STORMWATER SITE PLAN

WF WEST BASEBALL FIELD IMPROVEMENTS

342 SW 16th Street
Chehalis, WA 98532

PREPARED FOR

Chehalis Foundation

PREPARED BY

JSA CIVIL
Engineering | Planning | Management
111 TUMWATER BLVD SE, SUITE C210
TUMWATER, WA 98501
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PHONE: 360.269.6346

Contents

Appendices

PROJECT ENGINEER'S CERTIFICATION

The technical material and data contained in these documents were prepared under the supervision and direction of the undersigned, whose seal, as a professional engineer to practice as such, is affixed below.

November 2, 2022

Brandon Johnson, PE
Principal

Date

SECTION 1: PROJECT OVERVIEW

This Stormwater Site Plan was prepared for the proposed WF West Baseball Field Improvements located at 342 SW 16th Street, Chehalis, WA 98532. This report was prepared to comply with the minimum technical standards and requirements that are set forth in the 2019 Department of Ecology Stormwater Management Manual for Western Washington (SWMMWW).

The proposed commercial development will be constructed on a portion of Lewis County Tax Parcel No. 005871031001. Specifically, the proposed site improvements include the following:

- Replacing existing grass sports field with artificial turf
- Replacing portions of existing fencing
- Replacing existing HPS lights with LED lighting

Using the City of Tacoma bulletin regarding artificial turf fields, see Appendix 5, the project will trigger Minimum Requirements #1-5.

MINIMUM REQUIREMENT	COMPLIANCE WITH MINIMUM REQUIREMENT
#1 - Stormwater Site Plan	The contents of this report and the enclosed plans are intended to satisfy this requirement.
#2 - Construction SWPPP	A Construction SWPPP will be prepared at the time of final permitting.
#3 - Source Control of Pollution	If required, a Source Control Pollution Prevention Plan will be recorded against the property prior to certificate of occupancy.
#4 - Drainage Path Preservation	Preservation of the site's previously established natural drainage paths will be maintained to the maximum extent practicable.
#5 - Stormwater Management	BMP's will be implemented/constructed to mitigate stormwater runoff. Refer to this report.
#6 - Runoff Treatment	Not Required.
#7 - Flow Control	Not Required.
#8 - Wetlands Protection	Not Required.
#9 - Operation & Maintenance	Not Required.

Table 1: Compliance with Minimum Technical Requirements

SECTION 2: SITE CONDITIONS

Existing Site Conditions

The subject parcel is approximately 20.47 acres of developed property. The proposed improvements associated with this application will be positioned on approximately 3.75-acres of the parent parcel in the southern portion of the site, adjacent to Kelly Avenue. According to FEMA mapping, the site is positioned in Zone X, an area of minimal flooding.

Soils Information

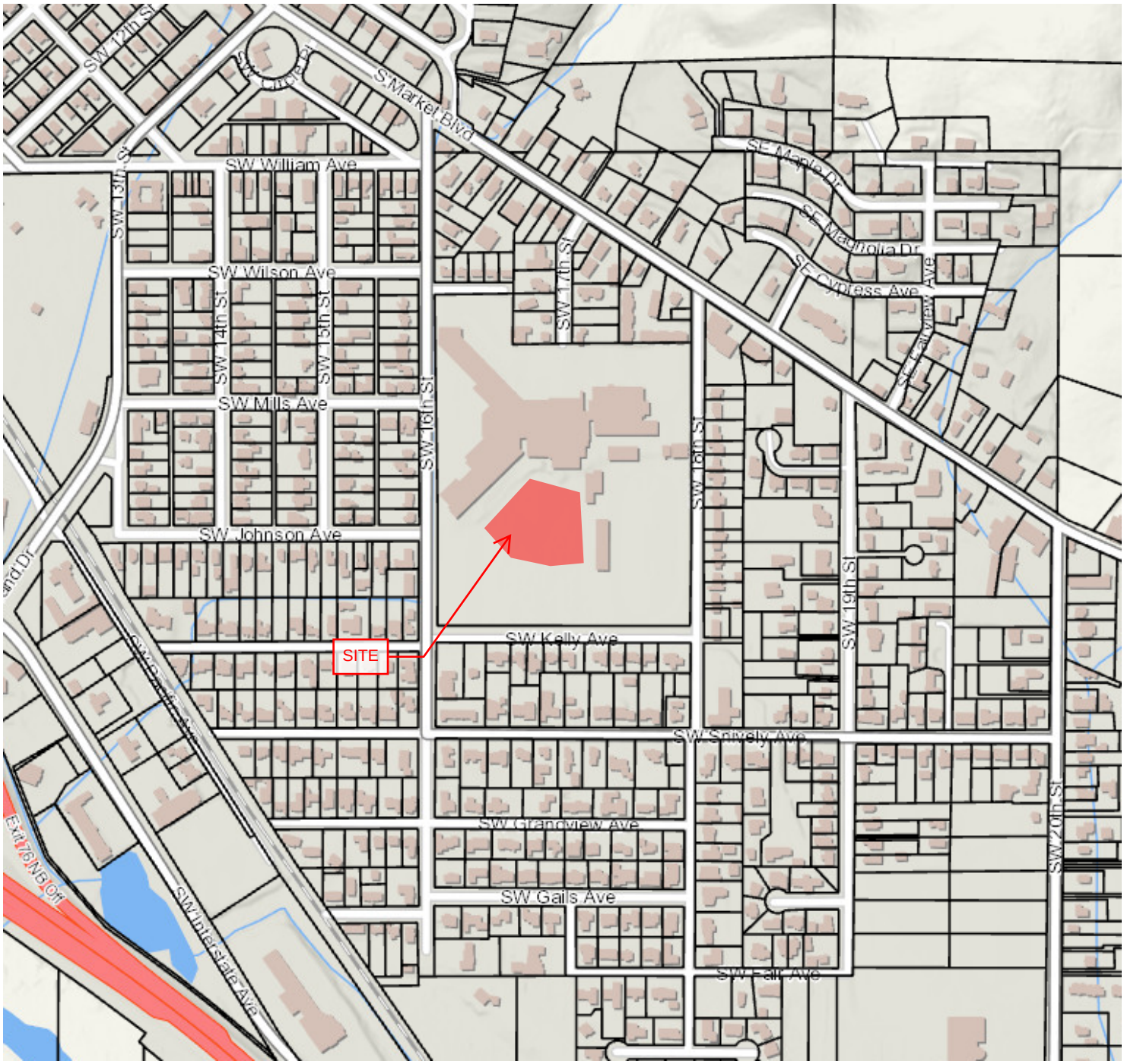
The SCS Web Soil Survey shows the soils to be primarily Lacamas silt loam, a type C/D soil.

SECTION 3: ON-SITE STORMWATER MANAGEMENT

SURFACE	BMP LID	FEASIBLE	INFEASIBILITY CRITERIA
Landscaped Areas	BMP T5.13	No	Post construction soil quality and depth is not feasible / practical for a grass to artificial turf replacement.

SECTION 4: BEST MANAGEMENT PRACTICES

The proposed turf field will replace the existing grass field underdrain system with a new storage rock and underdrain system and connect to the existing system just south of the outfield fence, which continues south to Kelly Avenue where it connects to the existing City of Chehalis stormwater system.



APPENDIX 1
VICINITY MAP

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APPENDIX 2
FEMA MAP

National Flood Hazard Layer FIRMette

FEMA

122°57'17"W 46°39'6"N

122°56'39"W 46°38'42"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN — Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 — Cross Sections with 1% Annual Chance
- 17.5 — Water Surface Elevation
- Coastal Transect
- 513 — Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

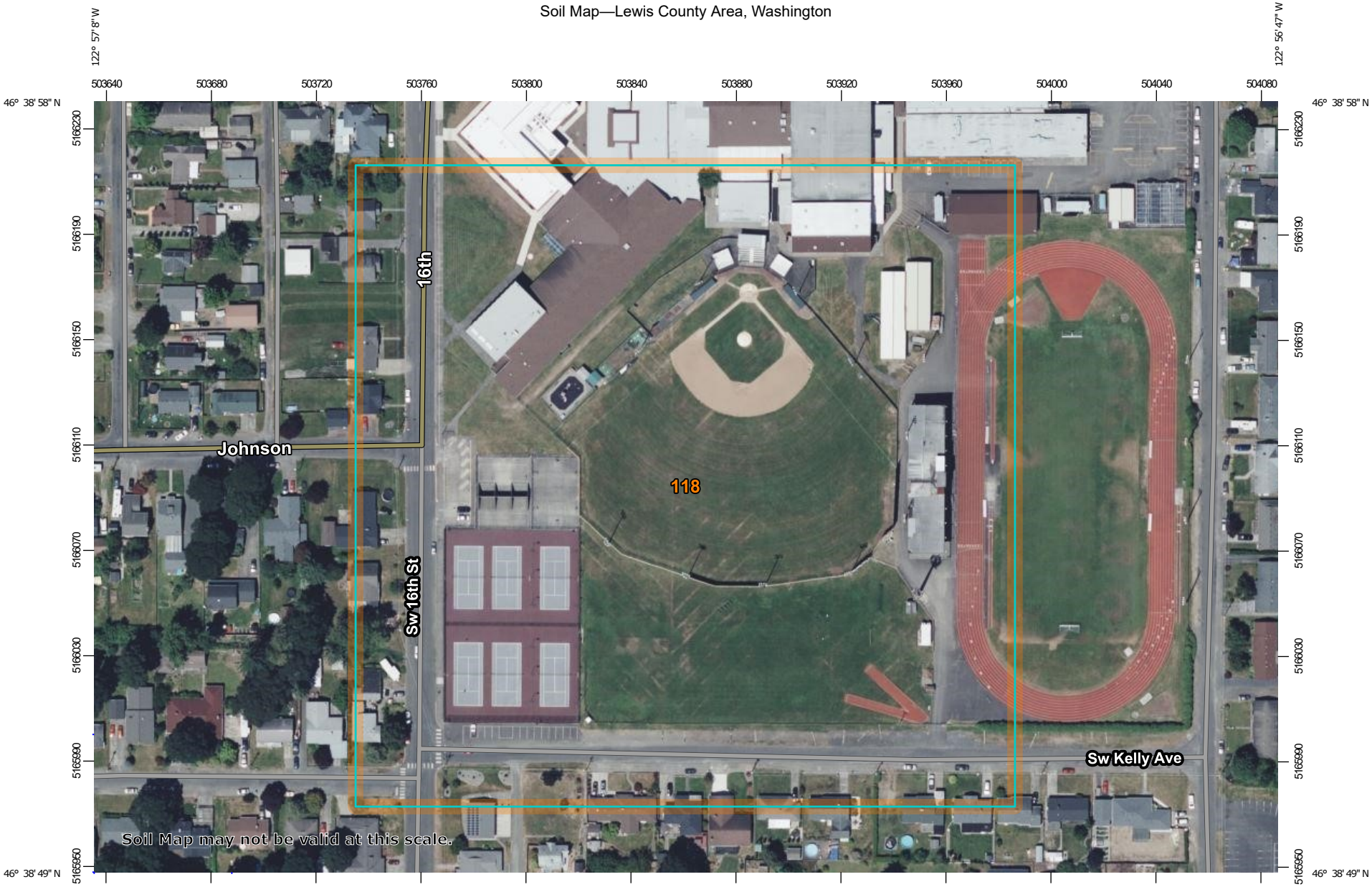
The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 11/2/2022 at 5:27 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

APPENDIX 3
SOILS MAP



Map Scale: 1:2,060 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 30 60 120 180

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Lewis County Area, Washington
Survey Area Data: Version 22, Sep 8, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Nov 21, 2021—Nov 22, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
118	Lacamas silt loam, 0 to 3 percent slopes	15.2	100.0%
Totals for Area of Interest		**15.2**	**100.0%**

Lewis County Area, Washington

118—Lacamas silt loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2h8l
Elevation: 250 to 1,200 feet
Mean annual precipitation: 40 to 70 inches
Mean annual air temperature: 48 to 50 degrees F
Frost-free period: 125 to 200 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Lacamas, drained, and similar soils: 60 percent
Lacamas, undrained, and similar soils: 25 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lacamas, Drained

Setting

Landform: Terraces, flood plains

Typical profile

H1 - 0 to 7 inches: silt loam
H2 - 7 to 17 inches: silt loam
H3 - 17 to 27 inches: silty clay
H4 - 27 to 60 inches: clay

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 in/hr)
Depth to water table: About 12 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 6.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: C/D
Ecological site: F001XC003OR - Mesic Aquic Forest
Forage suitability group: Seasonally Wet Soils (G002XV202WA)
Other vegetative classification: Seasonally Wet Soils (G002XV202WA)
Hydric soil rating: Yes

Description of Lacamas, Undrained

Setting

Landform: Flood plains, terraces

Typical profile

H1 - 0 to 7 inches: silt loam
H2 - 7 to 17 inches: silt loam
H3 - 17 to 27 inches: silty clay
H4 - 27 to 60 inches: clay

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 6.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: C/D
Ecological site: F001XC003OR - Mesic Aquic Forest
Forage suitability group: Wet Soils (G002XV102WA)
Other vegetative classification: Wet Soils (G002XV102WA)
Hydric soil rating: Yes

Minor Components

Klaber, undrained

Percent of map unit: 5 percent
Landform: Depressions
Other vegetative classification: Wet Soils (G002XV102WA)
Hydric soil rating: Yes

Scamman

Percent of map unit: 5 percent
Landform: Terraces
Other vegetative classification: Seasonally Wet Soils (G002XV202WA)
Hydric soil rating: No

Prather

Percent of map unit: 5 percent

Hydric soil rating: No

Data Source Information

Soil Survey Area: Lewis County Area, Washington
Survey Area Data: Version 22, Sep 8, 2022

APPENDIX 4
PRELIMINARY PLANS

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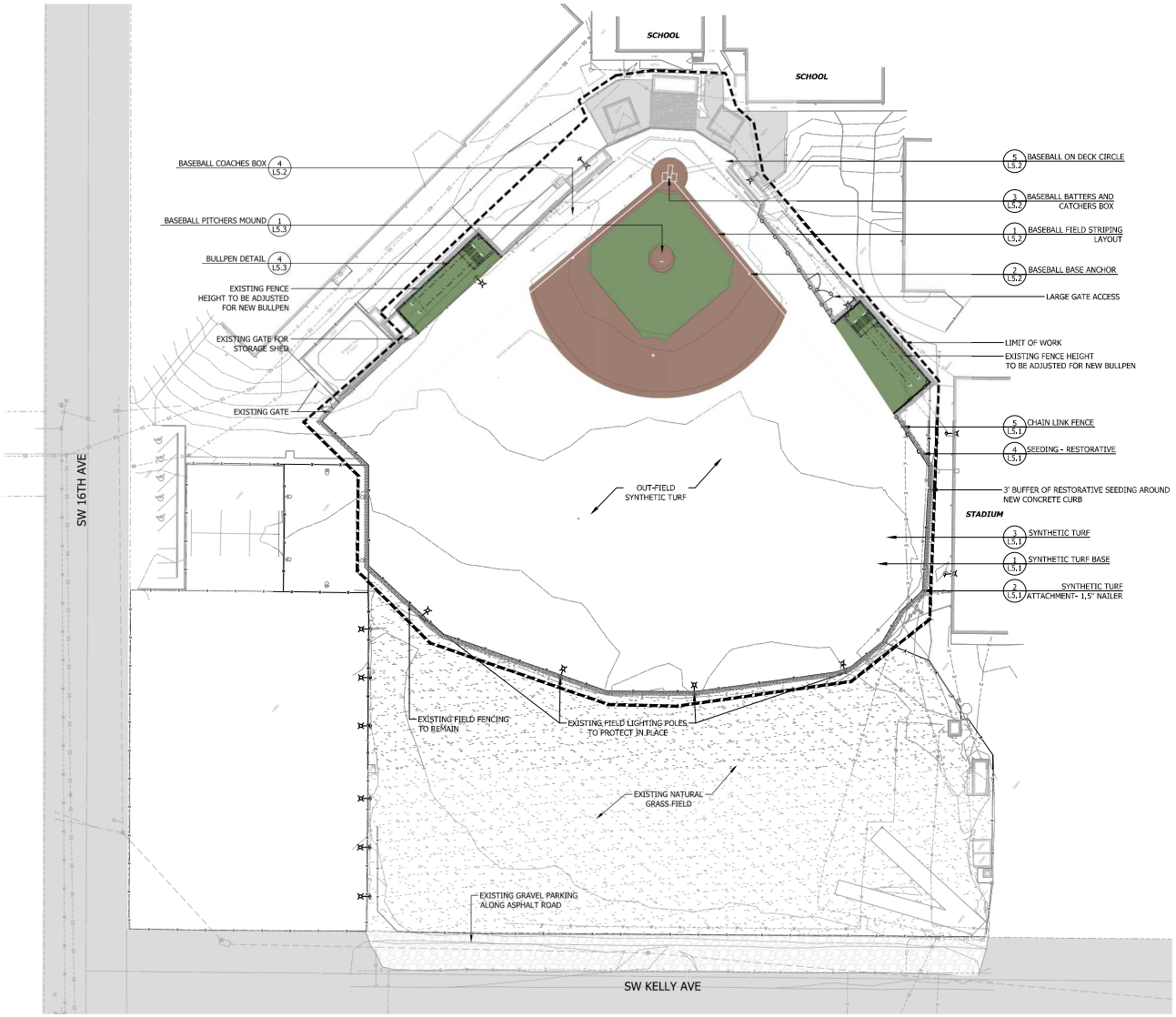
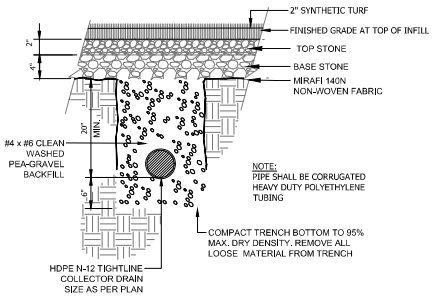


SEPA LEGEND

- LIMIT OF WORK
- NEW FENCELINE
- EXISTING FENCELINE TO REMAIN
- EXISTING LIGHT POLE
- SYNTHETIC TURF - BROWN
- SYNTHETIC TURF - GREEN
- EXISTING ASPHALT PAVING
- RESTORATIVE SEEDING

GENERAL NOTES

1. TOTAL SQUARE FOOTAGE OF AREA TO BE DISTURBED WITHIN EXISTING FENCE: 119,913 SF
2. TOTAL SQUARE FOOTAGE OF NEW TURF: 117,700 SF
3. TOTAL YARDS OF MATERIAL EXPORT: 2,880 CY
4. TOTAL TONNAGE OF MATERIAL IMPORT: 4,030 TONS FIELD AGGREGATE
5. TOTAL CONCRETE BROUGHT IN: 50 CY
6. EXISTING FIELD LIGHTING TO REMAIN WITH NEW LED FIXTURES.
7. EXISTING FIELD DRAINAGE TO REMAIN IN PLACE.
8. NEW FENCING SHALL BE INSTALLED ALONG SIDELINES.
9. ALL EXISTING STADIUM AND BLEACHERS SHALL BE PROTECTED AND REMAIN.
10. EXISTING USE TO REMAIN AND SHALL STAY AS CURRENTLY UTILIZED.
11. CONSTRUCTION SITE WORK SHALL BE DURING AUTHORIZED WORK HOURS PER THE CITY.



NOTES:
1. GEOTEXTILE PRIMARY BACKING OF SYNTHETIC TURF KEEPS INFILL WITHIN FIBERS AND OUT OF BASE AND FIELD DRAINAGE SYSTEM

1 SEPA FIELD SECTION
N.T.S.

PRELIMINARY - FOR REVIEW

SITE PLAN
SCALE: 1" = 40'
40 20 0 40 80

UULC
UTILITIES UNDERGROUND LOCATION CENTER
MONTANA ONE CALL
CALL BEFORE YOU DIG!
1-800-424-5555
www.Callbeforeyoudig.org

REVISIONS

PROJECT NO. 21275.01
DRAWN KAA
CHECKED
SUBMITTAL DATES
9/26/2022

JSA CIVIL
Engineering | Planning | Management
111 TUMWATER BLVD SE, SUITE C210
TUMWATER, WA 98512

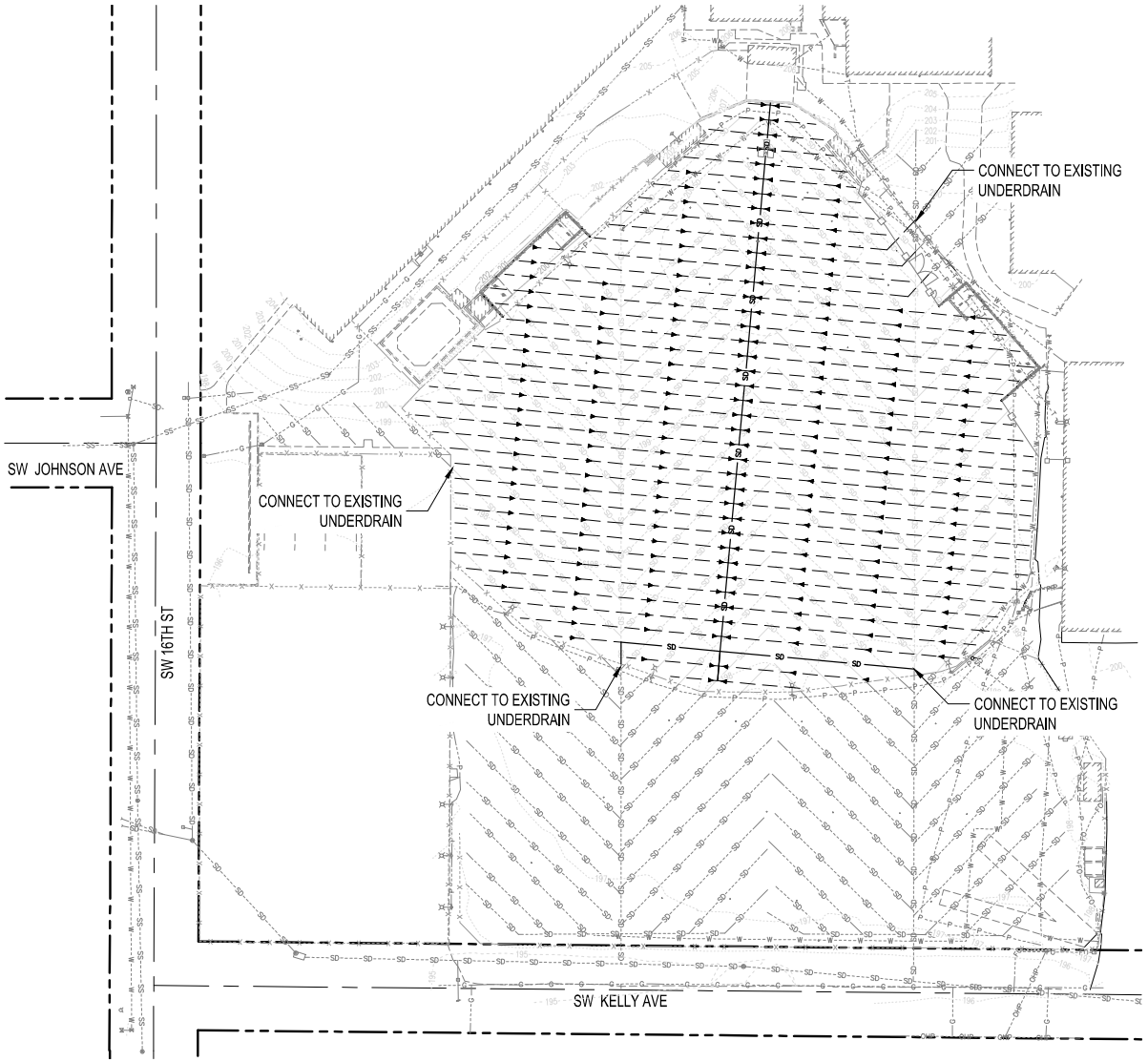
STAMP

WF WEST
BASEBALL FIELD TURF INSTALLATION
342 SW 16TH ST
CHEHALIS, WA 98532

SANDERSON STEWART
Enduring Community Design

SHEET TITLE
SITE PLAN

SHEET NO.
L1.1



STORM LEGEND

- EXISTING STORM DRAIN PIPE TO BE REMOVED
- EXISTING STORM DRAIN PIPE TO REMAIN
- 6" DIA. PVC PERF PIPE
- 4" DIA. PVC UNDERDRAIN PERF PIPE

CALL BEFORE YOU DIG

THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION BY CALLING THE UNDERGROUND LOCATE LINE AT 811 A MINIMUM OF 48 HOURS PRIOR TO ANY EXCAVATION.

Oct 11, 2022 - 12:41:49pm - Lisa Johnson
N:\2 - PROJECTS\07 CHEHALIS FOUNDATION\127.002 WF WEST BASEBALL FIELD\ACAD\127.002 SD-01.DWG

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VICINITY MAP (NTS)

SITE DATA

ADDRESS	342 SW 16TH ST
TPN	005871031001
PARCEL SIZE	20.47 AC (3.75 FIELD)
JURISDICTION	CITY OF CHEHALIS
ZONING	EPF (S)

REV.	DATE	COMMENT	BY

DRAWN BY:	L SATER
CHECKED BY:	B JOHNSON

SEAL:

PRELIMINARY

SCALE:

0 40 80
SCALE IN FEET

CHEHALIS FOUNDATION
For the community. For the future.

WF WEST BASEBALL FIELD IMPROVEMENTS

SHEET TITLE:

STORM DRAINAGE PLAN

SHEET NO.

SD-01

APPENDIX 5
CITY OF TACOMA BULLETIN

Artificial Turf

Minimum Requirements and SWMM Design Applicability – Artificial Turf

Artificial Turf Definitions

Artificial turf shall include artificial grass used for landscaping and artificial turf used for sports fields. Artificial turf may or may not have underdrain systems. Artificial turf is considered a lawn area per the SWMM definition of lawn areas.

Lawn areas – An area of land planted with grasses or other durable plants which are maintained at a short height and used for aesthetic and/or recreational purposes. The definition also includes turf surfaces, artificial lawn surfaces, and artificial turf surfaces.

Artificial turf is also considered a pollution-generating pervious surface (PGPS) per the SWMM definition of PGPS.

PGPS – Any non-impervious area subject to:

- *Vehicular use*
- *Industrial activities*
- *Storage of erodible or leachable materials, wastes, or chemicals, and which receive direct rainfall or the runon or blow in of rainfall;*
- *Use of pesticides and fertilizers; or*
- *Loss of soil*
- *Typical PGPS include lawns and landscaped areas including: golf courses, parks, cemeteries, and sports fields (natural and artificial turf).*

Minimum Requirement Applicability – Minimum Requirements #1-5

For new development and redevelopment projects, Minimum Requirements #1-5 apply to:

- Land disturbing activities of 7,000 square feet or greater.

Land disturbing activities exist when installing artificial turf. Compliance with Minimum Requirements #1-5 will apply. Minimum Requirement #5 for pervious areas typically requires the use of BMP L613: Post Construction Soil Quality and Depth. However, the City will not require the use of BMP L613 for artificial turf installation, as it is not practical.

Minimum Requirement Applicability – Minimum Requirements #1-9

For new development and redevelopment projects, Minimum Requirements #1-9 apply to projects:

- Converting ¾ acres, or more, of vegetation to lawn or landscaped areas

Vegetation is defined in the SWMM as:
Native vegetation, pasture, scrub/shrub, uncultivated vegetation, or unmaintained non-native vegetation.

<u>Example – Replacing Natural Grass Areas with Artificial Turf</u>

- Projects proposing to replace an existing natural grass sports field or landscaped area with a new artificial grass or artificial turf field do not meet the definition of a converted vegetation area. Since the installation of artificial turf in this example is not considered a converted vegetation area, MR#6-9 is not triggered for this area.
- Sometimes replacing natural grass areas with artificial turf is part of a larger project. The project as a whole may trigger Minimum Requirements #1-9 for the new and replaced hard surfaces and other converted vegetation areas, but Minimum Requirements #6-9 will likely not apply to the artificial turf area.
- The above example also applies to replacing a hard surface with artificial turf.

Artificial Turf

Example – Converting Vegetation to Artificial Turf

- Projects proposing to convert existing vegetation to artificial turf are converting vegetation to lawn or landscaped areas. If the project as a whole triggers MR#1-9 those Minimum Requirements apply to the new and replaced hard surfaces and converted vegetation areas.

Artificial Turf with Underdrains

If artificial turf fields have underdrains that connect to stormwater facilities and/or conveyance systems, those facilities and conveyance systems must be sized to accommodate for all flows including those from underdrains. Reference the 2021 Stormwater Management Manual: Volume 4 – Section 2.2.1 and Volume 4- Section 2.3.1.