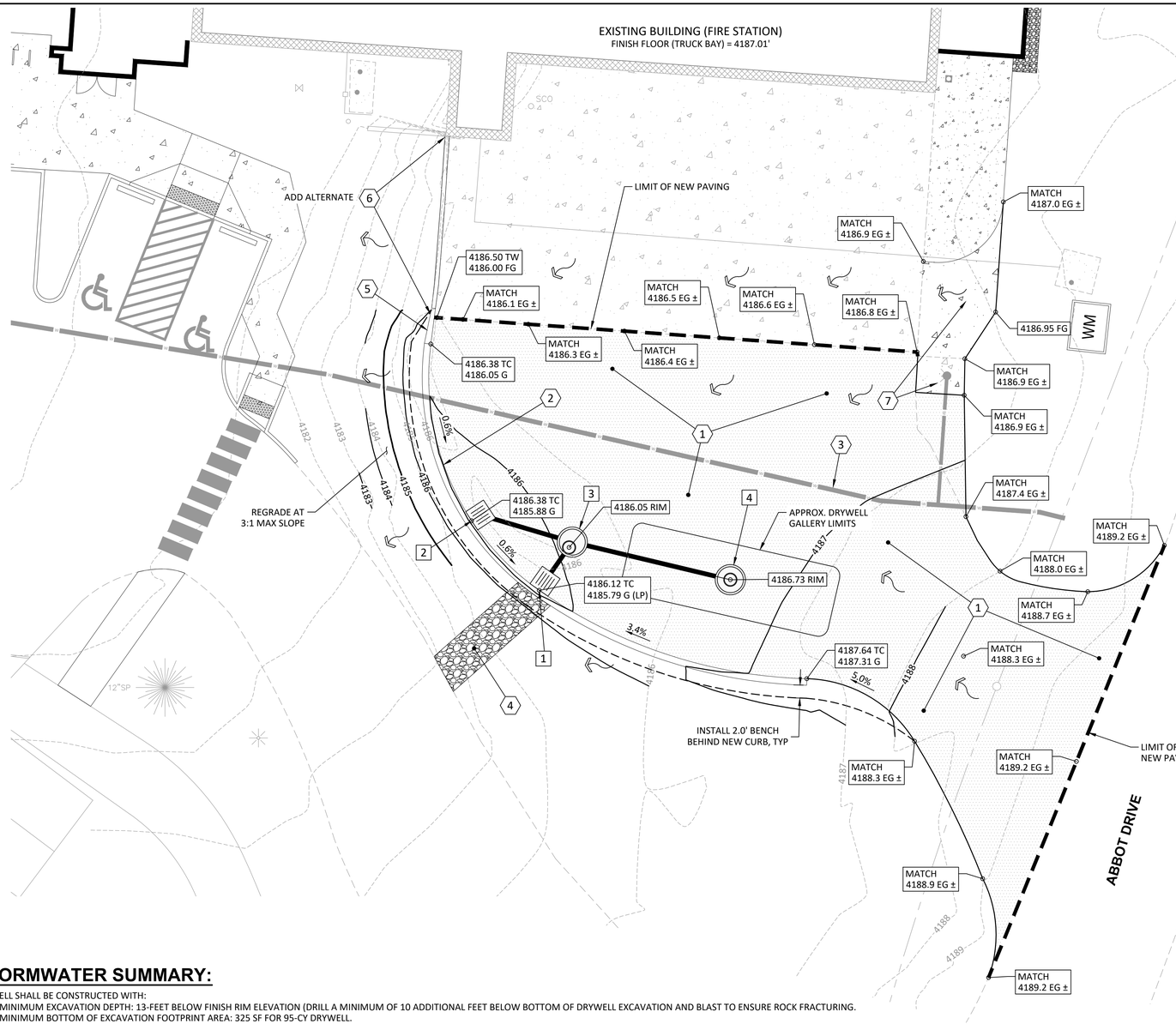


CONSTRUCTION NOTES:

1. REMOVE EXISTING PAVEMENT, AND CONSTRUCT NEW ASPHALT PAVEMENT SECTION PER DETAIL ON SHEET C2.0, 4,815 SF ±.
2. CONSTRUCT HIGH STRENGTH MOUNTABLE CURB WITH HIGH STRENGTH CONCRETE, MINIMUM 5,000 PSI, 93 LF ±. SEE SHEET C2.0 FOR DETAILS.
3. PROTECT EXISTING WATER MAIN IN PLACE.
4. INSTALL MINIMUM 8" THICK ROCK SLOPE PROTECTION. MINIMUM 6' WIDTH, APPROX. 20' LENGTH, 120 SF ±.
5. TRANSITION FROM VERTICAL CURB TO MOUNTABLE CURB
6. ADD ALTERNATE BID OPTION ITEM - REMOVE 27.5 LF ± EXISTING VERTICAL CURB BY CUTTING THE CURB HEIGHT DOWN TO THE EXISTING CONCRETE DRIVEWAY GRADE. RECONSTRUCT 27.5 LF ± 8" WIDE VERTICAL CURB TO MATCH EXISTING WIDTH. COORDINATE CONSTRUCTION DETAILS WITH CONTRACTOR. UTILIZE REBAR DOWELS, BONDING ADHESIVE, CLEANING/ROUGHENING SURFACE, ETC. AS NEEDED. UTILIZE HIGH STRENGTH, MINIMUM 5,000 PSI CONCRETE.
7. REMOVE EXISTING CONCRETE FIRE HYDRANT PAD. CONSTRUCT NEW 6" THICK CONCRETE FIRE HYDRANT PAD AND WALKWAY.

STORM SEWER NOTES:

1. INSTALL 1 - STANDARD CATCH BASIN PER DETAIL ON SHEET C2.0.
   RIM = 4185.79
   8" IE OUT (N) = 4182.12
   CONSTRUCT 7.3 LF 8" D3034 PVC STORM PIPE @ S=2.00%;
   CONNECT TO SEDIMENTATION MANHOLE. SEE NOTE 3.
2. INSTALL 1 - STANDARD CATCH BASIN PER DETAIL ON SHEET C2.0.
   RIM = 4185.88
   8" IE OUT (E) = 4182.21
   CONSTRUCT 14.7 LF 8" D3034 PVC STORM PIPE @ S=2.00%;
   CONNECT TO SEDIMENTATION MANHOLE. SEE NOTE 3.
3. INSTALL 1 - SEDIMENTATION MANHOLE PER DETAIL ON SHEET C2.0.
   RIM = 4186.05
   8" IE IN (W) = 4181.92
   8" IE IN (S) = 4181.97
   8" IE OUT (E) = 4181.72
   CONSTRUCT 25.0 LF 8" D3034 PVC STORM PIPE @ S=2.00%;
   CONNECT TO STANDARD DRYWELL. SEE NOTE 3.
4. INSTALL 1 - STANDARD DRYWELL PER DETAIL ON SHEET C2.0
   RIM = 4186.73
   8" IE IN (W) = 4181.22
   MINIMUM BOTTOM EXCAVATION FOOTPRINT OF 321 SF FOR 95-CY STORAGE DRYWELL

LEGEND

- 4180 — (P) CONTOUR MAJOR
- 4181 — (P) CONTOUR MINOR
- 4180 — (E) CONTOUR
- (P) SLOPE ARROW
- STM — (P) STORM DRAIN PIPE
- (P) CATCH BASIN
- (P) SEDIMENTATION MANHOLE
- (P) DRYWELL
- (P) ASPHALT PAVEMENT
- (P) CONCRETE PAVEMENT

STORMWATER SUMMARY:

DRYWELL SHALL BE CONSTRUCTED WITH:
- MINIMUM EXCAVATION DEPTH: 13-FEET BELOW FINISH RIM ELEVATION (DRILL A MINIMUM OF 10 ADDITIONAL FEET BELOW BOTTOM OF DRYWELL EXCAVATION AND BLAST TO ENSURE ROCK FRACTURING.
- MINIMUM BOTTOM OF EXCAVATION FOOTPRINT AREA: 325 SF FOR 95-CY DRYWELL.

NOTES:
1. STORMWATER RUNOFF VOLUME CALCULATIONS WERE ESTIMATED USING THE NRCS CURVE NUMBER METHOD FOR A TYPE I, 24-HR, 25-YR DESIGN STORM PER CENTRAL OREGON STORMWATER MANUAL (COSM).
2. ASSUMED INFILTRATION RATE OF 5.95 IN/HR.

		BASIN AREA	BASIN AREA		RUNOFF		PEAK RUNOFF FLOW RATE		STORAGE VOL. REQUIRED		VOLUME	STORAGE VOL. PROVIDED		MIN. TESTING VOLUME	
DRYWELL	BASIN	(AC)	(SF)	CURVE NUMBER	(CF)	(GAL)	(CFS)	(GPM)	(CF)	(GAL)	(CY) (VOID RATIO: 0.35)	(CF)	(GAL)	(CF)	(GAL)
DW-5	E	0.26	11,200	98	2,273	17,100	0.501	225	847	6,340	95	898	6,715	847	6,340

STORM FACILITY TESTING PROCEDURE:

DRYWELL TESTING:
i. CONFIRM THE STORAGE VOLUME BY TRACKING THE QUANTITY OF DRAIN ROCK USED WITH LOAD TICKETS AND MEASURE THE DIMENSIONS AND DEPTH OF THE DRYWELL. RECORD STORAGE VOLUME IN DRAIN ROCK AND MEASURED VOID RATIO.

ii. FILL DRYWELL WITH WATER FROM A METERED SOURCE. FILL DRYWELL WITH STORAGE VOLUME REQUIRED (GALLONS) WITHIN 1-HOUR (FLOW TEST VOLUME SHOWN ABOVE). THE DRYWELL IS REQUIRED TO TAKE THE ENTIRE VOLUME WITHIN THE 1-HOUR PERIOD WITHOUT OVERFLOWING INTO THE SEDIMENTATION MANHOLE OR CATCH BASINS.

iii. CHECK 72 HOURS AFTER STOPPING THE FLOW TO SEE IF THE DRYWELL HAS BEEN EMPTIED.

INFILTRATION FACILITY CONSTRUCTION AND TESTING NOTES:

1. THE CONTRACTOR SHALL BLAST, EXCAVATE, AND TEST DRYWELLS IN ACCORDANCE WITH THESE PLANS PRIOR TO THE INSTALLATION OF ANY OTHER UTILITIES.
2. THE CONTRACTOR SHALL PROVIDE ALL TOOLS, EQUIPMENT, WATER, AND LABOR TO PERFORM A FULL SCALE DRYWELL TESTS IN ACCORDANCE WITH THE STORM FACILITY TESTING PROCEDURES DESCRIBED IN THE CITY OF REDMOND STANDARDS AND SPECIFICATIONS.
3. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD AND THE AHJ AT LEAST 48 HOURS PRIOR TO PLACEMENT OF ANY DRAIN ROCK, FABRIC, OR THE DRYWELL STRUCTURE TO OBSERVE, DOCUMENT, AND FLOW TEST THE DRYWELL EXCAVATIONS. THE SIZE OF THE DRYWELL MAY NEED TO BE ADJUSTED BASED UPON THE ENCOUNTERED CONDITIONS AND TESTING RESULTS.

0 5 10 20
SCALE: 1" = 10'

PRELIMINARY SITE PLAN

SUNRIVER PSB - SOUTH APRON

SUNRIVER, OR

Harper Houf Peterson Righellis Inc.
ENGINEERS★PLANNERS
LANDSCAPE ARCHITECTS★SURVEYORS
250 NW Franklin Ave, Suite 404, Bend, OR 97703
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

REGISTERED PROFESSIONAL ENGINEER
OREGON
MAY 15, 2012
NICOLAS G SEMOS
EXPIRES: 06/30/26

DESIGNED:	DRAWN:	CHECKED:	DATE:
SSM	SSM	NGS	05/05/2026

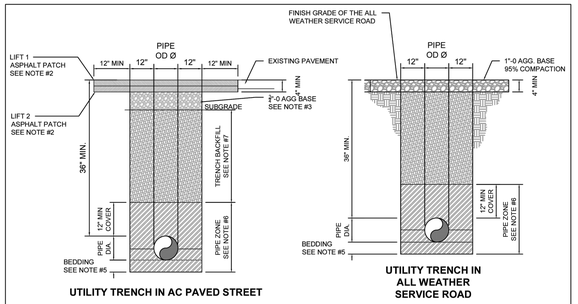
REVISIONS

NO.	DESCRIPTION	DATE

SHEET NO.
C1.0

JOB NO.
SSV-01

P:\03-Bend\SSV (Sunriver Services District)\SSV-01 (PSB South Apron)\SSV01-DWGS\Sheets\ SSV01 - C100 - CIVIL SITE PLAN.dwg

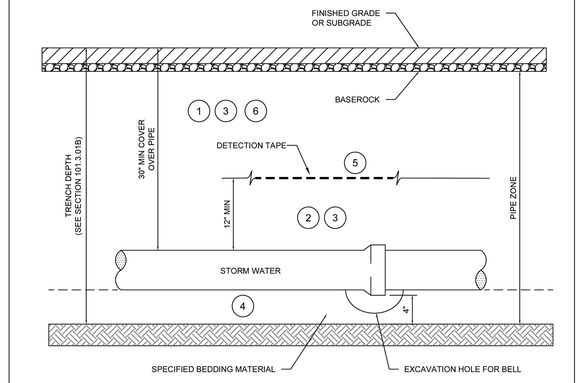


UTILITY TRENCH IN AC PAVED STREET

UTILITY TRENCH IN ALL WEATHER SERVICE ROAD

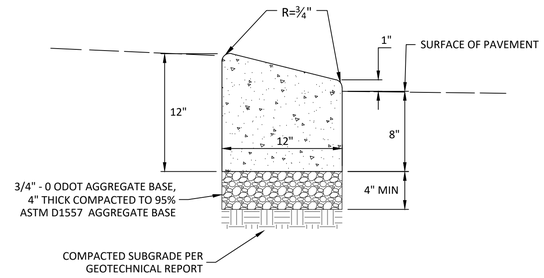
NOTE:
1. SAW CUT JOINTS SHALL BE TACKED AND SAND SEALED.
2. ASPHALT PATCH SECTION SHALL BE NOT LESS THAN 4" THICK, PLACED IN TWO LIFTS MINIMUM NOT TO EXCEED 2" MAX PER LIFT.
3. BASE MATERIAL SHALL MEET CURRENT CITY STANDARDS AS SHOWN IN STANDARD DRAWING 2-1.
4. ALL TRENCHES UNDER EXISTING PAVEMENT, CURB AND/OR SIDEWALK AREAS SHALL BE BACKFILLED IN ACCORDANCE WITH DIVISION I TRENCHES.
5. PIPE BEDDING SHALL BE 4" MINIMUM DEPTH.
6. PIPE ZONE MATERIAL SHALL BE CLASS "B" BACKFILL , COMPACTED TO 95% OF MAXIMUM DENSITY AASHTO T-99 IN ONE FOOT LIFTS. FOR PIPES LARGER THAN 3" PLACE FIRST LIFT TO PIPE SPRINGLINE.
7. FOR NEW CONSTRUCTION, CLASS "B" TRENCH BACKFILL MATERIAL IS ALLOWED FROM 2' ABOVE PIPE TO SUBGRADE FOR TRENCHES DEEPER THAN 6 FEET (FINISH GRADE TO TOP OF PIPE).
8. WHEN TRENCH CUT IS ALLOWED IN NEWLY PAVED STREET LESS THAN 2 YEARS OLD, SPECIAL PATCHING REQUIREMENTS WILL BE NECESSARY, AND PROVIDED BY CITY OF REDMOND ENGINEERING.
9. DRYWELL CONCRETE CAP SHALL NOT EXTEND WITHIN 6" OF UTILITY TRENCH.
10. DRY UTILITY TRENCH PER MANUFACTURER.

CITY OF REDMOND PUBLIC WORKS DEPARTMENT
UTILITY TRENCH
SCALE: NTS | DRAWING BY: JWS | APPROVED BY: JNM | DATE: 4/1/2024
STANDARD DRAWING NO. **1-1** TRENCHES



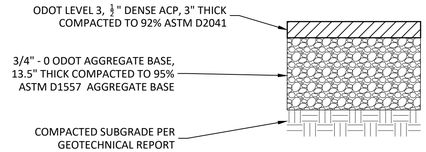
NOTES:
1. CLASS "B" BACKFILL COMPACTED TO 95% OF AASHTO T-99.
2. SPECIFIED PIPE ZONE MATERIAL ABOVE, AROUND, AND BELOW PIPE SHALL BE COMPACTED TO 95% IF AASHTO T-99.
3. THE ENGINEER MAY REQUIRE THIS ZONE TO BE WATER SETTLED TO PROVE THE INTEGRITY OF THE BACKFILL.
4. PIPE BEDDING SHALL BE CLASS "B" MEETING THE REQUIREMENTS OF SECTION 101.2.01 AND SHALL BE MECHANICALLY COMPACTED TO 95% OF MAXIMUM AS DETERMINED BY AASHTO T-99.
5. DETECTION TAPE TO BE LOCATED AT TOP OF PIPE ZONE, 12" ABOVE THE PIPE.
6. FOR TRENCHES DEEPER THAN 6 FEET, BACKFILL MAY BE CLASS A (SECTION 101.2.02A) FROM 2' ABOVE TOP OF PIPE TO SUBGRADE. WITH APPROVAL OF CITY ENGINEER, CLASS D BACKFILL MAY BE USED OUTSIDE OF ROADWAY AREA (SECTION 101.2.02D) FROM 3' ABOVE TOP OF PIPE TO SUBGRADE FOR TRENCHES DEEPER THAN 9'.

CITY OF REDMOND PUBLIC WORKS DEPARTMENT
PROFILE OF TYPICAL STORM WATER MAIN INSTALLATION
SCALE: NTS | DRAWING BY: JWS | APPROVED BY: JNM | DATE: 4/2/2024
STANDARD DRAWING NO. **5-1** STORM WATER



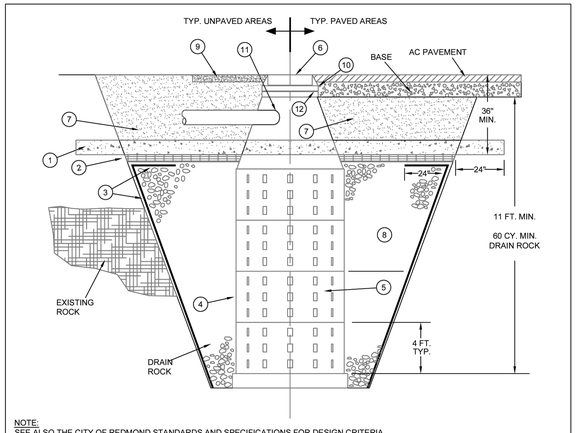
MOUNTABLE CONCRETE CURB
NTS

NOTE:
1. USE HIGH STRENGTH, MINIMUM 5,000 PSI CONCRETE.
2. PREPARE SUBGRADE PER GEOTECH REPORT.
3. INSTALL EXPANSION JOINTS AT POINTS OF CURVATURE.
4. TACK COAT IS TO BE APPLIED TO CURB FACE PRIOR TO PAVING.



ASPHALT PAVEMENT SECTION
N.T.S.

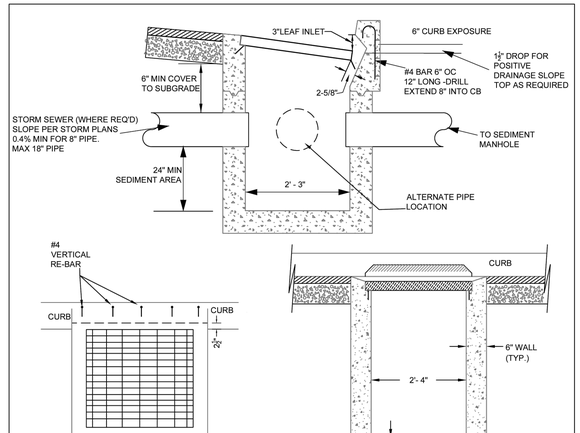
NOTE:
REFERENCE THE GEOTECHNICAL REPORT PREPARED BY EVREN NORTHWEST, INC. (ENW PROJECT NUMBER 711-22001-07) ADDENDUM NO 4, FOR ASPHALT, BASE AND SUBGRADE SPECIFICATION, DATED SEPTEMBER 11, 2025



NOTE:
SEE ALSO THE CITY OF REDMOND STANDARDS AND SPECIFICATIONS FOR DESIGN CRITERIA.

1. 6" CONCRETE CAP CL 3000, REQUIRED TO 24" BEYOND DRAIN ROCK. IF IN EXISTING ROCK, 24" CAP NOT REQUIRED.
2. MOISTURE BARRIER - 2 LAYERS OF 4 MIL. POLYETHYLENE ON ALL INSTALLATIONS.
3. LINE ALL EXCAVATION SIDEWALLS WITH GEOTEXTILE FILTER FABRIC TO PREVENT SUBSIDENCE. OVER LAP 24" WITH MOISTURE BARRIER.
4. LINE INSIDE OF PERFORATED BARREL WITH HEAVY WEIGHT VINYL SCREEN, SUCH AS "FULLFLOW VINYL SCREEN (a0706)". TOP AND BOTTOM OF SCREEN SHALL BE ATTACHED TO BARREL WALL. INLET PIPE SHALL BE EXTENDED THROUGH THE SCREEN.
5. PRECAST SECTIONS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C-478. CONCRETE SHALL BE CL - 3300, AIR ENTRAINED CONCRETE.
6. SEE STANDARD DRAWING 5-3 FOR FRAME AND COVER.
7. CLASS "B" BACKFILL COMPACTED TO 95% OF AASHTO T-99.
8. DRAIN ROCK SHALL CONSIST OF CLEAN 6" - 2" HARD CINDER, RIVER ROCK, CRUSHED OR PIT RUN AGGREGATE CONTAINING LITTLE OR NO FINES.
9. WHEN DRY WELL IS LOCATED OUTSIDE OF PAVED AREAS, PROVIDE A 6" THICK CONCRETE PAD, 5' x 5' SQUARE CENTERED ON THE MANHOLE LID.
10. DRY WELLS DRAIN ROCK SHALL NOT BE LOCATED IN PUBLIC STREET SECTION UNLESS APPROVED BY CITY OF REDMOND ENGINEER, AND IF APPROVED, SHALL USE AN ADJUSTMENT SYSTEM SUCH AS EAST JORDAN IRON WORKS INFR-RISER, OR APPROVED EQUAL, IS USED TO ADJUST DRY WELL FRAME AND COVER TO FINISH GRADE. USE TAPERED RINGS AS NECESSARY. PROVIDE MASTIC PER MANUFACTURER'S RECOMMENDATION BETWEEN INFRA-RISER RINGS, DRY WELL FRAME AND CONCRETE GRADE RINGS.
11. INLET / OUTLET PIPE SHALL NOT EXTEND INTO DRY WELL MORE THAN 1"-4".
12. GROUT SHALL BE APPLIED BETWEEN RISERS AND TOP OF DRY WELL MEETING THE REQUIREMENTS OF SECTION 306.3.02B.
13. MAXIMUM CHIMNEY HEIGHT IS 18" BETWEEN TOP OF CONE AND BOTTOM OF LID FRAME.

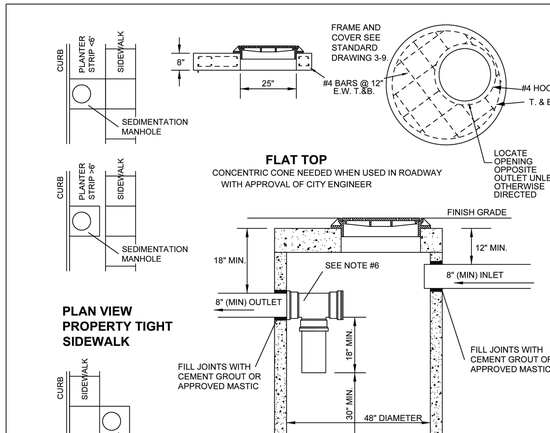
CITY OF REDMOND PUBLIC WORKS DEPARTMENT
STANDARD PRE-CAST DRYWELL
SCALE: NTS | DRAWING BY: JWS | APPROVED BY: JNM | DATE: 4/2/2024
STANDARD DRAWING NO. **5-2** STORM WATER



DETAIL SHOWING GRATE ORIENTATION TO CURB LINE

NOTES:
1. PRECAST CATCH BASINS ARE PREFERRED. CAST IN-PLACE CATCH BASINS ARE ALLOWED WITH CITY ENGINEER APPROVAL ONLY. AS A CONDITION OF EXCEPTION TO THE PRE-CAST STANDARDS, INTERIOR AND EXTERIOR FORMS ARE REQUIRED TO ENSURE CATCH BASIN WALLS ARE UNIFORM 6" THICK WALLS.
2. PRECAST CATCH BASINS MUST BE CORED FOR PIPE ENTRY, (MAXIMUM 1" CLEARANCE).
3. BACKFILL SHALL BE PLACED IN LIFTS TO FACILITATE THE REQUIRED COMPACTION OF 95% OF OPTIMUM AASHTO T-99.
4. WATER JETTING OF BACKFILL MATERIAL AROUND CATCH BASIN IS REQUIRED.
5. DURING CONSTRUCTION, FILTER MATERIAL, PLANKING, OR OTHER ACCEPTABLE MEANS SHALL BE USED TO COVER CATCH BASINS UNTIL PROJECT IS ACCEPTED.
6. CATCH BASIN FRAME AND GRATE TO BE RECESSED INTO CURB AS SHOWN.
7. GROUT ALL PIPES INSIDE AND OUTSIDE OF STRUCTURE.
8. INLET / OUTLET PIPE SHALL NOT PROTRUDE MORE THAN 2" INTO CATCH BASIN.
9. WALLS AND FLOORS TO BE WITHIN 2" OF FLAT PLANE.
10. CLEARANCE OF WATER MAIN TO INSIDE WALL OF A CATCH BASIN SHALL BE NOT LESS THAN 30".

CITY OF REDMOND PUBLIC WORKS DEPARTMENT
STANDARD C-G2 CATCH BASIN
SCALE: NTS | DRAWING BY: JWS | APPROVED BY: JNM | DATE: 4/2/2024
STANDARD DRAWING NO. **5-4** STORM WATER



TYPICAL SECTION

NOTES:
1. ALL MANHOLES OUTSIDE OF PAVED AREAS SHALL HAVE A 6" THICK CONCRETE PAD, 5' x 5' SQUARE CENTERED ON THE MANHOLE LID OR EXTENDED BETWEEN CURB AND SIDEWALK WHEN WITHIN 6'.
2. ALL PRECAST SECTIONS SHALL CONFORM TO REQUIREMENTS OF ASTM C-478.
3. ALL LADDER RUNG HOLES SHALL BE GROUT FILLED.
4. ALL MANHOLES IN TRAFFIC AREAS, SHALL USE AN ADJUSTMENT SYSTEM SUCH AS EAST JORDAN IRON WORKS INFRA-RISER, OR APPROVED EQUAL, IS USED TO ADJUST MANHOLE FRAME AND COVER TO FINISH GRADE. USE TAPERED RINGS AS NECESSARY. PROVIDE MASTIC PER MANUFACTURER'S RECOMMENDATION BETWEEN INFRA-RISER RINGS, MANHOLE FRAME AND CONCRETE GRADE RINGS.
5. GROUT SHALL BE APPLIED BETWEEN RISERS AND TOP OF MANHOLE MEETING THE REQUIREMENTS OF SECTION 306.3.02B.
6. 8" TEE WITH MECHANICAL PLUG OR ALTERNATIVE SUCH AS THE SNOUT OR APPROVED EQUAL.
7. MUST PROVIDE 2' DIAMETER CLEARANCE AREA FROM BELOW THE LID TO THE BOTTOM OF THE MANHOLE, UNENCUMBERED BY PIPES OR FITTINGS, TO ALLOW FOR MANHOLE CLEANING.
8. MAXIMUM CHIMNEY HEIGHT IS 18".
9. CLEARANCE OF WATER MAIN TO INSIDE WALL OF SEDIMENTATION MANHOLE SHALL BE NOT LESS THAN 30".

CITY OF REDMOND PUBLIC WORKS DEPARTMENT
SEDIMENTATION MANHOLE
SCALE: NTS | DRAWING BY: JWS | APPROVED BY: JNM | DATE: 4/2/2024
STANDARD DRAWING NO. **5-8** STORM WATER

DETAILS
SUNRIVER PSB - SOUTH APRON
SUNRIVER, OR

Harper Houf Peterson Righellis Inc.
ENGINEERS ★ PLANNERS
LANDSCAPE ARCHITECTS ★ SURVEYORS
250 NW Franklin Ave, Suite 404, Bend, OR 97703
phone: 541.318.1161 www.hhpr.com fax: 541.318.1141

REGISTERED PROFESSIONAL ENGINEER
OREGON
MAY 15, 2012
NICOLAS G SPENCE
EXPIRES: 06/30/26

DESIGNED:	DRAWN:	CHECKED:	DATE:
SSM	SSM	NGS	05/05/2026

NO.	DESCRIPTION	DATE

REVISIONS

SHEET NO.
C2.0

JOB NO.
SSV-01

P:\03-Bend\SSV (Sunriver Services District)\SSV-01 (PSB South Apron)\SSV01-DWGS\Sheets\ SSV01 - C100 - CIVIL SITE PLAN.dwg