



NORTH SANTIAM PAVING CO.

SITE DEVELOPMENT AND ROADWAY CONTRACTORS • CCB# 53247

PO Box 516 - Stayton, OR 97383 • Office: 503-769-3436 • Fax: 503-769-7358 • www.nspor.com

**Regis High School Auxiliary Gym
Preliminary Drainage Impact Analysis**
Stayton, Oregon 97393

Owner:

Regis Catholic High School
550 W Regis Street
Stayton, Oregon 97383

Engineer of Record:

Levi Warriner, PE
North Santiam Paving
41203 Kingston-Lyons Drive
PO Box 516
Stayton, Oregon 97383
503-769-3436
leviw@nspor.com



EXPIRES: 6-30-2028



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Existing Conditions and Proposed Conditions

The site is located at Regis High School, 550 W Regis Street in Stayton. The existing parcel is approximately 18.65 acres and includes high school buildings, a gymnasium, parking areas, and athletic fields. The proposed project consists of constructing a 10,047 square foot auxiliary gym to the east of the existing gym, along with associated pedestrian improvements for connection.

Stormwater Management Approach

Stormwater facility sizing will be conducted in accordance with the City of Portland Stormwater Management Manual (SMM) using the performance approach. Hydrologic modeling will be performed using HydroCAD Version 10.0 software. Runoff analysis will utilize the SCS TR-20 methodology with the Type I, 24-hour design storm applicable to the region. The proposed facility is designed to fully infiltrate the 100-year storm event, based on a 24-hour rainfall depth of 4.60 inches.

Infiltration Testing

Infiltration testing was conducted to evaluate subsurface soil conditions. Test pit locations are provided in Appendix A, and detailed results are included in Appendix B. An open pit falling head test was performed, yielding a measured infiltration rate of 8 inches per hour. Applying a factor of safety of 2 results in a design infiltration rate of 4 inches per hour. Proposed sidewalks will be graded to direct runoff toward adjacent pervious areas, promoting sheet flow and infiltration into existing landscaped surfaces.

Basin Design

The proposed stormwater basin has been sized using the performance approach. The total contributing impervious area to the basin is 10,047 square feet. In accordance with the SMM, the basin is designed with a maximum allowable ponding depth of 18 inches during the 100-year storm event. HydroCAD modeling results (Appendix D) indicate a maximum water surface elevation of 14 inches above the basin bottom during this event, providing 4 inches of freeboard. The basin will have a bottom width of 3 feet and a bottom length of 81 feet, with side slopes of 3H:1V. Design details are consistent with Typical Section SW-203 from the SMM (see Appendix C).

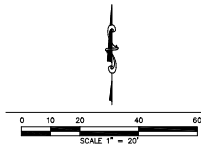
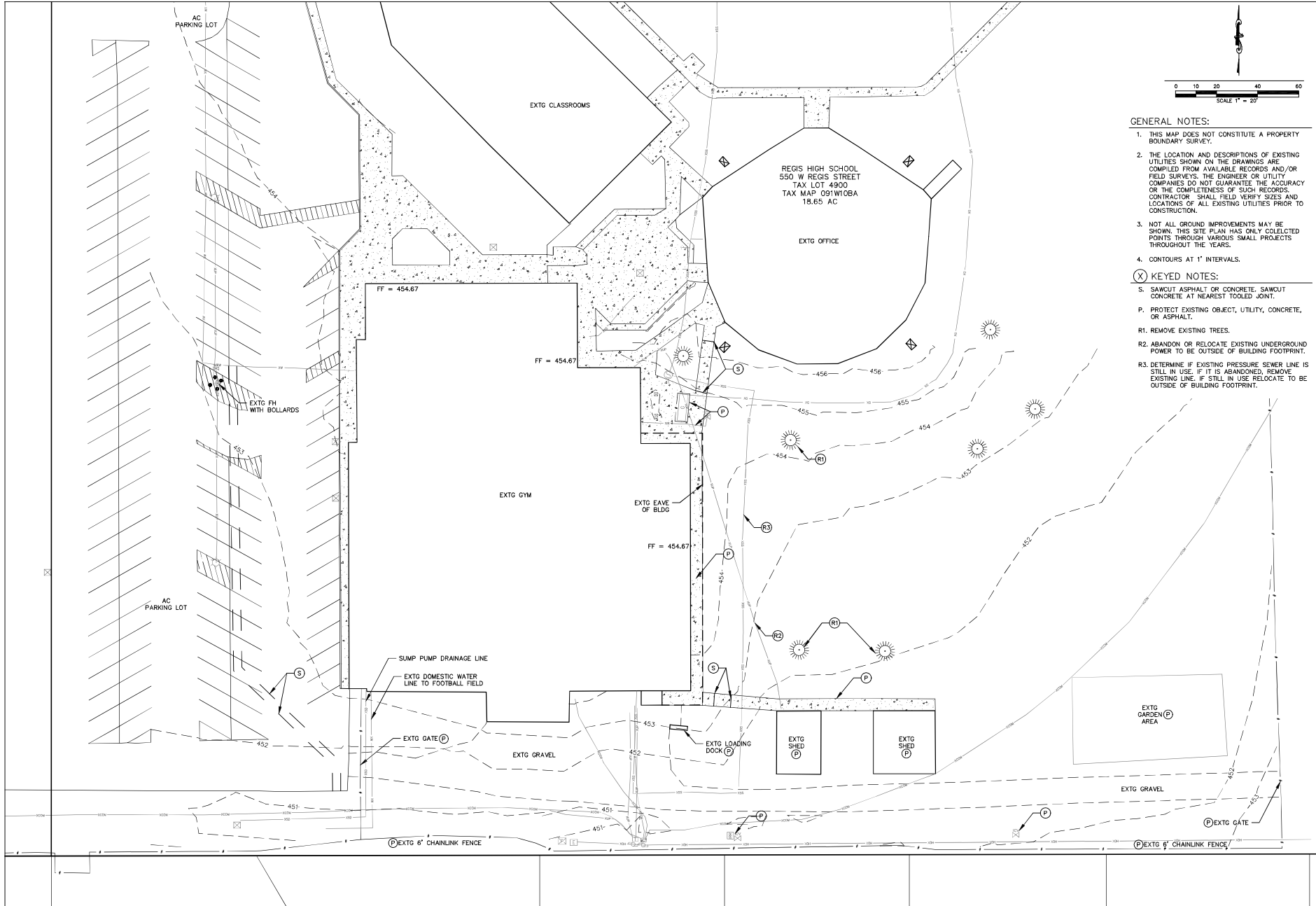


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APPENDIX A PRE AND POST DEVELOPMENT CONDITIONS



- GENERAL NOTES:**
1. THIS MAP DOES NOT CONSTITUTE A PROPERTY BOUNDARY SURVEY.
 2. THE LOCATION AND DESCRIPTIONS OF EXISTING UTILITIES SHOWN ON THE DRAWINGS ARE COMPILED FROM AVAILABLE RECORDS AND/OR FIELD SURVEYS. THE ENGINEER OR UTILITY COMPANIES DO NOT GUARANTEE THE ACCURACY OR THE COMPLETENESS OF SUCH RECORDS. CONTRACTOR SHALL FIELD VERIFY SIZES AND LOCATIONS OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
 3. NOT ALL GROUND IMPROVEMENTS MAY BE SHOWN. THIS SITE PLAN HAS ONLY COLLECTED POINTS THROUGH VARIOUS SMALL PROJECTS THROUGHOUT THE YEARS.
 4. CONTOURS AT 1' INTERVALS.

- (X) KEYED NOTES:**
- S. SAWCUT ASPHALT OR CONCRETE. SAWCUT CONCRETE AT NEAREST TOOLED JOINT.
 - P. PROTECT EXISTING OBJECT, UTILITY, CONCRETE, OR ASPHALT.
 - R1. REMOVE EXISTING TREES.
 - R2. ABANDON OR RELOCATE EXISTING UNDERGROUND POWER TO BE OUTSIDE OF BUILDING FOOTPRINT.
 - R3. DETERMINE IF EXISTING PRESSURE SEWER LINE IS STILL IN USE. IF IT IS ABANDONED, REMOVE EXISTING LINE. IF STILL IN USE RELOCATE TO BE OUTSIDE OF BUILDING FOOTPRINT.

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 4700 KINGSBURN LANE DRIVE, P.O. BOX 516
 STATION, OREGON 97183
 CONSTRUCTION • ENGINEERING • SURVEYING

REGIS HIGH SCHOOL
 550 W REGIS STREET
 CITY OF STAYTON MARION COUNTY, OREGON
 NW/4 SEC10 T9S R1W W4 TAX LOT 4900 TAX MAP 091W10BA

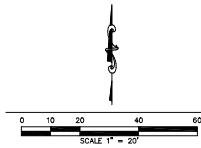
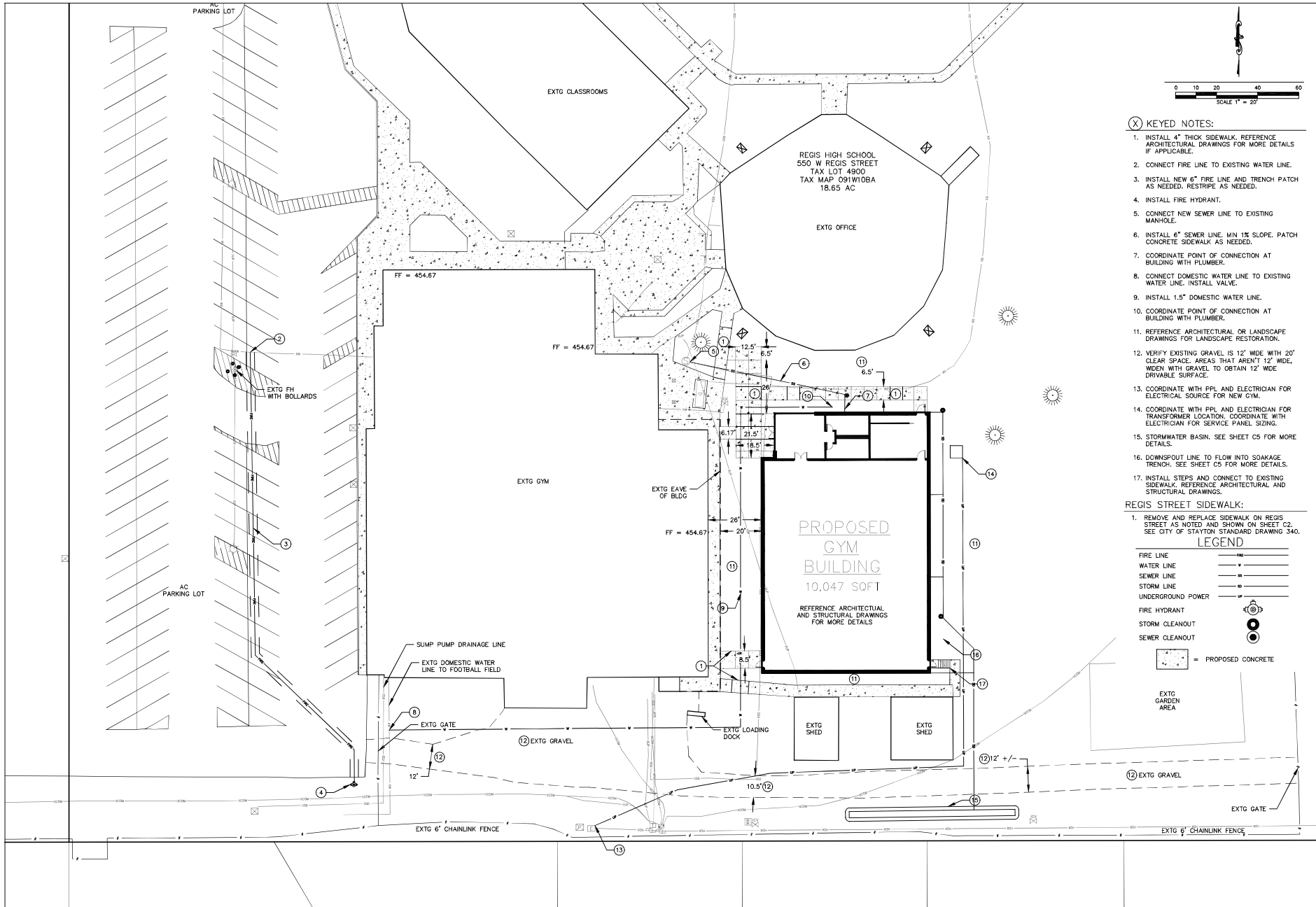
**EXISTING CONDITIONS
 AND DEMO PLAN**

PRELIMINARY
 6885APE
 6885A200
 LEVEL 1 WATERBURY
 EXPIRES: 6-30-2028

PLOT DATE:
 4/6/2026
 REVISIONS:

DRAWN BY:
 LDW
 CHECKED BY:
 LDW
 JOB No:
 25123
 SCALE:
 1" = 20'

SHEET
C3



(X) KEYED NOTES:

1. INSTALL 4" THICK SIDEWALK. REFERENCE ARCHITECTURAL DRAWINGS FOR MORE DETAILS IF APPLICABLE.
2. CONNECT FIRE LINE TO EXISTING WATER LINE.
3. INSTALL NEW 6" FIRE LINE AND TRENCH PATCH AS NEEDED. RESTRIPE AS NEEDED.
4. INSTALL FIRE HYDRANT.
5. CONNECT NEW SEWER LINE TO EXISTING MANHOLE.
6. INSTALL 6" SEWER LINE. MIN 1% SLOPE. PATCH CONCRETE SIDEWALK AS NEEDED.
7. COORDINATE POINT OF CONNECTION AT BUILDING WITH PLUMBER.
8. CONNECT DOMESTIC WATER LINE TO EXISTING WATER LINE. INSTALL VALVE.
9. INSTALL 1.5" DOMESTIC WATER LINE.
10. COORDINATE POINT OF CONNECTION AT BUILDING WITH PLUMBER.
11. REFERENCE ARCHITECTURAL OR LANDSCAPE DRAWINGS FOR LANDSCAPE RESTORATION.
12. VERIFY EXISTING GRAVEL IS 12' WIDE WITH 20' CLEAR SPACE. AREAS THAT AREN'T 12' WIDE, WIDEN WITH GRAVEL TO OBTAIN 12' WIDE DRIVABLE SURFACE.
13. COORDINATE WITH PPL AND ELECTRICIAN FOR ELECTRICAL SOURCE FOR NEW GYM.
14. COORDINATE WITH PPL AND ELECTRICIAN FOR TRANSFORMER LOCATION. COORDINATE WITH ELECTRICIAN FOR SERVICE PANEL SIZING.
15. STORMWATER BASIN. SEE SHEET C5 FOR MORE DETAILS.
16. DOWNSPOUT LINE TO FLOW INTO SOAKAGE TRENCH. SEE SHEET C5 FOR MORE DETAILS.
17. INSTALL STEPS AND CONNECT TO EXISTING SIDEWALK. REFERENCE ARCHITECTURAL AND STRUCTURAL DRAWINGS.

REGIS STREET SIDEWALK:

1. REMOVE AND REPLACE SIDEWALK ON REGIS STREET AS NOTED AND SHOWN ON SHEET C2. SEE CITY OF STATON STANDARD DRAWING 340.

LEGEND

FIRE LINE	—
WATER LINE	—
SEWER LINE	—
STORM LINE	—
UNDERGROUND POWER	—
FIRE HYDRANT	⊕
STORM CLEANOUT	⊙
SEWER CLEANOUT	⊙
PROPOSED CONCRETE	▨

REGIS HIGH SCHOOL
550 W REGIS STREET

SITE AND UTILITY PLAN

PRELIMINARY
DATE: 4/6/2026
LEVEL: W/REBER

EXPIRES: 6-30-2028

PLLOT DATE: 4/6/2026

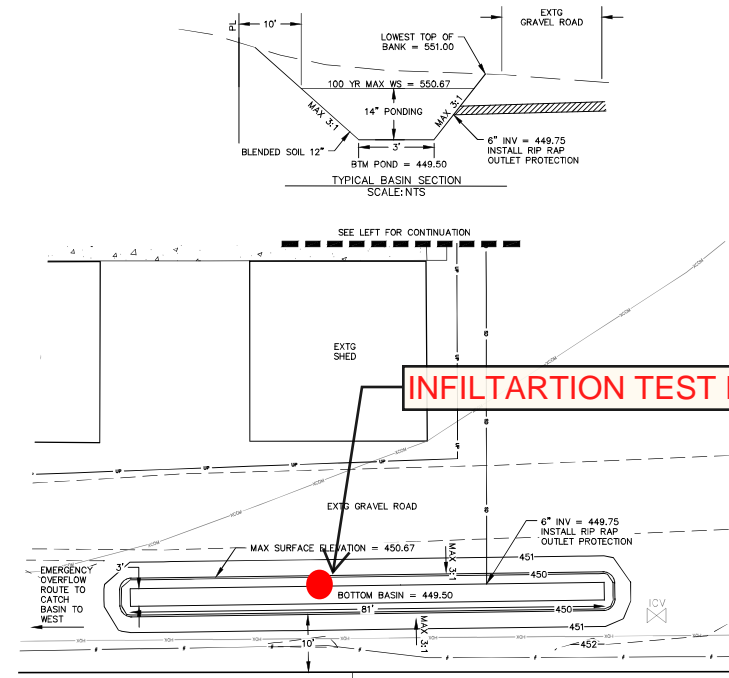
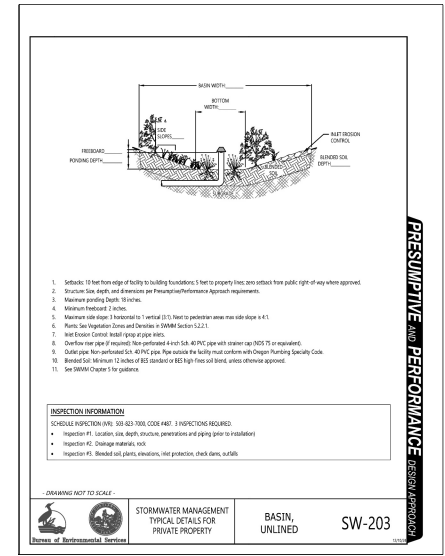
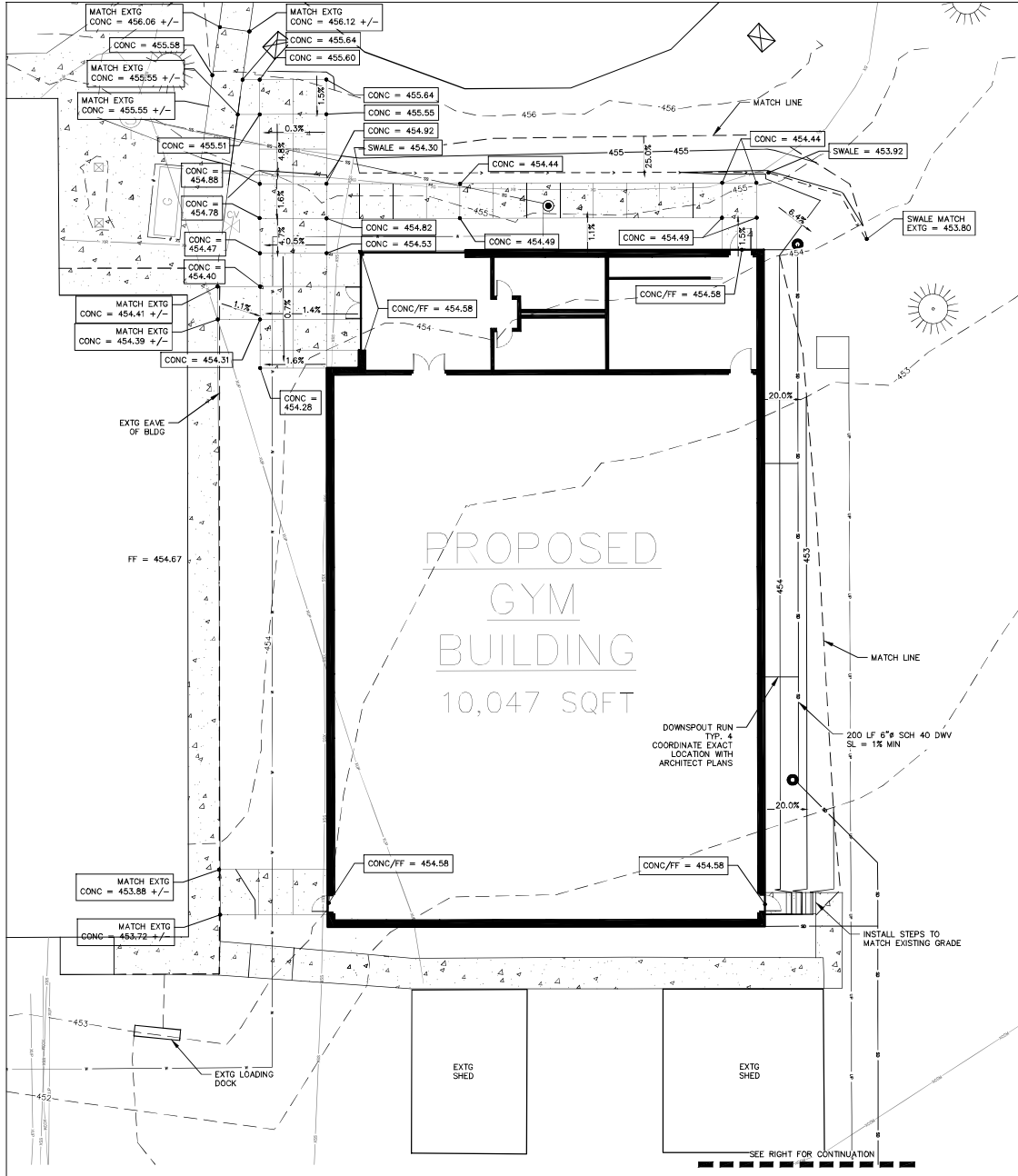
REVISIONS:

DRAWN BY: LDW
CHECKED BY: LDW
JOB No: 25123
SCALE: 1" = 20'
SHEET C4

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CITY OF STATON
MARION COUNTY, OREGON
NW 1/4 SEC 10 T9S R1W W4 TAX LOT 4900 TAX MAP 091W10BA



REGIS HIGH SCHOOL
550 W REGIS STREET
CITY OF STAYTON, OREGON
MARION COUNTY, OREGON
NW 1/4 SEC 20 T9S R1W W4, TAX LOT 4800, TAX MAP 02B W020A

GRADING AND DRAINAGE PLAN

PRELIMINARY
DATE: 4/6/2028
EXPIRES: 6-30-2028

PLLOT DATE: 4/6/2028
REVISIONS:

DRAWN BY: LDW
CHECKED BY: LDW
JOB No: 25123
SCALE: 1" = 10'

SHEET **C5**

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APPENDIX B INFILTRATION TEST RESULTS

Location:	Regis High School	Date:	3/19/2026	Test Hole Number:	1	Trial Number:	1
Depth to Bottom of Hole:	3'	Test Method		Open Pit Falling Head	Soaking Time		
					10:00-12:00		

Time	Time Interval (Minutes)	Measurement (Feet)	Drop in Water Level (Feet)	Infiltration Rate (in/hr)	Remarks
12:00	0	2.62	-	-	Filled to 12" water line
12:10	10	2.98	0.36	25.92	
12:20	10	3.12	0.14	10.08	
12:30	10	3.22	0.10	7.2	
12:40	10	3.32	0.10	7.2	
12:50	10	3.41	0.09	6.48	
13:00	10	3.5	0.09	6.48	
				Avg Infiltration Rate (in/hr)	10.56

Location:	Regis High School	Date:	3/19/2026	Test Hole Number:	1	Trial Number:	2
Depth to Bottom of Hole:	3'	Test Method		Open Pit Falling Head			

Time	Time Interval (Minutes)	Measurement (Feet)	Drop in Water Level (Feet)	Infiltration Rate (in/hr)	Remarks
13:01	0	2.91	-	-	Filled with 12"
13:11	10	3.11	0.20	14.4	
13:21	10	3.21	0.10	7.2	
13:31	10	3.31	0.10	7.2	
13:41	10	3.4	0.09	6.48	
13:51	10	3.49	0.09	6.48	
14:01	10	3.58	0.09	6.48	
Avg Infiltration Rate (in/hr)				8.04	

Location:	Regis High School	Date:	3/19/2026	Test Hole Number:	1	Trial Number:	3
Depth to Bottom of Hole:	3'	Test Method		Open Pit Falling Head			

Time	Time Interval (Minutes)	Measurement (Feet)	Drop in Water Level (Feet)	Infiltration Rate (in/hr)	Remarks
14:02	0	2.85	-	-	Filled with 12"
14:12	10	3.05	0.20	14.40	
14:22	10	3.16	0.11	7.92	
14:32	10	3.26	0.10	7.20	
14:42	10	3.35	0.09	6.48	
14:52	10	3.44	0.09	6.48	
15:02	10	3.53	0.09	6.48	
			Avg Infiltration Rate (in/hr)	8.16	



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APPENDIX C BASIN DETAILS

5.2.2.3 Basins



Basins are shallow landscape depressions designed to capture, store, and filter stormwater runoff. They can be designed for total or partial infiltration depending on soil infiltration rates. They can be lined if conditions do not allow for infiltration. The footprint of a basin can be round, or long and narrow with the cross-section of a swale.

Design

Basins can be designed under either the Presumptive or Performance Approach.

Site Suitability: Basins can be designed for a wide range of infiltration rates, and they can be lined where infiltration is not allowed or feasible. See [Chapter 2](#) to determine whether site conditions allow infiltration.

Setbacks: See Table 5-3 for setbacks for basins without a full liner. Setbacks are measured from the typical high-water level in the basin. Fully lined basins do not require setbacks.

Table 5-3. Standard Setbacks for Basins without a Full Liner¹

Setback to	Distance (ft)
Property lines along parcels ²	5
Foundations	10
Drainfields downslope of the basin	100
Top of slopes \geq 25% and top of grade breaks $>$ 3 ft high, applied only in the uphill direction	5 times the slope height up to 100 ft
Top of slopes $>$ 50% and $>$ 10 ft high, applied only in the uphill direction	200

1. These setbacks apply to both onsite and offsite foundations, drainfields, grade breaks, and slopes.

2. No setbacks are required for property lines with the right-of-way.

Access: See access requirements in [Section 5.2.2.1](#).

Pollution Prevention: See pollution prevention requirements in [Section 5.2.2.1](#).

Sizing: Basins must be sized to meet any applicable performance standards (see Chapters [1](#) and [4](#)).

Dimensions and Slopes:

- Maximum side slope: 3 horizontal to 1 vertical (3:1)
- Maximum side slope next to pedestrian areas: 4 horizontal to 1 vertical (4:1)
- Minimum freeboard: 2 inches
- Maximum ponding depth: 18 inches

Drainage and Overflow: The basin must have an underdrain system and/or an overflow pipe unless it infiltrates the stormwater runoff from the 10-year, 24-hr storm event.

Components/Materials: See [Section 5.2.2.1](#) for components and materials including liners, piping, drain aggregate, configurations, orifices, check dams, flow spreaders, entrance erosion control, blended soil, vegetation, mulch, and irrigation systems.

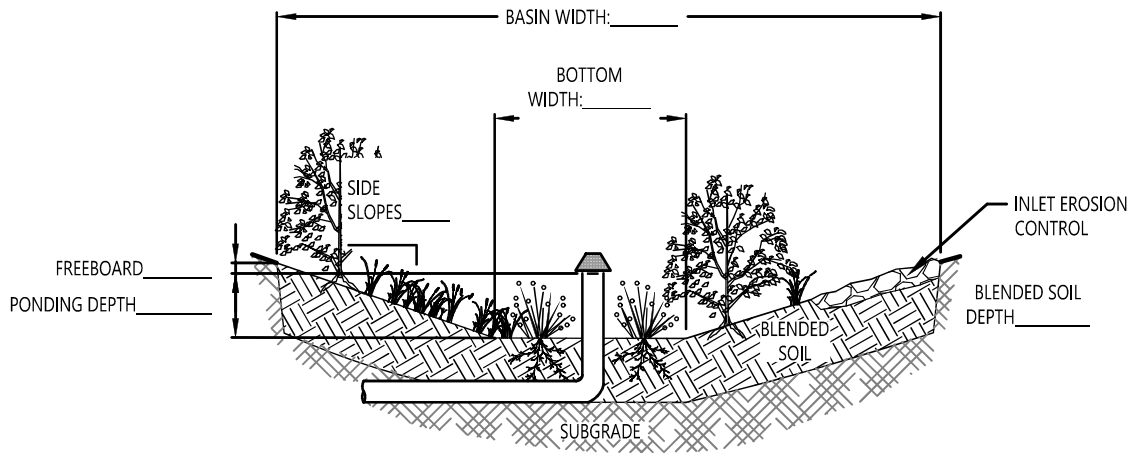
Construction Guidance

See standard construction guidance for bioretention facilities in [Section 5.2.2.2](#).

Typical Details

See *Facility Details - Private Facility Presumptive and Performance Approaches* for typical details for basins. The details include the following sheets:

- [SW-203: Basin, unlined](#)
- [SW-204: Basin, unlined with underdrain](#)
- [SW-205: Basin, lined](#)



1. Setbacks: 10 feet from edge of facility to building foundations; 5 feet to property lines; zero setback from public right-of-way where approved.
2. Structure: Size, depth, and dimensions per Presumptive/Performance Approach requirements.
3. Maximum ponding Depth: 18 inches.
4. Minimum freeboard: 2 inches.
5. Maximum side slope: 3 horizontal to 1 vertical (3:1). Next to pedestrian areas max side slope is 4:1.
6. Plants: See Vegetation Zones and Densities in SWMM Section 5.2.2.1.
7. Inlet Erosion Control: Install riprap at pipe inlets.
8. Overflow riser pipe (if required): Non-perforated 4-inch Sch. 40 PVC pipe with strainer cap (NDS 75 or equivalent).
9. Outlet pipe: Non-perforated Sch. 40 PVC pipe. Pipe outside the facility must conform with Oregon Plumbing Specialty Code.
10. Blended Soil: Minimum 12 inches of BES standard or BES high-fines soil blend, unless otherwise approved.
11. See SWMM Chapter 5 for guidance.

INSPECTION INFORMATION

SCHEDULE INSPECTION (IVR): 503-823-7000, CODE #487. 3 INSPECTIONS REQUIRED.

- Inspection #1. Location, size, depth, structure, penetrations and piping (prior to installation)
- Inspection #2. Drainage materials, rock
- Inspection #3. Blended soil, plants, elevations, inlet protection, check dams, outfalls

- DRAWING NOT TO SCALE -



STORMWATER MANAGEMENT
TYPICAL DETAILS FOR
PRIVATE PROPERTY

BASIN,
UNLINED

SW-203

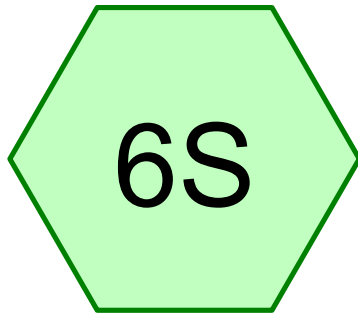


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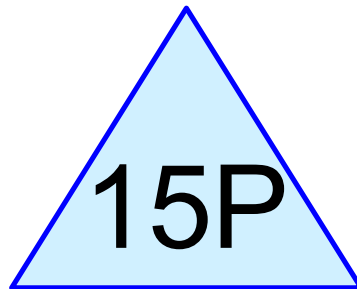
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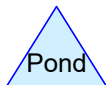
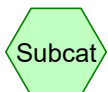
APPENDIX D HYDROCAD ANALYSIS



Gym



Basin



Regis Aux Gym

Prepared by North Santiam Paving

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Page 2

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	100Year	Type IA 24-hr		Default	24.00	1	4.60	2

Regis Aux Gym

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Page 3

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.232	98	AC Curb and Sidewalk (6S)
0.232	98	TOTAL AREA

Regis Aux Gym

Type IA 24-hr 100Year Rainfall=4.60"

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Page 6

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 6S: Gym

Runoff Area=10,100 sf 100.00% Impervious Runoff Depth>3.46"
Tc=10.0 min CN=98 Runoff=0.25 cfs 0.067 af

Pond 15P: Basin

Peak Elev=450.67' Storage=646 cf Inflow=0.25 cfs 0.067 af
Outflow=0.08 cfs 0.066 af

Total Runoff Area = 0.232 ac Runoff Volume = 0.067 af Average Runoff Depth = 3.46"
0.00% Pervious = 0.000 ac 100.00% Impervious = 0.232 ac

Regis Aux Gym

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Type IA 24-hr 100Year Rainfall=4.60"

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Summary for Subcatchment 6S: Gym

Runoff = 0.25 cfs @ 7.94 hrs, Volume= 0.067 af, Depth> 3.46"
Routed to Pond 15P : Basin

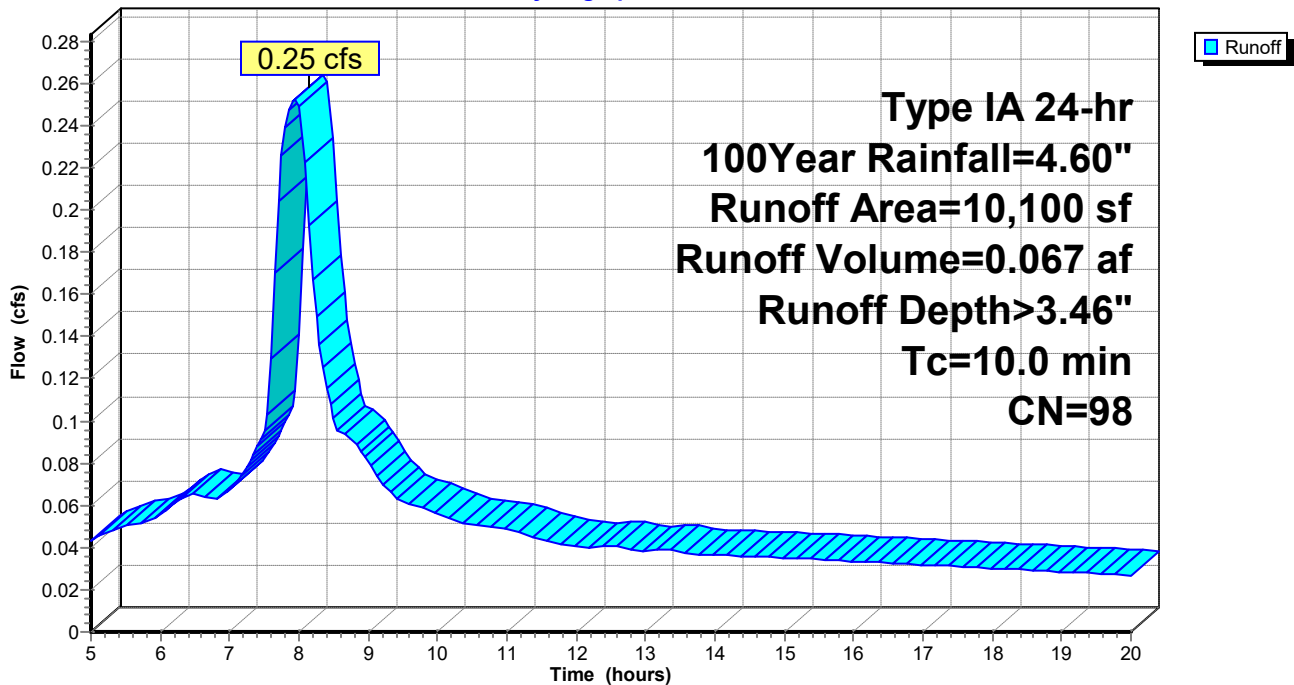
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type IA 24-hr 100Year Rainfall=4.60"

Area (sf)	CN	Description
* 10,100	98	AC Curb and Sidewalk
10,100		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 6S: Gym

Hydrograph



Summary for Pond 15P: Basin

[82] Warning: Early inflow requires earlier time span

Inflow Area = 0.232 ac, 100.00% Impervious, Inflow Depth > 3.46" for 100Year event
 Inflow = 0.25 cfs @ 7.94 hrs, Volume= 0.067 af
 Outflow = 0.08 cfs @ 8.97 hrs, Volume= 0.066 af, Atten= 68%, Lag= 62.0 min
 Discarded = 0.08 cfs @ 8.97 hrs, Volume= 0.066 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 450.67' @ 8.97 hrs Surf.Area= 881 sf Storage= 646 cf

Plug-Flow detention time= 88.1 min calculated for 0.065 af (98% of inflow)
 Center-of-Mass det. time= 76.2 min (722.4 - 646.1)

Volume	Invert	Avail.Storage	Storage Description
#1	449.50'	1,590 cf	3.00'W x 81.00'L x 2.00'H Prismatic Z=3.0

Device	Routing	Invert	Outlet Devices
#1	Discarded	449.50'	4.000 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.08 cfs @ 8.97 hrs HW=450.67' (Free Discharge)
 ←1=Exfiltration (Exfiltration Controls 0.08 cfs)

Pond 15P: Basin

Hydrograph

