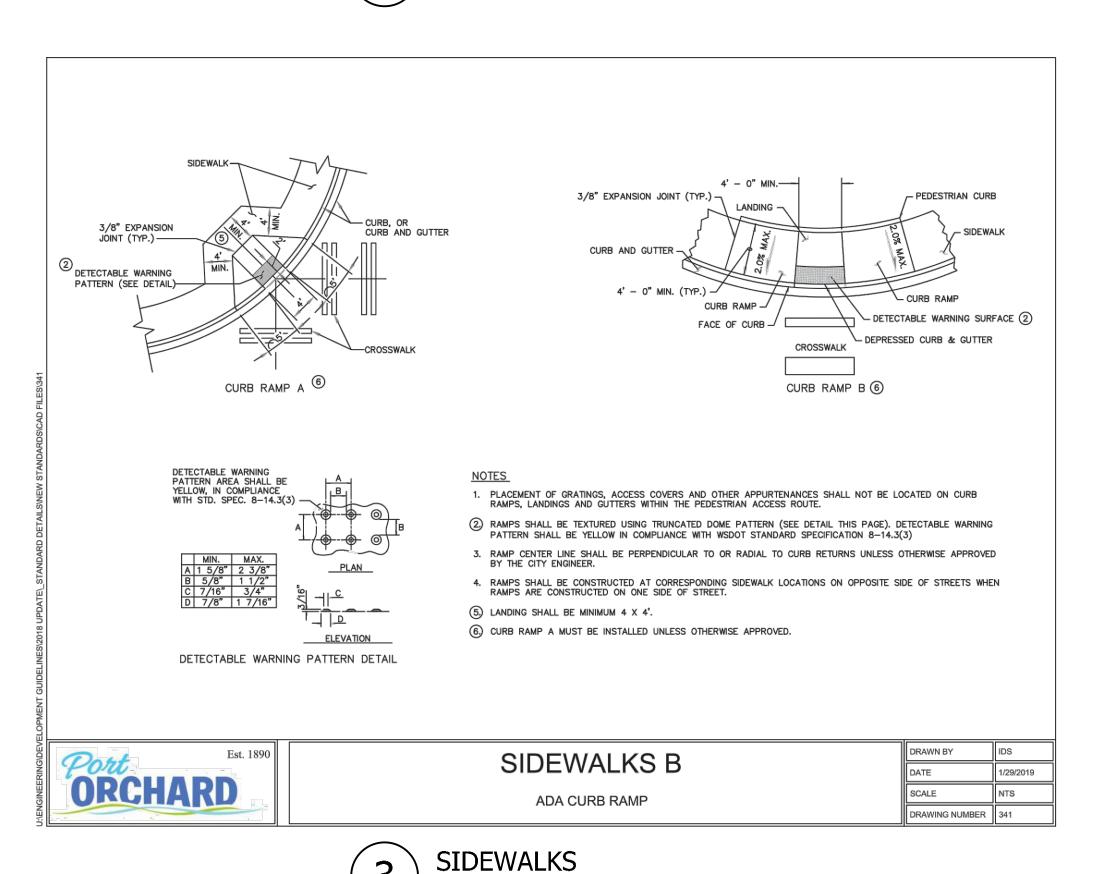




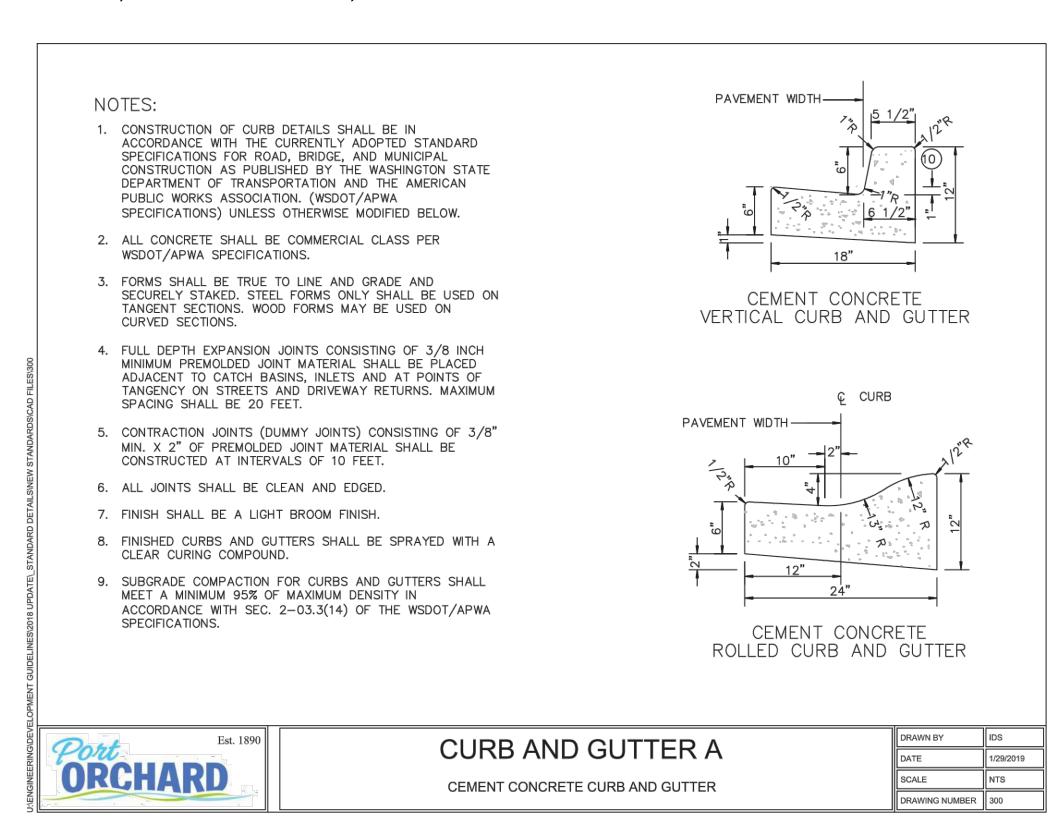
A PORTION OF SECTION 2, TOWNSHIP 23N, RANGE 01 E, W.M., CITY OF PORT ORCHARD, KITSAP COUNTY, WASHINGTON



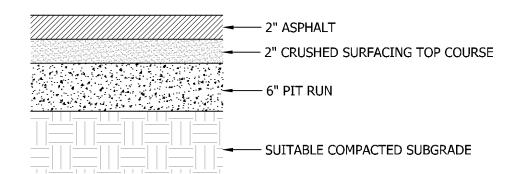




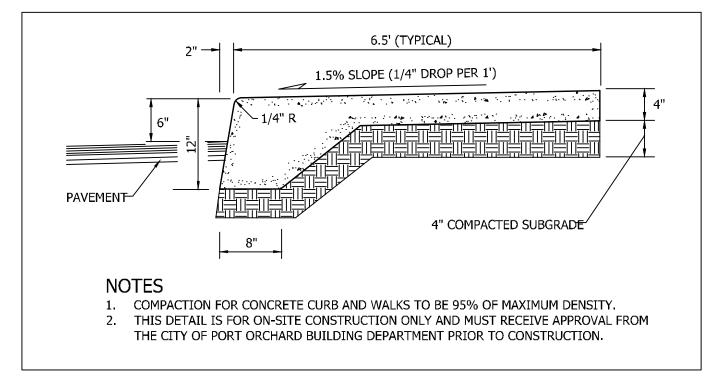
C.O.P.O. STD DETAIL 341







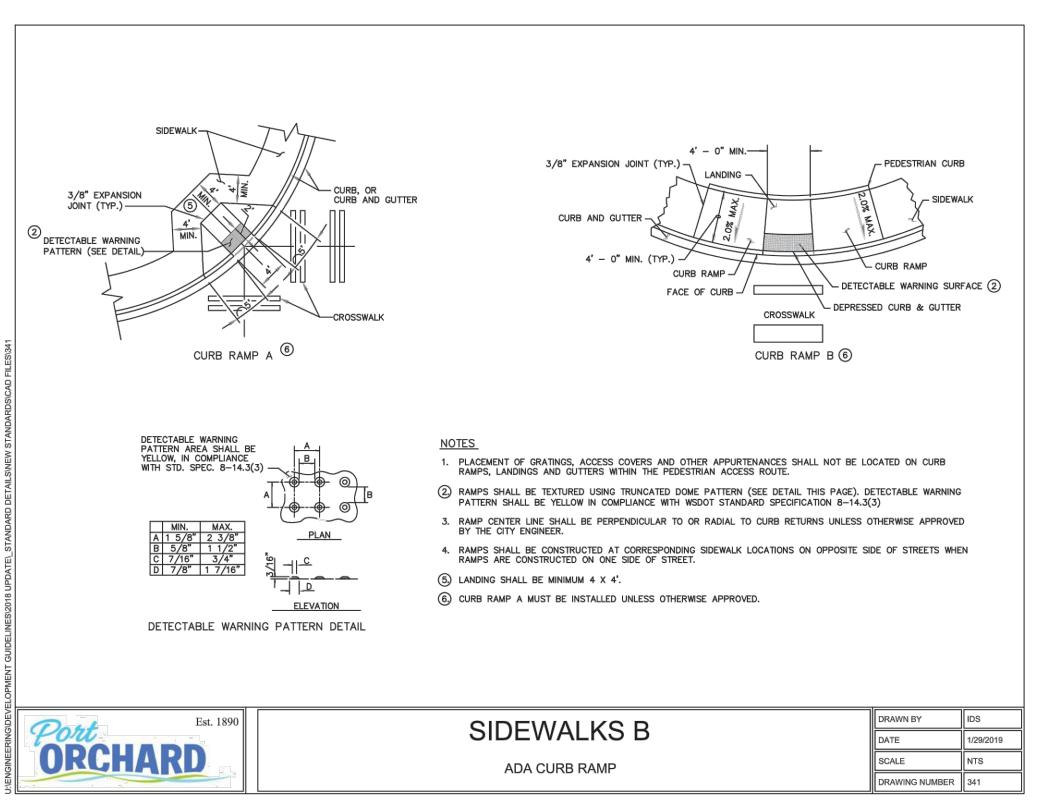








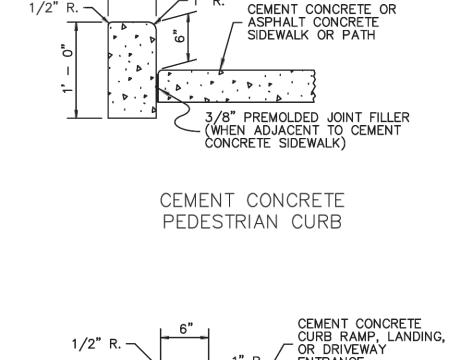
A PORTION OF SECTION 2, TOWNSHIP 23N, RANGE 01 E, W.M., CITY OF PORT ORCHARD, KITSAP COUNTY, WASHINGTON

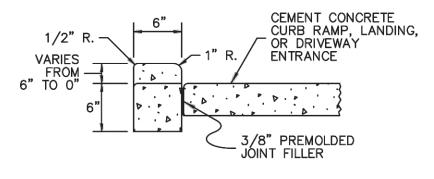




NOTES:

- 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.





CEMENT CONCRETE PEDESTRIAN CURB AT CURB RAMPS, LANDINGS, AND DRIVEWAY ENTRANCES

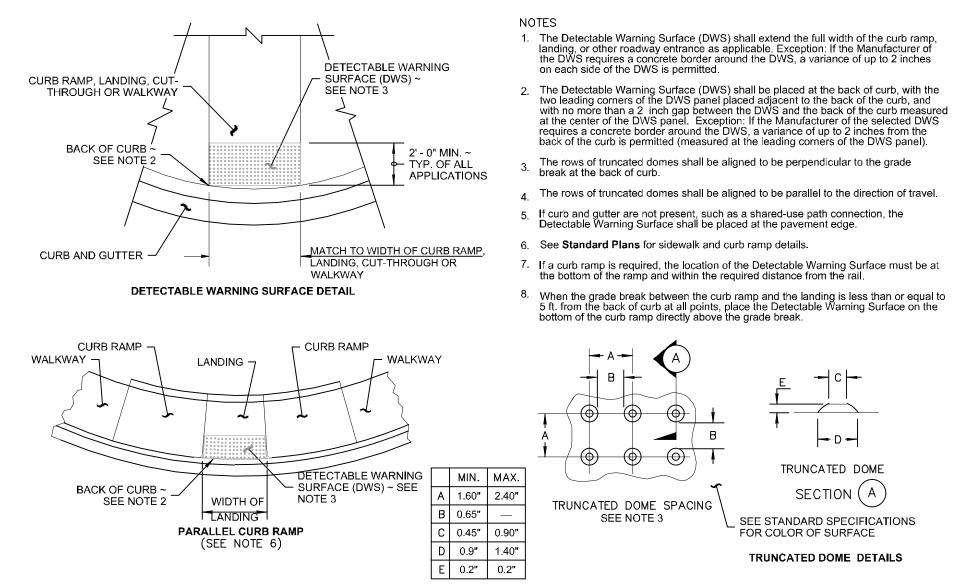


CURB AND GUTTER B

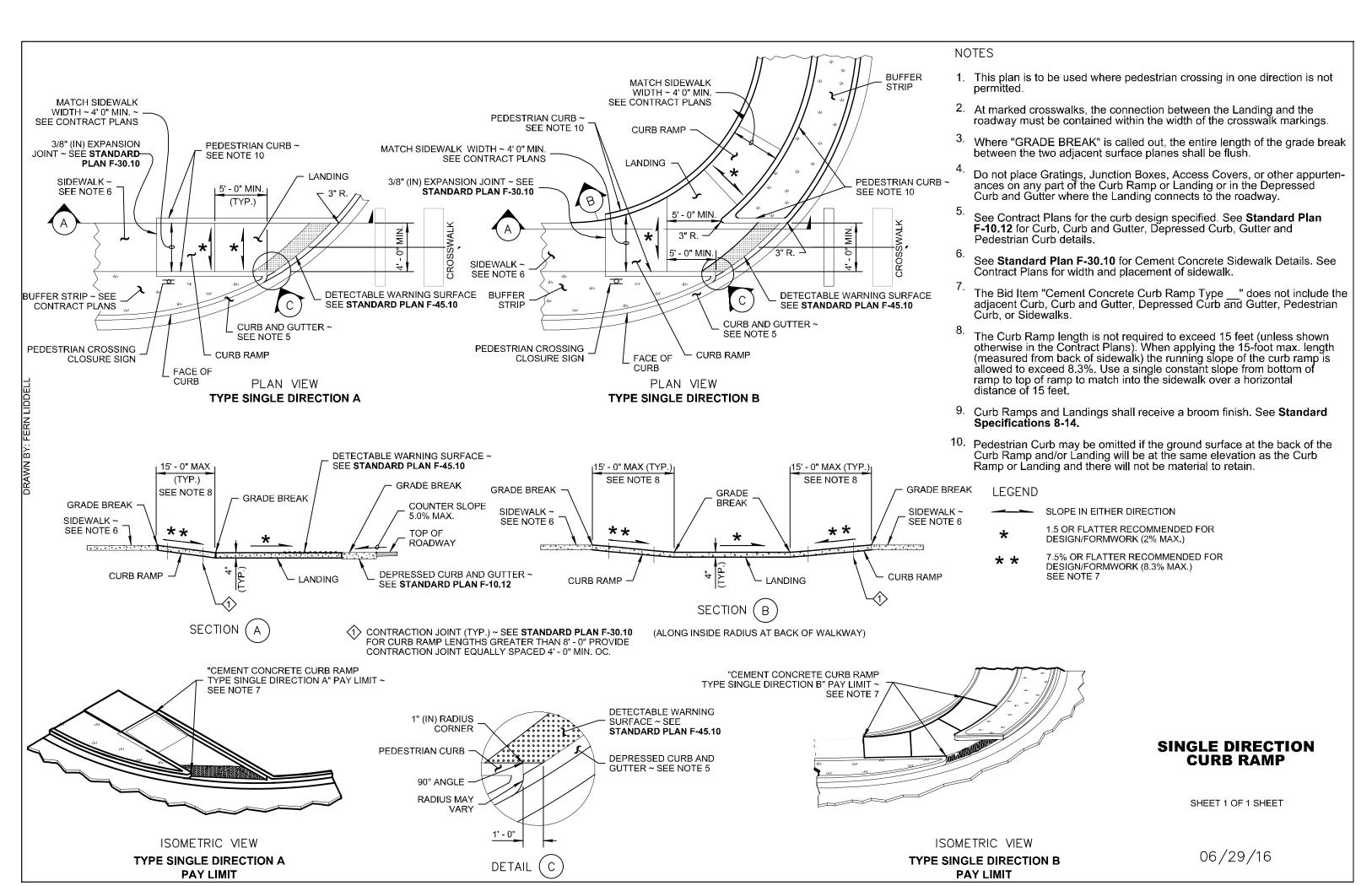
CEMENT CONCRETE PEDESTRIAN CURB

DRAWN BY	IDS
DATE	1/29/2019
SCALE	NTS
DRAWING NUMBER	301

DATE	1/20/2
SCALE	NTS
DRAWING NUMBER	301

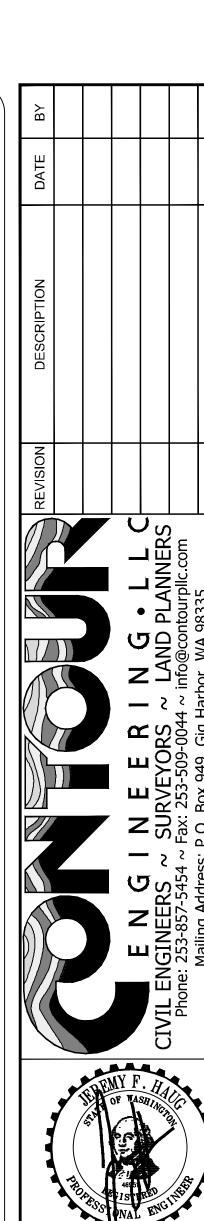


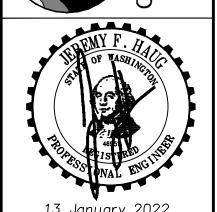
DETECTABLE WARNING SURFACE











13 January 2022

NOTES

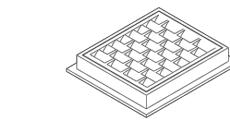
DESIGNER: M. GOULARTE ENGINEER: J. HAUG DRAWN: A. KING S2 T23 N R01E WM DATE: 13 January 2022 REVISED: --.--

PROJECT: 21-142 DWG NAME: 21-142-C

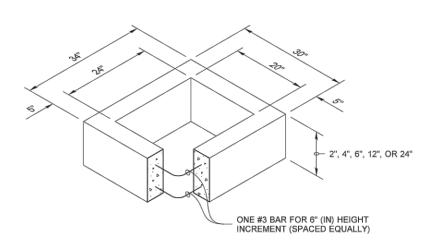
SHEET 31 OF 40

REV.

A PORTION OF SECTION 2, TOWNSHIP 23N, RANGE 01 E, W.M., CITY OF PORT ORCHARD, KITSAP COUNTY, WASHINGTON



FRAME AND VANED GRATE

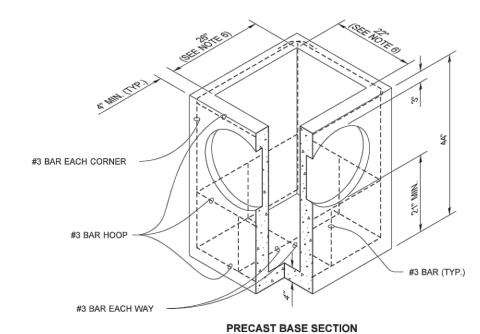


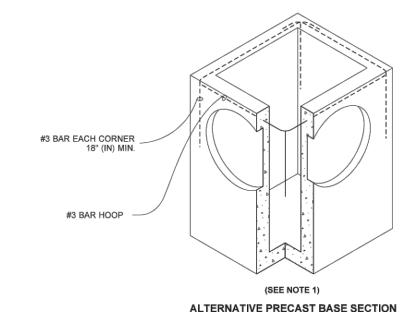
★ CORRUGATED POLYETHYLENE STORM SEWER PIPE

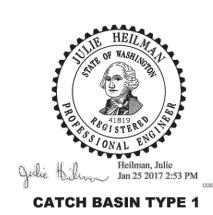
PIPE ALLOWANCES INSIDE DIAMETER PIPE MATERIAL (INCHES) ALL METAL PIPE CPSSP * (STD. SPEC. SECT. 9-05.20) SOLID WALL PVC (STD. SPEC. SECT. 9-05.12(1)) PROFILE WALL PVC (STD. SPEC. SECT. 9-05.12(2))

- 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
- 2. The knockout diameter shall not be greater than 20" (in). Knockouts shall have a wall thickness of 2" (in) minimum to 2.5" (in) maximum. Provide a 1.5" (in) 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 Section 9-04.3.
- 3. The maximum depth from the finished grade to the lowest pipe invert
- 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.









STANDARD PLAN B-5.20-02 SHEET 1 OF 1 SHEET

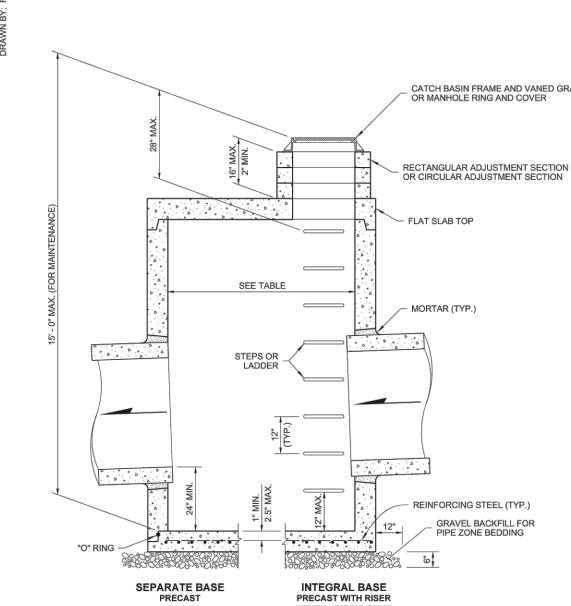


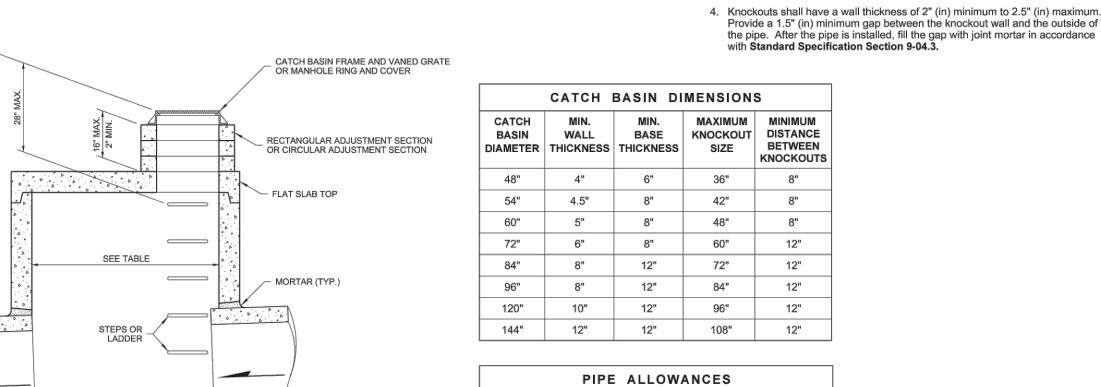


GENERAL NOTES

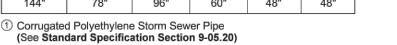
- 1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL CURRENTLY ADOPTED WSDOT AND APWA SPECIFICATIONS AND PLANS, AND THE CITY OF PORT ORCHARD MUNICIPAL CODE, THE CURRENTLY ADOPTED CITY OF PORT ORCHARD DEVELOPER'S HANDBOOK, THE CURRENTLY ADOPTED SURFACE WATER DESIGN MANUAL AND THE CONDITIONS OF PRELIMINARY 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 VARIANCE FROM ADOPTED STANDARDS IS NOT ALLOWED UNLESS SPECIFICALLY APPROVED BY THE CITY OF PORT ORCHARD CITY ENGINEER, PRIOR TO CONSTRUCTION
- 3. APPROVAL OF THESE ROAD, GRADING AND DRAINAGE PLANS 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. DATUM SHALL BE NAVD 1988 UNLESS OTHERWISE APPROVED BY THE CITY OF PORT ORCHARD.
- 11. GROUNDWATER SYSTEM CONSTRUCTION SHALL BE WITHIN A RIGHT-OF-WAY OR APPROPRIATE DRAINAGE EASEMENT, BUT NOT UNDERNEATH THE ROADWAY SECTION. ALL GROUNDWATER SYSTEMS MUST BE CONSTRUCTED IN ACCORDANCE WITH SECTION B1 3.02 OF THE APWA STANDARD SPECIFICATIONS.
- 12. ALL UTILITY TRENCHES SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH THE CITY OF PORT ORCHARD STANDARD.
- 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 SPECIFICATION.

- 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 CONTRACTOR, 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.
- 16. 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 THE COURSE OF 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





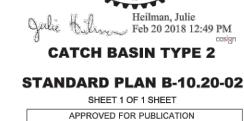
PIPE	ALLO	WANCE	S	
PIPE MATER	IAL WITH N	MAXIMUM IN	SIDE DIAM	ETER
CONCRETE	ALL METAL	CPSSP ① PP ④	SOLID WALL PVC ²	PROFILE WALL PVC 3
24"	30"	24"	30"	30"
30"	36"	30"	36"	36"
36"	42"	36"	42"	42"
42"	54"	42"	48"	48"
54"	60"	54"	48"	48"
60"	72"	60"	48"	48"
66"	84"	60"	48"	48"
78"	96"	60"	48"	48"
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(See Standard Specification Section 9-05.12(1))

(3) (See Standard Specification Section 9-05.12(2)

(4) Polypropylene Pipe (See Standard Specification Section 9-05.24)







CITY OF PORT ORCHARD STANDARD DRAINAGE NOTES

- 1. 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.
- 2. 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.
- 3. STORM PIPE COVER, MEASURED FROM THE FINISHED GRADE ELEVATION TO THE TOP OF THE OUTSIDE SURFACE OF THE PIPE, SHALL BE 2 FEET MINIMUM (3 FEET FOR PVC), UNLESS AUTHORIZED BY THE CITY OF PORT ORCHARD CITY ENGINEER UNDER THE FOLLOWING CIRCUMSTANCES: A. UNDER DRAINAGE EASEMENTS, DRIVEWAYS, PARKING STALLS, OR OTHER AREAS SUBJECT TO LIGHT VEHICULAR LOADING, THE PIPE COVER MAY BE REDUCED TO 1 FOOT MINIMUM IF THE COVER IS CONSISTENT WITH THE 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 IS USED, THE PIPE COVER MAY BE REDUCED TO 1 FOOT
- 4. STEEL PIPE SHALL BE GALVANIZED AND HAVE ASPHALT TREATMENT #1 OR BETTER INSIDE AND OUT (WSDOT STANDARD SPECIFICATION 9-05.4(3)).
- 5. 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.
- 6. ALL CATCH BASIN GRATES SHALL CONFORM TO THE 2005 DEPARTMENT OF ECOLOGY STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON 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 STANDARD DETAILS AS APPLICABLE. MAXIMUM CATCH BASIN HEIGHT FROM FINISHED GRADE TO PIPE INVERT SHALL BE PER THE APPLICABLE DETAIL.
- 7. 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.

8. 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.

1. No steps are required when height is 4' or less

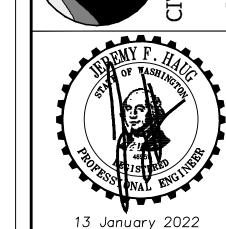
The frame may be cast into the adjustment section.

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.

- 9. 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.
- 10. 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.
- 11. 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 NONMETALLIC, 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 STUB-OUT 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.





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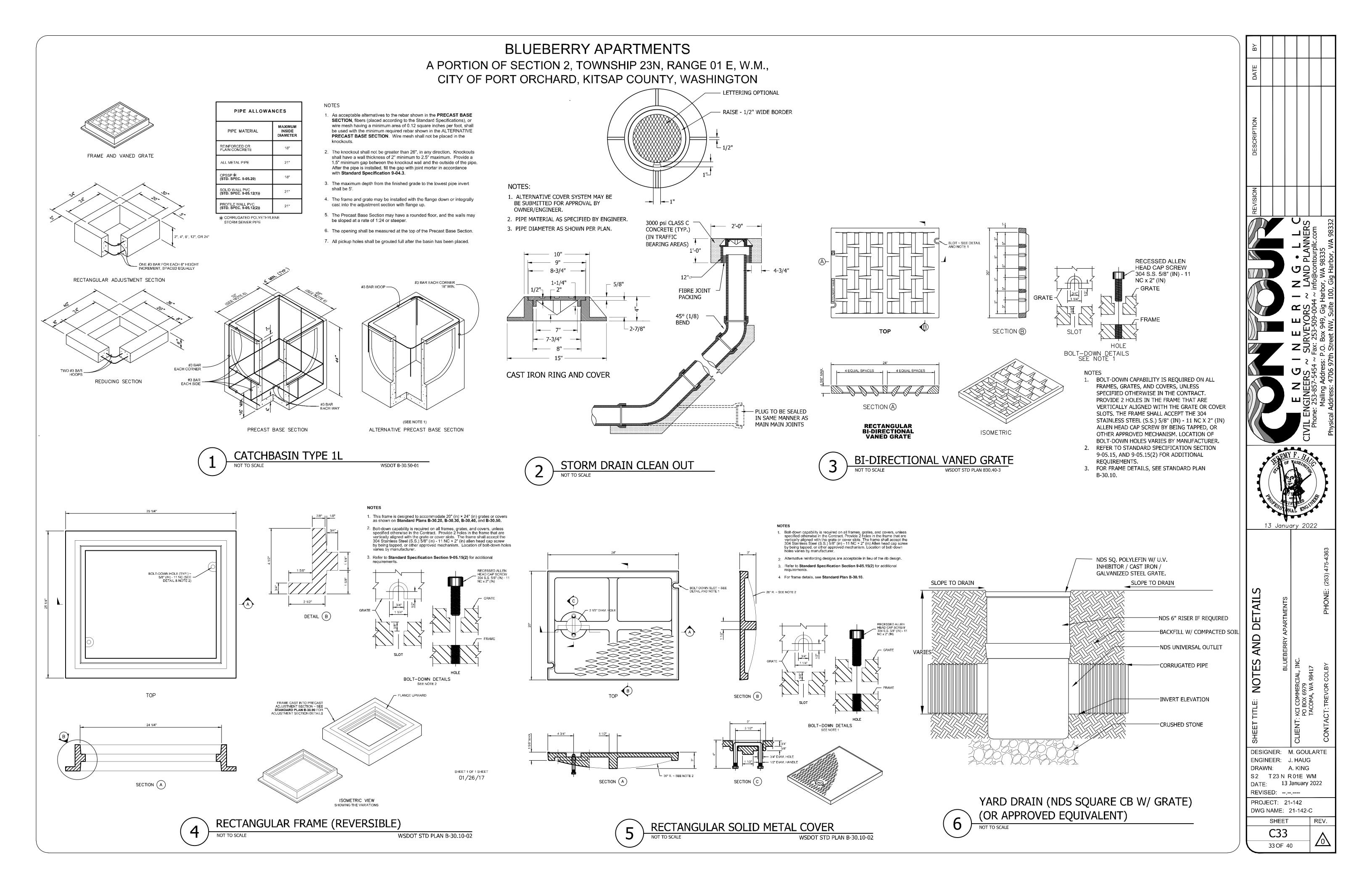
DESIGNER: M. GOULARTE ENGINEER: J. HAUG DRAWN: A. KING S2 T23 N R01E WM DATE: 13 January 2022 REVISED: --.--

PROJECT: 21-142 DWG NAME: 21-142-C

> SHEET C32 32 OF 40







MC-3500 STORMTECH CHAMBER SPECIFICATIONS

- 1. CHAMBERS SHALL BE STORMTECH MC-3500.
- CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418-16a, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 45x76 DESIGNATION SS.
- CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
- THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE
- CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
- REQUIREMENTS FOR HANDLING AND INSTALLATION:
- TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
- TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3"
- TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 500 LBS/IN/IN AND 5) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT FLEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS
- ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL
- EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS: THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER. THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR
- THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
- 9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

INSPECTION & MAINTENANCE

- STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
 - A. INSPECTION PORTS (IF PRESENT)
 - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
 - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
 - A.4. LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL) A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
 - B. ALL ISOLATOR PLUS ROWS B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
 - USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
 - MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY i) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS
 - APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN VACUUM STRUCTURE SUMP AS REQUIRED
- STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.
- STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

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

- MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECHNICAL NOTE 6.32 FOR MANIFOLD SIZING
- GUIDANCE. DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
- THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET
- THIS CHAMBER SYSTEM WAS DESIGNED WITHOUT SITE-SPECIFIC INFORMATION ON SOIL CONDITIONS OR BEARING. CAPACITY. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR DETERMINING THE SUITABILITY OF THE SOIL AND PROVIDING THE BEARING CAPACITY OF THE INSITU SOILS. THE BASE STONE DEPTH MAY BE INCREASED OR DECREASED ONCE THIS INFORMATION IS PROVIDED.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF MC-3500

- STORMTECH MC-3500 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE
- STORMTECH MC-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
- CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKELL METHODS:

HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.

- STONESHOOTER LOCATED OFF THE CHAMBER BED. BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
- BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
- 4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
- JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE. SPACING BETWEEN THE CHAMBER ROWS. MAINTAIN MINIMUM -
- 7. INLET AND OUTLET MANIFOLDS MUST BE INSERTED A MINIMUM OF 12" (300 mm) INTO CHAMBER END CAPS.
- EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE MEETING THE AASHTO M43 DESIGNATION OF #3 OR #4.
- 9. STONE MUST BE PLACED ON THE TOP CENTER OF THE CHAMBER TO ANCHOR THE CHAMBERS IN PLACE AND
- 10. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
- ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

- STORMTECH MC-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
- THE USE OF EQUIPMENT OVER MC-3500 CHAMBERS IS LIMITED:
- NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS. NO RUBBER TIRED LOADER, DUMP TRUCK, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS
- ARE REACHED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE". WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH MC-3500/MC-4500"
- FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

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

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

BLUEBERRY APARTMENTS

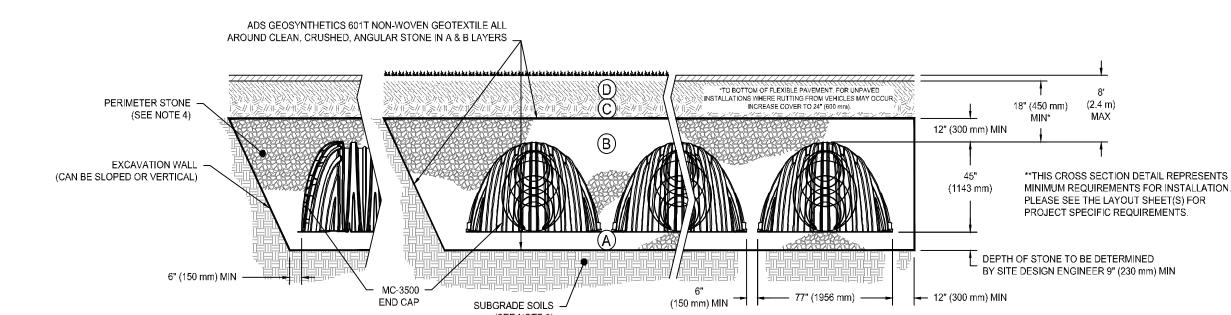
A PORTION OF SECTION 2, TOWNSHIP 23N, RANGE 01 E, W.M., CITY OF PORT ORCHARD, KITSAP COUNTY, WASHINGTON

ACCEPTABLE FILL MATERIALS: STORMTECH MC-3500 CHAMBER SYSTEMS

	MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
С	INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145 ¹ A-1, A-2-4, A-3 OR AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
В	EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43 ¹ 3, 4	NO COMPACTION REQUIRED.
A	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43¹ 3, 4	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. ^{2,3}

1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE". STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.

- WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR
- 4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



- 1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418-16a, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION
- 2. MC-3500 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- 3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION
- FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS. 4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
- REQUIREMENTS FOR HANDLING AND INSTALLATION:
- TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL INTERLOCKING STACKING LUGS.
- TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
- TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR FOLIAL TO 500 LBS/IN/IN AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
- OPTIONAL INSPECTION PORT COVER PIPE CONNECTION TO END - INSTALL FLAMP ON 24" (600 mm) ACCESS PIPE CAP WITH ADS GEOSYNTHETICS 601T PART #: MC350024RAMP NON-WOVEN GEOTEXTILE -MC-3500 CHAMBER MC-3500 END CAP STORMTECH HIGHLY RECOMMENDS FLEXSTORM INSERTS IN ANY UPSTREAM STRUCTURES WITH OPEN GRATES -ELEVATED BYPASS MANIFOLD -SUMP DEPTH TBD BY SITE DESIGN ENGINEER OR MANHOLE (24" [600 mm] MIN RECOMMENDED: · 24" (600 mm) HDPE ACCESS PIPE REQUIRED ONE LAYER OF ADSPLUS175 WOVEN GEOTEXTILE BETWEEN USE FACTORY PARTIAL CUT END CAP PART #: FOUNDATION STONE AND CHAMBERS 8.25' (2.51 m) MIN WIDE CONTINUOUS FABRIC WITHOUT SEAMS MC3500IEPP24BC OR MC3500IEPP24BW

MC-3500 ISOLATOR ROW PLUS DETAIL

PROPOSED LAYOUT STORMTECH MC-3500 CHAMBERS STORMTECH MC-3500 END CAPS STONE ABOVE (in) STONE BELOW (in)

MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED) 1

MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC)

TOP OF MC-3500 CHAMBER

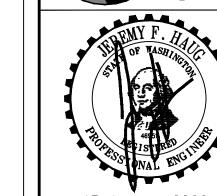
24" ISOLATOR ROW PLUS CONNECTION INVERT

GRADE, WITH ADDITIONAL MITIGATION MEASURES REQUIRED.

UNDERDRAIN INVERT

% STONE VOID INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED) SYSTEM AREA (ft²) SYSTEM PERIMETER (ft) PROPOSED ELEVATIONS 342.69 MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC) MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT) MINIMUM ALLOWABLE GRADE (TOP OF RIGID PAVEMENT) TOP OF STONE 341.69 338.94 24" TOP MANIFOLD INVERT 24" BOTTOM MANIFOLD INVERT BOTTOM OF MC-3500 CHAMBER 336.94 336.19 BOTTOM OF STONE NOTE 1: PER EMAIL CORRESPONDENCE WITH ADS, MAXIMUM ALLOWABLE COVER IS 15' FROM TOP OF CHAMBER TO FINISHED

13 January 2022



DESIGNER: M. GOULARTE ENGINEER: J. HAUG

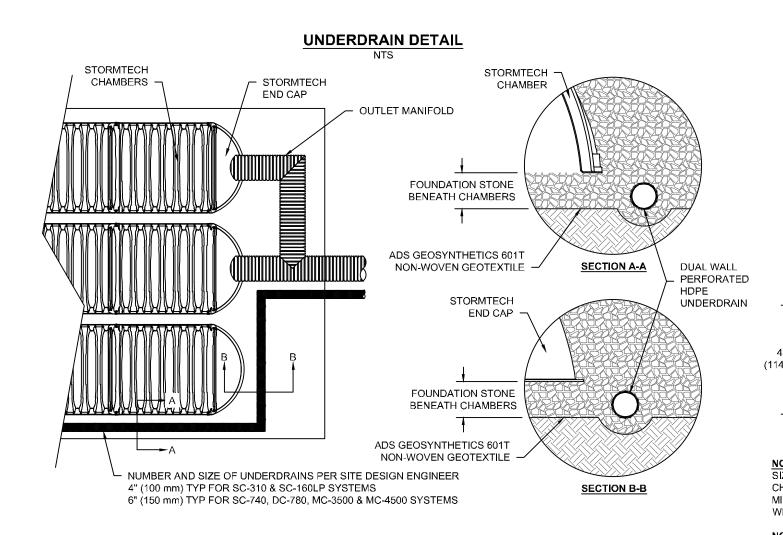
DRAWN: A. KING S2 T23 N R01E WM DATE: 13 January 2022 REVISED: --.--

PROJECT: 21-142 DWG NAME: 21-142-C

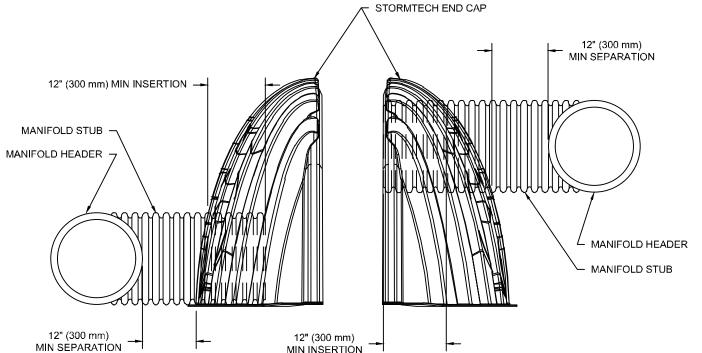
SHEET 34 OF 40



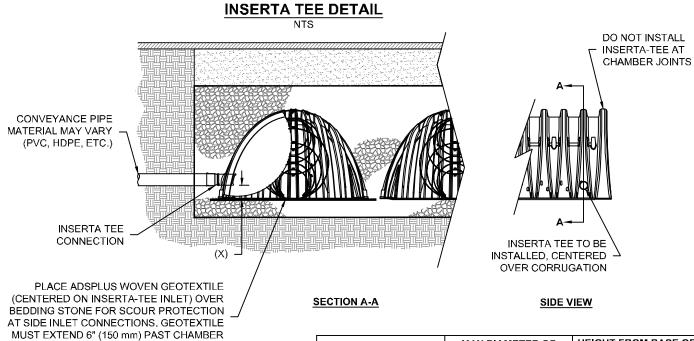
A PORTION OF SECTION 2, TOWNSHIP 23N, RANGE 01 E, W.M., CITY OF PORT ORCHARD, KITSAP COUNTY, WASHINGTON



MC-SERIES END CAP INSERTION DETAIL STORMTECH END CAP

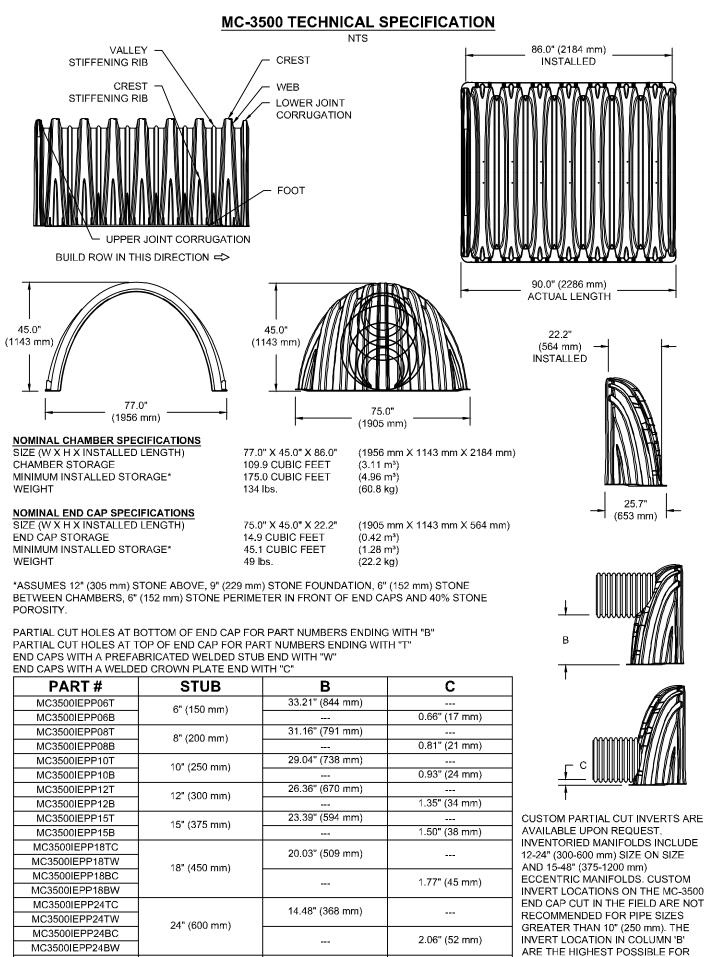


NOTE: MANIFOLD STUB MUST BE LAID HORIZONTAL FOR A PROPER FIT IN END CAP OPENING.



CONTACT STORMTECH FOR MORE INFORMATION.

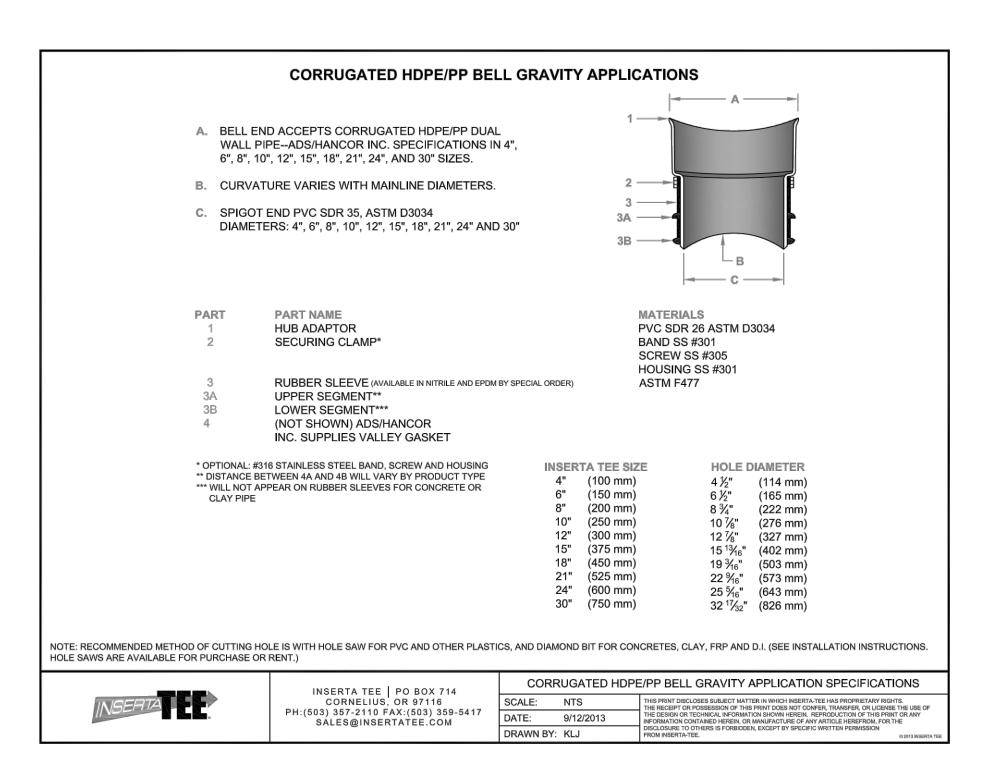
MUST EVEND ST (450 mm) DAST CHAMBED			
MUST EXTEND 6" (150 mm) PAST CHAMBER FOOT	CHAMBER	MAX DIAMETER OF INSERTA TEE	HEIGHT FROM BASE OF CHAMBER (X)
	SC-310	6" (150 mm)	4" (100 mm)
	SC-740	10" (250 mm)	4" (100 mm)
	DC-780	10" (250 mm)	4" (100 mm)
	MC-3500	12" (300 mm)	6" (150 mm)
NOTE:	MC-4500	12" (300 mm)	8" (200 mm)
PART NUMBERS WILL VARY BASED ON INLET PIPE MATERIALS. CONTACT STORMTECH FOR MORE INFORMATION.		GS AVAILABLE FOR SDR 2 WELD, N-12, HP STORM	•



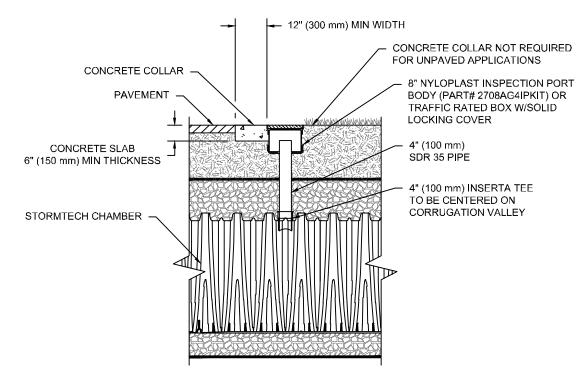
2.75" (70 mm) THE PIPE SIZE.

MC3500IEPP30BC | 30" (750 mm)

NOTE: ALL DIMENSIONS ARE NOMINAL



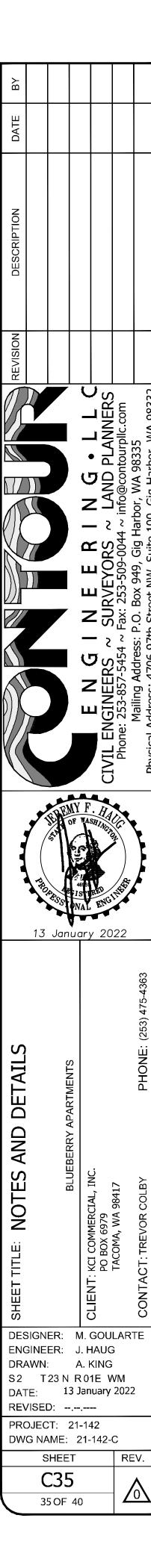




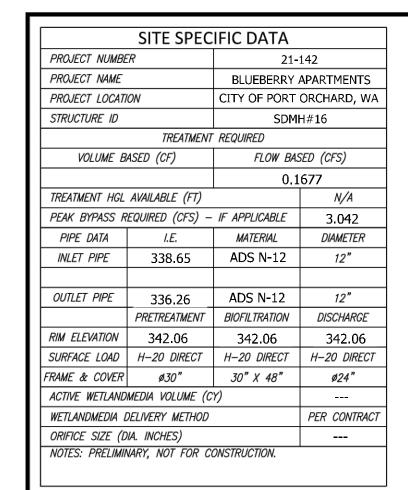
INSPECTION PORTS MAY BE CONNECTED THROUGH ANY CHAMBER CORRUGATION VALLEY.

4" PVC INSPECTION PORT DETAIL





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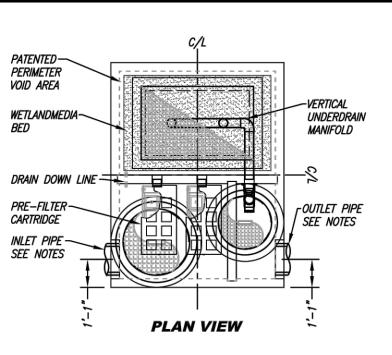


INSTALLATION NOTES

- CONTRACTOR TO PROVIDE ALL LABOR. EQUIPMENT. MATERIALS AND INCIDENTALS REQUIRED TO OFFLOAD AND INSTALL THE SYSTEM AND APPURTENANCES IN ACCORDANCE WITH THIS DRAWING AND THE MANUFACTURERS SPECIFICATIONS, UNLESS OTHERWISE STATED IN MANUFACTURERS CONTRACT.
- UNIT MUST BE INSTALLED ON LEVEL BASE. MANUFACTURER RECOMMENDS A MINIMUM 6" LEVEL ROCK BASE UNLESS SPECIFIED BY THE PROJECT ENGINEER. CONTRACTOR IS RESPONSIBLE TO VERIFY PROJECT ENGINEERS RECOMMENDED BASE SPECIFICATIONS.
- ALL PIPES MUST BE FLUSH WITH INSIDE SURFACE OF CONCRETE. (PIPES CANNOT INTRUDE BEYOND FLUSH). INVERT OF OUTFLOW PIPE MUST BE FLUSH WITH DISCHARGE CHAMBER FLOOR. ALL GAPS AROUND PIPES SHALL BE SEALED WATER TIGHT WITH A NON-SHRINK GROUT PER MANUFACTURERS STANDARD CONNECTION DETAIL AND SHALL MEET OR EXCEED REGIONAL PIPE CONNECTION STANDARDS. CONTRACTOR TO SUPPLY AND INSTALL ALL EXTERNAL CONNECTING
- CONTRACTOR RESPONSIBLE FOR INSTALLATION OF ALL RISERS.
- MANHOLES, AND HATCHES. CONTRACTOR TO GROUT ALL MANHOLES AND HATCHES TO MATCH FINISHED SURFACE UNLESS SPECIFIED OTHERWISE. DRIP OR SPRAY IRRIGATION REQUIRED ON ALL UNITS WITH VEGETATION. CONTRACTOR RESPONSIBLE FOR CONTACTING MODULAR WETLANDS FOR ACTIVATION OF UNIT. MANUFACTURES WARRANTY IS VOID WITH OUT

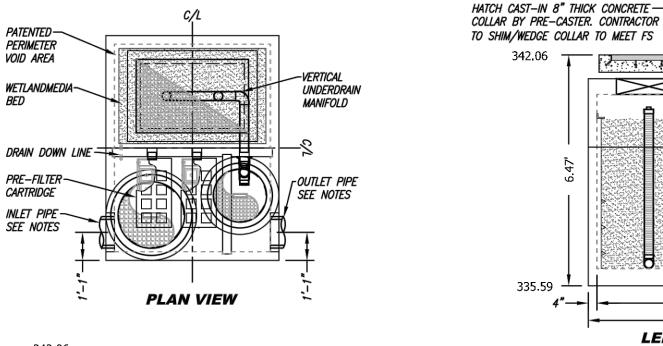
PROPER ACTIVATION BY A MODULAR WETLANDS REPRESENTATIVE. GENERAL NOTES

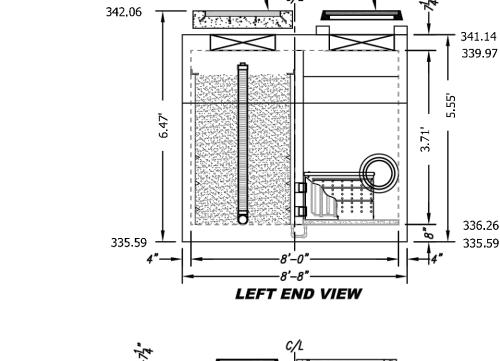
MANUFACTURER TO PROVIDE ALL MATERIALS UNLESS OTHERWISE NOTED. ALL DIMENSIONS, ELEVATIONS, SPECIFICATIONS AND CAPACITIES ARE SUBJECT TO CHANGE. FOR PROJECT SPECIFIC DRAWINGS DETAILING EXACT DIMENSIONS, WEIGHTS AND ACCESSORIES PLEASE CONTACT MANUFACTURER.

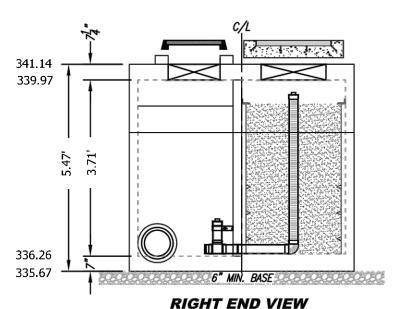


TOP OF

GRADE RING







TREATMENT FLOW (CFS)

OPERATING HEAD (FT)

PRETREATMENT LOADING RATE (GPM/SF)

WETLAND MEDIA LOADING RATE (GPM/SF)

MWS-L-6-8-V-UG-HC

STORMWATER BIOFILTRATION SYSTEM

STANDARD DETAIL

INTERNAL BYPASS DISCLOSURE:
THE DESIGN AND CAPACITY OF THE PEAK CONVEYANCE METHOD TO BE REVIEWED
AND APPROVED BY THE ENGINEER OF RECORD. HGL(S) AT PEAK FLOW SHALL BE

ELEVATION VIEW

ASSESSED TO ENSURE NO UPSTREAM FLOODING. PEAK HGL AND BYPASS CAPACITY SHOWN ON DRAWING ARE USED FOR GUIDANCE ONLY. THE PRODUCT DESCRIBED MAY BE PROTECTED BY ONE OR MORE OF THE FOLLOWING US PATENTS: 7,425,262; 7,470,362; 7,674,378; 8,303,816; RELATED FOREIGN PATENTS OR OTHER PATENTS PENDING PROPRIETARY AND CONFIDENTIALS THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF MODULAR WETLANDS SYSTEMS. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF MODULAR WETLANDS SYSTEMS IS PROHIBITED.

PROJECT NUMBER 21-142 PROJECT NAME **BLUEBERRY APARTMENTS** CITY OF PORT ORCHARD, WA PROJECT LOCATION STRUCTURE ID SDMH#6.2 TREATMENT REQUIRED VOLUME BASED (CF) FLOW BASED (CFS) 0.1677 TREATMENT HGL AVAILABLE (FT) N/A PEAK BYPASS REQUIRED (CFS) - IF APPLICABLE 3.042 PIPE DATA MATERIAL DIAMETER ADS N-12 339.14 INLET PIPE 12" ADS N-12 OUTLET PIPE 336.26 12" PRETREATMENT BIOFILTRATION DISCHARGE RIM ELEVATION 342.64 342.64 342.64 SURFACE LOAD | H-20 DIRECT H-20 DIRECT H-20 DIRECT ø30" 30" X 48" FRAME & COVER ø24" ACTIVE WETLANDMEDIA VOLUME (CY) WETLANDMEDIA DELIVERY METHOD PER CONTRACT ORIFICE SIZE (DIA. INCHES) ---NOTES: PRELIMINARY, NOT FOR CONSTRUCTION

2.39

INSTALLATION NOTES

ENERAL NOTES

CONTRACTOR TO PROVIDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS REQUIRED TO OFFLOAD AND INSTALL THE SYSTEM AND APPURTENANCES IN ACCORDANCE WITH THIS DRAWING AND THE MANUFACTURERS SPECIFICATIONS, UNLESS OTHERWISE STATED IN MANUFACTURERS CONTRACT.

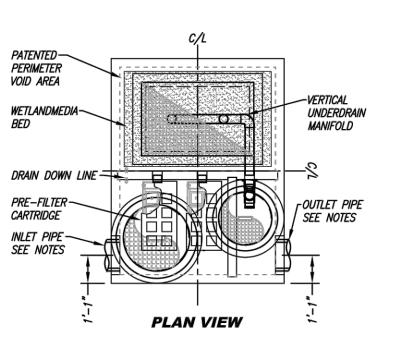
SITE SPECIFIC DATA

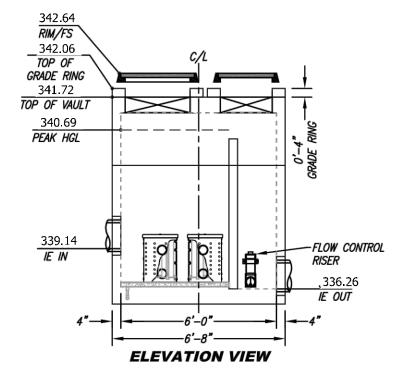
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- AROUND PIPES SHALL BE SEALED WATER TIGHT WITH A NON-SHRINK GROUT PER MANUFACTURERS STANDARD CONNECTION DETAIL AND SHALL MEET OR EXCEED REGIONAL PIPE CONNECTION STANDARDS. CONTRACTOR TO SUPPLY AND INSTALL ALL EXTERNAL CONNECTING
- CONTRACTOR RESPONSIBLE FOR INSTALLATION OF ALL RISERS, MANHOLES, AND HATCHES. CONTRACTOR TO GROUT ALL MANHOLES AND HATCHES TO MATCH FINISHED SURFACE UNLESS SPECIFIED OTHERWISE. DRIP OR SPRAY IRRIGATION REQUIRED ON ALL UNITS WITH VEGETATION. CONTRACTOR RESPONSIBLE FOR CONTACTING MODULAR WETLANDS FOR

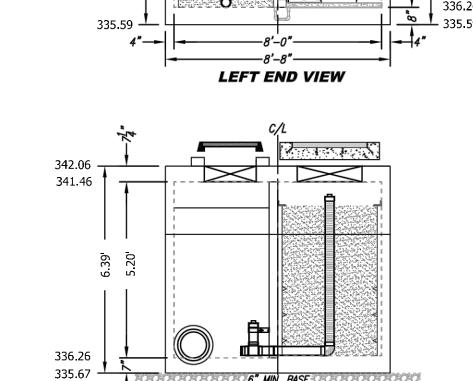
PROPER ACTIVATION BY A MODULAR WETLANDS REPRESENTATIVE.

ACTIVATION OF UNIT. MANUFACTURES WARRANTY IS VOID WITH OUT

MANUFACTURER TO PROVIDE ALL MATERIALS UNLESS OTHERWISE NOTED. ALL DIMENSIONS. ELEVATIONS. SPECIFICATIONS AND CAPACITIES ARE SUBJECT TO CHANGE. FOR PROJECT SPECIFIC DRAWINGS DETAILING EXACT DIMENSIONS, WEIGHTS AND ACCESSORIES PLEASE CONTACT MANUFACTURER.







RIGHT END VIEW

HATCH CAST-IN 8" THICK CONCRETE -

COLLAR BY PRE-CASTER. CONTRACTOR TO SHIM/WEDGE COLLAR TO MEET FS

INTERNAL BYPASS DISCLOSURE:

THE DESIGN AND CAPACITY OF THE PEAK CONVEYANCE METHOD TO BE REVIEWED AND APPROVED BY THE ENGINEER OF RECORD. HGL(S) AT PEAK FLOW SHALL BE ASSESSED TO ENSURE NO UPSTREAM FLOODING. PEAK HGL AND BYPASS CAPACITY SHOWN ON DRAWING ARE USED FOR GUIDANCE ONLY.

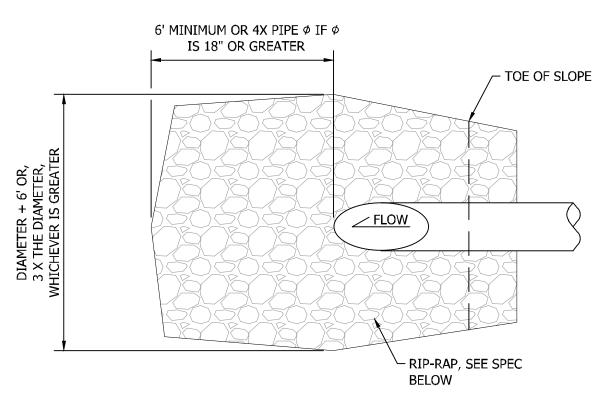
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8,303,816; RELATED FOREIGN PATENTS OR OTHER PATENTS PENDING	REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF MODULAR WETLANDS SYSTEMS IS PROHIBITED.	A Foi

TREATMENT FLOW (CFS) 0.16**7**7 OPERATING HEAD (FT) 2.88 PRETREATMENT LOADING RATE (GPM/SF) ---WETLAND MEDIA LOADING RATE (GPM/SF)

MWS-L-6-8-V-UG-HC STORMWATER BIOFILTRATION SYSTEM STANDARD DETAIL



SDMH#16 - WATER QUALITY VAULT (NORTH) NOT TO SCALE



L=DIAMETER X 1.5 ∠ FLOW - PLACE FILTER FABRIC AT BASE OF RIPRAP

OUTLET SECTION

OUTLET PLAN

RIP-RAP SPEC

FLOW VELOCITY LESS THAN 5 FPS MAXIMUM STONE SIZE = 8" MEDIAN STONE SIZE = 5" MINIMUM STONE SIZE = 2" MINIMUM THICKNESS = 12"

FLOW VELOCITY BETWEEN 5-10 FPS MAXIMUM STONE SIZE = 48" MEDIAN STONE SIZE = 36" MINIMUM STONE SIZE = 24" MINIMUM THICKNESS = 24"

INLET/OUTLET PROTECTION DETAIL

SDMH#6.2 - WATER QUALITY VAULT (SOUTH)

13 January 2022

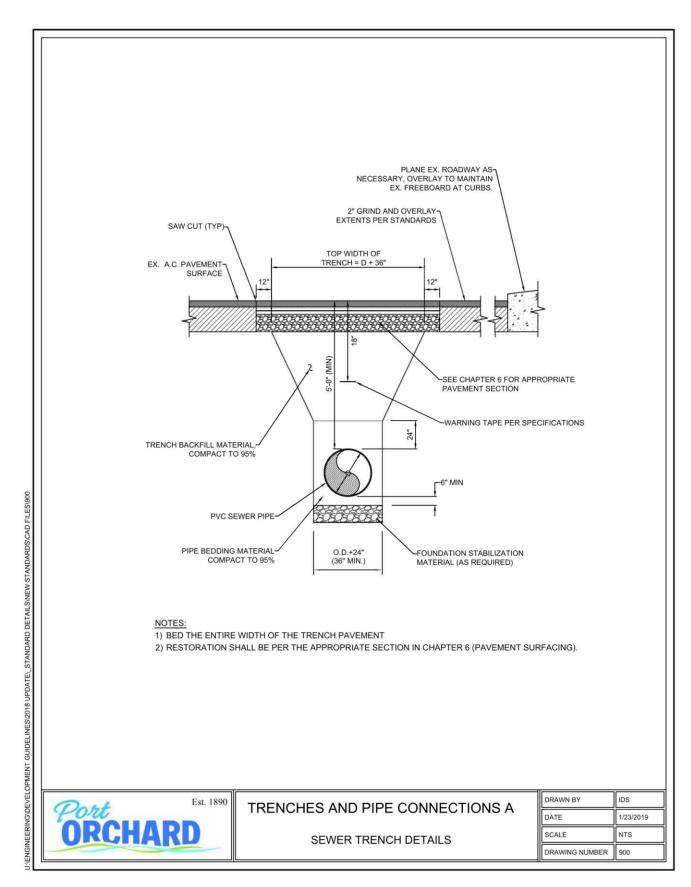
DETAIL NOTES

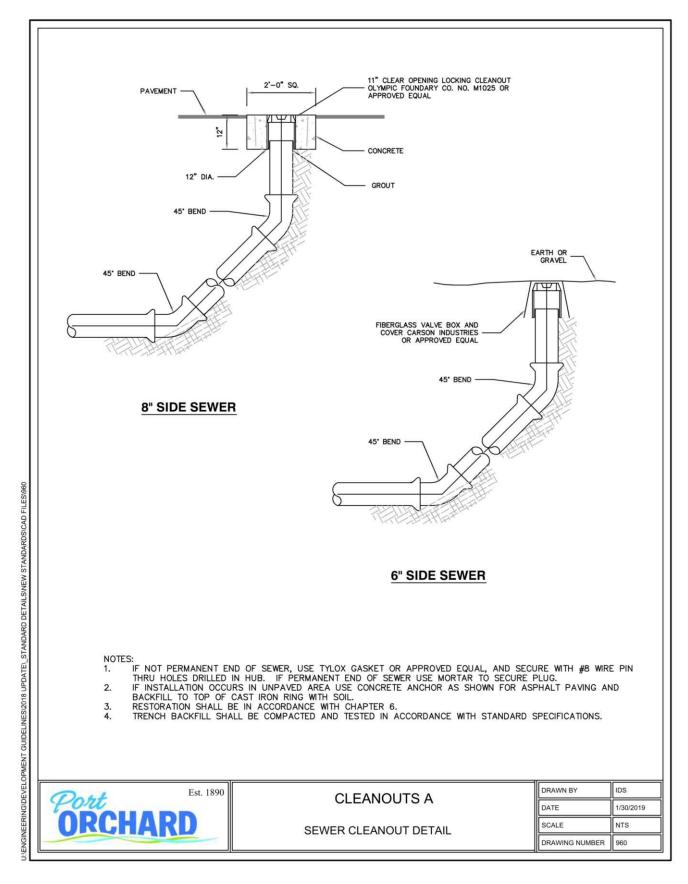
DESIGNER: M GOULARTE ENGINEER: J. HAUG DRAWN: A. KING S2 T23 N R01E WM DATE: 13 January 2022 REVISED: --.--

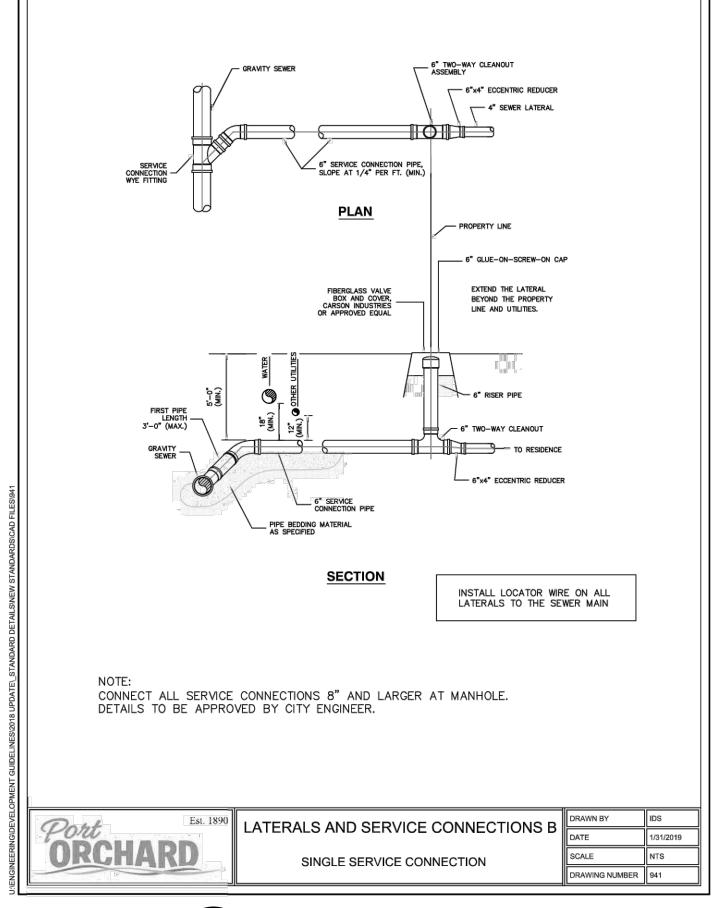
PROJECT: 21-142 DWG NAME: 21-142-C SHEET REV.

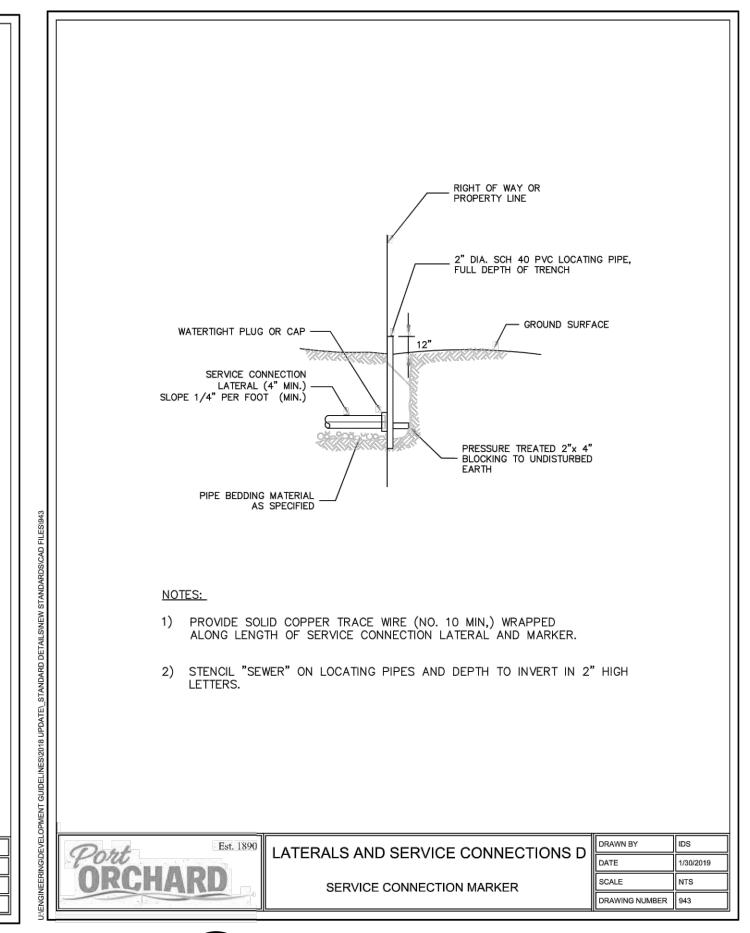
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A PORTION OF SECTION 2, TOWNSHIP 23N, RANGE 01 E, W.M., CITY OF PORT ORCHARD, KITSAP COUNTY, WASHINGTON





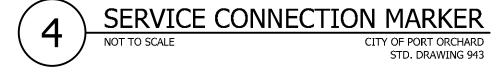










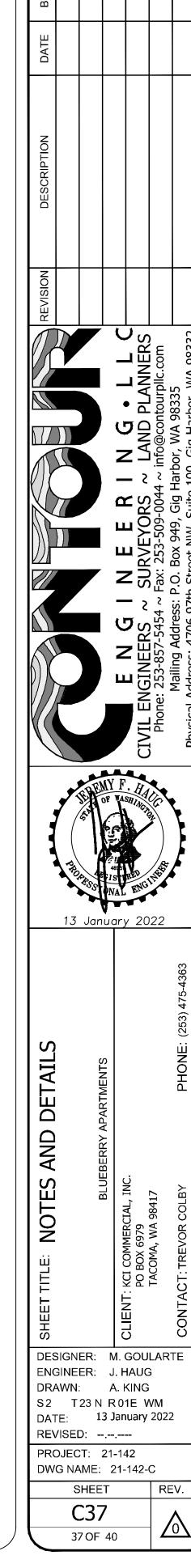


GENERAL SEWER NOTES

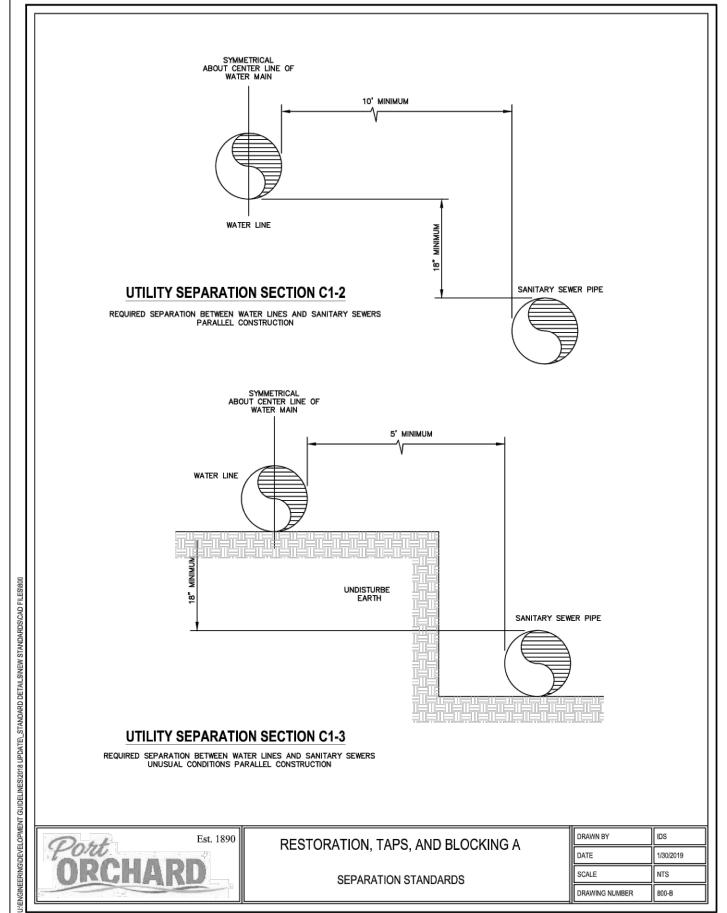
- 1. ALL WORK SHALL CONFORM TO THE CURRENT CITY OF PORT ORCHARD PUBLIC WORKS ENGINEERING STANDARDS AND SPECIFICATIONS.
- 2. ALL NEW MANHOLES SHALL BE INSTALLED WITH A GU MANHOLE BASE LINER, OR EQUAL.
- 3. LOT CORNERS MUST BE SET AND SIDE SEWER LOCATIONS VERIFIED IN THE FIELD PRIOR TO CONSTRUCTION.4. TOPS OF MANHOLES WITHIN PUBLIC RIGHTS-OF-WAY SHALL NOT BE ADJUSTED TO FINAL GRADE UNTIL JUST PRIOR TO PAVING.
- 5. ALL MANHOLES IN UNPAVED AREAS SHALL INCLUDE A CONCRETE SEAL AROUND ADJUSTING RINGS PER STANDARD DETAIL.
- 6. CONTRACTOR SHALL ADJUST ALL MANHOLE RIMS TO FLUSH WITH FINAL FINISHED GRADES, UNLESS OTHERWISE SHOWN.
- 7. ALL SEWER MAIN EXTENSIONS WITHIN THE PUBLIC RIGHT-OF-WAY OR IN EASEMENTS MUST BE "STAKED" BY A SURVEYOR LICENSED IN WASHINGTON STATE FOR "LINE AND GRADE" PRIOR TO STARTING CONSTRUCTION.
- 8. CONTRACTOR SHALL INSTALL, AT ALL CONNECTIONS TO EXISTING DOWNSTREAM MANHOLES, SCREENS OR PLUGS TO PREVENT FOREIGN MATERIALS FROM ENTERING EXISTING SANITARY SEWER SYSTEM. SCREENS OR PLUGS SHALL REMAIN IN PLACE THROUGHOUT THE DURATION OF CONSTRUCTION AND SHALL BE REMOVED ALONG WITH COLLECTED DEBRIS AT THE TIME OF FINAL INSPECTION AND IN THE PRESENCE OF A REPRESENTATIVE FROM PUBLIC WORKS.
- 9. THE CONTRACTOR SHALL MAINTAIN A MINIMUM OF TEN FEET (10') HORIZONTAL SEPARATION BETWEEN ALL WATER AND SEWER LINES. ANY CONFLICTS SHALL BE REPORTED TO PUBLIC WORKS AND THE ENGINEER PRIOR TO CONSTRUCTION.
- 10. THE CONTRACTOR SHALL ENSURE AND VERIFY THAT NO CONFLICTS EXIST BETWEEN SANITARY SEWER LINES AND PROPOSED OR EXISTING UTILITIES PRIOR TO CONSTRUCTION.
- 11. MINIMUM COVER OVER SEWER PIPE SHALL BE FIVE FEET, UNLESS OTHERWISE SHOWN.
- 12. SIDE SEWER DEMOLITION SHALL BE PERFORMED PRIOR TO REMOVAL OF BUILDING FOUNDATION. THE SIDE SEWER FOR EACH BUILDING SHALL BE ABANDONED FROM THE BUILDING CONNECTION TO THE EDGE OF THE PUBLIC RIGHT-OF-WAY, OR PROPERTY LINE. THE CONTRACTOR SHALL CAP THE END OF THE SIDE SEWER STUB TO REMAIN IN PLACE. SIDE SEWER DEMOLITION SHALL BE PERFORMED IN THE PRESENCE OF A REPRESENTATIVE FROM PUBLIC WORKS.

GENERAL SEWER NOTES CONTINUED

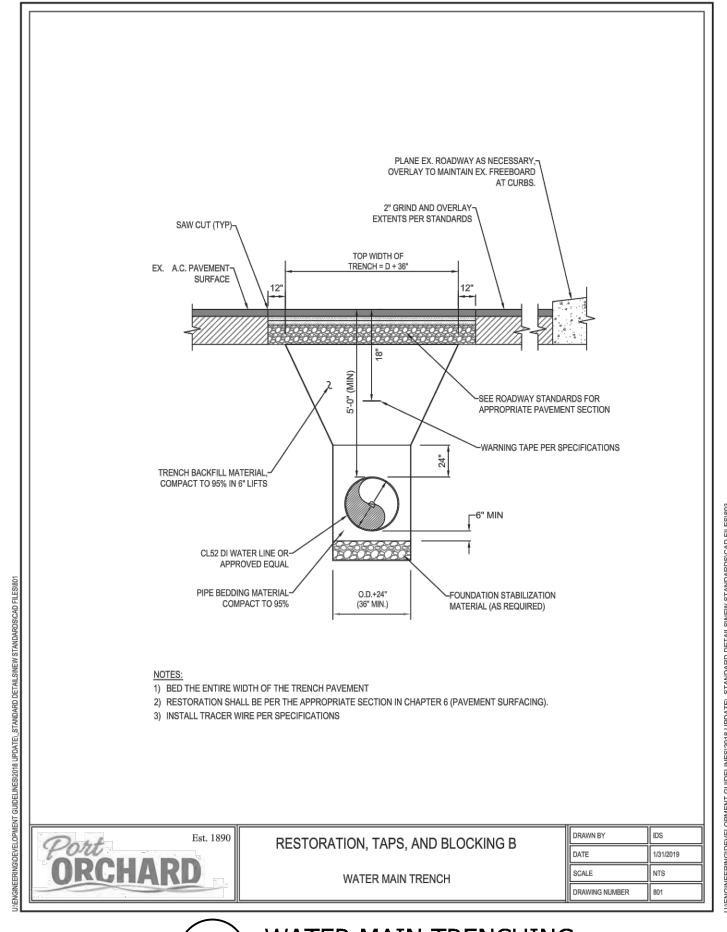
- 13. AVOID CROSSING WATER OR SEWER MAINS AT HIGHLY ACUTE ANGLES. THE SMALLEST ANGLE MEASURE BETWEEN UTILITIES SHOULD BE 45
- 14. AT POINTS WHERE EXISTING THRUST BLOCKING IS FOUND, MINIMUM CLEARANCE BETWEEN THE CONCRETE BLOCKING AND OTHER BURIED UTILITIES OR STRUCTURES SHALL BE 5 FEET.
- 15. ALL SEWER MAINS AND APPURTENANCES SHALL BE AIR TESTED PER SECTION 7-17(2)F OF THE WSDOT STANDARD SPECIFICATIONS. ALL TESTING EQUIPMENT SHOWN ON THE CONSTRUCTION PLANS AND THAT ARE NECESSARY FOR PERFORMING THE TEST SHALL BE FURNISHED AND OPERATED BY THE CONTRACTOR. THE PIPELINE TRENCH SHALL BE COMPACTED PRIOR TO TESTING SEWER LINES.
- 16. ALL TESTING AND CONNECTIONS TO EXISTING MAINS SHALL BE DONE IN THE PRESENCE OF PUBLIC WORKS STAFF.
- 17. SIDE SEWER STUBS SHALL BE TESTED FOR ACCEPTANCE AT THE SAME TIME THE MAIN SEWER IS TESTED.
- 18. ALL GRAVITY SEWER PIPE SHALL BE CLEANED AND FLUSHED AFTER BACKFILLING AND COMPACTION IN ACCORDANCE WITH SECTION 7-17.3(2)
 A OF THE WSDOT STANDARD SPECIFICATIONS. THE PIPE SHALL BE CLEANED AND FLUSHED BY PASSING AN INFLATABLE RUBBER BALL
 THROUGH THE COMPLETED SECTION OR USING A FLUSH TRUCK. ANY OBSTRUCTION SUCH AS CEMENTED GROUT OR DEBRIS FOUND IN THE
 COMPLETED SECTION SHALL BE REMOVED. DO NOT ALLOW FLUSHED WATER AND DEBRIS INTO THE EXISTING COLLECTION SYSTEM.
- 19. THE CONTRACTOR SHALL PROVIDE COLOR CCTV EQUIPMENT SHALL INCLUDE TELEVISION CAMERAS, A TELEVISION MONITOR, CABLES, POWER SOURCES, SIDE-LAUNCH CAPABLE IF NECESSARY, AND OTHER EQUIPMENT. FOCAL DISTANCE SHALL BE ADJUSTABLE THROUGH A RANGE FROM 6 INCHES TO INFINITY. THE CCTV EQUIPMENT SHALL INCLUDE A DISTANCE MEASURING INSTRUMENT (DMI) TO MEASURE THE HORIZONTAL DISTANCE TRAVELED BY THE CAMERA. THE DMI READOUT SHALL APPEAR CONTINUOUSLY ON THE VIDEO PRODUCED BY THE INSPECTION AND SHALL BE ACCURATE TO LESS THAN 1 PERCENT ERROR OVER THE LENGTH OF THE SECTION OF PIPELINE BEING INSPECTED. FOR STORM OR SANITARY SEWERS, THE LENGTH IS MEASURED FROM THE CENTERLINE OF THE MANHOLE OR CATCH BASIN TO THE CENTERLINE OF THE NEXT MANHOLE OR CATCH BASIN.

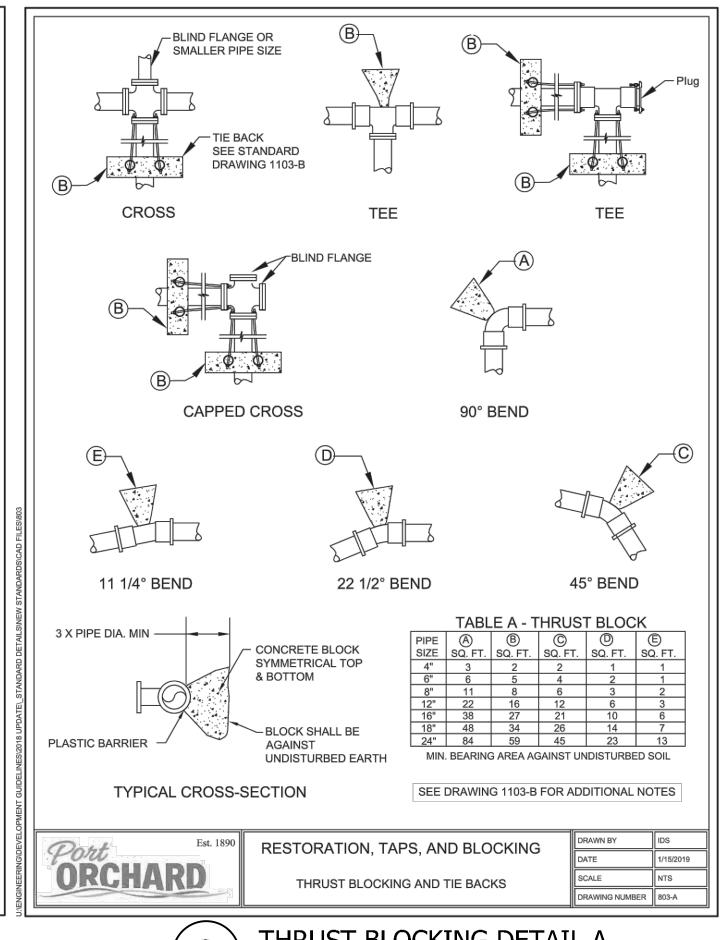


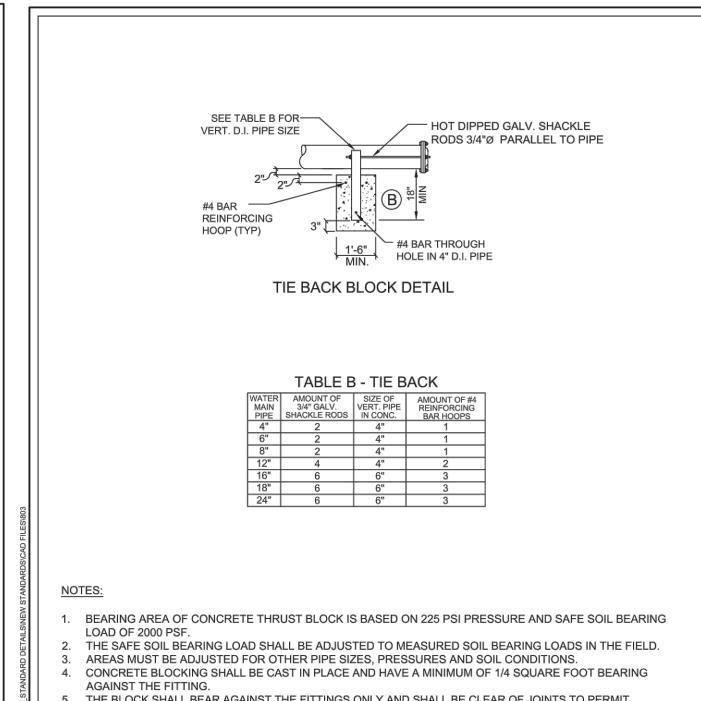
A PORTION OF SECTION 2, TOWNSHIP 23N, RANGE 01 E, W.M., CITY OF PORT ORCHARD, KITSAP COUNTY, WASHINGTON



SEPARATION STANDARDS









NTS WING NUMBER 803-B

CITY OF PORT ORCHARD

STD. DRAWING 803-B



13 January 2022

DETAIL

NOTES AND

ENGINEER: J. HAUG DRAWN: A. KING S2 T23 N R01E WM DATE: 13 January 2022 REVISED: --.--

PROJECT: 21-142 DWG NAME: 21-142-C

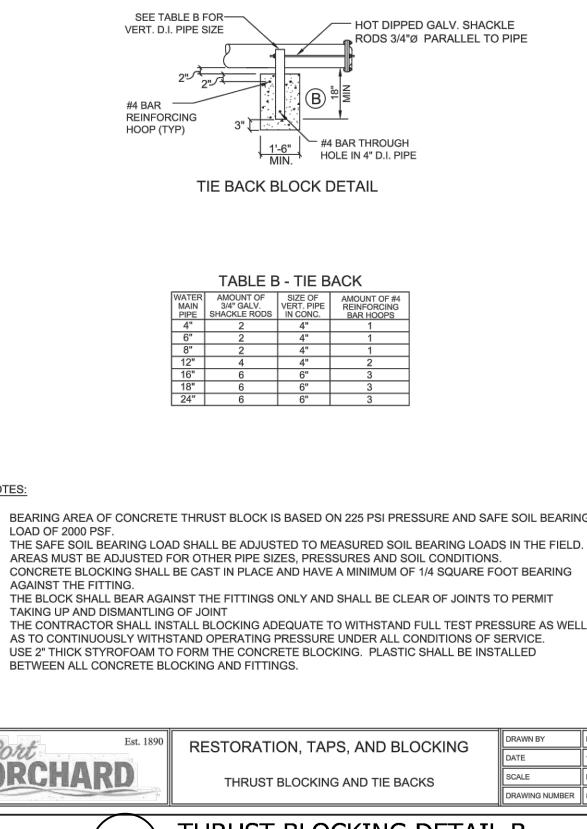
> SHEET 38 OF 40

WATER MAIN TRENCHING CITY OF PORT ORCHARD STD. DRAWING 801



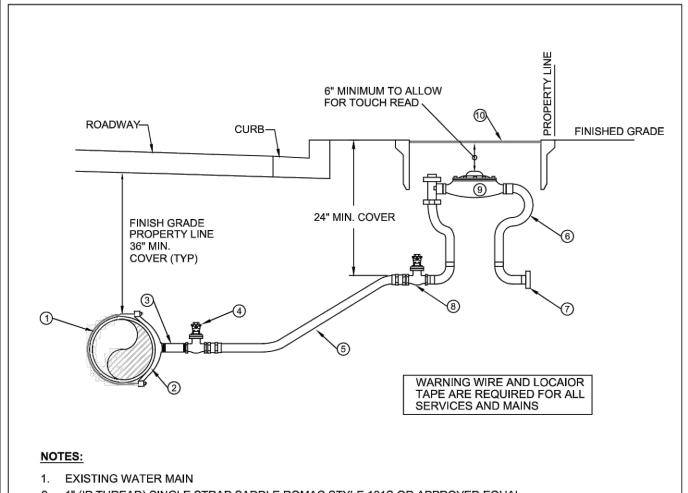




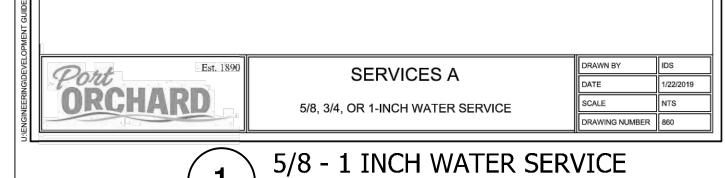


A PORTION OF SECTION 2, TOWNSHIP 23N, RANGE 01 E, W.M., CITY OF PORT ORCHARD, KITSAP COUNTY, WASHINGTON

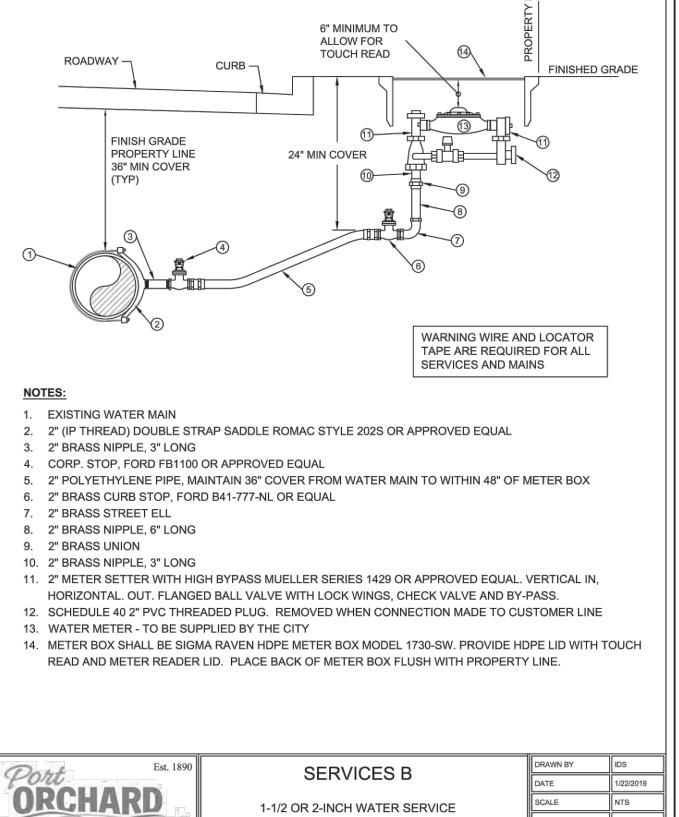
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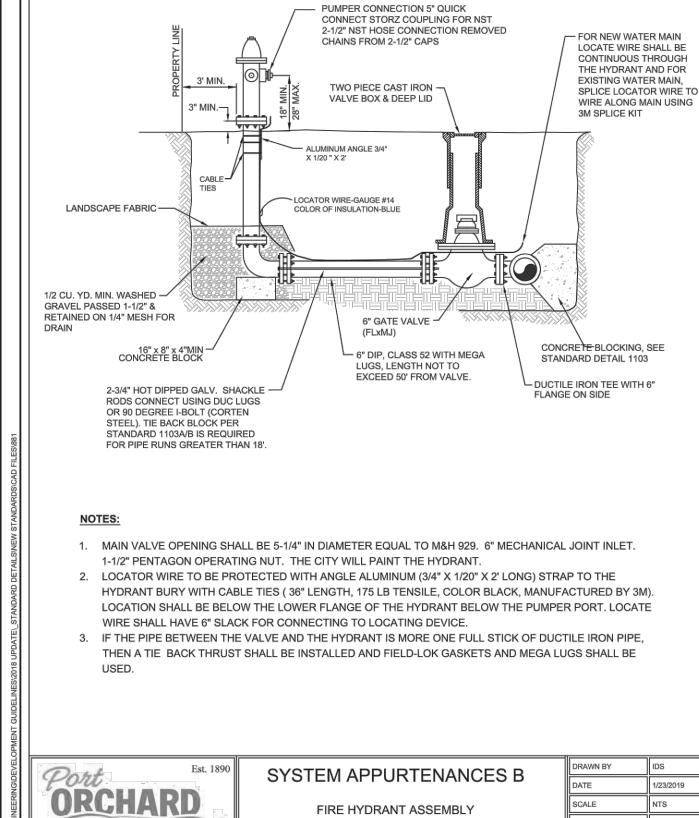


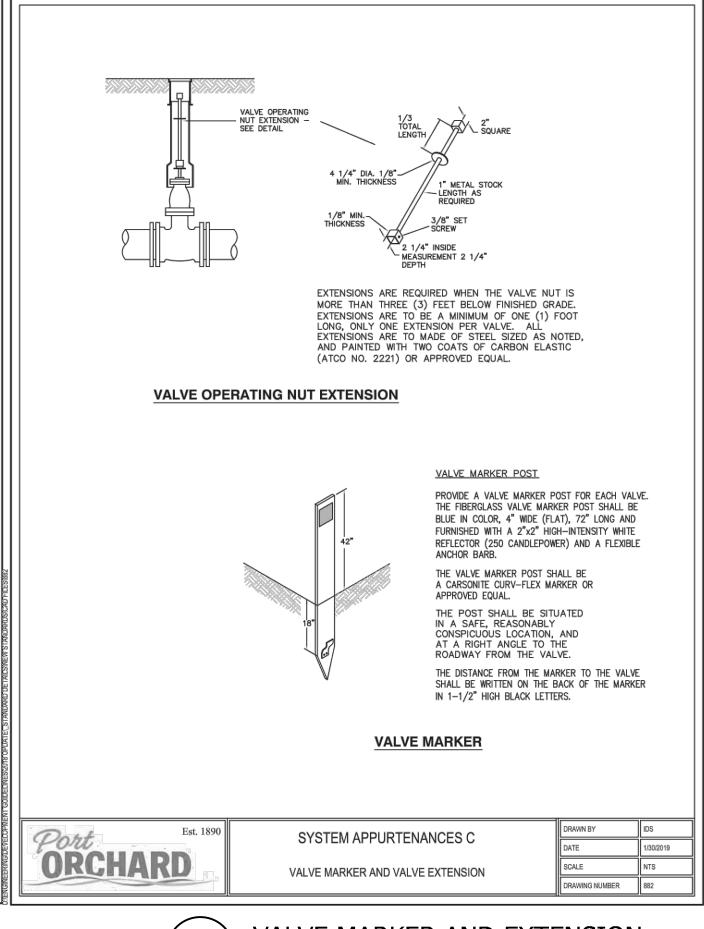
- 2. 1" (IP THREAD) SINGLE STRAP SADDLE ROMAC STYLE 101S OR APPROVED EQUAL
- 1" BRASS NIPPLE, 3" LONG
- 4. CORP. STOP, FORD FB1100 OR APPROVED EQUAL
- 5. 1" POLYETHYLENE PIPE, MAINTAIN 36" COVER FROM WATER MAIN TO WITHIN 48" OF METER BOX
- 6. 1" METER SETTER MUELLER 1434 OR APPROVED EQUAL HORIZONTAL IN, HORIZONTAL OUT. M.I.P. THREAD ENDS.
- 7. SCHEDULE 40 1" PVC THREADED PLUG. REMOVED WHEN CONNECTION MADE TO CUSTOMER
- 8. BRASS CURB STOP, FORD B41-444-NL OR EQUAL.
- 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.

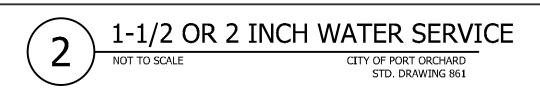


CITY OF PORT ORCHARD









1-1/2 OR 2-INCH WATER SERVICE



NTS

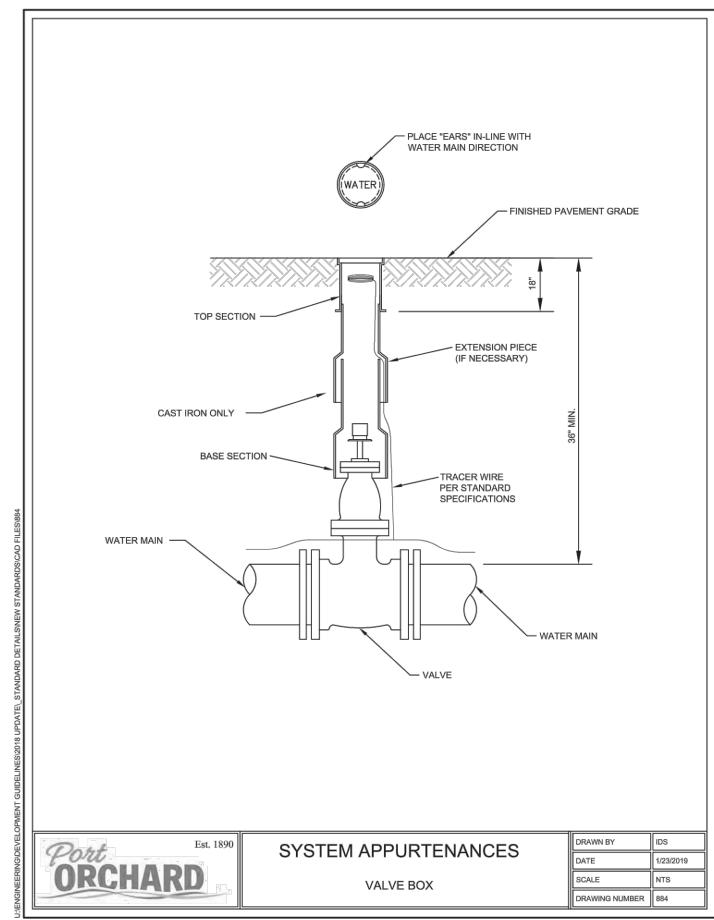


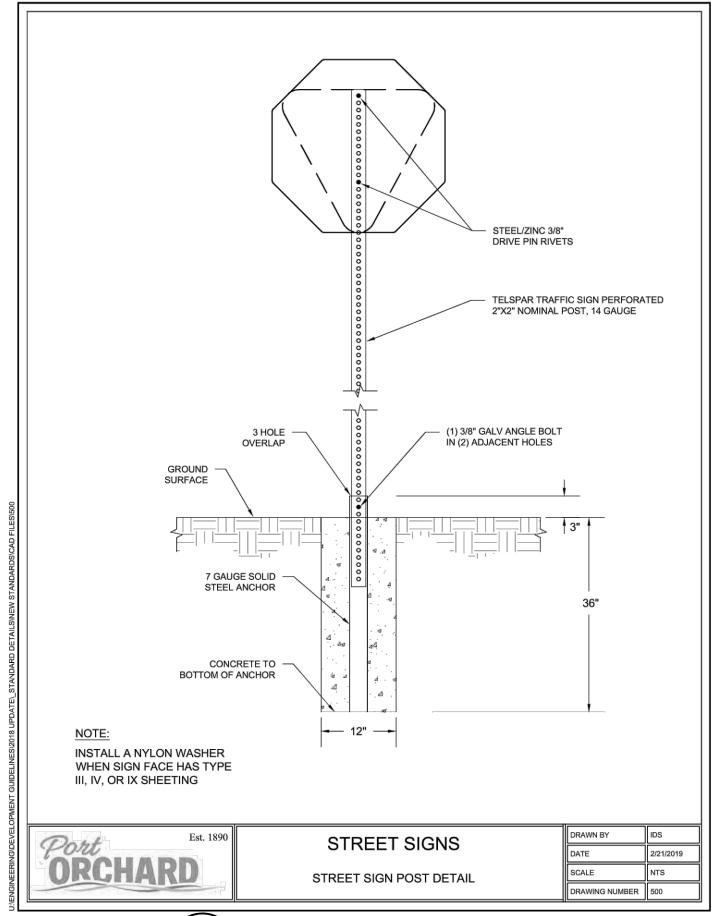


SHEET

39 OF 40

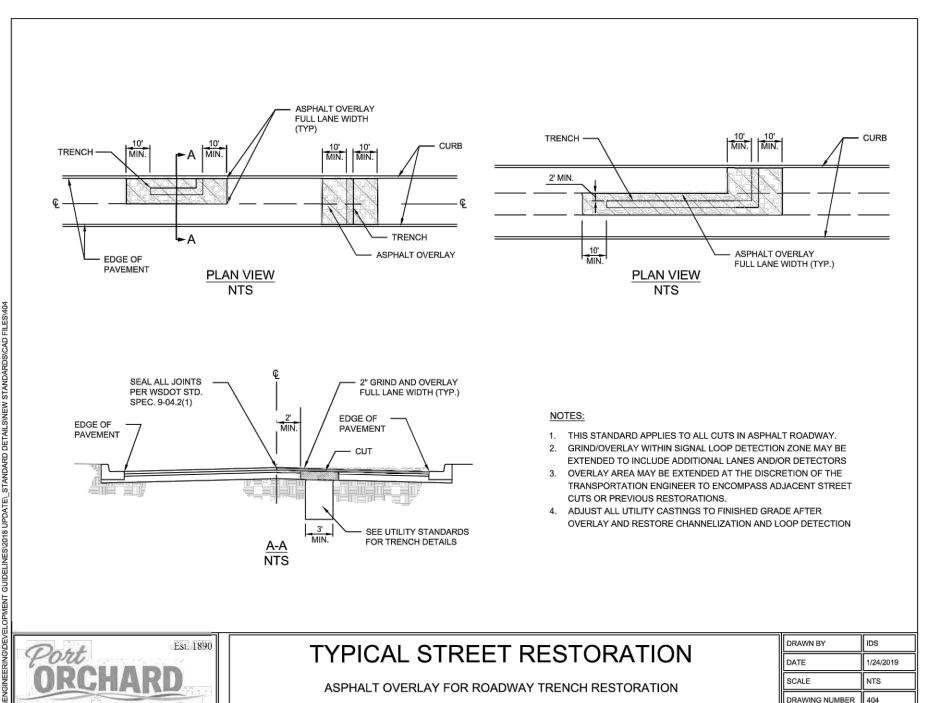
A PORTION OF SECTION 2, TOWNSHIP 23N, RANGE 01 E, W.M., CITY OF PORT ORCHARD, KITSAP COUNTY, WASHINGTON





VALVE BOX CITY OF PORT ORCHARD STD. DRAWING 864

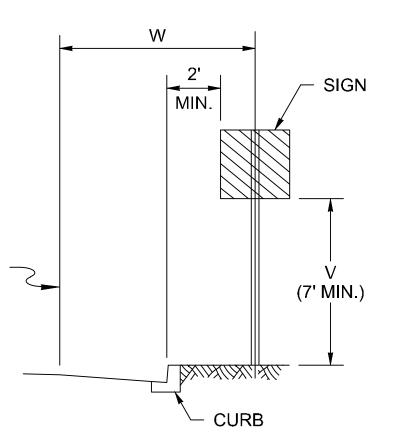
STREET SIGNS CITY OF PORT ORCHARD



CITY OF PORT ORCHARD

PAVEMENT MARKING NOTE

- 1. ALL PAVEMENT MARKINGS WITH THE EXCEPTION OF THE LONG-LINE PAINT STRIPES AND RAISED PAVEMENT MARKERS (RPM) SHALL BE THERMOPLASTIC TYPE A HOT LIQUID MATERIAL
- 2. CHANNELIZATION LINES SHALL BE 8 INCHES IN WIDTH, USING THERMOPLASTIC TYPE A HOT LIQUID MATERIAL.
- 3. STOP LINES SHALL BE 24 INCHES IN WIDTH AND LONG ENOUGH TO CROSS THE LANE OR TRAVELWAY.
- 4. CROSSWALK MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE WSDOT STANDARD PLANS. THE LENGTH OF THE CROSSWALK LINES SHALL BE 10 FEET ON ARTERIAL ROADS NOT CONTROLLED BY A STOP SIGN OR



SIGN INSTALLATION **IN CURB SECTION**

- Dotted Extension Line shall be the same color as the line it is extending.
- Edge Line shall be white on the right edge of traveled way, and yellow on the left edge of traveled way (on one-way roadways). Solid Lane Line shall be white.

The distance between the lines of the Double Centerline shall be 12" everywhere, except 4" for left-turn channelization and narrow roadways with lane widths of 10 feet or less. Local Agencies (on non-state routes) may specify a 4" distance for all locations.

The distance between the lines of the Double Lane Line shall be 4".

SIGN NOTE

- 1. ALL SIGNS SHALL BE MOUNTED ON SQUARE TELESPAR 14 GAUGE, 2"X2"X12' POSTS.
- 2. ROAD NAME SIGNS SHALL BE 0.125"
- 3. STREET SIGNS SHALL BE 0.080"





ENGINEER: J. HAUG S2 T23 N R01E WM DATE: 13 January 2022 REVISED: --.--

PROJECT: 21-142 DWG NAME: 21-142-C

SHEET 40 OF 40