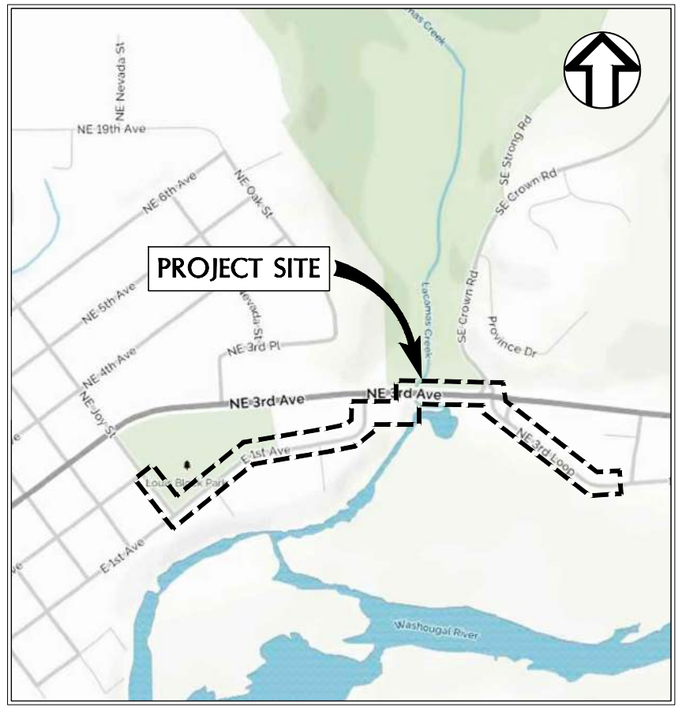
Exhibit 8

CITY OF CAMAS

LACAMAS CREEK SANITARY SEWER PUMP STATION IMPROVEMENTS

MARCH 2019

LOCATION MAP
NOT TO SCALE



PROJECT SITE MAP
NOT TO SCALE

City of Camas WASHINGTON

Owner: City of Camas
616 NE 4th Ave
Camas, Washington 98607
Camas Public Works Department
Contact: Jim Hodges, Project Manager
(360) 817-7234

wallis engineering

Civil Engineer: Wallis Engineering
215 W. 4th Ave., Suite 200
Vancouver, Washington 98660
(360) 695-7041
Contact: Tim Shell, P.E.

FRANCHISE UTILITIES

Clark Public Utilities
Contact: Jon Pilling
Email: jpilling@clarkpud.com
Phone: (360) 992-8814

Comcast Cable
Contact: Michelle Janson
Email: Michelle Janson@comcast.com
Phone: (360) 518-1851

Wave Broadband
Contact: Derek Larson
Email: dlarson@wavebroadband.com
Phone: (503) 798 8426

Frontier Communications
Contact: John Bielec
Email: John.bielec@ftr.com
Phone: (503) 367-5106

Northwest Natural
Contact: Gary Nault
Email: gwn@nwnatural.com
Phone: (360) 571-5465 ext: 2046

NW Pipeline
Contact: Jennifer Tackett
Email: jennifer.1.tackett@williams.com
Phone: (360) 608-7220

PERMIT SET

TIMOTHY C. SHELL — STATE OF WASHINGTON — 26182 — REGISTERED PROFESSIONAL ENGINEER
PERMIT SET

NO.	REVISION	BY	DATE

DESIGNED BY: JW/WW
DRAWN BY: CK
REV: XX

ONE INCH AT FULL SCALE. IF NOT ONE INCH ADJUST SCALE ACCORDINGLY
0 — ONE INCH — 1"

COVER

wallis engineering — 215 W 4th Street, Suite 200, Vancouver, WA 98660, (360) 695-7041

PROJECT NO: 1460A
DATE: 3/2019

LACAMAS CREEK SANITARY SEWER PUMP STATION IMPROVEMENTS

City of Camas WASHINGTON

CITY PROJECT NO. S1000

DRAWING NO:
G-001

P:\14\1460A Camas Lacamas PS Imp\500 DWG\501 Plan Sheets\1 COVER.dwg, 4/23/2019 11:58:41 PM, Chad Keys

SHEET INDEX

*NOT INCLUDED IN PERMIT SET

TIMOTHY C. WALLIS
STATE OF WASHINGTON
25182
REGISTERED
PROFESSIONAL ENGINEER
PERMIT SET

NO.	REVISION	BY	DATE

DESIGNED BY: JW/WW
DRAWN BY: CK
REV: XX

ONE INCH 0 1"
ONE INCH AT FULL SCALE. IF NOT ONE INCH ADJUST SCALE ACCORDINGLY

SHEET INDEX

wallis engineering
215 W 4th Street, Suite 200
Vancouver, WA 98660
360.567.3747

PROJECT NO: 1460A
DATE: 3/2019

LACAMAS CREEK SANITARY SEWER PUMP STATION IMPROVEMENTS

City of Camas WASHINGTON

CITY PROJECT NO. S1000

DRAWING NO:
G-002

GENERAL NOTES

1. THE LOCATIONS, DEPTHS, AND DESCRIPTIONS OF EXISTING UTILITIES SHOWN WERE COMPILED FROM UTILITY LOCATE MARKS, UTILITY AS-BUILT MAPS, AVAILABLE RECORDS, AND FIELD SURVEYS. THE ENGINEER/UTILITY COMPANIES DO NOT GUARANTEE THE ACCURACY OR THE COMPLETENESS OF SUCH RECORDS. ADDITIONAL UTILITIES MAY EXIST WITHIN THE WORK AREA. THE CONTRACTOR SHALL POTHOLE ALL UTILITY CROSSINGS A MINIMUM OF 500 FEET IN ADVANCE OF THE PROPOSED UTILITY INSTALLATION AND REPORT ALL CONFLICTS TO THE ENGINEER. THE CONTRACTOR SHALL COORDINATE RELOCATING CONFLICTING UTILITIES WITH THE UTILITY OWNER.

2. THE CONTRACTOR SHALL MAKE PROVISIONS TO KEEP ALL EXISTING UTILITIES IN SERVICE AND PROTECT THEM DURING CONSTRUCTION. IMMEDIATELY REPAIR OR REPLACE ANY DAMAGED UTILITIES IN KIND AND AS APPROVED BY THE UTILITY OWNER AT THE CONTRACTOR'S EXPENSE. IF SERVICE INTERRUPTIONS CANNOT BE PREVENTED TO COMPLETE THE WORK, THE CONTRACTOR SHALL PROVIDE WRITTEN NOTICE TO BUSINESSES A MINIMUM OF TWO WORKING DAYS PRIOR TO THE SERVICE INTERRUPTION. SERVICE INTERRUPTIONS SHALL NOT BE PERMITTED WITHOUT PRIOR WRITTEN AGREEMENT WITH THE UTILITY OWNER.

3. CONTRACTOR SHALL COMPLY WITH ALL PERMIT REQUIREMENTS FOR WORK IN RIGHT-OF-WAY. RESTORE TRENCHES WITH TEMPORARY HOT MIX ASPHALT BY THE END OF EACH WORKING DAY. STEEL SHEETS WITH PINS AND ASPHALT WEDGES MAY BE USED IN COMBINATION WITH TEMPORARY ASPHALT OVER A LIMITED TIME/AREA.

4. THE CONTRACTOR SHALL KEEP AN APPROVED SET OF PLANS AND PERMITS ON THE PROJECT SITE AT ALL TIMES.

5. THE CONTRACTOR SHALL ESTABLISH THE PRINCIPAL LINES AND GRADES IN ACCORDANCE WITH THE SPECIFICATIONS. PROPERTY LINES SHOWN ON ALL PLAN SHEETS ARE APPROXIMATE AND ARE NOT MEANT TO REPRESENT THE ACTUAL BOUNDARIES. A COPY OF THE CAD BASE DRAWING WILL BE PROVIDED TO THE CONTRACTOR UPON REQUEST.

6. PROVIDE TEMPORARY SUPPORT OF TRAFFIC SIGNAL AND UTILITY POLES WHERE NECESSARY. COORDINATE WITH POLE OWNER.

7. SURVEY MONUMENTS SHALL NOT BE DISTURBED. IF THE CONTRACTOR SUSPECTS THAT SURVEY MONUMENT DISRUPTION MAY OCCUR, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IMMEDIATELY.

SURVEY

BASIS OF BEARING:

WASHINGTON STATE PLANE SOUTH ZONE 4602
NAD 83(2011)(EPOCH:2010.0000)
POINT SCALE 1.00006434
COMBINED FACTOR 1.00006578
GRID COORDINATES IN DRAWING

VERTICAL DATUM:

CLARK COUNTY BENCH MARK NUMBER 241, A 2" BRASS DISK IN CURB AT THE NW QUADRANT OF NE 14TH AVENUE AND NE EVERETT STREET INSCRIBED 1400-1992, RECORD ELEVATION 215.34' NGVD 29(47)

ABBREVIATIONS

AC	ASPHALT CONCRETE
ARV	AIR RELEASE VALVE
BPPS	BAZ PARK PUMP STATION
CARV	COMBINATION AIR RELEASE VALVE
CLR	CLEAR
CONC	CEMENT CONCRETE
CONN	CONNECTION, CONNECTING
CSBC	CRUSHED SURFACING BASE COURSE
CSTC	CRUSHED SURFACING TOP COURSE
CY	CUBIC YARD
DI	DUCTILE IRON
DIA	DIAMETER
ES	EACH SIDE
EW	EACH WAY
FA	FOUL AIR
FCA	FLANGE COUPLING ADAPTER
FL	FLANGE
FM	FORCE MAIN
FPT	FEMALE PIPE THREAD
FRP	FIBER REINFORCED PLASTIC
GALV	GALVANIZED
GA	GAUGE
GB	GRADE BREAK
HMA	HOT MIX ASPHALT
HORIZ	HORIZONTAL
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
LCPS	LACAMAS CREEK PUMP STATION
MFR	MANUFACTURER
MH	MANHOLE
MJ	MECHANICAL JOINT
MPT	MALE PIPE THREAD
OC	ON CENTER
OD	OUTSIDE DIAMETER
PVC	POLYVINYL CHLORIDE
PL	PLATE
SAN	SANITARY SEWER
SSMH	SANITARY SEWER MANHOLE
SST	STAINLESS STEEL
STL	STEEL
STM	STORM SEWER
T & B	TOP AND BOTTOM
TEMP	TEMPORARY
VERT	VERTICAL

EXISTING UTILITY CROSSING LEGEND

WITHIN THE PROFILES ON THE PLAN AND PROFILE SHEETS ARE TICK MARKS SHOWN ABOVE THE EXISTING GROUND LEVEL. THESE INDICATE THE CROSSING OF AN EXISTING UTILITY (SEE THE LEGEND BELOW FOR TYPES OF UTILITIES). IF THE SIZE OF THE UTILITY IS KNOWN AND LARGER THAN 4-INCH IN DIAMETER, THE SIZE WILL BE NOTED. IF IN ADDITION TO THE SIZE, THE APPROXIMATE DEPTH OF AN EXISTING UTILITY IS KNOWN, THE UTILITY WILL BE DISPLAYED IN THE PROFILE. NOTE THAT DISPLAYED UTILITY ELEVATIONS ARE APPROXIMATE AND DO NOT RELIEVE THE CONTRACTOR OF PERFORMING POTHOLING.

EXISTING UTILITY CROSSING LEGEND

FM	FORCE MAIN
G	GAS
SD	STORM DRAIN SEWER
SS	SANITARY SEWER
TR	TRAFFIC SIGNAL
UGP	UNDERGROUND POWER
UGT	UNDERGROUND TELECOMMUNICATIONS
W	WATER

TIMOTHY C. WALLIS — STATE OF WASHINGTON — 25182 — REGISTERED PROFESSIONAL ENGINEER

PERMIT SET

NO.	REVISION	BY	DATE

DESIGNED BY: JW/WW
DRAWN BY: CK
REV: XX

ONE INCH AT FULL SCALE. IF NOT ONE INCH ADJUST SCALE ACCORDINGLY

0 1"

GENERAL NOTES & ABBREVIATIONS

wallis engineering
215 W 4th Street, Suite 200
Vancouver, WA 98660
360.695.3411

PROJECT NO: 1460A
DATE: 3/2019

LACAMAS CREEK SANITARY SEWER PUMP STATION IMPROVEMENTS

City of Camas WASHINGTON

CITY PROJECT NO. S1000

DRAWING NO:
G-003

LEGEND

EXISTING

- EXISTING MAJOR CONTOUR (20)
- EXISTING MINOR CONTOUR (22)
- EXISTING RIGHT OF WAY
- EXISTING PROPERTY LINE
- EXISTING CENTERLINE
- EXISTING CURB
- EXISTING CONCRETE
- EXISTING GRAVEL
- EXISTING AC PAVEMENT
- EXISTING STORM, SIZE NOTED IF KNOWN (8" SD)
- EXISTING SANITARY, SIZE NOTED IF KNOWN (8" SS)
- EXISTING SANITARY FORCE MAIN, SIZE NOTED IF KNOWN (6" FM)
- EXISTING WATER, SIZE NOTED IF KNOWN (6" W)
- EXISTING GAS, SIZE NOTED IF KNOWN (2" G)
- EXISTING OVERHEAD POWER (OHP)
- EXISTING SANITARY MANHOLE (SS)
- EXISTING STORM MANHOLE (SD)
- EXISTING CATCH BASIN
- EXISTING CURB INLET
- EXISTING AREA DRAIN
- EXISTING CLEANOUT
- EXISTING WATER METER
- EXISTING WATER VALVE
- EXISTING FIRE HYDRANT
- EXISTING IRRIGATION VALVE
- EXISTING UTILITY POLE
- EXISTING GUY WIRE
- EXISTING GAS VALVE
- EXISTING GAS METER
- EXISTING SIGN
- EXISTING LUMINAIRE
- EXISTING MONUMENT
- EXISTING MAILBOX
- EXISTING ELECTRICAL BOX
- EXISTING BUILDING
- EXISTING FENCE (x x x)
- EXISTING GUARDRAIL
- EXISTING FLOODPLAIN (FP)
- EXISTING ORDINARY HIGH WATER MARK (OHWM)
- EXISTING WETLAND BOUNDARY (WTL)
- EXISTING TREES

PROPOSED

- PROPOSED SANITARY MANHOLE (SS)
- PROPOSED STORM MANHOLE (SD)
- PROPOSED SANITARY FORCE MAIN, SIZE NOTED (10" FM)
- PROPOSED SANITARY GRAVITY SEWER, SIZE NOTED (8" SS)
- PROPOSED STORM SEWER, SIZE NOTED (SD)
- PROPOSED HMA PAVEMENT
- PROPOSED CONCRETE
- PROPOSED GRAVEL
- PROPOSED BIORETENTION FACILITY

PIPE FITTINGS

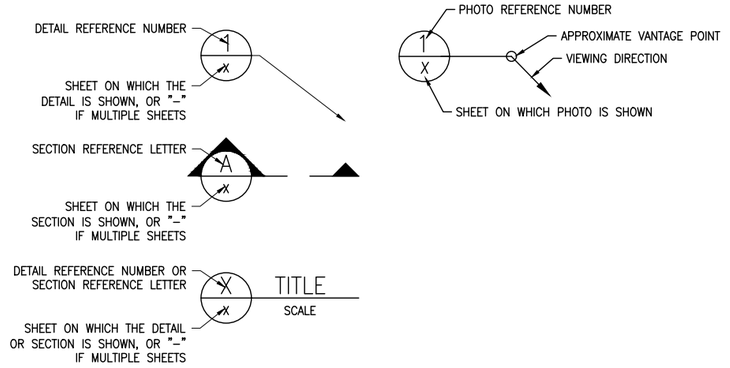
DOUBLE LINE	SINGLE LINE	ABBREV	DESCRIPTION
		FL	FLANGED JOINT
		MJ	MECHANICAL JOINT
		WYE	LATERAL/45° WYE
		WYE	LATERAL/45° WYE
		WYE	LATERAL/45° WYE
		ECC RDCR	ECCENTRIC REDUCER
		BEND	BEND, ANGLE AS NOTED
		BEND 90	90° BEND
		BEND DN	TURNED DOWN
		BEND UP	TURNED UP
		TEE	STRAIGHT
		TEE UP	OUTLET UP
		TEE DN	OUTLET DOWN

VALVES

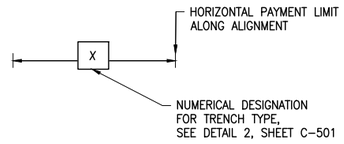
DOUBLE LINE	SINGLE LINE	ABBREV	DESCRIPTION
		SCV	SWING CHECK VALVE
		GV	GATE VALVE
		EPV	ECCENTRIC PLUG VALVE

NOTE:
PIPES 3" AND SMALLER DIAMETER ARE SHOWN AS A SINGLE LINE. 4" AND LARGER DIAMETER ARE SHOWN AS A DOUBLE LINE.

DETAIL AND SECTION DESIGNATIONS



SURFACE RESTORATION TYPE



NO.	REVISION	BY	DATE

DESIGNED BY: JW/WW
DRAWN BY: CK
REV: XX

ONE INCH AT FULL SCALE, IF NOT ONE INCH ADJUST SCALE ACCORDINGLY
0 1"

LEGEND

wallis engineering
215 W 4th Street, Suite 200
Vancouver, WA 98660
360.695.1385

PROJECT NO: 1460A
DATE: 3/2019

LACAMAS CREEK SANITARY SEWER PUMP STATION IMPROVEMENTS

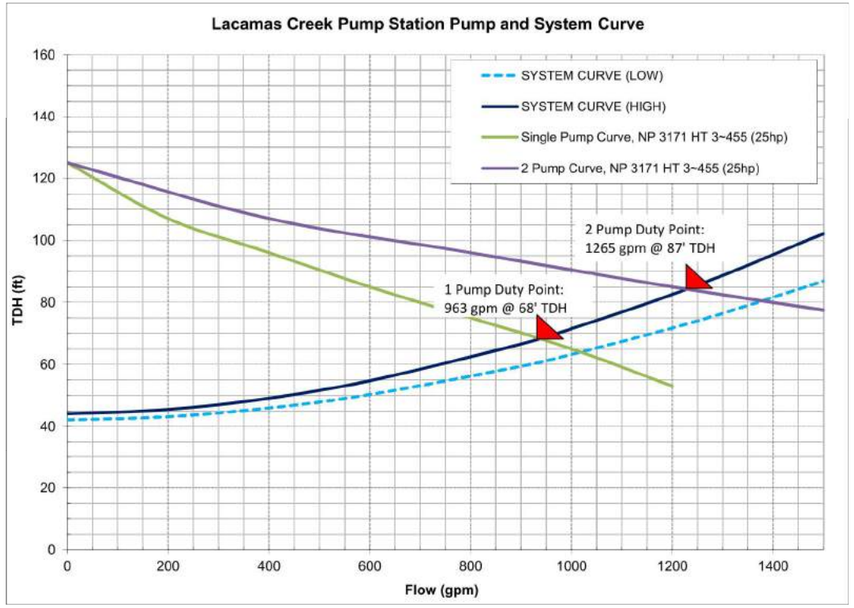
City of Camas WASHINGTON

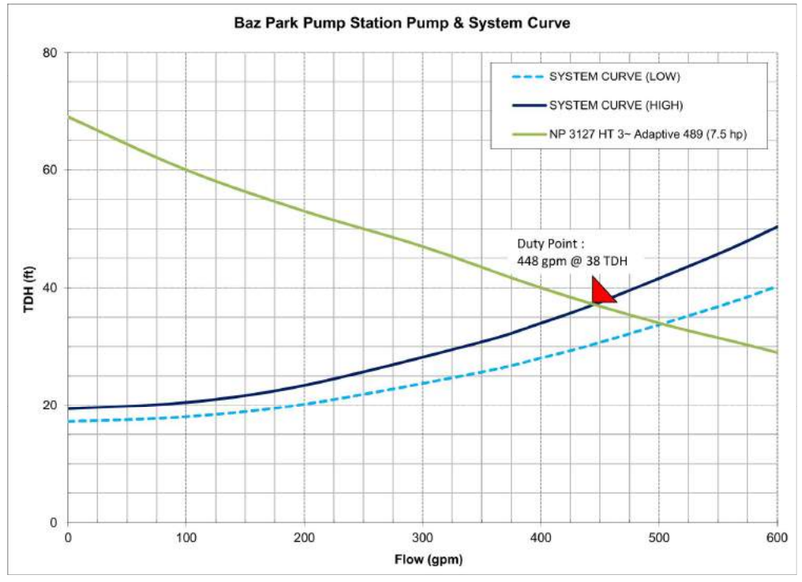
CITY PROJECT NO. S1000

DRAWING NO:
G–004

Pump Station Design Criteria

ITEM DESCRIPTION	LACAMAS CREEK PUMP STATION	BAZ PARK PUMP STATION
PUMP STATION TYPE	SUBMERSIBLE	SUBMERSIBLE
PUMP TYPE	FLYGT N IMPELLER	FLYGT N IMPELLER
CAPACITY	984 GPM @ 75' TDH	450 GPM @ 57' TDH
PUMP HP	45 HP	12 hp
ELECTRICAL SERVICE TYPE	480 V, 3 PHASE	480 V, 3 PHASE
LEVEL CONTROL TYPE	ULTRASONIC TRANSDUCER W/ MULTITRODE BACKUP	ULTRASONIC TRANSDUCER W/ MULTITRODE BACKUP
OVERFLOW POINT, ELEVATION	MANHOLE AT ELEVATION	WETWELL AT ELEVATION
OVERFLOW DISCHARGE	OVERLAND FLOW TO LACAMAS CREEK	OVERLAND FLOW TO WASHOUGAL RIVER
AVG TIME TO OVERFLOW @ 20 YR PHF	11 MINUTES	8 MINUTES
AUXILIARY POWER TYPE	DIESEL FUELED GENERATOR	DIESEL FUELED GENERATOR
TRANSFER SWITCH	AUTOMATIC TRANSFER SWITCH	AUTOMATIC TRANSFER SWITCH
EPA RELIABILITY CLASS	CLASS 1	CLASS 1
FORCE MAIN LENGTH/DIAMETER	1850 LF OF 10" DR 17 HDPE	800 LF OF 6" DR 17 HDPE
FORCE MAIN PROFILE	ASCENDING WITH HIGH POINT AT VALVE VAULT	CONTINUOUSLY ASCENDING
DISCHARGE MANHOLE	NE JOY ST AND NE 2ND AVE	NE 3RD AVE AND SE CROWN RD
AIR RELEASE VALVES	AIR RELEASE VALVE AT HIGH POINT (1)	NONE
AVG. DETENTION TIME, BUILDOUT FLOWS	46 MINUTES	18 MINUTES
WETWELL ODOR CONTROL SYSTEM	WETWELL VENTILATION AND CARBON	PASSIVE CARBON FILTER
FORCE MAIN SULFIDE CONTROL SYSTEMS	PROVISIONS FOR FUTURE CHEMICAL INJECTION	PROVISIONS FOR FUTURE CHEMICAL INJECTION
TELEMETRY	GSM MODEM	GSM MODEM





PERMIT SET

NO.	REVISION	BY	DATE

DESIGNED BY: JW/WW
DRAWN BY: CK
REV: XX

ONE INCH AT FULL SCALE, IF NOT ONE INCH ADJUST SCALE ACCORDINGLY

PUMP STATION DESIGN CRITERIA

wallis engineering
215 W 4th Street, Suite 200
Vancouver, WA 98660
360.695.3411

PROJECT NO: 1460A
DATE: 3/2019

LACAMAS CREEK SANITARY SEWER PUMP STATION IMPROVEMENTS

City of Camas WASHINGTON

CITY PROJECT NO. S1000

DRAWING NO:
G-005

P:\14\1460A Camas Lacamas PS Imp\500 DWG\501 Plan Sheets\4 PUMP STATION DESIGN CRITERIA.dwg, 4/23/2019 12:27:51 PM, Chad Keys

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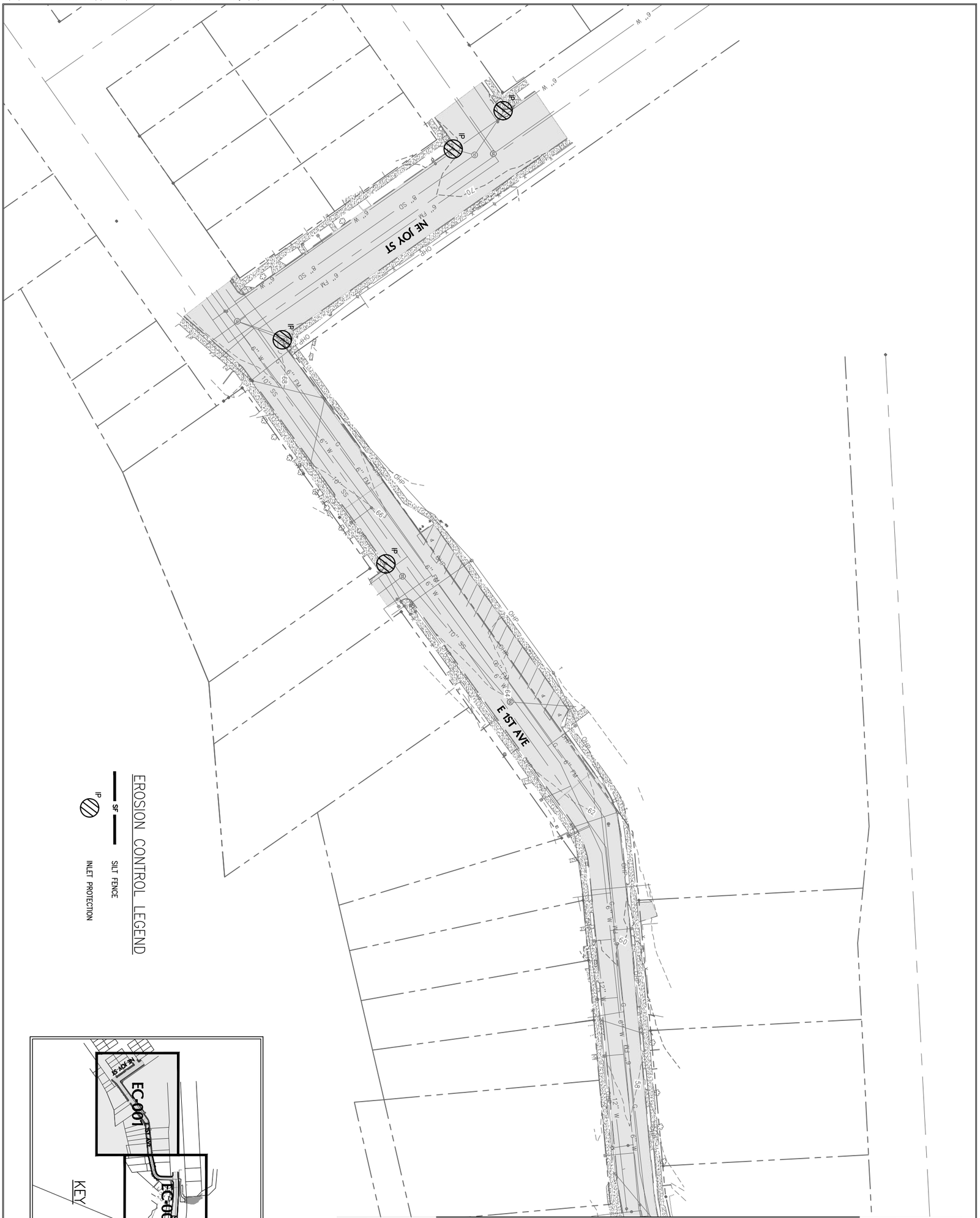


DRAWING NO: EC-001

6 OF 71

City of Camas WASHINGTON

CITY PROJECT NO. S1000

LACAMAS CREEK SANITARY SEWER PUMP STATION IMPROVEMENTS

wallis engineering
215 W 4th Street, Suite 200
Vancouver, WA 98660
360.695.7041

PROJECT NO: 1460A
DATE: 3/2019

EROSION CONTROL PLAN I

NO.	REVISION	BY	DATE

ONE INCH
0 1"
ONE INCH AT FULL SCALE.
IF NOT ONE INCH ADJUST SCALE ACCORDINGLY

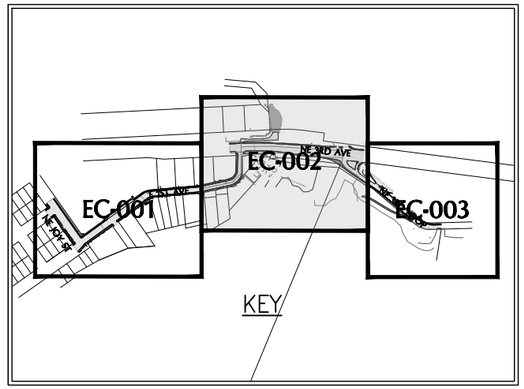
DESIGNED BY: JW/WW
DRAWN BY: CK
REV: XX

TIMOTHY C. WALLIS — 21182 — REGISTERED PROFESSIONAL ENGINEER — STATE OF WASHINGTON

PERMIT SET

EROSION CONTROL LEGEND

- FLOATING BOOM
- TEMPORARY CONSTRUCTION SECURITY FENCING
- SF — SILT FENCE
- IP — INLET PROTECTION



0 40 80
SCALE IN FEET

SEE NOTE 1

STABILIZED CONSTRUCTION ENTRANCE, SEE NOTE 2

SEE NOTE 3

NE 3RD AVE

E 1ST AVE

SEE SHEET EC-001 FOR CONTINUATION

SEE SHEET EC-003 FOR CONTINUATION

EROSION CONTROL NOTES

1. CONTRACTOR SHALL INSTALL TEMPORARY CONSTRUCTION SECURITY FENCING AROUND ALL HAZARDOUS CONSTRUCTION ACTIVITIES WITHIN LACAMAS CREEK TRAILHEAD PARK TO PROTECT THE PUBLIC. FENCING SHOWN IS SCHEMATIC ONLY, AND SHALL BE ADJUSTED AS REQUIRED TO RESTRICT ACCESS TO WORK AREAS WHILE RETAINING ACCESS OF THE PARK DURING ALL PHASES OF CONSTRUCTION.
2. STABILIZED CONSTRUCTION ENTRANCE SHALL BE LOCATED TO PROVIDE EROSION CONTROL FOR ALL PHASES OF CONSTRUCTION OR RELOCATED AS REQUIRED.
3. INSTALL FLOATING BOOM FOR EROSION CONTROL DURING DEMOLITION OF EXISTING LCPS DEMOLITION.

NO.	REVISION	BY	DATE

DESIGNED BY: JW/WW
DRAWN BY: CK
REV: XX

ONE INCH AT FULL SCALE, IF NOT ONE INCH ADJUST SCALE ACCORDINGLY
0 1"

EROSION CONTROL PLANS II

wallis engineering
215 W 4th Street, Suite 200
Vancouver, WA 98660
360.695.1385

PROJECT NO: 1460A
DATE: 3/2019

LACAMAS CREEK SANITARY SEWER PUMP STATION IMPROVEMENTS

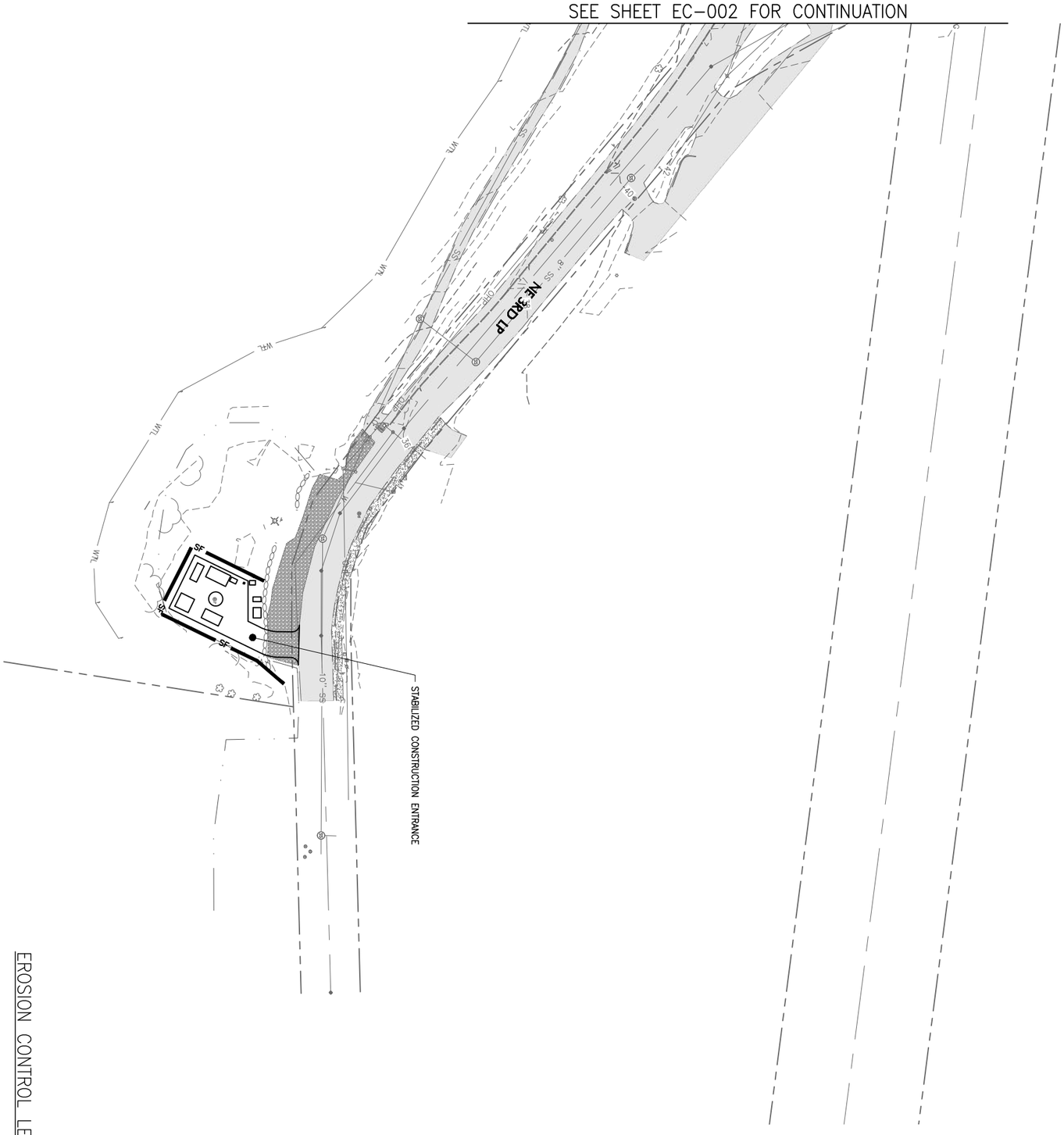
City of Camas WASHINGTON

CITY PROJECT NO. S1000

DRAWING NO:
EC-002

P:\14\1460A Camas Lacamas PS Imp\500 DWG\501 Plan Sheets\EROSION CONTROL PLAN.dwg, 4/23/2019 12:28:03 PM, Chad Kays

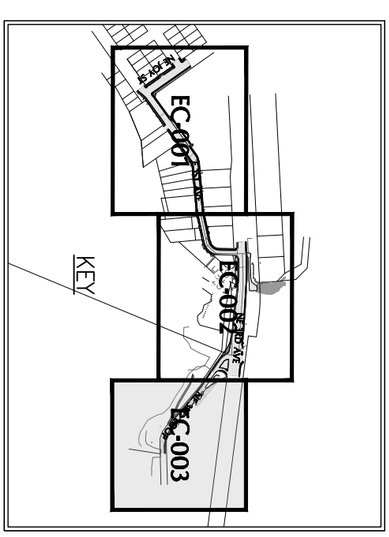
SEE SHEET EC-002 FOR CONTINUATION



EROSION CONTROL LEGEND

IP — INLET PROTECTION

SF — SILT FENCE



0 — 40 — 80 SCALE IN FEET

DRAWING NO: EC-003

8 OF 71

CITY PROJECT NO. S1000

LACAMAS CREEK SANITARY SEWER PUMP STATION IMPROVEMENTS

wallis engineering
215 W 4th Street, Suite 200
Vancouver, WA 98660
360.695.7041

PROJECT NO: 1460A
DATE: 3/2019

EROSION CONTROL PLANS III

NO.	REVISION	BY	DATE

ONE INCH
0 — 1"
ONE INCH AT FULL SCALE.
IF NOT ONE INCH ADJUST SCALE ACCORDINGLY

DESIGNED BY: JW/WW
DRAWN BY: CK
REV: XX

TIMOTHY C. WALLIS — EXPIRES 9/21/2019 — REGISTERED PROFESSIONAL ENGINEER — STATE OF WASHINGTON

PERMIT SET

GRADING NOTES:

1. ALL GRADING SHALL CONFORM TO THE MOST RECENTLY ADOPTED EDITION OF THE W.S.D.O.T. STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION AND THE CITY OF CAMAS DESIGN STANDARDS MANUAL.
2. THE LIMITS OF CLEARING SHALL BE FLAGGED PRIOR TO CLEARING AND GRUBBING OF THE SITE.
3. ANY EXISTING TREES TO REMAIN WITHIN THE CLEARING LIMITS SHALL BE MARKED AND PROTECTED FROM DAMAGE.
4. PRIOR TO ANY FILL PLACEMENT, ALL AREAS WHICH WILL RECEIVE STRUCTURAL FILL SHALL BE EXCAVATED TO FIRM, NON-ORGANIC, UNDISTURBED NATIVE GROUND. THE STRIPPED AREAS SHALL BE OBSERVED AND ACCEPTED BY THE GEOTECHNICAL ENGINEER AND THE CITY OF CAMAS INSPECTOR.
5. ALL LOT FILLS SHALL MEET 95% OF AASHTO T-99 COMPACTION.
6. ALL RIGHT-OF-WAY FILLS SHALL MEET 95% OF AASHTO T-180 COMPACTION.
7. FILLS SHALL BE INSTALLED IN VERTICAL LIFTS NOT EXCEEDING 8 INCHES IN THICKNESS AND SHALL BE COMPACTED AS PREVIOUSLY NOTED.
8. FILLS PLACED ON SLOPES EXCEEDING 5H:1V SHALL BE KEYED AND BENCHED, GEOTECHNICAL APPROVAL REQUIRED PRIOR TO ANY FILL PLACEMENT.
9. ALL SURFACES SHALL BE GRADED SMOOTH AND BE FREE OF IRREGULARITIES THAT MIGHT ACCUMULATE SURFACE WATER.
10. ALL CUT AND FILL SLOPES SHALL NOT EXCEED 2:1 SLOPES.
11. ANY EXCESS MATERIAL NOT REQUIRED TO MEET THE GRADES SHOWN ON THE PLANS SHALL BE HAULED FROM THE SITE TO A CONTRACTOR PROVIDED WASTE SITE. IF WASTE SITE IS WITHIN CITY LIMITS, A GRADING PERMIT MAY BE REQUIRED.
12. ALL EXPOSED AND UNWORKED SOILS SHALL BE STABILIZED BY SUITABLE APPLICATION OF EROSION CONTROL BMP'S.
13. ALL SURFACES REQUIRING VEGETATION SHALL BE ROUGHENED PRIOR TO SEEDING (I.E. WHEEL TRACKED PERPENDICULAR TO SURFACE FLOW TO REDUCE EROSION AND HELP VEGETATION).
14. FINAL GEOTECHNICAL SUMMARY REPORT, INCLUDING ALL COMPACTION TESTING RESULTS, SHALL BE SUBMITTED UPON COMPLETION OF SITE GRADING WORK.

REV. NO.	DATE	BY	APPR.
1	9/18/07	SCD	JC
2	1/1/11	SCD	JC

CITY OF CAMAS - EROSION CONTROL DETAIL
GRADING NOTES
DETAIL APPROVED BY — DATE — NOT TO SCALE
DETAIL NO. EC1

EC-NOTES.DWG

EROSION/SEDIMENT CONTROL NOTES:

1. THE EROSION/SEDIMENT CONTROL (ESC) PLAN AND STORMWATER POLLUTION PREVENTION PLAN (SWPPP) IS TO BE UTILIZED AS A GUIDE TO CONTROL THE TRANSPORT OF LOOSE SOILS TO THE PROPERTY OUTSIDE OF THE CONSTRUCTION AREA AND AROUND THE CONSTRUCTION SITE. THE ESC MEASURES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND TO ENSURE THAT SEDIMENT AND SEDIMENT LADEN WATER DOES NOT LEAVE THE SITE.
2. THE IMPLEMENTATION OF THE ESC PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT AND UPGRADING OF THE ESC MEASURES IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION IS COMPLETED AND APPROVED AND PERMANENT VEGETATION/LANDSCAPING IS ESTABLISHED.
3. IF THE CITY INSPECTOR OR ENGINEER(S) HAS EVIDENCE OF POOR CONSTRUCTION PRACTICES OR EROSION CONTROL TECHNIQUES, A "STOP WORK" ORDER SHALL BE ISSUED UNTIL PROPER MEASURES HAVE BEEN TAKEN AND APPROVED BY THE CITY ENGINEERING STAFF.
4. THE CONTRACTORS SHALL BE RESPONSIBLE TO FAMILIARIZE THEMSELVES WITH THE MOST RECENTLY ADOPTED EDITION OF THE STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON, VOL. II AND THE CITY OF CAMAS MUNICIPAL CODE 14.08 (2011).
5. ALL EROSION/SEDIMENT CONTROL MEASURES SHALL BE IN PLACE AND IN WORKING CONDITION PRIOR TO DISTURBING AND EXPOSING ANY SOIL SURFACES (I.E. CONSTRUCTION ENTRANCES, FILTER FABRIC SEDIMENT BARRIERS, AND SEDIMENTATION TRAPS) AND MAINTAINED FOR THE DURATION OF THE PROJECT. TRAPPED SEDIMENT IN EXCESS OF 1 FOOT SHALL BE REMOVED OR STABILIZED ON-SITE. DISTURBED SOIL AREAS RESULTING FROM VEGETATION REMOVAL SHALL BE PERMANENTLY STABILIZED. ADDITIONAL MEASURES MAY BE REQUIRED TO ENSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.
6. TO MINIMIZE EROSION AND SEDIMENTATION TRANSPORTATION, EARTHWORK SHALL NOT BE PERFORMED WHILE SOILS ARE IN AN UNSTABLE STATE DUE TO PRECIPITATION.
7. THE CONTRACTOR SHALL BE RESPONSIBLE TO HAVE CLEARING LIMITS AND/OR ANY EASEMENTS, SENSITIVE OR CRITICAL AREAS, AND THEIR BUFFERS, TREES, AND DRAINAGE COURSES FLAGGED PRIOR TO CONSTRUCTION. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE BEYOND THE FLAGGED CLEARING LIMITS SHALL BE PERMITTED. FLAGGING LIMITS ARE TO BE MAINTAINED BY THE CONTRACTOR FOR THE DURATION OF CONSTRUCTION.
8. REMOVE ONLY THOSE TREES AND SHRUBS THAT NEED TO BE REMOVED FOR THE CONSTRUCTION OF ROADS, SIDEWALKS, UTILITIES, AND STORMWATER FACILITIES.
9. ALL EXISTING AND NEWLY CONSTRUCTED ROAD CATCH BASINS AND CURB INLETS AFFECTED BY CONSTRUCTION SHALL BE PROTECTED AGAINST SEDIMENT DEPOSITS. AT NO TIME SHALL MORE THAN ONE FOOT OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A TRAPPED 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.
10. ALL POLLUTANTS THAT OCCUR ON-SITE DURING CONSTRUCTION SHALL BE HANDLED AND DISPOSED OF IN A MANNER THAT DOES NOT CAUSE CONTAMINATION OF STORMWATER SYSTEM.
11. ALL DISTURBED SOIL SURFACES ARE TO BE STABILIZED BY A SUITABLE APPLICATION OF "BEST MANAGEMENT PRACTICES" (BMP'S). DURING THE PERIOD OF OCTOBER 1 THROUGH JULY 5 DISTURBED SOILS MAY REMAIN UNSTABILIZED FOR UP TO TWO DAYS WHEN NOT BEING WORKED. FROM JULY 5 THROUGH OCTOBER 1, DISTURBED SOILS MAY REMAIN UNSTABILIZED FOR UP TO 7 DAYS WHEN NOT BEING WORKED. STABILIZATION OF DISTURBED SOIL AREAS MAY CONSIST OF HYDROSEEDING, HAND-SEEDING AND MULCHING, PLACEMENT OF EROSION CONTROL BLANKETS OR PLASTIC. ALL SEEDED AREAS ARE TO BE FERTILIZED, WATERED, AND MAINTAINED TO ENSURE THAT THE GROWTH OF VEGETATION OCCURS AS SOON AS POSSIBLE.
12. ALL TEMPORARY SEDIMENT AND EROSION CONTROL BMP'S SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY BMP'S ARE NO LONGER NEEDED.

REV. NO.	DATE	BY	APPR.
1	9/18/07	SD	JC
2	1/1/11	SCD	JC

CITY OF CAMAS - EROSION CONTROL DETAIL
EROSION/SEDIMENT CONTROL NOTES
DETAIL APPROVED BY — DATE — NOT TO SCALE
DETAIL NO. EC2

EC-NOTES.DWG

EROSION/SEDIMENT CONTROL NOTES (CONTINUED):

13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR POLICING THE JOB SITE DAILY AND MAINTAINING THE EROSION/SEDIMENT CONTROL MEASURES THROUGHOUT ALL PHASES OF CONSTRUCTION. AN INSPECTION LOG SHALL BE KEPT AND MADE AVAILABLE TO THE CITY OF CAMAS. THE POLICING AND MAINTENANCE SHALL INCLUDE, BUT NOT BE LIMITED TO:
    - VERIFYING THAT ALL AREAS ARE GRADED SUCH THAT ALL RUNOFF IS DIRECTED TO A SEDIMENTATION DEVICE BEFORE DISCHARGE TO SURFACE.
    - REMOVAL OF TRAPPED SILT AT SILT BARRIERS, SILT TRAPS, OR POINTS OF ACCUMULATION.
    - ADDITIONAL PROTECTIVE MEASURES DUE TO JOB SITE OR WEATHER CONDITIONS AS REQUIRED BY THE CITY OF CAMAS.
    - MONITORING OF VEHICLES LEAVING THE SITE TO MINIMIZE TRANSMISSION OF LOOSE SOILS TO THE PUBLIC ROADWAYS.
    - VERIFY THAT ALL PROPERTIES ADJACENT TO THE PROJECT SITE ARE PROTECTED FROM SEDIMENTATION DEPOSITION. THIS MAY BE ACCOMPLISHED BY INSTALLING PERIMETER CONTROLS SUCH AS SEDIMENTATION BARRIERS, FILTERS OR DIKES, SEDIMENTATION BASINS/TRAPS, OR BY A COMBINATION OF SUCH MEASURES.
14. CUT AND FILL SLOPES SHALL BE DESIGNED AND CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION. SLOPES SHALL BE STABILIZED IN ACCORDANCE WITH EROSION/SEDIMENT CONTROL NOTE 11. SLOPES FOUND TO BE ERODING EXCESSIVELY WITHIN TWO YEARS OF CONSTRUCTION MUST BE PROVIDED WITH ADDITIONAL SLOPE STABILIZING MEASURES. THESE MEASURES MAY CONSIST OF ROUGHENED SOIL SURFACES, INTERCEPTORS, DIVERSIONS OR TERRACES, TEMPORARY OR PERMANENT CHANNELS, ADDITIONAL VEGETATION, OR PIPE SLOPE DRAINS AS REQUIRED BY THE CITY OF CAMAS UNTIL THE PROBLEM IS CORRECTED.
15. THE ESC MEASURES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR WITHIN 24 HOURS FOLLOWING ANY STORM EVENT.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING UNDERGROUND UTILITIES AS SPECIFIED BELOW:
    - WHERE FEASIBLE, NO MORE THAN 500 FEET OF TRENCH SHALL BE OPEN AT ONE TIME.
    - WHERE CONSISTENT WITH SAFETY AND SPACE CONSIDERATIONS, EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES.
    - TRENCH DE-WATER DEVICES SHALL DISCHARGE INTO A SEDIMENT TRAP OR SEDIMENT POND.
17. PRIOR TO CONSTRUCTION, THE CITY OF CAMAS REQUIRES AN APPROVED FORM OF SECURITY IN THE AMOUNT OF 200% OF THE ENGINEER'S ESTIMATED COST OF THE ESC MEASURES, INCLUDING ASSOCIATED LABOR, AS SHOWN IN THE APPROVED ESC PLAN AND SWPPP.
18. SUGGESTED STANDARD SEED MIXTURE FOR THOSE AREAS WHERE A TEMPORARY VEGETATIVE COVER IS REQUIRED:

TEMPORARY EROSION CONTROL MIX*

SEED VARIETY	% WEIGHT	% PURITY	% GERMINATION
CHEWINGS OR ANNUAL BLUE GRASS (FESTUCA RUBRA VAR. COMMUTATA OR POA ANNA)	40	98	90
PERENNIAL RYE (LOLIUM PERENNE)	50	98	90
REDTOP OR COLONIAL BENTGRASS (AGROSTIS ALBA OR AGROSTIS TENUIS)	5	92	85
WHITE DUTCH CLOVER (TRIFOLIUM REPENS)	5	98	90

*APPLICATION RATE OF 120 LBS/ACRE AND COVERED WITH STRAW OR MULCH

19. SUGGESTED TURF SEED MIXTURE FOR DRY SITUATIONS WHERE THERE IS NO NEED FOR MUCH WATER:

LOW-GROWING TURF SEED MIX*

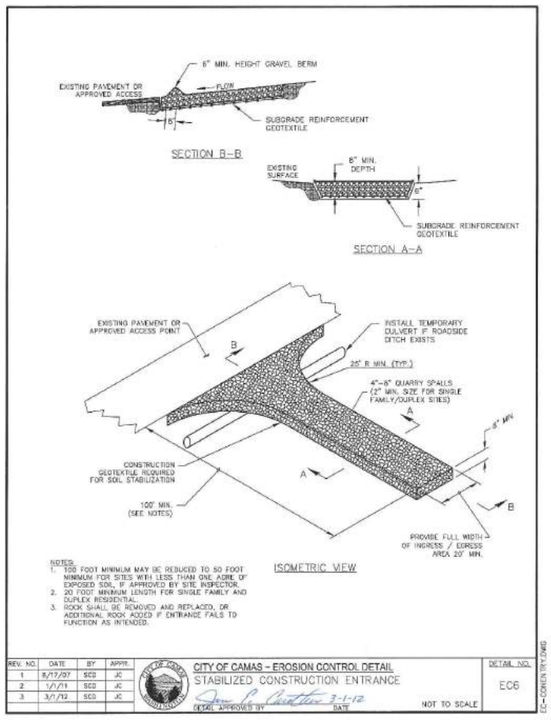
SEED VARIETY	% WEIGHT	% PURITY	% GERMINATION
DWARF TALL FESCUE (SEVERAL VARIETIES) (FESTUCA ARUNDINACEA VAR.)	45	98	90
DWARF PERENNIAL RYE (LOLIUM PERENNE VAR. BARCLAY)	30	98	90
RED FESCUE (FESTUCA RUBRA)	20	98	90
COLONIAL BENTGRASS (AGROSTIS TENUIS)	5	98	90

*APPLICATION RATE OF 120 LBS/ACRE AND COVERED WITH STRAW OR MULCH

REV. NO.	DATE	BY	APPR.
1	9/18/07	SD	JC
2	1/1/11	SCD	JC

CITY OF CAMAS - EROSION CONTROL DETAIL
EROSION/SEDIMENT CONTROL NOTES
DETAIL APPROVED BY — DATE — NOT TO SCALE
DETAIL NO. EC3

EC-NOTES.DWG

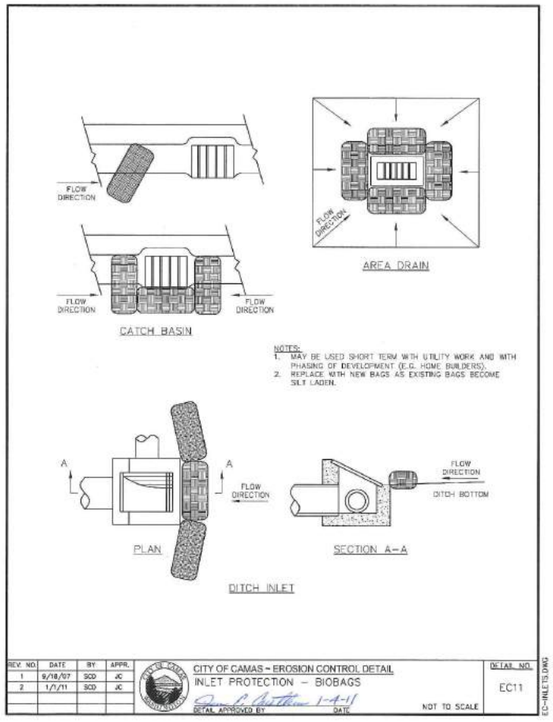


NOTES:
1. 100 FOOT MINIMUM MAY BE REDUCED TO 50 FOOT MINIMUM FOR SITES WITH LESS THAN ONE ACRE OF EXPOSED SOIL, IF APPROVED BY SITE INSPECTOR.
2. 20 FOOT MINIMUM LENGTH FOR SINGLE FAMILY AND DUPLEX RESIDENTIAL.
3. ROCK SHALL BE REMOVED AND REPLACED, OR ADDITIONAL ROCK ADDED IF ENTRANCE FAILS TO FUNCTION AS INTENDED.

REV. NO.	DATE	BY	APPR.
1	8/17/07	SCD	JC
2	1/1/11	SCD	JC
3	3/1/12	SCD	JC

CITY OF CAMAS - EROSION CONTROL DETAIL
STABILIZED CONSTRUCTION ENTRANCE
DETAIL APPROVED BY — DATE — NOT TO SCALE
DETAIL NO. EC6

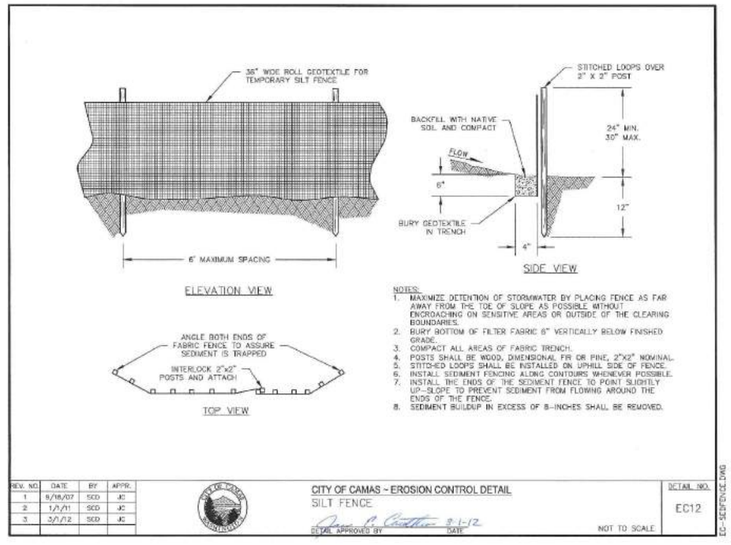
EC-CONSTR ENTR.DWG



REV. NO.	DATE	BY	APPR.
1	9/18/07	SCD	JC
2	1/1/11	SCD	JC

CITY OF CAMAS - EROSION CONTROL DETAIL
INLET PROTECTION - BIOBAGS
DETAIL APPROVED BY — DATE — NOT TO SCALE
DETAIL NO. EC11

EC-INLETS.DWG



NOTES:
1. MAXIMIZE DETENTION OF STORMWATER BY PLACING FENCE AS FAR AWAY FROM THE TOE OF SLOPE AS POSSIBLE WITHOUT ENCROACHING ON SENSITIVE AREAS OR OUTSIDE OF THE CLEARING BOUNDARIES.
2. BURY BOTTOM OF FILTER FABRIC 6" VERTICALLY BELOW FINISHED GRADE.
3. COMPACT ALL AREAS OF FABRIC TRENCH.
4. POSTS SHALL BE WOOD, DIMENSIONAL FIR OR PINE, 2"X2" NOMINAL.
5. STITCHED LOOPS SHALL BE INSTALLED ON UPHILL SIDE OF FENCE.
6. INSTALL SEDIMENT FENCING ALONG CONTOURS WHENEVER POSSIBLE.
7. INSTALL THE ENDS OF THE SEDIMENT FENCE TO POINT SLIGHTLY UP-SLOPE TO PREVENT SEDIMENT FROM FLOWING AROUND THE ENDS OF THE FENCE.
8. SEDIMENT BUILDUP IN EXCESS OF 8-INCHES SHALL BE REMOVED.

REV. NO.	DATE	BY	APPR.
1	9/18/07	SCD	JC
2	1/1/11	SCD	JC
3	3/1/12	SCD	JC

CITY OF CAMAS - EROSION CONTROL DETAIL
SILT FENCE
DETAIL APPROVED BY — DATE — NOT TO SCALE
DETAIL NO. EC12

EC-SILTFENCE.DWG

TIMOTHY C. WALLIS — STATE OF WASHINGTON — 25182 — REGISTERED PROFESSIONAL ENGINEER
PERMIT SET

NO.	REVISION	BY	DATE

DESIGNED BY: JW/WW
DRAWN BY: CK
REV.: XX

ONE INCH AT FULL SCALE. IF NOT ONE INCH ADJUST SCALE ACCORDINGLY
0 — 1"

EROSION CONTROL DETAILS

wallis engineering
215 W 4th Street, Suite 200, Vancouver, WA 98660, (360)567-3540

PROJECT NO: 1460A
DATE: 3/2019

LACAMAS CREEK SANITARY SEWER PUMP STATION IMPROVEMENTS

City of Camas WASHINGTON

CITY PROJECT NO. S1000

DRAWING NO:
EC-004

P:\14\1460A Camas Lacamas PS Imp\500 DWG\501 Plan Sheets\9 EROSION CONTROL DETAILS.dwg, 4/23/2019 12:28:07 PM, Chad Keys

NE 3RD AVE

LACAMAS CREEK

(P) 95" 6

(P) 15" 6

(P) 12" 6

(P) 17" 6

6 (R) 12"

6 (P) 91"

DEMOLISH EXISTING LCPS PUMP STATION, SEE SHEET D-003 FOR DETAILS

EXISTING W18 X 85 DOUBLE PILES

EXISTING W8 X 36 SINGLE PILES

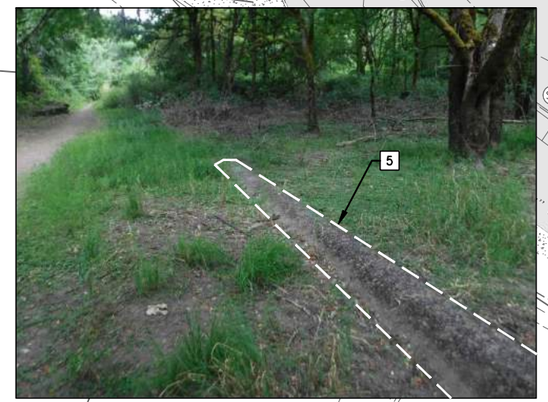
8" STL PIPE PILE

EXISTING W18 X 85 SINGLE PILES

30' X 60' EQUIPMENT STAGING AREA

SEE SHEET D-002 FOR CONTINUATION

0 20 40
SCALE IN FEET



3 PHOTO 3

1 PHOTO 1

2 PHOTO 2

DEMOLITION NOTES

1. ABANDON PIPE IN PLACE AND FILL WITH GROUT.
2. ABANDON MANHOLE. REMOVE TOP CONE. FILL MH WITH GRAVEL AND BACKFILL EXCAVATION WITH TOPSOIL. SEED DISTURBED AREA WITH NATIVE SEED MIX.
3. REMOVE PILES AND PIPE.
4. REMOVE 2' X 2' X 7' CONCRETE PIPE PIER.
5. REMOVE CONCRETE ENCASED EXPOSED PIPE. BACKFILL WITH TOPSOIL. RESTORE SURFACE TO NATIVE EXISTING CONDITION. SEED DISTURBED AREA WITH NATIVE SEED MIX.
6. REMOVE (R) OR PROTECT (P) TREE PER CAMAS STANDARD DETAIL PL5, SHEET SD-503. SIZE AND TYPE NOTED.

CONSTRUCTION NOTES

1. PREVENT ALL DEBRIS, DUST, AND MATERIALS FROM ENTERING LACAMAS CREEK AND WETLAND AREAS.
2. FLUSH PIPE WITH CLEAN WATER PRIOR TO REMOVAL.

TIMOTHY C. KOYS
STATE OF WASHINGTON
25182
REGISTERED
PROFESSIONAL ENGINEER
PERMIT SET

NO.	REVISION	BY	DATE

ONE INCH AT FULL SCALE, IF NOT ONE INCH ADJUST SCALE ACCORDINGLY
0 1"

DESIGNED BY: JW/WW
DRAWN BY: CK
REV: XX

GRAVITY SEWER DEMOLITION PLAN I

wallis engineering
215 W 4th Street, Suite 200
Vancouver, WA 98660
360.695.3411

PROJECT NO: 1460A
DATE: 3/2019

LACAMAS CREEK SANITARY SEWER PUMP STATION IMPROVEMENTS

City of Camas WASHINGTON

CITY PROJECT NO. S1000

DRAWING NO:
D-001

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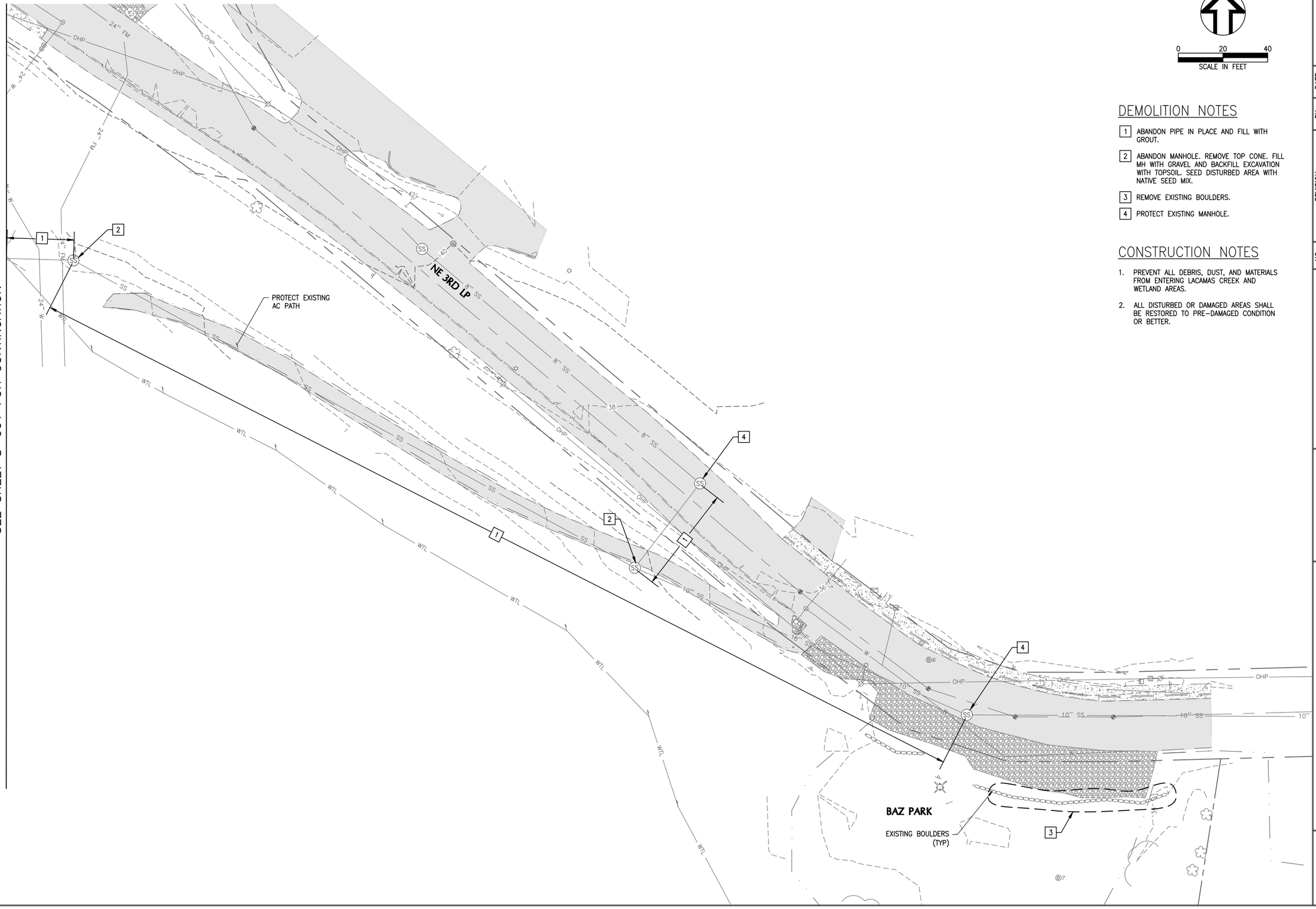
SEE SHEET D-001 FOR CONTINUATION



0 20 40
SCALE IN FEET

DEMOLITION NOTES

1. ABANDON PIPE IN PLACE AND FILL WITH GROUT.
2. ABANDON MANHOLE. REMOVE TOP CONE. FILL MH WITH GRAVEL AND BACKFILL EXCAVATION WITH TOPSOIL. SEED DISTURBED AREA WITH NATIVE SEED MIX.
3. REMOVE EXISTING BOULDERS.
4. PROTECT EXISTING MANHOLE.

CONSTRUCTION NOTES

1. PREVENT ALL DEBRIS, DUST, AND MATERIALS FROM ENTERING LACAMAS CREEK AND WETLAND AREAS.
2. ALL DISTURBED OR DAMAGED AREAS SHALL BE RESTORED TO PRE-DAMAGED CONDITION OR BETTER.

TIMOTHY C. WALLIS
STATE OF WASHINGTON
26182
REGISTERED
PROFESSIONAL ENGINEER
PERMIT SET

NO.	REVISION	BY	DATE

ONE INCH AT FULL SCALE. IF NOT ONE INCH ADJUST SCALE ACCORDINGLY

DESIGNED BY: JW/WW
DRAWN BY: CK
REV: XX

GRAVITY SEWER DEMOLITION PLAN II

wallis engineering
215 W 4th Street, Suite 200
Vancouver, WA 98660
360.695.3411

PROJECT NO: 1460A
DATE: 3/2019

LACAMAS CREEK SANITARY SEWER PUMP STATION IMPROVEMENTS

City of Camas WASHINGTON

CITY PROJECT NO. S1000

DRAWING NO:
D-002

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SCALE IN FEET

CONSTRUCTION NOTES

1. PREVENT ALL DEBRIS, DUST, AND MATERIALS FROM ENTERING LACAMAS CREEK AND WETLAND AREAS.
2. ITEMS TO BE SALVAGED TO CITY:
   - GENERATOR
   - PUMPS AND ACCESSORIES
   - STEEL SPIRAL STAIRWAY
   - ELECTRIC HOIST AND BEAM
   - PHASE LOSS MONITOR
3. RESTORE DISTURBED AREA. SEE PLANTING PLAN ON SHEET L-XXX.

DEMOLITION NOTES

1. REMOVE REINFORCED CONCRETE WETWELL/DRYWELL AND CONCRETE BLOCK HOUSING STRUCTURE. FILL WET WELL WITH CLEAN GRAVEL. BACKFILL DISTURBED AREA WITH TOPSOIL AND SEED WITH NATIVE SEED MIX.
2. REMOVE ALL ELECTRICAL, MECHANICAL, AND STRUCTURAL EQUIPMENT WITHIN STRUCTURE. SALVAGE EQUIPMENT TO CITY AS SPECIFIED.
3. REMOVE REINFORCED CONCRETE ELEVATED WALKWAY, STEPS, AND FOOTING.
4. REMOVE GRAVITY SEWER PIPE FROM MANHOLE TO WETWELL.
5. REMOVE 6-INCH AC FORCE MAIN FROM DRYWELL TO THE TOP OF BANK. DISPOSE AC PIPE IN ACCORDANCE WITH APPLICABLE LAWS.
6. COORDINATE WITH NW NATURAL AND CPU FOR ABANDONMENT OF GAS AND ELECTRICAL SERVICE.
7. ABANDON EXISTING 6" AC FORCE MAIN IN-PLACE FROM TOP OF BANK TO DISCHARGE MANHOLE. FILL WITH GROUT.
8. HAZARDOUS BUILDING MATERIALS TO BE HANDLED AND DISPOSED OF IN ACCORDANCE WITH APPLICABLE LAWS. SEE HAZARDOUS BUILDING MATERIALS SURVEY PREPARED BY G2 CONSULTANTS, DATED MARCH, 2019.
9. REMOVE (R) OR PROTECT (P) TREE PER CAMAS STANDARD DETAIL PL5, SHEET SD-503. SIZE AND TYPE NOTED.
10. PROVIDE ORANGE CONSTRUCTION FENCING FOR TREE PROTECTION.
11. WITHIN 75' RADIUS TREE PROTECTION ZONE, PROVIDE 6"-16" DEPTH WOOD CHIPS IN AREAS OF CONSTRUCTION ACTIVITY TO MINIMIZE SOIL COMPACTION

1 PHOTO 1

2 PHOTO 2

TIMOTHY C. WALLIS
STATE OF WASHINGTON
25182
REGISTERED
PROFESSIONAL ENGINEER
PERMIT SET

NO.	REVISION	BY	DATE

DESIGNED BY: JW/WW
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REV: XX

ONE INCH AT FULL SCALE. IF NOT ONE INCH ADJUST SCALE ACCORDINGLY
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LCPS DEMOLITION PLAN

wallis engineering
215 W 4th Street, Suite 200
Vancouver, WA 98660
360.695.3411

PROJECT NO: 1460A
DATE: 3/2019

LACAMAS CREEK SANITARY SEWER PUMP STATION IMPROVEMENTS

City of Camas WASHINGTON

CITY PROJECT NO. S1000

DRAWING NO:
D-003

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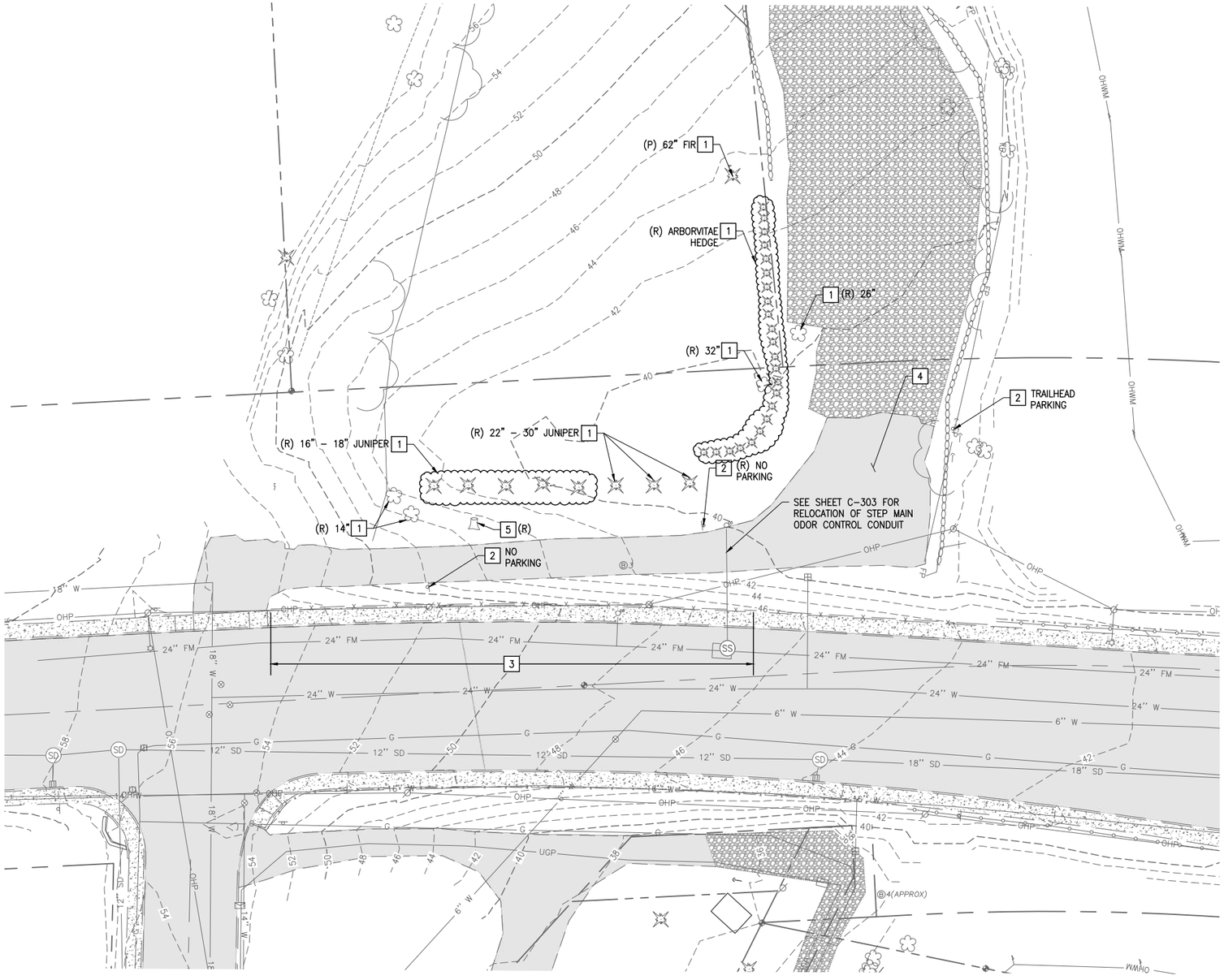

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DEMOLITION NOTES

1. REMOVE (R) OR PROTECT (P) TREE PER CAMAS STANDARD DETAIL PL5, SHEET SD-503. SIZE AND TYPE NOTED.
2. REMOVE SIGN AND RELOCATE PER DRIVEWAY PLAN AND PROFILE, SHEET CX. SIGN TYPE NOTED.
3. REMOVE EXISTING FENCE.
4. REMOVE EXISTING ASPHALT PAVEMENT.
5. REMOVE STUMP.

TIMOTHY C. WALLIS
STATE OF WASHINGTON
26182
REGISTERED
PROFESSIONAL ENGINEER
PERMIT SET

NO.	REVISION	BY	DATE

DESIGNED BY: JW/WW
DRAWN BY: CK
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LACAMAS CREEK TRAILHEAD PARK DEMOLITION PLAN

wallis engineering
214 W 4th Street, Suite 300
Vancouver, WA 98660
360.693.1141

PROJECT NO: 1460A
DATE: 3/2019

LACAMAS CREEK SANITARY SEWER PUMP STATION IMPROVEMENTS

City of Camas WASHINGTON

CITY PROJECT NO. S1000

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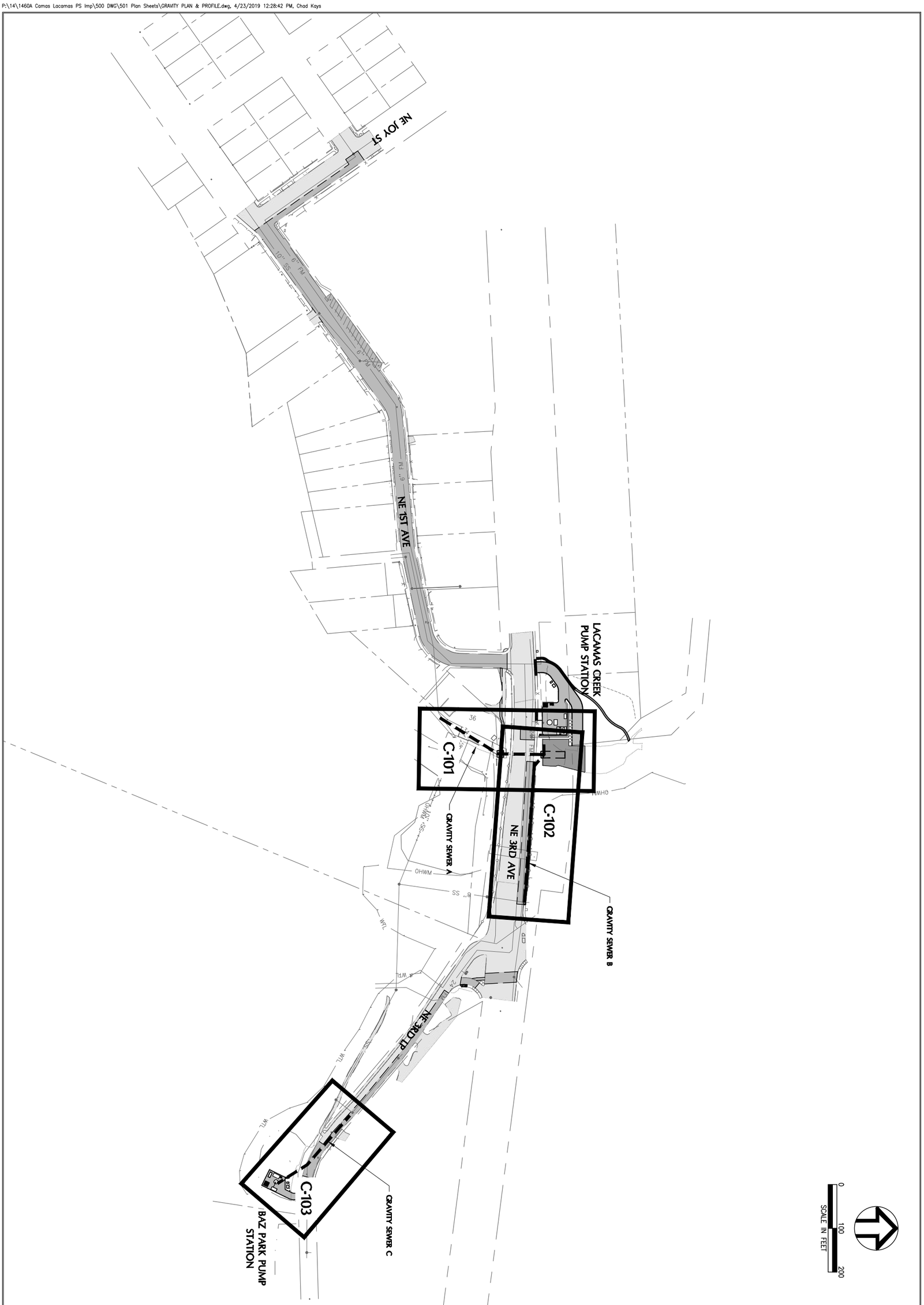

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City of Camas WASHINGTON

CITY PROJECT NO. S1000

LACAMAS CREEK SANITARY SEWER PUMP STATION IMPROVEMENTS

wallis engineering
215 W 4th Street, Suite 200
Vancouver, WA 98660
360.695.7041

PROJECT NO: 1460A
DATE: 3/2019

GRAVITY SEWER KEY MAP

NO.	REVISION	BY	DATE

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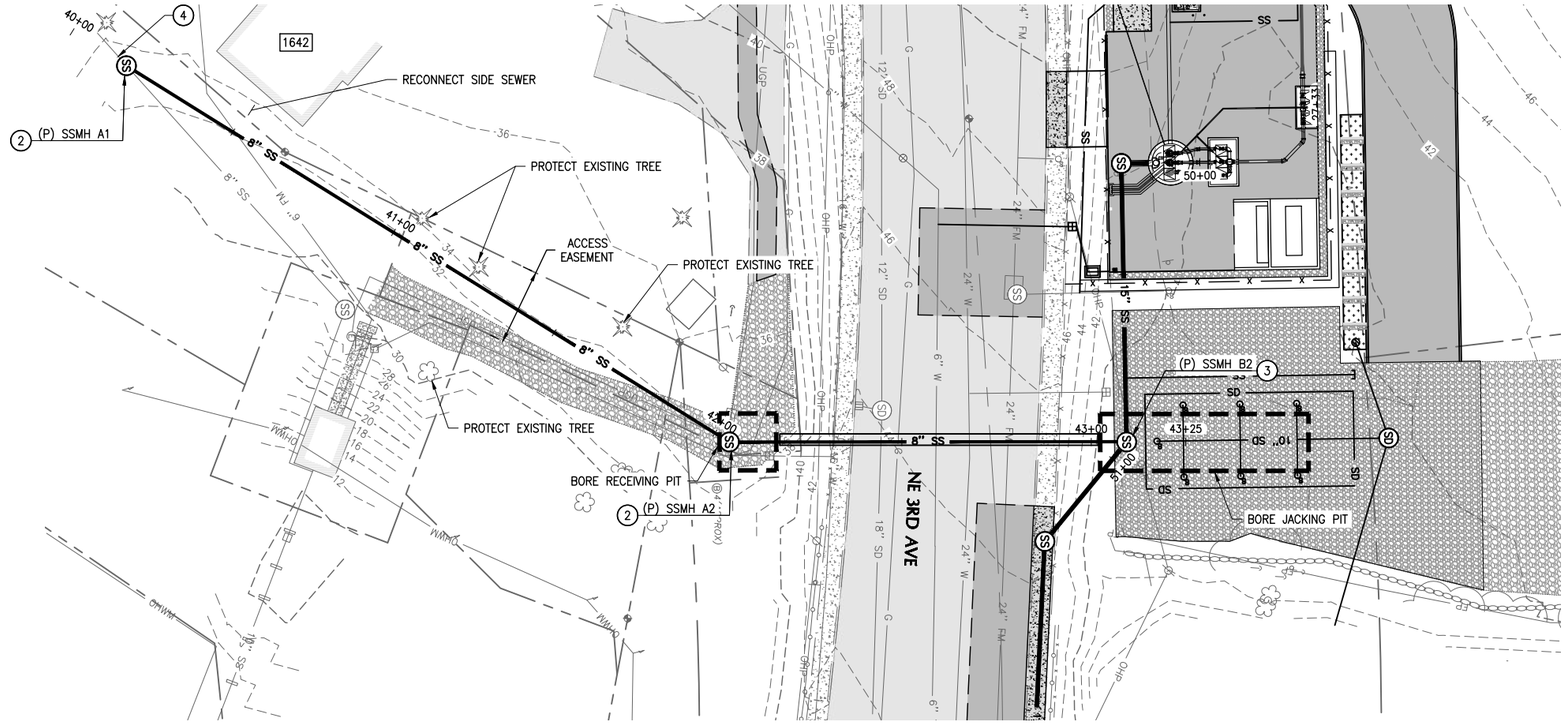
IF NOT ONE INCH ADJUST SCALE ACCORDINGLY

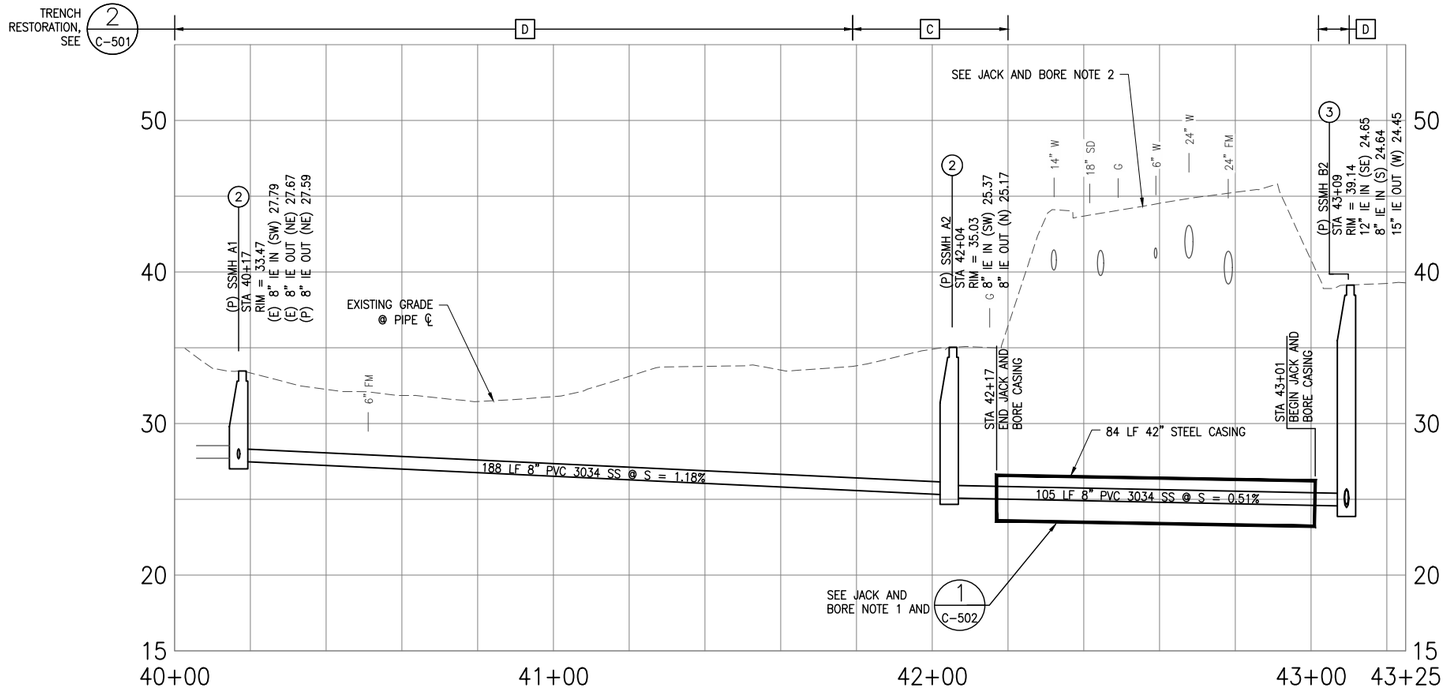
DESIGNED BY: JW/WW
DRAWN BY: CK
REV: XX

TIMOTHY C. WALLIS — 24182 — REGISTERED PROFESSIONAL ENGINEER — STATE OF WASHINGTON

PERMIT SET



PLAN



PROFILE

SCALE: 1" = 20' HORIZ
1" = 5' VERT

0 20 40
SCALE IN FEET

KEY NOTES

(2) CONSTRUCT NEW SSMH. SEE CITY OF CAMAS STANDARD DETAILS S1 AND S4.

(3) CONSTRUCT NEW EXTENDED BASE SSMH. SEE CITY OF CAMAS STANDARD DETAILS SI AND S4.

(4) CONNECT EXISTING GRAVITY SEWER TO PROPOSED SSMH. SEE CITY OF CAMAS DETAIL S1.

JACK AND BORE NOTES

1. ARRANGEMENT OF JACK AND BORE CASING PIPE AND CARRIER PIPES SHOWN IS SCHEMATIC ONLY. CONTRACTOR IS RESPONSIBLE FOR SETTING CARRIER PIPE I.E. AND ARRANGING CARRIER PIPES TO MAINTAIN SEWER GRADES PER THE SPECIFICATIONS.
2. CONTRACTOR SHALLL MONITOR THE ROAD SURFACE ELEVATION ABOVE JACK AND BORE PER THE SPECIFICATIONS.

TIMOTHY C. WALLIS
STATE OF WASHINGTON
25182
REGISTERED
PROFESSIONAL ENGINEER
PERMIT SET

NO.	REVISION	BY	DATE

DESIGNED BY: JW/WW
DRAWN BY: CK
REV: XX

ONE INCH
0 1"
ONE INCH AT FULL SCALE. IF NOT ONE INCH ADJUST SCALE ACCORDINGLY

GRAVITY SEWER A PLAN & PROFILE

wallis engineering
215 W 4th Street, Suite 200
Vancouver, WA 98660
360.695.1385

PROJECT NO: 1460A
DATE: 3/2019

LACAMAS CREEK SANITARY SEWER PUMP STATION IMPROVEMENTS

City of Camas WASHINGTON

CITY PROJECT NO. S1000

DRAWING NO:
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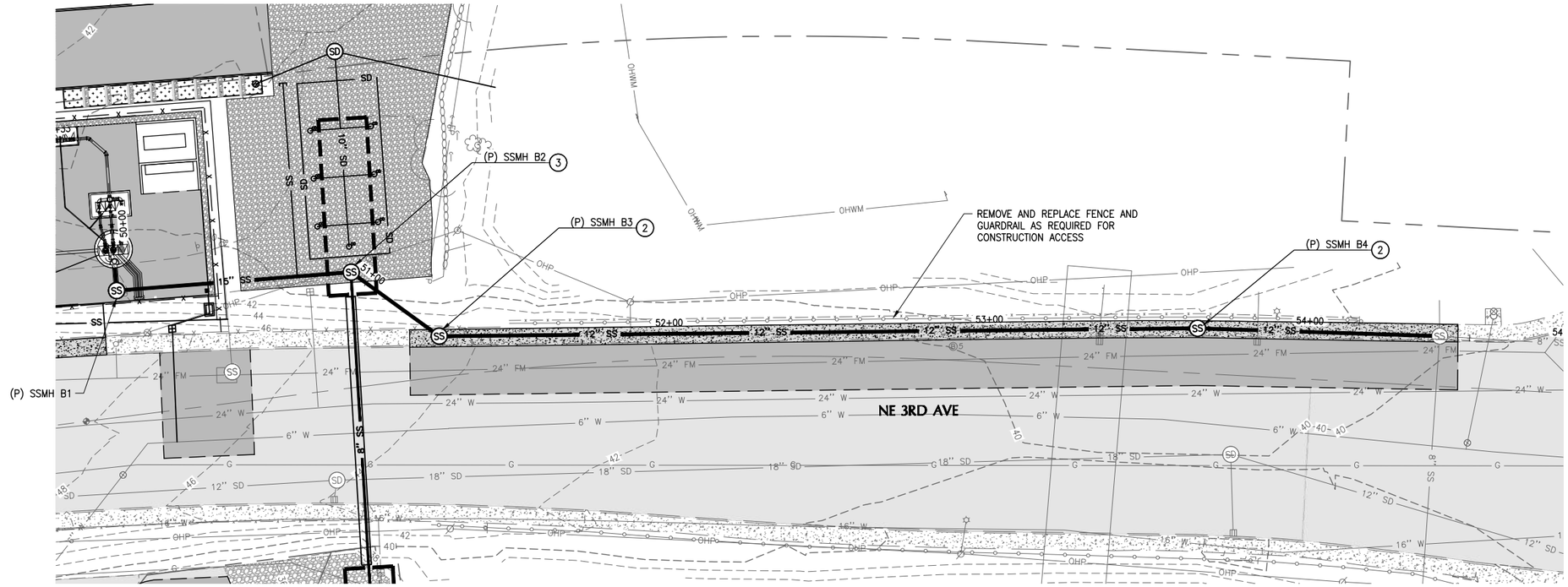
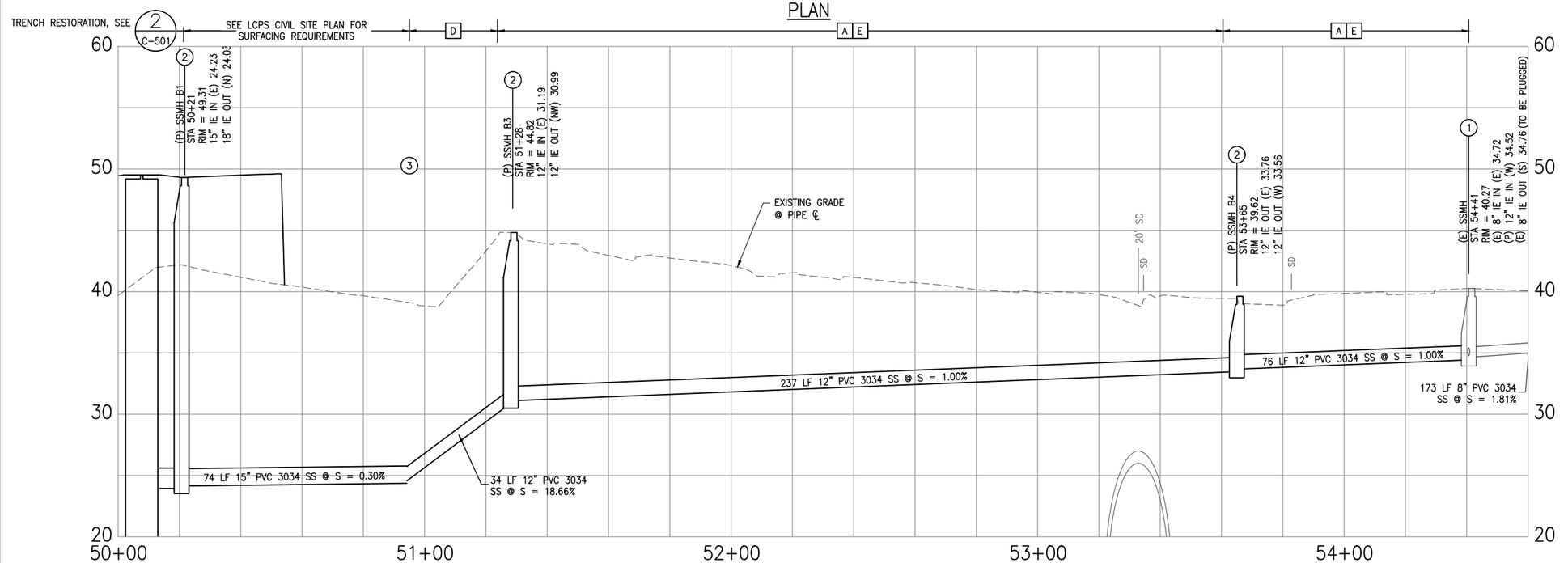


PLAN



PROFILE

SCALE: 1" = 20' HORIZ
1" = 5' VERT

0 20 40
SCALE IN FEET

KEY NOTES

1. CONNECT PROPOSED GRAVITY SEWER TO EXISTING SSMH AND RECHANNEL BASE. SEE CITY OF CAMAS STANDARD DETAIL S1.
2. CONSTRUCT NEW SSMH. SEE CITY OF CAMAS STANDARD DETAILS S1 AND S4.
3. CONSTRUCT NEW EXTENDED BASE SSMH. SEE CITY OF CAMAS STANDARD DETAILS SI AND S4.

TIMOTHY C. WALLIS — STATE OF WASHINGTON — 25182 — REGISTERED PROFESSIONAL ENGINEER

PERMIT SET

NO.	REVISION	BY	DATE

DESIGNED BY: JW/WW
DRAWN BY: CK
REV: XX

ONE INCH AT FULL SCALE, IF NOT ONE INCH ADJUST SCALE ACCORDINGLY

GRAVITY SEWER B PLAN & PROFILE

wallis engineering
215 W 4th Street, Suite 200
Vancouver, WA 98660
360.695.3411

PROJECT NO: 1460A
DATE: 3/2019

LACAMAS CREEK SANITARY SEWER PUMP STATION IMPROVEMENTS

City of Camas WASHINGTON

CITY PROJECT NO. S1000

DRAWING NO:
C-102

16 OF 71

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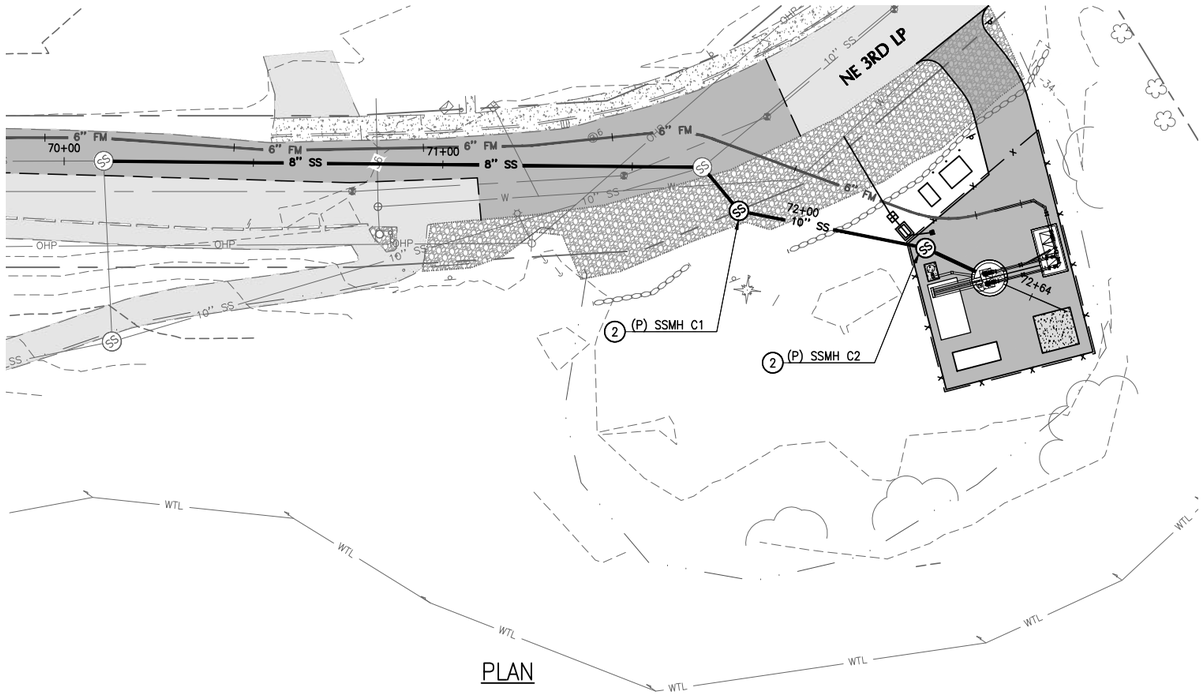

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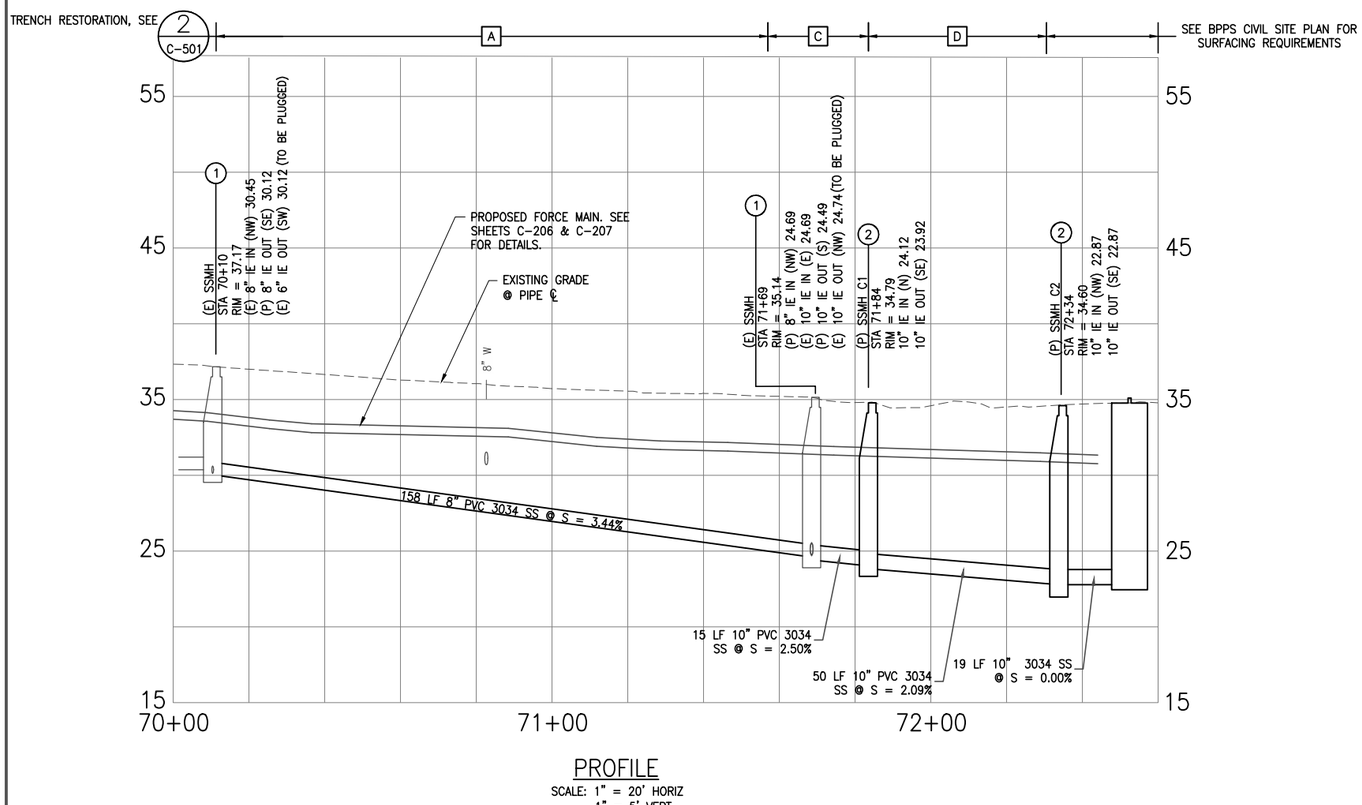

PROFILE

SCALE: 1" = 20' HORIZ
1" = 5' VERT

0 20 40
SCALE IN FEET

KEY NOTES

1. CONNECT PROPOSED GRAVITY SEWER TO EXISTING SSMH AND RECHANNEL BASE. SEE CITY OF CAMAS STANDARD DETAIL S1.
2. CONSTRUCT NEW SSMH. SEE CITY OF CAMAS STANDARD DETAILS S1 AND S4.

TIMOTHY C. WALLIS STATE OF WASHINGTON 26182 REGISTERED PROFESSIONAL ENGINEER
PERMIT SET

NO.	REVISION	BY	DATE

DESIGNED BY: JW/WW
DRAWN BY: CK
REV: XX

ONE INCH
0 1"
ONE INCH AT FULL SCALE. IF NOT ONE INCH ADJUST SCALE ACCORDINGLY

GRAVITY SEWER C PLAN & PROFILE

wallis engineering
211 W 4th Street, Suite 200
Vancouver, WA 98660
360.695.3341

PROJECT NO: 1460A
DATE: 3/2019

LACAMAS CREEK SANITARY SEWER PUMP STATION IMPROVEMENTS

City of Camas WASHINGTON

CITY PROJECT NO. S1000

DRAWING NO:
C-103

17 OF 71

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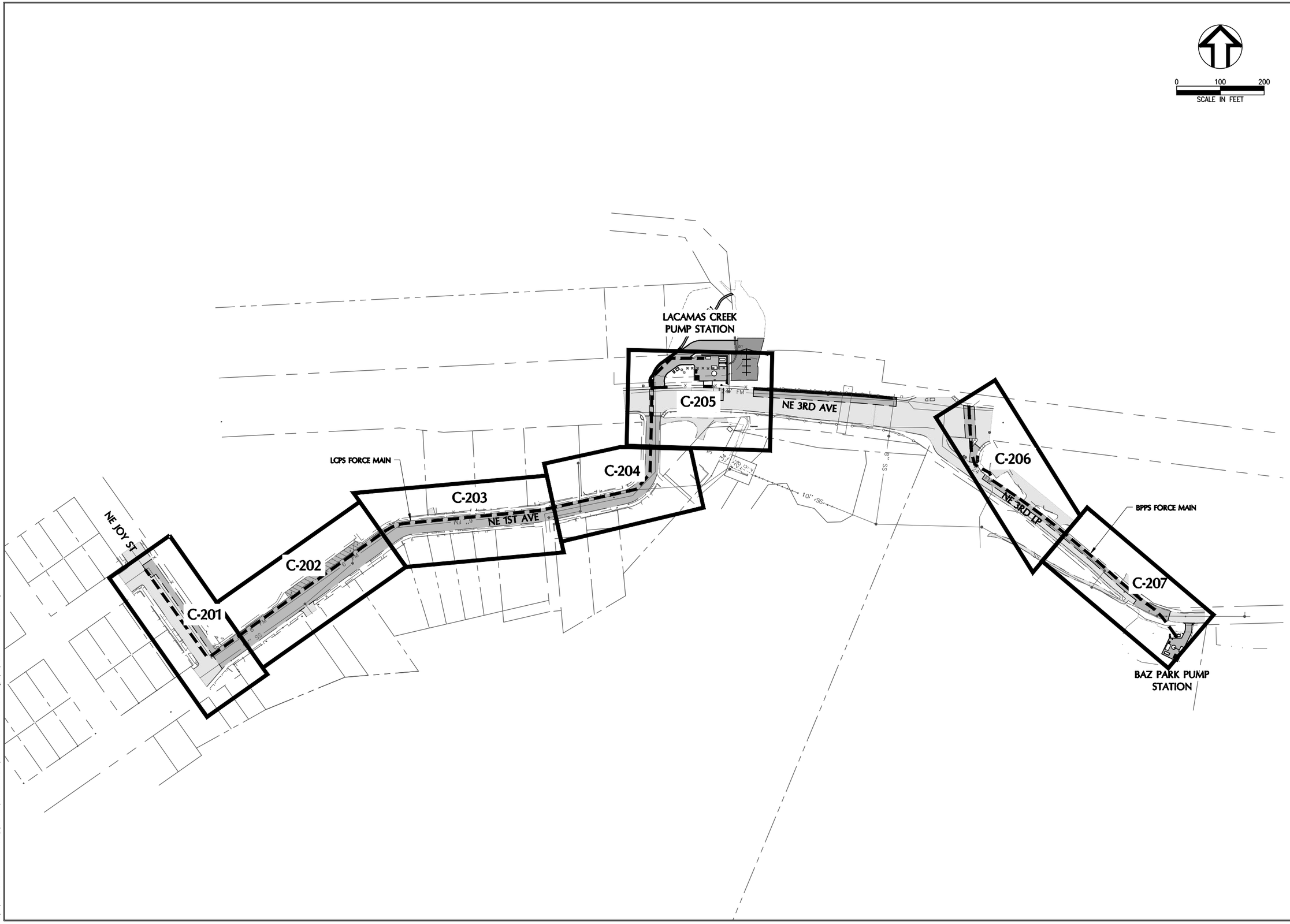

PERMIT SET

NO.	REVISION	BY	DATE

ONE INCH AT FULL SCALE.
IF NOT ONE INCH ADJUST
SCALE ACCORDINGLY

DESIGNED BY: JW/WW
DRAWN BY: CK
REV: XX

FORCE MAIN SEWER KEY MAP

wallis engineering
2115 W 15th Street, Suite 200
Vancouver, WA 98660
360.695.3411

PROJECT NO: 1460A
DATE: 3/2019

LACAMAS CREEK SANITARY SEWER PUMP STATION IMPROVEMENTS

City of Camas WASHINGTON

CITY PROJECT NO. S1000

DRAWING NO:
G-201

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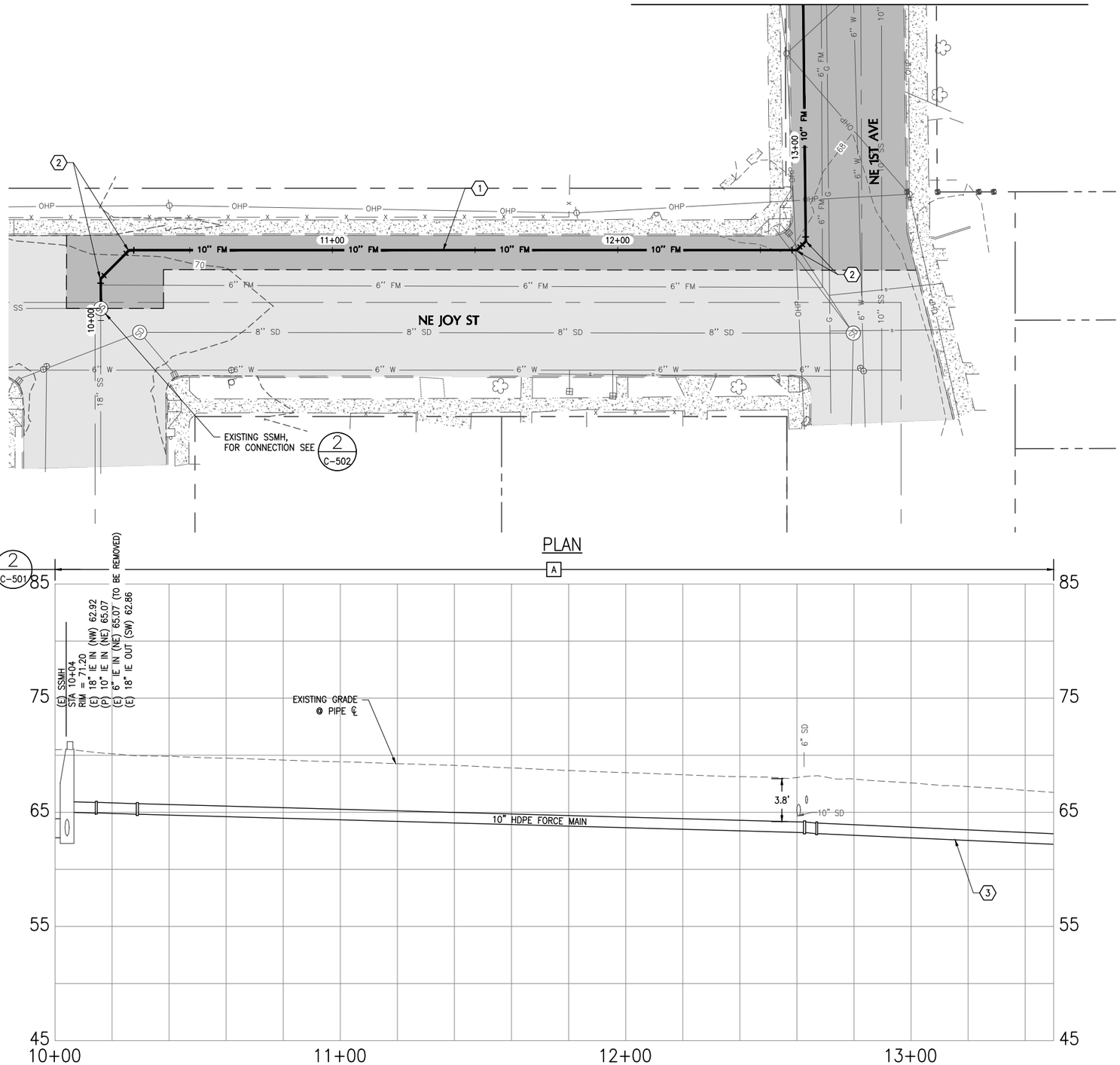
MATCHLINE STA 13+50
SEE SHEET C-202 FOR CONTINUATION



PROFILE

SCALE: 1" = 20' HORIZ
1" = 5' VERT

0 20 40
SCALE IN FEET

KEY NOTES

1. CONSTRUCT 10" HDPE FORCE MAIN.
2. INSTALL 10" HDPE 45° BEND.
3. MAINTAIN POSITIVE SLOPE FROM LOW POINTS TO HIGH POINTS, AND NEGATIVE SLOPE FROM LOW POINTS TO HIGH POINTS. DEPTH OF PIPE AS SHOWN ON PROFILE.

TIMOTHY C. WALLIS — STATE OF WASHINGTON — 25182 — REGISTERED PROFESSIONAL ENGINEER

PERMIT SET

NO.	REVISION	BY	DATE

DESIGNED BY: JW/WW
DRAWN BY: CK
REV: XX

ONE INCH AT FULL SCALE, IF NOT ONE INCH ADJUST SCALE ACCORDINGLY
0 1"

LCPS FORCE MAIN PLAN & PROFILE STA 10+00 TO 13+50

wallis engineering
215 W 4th Street, Suite 200
Vancouver, WA 98660
360.695.3411

PROJECT NO: 1460A
DATE: 3/2019

LACAMAS CREEK SANITARY SEWER PUMP STATION IMPROVEMENTS

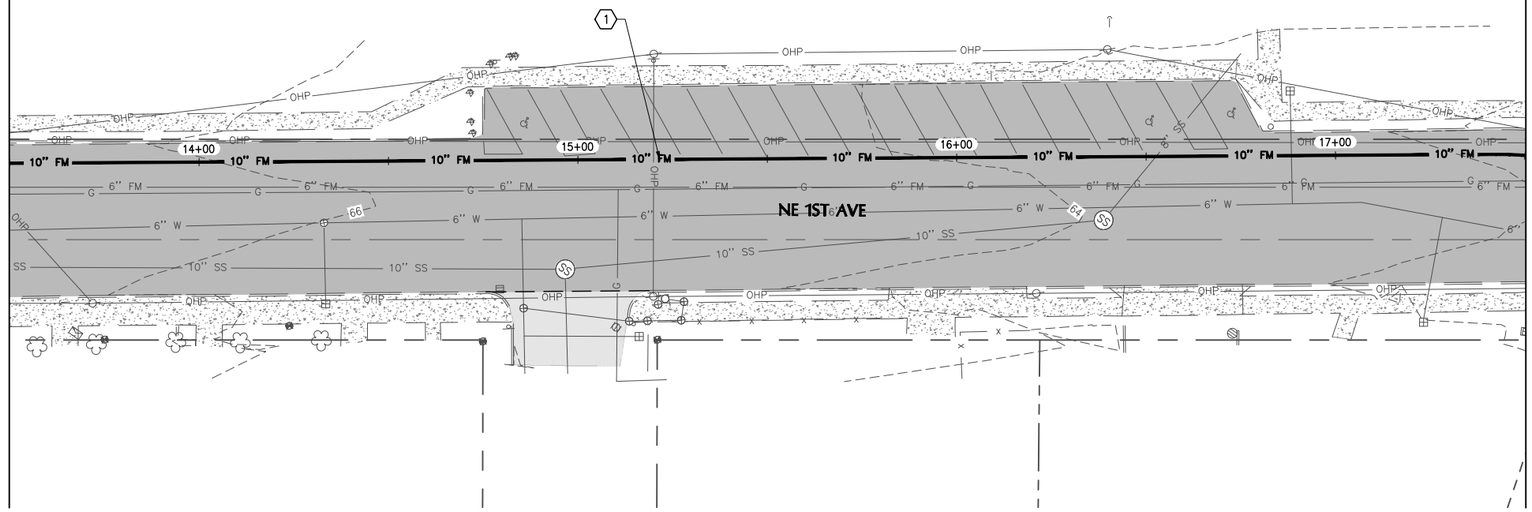
City of Camas WASHINGTON

CITY PROJECT NO. S1000

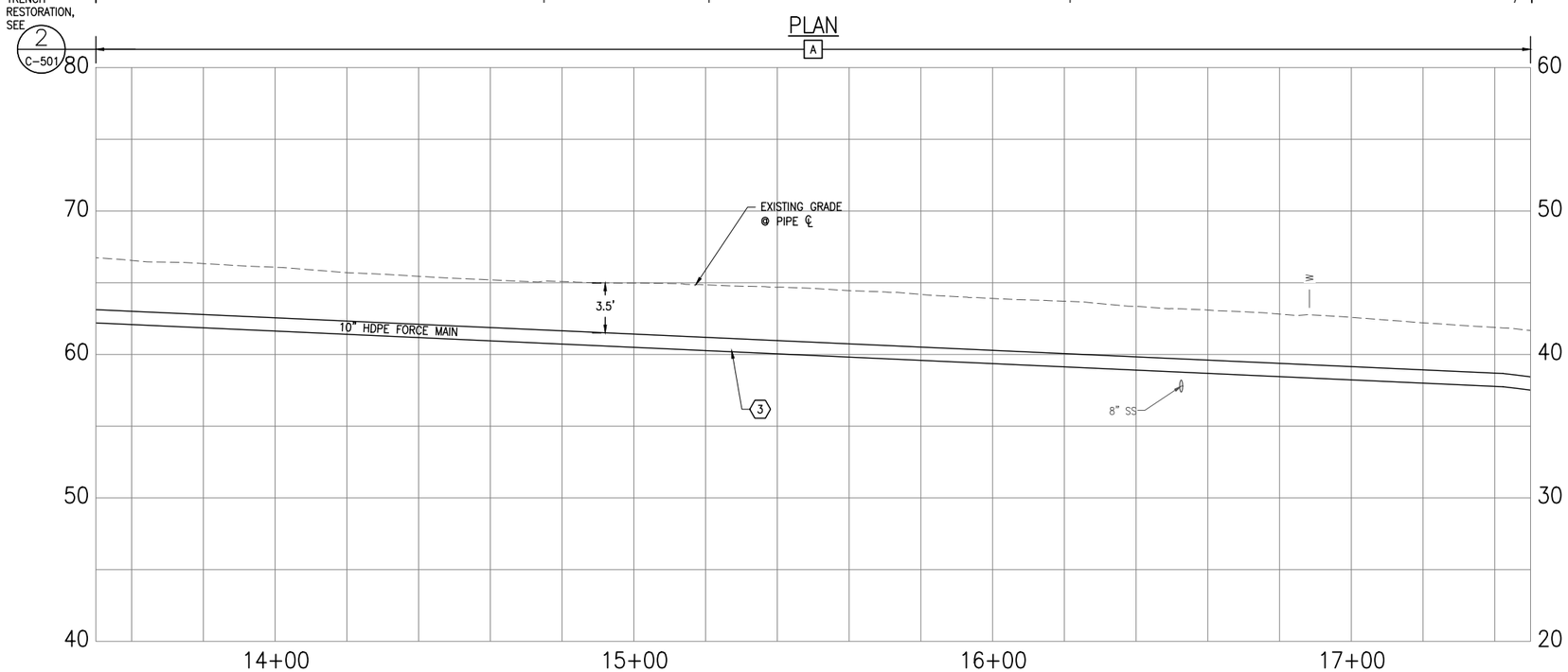
DRAWING NO:
C-201

MATCHLINE STA 13+50
SEE SHEET C-201 FOR CONTINUATION

MATCHLINE STA 17+50
SEE SHEET C-203 FOR CONTINUATION



TRENCH RESTORATION, SEE 2 C-501



PROFILE
SCALE: 1" = 20' HORIZ
1" = 5' VERT

0 20 40
SCALE IN FEET

KEY NOTES

1. CONSTRUCT 10" HDPE FORCE MAIN.
3. MAINTAIN POSITIVE SLOPE FROM LOW POINTS TO HIGH POINTS, AND NEGATIVE SLOPE FROM LOW POINTS TO HIGH POINTS. DEPTH OF PIPE AS SHOWN ON PROFILE.

PERMIT SET

TIMOTHY C. WALLIS
STATE OF WASHINGTON
25182
REGISTERED
PROFESSIONAL ENGINEER

NO.	REVISION	BY	DATE

DESIGNED BY: JW/WW
DRAWN BY: CK
REV: XX

ONE INCH
0 1"
ONE INCH AT FULL SCALE.
IF NOT ONE INCH ADJUST
SCALE ACCORDINGLY

LCPS FORCE MAIN PLAN & PROFILE STA 13+50 TO 17+50

wallis engineering
215 W 4th Street, Suite 200
Vancouver, WA 98660
360.695.1385

PROJECT NO: 1460A
DATE: 3/2019

LACAMAS CREEK
SANITARY SEWER
PUMP STATION
IMPROVEMENTS

City of Camas WASHINGTON

CITY PROJECT NO. S1000

DRAWING NO:
C-202

20 OF 71

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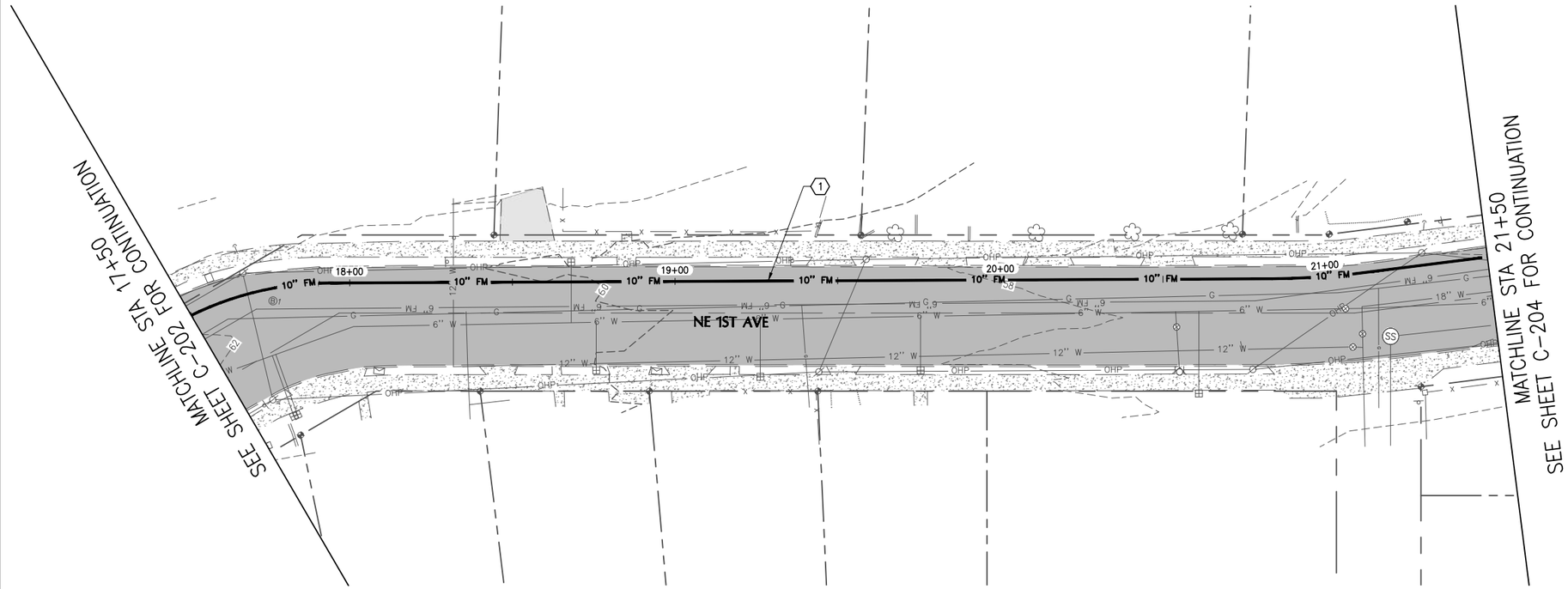
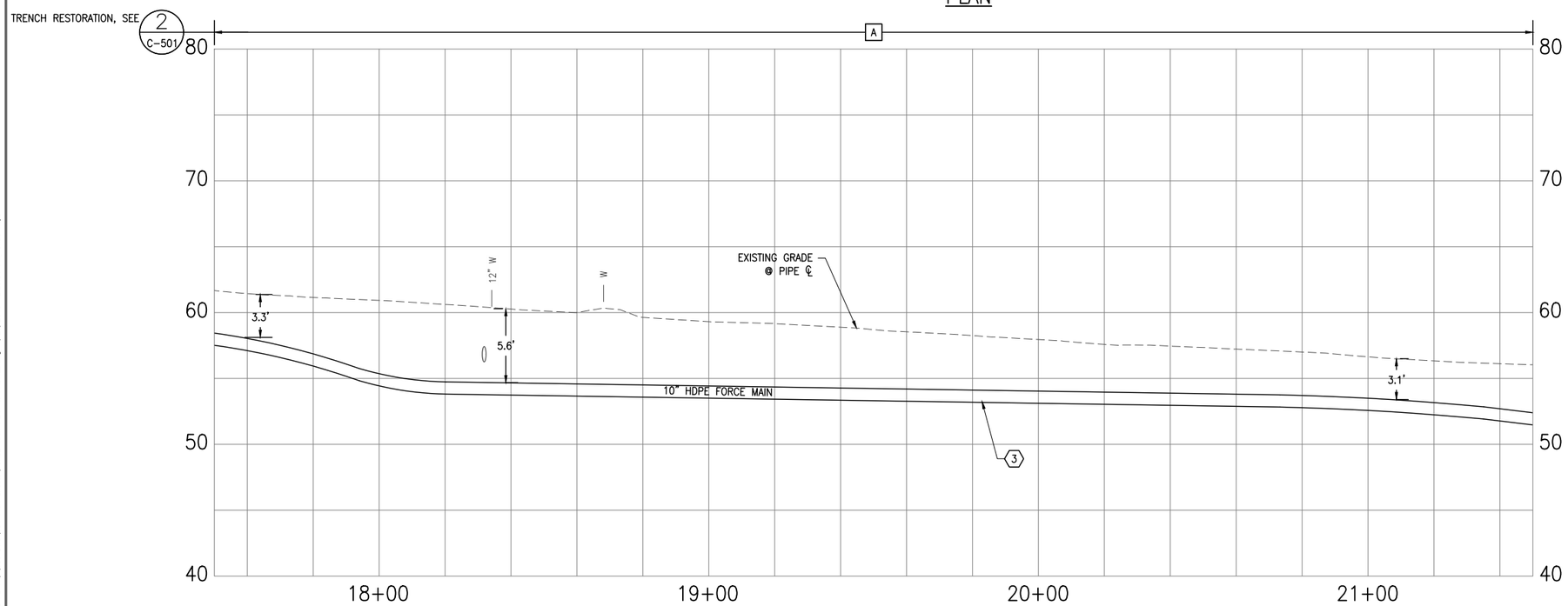


PLAN



PROFILE

SCALE: 1" = 20' HORIZ
1" = 5' VERT

0 20 40
SCALE IN FEET

KEY NOTES

1. CONSTRUCT 10" HDPE FORCE MAIN.
3. MAINTAIN POSITIVE SLOPE FROM LOW POINTS TO HIGH POINTS, AND NEGATIVE SLOPE FROM LOW POINTS TO HIGH POINTS. DEPTH OF PIPE AS SHOWN ON PROFILE.

TIMOTHY C. WALLIS STATE OF WASHINGTON 25182 REGISTERED PROFESSIONAL ENGINEER

PERMIT SET

NO.	REVISION	BY	DATE

DESIGNED BY: JW/WW
DRAWN BY: CK
REV: XX

ONE INCH AT FULL SCALE. IF NOT ONE INCH ADJUST SCALE ACCORDINGLY
0 1"

LCPS FORCE MAIN PLAN & PROFILE STA 17+50 TO STA 21+50

wallis engineering
215 W 4th Street, Suite 200
Vancouver, WA 98660
360.695.3411

PROJECT NO: 1460A
DATE: 3/2019

LACAMAS CREEK SANITARY SEWER PUMP STATION IMPROVEMENTS

City of Camas WASHINGTON

CITY PROJECT NO. S1000

DRAWING NO:
C-203

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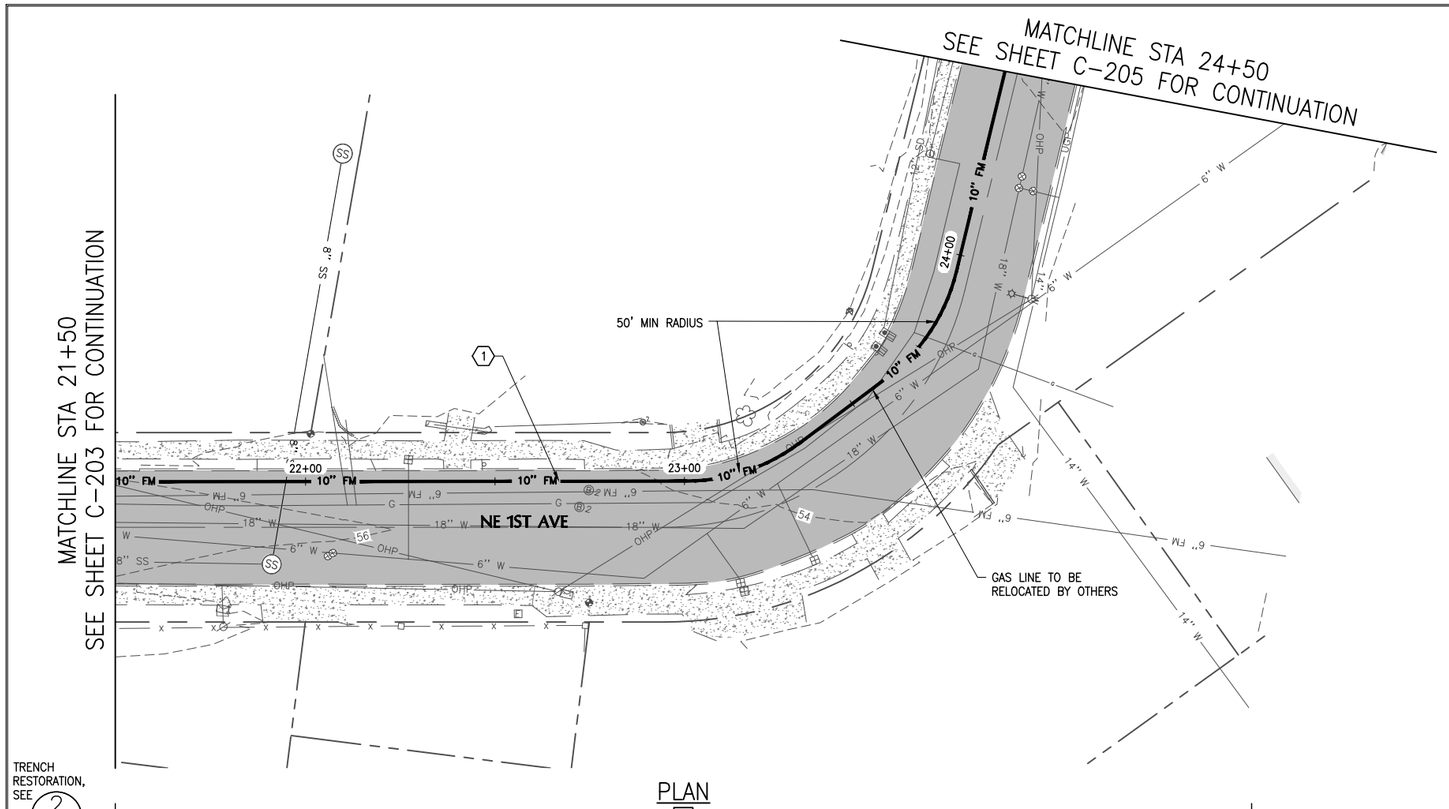
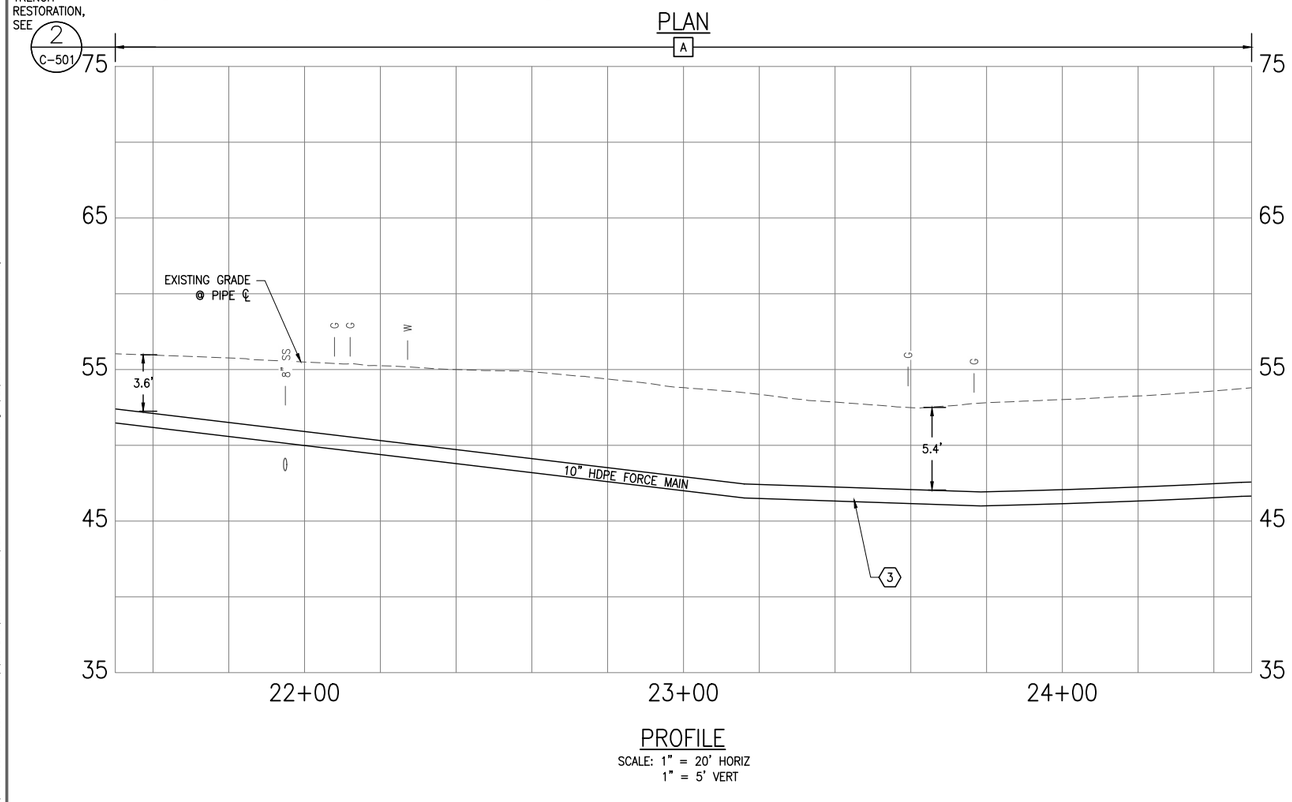
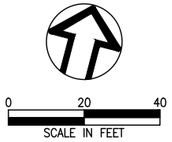




PROFILE

SCALE: 1" = 20' HORIZ
1" = 5' VERT



KEY NOTES

1. CONSTRUCT 10" HDPE FORCE MAIN.
3. MAINTAIN POSITIVE SLOPE FROM LOW POINTS TO HIGH POINTS, AND NEGATIVE SLOPE FROM LOW POINTS TO HIGH POINTS. DEPTH OF PIPE AS SHOWN ON PROFILE.

NO.	REVISION	BY	DATE

DESIGNED BY: JW/WW
DRAWN BY: CK
REV: XX

ONE INCH
0 1"
ONE INCH AT FULL SCALE.
IF NOT ONE INCH ADJUST
SCALE ACCORDINGLY

LCPS FORCE MAIN PLAN & PROFILE STA 21+50 TO 24+50

wallis engineering
215 W 4th Street, Suite 200
Vancouver, WA 98660
360.695.3411

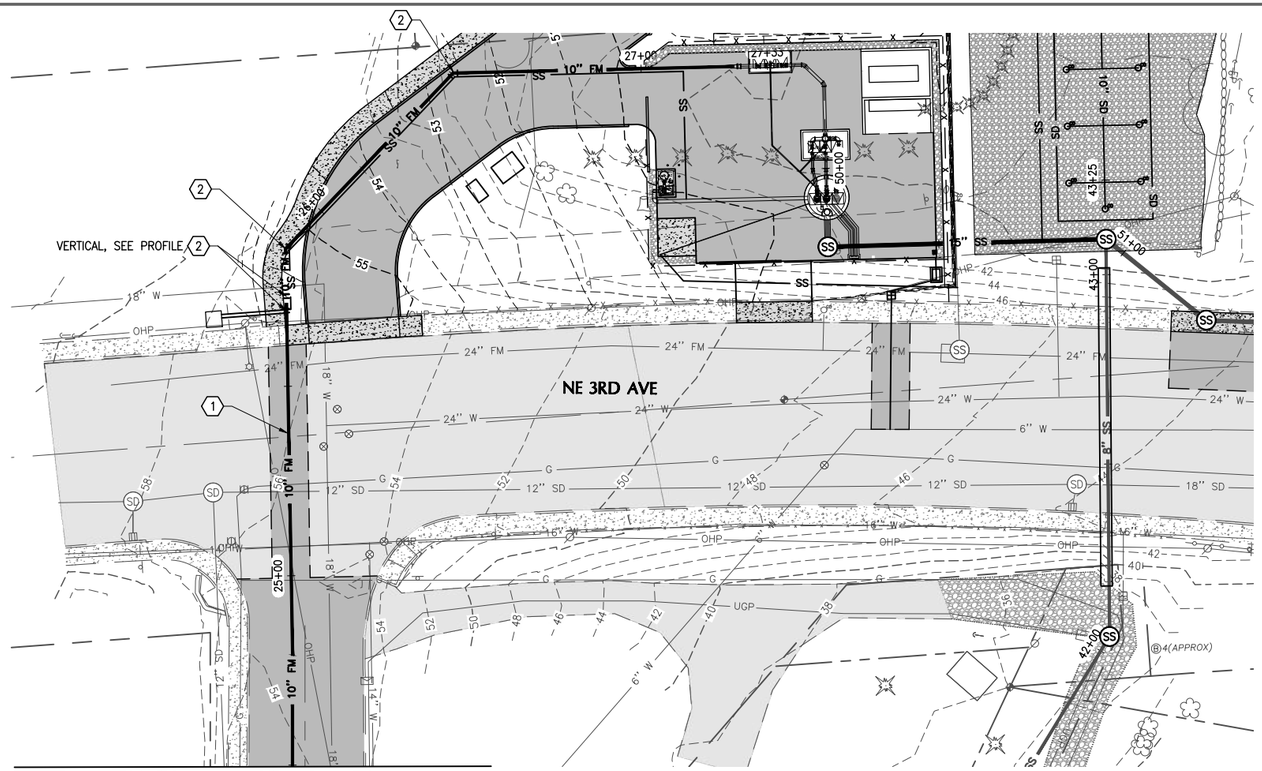
PROJECT NO: 1460A
DATE: 3/2019

LACAMAS CREEK
SANITARY SEWER
PUMP STATION
IMPROVEMENTS

City of Camas WASHINGTON

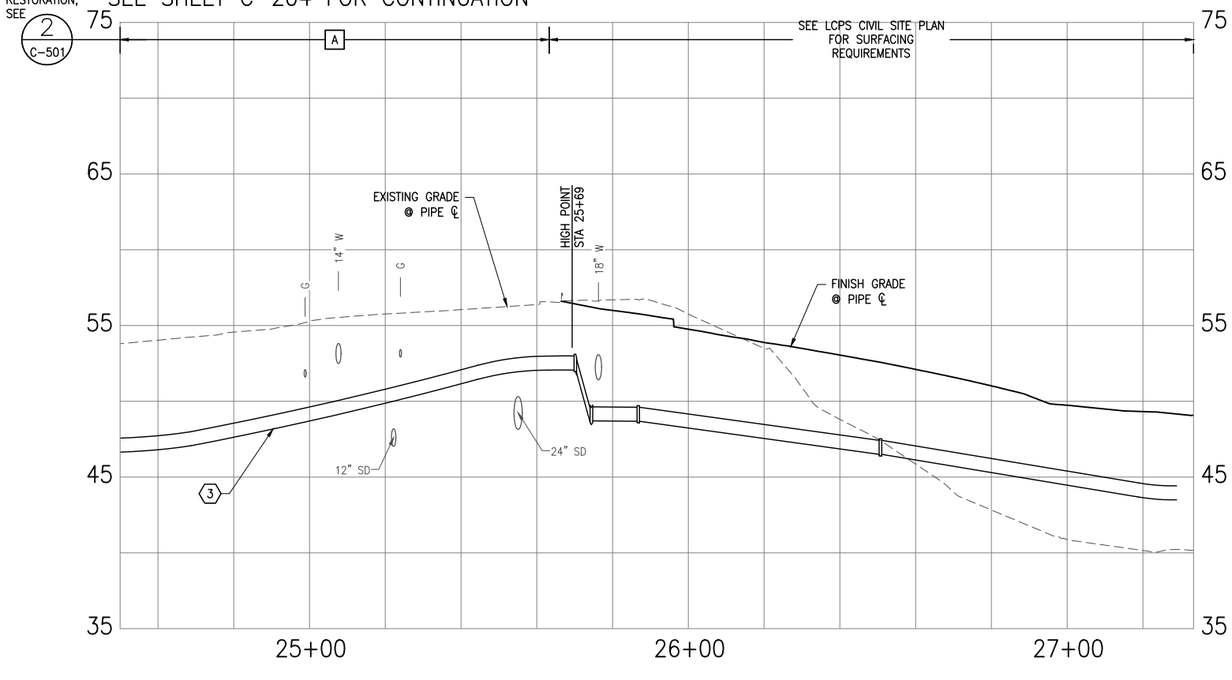
CITY PROJECT NO. S1000

DRAWING NO:
C-204



MATCHLINE STA 24+50
SEE SHEET C-204 FOR CONTINUATION

PLAN



PROFILE
SCALE: 1" = 20' HORIZ
1" = 5' VERT

0 20 40
SCALE IN FEET

KEY NOTES

1. CONSTRUCT 10" HDPE FORCE MAIN.
2. INSTALL 10" HDPE 45° BEND.
3. MAINTAIN POSITIVE SLOPE FROM LOW POINTS TO HIGH POINTS, AND NEGATIVE SLOPE FROM LOW POINTS TO HIGH POINTS. DEPTH OF PIPE AS SHOWN ON PROFILE.

TIMOTHY C. WALLIS — STATE OF WASHINGTON — 25182 — REGISTERED PROFESSIONAL ENGINEER

PERMIT SET

NO.	REVISION	BY	DATE

DESIGNED BY: JW/WW
DRAWN BY: CK
REV: XX

ONE INCH AT FULL SCALE, IF NOT ONE INCH ADJUST SCALE ACCORDINGLY
0 1"

LCPS FORCE MAIN PLAN & PROFILE STA 24+50 TO END

wallis engineering
215 W 4th Street, Suite 200
Vancouver, WA 98660
360.695.3411

PROJECT NO: 1460A
DATE: 3/2019

LACAMAS CREEK SANITARY SEWER PUMP STATION IMPROVEMENTS

City of Camas WASHINGTON

CITY PROJECT NO. S1000

DRAWING NO:
C-205

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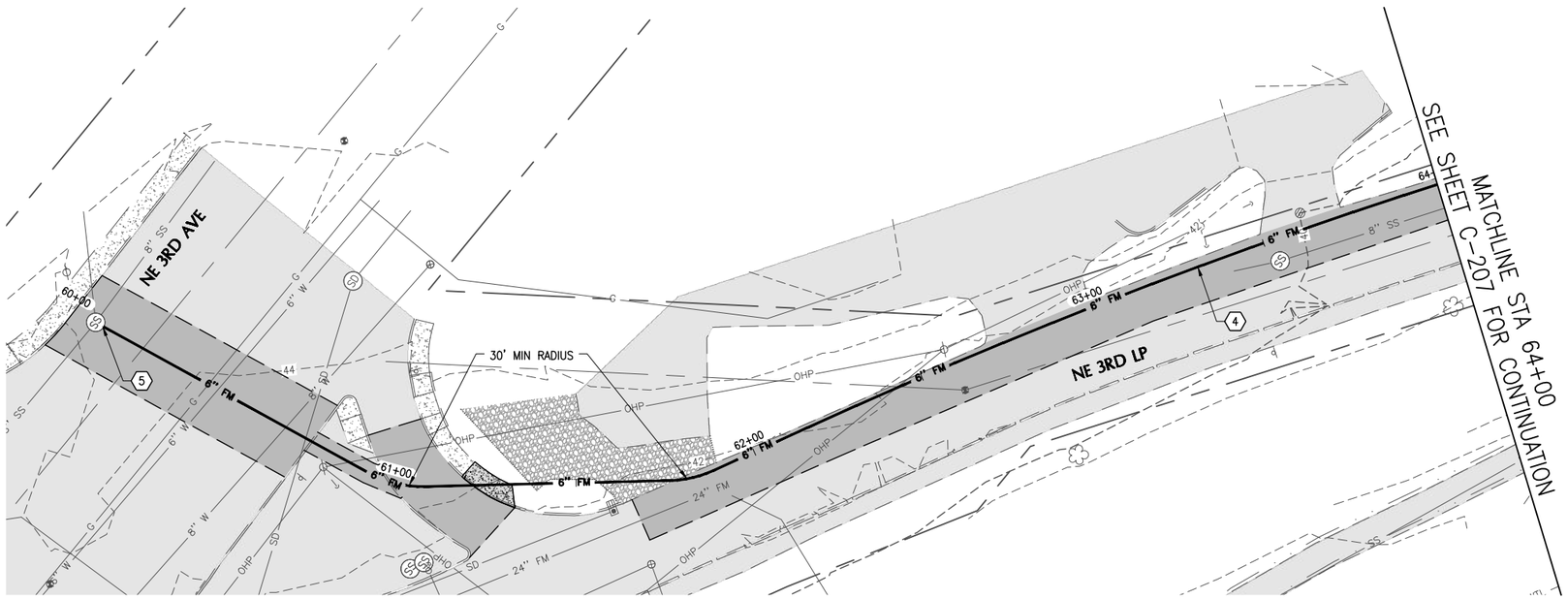
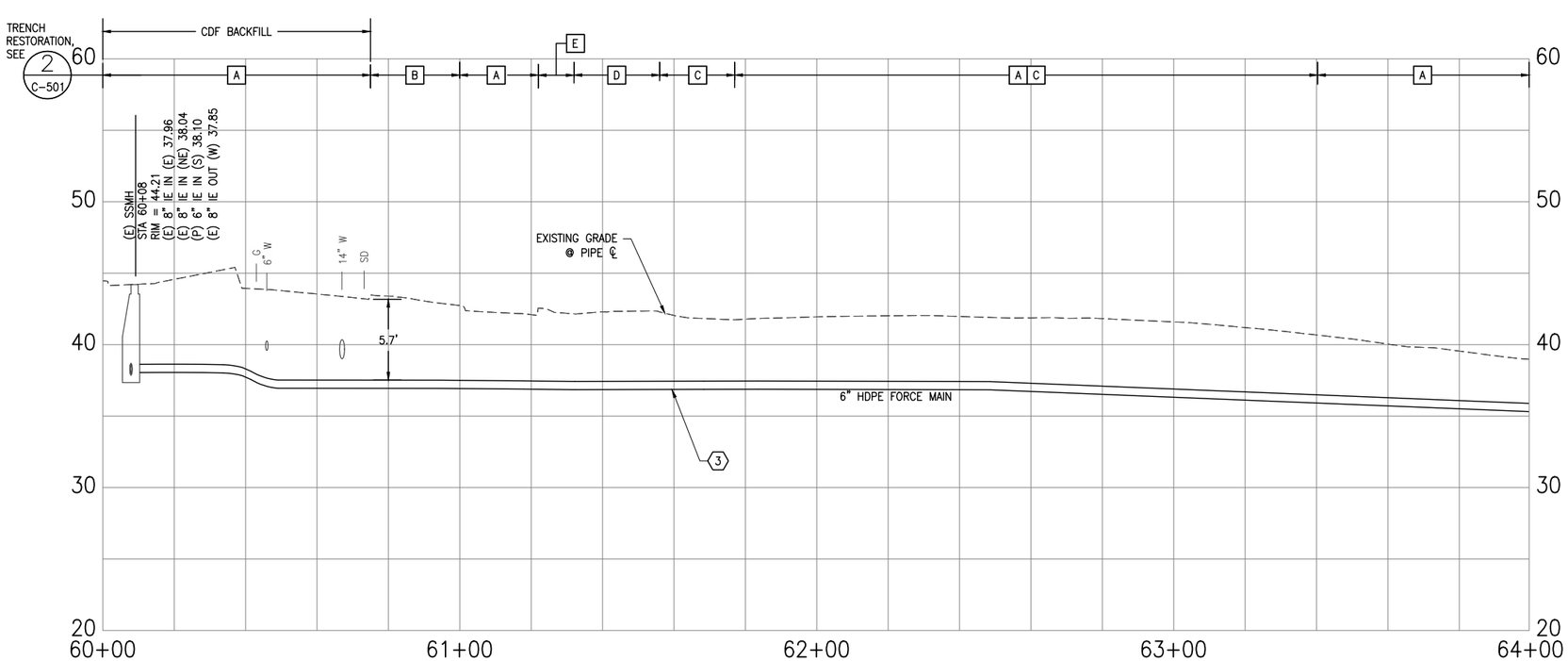


PLAN



PROFILE

SCALE: 1" = 20' HORIZ
1" = 5' VERT

0 20 40
SCALE IN FEET

KEY NOTES

3. MAINTAIN POSITIVE SLOPE FROM LOW POINTS TO HIGH POINTS, AND NEGATIVE SLOPE FROM LOW POINTS TO HIGH POINTS. DEPTH OF PIPE AS SHOWN ON PROFILE.
4. CONSTRUCT 6" HDPE FORCE MAIN.
5. CONNECT TO EXISTING MANHOLE WITH MANHOLE BOOT AND MECHANICAL MANHOLE.

TIMOTHY C. WALLIS
STATE OF WASHINGTON
25182
REGISTERED PROFESSIONAL ENGINEER
PERMIT SET

NO.	REVISION	BY	DATE

DESIGNED BY: JW/WW
DRAWN BY: CK
REV: XX

ONE INCH AT FULL SCALE.
IF NOT ONE INCH ADJUST SCALE ACCORDINGLY
0 1"

BPPS FORCE MAIN PLAN & PROFILE STA 60+00 TO STA 64+00

wallis engineering
214 W 4th Street, Suite 300
Vancouver, WA 98660
360.693.3141

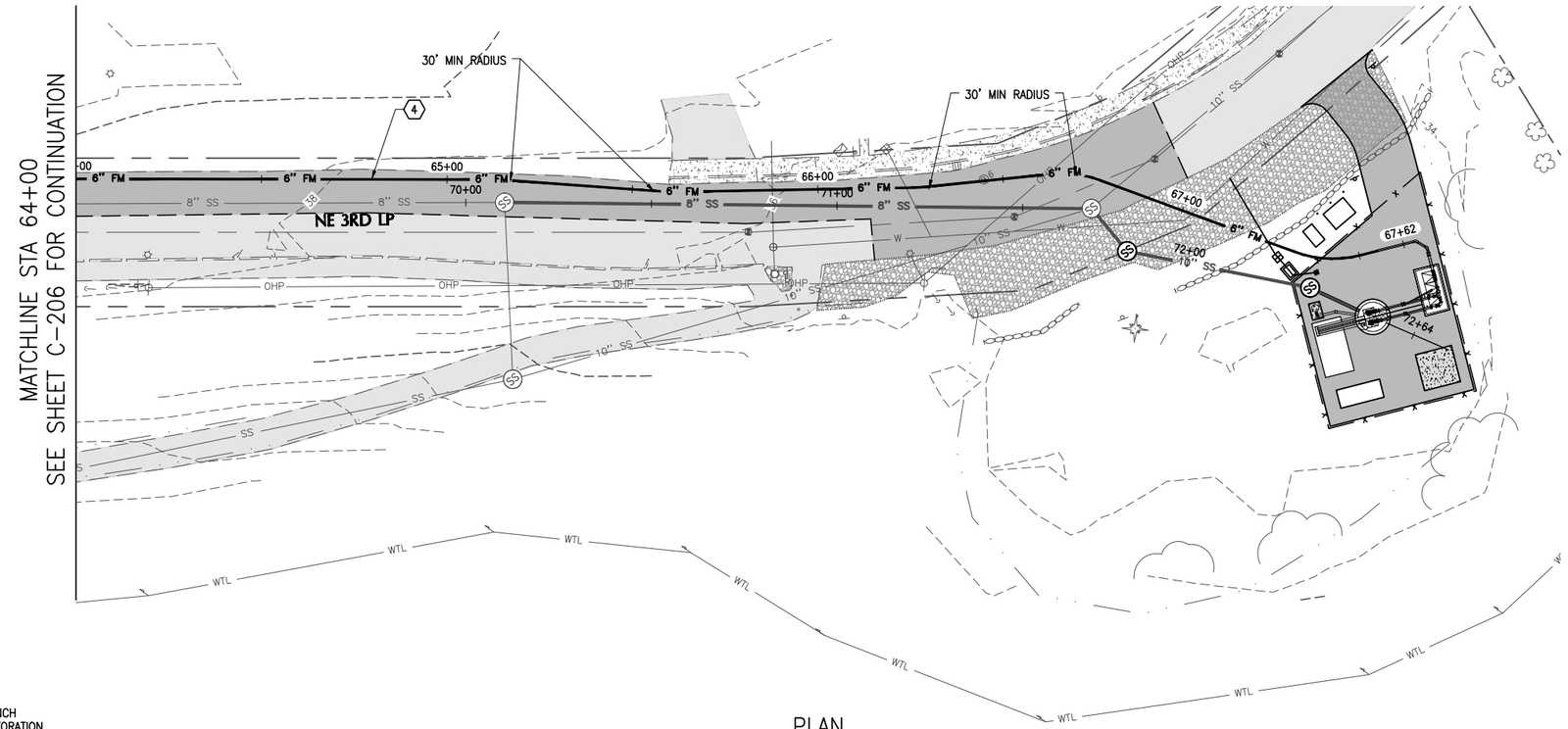
PROJECT NO: 1460A
DATE: 3/2019

LACAMAS CREEK SANITARY SEWER PUMP STATION IMPROVEMENTS

City of Camas WASHINGTON

CITY PROJECT NO. S1000

DRAWING NO:
C-206

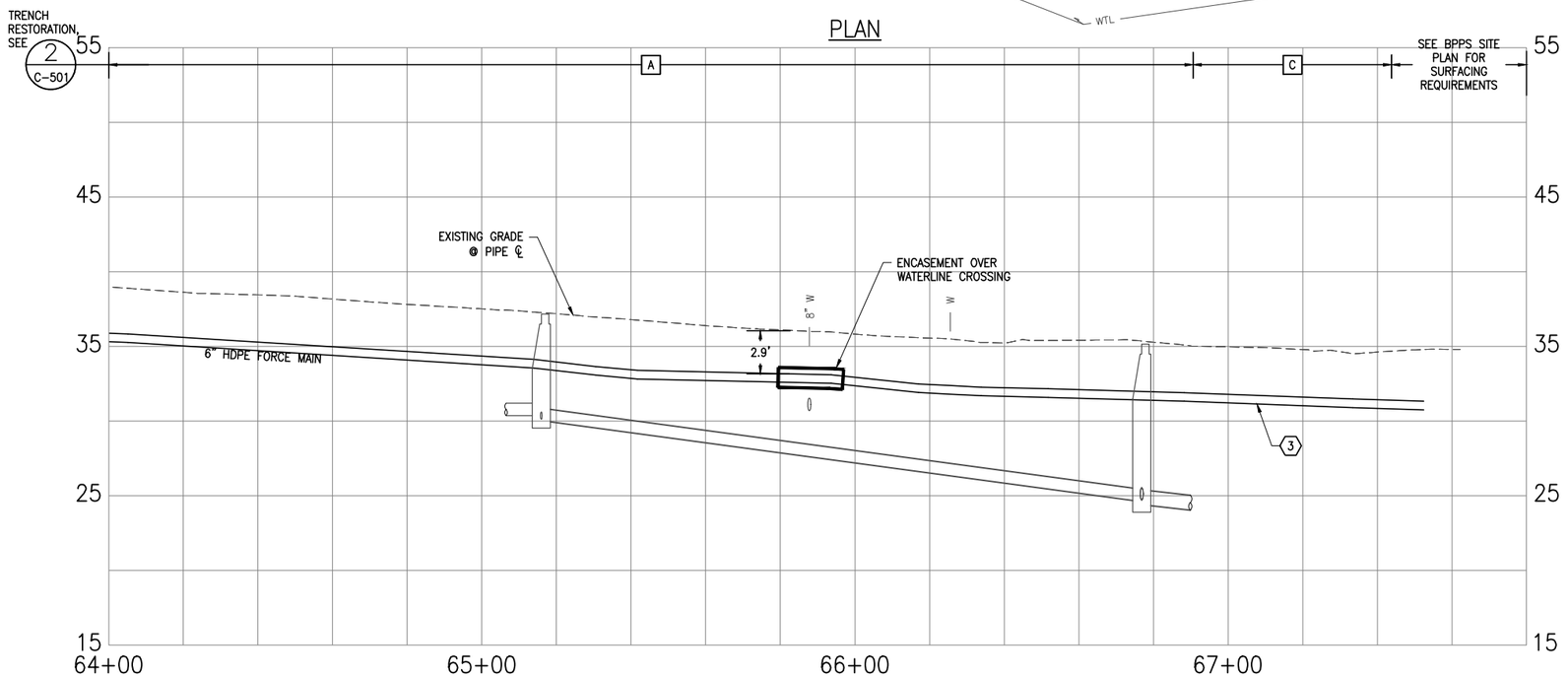


0 20 40
SCALE IN FEET

KEY NOTES

3. MAINTAIN POSITIVE SLOPE FROM LOW POINTS TO HIGH POINTS, AND NEGATIVE SLOPE FROM LOW POINTS TO HIGH POINTS. DEPTH OF PIPE AS SHOWN ON PROFILE.

4. CONSTRUCT 6" HDPE FORCE MAIN.



PERMIT SET

TIMOTHY C. ROSELL
STATE OF WASHINGTON
26182
REGISTERED PROFESSIONAL ENGINEER

NO.	REVISION	BY	DATE

DESIGNED BY: JW/WW
DRAWN BY: CK
REV: XX

ONE INCH AT FULL SCALE. IF NOT ONE INCH ADJUST SCALE ACCORDINGLY
0 1"

BPPS FORCE MAIN PLAN & PROFILE STA 64+00 TO END

wallis engineering
211 W 4th Street, Suite 200
Vancouver, WA 98660
360.695.3411

PROJECT NO: 1460A
DATE: 3/2019

LACAMAS CREEK SANITARY SEWER PUMP STATION IMPROVEMENTS

City of Camas WASHINGTON

CITY PROJECT NO. S1000

DRAWING NO:
C-207

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SURVEY STAKING COORDINATES

PT	DESCRIPTION	NORTHING	EASTING
1	WETWELL	99057.95	1156084.22
2	VALVE VAULT	99079.27	1156067.76
3	VALVE VAULT	99072.19	1156080.84
4	FLOW METER/PIGGING VAULT	99101.27	1156065.87
5	FLOW METER/PIGGING VAULT	99095.48	1156054.57
6	EQUIPMENT SHELTER	99101.27	1156102.89
7	EQUIPMENT SHELTER	99078.74	1156084.23
8	EDGE OF GRAVEL	99045.76	1156027.47
9	EDGE OF PAVEMENT	99045..76	1156104.89
10	EDGE OF GRAVEL	99103.27	1156104.89
11	EDGE OF PAVEMENT	99103.27	1156033.04
12	EDGE OF PAVEMENT	99099.26	1156027.47
13	BEGINNING OF WALL	99037.85	1156104.89
14	END OF WALL	99037.85	1156104.89

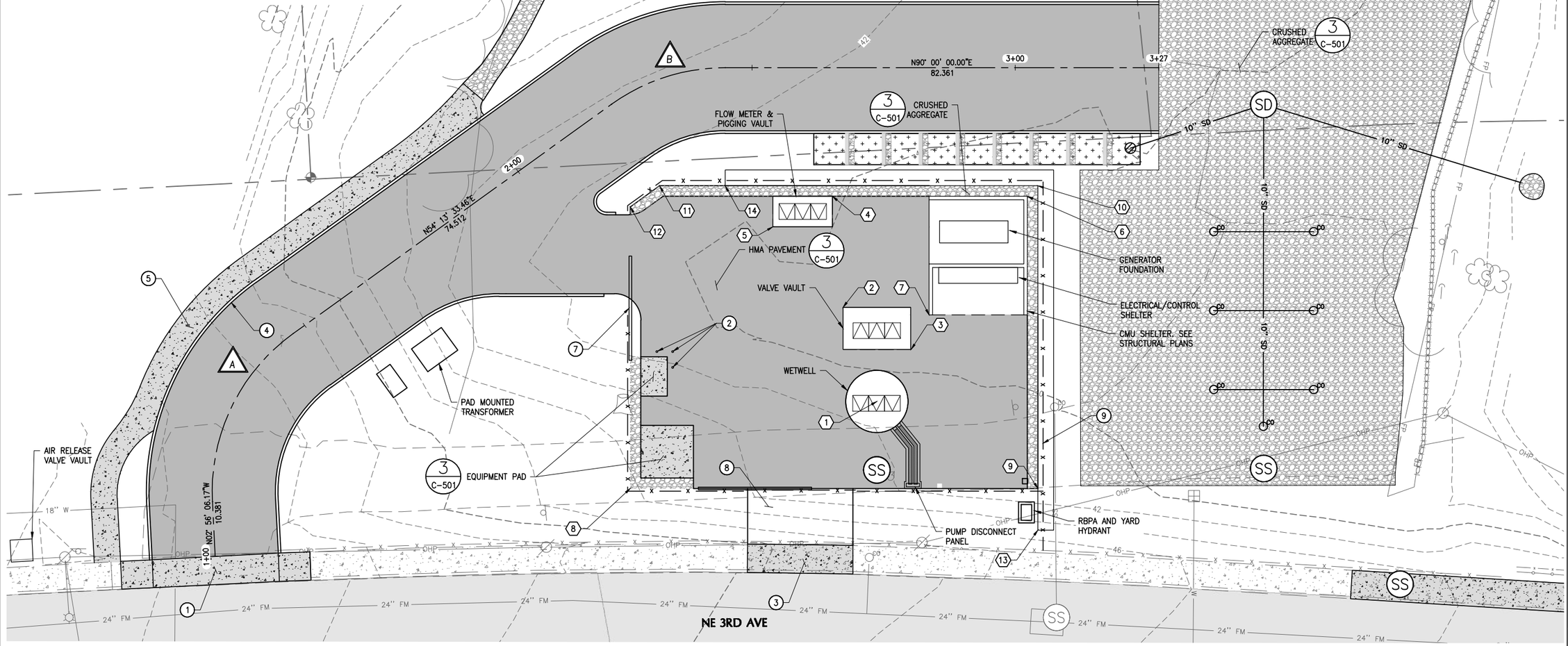
KEY NOTES

1. REPLACE COMMERCIAL DRIVEWAY, SEE CAMAS STANDARD DETAIL ST17, SHEET SD-502
2. REMOVABLE BOLLARD (TYP 3) SEE CAMAS STD DETAIL 10 SHEET SD-502
3. REPLACE SIDEWALK AND CURB WITH COMMERCIAL DRIVEWAY WITH FULL HEIGHT CURB
4. TRAFFIC CURB, SEE CAMAS STANDARD DETAIL ST12, SHEET SD-502
5. SIDEWALK, SEE CAMAS STANDARD DETAIL ST18, SHEET SD-502
6. 4" DEPTH CSTC COMPACTED TO 90% MAX DENSITY OVER COMPACTED SUBGRADE OR FILL
7. 20' WIDTH ROLLING GATE WITH PERFORATED STEEL PANEL
8. REINFORCED TURF. SEE LANDSCAPE PLANS
9. 6' TALL CHAINLINK FENCE

CURVE DATA

CURVE	RADIUS	LENGTH	Δ
A	37.00'	36.91'	57°09'39"
B	37.00'	23.10'	35°46'26"

MATCHLINE – SEE SHEET C-302 FOR CONTINUATION



PLAN

PERMIT SET

TIMOTHY C. WALLIS
STATE OF WASHINGTON
25182
REGISTERED
PROFESSIONAL ENGINEER

NO.	REVISION	BY	DATE

DESIGNED BY: JW/WW
DRAWN BY: CK
REV: XX

ONE INCH AT FULL SCALE. IF NOT ONE INCH ADJUST SCALE ACCORDINGLY
ONE INCH 1"

LCPS CIVIL SITE PLAN

wallis engineering
215 W 4th Street, Suite 200
Vancouver, WA 98660
(360)567-3181

PROJECT NO: 1460A
DATE: 3/2019

LACAMAS CREEK SANITARY SEWER PUMP STATION IMPROVEMENTS

City of Camas WASHINGTON

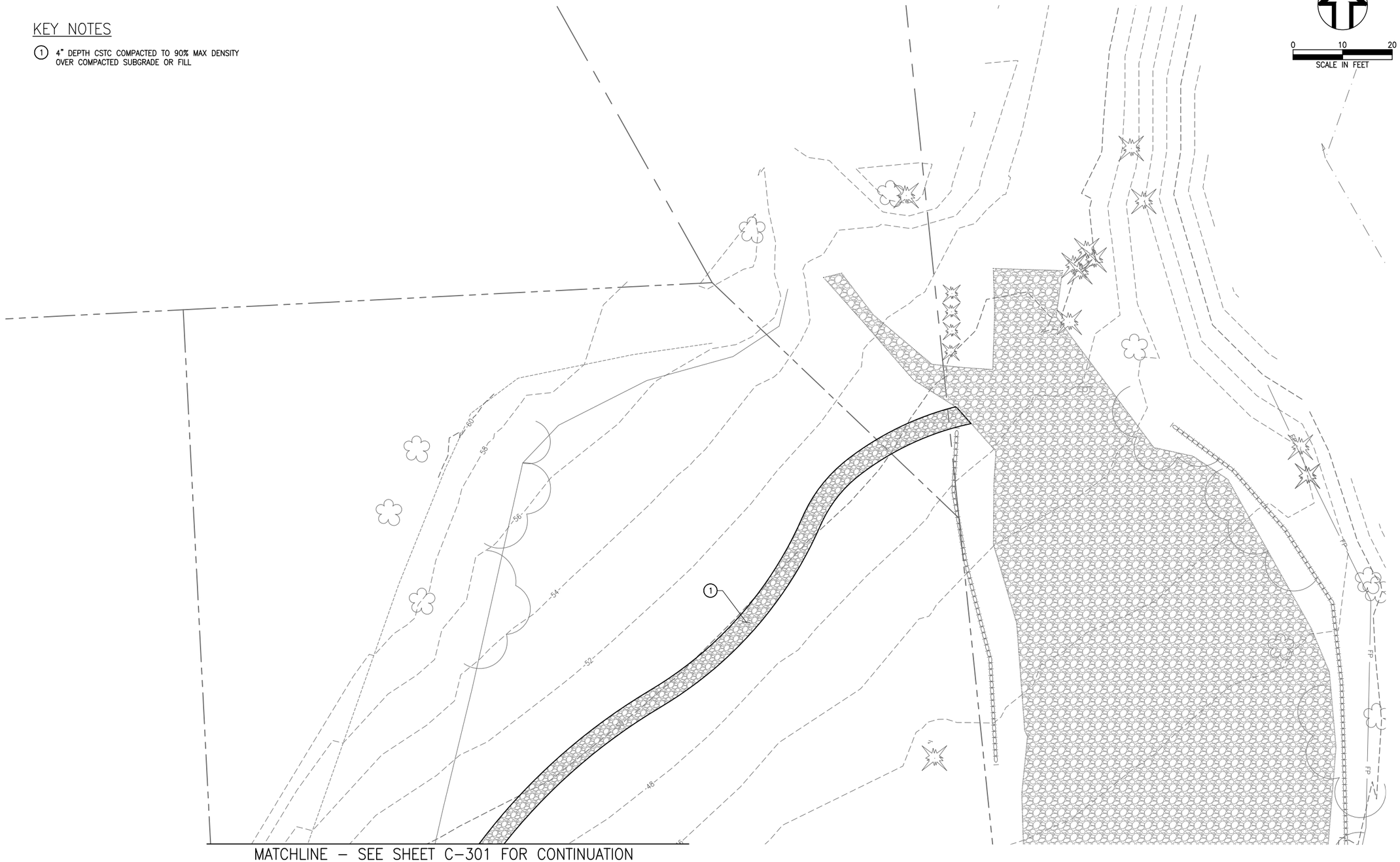
CITY PROJECT NO. S1000

DRAWING NO:
C-301

P:\14\1460A Camas Lacamas PS Imp\500 DWG\501 Plan Sheets\45 BPPS CIVIL SITE PLAN.dwg, 4/24/2019 11:40:30 AM, Chad Keys

KEY NOTES

(1) 4" DEPTH CSTC COMPACTED TO 90% MAX DENSITY OVER COMPACTED SUBGRADE OR FILL



PLAN

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PERMIT SET

TIMOTHY C. WALLIS
STATE OF WASHINGTON
26182
REGISTERED
PROFESSIONAL ENGINEER

NO.	REVISION	BY	DATE

DESIGNED BY: JW/WW
DRAWN BY: CK
REV: XX

ONE INCH AT FULL SCALE, IF NOT ONE INCH ADJUST SCALE ACCORDINGLY
ONE INCH 0 1"

LCPS CIVIL SITE PLAN II

wallis engineering
2516 W 4th Street, Suite 200
Vancouver, WA 98660
(360) 695-7287

PROJECT NO: 1460A
DATE: 3/2019

LACAMAS CREEK SANITARY SEWER PUMP STATION IMPROVEMENTS

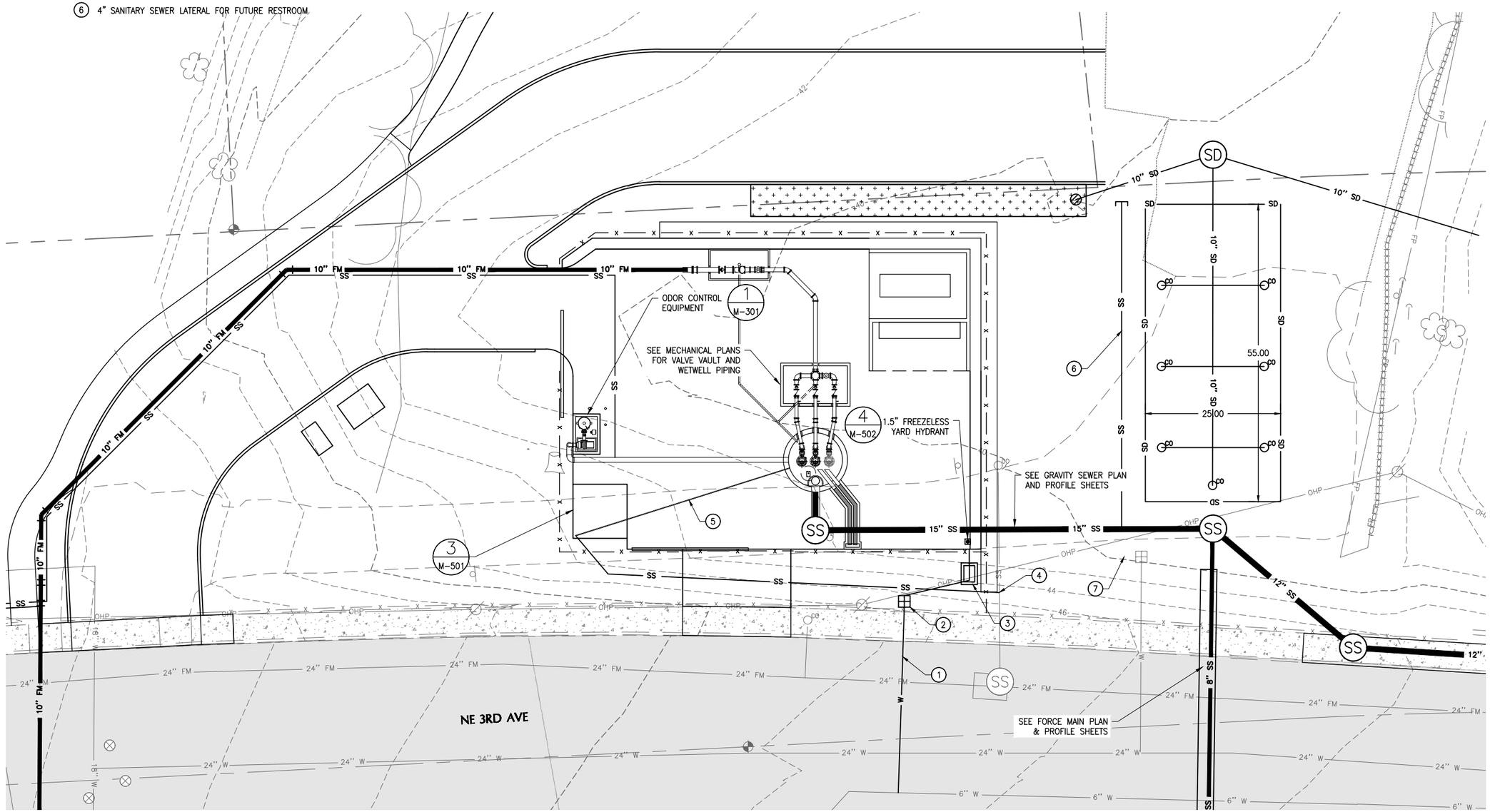
City of Camas WASHINGTON

CITY PROJECT NO. S1000

DRAWING NO:
C-302

KEY NOTES

1. 1" WATER SERVICE STUB FOR FUTURE PARK AND IRRIGATION SUPPLY
2. 3/4" WATER METER FOR PUMP STATION, SEE CAMAS STANDARD DETAIL W6, SHEET SD-502
3. 1.5" RPBA, SEE CAMAS STANDARD DETAIL W24, SHEET SD-502
4. CONNECT 4" HDPE PIPE TO EXISTING 4" HDPE PIPE AND EXTEND TO FUTURE ODOR CONTROL PAD
5. 1" SCH 40 PVC FOR FUTURE CHEMICAL INJECTION
6. 4" SANITARY SEWER LATERAL FOR FUTURE RESTROOM



PLAN

0 10 20
SCALE IN FEET

PERMIT SET

TIMOTHY C. WALLIS
STATE OF WASHINGTON
26182
REGISTERED
PROFESSIONAL ENGINEER

NO.	REVISION	BY	DATE

DESIGNED BY: JW/WW
DRAWN BY: CK
REV: XX

ONE INCH AT FULL SCALE, IF NOT ONE INCH ADJUST SCALE ACCORDINGLY
0 1"

LCPS UTILITY & PIPING PLAN

wallis engineering
215 W 4th Street, Suite 200
Vancouver, WA 98660
360.695.3411

PROJECT NO: 1460A
DATE: 3/2019

LACAMAS CREEK SANITARY SEWER PUMP STATION IMPROVEMENTS

City of Camas WASHINGTON

CITY PROJECT NO. S1000

DRAWING NO:
C-303

STRUCTURE/PAD ELEVATIONS

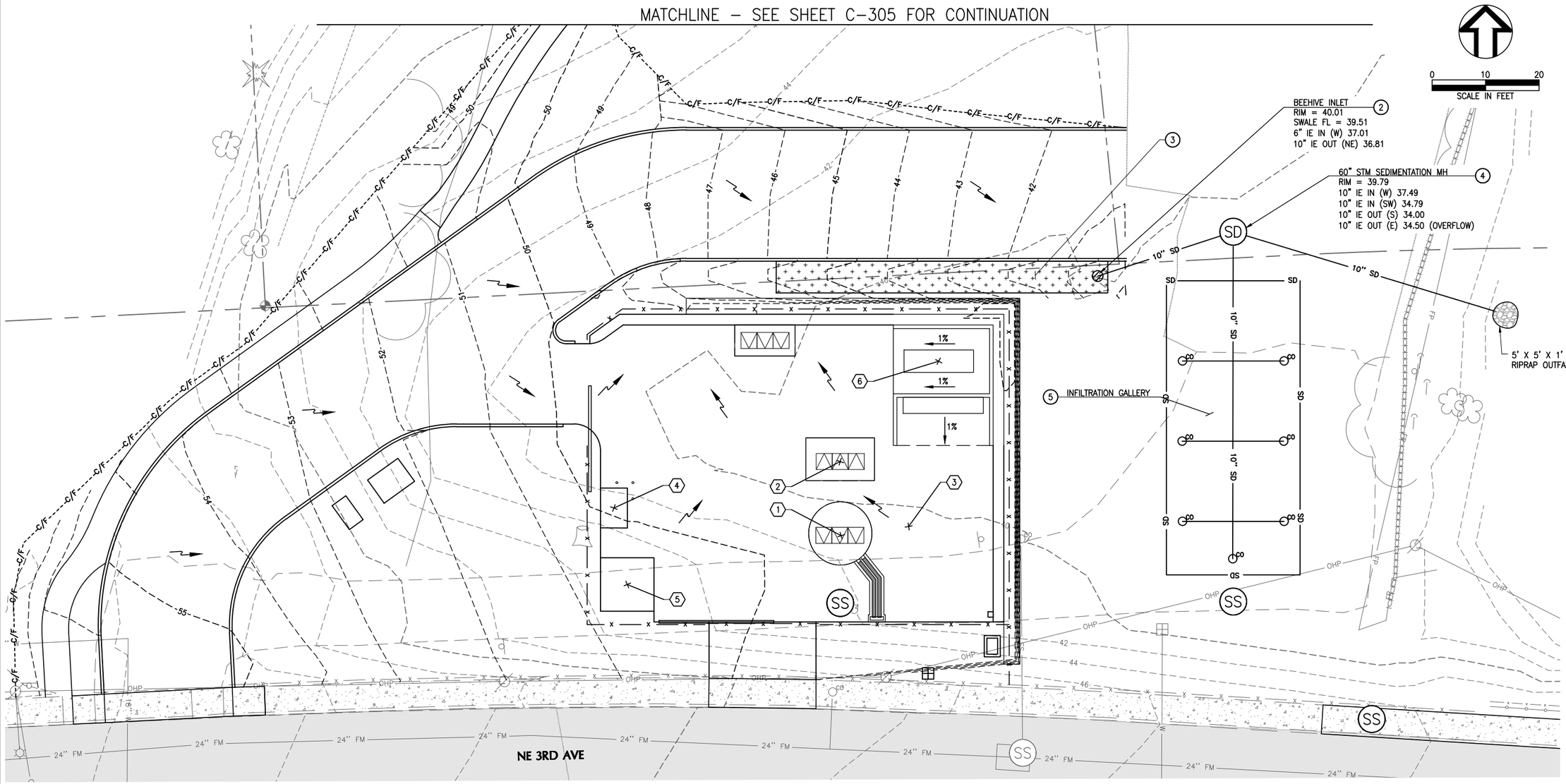
PT	DESCRIPTION	ELEVATION
1	WETWELL	49.53
2	VALVE VAULT	49.50
3	FLOW METER/PIGGING VAULT	49.55
4	ODOR CONTROL EQUIPMENT PAD	50.30
5	EQUIPMENT PAD	50.56
6	GENERATOR FOUNDATION	50.25

KEY NOTES

1. CONSTRUCT INFILTRATION GALLERY PER DETAIL ON SHEET XX.
2. CONSTRUCT BEEHIVE INLET PER DETAIL, SHEET CX.
3. CONSTRUCT BIORETENTION FACILITY PER DETAIL XX ON SHEET XX.
4. NEW STORM SEDIMENTATION MANHOLE PER DETAIL ON SHEET XX.

GRADING LEGEND

- GB — GRADE BREAK
- FLOW DIRECTION
- STORMWATER BIORETENTION FACILITY
- C/F — CUT/FILL LINE



PLAN

PERMIT SET

TIMOTHY C. WALLIS
STATE OF WASHINGTON
25182
REGISTERED PROFESSIONAL ENGINEER

NO.	REVISION	BY	DATE

ONE INCH AT FULL SCALE, IF NOT ONE INCH ADJUST SCALE ACCORDINGLY

DESIGNED BY: JW/WW
DRAWN BY: CK
REV: XX

LCPS GRADING & DRAINAGE PLAN I

wallis engineering
215 W 4th Street, Suite 200
Vancouver, WA 98660
360.695.1385

PROJECT NO: 1460A
DATE: 3/2019

LACAMAS CREEK SANITARY SEWER PUMP STATION IMPROVEMENTS

City of Camas WASHINGTON

CITY PROJECT NO. S1000

DRAWING NO:
C-304
29 OF 71

P:\14\1460A Camas Lacamas PS Imp\500 DWG\501 Plan Sheets\47 BPPS GRADING & DRAINAGE PLAN.dwg, 4/24/2019 11:43:21 AM, Chad Kaya

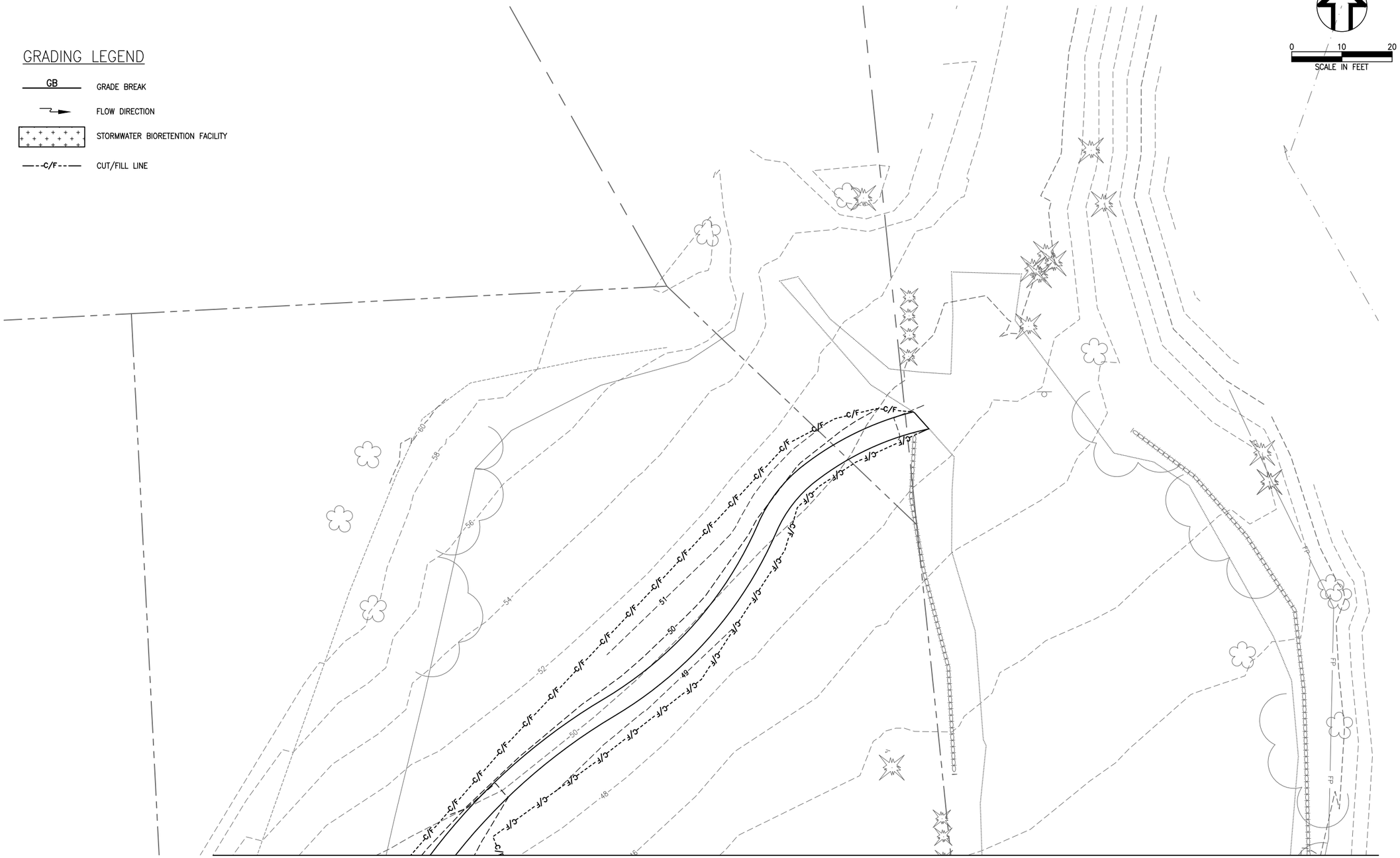
GRADING LEGEND

GB — GRADE BREAK

FLOW DIRECTION

STORMWATER BIORETENTION FACILITY

--C/F-- CUT/FILL LINE



MATCHLINE – SEE SHEET C-304 FOR CONTINUATION

PLAN

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PERMIT SET

TIMOTHY C. WALLIS
STATE OF WASHINGTON
26182
REGISTERED
PROFESSIONAL ENGINEER

NO.	REVISION	BY	DATE

DESIGNED BY: JW/WW
DRAWN BY: CK
REC: XX

ONE INCH AT FULL SCALE, IF NOT ONE INCH ADJUST SCALE ACCORDINGLY

ONE INCH 0 1"

LCPS GRADING & DRAINAGE PLAN II

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215 W 4th Street, Suite 200
Vancouver, WA 98660
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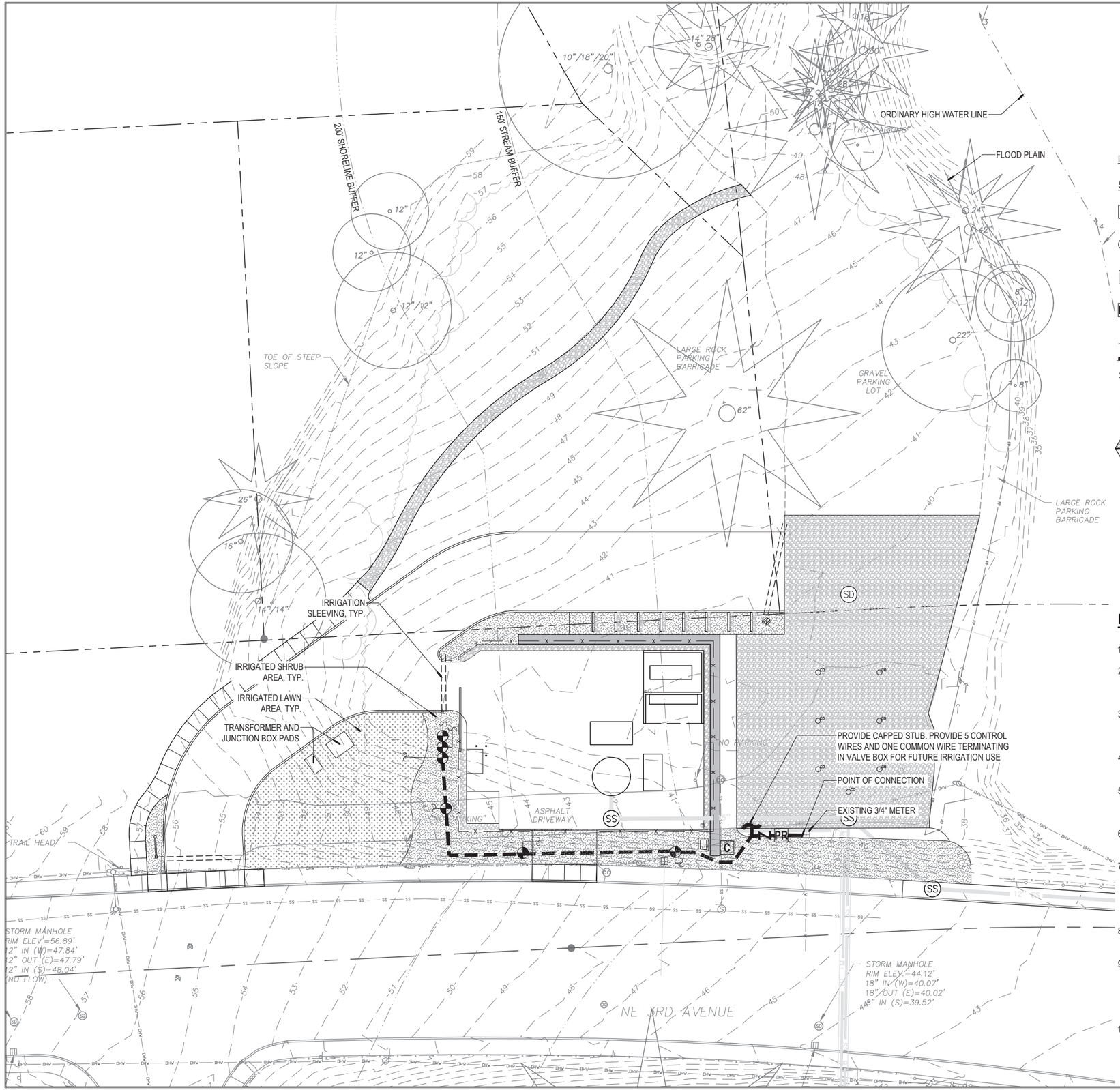
PROJECT NO: 1460A
DATE: 3/2019

LACAMAS CREEK SANITARY SEWER PUMP STATION IMPROVEMENTS

City of Camas WASHINGTON

CITY PROJECT NO. S1000

DRAWING NO:
C-305



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SCALE: 1/16" = 1'-0"

0' 8' 16' 32'

IRRIGATION EQUIPMENT

L-501 L-502

SYMBOL DESCRIPTION

- M — WATER METERS - EXISTING
- REMOTE CONTROL VALVE - RAINBIRD PEB
- QUICK COUPLER - RAINBIRD 44-LRC
- BACKFLOW PREVENTION DEVICE (RPBA) - PER CITY OF CAMAS REQUIREMENTS
- C — IRRIGATION CONTROLLER - EXTERIOR WALL MOUNT IN SS BOX - RAINBIRD ESP-LXME
- MANUAL DRAIN VALVE
- PR — PRESSURE-REDUCING VALVE - PER CITY OF CAMAS REQUIREMENTS - SEE 1/L501.

- IRRIGATION LATERAL LINE
- IRRIGATION MAIN LINE
- IRRIGATION SLEEVE

CONTROL VALVE TARGET

- STATION NUMBER
- AREA DESIGNATION: L = LAWN S = SHRUB
- FLOW IN GPM
- VALVE SIZE

- IRRIGATED PLANTING AREA - RAINBIRD 1800 POP-UP SPRAY HEADS
- IRRIGATED LAWN AREA - HUNTER I-20 ROTORS WITH HUNTER I-20 SHORT RADIUS NOZZLES

IRRIGATION NOTES

1. CALL UTILITIES TO LOCATE EXISTING SERVICES PRIOR TO EXCAVATION.
2. SYSTEM OPERATION AND DESIGN IS BASED ON 75 POUNDS OF PRESSURE AND 12 GALLONS PER MINUTE AT THE SHUTOFF VALVE. THE CONTRACTOR SHALL VERIFY THE DESIGN PRESSURE AND VOLUME BEFORE INSTALLATION AND NOTIFY OWNER IF THERE IS A DISCREPANCY.
3. CONTRACTOR SHALL REFERENCE PLANTING PLAN(S) PRIOR TO INSTALLATION OF VALVES. LOCATE VALVES IN PLANTING BEDS WHEREVER POSSIBLE. ADJUST VALVE LOCATIONS TO ELIMINATE CONFLICT WITH PROPOSED PLANTINGS AND PLANTING PATTERNS.
4. VALVE LOCATIONS SHALL BE STAKED BY THE CONTRACTOR AND APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION OF NEW IRRIGATION SYSTEM.
5. THE CONTRACTOR SHALL VERIFY THE DIMENSIONS AND LAYOUT OF ALL NEW PLANTING AND LAWN AREAS ON SITE BEFORE STARTING WORK AND IMMEDIATELY NOTIFY OWNER OF ANY DEVIATIONS FROM PLAN.
6. NEW TREE LOCATIONS SHALL BE STAKED BY THE CONTRACTOR AND APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION OF NEW IRRIGATION SYSTEM.
7. THE CONTRACTOR SHALL INSTALL THE IRRIGATION CONTROLLER(S) AT THE LOCATION(S) SHOWN ON THE DRAWINGS, ON THE SPECIFIED PEDESTAL PER THE MANUFACTURER'S RECOMMENDATIONS. THE CONTRACTOR SHALL VERIFY THE LOCATION WITH THE OWNER PRIOR TO INSTALLATION. THE CONTRACTOR SHALL EXTEND CONTROL WIRE CONDUIT FROM CONTROLLER AND DAYLIGHT SIX INCHES INTO PLANTING BED FOR INSTALLATION OF AUTOMATIC VALVE WIRES.
8. ALL BACKFLOW PREVENTION DEVICES SHALL BE LOCATED A MINIMUM OF 5'-0" AWAY FROM CURBS OR PAVING WHEREVER POSSIBLE.
9. MAIN AND LATERAL LINES MAY BE SHOWN DIAGRAMMATICALLY FOR CLARITY. MAIN AND LATERAL LINES SHOWN IN PAVED AREAS SHALL BE PLACED IN ADJACENT PLANTING BEDS UNLESS SPECIFICALLY SHOWN AS PASSING UNDER PAVING IN SLEEVING (SEE LEGEND FOR SLEEVE SYMBOL). THE CONTRACTOR MUST OBTAIN THE LANDSCAPE ARCHITECT'S APPROVAL BEFORE MAKING CHANGES IN ROUTING OF PIPE OR LOCATION OF VALVES.
10. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING AND PROVIDING AN APPROPRIATE POWER SUPPLY TO THE IRRIGATION CONTROLLER LOCATION.

GREENWORKS
GreenWorks, P.C.
Landscape Architecture
Environmental Design
24 NW 2nd Avenue, Suite 100
Portland, Oregon 97209
Ph:503.222.5612/F:503.222.2283
Email: info@greenworkspc.com

GREENWORKS PROJECT NO: 118060.2

PERMIT SET

NO.	REVISION	BY	DATE

DESIGNED BY: BD
DRAWN BY: BD
REV:

ONE INCH AT FULL SCALE.
IF NOT ONE INCH ADJUST SCALE ACCORDINGLY
0 1"

LCPS IRRIGATION PLAN

wallis engineering
2319 S 35th Street, Suite 200
Tacoma, WA 98409
Vancouver, WA 98660
360.695.7941

PROJECT NO: 1460A
DATE: 4/2019

LACAMAS CREEK SANITARY SEWER PUMP STATION IMPROVEMENTS

City of Camas WASHINGTON

CITY PROJECT NO. S1000

DRAWING NO:

L–301

31 OF 71

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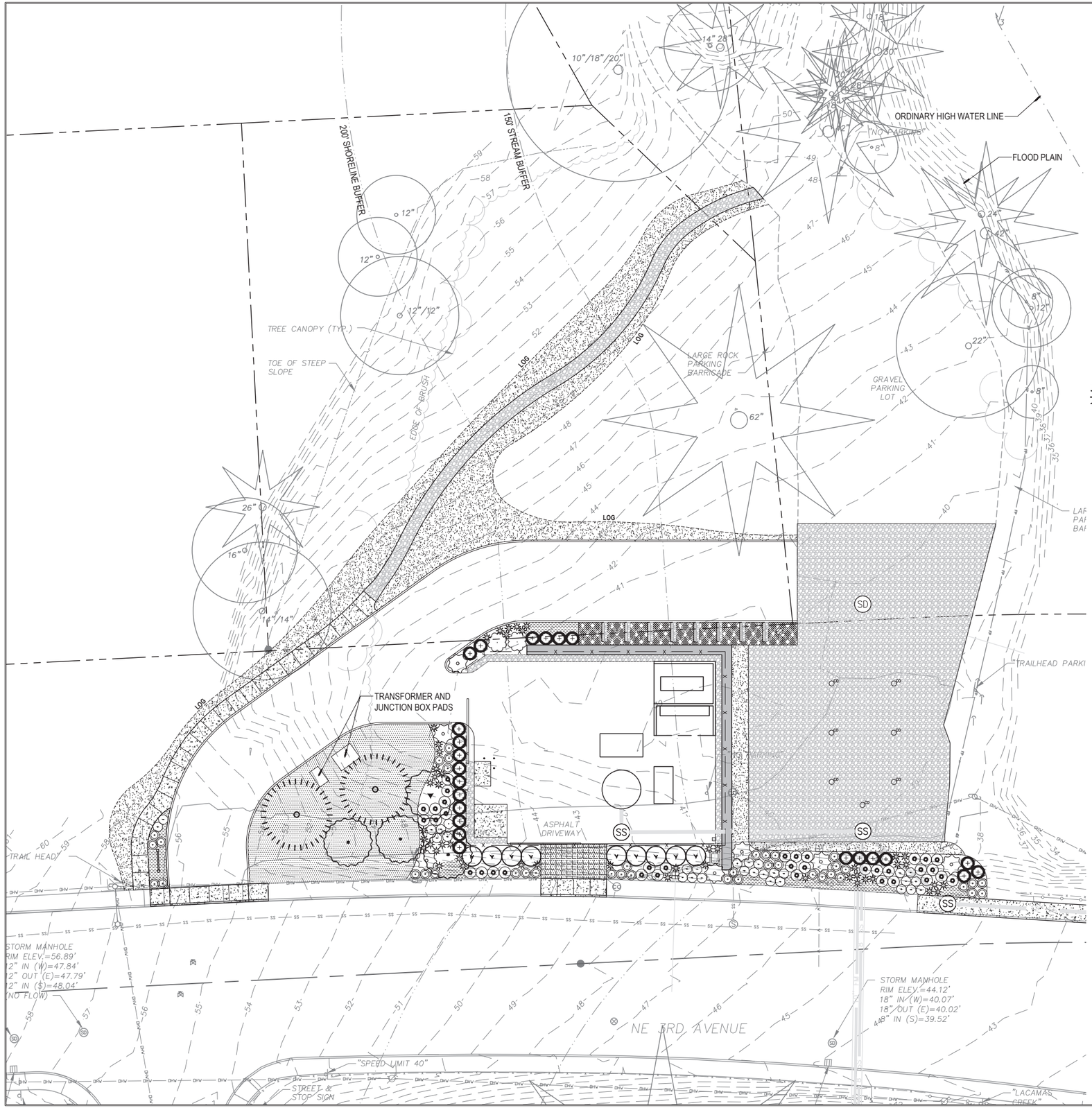

N

SCALE: 1/16" = 1'-0"

0' 8' 16' 32'

GREENWORKS

GreenWorks, P.C.
Landscape Architecture
Environmental Design
24 NW 2nd Avenue, Suite 100
Portland, Oregon 97209
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Email: info@greenworkspc.com

GREENWORKS PROJECT NO:
118060.2

PLANTING LEGEND

TREES

L-503

EXISTING DECIDUOUS TREE TO REMAIN

EXISTING CONIFER TREE TO REMAIN

BOTANICAL NAME	COMMON NAME	SIZE & TYPE	SPACING	QTY.
CORNUS NUTTALLI X FLORIDA	EDDIE'S WHITE WONDER DOGWOOD	2", CAL, B&B	15' O.C.	3
RHAMNUS PURSHIANA	CASCARA	2" CAL, B&B	15' O.C.	3
PSEUDOTSUGA MENZIESII	DOUGLAS FIR	4-6" CAL., B&B	25' O.C.	2

SHRUBS / GROUNDCOVERS

L-503

BOTANICAL NAME	COMMON NAME	SIZE & TYPE	SPACING	QTY.
GAULTHERIA SHALLON	SALAL	1 GAL. CONT.	3' O.C.	42
OSMANTHUS DELAVAYI	DELAVAY OSMANTHUS	5 GAL. CONT.	6' O.C.	19
POLYSTICHUM MUNITUM	WESTERN SWORD FERN	1 GAL. CONT.	30" O.C.	55
RIBES SANGUINEUM	RED-FLOWERING CURRANT	5 GAL. CONT.	6' O.C.	11
SPIRAEA BETULIFOLIA	WHITE SPIRAEA	1 GAL. CONT.	3' O.C.	62
SYMPHORICARPOS ALBUS	SNOWBERRY	1 GAL. CONT.	42" O.C.	30
VACCINIUM OVATUM	EVERGREEN HUCKLEBERRY	5 GAL. CONT.	4' O.C.	21
VIBURNUM TINUS 'COMPACTUM'	SPRING BOUQUET VIBURNUM	5 GAL. CONT.	5' O.C.	11
MAHONIA REPENS	CREEPING OREGON GRAPE	1 GAL. CONT.	24" O.C.	142

RAIN GARDEN PLANTING:
DENSE SEDGE (CAREX DENSA)
DOUGLAS SPIRAEA (SPIRAEA DOUGLASII)
PACIFIC NINEBARK (PHYSOCARPUS CAPITATUS)
SPREADING RUSH (JUNCUS PATENS)
TWINBERRY (LONICERA INVOLUCRATA)

IRRIGATED LAWN

IRRIGATED LAWN W/ REINFORCED TURF (SUCH AS GRASSPAVE2)

NON-IRRIGATED ROUGH LAWN - SEED AREAS DISTURBED BY CONSTRUCTION

BARK MULCH ONLY

NOTE:
SEE L-402 FOR PLANTING NOTES.

PERMIT SET

NO.	REVISION	BY	DATE

DESIGNED BY: AH
DRAWN BY: NGQ
REV:

ONE INCH AT FULL SCALE.
IF NOT ONE INCH, ADJUST SCALE ACCORDINGLY
0" 1"

LCPS PLANTING PLAN

wallis engineering
2517 E Mill Plain Blvd
Vancouver, WA 98661
360.695.7941

PROJECT NO: 1460A
DATE: 4/2019

LACAMAS CREEK
SANITARY SEWER
PUMP STATION
IMPROVEMENTS

CITY PROJECT NO. S1000

DRAWING NO:
L-302
32 OF 71

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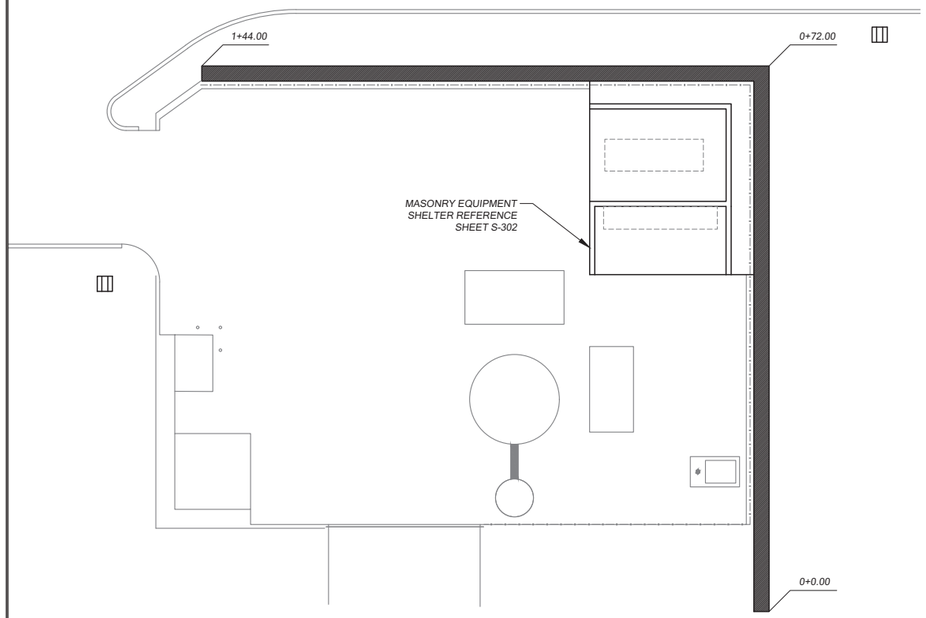
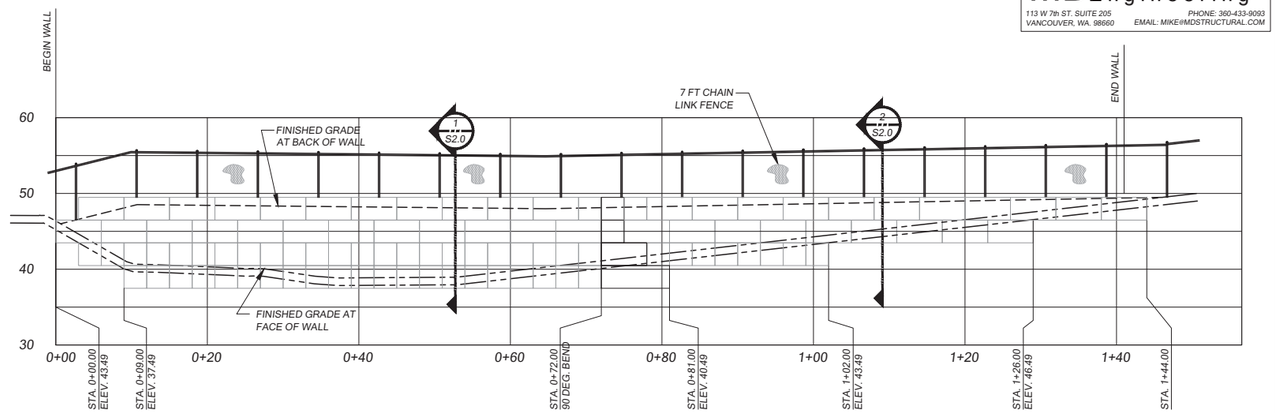


NORTH

GABION BASKET RETAINING WALL PLAN

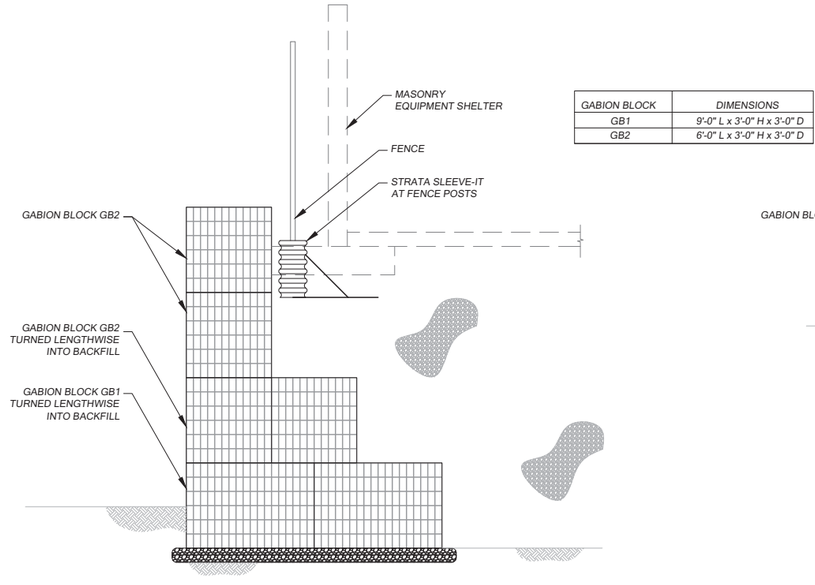
0" 10' 20'



GABION BASKET RETAINING WALL ELEVATION

0" 10' 20'

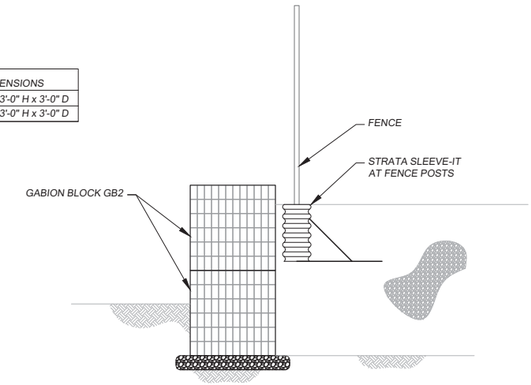
SCALE: 1" = 10'-0"



GABION BLOCK	DIMENSIONS
GB1	9'-0" L x 3'-0" H x 3'-0" D
GB2	6'-0" L x 3'-0" H x 3'-0" D

1 WALL SECTION

SCALE: 3/8"=1'-0"



2 WALL SECTION

SCALE: 3/8"=1'-0"

MD Structural Engineering
113 W 7th ST. SUITE 205
VANCOUVER, WA. 98660
PHONE: 360-433-9093
EMAIL: MIKE@MDSTRUCTURAL.COM

PRELIMINARY 60% DESIGN SUBMITTAL

NO.	REVISION	BY	DATE

DESIGNED BY: BK
DRAWN BY: BK
REV: XX

ONE INCH 0 1"
ONE INCH AT FULL SCALE. IF NOT ONE INCH ADJUST SCALE ACCORDINGLY

LCPS RETAINING WALL PLAN, ELEVATION & DETAILS

wallis engineering
215 W 4th Street, Suite 200
Vancouver, WA 98660
360.695.1385

PROJECT NO: 1460A
DATE: 3/2019

LACAMAS CREEK SANITARY SEWER PUMP STATION IMPROVEMENTS

City of Camas WASHINGTON

CITY PROJECT NO. S1000

DRAWING NO:
S-301

MD Structural Engineering
113 W 7th ST. SUITE 205
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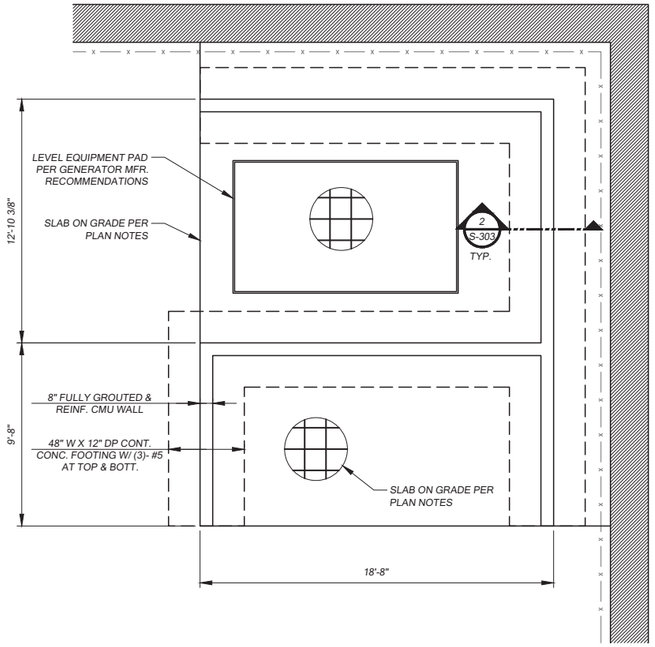
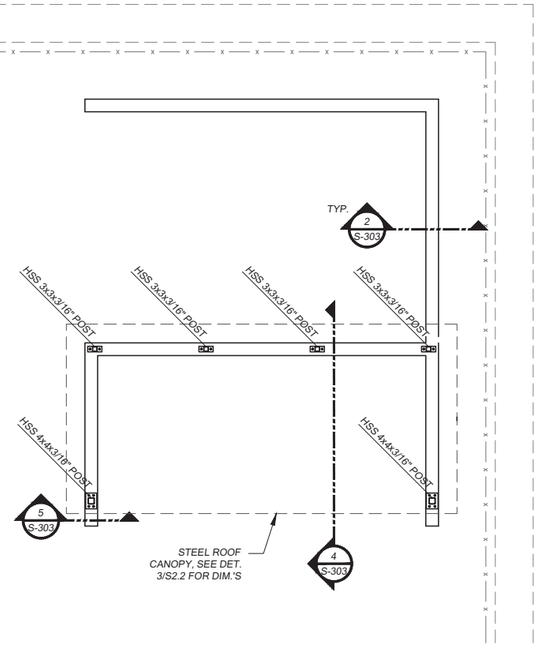
EMAIL: MIKE@MDSTRUCTURAL.COM

PRELIMINARY 60% DESIGN SUBMITTAL



NOTES:

1. OPENINGS IN THE MASONRY WALL SHALL BE TRIMMED WITH (1) #5 BAR EA. SIDE OF THE OPENING.
2. ALL CELLS OF THE MASONRY WALL SHALL BE FULLY GROUTED.
3. SLAB ON GRADE:
   - 6" COMPACTED CRUSHED ROCK BASE
   - 6" CONCRETE SLAB W/ #4 @ 18" OC EACH WAY OR 6x6 W2.9-W2.9 WWF CHAIRED FOR 1-1/2" COVER FROM TOP OF SLAB



NORTH

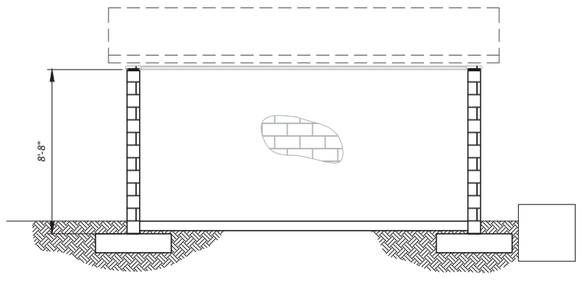
MASONRY EQUIPMENT SHELTER FOUNDATION PLAN

SCALE: 1/4" = 1'-0"

NORTH

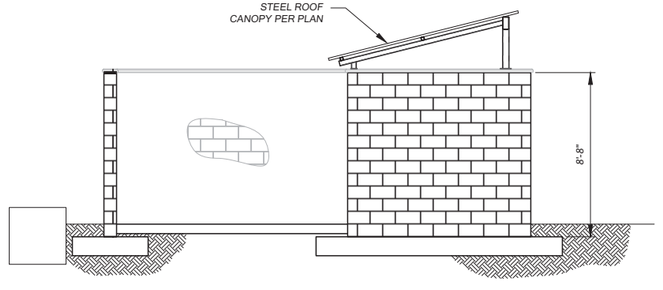
MASONRY EQUIPMENT SHELTER CANOPY PLAN

SCALE: 1/4" = 1'-0"



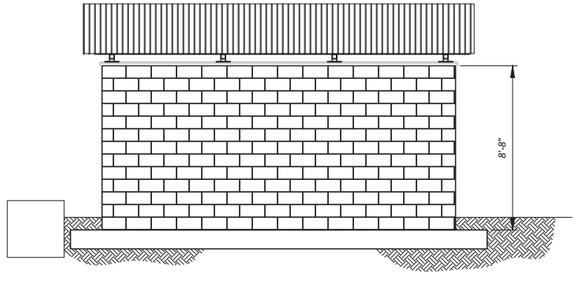
ENCLOSURE NORTH ELEVATION

SCALE: 1/4" = 1'-0"



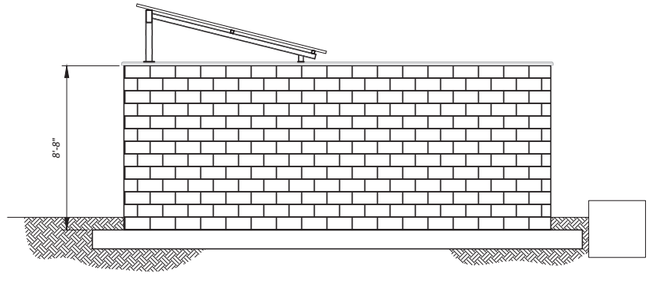
ENCLOSURE WEST ELEVATION

SCALE: 1/4" = 1'-0"



ENCLOSURE SOUTH ELEVATION

SCALE: 1/4" = 1'-0"



ENCLOSURE EAST ELEVATION

SCALE: 1/4" = 1'-0"

NO.	REVISION	BY	DATE

DESIGNED BY: BK
DRAWN BY: BK
REV: XX

ONE INCH
0 1"
ONE INCH AT FULL SCALE. IF NOT ONE INCH ADJUST SCALE ACCORDINGLY

LCPS EQUIPMENT SHELTER PLANS & ELEVATIONS

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215 W 4th Street, Suite 200
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PROJECT NO: 1460A
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LACAMAS CREEK SANITARY SEWER PUMP STATION IMPROVEMENTS

City of Camas WASHINGTON

CITY PROJECT NO. S1000

DRAWING NO:
S-302

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EMAIL: MIKE@MDSTRUCTURAL.COM

PRELIMINARY 60% DESIGN SUBMITTAL

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REV: XX

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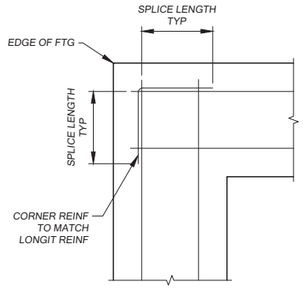
0 ONE INCH 1"



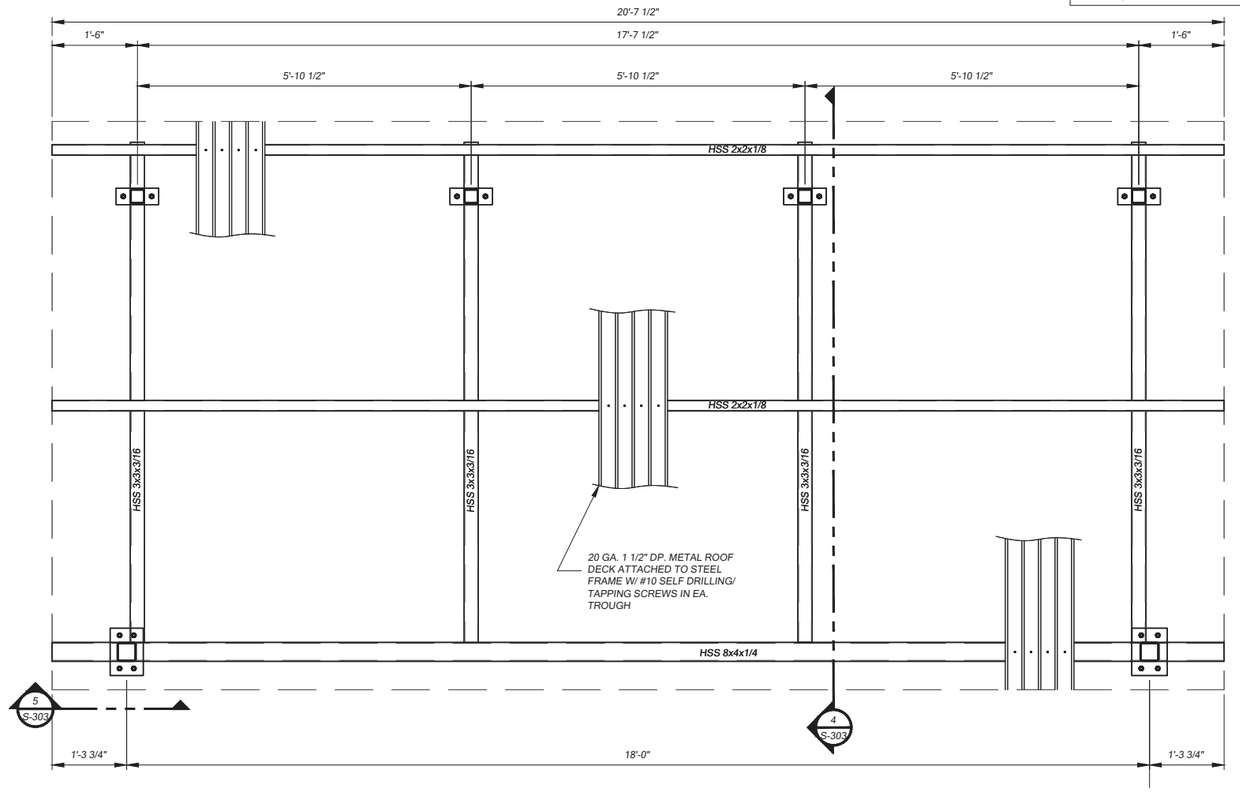
AT CORNERS

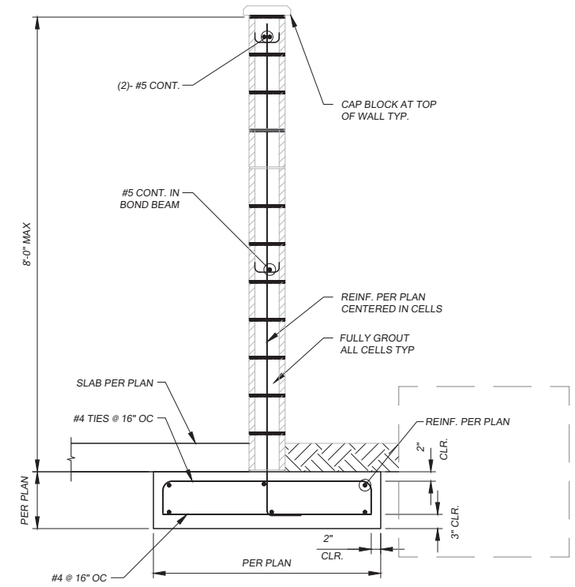
NOTES:

1. FOR SPLICE LENGTHS REFERENCE LAP SPLICE AND DEVELOPMENT LENGTH SCHEDULE PER S1.0.
2. FOR FOOTING REINFORCING, REFERENCE PLAN, SECTIONS AND DETAILS.
3. CORNER REINFORCING TO MATCH LONGITUDINAL FOOTING REINFORCING.

1 TYP CORNER REINF AT CONCRETE FOOTINGS

SCALE: NONE



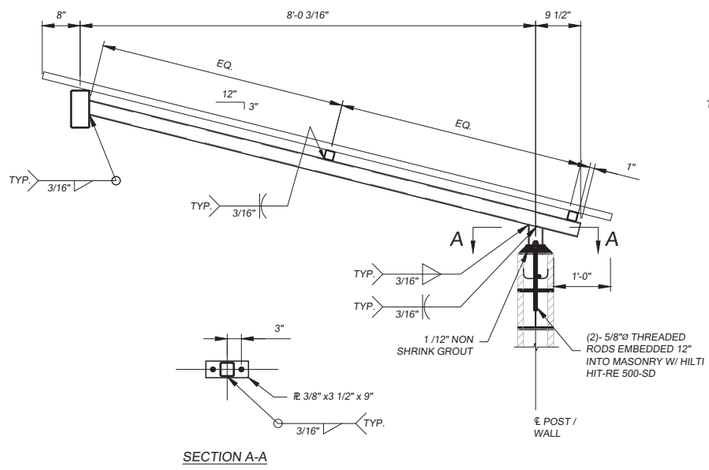


2 TYPICAL WALL SECTION

SCALE: 3/4" = 1'-0"

3 STEEL ROOF CANOPY

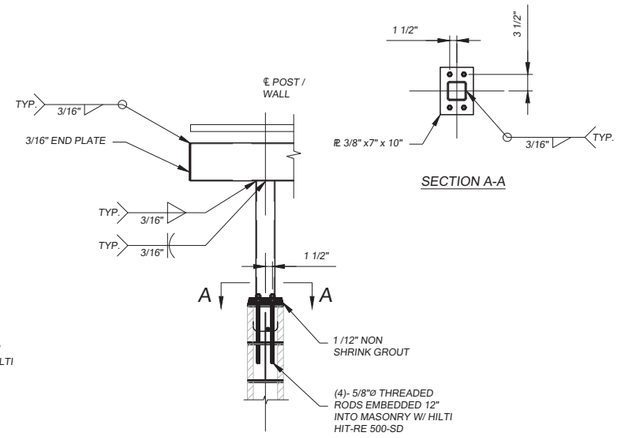
SCALE: NONE



SECTION A-A

4 CANOPY SECTION

SCALE: NONE



SECTION A-A

5 CANOPY SECTION

SCALE: NONE

LCPS EQUIPMENT SHELTER ROOF STRUCTURE & DETAILS

wallis engineering
215 W 4th Street, Suite 200
Vancouver, WA 98660
360.695.7879

PROJECT NO: 1460A
DATE: 3/2019

LACAMAS CREEK SANITARY SEWER PUMP STATION IMPROVEMENTS

City of Camas WASHINGTON

CITY PROJECT NO. S1000

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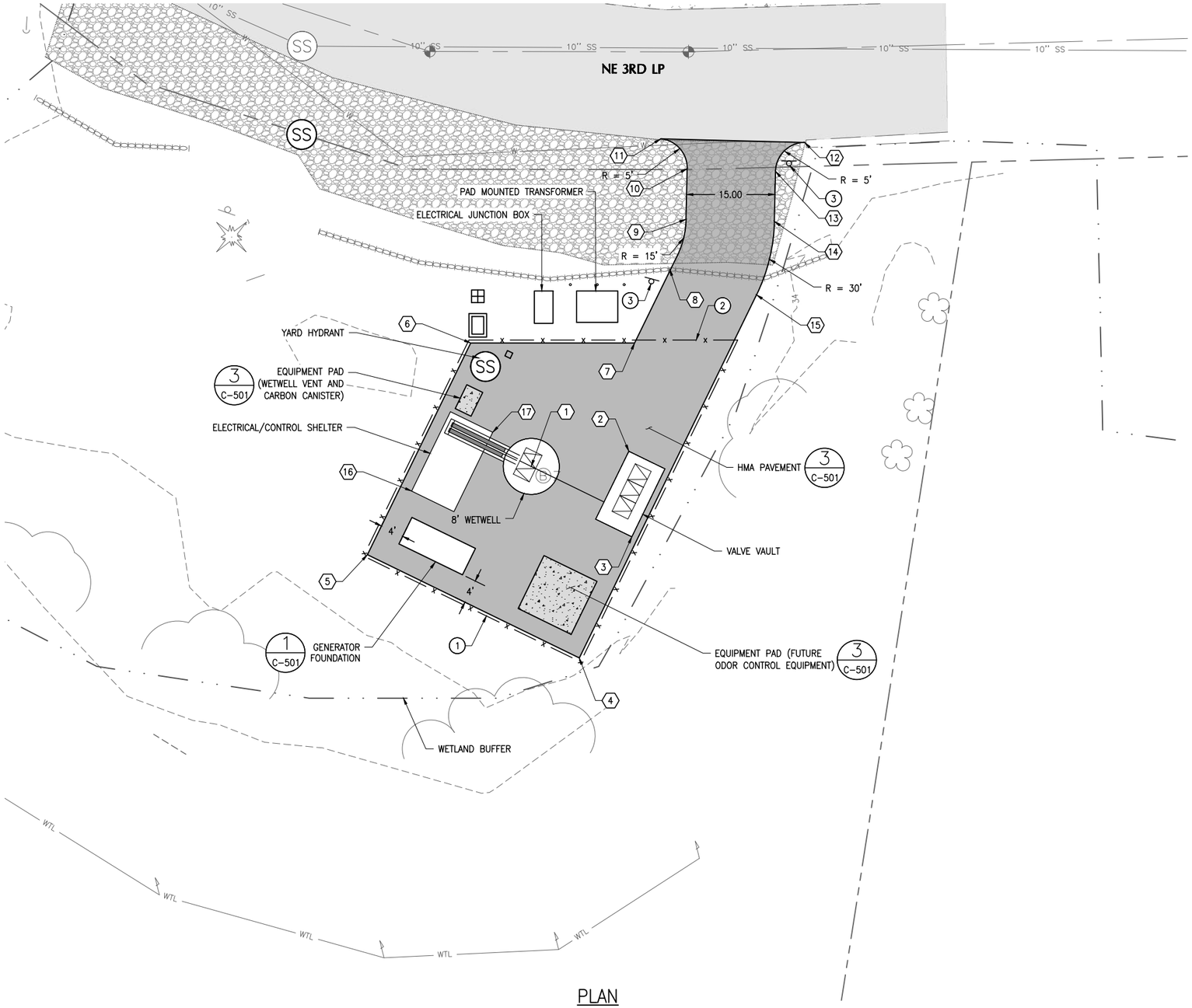
S–303



PLAN

0 10 20
SCALE IN FEET

KEY NOTES

1. INSTALL 6' TALL BLACK PVC COATED CHAINLINK FENCE. POST TO BE PLACED AGAINST THE EDGE OF PAVEMENT.
2. INSTALL 6' TALL, 18' WIDE PVC COATED DRAIN LINK SLIDING GATE.
3. INSTALL "NO PARKING" SIGN

SURVEY STAKING COORDINATES

PT	DESCRIPTION	NORTHING	EASTING
1	WETWELL	98436.66	1157124.37
2	VALVE VAULT	98439.25	1157140.93
3	VALVE VAULT	98424.72	1157141.45
4	EDGE OF PAVEMENT	98404.14	1157132.53
5	EDGE OF PAVEMENT	98421.68	1157096.57
6	EDGE OF PAVEMENT	98457.63	1157114.11
7	EDGE OF PAVEMENT	98457.63	1157141.92
8	EDGE OF PAVEMENT	98470.16	1157147.87
9	EDGE OF PAVEMENT	98478.62	1157150.64
10	EDGE OF PAVEMENT	98487.24	1157150.84
11	EDGE OF PAVEMENT	98492.30	1157146.35
12	EDGE OF PAVEMENT	98491.67	1157170.81
13	EDGE OF PAVEMENT	98486.78	1157165.83
14	EDGE OF PAVEMENT	98478.28	1157165.63
15	EDGE OF PAVEMENT	98465.82	1157162.61
16	EQUIPMENT SHELTER	98432.49	1157104.07
17	EQUIPMENT SHELTER	98442.46	1157117.84

TIMOTHY C. WALLIS STATE OF WASHINGTON 26182 REGISTERED PROFESSIONAL ENGINEER
PERMIT SET

NO.	REVISION	BY	DATE

DESIGNED BY: JW/WW
DRAWN BY: CK
REV: XX

ONE INCH AT FULL SCALE. IF NOT ONE INCH ADJUST SCALE ACCORDINGLY

BPPS CIVIL SITE PLAN

wallis engineering
315 W 4th Street, Suite 300
Vancouver, WA 98660
360.597.7041

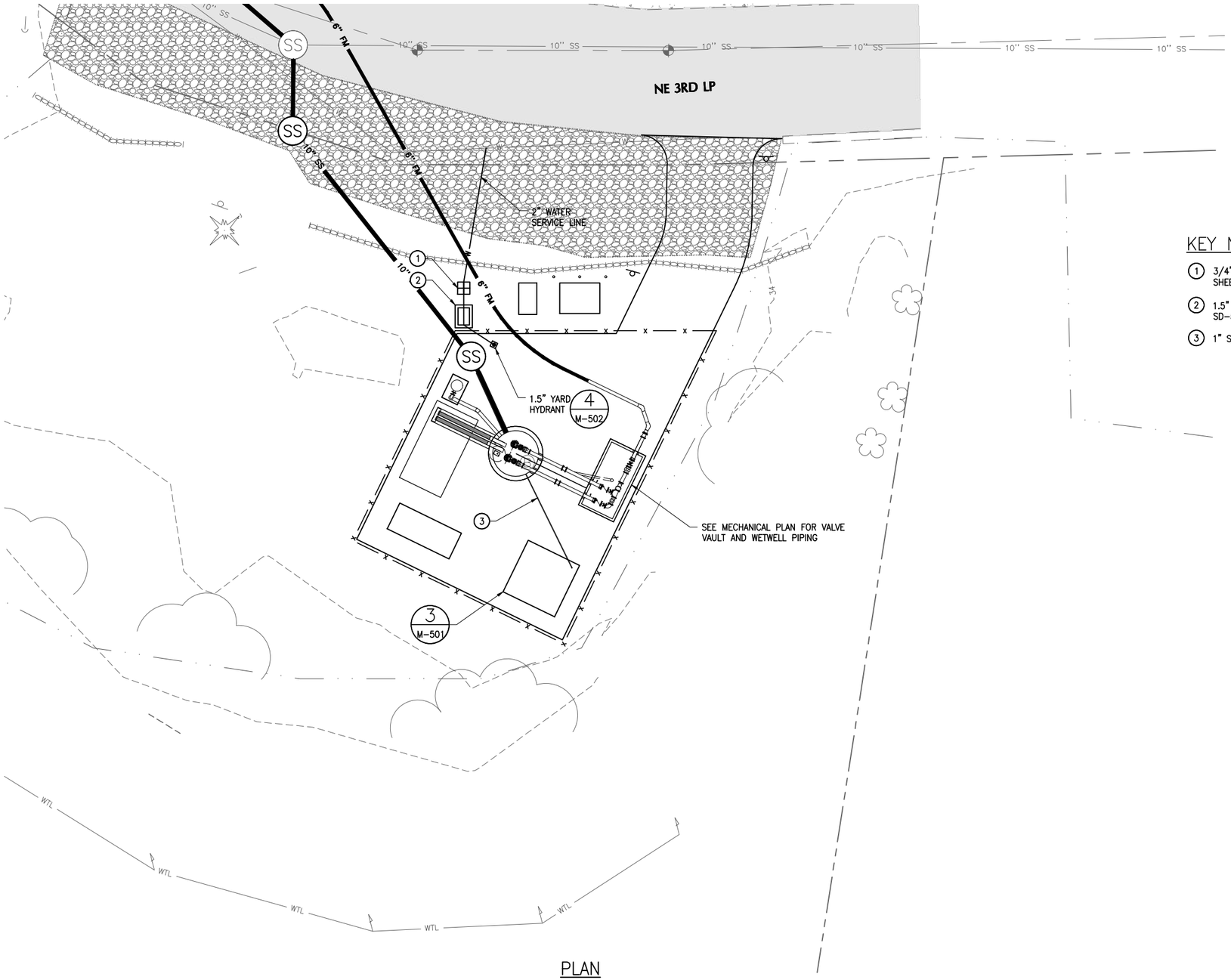
PROJECT NO: 1460A
DATE: 3/2019

LACAMAS CREEK SANITARY SEWER PUMP STATION IMPROVEMENTS

City of Camas WASHINGTON

CITY PROJECT NO. S1000

DRAWING NO:
C-401



PLAN

KEY NOTES

1. 3/4" WATER METER SEE CAMAS STANDARD DETAIL W6, SHEET SD-502
2. 1.5" RPBA PER CAMAS STANDARD DETAIL W24, SHEET SD-502
3. 1" SCH 40 PVC FOR FUTURE CHEMICAL INJECTION

0 10 20
SCALE IN FEET

TIMOTHY C. KEELL
STATE OF WASHINGTON
25182
REGISTERED PROFESSIONAL ENGINEER
PERMIT SET

NO.	REVISION	BY	DATE

DESIGNED BY: JW/WW
DRAWN BY: CK
REV: XX

0 ONE INCH 1"
ONE INCH AT FULL SCALE. IF NOT ONE INCH ADJUST SCALE ACCORDINGLY

BPPS UTILITY & PIPING PLAN

wallis engineering
215 W 4th Street, Suite 300
Vancouver, WA 98660
360.695.3411

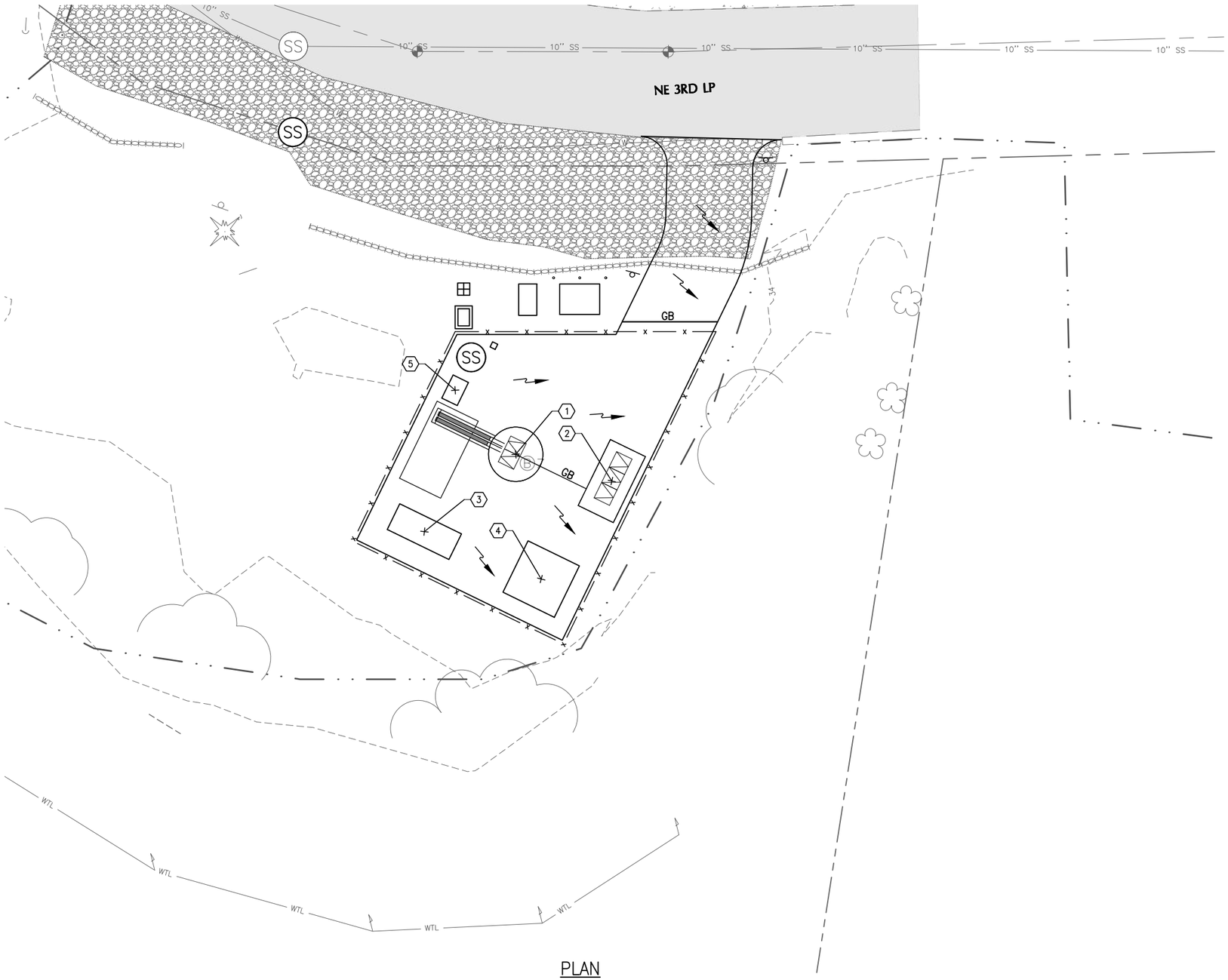
PROJECT NO: 1460A
DATE: 3/2019

LACAMAS CREEK SANITARY SEWER PUMP STATION IMPROVEMENTS

City of Camas WASHINGTON

CITY PROJECT NO. S1000

DRAWING NO:
C-402



PLAN

0 10 20
SCALE IN FEET

GRADING LEGEND

GB — GRADE BREAK

FLOW DIRECTION

STRUCTURE/PAD ELEVATIONS

PT	DESCRIPTION	ELEVATION
1	WETWELL	35.86
2	VALVE VAULT	35.86
3	GENERATOR FOUNDATION	36.03
4	EQUIPMENT PAD	35.79
5	EQUIPMENT PAD	35.80

TIMOTHY C. WALLIS
STATE OF WASHINGTON
26182
REGISTERED
PROFESSIONAL ENGINEER
PERMIT SET

NO.	REVISION	BY	DATE

DESIGNED BY: JW/WW
DRAWN BY: CK
REV: XX

ONE INCH AT FULL SCALE, IF NOT ONE INCH ADJUST SCALE ACCORDINGLY
0 1"

BPPS GRADING & DRAINAGE PLAN

wallis engineering
215 W 4th Street, Suite 200
Vancouver, WA 98660
(360) 695-1385

PROJECT NO: 1460A
DATE: 3/2019

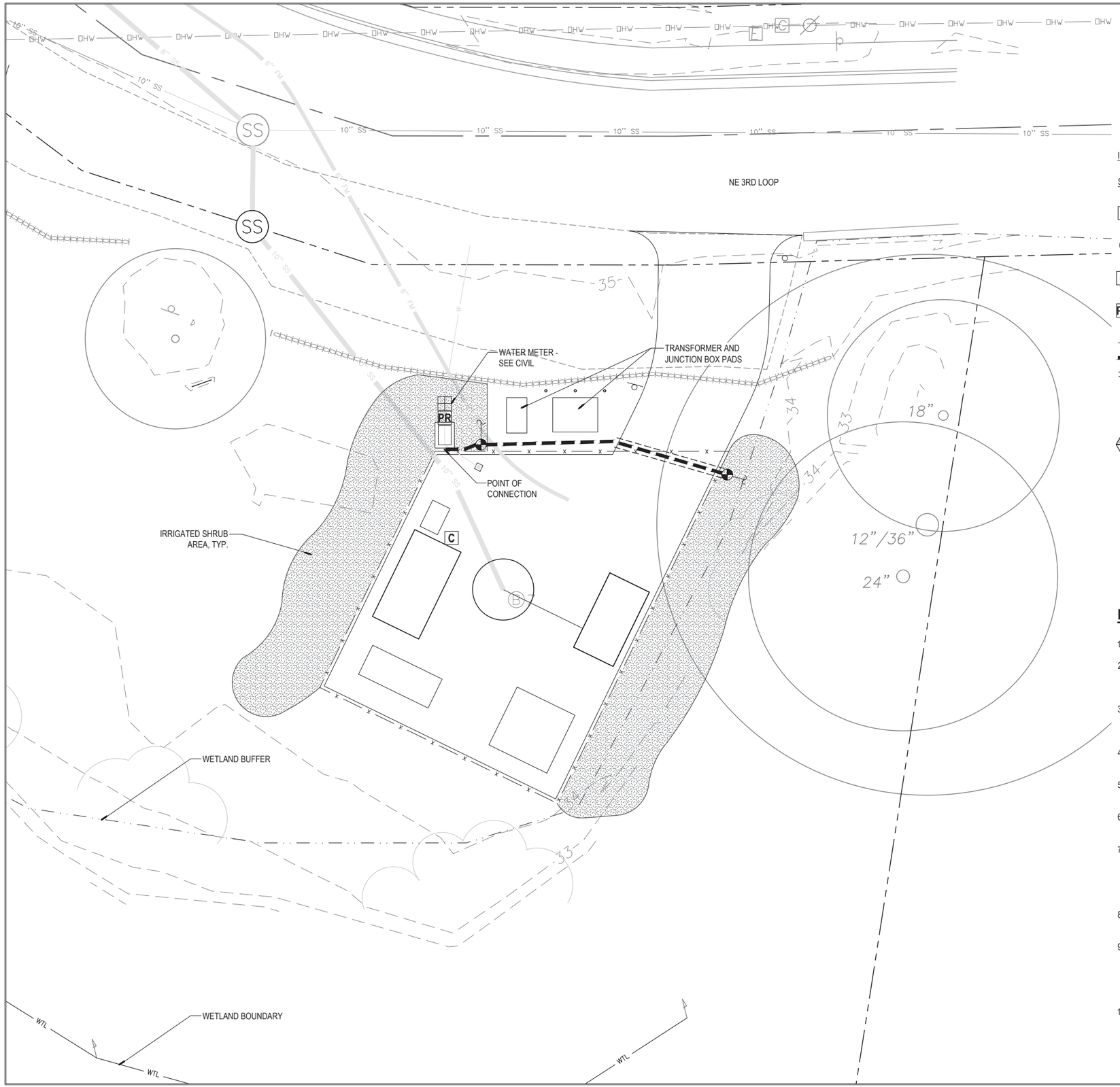
LACAMAS CREEK SANITARY SEWER PUMP STATION IMPROVEMENTS

City of Camas WASHINGTON

CITY PROJECT NO. S1000

DRAWING NO:
C-403

P:\14\1460A Camas Lacamas PS Imp\500 DWG\501 Plan Sheets\47 BPPS GRADING & DRAINAGE PLAN.dwg, 4/23/2019 12:31:39 PM, Chad Keys



N

SCALE: 1/8" = 1'-0"

0' 4' 8' 16'

GREENWORKS

GreenWorks, P.C.
Landscape Architecture
Environmental Design
24 NW 2nd Avenue, Suite 100
Portland, Oregon 97209
Ph:503.222.5612/F:503.222.2283
Email: info@greenworkspc.com

GREENWORKS PROJECT NO: 118060.2

L501 L502

IRRIGATION EQUIPMENT

SYMBOL	DESCRIPTION
M	¾" WATER METER - SEE CIVIL
	REMOTE CONTROL VALVE - RAINBIRD PEB
	QUICK COUPLER - RAINBIRD 44-LRC
	BACKFLOW PREVENTION DEVICE (1.5" RPBA) - PER CITY OF CAMAS REQUIREMENTS - SEE CIVIL
C	IRRIGATION CONTROLLER - EXTERIOR WALL MOUNT IN SS BOX - RAINBIRD ESP-LXME
	MANUAL DRAIN VALVE
PR	PRESSURE-REDUCING VALVE -PER CITY OF CAMAS REQUIREMENTS - SEE 1/L5.01
	IRRIGATION LATERAL LINE
	IRRIGATION MAIN LINE
	IRRIGATION SLEEVE

CONTROL VALVE TARGET

1" L 1" 14"

- STATION NUMBER
- AREA DESIGNATION: S = SHRUB
- FLOW IN GPM
- VALVE SIZE

IRRIGATED PLANTING AREA - HUNTER PRS30 - 12" POP-UP SPRAY BODIES WITH HUNTER PRO-SPRAY FIXED ARC NOZZLES

IRRIGATION NOTES

1. CALL UTILITIES TO LOCATE EXISTING SERVICES PRIOR TO EXCAVATION.
2. SYSTEM OPERATION AND DESIGN IS BASED ON 112 POUNDS OF PRESSURE AND XX GALLONS PER MINUTE AT THE SHUTOFF VALVE. THE CONTRACTOR SHALL VERIFY THE DESIGN PRESSURE AND VOLUME BEFORE INSTALLATION AND NOTIFY OWNER IF THERE IS A DISCREPANCY.
3. CONTRACTOR SHALL REFERENCE PLANTING PLAN(S) PRIOR TO INSTALLATION OF VALVES. LOCATE VALVES IN PLANTING BEDS WHEREVER POSSIBLE. ADJUST VALVE LOCATIONS TO ELIMINATE CONFLICT WITH PROPOSED PLANTINGS AND PLANTING PATTERNS.
4. VALVE LOCATIONS SHALL BE STAKED BY THE CONTRACTOR AND APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION OF NEW IRRIGATION SYSTEM.
5. THE CONTRACTOR SHALL VERIFY THE DIMENSIONS AND LAYOUT OF ALL NEW PLANTING AREAS ON SITE BEFORE STARTING WORK AND IMMEDIATELY NOTIFY OWNER OF ANY DEVIATIONS FROM PLAN.
6. NEW TREE LOCATIONS SHALL BE STAKED BY THE CONTRACTOR AND APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION OF NEW IRRIGATION SYSTEM.
7. THE CONTRACTOR SHALL INSTALL THE IRRIGATION CONTROLLER(S) AT THE LOCATION(S) SHOWN ON THE DRAWINGS, ON THE SPECIFIED PEDESTAL PER THE MANUFACTURER'S RECOMMENDATIONS. THE CONTRACTOR SHALL VERIFY THE LOCATION WITH THE OWNER PRIOR TO INSTALLATION. THE CONTRACTOR SHALL EXTEND CONTROL WIRE CONDUIT FROM CONTROLLER AND DAYLIGHT SIX INCHES INTO PLANTING BED FOR INSTALLATION OF AUTOMATIC VALVE WIRES.
8. ALL BACKFLOW PREVENTION DEVICES SHALL BE LOCATED A MINIMUM OF 5'-0" AWAY FROM CURBS OR PAVING WHEREVER POSSIBLE.
9. MAIN AND LATERAL LINES MAY BE SHOWN DIAGRAMMATICALLY FOR CLARITY. MAIN AND LATERAL LINES SHOWN IN PAVED AREAS SHALL BE PLACED IN ADJACENT PLANTING BEDS UNLESS SPECIFICALLY SHOWN AS PASSING UNDER PAVING IN SLEEVING (SEE LEGEND FOR SLEEVE SYMBOL). THE CONTRACTOR MUST OBTAIN THE LANDSCAPE ARCHITECT'S APPROVAL BEFORE MAKING CHANGES IN ROUTING OF PIPE OR LOCATION OF VALVES.
10. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING AND PROVIDING AN APPROPRIATE POWER SUPPLY TO THE IRRIGATION CONTROLLER LOCATION.

PERMIT SET

NO.	REVISION	BY	DATE

DESIGNED BY: BD
DRAWN BY: BD
REV: .

ONE INCH AT FULL SCALE. IF NOT ONE INCH, ADJUST SCALE ACCORDINGLY

BPPS IRRIGATION PLAN

wallis engineering
2319 S 35th Street, Suite 205
Vancouver, WA 98660
360.695.7941

PROJECT NO: 1460A
DATE: 4/2019

LACAMAS CREEK SANITARY SEWER PUMP STATION IMPROVEMENTS

City of Camas WASHINGTON

CITY PROJECT NO. S1000

DRAWING NO: L–401

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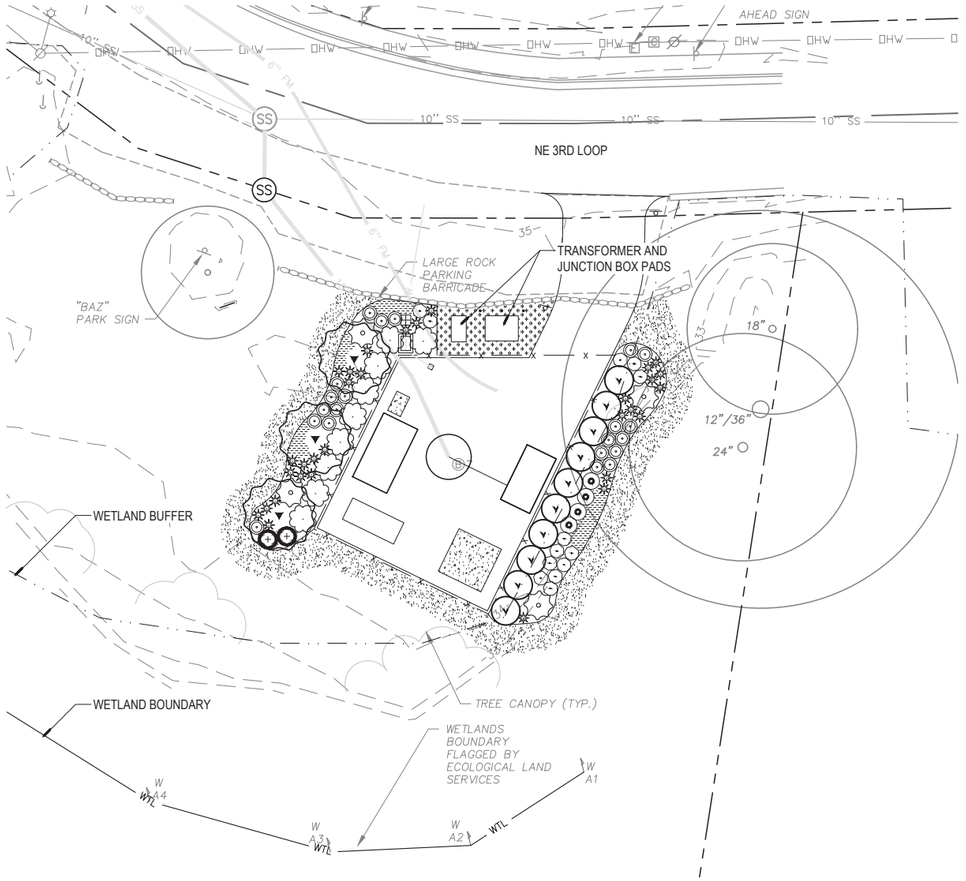


N

SCALE: 1/16" = 1'-0"

0' 8' 16' 32'

PLANTING NOTES

1. CONTRACTOR SHALL PROVIDE PLANTING SOIL, SOIL AMENDMENTS, AND BARK MULCH TO THE COMPOSITION AND DEPTHS IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS OF THE CONTRACT DOCUMENTS.
2. ALL PLANTS SHALL BE INSTALLED IN ACCORDANCE WITH THE DRAWINGS AND THE SPECIFICATIONS PROVIDED AS PART OF THE CONTRACT DOCUMENTS.
3. QUANTITIES ARE LISTED FOR THE CONTRACTOR'S CONVENIENCE ONLY. ALL COUNTS MUST BE VERIFIED BY THE CONTRACTOR. IN THE CASE OF A DISCREPANCY BETWEEN THE LEGEND AND THE PLAN, PLANTS INDICATED ON THE PLAN SHALL SUPERCEDE QUANTITIES LISTED IN THE LEGEND.
4. UTILITY LOCATIONS SHOWN ON PLANS MAY DIFFER FROM FIELD CONDITIONS. CONTRACTOR TO FIELD VERIFY ALL UTILITIES BEFORE INSTALLATION. CONFLICTS BETWEEN ANY EXISTING AND PROPOSED UTILITIES ARE TO BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE IMMEDIATELY.

PLANTING LEGEND

TREES — L-503

EXISTING DECIDUOUS TREE TO REMAIN

EXISTING CONIFER TREE TO REMAIN

BOTANICAL NAME	COMMON NAME	SIZE & TYPE	SPACING	QTY.
CORNUS NUTTALLI X FLORIDA	EDDIE'S WHITE WONDER DOGWOOD	2", CAL, B&B	15' O.C.	3
RHAMNUS PURSHIANA	CASCARA	2" CAL, B&B	15' O.C.	3
PSEUDOTSUGA MENZIESII	DOUGLAS FIR	4-6" CAL., B&B	25' O.C.	2

SHRUBS / GROUNDCOVERS — L-503

BOTANICAL NAME	COMMON NAME	SIZE & TYPE	SPACING	QTY.
GAULTHERIA SHALLON	SALAL	1 GAL. CONT.	3' O.C.	42
OSMANTHUS DELAVAYI	DELAVAY OSMANTHUS	5 GAL. CONT.	6' O.C.	19
POLYSTICHUM MUNITUM	WESTERN SWORD FERN	1 GAL. CONT.	30" O.C.	55
RIBES SANGUINEUM	RED-FLOWERING CURRANT	5 GAL. CONT.	6' O.C.	11
SPIRAEA BETULIFOLIA	WHITE SPIRAEA	1 GAL. CONT.	3' O.C.	62
SYMPHORICARPOS ALBUS	SNOWBERRY	1 GAL. CONT.	42" O.C.	30
VACCINIUM OVATUM	EVERGREEN HUCKLEBERRY	5 GAL. CONT.	4' O.C.	21
VIBURNUM TINUS 'COMPACTUM'	SPRING BOUQUET VIBURNUM	5 GAL. CONT.	5' O.C.	11
MAHONIA REPENS	CREEPING OREGON GRAPE	1 GAL. CONT.	24" O.C.	142

RAIN GARDEN PLANTING:
DENSE SEDGE (CAREX DENSA)
DOUGLAS SPIRAEA (SPIRAEA DOUGLASII)
PACIFIC NINEBARK (PHYSOCARPUS CAPITATUS)
SPREADING RUSH (JUNCUS PATENS)
TWINBERRY (LONICERA INVOLUCRATA)

IRRIGATED LAWN

IRRIGATED LAWN W/ REINFORCED TURF (SUCH AS GRASSPAVE2)

NON-IRRIGATED ROUGH LAWN - SEED AREAS DISTURBED BY CONSTRUCTION

BARK MULCH ONLY

GREENWORKS
GreenWorks, P.C.
Landscape Architecture
Environmental Design
24 NW 2nd Avenue, Suite 100
Portland, Oregon 97209
Ph:503.222.5612/F:503.222.2283
Email: info@greenworkspc.com

GREENWORKS PROJECT NO: 118060.2

PERMIT SET

NO.	REVISION	BY	DATE

DESIGNED BY: NGQ
DRAWN BY: NGQ
REV:

ONE INCH AT FULL SCALE
IF NOT ONE INCH ADJUST SCALE ACCORDINGLY

BPPS PLANTING PLAN

wallis engineering
1515 E 66th Street, Suite 200
Vancouver, WA 98660
360.695.7941

PROJECT NO: 1460A
DATE: 4/2019

LACAMAS CREEK SANITARY SEWER PUMP STATION IMPROVEMENTS

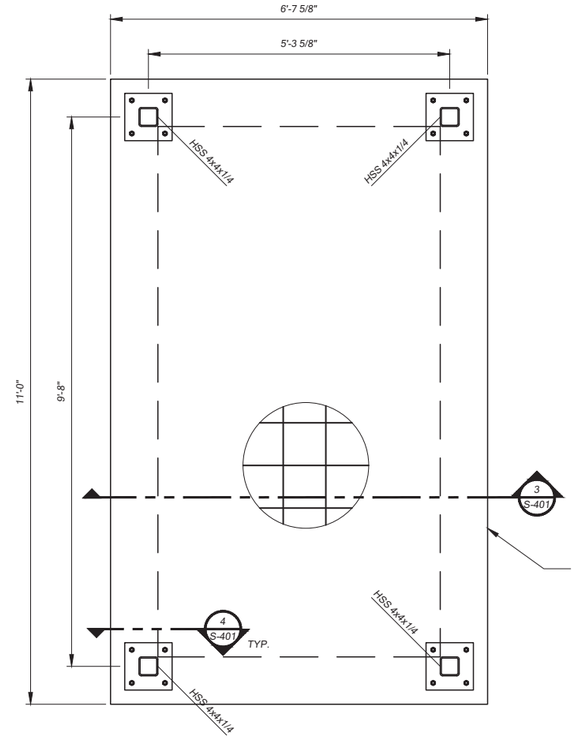
City of Camas WASHINGTON

CITY PROJECT NO. S1000

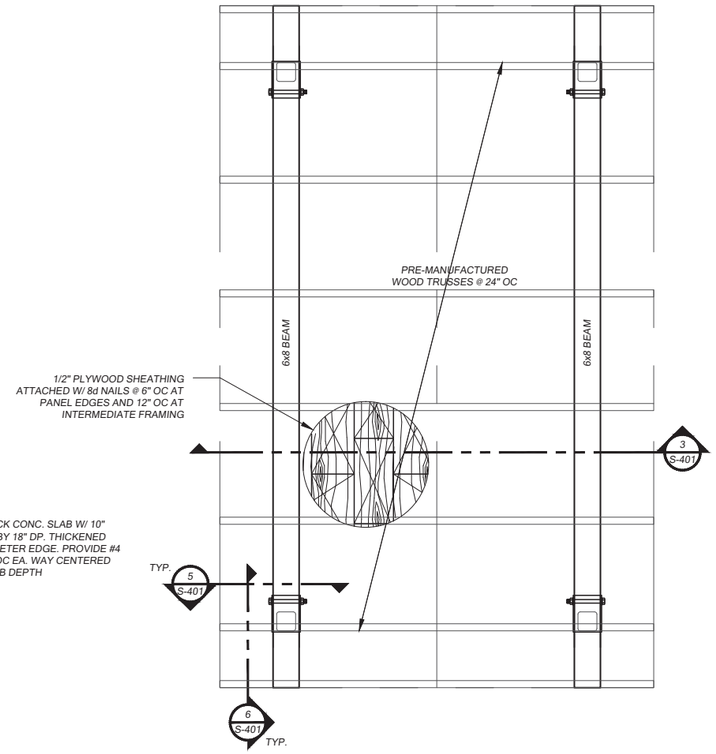
DRAWING NO:
L-402

MD Structural Engineering
113 W 7th ST. SUITE 205
VANCOUVER, WA. 98660
PHONE: 360-433-9093
EMAIL: MIKE@MDSTRUCTURAL.COM

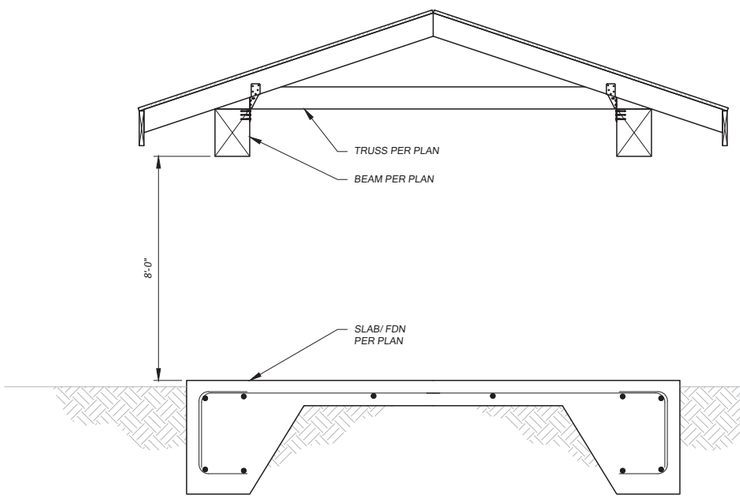
PRELIMINARY 60% DESIGN SUBMITTAL



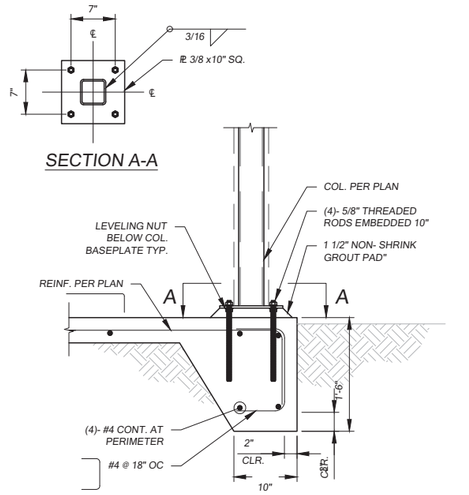
1 CONTROL PANEL SHELTER FOUNDATION
SCALE: 3/4" = 1'-0"



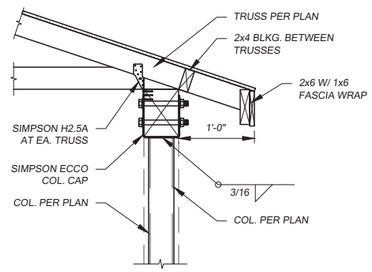
2 CONTROL PANEL SHELTER FRAMING PLAN
SCALE: 3/4" = 1'-0"



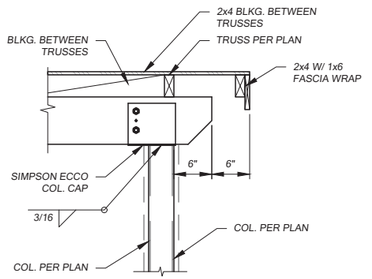
3 COL. TO BEAM CONNECTION
SCALE: 1" = 1'-0"



4 COL. TO FDN. CONNECTION
SCALE: 1" = 1'-0"



5 COL. TO BEAM CONNECTION
SCALE: 1" = 1'-0"



6 COL. TO BEAM CONNECTION
SCALE: 1" = 1'-0"

NO.	REVISION	BY	DATE

DESIGNED BY: BK
DRAWN BY: BK
REV: XX

ONE INCH AT FULL SCALE. IF NOT ONE INCH ADJUST SCALE ACCORDINGLY
0 1"
ONE INCH

BPPS EQUIPMENT SHELTER PLAN & DETAILS

wallis engineering
215 W 4th Street, Suite 200
Vancouver, WA 98660
360.695.7879

PROJECT NO: 1460A
DATE: 3/2019

LACAMAS CREEK SANITARY SEWER PUMP STATION IMPROVEMENTS

City of Camas WASHINGTON

CITY PROJECT NO. S1000

DRAWING NO:
S-401