

SE 1/4 OF SEC 20, T. 2 N., R. 7 E., W.M.



Site Address:

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Skamania County
North Bonneville, WA

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Base Survey Control:

Vertical Datum

Elevations shown hereon are navd88 derived from trimble rtx
post-processing service on temporary benchmark no. 1 shown hereon.

Horizontal Datum (basis of bearings):

Washington state plane coordinate system, nad 83 (2011), south zone 4602, us survey feet, derived from trimble rx post-processing service, distances shown hereon are ground and have been scaled by a combined grid to ground scale of 0.999951262 about temporary benchmark no. 1 shown hereon.



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COVERSHEET FOR:
CASCADE BUSINESS PARK
A SITE LOCATED IN THE CITY OF NORTH BONNEVILLE, WASHINGTON



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DESIGNED:
AW/JD

CHECKED:
JBA

MARCH 202
78260.000

SHEET ID

G01

SHEET 1 OF 30

Full Size Sheet Format Is 22x34; If Printed Size Is Not 22x34, Then This Sheet Format Has Been Modified & Indicated Drawing Scale Is Not Accurate.

Filename: I:\Projects\78260\78260-000\Civil\CAD\Working\Sheets\project-01\78260-000_C02-03.dwg
 Layout Tab: G02
 User: Jeff Anonewirth
 CAD Plot Date/Time: 3/28/2025 2:10:59 PM

PROPOSED SYMBOL LEGEND	
Proposed Irrigation Meter	
Proposed Irrigation Backflow Device	
Proposed Irrigation Valve	
Proposed Irrigation Bend Tee W/ TB	
Proposed Irrigation Bend Tee W/ Valve	
Proposed Irrigation Stand Pipe	
Proposed Irrigation Bend X	
Proposed Irrigation Temporary Blowoff	
Proposed Irrigation Standard Blowoff	
Proposed Irrigation Reducer	
Proposed Irrigation Thrust Block	
Proposed Sanitary Cap	
Proposed Sanitary Reducer	
Proposed Sanitary Cleanout	
Proposed Sanitary Manhole	
Proposed Catch Basin	
Proposed Area Drain	
Proposed Combination Curb Inlet	
Proposed Storm Reducer	
Proposed Rain Drain	
Proposed Storm Cleanout	
Proposed Storm Manhole	
Proposed Sedimentation Manhole	
Proposed Drywell	
Proposed Fire Protection Vault	
Proposed Water Meter	
Proposed Water Backflow Device	
Proposed Water Valve	
Proposed Water Bend Tee W/ Valve	
Proposed Water Bend Tee W/ TB	
Proposed Water 22½° Bend W/ TB	
Proposed Water 11¼° Bend W/ TB	
Proposed Water 45° Bend W/ TB	
Proposed Water 90° Bend W/ TB	
Proposed Water Stand Pipe	
Proposed Water Bend X	
Proposed Water Temporary Blowoff	
Proposed Water Standard Blowoff	
Proposed Water Reducer	
Proposed Water Thrust Block	
Proposed Fire Hydrant	
Proposed Bollard	
Proposed Street Light	
Proposed Road Barrier	
Proposed Road Sign	
Proposed Flow Arrow	
Proposed Inlet Protection Pillow	
Proposed Gravel Construction Entrance	
Proposed Sedimentation Trap	
Proposed BMP Type (Puget Sound)	
Proposed Erosion Control Feature Code & ID Number (Puget Sound)	
EXISTING SYMBOL LEGEND	
Existing Shrub	
Existing Sign	
Existing Storm Drainage Data	
Existing Storm Manhole	
Existing Telephone Riser	
Existing Test Pit	
Existing Water Manhole	
Existing Water Meter	
Existing Water Valve	

PROPOSED LINETYPE LEGEND	
Proposed Sanitary Lateral	
Proposed Sanitary Sewer Pipe	
Proposed Storm Pipe	
Proposed Storm Rain Drain	
Proposed Storm Under Drain	
Proposed Water Lateral	
Proposed Water Pipe	
Proposed Building	
Proposed Centerline	
Proposed Contour	
Proposed Curb & Gutter	
Proposed Easement	
Proposed End of Pavement	
Proposed Erosion Control Filter Fabric Fence	
Proposed Fence	
Proposed Flow Line	
Proposed Lot Line	
Proposed Paint Stripe	
Proposed Property Line	
Proposed Right-Of-Way	
Proposed Sawcut Line	
FUTURE LINETYPE LEGEND	
Future Centerline	
Future Contour	
Future Curb	
Future Lot Line	
Future Paint Stripe	
Future Right-Of-Way	
Future Sidewalk	

EXISTING SYMBOL LEGEND	
Existing Area Drain	
Existing Catch Basin	
Existing Cleanout	
Existing Combo Inlet	
Existing Coniferous Tree	
Existing Deciduous Tree	
Existing Ditch Inlet	
Existing Electrical Pedestal	
Existing Fire Hydrant	
Existing Flow Arrow	
Existing Gas Valve	
Existing Guy Anchor	
Existing Iron Rod	
Existing Power Meter	
Existing Power Pole	
Existing Power Riser	
Existing Project Bench Mark	
Existing Roof Drain	
Existing Sanitary Cleanout	
Existing Sanitary Manhole	
Existing Sanitary Sewer Data	

EXISTING LINETYPE LEGEND	
Existing Sanitary Sewer Pipe	
Existing Storm Sewer Pipe	
Existing Water Pipe	
Existing Water Lateral	
Existing Building	
Existing Cable Tv Line	
Existing Centerline	
Existing Contour	
Existing Curb	
Existing Curb & Gutter	
Existing Fence	
Existing Fiber Optic Line	
Existing Flow Line	
Existing Gas Line	
Existing Gravel Road	
Existing Lot Line	
Existing Over Head Power Line	
Existing Paint Stripe	
Existing Property Line	
Existing Quarter Section	
Existing Right-Of-Way	
Existing Telephone Line	
Existing Underground Utility Line	
Existing Utility Easement	
Existing Wall	

STANDARD ENGINEERING ABBREVIATIONS							
A		E		N		S	
Ac	Acres	E	East	N	North	SF	Square Feet
AC	Asphalt Concrete	EG	Extg Ground	NA	Not Applicable	SHLDR	Shoulder
AD	Area Drain	EL	Elevation	No or #	Number	SHT	Sheet
ADS	Advanced Drainage Systems	ELEC	Electric	NE	Northeast	SLV	Sleeve
		EOP	End Of Project	NIC	Not In Contract	SPEC	Specification
APPD	Approved	EP	Edge Of Pavement	NOM	Nominal	SQ	Square
ASSY	Assembly	ER	End Curb Return	NTS	Not to Scale	SS	Sanitary Sewer
ASTM	American Society for Testing & Materials	ESMT	Easement	NW	Northwest	S/S	Stainless Steel
		EVC	End Vertical Curve			SSMH	Sanitary Sewer Manhole
AVE	Avenue	EXTG	Existing	O		ST	Steel
				OC	On Center	ST	Street
				OD	Outside Diameter	ST W	Storm Water
BC	Back Of Curb	FF	Finished Floor Elevation	OHP	Overhead Power	STA	Station
BF	Butterfly			OZ	Ounce	STD	Standard
BLVD	Boulevard	FG	Finish Grade	P		SVC	Service
BM	Benchmark	FH	Fire Hydrant			SW or S/W	Sidewalk
BO	Blowoff	FL	Flow Line	PAVT	Pavement	SW	Southwest
BOP	Beginning Of Project	FLG	Flange	PC	Point Of Curvature	SYM	Symbol
BOT	Bottom	FM	Force Main	PCC	Point Of Compound Curvature		
BR	Begin Curb Return	FPT	Female pipe tapered				
BVC	Begin Vertical Curve	FT	Foot/Feet	PCC	Portland Cement Concrete	T	
BW	Bottom Of Wall	G		PE	Plain End	T	Tangent
				PERC	Percolation	T&G	Tongue and groove
		G	Natural Gas	PERF	Perforated	TA	Top of Asphalt
C&G	Curb And Gutter	GA	Guage	PH	Phase	TB	Thrust Block
CAT	Category	GND	Ground	PI	Point Of Intersection	TBC	Top Back of Curb
CB	Catch Basin	GRD	Grade	PKWY	Parkway	TBM	Temp Benchmark
CCI	Combination Curb Inlet	GV	Gate Valve	PL	Place	TC	Top Of Curb
CEM	Cement	H		PL	Property Line	TEL	Telephone
CF	Cubic Feet			POC	Point Of Connection	TEMP	Temporary
CHK	Check	HDPE	High Density Polyethylene	PP	Power Pole	TFC	Top Face of Curb
CI	Curb Inlet	HMA	Hot Mix Asphalt	PRC	Point Of Reverse Curve	TOP	Top Of Manhole Rim Elevation
CIP	Cast In Place	HORIZ	Horizontal	PRELIM	Preliminary	TOPO	Topography
CIR	Circle	HW	High Water Elevation			TP	Test Pit
CL	Centerline	HWY	Highway	PRVC	Point Of Reverse Vert Curve	TSW	Top of Sidewalk
CL	Class	HYD	Hydrant	PSI	Pound per Square Inch	TV	Cable Television
CM/SEC	Centimeters per Second	I				PT	Point
CMP	Corrugated Metal Pipe			ID	Inside Diameter	PT	Point Of Tangency
		IE	Invert Elevation	PVC	Polyvinylchloride	U	
CO	Cleanout	IN/HR	Inches per Hour	PVI	Point Of Vertical Intx	UGP	Underground Power
COMB	Combination	INTX	Intersection			UTIL	Utility
COMP	Compaction	INV	Invert	R		V	
CONC	Concrete	IPS	Iron Pipe Size				
CONST	Construction	IRR	Irrigation Water	R	Radius	VC	Vertical Curve
CPE	Corrugated Polyethylene	L		RAD	Radius	VERT	Vertical
CSBC	Crushed Surfacing Base Course			RD	Road		
CT	Court	L	Length	REINF	Reinforced	W	
CY	Cubic Yard	LAT	Lateral	REQD	Required	W	West
		LBS	Pounds	REV	Revision	W/	With
		LF	Linear Feet	ROW	Right Of Way	W/O	Without
Δ	Delta	LT	Left	RR	Railroad	WL	Water Line
D	Depth	LUM	Luminaire	RT	Right	WM	Water Meter
DB	Drain Basin	M		S		Y	
DBL	Double						
DCVA	Double Check Valve Assembly	MAX	Maximum	S	South	YD	Yard
DEMO	Demolition	MB	Mail Box	S=	Slope Equals		
DET	Detail	MFR	Manufacturer	SCHED	Schedule		
Ø or DIA	Diameter	MH	Manhole	SD	Storm Drain		
DI or DIP	Ductile Iron Pipe	MIL	Millimeter	SDMH	Storm Drain Manhole		
DR	Drive	MIN	Minimum				
DS	Downspout	MISC	Miscellaneous	SE	Southeast		
DW	Drywell	MJ	Mechanical Joint	SECT	Section		
DWY	Driveway						

HATCH LEGEND	
Proposed Crushed Surfacing Base Course (CSBC)	
Proposed Grind and Inlay	

LEGEND AND ABBREVIATIONS FOR:

CASCADE BUSINESS PARK
 A SITE LOCATED IN THE CITY OF NORTH BONNEVILLE, WASHINGTON



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DESIGNED: AW/JD

CHECKED: JBA

MARCH 2025 78260.000

SHEET ID

G02

SHEET 2 OF 30

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100% PLANS

File name: I:\Projects\78260\78260-000\Civil\CAD\Working\Sheets\project-01\78260-000_C02-03.dwg Layout Tab: G03 User: Jeff Anonewith CAD Plot Date/Time: 3/28/2025 2:11:02 PM

GENERAL NOTES:

1. SURVEY PERFORMED BY S&f LAND SERVICES ON JUNE 6, 2023.
2. THE VERTICAL DATUM: ELEVATIONS SHOWN HEREON ARE NAVD88
3. HORIZONTAL DATUM (BASIS OF BEARINGS): WASHINGTON STATE PLANE COORDINATE SYSTEM, NAD 83.
4. CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS AND DEPTHS PRIOR TO CONSTRUCTION. A MINIMUM OF TWO FULL BUSINESS DAYS PRIOR TO BEGINNING OF CONSTRUCTION, THE CONTRACTOR SHALL CALL 811 (UTILITY NOTIFICATION CENTER) FOR LOCATION MARK-UP OF EXISTING UTILITIES. NOTIFY ENGINEER OF ANY DISCREPANCIES.
5. ALL CONSTRUCTION AND MATERIALS, UNLESS OTHERWISE SPECIFIED, SHALL CONFORM TO THE LATEST STANDARDS AND PRACTICES OF THE CITY OF NORTH BONNEVILLE AND THE 2025 EDITION OF THE WSDOT STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION.
6. THE CONTRACTOR SHALL HAVE A COPY OF THESE PLANS, PROJECT SPECIFICATIONS, ADDENDA, CHANGE ORDERS AND SWPPP ON THE JOB SITE AT ALL TIMES. THE CONTRACTOR SHALL MAINTAIN AND UPDATE A FULL-SIZE SET OF AS-BUILT'S AND THE SWPPP.
7. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ALL CONSTRUCTION EASEMENTS AND PERMITS NECESSARY TO PERFORM THE WORK.
8. AT THE END OF EACH DAY, THE CONTRACTOR SHALL CLEAN UP THE PROJECT AREA AND LEAVE IT IN A NEAT AND SECURED MANNER. UPON COMPLETION, THE CONTRACTOR SHALL LEAVE THE PROJECT FREE OF DEBRIS AND UNUSED MATERIAL.
9. IF EXISTING CURB AND SIDEWALK DESIGNATED TO REMAIN ARE DAMAGED, THE CURB AND/OR SIDEWALK SHALL BE REMOVED AND REPLACED TO THE ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.
10. ALL LAWN AND VEGETATED AREAS DISTURBED WILL BE RESTORED TO ORIGINAL CONDITION, ANY DISTURBANCE OR DAMAGE TO OTHER PROPERTY ON ADJACENT PARCELS OR IN THE PUBLIC RIGHT OF WAY SHALL ALSO BE REPAIRED OR RESTORED TO ORIGINAL CONDITION.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF ADJACENT UTILITIES WHICH MAY INCLUDE, BUT ARE NOT LIMITED TO, WATER, SANITARY SEWER, STORMWATER, POWER, TELEPHONE, CABLE TV, GAS, IRRIGATION, AND STREET LIGHTING. THE CONTRACTOR SHALL
12. ALL TRENCHING EXCAVATION AND PIPE INSTALLATION SHALL CONFORM TO THE MOST CURRENT APWA\WSDOT STANDARD SPECIFICATIONS SECTION 7-08.3(1) AND SPECIAL PROVISIONS. ALL EXCESS MATERIAL FROM THE TRENCH EXCAVATION SHALL BE DISPOSED OF AT AN APPROVED SITE.
13. SHORING IS REQUIRED FOR ALL TRENCHES IN EXCESS OF 48-IN DEPTH.
14. PROTECTION OF THE ENVIRONMENT: NO CONSTRUCTION RELATED ACTIVITIES SHALL CONTRIBUTE TO THE DEGENERATION OF THE ENVIRONMENT, ALLOW MATERIAL TO ENTER SURFACE OR GROUND WATERS, OR ALLOW PARTICULATE EMISSIONS TO ENTER THE ATMOSPHERE, WHICH EXCEED STATE OR FEDERAL STANDARDS. ANY ACTION THAT POTENTIALLY ALLOWS A DISCHARGE TO STATE WATERS MUST HAVE PRIOR APPROVAL OF THE STATE OF WASHINGTON, DEPARTMENT OF ECOLOGY. IT IS CRITICAL THAT NO SEDIMENT BE ALLOWED TO MIGRATE FROM THE CONSTRUCTION AREA OR DURING TRANSPORTATION OF EQUIPMENT AND MATERIALS TO THE WORK AREA. THE CONTRACTOR SHALL BE FAMILIAR WITH THE CITY OF CAMAS MUNICIPAL CODE. A STOP WORK ORDER WILL BE ISSUED UPON ANY OCCURRENCE OF SEDIMENT TRANSPORT, TRACKING, OR OTHER RELATED PROBLEMS. VIOLATIONS OF THE CAMAS MUNICIPAL CODE AND THE CLEAN WATER ACT ARE SUBJECT TO ENFORCEMENT ACTIONS AND FINES BY THE CITY OF CAMAS AND THE DEPARTMENT OF ECOLOGY.
15. INADVERTENT DISCOVERY PLAN: IN THE EVENT ANY HUMAN ARCHAEOLOGICAL OR HISTORIC MATERIALS ARE ENCOUNTERED DURING PROJECT ACTIVITY, WORK IN THE IMMEDIATE AREA (INITIALLY ALLOWING FOR A 100' BUFFER; THIS NUMBER MAY VARY BY CIRCUMSTANCE) MUST STOP AND THE FOLLOWING ACTIONS TAKEN:

A. ADVISE OWNER; AND

B. IMPLEMENT REASONABLE MEASURES TO PROTECT THE DISCOVERY SITE, INCLUDING ANY APPROPRIATE STABILIZATION OR COVERING; AND

C. TAKE REASONABLE STEPS TO ENSURE THE CONFIDENTIALITY OF THE DISCOVERY SITE; AND,

D. TAKE REASONABLE STEPS TO RESTRICT ACCESS TO THE SITE OF DISCOVERY.

E. THE PORT WILL NOTIFY THE CONCERNED TRIBES AND ALL APPROPRIATE COUNTY, STATE, AND FEDERAL AGENCIES, INCLUDING THE DEPARTMENT OF ARCHAEOLOGY AND HISTORIC RESERVATION.THE AGENCIES AND TRIBE(S) WILL DISCUSS POSSIBLE MEASURES TO REMOVE OR AVOID CULTURAL MATERIAL, AND WILL REACH AN AGREEMENT WITH THE PROJECT PROPONENT REGARDING ACTIONS TO BE TAKEN AND DISPOSITION OF MATERIAL.IF HUMAN REMAINS ARE UNCOVERED, APPROPRIATE LAW ENFORCEMENT AGENCIES SHALL BE NOTIFIED FIRST, AND THE ABOVE STEPS FOLLOWED. IF THE REMAINS ARE DETERMINED TO BE NATIVE, CONSULTATION WITH THE AFFECTED TRIBES WILL TAKE PLACE IN ORDER TO MITIGATE THE FINAL DISPOSITION OF SAID REMAINS.SEE THE REVISED CODE OF WASHINGTON, CHAPTER 27.53, "ARCHAEOLOGICAL SITES AND RESOURCES," FOR APPLICABLE STATE LAWS AND STATUTES. SEE ALSO WASHINGTON STATE EXECUTIVE ORDER 05—05,"ARCHAEOLOGICAL AND CULTURAL RESOURCES." ADDITIONAL STATE AND FEDERAL LAW(S) MAY ALSO APPLY.

GRADING NOTES:

1. ALL GRADING SHALL CONFORM TO THE 2025 EDITION OF THE WSDOT STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION.
2. THE LIMITS OF CLEARING SHALL BE FENCED PRIOR TO CLEARING AND GRUBBING OF THE SITE.
3. THE CONTRACTOR SHALL BECOME FAMILIAR WITH THE GEOTECHNICAL REPORT PREPARED BY HART CROWSER FOR THE SITE DATED APRIL 2022. THE CONTRACTOR SHALL FOLLOW ALL RECOMMENDATIONS REGARDING EARTHWORK AS DETAILED IN THE REPORT.
4. ALL SURFACES SHALL BE GRADED SMOOTH AND BE FREE OF IRREGULARITIES THAT MIGHT ACCUMULATE SURFACE WATER.
5. ALL CUT AND FILL SLOPES SHALL NOT EXCEED 2:1 SLOPES.
6. 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 MAYBE REQUIRED.
7. ALL EXPOSED AND UNWORKED SOILS SHALL BE STABILIZED BY SUITABLE APPLICATION OF EROSION CONTROL BMP'S.
8. ALL SURFACES REQUIRING VEGETATION SHALL BE ROUGHENED PRIOR TO SEEDING (I.E. TRACKED PERPENDICULAR TO SURFACE FLOW TO REDUCE EROSION AND HELP VEGETATION).

STORM SEWER NOTES:

1. STORM SEWERS SHALL MEET THE PROVISIONS SET FORTH IN THE WASHINGTON DEPARTMENT OF ECOLOGY 1992 PUGET SOUND MANUAL AND THE LATEST WSDOT "STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION (CCC 40.386).
2. MATERIALS FOR STORM SEWER PIPE SHALL BE SMOOTH INTERIOR WATER TIGHT HDPE UNLESS OTHERWISE NOTED ON PLANS.
3. CONTRACTOR SHALL FIELD VERIFY THE LOCATION, ALIGNMENT, DEPTH AND INVERTS OF ALL EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION AND ORDERING MATERIALS. NOTIFY OWNER IMMEDIATELY OF EXISTING UTILITY CONFLICTS WITH NEW CONSTRUCTION.
4. IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER AND/OR CONTRACTOR TO PROCURE ALL APPLICABLE PERMITS, LICENSES AND CERTIFICATES RELATIVE TO THE TRADES TO COMPLETE THE PROJECT AND FOR THE USE OF SUCH WORK WHEN COMPLETED. COMPLIANCE SHALL BE AT ALL LEVELS: FEDERAL, STATE AND COUNTRY RELATING TO THE PERFORMANCE OF THIS WORK.

SANITARY SEWER NOTES:

1. THE CONTRACTOR SHALL UNDERSTAND AND ABIDE BY THE PROV ISIONS SET FORTH IN THE CITY OF NORTH BONNEVILLE MUNICIPAL CODE CHAPTER 13.12.
2. MATERIALS AND WORKMANSHIP FOR SANITARY WORK SHALL CONFORM TO THE PROJECT SPECIFICATIONS.
3. SANITARY SEWER LATERALS SHALL INSTALLED AT A MINIMUM SLOPE OF 0.02 FT/FT UNLESS OTHERWISE SPECIFIED ON PLANS.
4. MATERIALS FOR SANITARY SEWER PIPE SHALL BE SOLID WALL PVC SANITARY SEWER PIPE, UNLESS OTHERWISE SPECIFIED ON PLANS.

WATER SYSTEM NOTES:

1. THE CONTRACTOR SHALL UNDERSTAND AND ABIDE BY THE PROVISIONS SET FORTH IN THE CITY OF NORTH BONNEVILLE MUNICIPAL CODE CHAPTER 13.04.
2. USAGE OF THE CITY'S WATER DISTRIBUTION SYSTEM FOR CONSTRUCTION PURPOSES SHALL BE PERMITTED ONLY AFTER ARRANGEMENTS HAVE BEEN MADE WITH THE CITY OF NORTH BONNEVILLE. A CITY-APPROVED METER SHALL BE USED TO MEASURE ALL WATER WITHDRAWN BY THE CONTRACTOR FROM THE SYSTEM.
3. ALL WATER DISTRIBUTION MATERIALS SHALL MEET OR EXCEED THE REQUIREMENTS SET FORTH IN SECTION 9-30 OF THE WSDOT STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION.
4. WATER MAINS SHALL BE DUCTILE IRON PIPE, OR POLYVINYL CHLORIDE (PVC) PIPE MEETING THE REQUIREMENTS OF AWWA C900.
5. WHERE A PIPE DEFLECTION IS PROVIDED ON THE PLANS AS AN ANGLE OR A RADIUS, THE DEFLECTION CAN BE ACHEIEVED WITH DUCTILE IRON PIPE OR POLYVINYL CHLORIDE (PVC) PIPE AS SHOWN IN THE FOLLOWING TABLE:

	DEFLECTION ANGLE	DEFLECTION RADIUS
DUCTILE IRON PIPE	AXIAL DEFLECTION AT ONE OR MORE PIPE JOINTS ADDING UP TO THE DEFLECTION ANGLE SHOWN ON THE PLANS.	AXIAL DEFLECTION AT ONE OR MORE PIPE JOINTS SUCH THAT EACH PIPE JOINT IS LOCATED ON THE RADIUS CURVE. PIPE STICK LENGTHS ALONG THE RADIUS CURVE SHALL BE SELECTED SUCH THAT THE DEFLECTION AT EACH JOINT IS WITHIN MANUFACTURER ACCEPTABLE RANGE. SEE SPECIFICATION SECTION 7-09.3(15)A.
POLYVINYL CHLORIDE (PVC) PIPE	BEND PIPE TO A RADIUS GREATER THAN OR EQUAL TO MINIMUM SET FORTH IN SPECIFICATION SECTION 7-09.3(15)B.	BEND PIPE TO THE RADIUS SHOWN ON THE PLANS.

EROSION/SEDIMENT CONTROL NOTES:

1. THE GRADING AND EROSION CONTROL 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 EROSION/SEDIMENT CONTROL 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 GRADING AND EROSION CONTROL PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT AND UPGRADING OF THE EROSION/SEDIMENT CONTROL MEASURES IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION IS COMPLETED AND APPROVED AND PERMANENT VEGETATION/LANDSCAPING IS ESTABLISHED.
3. THE CONTRACTORS SHALL BE RESPONSIBLE TO FAMILIARIZE THEMSELVES WITH THE 1992 EDITION OF THE STORMWATER MANAGEMENT MANUAL FOR PUGET SOUND.
4. 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.
5. TO MINIMIZE EROSION AND SEDIMENTATION TRANSPORTATION. EARTHWORK SHALL NOT BE PERFORMED WHILE SOILS ARE IN AN UNSTABLE STATE DUE TO PRECIPITATION.
6. 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.
7. ALL POLLUTANTS THAT OCCUR ON-SITE DURING CONSTRUCTION SHALL BE HANDLED AND DISPOSED OF IN A MANNER THAT DOES NOT CAUSE CONTAMINATION OF THE STORMWATER SYSTEM.
8. 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.
9. 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.
10. 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 A T 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

GENERAL NOTES FOR:

CASCADE BUSINESS PARK
A SITE LOCATED IN THE CITY OF NORTH BONNEVILLE, WASHINGTON



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DESIGNED:
AW/JD

CHECKED:
JBA

MARCH 2025
78260.000

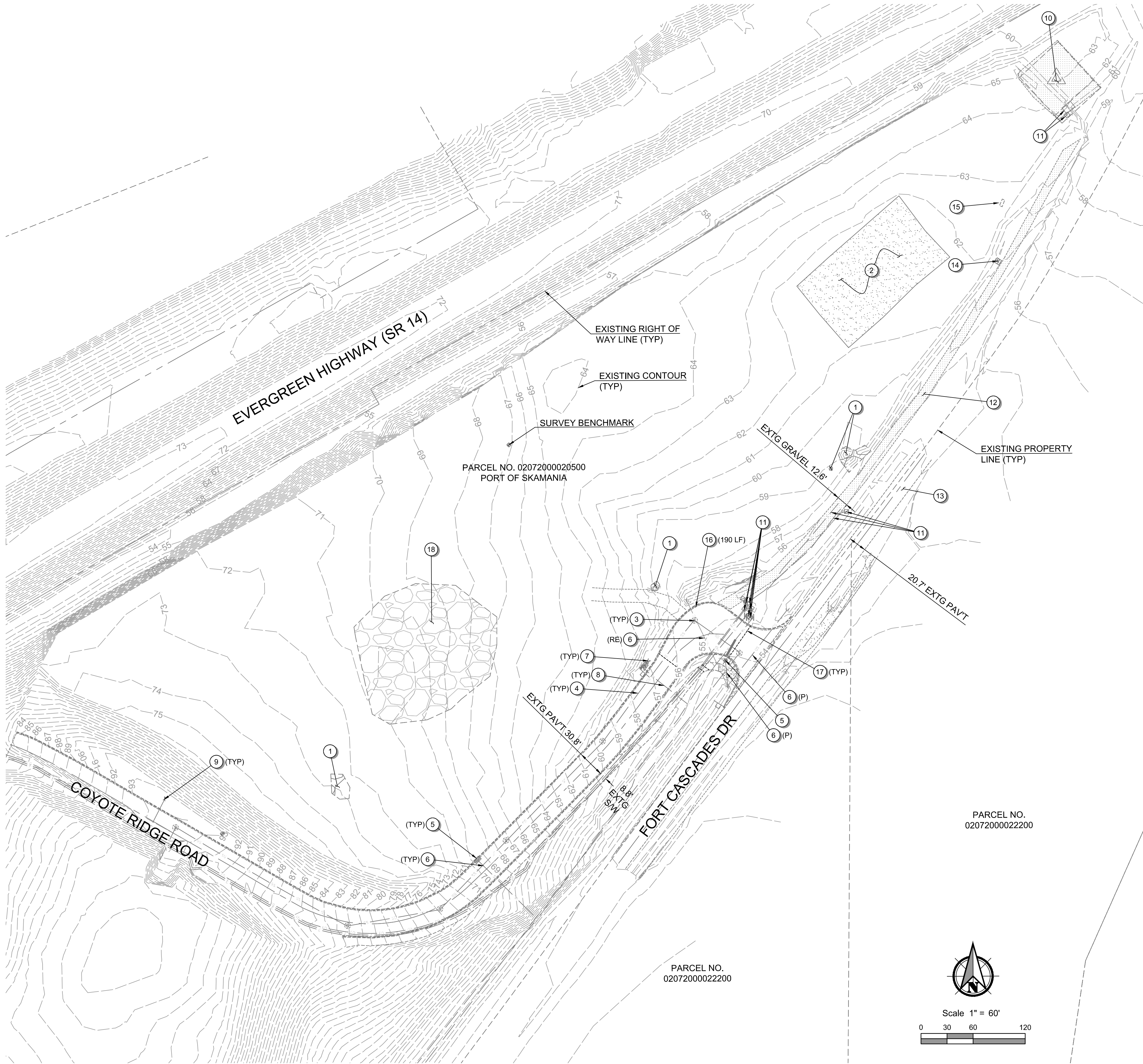
SHEET ID

G03

SHEET 3 OF 30

100% PLANS

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GENERAL NOTES:

1. SEE SHEET G03 FOR PROJECT'S GENERAL NOTES.
2. SEE SHEET G02 FOR ABBREVIATIONS AND MASTER LEGEND.
3. ALL ABOVE AND UNDERGROUND UTILITIES TO BE PROTECTED, UNLESS OTHERWISE NOTED.

SITE PREPERATION NOTES:

- ① REMOVE EXISTING ROCK/RUBBLE PILE.
- ② REMOVE EXISTING CONCRETE BUILDING PAD.
- ③ PROTECT EXISTING SANITARY MANHOLE.
- ④ PROTECT EXISTING SANITARY PIPE.
- ⑤ PROTECT EXISTING STORM INLET.
- ⑥ REMOVE (RE) OR PROTECT (P) EXISTING STORM PIPE.
- ⑦ PROTECT EXISTING FIRE HYDRANT.
- ⑧ PROTECT EXISTING WATER LINE.
- ⑨ PROTECT EXISTING WATER STAND PIPE.
- ⑩ PROTECT CELL TOWER SITE.
- ⑪ PROTECT EXISTING UTILITY.
- ⑫ EXISTING GRAVEL.
- ⑬ EXISTING ASPHALT.
- ⑭ EXISTING UTILITY TO BE RELOCATED, CONTRACTOR TO COORDINATE WITH UTILITY OWNER PRIOR TO RELOCATION.
- ⑮ REMOVE EXISTING CONCRETE BLOCKS.
- ⑯ REMOVE EXISTING CURB.
- ⑰ SAWCUT.
- ⑱ EXISTING CRUSHED SURFACING STOCK PILE.

BENCHMARK:

THE VERTICAL DATUM: ELEVATIONS SHOWN HEREON ARE NAVD88 DERIVED FROM TRIMBLE TRX POST-PROCESSING SERVICE ON TEMPORARY BENCHMARK NO. 1 SHOWN HEREON.

HORIZONTAL DATUM (BASIS OF BEARINGS): WASHINGTON STATE PLANE COORDINATE SYSTEM, NAD 83 (2011), SOUTH ZONE 4602, US SURVEY FEET, DERIVED FROM TRIMBLE RTX POST-PROCESSING SERVICE, DISTANCES SHOWN HEREON ARE GROUND AND HAVE BEEN SCALED BY A COMBINED GRID TO GROUND SCALE OF 0.999951262 ABOUT TEMPORARY BENCHMARK NO. 1 SHOWN HEREON.

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EXISTING CONDITIONS AND SITE PREP FOR:
CASCADE BUSINESS PARK
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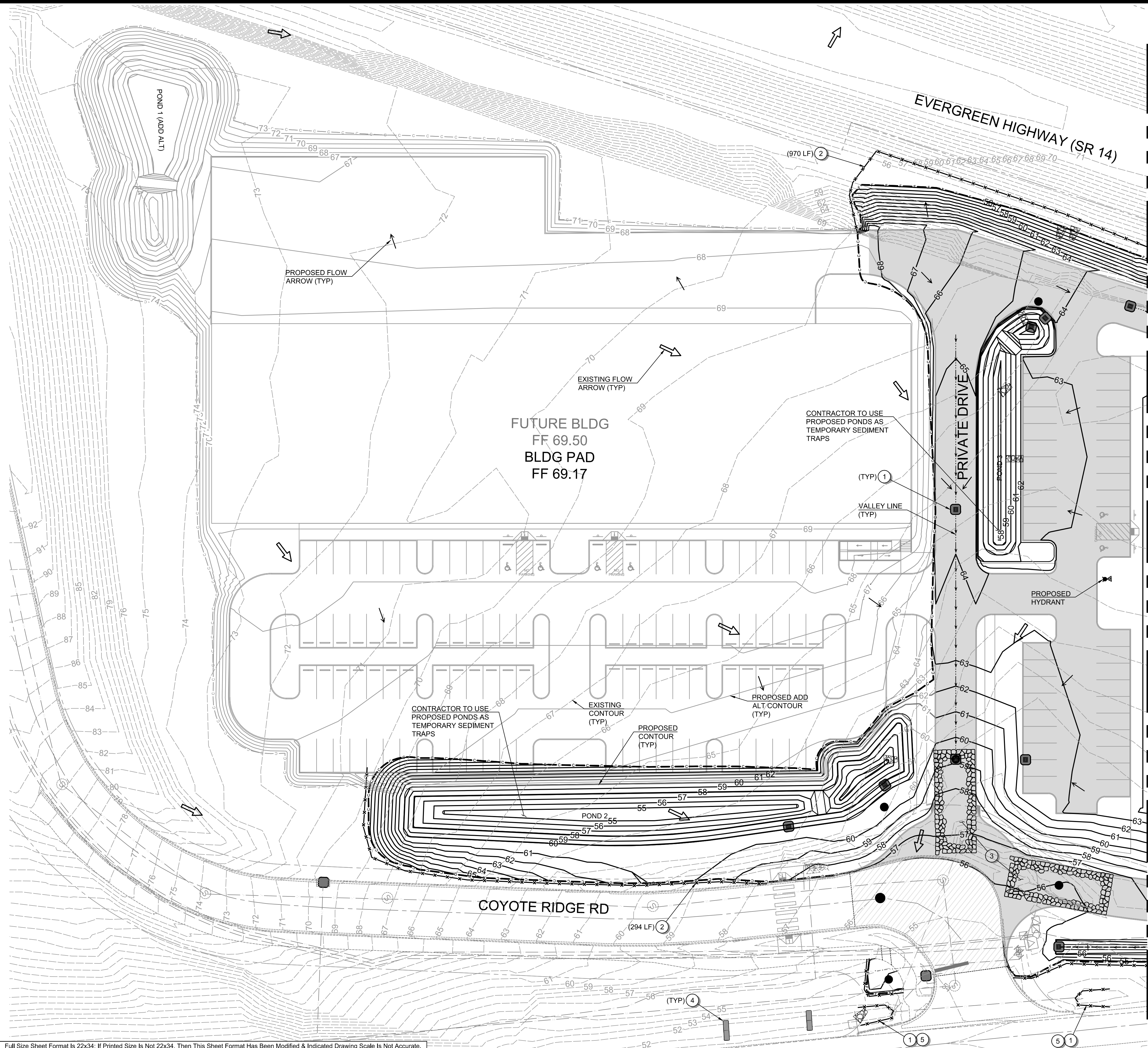
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EG01

SHEET **4** OF **30**

100% PLANS

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GENERAL NOTES:

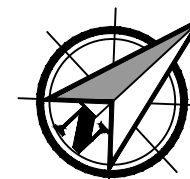
1. SEE SHEET G03 FOR PROJECT'S GENERAL NOTES.
2. SEE SHEET G02 FOR ABBREVIATIONS AND MASTER LEGEND.
3. CONTRACTOR TO DIRECT RUNOFF TO PROPOSED PONDS FOR TEMPORARY SEDIMENT PONDS. CONTRACTOR TO REMOVE SEDIMENT PRIOR TO POND SEEDING.

EROSION CONTROL NOTES:

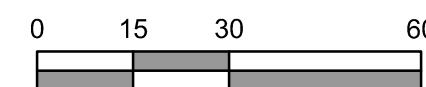
- ① STORM DRAIN INLET PROTECTION PER STANDARD DETAIL ON SHEET EC03.
- ② SILT FENCE PER DETAIL ON SHEET EC03.
- ③ STABILIZED CONSTRUCTION ENTRANCE PER DETAIL ON SHEET EC03.
- ④ BIODEGRADABLE CHECK DAM SEE DETAIL ON SHEET EC03 FOR SPACING AND MATERIALS.
- ⑤ INSTALL EROSION CONTROL AT CULVERT ENDS PER DETAIL ON SHEET EC03.

LEGEND

- PROPOSED CRUSHED SURFACING BASE COURSE
- PROPOSED GRIND AND INLAY
- PROPOSED SURFACE CONTOUR
- ADD ALT SURFACE CONTOUR



Scale 1" = 30'



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EROSION CONTROL PLAN FOR:

CASCADE BUSINESS PARK

A SITE LOCATED IN THE CITY OF NORTH BONNEVILLE, WASHINGTON



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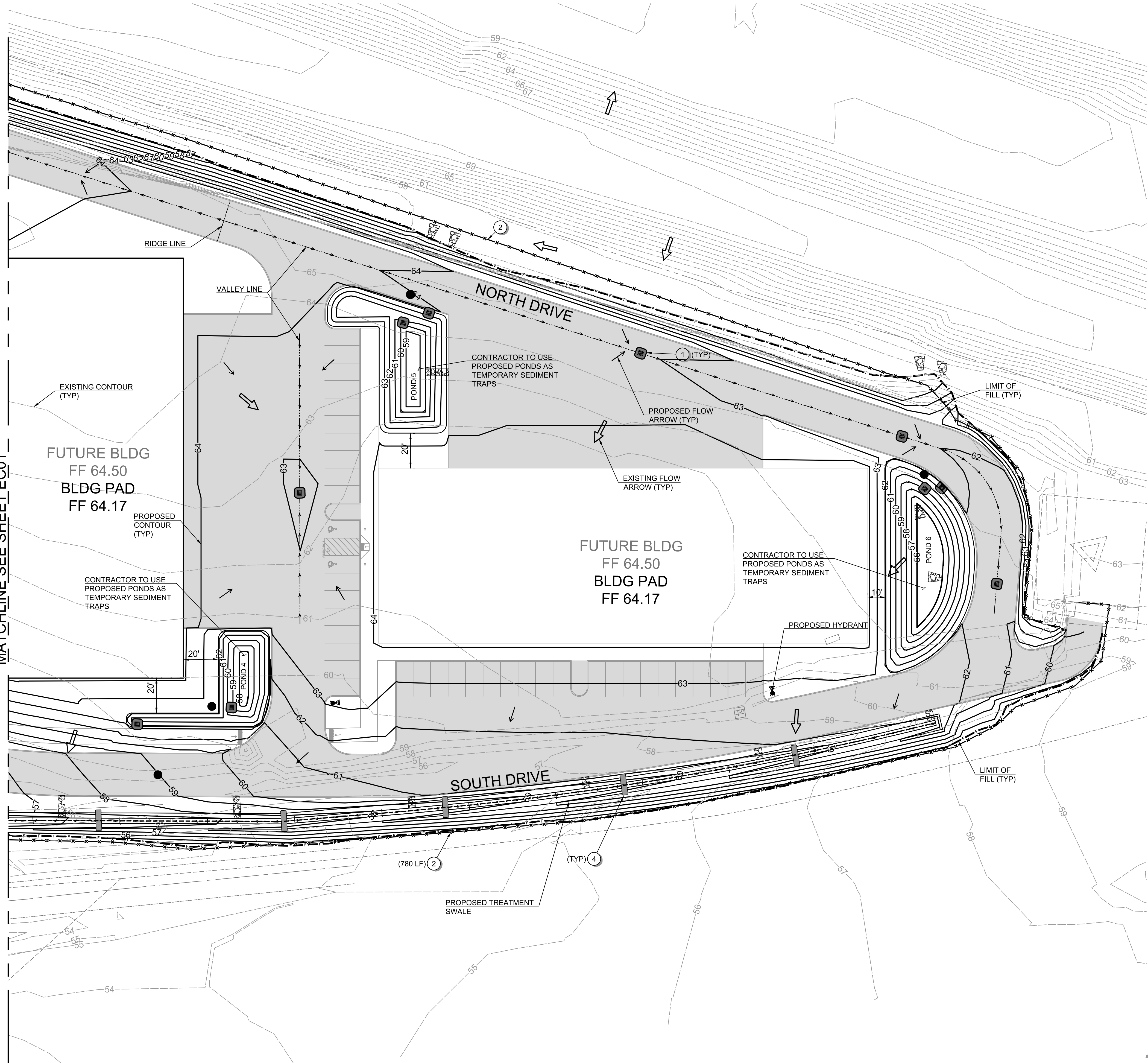
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EC01

SHEET **5** OF **30**

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MATCHLINE SEE SHEET EC01



GENERAL NOTES:

1. SEE SHEET G03 FOR PROJECT'S GENERAL NOTES.
2. SEE SHEET G02 FOR ABBREVIATIONS AND MASTER LEGEND.
3. CONTRACTOR TO DIRECT RUNOFF TO PROPOSED PONDS FOR TEMPORARY SEDIMENT PONDS. CONTRACTOR TO REMOVE SEDIMENT PRIOR TO POND SEEDING.

EROSION CONTROL NOTES:

- 1 STORM DRAIN INLET PROTECTION PER STANDARD DETAIL ON SHEET EC03.
- 2 SILT FENCE PER DETAIL ON SHEET EC03.
- 3 STABILIZED CONSTRUCTION ENTRANCE PER DETAIL ON SHEET EC03.
- 4 BIODEGRADABLE CHECK DAM SEE DETAIL ON SHEET EC03 FOR SPACING AND MATERIALS.
- 5 INSTALL EROSION CONTROL AT CULVERT ENDS PER DETAIL ON SHEET EC03.

LEGEND

- | | |
|--|--|
| | PROPOSED CRUSHED SURFACING BASE COURSE |
| | PROPOSED GRIND AND INLAY |
| | 67 PROPOSED SURFACE CONTOUR |
| | 67 ADD ALT SURFACE CONTOUR |

EROSION CONTROL PLAN FOR:

CASCADE BUSINESS PARK

A SITE LOCATED IN THE CITY OF NORTH BONNEVILLE, WASHINGTON



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SHEET ID

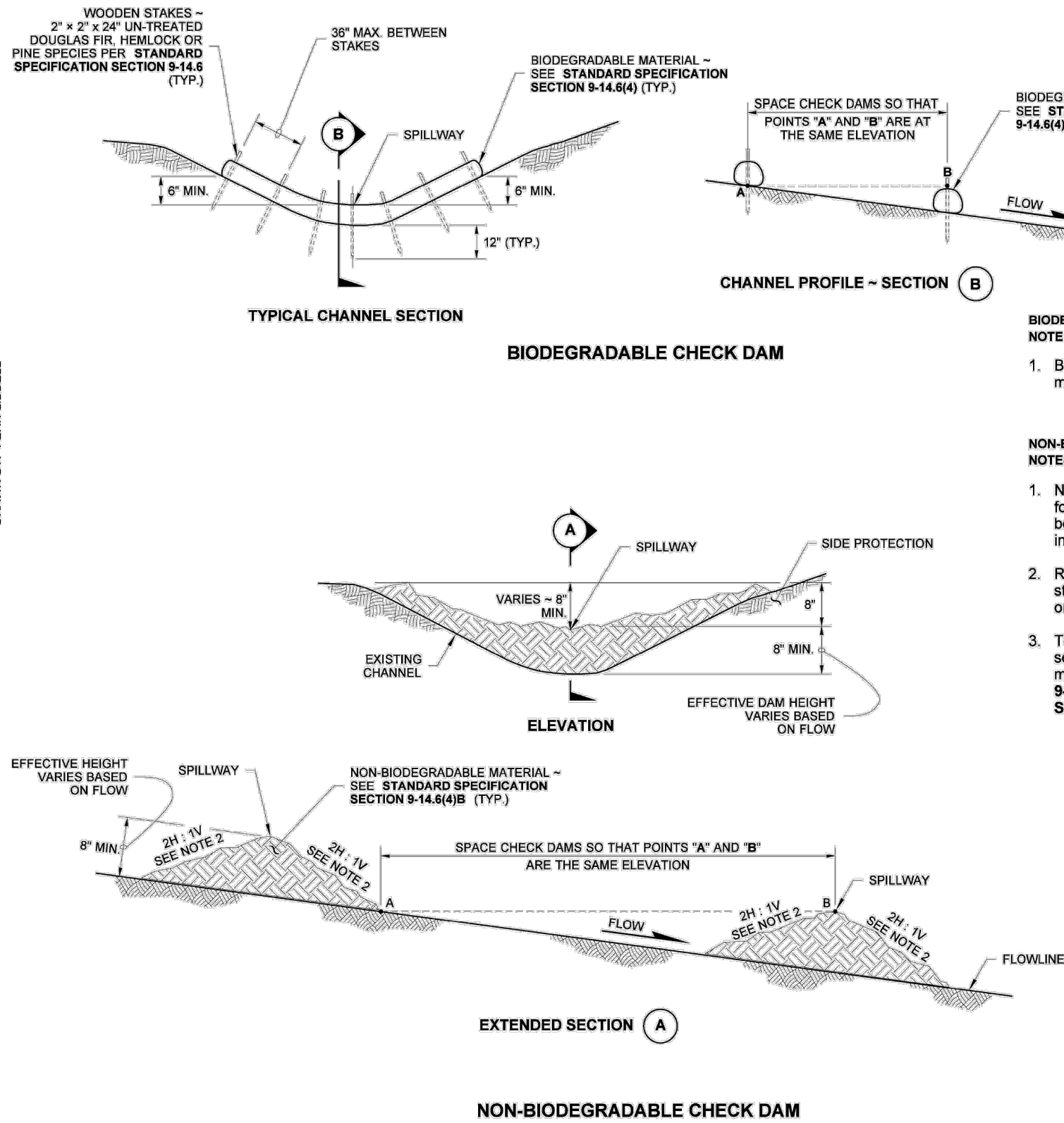
EC02

SHEET **6** OF **30**

100% PLANS

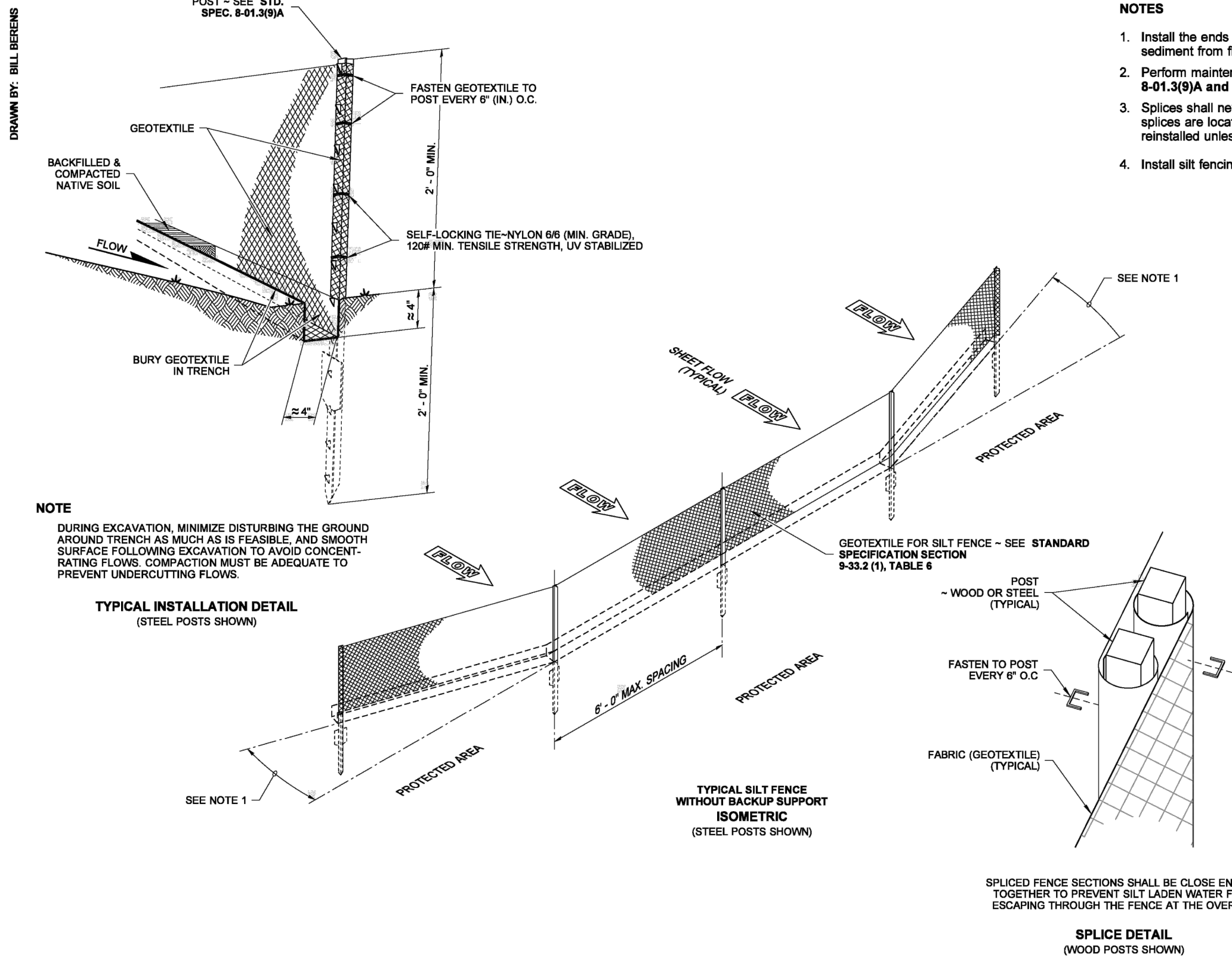
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DRAWN BY: FERN LIDDELL

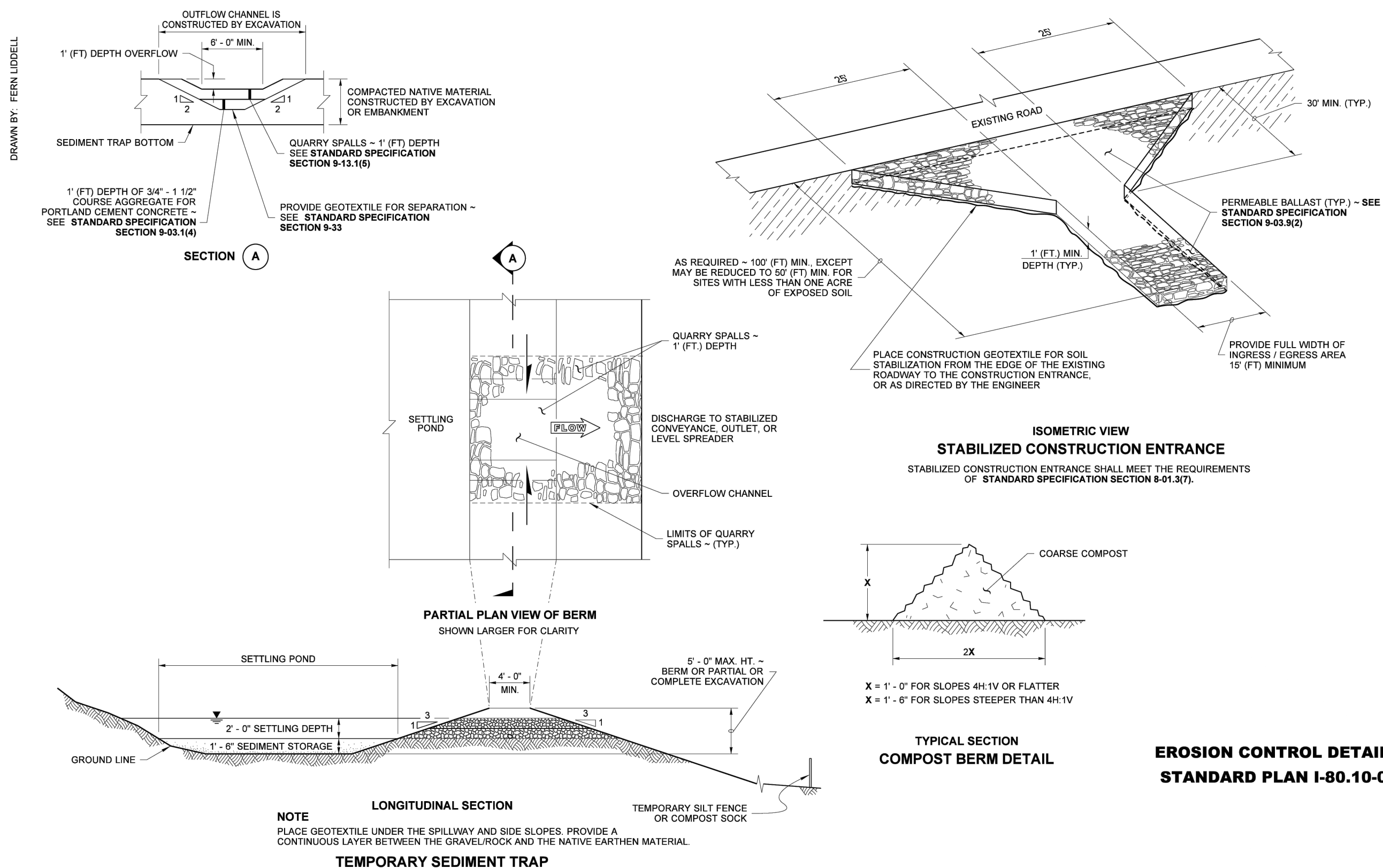


- GENERAL NOTES**
- Check Dams shall meet the requirements of Standard Specification Sections 8-01.3(6) and 9-14.6(4).
 - In channels, install the sloped ends of the Check Dam a minimum of 8" higher than the spillway to ensure water flows over the dam and not around it.
 - Perform maintenance in accordance with Standard Specification Section 8-01.3(16).
 - Remove Check Dams in accordance with Standard Specification Section 8-01.3(16).

CHECK DAMS ON CHANNELS



SILT FENCE



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EROSION CONTROL DETAILS FOR:

CASCADE BUSINESS PARK
A SITE LOCATED IN THE CITY OF NORTH BONNEVILLE, WASHINGTON



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SHEET ID

EC03

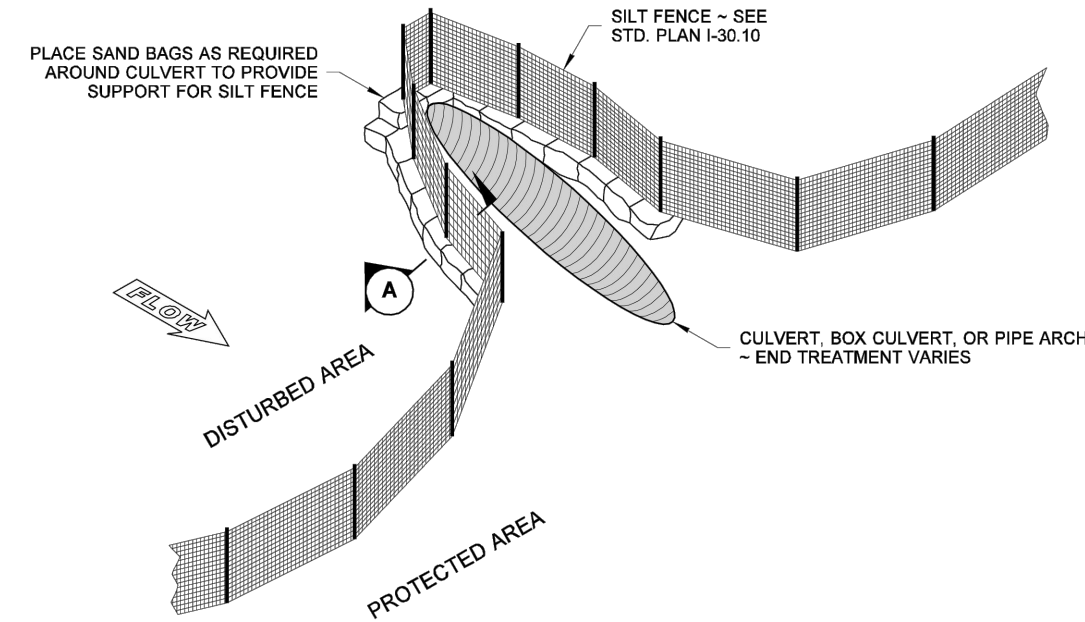
SHEET 7 OF 30

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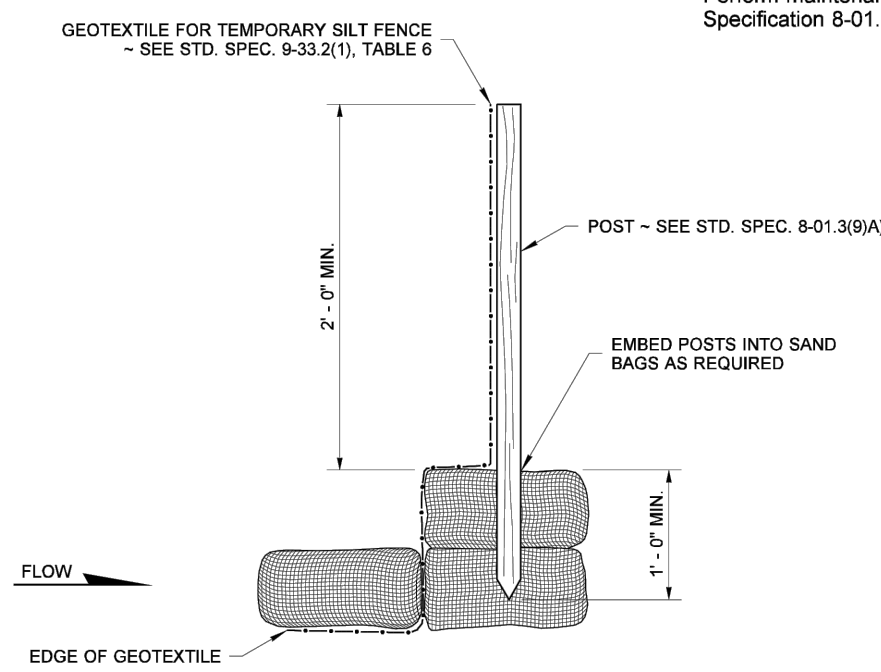


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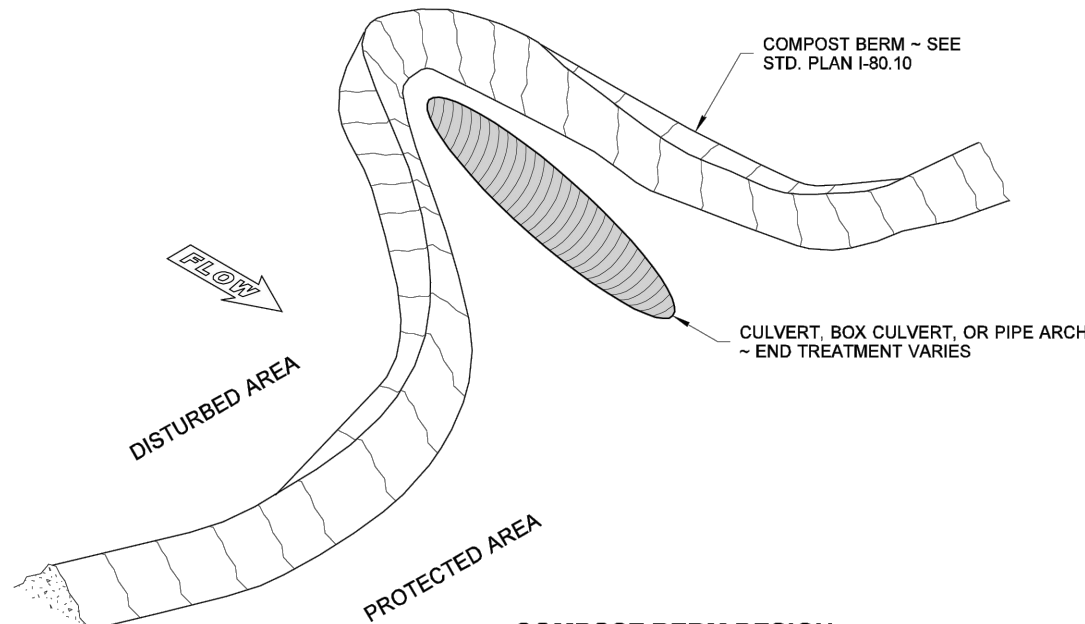


SILT FENCE DESIGN



SECTION A

NOTE
Perform maintenance in accordance with Standard Specification 8-01.3(9)(A) and 8-01.3(15).



COMPOST BERM DESIGN

EROSION CONTROL
AT CULVERT ENDS

EROSION CONTROL DETAILS FOR:
CASCADE BUSINESS PARK
A SITE LOCATED IN THE CITY OF NORTH BONNEVILLE, WASHINGTON



DESIGNED:
HABMD

CHECKED:
HABMD

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SHEET ID

EC04

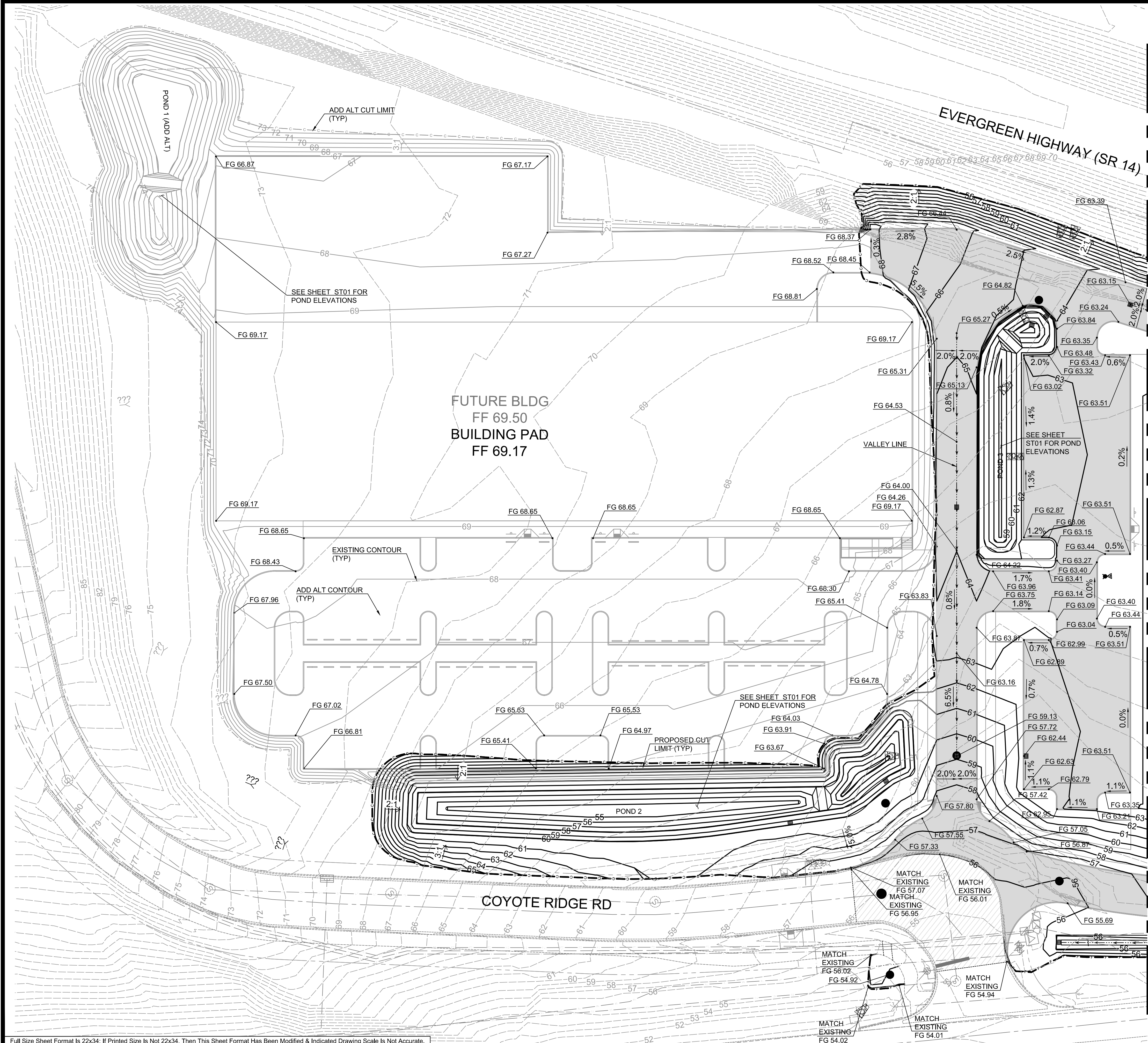
SHEET **8** OF **30**

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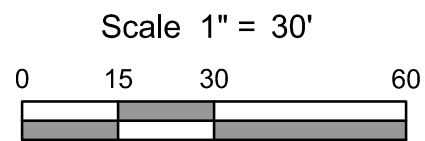
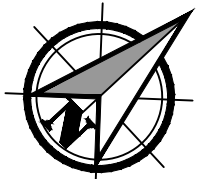


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LEGEND	
	PROPOSED CRUSHED SURFACING BASE COURSE
	67 PROPOSED SURFACE
	67 ADD ALT SURFACE



100% PLANS

GRADING PLAN FOR:

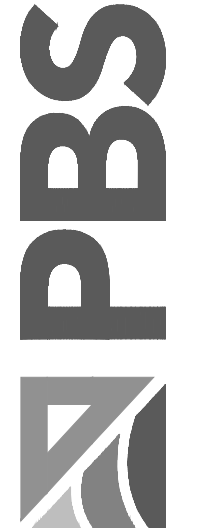
CASCADE BUSINESS PARK

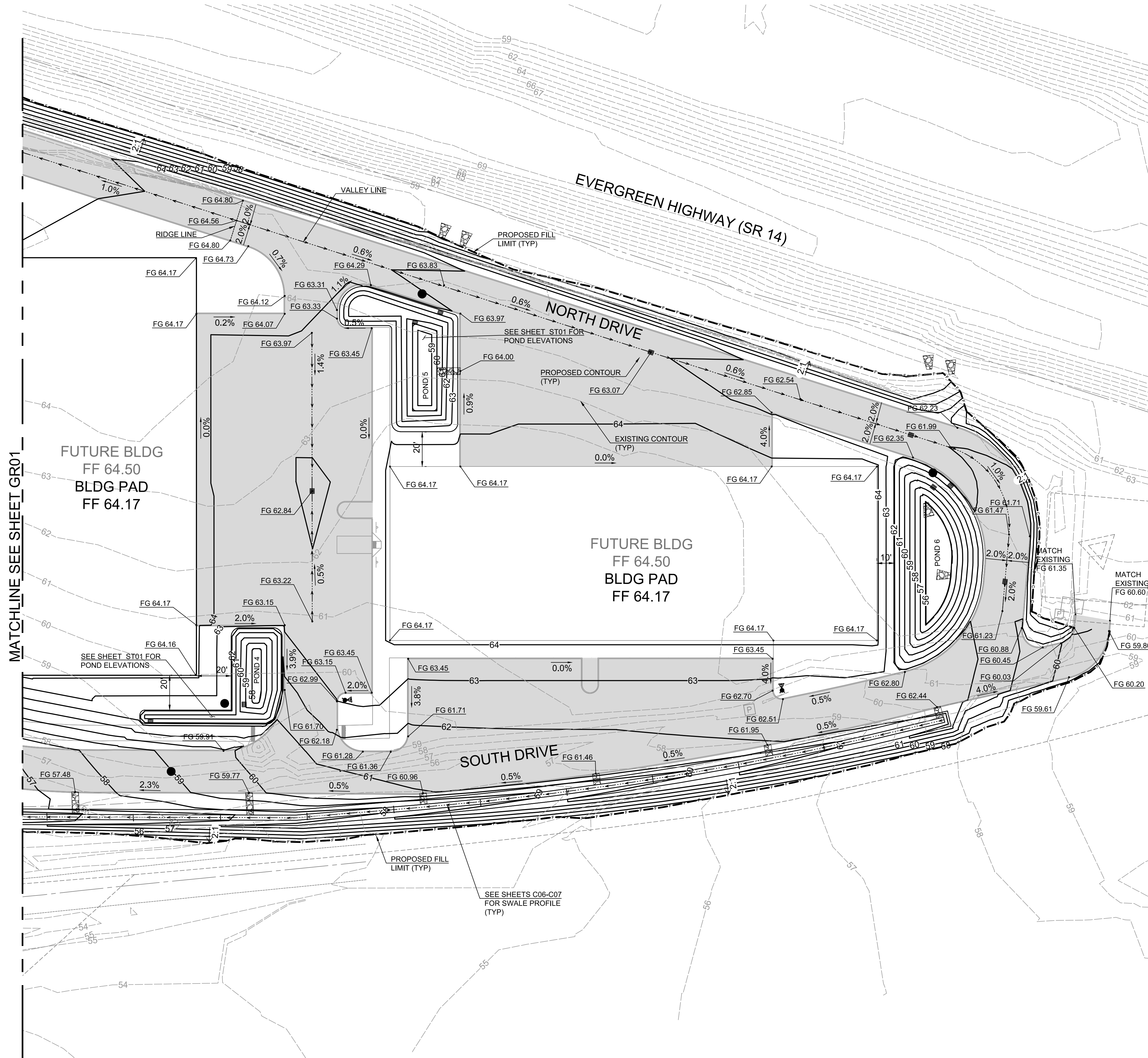
A SITE LOCATED IN THE CITY OF NORTH BONNEVILLE, WASHINGTON



DESIGNED: AW/JD
CHECKED: JBA
MARCH 2025 78260.000
SHEET ID GR01
SHEET 9 OF 30

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LEGEND

	PROPOSED CRUSHED SURFACING BASE COURSE
— 67 —	PROPOSED SURFACE
— 67 —	ADD ALT SURFACE

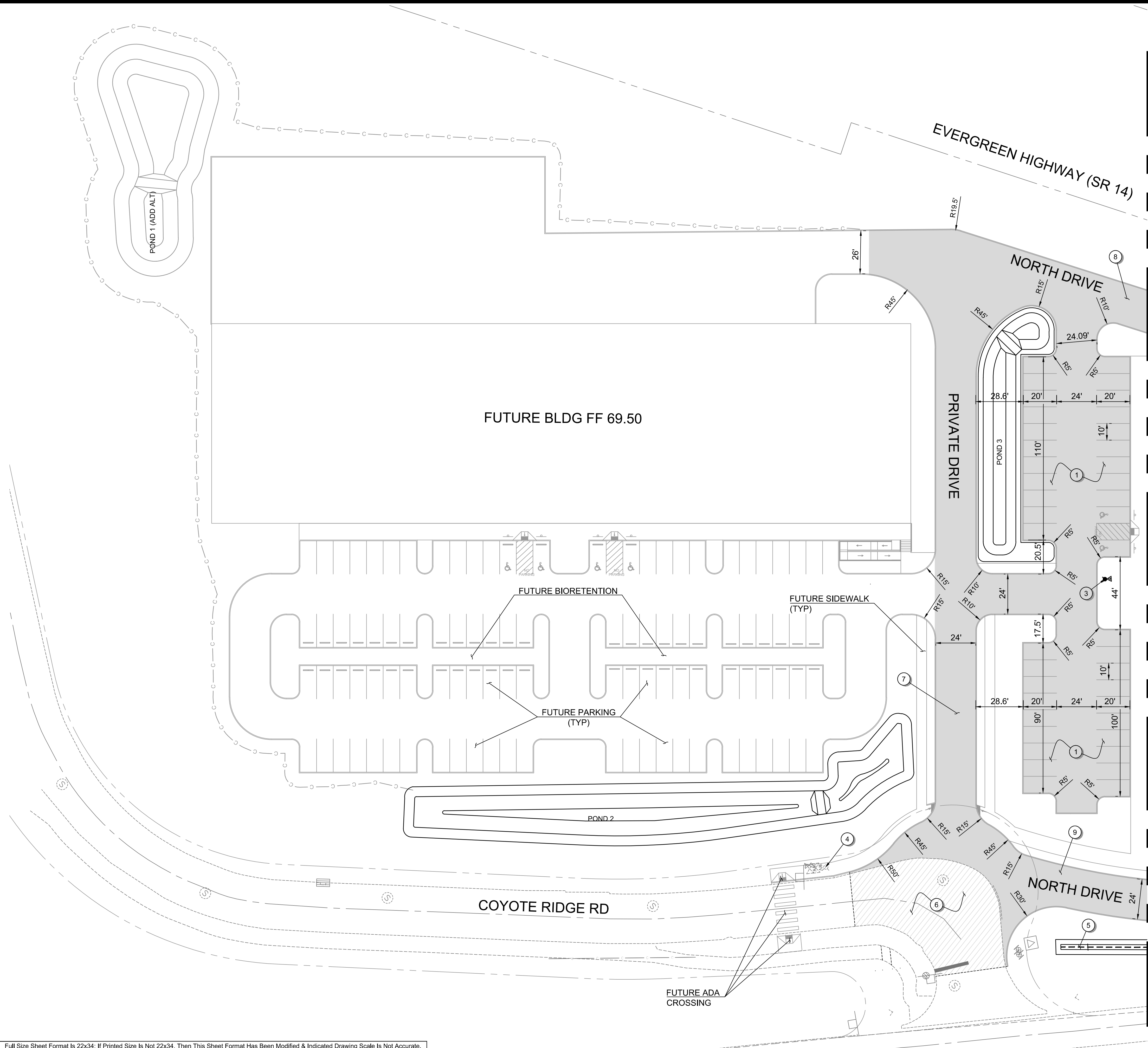
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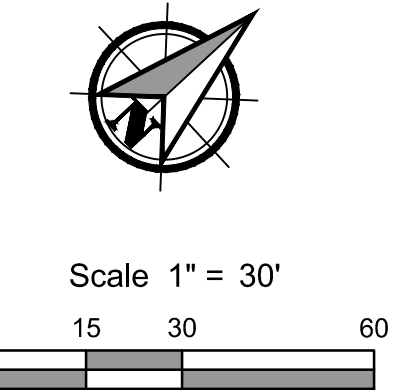


100% PLANS

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LEGEND	
	PROPOSED CRUSHED SURFACING BASE COURSE
	PROPOSED GRIND AND INLAY



GENERAL NOTES:

- SEE SHEET G03 FOR PROJECT'S GENERAL NOTES.
- SEE SHEET G02 FOR ABBREVIATIONS AND MASTER LEGEND.

SITE PLAN NOTES:

- PROPOSED CSBC PER TYPICAL SECTION, SEE SHEET ST01.
- EXISTING CELL TOWER SITE.
- PROPOSED FIRE HYDRANT.
- EXISTING FIRE HYDRANT.
- PROPOSED SWALE.
- PROPOSED GRIND AND INLAY PER TYPICAL SECTION, SEE SHEET G04.
- PRIVATE DRIVE PER TYPICAL SECTION ON SHEET ST01.
- NORTH DRIVE PER TYPICAL SECTION ON SHEET ST01.
- SOUTH DRIVE PER TYPICAL SECTION ON SHEET ST01.

SITE PLAN FOR:

CASCADE BUSINESS PARK

A SITE LOCATED IN THE CITY OF NORTH BONNEVILLE, WASHINGTON



DESIGNED:
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CHECKED:
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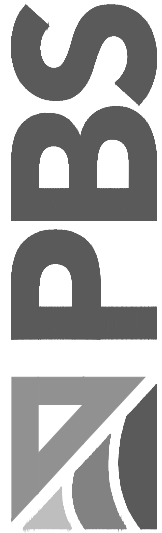
MARCH 2025
78260.000

SHEET ID

SP01

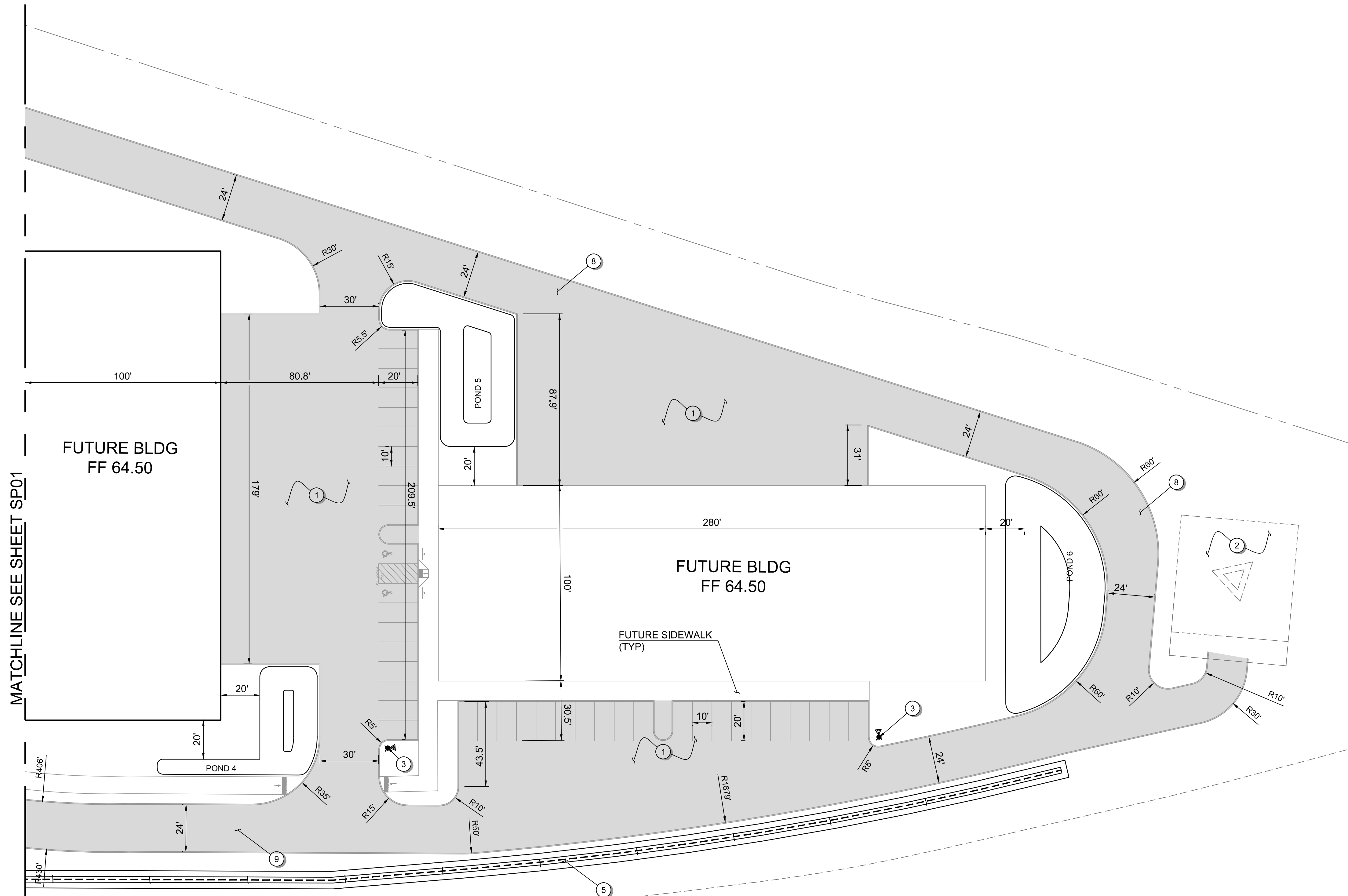
SHEET **11** OF **30**

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CAD Plot Date/Time: 3/28/2025 2:13:13 PM



MATCHLINE SEE SHEET SP01

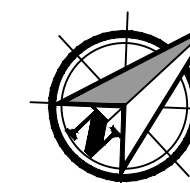
GENERAL NOTES:

1. SEE SHEET G03 FOR PROJECT'S GENERAL NOTES.
2. SEE SHEET G02 FOR ABBREVIATIONS AND MASTER LEGEND.

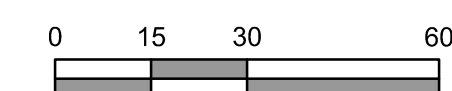
SITE PLAN NOTES:

1. PROPOSED SCBC PER TYPICAL SECTION, SEE SHEET ST01.
2. EXISTING CELL TOWER SITE.
3. PROPOSED FIRE HYDRANT.
4. EXISTING FIRE HYDRANT.
5. PROPOSED SWALE.
6. PROPOSED GRIND AND INLAY PER TYPICAL SECTION, SEE SHEET G04.
7. PRIVATE DRIVE PER TYPICAL SECTION ON SHEET ST01.
8. NORTH DRIVE PER TYPICAL SECTION ON SHEET ST01.
9. SOUTH DRIVE PER TYPICAL SECTION ON SHEET ST01.

LEGEND	
	PROPOSED CRUSHED SURFACING BASE COURSE
	PROPOSED GRIND AND INLAY



Scale 1" = 30'



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SITE PLAN FOR:
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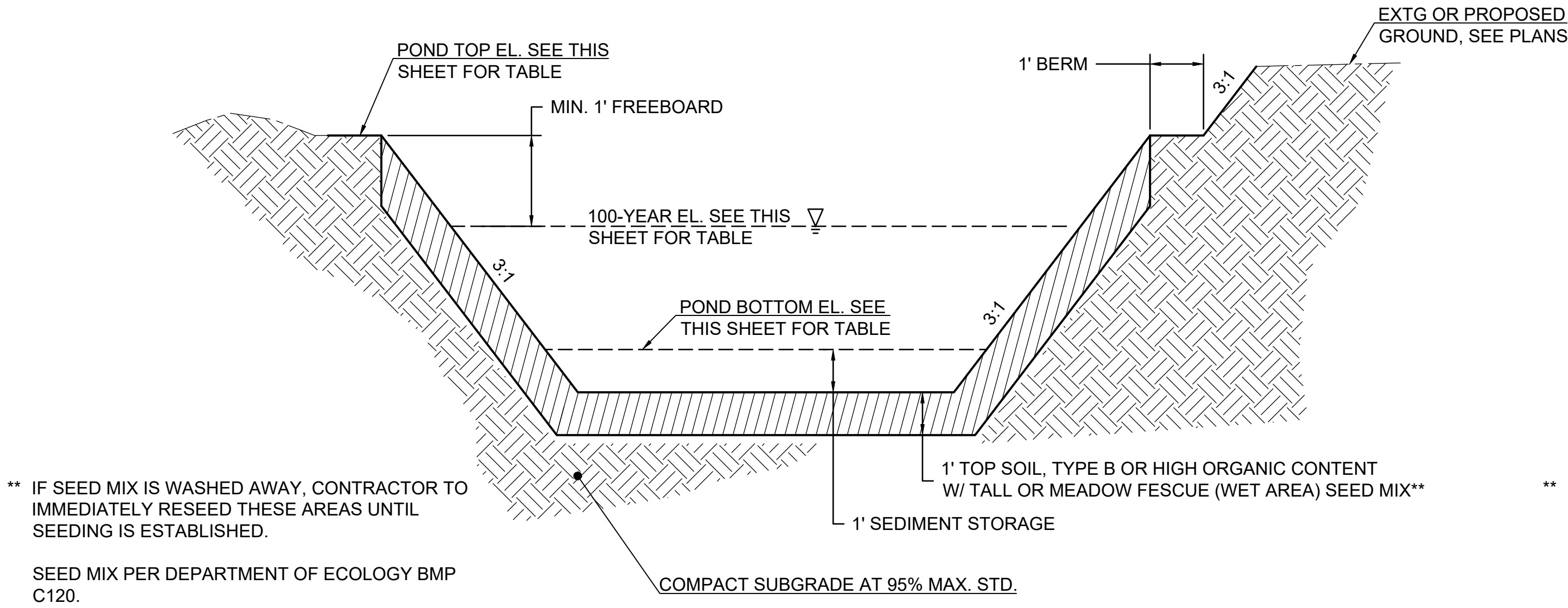
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SP02

SHEET **12** OF **30**

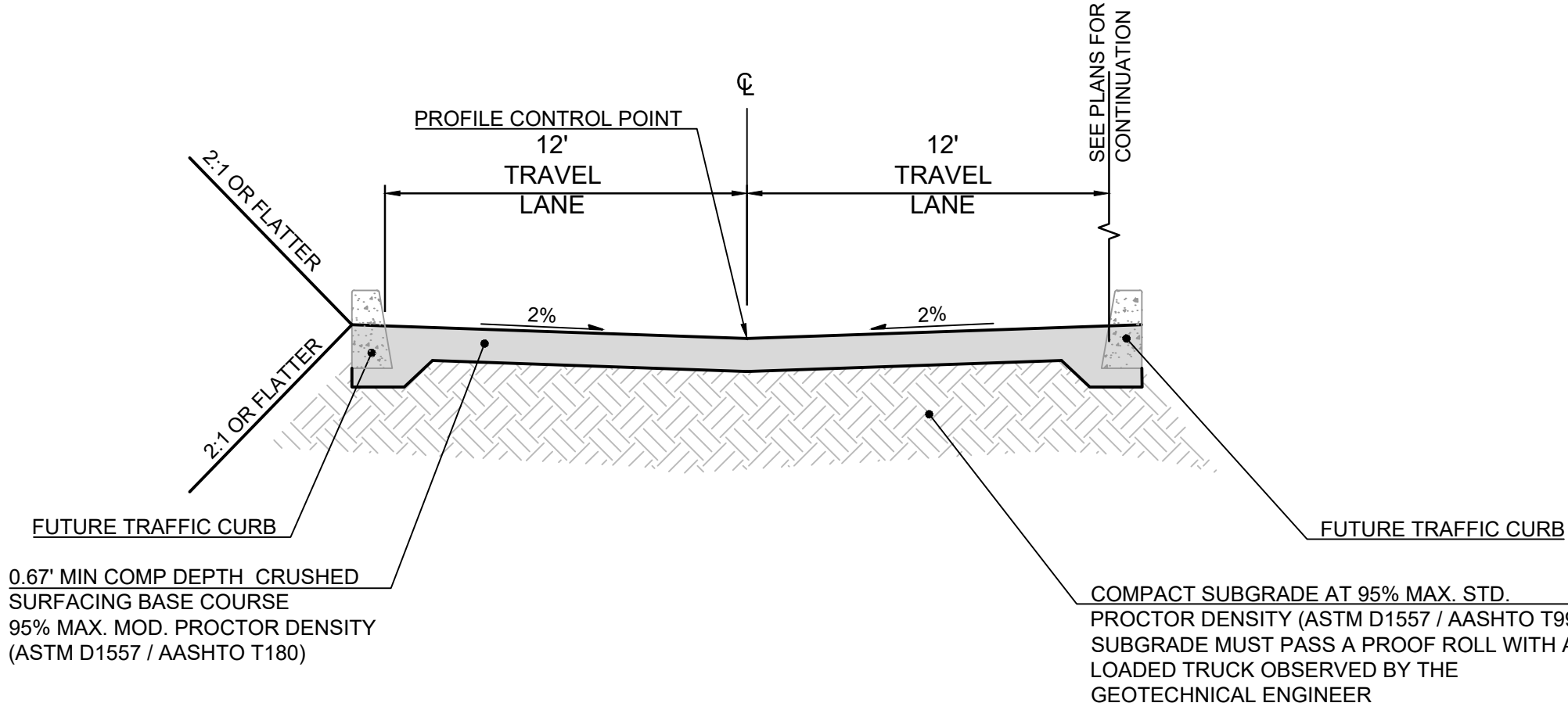
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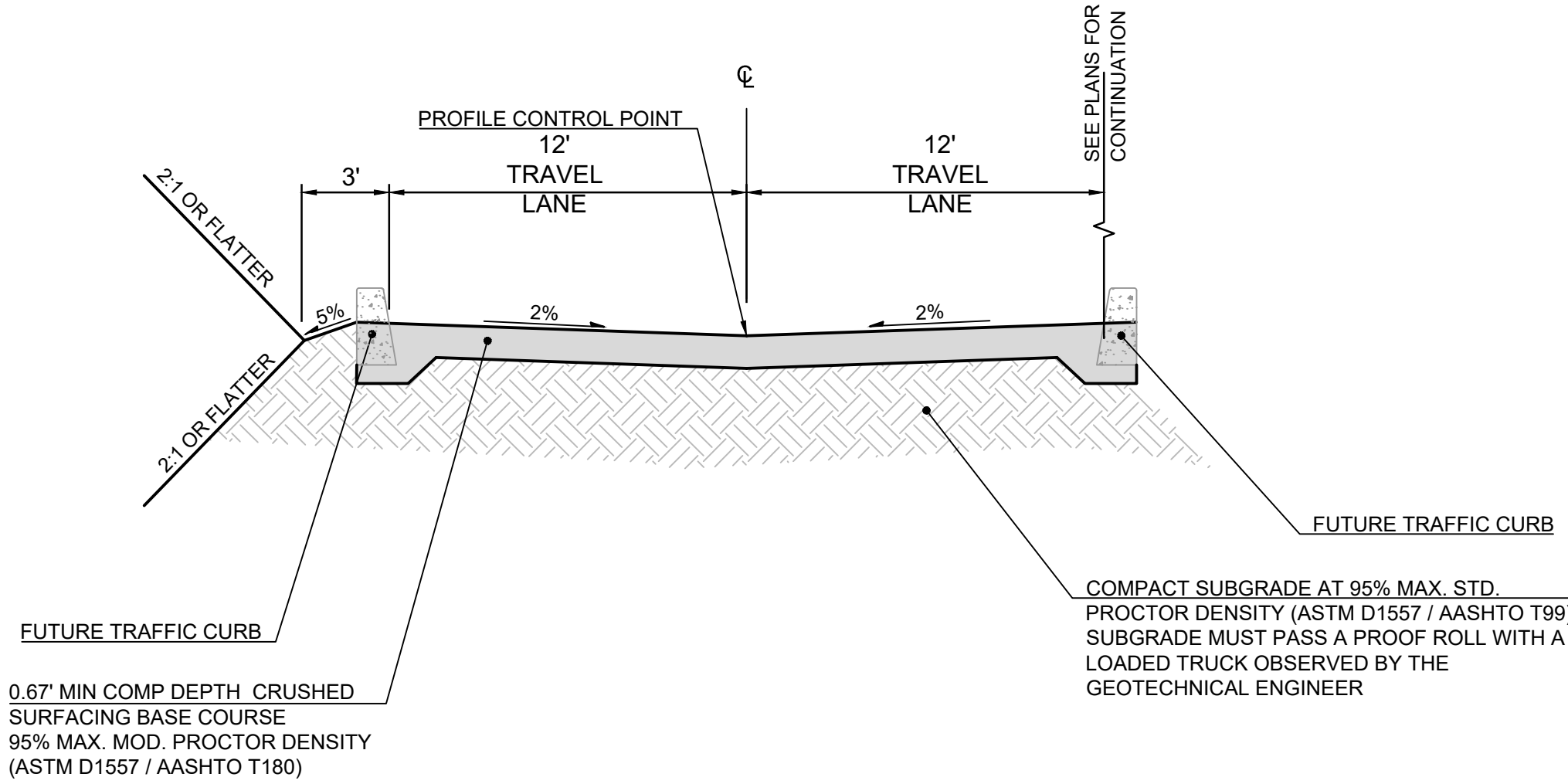


STORM FACILITIES INFORMATION						
DETENTION POND #	TOP AREA (SF)	BOTTOM AREA (SF)	TOP (EL.)	BOTTOM (EL.)	WQ-YEAR (EL.)	100-YEAR (EL.)
1 (ADD ALT)	7610	1550	67.00	61.00	64.27	66.20
2	10580	1230	60.00	55.00	58.08	58.91
3	4320	1020	62.00	59.00	59.66	60.83

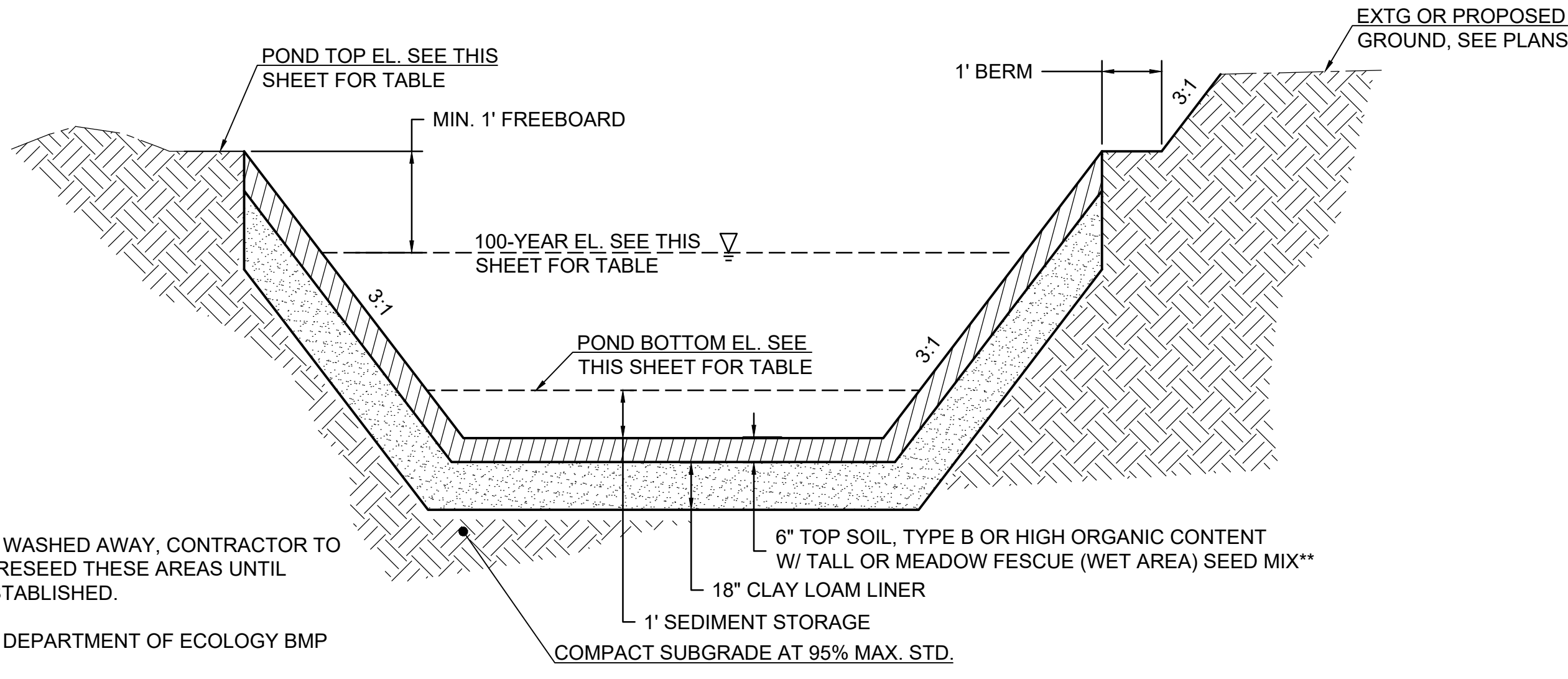
Typical Pond Cross-section Detail



Private Drive Typical Section



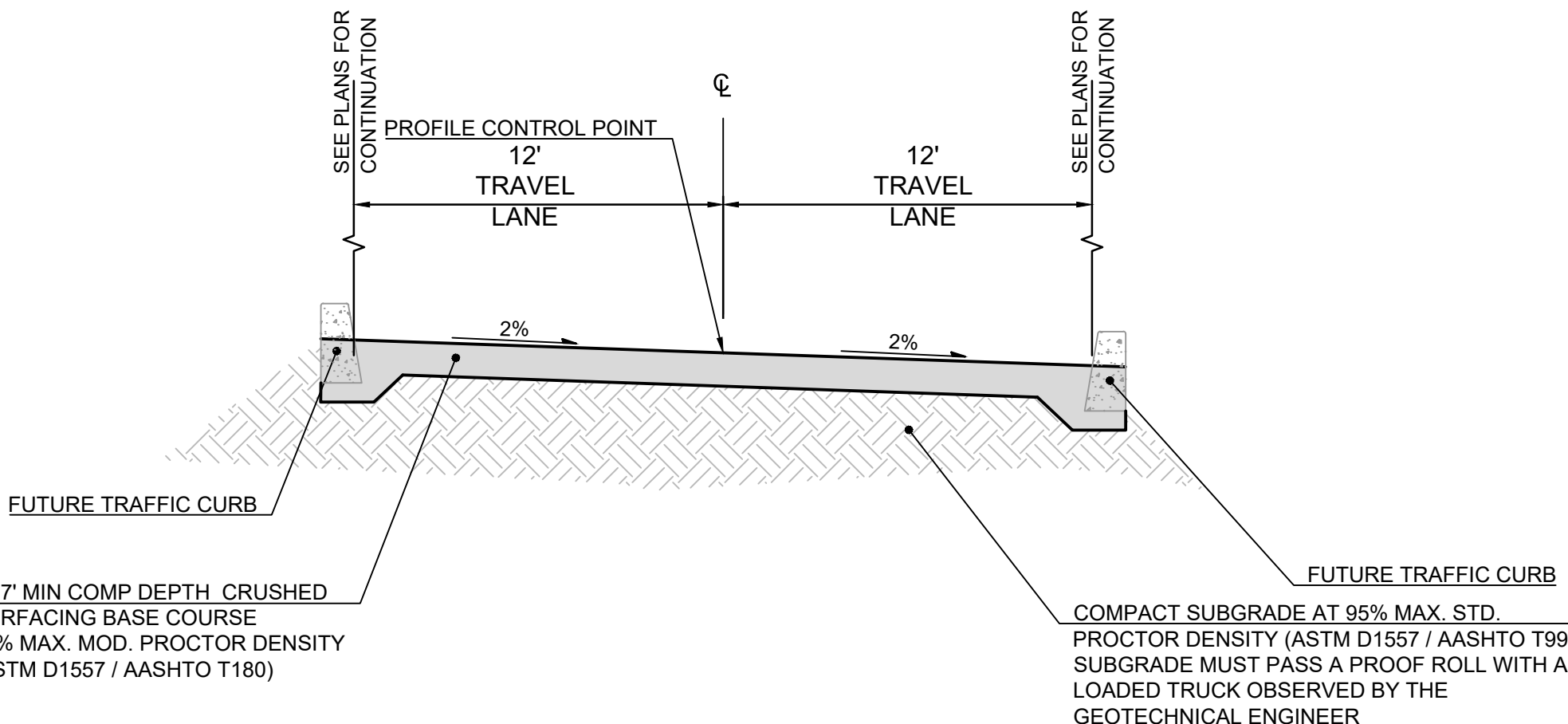
North Drive Typical Section



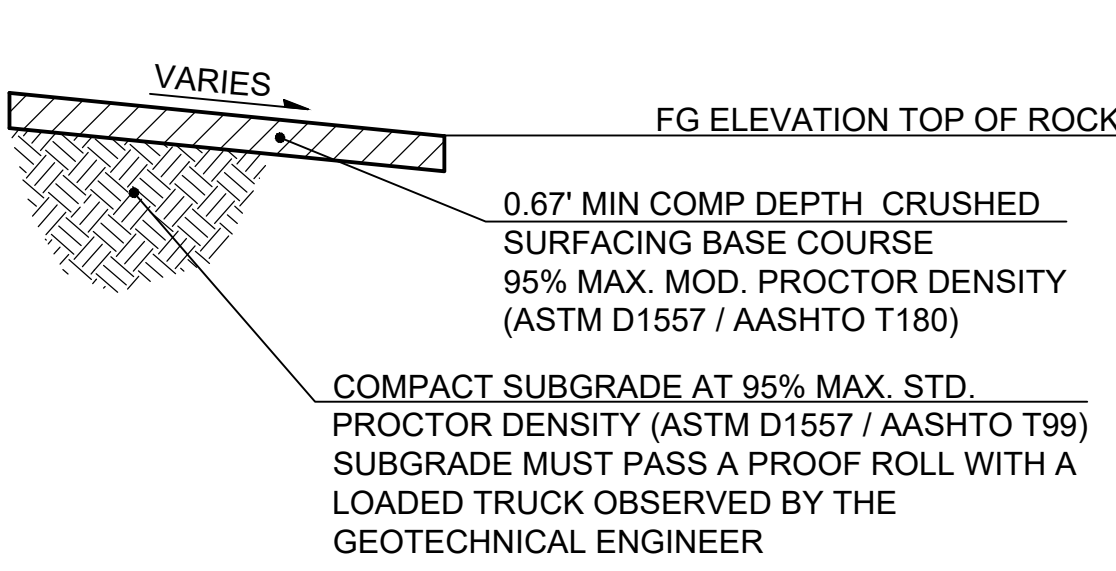
STORM FACILITIES INFORMATION						
DETENTION POND #	TOP AREA (SF)	BOTTOM AREA (SF)	TOP (EL.)	BOTTOM (EL.)	WQ-YEAR (EL.)	100-YEAR (EL.)
4*	1980	410	62.00	59.00	60.52	61.14
5*	3350	1090	63.00	60.00	61.27	62.15
6	4830	1230	62.00	57.00	59.90	60.86

* PONDS USED FOR ROOF RUNOFF DETENTION

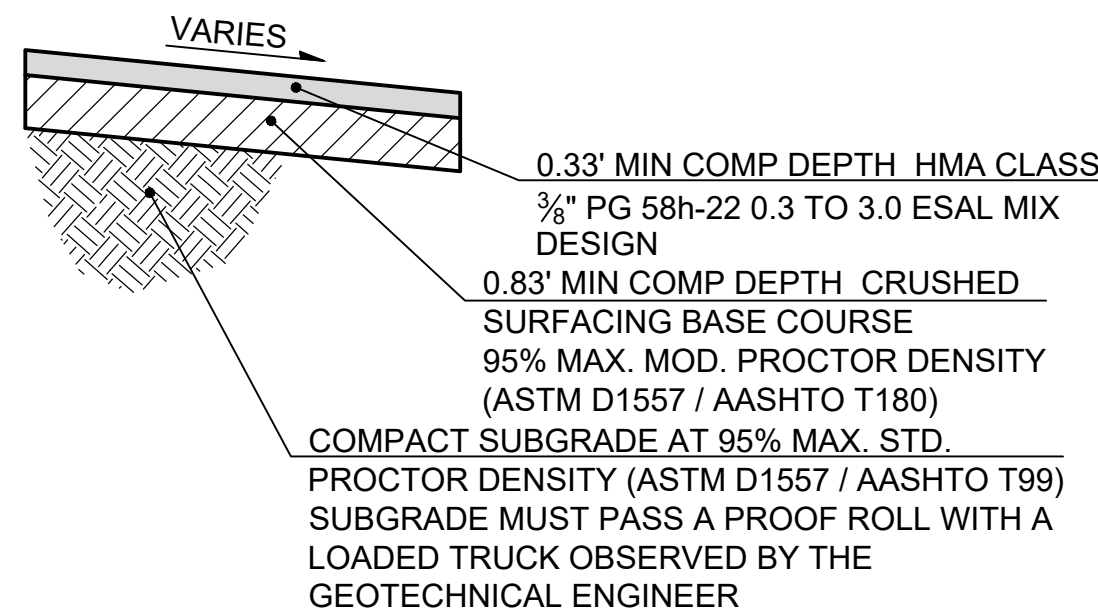
Typical Pond Cross-section Detail



South Drive Typical Section



Base Course Typical Section



Grind and Inlay Typical Section

100% PLANS

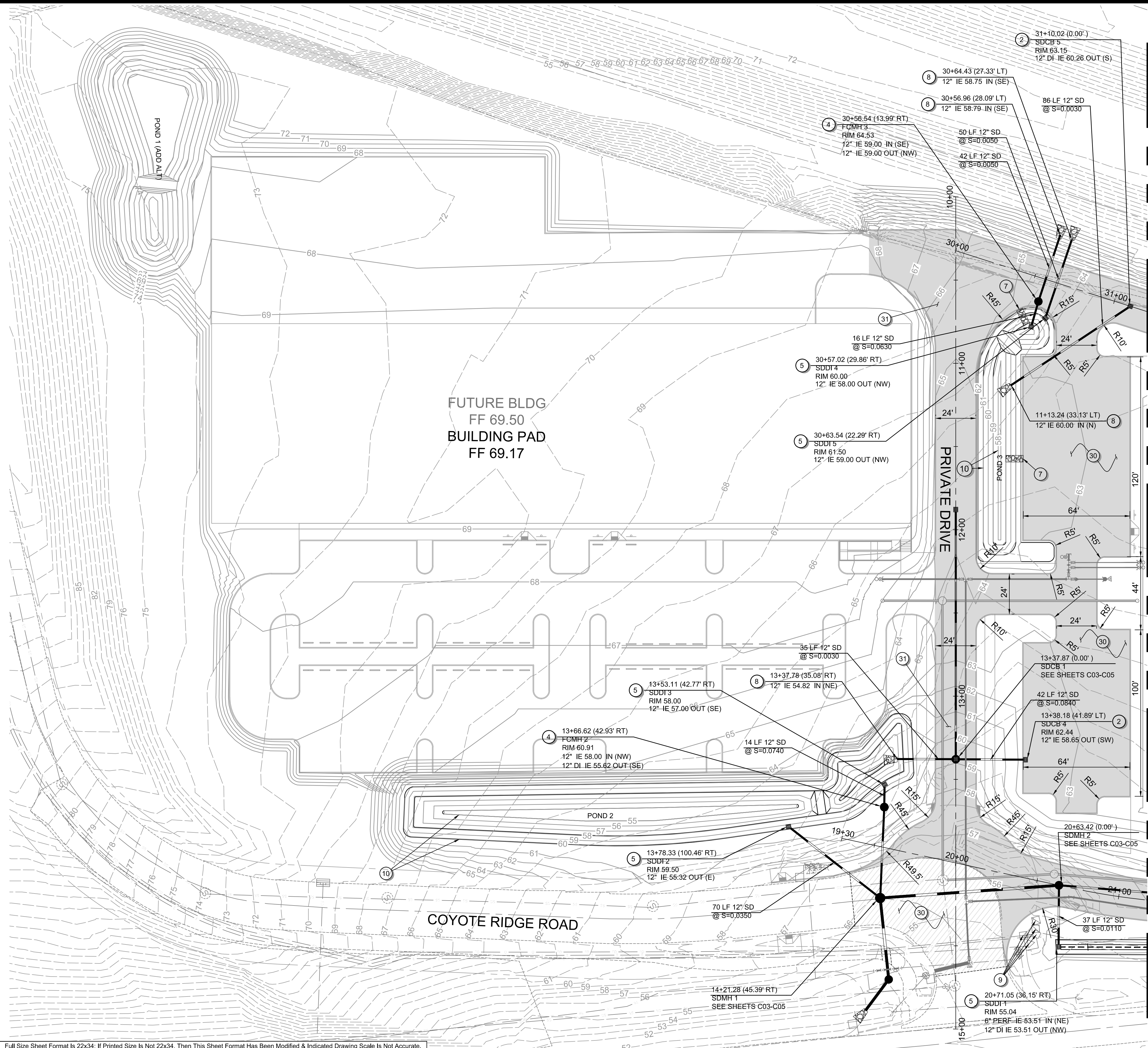
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TYPICAL SECTIONS FOR:
CASCADE BUSINESS PARK
A SITE LOCATED IN THE CITY OF NORTH BONNEVILLE, WASHINGTON



DESIGNED: AW/JD
CHECKED: JBA
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SHEET ID ST01
SHEET 13 OF 30



MATCHLINE SEE SHEET C02

GENERAL NOTES

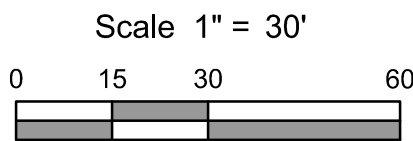
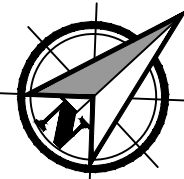
- SEE SHEET G02 FOR PLAN SET LEGEND.
- SEE SHEET G03 FOR PLAN SET GENERAL NOTES.
- SEE SHEETS C03-C05 FOR STORM PROFILES AND C06-C07 FOR SWALE PROFILE.

CONSTRUCTION NOTES - STORM SEWER

- INSTALL CATCH BASIN TYPE 2 PER WSDOT STANDARD PLAN B-10.20, WITH CIRCULAR FRAME AND COVER PER WSDOT STANDARD PLANS B-30.70. SEE SHEETS D03 AND D04. CATCH BASIN IS 48-INCH I.D. UNLESS NOTED OTHERWISE ON THE PLANS.
- INSTALL CATCH BASIN TYPE 2 PER WSDOT STANDARD PLAN B-10.20, WITH RECTANGULAR FRAME AND GRATE PER WSDOT STANDARD PLANS B-30.10 AND B-30.30. SEE SHEETS D03 AND D04. CATCH BASIN IS 48-INCH I.D. UNLESS NOTED OTHERWISE ON THE PLANS.
- INSTALL 48" MANHOLE TYPE 1 PER WSDOT STANDARD PLAN B-15.20, WITH CIRCULAR FRAME AND COVER PER WSDOT STANDARD PLAN B-30.70. SEE SHEETS D03 AND D04.
- INSTALL FLOW CONTROL MANHOLE PER DETAIL ON SHEET D02.
- INSTALL DITCH INLET PER DETAIL ON SHEET D01.
- INSTALL CATCH BASIN TYPE 1 PER STANDARD PLAN B-5.20. SEE SHEET D03.
- INSTALL 4-FOOT WIDE, 6-INCH THICK, QUARRY SPALLS PAD FROM TOP OF SWALE (AT LOCATION OF FUTURE CURB SCUPPER) TO BOTTOM OF SWALE PER DETAIL ON SHEET D01.
- CONSTRUCT STORM SEWER OUTLET WITH TRASH RACK PER DETAILS ON SHEET D02.
- RELOCATE AND ADJUST EXISTING UTILITY STRUCTURE TO FINISHED GRADE.
- CONSTRUCT POND PER DETAILS ON SHEET ST01.
- CONSTRUCT STORM SEWER OUTLET PER DETAIL ON SHEET D02. BEVEL END TO MATCH SLOPE.
- CONSTRUCT FLOW SPREADER EVERY 50 FEET PER DETAIL ON SHEET D01.
- CONSTRUCT 620'Lx3'W BIOFILTRATION SWALE @ S=0.0100 PER DETAILS ON SHEET D01. SEE SHEET C06-C07 FOR PROFILE.
- INSTALL 60" MANHOLE TYPE 1 PER WSDOT STANDARD PLAN B-15.20, WITH CIRCULAR FRAME AND COVER PER WSDOT STANDARD PLAN B-30.70. SEE SHEETS D03 AND D04.
- BEVEL END TO MATCH SLOPE AND INSTALL PIPE END WITH TRASH RACK PER DETAILS ON SHEET D02.

CONSTRUCTION NOTES - STREET

- BASE COURSE PER TYPICAL SECTION ON SHEET ST01.
- PRIVATE DRIVE PER TYPICAL SECTION ON SHEET ST01.
- NORTH DRIVE PER TYPICAL SECTION ON SHEET ST01.
- SOUTH DRIVE PER TYPICAL SECTION ON SHEET ST01.
- PROTECT EXISTING UTILITY STRUCTURES.
- GRIND AND INLAY PER TYPICAL SECTION ON SHEET ST01.



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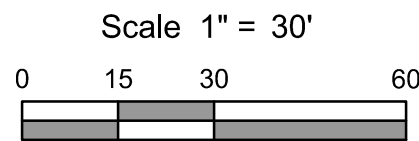
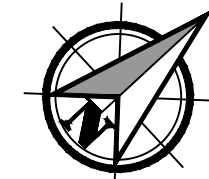
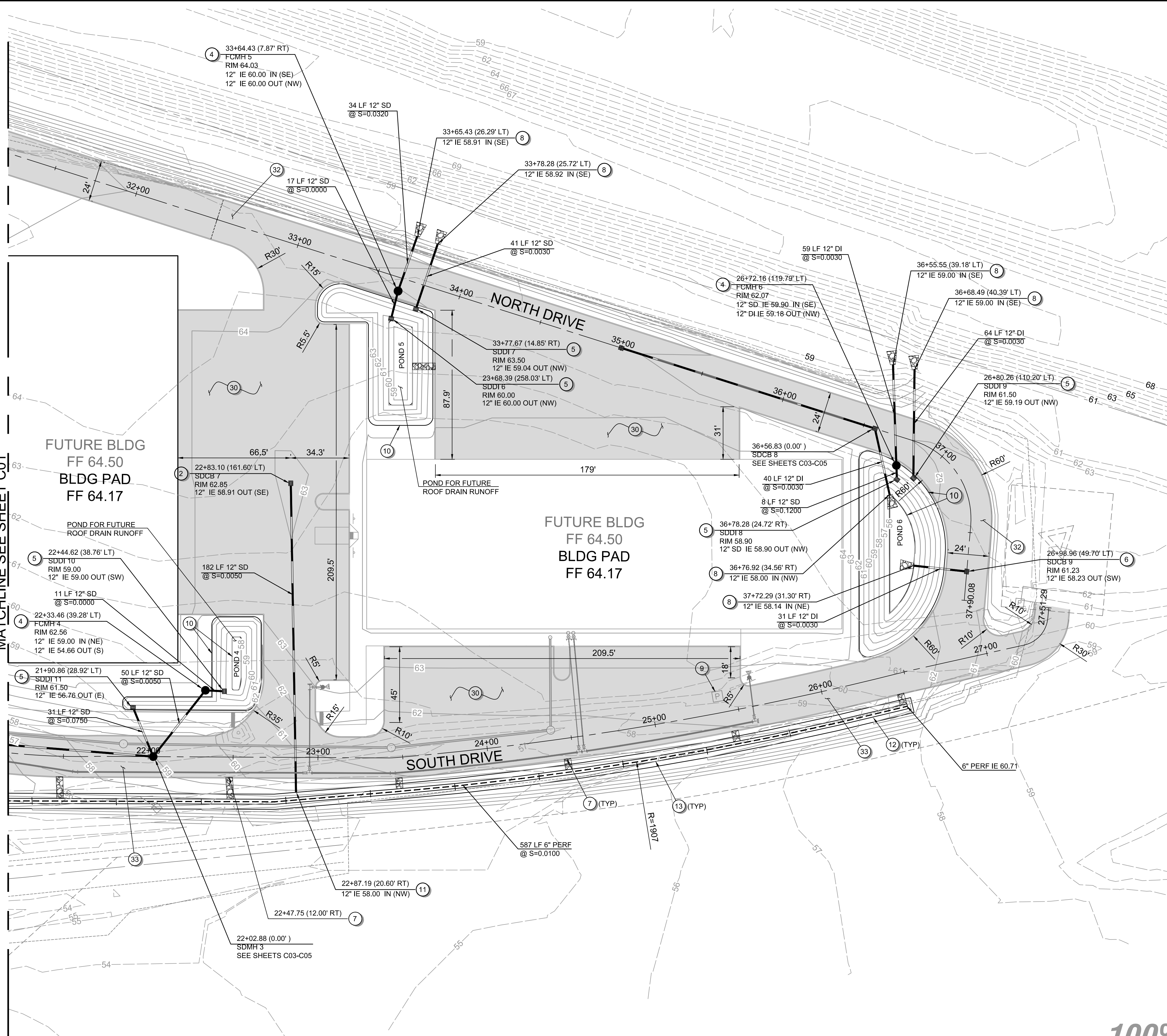
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MATCHLINE SEE SHEET C01



GENERAL NOTES

- SEE SHEET G02 FOR PLAN SET LEGEND.
- SEE SHEET G03 FOR PLAN SET GENERAL NOTES.
- SEE SHEETS C03-C05 FOR STORM PROFILES AND C06-C07 FOR SWALE PROFILE.

CONSTRUCTION NOTES - STORM SEWER

- INSTALL CATCH BASIN TYPE 2 PER WSDOT STANDARD PLAN B-10.20, WITH CIRCULAR FRAME AND COVER PER WSDOT STANDARD PLANS B-30.70. SEE SHEETS D03 AND D04. CATCH BASIN IS 48-INCH I.D. UNLESS NOTED OTHERWISE ON THE PLANS.
- INSTALL CATCH BASIN TYPE 2 PER WSDOT STANDARD PLAN B-10.20, WITH RECTANGULAR FRAME AND GRATE PER WSDOT STANDARD PLANS B-30.10 AND B-30.30. SEE SHEETS D03 AND D04. CATCH BASIN IS 48-INCH I.D. UNLESS NOTED OTHERWISE ON THE PLANS.
- INSTALL 48" MANHOLE TYPE 1 PER WSDOT STANDARD PLAN B-15.20, WITH CIRCULAR FRAME AND COVER PER WSDOT STANDARD PLAN B-30.70. SEE SHEETS D03 AND D04.
- INSTALL FLOW CONTROL MANHOLE PER DETAIL ON SHEET D02.
- INSTALL DITCH INLET PER DETAIL ON SHEET D01.
- INSTALL CATCH BASIN TYPE 1 PER STANDARD PLAN B-5.20. SEE SHEET D03.
- INSTALL 4-FOOT WIDE, 6-INCH THICK, QUARRY SPALLS PAD FROM TOP OF SWALE (AT LOCATION OF FUTURE CURB SCUPPER) TO BOTTOM OF SWALE PER DETAIL ON SHEET D01.
- CONSTRUCT STORM SEWER OUTLET WITH TRASH RACK PER DETAILS ON SHEET D02.
- RELOCATE AND ADJUST EXISTING UTILITY STRUCTURE TO FINISHED GRADE.
- CONSTRUCT POND PER DETAILS ON SHEET ST01.
- CONSTRUCT STORM SEWER OUTLET PER DETAIL ON SHEET D02. BEVEL END TO MATCH SLOPE.
- CONSTRUCT FLOW SPREADER EVERY 50 FEET PER DETAIL ON SHEET D01.
- CONSTRUCT 620'Lx3'W BIOFILTRATION SWALE @ S=0.0100 PER DETAILS ON SHEET D01. SEE SHEET C06-C07 FOR PROFILE.
- INSTALL 60" MANHOLE TYPE 1 PER WSDOT STANDARD PLAN B-15.20, WITH CIRCULAR FRAME AND COVER PER WSDOT STANDARD PLAN B-30.70. SEE SHEETS D03 AND D04.
- BEVEL END TO MATCH SLOPE AND INSTALL PIPE END WITH TRASH RACK PER DETAILS ON SHEET D02.

CONSTRUCTION NOTES - STREET

- BASE COURSE PER TYPICAL SECTION ON SHEET ST01.
- PRIVATE DRIVE PER TYPICAL SECTION ON SHEET ST01.
- NORTH DRIVE PER TYPICAL SECTION ON SHEET ST01.
- SOUTH DRIVE PER TYPICAL SECTION ON SHEET ST01.
- PROTECT EXISTING UTILITY STRUCTURES.
- GRIND AND INLAY PER TYPICAL SECTION ON SHEET ST01.

STREET AND STORM PLAN FOR:

CASCADE BUSINESS PARK

A SITE LOCATED IN THE CITY OF NORTH BONNEVILLE, WASHINGTON



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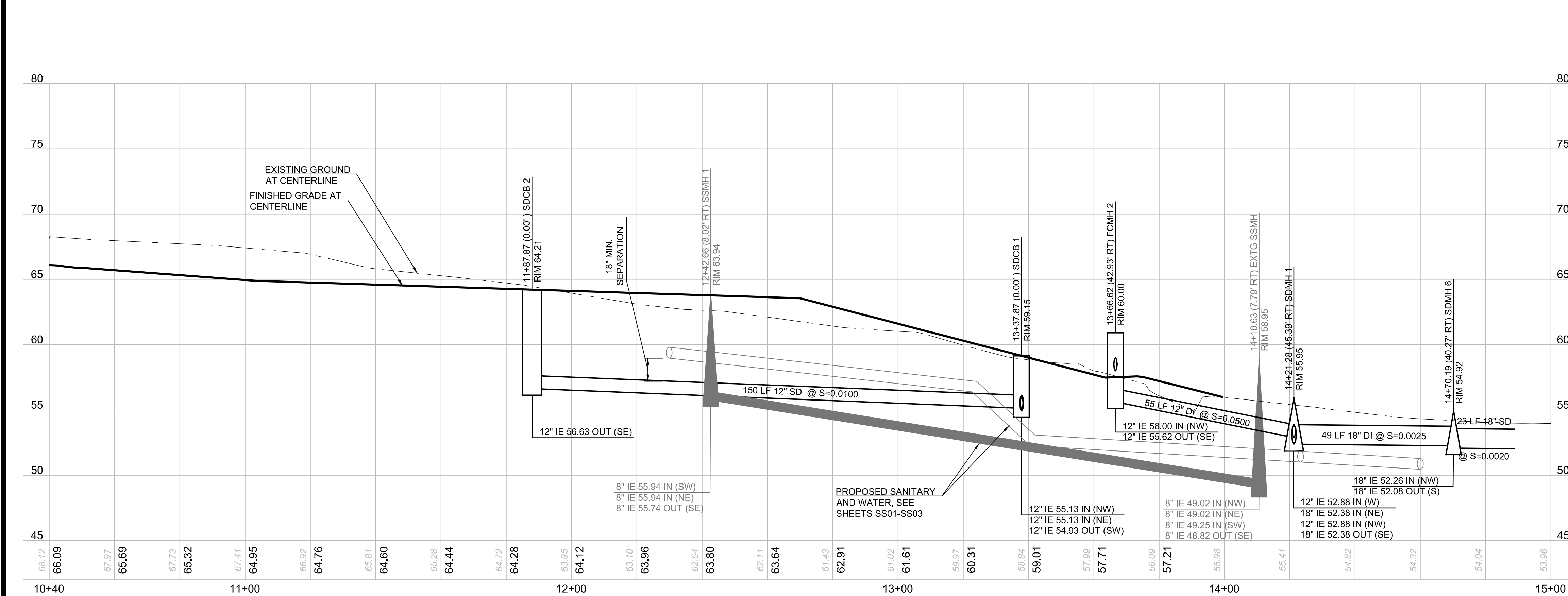
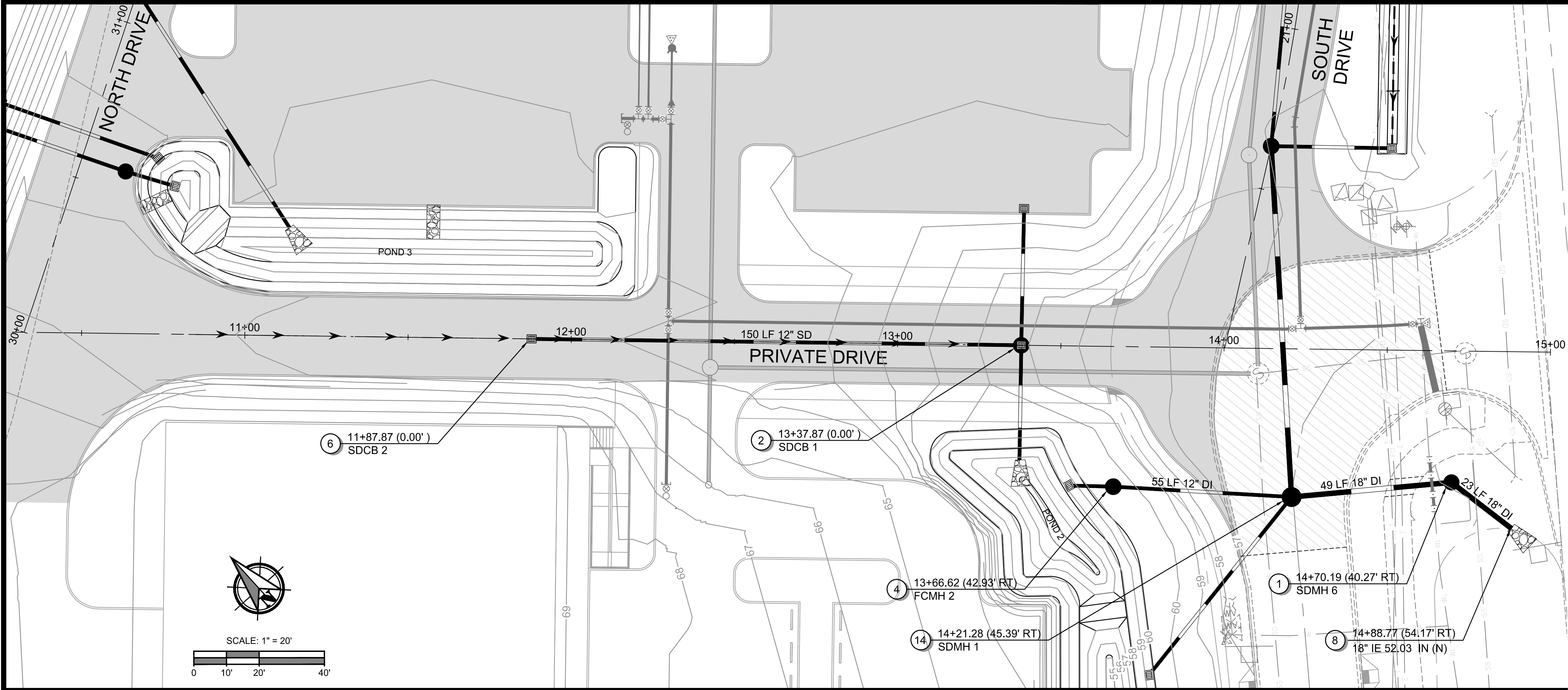
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GENERAL NOTES

- SEE SHEET G02 FOR PLAN SET LEGEND.
- SEE SHEET G03 FOR PLAN SET GENERAL NOTES.
- SEE SHEETS C03-C05 FOR STORM PROFILES AND C06-C07 FOR SWALE PROFILE.

CONSTRUCTION NOTES - STORM SEWER

- INSTALL CATCH BASIN TYPE 2 PER WSDOT STANDARD PLAN B-10.20, WITH CIRCULAR FRAME AND COVER PER WSDOT STANDARD PLANS B-30.70. SEE SHEETS D03 AND D04. CATCH BASIN IS 48-INCH I.D. UNLESS NOTED OTHERWISE ON THE PLANS.
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- INSTALL DITCH INLET PER DETAIL ON SHEET D01.
- INSTALL CATCH BASIN TYPE 1 PER STANDARD PLAN B-5.20. SEE SHEET D03.
- INSTALL 4-FOOT WIDE, 6-INCH THICK, QUARRY SPALLS PAD FROM TOP OF SWALE (AT LOCATION OF FUTURE CURB SCUPPER) TO BOTTOM OF SWALE PER DETAIL ON SHEET D01.
- CONSTRUCT STORM SEWER OUTLET WITH TRASH RACK PER DETAILS ON SHEET D02.
- RELOCATE AND ADJUST EXISTING UTILITY STRUCTURE TO FINISHED GRADE.
- CONSTRUCT POND PER DETAILS ON SHEET ST01.
- CONSTRUCT STORM SEWER OUTLET PER DETAIL ON SHEET D02. BEVEL END TO MATCH SLOPE.
- CONSTRUCT FLOW SPREADER EVERY 50 FEET PER DETAIL ON SHEET D01.
- CONSTRUCT 620'Lx3'W BIOFILTRATION SWALE @ S=0.0100 PER DETAILS ON SHEET D01. SEE SHEET C06-C07 FOR PROFILE.
- INSTALL 60" MANHOLE TYPE 1 PER WSDOT STANDARD PLAN B-15.20, WITH CIRCULAR FRAME AND COVER PER WSDOT STANDARD PLAN B-30.70. SEE SHEETS D03 AND D04.
- BEVEL END TO MATCH SLOPE AND INSTALL PIPE END WITH TRASH RACK PER DETAILS ON SHEET D02.

CONSTRUCTION NOTES - STREET

- BASE COURSE PER TYPICAL SECTION ON SHEET ST01.
- PRIVATE DRIVE PER TYPICAL SECTION ON SHEET ST01.
- NORTH DRIVE PER TYPICAL SECTION ON SHEET ST01.
- SOUTH DRIVE PER TYPICAL SECTION ON SHEET ST01.
- PROTECT EXISTING UTILITY STRUCTURES.
- GRIND AND INLAY PER TYPICAL SECTION ON SHEET ST01.

PRIVATE DRIVE STORM PROFILE FOR:

CASCADE BUSINESS PARK

A SITE LOCATED IN THE CITY OF NORTH BONNEVILLE, WASHINGTON



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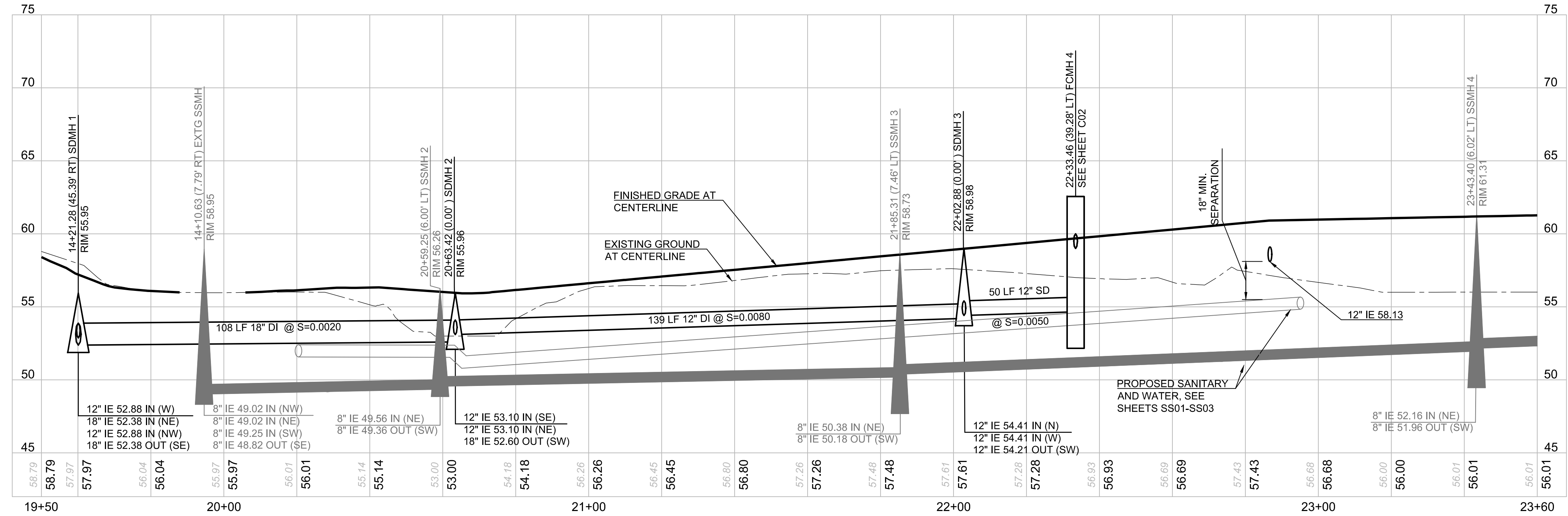
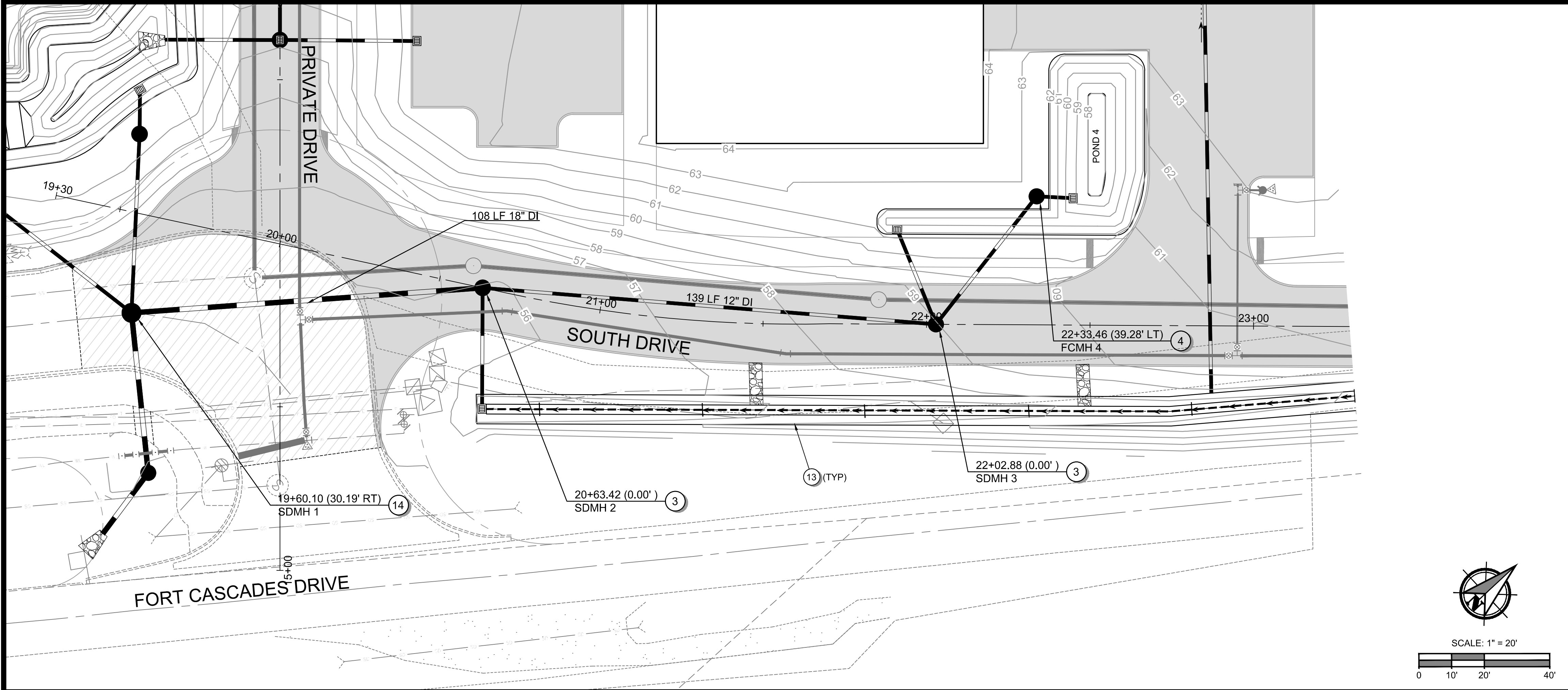
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C03

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GENERAL NOTES

- SEE SHEET G02 FOR PLAN SET LEGEND.
- SEE SHEET G03 FOR PLAN SET GENERAL NOTES.
- SEE SHEETS C03-C05 FOR STORM PROFILES AND C06-C07 FOR SWALE PROFILE.

CONSTRUCTION NOTES - STORM SEWER

- INSTALL CATCH BASIN TYPE 2 PER WSDOT STANDARD PLAN B-10.20, WITH CIRCULAR FRAME AND COVER PER WSDOT STANDARD PLANS B-30.70. SEE SHEETS D03 AND D04. CATCH BASIN IS 48-INCH I.D. UNLESS NOTED OTHERWISE ON THE PLANS.
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- INSTALL FLOW CONTROL MANHOLE PER DETAIL ON SHEET D02.
- INSTALL DITCH INLET PER DETAIL ON SHEET D01.
- INSTALL CATCH BASIN TYPE 1 PER STANDARD PLAN B-5.20. SEE SHEET D03.
- INSTALL 4-FOOT WIDE, 6-INCH THICK, QUARRY SPALLS PAD FROM TOP OF SWALE (AT LOCATION OF FUTURE CURB SCUPPER) TO BOTTOM OF SWALE PER DETAIL ON SHEET D01.
- CONSTRUCT STORM SEWER OUTLET WITH TRASH RACK PER DETAILS ON SHEET D02.
- RELOCATE AND ADJUST EXISTING UTILITY STRUCTURE TO FINISHED GRADE.
- CONSTRUCT POND PER DETAILS ON SHEET ST01.
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- CONSTRUCT FLOW SPREADER EVERY 50 FEET PER DETAIL ON SHEET D01.
- CONSTRUCT 620'Lx3'W BIOFILTRATION SWALE @ S=0.0100 PER DETAILS ON SHEET D01. SEE SHEET C06-C07 FOR PROFILE.
- INSTALL 60" MANHOLE TYPE 1 PER WSDOT STANDARD PLAN B-15.20, WITH CIRCULAR FRAME AND COVER PER WSDOT STANDARD PLAN B-30.70. SEE SHEETS D03 AND D04.
- BEVEL END TO MATCH SLOPE AND INSTALL PIPE END WITH TRASH RACK PER DETAILS ON SHEET D02.

CONSTRUCTION NOTES - STREET

- BASE COURSE PER TYPICAL SECTION ON SHEET ST01.
- PRIVATE DRIVE PER TYPICAL SECTION ON SHEET ST01.
- NORTH DRIVE PER TYPICAL SECTION ON SHEET ST01.
- SOUTH DRIVE PER TYPICAL SECTION ON SHEET ST01.
- PROTECT EXISTING UTILITY STRUCTURES.
- GRIND AND INLAY PER TYPICAL SECTION ON SHEET ST01.

SOUTH DRIVE STORM PROFILE FOR:

CASCADE BUSINESS PARK

A SITE LOCATED IN THE CITY OF NORTH BONNEVILLE, WASHINGTON



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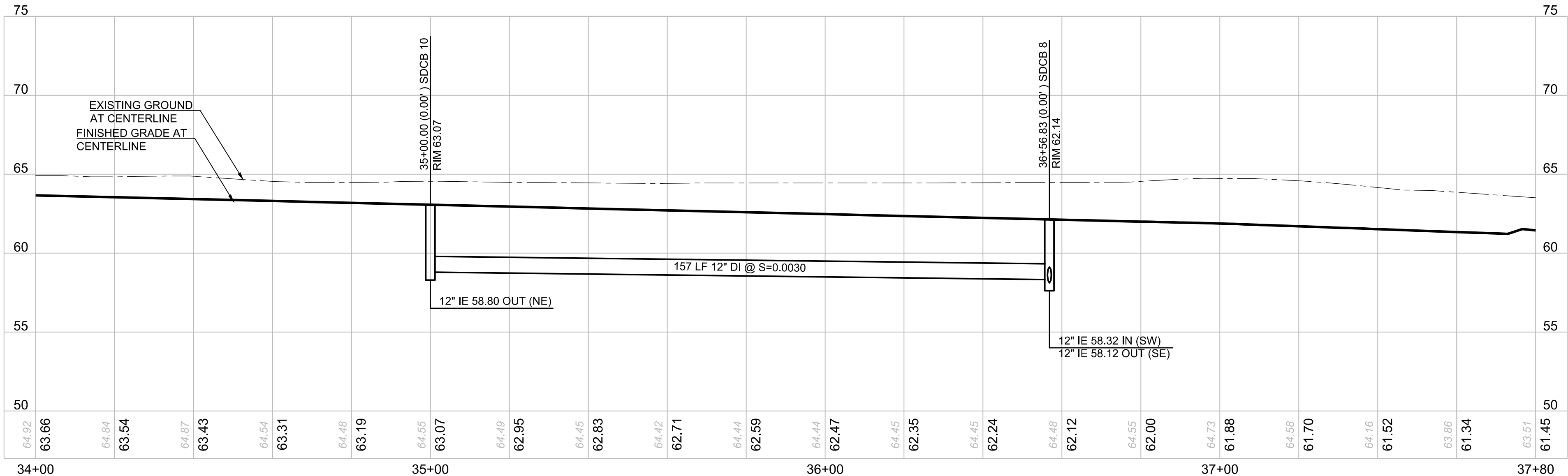
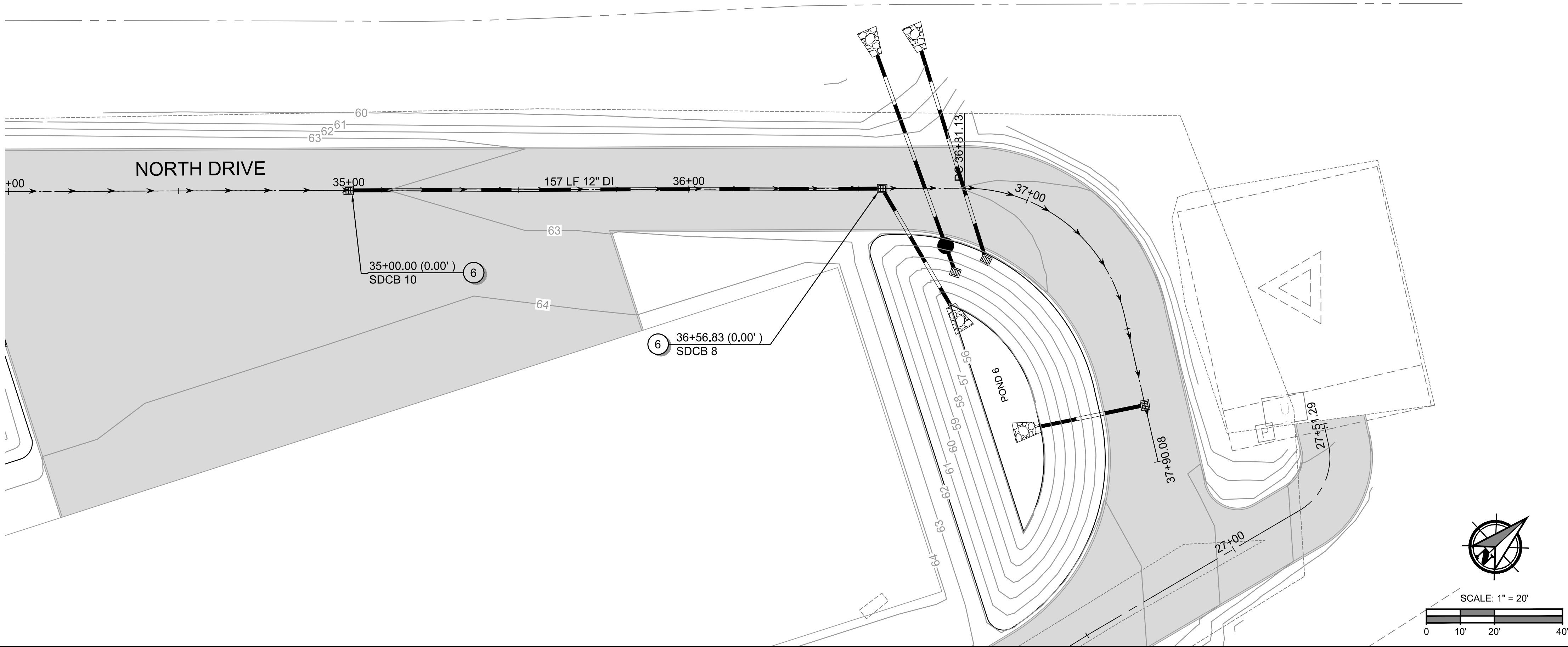
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GENERAL NOTES

- SEE SHEET G02 FOR PLAN SET LEGEND.
- SEE SHEET G03 FOR PLAN SET GENERAL NOTES.
- SEE SHEETS C03-C05 FOR STORM PROFILES AND C06-C07 FOR SWALE PROFILE.

CONSTRUCTION NOTES - STORM SEWER

- INSTALL CATCH BASIN TYPE 2 PER WSDOT STANDARD PLAN B-10.20, WITH CIRCULAR FRAME AND COVER PER WSDOT STANDARD PLANS B-30.70. SEE SHEETS D03 AND D04. CATCH BASIN IS 48-INCH I.D. UNLESS NOTED OTHERWISE ON THE PLANS.
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- INSTALL FLOW CONTROL MANHOLE PER DETAIL ON SHEET D02.
- INSTALL DITCH INLET PER DETAIL ON SHEET D01.
- INSTALL CATCH BASIN TYPE 1 PER STANDARD PLAN B-5.20. SEE SHEET D03.
- INSTALL 4-FOOT WIDE, 6-INCH THICK, QUARRY SPALLS PAD FROM TOP OF SWALE (AT LOCATION OF FUTURE CURB SCUPPER) TO BOTTOM OF SWALE PER DETAIL ON SHEET D01.
- CONSTRUCT STORM SEWER OUTLET WITH TRASH RACK PER DETAILS ON SHEET D02.
- RELOCATE AND ADJUST EXISTING UTILITY STRUCTURE TO FINISHED GRADE.
- CONSTRUCT POND PER DETAILS ON SHEET ST01.
- CONSTRUCT STORM SEWER OUTLET PER DETAIL ON SHEET D02. BEVEL END TO MATCH SLOPE.
- CONSTRUCT FLOW SPREADER EVERY 50 FEET PER DETAIL ON SHEET D01.
- CONSTRUCT 620'Lx3'W BIOFILTRATION SWALE @ S=0.0100 PER DETAILS ON SHEET D01. SEE SHEET C06-C07 FOR PROFILE.
- INSTALL 60" MANHOLE TYPE 1 PER WSDOT STANDARD PLAN B-15.20, WITH CIRCULAR FRAME AND COVER PER WSDOT STANDARD PLAN B-30.70. SEE SHEETS D03 AND D04.
- BEVEL END TO MATCH SLOPE AND INSTALL PIPE END WITH TRASH RACK PER DETAILS ON SHEET D02.

CONSTRUCTION NOTES - STREET

- BASE COURSE PER TYPICAL SECTION ON SHEET ST01.
- PRIVATE DRIVE PER TYPICAL SECTION ON SHEET ST01.
- NORTH DRIVE PER TYPICAL SECTION ON SHEET ST01.
- SOUTH DRIVE PER TYPICAL SECTION ON SHEET ST01.
- PROTECT EXISTING UTILITY STRUCTURES.
- GRIND AND INLAY PER TYPICAL SECTION ON SHEET ST01.

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NORTH DRIVE STORM PROFILE FOR:
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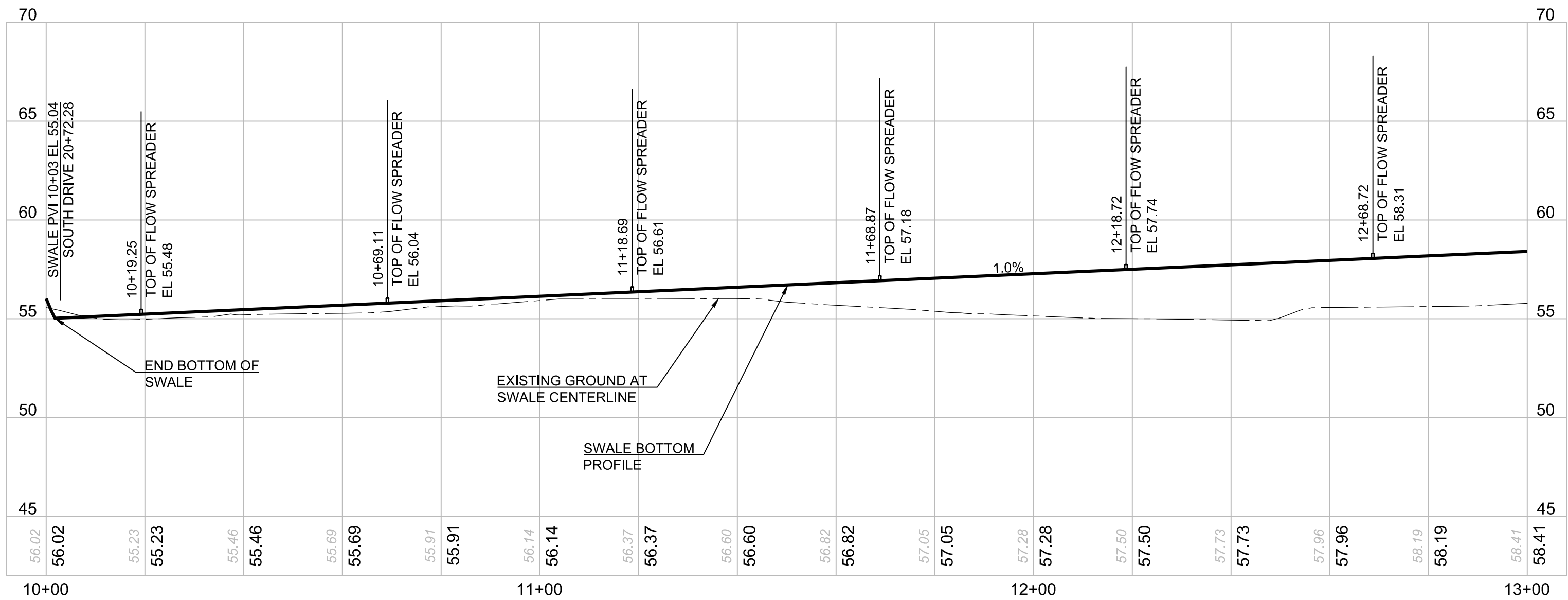
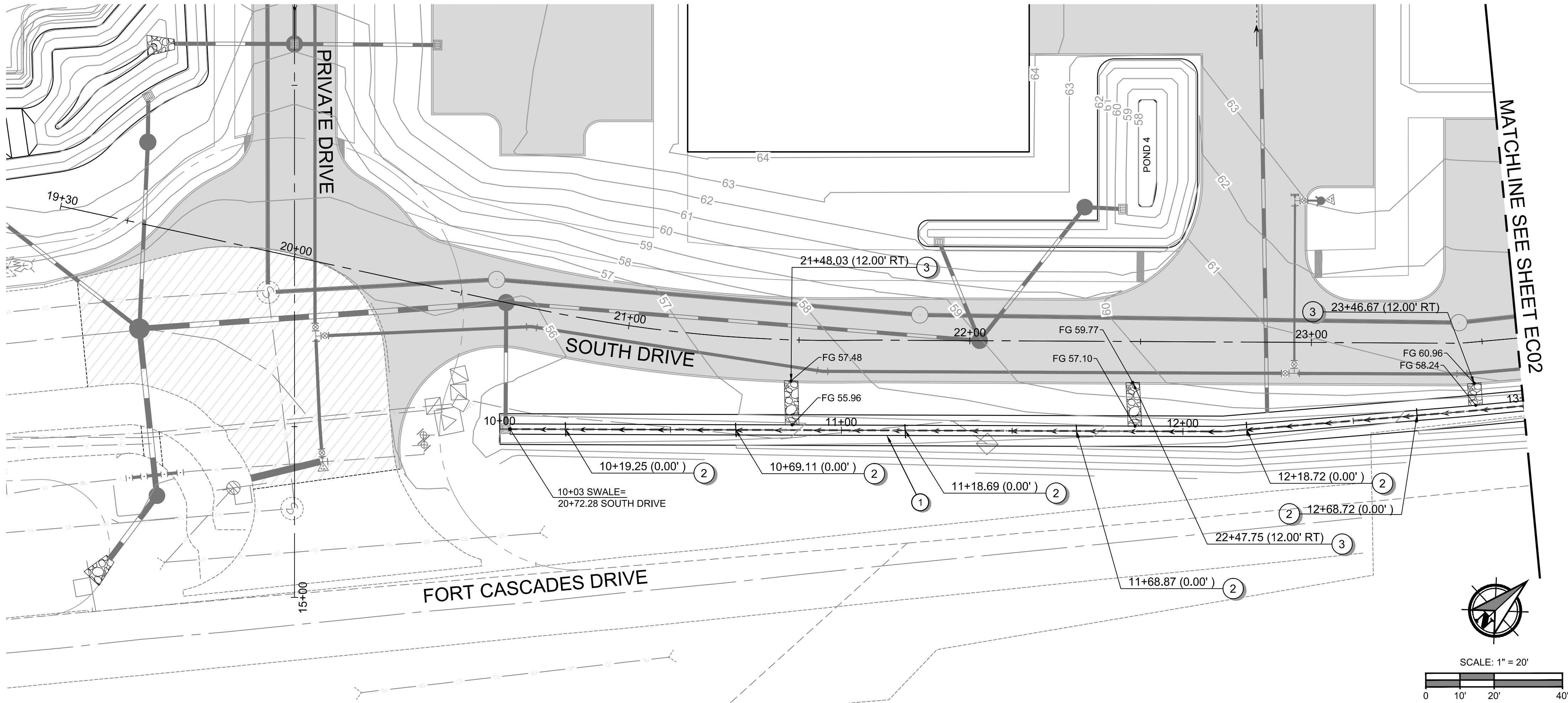
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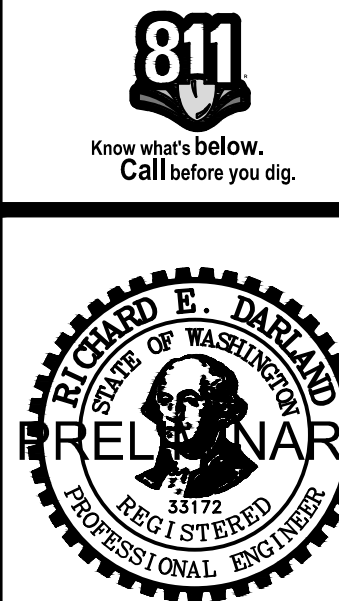
GENERAL NOTES:

- SEE SHEET G03 FOR PROJECT'S GENERAL NOTES.
- SEE SHEET G02 FOR ABBREVIATIONS AND MASTER LEGEND.

SITE PLAN NOTES:

- PROPOSED SWALE PER TYPICAL SECTION, SEE SHEET ST01.
- PROPOSED FLOW SPREADER PER DETAIL, SEE SHEET D01.
- 4-FOOT WIDE, 6-INCH THICK, QUARRY SPALLS PAD FROM TOP OF SWALE (AT LOCATION OF FUTURE CURB SCUPPER) TO BOTTOM OF SWALE PER DETAIL ON SHEET D01.

BIOFILTRATION SWALE PROFILE FOR:
CASCADE BUSINESS PARK
A SITE LOCATED IN THE CITY OF NORTH BONNEVILLE, WASHINGTON

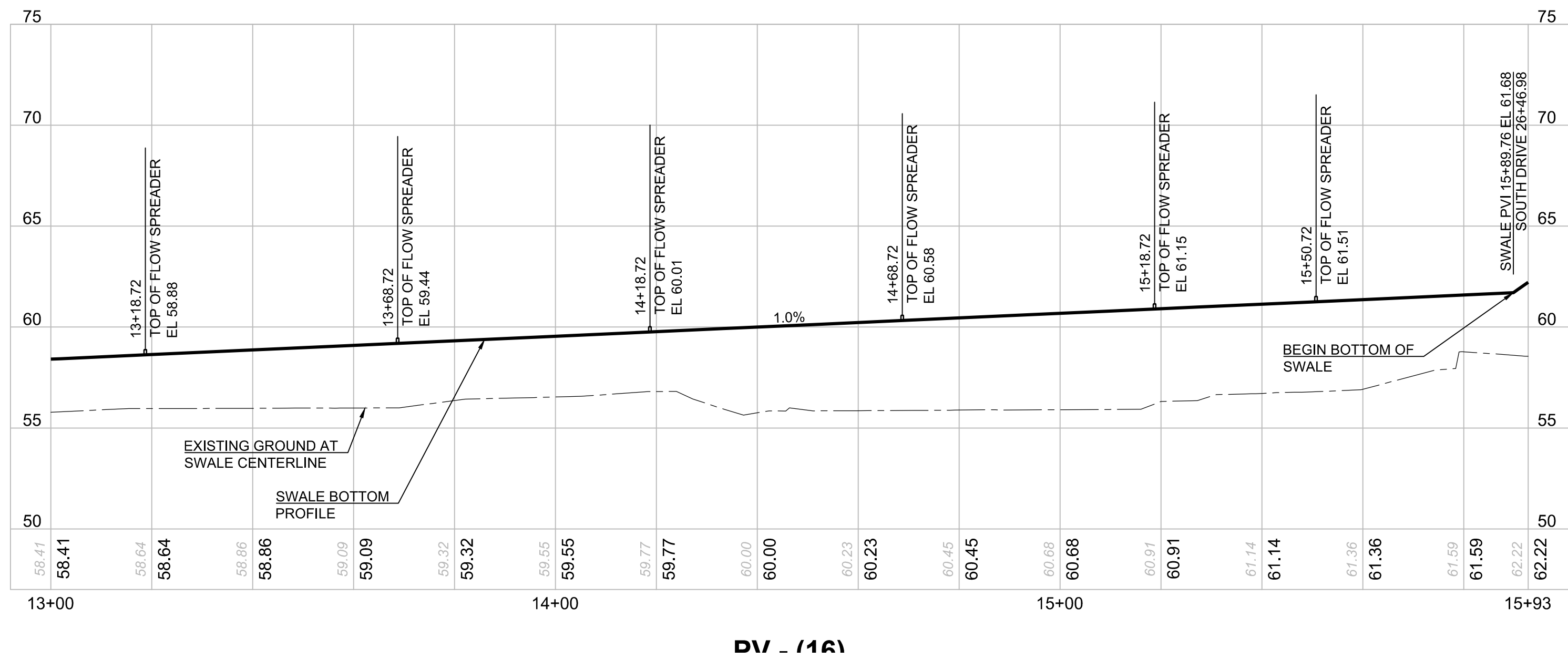
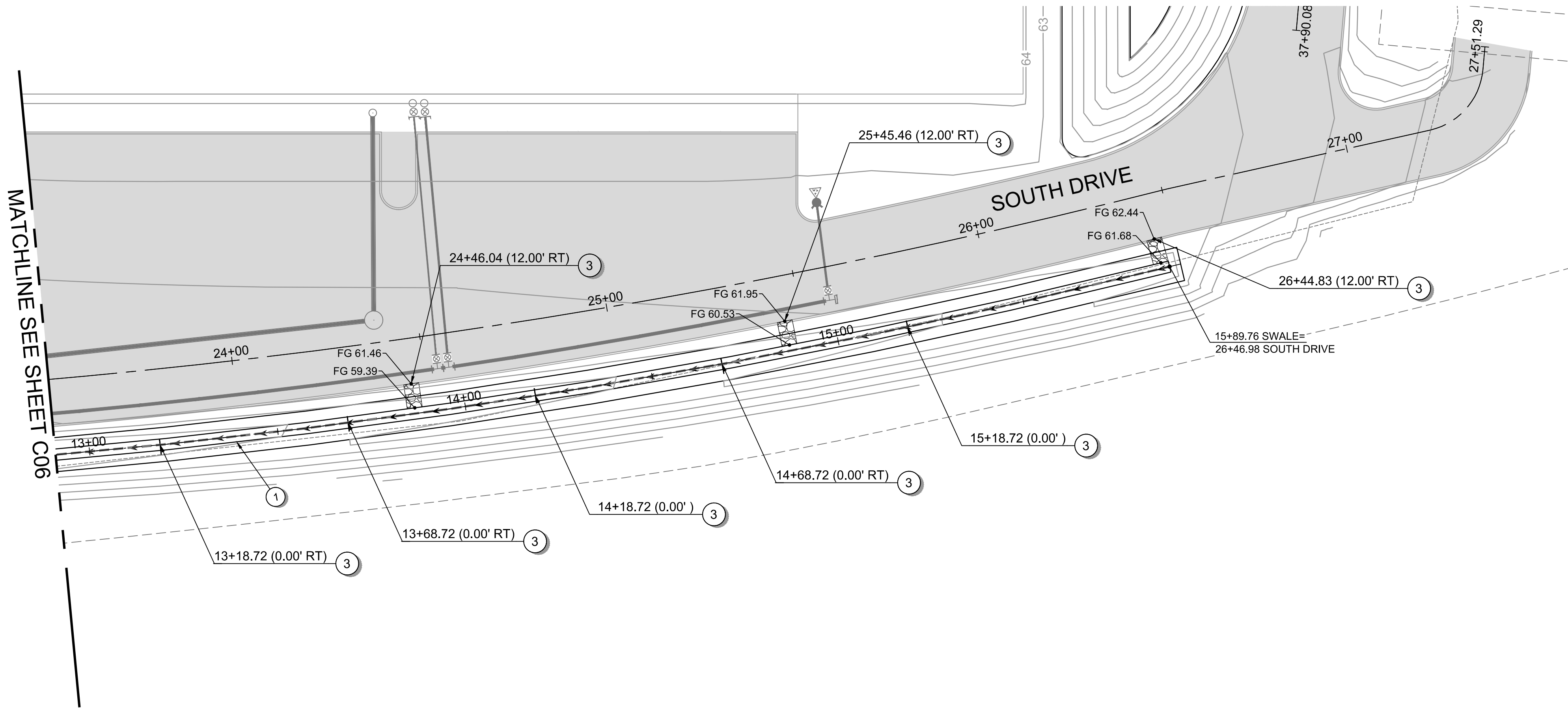


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GENERAL NOTES:

- SEE SHEET G03 FOR PROJECT'S GENERAL NOTES.
- SEE SHEET G02 FOR ABBREVIATIONS AND MASTER LEGEND.

SITE PLAN NOTES:

- PROPOSED SWALE PER TYPICAL SECTION, SEE SHEET ST01.
- PROPOSED FLOW SPREADER PER DETAIL, SEE SHEET D01.
- 4-FOOT WIDE, 6-INCH THICK, QUARRY SPALLS PAD FROM TOP OF SWALE (AT LOCATION OF FUTURE CURB SCUPPER) TO BOTTOM OF SWALE PER DETAIL ON SHEET D01.

BIOFILTRATION SWALE PROFILE FOR:
CASCADE BUSINESS PARK
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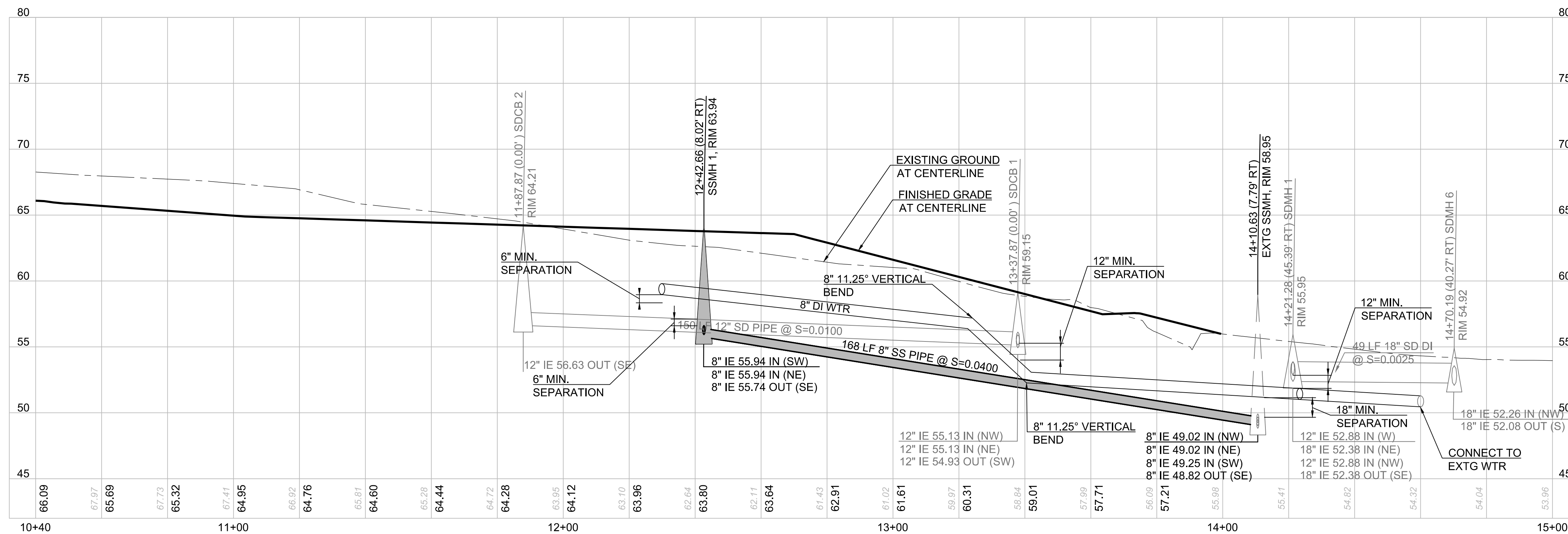
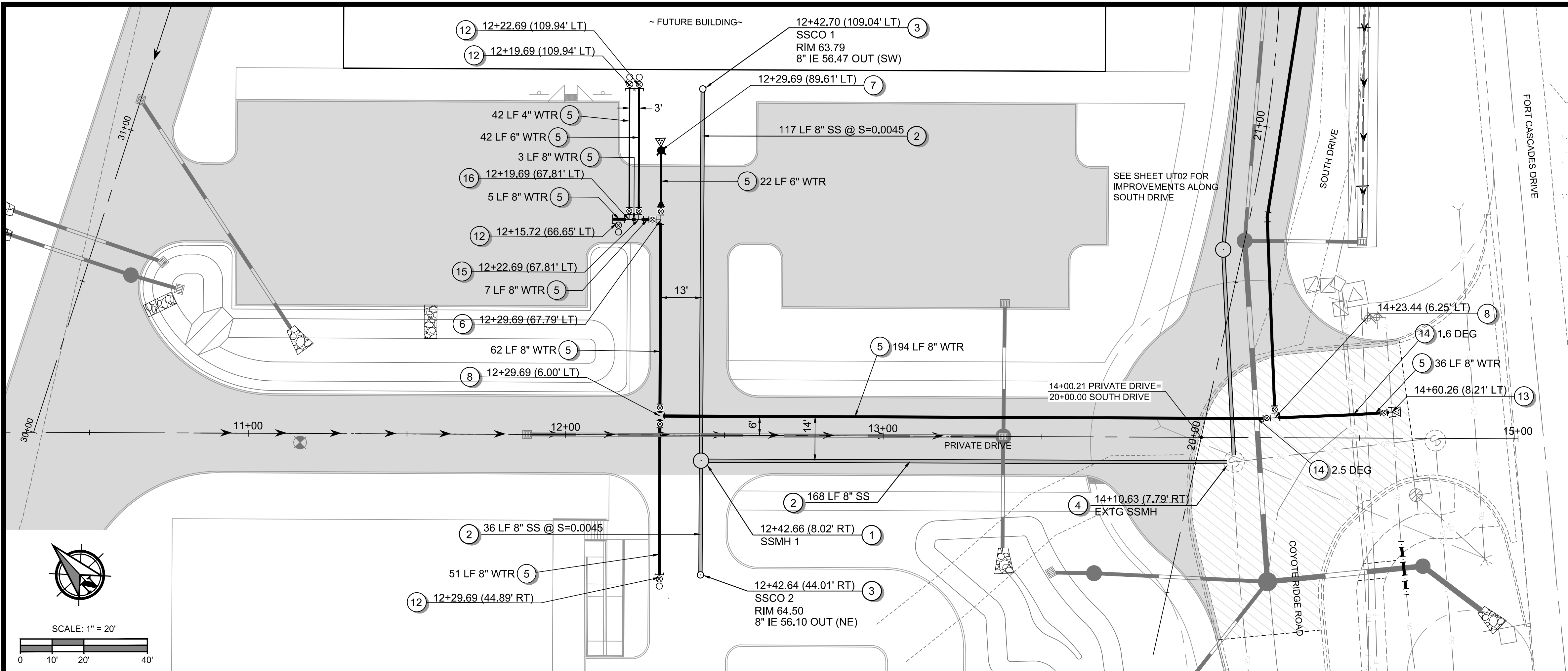
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GENERAL NOTES

- SEE SHEET G02 FOR PLAN SET LEGEND.
- SEE SHEET G03 FOR PLAN SET GENERAL NOTES.
- MECHANICALLY RESTRAIN ALL JOINTS ALONG MAINS AND FITTINGS THROUGHOUT THE PROPOSED WATER SYSTEM.
- ANY PROPOSED THRUST BLOCKS SHALL BE CONSTRUCTED PER WSDOT STANDARD PLAN B-90.40. SEE SHEET D05.

CONSTRUCTION NOTES - SANITARY SEWER

- INSTALL 48-INCH DIAM. MANHOLE TYPE 1 PER WSDOT STANDARD PLAN B-15.20, WITH CIRCULAR FRAME AND COVER PER WSDOT STANDARD PLAN B-30.70. SEE SHEETS D03 AND D04.
- INSTALL 8-INCH DIAM. PVC SANITARY SEWER PIPE. PIPE LENGTHS AND SLOPES AS SHOWN ON PLANS.
- INSTALL 8-INCH SANITARY SEWER CLEANOUT PER WSDOT STANDARD PLAN B-85.40. SEE SHEET D05.
- CONNECT TO EXTG SANITARY SEWER MANHOLE.

CONSTRUCTION NOTES - WATER

- INSTALL PIPE FOR WATER MAIN. PIPE DIAMETER AND LENGTH AS SHOWN ON PLANS. SEE GENERAL NOTES FOR PIPE MATERIAL REQUIREMENTS.
- INSTALL (1) 8-INCH MJ TEE (1) 6-INCH MJ GATE VALVE (1) 8-INCH MJ GATE VALVE (1) 8-INCH x 6-INCH MJ REDUCER
- INSTALL HYDRANT ASSEMBLY PER "TYPE A" DETAIL ON WSDOT STANDARD PLAN B-90.10. SEE SHEET D05.
- INSTALL (1) 8-INCH MJ TEE (2) 8-INCH MJ GATE VALVES.
- INSTALL (1) 8-INCH MJ TEE (2) 8-INCH MJ GATE VALVES (1) 8-INCH MJ PLUG
- INSTALL 8-INCH MJ 11 1/4 DEG BEND.
- INSTALL 6-INCH MJ 90 DEG BEND.
- INSTALL 2-INCH BLOWOFF ASSEMBLY WITH GATE VALVE PER WSDOT STANDARD PLAN B-90.20. SEE SHEET D05.
- AFTER NEW WATER MAINS HAVE BEEN TESTED IN ACCORDANCE WITH SPECIFICATION SECTION 7-09.3, AND TEST RESULTS HAVE BEEN APPROVED BY THE ENGINEER, CONNECT TO EXTG 10-INCH WATER MAIN WITH (1) 8-INCH X 10-INCH TAPPING TEE TEE w/ THRUST BLOCK (1) 8-INCH FLG x MJ GATE VALVE.
- DEFLECT PIPE PER RADIUS OR ANGLE SHOWN ON PLANS. SEE GENERAL NOTES FOR PIPE DEFLECTION REQUIREMENTS.
- INSTALL (1) 8-INCH x 6-INCH MJ TEE (1) 6-INCH MJ GATE VALVE
- INSTALL (1) 8-INCH x 4-INCH MJ TEE (1) 4-INCH MJ GATE VALVE
- INSTALL (1) 8-INCH MJ x 6-INCH FLG TEE (1) 6-INCH FLG x MJ GATE VALVE (1) 8-INCH MJ PLUG
- INSTALL (1) 8-INCH x 6-INCH MJ TEE (1) 8-INCH MJ GATE VALVE (1) 6-INCH MJ GATE VALVE
- INSTALL (1) 8-INCH MJ x 6-INCH FLG TEE (1) 6-INCH FLG x MJ GATE VALVE

SANITARY SEWER AND WATER PLAN AND PROFILE FOR:

CASCADE BUSINESS PARK
A SITE LOCATED IN THE CITY OF NORTH BONNEVILLE, WASHINGTON



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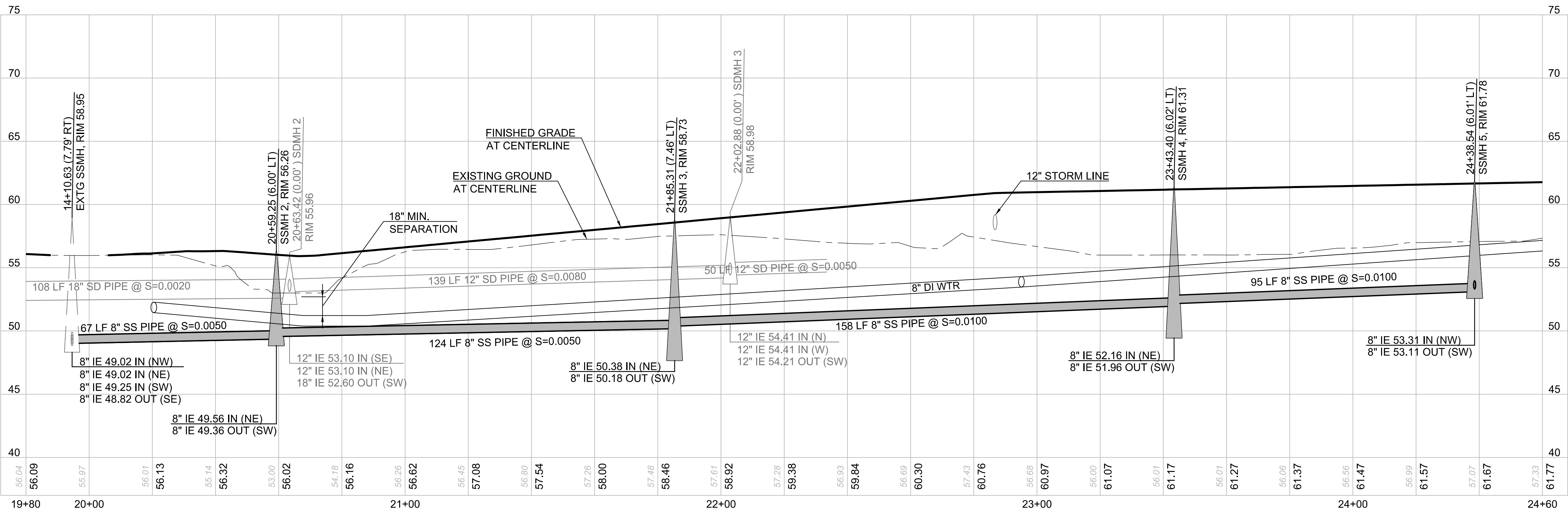
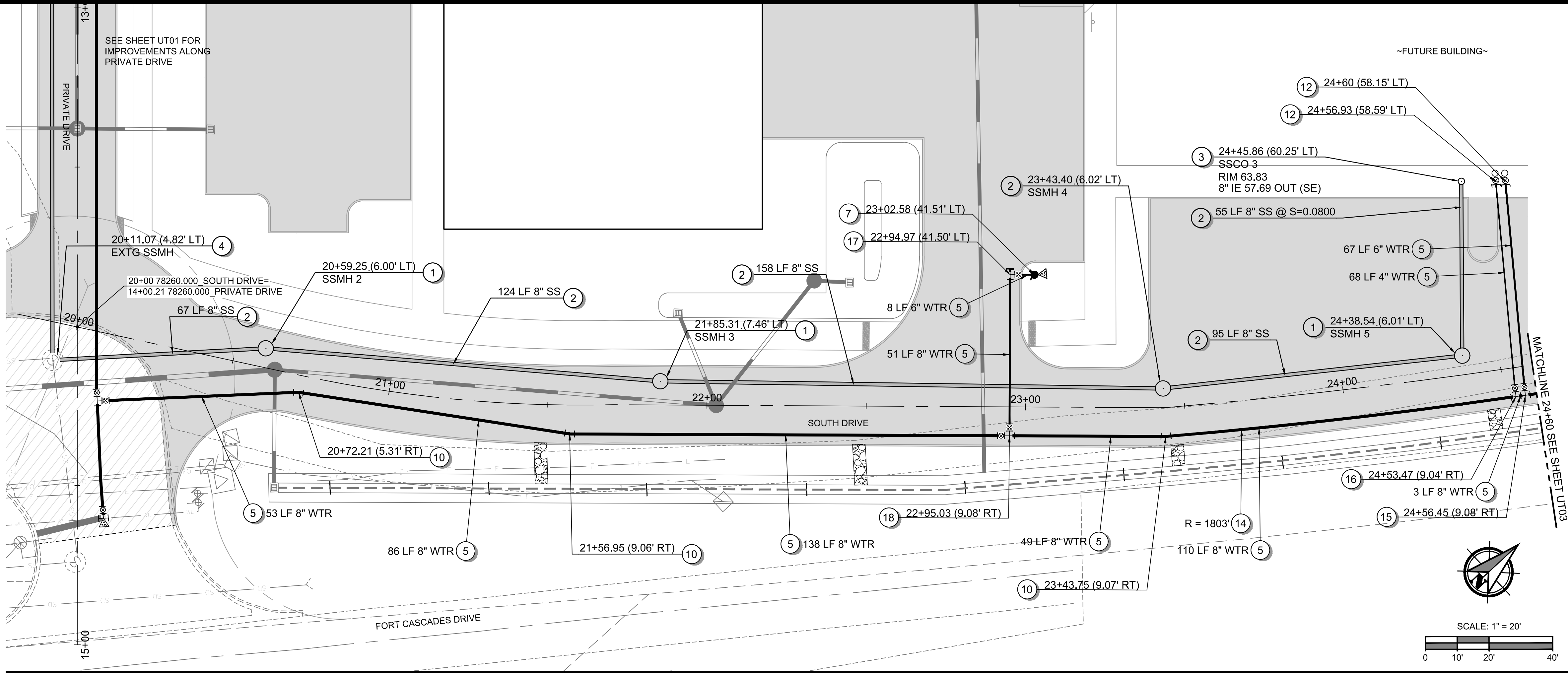
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SHEET **21** OF **30**

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Full Size Sheet Format Is 22x34; If Printed Size Is Not 22x34, Then This Sheet Format Has Been Modified & Indicated Drawing Scale Is Not Accurate.

GENERAL NOTES

- SEE SHEET G02 FOR PLAN SET LEGEND.
- SEE SHEET G03 FOR PLAN SET GENERAL NOTES.
- MECHANICALLY RESTRAIN ALL JOINTS ALONG MAINS AND FITTINGS THROUGHOUT THE PROPOSED WATER SYSTEM.
- ANY PROPOSED THRUST BLOCKS SHALL BE CONSTRUCTED PER WSDOT STANDARD PLAN B-90.40. SEE SHEET D05.

CONSTRUCTION NOTES - SANITARY SEWER

- INSTALL 48-INCH DIAM. MANHOLE TYPE 1 PER WSDOT STANDARD PLAN B-15.20, WITH CIRCULAR FRAME AND COVER PER WSDOT STANDARD PLAN B-30.70. SEE SHEETS D03 AND D04.
- INSTALL 8-INCH DIAM. PVC SANITARY SEWER PIPE. PIPE LENGTHS AND SLOPES AS SHOWN ON PLANS.
- INSTALL 8-INCH SANITARY SEWER CLEANOUT PER WSDOT STANDARD PLAN B-85.40. SEE SHEET D05.
- CONNECT TO EXTG SANITARY SEWER MANHOLE.

CONSTRUCTION NOTES - WATER

- INSTALL PIPE FOR WATER MAIN. PIPE DIAMETER AND LENGTH AS SHOWN ON PLANS. SEE GENERAL NOTES FOR PIPE MATERIAL REQUIREMENTS.
- INSTALL (1) 8-INCH MJ TEE (1) 6-INCH MJ GATE VALVE (1) 8-INCH MJ GATE VALVE (1) 8-INCH x 6-INCH MJ REDUCER
- INSTALL HYDRANT ASSEMBLY PER "TYPE A" DETAIL ON WSDOT STANDARD PLAN B-90.10. SEE SHEET D05.
- INSTALL (1) 8-INCH MJ TEE (2) 8-INCH MJ GATE VALVES.
- INSTALL (1) 8-INCH MJ TEE (2) 8-INCH MJ GATE VALVES (1) 8-INCH MJ PLUG
- INSTALL 8-INCH MJ 11 1/4 DEG BEND.
- INSTALL 6-INCH MJ 90 DEG BEND.
- INSTALL 2-INCH BLOWOFF ASSEMBLY WITH GATE VALVE PER WSDOT STANDARD PLAN B-90.20. SEE SHEET D05.
- AFTER NEW WATER MAINS HAVE BEEN TESTED IN ACCORDANCE WITH SPECIFICATION SECTION 7-09.3, AND TEST RESULTS HAVE BEEN APPROVED BY THE ENGINEER, CONNECT TO EXTG 10-INCH WATER MAIN WITH (1) 8-INCH X 10-INCH TAPPING TEE TEE w/ THRUST BLOCK (1) 8-INCH FLG x MJ GATE VALVE.
- DEFLECT PIPE PER RADIUS OR ANGLE SHOWN ON PLANS. SEE GENERAL NOTES FOR PIPE DEFLECTION REQUIREMENTS.
- INSTALL (1) 8-INCH x 6-INCH MJ TEE (1) 6-INCH MJ GATE VALVE
- INSTALL (1) 8-INCH x 4-INCH MJ TEE (1) 4-INCH MJ GATE VALVE
- INSTALL (1) 8-INCH MJ x 6-INCH FLG TEE (1) 6-INCH FLG x MJ GATE VALVE (1) 8-INCH MJ PLUG
- INSTALL (1) 8-INCH x 6-INCH MJ TEE (1) 8-INCH MJ GATE VALVE (1) 6-INCH MJ GATE VALVE
- INSTALL (1) 8-INCH MJ x 6-INCH FLG TEE (1) 6-INCH FLG x MJ GATE VALVE

SANITARY SEWER AND WATER PLAN AND PROFILE FOR:

CASCADE BUSINESS PARK
A SITE LOCATED IN THE CITY OF NORTH BONNEVILLE, WASHINGTON



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CHECKED:
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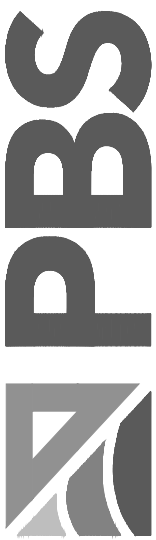
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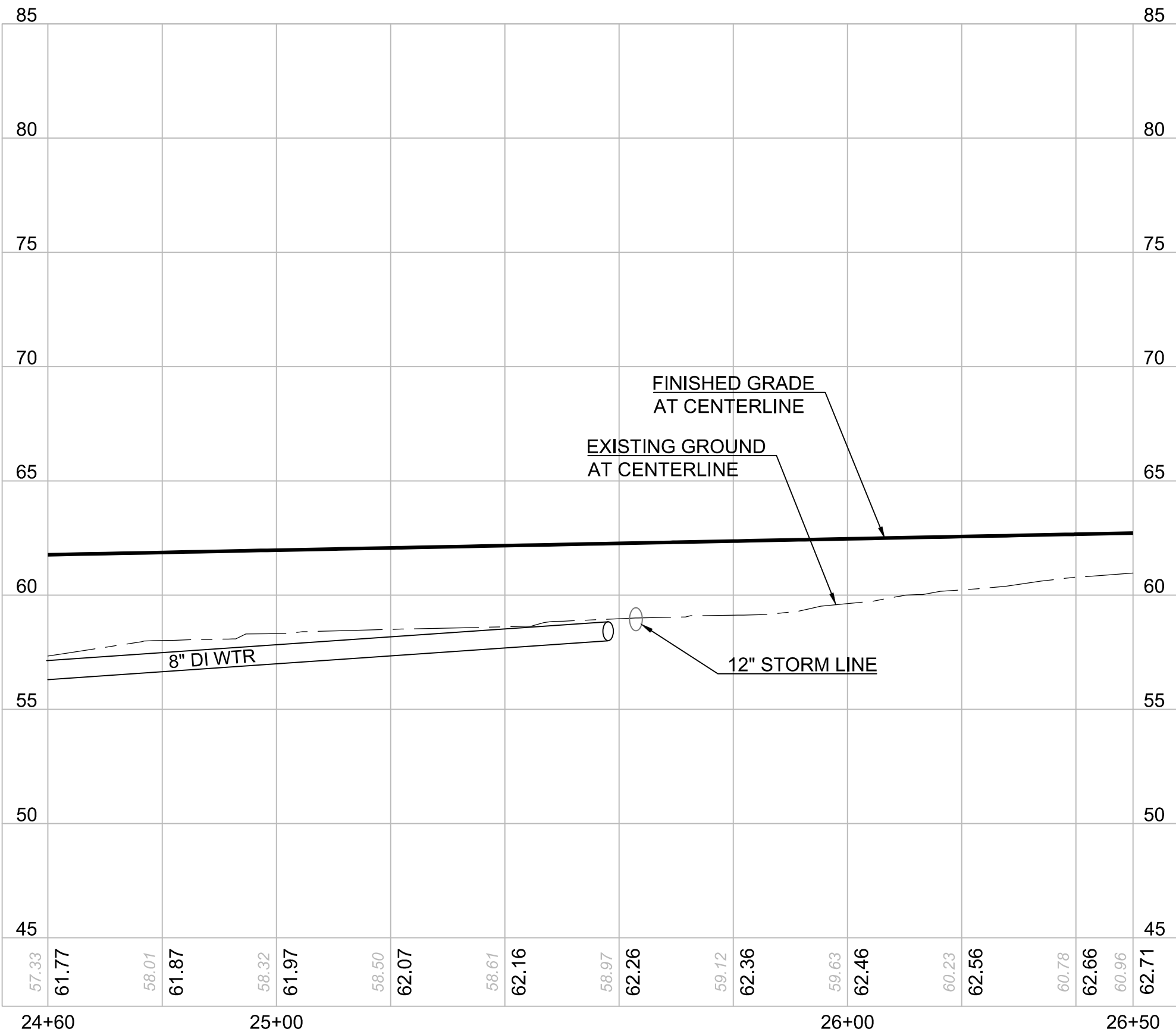
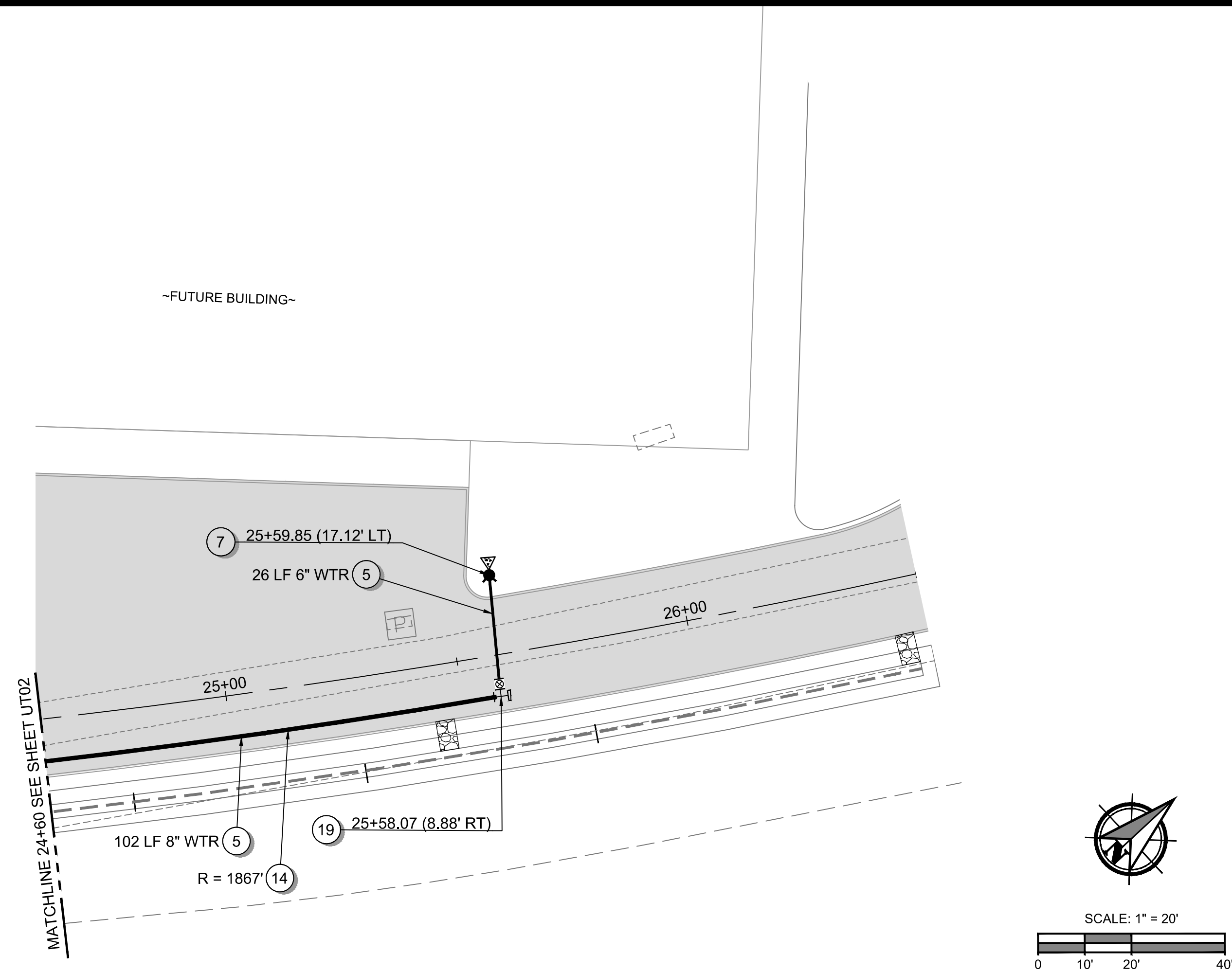
SHEET **22** OF **30**

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- GENERAL NOTES**
- SEE SHEET G02 FOR PLAN SET LEGEND.
 - SEE SHEET G03 FOR PLAN SET GENERAL NOTES.
 - MECHANICALLY RESTRAIN ALL JOINTS ALONG MAINS AND FITTINGS THROUGHOUT THE PROPOSED WATER SYSTEM.
 - ANY PROPOSED THRUST BLOCKS SHALL BE CONSTRUCTED PER WSDOT STANDARD PLAN B-90.40. SEE SHEET D05.

- CONSTRUCTION NOTES - SANITARY SEWER**
- INSTALL 48-INCH DIAM. MANHOLE TYPE 1 PER WSDOT STANDARD PLAN B-15.20, WITH CIRCULAR FRAME AND COVER PER WSDOT STANDARD PLAN B-30.70. SEE SHEETS D03 AND D04.
 - INSTALL 8-INCH DIAM. PVC SANITARY SEWER PIPE. PIPE LENGTHS AND SLOPES AS SHOWN ON PLANS.
 - INSTALL 8-INCH SANITARY SEWER CLEANOUT PER WSDOT STANDARD PLAN B-85.40. SEE SHEET D05.
 - CONNECT TO EXTG SANITARY SEWER MANHOLE.

- CONSTRUCTION NOTES - WATER**
- INSTALL PIPE FOR WATER MAIN. PIPE DIAMETER AND LENGTH AS SHOWN ON PLANS. SEE GENERAL NOTES FOR PIPE MATERIAL REQUIREMENTS.
 - INSTALL (1) 8-INCH MJ TEE
(1) 8-INCH MJ GATE VALVE
(1) 8-INCH x 6-INCH MJ REDUCER
 - INSTALL HYDRANT ASSEMBLY PER "TYPE A" DETAIL ON WSDOT STANDARD PLAN B-90.10. SEE SHEET D05.
 - INSTALL (1) 8-INCH MJ TEE
(2) 8-INCH MJ GATE VALVES.
 - INSTALL (1) 8-INCH MJ TEE
(2) 8-INCH MJ GATE VALVES
(1) 8-INCH MJ PLUG
 - INSTALL 8-INCH MJ 11 ¼ DEG BEND.
 - INSTALL 6-INCH MJ 90 DEG BEND.
 - INSTALL 2-INCH BLOWOFF ASSEMBLY WITH GATE VALVE PER WSDOT STANDARD PLAN B-90.20. SEE SHEET D05.
 - AFTER NEW WATER MAINS HAVE BEEN TESTED IN ACCORDANCE WITH SPECIFICATION SECTION 7-09.3, AND TEST RESULTS HAVE BEEN APPROVED BY THE ENGINEER, CONNECT TO EXTG 10-INCH WATER MAIN WITH
(1) 8-INCH X 10-INCH TAPPING TEE TEE w/ THRUST BLOCK
(1) 8-INCH FLG x MJ GATE VALVE.
 - DEFLECT PIPE PER RADIUS OR ANGLE SHOWN ON PLANS. SEE GENERAL NOTES FOR PIPE DEFLECTION REQUIREMENTS.
 - INSTALL (1) 8-INCH x 6-INCH MJ TEE
(1) 6-INCH MJ GATE VALVE
 - INSTALL (1) 8-INCH x 4-INCH MJ TEE
(1) 4-INCH MJ GATE VALVE
 - INSTALL (1) 8-INCH MJ x 6-INCH FLG TEE
(1) 6-INCH FLG x MJ GATE VALVE
(1) 8-INCH MJ PLUG
 - INSTALL (1) 8-INCH x 6-INCH MJ TEE
(1) 8-INCH MJ GATE VALVE
(1) 6-INCH MJ GATE VALVE
 - INSTALL (1) 8-INCH MJ x 6-INCH FLG TEE
(1) 6-INCH FLG x MJ GATE VALVE

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SANITARY SEWER AND WATER PLAN AND PROFILE FOR:
CASCADE BUSINESS PARK
A SITE LOCATED IN THE CITY OF NORTH BONNEVILLE, WASHINGTON



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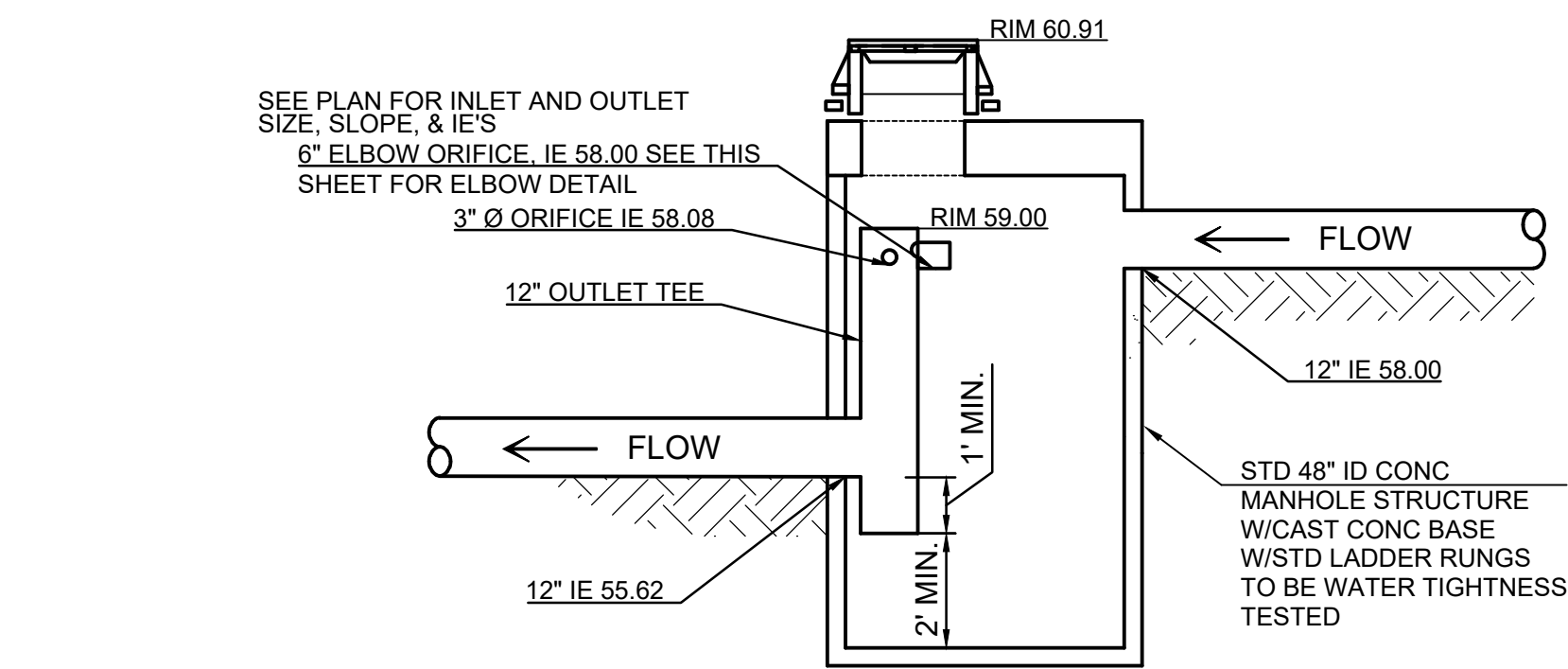
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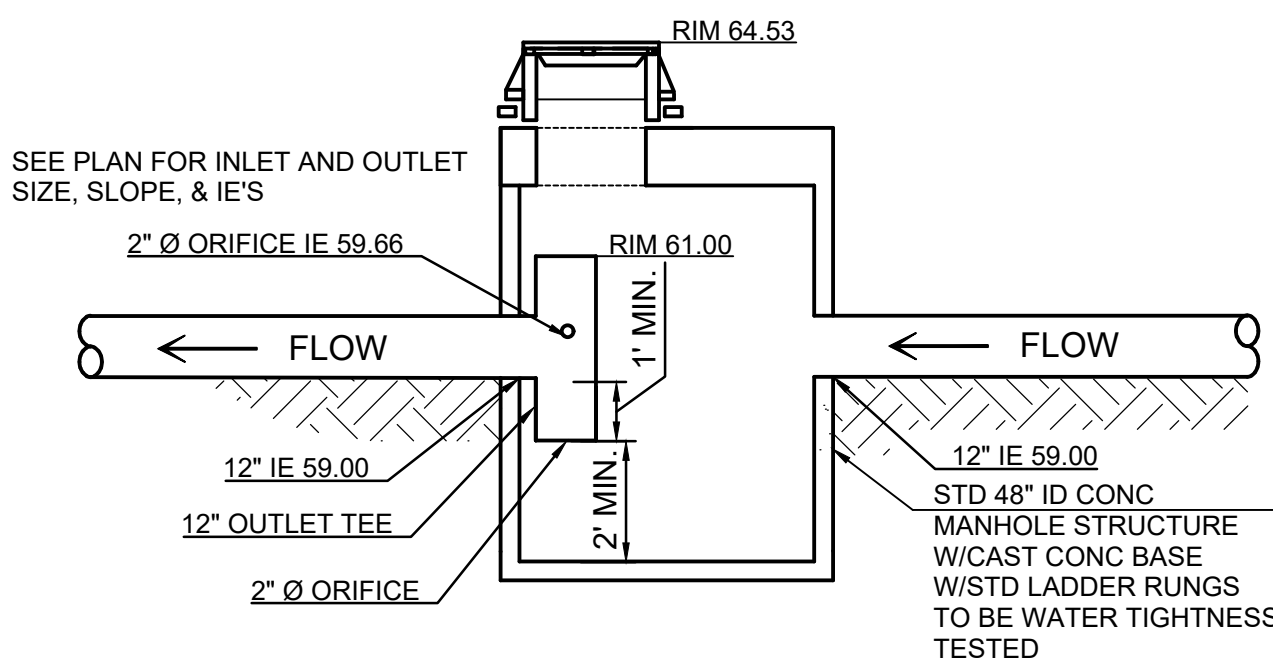
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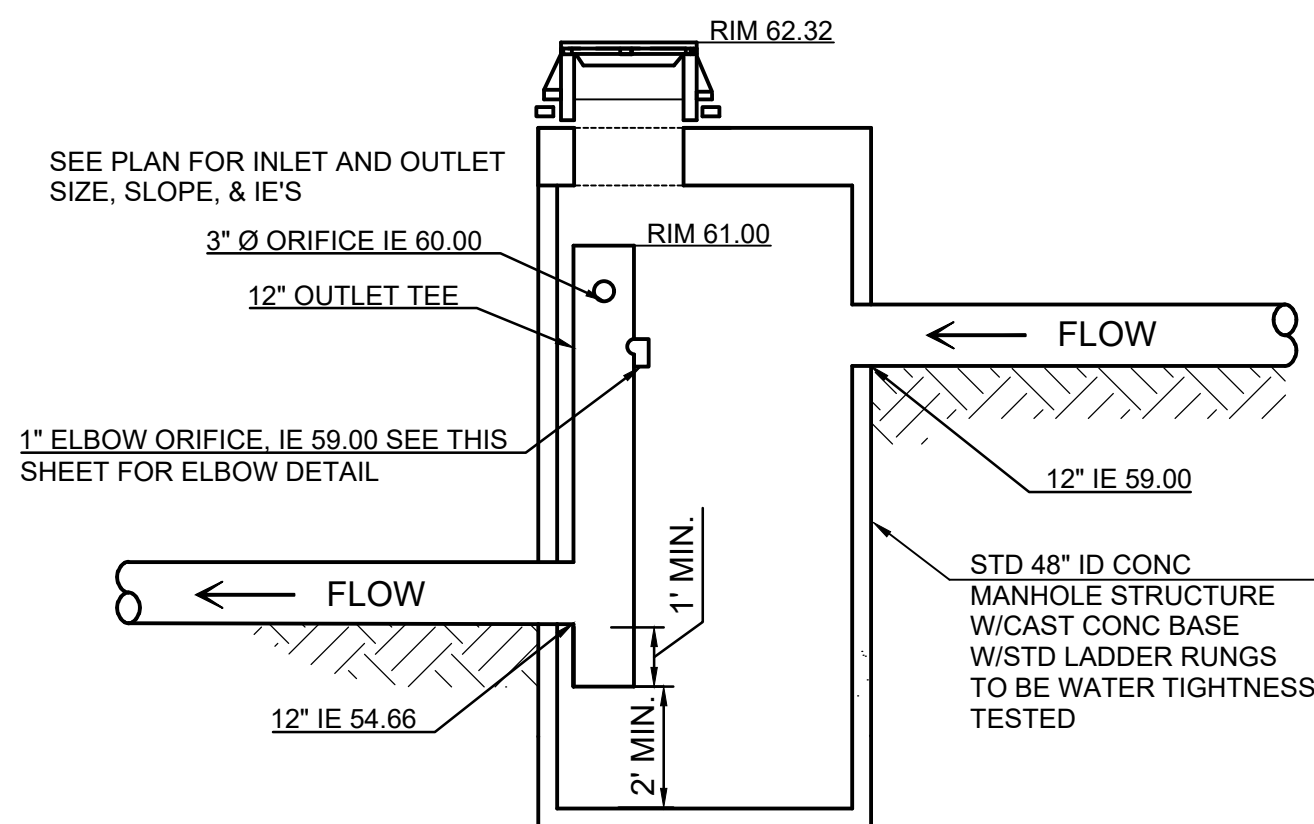
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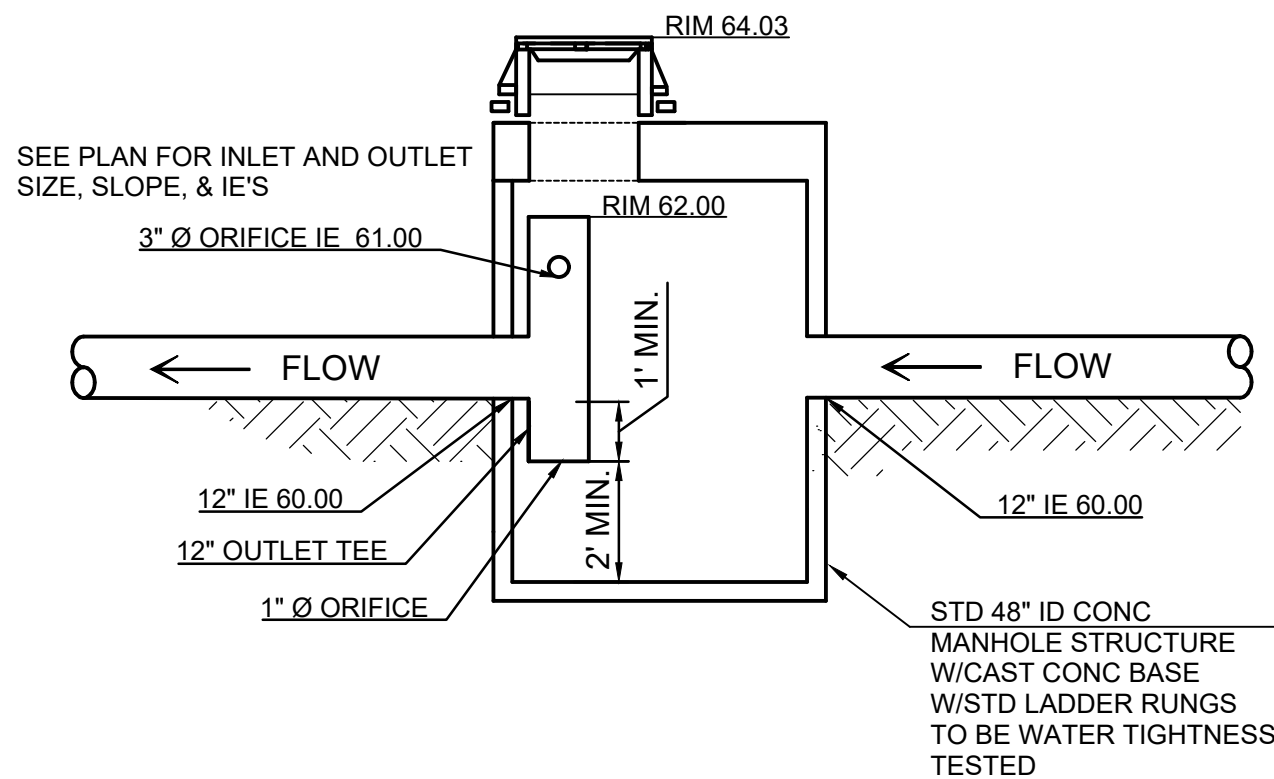
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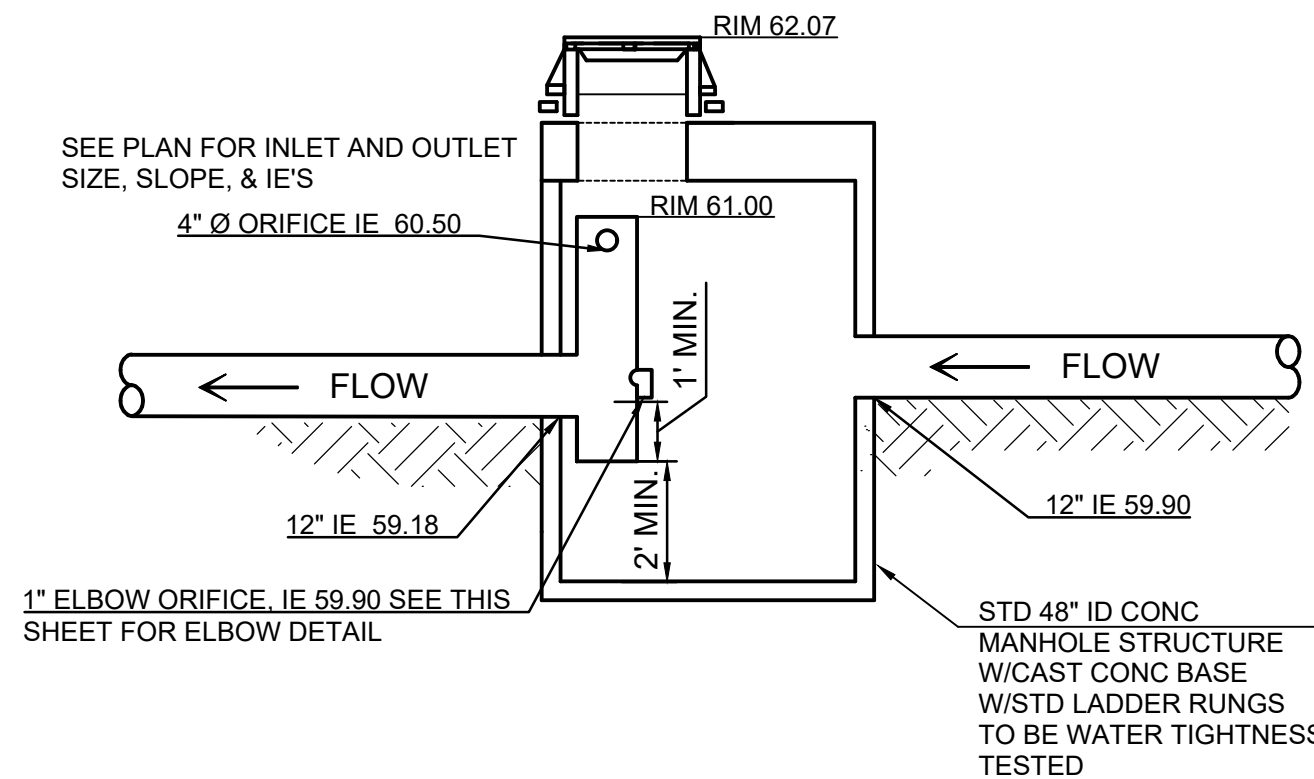
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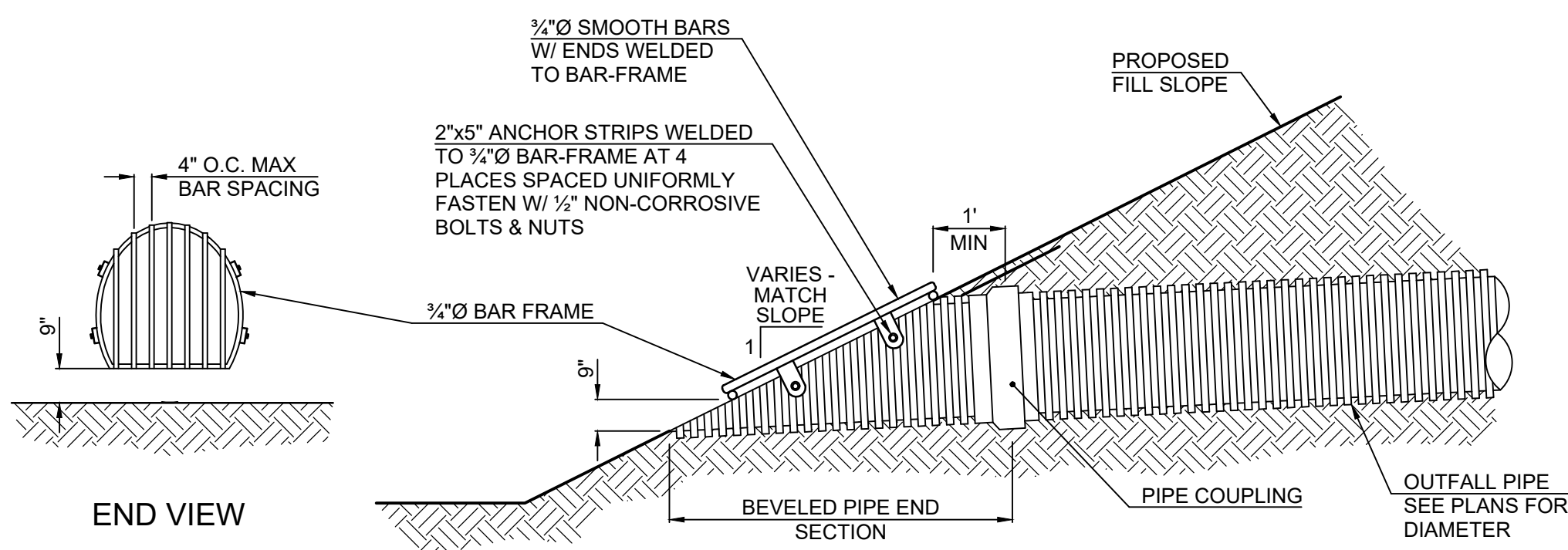
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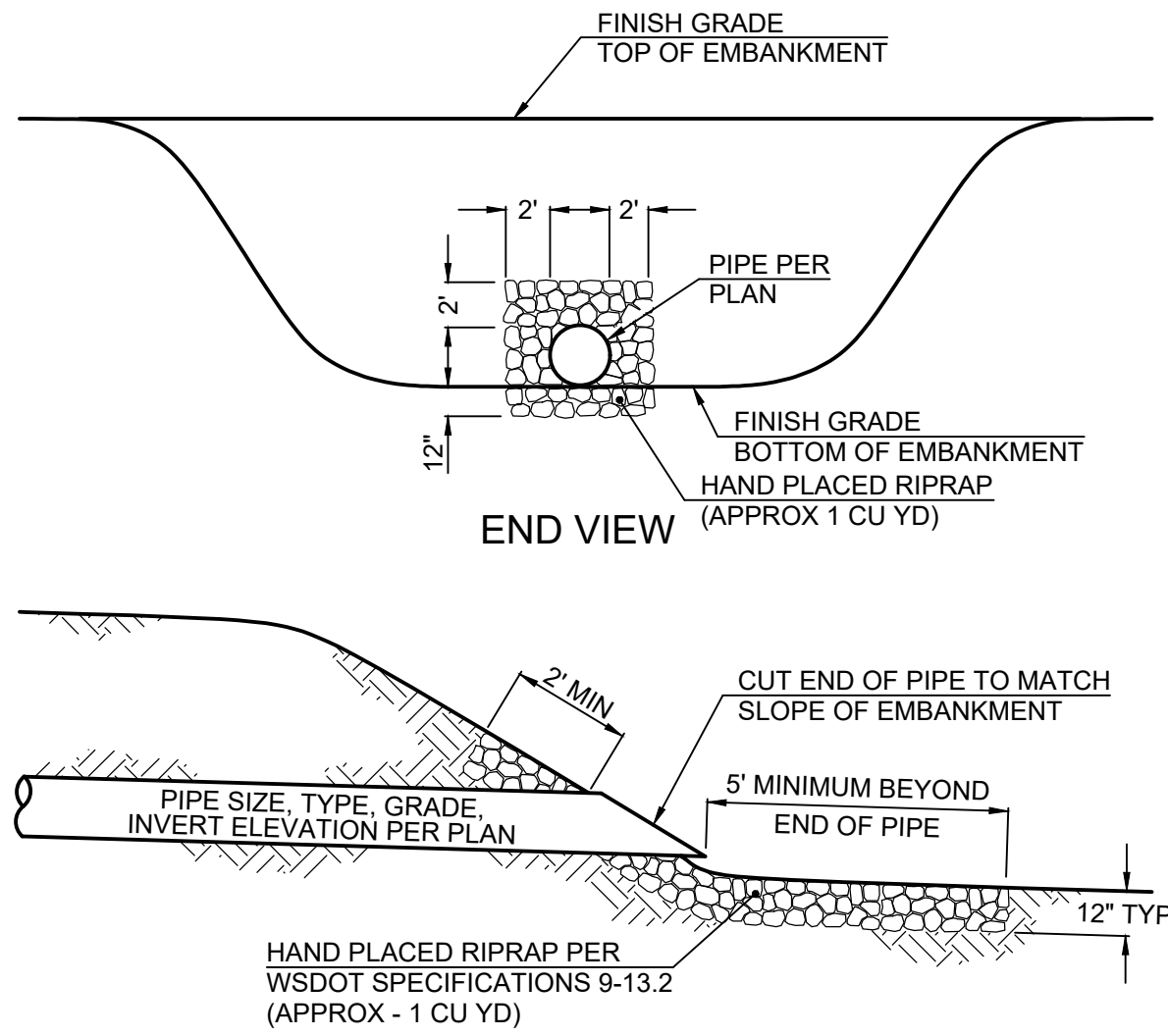
FCMH 5 Detail
NTS



FCMH 6 Detail
NTS



Trash Rack
NTS



Typical Storm Sewer
Outlet Detail
NTS

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MISCELLANEOUS DETAILS FOR:
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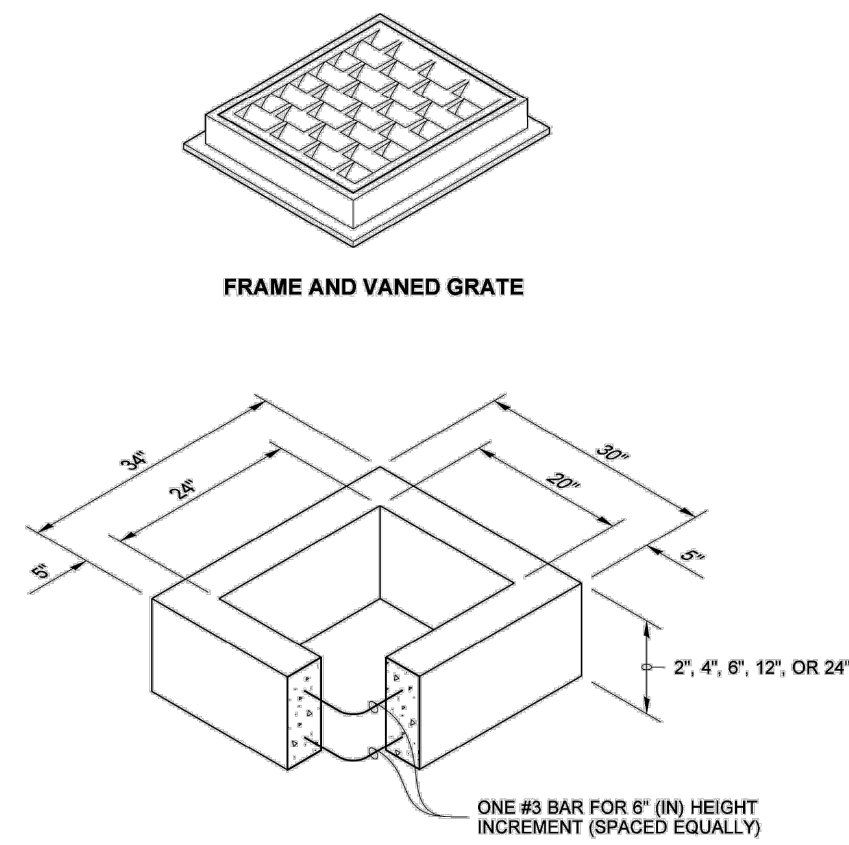


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MARCH 2025 78260.000
SHEET ID D02
SHEET 25 OF 30

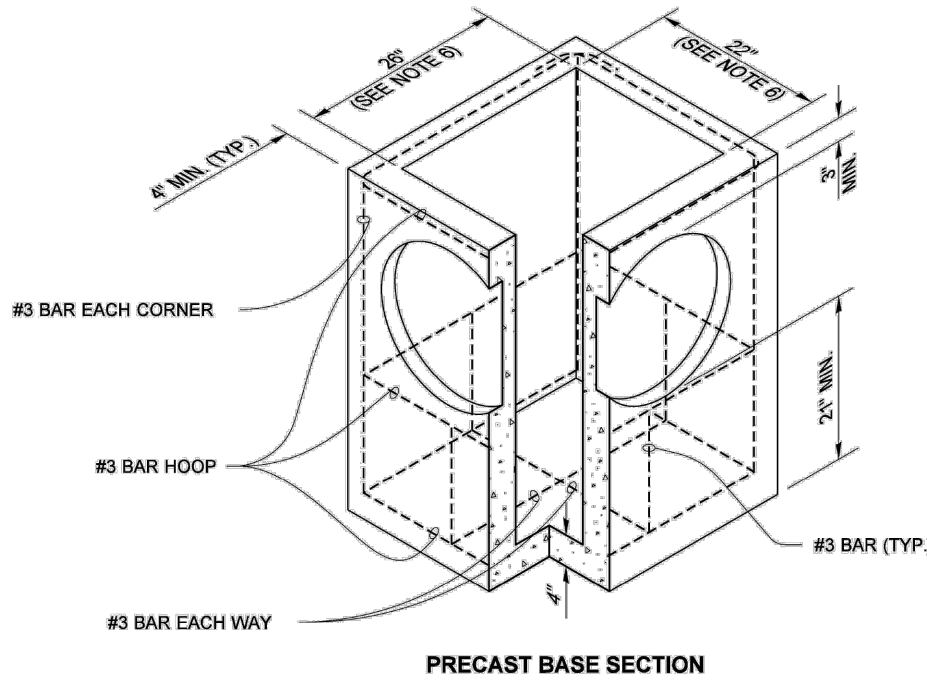
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DRAWN BY: FERN LIDELL

DRAWN BY: LISA CYFORD



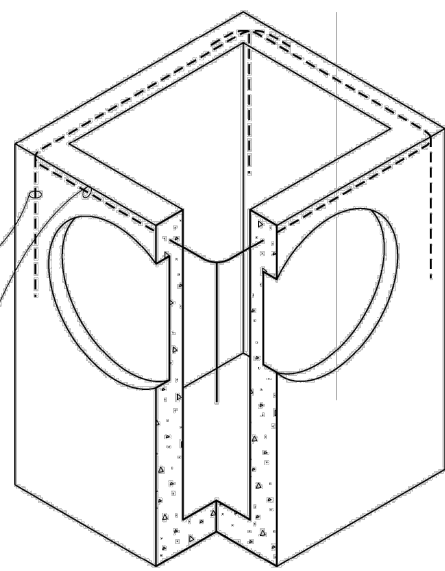
RECTANGULAR ADJUSTMENT SECTION



PRECAST BASE SECTION

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

* CORRUGATED POLYETHYLENE STORM SEWER PIPE

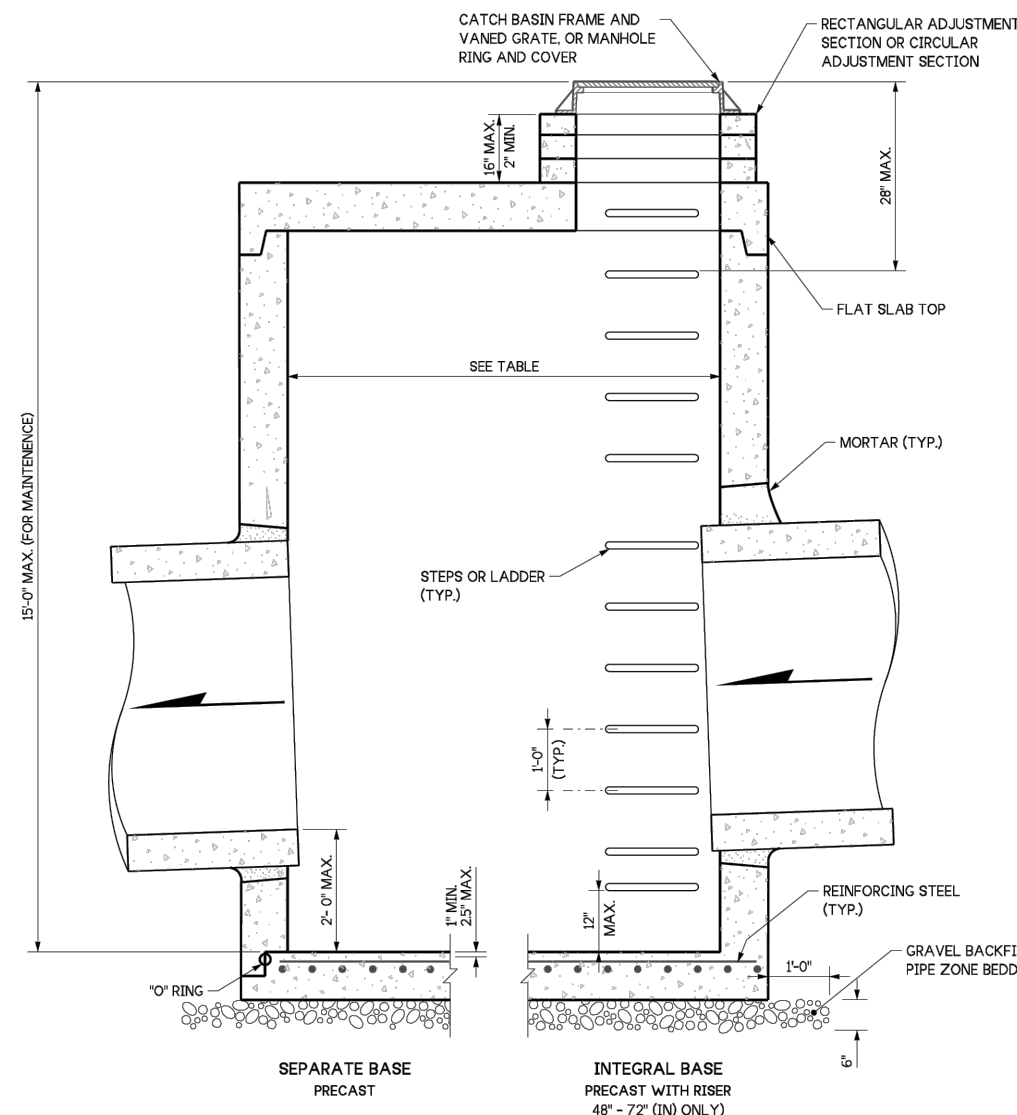


ALTERNATIVE PRECAST BASE SECTION

NOTES

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

CATCH BASIN TYPE 1
STANDARD PLAN B-5.20-03
SHEET 1 OF 1 SHEET

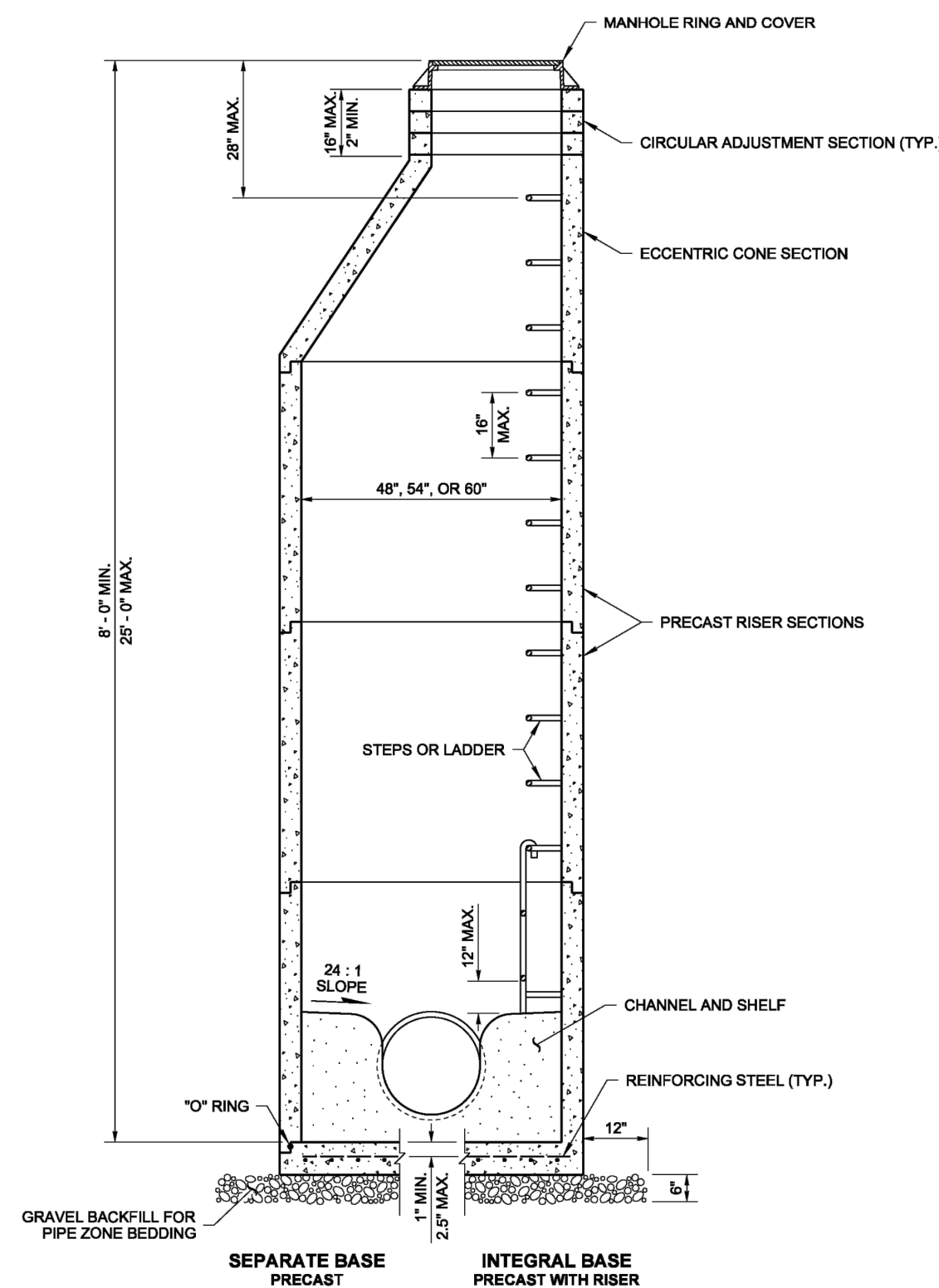


CATCH BASIN DIMENSIONS				
CATCH BASIN DIAMETER	MIN. WALL THICKNESS	MIN. BASE THICKNESS	MAXIMUM KNOCKOUT SIZE	MINIMUM DISTANCE BETWEEN KNOCKOUTS
48"	4"	6"	36"	8"
54"	4.5"	8"	42"	8"
60"	5"	8"	48"	8"
72"	6"	8"	60"	12"
84"	8"	12"	72"	12"
96"	8"	12"	84"	12"
120"	10"	12"	96"	12"
144"	12"	12"	108"	12"

PIPE ALLOWANCES						
CATCH BASIN DIAMETER	PIPE MATERIAL WITH MAXIMUM INSIDE DIAMETER					
	CONCRETE	ALL METAL	CPSP PP ④	SOLID WALL PVC ②	PROFILE WALL PVC ③	
48"	24"	30"	24"	30"	30"	
54"	30"	36"	30"	36"	36"	
60"	36"	42"	36"	42"	42"	
72"	42"	54"	42"	48"	48"	
84"	54"	60"	54"	48"	48"	
96"	60"	72"	60"	48"	48"	
120"	66"	84"	60"	48"	48"	
144"	78"	96"	60"	48"	48"	

- (1) Corrugated Polyethylene Storm Sewer Pipe (See Standard Specification Section 9-05.20)
(2) See Standard Specification Section 9-05.12(1)
(3) See Standard Specification Section 9-05.12(2)
(4) Polypropylene Pipe (See Standard Specification Section 9-05.24)

CATCH BASIN TYPE 2
STANDARD PLAN B-10.20-03
SHEET 1 OF 1 SHEET

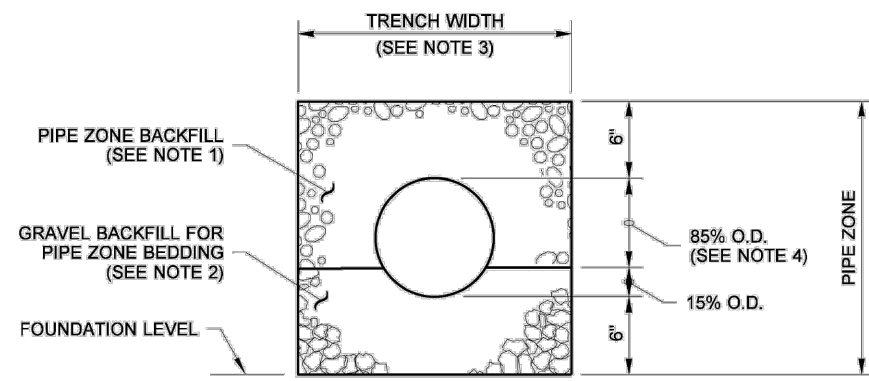


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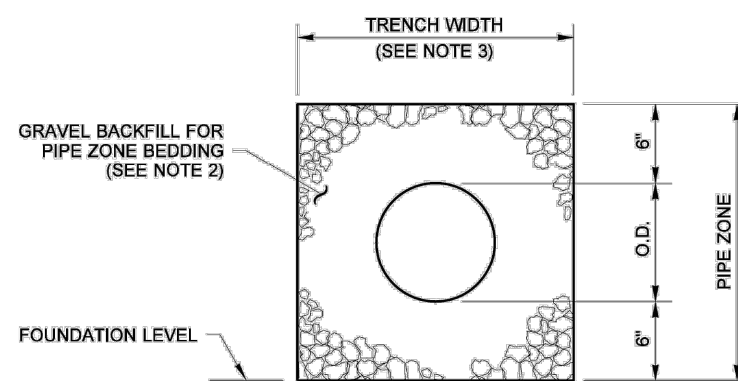
- Knockouts shall have a wall thickness of 2" minimum to 2.5" maximum.
- For pipe allowances, see **Standard Plan B-10.20**.

MANHOLE DIMENSION TABLE				
DIAM.	MIN. WALL THICKNESS	MIN. BASE THICKNESS	MAXIMUM KNOCKOUT SIZE	MINIMUM DISTANCE BETWEEN KNOCKOUTS
48"	4"	6"	36"	8"
54"	4.5"	8"	42"	8"
60"	5"	8"	48"	8"

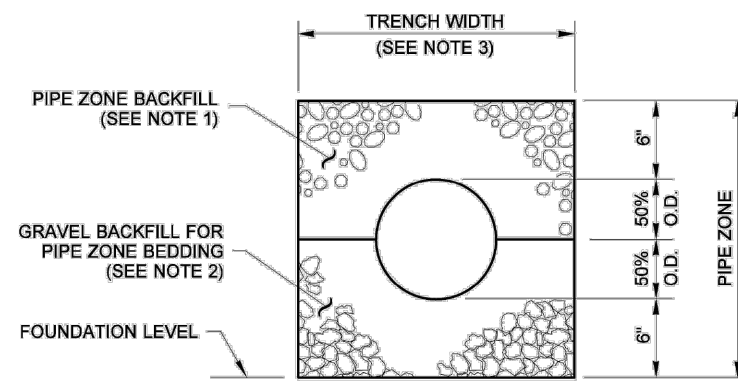
MANHOLE TYPE 1
STANDARD PLAN B-15.20-01
SHEET 1 OF 1 SHEET



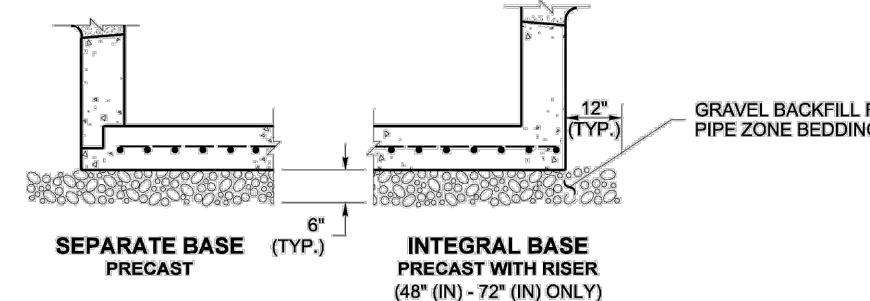
CONCRETE AND DUCTILE IRON PIPE



THERMOPLASTIC PIPE



METAL AND STEEL RIB REINFORCED POLYETHYLENE PIPE



TYPICAL CONDITION FOR DRAINAGE STRUCTURE

THIS DETAIL APPLIES TO STANDARD PLANS B-5.20, B-6.40, B-5.60, B-10.20, B-10.40, B-15.20, B-15.40, B-15.60, B-25.20, B-25.60, B-35.20 AND B-35.40.

CLEARANCE BETWEEN PIPES FOR MULTIPLE INSTALLATIONS		
PIPE	SIZE	MINIMUM DISTANCE BETWEEN BARRELS
CIRCULAR PIPE (DIAMETER)	UP TO 48"	24"
METAL PIPE ARCH (SPAN)	48" AND LARGER	DIAMETER/2 OR 36" WHICHEVER IS LESS

PIPE ZONE BEDDING AND BACKFILL
STANDARD PLAN B-55.20-03
SHEET 1 OF 1 SHEET

100% PLANS

STANDARD DETAILS FOR:

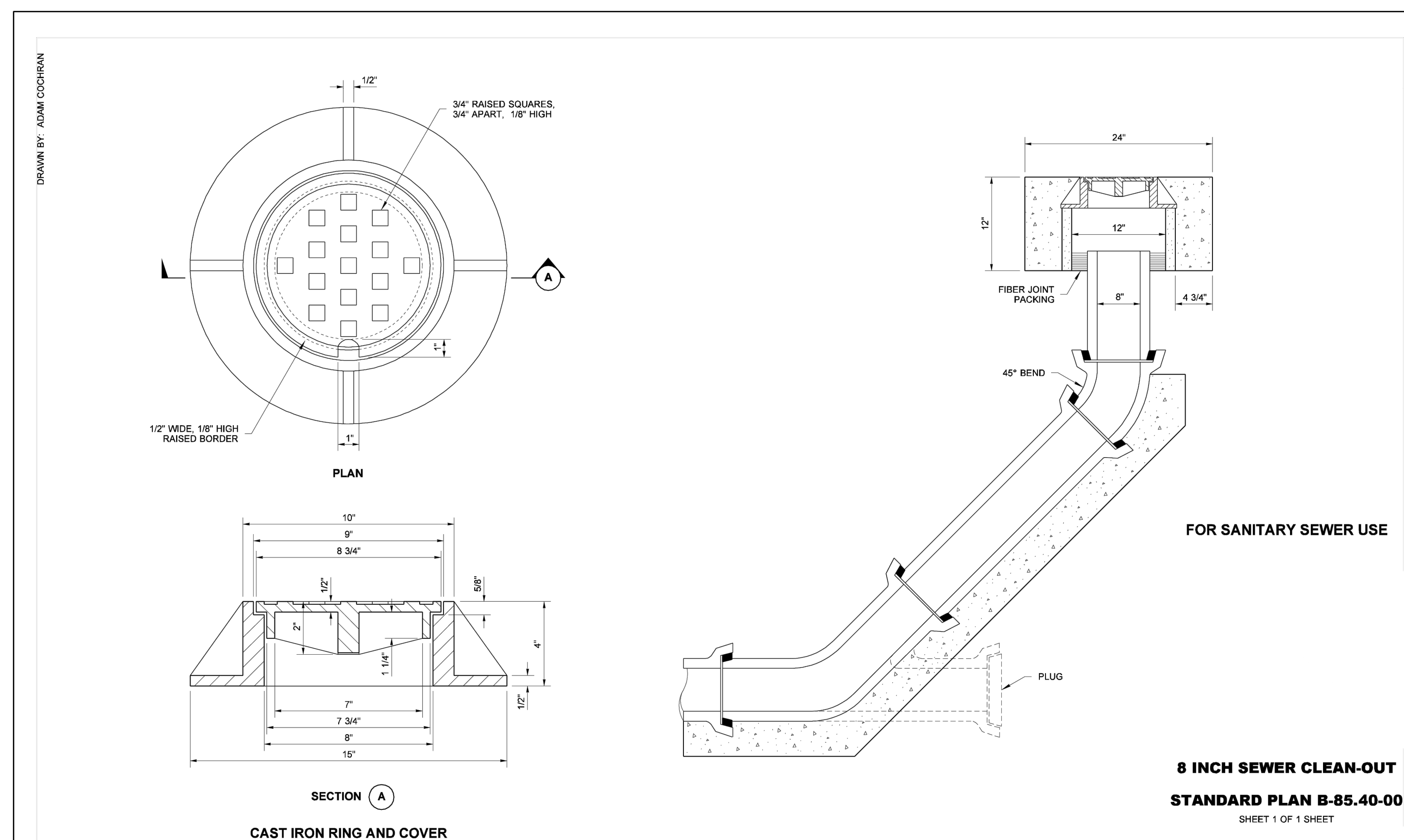
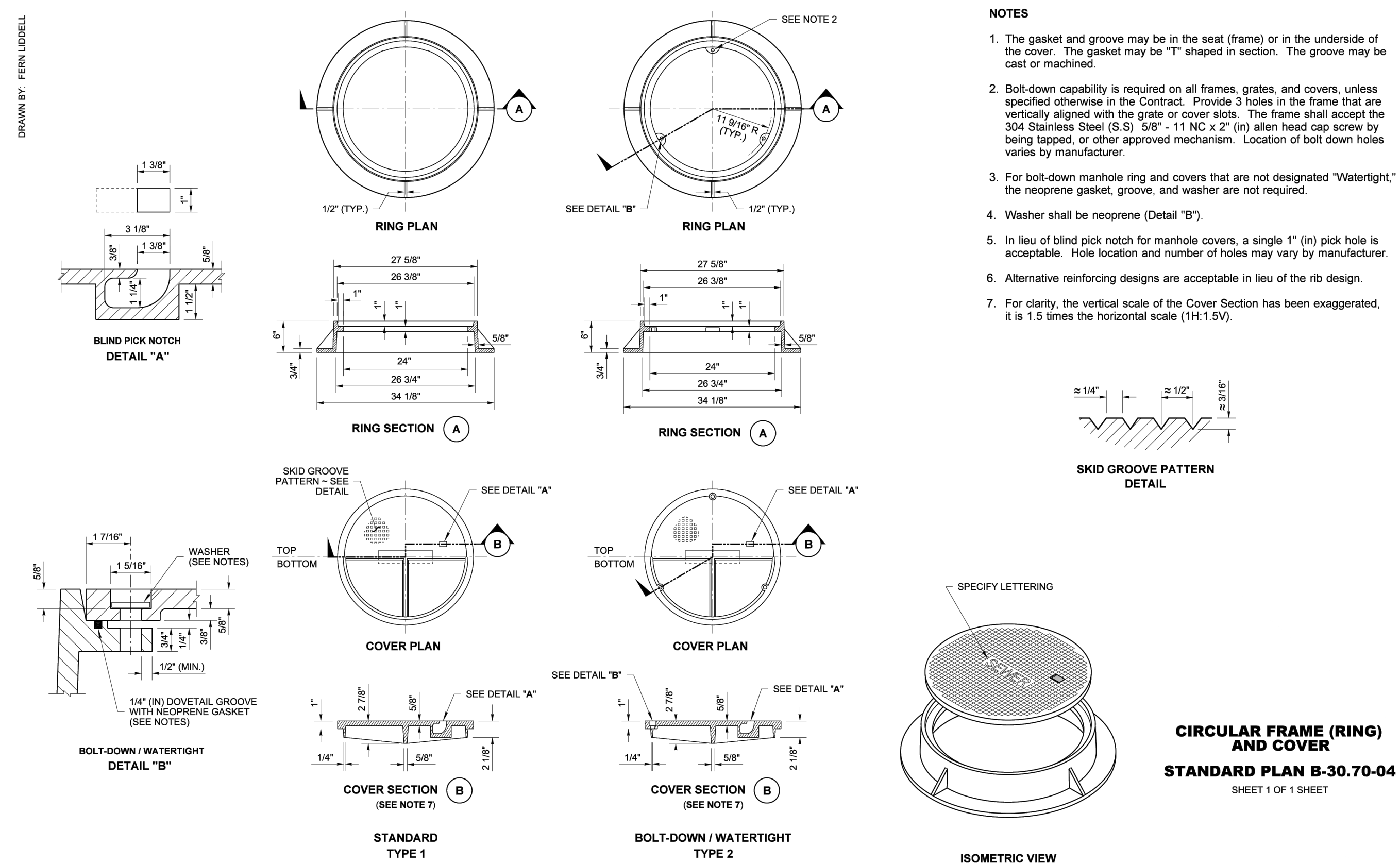
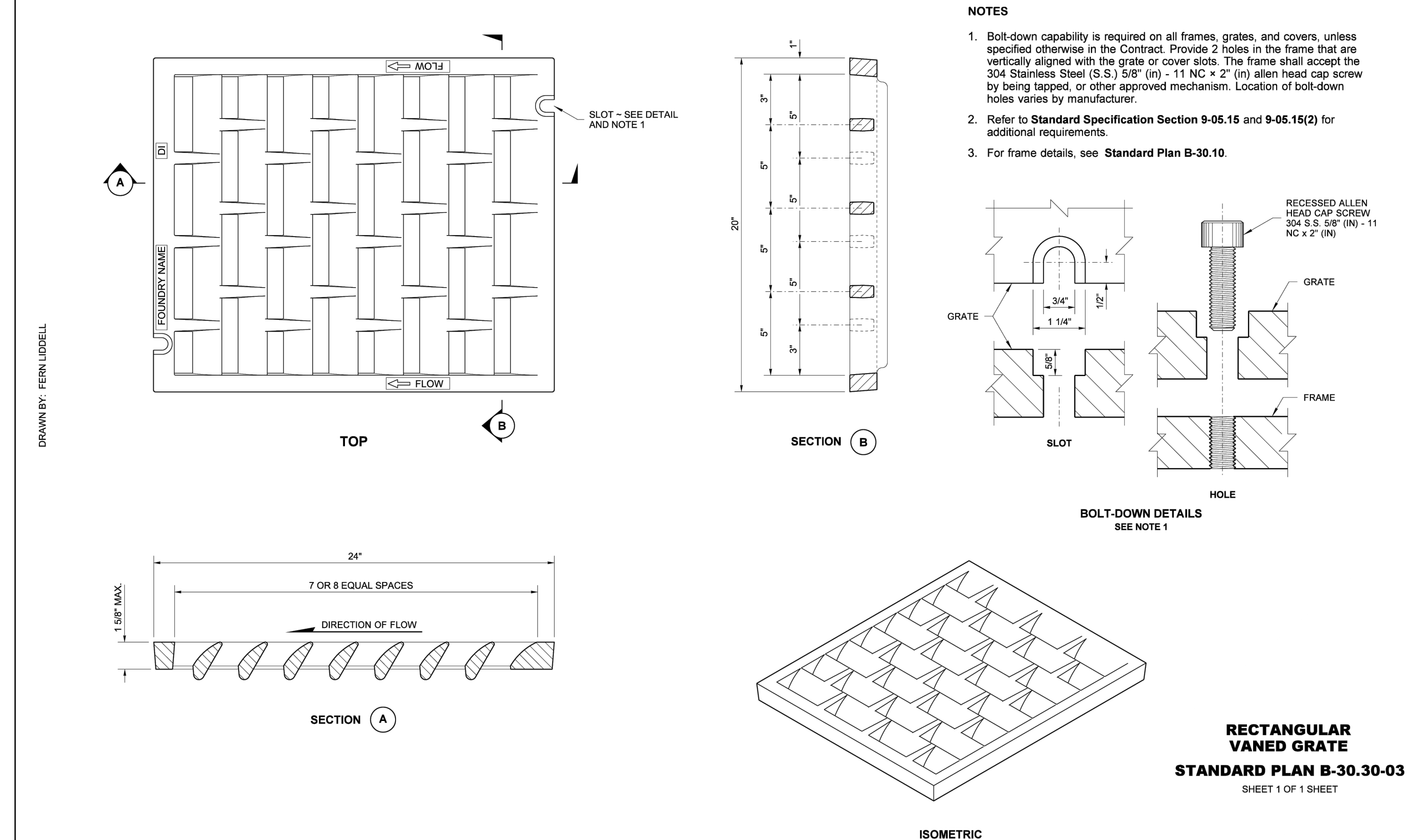
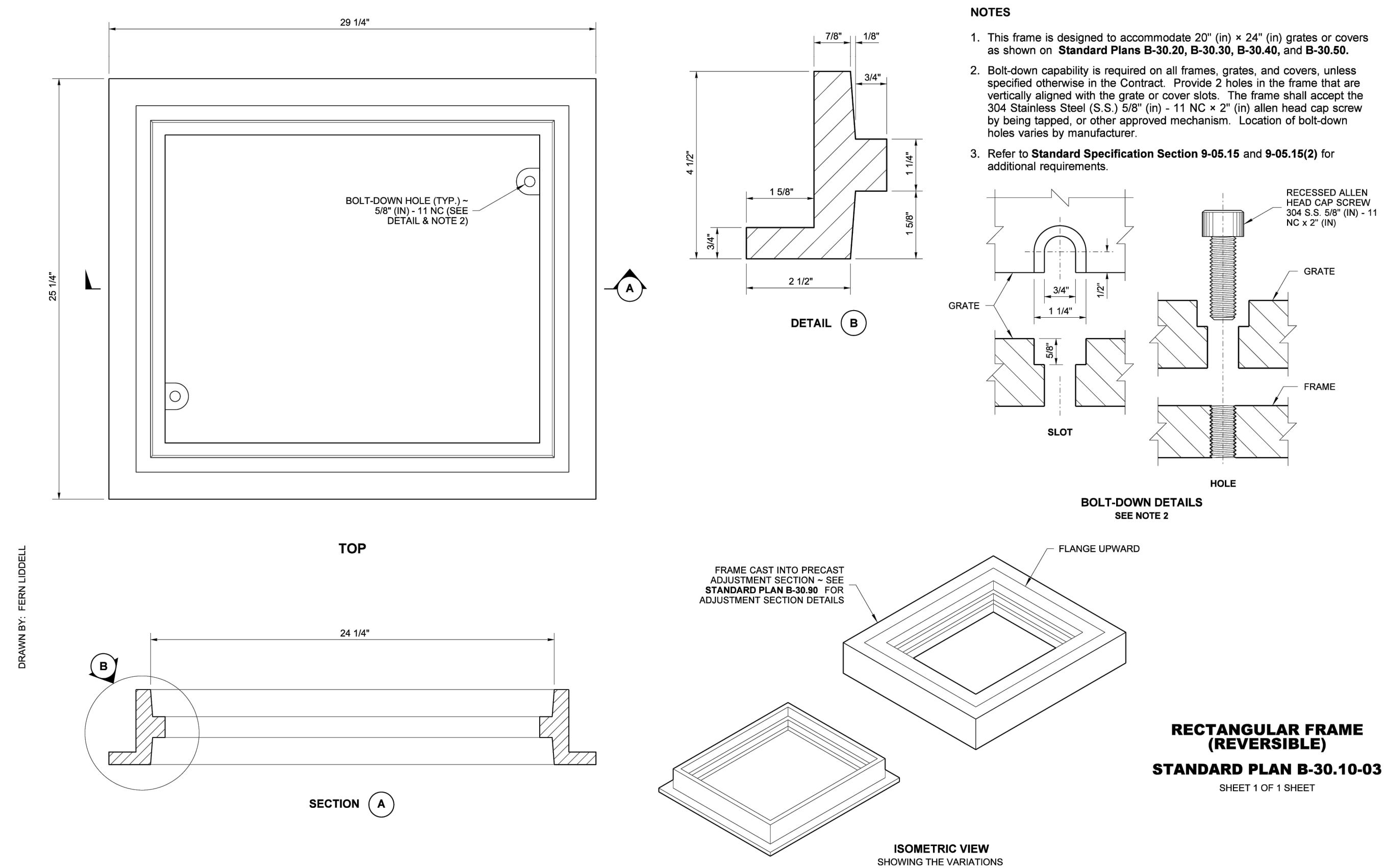
CASCADE BUSINESS PARK
A SITE LOCATED IN THE CITY OF NORTH BONNEVILLE, WASHINGTON



DESIGNED:
HNB/D
CHECKED:
ABW
MARCH 2025
78260.000

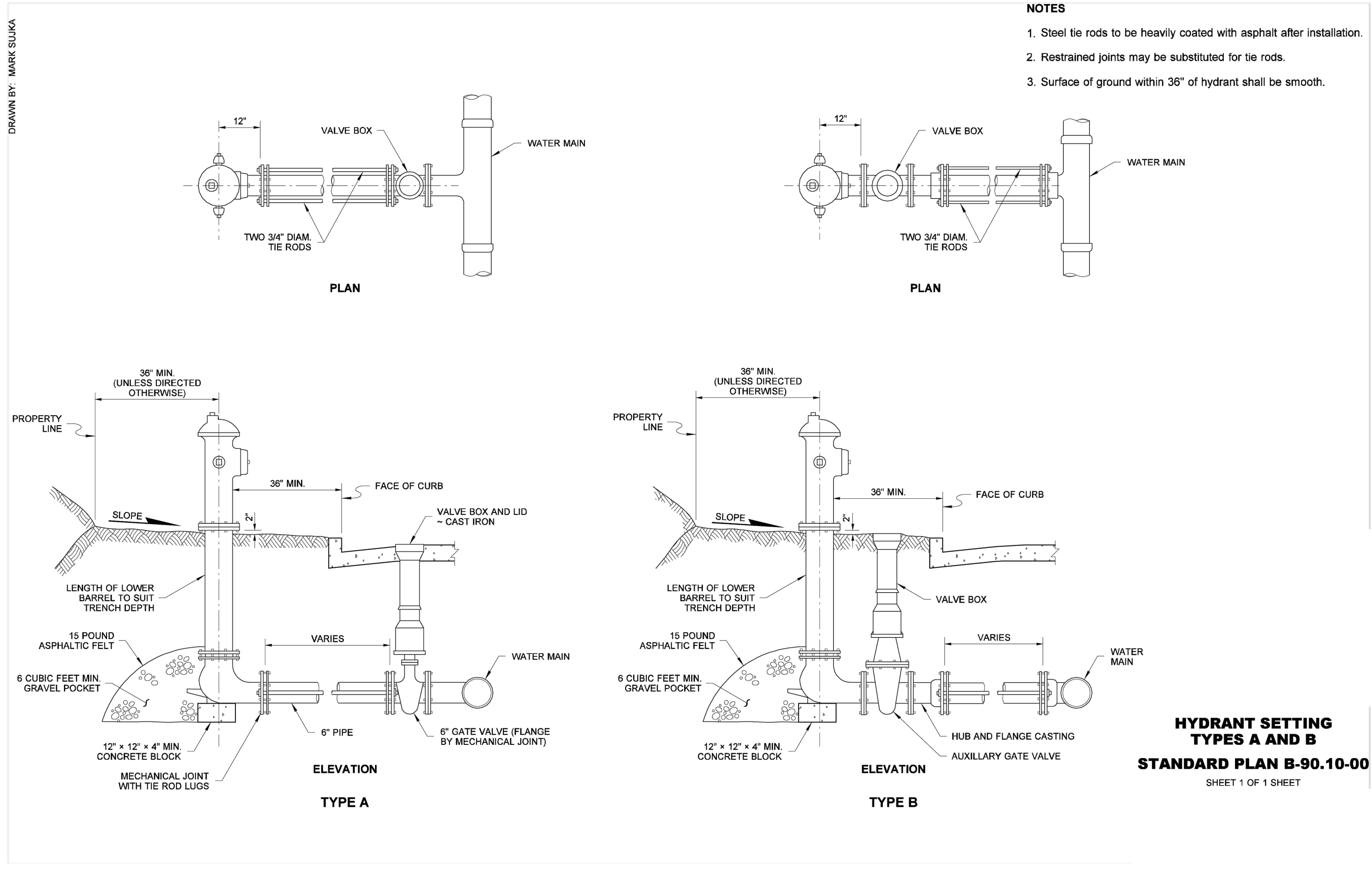
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D03

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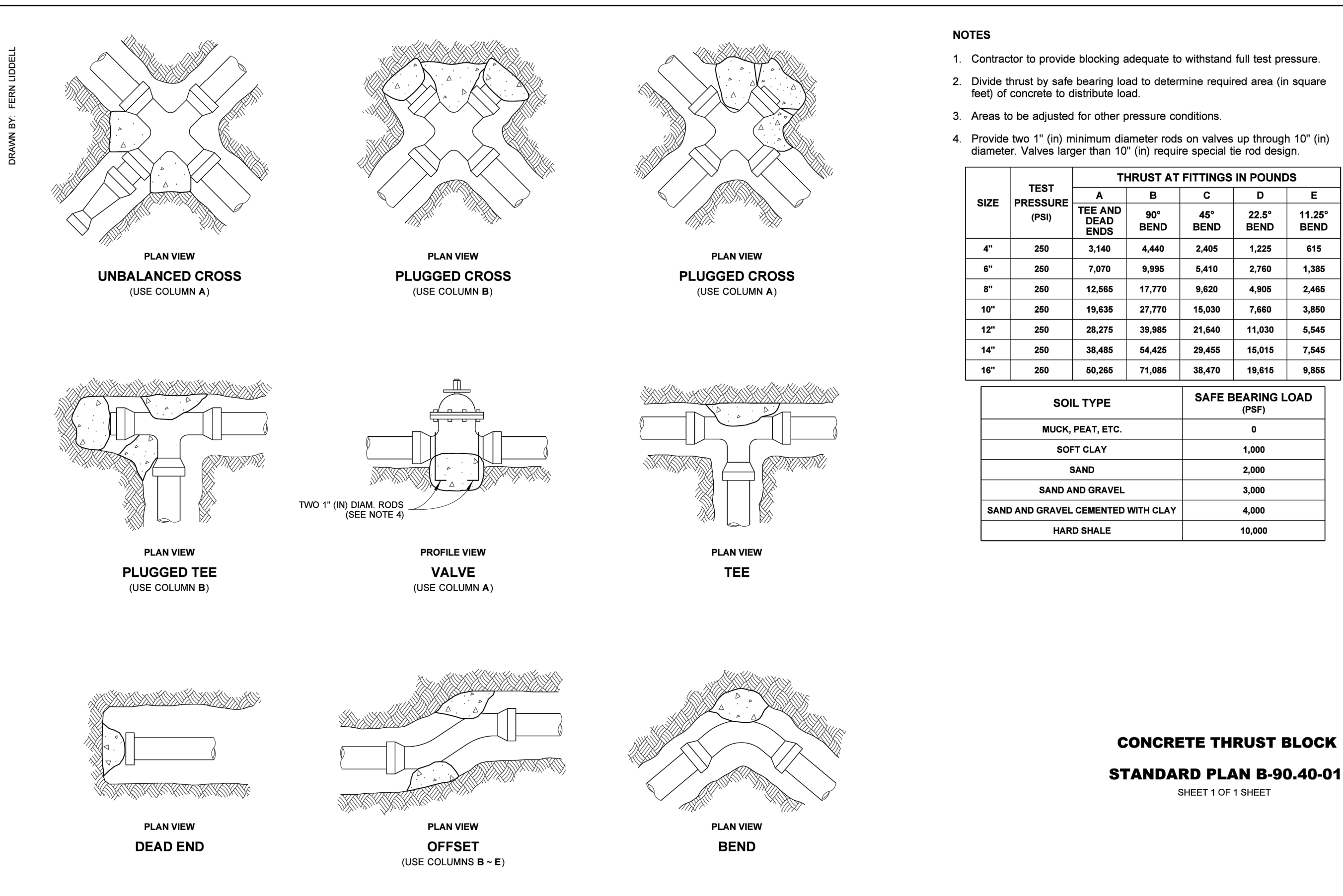


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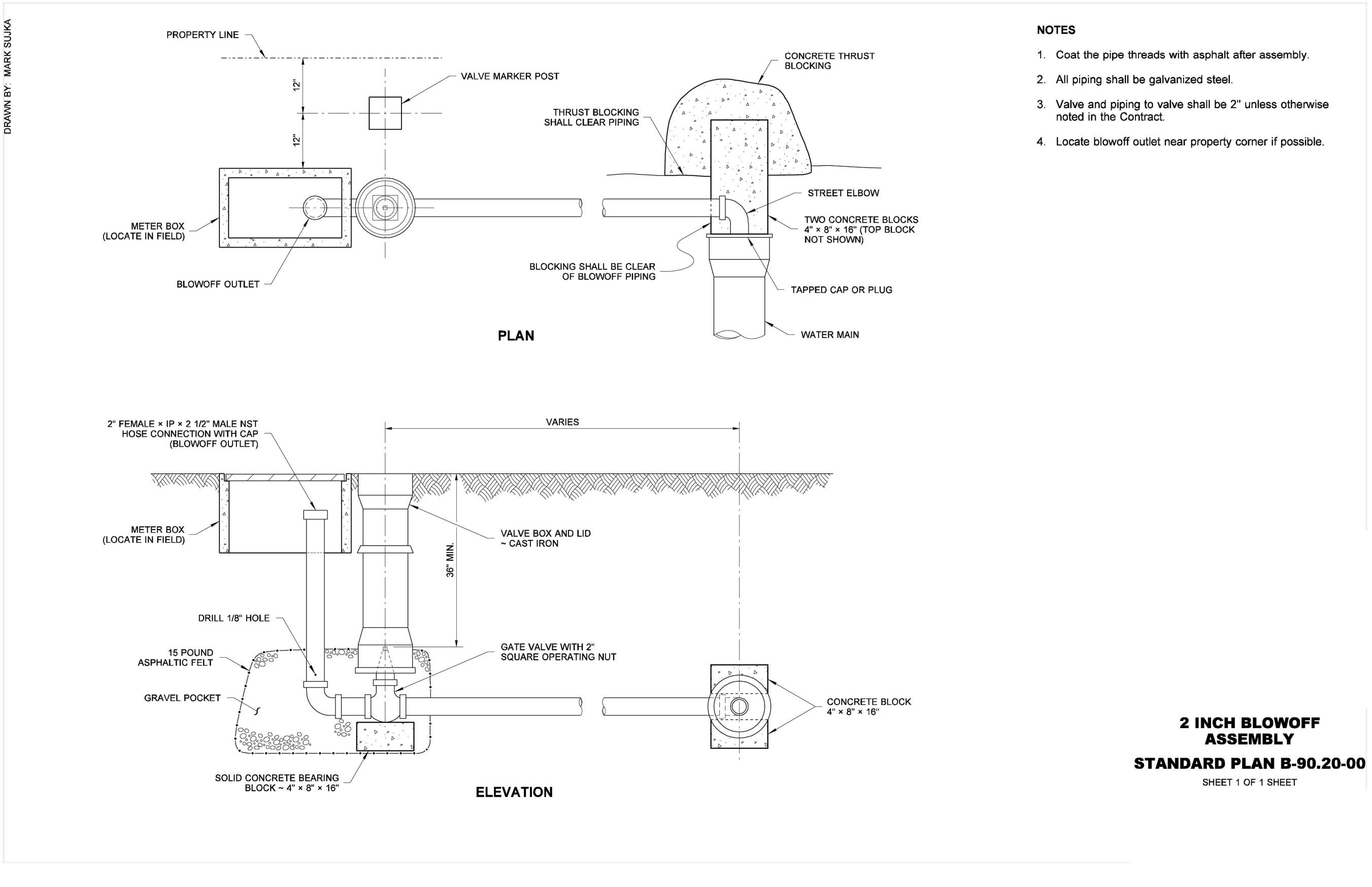
DRAWN BY: MARK SUKA



DRAWN BY: FERN LUDDELL



DRAWN BY: MARK SUKA



STANDARD DETAILS FOR:

CASCADE BUSINESS PARK
A SITE LOCATED IN THE CITY OF NORTH BONNEVILLE, WASHINGTON



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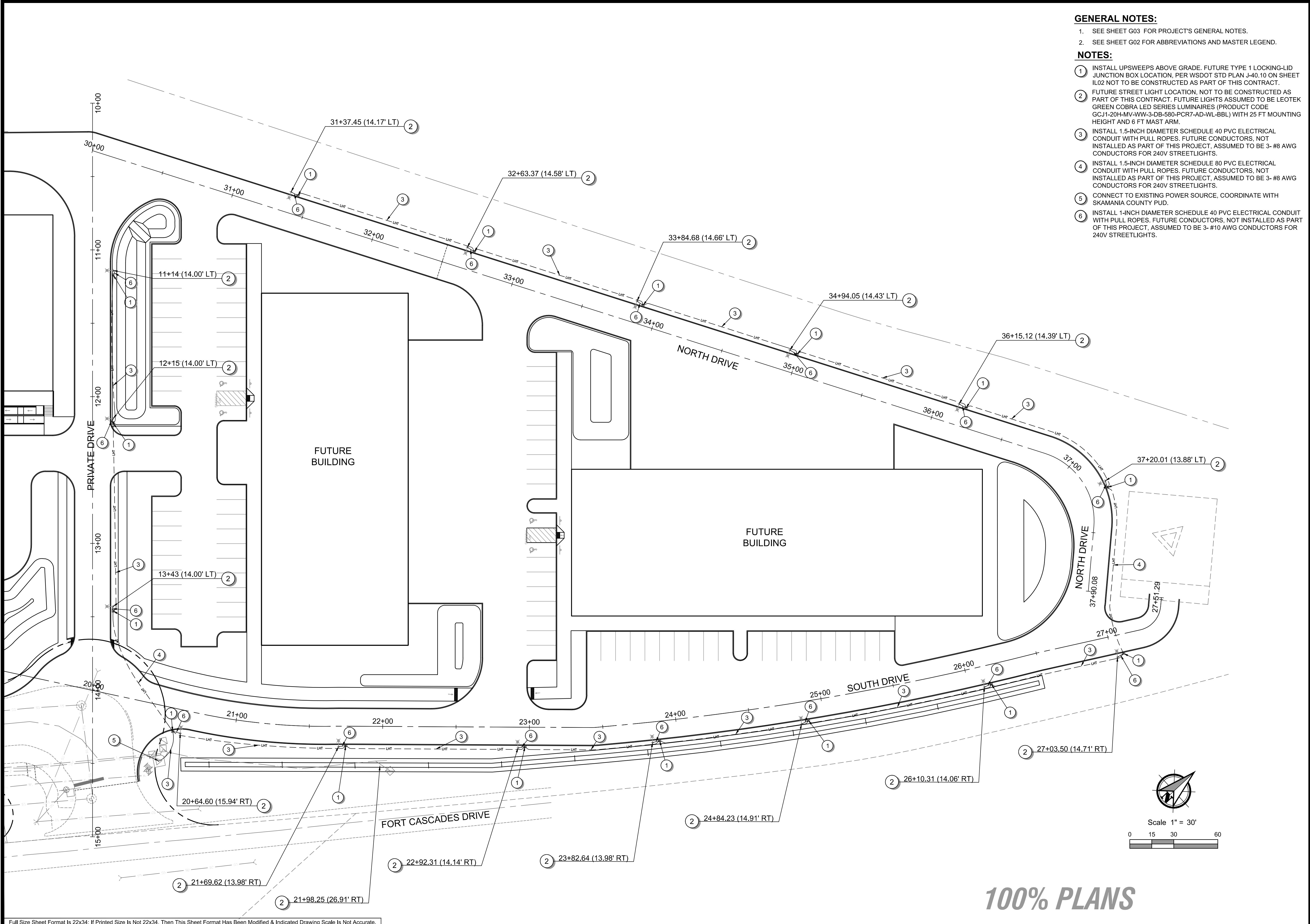
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D05

SHEET **28** OF **30**

100% PLANS

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GENERAL NOTES:

1. SEE SHEET G03 FOR PROJECT'S GENERAL NOTES.
2. SEE SHEET G02 FOR ABBREVIATIONS AND MASTER LEGEND.

NOTES:

1. INSTALL UPSWEEPS ABOVE GRADE. FUTURE TYPE 1 LOCKING-LID JUNCTION BOX LOCATION, PER WSDOT STD PLAN J-40.10 ON SHEET IL02 NOT TO BE CONSTRUCTED AS PART OF THIS CONTRACT.
2. FUTURE STREET LIGHT LOCATION, NOT TO BE CONSTRUCTED AS PART OF THIS CONTRACT. FUTURE LIGHTS ASSUMED TO BE LEOTEK GREEN COBRA LED SERIES LUMINAIRES (PRODUCT CODE GCJ1-20H-MV-WW-3-DB-580-PCR7-AD-WL-BBL) WITH 25 FT MOUNTING HEIGHT AND 6 FT MAST ARM.
3. INSTALL 1.5-INCH DIAMETER SCHEDULE 40 PVC ELECTRICAL CONDUIT WITH PULL ROPES. FUTURE CONDUCTORS, NOT INSTALLED AS PART OF THIS PROJECT, ASSUMED TO BE 3- #8 AWG CONDUCTORS FOR 240V STREETLIGHTS.
4. INSTALL 1.5-INCH DIAMETER SCHEDULE 80 PVC ELECTRICAL CONDUIT WITH PULL ROPES. FUTURE CONDUCTORS, NOT INSTALLED AS PART OF THIS PROJECT, ASSUMED TO BE 3- #8 AWG CONDUCTORS FOR 240V STREETLIGHTS.
5. CONNECT TO EXISTING POWER SOURCE, COORDINATE WITH SKAMANIA COUNTY PUD.
6. INSTALL 1-INCH DIAMETER SCHEDULE 40 PVC ELECTRICAL CONDUIT WITH PULL ROPES. FUTURE CONDUCTORS, NOT INSTALLED AS PART OF THIS PROJECT, ASSUMED TO BE 3- #10 AWG CONDUCTORS FOR 240V STREETLIGHTS.

SITE LIGHTING (ADD ALT) FOR:

CASCADE BUSINESS PARK

A SITE LOCATED IN THE CITY OF NORTH BONNEVILLE, WASHINGTON



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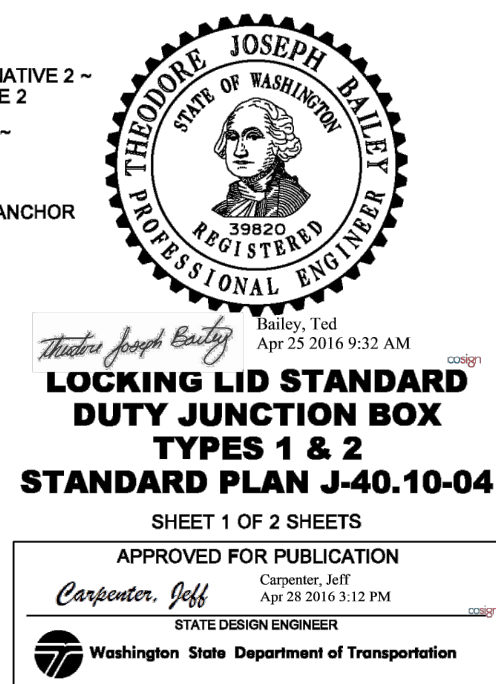
MARCH 2025
78260.000

SHEET ID

IL01

SHEET 29 OF 30

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SHEET 30 OF 30