

1. SURVEY PROVIDED BY CHASE JONES AND ASSOCIATES INC. DATED FEBRUARY 13TH, 2023 AND UPDATED MAY 13TH, 2024. VERTICAL ELEVATIONS ARE BASED ON NAVD 88 VERTICAL DATUM. HORIZONTAL CONTROL IS RELATIVE TO AN UNKNOWN LOCATION. COORDINATE WITH SURVEY OR RECORD TO ESTABLISH SITE CONTROL.
2. CONSTRUCTION LAYOUT (ALL ACTUAL LINES AND GRADES) SHALL BE STAKED BY A PROFESSIONAL SURVEYOR, REGISTERED IN THE STATE OF OREGON, BASED ON COORDINATES, DIMENSIONS, BEARINGS, AND ELEVATIONS, AS SHOWN, ON THE PLANS.
3. PROJECT CONTROL SHALL BE FIELD VERIFIED AND CHECKED FOR RELATIVE HORIZONTAL POSITION PRIOR TO BEGINNING CONSTRUCTION LAYOUT.
4. PROJECT CONTROL SHALL BE FIELD VERIFIED AND CHECKED FOR RELATIVE VERTICAL POSITION BASED ON THE BENCHMARK STATED HEREON, PRIOR TO BEGINNING CONSTRUCTION LAYOUT.
5. WHEN DIMENSIONS AND COORDINATE LOCATIONS ARE REPRESENTED - DIMENSIONS SHALL HOLD OVER COORDINATE LOCATION. NOTIFY THE CIVIL ENGINEER OF RECORD IMMEDIATELY UPON DISCOVERY.
6. BUILDING SETBACK DIMENSIONS FROM PROPERTY LINES SHALL HOLD OVER ALL OTHER CALLOUTS. PROPERTY LINES AND ASSOCIATED BUILDING SETBACKS SHALL BE VERIFIED PRIOR TO CONSTRUCTION LAYOUT.
7. CONTRACTOR SHALL PRESERVE AND PROTECT FROM DAMAGE ALL EXISTING MONUMENTATION DURING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING AND PAYING FOR THE REPLACEMENT OF ANY MONUMENTS DAMAGED OR REMOVED DURING CONSTRUCTION. NEW MONUMENTS SHALL BE REESTABLISHED BY A LICENSED SURVEYOR.
8. SOME SITE DEMOLITION AND UTILITY RELOCATION HAS BEEN PERFORMED. SURVEY MAY NOT BE COMPLETE OR ACCURATE. CONTRACTOR TO VERIFY EXISTING SITE CONDITIONS PRIOR TO CONSTRUCTION. CONTRACTOR SHALL BRING ANY DISCREPANCIES TO THE ATTENTION OF THE ENGINEER PRIOR TO BEGINNING CONSTRUCTION.
9. CONTRACTOR TO REFERENCE GEOTECHNICAL ENGINEERING REPORT PREPARED BY COLUMBIA WEST DATED MARCH 29TH, 2024, AND ADDENDUM DATED JANUARY 5TH, 2025 FOR THE SITE SOILS RECOMMENDATIONS.
10. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO THESE PLANS, THE PROJECT SPECIFICATIONS AND THE APPLICABLE REQUIREMENTS OF THE 2024 OREGON STANDARD SPECIFICATIONS FOR CONSTRUCTION, THE 2023 OREGON PLUMBING SPECIALTY CODE AND REQUIREMENTS OF MULTNOMAH COUNTY.
11. THE COMPLETED INSTALLATION SHALL CONFORM TO ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES, ORDINANCES AND REGULATIONS. ALL PERMITS, LICENSES AND INSPECTIONS REQUIRED BY THE GOVERNING AUTHORITIES FOR THE EXECUTION AND COMPLETION OF WORK SHALL BE SECURED BY THE CONTRACTOR PRIOR TO COMMENCING CONSTRUCTION.
12. ATTENTION: OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-001-0090. YOU MAY OBTAIN COPIES OF THE RULES BY CALLING THE CENTER. (NOTE: THE TELEPHONE NUMBER FOR THE OREGON UTILITY NOTIFICATION CENTER IS (503) 232-1987). EXCAVATORS MUST NOTIFY ALL PERTINENT COMPANIES OR AGENCIES WITH UNDERGROUND UTILITIES IN THE PROJECT AREA AT LEAST 48 BUSINESS-DAY HOURS, BUT NOT MORE THAN 10 BUSINESS DAYS PRIOR TO COMMENCING AN EXCAVATION, SO UTILITIES MAY BE ACCURATELY LOCATED.
13. THE LOCATION OF EXISTING UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE FOR INFORMATION ONLY AND ARE NOT GUARANTEED TO BE COMPLETE OR ACCURATE. CONTRACTOR SHALL VERIFY ELEVATIONS, PIPE SIZE, AND MATERIAL TYPES OF ALL UNDERGROUND UTILITIES PRIOR TO COMMENCING WITH CONSTRUCTION AND SHALL BRING ANY DISCREPANCIES TO THE ATTENTION OF FROELICH ENGINEERS, 72 HOURS PRIOR TO START OF CONSTRUCTION TO PREVENT GRADE AND ALIGNMENT CONFLICTS.
14. THE ENGINEER OR OWNER IS NOT RESPONSIBLE FOR THE SAFETY OF THE CONTRACTOR OR HIS CREW. ALL O.S.H.A. REGULATIONS SHALL BE STRICTLY ADHERED TO IN THE PERFORMANCE OF THE WORK.
15. TEMPORARY AND PERMANENT EROSION CONTROL MEASURES SHALL BE IMPLEMENTED. THE CONTRACTOR SHALL ADHERE TO MULTNOMAH COUNTY FOR MINIMUM EROSION CONTROL MEASURES. THE ESC FACILITIES SHOWN IN THESE PLANS ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, ESC FACILITIES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND TO ENSURE THAT SEDIMENT AND SEDIMENT LADEN WATER DO NOT LEAVE THE SITE.
16. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL ROADWAYS, KEEPING THEM CLEAN AND FREE OF CONSTRUCTION MATERIALS AND DEBRIS, AND PROVIDING DUST CONTROL AS REQUIRED.
17. TRAFFIC CONTROL SHALL BE PROVIDED BY THE CONTRACTOR THROUGHOUT CONSTRUCTION. CONTRACTOR SHALL PROVIDE A TRAFFIC CONTROL PLAN TO MULTNOMAH COUNTY FOR REVIEW AND APPROVAL PRIOR TO COMMENCING CONSTRUCTION.
18. CONTRACTOR SHALL MAINTAIN ALL UTILITIES TO EXISTING BUILDINGS AT ALL TIMES DURING CONSTRUCTION.
19. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING AND SCHEDULING ALL WORK WITH THE OWNER.
20. A PRECONSTRUCTION MEETING WITH THE OWNER, THE OWNER'S ENGINEER, CONTRACTOR AND THE MULTNOMAH COUNTY REPRESENTATIVE SHALL BE REQUIRED.

GENERAL: MATERIALS SHALL BE NEW. THE USE OF MANUFACTURER'S NAMES, MODELS, AND NUMBERS IS INTENDED TO ESTABLISH STYLE, QUALITY, APPEARANCE, AND USEFULNESS. PROPOSED SUBSTITUTIONS WILL REQUIRE WRITTEN APPROVAL FROM ARCHITECT PRIOR TO INSTALLATION.

2. STORM AND SANITARY SEWER PIPING SHALL BE PVC PIPE, DUCTILE IRON OR HIGH DENSITY POLYETHYLENE (HDPE) PIPE, SHOWN BELOW OR AS INDICATED IN THE PLANS.

2.1. PVC SEWER PIPE NPS 4 TO NPS 15:

2.1.1. PIPE: ASTM D 3034, SDR 35, PVC TYPE PSM SEWER PIPE WITH BELL-AND-SPIGOT ENDS FOR GASKETED JOINTS.

2.1.2. FITTINGS: ASTM D 3034, PVC WITH BELL ENDS.

2.1.3. GASKETS: ASTM F 477, ELASTOMERIC SEALS.

2.2. DUCTILE IRON, GRAVITY SEWER PIPE AND FITTINGS (REQUIRED WITHIN 1:1 ZONE OF INFLUENCE OF THE BUILDING FOUNDATION)

2.2.1. PIPE: ASTM A 746, FOR PUSH ON JOINTS.

2.2.2. STANDARD FITTINGS: ASTM C110, DUCTILE OR GRAY IRON, FOR PUSH ON JOINTS.

2.2.3. COMPACT FITTINGS: ASTM C153, FOR PUSH-ON JOINTS.

2.2.4. GASKETS: AWWA C111, RUBBER

2.2. PE PIPE AND FITTINGS

2.2.1. CORRUGATED PE DRAINAGE PIPE AND FITTINGS NPS 3 TO NPS 10: AASHTO M 252M, TYPE S, WITH SMOOTH WATERWAY FOR COUPLING JOINTS.

2.2.1.1. SOLTIGHT COUPLINGS: AASHTO M 252M, CORRUGATED, MATCHING TUBE AND FITTINGS.

2.2.2. CORRUGATED PE PIPE AND FITTINGS NPS 12 TO NPS 60: AASHTO M 294M, TYPE S, WITH SMOOTH WATERWAY FOR COUPLING JOINTS.

2.2.2.1. SOLTIGHT COUPLINGS: AASHTO M 294M, CORRUGATED, MATCHING PIPE AND FITTINGS.

3. PRIVATE FIRE MAINS 4-INCH DIAMETER AND LARGER SHALL BE DUCTILE IRON PIPE OR PVC C900 PIPE AS INDICATED BELOW.

3.1. MECHANICAL-JOINT, DUCTILE-IRON PIPE: AWWA C151, WITH MECHANICAL-JOINT BELL AND PLAIN SPIGOT END UNLESS GROOVED OR FLANGED ENDS ARE INDICATED.

3.1.1. MECHANICAL-JOINT, DUCTILE-IRON FITTINGS: AWWA C110, DUCTILE- OR GRAY-IRON STANDARD PATTERN OR AWWA C153, DUCTILE-IRON COMPACT PATTERN.

3.1.2. GLANDS, GASKETS, AND BOLTS: AWWA C111, DUCTILE- OR GRAY-IRON GLANDS, RUBBER GASKETS, AND STEEL BOLTS.

3.2. PVC AWWA PIPE: AWWA C900, CLASS 150, WITH BELL END WITH GASKET, AND WITH SPIGOT END.

3.2.1. COMPLY WITH UL 1285 FOR FIRE-SERVICE MAINS IF INDICATED.

3.2.2. PVC FABRICATED FITTINGS: AWWA C900, **CLASS 150**, WITH BELL-AND-SPIGOT OR DOUBLE-BELL ENDS. INCLUDE ELASTOMERIC GASKET IN EACH BELL.

3.2.3. PVC MOLDED FITTINGS: AWWA C907, CLASS 150, WITH BELL-AND-SPIGOT OR DOUBLE-BELL ENDS. INCLUDE ELASTOMERIC GASKET IN EACH BELL.

3.2.4. PUSH-ON-JOINT, DUCTILE-IRON FITTINGS: AWWA C110, DUCTILE- OR GRAY-IRON STANDARD PATTERN OR AWWA C153, DUCTILE-IRON COMPACT PATTERN.

3.2.4.1. GASKETS: AWWA C111, RUBBER.

3.2.5. MECHANICAL-JOINT, DUCTILE-IRON FITTINGS: AWWA C110, DUCTILE- OR GRAY-IRON STANDARD PATTERN OR AWWA C153, DUCTILE-IRON COMPACT PATTERN.

3.2.5.1. GLANDS, GASKETS, AND BOLTS: AWWA C111, DUCTILE- OR GRAY-IRON GLANDS, RUBBER GASKETS, AND STEEL BOLTS.

4. PRIVATE WATER LINES 3-INCH DIAMETER AND SMALLER SHALL BE COPPER OR DUCTILE IRON PIPE AS INDICATED BELOW.

4.1. SOFT COPPER TUBE: ASTM B 88, TYPE K WATER TUBE, ANNEALED TEMPER.

4.1.1. COPPER, SOLDER-JOINT FITTINGS: ASME B16.18, CAST-COPPER-ALLOY OR ASME B16.22, WROUGHT-COPPER, SOLDER-JOINT PRESSURE TYPE. FURNISH ONLY WROUGHT-COPPER FITTINGS IF INDICATED.

4.1.2. HARD COPPER TUBE: ASTM B 88, TYPE K, WATER TUBE, DRAWN TEMPER.

4.1.2.1. COPPER, SOLDER-JOINT FITTINGS: ASME B16.18, CAST-COPPER-ALLOY OR ASME B16.22, WROUGHT-COPPER, SOLDER-JOINT PRESSURE TYPE. FURNISH ONLY WROUGHT-COPPER FITTINGS IF INDICATED.

4.2. MECHANICAL-JOINT, DUCTILE-IRON PIPE: AWWA C151, WITH MECHANICAL-JOINT BELL AND PLAIN SPIGOT END UNLESS GROOVED OR FLANGED ENDS ARE INDICATED.

4.2.1. MECHANICAL-JOINT, DUCTILE-IRON FITTINGS: AWWA C110, DUCTILE- OR GRAY-IRON STANDARD PATTERN OR AWWA C153, DUCTILE-IRON COMPACT PATTERN.

4.2.2. GLANDS, GASKETS, AND BOLTS: AWWA C111, DUCTILE- OR GRAY-IRON GLANDS, RUBBER GASKETS, AND STEEL BOLTS.

5. CONCRETE FOR CURBS, SIDEWALK AND DRIVEWAYS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,300 PSI AT 28 DAYS. CONSTRUCT PER CITY OF PORTLAND SPECIFICATIONS.

5.1. CONCRETE AGGREGATE SHALL CONFORM TO ASTM C33 REQUIREMENTS

6. CONCRETE MANHOLES AND UTILITY VAULTS: HANSON OR APPROVED EQUAL. INSTALL PER MANUFACTURER RECOMMENDATIONS.

7. CONCRETE DRYWELL AND UTILITY VAULTS: OLD CASTLE OR APPROVED EQUAL. INSTALL PER MANUFACTURER RECOMMENDATIONS.

8. SUBMITTAL: CONTRACTOR SHALL PROVIDE PRODUCT DATA FOR EACH PRODUCT:

8.1. AGGREGATE

8.2. PAVEMENT MATERIAL AND MIX DESIGN (ASPHALT, CONCRETE, PAVERS...)

8.3. STORMWATER AND SANITARY SEWER STRUCTURES (AREA DRAINS, CLEANOUTS, DRYWELLS)

8.4. PIPES AND FITTINGS

8.5. WATER AND FIRE PIPES, FITTINGS, AND STRUCTURES (METER, BACKFLOW, DOUBLE CHECK, FIRE DEPARTMENT CONNECTIONS...)

GENERAL

1. SUBGRADE AND TRENCH BACKFILL SHALL BE COMPACTED TO AT LEAST 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-1557. FLOODING OR JETTING THE BACKFILLED TRENCHES WITH WATER IS NOT PERMITTED.
2. SPECIAL INSPECTION REQUIRED FOR ALL COMPACTION TESTING.

DEMOLITION

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DEMOLITION AND DISPOSAL OF EXISTING AC CURBS, SIDEWALKS AND OTHER SITE ELEMENTS WITHIN THE SITE AREA IDENTIFIED IN THE PLANS. DISPOSAL OF DEMOLISHED ITEMS OFF-SITE IN A LEGAL MANNER.
2. EXCEPT FOR MATERIALS INDICATED TO BE STOCKPILED OR TO REMAIN ON OWNER'S PROPERTY, CLEARED MATERIALS SHALL BECOME CONTRACTOR'S PROPERTY, REMOVED FROM THE SITE, AND DISPOSED OF PROPERLY.
3. ITEMS INDICATED TO BE DEMOLISHED SHALL BE CAREFULLY REMOVED AND DELIVERED STORED AT THE PROJECT SITE AS DIRECTED BY THE OWNER.
4. ALL LANDSCAPING, PAVEMENT, CURBS AND SIDEWALKS, BEYOND THE IDENTIFIED SITE AREA, DAMAGED DURING THE CONSTRUCTION SHALL BE REPLACED TO THEIR ORIGINAL CONDITION OR BETTER.
5. CONCRETE SIDEWALKS SHOWN FOR DEMOLITION SHALL BE REMOVED TO THE NEAREST EXISTING CONSTRUCTION JOINT.
6. SAWCUT STRAIGHT MATCHLINES TO CREATE A BUTT JOINT BETWEEN THE EXISTING AND NEW PAVEMENT.

GRADING

1. ALL SURFACES SHALL HAVE MINIMUM 1% SLOPE UNLESS OTHERWISE NOTED ON PLANS. ALL SURFACES SHALL MEET EXISTING GRADES SMOOTHLY AND EVENLY AND MAINTAIN CONSTANT SLOPES UNLESS OTHERWISE NOTES ON PLANS.
2. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING EXISTING SITE AND DRAINAGE PATTERNS AND PROTECTION OF EXISTING ENGINEERED DRAINAGE FACILITIES.
3. CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHEN WORKING IN AREAS ADJACENT TO EXISTING TREES. EXERCISE CARE TO MINIMIZE DISTURBANCE TO TREE ROOTS. CONTRACT SHALL INSTALL TREE PROTECTION FENCING AS INDICATED ON PLANS OR DRIP-LINE OF EXISTING TREES. NO PARKING VEHICLES UNDER TREES.

UTILITIES

1. ADJUST ALL INCIDENTAL STRUCTURES, MANHOLES, VALVE BOXES, CATCH BASINS, FRAMES AND COVERS, ETC. TO FINISHED GRADE.
2. CONTRACTOR SHALL ADJUST ALL EXISTING AND/OR NEW FLEXIBLE UTILITIES (WATER, TV, TELEPHONE, ELEC., ETC.) TO CLEAR ANY EXISTING OR NEW GRAVITY DRAIN UTILITIES (STORM DRAIN, SANITARY SEWER, ETC.) IF CONFLICT OCCURS.
3. CONTRACTOR SHALL COORDINATE WITH PRIVATE UTILITY COMPANIES FOR THE INSTALLATION OF OR ADJUSTMENT TO GAS, ELECTRICAL, POWER AND TELEPHONE SERVICE.
4. BEFORE BACKFILLING ANY SUBGRADE UTILITY IMPROVEMENTS CONTRACTOR SHALL SURVEY AND RECORD MEASUREMENTS OF EXACT LOCATION AND DEPTH AND SUBMIT TO ENGINEER AND OWNER.

ALL WATER MAIN CROSSINGS SHALL CONFORM TO THE OREGON STATE HEALTH DEPARTMENT, CHAPTER 333. WATER MAINS SHALL CROSS OVER SANITARY SEWERS WITH A 18" MINIMUM CLEARANCE BETWEEN OUTSIDE DIAMETERS OF PIPE WITH ALL PIPE JOINTS EQUIDISTANT FROM CROSSING. HORIZONTAL SEPARATION BETWEEN WATER MAINS AND SANITARY SEWERS IN PARALLEL INSTALLATIONS SHALL BE 10'. MAINTAIN 12" MINIMUM VERTICAL DISTANCE FOR ALL OTHER UTILITY CROSSINGS AND 12" HORIZONTAL PARALLEL DISTANCE. IN CASES WHERE IT IS NOT POSSIBLE TO MAINTAIN THE MINIMUM 10' HORIZONTAL SEPARATION, THE WATER MAIN SHALL BE LAID ON A SEPARATE SHELF IN THE TRENCH 18" INCHES ABOVE THE SEWER.

	ASPHALT CONCRETE	OV/HO	OVERHEAD
AD	AREA DRAIN	P/L	PROPERTY LINE
APPROX	APPROXIMATE	PC	POINT OF CURVATURE
B	BOLLARD	PCC	POINT OF COMPOUND CURVATURE
BLDG	BUILDING	PCR	POINT OF CURB RETURN
BOW	BACK OF WALK	PED	PEDESTRIAN
BS	BOTTOM OF SWALE	PV	POST INDICATOR VALVE
BW	BOTTOM OF STAIR	PM	PARKING METER
CB	BOTTOM OF WALL	POC	POINT ON CURVE
CL	CATCH BASIN	PP	POWER POLE
CL	CENTERLINE	PRC	POINT OF REVERSE CURVATURE
CMP	CORRUGATED METAL PIPE	PT	POINT OF TANGENT
CMU	CONCRETE MASONRY UNIT	P.U.E	PUBLIC UTILITY EASEMENT
CO	CLEANOUT	PVC	POLYVINYL CHLORIDE
CONC.	CONCRETE	PVMT	PAVEMENT
COTG	CLEANOUT TO GRADE	PVT	PRIVATE
CP	CONTROL POINT	R	RIH
CP	DELTA	RD	RIGHT OF DRAIN
D/W	DRIVEWAY	R.O.W	RIGHT-OF-WAY
DIA. Ø	DIAMETER	S	SLOPE (FT/FT)
DIP	DUCTILE IRON PIPE	SD	STORM DRAIN
E	EASTING	SDMH	STORM DRAIN MANHOLE
EXIST./EX	EXISTING	SHT	SHEET
FDC	FIRE DEPARTMENT CONNECTION	SS	SANITARY SEWER
FF	FINISH FLOOR ELEVATION	SSMH	SANITARY SEWER MANHOLE
FG	FINISH GRADE	ST	STREET
FH	FIRE HYDRANT	STA	STATION
FL	FLOWLINE	STD	STANDARD
G	FOUNDATION	S/W	SIDEWALK
G	GUTTER	TC	TOP OF CURB
GB	GRADE BREAK	TD	TRENCH DRAIN
GL	GAS LINE	TP	TOP OF GROUND
GV	GATE VALVE	TG	TOP OF PAVEMENT
H	HEIGHT	TRANS.	TRANSFORMER
HCP	HANDICAP PARKING SPACE	TS	TOP OF STAIR
HP	HIGH POINT	TW	TOP OF WALL
ID	INSIDE DIAMETER		TOP OF WALK
IN	INVERT ELEVATION	Typ	TYPICAL
IN	INVERT	UG	UNDERGROUND
IRRI.	IRRIGATION	UGE	UNDERGROUND ELECTRIC
IP	LIGHT POLE	W	WATER
LP	MANHOLE	W	WITH
MIN	MINIMUM	WCR	WHEEL CHAIR RAMP
N	NORTHING	WM	WATER METER
O.D	OUTSIDE DIAMETER	WV	WATER VALVE
OF	OUTFALL		

SHEET NUMBER	SHEET TITLE
C1.0	GENERAL NOTES
C1.1	EXISTING CONDITIONS
C1.2	DEMOLITION PLAN
C2.0	SITE PLAN
C3.0	GRADING PLAN
C4.0	UTILITY PLAN
C5.0	DETAILS
C6.0	EROSION AND SOIL CONTROL PLAN

1. GENERAL: MATERIALS SHALL BE NEW. THE USE OF MANUFACTURER'S NAMES, MODELS, AND NUMBERS IS INTENDED TO ESTABLISH STYLE, QUALITY, APPEARANCE, AND USEFULNESS. PROPOSED SUBSTITUTIONS WILL REQUIRE WRITTEN APPROVAL FROM THE ENGINEER OF RECORD PRIOR TO INSTALLATION.
2. STORM AND SANITARY SEWER PIPING SHALL BE PVC PIPE, DUCTILE IRON PIPE, OR HIGH DENSITY POLYETHYLENE (HDPE) PIPE CONFORMING TO THE PROJECT SPECIFICATIONS; AS INDICATED IN THE PLANS.
3. PRIVATE WATER MAINS 4-INCH DIAMETER AND LARGER SHALL BE DUCTILE IRON PIPE OR PVC PIPE CONFORMING TO THE PROJECT SPECIFICATIONS; AS INDICATED IN THE PLANS.
4. PRIVATE WATER LINES 3-INCH DIAMETER AND SMALLER SHALL BE TYPE K COPPER TUBING OR SCHEDULE 40 PVC CONFORMING TO THE PROJECT SPECIFICATIONS; AS INDICATED IN THE PLANS.
5. CONCRETE FOR CURBS, SIDEWALK AND DRIVEWAYS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,300 PSI AT 28 DAYS.

1. CONTRACTOR SHALL PREVENT SEDIMENTS AND SEDIMENT LADEN WATER FROM ENTERING THE STORM DRAINAGE SYSTEM.
2. FLOODING OR JETTING THE BACKFILLED TRENCHES WITH WATER WILL NOT BE PERMITTED.
3. TRENCH BACKFILL: SHALL MEET ODOT 3/4"-0 CRUSHED ROCK AS INDICATED IN THE PROJECT SOILS REPORT.
4. BASE COURSE: SHALL MEET ODOT 3/4"-0 CRUSHED ROCK.
5. DRAINAGE ROCK: SHALL BE 3/4" TO 2-1/2" WASHED DRAIN ROCK.
6. COMPACTION AND LIFTS: REFERENCE THE PROJECT SOILS REPORT.
7. NONWOVER GEOTEXTILE - MIRAFI 140N, OR APPROVED EQUIVALENT

NOTICE TO EXCAVATORS:
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 (NOTE: THE TELEPHONE NUMBER FOR THE OREGON UTILITY NOTIFICATION CENTER IS (503)-232-1987).

POTENTIAL UNDERGROUND FACILITY OWNERS

Dig Safely.
 Call the Oregon One-Call Center
 1-800-332-2344



FROELICH
ENGINEERS
CIVIL · STRUCTURAL

Portland, OR | Bend, OR | Denver, CO.
(503) 624-7005

PRELIMINARY
NOT FOR
CONSTRUCTION

1001 SE SANDY BLVD,
PORTLAND, OR, 92714

CORBETT FIRESTATION 62
ADDITION

36930 EAST HISTORIC COLUMBIA RIVER HWY
CORBETT, OR, 97019

REV	DATE	ISSUE TITLE

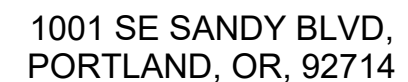
PROJECT MANAGER:	EME
DESIGNER:	ABT
DRAWN BY:	BULLMANN
PROJECT NO:	24-C012
DATE:	01/10/2025
SCALE:	AS SHOWN

SHEET TITLE:
GENERAL
NOTES

SHEET NUMBER:

C1.0

Exhibit A.15



CORBETT FIRESTATION 62
ADDITION

36930 EAST HISTORIC COLUMBIA RIVER HWY
CORRETT OR 97019

LAND USE SET

PROJECT MANAGER:	EME
DESIGNER:	ABT
DRAWN BY:	BULLMANN
PROJECT NO:	24-C012
DATE:	01/10/2025
SCALE:	AS SHOWN

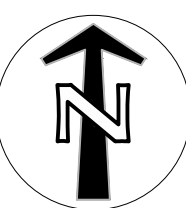
SHEET TITLE:
EXISTING
CONDITIONS

SHEET NUMBER:

C1.1

LAND USE SET





SCALE 1 INCH = 20 FEET

20 0 20 40

C1.2

Plotted: 5/1/25 at 10:42am By: bullmanr

PRELIMINARY
NOT FOR
CONSTRUCTION

1001 SE SANDY BLVD
PORTLAND, OR, 97214

CORBETT FIRESTATION 62
ADDITION

36930 EAST HISTORIC COLUMBIA RIVER HWY
CORBETT, OR, 97019

LAND USE SET

REV DATE ISSUE TITLE

PROJECT MANAGER: EME
DESIGNER: ABT
DRAWN BY: BULLMANN
PROJECT NO: 24-C012
DATE: 01/10/2025
SCALE: AS SHOWN

SHEET TITLE:
SITE PLAN

SHEET NUMBER:

C2.0

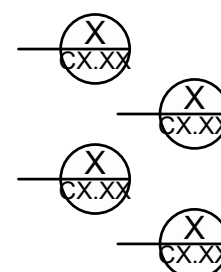
LAND USE SET

SHEET NOTES

- ALL DIMENSIONS ARE TO FACE OF CURB OR FACE OF WALL.
- ALL SIDEWALK PAVEMENT JOINTS SHALL BE CONSTRUCTED PER DETAIL X/C5.X.

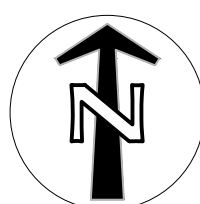
KEY NOTES

- STRIPING
- STANDARD CURB
- ASPHALT PAVEMENT
- WHEEL STOP
- HEAVY CONCRETE
- CONCRETE SIDEWALK
- ADA PARKING SIGN
- ADA PARKING STALLS
- EDGE OF ASPHALT
- RETAINING WALL
- SAWCUT
- CURB ENDING
- BOULDER WALL, SEE SHEET C3.0
- 2' WIDE GRAVEL EDGE

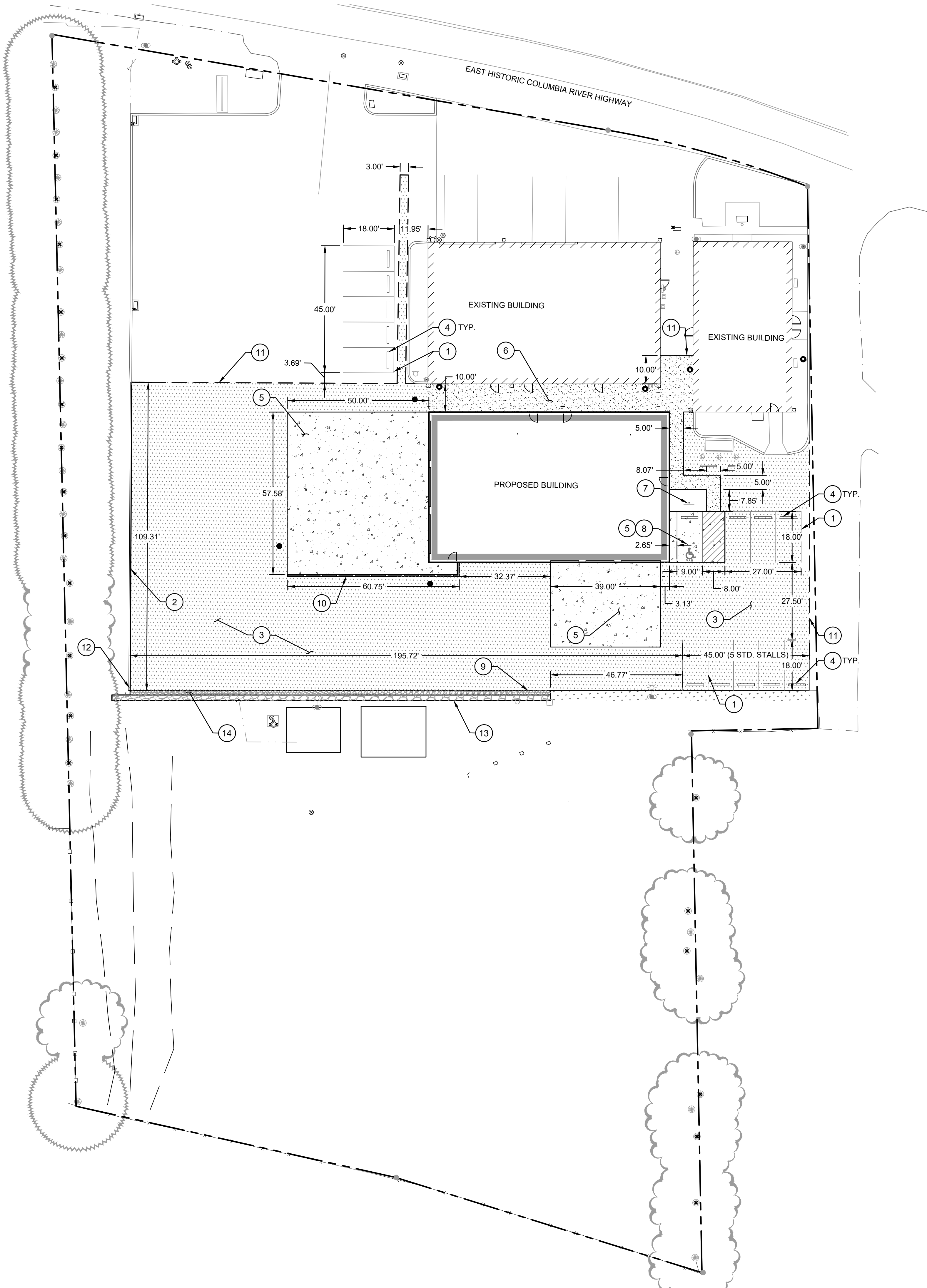


SHEET LEGEND

---	PROPERTY LINE	
[Pattern]	CONCRETE SIDEWALK	[Symbol]
[Pattern]	STANDARD ASPHALT PAVEMENT	[Symbol]
[Pattern]	HEAVY CONCRETE	[Symbol]
[Pattern]	GRAVEL	
[Pattern]	LANDSCAPING, SEE LANDSCAPE PLANS	



SCALE
1 INCH = 20 FEET
20 0 20 40



PRELIMINARY
NOT FOR
CONSTRUCTION

1001 SE SANDY BLVD
PORTLAND, OR, 97214

SHEET NOTES

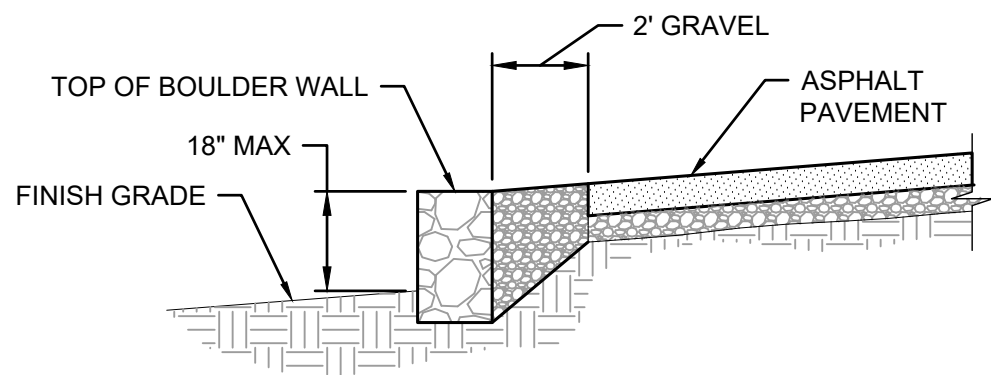
- SLOPES PROVIDED ON SLOPE ARROW ARE FOR REFERENCE ONLY.
- LANDINGS ON ACCESSIBLE ROUTES SHALL NOT EXCEED 1.5% IN ANY DIRECTION.
- ALL ACCESSIBLE ROUTES SHALL COMPLY WITH CURRENT ADA ACCESSIBILITY GUIDELINES FOR BUILDING AND FACILITIES (ADAAG).
- ALL WALKWAYS FROM ACCESSIBLE UNITS ARE DESIGNED TO NOT REQUIRE HANDRAILS. THEREFORE, RAMPS WITH SLOPES STEEPER THAN 5.0% AND LESS THAN 8.33% SHALL NOT EXCEED 0.5' RISE OR 6.0' LENGTH.
- TOP OF CONCRETE OUTSIDE DOOR = FF ELEV. MINUS 0.02' SLOPE LANDING 1.5% AWAY FROM BLDG.

KEY NOTES

- XXXXXXXXXX

GRADING LABEL LEGEND

CALLOUT	DESCRIPTION
X.X%	GRADING SLOPE AND DIRECTION (DOWNHILL)
XX.XX XX	SPOT ELEVATION DESCRIPTION LISTED BELOW. NO DESCRIPTION MEANS TP OR TG
BOW	BACK OF WALK
BW	BOTTOM OF WALL
EG	EXISTING GRADE
FF	FINISHED FLOOR
FL	FLOW LINE
G	GUTTER
RIM	RIM OF STRUCTURE
TC	TOP OF CURB
TG	TOP OF GROUND
TP	TOP OF PAVEMENT
TW	TOP WALL



SECTION 'A'

SHEET LEGEND

	DRAINAGE FLOW DIRECTION
	GRADE BREAK
	EX. CONTOUR MINOR
	EX. CONTOUR MAJOR
	CONTOUR MINOR (FG)
	CONTOUR MAJOR (FG)
	CONVEYANCE SWALE

CORBETT FIRESTATION 62

ADDITION

36930 EAST HISTORIC COLUMBIA RIVER HWY
CORBETT, OR, 97019

LAND USE SET

REV	DATE	ISSUE TITLE

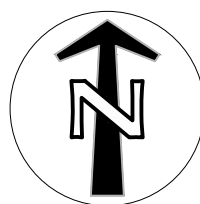
PROJECT MANAGER:	EME
DESIGNER:	ABT
DRAWN BY:	BULLMANN
PROJECT NO:	24-C012
DATE:	01/10/2025
SCALE:	AS SHOWN

SHEET TITLE: GRADING PLAN

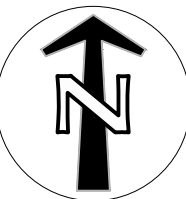
SHEET NUMBER:

C3.0

LAND USE SET



SCALE
1 INCH = 20 FEET
20 0 20 40

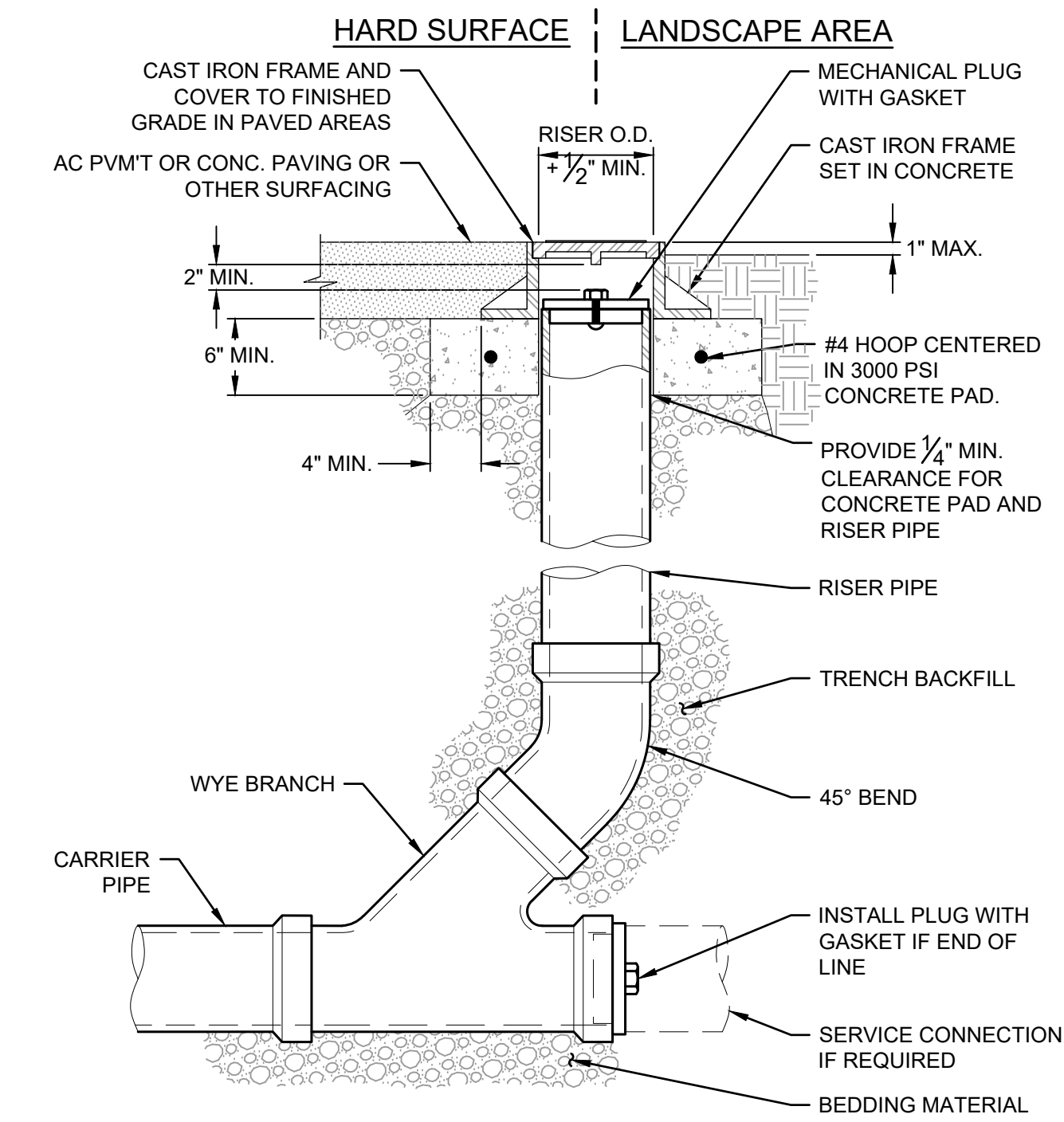


SCALE 1 INCH = 20 FEET



20 0 20 40

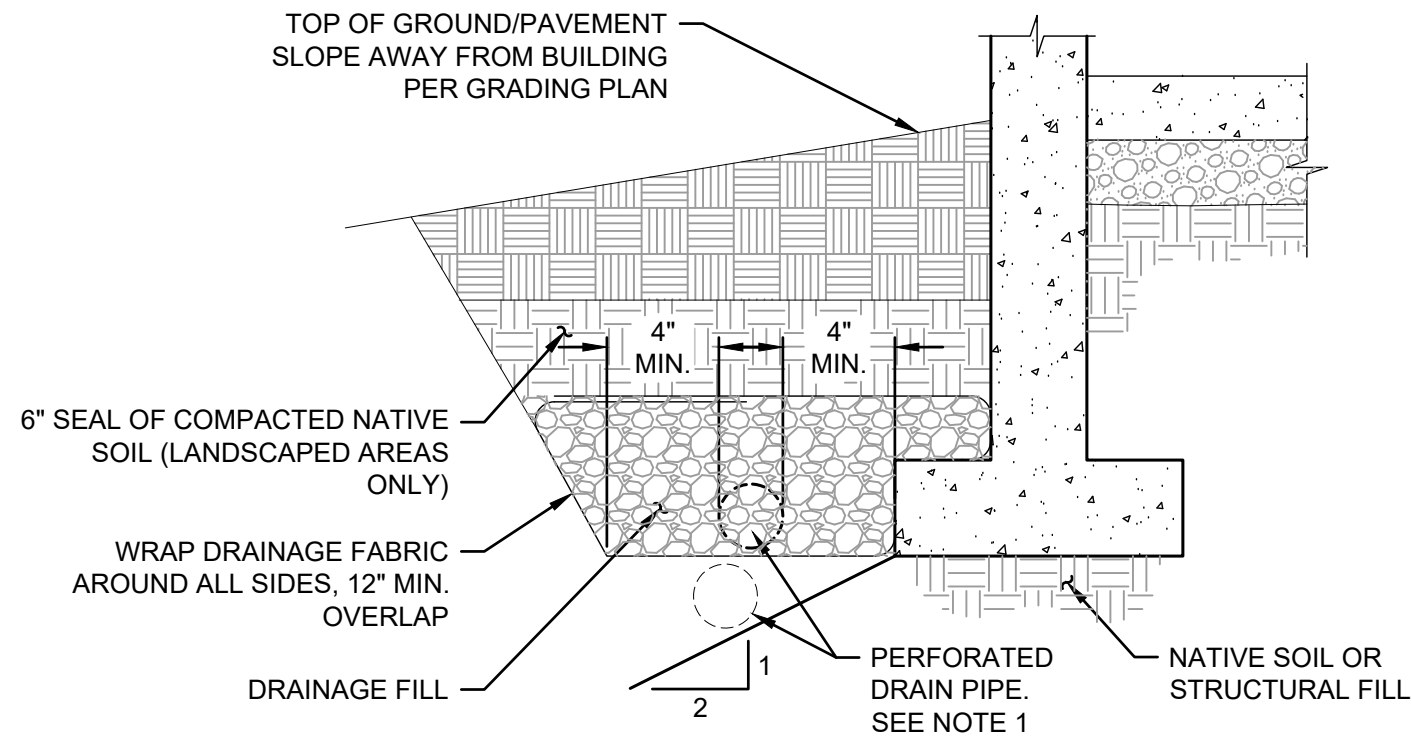
LAND USE SET



- NOTES:
- CAST IRON FRAME AND COVER SHALL MEET H-20 LOAD REQUIREMENT.
 - FOR CARRIER PIPE SIZE 6"Ø AND LESS, PROVIDE RISER PIPE SIZE TO MATCH CARRIER PIPE.
 - FOR CARRIER PIPE SIZE 8"Ø AND LARGER, RISER PIPE SHALL BE 6"Ø.
 - RISER PIPE MATERIAL TO MATCH CARRIER PIPE MATERIAL.

STANDARD CLEANOUT (COTG)

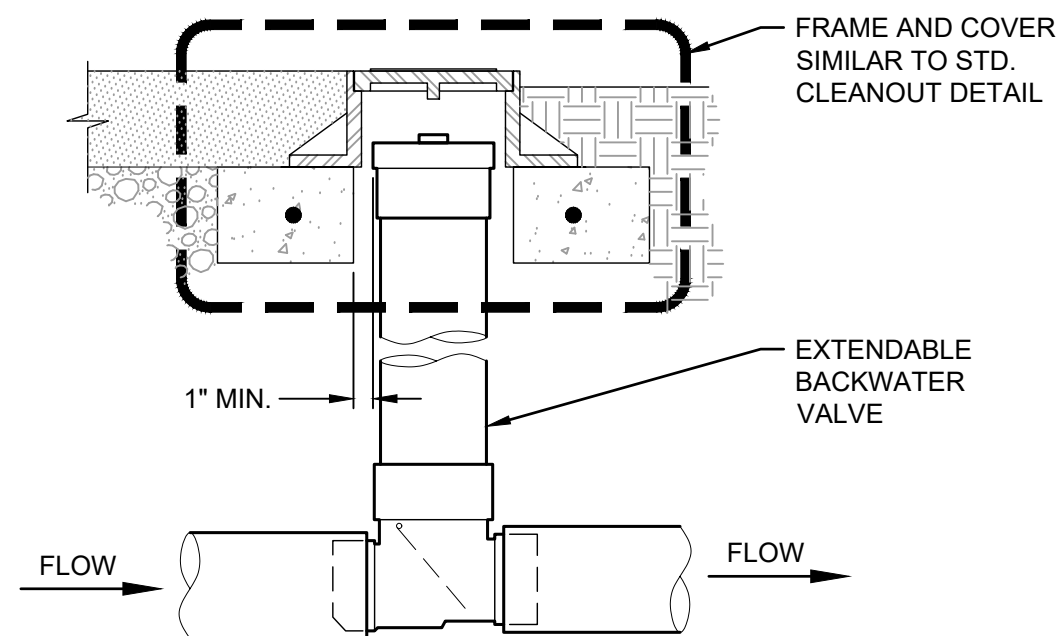
SCALE: NTS



- NOTES:
- LAY PERFORATED DRAIN PIPE ON MIN. 0.5% GRADIENT, WIDENING EXCAVATION AS REQUIRED. MAINTAIN PIPE ABOVE 2:1 SLOPE AS SHOWN.
 - CONNECT TO FOUNDATION DRAIN STUBOUT SHOWN ON PLANS.

PERIMETER FOUNDATION DRAIN

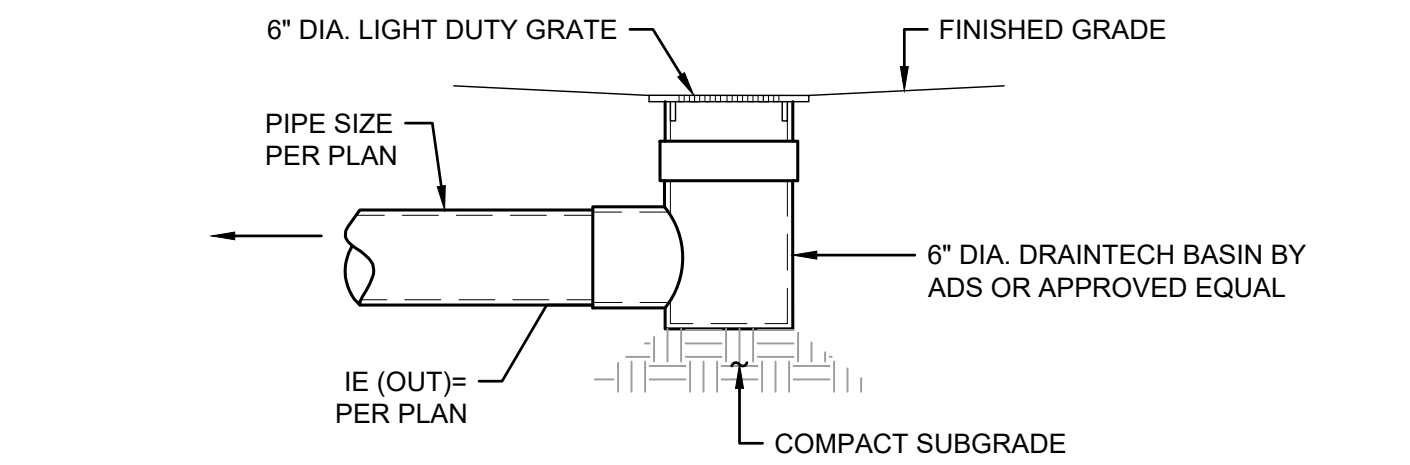
SCALE: NTS



- NOTES:
- EXTENDABLE BACKWATER VALVE TO BE MANUFACTURED BY CLEAN CHECK OR APPROVED EQUAL AND SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

EXTENDABLE BACKWATER VALVE

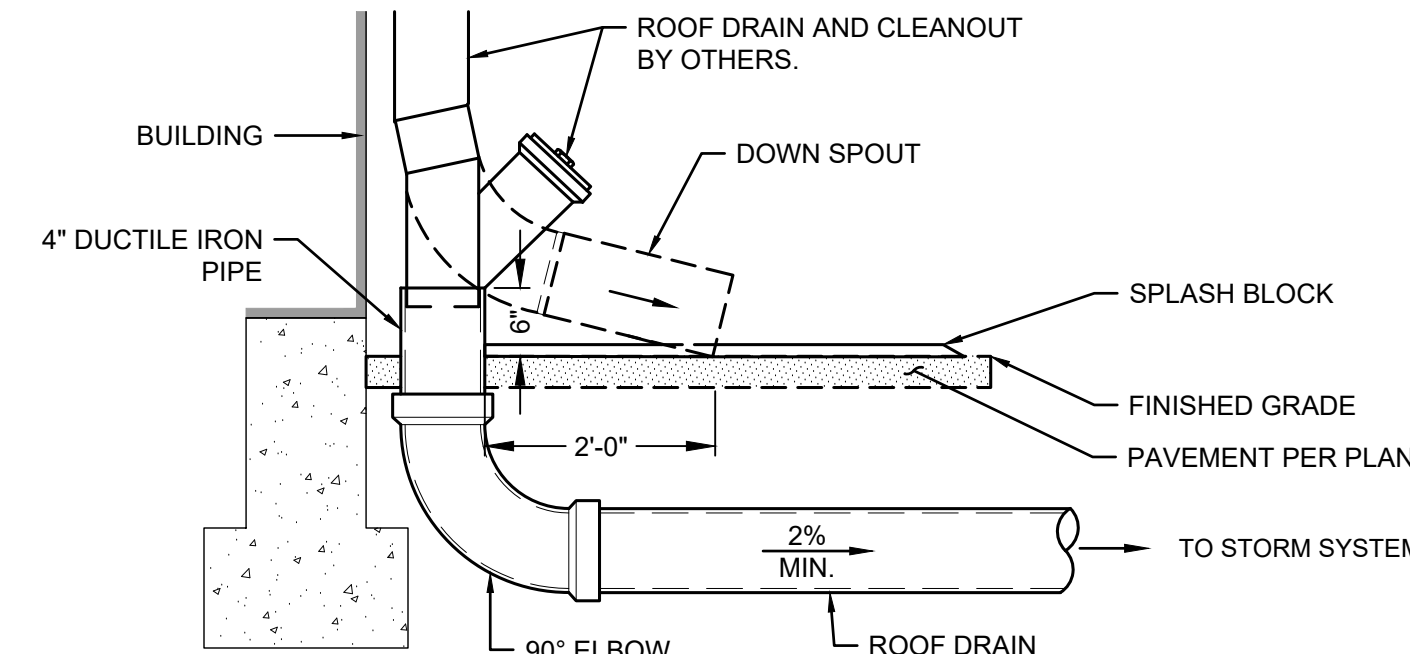
SCALE: NTS



- NOTES:
- DRAIN AND GRATE BY ADS OR APPROVED EQUAL.

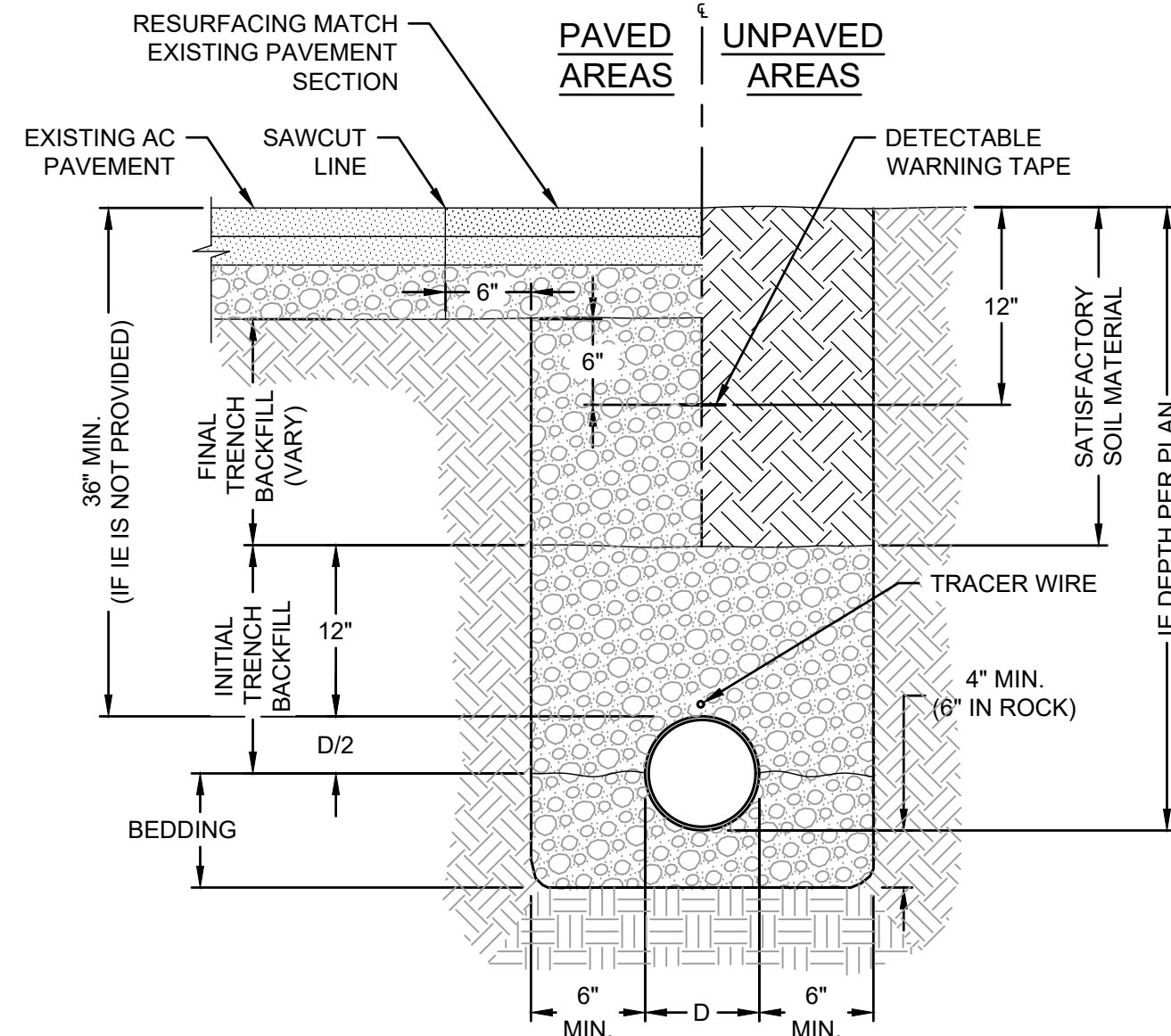
LANDSCAPE DRAIN - TYPE 1

SCALE: NTS



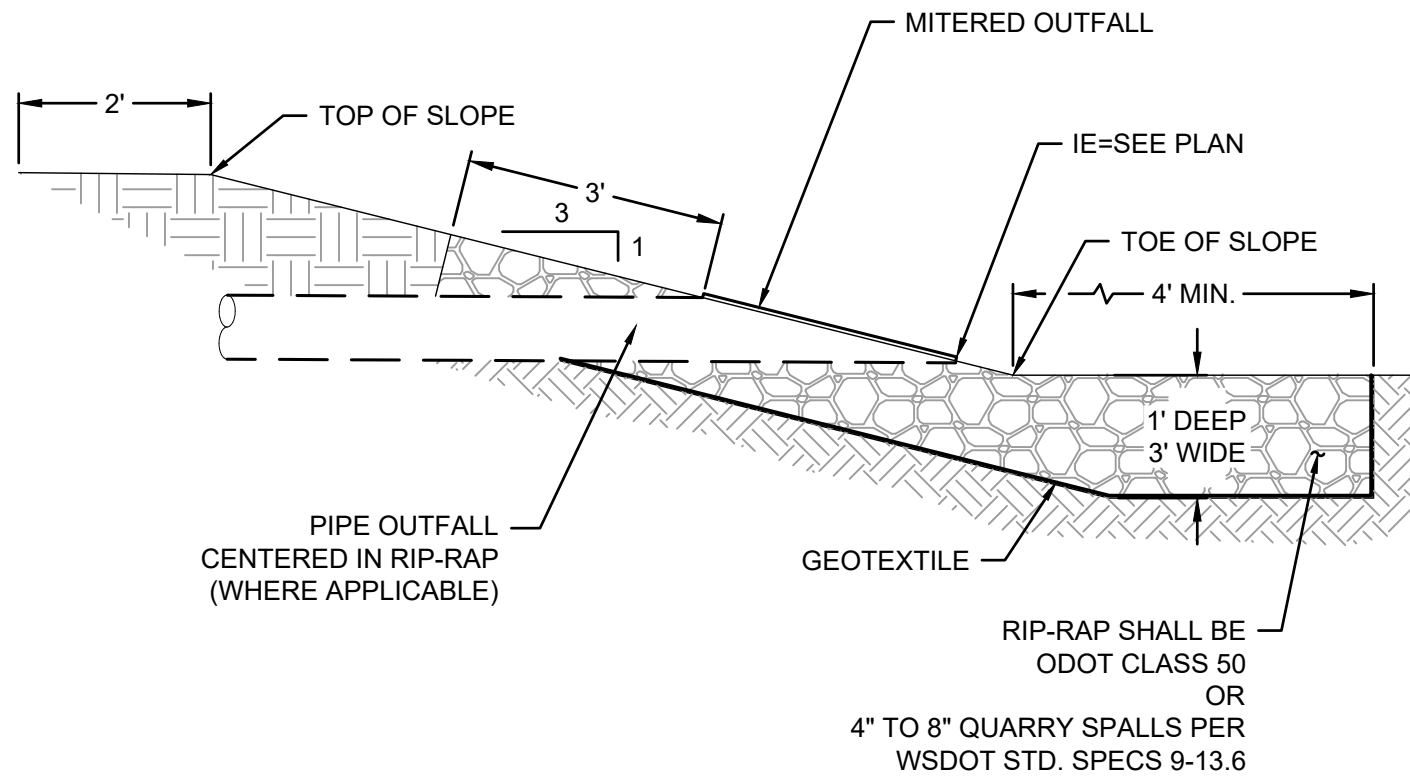
ROOF DRAIN/DOWNSPOUT DRAIN CONNECTION

SCALE: NTS



TYPICAL PIPE BEDDING AND BACKFILL

SCALE: NTS

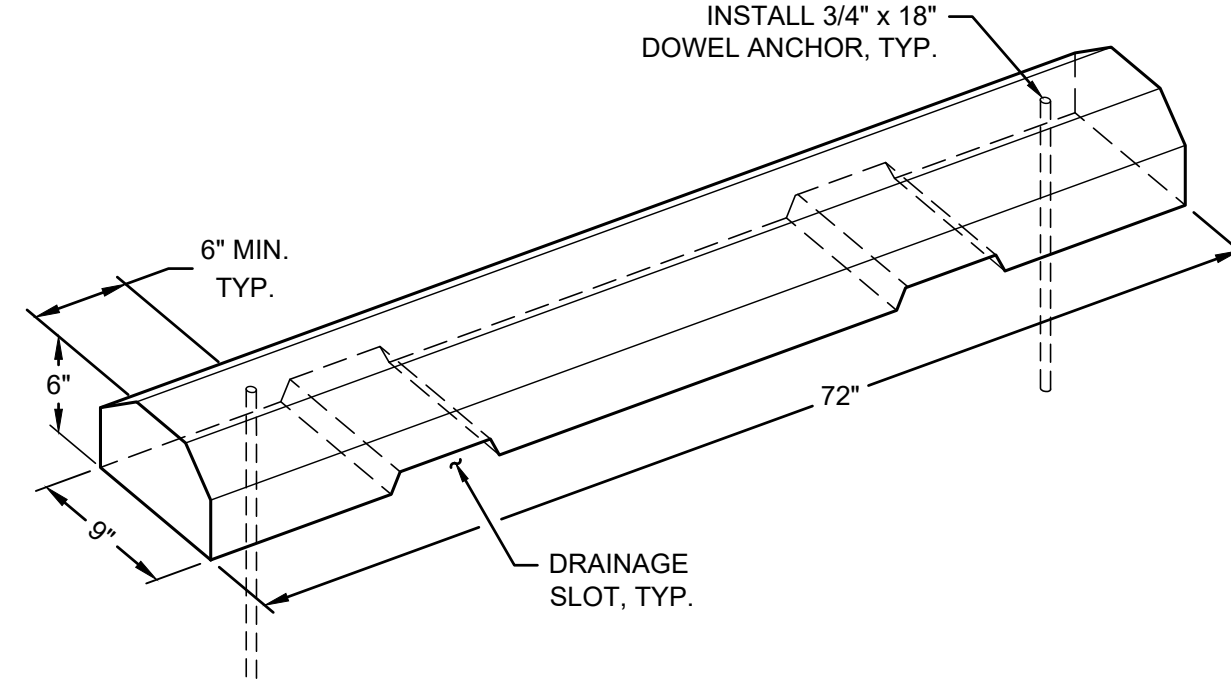


TYPICAL OUTFALL RIP-RAP PROTECTION

SCALE: NTS

CONCRETE CURB ENDING

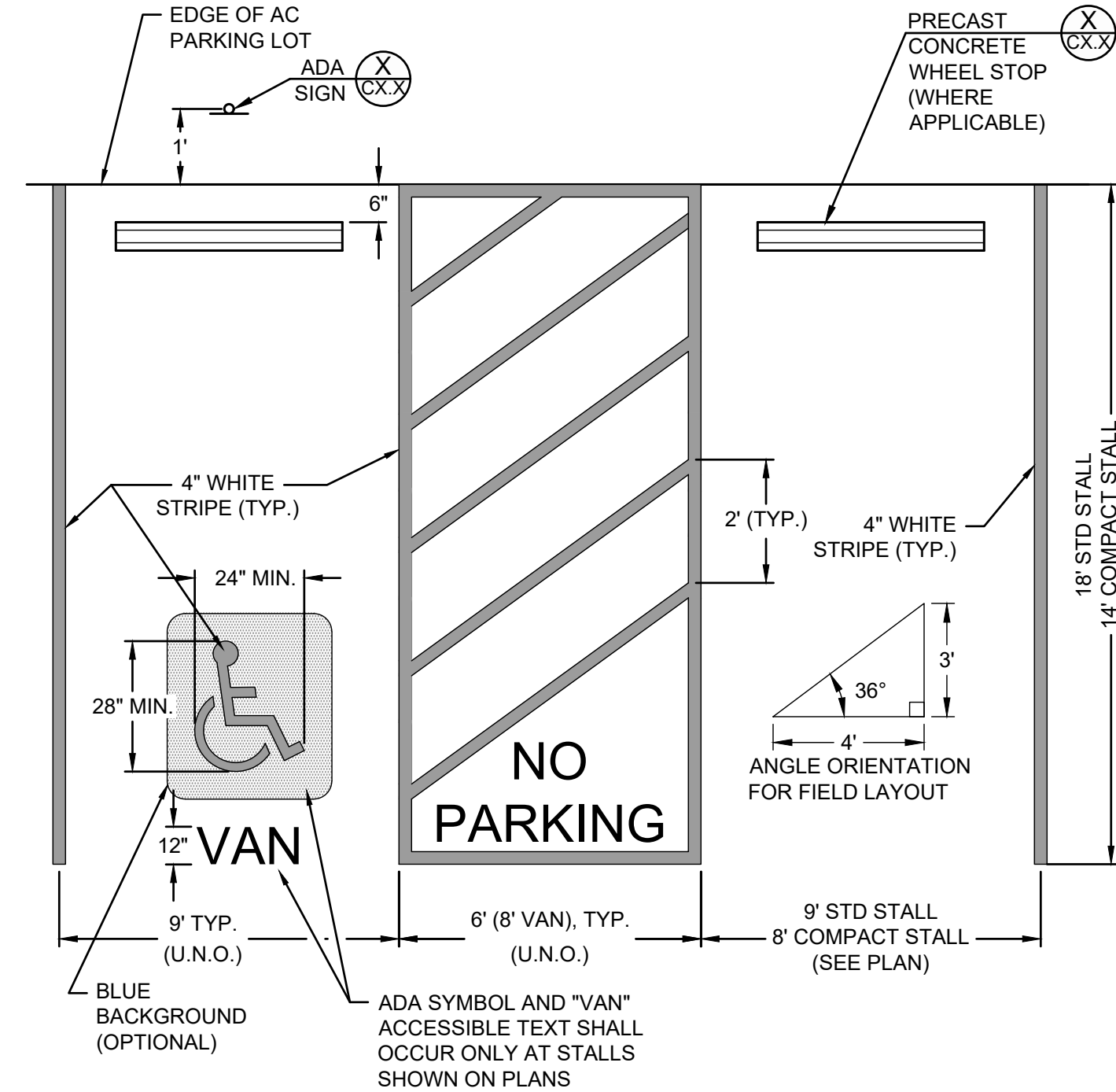
SCALE: NTS



- NOTES:
- DIMENSIONS ARE NOMINAL AND MAY VARY TO CONFORM TO MANUFACTURER'S PRODUCTS APPROVED BY ENGINEER.

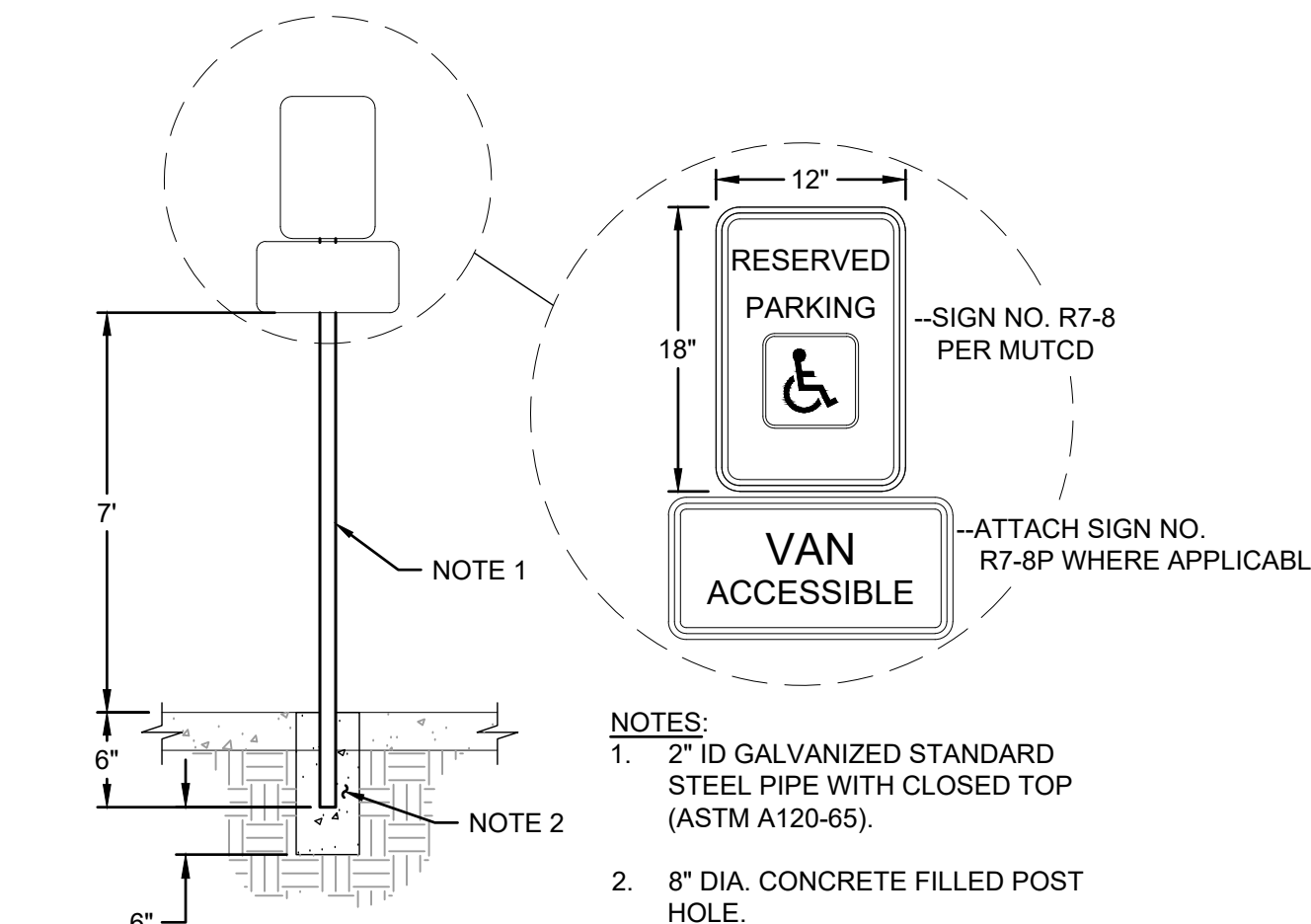
PRECAST CONCRETE WHEEL STOP

SCALE: NTS



TYPICAL PARKING LAYOUT

SCALE: NTS

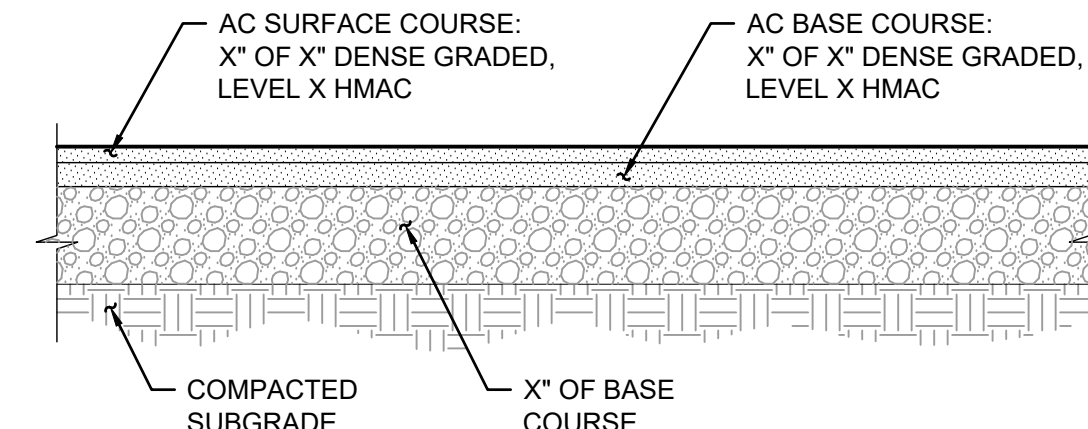


ADA PARKING SIGN - TYPE 1

SCALE: NTS

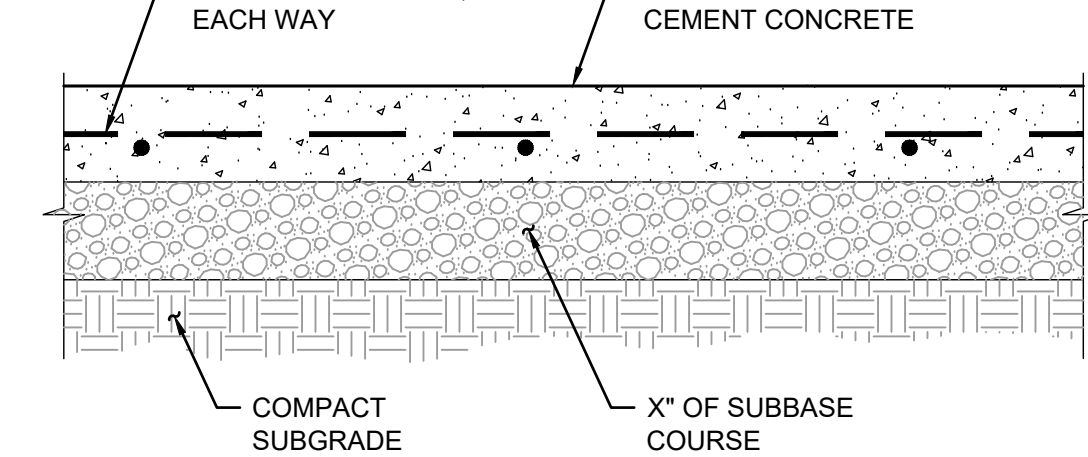
ASPHALT PAVEMENT SECTION

SCALE: NTS



CONCRETE PAVEMENT SECTION

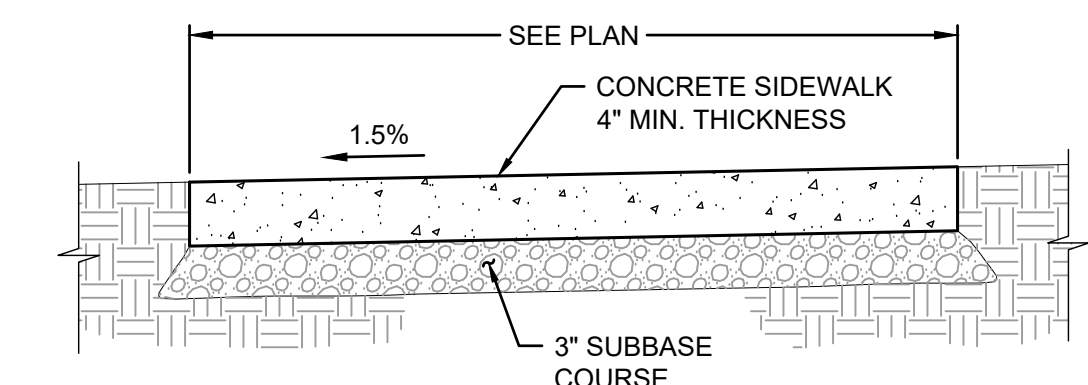
SCALE: NTS



- NOTES:
- JOINTS:
 - CONSTRUCT CONTRACTION JOINTS AT 15' MAX. SPACING AND AT RAMPS.
 - CONSTRUCT EXPANSION JOINTS AT 200' MAX. SPACING AT POINTS OF TANGENCY AND AT ENDS OF EACH DRIVEWAY.
 - PROVIDE MEDIUM TO COARSE BROOM FINISH.

REINFORCED CONCRETE PAVEMENT SECTION

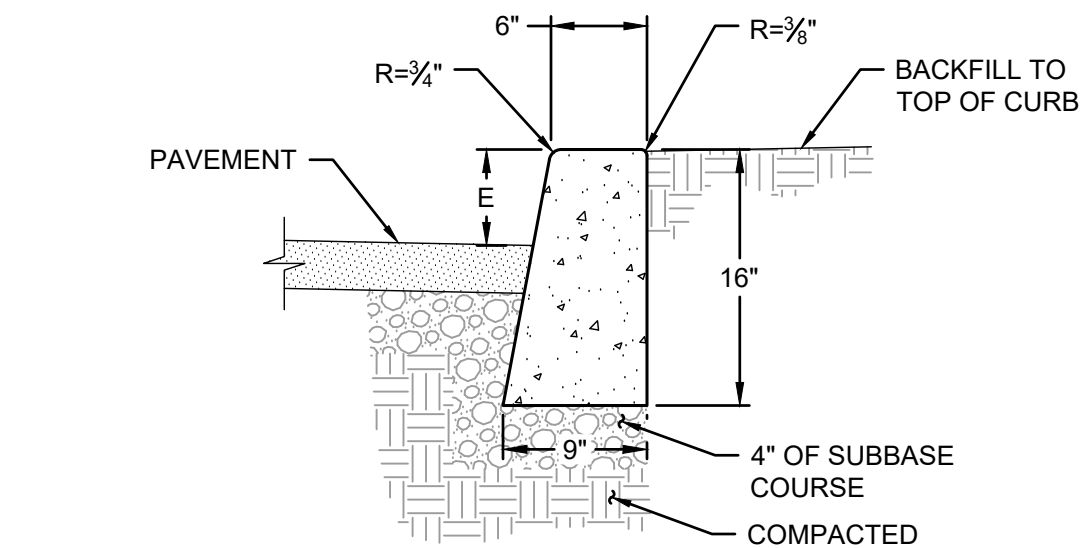
SCALE: NTS



- NOTES:
- CONSTRUCT CONTRACTION JOINTS AT 15' MAX. SPACING AND AT RAMPS. CONSTRUCT EXPANSION JOINTS AT 200' MAX SPACING, AT POINTS OF TANGENCY AND AT ENDS OF EACH DRIVEWAY, UNLESS NOTED OTHERWISE.

CONCRETE SIDEWALK

SCALE: NTS



- NOTES:
- CURB EXPOSURE 'E' = 6", TYP. VARY AS SHOWN ON PLANS OR AS DIRECTED.
 - CONSTRUCT CONTRACTION JOINTS AT 15' MAX. SPACING AND AT RAMPS. CONSTRUCT EXPANSION JOINTS AT 200' MAX SPACING AT POINTS OF TANGENCY AND AT ENDS OF EACH DRIVEWAY.
 - TOPS OF ALL CURBS SHALL SLOPE TOWARD THE ROADWAY AT 2% UNLESS OTHERWISE SHOWN OR AS DIRECTED.
 - DIMENSIONS ARE NOMINAL AND MAY VARY TO CONFORM WITH CURB MACHINE AS APPROVED BY THE ENGINEER.

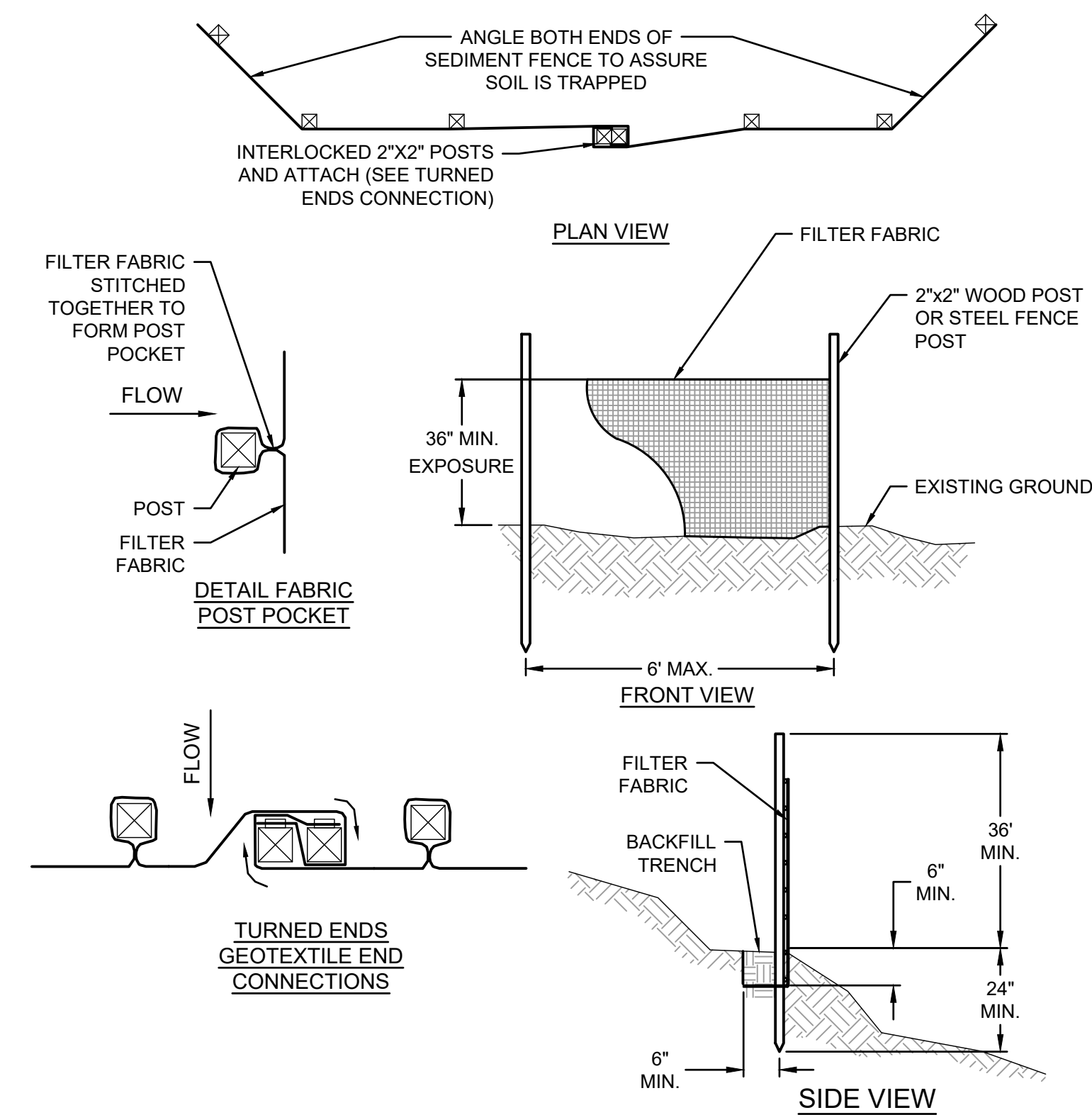
STANDARD CONCRETE CURB

SCALE: NTS

REV	DATE	ISSUE TITLE

PROJECT MANAGER:	EME
DESIGNER:	ABT
DRAWN BY:	BULLMANN
PROJECT NO.:	24-C012
DATE:	01/10/2025
SCALE:	AS SHOWN

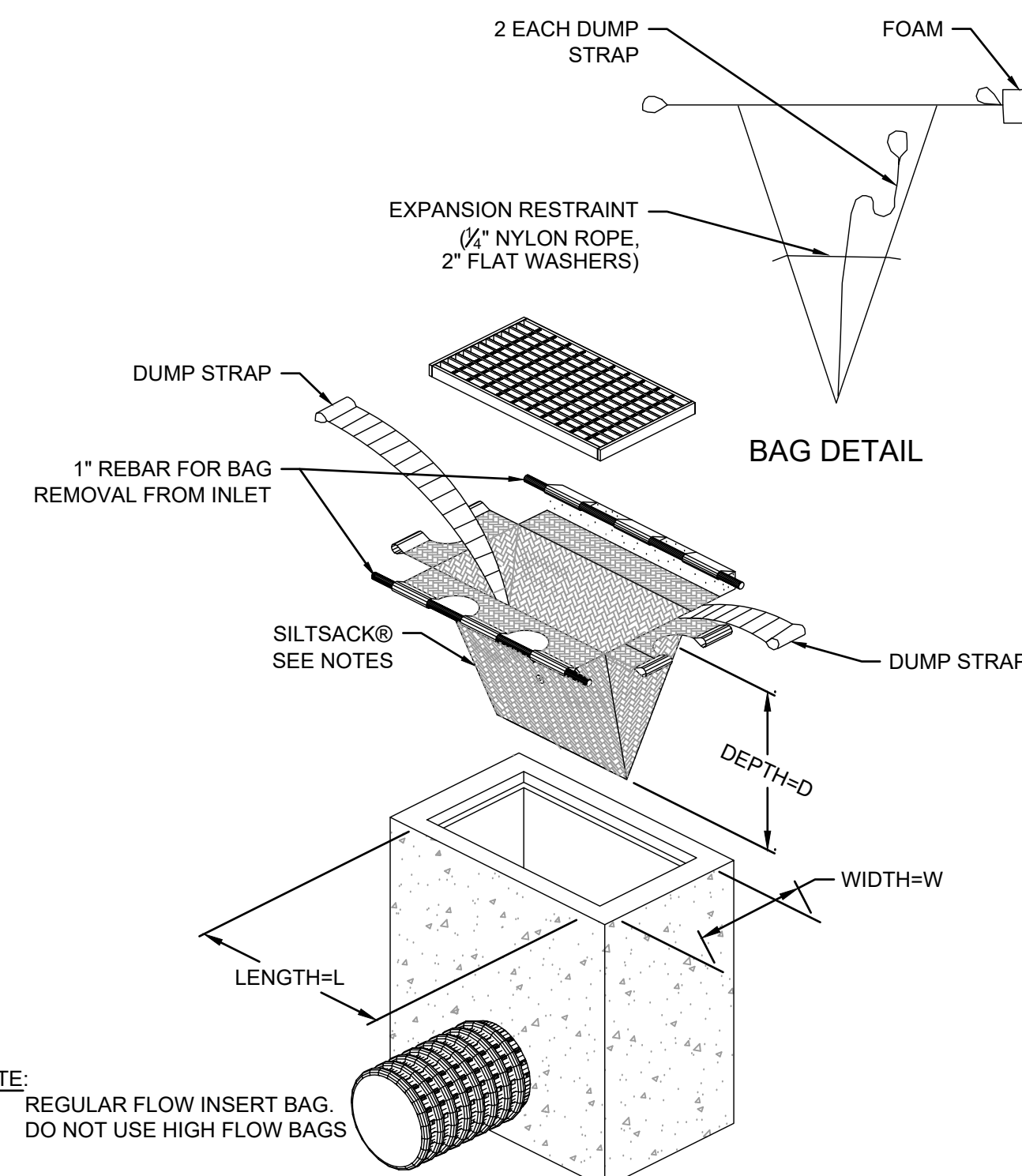
SHEET TITLE: DETAILS



- NOTES:**
1. THE FILTER FABRIC SHALL BE (36" MIN. WIDTH) 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, OR OVERLAP 2"x2" POSTS AND ATTACH AS SHOWN ON DETAIL SHEET.
 2. THE FILTER FABRIC FENCE SHALL BE INSTALLED TO FOLLOW THE CONTOURS WHERE FEASIBLE. THE FENCE POSTS SHALL BE SPACED A MAXIMUM OF 6-FEET APART AND DRIVEN SECURELY INTO THE GROUND A MINIMUM OF 24-INCHES.
 3. THE FILTER FABRIC SHALL HAVE A MINIMUM VERTICAL BURIAL OF 6-INCHES. ALL EXCAVATED MATERIAL FROM FILTER FABRIC FENCE INSTALLATION, SHALL BE BACKFILLED AND COMPACTED, ALONG THE ENTIRE DISTURBED AREA.
 4. STANDARD OR HEAVY DUTY FILTER FABRIC SHALL HAVE MANUFACTURED STITCHED LOOPS FOR 2"x2" POST INSTALLATION. STITCHED LOOPS WITH STAKES SHALL BE INSTALLED ON THE DOWN-HILL SIDE OF THE SLOPED AREA.
 5. FILTER FABRIC FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UP-SLOPE AREA HAS BEEN PERMANENTLY PROTECTED AND STABILIZED.
 6. FILTER FABRIC FENCES SHALL BE INSPECTED BY CONTRACTOR IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS, RELOCATIONS OR ADDITIONS SHALL BE MADE IMMEDIATELY.

SEDIMENT FENCE

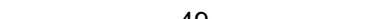
SCALE: NTS

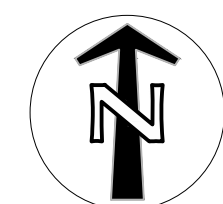


INLET SEDIMENT PROTECTION

SCALE: NTS

SHEET LEGEND

	PROPERTY LINE
	EX. CONTOUR MINOR
	EX. CONTOUR MAJOR
	PROP. CONTOUR MINOR
	PROP. CONTOUR MAJOR
	EXTENT OF WORK
	SEDIMENT CONTROL FENCE. PLACE AT PROPERTY LINES, UNO (SHOWN OFFSET FOR CLARITY).
	INLET PROTECTION
	DRAINAGE FLOW DIRECTION
	7' X 7' - "ECOPAN" CONCRETE WASHOUT, CONTACT JAIME SHEARER (503) 329-3204



SCALE

1 INCH = 20 FEET

Age Group	Number of People
20	20
0	10
20	20
4	40



PRELIMINARY
NOT FOR
CONSTRUCTION

1001 SE SANDY BLVD,
PORTLAND, OR, 92714

86930 EAST HISTORIC COLUMBIA RIVER HWY
CORRETT OR 97019

CORBETT FIRESTATION 62

CORBETT
ADDITION

LAND USE SET

REV	DATE	ISSUE TITLE

PROJECT MANAGER:	EME
DESIGNER:	ABT
DRAWN BY:	BULLMANN
PROJECT NO:	24-C012
DATE:	01/10/2025
SCALE:	AS SHOWN

SHEET TITLE:
EROSION AND
SOIL CONTROL
PLAN

SHEET NUMBER:

C6.0

LAND USE SET