

400 SW Sixth Avenue Suite 802  
Portland, OR 97204

Tel: (503) 274-8772  
Fax: (503) 274-1412

<b>to:</b> Tom Soppe	<b>from:</b> Keith Liden
City of West Linn Planning Department	<b>date:</b> 4.18.12
22500 Salamo Road	<b>project:</b> Cedaroak Primary School DR I
West Linn, OR 97068	<b>file number:</b> DR-12-10/WAP-12-02

<b>via:</b>	<b>for your:</b>	<b>the following:</b>		
<input type="checkbox"/> mail	<input type="checkbox"/> Information/use	<input type="checkbox"/> shop drawings	<input type="checkbox"/> change order	<input type="checkbox"/> specifications
X messenger	X approval	<input type="checkbox"/> copy of letter	<input type="checkbox"/> plans	<input type="checkbox"/> CD
<input type="checkbox"/> fed-ex	<input type="checkbox"/> review/comment	<input type="checkbox"/> prints	<input type="checkbox"/> samples	X application packages

	Signed application form	1	3.27.12
	CD of all materials	1	-
	Application packet including:	3	4.18.12
	1. Narrative		
	2. Plan sheets (full size) – C1.1, C1.2, C1.3, C2.1, C2.2, C3.1, C4.1, and L1.1		
	3. Plan sheets (11x17 reductions)		
	4. Response to incomplete items		

**Comments:**

Questions/additional information contact:

Keith Liden, 503.224.4066 / [liden@pbworld.com](mailto:liden@pbworld.com)

**copy to:**

April 18, 2012

Tom Soppe, Associate Planner  
West Linn Planning Department  
22500 Salamo Road  
West Linn, OR 97068

RE: DR-12-10/WAP 12-02 Cedaroak Primary School

Dear Tom,

In response to your April 6<sup>th</sup> letter indicating the Design Review application was incomplete, we made the requested changes. Attached are three sets of the narrative, amended plan sheets, reduced 11X17-inch versions of the plan sheets, and a CD of all the materials.

The information related to the Community Development Code sections in your letter have been provided in the following manner:

- **55.090(A)** - This criterion is now addressed in the narrative.
- **55.120(D) and 32.060(B)(3)** - The plan sheets have added an “unnamed drainage” label for the stream.
- **32.040(G)** - A table was added to Sheet C1.3 showing the ground cover percentages.
- **32.040(G)** - A table was added to Sheet C1.3 showing the ground cover percentages.
- **32.060(A)** - The name and address information is provided on the cover sheet.
- **32.060(B)(2)** - Shading of the 25% slope areas is provided on Sheet C1.3.
- **32.060(B)(6)** - A general description of the site vegetation is provided on Sheet C1.3.
- **32.070(B)** - The proposed fee-in-lieu arrangement proposed in coordination with parks is described in more detail in the narrative.

Please contact me if you need anything further.

Sincerely,



Keith S. Liden, AICP

cc: Nancy Hubbard  
Seth Stevens, GHD

## DEVELOPMENT REVIEW APPLICATION

For Office Use Only		
STAFF CONTACT	PROJECT No(s).	
NON-REFUNDABLE FEE(S)	REFUNDABLE DEPOSIT(S)	TOTAL

**Type of Review** (Please check all that apply):

- |   |  |  |
|---|--|--|
| <input type="checkbox"/> Annexation (ANX)<br><input type="checkbox"/> Appeal and Review (AP) *<br><input type="checkbox"/> Conditional Use (CUP)<br><input checked="" type="checkbox"/> Design Review (DR)<br><input type="checkbox"/> Easement Vacation<br><input type="checkbox"/> Extraterritorial Ext. of Utilities<br><input type="checkbox"/> Final Plat or Plan (FP)<br><input type="checkbox"/> Flood Management Area<br><input type="checkbox"/> Hillside Protection & Erosion Control | <input type="checkbox"/> Historic Review<br><input type="checkbox"/> Legislative Plan or Change<br><input type="checkbox"/> Lot Line Adjustment (LLA) */**<br><input type="checkbox"/> Minor Partition (MIP) (Preliminary Plat or Plan)<br><input type="checkbox"/> Non-Conforming Lots, Uses & Structures<br><input type="checkbox"/> Planned Unit Development (PUD)<br><input type="checkbox"/> Pre-Application Conference (PA) */**<br><input type="checkbox"/> Street Vacation | <input type="checkbox"/> Subdivision (SUB)<br><input type="checkbox"/> Temporary Uses *<br><input type="checkbox"/> Time Extension *<br><input type="checkbox"/> Variance (VAR)<br><input checked="" type="checkbox"/> Water Resource Area Protection/Single Lot (WAP)<br><input type="checkbox"/> Water Resource Area Protection/Wetland (WAP)<br><input type="checkbox"/> Willamette & Tualatin River Greenway (WRG)<br><input type="checkbox"/> Zone Change |
|---|--|--|

Home Occupation, Pre-Application, Sidewalk Use, Sign Review Permit, and Temporary Sign Permit applications require different or additional application forms, available on the City website or at City Hall.

<b>Site Location/Address:</b> <b>4515 S. CEDAROAK DRIVE</b> <b>WEST LINN, OR 97068</b>	Assessor's Map No.: <b>2S 1E 24BA</b>
	Tax Lot(s): <b>1800</b>
	Total Land Area: <b>11.22 acres</b>

**Brief Description of Proposal:** **PROVIDE STORM DRAINAGE IMPROVEMENTS ON THE CEDAROAK PRIMARY SCHOOL SITE**

**Applicant Name:** **TIM WOODLEY** (please print) Phone: **503-673-7995**  
**Address:** **2755 SW BORLAND RD** Email: **woodleyt@wlwv.k12.or.us**  
**City State Zip:** **TUALATIN, OR 97062**

**Owner Name** (required): **WEST LINN WILSONVILLE** (please print) Phone: **503-673-7995**  
**Address:** **22210 SW STAFFORD RD** Email: **woodleyt@wlwv.k12.or.us**  
**City State Zip:** **TUALATIN, OR 97062**

**Consultant Name:** **KEITH LIDEN, PARSONS BRINCKERHOFF** (please print) Phone: **503-478-2348**  
**Address:** **400 SW 6<sup>TH</sup> AVE., SUITE 802** Email: **liden@pbworld.com**  
**City State Zip:** **PORTLAND OR 97204**

1. All application fees are non-refundable (excluding deposit). Any overruns to deposit will result in additional billing.
2. The owner/applicant or their representative should be present at all public hearings.
3. A denial or approval may be reversed on appeal. No permit will be in effect until the appeal period has expired.
4. Three (3) complete hard-copy sets (single sided) of application materials must be submitted with this application.  
 One (1) complete set of digital application materials must also be submitted on CD in PDF format.  
 If large sets of plans are required in application please submit only two sets.

\* No CD required / \*\* Only one hard-copy set needed

The undersigned property owner(s) hereby authorizes the filing of this application, and authorizes on site review by authorized staff. I hereby agree to comply with all code requirements applicable to my application. Acceptance of this application does not infer a complete submittal. All amendments to the Community Development Code and to other regulations adopted after the application is approved shall be enforced where applicable. Approved applications and subsequent development is not vested under the provisions in place at the time of the initial application.

 Applicant's signature	3.27.12 Date	 Owner's signature (required)	3.27.12 Date
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**CEDAROAK PARK PRIMARY SCHOOL**  
**Class I Design Review and Water Resource Area Permit**  
April 18, 2012

**APPLICATION SUMMARY**

For Class I Design Review and Water Resource Area Permit to reconfigure some of the existing storm water collection, detention, and treatment system at Cedaroak Park Primary School.

**GENERAL INFORMATION**

**Location**

4515 South Cedaroak Drive (2S 1E Section 24 BA, Tax Lot 1800). Its location is shown in Figure 1.

**Comprehensive Plan and Zoning Designations**

The Comprehensive Plan designation is Low Density Residential.

Consistent with the Comprehensive Plan, the property is zoned Single Family Residential Detached (R10).

**Applicant and Owner**

Tim Woodley, Director of Operations  
West Linn-Wilsonville School District  
2755 SW Borland Road  
Tualatin, OR 97062  
Phone: 503-673-7976  
E-mail: [woodleyt@wlwv.k12.or.us](mailto:woodleyt@wlwv.k12.or.us)

**Applicant's Representatives**

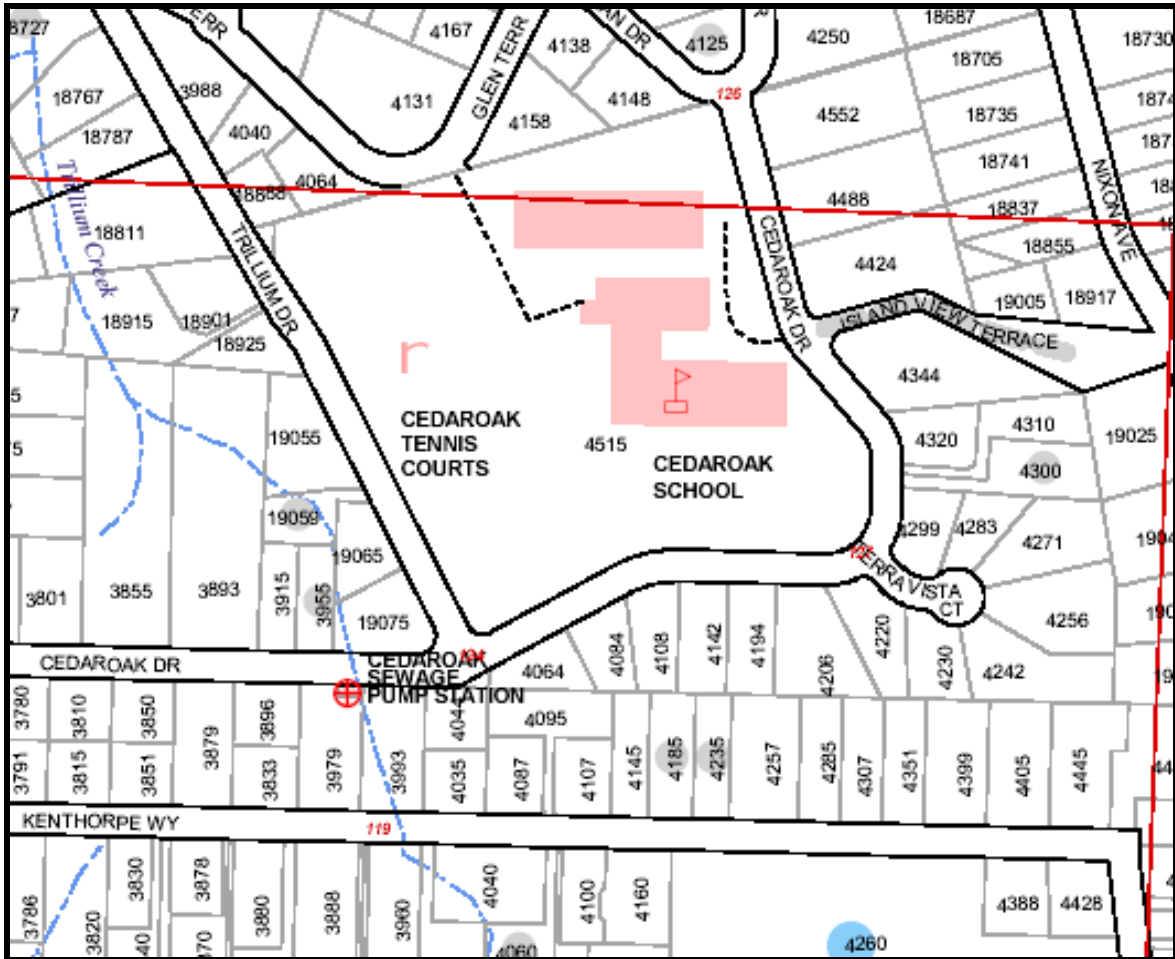
Keith Liden, AICP  
Parsons Brinckerhoff  
400 S. W. 6<sup>th</sup> Avenue, Suite 802  
Portland, OR 97204  
Phone: 503-478-2348  
Fax: 503-274-1412  
E-mail: [liden@pbworld.com](mailto:liden@pbworld.com)

Nancy Hubbard  
Hubbard & Associates  
PO Box 702  
Tualatin, OR 97062  
Phone: 503-819-7505  
E-mail: [hubbard.associates@frontier.com](mailto:hubbard.associates@frontier.com)

## Plan Sheets

- C1.1 Cover Sheet
- C1.2 Existing Conditions
- C1.3 Overall Site Plan
- C2.1 Utility Plan - North
- C2.2 Utility Plan - South
- C3.1 Detention Pond Plan and Details
- C4.1 Erosion Control Plan
- L1.1 Detention Pond Planting Plan

Figure 1: Vicinity Map



Source: City of West Linn

Figure 2: Aerial Photo



Source: City of West Linn

## BACKGROUND INFORMATION

### Site Description

The site is developed with Cedar Oak Park Primary School, including the school building, driveway, parking, and play fields. The entire site is approximately 11.22 acres. In addition to the school building, an athletic field is located on the southwest side of the school. Primary access to the school is provided by South Cedar Oak Drive, which runs along the south and east sides of the site.

Much of the site storm drainage is handled by a system of drywells. The dry well system is old and has been showing signs of failure. Areas of the site frequently have standing water during and after moderate rainfall events.

April 18, 2012

Cedar Oak Primary School – DR I  
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## Surrounding Area Description

The zoning designations and current land use of the surrounding area are summarized in Table 1.

**Table 1**  
**Land Use Summary**

<i>Properties in the Vicinity</i>	<i>Zone Designation</i>	<i>Land Use</i>
<u>Subject Property</u>		
2S 1E Section 24 BA, Tax Lot 1800 (11.22 acre school site owned by school district)	R10	Primary School building, ancillary facilities, and parking.
<u>Surrounding Properties</u>		
North/East/South/West	R10	Single family residences

## SCHOOL SITE IMPROVEMENTS

The district proposes to install a new underground piping system and storm water detention pond to accommodate the roof drainage from the school and replace the dry well system. The pond is proposed immediately south of the headwaters of an open channel in the north central portion of the site on the west side of the school building. A 4-foot high chain link fence is proposed around the upper bank of the detention pond. A pipe and discharge are proposed to drain the pond into the open channel at its beginning. This open channel is classified as a stream by the city once it flows north of Glen Terrace, which is along the northern property boundary.

The proposed storm water detention pond will be partially located within the 50-foot setback area from the creek, which the city defines as a Water Resources Area. The city requires that areas disturbed within Water Resources Area be mitigated either on-site or off-site. The school district has opted to pay into the city's fund for off-site mitigation in lieu of providing mitigation on-site. The total disturbed area within this setback is approximately 1,400 square feet. In addition to the off-site mitigation, the district also proposes re-vegetating the disturbed area in a manner consistent with CDC Chapter 32 requirements (Sheet L1.1).

The district has initiated preliminary discussions with the West Linn Parks Department to provide the off-site mitigation on city park property. The details of the specific location and design of the off-site mitigation has not yet been determined. Therefore, some of the information requested in Section 32.070(B) regarding location, design, and schedule cannot be provided at this time.

## **DESIGN REVIEW CRITERIA**

Section 55.090(A) refers to specific portions of Section 55.100 that apply to Class I Design Review applications. Sections (A)(1) and (2), which refer to Sections 55.100 (B)(1) through (6) are addressed below under Section 55.100. Regarding Section 55.090 (A)(3), the additional information and findings requested in the preapplication notes are addressed as noted below.

Section 55.090(B) states that adequate public facilities must be available. This criterion is satisfied because the school is currently served by a full range of public utilities and streets.

Section 55.100 contains the applicable approval standards for a Class I Design Review. At the conclusion of the preapplication conference, the planning staff determined that the application must meet the following criteria in Chapter 55:

- 55.100(A)(1) Storm water
- 55.100(A)(6) Fences
- 55.100(A)(10) Landscaping
- 55.100(C) Compatibility, buffering, and screening
- 55.100(I)(2) Drainage

These criteria are addressed below.

### **A. The provisions of the following chapters shall be met:**

#### **1. Chapter 33 - Storm Water Quality and Detention**

The approval criteria in Section 33.040 identify a number of things that must be accomplished according to city requirements during construction. These requirements will be met in coordination with the district, Planning Director, and City Engineer. A new storm water pond is proposed and will be designed to provide storm water detention in accordance with CDC chapter 33. Explicit storm water treatment is not proposed as there is no new impervious area proposed as part of this project, although some level of storm water treatment will be provided by the storm water pond.

#### **6. Chapter 44, Fences and Screening Outdoor Storage**

The proposed 4-foot high chain link fence for the detention pond is below the maximum height allowed, and therefore meets this criterion.

#### **10. Chapter 54, Landscaping**

The landscaping plan to re-establish landscaping removed during construction will comply with the city's landscaping requirements. The approval criteria are satisfied as noted below:

*Sections 54.020 A, B, and C* encourage preservation of existing trees. No trees will be removed.

*Section 54.020 D.* does not apply because there are no heritage trees on the site.



Section 54.020 E. is satisfied because well over 20% of the site will be landscaped, and dimensional requirements for landscaped areas will continue to be met.

**B. Relationship to the Natural and Physical Environment**

Sections 55.100 B. 1. and 2. are not relevant because there are no heritage trees on the site.

Section 55.100 B. 3. is satisfied because grading will only involve the storm water improvements, and the natural drainage pattern will not be altered.

Section 55.100 B. 4. is satisfied because the property is geologically stable. Furthermore, the existing school building will not be modified.

Sections 55.100 B. 5. through 6. are not relevant because the site improvements will not involve any modifications to the school building.

**C. Compatibility Between Adjoining Uses, Buffering and Screening**

The school has operated in the neighborhood for a sustained period, and it has proven to be a good neighbor. The modification of the storm water system and the related stream corridor restoration will be environmentally beneficial, and it will not change the current school operation in any way.

**I.2. Public Facilities - Drainage**

The plans were created by a registered civil engineer, and the storm water detention pond and outfall culvert have been designed to prevent any inappropriate volumes of storm water to flow downstream. Also, this project does not include expanding any impervious surfaces on the property.

**WATER RESOURCES AREA PERMIT CRITERIA**

At the conclusion of the preapplication conference, the city staff determined that the Water Resource Area permit application must meet the following criteria in Chapter 32 – Water Resource Area Protection of the Community Development Code (CDC):

- 32.040 Application
- 32.050 Approval Criteria
- 32.060 Site Plan
- 32.070 Mitigation Plan
- 32.080 Revegetation Plan Requirements

**Section 32.040 Application**

This section is satisfied because the plan sheet package provides all of the information and narrative responses required by this section.

### **Section 32.050 Approval Criteria**

This section contains a number of requirements relating to the protection of water resources.

- A.** This section is satisfied because the required information and evaluation is provided as part of this application, including analysis and design by a registered civil engineer.
- B.** This section calls for maintaining existing natural drainageways. In this case, the district proposes to minimize encroachment into the headwater of the unnamed creek. This storm water detention pond will be partially within the 50-foot setback area for the creek, but none of the storm drainage facilities will require any modification of the creek. The southern edge of the creek headwater will need to be re-graded to accommodate the storm water detention pond, but the integrity of the natural creek drainage will be retained.
- C.** The storm water facilities are located to provide proper drainage of the school property, and locating the storm water detention pond in close proximity to the natural channel where this run-off should flow. A small portion of the water quality resource associated with the creek headwater area will be affected, and a mitigation plan and restoration plan are proposed, consistent with CDC Chapter 32 requirements.
- D.** The district is committed to protect the water resource areas on the site into the future. It will work with the city staff during final design and permitting to accomplish this. Buildings and structures on the site will not be enlarged or moved closer to the creek, and therefore, existing setbacks shall be maintained.
- E.** This section describes how the protected water resource area setback and transition areas are determined. These structures shall remain in their current locations. A mitigation plan will compensate for the minor encroachment of the storm water detention pond within the 50-foot setback area for the creek headwater. The district has had preliminary communication with the city parks department regarding off-site mitigation on city park property.
- F.** This criterion does not apply because no roads, driveways, or utility crossings are proposed.
- G.** The district will work with the city to maximize the protection of the resource as intended by this criterion, which calls for chain link fencing (or approved equivalent). Orange construction fencing is proposed as an alternative. As noted above, a permanent 4-foot chain link fence is proposed to be installed at the top of bank of the detention pond.
- H.** This criterion does not apply because no new paved surfaces are proposed.
- I.** All plans have been developed by experienced civil engineers and landscape architects with the goal of maintaining and enhancing the water and natural resources on the site. Storm drainage will not be diverted into another basin with this proposal. The design of these elements will meet the city requirements.

- J.** All erosion control measures prescribed by the city shall be followed at all times. Design of these elements will meet the city of West Linn and Oregon Stated Department of Environment Quality requirements.
- K.** Due to the nature of this project and the amount of disturbance, a re-vegetation plan is required. The re-vegetation plan proposed by the district will provide the combination of ground cover, shrubs, and trees required by this section and CDC 32.080 (addressed below).
- L.** As noted above, no new structures are proposed within or near the setback area.
- M.** This criterion does not apply because storm water treatment facilities are not proposed.
- N.** This criterion is not applicable because opening a covered or piped drainage is not proposed.
- O.** This criterion does not apply because no new buildings or building remodeling is proposed.
- P.** This criterion is not applicable because all relevant storm drainage channels have been identified.

**Section 32.060 Site Plan**

This section is satisfied because the plan sheet package provides all of the information required by this section.

**Section 32.070 Mitigation Plan**

This section contains a number of requirements relating to the mitigation of potential adverse impacts on water resource areas.

- A.** This section is satisfied because the proposed restoration within the water resource area will retain or improve the existing vegetation. Because of how storm water leaves the site, the storm water detention pond and outfall must be located as proposed. The restoration work includes the minimum area necessary, and it avoids any work in the stream channel.
- B.** As noted, this project is not designed to accommodate new development. The bank stabilization improvements are proposed to correct an existing situation. The stream corridor on the property will be properly restored and replanted as shown in this application. The district and its contractors will be responsible for the on-site work and assuring its proper completion.

Because of the limited size of the site, there is no room available for 1:1 on-site mitigation, and the district has initiated preliminary discussions with the West Linn Parks Department to pay a fee-in-lieu to provide of off-site mitigation on city park property. However, the location, design, and schedule have not been determined at this time.

- C.** Because of the limited mitigation area on the school site, off-site mitigation is proposed. Conversations with city staff concur with this approach. The total disturbed area, which requires mitigation, is approximately 1,400 square feet.
- D.** This criterion is not applicable because no wetland areas are involved.
- E.** Once an off-site mitigation area is identified, the district will work with the city, to ensure its protection. Preliminary communication with the parks department indicates that the off-site mitigation can be located on park property.

**Section 32.080 Revegetation Plan Requirements**

This section contains a number of requirements relating to revegetating water resource areas. These standards were followed when the landscaping and planting plans were developed for this application.

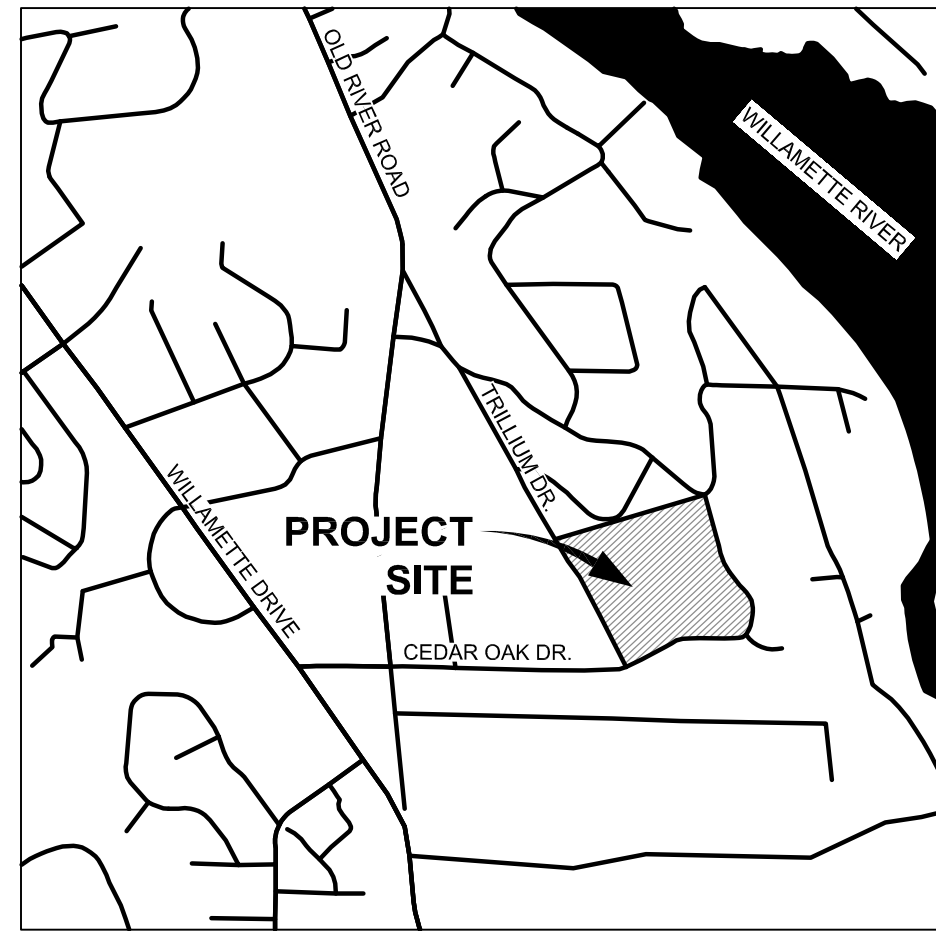
- A.** Temporary irrigation shall be provided by the district until the plants are established.
- B.** As shown in the Detention Pond Planting Plan (Sheet L1.1), any non-native plants shall be removed and replaced with native vegetation.
- C.** This section is not relevant because no existing trees or shrubs will be removed.
- D.** The new trees proposed to surround the detention pond will be distributed in a manner consistent with this CDC section. The densest planting is proposed within the 50-foot setback area for the stream headwater.
- E.** The proposed landscaping plan contains a variety of trees and shrubs, which comply with the requirements in this section.
- F.** The district plans to hand water the new vegetation until it becomes established. It shall provide the necessary assurances for plant survival as required by the city.

**CONCLUSION**

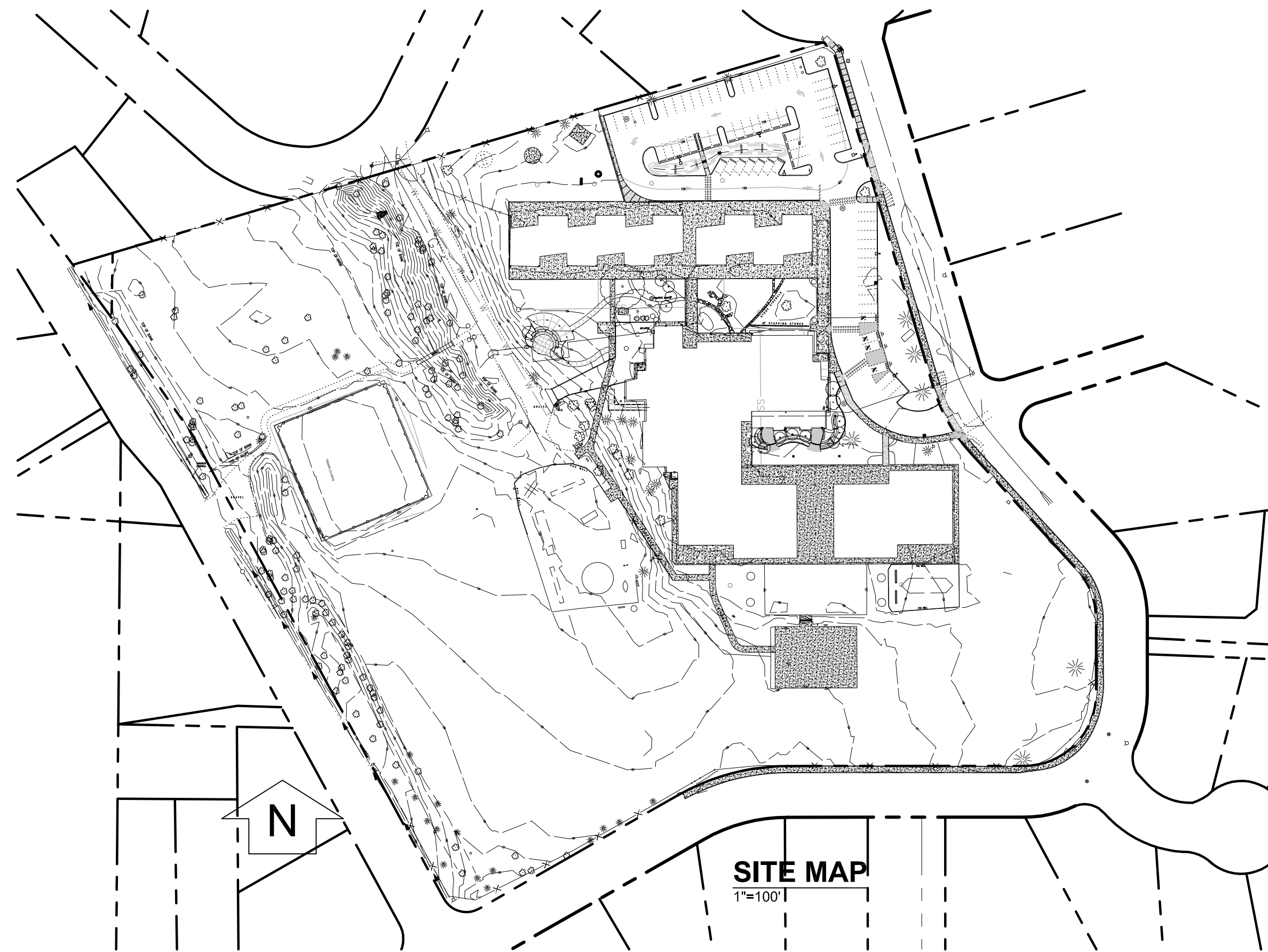
The proposed storm water improvements satisfy all the relevant criteria as demonstrated above.

# DRAINAGE IMPROVEMENT PLANS FOR CEDAROAK PARK PRIMARY SCHOOL CITY OF WEST LINN, OREGON

## DESIGN REVIEW DRAWINGS



**VICINITY MAP**



**SITE MAP**  
1"=100'

### ATTENTION EXCAVATORS

OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-001-0090. YOU MAY OBTAIN COPIES OF THESE RULES FROM THE CENTER BY CALLING 503-232-1987. IF YOU HAVE ANY QUESTIONS ABOUT THE RULES, YOU MAY CONTACT THE CENTER. YOU MUST NOTIFY THE CENTER AT LEAST TWO BUSINESS DAYS BEFORE COMMENCING ANY EXCAVATION. CALL 503-246-6699.

### GRADING NOTES

1. SURVEY OF EXISTING CONDITIONS PREPARED BY COMPASS ENGINEERING. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF ALL SURVEY DATA. CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING RIGHT-OF-WAY LINES, SLOPE EASEMENTS, AND ALL HORIZONTAL AND VERTICAL CONTROL PRIOR TO CONSTRUCTION.
2. CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION STAKING AND SHALL ARRANGE FOR STAKING WITH A LICENSED SURVEYOR. STAKING WILL BE REVIEWED BY OWNER FOR CONFORMANCE TO DESIGN PRIOR TO CONSTRUCTION.
3. ALL GRADES BETWEEN SPOT ELEVATIONS SHALL HAVE UNIFORM SLOPE UNLESS OTHERWISE INDICATED. MAINTAIN POSITIVE DRAINAGE AWAY FROM ALL BUILDING WALLS AND DOORS.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF ALL CONSTRUCTION. ADEQUATE SHORING BRACING, TIES, AND SUPPORTS SHALL BE USED TO PROVIDE PROPER TEMPORARY INTEGRITY DURING ALL PHASES OF CONSTRUCTION.
5. ALL EXISTING LANDSCAPED AND UNPAVED AREAS WHICH ARE DISTURBED BY CONSTRUCTION OR EARTHWORK OPERATIONS SHALL BE HAND RAKED SMOOTH AND RETURNED TO ORIGINAL EXISTING CONDITIONS. DISTURBED LANDSCAPED AREAS SHALL RECEIVE BARK DUST AND REPLACEMENT PLANTINGS. DISTURBED NATURAL AREAS SHALL BE HYDROSEEDDED TO REPLACE NATIVE COVER. DISTURBED GRAVEL AREAS SHALL RECEIVE REPLACEMENT GRAVEL OR CRUSHED ROCK SURFACING.
6. ALL DITCHES, SWALES, GUTTERS, ETC. SHOULD BE CONSIDERED ACTIVE STORM CONVEYANCES UNLESS OTHERWISE INDICATED. CONTRACTOR IS RESPONSIBLE FOR ADDRESSING STORM WATER DRAINAGE AND DEWATERING OF WORK AREAS DURING CONSTRUCTION.
7. DURING WET WEATHER PERIODS, CONTRACTOR IS RESPONSIBLE FOR SEQUENCING CONSTRUCTION IN A MANNER TO MINIMIZE IMPACT ON OPEN EARTHWORK AND COMPACTION OPERATIONS.
8. ALL EXISTING MONUMENTS SHALL BE PROTECTED DURING CONSTRUCTION. IF ANY MONUMENTS ARE DISTURBED OR DESTROYED DURING CONSTRUCTION, CONTRACTOR SHALL RETAIN THE SERVICES OF A REGISTERED LAND SURVEYOR TO RESTORE THE MONUMENT TO ITS ORIGINAL CONDITION AND FILE THE NECESSARY SURVEYS AS REQUIRED BY STATE LAW.
9. COMPLETELY COVER ANY SOIL STOCKPILES WITH 6 MIL BLACK PLASTIC AND PROVIDE RESTRAINTS TO HOLD PLASTIC IN PLACE. MONITOR PLASTIC COVER AS PART OF CONTINUOUS EROSION CONTROL PLAN. PLACE SILT FENCE COMPLETELY AROUND STOCKPILE.
10. A GRADING PERMIT MUST BE OBTAINED PRIOR TO ANY GRADING ACTIVITIES TAKING PLACE.

### GENERAL EROSION CONTROL NOTES

1. THE PROPOSED EROSION CONTROL MEASURES ARE A MINIMUM BEST MANAGEMENT PRACTICE. THE CONTRACTOR MAY BE REQUIRED TO TAKE ADDITIONAL EROSION CONTROL MEASURES TO ENSURE THAT NO SEDIMENT LADEN WATER EXITS THE SITE OR ENTERS THE EXISTING STORMWATER SYSTEMS. THE CONTRACTOR MAY ALSO BE DIRECTED BY THE CITY ENGINEER, CITY INSPECTOR, OR PROJECT ENGINEER TO CONTROL DUST AND AIRBORNE EROSION.
2. PRIOR TO COMMENCEMENT OF GRADING ACTIVITY AND AFTER INSTALLATION OF EROSION CONTROL MEASURES, CONTRACTOR IS TO CONTACT THE CITY OF WEST LINN FOR THEIR SITE REVIEW AND APPROVAL.
3. ALL EROSION CONTROL PERMITS MUST BE OBTAINED PRIOR TO ANY GRADING ACTIVITIES TAKING PLACE.

### DEMOLITION NOTES

1. DEMOLITION REQUIREMENTS SHOWN ON THESE DRAWINGS ARE INTENDED TO ILLUSTRATE THE GENERAL SCOPE OF DEMOLITION AND ARE GENERALLY DIAGRAMMATIC. THEY DO NOT IDENTIFY EVERY ELEMENT TO BE REVISED. CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING A DETAILED SCOPE OF DEMOLITION FROM OWNER AND FROM EXAMINATION OF EXISTING SITE CONDITIONS.
2. CONTRACTOR SHALL SUBMIT A DEMOLITION PLAN, PRIOR TO CONSTRUCTION, OUTLINING ALL ITEMS TO BE REMOVED.
3. DEMOLISHED ITEMS SHALL BE REMOVED FROM THE SITE EXCEPT THOSE ITEMS IDENTIFIED AS "TO REMAIN", "SAVE AND PROTECT", OR "SALVAGE FOR OWNER".
4. ALL LINES THAT ARE CUT AT THE LIMITS OF DEMOLITION OR POINT OF DISCONNECTION WITHIN THE WORK AREA SHALL BE CAPPED OR PLUGGED WATER TIGHT TO CITY'S OR OWNER'S APPROVAL.
5. DEMOLITION PERMIT MUST BE OBTAINED AND APPROPRIATE EROSION CONTROL MEASURES IN PLACE PRIOR TO ANY DEMOLITION ACTIVITIES TAKING PLACE.

### GENERAL SITE NOTES

1. CONTRACTOR IS RESPONSIBLE FOR VISITING THE SITE AND BECOMING FAMILIAR WITH THE SITE CONDITIONS PRIOR TO BIDDING. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING SITE CONDITIONS PRIOR TO THE COMMENCEMENT OF WORK AND REPORT ANY DISCREPANCIES TO THE OWNER'S REPRESENTATIVE.
2. CONTRACTOR IS RESPONSIBLE FOR CONFIRMING THAT NEW FEATURES TIE INTO EXISTING SITE DEVELOPMENT, PAVEMENT JOINTS MATCH CORRECTLY, AND THAT GENERAL DESIGN ELEVATIONS FOR NEW CONSTRUCTION PROVIDE PROPER PAVEMENT AND DRAINAGE SLOPES FROM EXISTING TIE-IN POINTS. REPORT DISCREPANCIES TO OWNER'S REPRESENTATIVE PRIOR TO CONSTRUCTION.
3. IN AREAS WHERE ASPHALT PAVING IS BEING REWORKED, PROVIDE NEW PAINT STRIPING FOR ALL REVISED PAVING WORK AND PARKING STALLS. EXISTING STRIPING TO BE BLACKENED OUT IN RECONFIGURED AREAS AS REQUIRED.
4. ALL CONSTRUCTION ACTIVITIES SHALL BE COORDINATED WITH CITY INSPECTOR(S). CONTRACTOR SHALL NOTIFY CITY INSPECTOR(S) 48 HOURS PRIOR TO START OF CONSTRUCTION.
5. DURING CONSTRUCTION, THE CONTRACTOR AND/OR SUBCONTRACTORS SHALL HAVE A MINIMUM OF ONE (1) SET OF PERMIT APPROVED PLANS AND SPECIFICATIONS ON THE JOB SITE AT ALL TIMES.
6. UPON COMPLETION OF THE CONSTRUCTION PROJECT, THE CONTRACTOR SHALL LEAVE THE PROJECT AREA FREE OF DEBRIS AND UNUSED MATERIAL. ALL DAMAGE CAUSED BY THE CONTRACTOR SHALL BE RESTORED TO AN "AS GOOD OR BETTER" CONDITION.
7. ALL WORK WITHIN THE PUBLIC RIGHT-OF-WAY SHALL CONFORM TO CITY OF WEST LINN STANDARDS AND SPECIFICATIONS.

### SHEET INDEX

- C1.1 COVER SHEET
- C1.2 EXISTING CONDITIONS
- C1.3 OVERALL SITE PLAN
- C2.1 UTILITY PLAN - NORTH
- C2.2 UTILITY PLAN - SOUTH
- C3.1 DETENTION POND PLAN & DETAILS
- L1.1 PLANTING PLAN & DETAILS

### OWNER

WEST LINN-WILSONVILLE SCHOOL DISTRICT  
2755 SW BORLAND ROAD  
PORTLAND, OR 97062  
(503) 673-7976

### CIVIL ENGINEER

GHD INC.  
15575 SW SEQUOIA PARKWAY, SUITE 140  
PORTLAND, OR 97224  
(503) 226-3621

### LANDSCAPE ARCHITECT

WALKER-MACY  
111 SW OAK STREET, SUITE 200  
PORTLAND, OR 97204  
(503) 228-3122

### CIVIL ABBREVIATIONS

AC	ASPHALT CONCRETE
EG	EXISTING GROUND
CL	CENTER LINE
FG	FINISHED GROUND
FL	FLOW LINE
FS	FINISHED SURFACE
G	GUTTER / GAS
IE	INVERT ELEVATION
L	LENGTH
LF	LINEAL FEET
NTS	NOT TO SCALE
S	SLOPE
SD	STORM DRAIN
SDCB	STORM DRAIN CATCH BASIN
SDMH	STORM DRAIN MANHOLE
TC	TOP OF CURB
TP	TOP OF PIPE
TYP	TYPICAL
W	WATER

### UTILITY NOTES

1. LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE PLOTTED FROM RECORD DRAWINGS AND INTERPOLATION OF PHYSICAL EVIDENCE ON THE SITE AND ARE SUBJECT TO FIELD VERIFICATION BY THE CONTRACTOR.
2. ALL LOCATIONS FOR WORK SHALL BE CHECKED AND COORDINATED WITH EXISTING CONDITIONS IN THE FIELD BEFORE BEGINNING CONSTRUCTION UNDER THIS SECTION OR ANY OTHER SECTION.
3. THE WORKING DRAWINGS ARE GENERALLY DIAGRAMMATIC. THEY DO NOT SHOW EVERY OFFSET, BEND OR ELBOW REQUIRED FOR INSTALLATION IN THE SPACE PROVIDED. THEY DO NOT SHOW EVERY DIMENSION, COMPONENT PIECE, OR FITTING REQUIRED TO COMPLETE THE PROJECT. CONTRACTOR IS RESPONSIBLE FOR PROVIDING A COMPLETE AND WORKING SYSTEM.
4. CONTRACTOR SHALL COORDINATE A UTILITY LOCATE 48 HOURS PRIOR TO BEGINNING ANY UTILITY CONSTRUCTION FOR LOCATION MARK-UP OF ALL EXISTING UTILITIES BOTH IN THE RIGHT-OF-WAY AND ON PRIVATE PROPERTY. CONTRACTOR SHALL COORDINATE THE UTILITY LOCATE WITH MUNICIPALITY HAVING JURISDICTION FOR ALL UTILITY WORK WITHIN A PUBLIC RIGHT-OF-WAY. INFORM ENGINEER IMMEDIATELY IF LOCATE INDICATES THAT EXISTING UTILITIES ARE DIFFERENT THAN SHOWN ON DRAWINGS. PRE-SURVEY LOCATING REQUESTS SHALL BE 14 DAYS IN ADVANCE.
5. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO UTILITIES, FEATURES, AND STRUCTURES LOCATED ON THE SITE. LOCATE, PROTECT, AND AVOID DISRUPTION OF ALL ABOVE AND BELOW GRADE UTILITIES DURING CONSTRUCTION.
6. ALL UTILITY CONSTRUCTION ON PRIVATE PROPERTY SHALL CONFORM TO THE LATEST EDITION OF THE OREGON PLUMBING SPECIALTY CODE. ALL UTILITY CONSTRUCTION WITHIN THE RIGHT-OF-WAY SHALL CONFORM TO THE STANDARD REQUIREMENTS OF THE MUNICIPALITY HAVING JURISDICTION.
7. ALL BURIED LINES TO HAVE 2 FEET MINIMUM COVER, UNLESS NOTED OTHERWISE.
8. DOWNSPOUT AND BUILDING UTILITY CONNECTIONS TO BE SHOWN ON BUILDING PLUMBING DRAWINGS. REFER TO PLUMBING DRAWINGS FOR CONTINUATION OF UTILITY LINES INTO BUILDING.
9. THRUST RESTRAINTS IS REQUIRED ON ALL PRESSURE LINE BENDS AND FITTINGS.
10. SEE LANDSCAPE DRAWINGS FOR IRRIGATION LINES.
11. ALL EXISTING UTILITIES AND TIE-IN POINTS SHOULD BE CONSIDERED ACTIVE UTILITIES UNLESS OTHERWISE INDICATED.
12. CONFIRM FIRE HYDRANT TYPE, NOZZLE SIZES, AND THREAD CONFIGURATIONS WITH LOCAL MUNICIPALITY HAVING JURISDICTION PRIOR TO CONSTRUCTION.
13. CONFIRM ALL UTILITY VALVE VAULTS, VALVES, METERS, BACKFLOW PREVENTION ASSEMBLIES, AND OTHER PUBLIC UTILITY APPURTENANCES IN THE RIGHT-OF-WAY WITH THE MUNICIPALITY HAVING JURISDICTION.

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WEST LINN-WILSONVILLE SCHOOL DISTRICT  
 CEDAROAK PARK PRIMARY SCHOOL  
 DRAINAGE IMPROVEMENTS

COVER SHEET

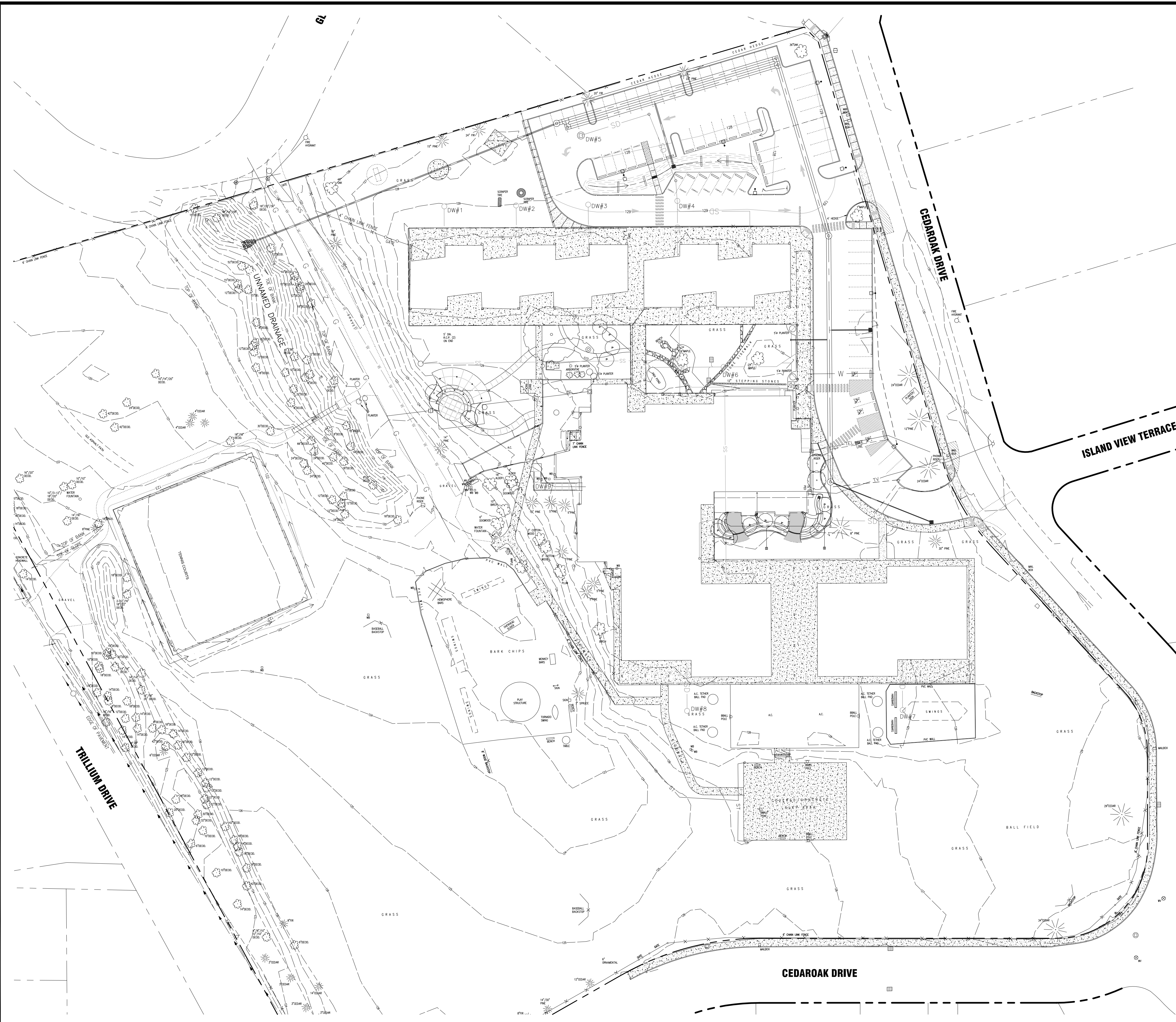
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DRWN: STS CHKD: MBW

C1.1

SHEET - OF -

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2012-04-13 10:28 AM KTOLE  
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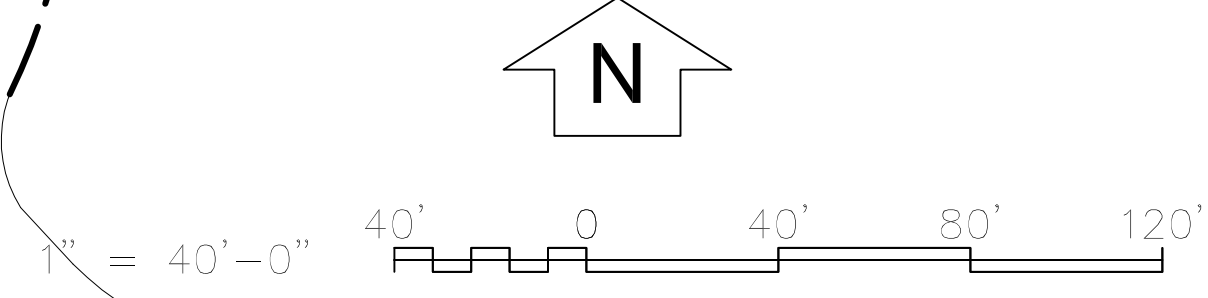


**NOTES**

1. TOPOGRAPHIC FEATURES SHOWN ON THIS MAP WERE LOCATED USING STANDARD PRECISION TOPOGRAPHIC MAPPING PROCEDURES. THIRD PARTY USERS OF DATA FROM THIS MAP PROVIDED VIA AUTOCAD DRAWING FILES OR DATA EXCHANGE FILES SHOULD NOT RELY ON ANY AUTOCAD GENERATED INFORMATION WHICH IS BEYOND THE LIMITS OF PRECISION OF THIS MAP. THIRD PARTIES USING DATA FROM THIS MAP IN AN AUTOCAD FORMAT SHOULD VERIFY ANY ELEMENTS REQUIRING PRECISE LOCATIONS PRIOR TO COMMENCEMENT OF ANY CRITICAL DESIGN OR CONSTRUCTION. CONTACT COMPASS ENGINEERING FOR FURTHER INFORMATION. FURTHERMORE, COMPASS ENGINEERING WILL NOT BE RESPONSIBLE FOR HELD LIABLE FOR ANY DESIGN OR CONSTRUCTION RELATED PROBLEMS THAT ARISE OUT OF THIRD PARTY USAGE OF THIS MAP (IN AUTOCAD OR OTHER FORMAT) FOR ANY PURPOSE OTHER THAN SPECIFICALLY STATED HEREIN. THIS STATEMENT IS AN OFFICIAL PART OF THIS MAP.
2. ONLY VISIBLE UTILITIES HAVE BEEN SHOWN. ADDITIONAL UNDERGROUND UTILITIES MAY EXIST.
3. BASIS OF ELEVATIONS IS NAVD '88 UTILIZING GPS OBSERVATIONS ON HARN STATION "TERM" IN OREGON CITY.
4. THIS SURVEY DOES NOT CONSTITUTE A BOUNDARY SURVEY AND SHOULD NOT BE CONSTRUED AS SUCH. PROPERTY LINES SHOWN ARE BASED ON EXISTING MONUMENTS AND SURVEYS OF RECORD.
5. CONTOURS ARE ONE FOOT.

**LEGEND**

- WATER METER
- WATER VALVE
- FIRE HYDRANT
- SPRINKLER BOX
- STORM DRAIN CLEANOUT
- CATCH BASIN
- GAS VALVE
- UTILITY POLE
- LIGHT POLE
- SIGN
- CONCRETE



**1** EXISTING CONDITIONS  
C1.2|C1.2 SCALE: 1"=40'-0"

**COMPASS ENGINEERING**  
TFRA VISIT  
**ENGINEERING SURVEYING PLANNING**  
 4105 SE INTERNATIONAL WAY, SUITE 501 (503) 653-9083 PHONE  
 MILWAUKIE, OREGON 97222 www.compass-engineering.com (503) 653-9095 FAX

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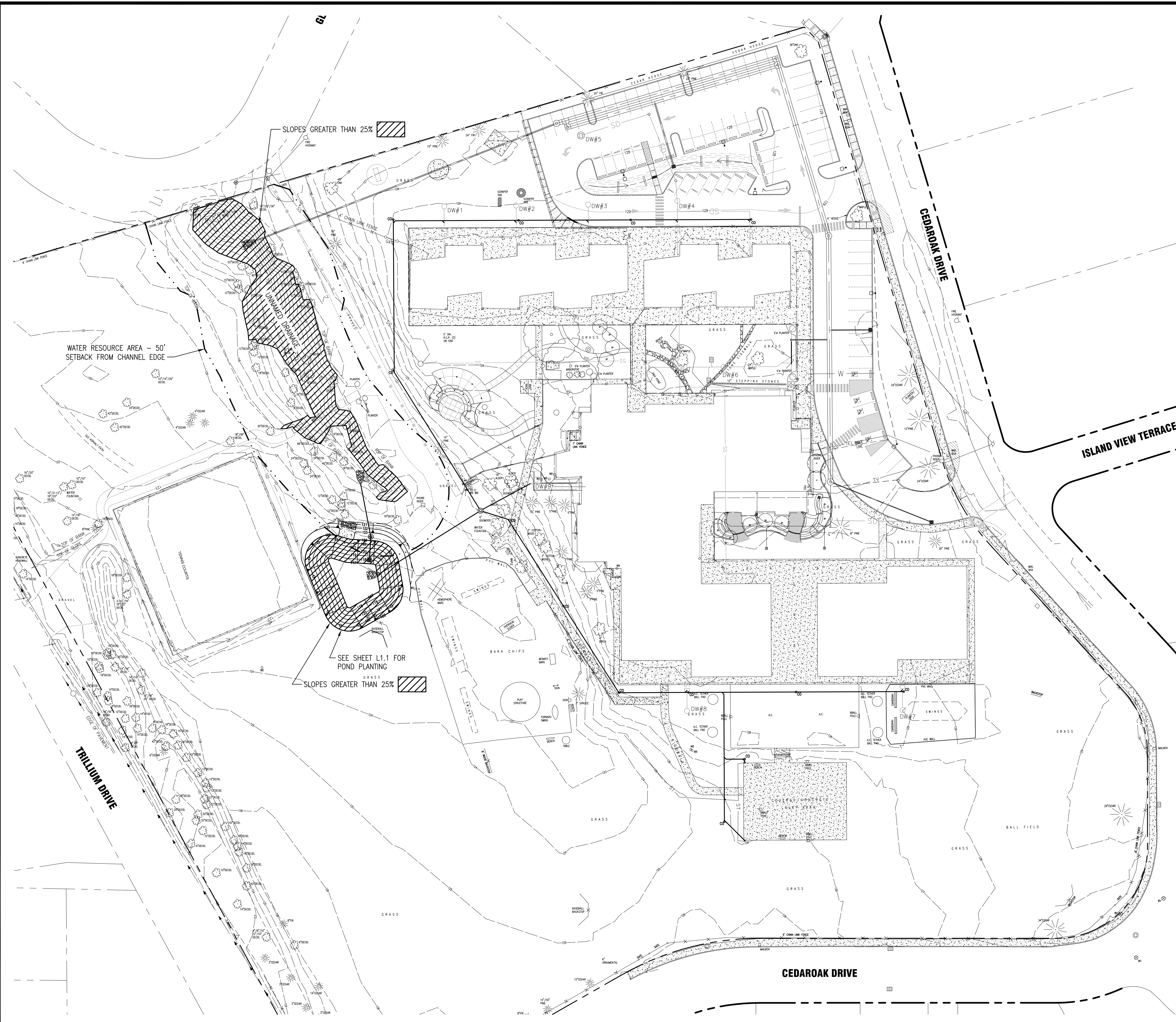
EXISTING CONDITIONS

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**C1.2**

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WATER RESOURCE AREA - 50'  
SETBACK FROM CHANNEL EDGE

SEE SHEET L1.1 FOR  
POND PLANTING

**PROPOSED POND VEGETATION DESCRIPTION**

THE PLANTING CONCEPT IS STRUCTURED TO PROVIDE THE STORMWATER PLANTER WITH A MIX OF NATIVE TREES, SHRUBS AND GRASSES THAT ARE WELL ADAPTED TO THE SITE AND ARE INTENDED TO ACCOMPANY THE EXISTING PLANT SPECIES IN THE ADJACENT NATURAL AREA HELPING TO BLEND THE PROPOSED STORMWATER PLANTER INTO THE EXISTING SITE CONTEXT.

TREE SPECIES PROVIDED IN THE PLANTING PLAN ALLOW FOR A MIX OF DECIDUOUS AND EVERGREEN TREES, AND ARE OF MIXED HEIGHT. THE VARYING HEIGHTS OF THE PROPOSED TREES WILL CREATE A VARIED OPEN OVERSTORY CANOPY. TWO OF THE DECIDUOUS SPECIES ALSO HAVE ADDITIONAL INTERESTING CHARACTERISTICS THAT WILL ADD INTEREST TO THE PLANTER.

THE SHRUB SPECIES PROVIDED HAVE A GREATER HEIGHT VARIATION THROUGH THE PLANTING ZONES. USING LARGE SHRUBS AND MEDIUM SHRUBS WILL CREATE A LAYERED EFFECT WHILE MOVING DOWN THE BANK OF THE PLANTER. ALL SPECIES ARE NATIVE, AND HAVE UNIQUE CHARACTERISTICS THAT PROVIDE FOR INTEREST IN MULTIPLE SEASONS, AS WELL CAN CREATE THE POTENTIAL FOR PASSIVE LEARNING AND EXPLORATION. SPECIES THAT FLOWER AND PROVIDE A FRUIT ARE ALL NON-TOXIC, AND CREATE LITTLE VEGETATIVE LITTER. PLANTS THAT DO HAVE POTENTIAL FOR INCREASED LITTER WILL BE USED LOWER IN THE PLANTER AWAY FROM HIGHER TRAFFIC AREAS.

GROUNDCOVERS AND BASIN PLANTINGS ARE PROVIDED TO EXTEND THE LOOK AND FEEL OF THE EXISTING NATURAL AREA. THE PLANTS HAVE BEEN SELECTED FOR THEIR VIGOR, AND ADAPTABILITY TO VARYING WATER DEMANDS OF A STORMWATER PLANTER.

OVERALL THE STORMWATER PLANTER WILL BE LOW MAINTENANCE, AND PROVIDE THE APPROPRIATE AMOUNT OF SCREENING FOR THE STORMWATER MANAGEMENT FACILITY.

**EXISTING VEGETATION SUMMERY  
WITHIN WATER RESOURCE AREA**

BOUNDARY AREA	TREE COVER%	GROUND COVER %
32420.49 SF	22750.16 SF (69.6%)	6503.27 SF (20%)

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11456-11008  
C1.3

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**WEST LINN-WILSONVILLE SCHOOL DISTRICT  
CEDAROK PARK PRIMARY SCHOOL  
DRAINAGE IMPROVEMENTS**

**OVERALL SITE PLAN**

PROJ NO: 11456-11008

DRWN: STS CHKD: MBW

**C1.3**

SHEET - OF -

**1 OVERALL SITE PLAN**  
C1.3 | C1.3 SCALE: 1"=40'-0"

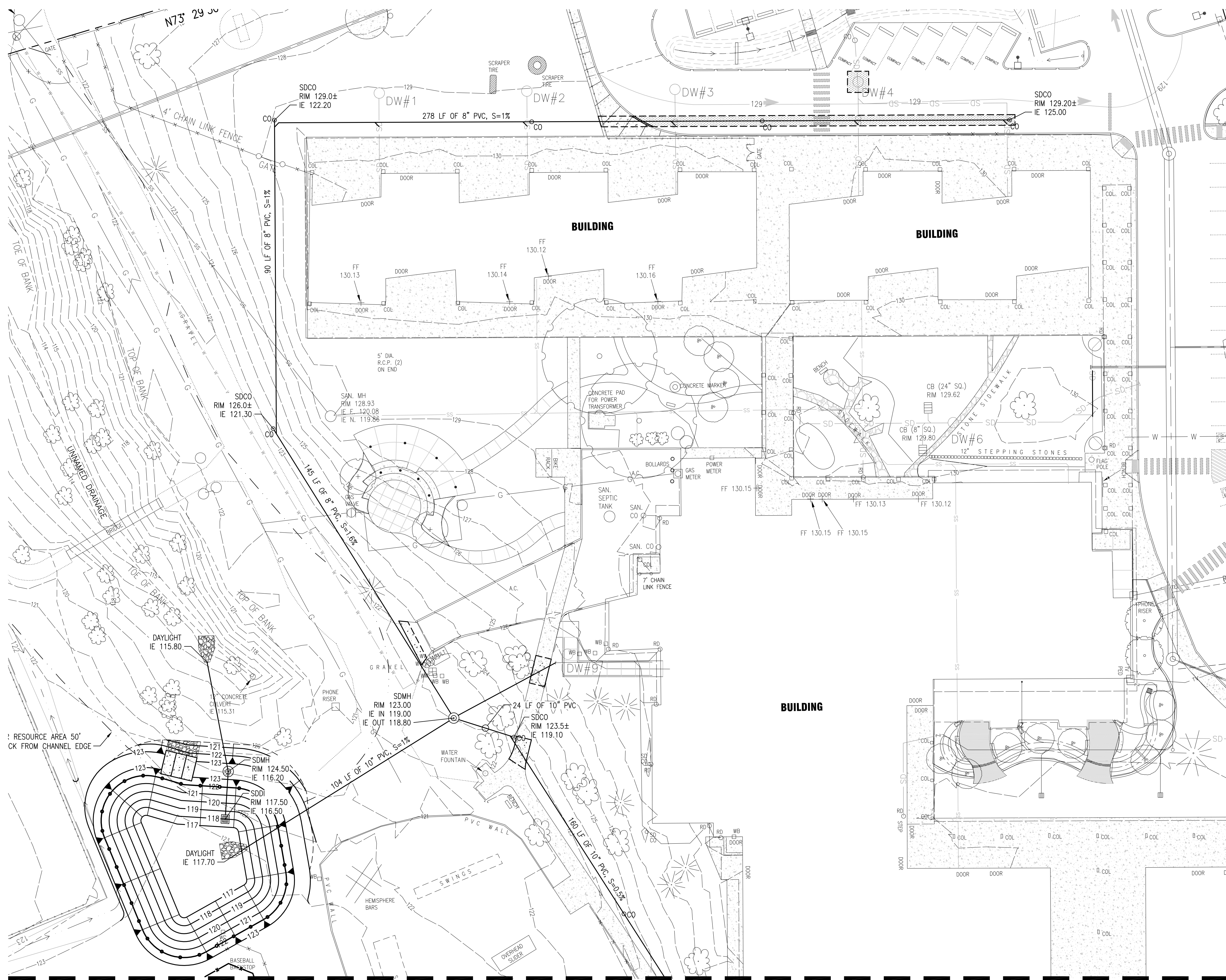
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TRFA VIST.

1" = 40'-0" 40' 0 40' 80' 120'

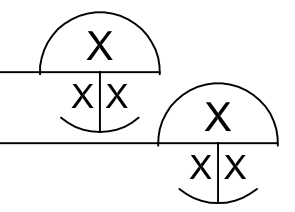
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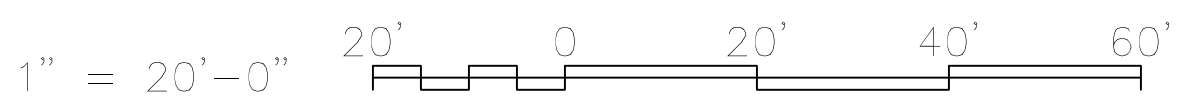
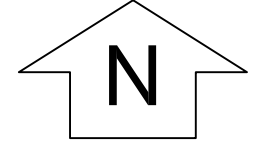


**CONSTRUCTION NOTES**

- 1 INSTALL PVC STORM DRAIN PIPE - SIZE PER PLAN.
- 2 INSTALL STANDARD CLEANOUT.
- 3 INSTALL STANDARD MANHOLE.
- 4 INSTALL FLOW CONTROL MANHOLE.
- 5 INSTALL STORM DRAIN OUTFALL.
- 6 CONNECT TO EXISTING STORM DRAIN SYSTEM. CONTRACTOR TO CONFIRM TIE-IN ELEVATION OF EXISTING SYSTEM PRIOR TO CONSTRUCTION.
- 7 INSTALL STORM DRAIN DAYLIGHT.
- 8 INSTALL DITCH INLET.
- 9 DECOMMISSION EXISTING DRYWELL.



MATCH LINE - SEE SHEET C2.2



1 UTILITY PLAN - NORTH  
C2.1/C2.1 SCALE: 1"=20'-0"

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DRAINAGE IMPROVEMENTS**

**UTILITY PLAN - NORTH**

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DRWN: STS CHKD: MBW

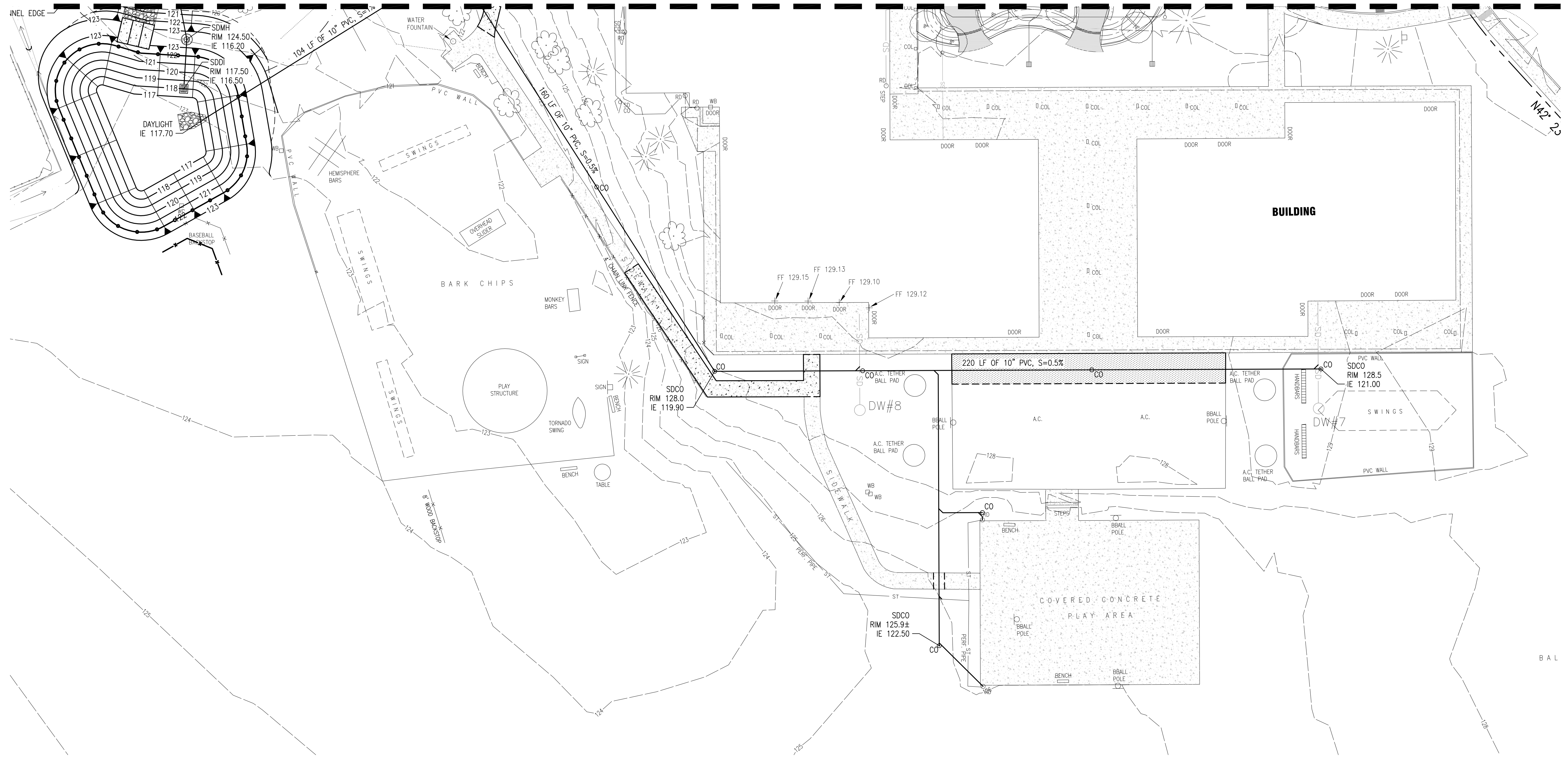
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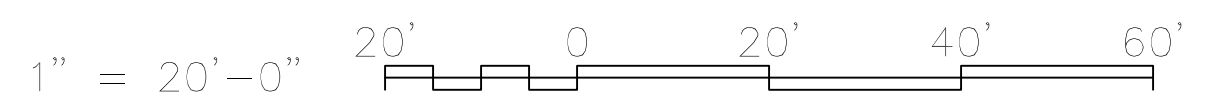
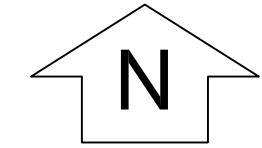
MATCH LINE - SEE SHEET C2.1



**1** UTILITY PLAN - SOUTH  
C2.2/C2.2 SCALE: 1"=20'-0"

**CONSTRUCTION NOTES**

- 1 INSTALL PVC STORM DRAIN PIPE - SIZE PER PLAN.
- 2 INSTALL STANDARD CLEANOUT.
- 3 INSTALL STANDARD MANHOLE.
- 4 INSTALL FLOW CONTROL MANHOLE.
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DRAINAGE IMPROVEMENTS**

**UTILITY PLAN - SOUTH**

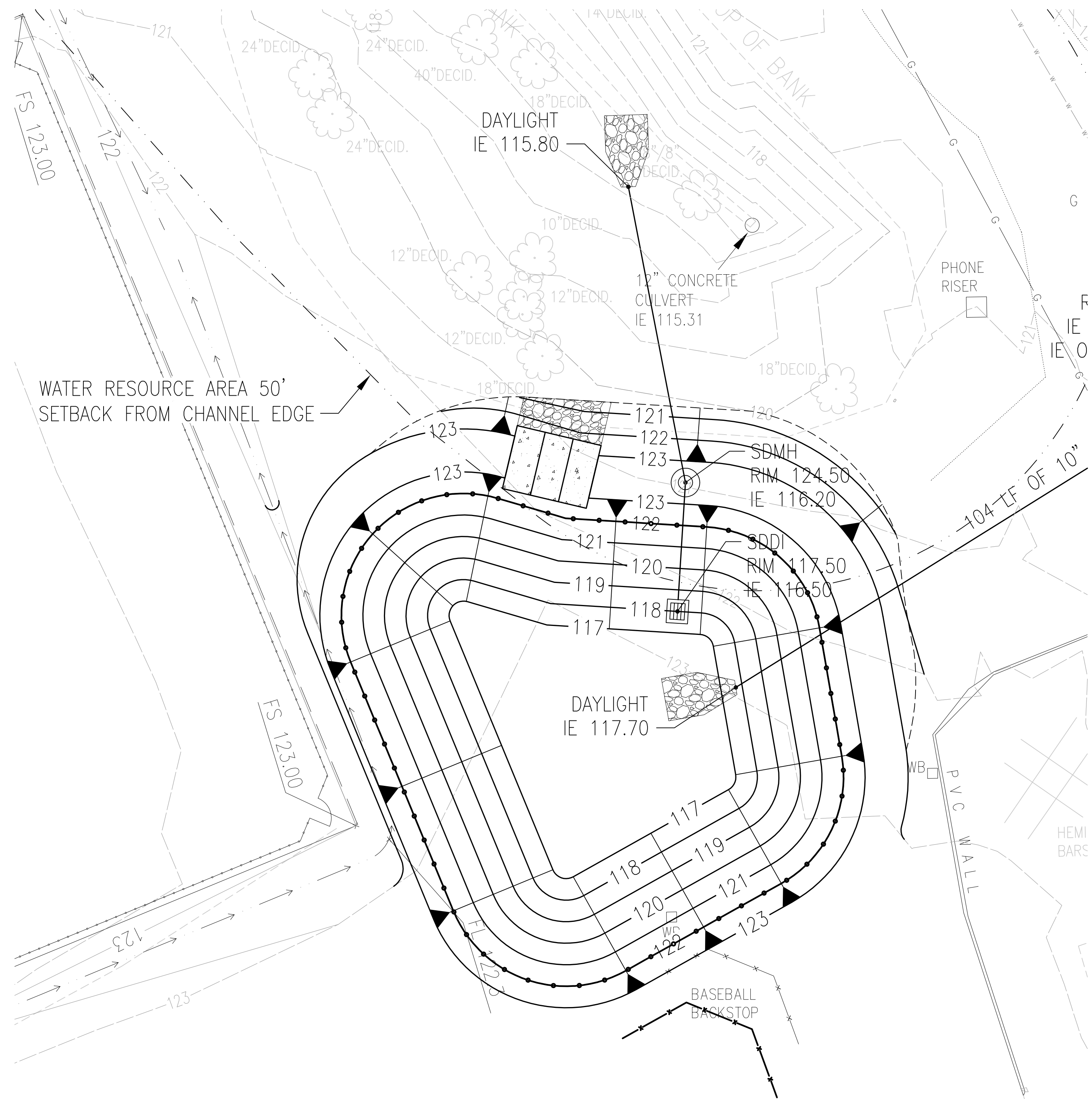
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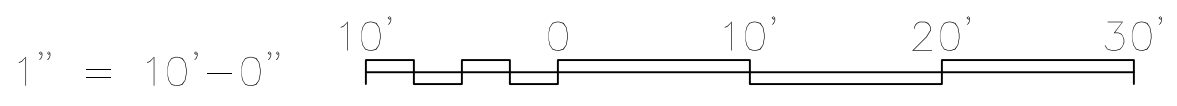
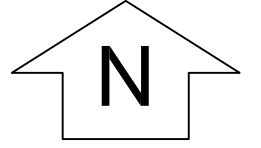
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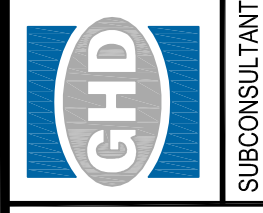
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**1** DETENTION POND PLAN  
C3.1/C3.1 SCALE: 1"=10'-0"



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DRAINAGE IMPROVEMENTS**

**DETENTION POND PLAN  
& DETAILS**

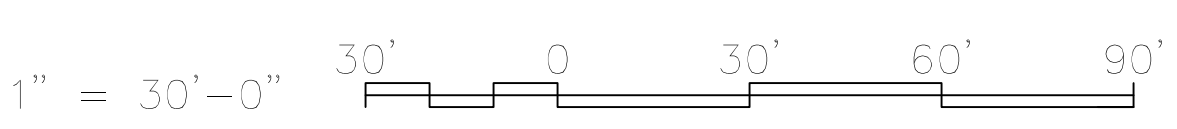
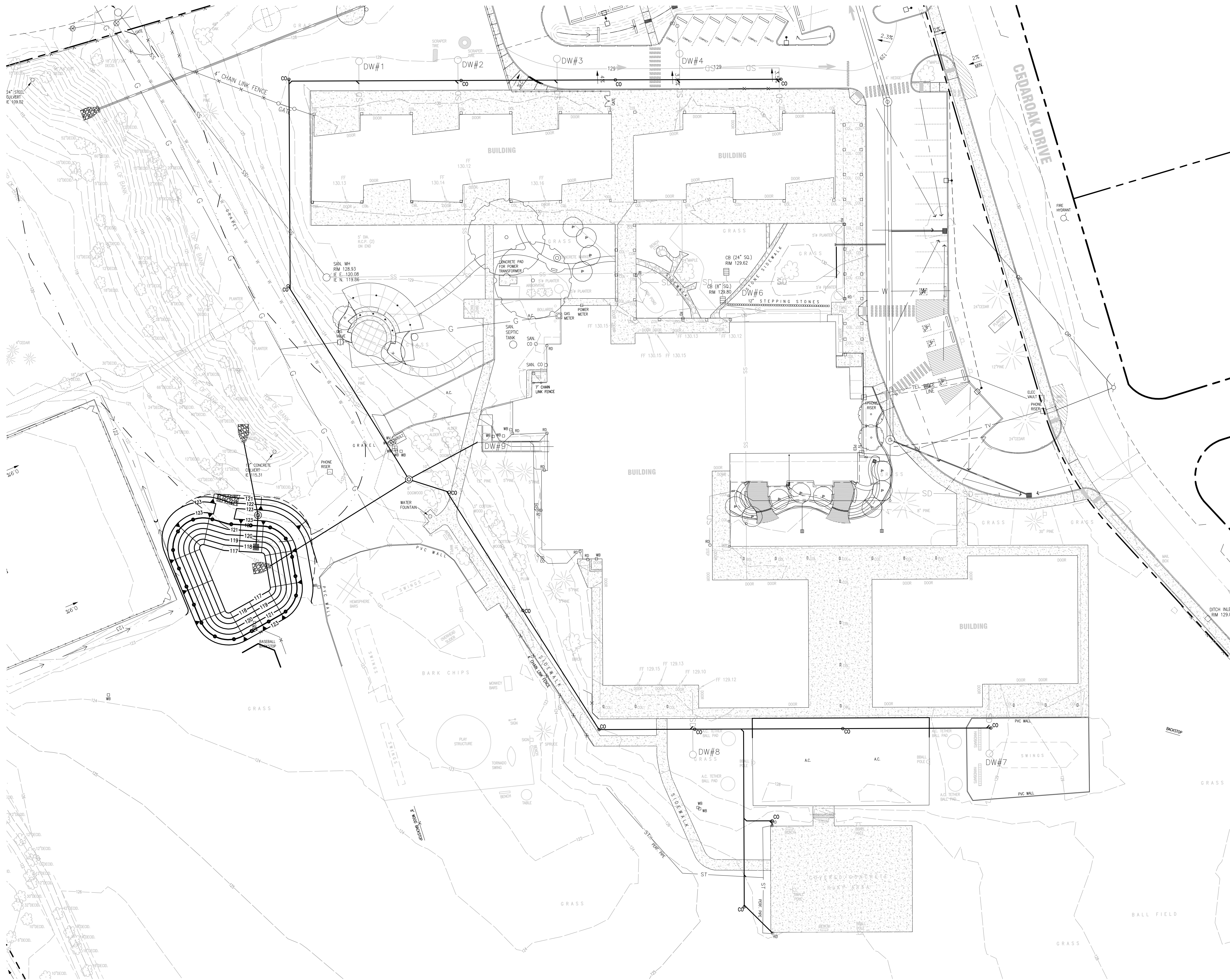
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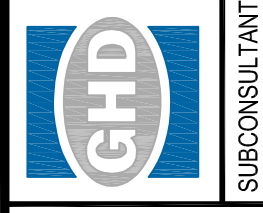
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**1** EROSION CONTROL PLAN  
 C4.1 | C4.1 SCALE: 1"=30'-0"

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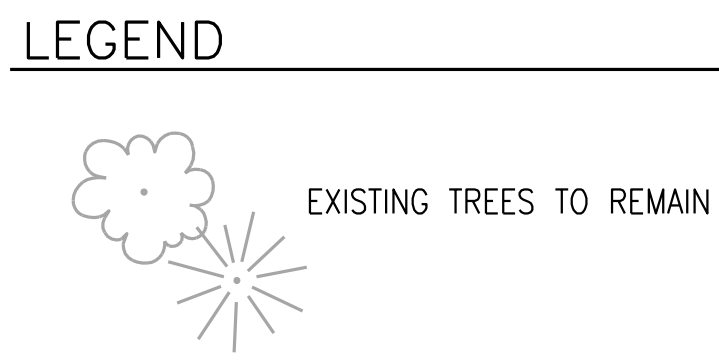
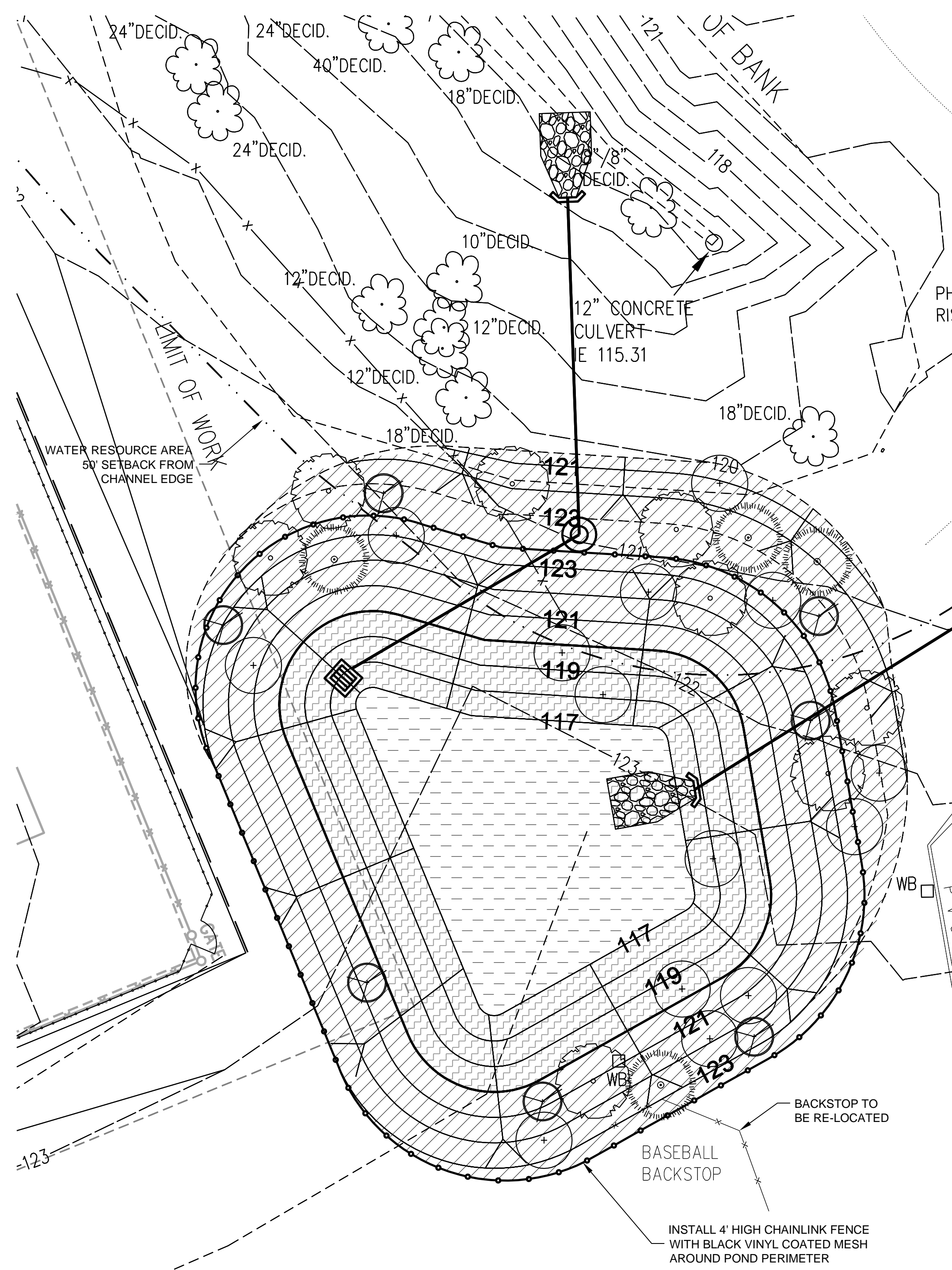
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 DRAINAGE IMPROVEMENTS  
 EROSION CONTROL PLAN**

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**POND PLANT SCHEDULE**

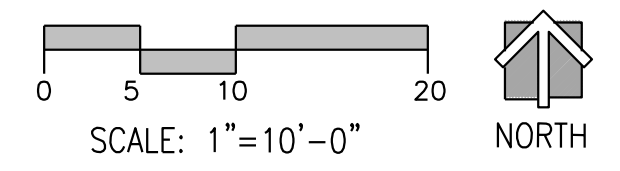
SYMBOL	KEY	BOTANICAL NAME	COMMON NAME	SIZE/CONDITION	SPACING	QUANTITY	COMMENTS	DTL/SHEET
<b>ZONE A 915sf</b>								
		<b>BASIN PLANTINGS</b>				<b>NOTE: 115 (1 GAL.) PLANTS/100 SF MIN. PER (SWMM) @ 915 SF = 1,052</b>		
	25%	CAREX DENSA	DENSE SEDGE	1 GAL. CONT.	12" O.C.	263		
	25%	CAREX OBNUPTA	SLOUGH SEDGE	1 GAL. CONT.	12" O.C.	263		
	15%	JUNCUS PATENS 'ELK BLUE'	ELK BLUE RUSH	1 GAL. CONT.	12" O.C.	158		
	35%	SCRIPTUS MICROCARPUS	SMALL FRUITED BULRUSH	1 GAL. CONT.	12" O.C.	368		
						<b>TOTAL 1,052</b>		
<b>ZONE B 4,710sf</b>								
		<b>TREES</b>				<b>NOTE: 7 TREE/1000 SF MIN. PER (SWMM) @ 4,710 SF = 33</b>		
	ALRU	ALNUS RUBRA	RED ALDER	2 GAL.	AS SHOWN	14		
	CONU	CORNUS NUTTALII	WESTERN DOGWOOD	2 GAL.	AS SHOWN	7		
	FRLA	FRAXINUS LATIFOLIA	OREGON ASH	1" CAL. B&B	AS SHOWN	8		
	ABGR	ABIES GRANDIS	GRAND FIR	5-6' HT.	AS SHOWN	4		
						<b>TOTAL 33</b>		
		<b>LARGE SHRUBS</b>				<b>NOTE: 3 SHRUBS/100 SF MIN. PER (SWMM) @ SF 1,435 = 43</b>		
	OECE	OEMLERIA CERASIFORMUS	INDIAN PLUM	1 GAL. CONT.	4' O.C.	8		
	RISA	RIBES SANGUINEUM	RED FLOWERING CURRENT	1 GAL. CONT.	10' O.C.	20		
	SACE	SAMBUCUS RACEMOSA	RED ELDERBERRY	1 GAL. CONT.	4' O.C.	15		
						<b>TOTAL 43</b>		
		<b>MEDIUM SHRUBS</b>				<b>NOTE: 4 SHRUBS/100 SF MIN. PER (SWMM) @ 3,275 SF = 131</b>		
	COSE	CORNUS SERICEA	REDTWIG DOGWOOD	1 GAL. CONT.	4' O.C.	20		
	SPBE	SPIRAEA BETULIFOLIA	BIRCHLEAF SPIREA	1 GAL. CONT.	2' O.C.	25		
	SYAL	SYMPHORICARPOS ALBA	COMMON SNOWBERRY	1 GAL. CONT.	3' O.C.	16		
		<b>GROUNDCOVERS</b>						
	DECE	DESCHAMPSIA CESPITOSA	TUFTED HAIR GRASS	1 GAL. CONT.	12" O.C.	40		
	POMU	POLYSTICHUM MUNITUM	WESTERN SWORD FERN	1 GAL. CONT.	24' O.C.	30		
						<b>TOTAL 131</b>		

**PLANTING NOTES:**

- CONTRACTOR TO VERIFY LOCATION OF EXISTING TREES INDICATED TO REMAIN PRIOR TO SOIL PREPARATION. PROTECT ALL TREES AND SHRUBS INDICATED TO REMAIN. COORDINATE WITH THE OWNER'S REPRESENTATIVE.
- PLANTING AREAS TO BE SUFFICIENTLY CLEANED OF ALL CONSTRUCTION MATERIALS, INCLUDING IMPORTED ROCK, TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE BEFORE BEGINNING ANY LANDSCAPE WORK.
- IDENTIFY ALL PLANTING AREAS IN FIELD WITH WHITE FIELD-MARKING CHALK OR APPROVED EQUAL. PLANTING BEDS TO BE ADJUSTED AND APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO PLANT LOCATION.
- FOR PLANTING OCCURRING IN MASSES OF SAME SPECIES PLANT, LABELING REFERS TO ALL ADJACENT IDENTICAL SYMBOLS. REFER TO DETAILS AND LEGEND FOR SPACING INFORMATION.
- THE OWNER'S REPRESENTATIVE WILL APPROVE INDIVIDUAL PLANT MATERIAL AND LOCATION OF PLANT MATERIAL PRIOR TO INSTALLATION. REFER TO SPECIFICATIONS FOR PROCEDURE.
- PLANT QUANTITIES INDICATED ARE FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. CONTRACTOR IS RESPONSIBLE FOR PROVIDING PLANTS IN QUANTITIES AND LOCATIONS SHOWN ON DRAWINGS.
- PROVIDE JUTE NETTING ON ALL SLOPES WITH GRADIENT OF 3:1 OR GREATER AS DIRECTED IN THE FIELD BY THE OWNER'S REPRESENTATIVE. STAPLE FABRIC TO GROUND WITH METAL STAKES AT 4' O.C.

**WATER QUALITY PLANTING NOTES**

- WATER QUALITY PLANTING TO CONFORM TO CITY OF PORTLAND STORMWATER MANAGEMENT MANUAL (SWMM) REQUIREMENTS FOR INFILTRATION BASIN FACILITIES. MINIMUM CONTAINER SIZE TO BE 1 GALLON AT THE FOLLOWING RATE:
  - ZONE (A) (BASIN PLANTING MIX): 115 PLANTS PER 100 SF OF FACILITY AREA.
  - ZONE (B) (TREES, SHRUBS, AND GROUNDCOVER SEED MIX): 1 TREE AND 3 LARGE SHRUBS AND 4 MEDIUM SHRUBS PER 100 SF OF FACILITY AREA.
- SEE PLANTING SCHEDULE FOR SPACING AND QUANTITIES REQUIRED.
- ZONE A: BASIN PLANINGS TO BE PLANTED IN RANDOM NATURALISTIC DRIFTS OF SAME SPECIES PLANTS IN GROUPS OF 15, 25, AND 35 PLANTS.
- ZONE B: TREES TO BE PLANTED IN NATURALISTIC DRIFTS OF SAME SPECIES TREES IN GROUPS OF 3, 5, AND 7 PLANTS IN AREAS AS DRAWN. SRUBS TO BE PLANTED IN RANDOM NATRULISTIC DRIFTS OF SAME SPECIES PLANTS IN GROUPS OF 5, 10, AND 15 PLANTS IN AND AROUND GROUPS OF TREES. ALL OF ZONE B TO BE SEEDED WITH GROUNDCOVER SEED MIX PER PLANTING SCHEDULE.



**PRELIMINARY - NOT FOR CONSTRUCTION**

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BAR IS ONE INCH ON ORIGINAL DRAWING

0 1"

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MARK	DATE	DESIGN REVIEW SUBMITTAL	DESCRIPTION	ISSUE
	3/2/12			

**WEST LINN-WILSONVILLE SCHOOL DISTRICT  
CEDAR OAK PARK PRIMARY SCHOOL  
DRAINAGE IMPROVEMENTS**

**DETENTION POND PLANTING PLAN**

PROJ NO: 11456-11008  
DRWN: GD CHKD: DO

**L1.1**

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