UNITY CARE NW - FERNDALE

6044 PORTAL WAY FERNDALE, WA

LIST OF CONTACTS:

APPROVAL AGENCY: CITY OF FERNDALE 2095 MAIN STREET FERNDALE, WA. 98248

ENGINEERING FIRM: 2020 ENGINEERING, INC. 814 DUPONT STREET BELLINGHAM, WA. 98225 ENGINEER: MARK BUEHRER, PE PHONE: (360) 671-2020

<mark>DWNER:</mark> JNITY CARE NW - FER

UNITY CARE NW - FERNDALE 220 UNITY STREET BELLINGHAM, WA. 98225

SURVEYOR:
CHRISTIE AND CHRISTIE
222 GRAND AVE, SUITE D
BELLINGHAM, WA. 98225
(360) 671-8855
CONTACT: BRIAN CHRISTIE

SERVICES:

WATER / SEWER: CITY OF FERNDALE 2095 MAIN STREET FERNDALE, WA. 98248

NATURAL GAS: CASCADE NATURAL GAS 1600 IOWA STREET BELLINGHAM, WA. 98229

ELECTRICITY:
PUGET SOUND ENERGY
10885 NE 4TH STREET
P.O. BOX 97034
BELLEVUE, WA. 98009
PH: (888) 321-7779

FIRE PROTECTION:
WHATCOM COUNTY FIRE
DISTRICT #7
P.O. BOX 1599
FERNDALE, WA. 98248

HORIZONTAL DATUM:

CITY OF FERNDALE (NAD 83/91)
BASIS OF BEARINGS AND COORDINATES:
HELD POSITION OF 'FERN 6', WITH RECORD INVERSE
TO 'FERN 3', BEARING: N01°53'08"E, 4672.29'(4672.35')

VERTICAL DATUM:

CITY OF FERNDALE (NGVD 29)
HELD RECORD ELEVATION OF 'FERN 6'
ELEVATION=48.96'
TBM ON-SITE: TBM NO. 150.03-18, AS SHOWN
T.B.M. ELEV.=37.51'

LEGAL DESCRIPTION:

THAT PORTION OF CROWN COURT CONDOMINIUM, A CONDOMINIUM, ACCORDING TO THE DECLARATION THEREOF, RECORDED UNDER AUDITOR'S FILE NO. 2081002940, AND ANY AMENDMENTS THERETO, RECORDS OF WHATCOM COUNTY, WASHINGTON, LYING WITHIN LOT B, CROWN COURT LOT LINE ADJUSTMENT, AS PER THE PLAT RECORDED UNDER AUDITOR'S FILE NO. 2071001917, RECORDS OF WHATCOM COUNTY, WASHINGTON. SITUATE IN WHATCOM COUNTY, WASHINGTON.

SITE INFORMATION:

PROPERTY ADDRESSES 6044 PORTAL WA FERNDALE, WA. 98248

PROPERTY ZONING: HIGHWAY COMMERCIAL

TAX PARCEL NUMBER: 390220 310470 0000 PID 95587

SHEET LIST:

C100 COVER SHEET
C110 GENERAL NOTES
C200 EXISTING SITE PLAN
C300 DEMO PLAN
C400 T.E.S.C. PLAN
C410 T.E.S.C. DETAILS
C500 SITE PLAN
C510 SITE DETAILS
C600 GRADING & DRAINAGE PLAN
C610 DRAINAGE SECTIONS & DETAILS
C700 UTILITY PLAN
C710 UTILITY DETAILS
C711 UTILITY DETAILS (CONT.)

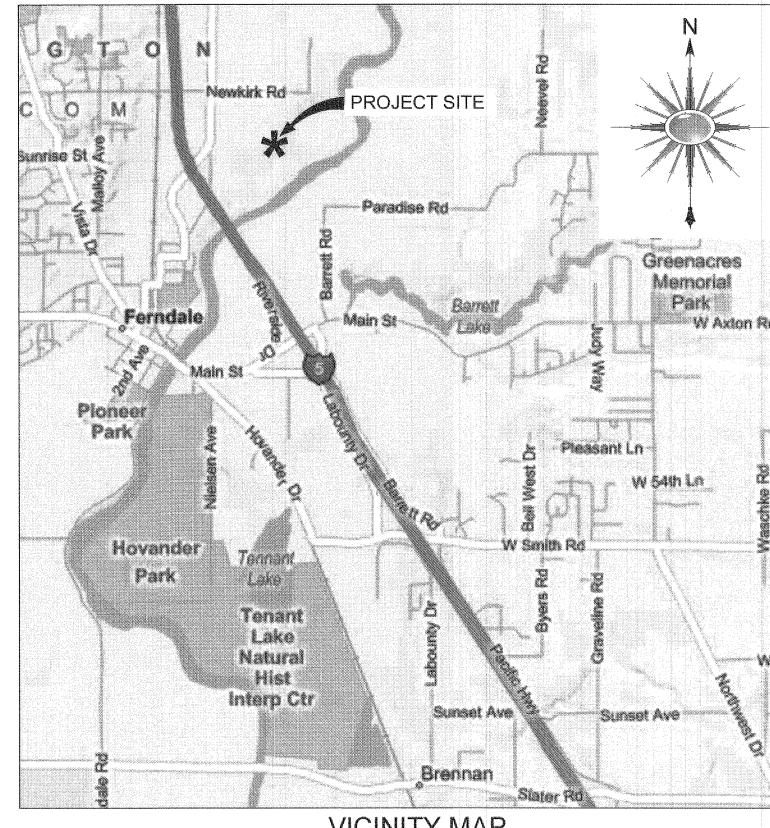
ABBREVIATIONS:

MO	AURE(U)	F %
ADD'L	ADDITIONAL	RO
BLDG	BUILDING	SE
BMP	BEST MANAGEMENT PRACTICES	SF
BOT	BOTTOM	SS
BS	BOTTOM OF STEP	SC
BW	BOTTOM OF WALL	ST
CL	CENTER LINE OR CLEARING LIMITS	TE
COF	CITY OF FERNDALE	TC
CO	CLEANOUT	TF
CONC	CONCRETE	TS
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POC		
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	LAVEINIENI	
	ADD'L BLDG BMP BSW LOF COON DIE PLXFFG FL INF (H) LSAX N N TERF PC PL PO	ADD'L ADDITIONAL BLDG BUILDING BMP BEST MANAGEMENT PRACTICES BOT BOTTOM BS BOTTOM OF STEP BW BOTTOM OF WALL CL CENTER LINE OR CLEARING LIMITS COF CITY OF FERNDALE CO CLEANOUT CONC CONCRETE Ø DIAMETER DS DOWNSPOUT DI DUCTILE IRON E EAST EP EDGE OF PAVEMENT EL ELEVATION EX EXISTING FF FINISHED FLOOR FG FINISHED GRADE FL FLOWLINE IE INVERT ELEVATION INVERT FF FINISHED FLOOR (ELEVATION) (H) HORIZONTAL (SCALE VALUE) LF LINEAR FEET LS LANDSCAPE / LANDSCAPING MAX MAXIMUM MIN MINIMUM N NORTH NTS NOT TO SCALE PERF PERFORATED PC POINT OF CURVATURE PCC POINT OF CONPOUND CURVATURE PCC POINT OF CONNECTION PRC POINT OF TANGENCY (TO CURVE)

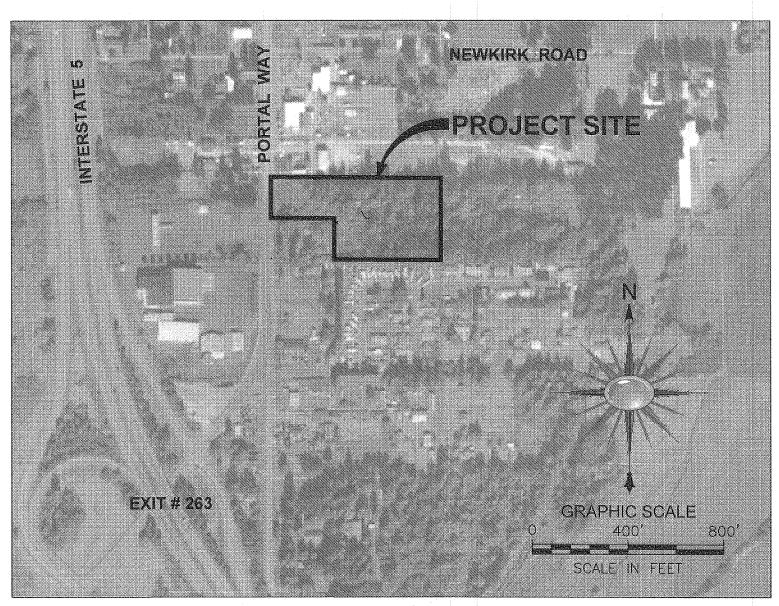
CURVE RADIUS (TYPICAL)
RIGHT-OF-WAY
STORM DRAIN (PIPE)
SHOULDER
SANITARY SEWER
SOUTH
STATION (ALONG ROAD ALIGNMENT)
THRUST BLOCK
TOP OF CURB
TOP OF STEP
SURVEY MARK (TURNING POINT)
TOP OF WALL
TYPICAL
VERTICAL (SCALE VALUE)

WATER

SECTION 20, T. 39 N., R. 2 E., W.M., WHATCOM CO. WA.



VICINITY MAP



LOCATION MAP

Job No: Date: 2019-4-12
File No: Drawn By: B. GIBSON
H. CRUISE
Checked By: M. BUEHRER
Issued For: PROJECT RECORD

CONSTRUCTION SET 2018-01-1

BID CLARIFICATIONS 2018-02-06

COVER

AS BUILT SET

APPROVED

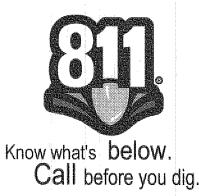
JUN 1 1 2019

BY FIRE KGVIN RE

PUBLIC WORKS DEPARTMENT

ENGINEER'S CERTIFICATION:

I HEREBY CERTIFY THAT THE IMPROVEMENTS FOR THE UNITY CARE NW-FERDALE PROJECT HAVE BEEN INSPECTED BY MARK BUEHRER AND HAVE BEEN CONSTRUCTED IN CONFORMANCE WITH THE CITY OF FERNDALE DEVELOPMENT STANDARDS, THE CITY OF FERNDALE MUNICIPAL CODE, SUBSEQUENT STANDARDS ADOPTED BY REFERENCE THEREIN, AND STANDARD ENGINEERING PRACTICE.



C100

- 1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE CITY OF FERNDALE STANDARDS AND SPECIFICATIONS, WSDOT STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION, AND THE WSDOT HYDRAULICS MANUAL.
- 2. ALL WORK WITHIN THE SITE AND CITY RIGHT-OF-WAY SHALL BE SUBJECT TO THE INSPECTION OF THE CITY INSPECTOR OR ITS DESIGNATED REPRESENTATIVE.
- 3. THE DEVELOPER/PROJECT ENGINEER IS RESPONSIBLE FOR WATER QUALITY AS DETERMINED BY THE MONITORING PROGRAM ESTABLISHED BY THE PROJECT ENGINEER AND THE CITY OF FERNDALE PUBLIC WORKS DEPARTMENT DIRECTOR.
- 4. THE TEMPORARY EROSION/SEDIMENTATION CONTROL FACILITY SHALL BE CONSTRUCTED PRIOR TO ANY GRADING OR EXTENSIVE LAND CLEARING IN ACCORDANCE WITH THE APPROVED TEMPORARY EROSION/SEDIMENTATION CONTROL PLAN. THESE FACILITIES MUST BE SATISFACTORILY MAINTAINED UNTIL CONSTRUCTION AND LANDSCAPING ARE COMPLETED AND THE POTENTIAL FOR ON-SITE EROSION HAS PASSED.
- 5. ALL BACKFILL IN THE RIGHT OF WAY SHALL BE IMPORTED BANK RUN GRAVEL. TRENCH BACKFILL OF NEW UTILITIES AND STORM DRAINAGE FACILITIES SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY (MODIFIED PROCTOR) UNDER ROADWAYS AND 90% OF MAXIMUM DENSITY (MODIFIED PROCTOR) OFF ROADWAYS, AS SPECIFIED IN 1991 WSDOT STANDARD SPECIFICATIONS, SECTION 2-03.3(14)C COMPACTING EARTH EMBANKMENTS METHOD 'B'.
- 6. NON-COMPLIANCE WITH THE EROSION CONTROL REQUIREMENTS, WATER QUALITY REQUIREMENTS OR CLEARING LIMITS VIOLATIONS MAY RESULT IN REVOCATION OF PROJECT PERMITS, PLAN APPROVAL AND/OR BOND FORECLOSURES.
- 7. ALL POTENTIAL POLLUTANTS, INCLUDING BUT NOT LIMITED TO WASH WATER, HUMAN WASTES, CHEMICALS, OILS, FUELS, VEHICULAR LUBRICATION AND COOLING FLUIDS, MISCELLANEOUS TRASH AND WASTE MATERIALS, DEMOLITION DEBRIS, PESTICIDES, HERBICIDES, AND FERTILIZERS SHALL BE HANDLED IN SUCH A MANNER TO PREVENT CONTAMINATION OF STORMWATER. STORED HAZARDOUS MATERIALS SHALL BE PROTECTED FROM VANDALISM, COVERED, AND HAVE SPILL CONTAINMENT IN PLACE, INCLUDING PLASTIC OR OTHER GROUND COVER TO MINIMIZE THE OPPORTUNITY FOR ANY SPILLED MATERIALS TO INFILTRATE INTO THE SOILS.
- 8. ANY SPILLAGE OF HAZARDOUS MATERIALS INTO SURFACE WATERS OR INTO THE GROUND SHALL BE IMMEDIATELY CONTAINED AND REPORTED TO WHATCOM COUNTY, THE CITY OF FERNDALE, THE WASHINGTON STATE DEPARTMENT OF ECOLOGY, AND OTHER APPROPRIATE STATE OR FEDERAL AUTHORITIES, AND IMMEDIATELY CONTAINED. PESTICIDES, HERBICIDES OR FERTILIZERS SHALL NOT BE APPLIED DURING OR IMMEDIATELY PRIOR TO EXPECTED PRECIPITATION EVENTS, AND APPLICATION SHALL FOLLOW THE MANUFACTURER'S RECOMMENDATIONS.
- 9. ALL MITIGATION MEASURES IDENTIFIED IN THE CITY'S 01/29/2009 SEPA MITIGATED DETERMINATION OF NON-SIGNIFICANCE (MDNS) SHALL BE MADE CONDITIONS OF THIS APPROVAL.
- 10. ALL CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF THE IBC AND ALL OTHER APPLICABLE STATE AND LOCAL CODES AND REQUIREMENTS TO THE SATISFACTION OF THE BUILDING DEPARTMENT.
- 11. SHOULD ARCHAEOLOGICAL MATERIALS (e.g. SHELL MIDDEN, FAUNAL REMAINS, STONE TOOLS OR HUMAN REMAINS) BE OBSERVED DURING PROJECT ACTIVITIES, ALL WORK IN THE IMMEDIATE VICINITY SHALL STOP AND THE AREA SHALL BE SECURED. THE STATE OFFICE OF ARCHAEOLOGY AND HISTORIC PRESERVATION (360-586-3065) AND THE LUMMI NATION TRIBAL HISTORIC PRESERVATION OFFICE (360-384-2298) SHALL BE CONTACTED IMMEDIATELY IN ORDER TO HELP ASSESS THE SITUATION AND DETERMINE HOW TO PRESERVE THE RESOURCE(S). COMPLIANCE WITH ALL APPLICABLE LAWS PERTAINING TO ARCHAEOLOGICAL RESOURCES IS REQUIRED.
- 12. CONTRACTOR TO VERIFY DRY UTILITY CONNECTIONS AND NEEDS WITH UTILITY PROVIDERS

GENERAL REQUIREMENTS:

- 1. ALL WORK AND MATERIALS SHALL CONFORM TO THESE PLANS AND TO THE REQUIREMENTS OF THE CURRENT EDITION OF THE "STATE OF WASHINGTON, DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION" (WSDOT SPECS.), THE CITY OF FERNDALE DEVELOPMENT STANDARDS (COFDS) AND THE 2005 VERSION OF THE DEPARTMENT OF ECOLOGY STORM WATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON (DOE MANUAL). IN CASE OF A CONFLICT BETWEEN PLANS, REGULATORY STANDARDS OR SPECIFICATIONS, THE MORE STRINGENT REQUIREMENT WILL PREVAIL.
- 2. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER CONSTRUCTION DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES. THROUGHOUT THE PERIOD OF CONSTRUCTION, CONTRACTOR SHALL COMPLY WITH THE TERMS OF ALL PERMITS.
- 3. THE CONTRACTOR MUST HAVE A FULL SET OF CITY CONTRACT DOCUMENTS ON THE SITE WHENEVER CONSTRUCTION IS IN PROGRESS.
- 4. CONSTRUCTION NOISE SHALL BE LIMITED TO BETWEEN 7 a.m. TO 8 p.m., MONDAY THROUGH SATURDAY.
- 5. THE CONTRACTOR SHALL CONTACT THE UTILITIES UNDERGROUND LOCATION CENTER AT LEAST 72 HOURS PRIOR TO STARTING CONSTRUCTION. PHONE: 1-800-424-5555. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT ALL OF THE VARIOUS UTILITY COMPANIES TO ARRANGE FOR FIELD LOCATIONS OF ALL EXISTING UTILITY FACILITIES. NO EXTRA COMPENSATION WILL BE PAID TO THE CONTRACTOR FOR COSTS INCURRED BECAUSE OF DAMAGE DONE TO EXISTING FACILITIES BY THE CONTRACTOR'S WORK FORCE, INCLUDING COSTS FOR REPAIRS, WHICH WILL BE CONTRACTOR'S SOLE RESPONSIBILITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF ALL EXISTING UTILITIES AND TO NOTIFY THE ENGINEER PROMPTLY OF ANY CONFLICT BETWEEN THE APPROVED PLANS AND THE LOCATION OF ANY EXISTING UTILITIES.
- 6. THE CONTRACTOR SHALL PROTECT ALL PRIVATE AND PUBLIC UTILITIES FROM DAMAGE RESULTING FROM THE WORK. CONTRACTOR SHALL RESTORE ALL PRIVATE AND PUBLIC PROPERTY DISRUPTED BY THE PROJECT IMMEDIATELY AFTER CONSTRUCTION.
- 7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING EROSION CONTROL MEASURES THROUGHOUT THE DURATION OF THE PROJECT. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY CLEARING OR GRADING IN CONFORMANCE WITH THE EROSION & SEDIMENTATION CONTROL PLAN AND THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP). THE SWPPP SHALL BE ONSITE AT ALL TIMES DURING CONSTRUCTION ACTIVITIES.
- 8. SITE CLEARING SHALL INCLUDE THE LOCATION AND REMOVAL OF ALL ABOVE GROUND AND BURIED DEBRIS AND WASTE THAT MAY BE PRESENT.
- 9. THE CONTRACTOR SHALL OBTAIN REVOCABLE ENCROACHMENT PERMITS FROM THE CITY OF FERNDALE AND/OR WHATCOM COUNTY PRIOR TO COMMENCING WORK WITHIN THE PUBLIC RIGHT-OF-WAY.
- 10. THE CONTRACTOR SHALL ATTEND A PRE-CONSTRUCTION MEETING WITH REPRESENTATIVES OF THE CITY OF FERNDALE PUBLIC WORKS DEPARTMENT AND THE PROJECT ENGINEER A MINIMUM OF THREE (3) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION. THE CITY WILL SCHEDULE THE MEETING.
- 11. ALL WORK AND MATERIALS SHALL BE SUBJECT TO APPROVAL BY THE CITY OF FERNDALE PUBLIC WORKS DEPARTMENT, REPRESENTATIVES FROM THE CITY OF FERNDALE PUBLIC WORKS DEPARTMENT MUST INSPECT ALL WORK IDENTIFIED ON THE PLANS, BOTH PUBLIC AND PRIVATE. THE CONTRACTOR SHALL CALL AT LEAST 24 HOURS IN ADVANCE TO SCHEDULE INSPECTIONS AS FOLLOW:

- A. PLACEMENT OF TEMPORARY EROSION CONTROL MEASURES.
- B. CONSTRICTION OF STORMWATER MANAGEMENT FACILITIES.
- C. PLACEMENT OF WATER MAIN AND BACKFILLING OF WATER MAIN TRENCH WITHIN ROAD RIGHTS OF WAY OR IN WATERLINE EASEMENT TO BE DEDICATED TO THE CITY OF
- D. PLACING OR BACKFILLING OF UNDERGROUND UTILITIES, STORM SEWER AND SANITARY SEWER WITHIN ROAD RIGHTS-OF-WAY, IN EASEMENTS TO BE DEDICATED TO THE CITY OF FERNDALE, OR OTHER PUBLICLY SHARED FACILITIES.
- E. GRADING OF PUBLIC OR PRIVATE ROADWAY AT:
 - E.A. COMPLETION OF EXCAVATION TO SUBGRADE.
 - COMPLETION OF BALLAST COURSE PLACEMENT
 - COMPLETION OF CRUSHED SURFACING COURSE PLACEMENT E.C.
- F. POURING OF CURB AND GUTTER AND SIDEWALK IN PUBLIC ROADWAY.
- G. ASPHALT PAVING IN PROGRESS IN PUBLIC ROADWAY.
- H. OVERALL INSPECTION FOR FINISHED SHOULDERS, DITCHES, PERMANENT SEEDING AND MONUMENT PLACEMENT.
- I. END OF MAINTENANCE PERIOD
- 11. 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. A TRAFFIC CONTROL PLAN SHALL BE SUBMITTED TO THE CITY FOR APPROVAL PRIOR TO PERFORMING THE WORK. ALL SECTIONS OF THE WSDOT STANDARD SPECIFICATIONS 1-07.23- TRAFFIC CONTROL, SHALL APPLY.
- 12. THE CONTRACTOR SHALL INFORM THE ENGINEER AND OBTAIN APPROVAL FROM THE CITY OF FERNDALE PUBLIC WORKS DIRECTOR OF ANY PROPOSED DEVIATION FROM THE APPROVED PLANS PRIOR TO CONSTRUCTION OF THE REVISED IMPROVEMENTS. THE CONTRACTOR SHALL KEEP RECORDS OF ALL DEVIATIONS AND SHALL FORWARD THEM TO THE ENGINEER AND TO THE CITY OF FERNDALE PUBLIC WORKS DEPARTMENT.
- 13. AS-BUILT DATA SHALL BE PROVIDED TO THE CITY OF FERNDALE UPON COMPLETION OF CONSTRUCTION AND PROVIDED IN CITY OF FERNDALE DATUM - VERTICAL (NGVD 29) AND HORIZONTAL (NAD 83/91). CONTACT THE CITY FOR MORE INFORMATION ON SUBMITTAL REQUIREMENTS.

UNDERGROUND UTILITIES CONSTRUCTION:

- A. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE ENGINEER TO ASSURE ACCURATE AND TIMELY COLLECTION OF ALL REQUIRED AS-BUILT DATA. THIS DATA MUST ACCURATELY REFLECT THE LOCATIONS OF ALL UNDERGROUND UTILITIES, BOTTOM OF PIPE ELEVATIONS, INVERT ELEVATIONS, MANHOLE LOCATIONS, WATER SERVICE TAPS, BLOW-OFF LOCATIONS AND INVERTS OF SERVICE CONNECTIONS (BOTH AT PIPE AND AT PROPERTY LINE), VERTICAL AND HORIZONTAL BENDS, SERVICE BOXES AND METERS, VALVES AND HYDRANTS. CALL THE PROJECT ENGINEER AT LEAST 48-HOURS BEFORE BURYING UNDERGROUND PIPE TO ASSURE AND FACILITATE REQUIRED AS-BUILT SURVEY.
- B. THE CONSTRUCTION OF UNDERGROUND UTILITY LINES SHALL BE SUBJECT TO THE FOLLOWING
 - NO MORE THAN 500 FEET OF TRENCH SHALL BE OPENED AT ONE TIME.
 - 2. WHERE CONSISTENT WITH SAFETY AND SPACE CONSIDERATIONS, EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF DITCHES.
 - 3. TRENCH DEWATERING DEVICES SHALL DISCHARGE INTO SEDIMENT TRAPS OR SEDIMENT PONDS.
 - 4. WHERE PRACTICAL, INSTALL GRAVITY PIPE UTILITIES PRIOR TO INSTALLATION OF OTHER UTILITIES.
- C. UTILITY CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY OF FERNDALE DEVELOPMENT STANDARDS.
- D. ALL UTILITY TRENCHES IN THE RIGHT OF WAY SHALL BE BACKFILLED WITH %-INCH MINUS OR 5/8-INCH MINUS WELL GRADED CRUSHED ROCK.
- E. TESTING OF NEW WATER LINES, STORM SEWER SYSTEMS SHALL NOT BE PERFORMED UNTIL ALL OTHER ADJACENT UTILITIES HAVE BEEN INSTALLED.
- F. ALL UTILITY TRENCHES SHALL BE BACKFILLED AND COMPACTED TO 95% DENSITY IN LIFTS NOT TO EXCEED 24 INCHES WITH A "HOE PACK, OR 8 INCHES WITH HAND-OPERATED COMPACTION."
- G. OPEN CUTTING OF EXISTING ROADWAYS IS ONLY ALLOWED AS APPROVED AND NOTED ON THESE APPROVED PLANS. ANY OPEN CUT SHALL BE RESTORED IN ACCORDANCE WITH THE FERNDALE STANDARD TRENCH DETAIL(S). ALL UTILITY TRENCHES UNDERNEATH AN EXISTING ROADWAY SHALL BE BACKFILLED WITH 150 PSI CONTROLLED DENSITY FILL.
- H. NO PART OF THE DRAINAGE SYSTEM MAY BE COVERED, CONCEALED, OR PUT INTO USE UNTIL IT HAS BEEN INSPECTED, TESTED, AND ACCEPTED BY THE CITY INSPECTOR.

EARTHWORK:

- A. THE CONTRACTOR SHALL REMOVE AND REPLACE ALL EXISTING UN-COMPACTED OR POORLY COMPACTED FILL SOILS WITHIN THE ROAD PRISM AT THE DIRECTION OF THE ENGINEER.
- B. THE CONTRACTOR SHALL EXCAVATE AND GRADE TO THE ALIGNMENT, GRADE AND CROSS-SECTIONS SHOWN IN THE PLANS OR ESTABLISHED BY THE ENGINEER.
- C. UNSUITABLE MATERIAL FOUND AND NOT FIT FOR USE AS A SUB-GRADE SHALL BE EXCAVATED TO THE BOUNDARIES SET BY THE ENGINEER AND REPLACED WITH A SUITABLE BACKFILL MATERIAL
- D. THE ENGINEER IS REQUIRED TO CERTIFY SUBGRADE, IN WRITING, PRIOR TO PAVING.

BASE COURSES & CRUSHED SURFACING:

- A. GRAVEL BASES AND BALLAST MATERIAL GRADATION SHALL MEET WSDOT STANDARD
- B. BALLAST, GRAVEL BASE AND CRUSHED SURFACING SHALL BE COMPACTED TO AT LEAST 95% OF MAXIMUM DRY DENSITY.
- C. THE GRADED AND COMPACTED SURFACE OF THE CRUSHED SURFACING TOP COURSE SHALL BE WITHIN 1/2 INCH OF FINISHED GRADE.
- D. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MATERIAL AND COMPACTION TESTING. PRIOR TO IMPORTING OF MATERIAL FOR BASE AND CRUSHED SURFACING TOP COURSE THE CONTRACTOR SHALL PROVIDE EVIDENCE OF SATISFACTORY PASSING GRADING AND DEGRADATION TEST RESULTS TO THE ENGINEER.

STORM DRAINAGE:

1. THE FOLLOWING STANDARD DETAILS SHALL BE USED FOR CONSTRUCTION OF STORM DRAIN IMPROVEMENTS:

CATCH BASINS TYPE 1, 1L OR 2 WSDOT STD. DETAILS B-5.20, B-5.40 OR B-10.20 "RESIDENTIAL SERVICE LINE"

COFSD ST-7 (CITY OF FERNDALE STD DETAIL)

CATCH BASINS

- 2. STORM SEWER PIPE HAVING DIAMETERS GREATER THAN 8" SHALL BE CORRUGATED POLYETHYLENE PIPE (CPEP), ALL OTHER STORM SEWER PIPE SHALL BE PVC.
- 3. ALL CATCH BASIN GRATES SHALL INCLUDE THE STAMPING "OUTFALL TO STREAM, DUMP NO POLLUTANTS".
- 4. CONTROL DENSITY FILL SHALL BE USED IN AREAS WHERE LESS THAN 18" OF COVER IS MAINTAINED OVER THE PROPOSED STORM PIPES (PIPE IS IN ROAD BASE SECTION), AS SHOWN IN THE PLANS. DUCTILE IRON PIPE MAY BE USED FOR STORM PIPES WITH LESS THAN 18" OF COVER IF APPROVED BY THE CITY.
- 5. COVER OVER PIPES SHALL BE MAINTAINED DURING CONSTRUCTION. DEPTH OF COVER REQUIRED SHALL CONFORM TO THE MANUFACTURER'S RECOMMENDATIONS AND WILL VARY WITH THE VEHICLE LOADS TRAVELING OVER THE PIPE. NO ADDITIONAL COMPENSATION SHALL BE PROVIDED FOR DAMAGE TO PIPE DURING CONSTRUCTION ACTIVITIES.
- 6. AT THE END OF ALL SITE CONSTRUCTION, THE CONTRACTOR SHALL CLEAN ALL DEBRIS FROM CATCH BASINS AND STORMWATER CONVEYANCES. DEBRIS SHALL NOT BE ALLOWED TO ENTER STREAMS OR OTHER WATER BODIES.

WATER:

1. THE FOLLOWING STANDARD DETAILS SHALL BE USED IN CONSTRUCTING WATER SUPPLY SYSTEM IMPROVEMENTS:

PIPE BEDDING

COFSD W-11

COFSD W-11

COFSD W-1

TRENCH BACKFILL

FIRE HYDRANT ASSEMBLY

THRUST BLOCKING COFSD W-2, W-3 & W-4

WATER SERVICE COFSD W-5

2. ALL WORK AND MATERIALS SHALL CONFORM TO THE REQUIREMENTS OF THE CITY OF FERNDALE DEVELOPMENT STANDARDS, SECTIONS 702 AND 705 AND THE MOST RECENT VERSION OF WSDOT STANDARD SPECIFICATIONS.

3. ALL WATER MAIN PIPE SHALL BE DUCTILE IRON, MINIMUM THICKNESS CLASS 50, PER AWWA STANDARDS H3-71 AND C151-71, WITH CEMENT LINING PER AWWA STANDARD C104-71.

4. MATERIAL FOR FITTINGS SUCH AS CROSSES, TEES, BENDS, REDUCERS AND SLEEVES SHALL BE DUCTILE IRON. JOINTS SHALL BE M.J., FLANGED OR PUSH-ON JOINTS AND SHALL CONFORM TO AWWA SPECIFICATIONS C-110-71 AND C-104-71.

5. CONCRETE BLOCKING SHALL BE AS SPECIFIED IN CITY OF FERNDALE STANDARD DETAILS W-2, W-3 AND W-4. OR AS DIRECTED BY THE PROJECT ENGINEER. BLOCKS SHALL BE INSTALLED AS SPECIFIED IN SECTION 7-09.3(21) OF THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD, BRIDGE OR MUNICIPAL CONSTRUCTION. NO PRE-CAST BLOCKS ARE ALLOWED.

6.CONNECTIONS TO EXISTING WATER MAINS - THE CONTRACTOR MUST NOTIFY THE CITY OF FERNDALE PUBLIC WORKS DIRECTOR OF A PROPOSED CONNECTION AT LEAST FOUR WORKING DAYS IN ADVANCE.

7. ALL HYDROSTATIC TESTING AND DISINFECTION OF WATER MAINS SHALL CONFORM TO SECTION 7-09.3(23) AND SECTION 7-09.3(24)OF THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD, BRIDGE OR MUNICIPAL CONSTRUCTION - CURRENT EDITION. HYDROSTATIC TEST PRESSURE FOR WATER MAIN ACCEPTANCE SHALL BE 250 PSI AND SHALL BE DONE ACCORDING TO CITY OF FERNDALE REQUIREMENTS. THE CITY OF FERNDALE LABORATORY SHALL CONDUCT ALL DISINFECTION TESTS AND BACTERIOLOGICAL TESTS. THE PIPE WILL NOT PASS TESTING UNLESS A ZERO BACTERIAL COUNT IS MEASURED ON TWO CONSECUTIVE TESTS, CONDUCTED 24 HOURS APART.

8. BACKFILL SHALL BE GRAVEL BASE, CLASS B, IN ALL STREET RIGHTS-OF-WAY, COMPACTED TO MINIMUM 95% OPTIMUM DENSITY. IN UNIMPROVED AREAS, MINIMUM COMPACTION SHALL BE 90% OF OPTIMUM DENSITY.

9. ALL PIPE SHALL HAVE A MINIMUM COVER OF 36".

FOLLOWING STANDARDS:

10. ALL VALVES SHALL BE EITHER GATE OR BUTTERFLY TYPE VALVES AND SHALL BE INSTALLED WITH SLIP TYPE CAST IRON VALVE BOXES. GATE VALVES SHALL BE USED FOR LINES 2 INCHES THROUGH 10 INCHES IN DIAMETER. SHORT-BODY VALVES SUITABLE FOR A NON-SHOCK SHUT-OFF PRESSURE OF 130 PSI AND SUITABLE FOR DIRECT BURIAL ARE SPECIFIED. GATE VALVES SHALL BE RESILIENT SEATED IRON-BODY, FULL-BRONZE MOUNTED VALVES CONFORMING TO AWWA C509 AND SUITABLE FOR SERVICE WITH THE TYPE AND CLASS OF PIPE USED. ALL VALVES SHALL HAVE NON-RISING STEMS AND SHALL OPEN COUNTERCLOCKWISE AND SHALL BE EQUIPPED WITH A 2 INCH SQUARE OPERATING NUT. VALVES WILL BE FLANGE OR M.J. JOINTS. VALVE MARKERS SHALL BE LOCATED OUTSIDE OF PAVEMENT SECTIONS.

11. WATER SERVICE TAP INSTALLATIONS SHALL MEET THE REQUIREMENTS OF THE COFDS W-5. 12. FIRE HYDRANTS AND FIRE MAINS MUST CONFORM TO COFDS- SD W-1 (WSDOT B-19) AND THE

A.FIRE HYDRANTS SHALL HAVE TWO INDIVIDUALLY VALVED 2-1/2" PORTS AND ONE 5-1/4" MAIN VALVE OPENING. A 4-1/2" NST PUMPER NOZZLE AND A 5" STORZ PORT WITH CAP AND AIRCRAFT CABLE SHALL BE SUPPLIED. HYDRANTS SHALL BE M.H. 929T HYDRANTS.

B. FIRE HYDRANTS SHALL HAVE THE STORZ PORT FACING THE REQUIRED ACCESS AND THE BASE FLANGE OF THE HYDRANT MUST NOT VARY MORE THAN 1 FOOT IN ELEVATION FROM THE GRADE LEVEL OF THE REQUIRED ACCESS. THE LOWEST STEM SHALL BE A MINIMUM OF 14" ABOVE THE GROUND.

C. IF THE PUBLIC WORKS DIRECTOR DETERMINES THAT FIRE HYDRANTS ARE VULNERABLE TO VEHICULAR DAMAGE, APPROPRIATE CRASH POSTS SHALL BE PROVIDED. NO OBSTRUCTIONS SHALL EXIST WITHIN A 3-FOOT WORKING AREA OF EACH REQUIRED ACCESS. CRASH POSTS SHALL BE 4" CEMENT-FILLED PIPE A MIN. OF 3' IN HEIGHT WITH A MIN. OF 2' OF PIPE BELOW GRADE. HYDRANT SHUTOFF VALVES SHALL BE LOCATED BETWEEN 5' AND 20' FROM THE HYDRANT.

D. UNDERGROUND SUPPLIES TO FIRE HYDRANTS MUST BE INSPECTED. SUCH INSPECTION SHALL INCLUDE VISUAL INSPECTION OF PIPING AND HYDROSTATIC PRESSURE TESTING TO A MIN. OF 250 PSI. A FLOW TEST WILL BE REQUIRED WHEN INSTALLATION IS COMPLETE.

E. FIRE HYDRANTS MUST BE MAINTAINED IN AN OPERABLE CONDITION AT ALL TIMES AND MUST BE REPAIRED OR REPLACED WHEN DEFECTIVE. HYDRANTS SHALL BE FULLY OPERABLE BEFORE CONSTRUCTION COMMENCES ABOVE GRADE LEVEL.

ROAD:

1. THE FOLLOWING STANDARD DETAILS SHALL BE USED FOR CONSTRUCTION OF THE STANDARD STREET SECTION:

TYPICAL STREET SECTION (PER PROJECT)

PCC CURB AND GUTTER COFSD R-9 PCC SIDEWALKS

COFSD R-12 (SEE CONSTRUCTION DOCUMENTS TYPICAL SECTION) PCC CURB RAMPS WSDOT STD. DETAIL F-40. 2. ROADWAY EXCAVATION WITHIN THE ROADWAY PRISM SHALL BE CUT TO A UNIFORM GRADE. THE

COMPLETED SUBGRADE SURFACE SHALL NOT VARY MORE THAN 0.10-FOOT FROM THE LOWER EDGE OF A 15-FOOT STRAIGHTEDGE PLACED ON THE SUBGRADE PARALLEL TO THE CENTERLINE UNLESS APPROVED BY THE ENGINEER. 3. THE OWNER SHALL PROVIDE TO THE ENGINEER A REPORT FROM A QUALIFIED GEOTECHNICAL

FIRM CERTIFYING THE COMPACTION OF THE GRAVEL BASE UNDER ALL PAVING AREAS. 4. ASPHALT CONCRETE PAVEMENT SHALL BE CLASS "B" MATERIALS AND CONSTRUCTION METHODS

SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS, SECTION 5-04, EXCEPT AS MODIFIED HEREIN. CONNECTION TO EXISTING PAVEMENT SHALL BE TO A STRAIGHT NEATLY-TRIMMED LINE.

5. CRUSHED ROCK SURFACING FOR PAVEMENT SHALL BE IN ACCORDANCE WITH WSDOT STANDARD SPECIFICATION, SECTION 9-03.9(3); BALLAST PER SECTION 9-03.9(1).

6. CEMENT CONCRETE SHALL BE CLASS 3000 (WITH AIR ENTRAINMENT) IN ACCORDANCE WITH WSDOT STANDARD SPECIFICATION, SECTION 6-02.3(2)B.

7. CEMENT CONCRETE SIDEWALK SHALL BE CONSTRUCTED AS SHOWN ON THE PLANS OR AS DESIGNATED BY THE ENGINEER IN ACCORDANCE WITH CITY STANDARDS, DRAWING NO. R-12.

8. CEMENT CONCRETE DRIVEWAYS SHALL BE 6 INCHES THICK AND CONSTRUCTED WHERE SHOWN ON THE PLANS OR DESIGNATED BY THE ENGINEER IN ACCORDANCE WITH THE CITY STANDARDS, DRAWING NO. R-15. A 2- INCH LATER OF 3/4 INCH DRAIN ROCK SHALL BE USED FOR DRIVEWAY BEDDING.

9. CEMENT CONCRETE CURB AND GUTTER SHALL BE CONSTRUCTED WHERE SHOWN ON THE PLANS OR AS DESIGNED BY THE ENGINEER, IN ACCORDANCE WITH WSDOT STANDARDS SPECIFICATIONS, SECTION 8-04 AND CITY OF FERNDALE STANDARDS, DRAWING R-8 AND R-9. HANDICAP RAMPS SHALL BE CONSTRUCTED PER WSDOT STANDARD PLANS F-40. WHERE NEW CEMENT CONCRETE CURB AND GUTTER IS CONNECT TO EXISTING CURB AND GUTTER, ASSURE THAT NO ABRUPT OFFSETS IN LINE OR GRADE SHALL BE CONSTRUCTED WHICH WILL BE UNSIGHTLY OR IMPEDE FLOW IN THE GUTTER LINE.

10. PAVEMENT:

A. SOIL RESIDUAL HERBICIDE SHALL BE PLACED WITHIN 24 HOURS OF PAVING.

B. A TACK COAT OF ASPHALT SHALL BE APPLIED BETWEEN ALL COURSES OF ASPHALT.

C. ALL PAVEMENT REPAIR SHALL BE SAW-CUT BEFORE REMOVAL. AR-4000W SHALL BE APPLIED TO ALL EDGES OF EXISTING PAVEMENT. WHERE NEWLY CONSTRUCTED PAVING MEETS EXISTING PAVING, THE APPLICANT SHALL PROVIDE A SMOOTH TRANSITION FROM EXISTING TO PROPOSED PAVING. CONTRACTOR SHALL COLD PLANE PER DIMENSIONS SPECIFIED ON THE PLANS, AND INSTALL A MINIMUM 2-FOOT WIDE PETROTAC PAVING FABRIC, OR EQUIVALENT, OVER JOINT BETWEEN PAVING LIFTS.

11. THRU-CURB BASINS AND THRU-CURB INLETS CONFORMING TO THE WSDOT STANDARD SPECIFICATIONS, SECTION 7-05 SHALL BE CONSTRUCTED AT THE LOW POINT OF THE CURB FLOW LINES AND TO THE LOCATIONS, DIMENSIONS, AND DETAILS AS SHOWN ON THE PLANS OR DESIGNATED BY THE ENGINEER AND CITY STANDARDS, DRAWING NO. R-8.

12. TRENCH EXCAVATIONS, BEDDING AND PIPE FOR STORMWATER PIPE LAYING SHALL BE IN ACCORDANCE WITH THE WSDOT STANDARD SPECIFICATIONS, SECTION 7-08.

13. STORM SEWER PIPE CONSTRUCTION REQUIREMENTS SHALL BE IN ACCORDANCE WITH WSDOT STANDARD SPECIFICATION, SECTION 7-04. MATERIAL SHALL BE HANCOR SURE-LOK F477 PIPE OR CITY APPROVED EQUAL. LOTS' STORM DRAIN SERVICE LINE SHALL BE 6" PVC PER WSDOT STANDARD SPECIFICATION, SECTION 9-05.1(5)

14. PERFORATED UNDERDRAIN PIPE SHALL MEET THE WSDOT STANDARD SPECIFICATION 7-01.3(2)

SANITARY SEWER SYSTEMS:

1. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH CITY OF FERNDALE STANDARD SPECIFICATIONS AND DETAILS, A.P.W.A. STANDARD SPECIFICATIONS, AND WSDOT STANDARD SPECIFICATIONS, MOST RECENT EDITIONS. SANITARY SEWER SYSTEM INSTALLATION, BOTH PUBLIC AND PRIVATE, IS SUBJECT TO CITY REVIEW AND APPROVAL

2. ALL WORK MUST BE INSPECTED TO THE SATISFACTION OF THE CITY OF FERNDALE. 24 HOUR NOTICE MUST BE GIVEN PRIOR TO STARTING WORK. TESTING OF THE SEWER SYSTEM AND ALL CONNECTIONS TO EXISTING MAINS SHALL BE PERFORMED IN THE PRESENCE AND UNDER THE SUPERVISION OF A CITY OF FERNDALE REPRESENTATIVE.

3. SANITARY SEWER MAINS SHALL BE A MINIMUM 8 INCH DIAMETER PVC PIPE (SDR-35) CONFORMING TO THE PROVISIONS OF ASTM D 3034 AND INSTALLED TO CITY SPECIFICATIONS.

4. SANITARY SEWER PIPE BEDDING SHALL BE PEA GRAVEL PER COFSD SS-1. ALL TRENCHES SHALL BE BACKFILLED WITH CLASS B BANK RUN GRAVEL WITHIN CITY RIGHT OF WAY AND TRAVELED WAYS OUTSIDE OF RIGHT OF WAY (ACCESS EASEMENTS) AND SHALL BE COMPACTED TO A MINIMUM DENSITY OF 95% MODIFIED PROCTOR. USE OF SUITABLE NATIVE BACKFILL OUTSIDE OF TRAVELED WAY SHALL BE SUBJECT TO APPROVAL BY THE CITY.

5. ALL MANHOLES SHALL BE INSTALLED PER CITY OF FERNDALE STANDARD DETAILS AND SHALL BE PRE-CHANNELED. MANHOLE CONES ARE TO BE OFFSET SUCH THAT LADDER RUNGS ARE PARALLEL TO THE FLOW.

6. ALL SIDE SEWERS SHALL BE INSTALLED PER CITY OF FERNDALE STANDARD DETAILS SS-6, SS-8 OR SS-13, EXCEPT THAT SINGLE SIDE SEWERS SHALL HAVE A MINIMUM DIAMETER OF 4".

7. CONTRACTOR SHALL EXTEND SEWER STUBS 5 FT BEYOND UTILITY CORRIDOR OR 15 FEET BEYOND RIGHT-OF-WAY LINE.

8. EACH SIDE SEWER STUB SHALL BE CAPPED WITH A WATERTIGHT PLUG. EACH STUB SHALL BE MARKED FOR LOCATION WITH A 2" DIA. PVC PIPE (MIN. SCHEDULE 40) WITH THE TOP 18" PROPERTY OF DIA 18" PROPER GREEN AND STENCILED WITH THE WORD "SEWER" AND THE PIPE INVERT INDICATED. THE LOCATION MARKER SHALL BE CONNECTED TO THE SERVICE STUB BY A #12 COPPER WIREN 11 2019

ENGINEER'S CERTIFICATION:

I HEREBY CERTIFY THAT THE IMPROVEMENTS FOR THE UNITY CARE NW -FERDALE PROJECT HAVE BEEN INSPECTED BY MARK BUEHRER AND HAVE BEEN CONSTRUCTED IN CONFORMANCE WITH THE CITY OF FERNDALE DEVELOPMENT STANDARDS. THE CITY OF FERNDALE MUNICIPAL CODE. SUBSEQUENT STANDARDS ADOPTED BY REFERENCE THEREIN, AND STANDARD ENGINEERING PRACTICE.



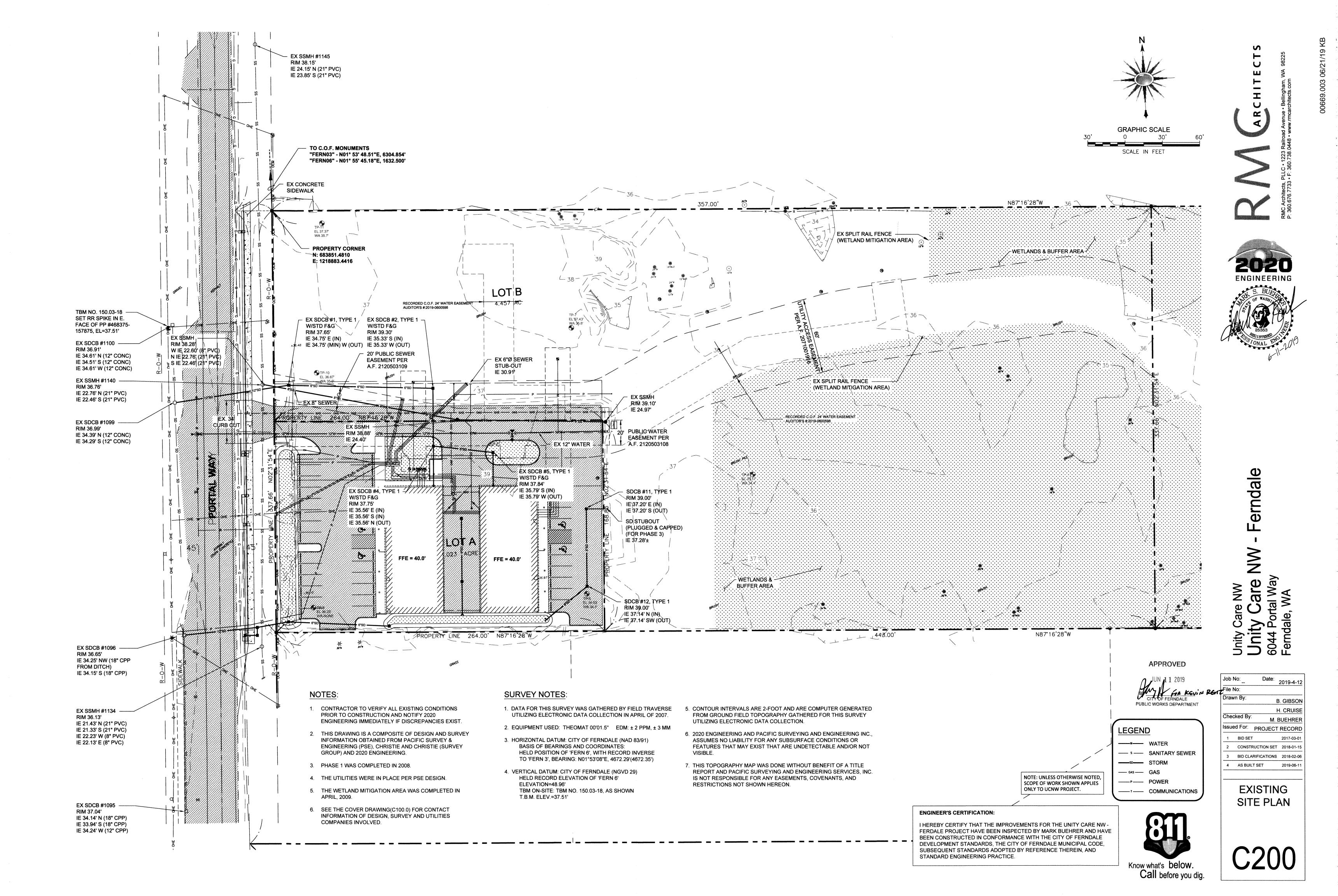
UBLIC WORKS DEPARTMENT

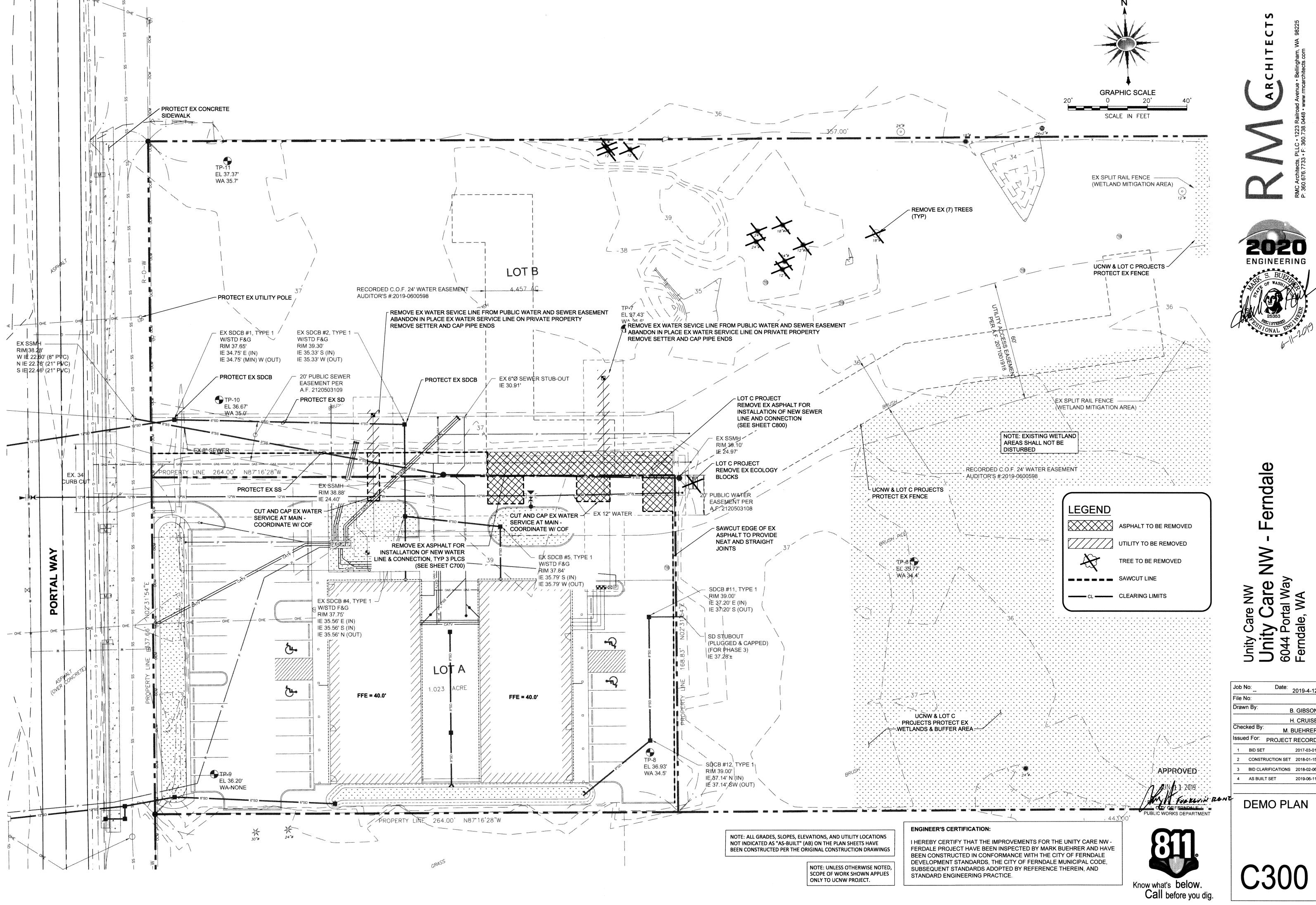
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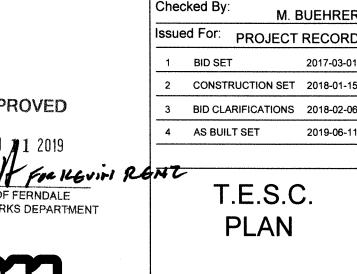
Job No: Date: 2019-4-12 Drawn By B. GIBSON H. CRUISE Checked By: M. BUEHRER Issued For: PROJECT RECORD 2017-03-01 BID SET 2 CONSTRUCTION SET 2018-01-15 BID CLARIFICATIONS 2018-02-06 4 AS BUILT SET 2019-06-11

> **GENERAL NOTES**





Date: 2019-4-12 B. GIBSON Issued For: PROJECT RECORD

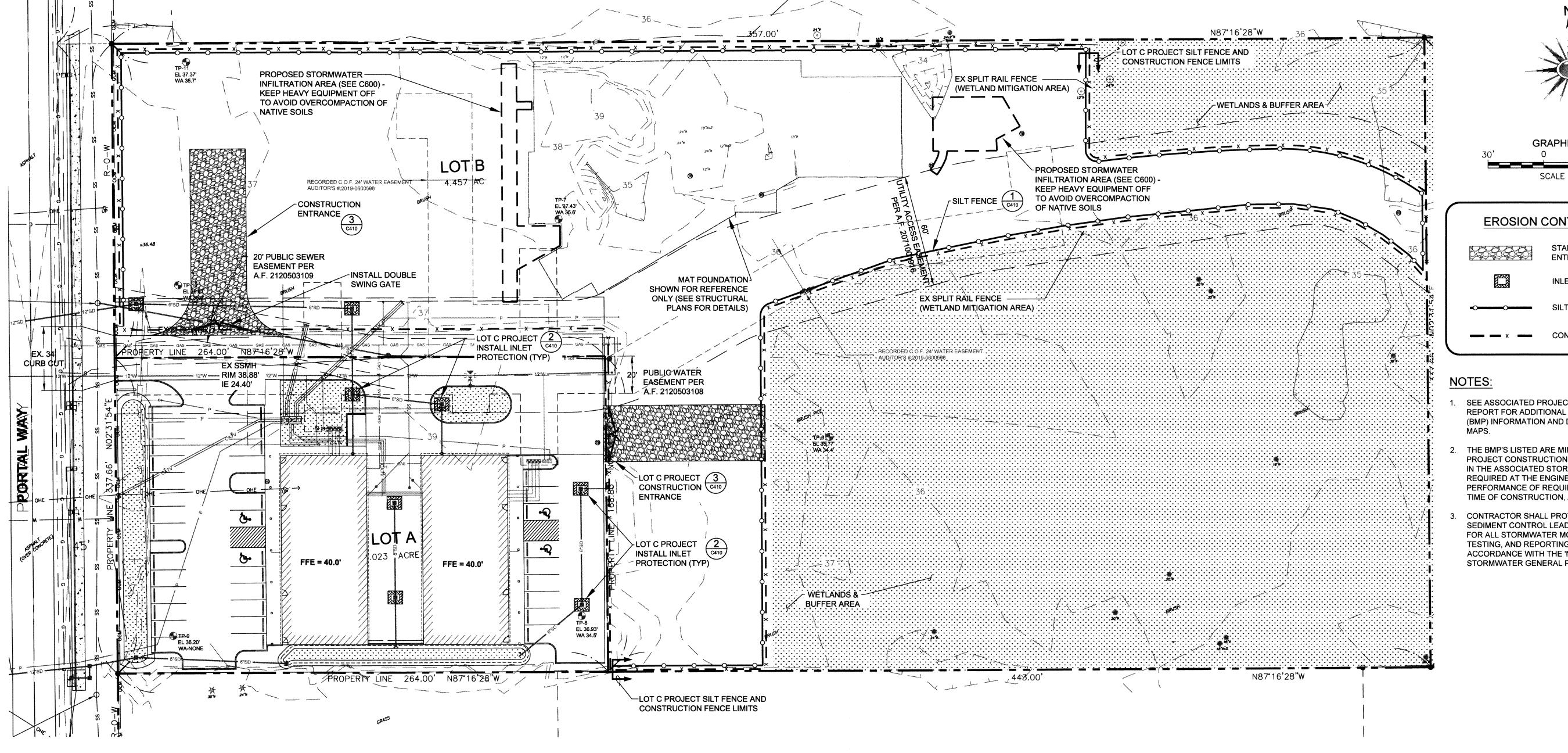


APPROVED

JBLIC WORKS DEPARTMENT

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2019-4-12



EROSION AND SEDIMENT CONTROL NOTES:

- 1. FROM OCTOBER 1 THROUGH APRIL 30, NO SOILS SHALL REMAIN EXPOSED AND UNWORKED FOR MORE THAN TWO DAYS. FROM MAY 1 THROUGH SEPTEMBER 30, NO SOILS SHALL REMAIN EXPOSED AND UNWORKED FOR MORE THAN SEVEN DAYS.
- 2. SOIL SHALL BE MANAGED IN A MANNER THAT DOES NOT PERMANENTLY COMPACT OR DETERIORATE THE FINAL SOIL AND LANDSCAPE SYSTEM. IF DISTURBANCE AND/OR COMPACTION OCCUR THE IMPACT MUST BE CORRECTED AT THE END OF THE CONSTRUCTION ACTIVITY. THIS SHALL INCLUDE THE RESTORATION OF SOIL DEPTH, SOIL QUALITY, PERMEABILITY, AND PERCENT ORGANIC MATTER. CONSTRUCTION PRACTICES MUST NOT CAUSE DAMAGE TO OR COMPROMISE THE DESIGN OF PERMANENT LANDSCAPE OR INFILTRATION AREAS.
- 3. LOCATE ANY SOIL PILES AWAY FROM DRAINAGE SYSTEMS. SOIL PILES SHOULD BE TARPED OR MULCHED UNTIL THE SOIL IS EITHER USED OR REMOVED. PILES SHOULD BE SITUATED SO THAT SEDIMENT DOES NOT RUN INTO THE STREET OR ADJOINING YARDS.
- 4. REMOVE EXCESS SOIL FROM THE SITE AS SOON AS POSSIBLE AFTER BACKFILLING. THIS WILL ELIMINATE ANY SEDIMENT LOSS FROM SURPLUS FILL.
- 5. THE CONSTRUCTION ENTRANCE SHALL BE STABILIZED WHERE TRAFFIC WILL BE LEAVING THE CONSTRUCTION SITE AND TRAVELING ON PAVED ROADS OR OTHER PAVED SURFACES.
- 6. PROVIDE FOR PERIODIC STREET CLEANING TO REMOVE ANY SEDIMENT THAT MAY HAVE BEEN TRACKED OUT. SEDIMENT SHOULD BE REMOVED BY SHOVELING OR SWEEPING AND CAREFULLY REMOVED TO A SUITABLE DISPOSAL AREA WHERE IT WILL NOT BE RE-ERODED. STREET WASHING IS PROHIBITED WITHOUT SPECIAL PERMISSION FROM CITY OF FERNDALE PUBLIC WORKS DEPARTMENT
- 7. SAWCUTTING SLURRY, CUTTINGS, AND PROCESS WATER SHALL NOT DRAIN TO ANY NATURAL OR CONSTRUCTED DRAINAGE CONVEYANCE. COLLECTED SLURRY AND CUTTINGS SHALL BE DISPOSED OF IN A MANNER THAT DOES NOT VIOLATE GROUNDWATER OR SURFACE WATER QUALITY STANDARDS. CLEANING WASTE MATERIAL AND DEMOLITION DEBRIS SHALL BE HANDLED AND DISPOSED OF IN A MANNER THAT DOES NOT CAUSE CONTAMINATION OF WATER. IF THE AREA IS SWEPT WITH A PICK-UP SWEEPER, THE MATERIAL MUST BE HAULED OUT OF THE AREA TO AN APPROPRIATE DISPOSAL SITE.
- 8. CONCRETE TRUCK CHUTES, PUMPS, AND INTERNALS SHALL BE WASHED OUT ONLY INTO FORMED AREAS AWAITING INSTALLATION OF CONCRETE OR ASPHALT. UNUSED CONCRETE REMAINING IN THE TRUCK AND PUMP SHALL BE RETURNED TO THE ORIGINAL BATCH PLANT FOR RECYCLING. HAND TOOLS SHALL BE WASHED OFF ONLY INTO FORMED AREAS AWAITING INSTALLATION OF CONCRETE OR ASPHALT. WHEN NO FORMED AREAS ARE AVAILABLE, WASHWATER AND LEFTOVER PRODUCT SHALL BE CONTAINED IN A LINED CONTAINER. CONTAINED CONCRETE SHALL BE DISPOSED OF IN A MANNER THAT DOES NOT VIOLATE GROUNDWATER OR SURFACE WATER QUALITY STANDARDS.
- 9. OPERATIONAL SOURCE CONTROL BMPS:
- ASSIGN ONE OR MORE INDIVIDUALS TO BE RESPONSIBLE FOR STORMWATER POLLUTION CONTROL. HOLD REGULAR MEETINGS TO REVIEW THE OVERALL OPERATION OF THE BMPS. ESTABLISH RESPONSIBILITIES FOR
- INSPECTIONS, OPERATION AND MAINTENANCE, AND AVAILABILITY FOR EMERGENCY SITUATIONS. TRAIN ALL TEAM MEMBERS IN THE OPERATION, MAINTENANCE AND INSPECTIONS OF BMPS, AND REPORTING PROCEDURES. PROMPTLY CONTAIN AND CLEAN UP SOLID AND LIQUID POLLUTANT LEAKS AND SPILLS INCLUDING OILS, SOLVENTS, FUELS, AND DUST FROM MANUFACTURING OPERATIONS ON ANY EXPOSED SOIL, VEGETATION, OR PAVED AREA.
- SWEEP PAVED MATERIAL HANDLING AND STORAGE AREAS REGULARLY AS NEEDED, FOR THE COLLECTION AND DISPOSAL OF DUST AND DEBRIS THAT COULD CONTAMINATE STORMWATER. DO NOT HOSE DOWN POLLUTANTS FROM ANY AREA TO THE GROUND, STORM DRAIN, CONVEYANCE DITCH, OR RECEIVING WATER UNLESS NECESSARY FOR DUST CONTROL PURPOSES TO MEET AIR QUALITY REGULATIONS AND UNLESS THE POLLUTANTS ARE CONVEYED TO A TREATMENT SYSTEM APPROVED BY THE LOCAL JURISDICTION.
- PROMPTLY REPAIR OR REPLACE ALL LEAKING CONNECTIONS, PIPES, HOSES, VALVES, ETC. WHICH CAN CONTAMINATE STORMWATER.
- 10. ALL DISTURBED AREAS SHALL BE STABILIZED BY ONE OR MORE OF THE FOLLOWING METHODS (BMP REFERENCES MADE TO THE 2005 DEPARTMENT OF ECOLOGY STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON): A. STABILIZED CONSTRUCTION ENTRANCE (BMP C105) INCLUDING SIGNS (AS NEEDED) TO PROHIBIT MUDDY TIRE TRAFFIC OVER NEW PAVEMENTS WHICH MAY REMAIN IN PLACE AS DEEMED NECESSARY TO PROTECT POROUS
 - TEMPORARY AND PERMANENT SEEDING (BMP C120).
 - PLASTIC COVERING (BMP C123). APPLICATION OF 12" (MIN.) OF CLEAN, FREE DRAINING SOILS -- FREE FROM SILTS AND CLAYS.

CONSTRUCTION SEQUENCING:

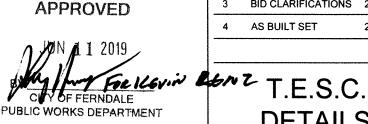
- 1. INSTALL STABILIZED CONSTRUCTION ENTRANCE, INLET PROTECTION, SILT FENCING, AND CONSTRUCTION FENCING BMPS.
- 2. MAINTAIN ALL TEMPORARY EROSION CONTROL BMPS AND IMPLEMENT DUST CONTROL BMPS AS NECESSARY THROUGH ENTIRE DURATION OF ALL CONSTRUCTION ACTIVITIES.
- 3. CONSTRUCT TEMPORARY LEVEL SPREADER BMP AT PROPOSED LOCATION.
- 4. CONSTRUCT ROADWAYS, UTILITIES, AND ASSOCIATED IMPROVEMENTS WHILE DIRECTING STORMWATER RUNOFF FROM DEVELOPMENT TO FLOW
- 5. STABILIZE ALL DISTURBED SOILS WITH APPLICABLE BMPS AND MAINTAIN UNTIL VEGETATION IS FULLY ESTABLISHED.
- 6. REMOVE REMAINING INLET PROTECTION, SILT FENCING, FLOW SPREADER AND CONSTRUCTION FENCING BMPS UPON FINAL SITE STABILIZATION.

NOTE: ALL GRADES, SLOPES, ELEVATIONS, AND UTILITY LOCATIONS NOT INDICATED AS "AS-BUILT" (AB) ON THE PLAN SHEETS HAVE BEEN CONSTRUCTED PER THE ORIGINAL CONSTRUCTION DRAWINGS

> NOTE: UNLESS OTHERWISE NOTED, SCOPE OF WORK SHOWN APPLIES ONLY TO UCNW PROJECT.

ENGINEER'S CERTIFICATION:

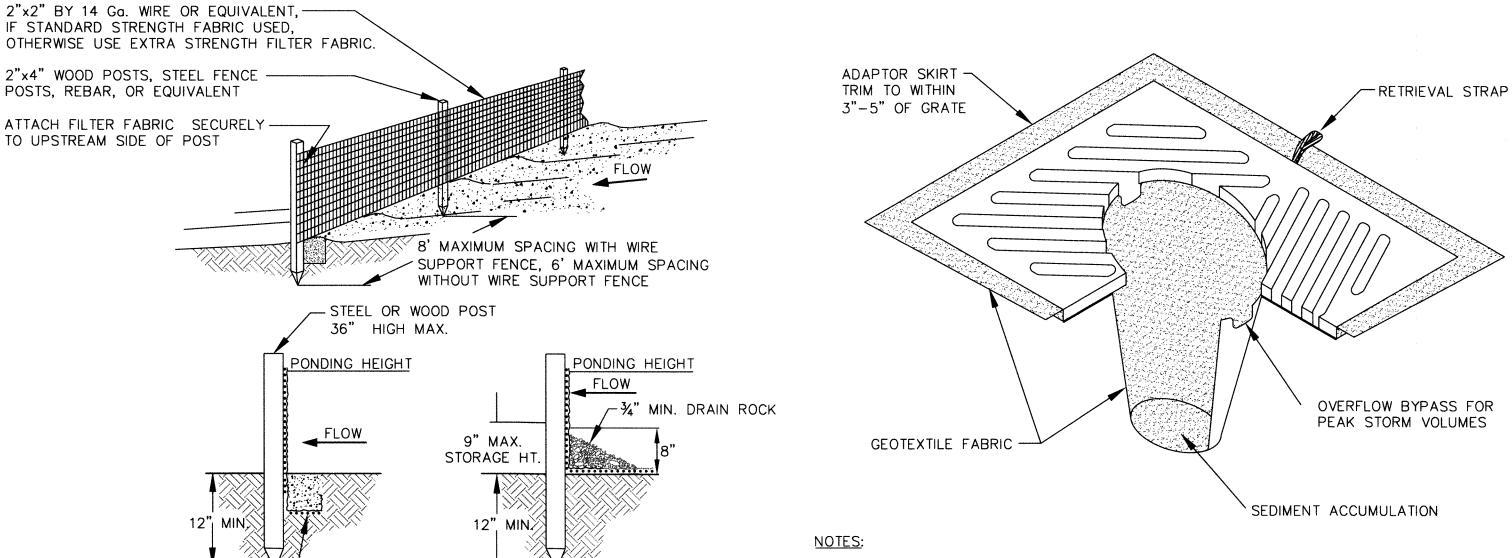
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DETAILS



INSTALLATION WITHOUT TRENCHING

- 4"x6" TRENCH WITH COMPACTED

NATIVE SOIL OR 34"-1.5" WASHED

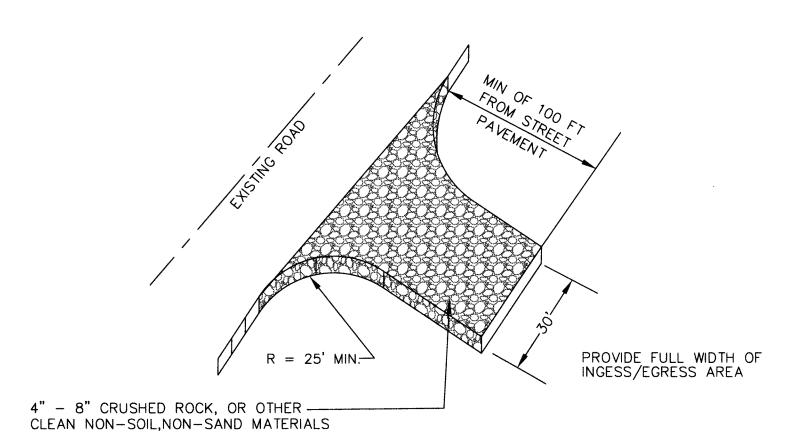
TRENCH DETAIL

1. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.

GRAVEL BACKFILL

- 2. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY. 9" MAXIMUM RECOMMENDED STORAGE HEIGHT.
- 3. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.
- 4. JOINTS IN FILTER FABRIC SHALL BE SPLICED AT POSTS. USE STAPLES, WIRE RINGS, OR EQUIVALENT TO ATTACH FABRIC TO POSTS.

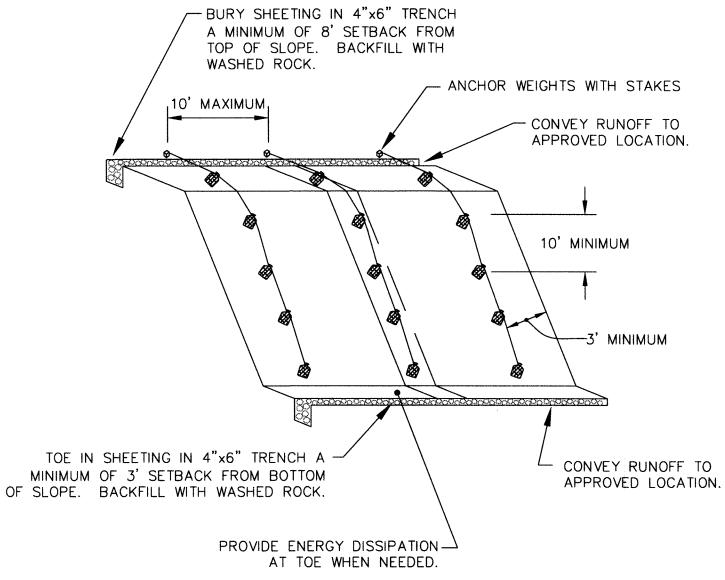






- 1. INSERT SHALL BE INSTALLED PRIOR TO CLEARING AND GRADING ACTIVITY, OR UPON PLACEMENT OF A NEW CATCH BASIN.
- 2. SEDIMENT SHALL BE REMOVED FROM THE UNIT WHEN IT BECOMES HALF FULL
- 3. SEDIMENT REMOVAL SHALL BE ACCOMPLISHED BY REMOVING THE INSERT, EMPTYING, AND RE-INSERTING IT INTO THE CATCH BASIN.





NTS

- 1. TIRES, SANDBAGS, OR EQUIVALENT MAY BE USED TO WEIGH DOWN PLASTIC SHEETING.
- 2. SEAMS BETWEEN SHEETS MUST OVERLAP A MINIMUM OF 12" AND BE WEIGHTED OR TAPED.
- 3. PLASTIC SHEETING SHALL HAVE A MINIMUM THICKNESS OF 6 MIL.
- 4. DUE TO RAPID RUNOFF CAUSED BY PLASTIC SHEETING, THIS METHOD SHALL NOT BE USED UPSLOPE OF AREAS THAT MIGHT BE ADVERSELY IMPACTED BY CONCENTRATED RUNOFF.
- 5. CONSTRUCT BERM OR SWALE AT TOP OF SLOPE AS DIRECTED BY THE CLEARING AND GRADING INSPECTOR.
- 6. CONSTRUCT DITCH AT BASE OF SLOPE AS REQUIRED BY CITY, AND DISCHARGE TO APPROVED LOCATION.



TEMPORARY EROSION/SEDIMENTATION CONTROL:

- 1. A COPY OF THESE APPROVED PLANS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.
- 2. APPROVAL OF THESE TEMPORARY EROSION/SEDIMENTATION 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,
- 3. THE IMPLEMENTATION OF THESE TESC PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT AND UPGRADING OF THESE TESC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION IS APPROVED.
- 4. THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THIS PLAN SHALL BE CLEARLY FLAGGED IN THE FIELD PRIOR TO CONSTRUCTION. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE BEYOND THE FLAGGED CLEARING LIMITS SHALL BE PERMITTED. THE FLAGGING SHALL BE MAINTAINED BY THE CONTRACTOR FOR THE DURATION OF CONSTRUCTION.
- 5. THE TESC FACILITIES SHOWN ON THE PLANS MUST BE CONSTRUCTED IN CONJUNCTION WITH ALL CLEARING AND GRADING ACTIVITIES, AND IN SUCH A MANNER AS TO INSURE THAT SEDIMENT LADEN WATER DOES NOT ENTER THE DRAINAGE SYSTEM OR VIOLATE APPLICABLE WATER STANDARDS.
- 6. THE TESC FACILITIES SHOWN ON THE PLANS ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE TESC FACILITIES SHALL BE UPGRADED (E.G., ADDITIONAL SUMPS, RELOCATION OF DITCHES AND SILT FENCES, ETC.) AS NEEDED FOR UNEXPECTED STORM EVENTS.
- 7. THE TESC FACILITIES SHALL BE INSPECTED DAILY BY THE CONTRACTOR AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING.
- 8. ANY AREA STRIPPED OF VEGETATION, INCLUDING ROADWAY EMBANKMENTS, WHERE NO FURTHER WORK IS ANTICIPATED FOR A PERIOD OF 7 DAYS, SHALL BE IMMEDIATELY STABILIZED WITH THE APPROVED TESC METHODS (E.G., SEEDING, MULCHING, NETTING, **EROSION BLANKETS, ETC.).**
- 9. ANY AREA NEEDING TESC MEASURES, NOT REQUIRING IMMEDIATE ATTENTION, SHALL BE ADDRESSED WITHIN FIFTEEN (15) DAYS.
- 10. THE TESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR WITHIN THE 24 HOURS FOLLOWING A STORM EVENT.
- 11. AT NO TIME SHALL MORE THAN ONE FOOT OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A CATCH BASIN. ALL CATCH BASINS AND CONVEYANCE LINES SHALL BE CLEANED PRIOR TO PAVING. THE CLEANING OPERATION SHALL NOT FLUSH SEDIMENT LADEN WATER INTO THE DOWNSTREAM SYSTEM.
- 12. STABILIZED CONSTRUCTION ENTRANCES AND WASH PADS SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES MAY BE REQUIRED TO INSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.
- 13. DURING THE TIME PERIOD OF OCTOBER 1 THROUGH APRIL 30, ALL PROJECT DISTURBED AREAS GREATER THAN 5,000 SQUARE FEET, THAT ARE TO BE LEFT UNWORKED FOR MORE THAN 12 HOURS, SHALL BE COVERED BY ONE OF THE FOLLOWING COVER MEASURES: MULCH, SODDING OR PLASTIC COVERING.
- 14. ANY PERMANENT RETENTION/DETENTION FACILITY USED AS A TEMPORARY SETTLING BASIN SHALL BE MODIFIED WITH THE NECESSARY EROSION CONTROL MEASURES AND SHALL PROVIDE ADEQUATE STORAGE CAPACITY. IF THE PERMANENT FACILITY IS TO FUNCTION ULTIMATELY AS AN INFILTRATION OR DISPERSION SYSTEM, THE FACILITY SHALL NOT BE USED AS A TEMPORARY SETTLING BASIN. NO UNDERGROUND DETENTION TANK, DETENTION VAULT, OR SYSTEM WHICH BACKS UNDER OR INTO A POND SHALL BE USED AS A TEMPORARY
- 15. WHERE SEEDING FOR TEMPORARY EROSION CONTROL IS REQUIRED, FAST GERMINATING GRASSES SHALL BE APPLIED AT AN APPROPRIATE RATE (E.G. ANNUAL OR PERENNIAL RYE APPLIED AT APPROXIMATELY 80 POUNDS PER ACRE).
- 16. WHERE STRAW MULCH FOR TEMPORARY EROSION CONTROL IS REQUIRED, IT SHALL BE APPLIED AT A MINIMUM THICKNESS OF TWO INCHES.
- 17. ALL EROSION/SEDIMENTATION CONTROL PONDS WITH A DEAD STORAGE DEPTH EXCEEDING 6 INCHES MUST HAVE SLOPES NOT STEEPER THAN 3H:1V.
- 18. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH WASHINGTON STATE DEPARTMENT OF TRANSPORTATION STANDARDS AND SPECIFICATIONS.
- 19. EROSION/SEDIMENTATION CONTROL FACILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS IN THESE PLANS LOCATIONS MAY BE MOVED TO SUIT FIELD CONDITIONS, SUBJECT TO APPROVAL BY THE ENGINEER AND THE CITY INSPECTOR.

NPDES AND CESCL NOTES:

- 1. THE CONTRACTOR SHALL KEEP A RECORD OF THE DATES WHEN MAJOR GRADING ACTIVITIES OCCUR, WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE, AND WHEN STABILIZATION MEASURES ARE IMPLEMENTED.
- 2. ALL EROSION CONTROL FACILITIES SHALL BE INSPECTED BY A CERTIFIED EROSION AND SEDIMENT CONTROL LEAD (CESCL) AND/OR NPDES INSPECTOR, MAINTAINED AND REPAIRED BY THE CONTRACTOR AS NEEDED TO ASSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. ALL ON SITE EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN DAYS AND WITHIN 24 HOURS AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES PER 24 HOUR PERIOD. AN INSPECTION REPORT FILE SHALL BE MAINTAINED BY THE CONTRACTOR AND THE CESCL

FILTER FENCE NOTES:

- 1. THE FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID USE OF JOINTS. WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST WITH A MINIMUM 6-INCH OVERLAP AND BOTH ENDS SECURELY FASTENED TO THE POST.
- 2. THE FILTER FABRIC FENCE SHALL BE INSTALLED TO FOLLOW THE CONTOURS (WHERE FEASIBLE). THE FENCE POSTS SHALL BE SPACED AT A MAXIMUM OF 6 FEET APART AND DRIVEN SECURELY INTO THE GROUND (MINIMUM OF 30
- 3. A TRENCH SHALL BE EXCAVATED, ROUGHLY 8 INCHES WIDE AND 12 INCHES DEEP, UPSLOPE AND ADJACENT TO THE WOOD POST TO ALLOW THE FILTER FABRIC TO BE BURIED.
- 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 36 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 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE. FILTER FABRIC SHALL NOT BE STAPLED TO **EXISTING TREES.**
- 6. WHEN EXTRA STRENGTH FILTER FABRIC AND CLOSER POST SPACING ARE USED, THE WIRE MESH SUPPORT FENCE MAY BE ELIMINATED. IN SUCH A CASE, THE FILTER FABRIC IS STAPLED OR WIRED DIRECTLY TO THE POSTS WITH ALL OTHER PROVISIONS OF STANDARD NOTE 5 APPLYING.
- 7. THE TRENCH SHALL BE BACKFILLED WITH 3/4-INCH MINIMUM DIAMETER WASHED GRAVEL.
- 8. FILTER FABRIC FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED.
- 9. FILTER FABRIC FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.

SEEDING NOTES:

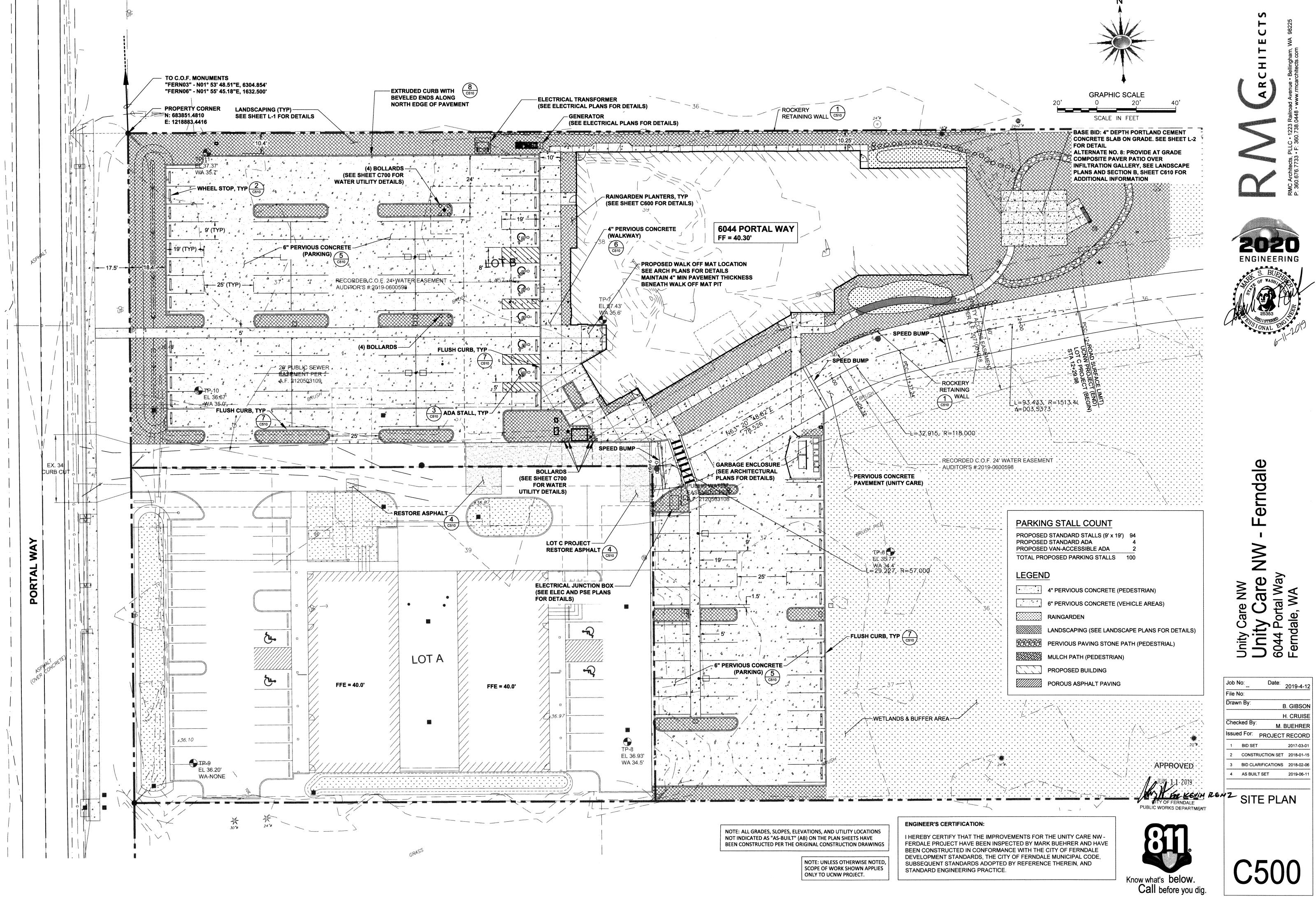
- 1. SEEDBED PREPARATION MAY INCLUDE THE FOLLOWING:
 - A. IF INFERTILE OR COURSE TEXTURED SUBSOIL WILL BE EXPOSED DURING GRADING, STOCKPILE TOPSOIL AND RE-SPREAD IT OVER THE FINISHED SLOPE AND ROLL IT TO PROVIDE A FIRM BASE.
- B. IF CONSTRUCTION FILLS HAVE LEFT SOIL EXPOSED WITH A LOOSE, ROUGH OR IRREGULAR SURFACE, TRACK WALK UP SLOPE.
- C. IF CUTS OR CONSTRUCTION EQUIPMENT HAVE LEFT A TIGHTLY COMPACTED SURFACE, BREAK WITH CHISEL PLOW OR OTHER SUITABLE
- D. PERFORM ALL CULTURAL OPERATIONS ACROSS OR AT RIGHT ANGLES TO THE SLOPES (CONTOURED). THE SEEDBED SHOULD BE FIRM WITH A FAIRLY FINE SURFACE AFTER ROUGHENING.
- 2. FERTILIZATION AS PER SUPPLIER'S RECOMMENDATIONS. DEVELOPMENTS ADJACENT TO WATER BODIES MUST USE NON-PHOSPHOROUS FERTILIZER.
- 3. HYDROSEEDING APPLICATIONS WITH APPROVED SEED-MULCH-FERTILIZER MIXTURES MAY ALSO BE USED.
- 4. SEEDING APPLY APPROPRIATE MIXTURE TO THE PREPARED SEEDBED AT A RATE OF 120 LBS/ACRE. COVER THE SEED WITH TOPSOIL OR MULCH NO DEEPER THAN ONE-HALF INCH.

TEMPORARY EROSION CONTROL SEED MIX	PROPORTIONS BY WEIGHT	PERCENT PURITY	PERCENT GERMINATION
CHEWINGS OR RED FESCUE	40%	98	90
ANNUAL OR PERENNIAL RYE	40%	98	90
REDTOP OR COLONIAL BENTGRASS	10%	92	85
WHITE DUTCH CLOVER	10%	98	90

FERDALE PROJECT HAVE BEEN INSPECTED BY MARK BUEHRER AND HAVE BEEN CONSTRUCTED IN CONFORMANCE WITH THE CITY OF FERNDALE DEVELOPMENT STANDARDS, THE CITY OF FERNDALE MUNICIPAL CODE, STANDARD ENGINEERING PRACTICE.

ENGINEER'S CERTIFICATION:

I HEREBY CERTIFY THAT THE IMPROVEMENTS FOR THE UNITY CARE NW -SUBSEQUENT STANDARDS ADOPTED BY REFERENCE THEREIN, AND



Date: 2019-4-12

B. GIBSON

H. CRUISE

2017-03-01

M. BUEHRER

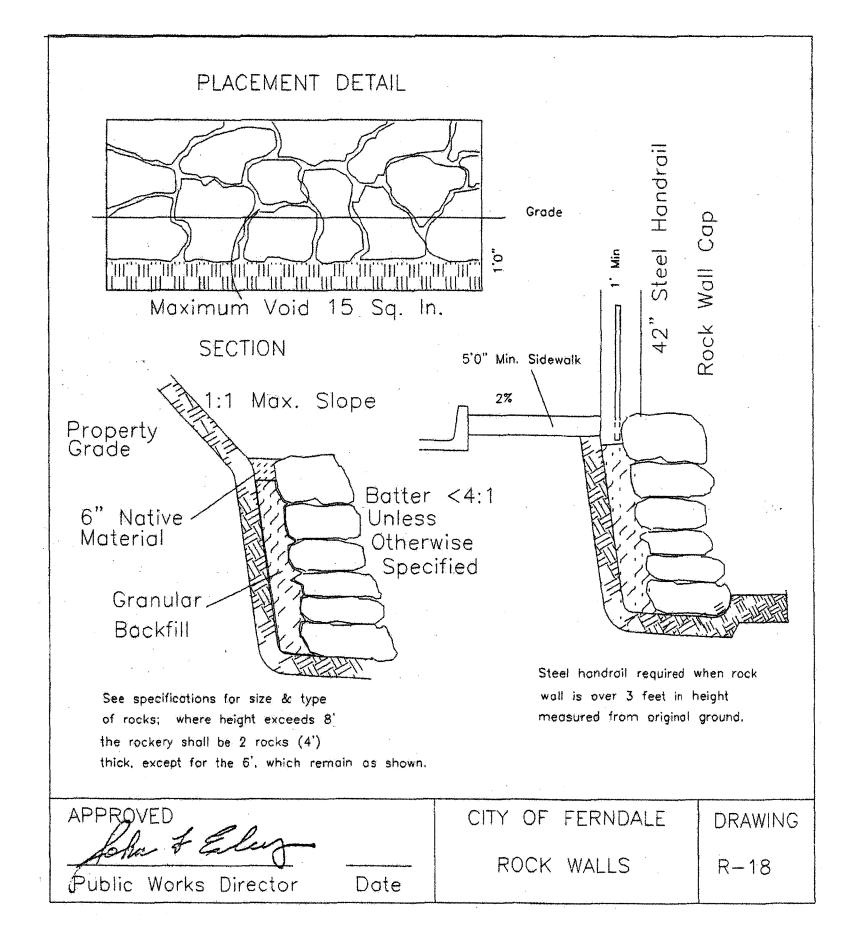
Issued For: PROJECT RECORD CONSTRUCTION SET 2018-01-15 BID CLARIFICATIONS 2018-02-06 CITO OF FERNDALE SITE DETAILS

4 AS BUILT SET 2019-06-11

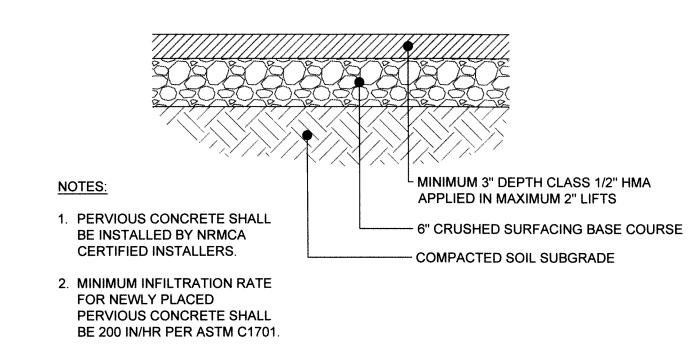
Job No: File No:

Drawn By:

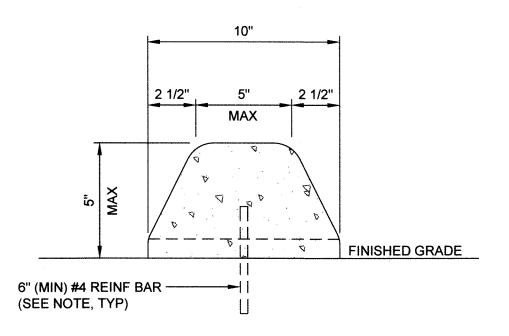
Checked By:











1. REINFORCING BARS SHALL HAVE A MINIMUM LENGTH OF 6". 2. WHEEL STOPS SHALL BE A MINIMUM OF 6' LONG. 3. WHEEL STOP SIZE MAY VARY, SUBMIT FOR ENGINEER'S APPROVAL.



NOTES:

B. ORGANIC CONTENT SHALL BE AT LEAST 1% (PER

C. INFILTRATION RATE SHALL BE AT LEAST 2

3. PERVIOUS CONCRETE SHALL BE INSTALLED BY NRMCA

4. MINIMUM INFILTRATION RATE FOR NEWLY PLACED PERVIOUS CONCRETE SHALL BE 200 IN/HR PER ASTM

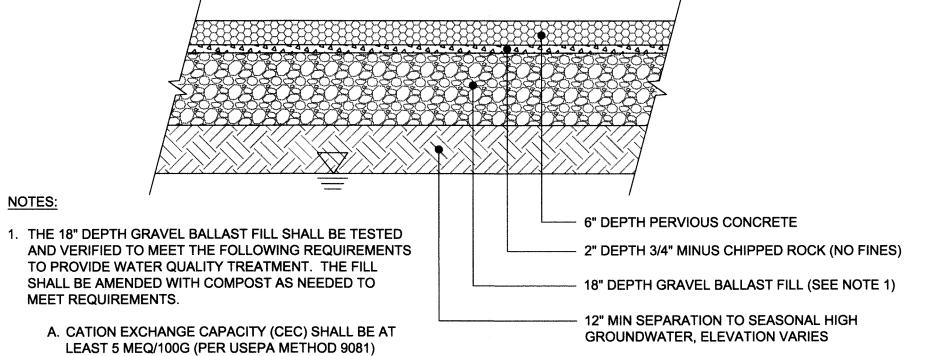
2. "PIT RUN" FILL MAY BE ACCEPTABLE PROVIDED IT

MEETS THE ABOVE SPECIFICATIONS.

ASTM D2974)

INCHES/HOUR.

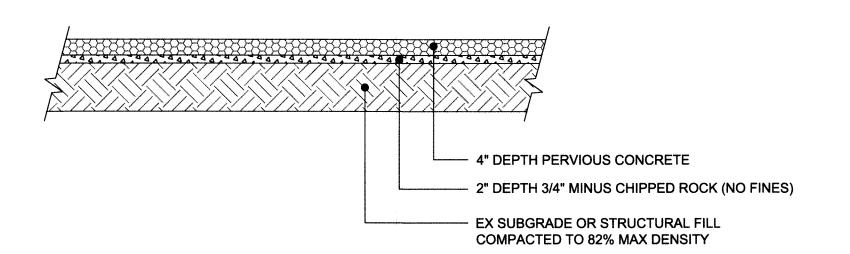
CERTIFIED INSTALLERS.



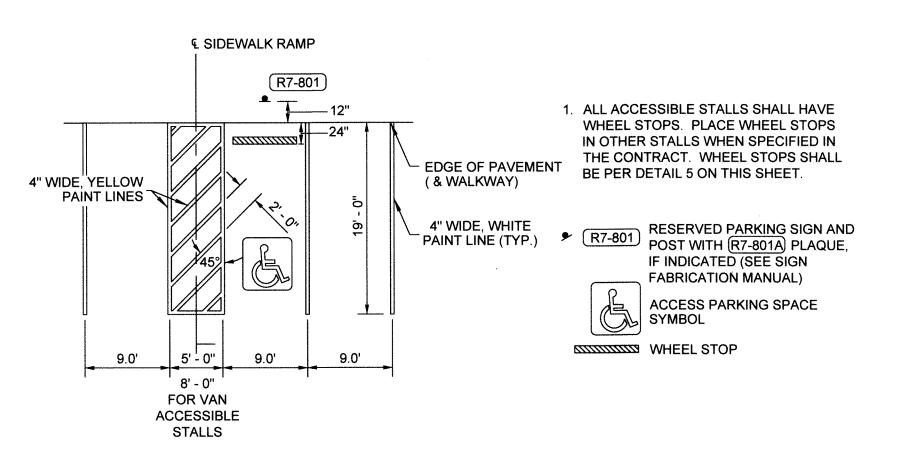
- 5. CONCRETE AND AGGREGATE FOR ALL PERVIOUS CONCRETE SHALL BE 3/8" MIX PER ACI 522, OR APPROVED
- 6. CONTRACTOR SHALL REFER TO PROJECT SPECIFICATION SECTION 32 13 43 FOR COMPREHENSIVE PERVIOUS CONCRETE PRODUCT SPECIFICATIONS AND INSTALLATION REQUIREMENTS.

N.T.S.

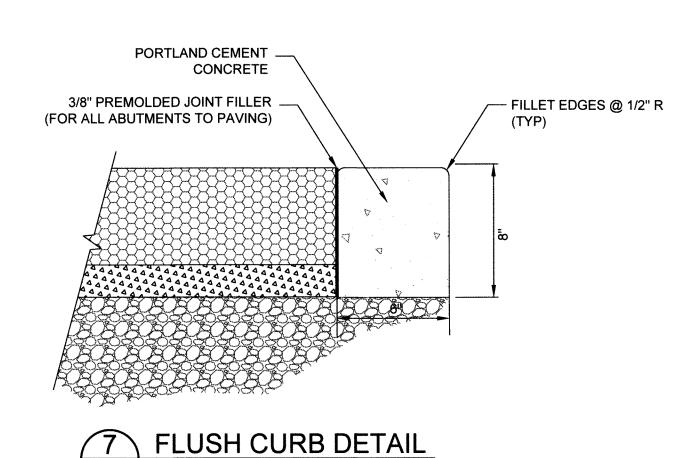
6" PERVIOUS CONCRETE PAVEMENT DETAIL

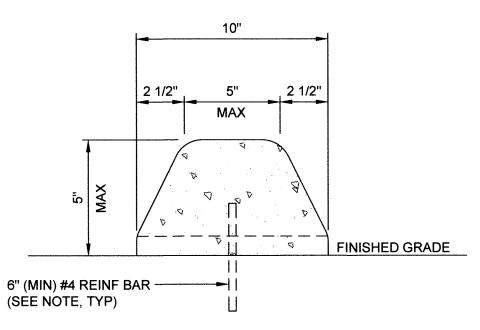






ADA PARKING/ STRIPING DETAIL



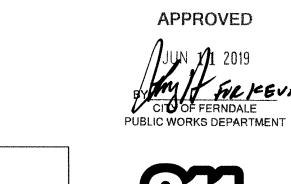


NOTE: REINFORCING BARS SHALL HAVE A MINIMUM LENGTH OF 6" ON 10" CENTERS WITH NO BAR CLOSER THAN 12" FROM A CURB **END OR JOINT**

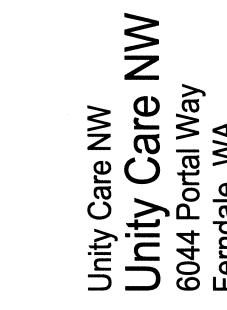


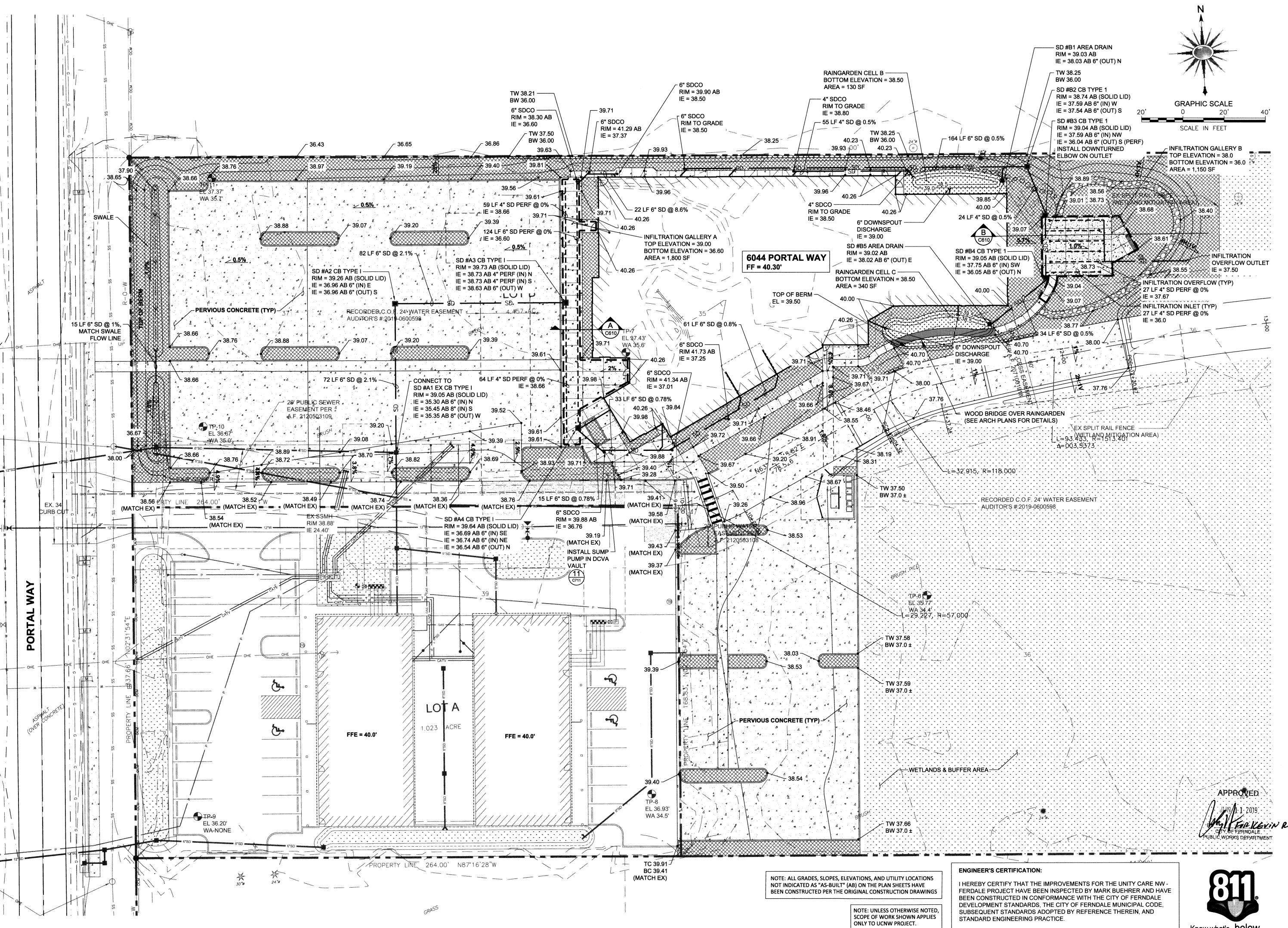
ENGINEER'S CERTIFICATION:

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



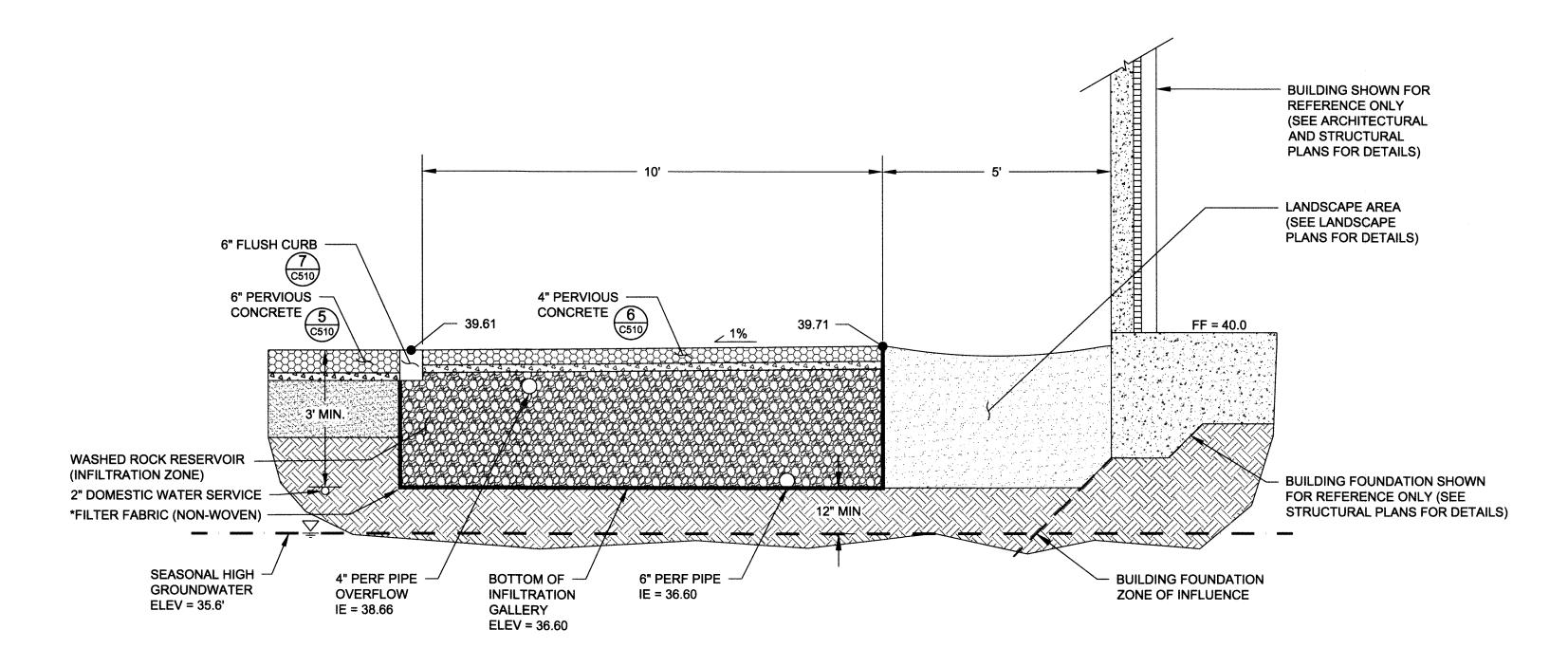


Date: 2019-4-12 B. GIBSON H. CRUISE M. BUEHREF Issued For: PROJECT RECORD CONSTRUCTION SET 2018-01-1 BID CLARIFICATIONS 2018-02-0 AS BUILT SET

> **GRADING &** DRAINAGE PLAN

Know what's below.
Call before you dig.

STANDARD ENGINEERING PRACTICE.



SECTION - INFILTRATION GALLERY A

BASE BID: 4" DEPTH CONCRETE SLAB ON GRADE.

ALTERNATE NO. 8: PROVIDE AT GRADE COMPOSITE PAVER PATIO OVER INFILTRATION GALLERY AS SHOWN, SEE LANDSCAPE FOR ADDITIONAL

LINE INFILTRATION GALLERY

INFILTRATION OVERFLOW

BOTTOM OF INFILTRATION

GALLERY

ELEV = 36.0

VERTICAL SCALE: 1" = 1"

HORIZONTAL SCALE: 1" = 5'

27 LF 4" SD PERF @ 0%

IE = 37.67

FINISHED

GRADE

TOP OF INFILTRATION

GALLERY

ELEV = 38.0

WASHED DRAIN ROCK

WITH FILTER FABRIC

12" SEPARATION FROM SEASONAL

HIGH GROUNDWATER ELEVATION

- LINE INFILTRATION GALLERY

- PATHWAY

REFER TO LANDSCAPE FOR DETAILS.

4" DEPTH 5/8" MINUS CHIPPED ROCK BASE

WITH FILTER FABRIC

INFORMATION

LINE INFILTRATION GALLERY

B\SECTION - INFILTRATION GALLERY B

WITH FILTER FABRIC

CB TYPE 1 (BEYOND)

SEE SHEET C600 FOR DETAILS

INFILTRATION INLET

IE PER SHEET C600

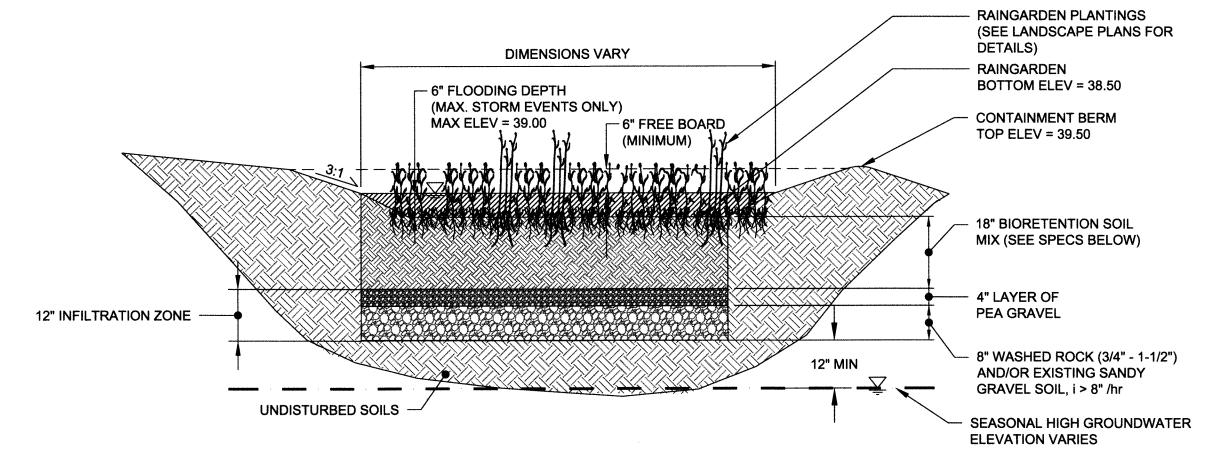
27 LF 4" SD PERF @ 0%

SEASONAL HIGH GROUNDWATER

ELEV = 35.0

FF = 40.0

EXISTING GRADE



RAINGARDEN INSTALLATION NOTES

EXCAVATION:

INFILTRATION **OVERFLOW OUTLET**

IE = 37.50

SOIL COMPACTION CAN LEAD TO FACILITY FAILURE; ACCORDINGLY, MINIMIZING COMPACTION OF THE BASE AND SIDEWALLS OF THE BIORETENTION AREA IS CRITICAL. EXCAVATION SHOULD NEVER BE ALLOWED DURING WET OR SATURATED CONDITIONS (COMPACTION CAN REACH DEPTHS OF 2-3 FEET DURING WET CONDITIONS AND MITIGATION IS LIKELY NOT BE POSSIBLE). EXCAVATION SHOULD BE PERFORMED BY MACHINERY OPERATING ADJACENT TO THE BIORETENTION FACILITY AND NO HEAVY **EQUIPMENT WITH NARROW TRACKS,** NARROW TIRES, OR LARGE LUGGED, HIGH PRESSURE TIRES SHOULD BE ALLOWED ON THE BOTTOM OF THE BIORETENTION FACILITY. IF MACHINERY MUST OPERATE IN THE BIORETENTION CELL FOR EXCAVATION, USE LIGHT WEIGHT, LOW **GROUND-CONTACT PRESSURE EQUIPMENT AND RIP THE BASE AT**

COMPLETION TO REFRACTURE SOIL TO A MINIMUM OF 12 INCHES. IF MACHINERY OPERATES IN THE FACILITY, SUBGRADE INFILTRATION RATES MUST BE FIELD

TESTED AND COMPARED TO DESIGN RATES. FAILURE TO MEET OR EXCEED THE DESIGN INFILTRATION RATE WILL REQUIRE REVISED ENGINEERING DESIGNS TO VERIFY ACHIEVEMENT OF TREATMENT AND FLOW CONTROL BENEFITS THAT WERE ESTIMATED IN THE STORMWATER SITE PLAN.

PRIOR TO PLACEMENT OF THE BSM, THE FINISHED SUBGRADE SHALL: BE SCARIFIED TO A MINIMUM DEPTH OF 3

INCHES. HAVE ANY SEDIMENT DEPOSITED FROM CONSTRUCTION RUNOFF REMOVED. TO REMOVE ALL INTRODUCED SEDIMENT, SUBGRADE SOIL SHOULD BE REMOVED TO A DEPTH OF 3-6 INCHES AND REPLACED WITH BSM.

BE INSPECTED BY THE RESPONSIBLE

ENGINEER TO VERIFY REQUIRED SUBGRADE CONDITION.

SIDEWALLS OF THE FACILITY, BENEATH THE SURFACE OF THE BSM, CAN BE VERTICAL IF SOIL STABILITY IS ADEQUATE. EXPOSED SIDEWALLS OF THE COMPLETED BIORETENTION AREA WITH BSM IN PLACE SHOULD BE NO STEEPER THAN 3H:1V. THE BOTTOM OF THE FACILITY SHOULD BE

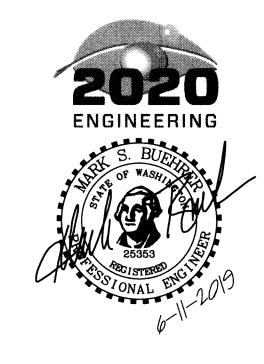
SOIL PLACEMENT:

ON-SITE SOIL MIXING OR PLACEMENT SHALL NOT BE PERFORMED IF BIORETENTION SOIL MIX OR SUBGRADE SOIL IS SATURATED. THE BIORETENTION SOIL MIXTURE SHOULD BE PLACED AND GRADED BY MACHINERY OPERATING ADJACENT TO THE BIORETENTION FACILITY. IF MACHINERY MUST OPERATE IN

THE BIORETENTION CELL FOR SOIL PLACEMENT, USE LIGHT WEIGHT EQUIPMENT WITH LOW GROUND-CONTACT PRESSURE. IF MACHINERY OPERATES IN THE FACILITY, SUBGRADE INFILTRATION

RATES MUST BE FIELD TESTED AND COMPARED TO DESIGN RATES. FAILURE TO MEET OR EXCEED THE DESIGN INFILTRATION RATE WILL REQUIRE REVISED ENGINEERING DESIGNS TO VERIFY ACHIEVEMENT OF TREATMENT AND FLOW CONTROL BENEFITS THAT WERE ESTIMATED IN THE STORMWATER SITE PLAN.

THE SOIL MIXTURE SHALL BE PLACED IN HORIZONTAL LAYERS NOT TO EXCEED 12 INCHES PER LIFT FOR THE ENTIRE AREA OF THE BIORETENTION FACILITY. COMPACT THE BIORETENTION SOIL MIX TO A RELATIVE COMPACTION OF 85 PERCENT OF MODIFIED MAXIMUM DRY DENSITY (ASTM D 1557). COMPACTION CAN BE ACHIEVED BY BOOT PACKING (SIMPLY WALKING OVER ALL AREAS OF EACH LIFT), AND THEN APPLY 0.2 INCHES (0.5 CM) OF WATER PER 1 INCH (2.5 CM) OF BIORETENTION SOIL MIX DEPTH. WATER FOR SETTLING SHOULD BE APPLIED BY SPRAYING OR SPRINKLING.





Example Soil and Compost Specifications for Low Impact Development

ECOLOGY State of Washington

Compost Standards for Bioretention Soil Mix: Western Washington

Parameter	Method	Acceptable Range
Feedstock composition		≥ 65% Type I Feedstock ≤ 35% Type III Feedstock Compost vendor must be STA Certified
р Н	TMECC 04.11-A	6.0 – 8.5
Carbon: Nitrogen ratio	TOC - TMECC 04.01; TKN - TMECC 04.02D	25 carbon:1 nitrogen and up to 35:1 if using native plantings from Puget Sound lowlands region
Inert material	TMECC 03.08A	≤ 1%, 0% plastic
Organic content	TMECC 05.07A	40% - 65% by dry weight
Size gradations	TMECC 02.02-B	100% passing through 1" sieve
Maturity indicator	TMECC 05.05A	Germination > 80% Vigor > 80%
Stablility	TMECC 05.08B	≤7
Contaminant levels	WAC 173-350, Section 220	Table 220-B Testing Parameters
Moisture level		No visible free water or dust when handling
Soluble salt/ Electrical conductivity	TMECC 04.10-A	< 4 mmhos/cm

Parameter	Method	Acceptable Range	
	ASTM D 422	Sieve Size	Percent Passing
		1 inch	100
		1 inch	100
A		No. 4	95 - 100
Aggregate gradation		No.10	75 - 90
		No. 40	25 - 40
		No. 100	4 to 10
		No. 200	2 to 5
Coefficient of uniformity	ASTM D 422		≥4

Parameter	Method	Acceptable Range
Mix ratio. (Aggregate : Compost)	N/A	60:40
Permeability rate	ASTM D 2434 – 2012 SWMMWW version	Initial rate < 12 inches per hour at 85% compaction. Long term > 1 inch per hour.
Organic matter content	ASTM D 2974 or TMECC 05.07A	4 - 8% (by dry weight)
Cation exchange capacity	EPA 9081	≥ 5 meq/100 g dry soil



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APPROVED

STORMWATER **SECTIONS & DETAILS**

4 AS BUILT SET

Date:

Issued For: PROJECT RECORD

CONSTRUCTION SET 2018-01-15

BID CLARIFICATIONS 2018-02-06

File No: Drawn By

Checked By:

2019-4-12

B. GIBSON H. CRUIS

M. BUEHRER

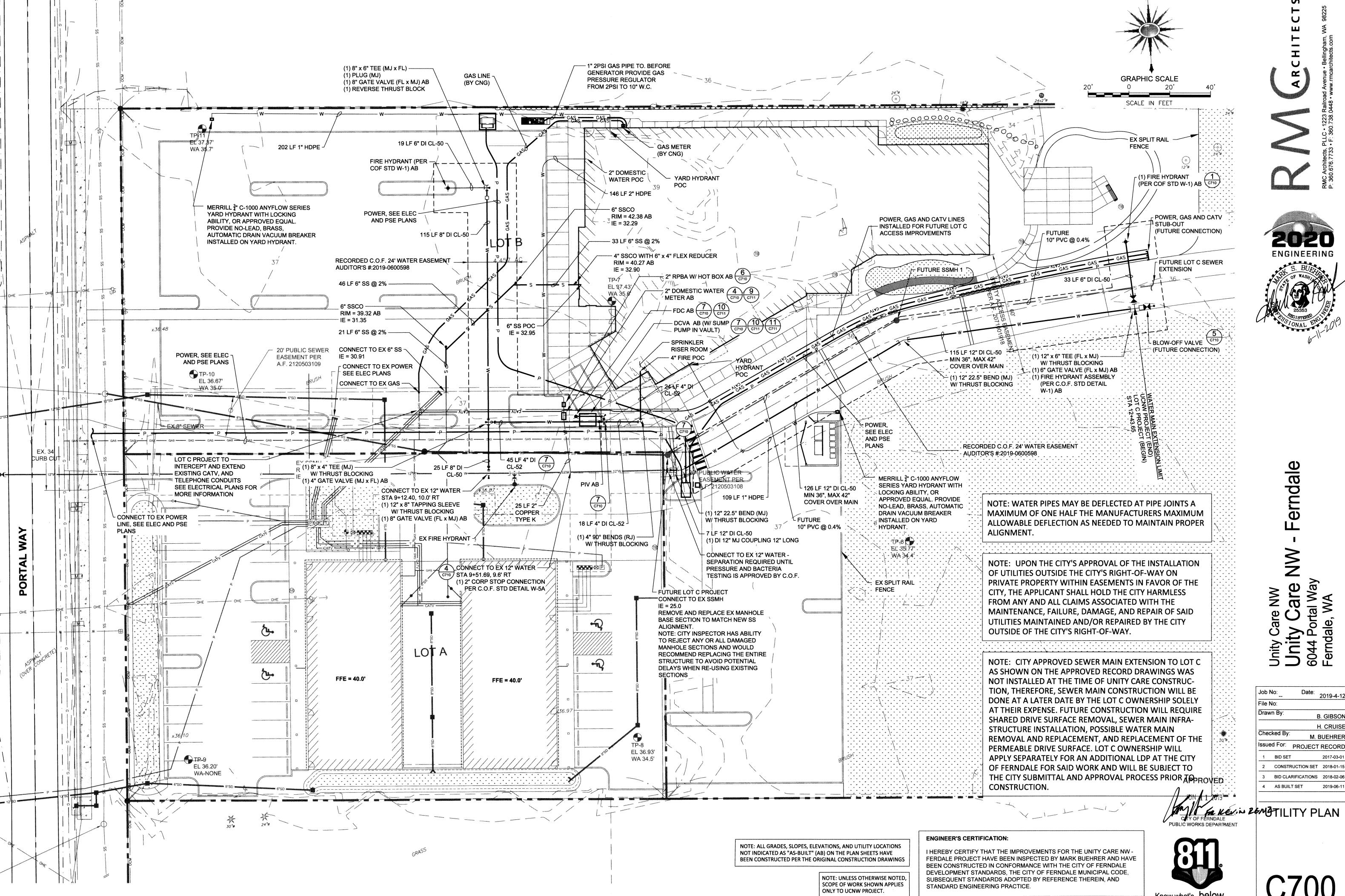


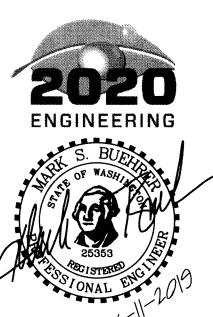
ENGINEER'S CERTIFICATION:

STANDARD ENGINEERING PRACTICE.

Know what's below.

Call before you dig.





Date: 2019-4-12 B. GIBSON



PRIVATE PROPERTY

-METER SETTER & BOX

August 9, 2012

TYPICAL 2' WATER

SERVICE

TANDARD DETAIL W-5A

NOT TO SCALE

-METER BOX (SEE COFSD W-8)

CITY ROW OR EASEMENT

ELEVATION VIEW

ALTERNATE CURB STOP INSTALLATION

- WATER MAIN

NOTES:

1. METER(S) TO BE FURNISHED AND INSTALLED BY COF.

2. WATER SERVICE TRENCH TO BE

BACKFILLED WITH 12" MIN. DEPTH OF CLEAN SANDY FILL.

ROMAC TYPE 202S OR APPROVED EQUAL TAPPING CLAMP WITH SADDLE. MUST USE COPPER THREADED CORPORATIONS.

2" CURB STOP FORD — B11 SERIES OR APPROVED EQUAL & CAST IRON VALVE BOX

12"x2" BRASS NIPPLE -

-2" CORPORATION STOP FORD F700 SERIES OR APPROVED EQUAL

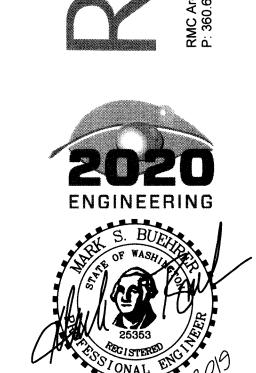
Public Works Director

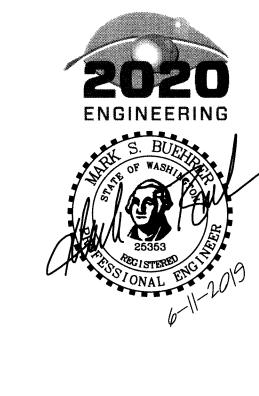
SERIES OR APPROVED EQUAL

PLAN VIEW

Date

WATER SERVICE DETAIL



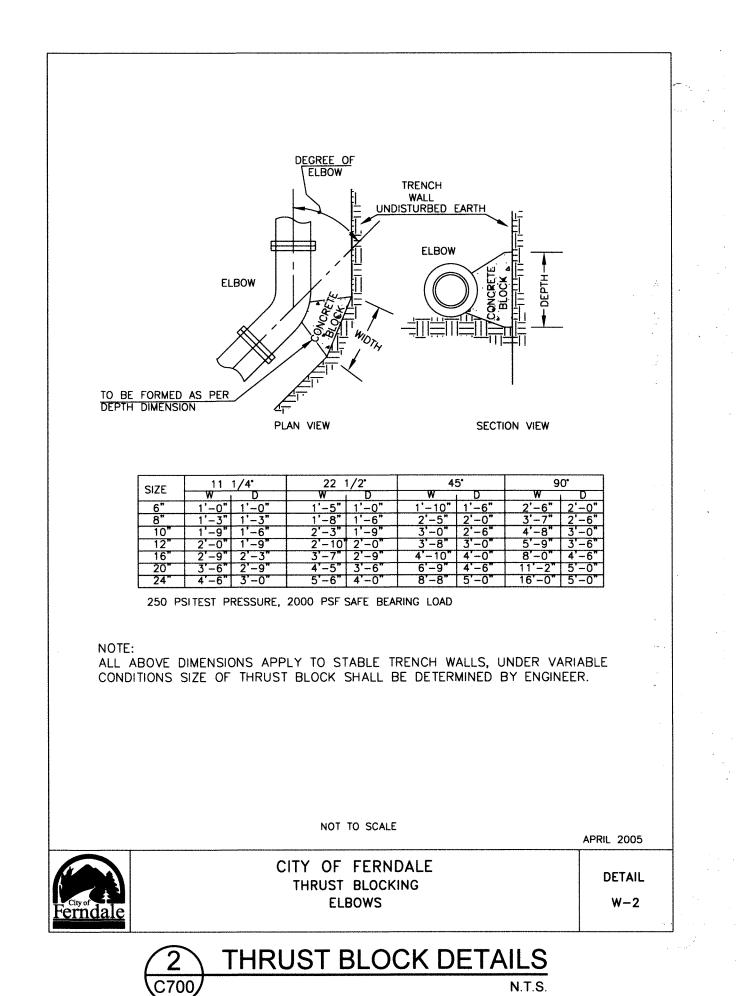


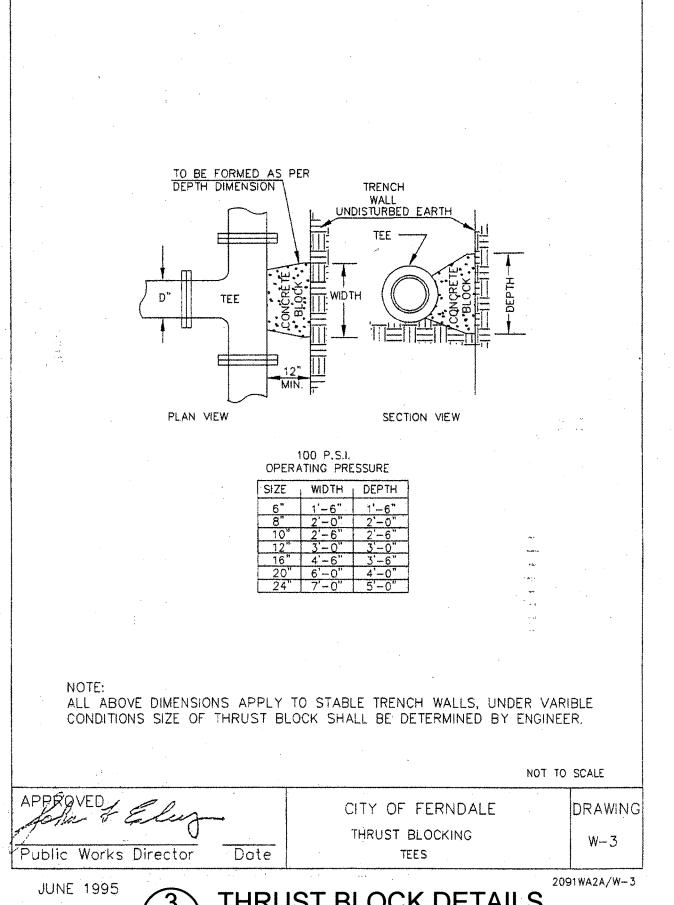
Ferndale \geq 6044 Ferno

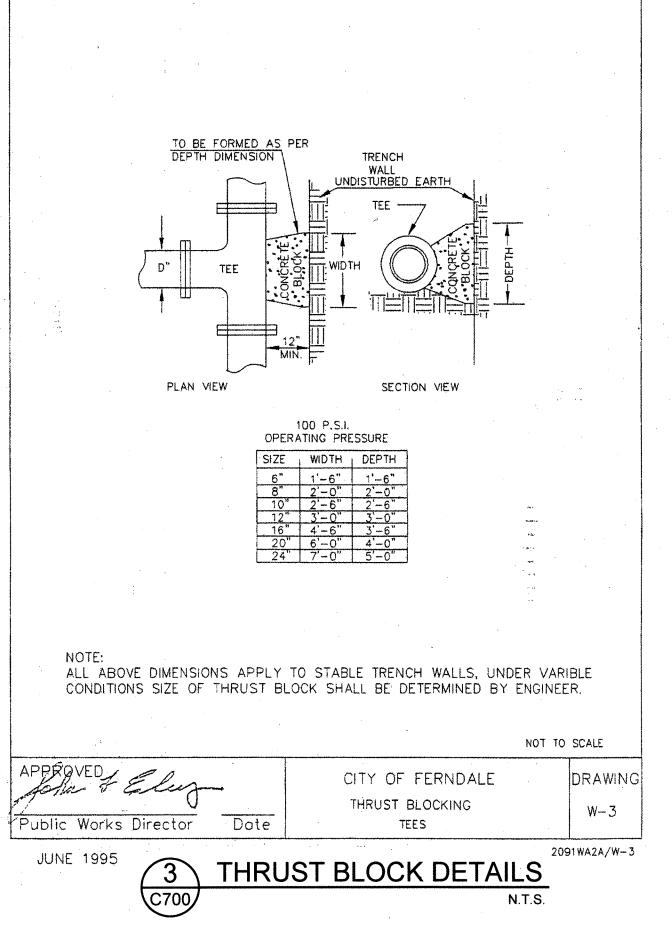
Date: 2019-4-12 File No: Drawn By B. GIBSON H. CRUISE Checked By: M. BUEHRER Issued For: PROJECT RECORD CONSTRUCTION SET 2018-01-15

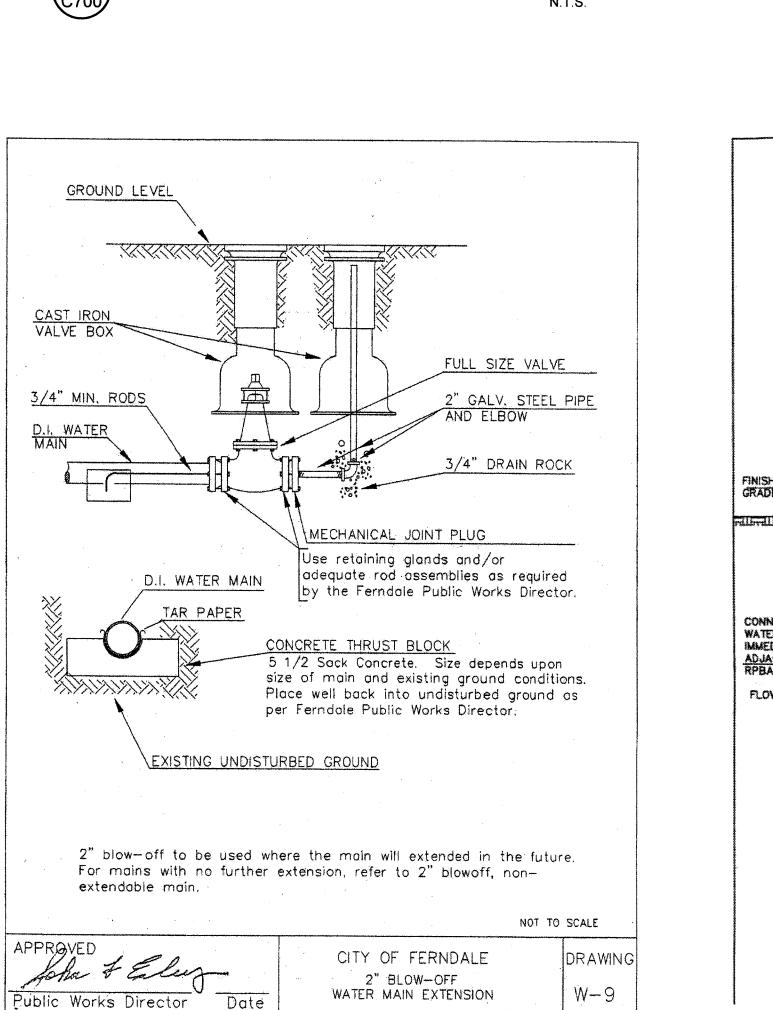
BID CLARIFICATIONS 2018-02-06 FURKENIN PENDISET UTILITY

DETAILS









(1.) For close coupled hydrants use all flange

STORZ OR EQUAL FITTING, BLINDCAP

CAST IRON VALVE BOX

CAST IRON HYD. TEE

ALT. TYPE FOOT

M.J.xFLANGE) (M.J.xM.J.)

\(\(\text{M.J.} \times \text{FLANGE GATE VALVE}\)

NOT TO SCALE

DRAWING

(TYTON X TYTON)

(2.) If hydrant rises through concrete use expansion strip around hydrant barrel.

AND AIRCRAFT CABLE.

type connections.

2-3/4" TIE RODS,

NUTS & WASHERS

SEE INSERT

HYD. CONNECTION NIPPLI

CITY OF FERNDALE

FIRE HYDRANT ASSEMBLY

INSERT

FIRE HYDRANT ASSEMBLY DETAIL

VERTICAL LINE

2" ABOVE CURB OR

CURB OR SIDEWALK

SEE NOTE NUMBER 2

BACKFILL WITH LARGE

ROCK TO ALLOW HYD. TO DRAIN:

18"x18x4" CONC BLOCK

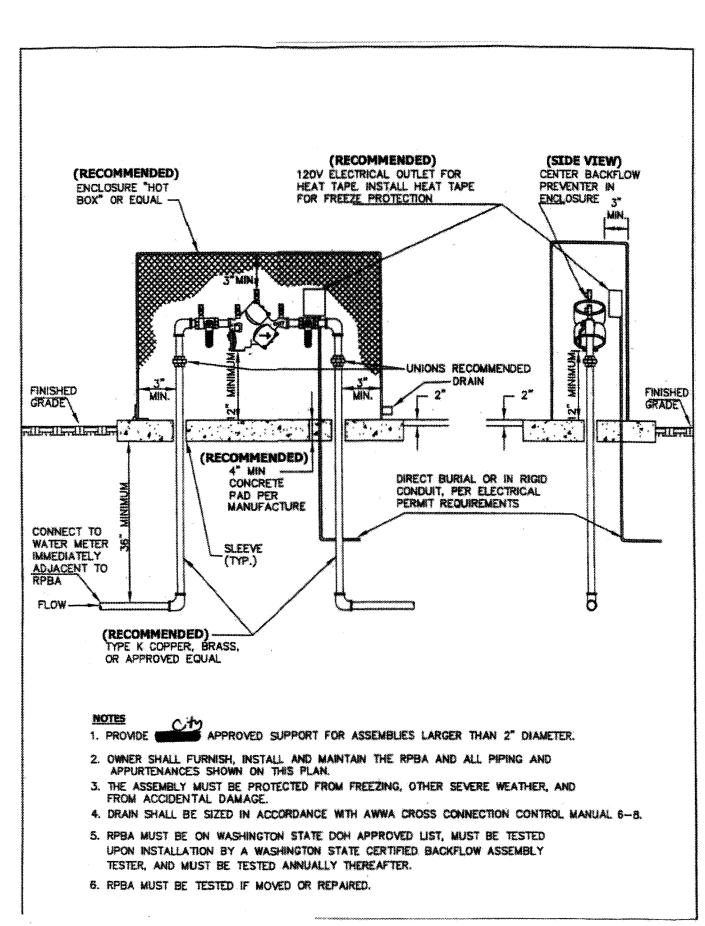
Public Works Director

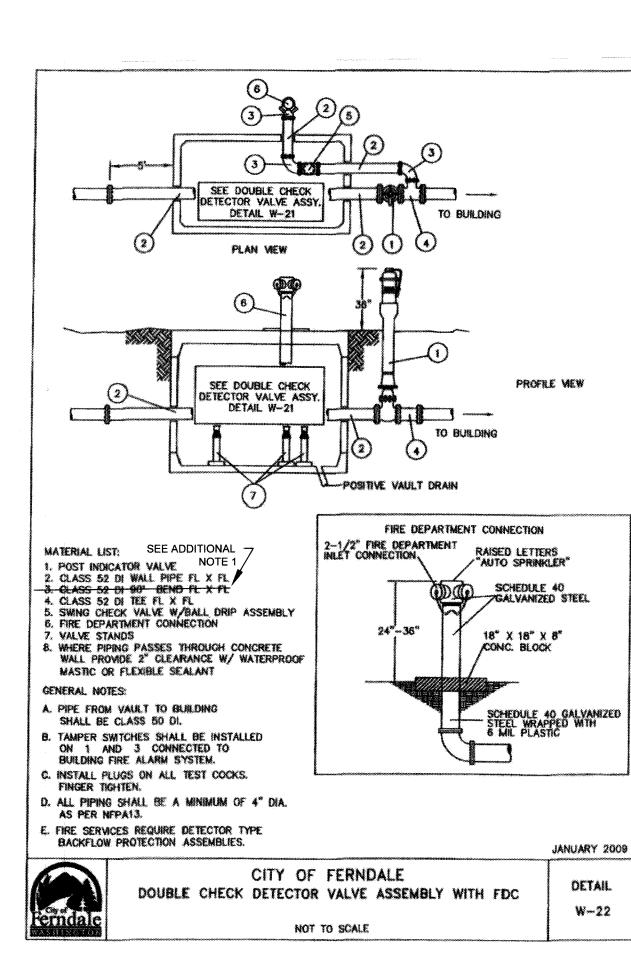
SLIP JOINT AT MAIN TEE

PER FOOT

SIDEWALK

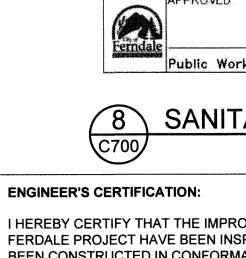
SET HYDRANT 1/4" RAKE









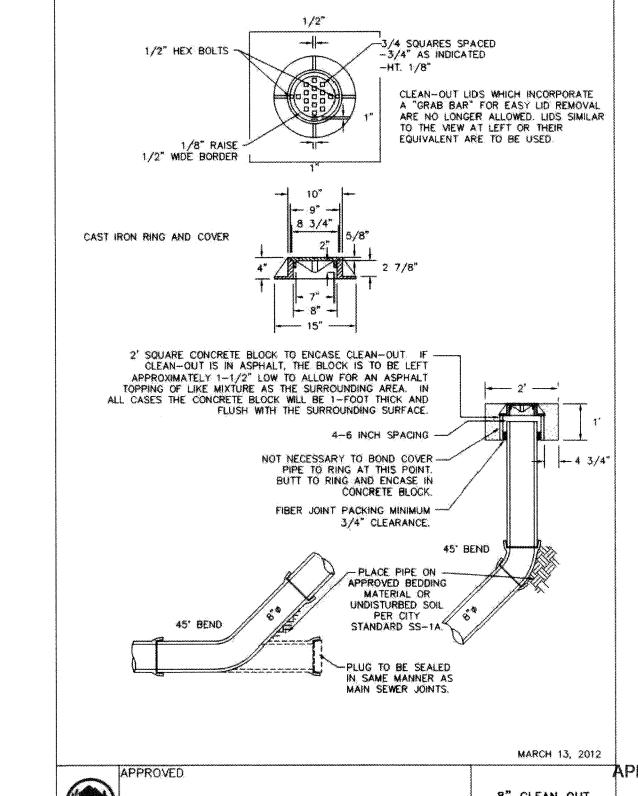


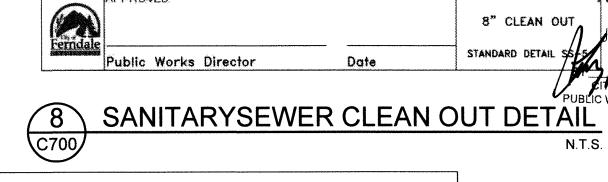
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Know what's **below**. Call before you dig.







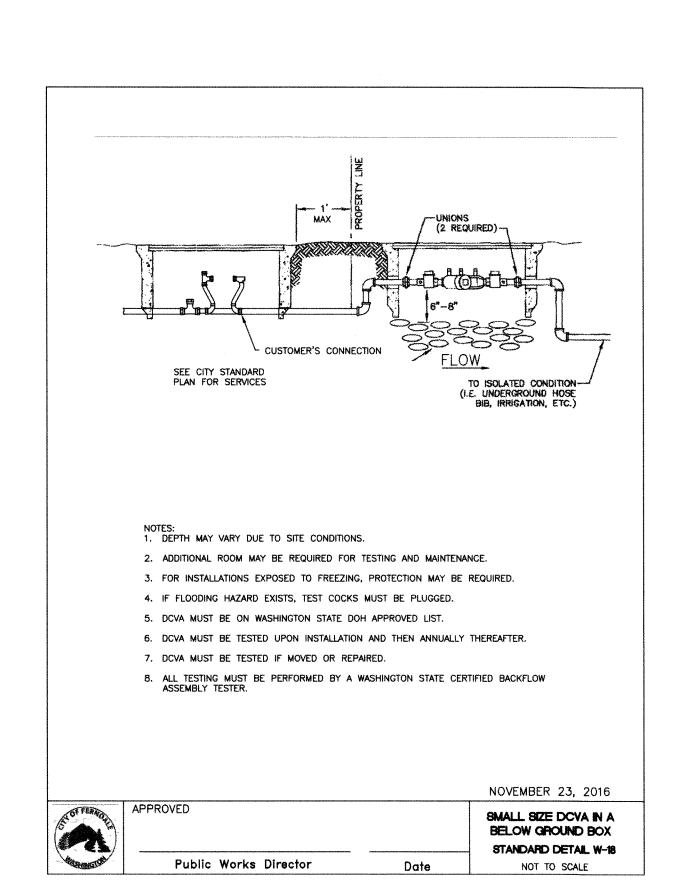


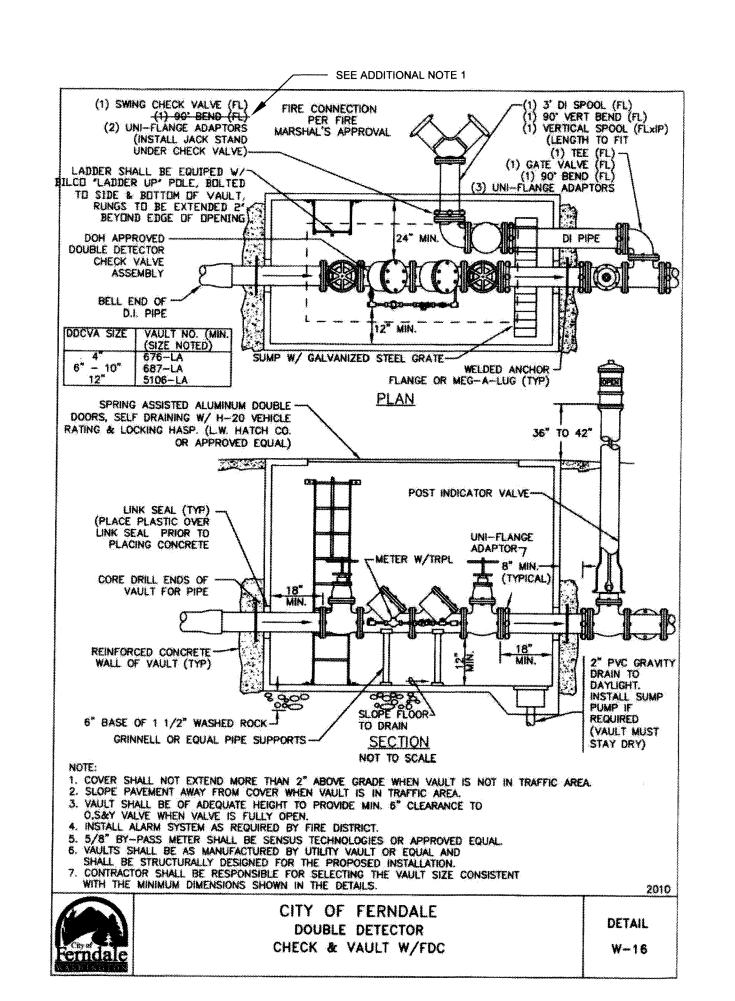


Public Works Director

STANDARD DETAIL W-8

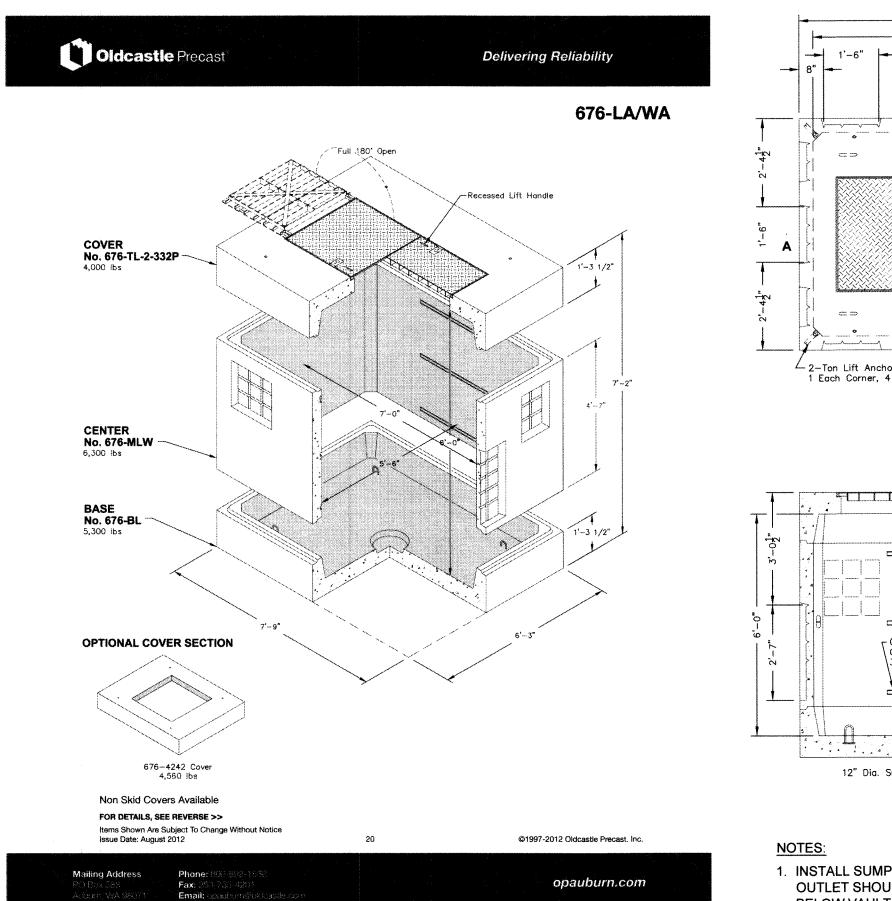
NOT TO SCALE

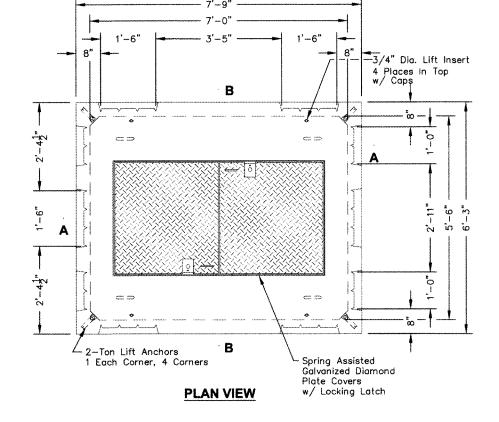


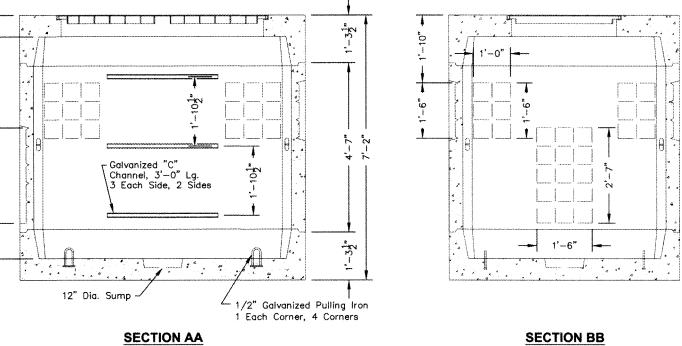


1. FDC PIPE SHALL PASS STRAIGHT THROUGH VAULT AS SHOWN ON SHEET C700.









1. INSTALL SUMP PUMP (WAYNE CDU790 OR APPROVED EQUAL) IN DCVA VAULT. PUMP OUTLET SHOULD BE CORE DRILLED THROUGH THE SIDE OF THE VAULT A MINIMUM OF 12" BELOW VAULT LID, AND SHALL DRAIN INTO A MINIMUM OF (1) CUBIC YARD OF WASHED DRAIN ROCK.

11 DOUBLE CHECK VALVE ASSEMBLY VAULT DETAIL

opauburn.com

Ferndale Care NW ty Care

File No: H. CRUISE Checked By: M. BUEHRER Issued For: PROJECT RECORD 2 CONSTRUCTION SET 2018-01-15 3 BID CLARIFICATIONS 2018-02-06 4 AS BUILT SET

UTILITY **DETAILS** (CONT.)

Know what's below.
Call before you dig.

ENGINEER'S CERTIFICATION:

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12\ WATER METER BOX DETAIL

Job No: 2019-4-12