City Council Committee Meeting Agenda

Parks and Trails Advisory Committee

This meeting will be conducted in person at Stanwood City Hall with an option for participants to join by telephone or online as well. Connection information will be posted on the City Website https://www.stanwoodwa.org

Monday, August 19, 2024, 3:00 PM

1. Call to Order & Roll Call
2. Citizen Comments
3. Approval of June 2024 Meeting Minutes
4. Church Creek Park Trail Design/Management Plan
5. Park/Trail Updates
    - Heritage Park – project status, grant status
    - Stanwood Port Susan Trail – project status
    - Church Creek Park – project status
    - Ovenell Park – status
6. Committee Member Comments

Zoom Information:

Parks and Trails Advisory Committee

Please click this URL to join:

https://us02web.zoom.us/s/85751722998?pwd=T25lVXpSMnFXZDZGZEpHQVF6eStSdz09

Webinar ID: 857 5172 2998

Passcode: 304123

Telephone: (253) 215-8782

Item 4

The Church Creek Park Trail Design/Management Plan is complete and provided for your review (see attached).

Item5

Heritage Park – Next project is bathroom upgrades. No word on grant for soccer fields/parking lot. Small grant ($50k) submitted to Snohomish County for dugout fencing.

Stanwood Port Susan Trail – Bid awarded, and construction started. Construction extension given until January 20, 2025 from RCO.

Church Creek Park – On-call tree contractor has been onsite several days this month removing and/or trimming sick, dead or danger trees in the park. The proposal to raise and re-roof the dugouts is out to bid. Bid closing is scheduled for August 22nd. Clearing/grading for Cedarside Commons development south of the park necessitated the removal of three disc golf holes. Staff has requested that a new disc golf course be designed in conjunction with the trail planning. Parks staff cleaned the roof on the picnic shelter and found several areas missing shingles. A capital funding request has been made for 2025 design and 2027 construction of a new shelter. That request is pending management and council approval.

Ovenell Park – The new banner for the SR532 side of the red barn has been printed and delivered. The new banner will replace the current middle "Ovenell Park" banner and should be installed by the end of the month. Puget Sound Public Farms seems to be doing well with their pilot year of community farming. They will likely extend their contract for one more year as allowed.

City Council Committee Meeting Agenda

Parks and Trails Advisory Committee

This meeting will be conducted in person at Stanwood City Hall with an option for participants to join by telephone or online as well. Connection information will be posted on the City Website https://www.stanwoodwa.org

Monday, June 17, 2024, 3:00 PM

1. Call to Order & Roll Call- 3:09 pm

   Present: Dave Hall, Matt Withers, Peter Kamb, Meagen Watne
   a. Lisa Bruce absent - excused
   b. Judy Williams was sick - excused
   c. Gordy Holmes participated via zoom

2. Citizen Comments

   a. Kevin Clark, Club President of the Stanwood Disc Golf Club: Announced the first PDGA tournament at Church Creek Park is scheduled for July. Noted that data shows increasing usage each year. The club actively helps maintain the course by clearing debris.

   b. Dean Koontz and Nicole Price from HBB Seattle introduced themselves to the committee. The City is utilizing HBB for trail management consulting at Church Creek Park. HBB is assisting with the development and maintenance of trails as part of the city's comprehensive plan for parks and recreation.

3. Approval of May 2024 Meeting Minutes

Peter Kamb motioned to approve the minutes as presented and Gordy Holmes seconded the motion. All were in favor.

4. Church Creek Park Trail Design/Management

HBB presented their report on Church Creek Park's parks and trails maintenance, covering key areas like drainage, stormwater, and vegetation. The report, available on the city website, outlines these main issues:

1. **Property Line Issue:** The GPS pathway may overlap with neighboring property. This must be resolved before new development.
2. **Wet Trail Areas:** Solutions are needed to manage wet trail sections while keeping them accessible.
3. **Exposed Pipe:** An old pipe in Zones 9 and 10 is eroded, causing stormwater problems and access issues.
4. **Access Routes:** Two main entry points to the creek need improvement.
5. **Saturated Zones:** Zones 12 and 13 are very wet and disc golf holes and trails may need to be relocated or improved to reduce erosion.

HBB requested PTAC feedback on these recommendations. Concerns were raised about the disc golf course extending beyond CCP property, which Tansy Schroder, City Planner, clarified will be managed with flagged property lines. Members also suggested removing the park's fence, adding a trail around the park, and working with developers to integrate new paths with existing ones. HBB discussed possible solutions to address the highlighted concerns.

No action taken.

5. Park/Trail Updates

- **Heritage Park:** Awaiting feedback on the RCO grant application for the soccer fields and parking lot. A small grant opportunity through Snohomish County is available, potentially for $30,000 to install fencing around the dugouts and possibly new furniture like trash cans. The total grant request can be up to $50,000. Additional suggestions include accessories for dugouts (bat racks, helmets, cubbies), a new playground bridge and a bike rack for the park. Carly is exploring restroom upgrade project options with parks staff.
- **Port Susan Trail:** Bids for the new Port Susan Trail will be opening soon. Construction of the trail can begin once the council approves the bid.
- **Ovenell Park:** Puget Sound Public Farm completed their first harvest and donated produce to the Stanwood-Camano Food Bank. On June 29th, they will host a farm tour with a food and ice cream celebration. The city is also still working on a new banner for the park to highlight PSPF.
- **Church Creek Park:** The picnic shelter will not be surveyed as that review could necessitate its immediate removal and there are currently no funds to replace it. So, no new roof will be installed, but staff plans to request money in next year's budget to begin the process of replacing the structure. In the meantime, the parks crew will work to remove moss from the roof and improve its appearance.

6. Committee Member Comments

Gordy Holmes inquired about a PTAC meeting in July. It was confirmed there will be no meeting in July; instead, meetings will resume in August. The majority of members supported this plan. Another member expressed gratitude for the work done on Church Creek Park. No further comments.

Meeting adjourned at 4:30 PM

Church Creek Park Trails Design and Management Plan

8/12/2024

City of Stanwood

10220 270th St NW

Stanwood, WA 98292

TABLE OF CONTENTS

I. SITE ASSESSMENT

Introduction

Church Creek is an established park located east of downtown Stanwood within the Uptown Center District neighborhood. It is comprised of numerous open spaces, including a large lawn used for gatherings and movie nights, a children's play area oriented toward the youngest demographic, a parking lot, a baseball field, basketball court, picnic shelter, disc golf course, a mix of tall trees, two Class III wetlands, one Class IV wetland and a reach of Church Creek that runs along the eastern edge of the site. Church Creek Estates, an existing single family residential development, boarders the park to the north. Stanwood High School is located to the west of 72nd Ave. NW. To the south is the site of the future Cedarside Commons, a mixed-use development with 514 housing units. Along the eastern property line is an additional site of potential future development.

Environmental Documentation

Church Creek

Church Creek is classified as a Type F fish-bearing stream in a critical areas study commissioned by the City of Stanwood in March 2023. The presence of steelhead trout, cutthroat trout, chum salmon, and the spawning activity of coho salmon has been recorded. The presence of bull trout is presumed, and the reach gradient is accessible to pink and chinook salmon.

This reach of the creek is typified by a shallow streambed with a long gravel bar running along the west bank. The creek runs swiftly during the rainy season and fills the channel from bank to bank. A mix of western red cedar, big leaf maple, and vine maple grows along the banks of Church Creek.

A log jam exists to the south end of the creek. The location of the log jam appears to be off park property. There has been beaver activity observed on Church Creek, however, it is unclear if the log jam was created by beaver or by debris collecting in snags during high water periods. Guests of the park visit the creek and have constructed rope swings that overhang the channel. The Parks Department routinely removes the swings.

Wetlands

Wetland C is a category III wetland located in the developed area of the park, however, it is not a part of the study area.

Wetland D is a flat depressional wetland with no outlet for surface water. It is characterized by persistent, ungrazed plants in half the area with saturated soils and seasonal ponding in more than ¼ of the wetland. Wetland D has a depth of water storage in the range of 6" to less than 24". Special habitat features include downed woody debris within the wetland that are greater than 4" in diameter and 6' long. Nearby priority habitats include snags and logs, the riparian zone of Church Creek, and instream condition. Wetland D is listed as a category III wetland with a 125' buffer. The Disc Golf Course crosses Wetland D in several locations with pathways installed by disc golf users. The crossings are marked by logs from downed trees and in some places raised with woodchips or made from wood pallets.

Wetland E is a sloped wetland. It is documented as a wetland discharge located near to Church Creek and upstream from an area that is known to flood. The wetland has saturated soils and is listed as a Cowardin forested plant class. It has the potential to support habitat though its habitat valuation (Category) is reduced by the current land use intensity. Nearby priority habitats include snags and logs, the riparian zone of Church Creek, and instream condition. Wetland E is listed as a category IV wetland with a 50' buffer.

Site Observations

On May 14, 2024, HBB staff Dean W. Koonts and Nicole Price along with City of Stanwood staff Tansy Schroeder, Carly Ruacho, Nicole Strachilla, and Kevin Pellham, along with Disc Course Volunteer Kevin Clark and former PTAC Member Cathy Wooten gathered in the Church Creek Park parking lot. PTAC Member Peter Kamb joined us later. The weather was sunny with a high temperature of 67°F and little to no wind. The group came together for the purpose of walking the site, observing existing conditions, and discussing topics such as individual use patterns, existing conditions, the user experience, volunteer activities, rogue construction, the condition of the wetland, the flow of water across the site, maintenance challenges, opportunities to improve accessibility, and how weather impacts the experience of the park.

The group accessed the Church Creek Trail from the edge of the ADA parking stalls, traveled to the animal-proof trash bin, then continued on the woodchip path. The path leads to the edge of the Church Creek ravine and down to the Church Creek gravel bar where the group turned north then followed a packed earth path back up the bank. Turning north the group crossed a wood bridge, then followed the fence line back to the baseball field and north pedestrian entry point. Then progressing to Disc Golf holes 11, 12, and 13. The group traveled along the edge of the outfield back to the shelter and parking lot where they disbanded.

Park Boundaries

The park boundaries are clearly defined along the edge of Church Creek Estates marked by a chain-link fence line and punctuated by an entry point at the north corner of the baseball, outfield. 72nd Ave NW marks the western edge of the park property. There is an existing driveway entrance to the parking lot. A study is currently underway to create improved pedestrian access to the park at the NW corner of the park. The property line bordering the Cedarside Commons is identified by a change from forested landscape to grassy field. A wooden, spit-rail fence line with an opening located just south of the parking lot indicates a pedestrian connection between the properties. The southern property line is not as easily identified moving east from the split rail fence. A site survey or surveyed demarcation is necessary to properly identify the south property lines as portions of the disc golf course and the existing paths seem to overlap the south property line.

Park Entry Points

The driveway to the parking lot is the primary access point for Church Creek Park. Two pedestrian entry points exist. One is on the north property line near the outfield of the baseball field. The second is on the south property line near the parking lot. Parking stalls line the drive aisle with a large open lawn to the north. The drive aisle leads to ADA stalls and ends in a cul-de-sac near the constructed features in the park. An asphalt path leads from the cul-de-sac to the picnic structure, baseball field, basketball court, and play structure. The Cedarside Commons development plans are currently proposing a paved pathway that runs along the wetland boundary ending at the south property line of Church Creek Park at a point that aligns with the Wetland D buffer line. A second proposed pedestrian connection to the park is under development in the northeast corner of the park that will provide connectivity to the street sidewalk system to Stanwood High School and to Church Creek Estates.

Site Walk and Analysis

Park Zones

The park has 5 identifiable zones. The attached plan, on page 6, identifies the location of each of the zones.

Zone 1, the Developed Park, includes the parking lot, lawn, children's play area, baseball field, basketball court, and picnic shelter.

Zone 2, the Forest Glade, is a predominantly Douglas fir forest with an open understory located to the south of the parking lot and picnic shelter.

Zone 3, the Ravine, is in the eastern portion of the site to either side of Church Creek and features steeper slopes with a mixed forest landscape comprised of western red cedar, Douglas fir, bigleaf maple and a mix of understory shrubs.

Zone 4, the Alder Glen, is located near the north property line bound by the ravine to the east and the baseball field to the west.

Zone 5, the Central Wetland, is located at the heart of the site bordered by the Forest Glade, Ravine, Alder Glen and the Developed Park. It is typified by damp to wet soils with western red cedar and seasonal perennials.

Conditions of Existing Infrastructure

The condition of the existing infrastructure will be discussed within each of the five zones. The following sections will examine the existing topography, observed soil conditions, vegetation, indications of drainage patterns, and conditions of the existing trail and other infrastructure for all five zones. Zone 1 is not within this plan's area of study, however its layout and components impact the study area and will influence future recommendations. The two main park elements located in the plan's area of study (Zones 2 – 5) are a Disc Golf course and the informal soft-surface Church Creek Trail.

The Disc Golf Course

The Disc Golf course consists of 18 holes located in all 5 Zones. The course is beginner friendly, and all holes are par 3. The holes have shorter distances combined with slope and trees as obstacles to increase difficulty. The longest hole is 280' to 300'.Typically, tees are concrete pads and baskets are mounted on metal poles set in concrete footings. However, only tees 2, 4, 8, 9, 10, and 11 have concrete pads. Remaining tees are surfaced in gravel, woodchip, compacted earth, or in one case, an old stump. The baskets are placed in shallow concrete footings. The basket for hole 10 has been pulled up by vandals, and the footing was observed at approximately 1' deep.

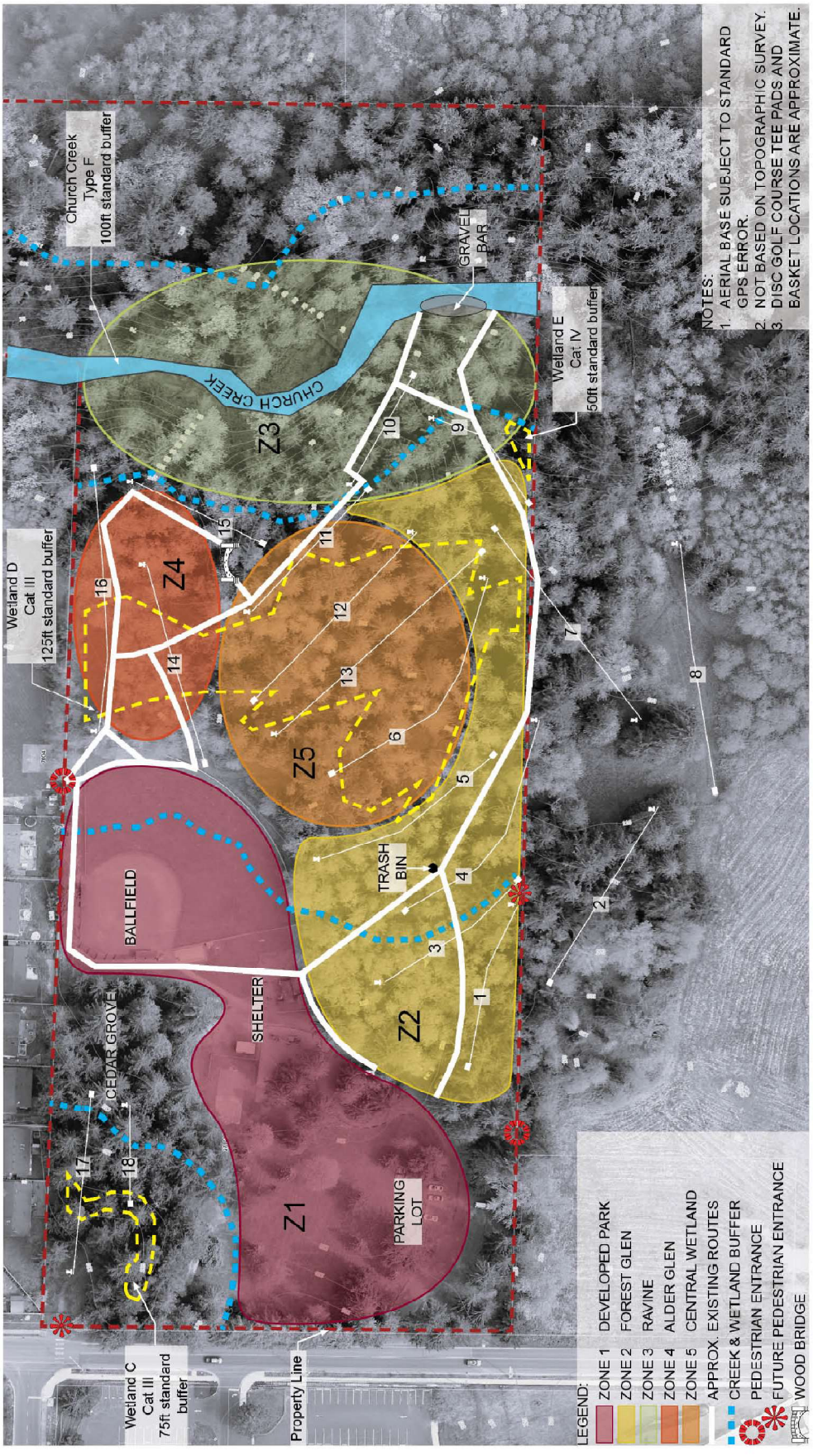
The Church Creek Park Disc Golf course is open for play year-round with the heaviest use from June to September. UDisc.com is an app providing Disc Golf course information to users. During the recent walk-through, the Disc Golf Community Representative indicated there were 126 registered visits through the app for the month of April 2024. Registered user statistics for the past 3 years, show active and steady use: 2021 had 1524 rounds played for an average of 4 per day, 2022 had 1015 rounds played for an average of 3 per day, and 2023 had 1754 rounds played for an average of 5

per day. These statistics do not include users who did not register, so the number of players and rounds played is likely to be higher.

As an indicator of its popularity, the app also shows 94 reviews and 539 ratings of the Church Creek Park Disc Golf course over the last 6 years with many of the ratings and reviews occurring in the last year. In addition, there are monthly events scheduled at Church Creek Park Disc Golf course through the app. Discgolfscene.com shows 72 registered participants with a waiting list for an additional 14, for the Church Creek Open scheduled in July 2024.The UDisc.com app users rate the condition of the course as “Fair Condition” with overgrown vegetation, and with a “swampish” character.

Church Creek Trail

The trail system consists of mulch, crushed rock, woodchip, or packed earth surfacing. The trail routes cross some of the Disc Golf holes and, in some areas, uses the hole alignments in the case of hole 10 and 11. The trail is not signed and does not have a clear entry point from the parking lot. The trail circulation route is informal. Trail route on steep slopes have slippery surfaces when wet. Runnels, erosion, and stormwater runoff often cross the trail route.



CHURCH CREEK SITE ASSESSMENT
STANWOOD TRAIL DESIGN AND MANAGEMENT PLAN

Zone 1: Developed Park

Zone 1 is not a part of the study area for this report. The observations and analysis of this zone are limited and were made to support the understanding of the plan's area of study (Zones 2 – 5).

Topography & Soils

The highest point of elevation in the park is at the northwest corner. From that forested corner the grade slopes down along 72nd Ave. NW and long the north property line. This creates a diagonal cross slope through the open lawn that flattens out as the lawn approaches the drive aisle and cul-de-sac. There is a slope near 5% from the cul-de-sac to the picnic shelter and then the site flattens out across the baseball field. The soils were not observed.

Drainage Patterns

Drainage patterns were not closely studied in this area. Sheet flow generally runs south to southeast. The parking lot drains to green in the same general direction. The cul-de-sac and ball field are pitched to the east.

Vegetation

The Developed Park contains a mix of ornamental and native plants. Established western red cedar, Douglas fir, red alder, vine maple, and bigleaf maple create a canopy around the perimeter of the Developed Park. There is also a Cedar Grove to the northwest of this zone with a mature stand of Red Cedar trees. Additional plantings include blue spruce and sycamore that provide shade over the open lawn and play area throughout portions of the day. The roundabout is planted a lace-leaf maple, fern, and young hemlock trees.

Existing Trails and Infrastructure

The largest features in the Developed Park Zone are the parking lot, cul-de-sac, play area, baseball field, and open lawn. An asphalt path connects the ADA parking and cul-de-sac to a picnic shelter. North of the picnic shelter is the play area and basketball court. To the northeast of the picnic shelter is the baseball field. All of these park features are connected by an open area with a woodchip surface. Church Creek Trail becomes a wide woodchip path at the southeast corner of the picnic shelter and heads south toward the animal proof trash bin before turning east in the Forest Glade, Zone 2. Disc Golf basket for hole 3 and tee pad for hole 4 are located south of the asphalt pathway near the picnic structure.

Zone 2: Forest Glade

Topography & Drainage Patterns

The forest glade is relatively flat with an approximate 0% to 8% slope. The western portion of this zone slopes gently to the south draining in a sheet flow toward the neighboring property. The eastern portion of the zone slopes gently eastward toward Wetland D. Wetland D can be observed to the north of the path. To the south of the path, Weland A can be seen on the Cedarside Commons property. Wetland A has open water with a drainage that flows along the south property line into a ravine toward Church Creek. Volunteers have created a crossing over this drainage made from downed branches and wood chips to access Golf Disc holes 2 and 8. The crossing has decomposed and is blocking the drainage.

Soils & Vegetation

The soils in this zone are documented as a moderately well drained Pastik silt loam. In the western portion of this zone the soils are dry with a duff layer. Moving along the existing Church Creek trail the soils remain dry upland forest understory with a duff layer.

The Forest Glade consists primarily of native plants such as western red cedar, red alder, big leaf maple douglas fir, salmonberry, ferns, grasses, and forbes. In addition, there are horse chestnut seedlings and several noxious weed species present such as English ivy, English holly, herb Robert, and Himalayan blackberry.

Existing Trails and Infrastructure

Several alternate trail access points are located along the south edge of the ADA parking stalls. The open understory, with multiple overlapping trail routes, makes identifying the trail challenging. These routes merge with a main trail near an animal resistant trash bin. At this point the trail turns east along the property line and appears to cross the southern property line near Disc Golf holes 4 and 7. However, it is unclear where the south property line actually runs as it is not demarcated.

The existing Disk Golf holes 1, 2, 8 and portions of 3, 4, and 9 run through the Forest Glade. Holes 2, 7, and 8 are located on the Cedarside Commons property. A survey for the new development indicates baskets for holes 4 and 7 are on the Cedarside Commons property. Hole 9 tees off in the Forest Glade, Zone 2, at the edge of the ravine and its basket is located lower on the slope within the ravine, in Zone 3.

Zone 3: Ravine

Topography & Drainage Patterns

The ravine is typified by steep slopes ranging from 8% to 65%. Rainwater from the site drains to Church Creek. The GIS Contours indicate three drainageways. The first captures water coming from the north property line and the edge of Church Creek Estates. The second captures water from Wetland D near the Alder Glen. The third drainageway captures water from the south end of Wetland D, Wetland E and Wetland A located on the Cedarside Commons property.

Soils & Vegetation

The soils are documented as Tokul-Winston gravelly loams. They are generated by loess, volcanic ash deposits, and glacial till cemented with iron and manganese as well as glacial outwash or old alluvium mixed with loess and volcanic ash. They are moderately well drained to well drained with slow to medium run off. The soils support a variety of plant life and the slopes in the ravine are well vegetated with western red cedar, big leaf maple, salmonberry, ninebark elderberry, ferns.

Existing Trails and Infrastructure

Just after hole 7, Church Creek Trail starts down into the ravine. To the right (south) side of the wide woodchip path is the tee for Disc Golf hole 9. It sits at the top edge of the ravine near the southern property line. In winter, this location has views of the creek. Though this area may exist directly on or adjacent to the south property line.

This portion of the path is in a natural drainage area capturing water from Wetland D, Wetland E, and Wetland A. Groundwater from a seep, possibly Wetland E, contributes moisture to the trail. Woodchips in the path absorb the water. Farther downslope, the path becomes steep and packed earth. During the rainy season it is a slip hazard. Branches have been put in muddy spots to improve traction on the trail. The path splits heading toward Church Creek or north to Disc Golf basket 9. An exposed corrugated pipe has diverted water down the path creating an eroded channel ending in a muddy spot at a dry gravel bar on the banks of the creek. North of the gravel bar there is a trail leading back up the bank to a flat space between Disc Golf basket 9 and tee pad 10. At this point the main trail becomes unclear. There are multiple packed earth paths leading to various Disc golf holes. A wood bridge with 2x4 decking and railings spans a ravine drainage between Disc Golf holes 11 and 15. The basket for Disc Golf hole 15 sits at the top edge of the ravine, adjacent to a cedar tree. This location has potential views down to Church Creek.

Zone 4: Alder Glen

Topography & Drainage Patterns

The topography in Alder Glen is relatively flat. Dry soils can be found at the highest elevation along the north property line. The Alder Glen slopes generally to the south and inward from the ball field and ravine.

The critical areas report finds that this area drains toward the ravine. On site observations indicate that the Alder Glen slopes southward and overflows to the east during the rainy season.

Soils & Vegetation

The soils in this zone are documented as Pastik silt loam. They are found to be dry along the property line, becoming progressively more damp moving to the south. The soils within the boundary for Wetland D are identified as hydric soils. This zone is vegetated with red alder as the predominant overstory tree. Salmonberry cluster at the base of the trees. Lawn grasses with buttercup cover the non-wooded areas.

Existing Trails and Infrastructure

This zone is bordered by a chain link outfield fence to the west, a chain link fence at the edge of Church Creek Estates to the north, the ravine to the east and the central wetland to the south. Alder Glen is accessed primarily by Disc Golf players and the open grassy area is kept mown. When playing Disc Golf enthusiasts enter Alder Glen by following fairways 14 and 16. At the edge of the ravine a stamped earth path fades into grass. The only indication of a trial through the Alder Glen is the Disc Golf tee pads and baskets for holes 14 and 16.

Zone 5: Central Wetland

Topography & Drainage Patterns

The topography is flat and with slightly depressed micro-topography. When walking the site, there is no obvious drainage in this zone and it appears to be a perched wetland. The GIS contours indicate that Wetland D may slowly drain into the ravine at the southeast end of the wetland.

Soils & Vegetation

Soils in this zone are documented as Pastik silt loam, hydric soils. On the day of the site visit the soils were saturated with standing water in some areas. The predominant overstory tree is western red cedar with some red alder. Understory plants include salmonberry, sword fern, lady fern, wild ginger, and creeping buttercup.

Existing Trails and Infrastructure

The only existing infrastructure in this zone are Disc Golf holes 6, 11, 12, and 13. Tee pads and the baskets for each hole are located on dry soil outside the wetland boundaries, but within the wetland buffer. Logs have been cut and shifted to delineate walking paths and to indicate hole fairways through Wetland D boundary. A raised, narrow footpath made of wood pallets is located between holes 12 basket and hole 13 tee.

Site Assessment Findings

Overall observational findings from the site walk-through and site assessment include the following items that should be addressed:

1. Zone 2: The existing Church Creek Trail route potentially crosses the south property line and travels off park property between Disc Golf hole 4 and 9.
2. Zone 2: The potential viewpoint area that was discussed is where Disc Golf tee pad 9 is currently located. Survey documents for Cedarside Commons identify tee pad 9 as being very near and adjacent to the south property line. Given the available topography, placing a viewpoint in this location could cross the property line.
3. Zone 2 & Zone 3: The existing Church Creek Trail passes through areas with wet and saturated soils. It is possible these wet soils are Wetland E and saturated soils are seepage areas.
4. Zone 3: The top of an old, corrugated pipe to the side of the existing Church Creek Trail has become exposed. It now diverts and concentrates surface stormwater flow into and across the trail. A resultant runnel is now running down the center of the trail.
5. Zone 3: The existing Church Creek Trail has two existing access points to a gravel bar adjacent to Church Creek, that route through the critical area buffer of the creek.
6. Zone 5: The disc golf fairways inside the boundary of Wetland D show heavy disturbance of wetland soils and impact to wetland vegetation caused by downed logs, construction of pathways, and focused foot traffic.
7. Zone 5: Disc Golf fairways inside Wetland D downgrade the condition of the Disc Golf course for players.

II. CHURCH CREEK TRAIL SYSTEM

Focus Group Discussions

The site assessment findings were presented to city staff, the President of the Disc Golf Club, and the Stanwood Parks & Trails Advisory Committee (PTAC) in focus group meetings. Potential strategies were then discussed to address the site assessment findings as well as additional thoughts regarding adjusted trail locations, disc golf course impacts, and wetland enhancement & restoration. The topics discussed generally can be combined into the following categories: accessible trail route, elevated wetland crossings, disc golf fairway relocation(s), off-property infrastructure, Safe Routes to Schools, and wayfinding bollards and signs.

Accessible Trail Routes

Focus groups expressed interest in rerouting the existing Church Creek Trail to create an accessible loop while at the same time maintaining an access point to Church Creek. The focus groups wondered if an accessible trail should loop around the east side of wetland D or if it should descend into the ravine toward Church Creek. Several alternatives were discussed regarding trail access to Church Creek. The groups generally agreed that there is interest in maintaining a connection to the creek, but that impact should be minimized and mitigated. Additional information discussed was the observation that Stanwood High School takes students to the creek for observation and science related activities and that park guests enjoy having access to the water and a shaded, cool space.

The steepest trail section leading to Church Creek has rill erosion and there was consensus that this condition needs to be addressed. There was some discussion regarding redirecting the flow of water away from the existing trail location. When discussing the slippery nature of the trail surface in wet conditions, the group discussed the possibility of adding steps to improve the surface condition and access. It was discussed that stairs would not meet the goal of 100% ADA access, and there was interest in ultimately creating accessible ramps and switchbacks down to the creek. We discussed the costs and the slope and vegetation impact associated with full ADA access to Church Creek would have, which spurred a discussion regarding phasing trail access to the creek:

1. One possible first phase could be to divert stormwater flows across or under the existing trail to disburse or redirect stormwater.
2. A second phase could include wood crib steps with handrails to the creek edge.
3. A final phase could provide100% ADA, elevated metal grating ramps with switch backs and elevated platforms to minimize disturbance of soil, slopes, and trees ending in a platform overlook at the creek (above flood stage high water line).

Elevated Wetland Crossings

With the idea of creating an accessible loop trail in mind, the focus groups discussed the possibility of creating elevated trail sections to span wetlands and sensitive areas. Boardwalks using pin piles or helical piles were discussed as a standard way to span over or through wetland areas. However, the shallow profile of Wetland D might not lend itself to that solution. Additionally, the cost of an elevated boardwalk could be prohibitive. There are two areas of Wetland D that narrow, one to the north and one to the south, that were discussed as potential locations for elevated crossings. A creative solution to spanning shorter sections of the wetland could be the use of aluminum gangways similar to those designed for boat docks. Depending on height of drop to finish grade, these may just be grating structures with a curb edge (less than 30”) or complete with guardrail (greater than 30”). It is possible to use gangways as elevated, single-span walkways supported by

two abutments. The advantage is decreased maintenance needs of aluminum in comparison to wood crossings, less disturbance of the wetland versus use of piles, and with over 60% transparency, the ability to have low-growing vegetation underneath the gangway. This is currently a solution used at Larabee State Park in Bellingham. Additional discussion involved creating viewing platforms that extended from the sides of the elevated walkways that incorporate interpretive signs and perhaps seating. These accessible viewing platforms could look in toward the wetland or look out toward the forest and ravine.

Disc Golf Fairway Relocation

The Disc Golf Course spans across all 5 identified zones within the park. There is interest in maintaining an 18-hole Disc Golf Course at Church Creek Park. Disc Golf fairways 12, 13, and 6 have been identified as directly impacting the main body of Wetland D evidenced by high organic soils and full saturation. The fairways for Disc Golf holes 14 and 16 cross the north end of Wetland D, though these exist along maintained lawn grass areas. The opportunities for the creation of additional fairways on the site are limited with the location of existing forest trees, wetlands, and steep-sloped critical areas.

With this in mind, productive and creative conversations regarding the relocation of Disc Golf fairways 12, 13 and 6 resulted in potential solutions with benefits both to the wetland (through enhancement and restoration) and to the course rating and playability. Many fairway relocation options were discussed. The space between basket 5 and tee pad 14 east of the outfield was identified as a space available for fairway relocation. Shifting fairway 6 closer to fairway 5 is a potential. However, the park space is tight and combination of slopes and dense trees makes relocating fairways difficult. It is those same park features that provide a challenging experience in playing the Church Creek Disc Golf Course.

Off-Property Infrastructure

The focus groups discussed the portion of the Disc Golf course and parts of the Church Creek Trail that appear to cross over the southern property boundary. A use agreement with Cedarside Commons allows for the continued use of Disc Golf fairways and baskets located in the wetland buffer on Cedarside Commons property. The group wondered if additional conversations could occur to fully understand the development's impact to the Disc Golf Course and find opportunities to preserve the playable nature of the existing course features. Important to the conversation is the actual location of the south property line, as there is a strong indication from data on hand that the trail and additional elements thought of as belonging to the park are actually on the Cedarside Commons property.

Shortly after the focus group meetings, Cedarside Commons representatives had the property line staked and flagged in the field. This revealed that a portion of the Church Creek Trail between Disc Golf fairways 4 and 7crosses the southern property line of the park. Disc golf tee 3; Disc Golf fairways 2 and 8; as well as baskets and a portion of Disc Golf fairways 1, 4, and 7 are also located off of park property.

On July 7, 2024, following a Disc Golf tournament the off-property fixtures for Disc Golf fairways 1, 2, 4, 7, and 8 were removed.

Safe Routes to School

The future pedestrian entry point located on the south property at the edge of the wetland buffer was also discussed. This entry point corelates with a paved pathway that may be part of a Safe Routes to Schools route. Some safety concerns were expressed regarding the potential routing of the pathway through a forested area, regarding visibility and sightlines. Some

concerns were related to safety during winter storms. Further information was requested relating to the connection through the park to the high school.

Wayfinding Bollards and Signs

Focus groups discussed the opportunity for wayfinding bollards and signs to improve the guest experience and limit off-trail circulation. Signs could be used to identify protected areas and wetlands. Wayfinding bollards could communicate the direction of path routes, Disc Golf fairways, and provide information about slopes, stairs, surfacing types, and other conditions along the trail that allow users to gauge their level of accessibility and comfort.

Critical Area Mitigation Opportunities

The focus groups discussed the need to distinguish between creek/riparian mitigation and wetland mitigation.

Wetland Mitigation. The addition of elevated walkways and the potential relocation of Disc Golf fairways 12, 13 and 6 could create an opportunity for wetland mitigation within Zone 5 in the form of 1) restoration and creation of new wetland contiguous to existing boundaries and 2) enhancement of existing wetland areas with invasive species removal and native plantings. This could offset and mitigate for the crossing of the wetland boundaries to the north and south by elevated walkways, and allowing Disc Golf fairways 14 and 15 to remain in the already disturbed wetland areas of mowed grass lawn. This provides an opportunity to create a centralized wetland with increased ecologic benefit and habitat function. Including fences and Native Growth Protection Area signs will further protect and maintain the habitat function of the wetland.

Riparian Mitigation. Focusing on a single access point to the creek's riparian areas, allows the secondary, informal access route aligned with Fairway 10 to be closed and used for riparian mitigation planting.

Recommended Modifications

The following recommendations are generated from the site assessment finding, conversations arising from the focus group meetings and additional information and research generated subsequent to the focus group meetings. The modifications are organized within a step-by-step order that builds upon each other towards implementation.

Topographic Survey

A topographic survey will be needed to design to ADA slope guidelines and to accurately redesign Disc Golf Course fairways, determine trail alignments, and delineate critical areas boundaries for the purposes of mitigation. The following items should be documented prior to design and development of a trails system in Church Creek Park:

1. Property lines
2. 2 ft. contours
3. East edges of existing infrastructure
    a. Paving
    b. Shelter
    c. Baseball field,

    d. Basketball court
    e. Fencing and gates
4. Trees 6-inch diameter at breast height (DBH) and larger
5. Disc Golf Infrastructure (tees and baskets) and fairway routes.
6. Edges of dense thickets of existing vegetation
7. Wetland delineation/boundaries.
8. Church Creek water line edge (High Water Line).
9. Edges of existing trails

In conjunction with the Survey, the wetlands and creek edge will need to be flagged, for surveyors to delineate the boundaries in the survey.

After surveying, the addition of a Type 2 Tree Survey, performed by an ISA certified Arborist would provide documentation of tree species, size, health and hazard rating, tree lifespan, tagging and numbering, and management recommendations. The information would aid in the creation of an overall tree management plan for Church Creek Park, but most importantly identify trees that are hazards in storm events and would aid in the decision-making regarding trail alignments and disc golf fairway redesign. Maintenance of trees in poor health and the removal of hazardous trees could open views and create the potential for fairway relocation opportunities.

Modifications to Disc Golf Course

The existing 18-hole disc golf course at Church Creek Park attracts a number of local players who are passionate about the sport and the quality of the course. There are benefits to retaining a dedicated group of players, including their active physical presence in the park which provides natural surveillance. Additionally, dedicated players have interest in a clean and navigable course, and unofficially maintain pathways.

A reimagining of the course layout is warranted and recommended. Due to physical conflicts, a full 18-hole course could be considered infeasible. Restructuring the course layout to provide 9 fairways as opposed to the current 18 fairways is a feasible option. A shorter, more approachable course layout may be attractive to beginners and younger players, including any programs with the local School District and from the adjacent high school. There may be an opportunity to foster a relationship between the Disc Golf Club and the high school to create a Disc Golf Club at the high school with the goal of ushering in a new generation of disc golf enthusiasts and stewards of Church Creek Park.

Because shortening the course and eliminating holes is less attractive to advanced and dedicated players who have helped build the original course layout, it is worth considering doubling the use of a 9-fairway system. This can be accomplished by providing two alternate starting positions (tee pads), where a forward placed tee pad offers a beginner-level position, and a back tee pad offers a longer and challenging shot towards the basket. In this way, a player may play through the course twice from different tee pad locations and experience an 18-hole course when only 9 fairways and 9 baskets are provided. The shorter layout may also be marketed or advertised as an "ace run" or "ace race" layout, where more experienced players are challenged to make their shot into the basket with a single throw. It could serve as a practice layout for members of the disc golf community who compete in "ace run" or "ace race" tournaments.

Modifications to the disc golf course could include a phased approach ending with the complete redesign of the disc golf course. Phase I involves the preservation of tees and baskets for a selection of 9 holes. All fairway signage is to be removed and reordered to maintain access to the existing disc golf holes through the redesign process.

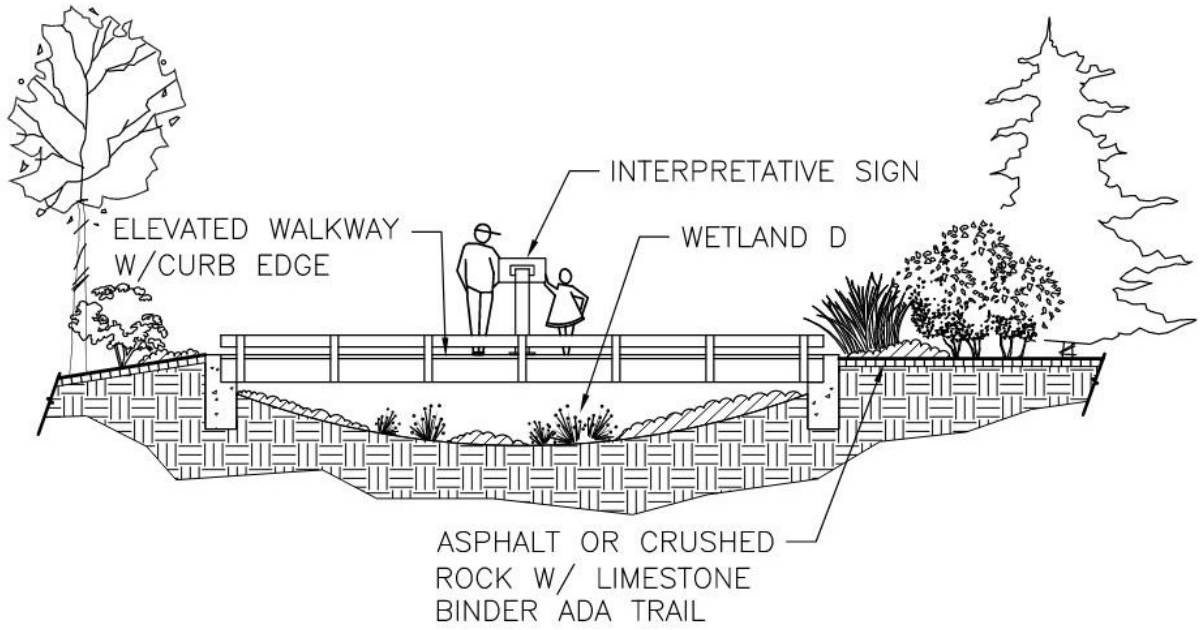
Phase II includes the permanent installation of a sanctioned “ace run” 18-hole Disc Golf Course on 9 fairways. Each hole would include two tees and one basket. Tees would be color coded with the first 9 holes designed as short distance ace run course that doubles as a beginner friendly course. The second set of 9 holes will have longer, more challenging fairways overlapping the first 9 baskets.

The redesign of the Disc Golf Course should happen in conjunction with determining the final Loop Trail alignment.

Trail Design

Trial design at Church Creek Park will be broken down into two main components. The first is a loop trail system including interpretive signs and viewpoints. The second is a trail spur providing access to Church Creek.

Loop Trail. The loop trail system will be composed of on grade trails with surfacing that allows for ADA access such as asphalt or stabilized crushed rock with stabilizing binder. ADA surfaces are impermeable and will require mitigation to address stormwater code requirements. Sections of elevated walkway will be identified to cross short sections of Wetland D. The elevated walkway structure can be adapted to include “bump outs” for seating and interpretive signs attached to railings or guardrails. Short sections of the elevated walkway can be used to cross over wetlands and also areas with extreme or rolling grades. The gangway product is made from aluminum and comes in a minimum 6ft clear width with a maximum length of 40 to 50 lf and can integrates guardrail options.



Spur Trail. A spur off the loop trail will provide access to Church Creek. This section of trail can be phased to allow for further study of trail improvement options and decision making regarding funding mechanisms. The phase one option includes grading the trail to divert and disperse stormwater sheet flow away from the center of the trail. The second phase focusses on areas with steep slopes. Wood crib stairs with handrails, or an elevated metal grate stair system can be installed to create a stable walking surface down to Church Creek. A third phase may consider the creation of an elevated, 100% ADA system comprising of metal grating ramps and platforms in a switchback layout to Church Creek. Note the ramp switchback system designed to meet ADA slope requirements will need a long run to accommodate the elevation change

and may require a significant number of trees to be cleared within the Church Creek buffer and riparian area. This will impact existing vegetation along the slopes in the ravine requiring mitigation and review by a geotechnical engineer for slope stabilization.

Wetland Mitigation

The removal of disc golf fairways 6, 12, and 13 provides an opportunity for wetland enhancement. The creation of new wetland contiguous to existing Wetland D within the Zone 5 consolidates and increases the wetland habitat function in the center of the park. The creation new wetland contiguous to existing wetland in this area can be counted as mitigation for areas of infringement by trail or fairway crossings.

Post and rail fences can be placed around the expanded wetland with Native Growth Protection Area signs. This will clearly define the location of the wetland, provide opportunities for education regarding the function of the wetlands, and provide increased protection from disturbance.

The wetland can be enhanced by strategic relocation of large woody debris and infill planting of wetland plants. Fallen logs will be rearranged into naturalistic configurations within Wetland D creating an opportunity for increased ecological habitat function.

The wetland area of Wetland D that are currently mowed lawn an Alder trees can be restored to wetland by creating microtopography of the saturated, organic soils, and strategic relocation of large woody debris, and removal of lawn with infill planting of wetland plants.

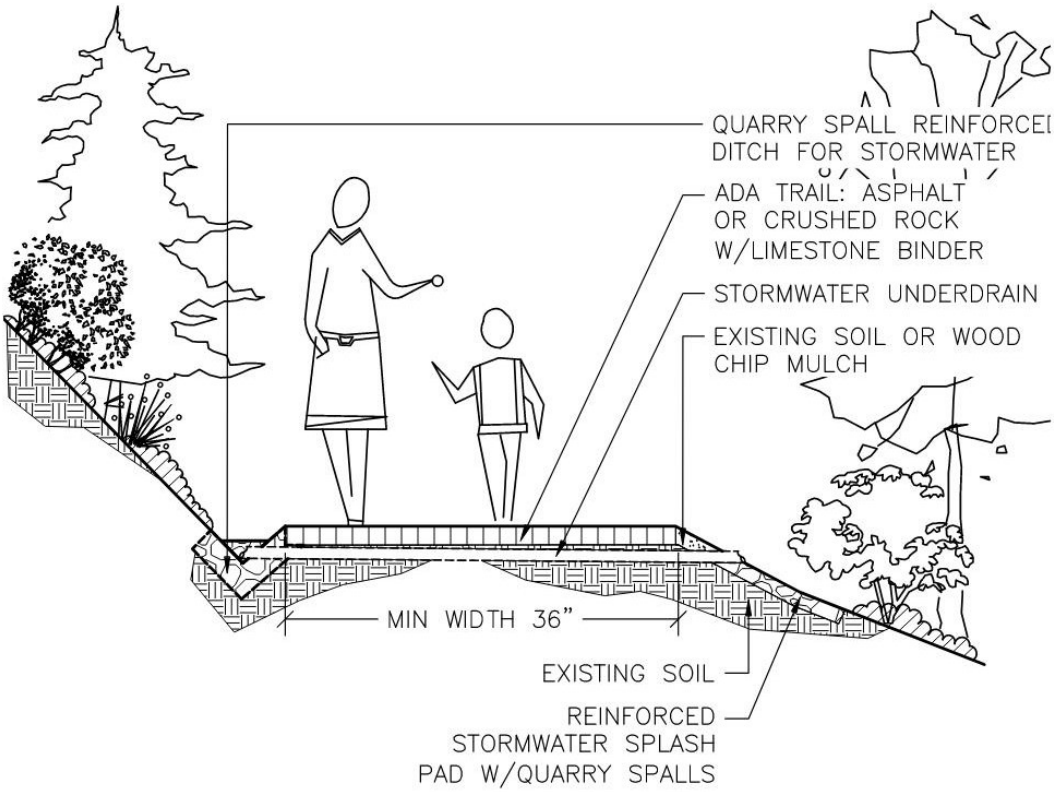
Forest Restoration

The removal of disc golf fairway 15, the wood bridge, and dirt footpaths provide an opportunity for enhancement and restoration of the forest. The planting of native trees and understory plants within removed pathway alignments will help to reduce potential erosion and improve ecological habitat function. All forest areas fall within wetland and riparian buffers, and with restoration and enhancement plantings could also serve as a form of mitigation for the project.

Trail Stormwater Management

Loop Trail Stormwater Conditions. With the redesign of the disc golf course layout and trail loop alignment, obstructions to natural drainage swales can be removed to allow stormwater flow to occur. Elevated walkways are indicated to span over areas where wetland stormwater overflows/seeps toward Church Creek drainage basin. Currently there are two main areas identified from visual observations on the east side of the loop trail. Larger wetland surface drainage areas occur to the north and the south arms of Wetland D. By providing elevated walkways and realignments to a Loop Trail, obstructing and impacting the natural stormwater drainage pattern can be avoided and the longevity of the trail itself increased.

Spur Trail Stormwater Condition. For trail segment(s) that occur along steep slopes and embankments, stormwater and seep water can be collected in swales on the uphill side of the trail and diverted into periodically spaced underdrains. The underdrain should outlet into quarry spall pads to attenuate the impact force from stormwater flows and protect from undercut erosion. In some areas, the underdrains may need to extend further and outlet into rock dispersion trenches that can spread the flow over a larger area along the slope face and attenuate the flow's force.



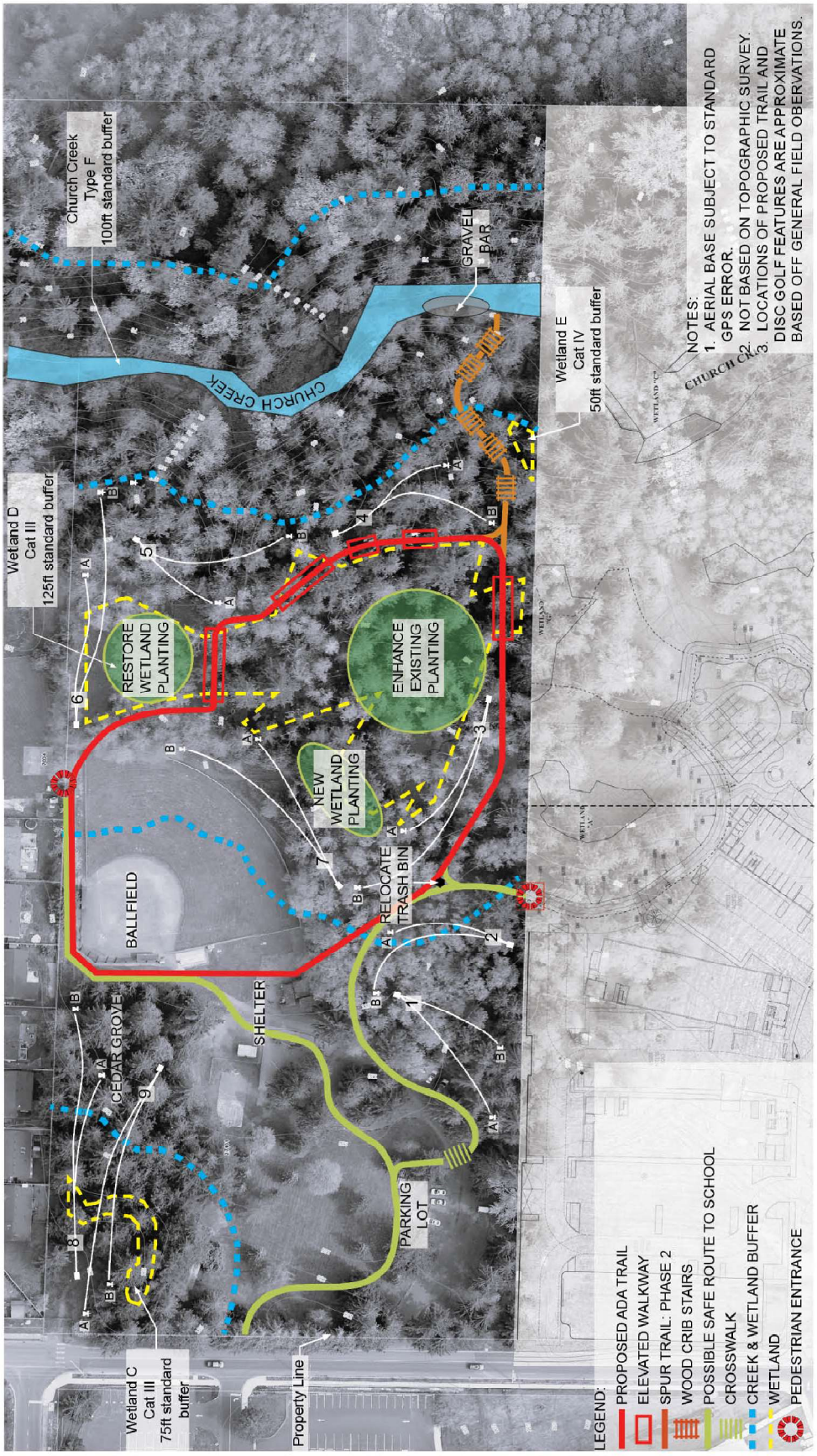
Riparian Restoration

The removal of disc golf fairway 9 and 10, and the removal of the second, northern most, access leading to Church Creek provide an opportunity for enhancement and restoration plantings within the Church Creek Riparian Buffer. The new plantings will be designed for overbank, transitional, and upland riparian planting areas. These plantings can be applied as mitigation for spur trail access to the creek.

Safe Routes to School

Discussions and design of the Safe Route to School is ongoing and a part of a separate project. It is observed that the Safe Route to School will connect the Church Creek Estates, Cedarside Commons, and Stanwood High School with an ADA path that will runs through Church Creek Park. The connection will be made by the creation of a paved path that starts at the pedestrian entrance on the north property line. The ADA path will travel along the north edge of the baseball field and turn behind home plate to run along the west edge of the baseball field to the shelter then move out to the parking lot. It is believed that at the shelter the path will split. One leg of the ADA path will turn west crossing the parking lot and running out along the north edge of the parking lot to 72nd Ave. NW. The other leg of the route will continue running south and east toward the proposed pedestrian entrance on the south property line.

Moving forward it will be important to understand how the Safe Route to School will travel through the park in order to connect it to the proposed ADA loop trail and any impacts to the buffer of Wetland D.



CHURCH CREEK SITE ASSESSMENT
STANWOOD TRAIL DESIGN AND MANAGEMENT PLAN

NORTH
0' 25' 50' 100'
AUGUST 2024

HBB LANDSCAPE ARCHITECTURE

III. TRAIL DESIGN ELEMENTS

Trail Design Guidelines

Chapter 10 of the ABA Accessibility Standards Guide outlines standard guidelines for Outdoor Developed Areas. Refer to the ABA Accessibility Standards Guide for the construction of the Church Creek Park ADA accessible trail loop. The full ABA Accessible Standards Guide can be found at the U.S. Access Board website. For trails:

1. Accessible trail surfaces, passing spaces and resting intervals must be firm and stable. Firm and stable trail surfaces can include concrete, asphalt, crushed rock mixture containing a full spectrum of sieve sizes, including fine material, Rock that passes through a ½" screen, Rock material that is compacted in 3"-4" layers (rather than thicker layers), and material that is compacted with a vibrating plate compactor, roller or by hand tamping.
2. The clear width of trails must be a minimum of 36" and must be maintained for the entire distance of the trail and may not be reduced by gates, barriers, or other obstacles unless for a permitted exemption.
3. A minimum clear width of 43" is needed to make a 180-degree turn around a barrier similar to a chicane-style gate. On trails with a minimum width of 42", then 48" a width is needed to make a 180-degree turn. On trails with a minimum width of 36", then 60" a width is needed to make a 180-degree turn.
4. Trails with a clear width of less than 60" must provide passing spaces at intervals of at least 1000'. Passing spaces are to be a minimum of 60" x60". Where trail segments do not fully comply with trail technical requirements, a passing space must be located at the end of a trail segment that complies fully with the technical requirements. The intersection of two trails that provide a T-shaped space complies with the passing space requirement.
5. Cross slopes for passing spaces and rest intervals constructed of concrete, asphalt, or boards are to be no steeper than 2% slope. Cross slopes for passing spaces and rest intervals constructed of materials other than concrete, asphalt, or boards are to be no steeper than 5% when necessary for drainage.
6. Obstacles in trails are limited to a maximum 2" height. An obstacle is anything that interrupts the evenness of the walking surface. Where possible, separate obstacles that cross the full width of the trail tread by at least 48".
7. Openings or gaps in the trail surface of a boardwalk or elevated walkway are to be no more than ½". Elongated openings should be oriented perpendicular or as close to perpendicular as possible to the primary direction of travel.
8. Slope run segments greater than a 5% slope are to be broken by resting intervals according to the following guidelines.
    a. Running slope trail segments with slopes greater than 5% and less than 8.33% slopes have a maximum length of 200'.
    b. Running slope trail segments with slopes greater than 8.33% and less than 10% slopes have a maximum length of 30'.
    c. Running slope trail segments with slopes greater than 10% and less than 12% slopes have a maximum length of 10'.
    d. The running slope must never exceed 12%

9. Trail cross slopes constructed of concrete, asphalt, paving, or boards are to be no steeper than 2% slope. Trail cross slopes constructed of materials other than concrete, asphalt, or boards are to be no steeper than 5% when necessary for drainage.
10. Resting intervals are required between segments when running slope exceeds 5%.
11. When the resting interval is adjacent to the trail, it must be at least 60 inches long and 36 inches width. Passing spaces and resting intervals can overlap.

Trail sections occurring on slopes exceeding 5% may have crushed limestone, wood chip mulch, or tamped earth surfacing. Trail widths are to follow the ABA guidelines listed above. Timber crib stairs may be installed where average existing slopes are between 25% -50%. The following guidelines apply to crib stair design and installation.

1. Stair and landing widths to match trail width and are to follow the guidelines listed above.
2. Provide 4' minimum level landings at top and bottom of each set of stairs for every 12' of elevation change.
3. Cross slopes for crib stairs and landings are to be no greater than 2%.
4. Engage an engineer to assess conditions and design trail/stair solutions in areas where existing slopes exceed 65% for more than 10 lineal feet.
5. Horizontal dimensions for all following crib stair details assume a 50% grade. Adjust w/ equal spacing as necessary to accommodate shallower grades to 25%.
6. Treated wood used in the construction of crib stairs to be pressure treated and governed by the following standards.
    a. Pressure treated wood use according to AWPA Quality Standard 3B. (minimum retention of 0.20 lbs / cf)
    b. For above ground use, AWPA Quality Standard 4A (minimum retention of 0.41 lbs / cf)
    c. For ground contact or fresh water use, AWPA Quality Standard 4B (minimum retention of 0.61 lbs / cf)
    d. For ground contact, fresh water use, or important structural components with an EPA approved (copper azole) wood preservative. The only treatments currently acceptable for wood use in parks are either ACQ or CBA-A & CBA-B (Use categories UC1, UC2, UC3, UC3B, UC4A and UC4B) treatments.
    e. Wood for ground contact shall be incised, and for above ground use (Handrails) shall be non-incised.

Viewing Area Guidelines

Standards for viewpoint construction are outlined in Chapter 10 of the ABA Accessibility Standards Guide outlines standard guidelines for "Outdoor Developed Areas." The guide can be found at the U.S. Access Board website. Applicable content from the ABA Accessibility Standard Guide are listed as follows:

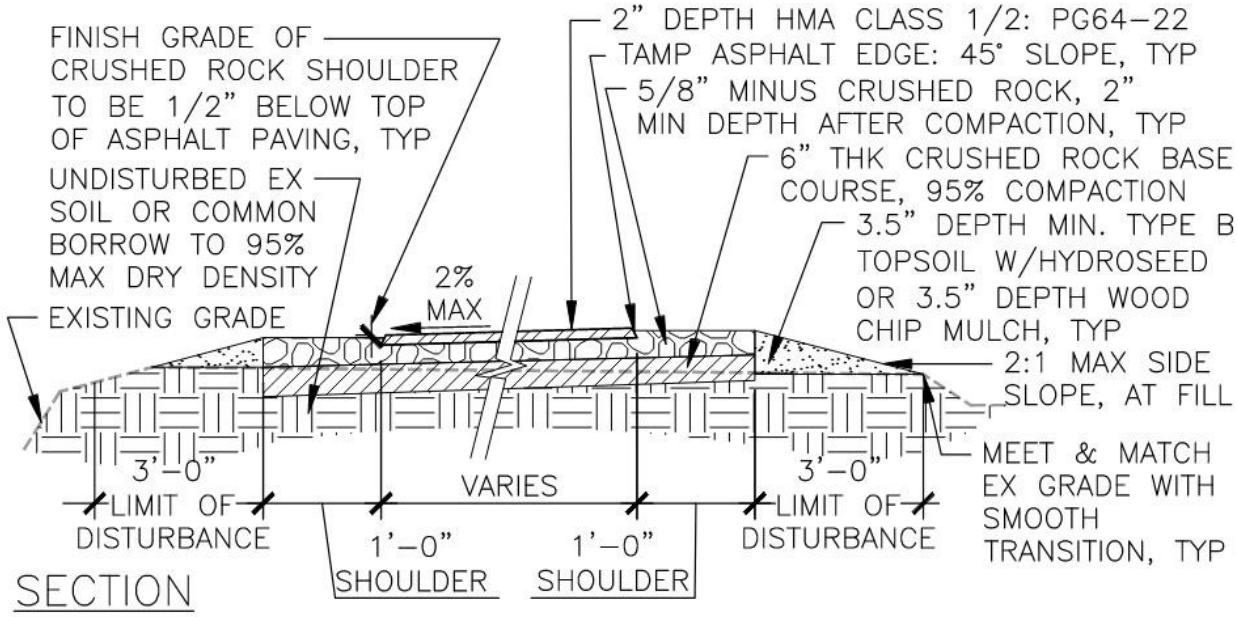
1. A clear ground space at least 36 by 48 inches, that is positioned for either a forward or parallel approach, must be provided at each distinct viewing location. One full, unobstructed side of the clear ground space must adjoin or overlap an outdoor recreation area or trail, as applicable, or another clear ground space
2. Each distinct viewing location must provide a viewing space that is adjacent to the clear ground space through which the point of interest may be viewed. The viewing space must be free and clear of obstructions between 32 and 51 inches above the ground and must extend the full width of the clear ground space.
3. Guards or similar safety barriers can obstruct the viewing space only to the extent that the obstruction is necessary for the guard or other safety barrier to serve its intended purpose. See-through panels may be used to provide safety while still allowing a person using a mobility device or a person of short stature to view the point of interest.
4. A turning space at least 60 inches in diameter or a T-shaped space with an arm at least 60 by 36 inches and a base at least 36 inches wide by 24 inches long must be provided within the viewing area to allow people using mobility devices to turn around.

5. The surface of clear ground spaces and turning spaces must be firm and stable.
6. When the surface of clear ground spaces and turning spaces is constructed of asphalt, concrete, or boards, the slope of the surface must be no steeper than 1:48 (2%) in any direction. When the surface is constructed of materials other than asphalt, concrete, or boards, slopes no steeper than 1:20 (5%) are allowed when necessary for drainage.
7. At viewing areas not located along trails, must connect to accessible parking spaces or other arrival points that serve the viewing area with accessible elements, spaces, and facilities provided within the viewing area.
8. At least 20 percent, but no less than one percent, of each type of outdoor constructed feature provided within each viewing area must comply with the applicable technical requirements for the feature.
9. Where bridges/elevated walkways are provided along trails that substantially comply with the technical requirements for trails, the bridges/elevated walkways must also be constructed to meet the trail technical requirements.

Trail Plan Details

1. Trail Surfacing

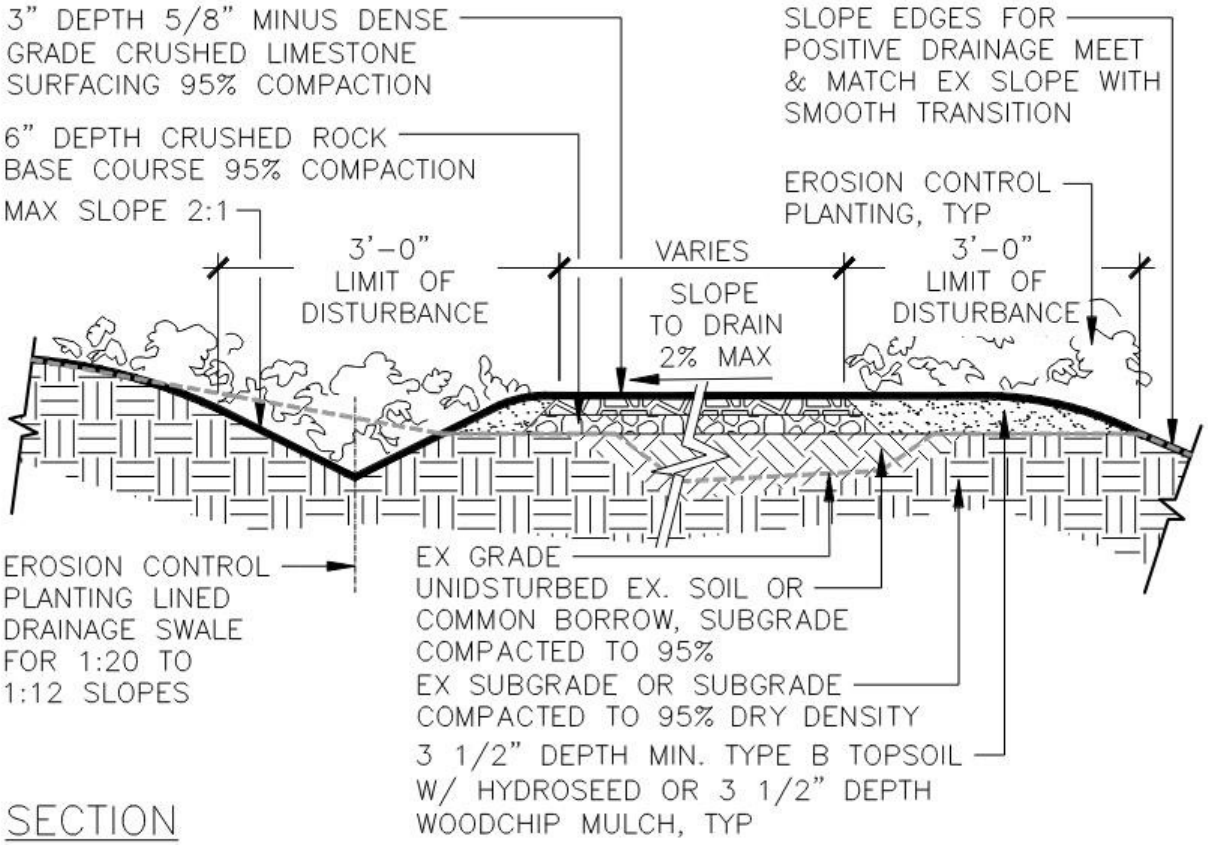
1.a. ADA Trail – Hot Mix Asphalt



NOTES:

1. SECTION SHOWN IS FOR TYPICAL CONDITIONS. MODIFY TRAIL TO ACCOMMODATE SITE SPECIFIC REQUIREMENTS.
2. STAKE TRAIL ALIGNMENT AND CLEARING LIMITS IN THE FIELD PRIOR TO CLEARING FOR APPROVAL BY PARKS AND RECREATION.
3. TRAIL DETAIL SHOWN DOES NOT INCLUDE STORMWATER DESIGN. STORMWATER DESIGN MUST BE COMPLETED, PRIOR TO CLEARING, IN ACCORDANCE WITH APPLICABLE CODES.
4. DRAINAGE DITCH PARALLEL TO TRAIL MAY BE REQUIRED FOR STORMWATER DESIGN. MINIMUM DITCH WIDTH IS 3FT OR AS DIRECTED BY PARKS MANAGER. 2:1 MAX. SIDE SLOPE OF DITCH
5. ASPHALT TRAIL TO BE CONSTRUCTED IN ACCORDANCE WITH WSDOT STANDARD SPECIFICATION, CURRENT EDITION.
6. QUALITY CONTROL AND TESTING OF ASPHALT AND AGGREGATES TO BE PER WSDOT STANDARD SPECIFICATIONS, CURRENT EDITION.
7. CRUSHED ROCK BASE COURSE DEPTH AND SIZE OF AGGREGATE SHOWN IS A MINIMUM REQUIREMENT. ACTUAL DEPTH OF AGGREGATE MAY VARY PER SITE SPECIFIC CONDITIONS.
8. SUBGRADE COMPACTION TO BE CERTIFIED BY A GEOTECHNICAL ENGINEER.
9. CRUSHED ROCK BASE COURSE TO COMPLY WITH WSDOT STANDARD SPECIFICATION 9-03.9(3)
10. TRAIL WIDTH VARIES. MIN. TRAIL WIDTH IS 3', MAX. TRAIL WIDTH IS 11'.

1.b. ADA Trail: Crushed Limestone

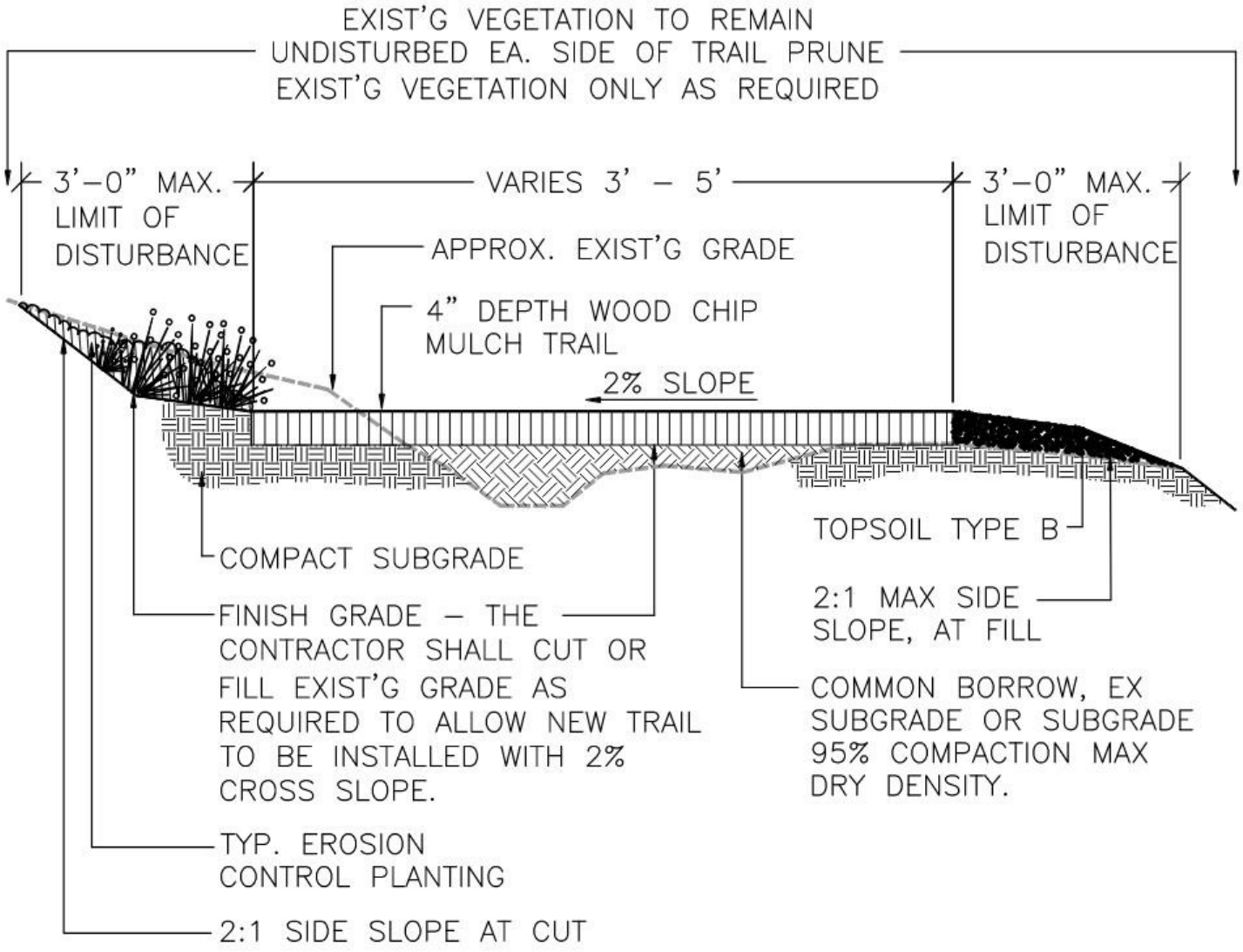


SECTION

NOTES:

1. STAKE TRAIL ALIGNMENT AND CLEARING LIMITS IN THE FIELD, PRIOR TO CLEARING, FOR APPROVAL BY PARKS AND RECREATION.
2. TRAIL DETAIL SHOWN DOES NOT INCLUDE STORMWATER DESIGN. STORMWATER DESIGN MUST BE COMPLETED IN ACCORDANCE WITH APPLICABLE CODES.
3. CUT OR FILL EX GRADE AS REQUIRED TO ALLOW NEW TRAIL TO BE INSTALLED.
4. DRAINAGE DITCH PARALLEL TO TRAIL MAY BE REQUIRED FOR STORMWATER DESIGN. MINIMUM DITCH WIDTH IS 3 FT OR AS DIRECTED BY PARKS MANAGER. MAX. SIDE SLOPE OF DITCH IS 2:1.
5. CRUSHED ROCK BASE COURSE DEPTH AND SIZE OF AGGREGATE SHOWN IS A MINIMUM REQUIREMENT. ACTUAL DEPTH OF AGGREGATE MAY VARY PER SITE SPECIFIC CONDITIONS.
6. SUBGRADE COMPACTION TO BE CERTIFIED BY A GEOTECHNICAL ENGINEER.
7. CRUSHED ROCK BASE COURSE TO COMPLY WITH WSDOT STANDARD SPECIFICATION 9-03.9(3).
8. TRAIL WIDTH VARIES. MIN. TRAIL WIDTH IS 3', MAX. TRAIL WIDTH IS 11'.

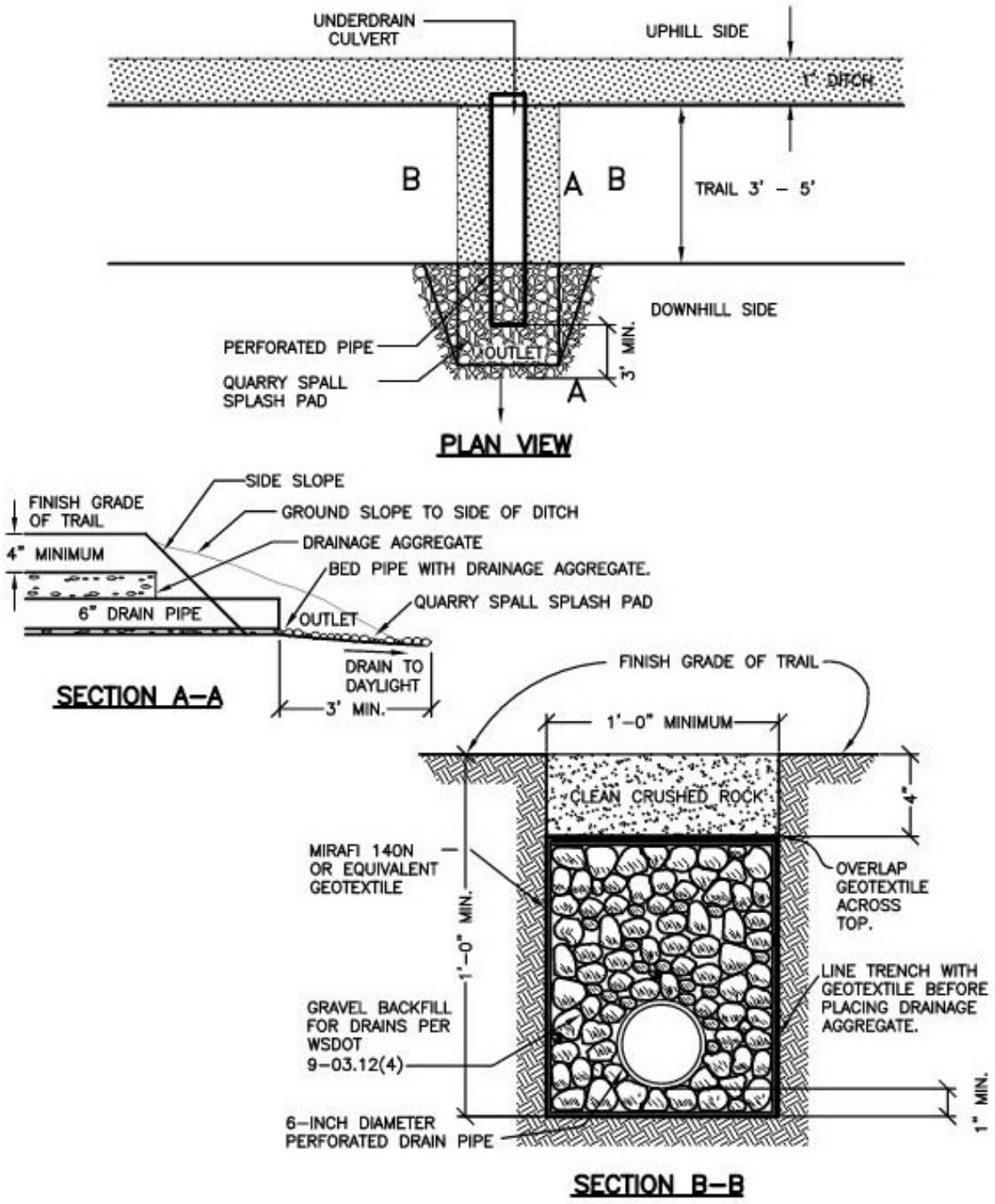
1.c. Soft Surface Trail: Wood Chip Mulch (Not ADA)



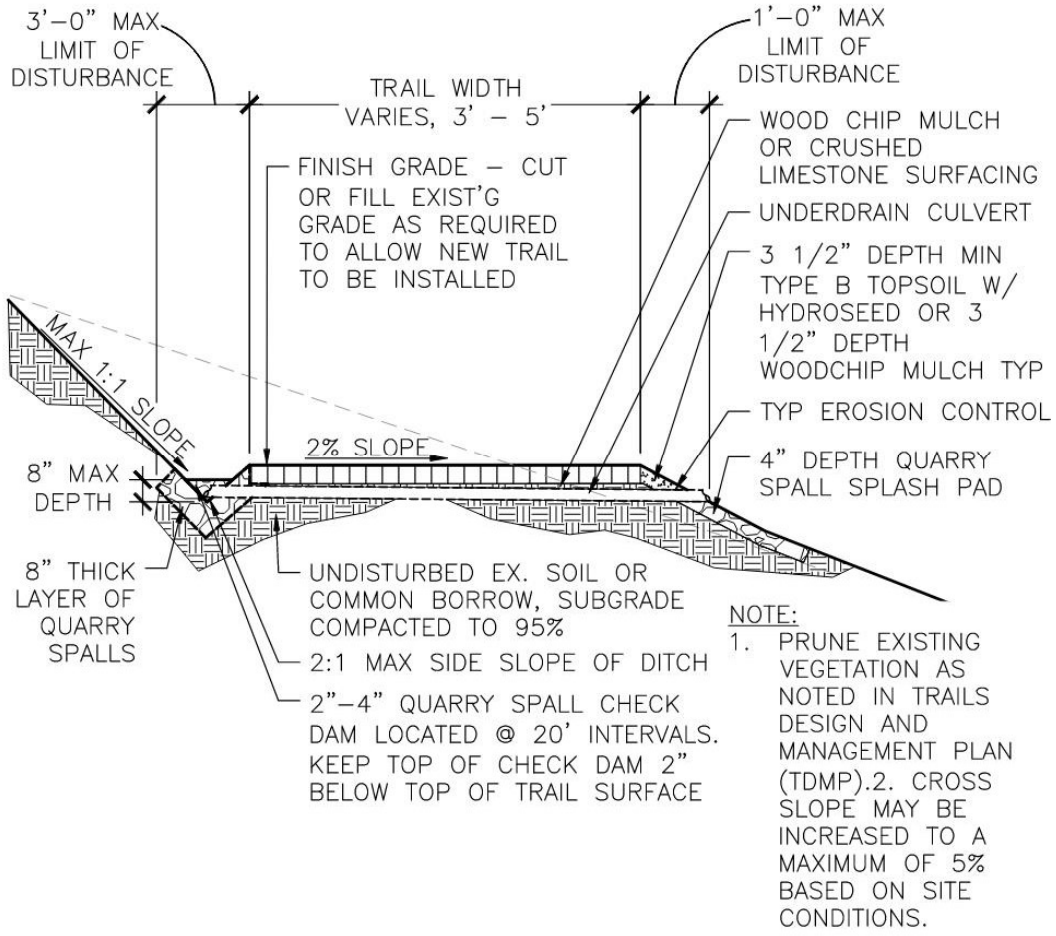
NOTES:
1. PRUNE EXISTING VEGETATION AS REQUIRED PER TRAIL DESIGN AND MANAGEMENT PLAN.
2. CROSS SLOPE MAY BE INCREASED TO A MAXIMUM OF 5% BASED ON SITE CONDITIONS.

2. Stormwater

2.a. Stormwater Underdrain



2.b. Stormwater Swale & Culvert

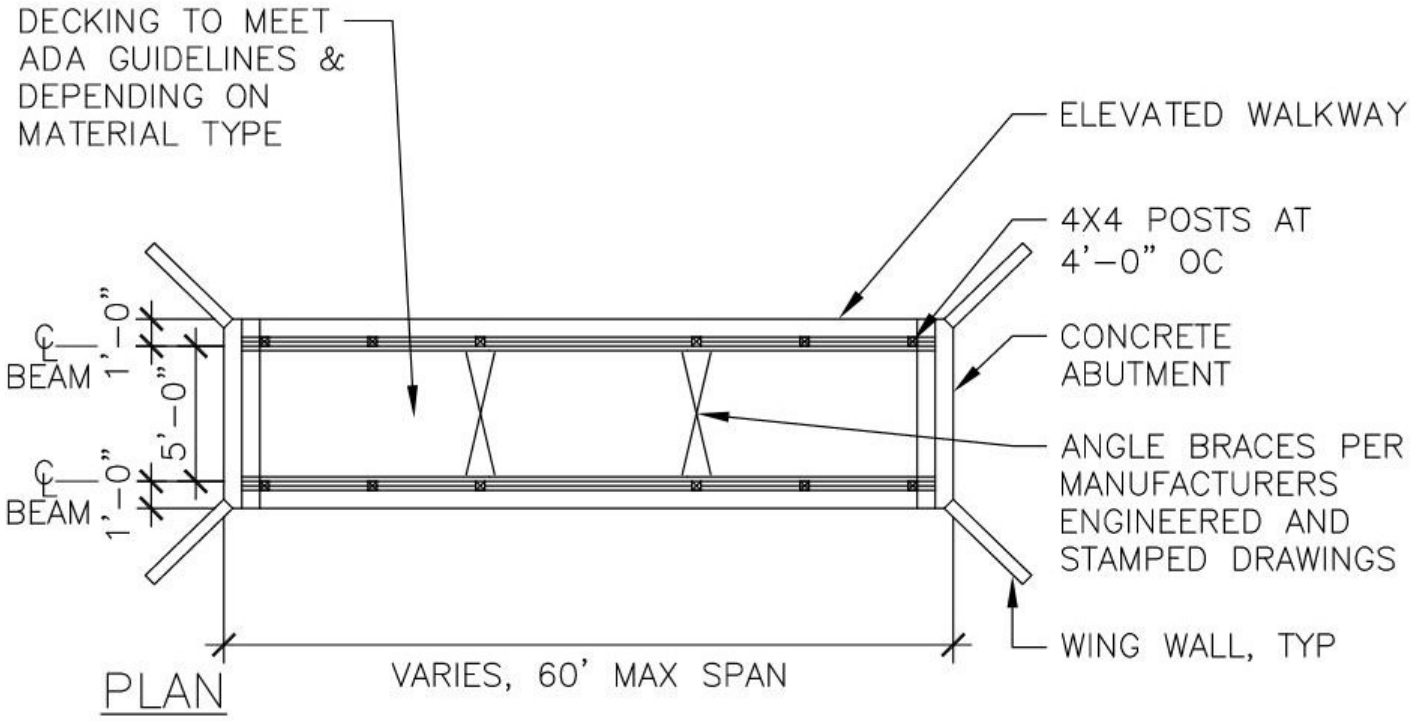


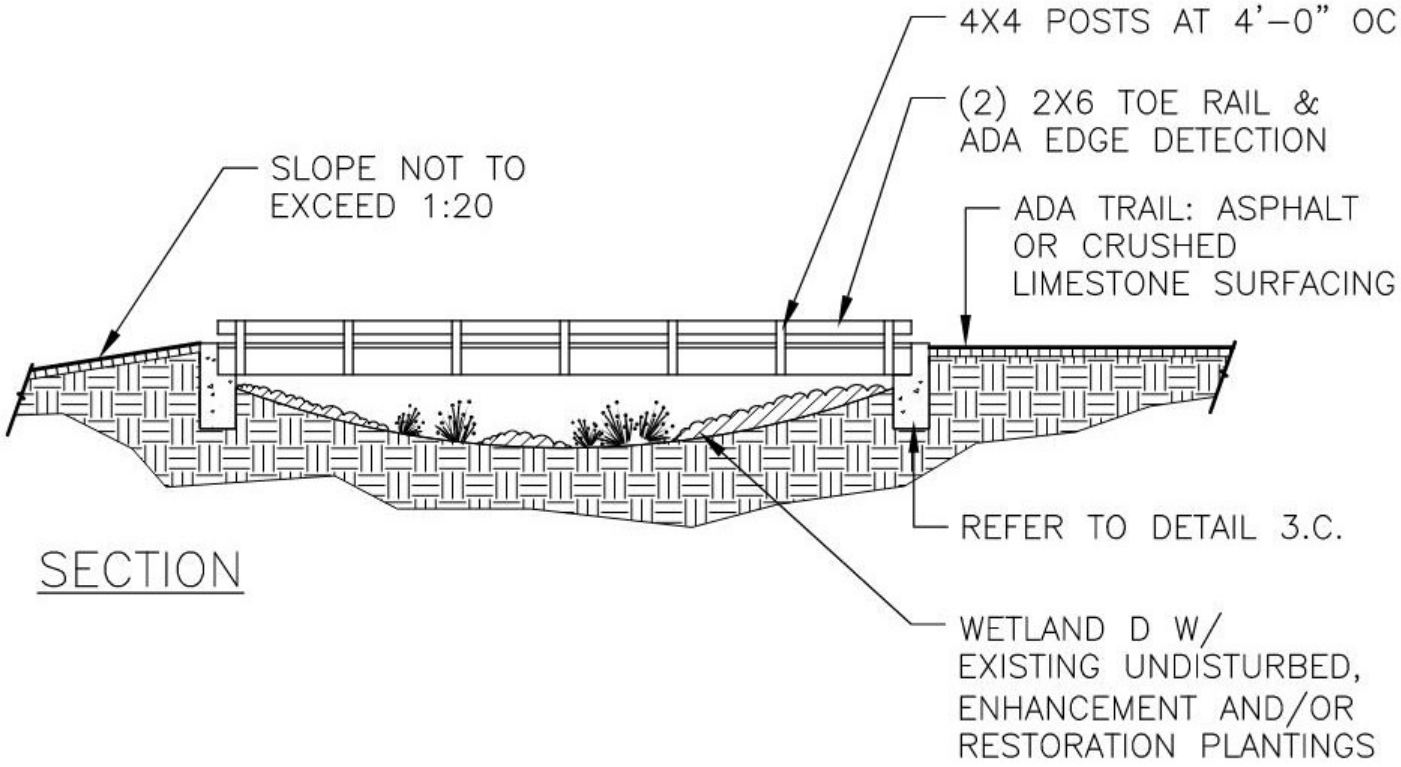
3. Elevated Walkway Details

3.a. Elevated Walkway

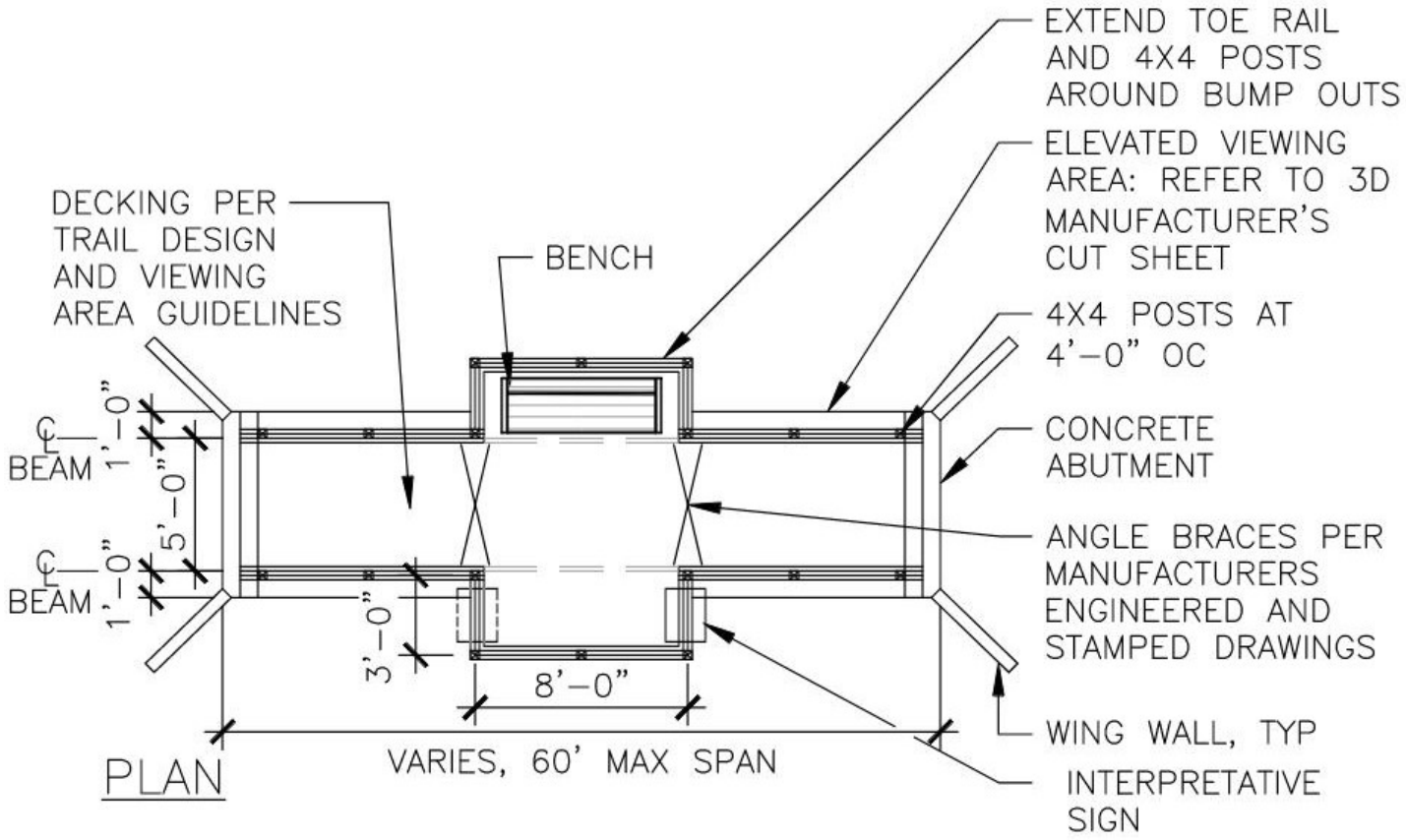
Mantle Industries Aluminum Gangway used at Larabee State Park, Bellingham, WA.

3.b. Elevated Walkway: Wood with Toe Rail
(Option: Modify as Aluminum Gangway with RFP Grate Deck)

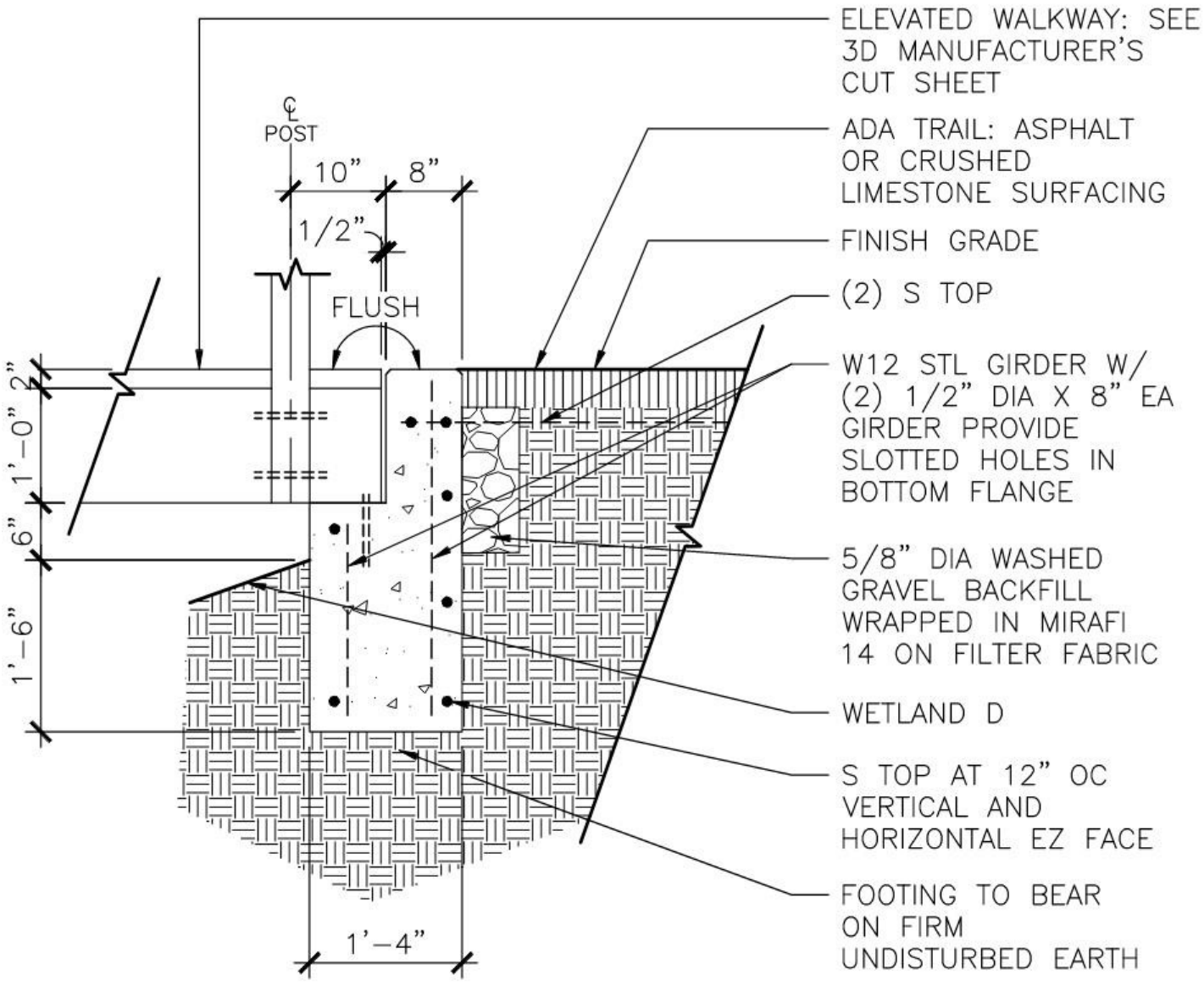




3.c. Elevated Walkway: Integrated Viewing Area



3.d. Elevated Walkway: General Abutment Design



3.e. Elevated Walkway: Aluminum Gangway & Gaurdrail Cut Sheet

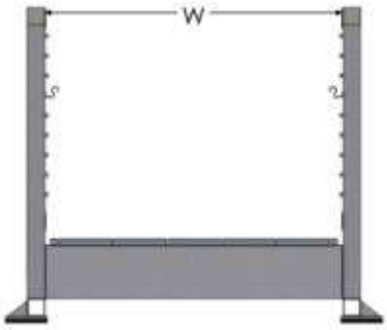
GatorDock | GatorBridge™
GatorAccess

Mantle Industries™
Dock | Bridge | Marine Access

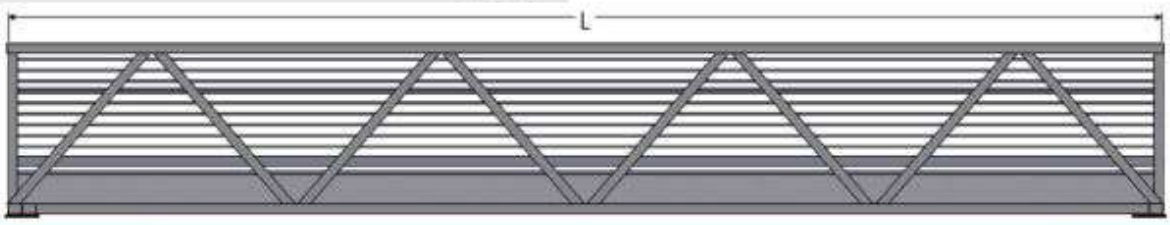
Updated: March 27, 2023

WARREN PEDESTRIAN BRIDGE

Maximum Length (L)[1]	up to 100'
Maximum Width (W)	up to 12'
Standard Wind Speed[2]	90mph - 150mph
Structural Material	6061-T6 Aluminum (Recycled Billet)
Standard Color & Texture[3]	Mill Finish Aluminum
Standard Live Load	100psf
Max Occasional Vehicle Load	up to 10,000lbs (H5)
Standard Design Codes[4]	International Building Code Aluminum Design Manual AWS D1.2 Structural Welding Code - Aluminum
Standard Railing[5]	Mantle S-RAIL™
Standard Decking[6]	1 1/2" MOLDED FRP PLANKS
Other Standard Bridge Styles	Cascade™ Contour™ Atlantis™



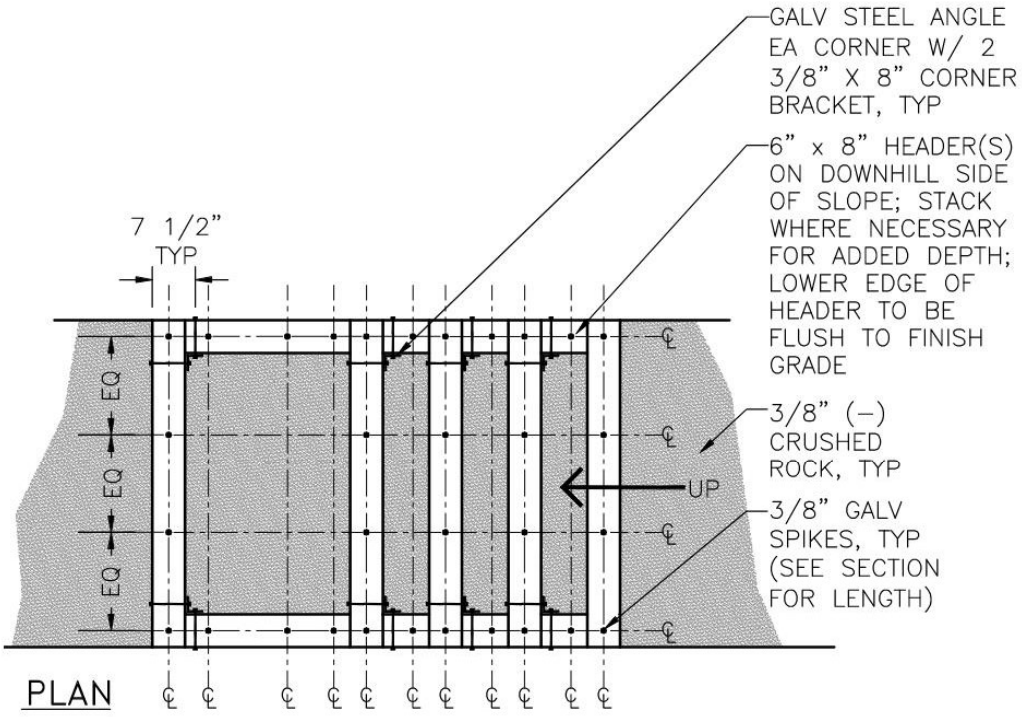
[1] Spans longer than 100' are possible and require evaluation to determine feasibility.
[2] Wind speed based on ASCE 7-05 per AASHTO Pedestrian code.
[3] Premium color & texture options are available.
[4] Bridge can be designed per AASHTO criteria upon customer request.
[5] Combination rail, cable rail, mesh panel, 36" ADA grab rail, and custom rail options are available. Mantle S-Rail™, Horizontal guard rail, and toe rail shown here.
[6] Premium decking options are available.



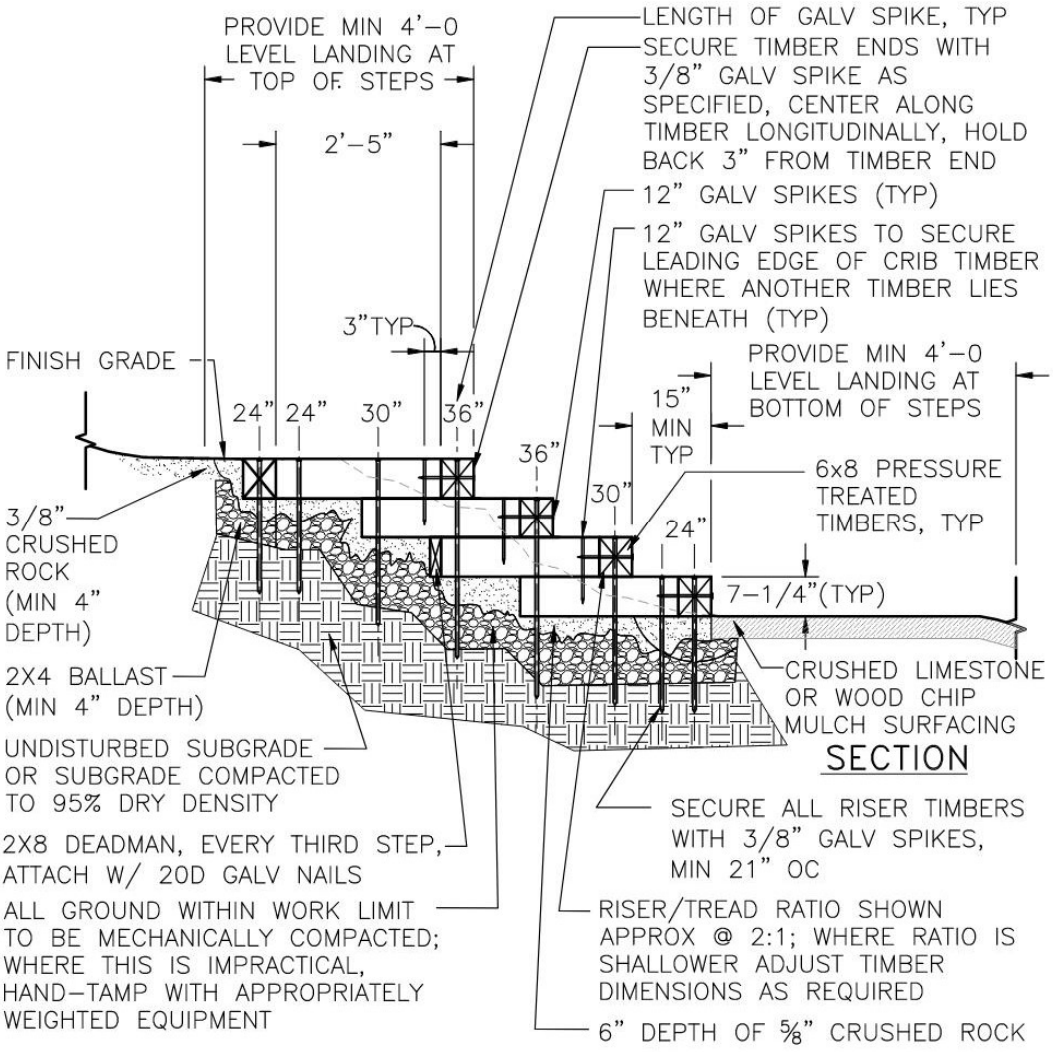
4. Steps

4.a. Steps: Wood-Crib/Timber Trail Plan

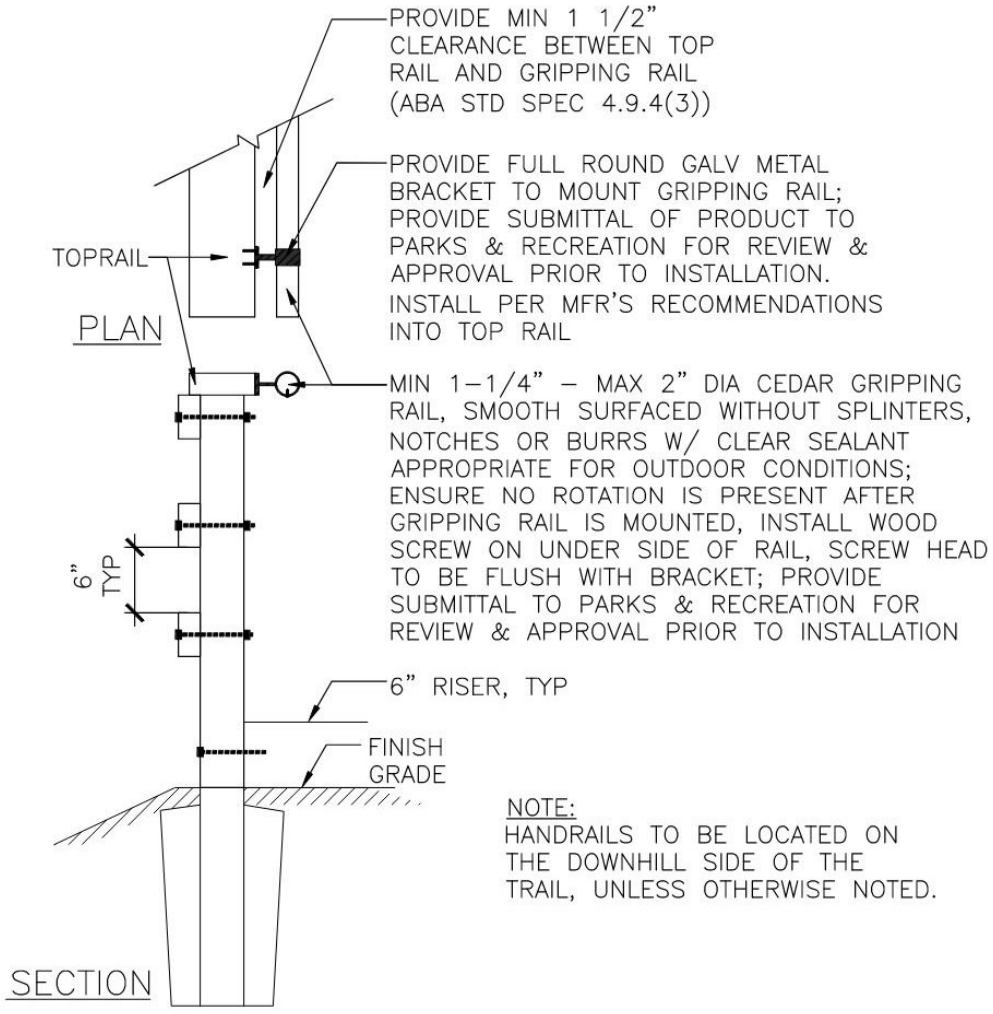
`



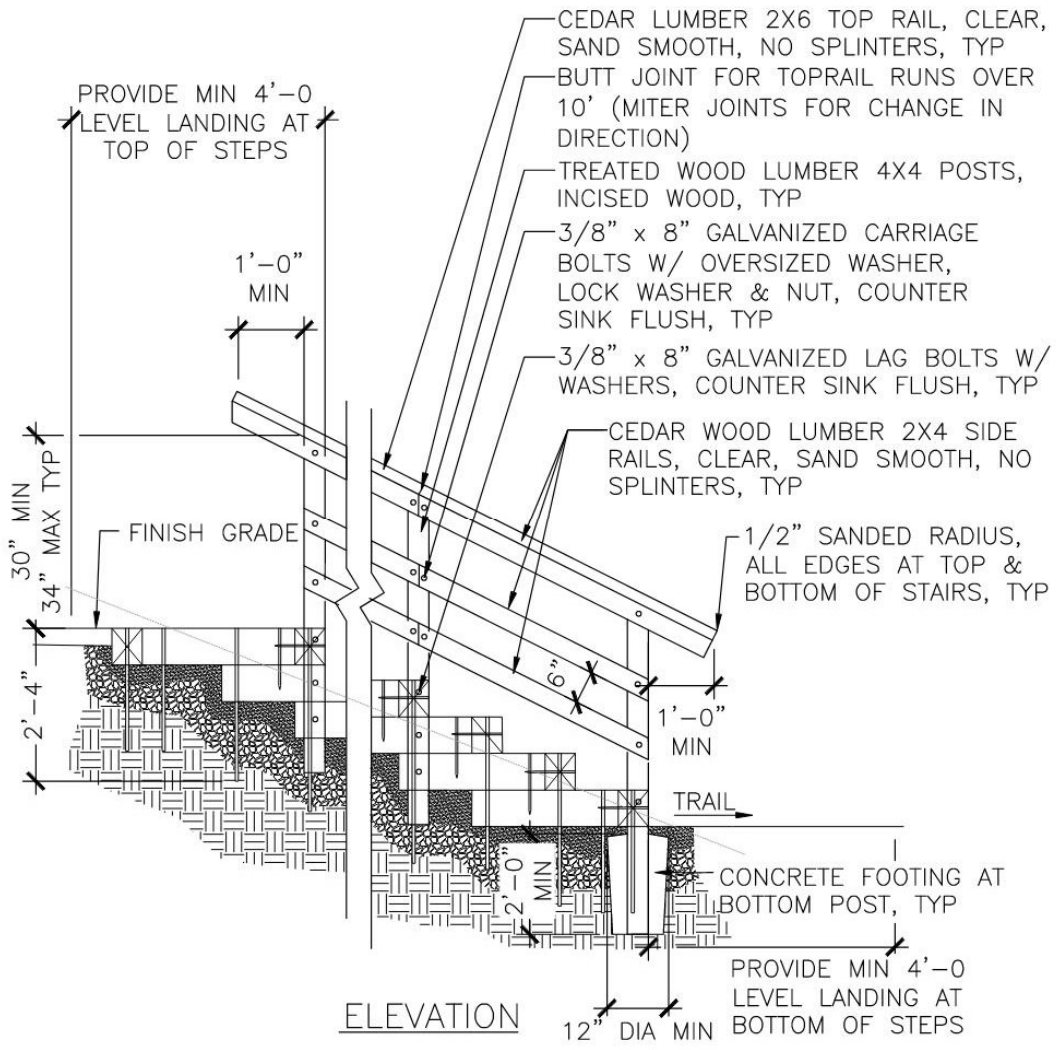
4.b. Steps: Wood-Crib/Timber Trail Section



4.c. Steps: Wood-Handrail Elevation

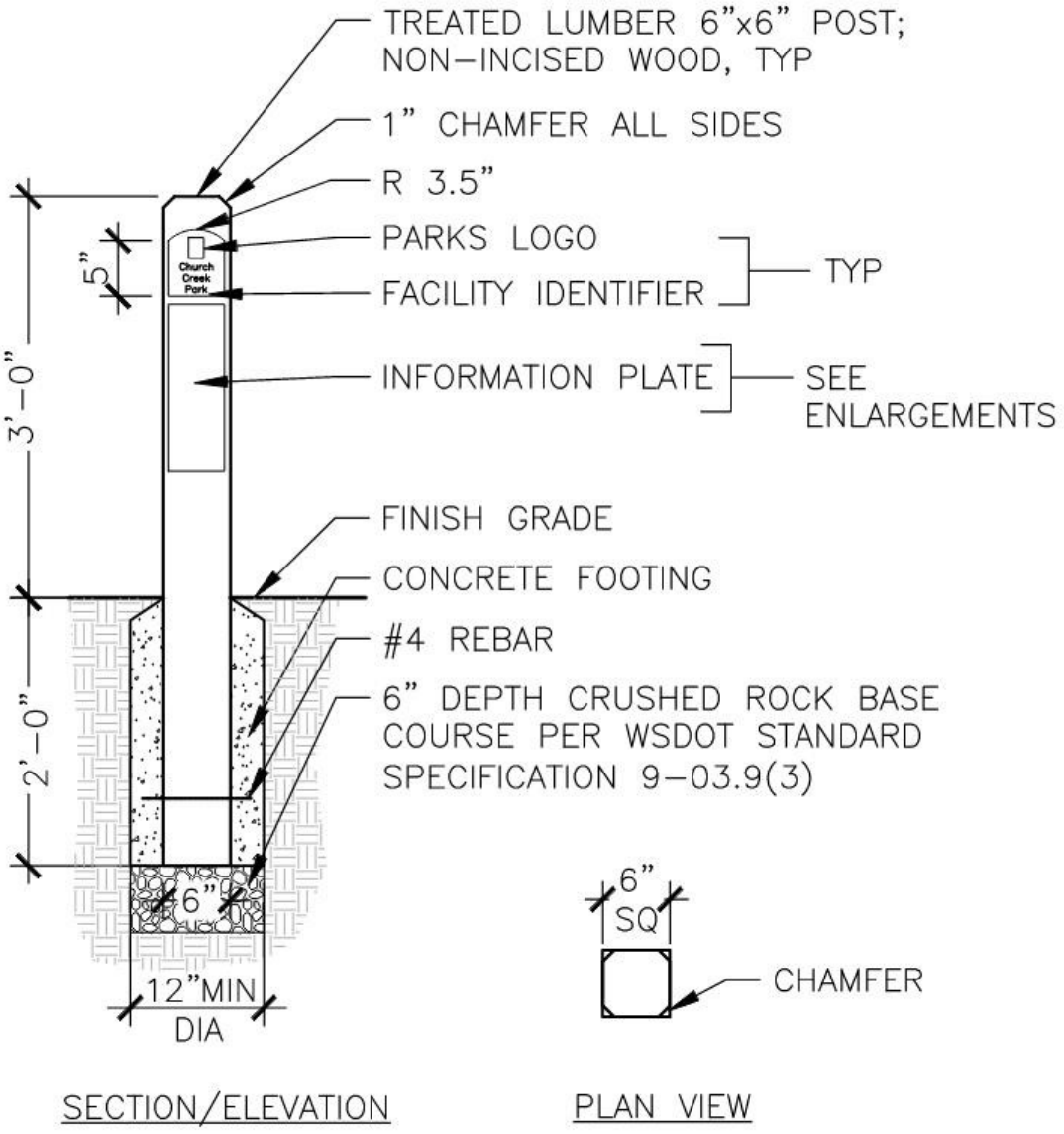


4.d. Steps: Wood-Handrail Plan & Section



5. Wayfinding Bollard

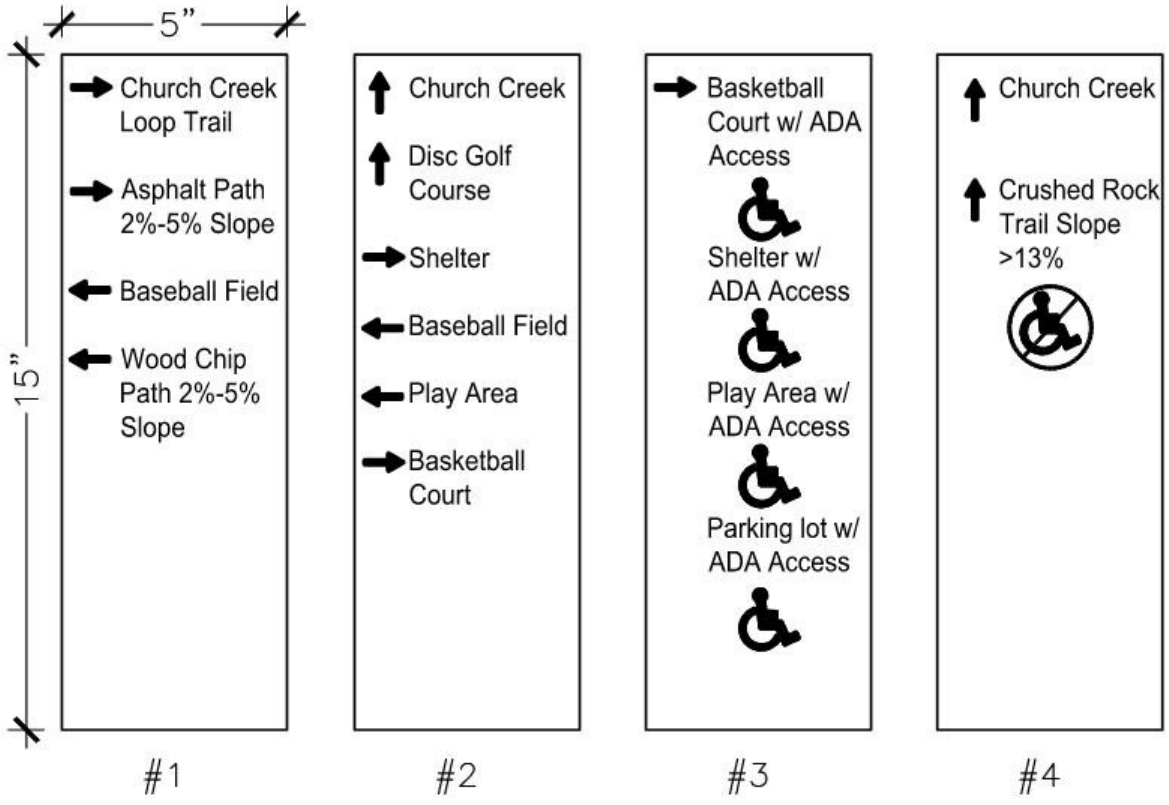
5.a. Wayfinding Bollard



5.b. Wayfinding Bollard: Information Plate Enlargements

NOTES:

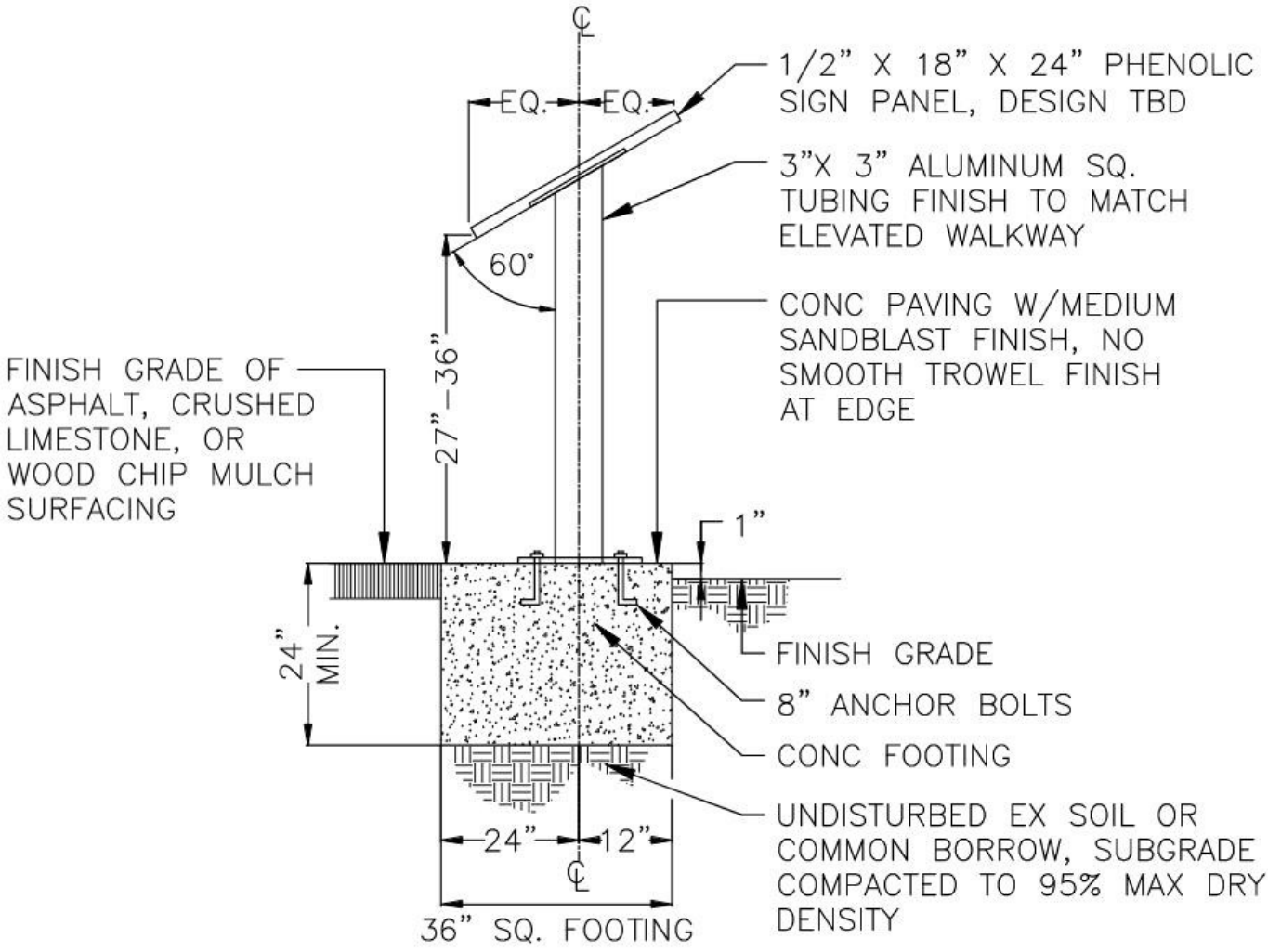
1. INSTALL SIGN FACING PEDESTRIAN PATH, FIELD VERIFY LAYOUT & ORIENTATION W/ PARKS AND RECREATION PRIOR TO CONSTRUCTION.
2. INFORMATION PLATES: 1/4" HIGH PRESSURE LAMINATE; COLOR TBD; INSET IN POST SO FRONT FACE OF PLATE IS FLUSH WITH FACE OF POST. USE ARIAL FONT, SIZE 40 ON INFORMATION PLATES.
4. ATTACH W/ WATER RESISTANT EPOXY GLUE SUITABLE FOR OUTDOOR APPLICATIONS.
5. INFORMATION PLATE ENLARGEMENTS ARE SAMPLES AND NOT FOR CONSTRUCTION. CONTENT FOR PLATE ENLARGEMENTS ARE TBD.
6. PROVIDE SHOP DRAWINGS & ONE MOCKUP PLATE FOR REVIEW & APPROVAL BY PARKS AND RECREATION PRIOR TO CONSTRUCTION.



SAMPLE INFORMATION PLATE ENLARGEMENTS

6. Signs

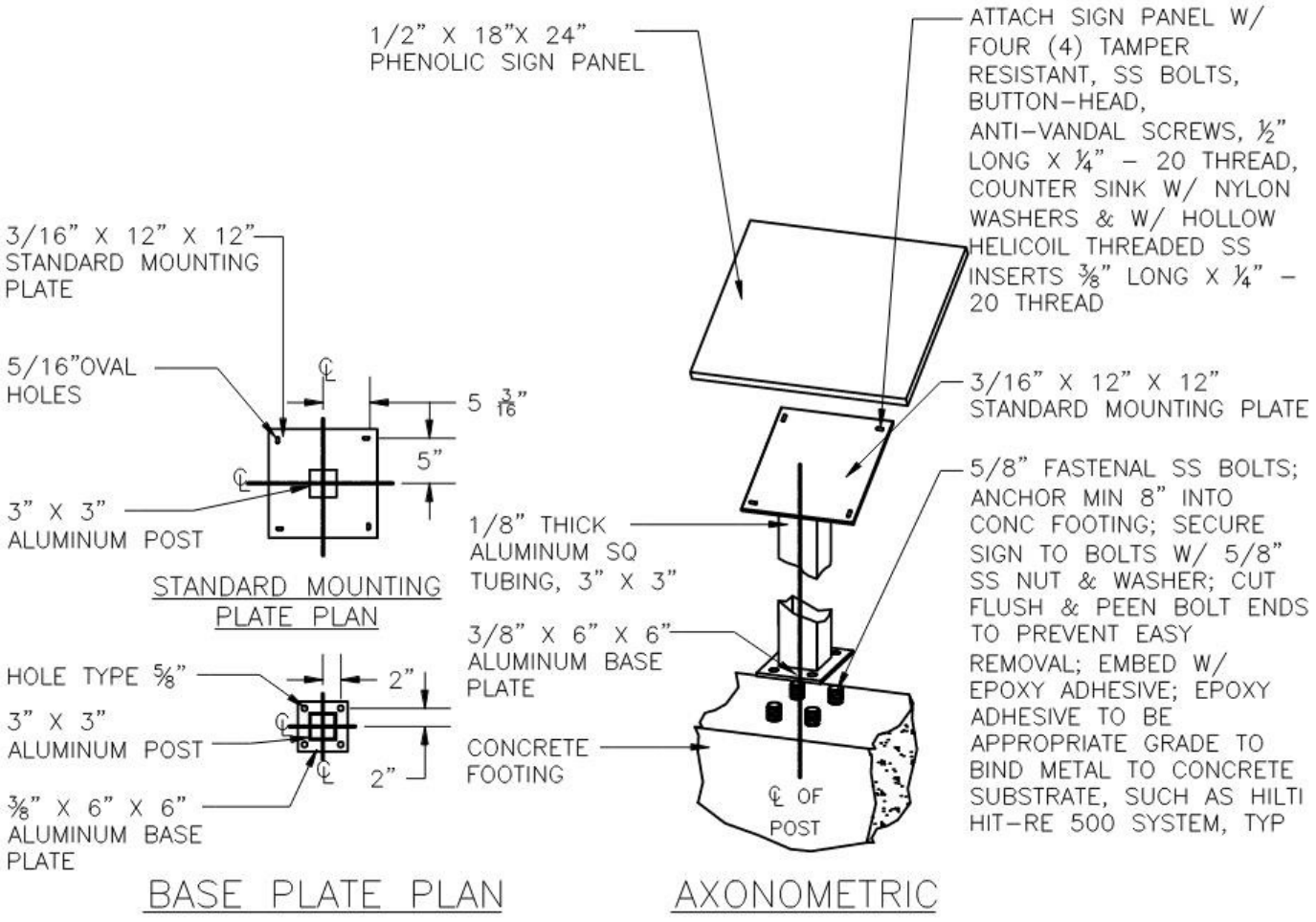
6.a. Sign: Interpretive Free Standing



SECTION

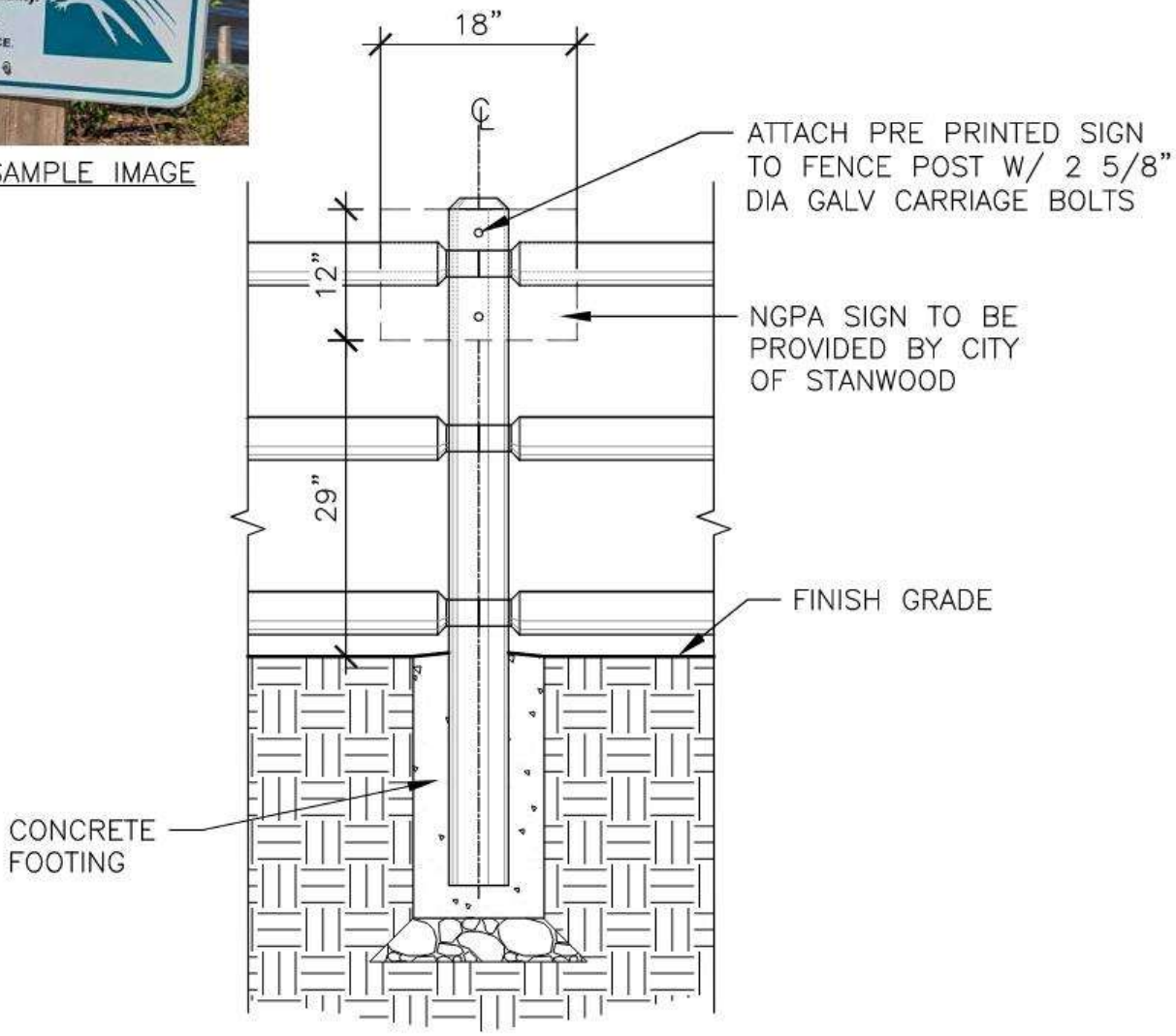
6.b. Sign: Interpretive, Connection

NOTE:
1. PROVIDE SHOP DRAWINGS SHOWING ATTACHMENT TO FOOTINGS & ELEVATED VIEWING AREAS. SHOP DRAWINGS PROVIDED TO PARKS & RECREATION FOR REVIEW & APPROVAL PRIOR TO INSTALLATION.
2. CONTENT FILES FOR PHENOLIC SIGN TO BE DESIGNED.
3. ALUMINUM STANDARD MOUNTING PLATE, TUBING AND BASE PLATE FINISHES TO MATCH ELEVATED WALKWAY.



6.c. Native Growth Protection Area Sign

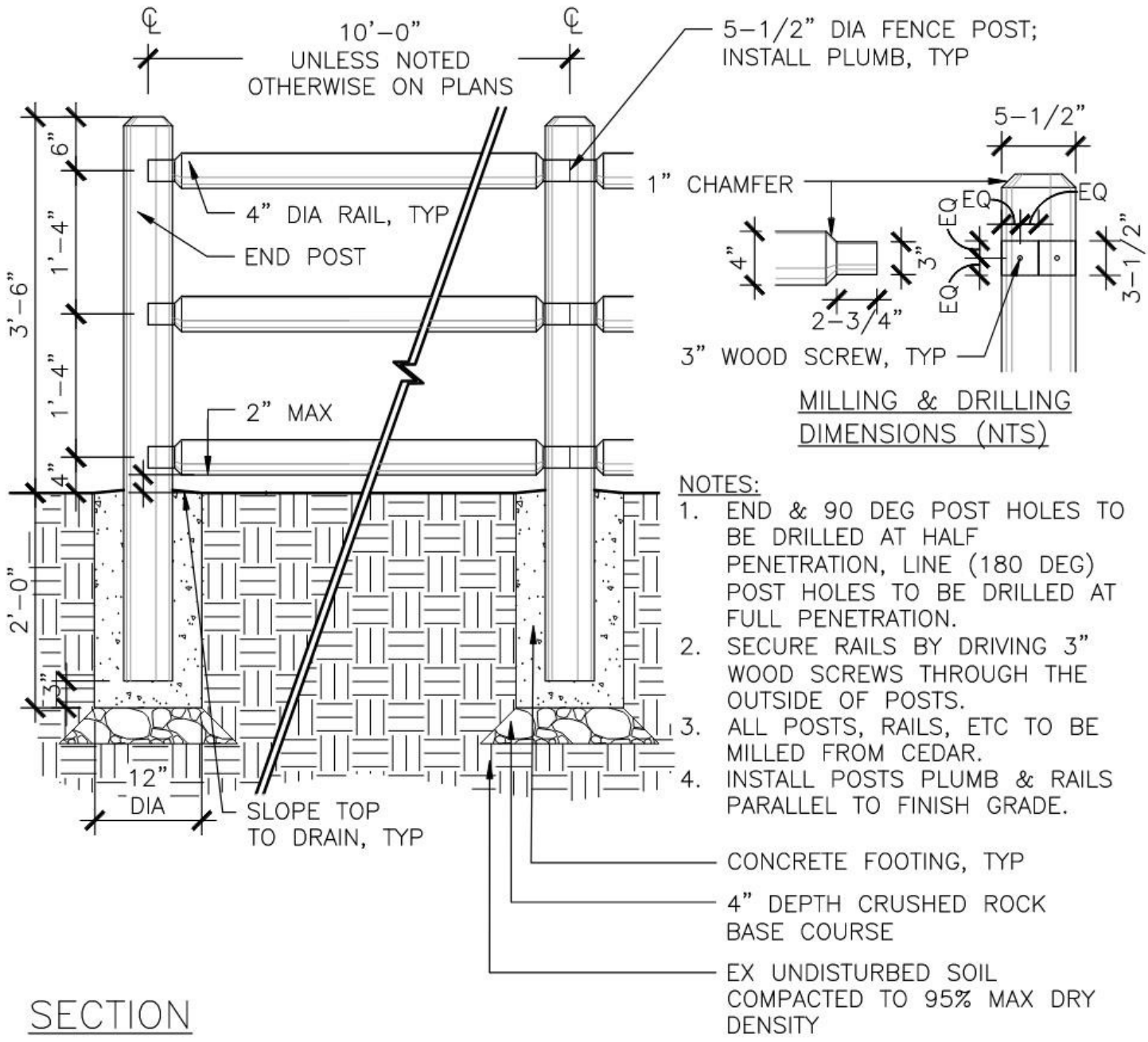
NGPA SIGN SAMPLE IMAGE



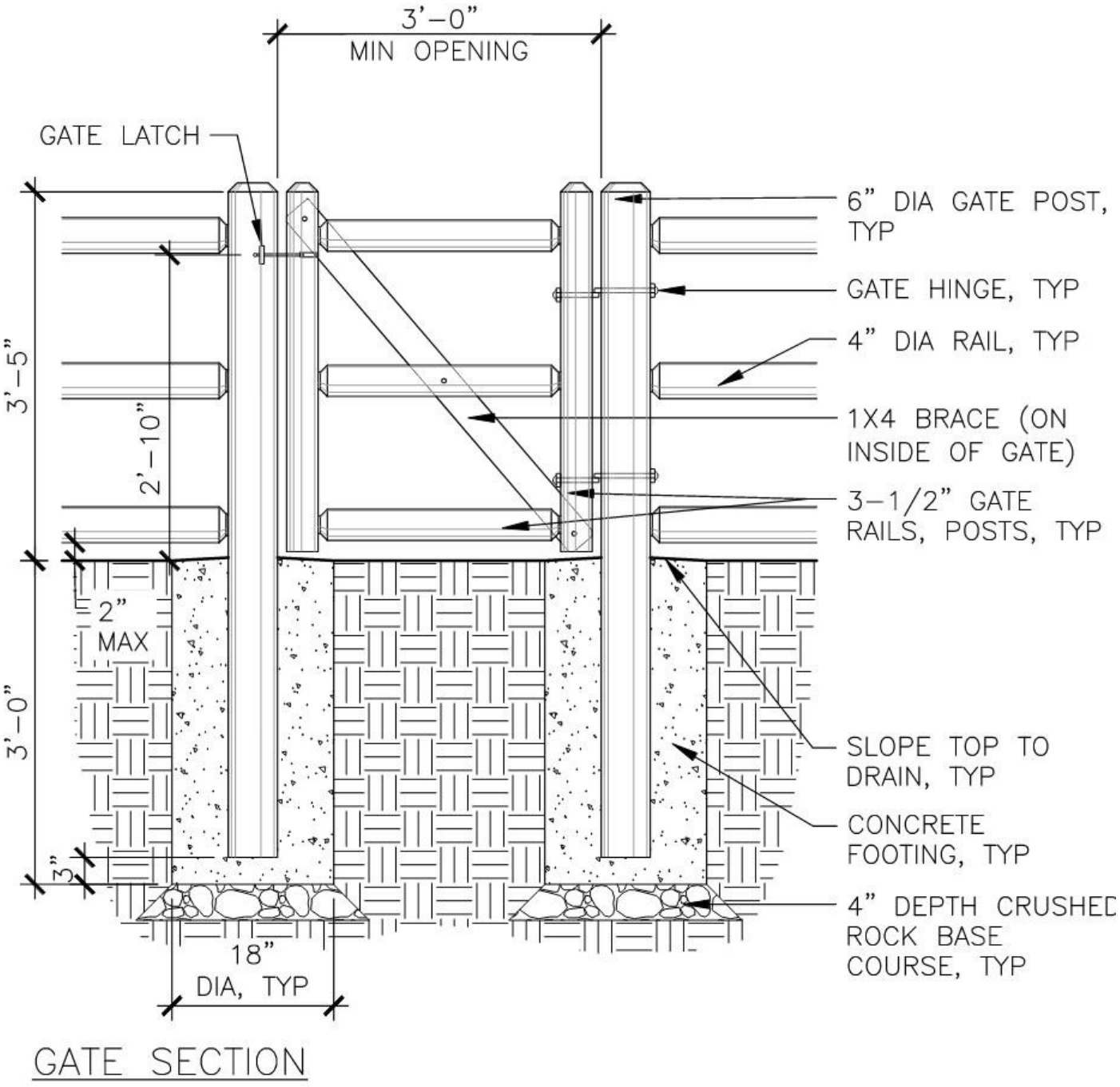
SECTION

7. Wood Protection Fence

7.a. Wood Protection Fence

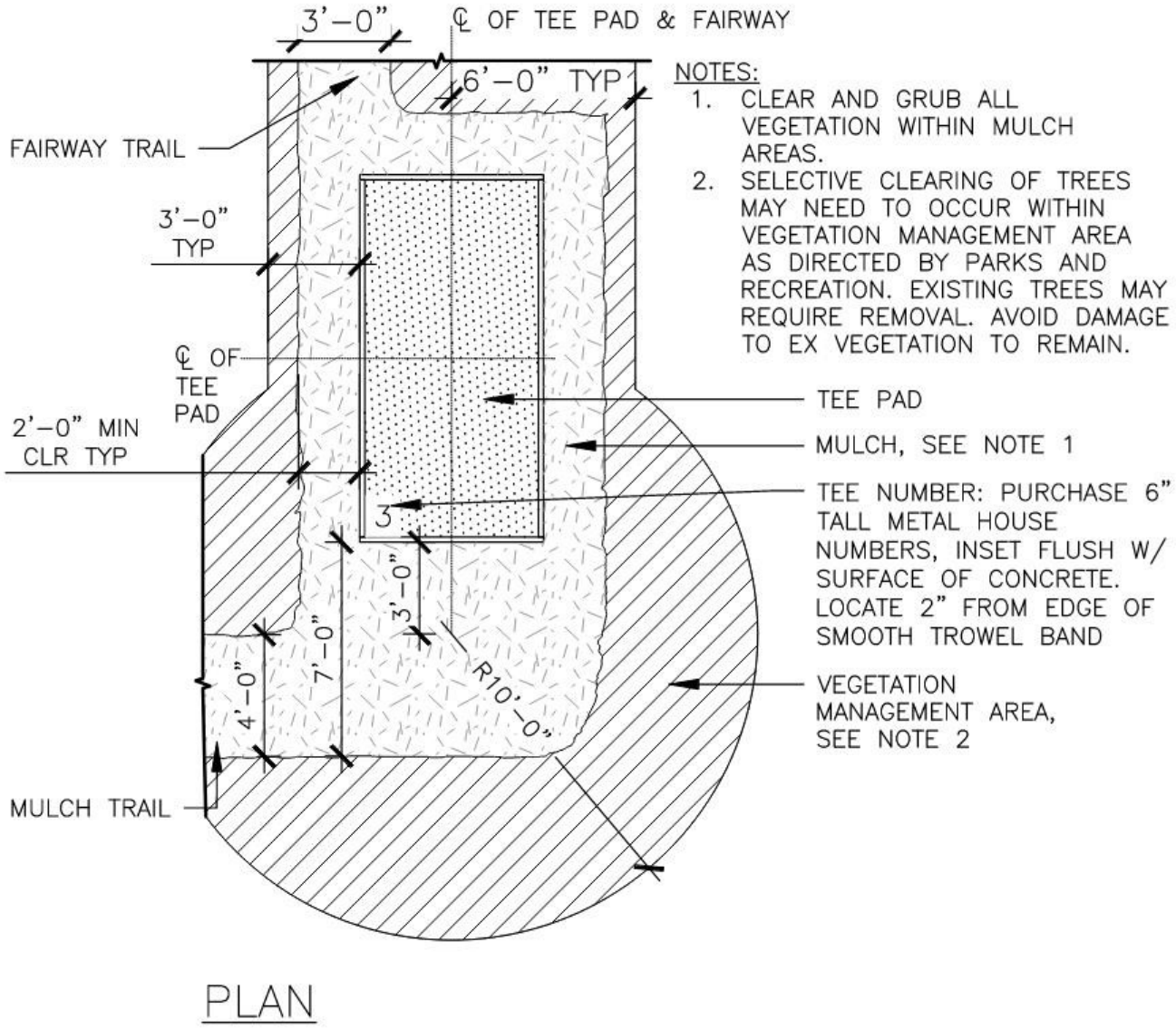


7.b. Wood Protection Fence: Gate

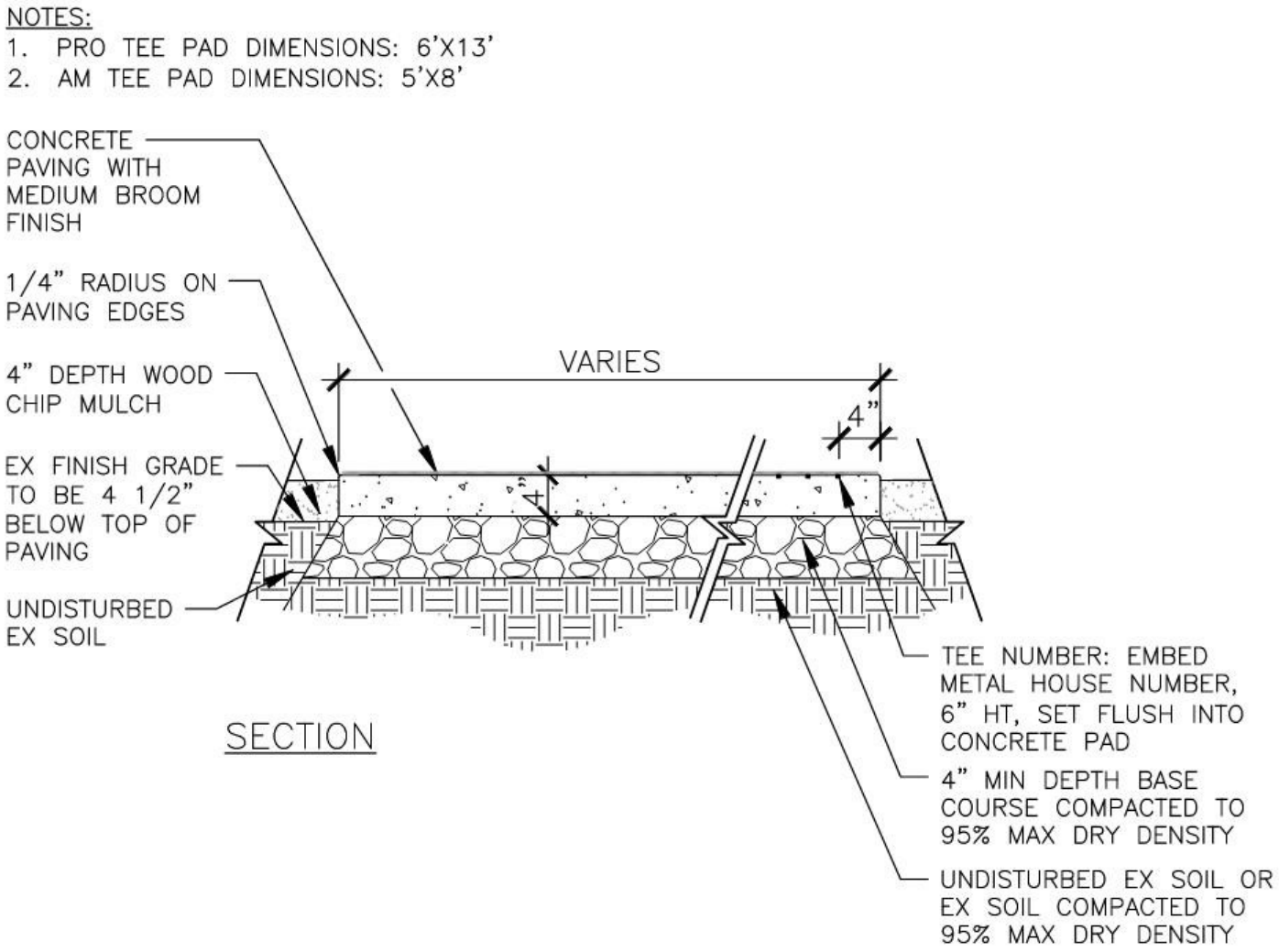


8. Disc Golf Infrastructure

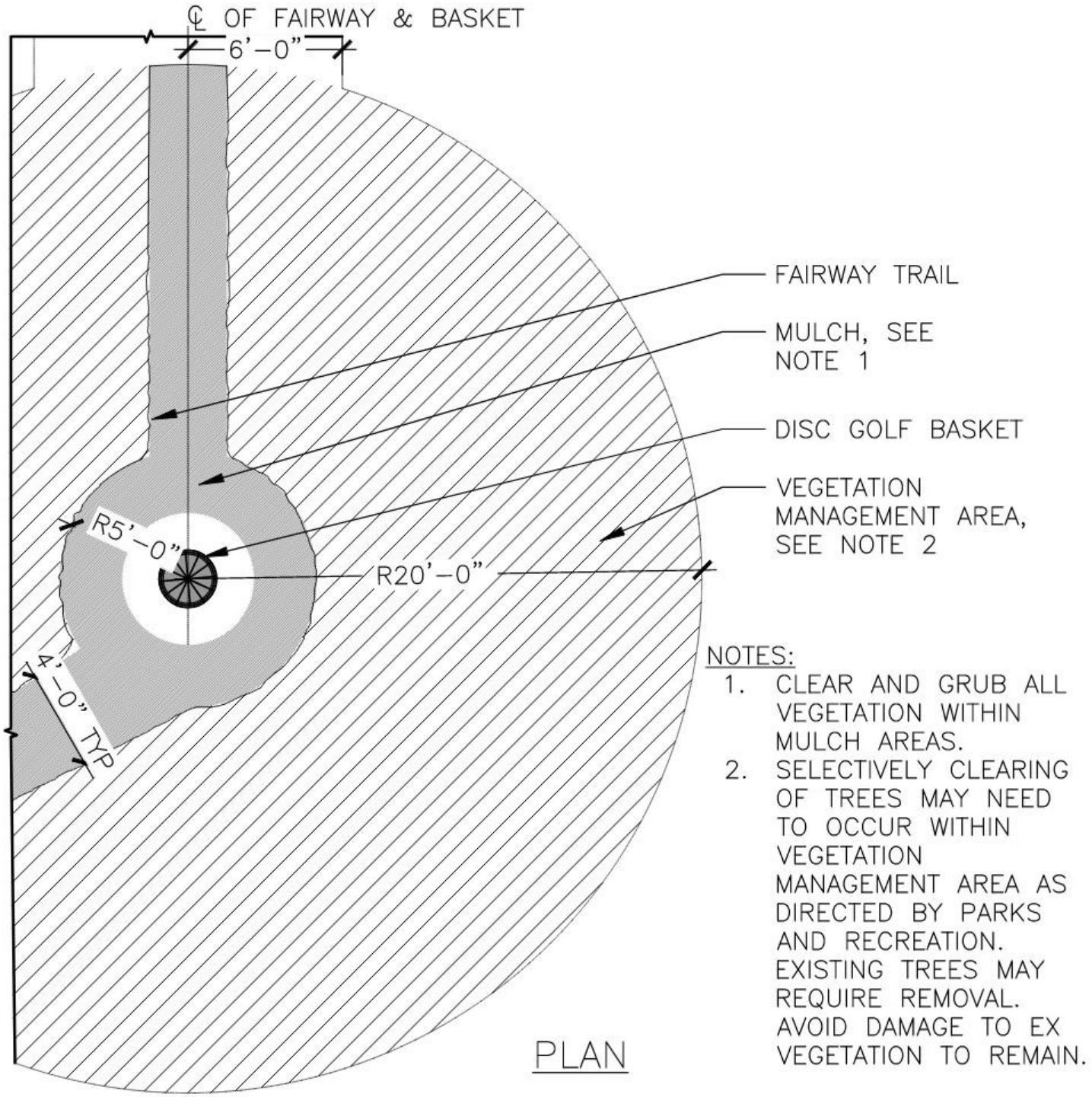
8.a. Disc Golf Tee: Plan



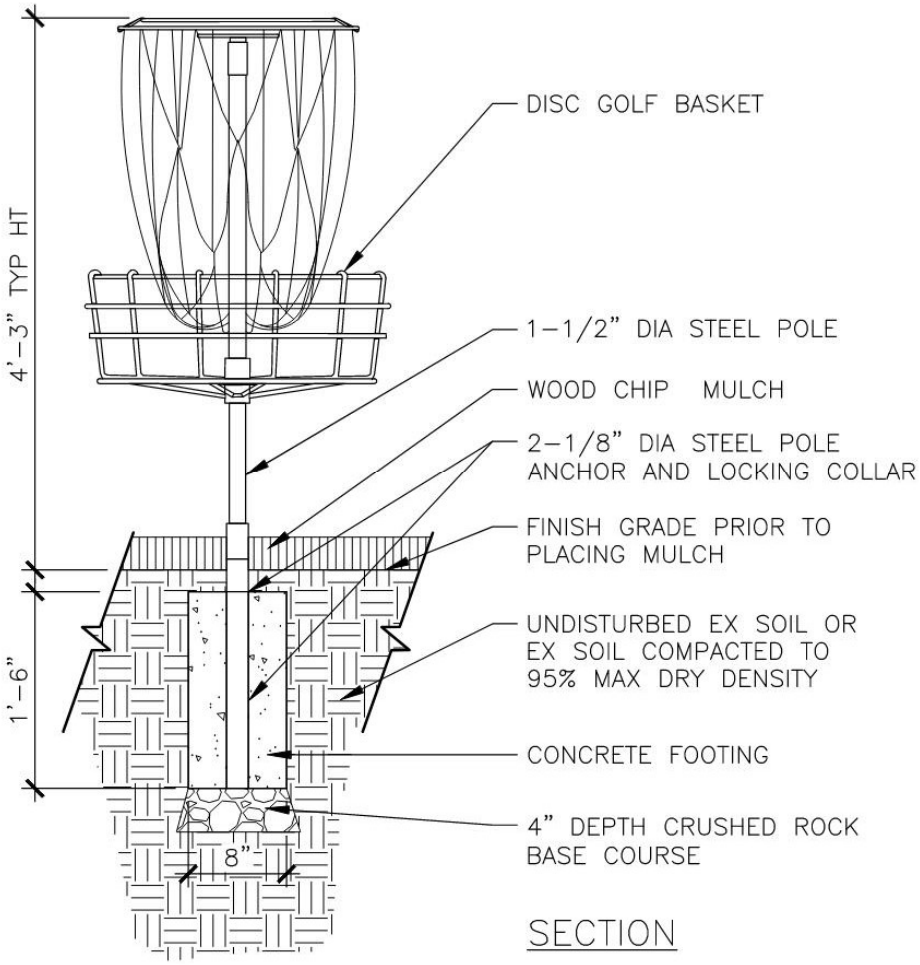
8.b. Disc Golf Tees: Section



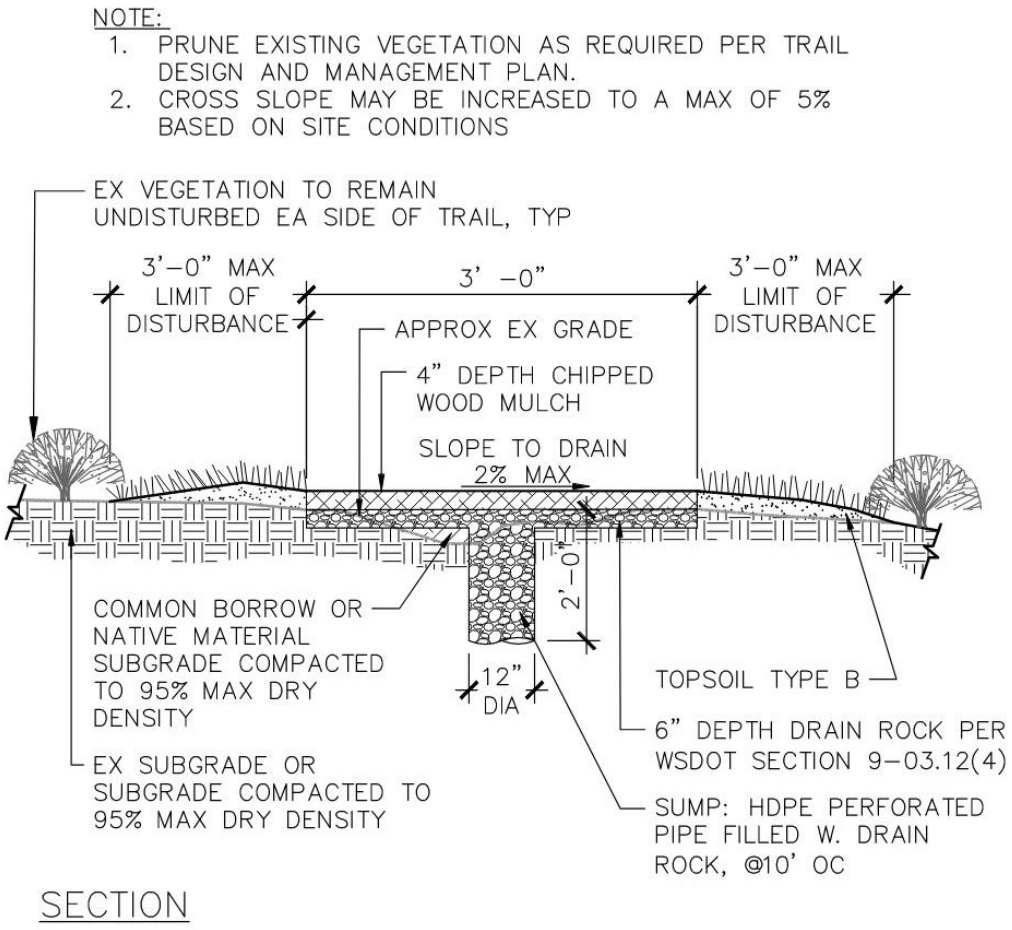
8.c. Disc Golf Baskets: Plan



8.d. Disc Golf Baskets: Section

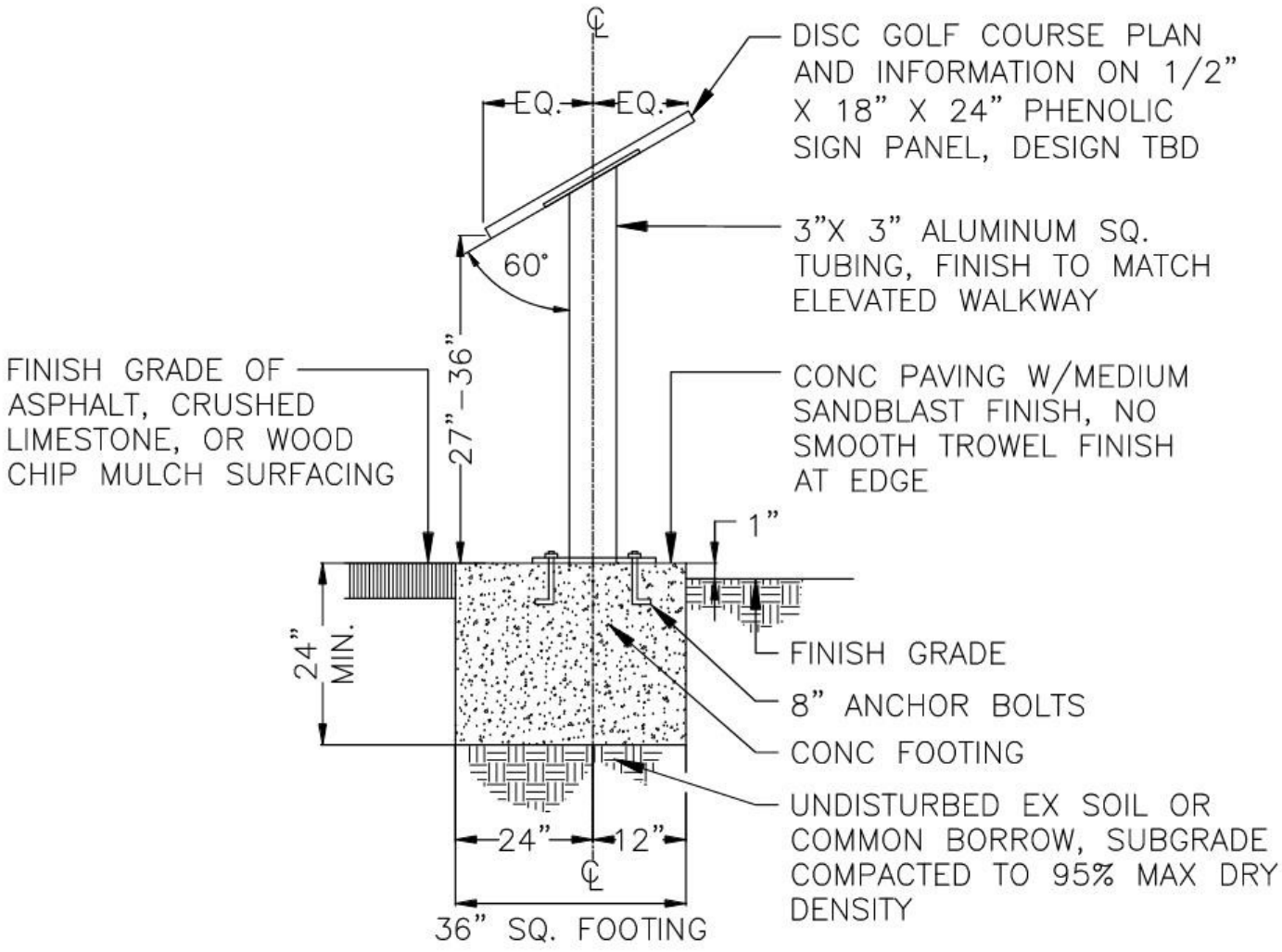


8.e. Disc Golf Fairway



SECTION

8.f. Disc Golf Course Sign



SECTION

IV. TRAIL MANAGEMENT

Trail Management Guidelines

The addition of an ADA loop trail, elevated walkways, fences, and signs will benefit from seasonal maintenance. The Maintenance schedule below provides a list of expected maintenance tasks and timeline when tasks may be necessary.

Noxious Weed Removal

The control of noxious weeds varies depending on the species identified on site. Refer to the Snohomish County Noxious Weed Control Bord and Washington State Noxious Weed Control Board websites for fact sheets and control information. The websites are listed below:

Snohomish County Noxious Weed Control Bord
https://snohomishcountywa.gov/722/Noxious-Weeds

Washington State Noxious Weed Control Board
https://www.nwcb.wa.gov/

Replant Areas Damaged by Foot Traffic

The nature of Disc Golf lends itself to off trail foot traffic. Occasional replanting may be beneficial to maintaining the native understory plantings. Fall is the ideal time to plant starts. Timing planting with the start of the rainy season and well before the first frost allows plants to set down roots over the winter and spring before being challenged by summer heat and drought. Supplemental for the first year after planting will help to improve survival rates especially in times of drought

Cut Back Growth from Under Elevated Walkways

Depending on the rate of growth and the plant species cutback may need to occur two times a year. Woody growth can be easily identified and cut back in February prior to the spring growth of wetland forbes. By late June forbes and grasses will have grown enough to determine if a second cutback is necessary. Depending on the weather, additional cutbacks may be required in the fall.

Maintenance of Elevated Walkways, Fences, & Trail Sections

June through August provide optimal weather for the inspection and maintenance of trail infrastructure. Dry weather aids the inspection and repair of trail surfacing and fence posts and rails.

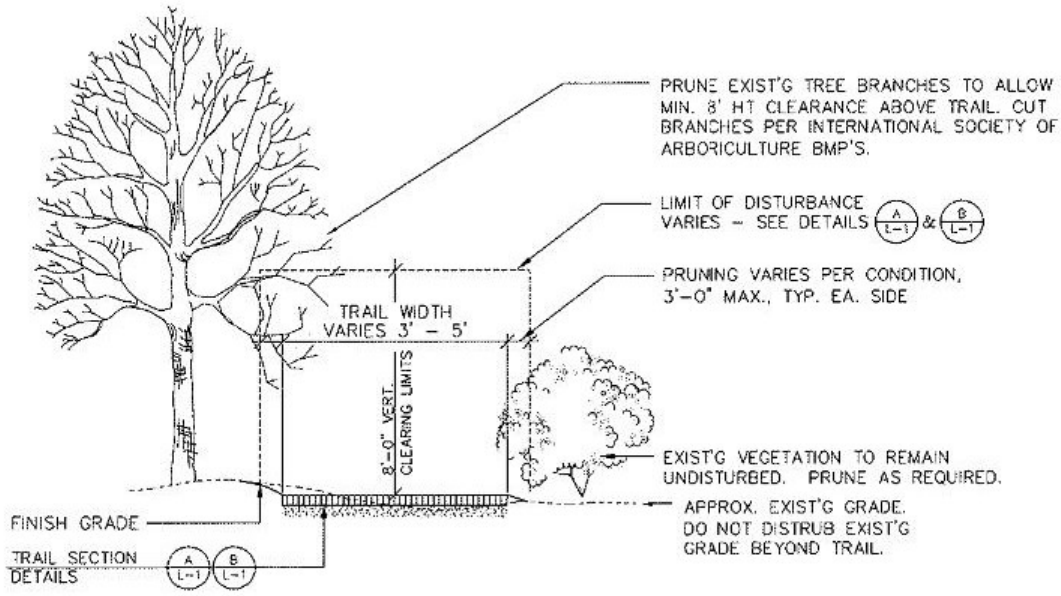
Visual inspection for vandalism and graffiti should occur on a regular schedule, minimum weekly. Vandalism repair and graffiti removal should occur as soon as possible. Visible vandalism and graffiti attracts additional vandalism and graffiti unless repaired and removed immediately.

Blow Needles, Leaves, & Small Debris from Pathways

The blowing of needles, leaves, and small debris from pathways may occur monthly in spring and fall as trees shed the most duff and canopy material. This will minimize the accumulation of debris on trails that may become a slipping or safety hazards. Inspection for debris should occur monthly year-round to maintain safe accessible ADA pathways and especially after large storm events.

Pruning

The pruning of trees and shrubs to maintain clear zones around trails and elevated walkways is work reserved for the Fall. See the detail below for recommended clearances beside and above trials.



Relocate Downed Woody Debris After Major Storms

Typically, the Pacific Northwest experiences its worst storms in the month of November, however, high velocity wind storms may occur at any time from Fall to early Spring. Maintenance crews may need to remove downed trees and debris from ADA trails at unscheduled times. The relocation of debris can occur on site and shall be placed in such a way as to appear natural within forest and wetland areas to reinforce ecological habitat function and match the natural character of the forest environment.

Snow Removal / Ice Sanding

Should parks remain open during large snow events, snow removal along the ADA accessible loop trail will be necessary. Of primary importance is sanding and not salting trail surfaces that may collect water that freezes to ice and becomes a safety hazard. Salting or use of chemical deicers should be avoided within the wetland and riparian buffers to minimize contamination and degradation of habitat function.

Maintenance Schedule

Task	Month											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Noxious Weed Removal		x		x		x		x				
Replant Areas Damaged by Foot Traffic									x	x		
Cut Back Growth from Under Elevated Walkway		x				x						
Inspection and Maintenance of Raised Trail Spans and Viewpoints							x	x	x			
Repair Trail Infrastructure							x	x	x			
Repair Fences							x	x	x			
Vandalism Repair & Graffiti Removal	x	x	x	x	x	x	x	x	x	x	x	x
Blow Needles, Leaves, and Remove Small Debris from Pathway		x	x	x					x	x	x	
Pruning									x	x		
Relocate Downed Debris After Major Storms											x	x
Snow Removal / Ice Sanding	x											x