



TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION

Division of Water Resources

William R. Snodgrass Tennessee Tower, 312 Rosa L. Parks Avenue, 11th Floor, Nashville, Tennessee 37243
1-888-891-8332 (TDEC)

JHD

W-Lips

Notice of Intent (NOI) for General NPDES Permit for Stormwater Discharges from Construction Activities (TNR100000)

Site or Project Name: Factory Loft Condominiums		NPDES Tracking Number: TNR	
Street Address or Location: 1265 E. 13th Street		Construction Start Date: Dec 2020	
Site Description: Renovation of existing factory into residential condominiums		Estimated End Date: Jan 2022	
County(ies): Hamilton		Latitude (dd.ddd): N 35.0312°	
MS4 (if applicable): Chattanooga		Longitude (-dd.ddd): W 85.2887°	
Check box if a SWPPP is attached: ☒		Acres Disturbed: 1.10	
Check box if a site location map is attached: ☒		Total Acres: 1.53	
Check the appropriate box(s) if there are streams and/or wetlands on or adjacent to the construction site: Streams ☐ Wetlands ☐			
Has a jurisdictional determination been made by the USACE or EPA identifying waters of the United States?: Yes ☐ No ☐			
Note: If yes, attach the jurisdictional determination			
If an Aquatic Resource Alteration Permit (ARAP) has been obtained for this site, what is the permit number? NR(S)			
Receiving waters: Municipal S4 Chattanooga and eventually Dobbs Branch			
Site Owner/Developer (Primary Permittee): (Provide person, company, or entity that has operational or design control over construction plans and specifications): 1265 E 13th ST LLC			
For corporate entities only, provide correct Tennessee Secretary of State (SOS) Control Number: 000986748 (an incorrect SOS control number may delay NOI processing)			
Site Owner or Developer Contact Name: (signs the certification below) Cardon Smith		Title or Position: Vice President	
Mailing Address: 437 Market Street, Suite 400		City: Chattanooga	State: TN Zip: 37402
Phone: () (423) 752-0161	Fax: ()	E-mail: cardon@fbright.com	
Optional Contact: Wes Mohney		Title or Position:	
Mailing Address: 437 Market Street, Suite 400		City: Chattanooga	State: TN Zip: 37402
Phone: (423) 752-0106	Fax: ()	E-mail: wes@fbright.com	
Owner/Developer(s) Certification: (must be signed by president, vice-president or equivalent, or ranking elected official) (Primary Permittee)			
I certify under penalty of law that this document and all attachments were prepared by me, or under my direction or supervision. The submitted information is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury.			
Owner/Developer Name (print/type): FACTORY LOFTS		Signature: [Signature]	Date: 11/4/20
Owner/Developer Name (print/type): PLANTATION COUNTRY		Signature: [Signature]	Date: [Date]
Contractor Certification: (must be signed by president, vice-president or equivalent, or ranking elected official) (Secondary Permittee)			
I certify under penalty of law that I have reviewed this document, any attachments, and the SWPPP referenced above. Based on my inquiry of the construction site owner/developer identified above and/or my inquiry of the person directly responsible for assembling this NOI and SWPPP, I believe the information submitted is accurate. I am aware that this NOI, if approved, makes the above-described construction activity subject to NPDES permit number TNR100000, and that certain of my activities on-site are thereby regulated. I am aware that there are significant penalties, including the possibility of fine and imprisonment for knowing violations, and for failure to comply with these permit requirements. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury.			
Contractor name, address, and SOS control number (if applicable):		Signature:	Date:
OFFICIAL STATE USE ONLY			
Received Date:	Reviewer:	Field Office:	Permit Tracking Number: TNR
Fee(s):	T & E Aquatic Flora/Fauna:	SOS Corporate Status:	Waters with Unavailable Parameters:
		Exceptional TN Water:	
		Notice of Coverage Date:	

NOV 10 '20

Storm Water Pollution Prevention Plan (SWPPP)

For
Factory Loft Condominiums

Prepared For:

Mr. Cardon Smith
1365 13th St LLC
437 Market Street, Suite 400
Chattanooga, TN

Prepared By:



651 E. 4th Street, Suite 407
Chattanooga, TN 37403
ADES Project Number: 20160

November 02, 2020



Estimated Project Dates:

Start of Construction: December 2020
Completion of Construction: January 2022

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STORM WATER CERTIFICATION PAGE

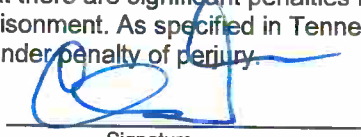
Project: 20160 Factory Lofts Condominium

Owner Certification:

I certify under penalty of law that this document and all attachments were prepared by me, or under my direction or supervision. The submitted information is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

Cardon Smith

Representative of owner/developer, print or type


Signature

11/4/20
Date

Address: 437 Market Street, Suite 400 Chattanooga, TN 37402 Phone: (423) 752-0161

Contractor Certification:

I certify under penalty of law that I have reviewed this document, any attachments, and the SWPPP referenced above. Based on my inquiry of the construction site owner/developer identified above and/or my inquiry of the person directly responsible for assembling this NOI and SWPPP, I believe the information submitted is accurate. I am aware that this NOI, if approved, makes the above-described construction activity subject to NPDES permit number TNR100000, and that certain of my activities onsite are thereby regulated. I am aware that there are significant penalties, including the possibility of fine and imprisonment for knowing violations, and for failure to comply with these permit requirements. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

Primary contractor, print or type

Signature

Date

Address _____ Phone: _____

I certify under penalty of law that I have reviewed this document, any attachments, and the SWPPP referenced above. Based on my inquiry of the construction site owner/developer identified above and/or my inquiry of the person directly responsible for assembling this NOI and SWPPP, I believe the information submitted is accurate. I am aware that this NOI, if approved, makes the above-described construction activity subject to NPDES permit number TNR100000, and that certain of my activities onsite are thereby regulated. I am aware that there are significant penalties, including the possibility of fine and imprisonment for knowing violations, and for failure to comply with these permit requirements. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

Other contractor, print or type

Signature

Date

Address: _____ Phone: _____

SECTION 1: SITE EVALUATION, ASSESSMENT, AND PLANNING

1.1 Project/Site Information

Project/Site Name: Factory Lofts Condominiums

Project Street/Location: 1265 E. 13th Street

City: Chattanooga State: TN Zip Code: 37408

County or Similar Subdivision: Hamilton County

Latitude: 35.0312° Longitude: -85.2887°

Method for determining latitude/longitude:

☐ USGS topographic map (specify scale: _____) ☐ EPA Web site ☐ GPS

☒ Other (please specify): Google Earth

Is the project located in Indian country? ☐ Yes ☒ No

If yes, name of Reservation, or if not part of a Reservation, indicate "not applicable." N/A

Is this project considered a federal facility? ☐ Yes ☒ No

NPDES project or permit tracking number: Applied for

1.2 Contact Information/Responsible Parties

Project Manager(s) or Site Supervisor(s):

TBD

Primary Contractor:

To Be Determined

This SWPPP Was Prepared By:

A.D. Engineering Services, Inc.

651 E. 4th Street, Suite 407

Chattanooga, TN 37403

Phone: (423) 266-3501

wiatt@adengineering.us

Subcontractor(s):

None at this time

Emergency 24 hour contact:

To Be Determined

1.3 Nature and Sequence of Construction Activity

This Stormwater Pollution Prevention Plan (SWPPP) will address the erosion and sediment control BMPs required for the proposed construction including demolition, grading, drainage and parking lot installation and landscaping. The total disturbed area is approximately 1.10 acres. This will include clearing and grading, noted improvements along with temporary and permanent erosion & sediment control measures.

The order of activities for this SWPPP will be as follows:

1. Post NOC in a prominent display near the entrance to the site.
2. Install rain gauge on site.
3. Install stabilized construction exit on site.
4. Install BMP's as indicated on the Erosion & Sediment Control Plan.
5. Clear site to distribute stockpile of topsoil.
6. Spread stockpile of topsoil.
7. Seed/straw for permanent stabilization.
8. When all construction activity is complete and the site is stabilized, remove silt fences.
9. Prepare and submit NOT to the State of Tennessee Environmental Protection Division once the construction activities are complete and final stabilization of the site is in place.

What is the function of the construction activity?

- ☒ Residential ☐ Commercial ☐ Industrial ☐ Road Construction
☐ Linear Utility
☐ Other (please specify):

Estimated Project Start Date: December 2020

Estimated Project Completion Date: January 2022

1.4 Soils, Slopes, Vegetation, and Current Drainage Patterns

Soil type(s):

Colbert-Urban land complex (CdC), 2 to 12 percent slopes, Hydrologic Soil Group D
Fullerton-Urban land complex (FwD), 3 to 40 percent slopes, Hydrologic Soil Group B

A copy of the soil map is included in Appendix D

Slopes:

The project site slopes gently to moderately from the east towards the south.

Drainage Patterns:

The existing site drains primarily from the east to the west with drainage along the north side flowing both along the existing building and towards the railroad and along the south to E. 13th Street and west along gutter line.

Vegetation:

The site is currently occupied primarily by an existing building and gravel parking lots. The West end of the site is mostly grass covered with tree cover along the extreme west end.

Other:

There is no known historical contamination.

1.5 Construction Site Estimates

The following are estimates of the construction site:

Construction Site Area to be disturbed	1.10 ± acres
Total Project Property Area	1.53 ± acres
Percentage of impervious area before construction	62%
SCS Curve Number before construction	84
Percentage of impervious area after construction	81%
SCS Curve Number after construction	92

1.6 Receiving Waters

Description of receiving waters: City of Chattanooga MS4 drainage and eventually Dobbs Branch

Description of storm sewer systems: N/A

Description of impaired waters or waters subject to TMDLs: Dobbs Branch is not listed as non-achieving for siltation.

1.7 Potential Sources of Pollution

The primary potential source of storm water pollution from this project site will be erosion of exposed soils entraining sediment in storm water runoff. Best management practices have been designed to 1) prevent erosion from occurring as well as 2) remove sediment from storm water in the event that erosion occurs.

Other potential pollutants include petroleum products and refuse that may be generated during site construction activities. The site contractor will be required to prevent escape of these pollutants and immediately clean up any observed spill or litter.

1.8 Maps

Full size 24x36 project sheets and information included are as follows:

- Cover
- C1.0 Existing Conditions & Site Demo Plan
- C2.0 Site Plan
- C2.1 Site Details
- C2.2 Site Details
- C3.0 Grading & Drainage Plan
- C3.1 Grading & Drainage Details
- C3.2 Grading & Drainage Details
- C3.3 StormTech Chamber Details
- C4.0 Initial Erosion & Sedimentation Control Plan
- C4.1 Intermediate and Final Erosion & Sedimentation Control Plan
- C4.2 Erosion & Sedimentation Control Details
- C5.0 Utilities Plan
- C5.1 Utility Details
- C5.2 Utility Details
- C6.0 Project Notes
- L1.0 Landscape Plan
- L2.0 Landscape Notes & Details

SECTION 2: EROSION AND SEDIMENT CONTROL BMPS

This Storm Water Pollution Prevention Plan (SWPPP) is developed in accordance with the Tennessee General NPDES Permit (TNR100000) for Storm Water Discharges Associated with Construction Activity (TNCGP), and is prepared using sound engineering practices. As such, the following Best Management Practices (BMPs) shall be utilized as specified below.

2.1 Minimize Disturbed Area and Protect Natural Features and Soil

Erosion and Sediment Controls – General Requirements

1. Erosion prevention and sediment controls used at the site are designed to control storm runoff generated by a 2-year, 24-hour storm event.
2. Perimeter erosion control measures shall be installed prior to any work on the site. These include silt fencing and construction exit.
3. All control measures must be properly installed and maintained in accordance with the manufacturer's specifications and good engineering practices.
4. If sediment escapes the construction site, the contractor shall remove the accumulated sediment and restore the off-site area to a clean, sediment free condition.

5. Sediment should be removed from silt fences and other sediment controls as necessary to maintain these devices in a functional state. Sediment must be removed when the design capacity of the device is reduced by 50%.
6. Litter, construction debris, and construction chemicals exposed to storm water shall be picked up on a regular basis and the site shall be thoroughly cleaned of such items prior to any anticipated storm events.
7. Work shall be sequenced to minimize the exposure time of bare soil areas.
8. Erosion and sediment control measures must be in place and functional before earth moving operations begin, and must be maintained throughout construction. Temporary measures may be removed at the beginning of the workday but must be replaced at the end of the workday.
9. The following records shall be maintained on the site: the dates when major grading activities occur; the dates when construction activities temporarily or permanently cease on a portion of the site; and the dates when stabilization measures are initiated.

Erosion and Sediment Controls – Stabilization Practices

1. Only those areas within the indicated limits of construction shall be disturbed during stabilization activities.
2. Temporary stabilization measures include the following items, which are noted on the plans: silt fence, temporary seeding, and mulching.
3. Permanent stabilization measures include permanent seeding and mulching.
4. Erosion control measures shall be initiated as soon as practical in portions of the site where stabilization activities have temporarily or permanently ceased, but in no case more than fourteen days after the activity in that portion of the site has temporarily or permanently ceased. Where activity is temporarily ceased in the affected area, and earth-disturbing activities will resume within 14 days, temporary stabilization measures do not have to be initiated in that area.
5. Temporary or permanent soil stabilization shall be accomplished within 15 days after final grading or other earthwork. Permanent stabilization with perennial grasses shall replace any temporary measures as soon as practical.

Erosion and Sediment Control – Structural Practices

1. The proposed plans include the implementation of the following structural practices:
 - a. Construction Exit
 - b. Silt Fence
 - c. Concrete Truck Washout
 - d. Inlet Protection
 - e. Temporary & permanent Seeding
2. A stabilized construction exit has been provided to help reduce vehicle tracking of sediments. The paved streets adjacent to the site entrance shall be swept to remove any excess mud, dirt or rock tracked from the site. Dump trucks hauling material from the construction site will be covered with tarpaulins.

2.2 Establish Stabilized Construction Exits

CE – Construction Entrance/Exit:

- The construction exit will consist of a minimum pad size of 15 ft by 60 ft with a 6" thick stone placed as shown on the plan. The stone size should consist of course aggregate between 1-1/2" & 3-1/2" in diameter and overlaid on a geotextile underliner. The geotextile underliner shall meet the requirements of AASHTO M288-96, section 7.3 separation requirements.
- Installation Schedule: Prior to any other construction. A stabilized construction entrance shall be constructed at each point of entry to or exit from the site or onto any public right of way.
- Maintenance and Inspection: The construction exit shall be maintained in a condition that will prevent track or flow of mud onto public right-of-way. This may require periodic top dressing with 1-3" of stone. As conditions demand, all materials spilled, dropped, washed, or tracked from vehicle onto public roadway or into storm drain must be removed immediately.

Responsible Staff: PRIMARY CONTRACTOR

2.3 Establish perimeter controls and sediment barriers

SF- Silt Fence:

- The silt fence should be kept erect at all times and repaired when requested by the site inspector or the project design professional of record.
- Installation Schedule: The silt fence is considered to be an initial erosion control measure and shall be implemented prior to any other construction activity.
- Maintenance and Inspection: The perimeter silt fence should be inspected daily for any failures. Any failures of said fencing should be repaired immediately. Silt should be

removed when accumulation reaches 1/2 height of the barrier. The silt fence shall be maintained until permanent ground cover is established on the slope.

Responsible Staff: PRIMARY CONTRACTOR

2.4 Stabilize Soils

TS – Temporary Seeding:

- Installation Schedule: This measure will be applicable in all Phases of the project. All drainage swales and graded areas shall be applied with vegetative cover as soon as final grade is achieved. All roadway and parking shoulders should be applied with vegetative cover as soon as final grade is achieved. Mulch or temporary grassing shall be applied to all exposed areas within 14 days of land disturbance. All disturbed areas left mulched after 30 days shall be stabilized with temporary grassing.
- Maintenance and Inspection: Contractor shall inspect control measures at the end of each working day to ensure measures are functioning properly. Sediment and erosion control measures should be checked after each rain event.

Responsible Staff: PRIMARY CONTRACTOR

PS – Permanent Seeding:

- Installation Schedule: Permanent seeding shall be installed as soon as final grading is achieved and topsoil is applied. All roadway and parking shoulders should be applied with vegetative cover as soon as final grade is achieved. Mulch or temporary grassing shall be applied to all exposed areas within 14 days of land disturbance. All disturbed areas left mulched after 30 days shall be stabilized with temporary grassing.
- Maintenance and Inspection: Contractor shall inspect control measures at the end of each working day to ensure measures are functioning properly. Sediment and erosion control measures should be checked after each rain event.

Responsible Staff: PRIMARY CONTRACTOR

2.5 Culvert Inlet and Outlet Protection

IP/OP – Inlet/Outlet Protection

- Storm drainage pipes are to be protected with inlet & outlet protection as shown on the attached plans. All sediment will be removed from the pipes prior to final stabilization.
- Maintenance and Inspection: The culverts should be inspected daily for any deposition of sediment. Should sediment be present in the culvert, other erosion control measures should be checked immediately for failures. Any failures should be repaired

immediately. Silt should be removed only from wet weather conveyance culverts in the dry.

- When required, the filter ring should surround all sides of the structure receiving runoff from disturbed areas. The ring should be constructed so that it does not cause flooding or damage to adjacent areas.

Responsible Staff: PRIMARY CONTRACTOR

SECTION 3: GOOD HOUSEKEEPING BMPS

3.1 Good Housekeeping BMPs

Each contractor is responsible to provide litter control for trash generated by his crew. A dumpster for garbage will be located near the construction trailer and is limited to garbage and paper trash only. Paint cans, oil cans, used oil, and filters will be contained and disposed of by the contractor by taking them to the local hazardous disposal center.

Any spillage noted during fueling of equipment and vehicles will be removed immediately. Contaminated soils will be placed on heavy plastic and covered or placed into approved containers to prevent contact with storm water.

- **If a release containing a hazardous substance in an amount equal to or in excess of a reporting quantity established under either 40 CFR 117 or 40 CFR 302 occurs during a 24-hour period, the contractor will immediately notify the permittee who shall then do the following: notify the NATIONAL RESPONSE CENTER (NRC) at (800) 424-8802 and the TENNESSEE EMERGENCY MANAGEMENT AGENCY (TEMA) (emergencies: 800-262-3300; non-emergencies: 800-262-3400); as well as the local Environmental Assistance Center (423) 634-5745.**
- **Also, A.D. Engineering will prepare a revision of this document to identify measures to prevent the reoccurrence of such releases.**

SECTION 4: MAINTENANCE and INSPECTIONS

4.1 Maintenance

1. Ensure that vegetation, erosion and sediment control measures and other protective measures identified in this plan are kept in good and effective operating condition. Maintenance needs identified in inspections or by other means shall be accomplished before the next storm event if possible, but in no case more than seven days after the need is identified. If maintenance prior to the next anticipated storm event is impractical, maintenance must be scheduled and accomplished as soon as practical.

2. All measures will be maintained in good working order. If repair is necessary, it will be initiated within 48 hours of identification.
3. If the controls are installed and maintained correctly, but are found to provide an inadequate level of protection, contractor or owner will contact A.D. Engineering to make revisions to this plan and these revisions will be implemented by the contractor.
4. If sediment enters waters of the State, TDEC-WPC will be notified immediately and consulted with concerning removal of said sediment if required.
5. Removal of standing muddy water from the site shall be accomplished with a pump/filter bag combination or said water will be diverted into existing sediment control devices via a pump.

4.2 Inspection and Records

1. A blank inspection form is located in Appendix B.
2. Contractor shall maintain a copy of the NOI and the SWPPP on-site and readily available to TDEC personnel on request.
3. Contractor shall keep a daily log of rain gauge readings on-site and readily available to TDEC personnel on request.
4. The contractor shall keep completed inspection and maintenance reports on-site and readily available to TDEC personnel on request.
5. Silt fence will be inspected for excess sediment accumulation, damage, security of attachment to fence post, and to ensure that the fence and fence posts are buried properly into the ground.
6. Temporary and permanent seeding and plantings shall be inspected for bare spots, washouts and poor growth.
7. Outfall points shall be inspected to ensure that erosion control measures are in place and working.

SECTION 5: CERTIFICATION AND NOTIFICATION

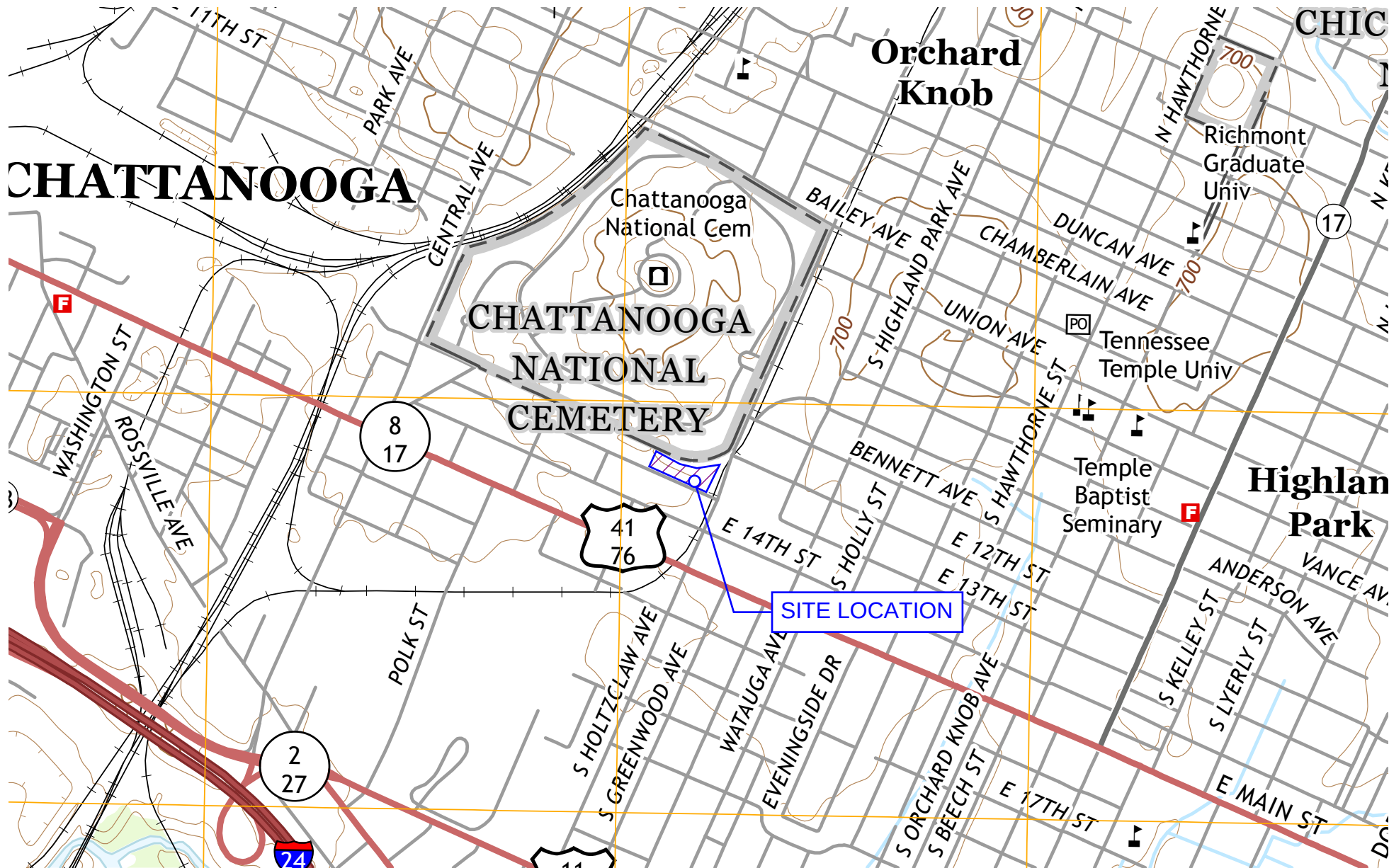
Prepare and submit Notice of Termination (NOT) to TDEC once the construction activities are completed and the final stabilization of the site is in place. A copy of this form is located in Appendix A.

The NOT shall be submitted to:

TDEC, Chattanooga Field Office
Attn: Jennifer Innes
1301 Riverfront Parkway, Suite 206
Chattanooga, TN 37402

Appendix A

Topographic Map
Notice of Intent (NOI)
Notice of Termination (NOT)



**TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION****Division of Water Resources**

William R. Snodgrass Tennessee Tower, 312 Rosa L. Parks Avenue, 11th Floor, Nashville, Tennessee 37243

1-888-891-8332 (TDEC)

Notice of Intent (NOI) for General NPDES Permit for Stormwater Discharges from Construction Activities (TNR100000)

Site or Project Name: Factory Loft Condominiums		NPDES Tracking Number: TNR	
Street Address or Location: 1265 E. 13th Street		Construction Start Date: Dec 2020	
		Estimated End Date: Jan 2022	
Site Description: Renovation of existing factory into residential condominiums		Latitude (dd.dddd): N 35.0312°	
		Longitude (-dd.dddd): W 85.2887°	
County(ies): Hamilton	MS4 (if applicable): Chattanooga	Acres Disturbed: 1.10	
Check box if a SWPPP is attached : ☒	Check box if a site location map is attached: ☒	Total Acres: 1.53	
Check the appropriate box(s) if there are streams and/or wetlands on or adjacent to the construction site:		Streams ☐	Wetlands ☐
Has a jurisdictional determination been made by the USACE or EPA identifying waters of the United States?: Yes ☐ No ☐			
Note: if yes, attach the jurisdictional determination			
If an Aquatic Resource Alteration Permit (ARAP) has been obtained for this site, what is the permit number? NR(S)			
Receiving waters: Municipal S4 Chattanooga and eventually Dobbs Branch			
Site Owner/Developer (Primary Permittee): (Provide person, company, or entity that has operational or design control over construction plans and specifications): 1265 E 13th ST LLC			
For corporate entities only, provide correct Tennessee Secretary of State (SOS) Control Number: 000986748 (an incorrect SOS control number may delay NOI processing)			
Site Owner or Developer Contact Name: (signs the certification below) Cardon Smith		Title or Position: Vice President	
Mailing Address: 437 Market Street, Suite 400		City: Chattanooga	State: TN Zip: 37402
Phone: () (423) 752-0161	Fax: ()	E-mail: cardon@fbright.com	
Optional Contact: Wes Mohny		Title or Position:	
Mailing Address: 437 Market Street, Suite 400		City: Chattanooga	State: TN Zip: 37402
Phone: (423) 752-0106	Fax: ()	E-mail: wes@fbright.com	
Owner/Developer(s) Certification: (must be signed by president, vice-president or equivalent, or ranking elected official) (Primary Permittee)			
I certify under penalty of law that this document and all attachments were prepared by me, or under my direction or supervision. The submitted information is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury.			
Owner/Developer Name (print/type): FACTORY LOFTS PLETATER CORP		Signature: [Signature]	Date: 11/4/20
Owner/Developer Name (print/type):		Signature:	Date:
Contractor Certification: (must be signed by president, vice-president or equivalent, or ranking elected official) (Secondary Permittee)			
I certify under penalty of law that I have reviewed this document, any attachments, and the SWPPP referenced above. Based on my inquiry of the construction site owner/developer identified above and/or my inquiry of the person directly responsible for assembling this NOI and SWPPP, I believe the information submitted is accurate. I am aware that this NOI, if approved, makes the above-described construction activity subject to NPDES permit number TNR100000, and that certain of my activities on-site are thereby regulated. I am aware that there are significant penalties, including the possibility of fine and imprisonment for knowing violations, and for failure to comply with these permit requirements. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury.			
Contractor name, address, and SOS control number (if applicable):		Signature:	Date:

OFFICIAL STATE USE ONLY

Received Date:	Reviewer:	Field Office:	Permit Tracking Number: TNR	Exceptional TN Water:
Fee(s):	T & E Aquatic Flora/Fauna:	SOS Corporate Status:	Waters with Unavailable Parameters:	Notice of Coverage Date:

**TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION (TDEC)**

Division of Water Resources

William R. Snodgrass Tennessee Tower, 312 Rosa L. Parks Avenue, 11th Floor, Nashville, Tennessee 37243
1-888-891-TDEC (8332)**Notice of Termination (NOT) for General NPDES Permit for Stormwater Discharges from Construction Activities (CGP)**

This form is required to be submitted when requesting termination of coverage from the CGP. The purpose of this form is to notify the TDEC that either all stormwater discharges associated with construction activity from the portion of the identified facility where you, as an operator, have ceased or have been eliminated; or you are no longer an operator at the construction site. Submission of this form shall in no way relieve the permittee of permit obligations required prior to submission of this form. Please submit this form to the local DWR Environmental Field Office (EFO) address (see table below). For more information, contact your local EFO at the toll-free number 1-888-891-8332 (TDEC).

Type or print clearly, using ink.

Site or Project Name:	NPDES Tracking Number: TNR
Street Address or Location:	County(ies):

Name of Permittee Requesting Termination of Coverage:

Permittee Contact Name:	Title or Position:		
Mailing Address:	City:	State:	Zip:
Phone:	E-mail:		

Check the reason(s) for termination of permit coverage:

☐	Stormwater discharge associated with construction activity is no longer occurring and the permitted area has a uniform 70% permanent vegetative cover OR has equivalent measures such as rip rap or geotextiles, in areas not covered with impervious surfaces.
☐	You are no longer the operator at the construction site (i.e., termination of site-wide, primary or secondary permittee coverage).

Certification and Signature: (must be signed by president, vice-president or equivalent ranking elected official)

I certify under penalty of law that either: (a) all stormwater discharges associated with construction activity from the portion of the identified facility where I was an operator have ceased or have been eliminated or (b) I am no longer an operator at the construction site. I understand that by submitting this notice of termination, I am no longer authorized to discharge stormwater associated with construction activity under this general permit, and that discharging pollutants in stormwater associated with construction activity to waters of the United States is unlawful under the Clean Water Act where the discharge is not authorized by a NPDES permit. I also understand that the submittal of this notice of termination does not release an operator from liability for any violations of this permit or the Clean Water Act.

For the purposes of this certification, elimination of stormwater discharges associated with construction activity means that all stormwater discharges associated with construction activities from the identified site that are authorized by a NPDES general permit have been eliminated from the portion of the construction site where the operator had control. Specifically, this means that all disturbed soils at the portion of the construction site where the operator had control have been finally stabilized, the temporary erosion and sediment control measures have been removed, and/or subsequent operators have obtained permit coverage for the site or portions of the site where the operator had control.

I certify under penalty of law that this document and all attachments were prepared by me, or under my direction or supervision. The submitted information is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

Permittee name (print or type):	Signature:	Date:
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EFO	Street Address	Zip Code	EFO	Street Address	Zip Code
Memphis	8383 Wolf Lake Drive, Bartlett, TN	38133	Cookeville	1221 South Willow Ave.	38506
Jackson	1625 Hollywood Drive	38305	Chattanooga	1301 Riverfront Parkway, Ste. 206	37402
Nashville	711 R S Gass Boulevard	37243	Knoxville	3711 Middlebrook Pike	37921
Columbia	1421 Hampshire Pike	38401	Johnson City	2305 Silverdale Road	37601

Appendix B

Inspection Report
Rainfall Record Sheets

**TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION (TDEC)**

Division of Water Resources

William R. Snodgrass Tennessee Tower, 312 Rosa L. Parks Avenue, 11th Floor, Nashville, Tennessee 37243

1-888-891-8332 (TDEC)

General NPDES Permit for Stormwater Discharges from Construction Activities (CGP)**Construction Stormwater Inspection Certification (Twice-Weekly Inspections)**

Site or Project Name: Factory Loft Condominiums		NPDES Tracking Number: TNR
Primary Permittee Name:		Date of Inspection:
Current approximate disturbed acreage:	Has rainfall been checked/documented daily? ☐ Yes ☐ No	Name of Inspector:
Current weather conditions:		Inspector's Training Certification Number:

Please check the box if the following items are on-site:

- ☐ Notice of Coverage (NOC) ☐ Stormwater Pollution Prevention Plan (SWPPP) ☐ Twice-weekly inspection documentation
☐ Site contact information ☐ Rain Gage ☐ Off-site Reference Rain Gage Location: _____

Best Management Practices (BMPs):**Are the Erosion Prevention and Sediment Controls (EPSCs) functioning correctly:** If "No," describe below in Comment Section

1. Are all applicable EPSCs installed and maintained per the SWPPP?	Yes	No
2. Are EPSCs functioning correctly at all disturbed areas/material storage areas per section 4.1.5?	Yes	No
3. Are EPSCs functioning correctly at outfall/discharge points such that there is no objectionable color contrast in the receiving stream, and no other water quality impacts per section 5.3.2?	Yes	No
4. Are EPSCs functioning correctly at ingress/egress points such that there is no evidence of track out?	Yes	No
5. If applicable, have discharges from dewatering activities been managed by appropriate controls per section 4.1.4? If "No," describe below the measures to be implemented to address deficiencies.	Yes	No
6. If construction activity at any location has temporarily/permanently ceased, was the area stabilized within 14 days per section 3.5.3.2? If "No," describe below each location and measures taken to stabilize the area(s)	Yes	No
7. Have pollution prevention measures been installed, implemented, and maintained to minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters per section 4.1.5? If "No," describe below the measures to be implemented to address deficiencies.	Yes	No
8. If a concrete washout facility is located on site, is it clearly identified on the project and maintained? If "No," describe below the measures to be implemented to address deficiencies.	N/A	Yes No
9. Have all previous deficiencies been addressed? If "No," describe remaining deficiencies in Comment section. ☐ Check if deficiencies/corrective measures have been reported on a previous form.	Yes	No

Comment Section. If the answer is "No" for any of the above, please describe the problem and corrective actions to be taken. Otherwise, describe any pertinent observations:

Certification and Signature (must be signed by the certified inspector and the permittee per Sections 3.5.8.2 (g) and 7.7.2 of the CGP)

I certify under penalty of law that this document and all attachments were prepared by me, or under my direction or supervision. The submitted information is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

Inspector Name and Title:	Signature:	Date:
Primary Permittee Name and Title:	Signature:	Date:

Construction Stormwater Inspection Certification Form (Twice-Weekly Inspections)

Purpose of this form/ Instructions

An inspection, as described in section 3.5.8.2. of the General Permit for Stormwater Discharges from Construction Activities ("Permit"), shall be performed at least twice every calendar week and documented on this form. Inspections shall be performed at least 72 hours apart. Where sites or portion(s) of construction sites have been temporarily stabilized, or runoff is unlikely due to winter conditions (e.g., site covered with snow or ice), such inspection only has to be conducted once per month until thawing results in runoff or construction activity resumes.

As described in section 3.5.8.1 of the Permit, inspectors performing the required twice weekly inspections must have an active certification by completing the "Fundamentals of Erosion Prevention and Sediment Control Level I" course (<http://www.tnepsc.org/>). Twice weekly inspections can also be performed by: a licensed professional engineer or landscape architect; a Certified Professional in Erosion and Sediment Control (CPESC) or a person who has successfully completed the "Level II Design Principles for Erosion Prevention and Sediment Control for Construction Sites" course. A copy of the certification or training record for inspector certification should be kept on site.

Qualified personnel, (provided by the permittee or cooperatively by multiple permittees) shall inspect disturbed areas of the construction site that have not been finally stabilized, areas used for storage of materials that are exposed to precipitation, structural control measures, locations where vehicles enter or exit the site, and each outfall.

Disturbed areas and areas used for storage of materials that are exposed to precipitation shall be inspected for evidence of, or the potential for, pollutants entering the site's drainage system. Erosion prevention and sediment control measures shall be observed to ensure that they are operating correctly.

Outfall points (where discharges leave the site and/or enter waters of the state) shall be inspected to determine whether erosion prevention and sediment control measures are effective in preventing significant impacts to receiving waters. Where discharge locations are inaccessible, nearby downstream locations shall be inspected. Locations where vehicles enter or exit the site shall be inspected for evidence of offsite sediment tracking.

Based on the results of the inspection, any inadequate control measures or control measures in disrepair shall be replaced or modified, or repaired as necessary, before the next rain event if possible, but in no case more than 7 days after the need is identified.

Based on the results of the inspection, the site description identified in the SWPPP in accordance with section 3.5.1 of the Permit and pollution prevention measures identified in the SWPPP in accordance with section 3.5.2 of the Permit, shall be revised as appropriate, but in no case later than 7 days following the inspection. Such modifications shall provide for timely implementation of any changes to the SWPPP, but in no case later than 14 days following the inspection.

All inspections shall be documented on this Construction Stormwater Inspection Certification form. Alternative inspection forms may be used as long as the form contents and the inspection certification language are, at a minimum, equivalent to the division's form and the permittee has obtained a written approval from the division to use the alternative form. Inspection documentation will be maintained on site and made available to the division upon request. Inspection reports must be submitted to the division within 10 days of the request.

Trained certified inspectors shall complete inspection documentation to the best of their ability. Falsifying inspection records or other documentation or failure to complete inspection documentation shall result in a violation of this permit and any other applicable acts or rules.

RAINFALL RECORD SHEET

Month/Year : _____

Day	Rainfall (inches)	Start Time	End Time	Misc./outside temp.
1				
2				
3				
4				
5				
6				
7				
8				
9				
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12				
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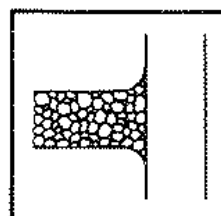
Appendix C

BMP Specifications and Details

- Construction Exit
- Concrete Truck Washout
- Silt Fence
- Inlet Protection
- Temporary Vegetation
- Permanent Vegetation

SEDIMENT CONTROL PRACTICES

7.28 CONSTRUCTION EXIT



GRAVEL CONSTRUCTION EXIT

Definition	A stone pad on geotextile fabric or a rumble strip located at any point where traffic will be moving from a construction site onto a public roadway or other paved area.
Purpose	To reduce or eliminate the transport of material from the construction area onto a public roadway by providing an area where mud and soil can be removed from the tires of construction vehicles.
Conditions Where Practice Applies	This practice is applicable wherever construction traffic leaves a construction site and enters a public right of way.
Planning Considerations	Construction exits should be planned and installed at any point that construction traffic exits the project. These stone pads should not be placed in areas with hydric or saturated soils. Stormwater management must be considered around the construction exit as well. Avoid steep grades and exits in or near curves in public roads.
Design Criteria	Calculations are not required; however, a typical construction exit should conform to the specifications listed below. - A layer of geotextile fabric is required to stabilize and support the aggregate. The geotextile fabric should extend the full length and width of the construction exit. The fabric should meet the requirements of the standard specifications for geotextiles, AASHTO designated M-288, erosion control. - The stone pad should be constructed from clean, washed stone with a 2 inch to 4 inch gradation at a minimum thickness of 8 inches. At a minimum, the stone pad should be 50 feet long and 20 feet wide. In addition a turning radius of 20 feet should be provided on each side of the pad where it intersects with the public roadway. See Figures 7.28-1 and -2. - The area where the pad is to be installed must be undercut at least 3 inches, and then the geotextile fabric should be installed before placing the stone.

Construction Specifications

- Stormwater management around the construction exit must be taken into consideration. If stormwater runoff flows across the stone pad and onto the public right of way, mud on the pad can be washed into the ROW as well. Diversions or waterbars should be installed at the upgradient end of the pad, directing runoff into sediment traps for treatment prior to discharging runoff into the ROW.
- Excavate areas where construction exits are to be constructed to a depth of at least 3 inches and clear the area of all vegetation, roots, and other objectionable material.
- Construction exit areas should be at minimum 50 feet in length by 20 feet in width.
- Install a geotextile underliner across the full width and depth of the construction exit to separate the rock from underlying soil.
- Provide clean, washed stone to a depth of 8 inches. Stone should vary in size from 2 to 4 inches. Rock must be clean rock with no fines. Crusher run and road base are not acceptable materials for a construction exit, as the fines can be tracked out onto the road.

Waterbar Diversion:

On sites where the grade toward the public roadway is greater than 2%, a waterbar diversion 6 to 8 inches in depth with 3:1 side slopes should be constructed at the upper end of the construction exit to prevent stormwater from washing sediment off the construction exit and into the public roadway or storm drain system. See Figure 7.28-1. Other devices, such as berms also may be used to divert stormwater from flowing down the construction exit and onto the public ROW.

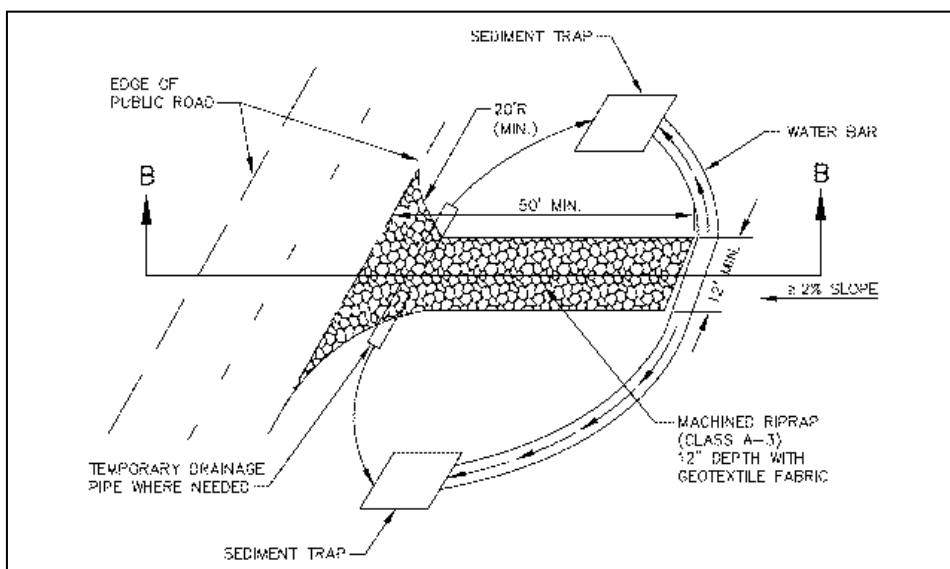


Figure 7.28-1 Construction Exit with Water Bars

Maintenance and Inspection Points The exit must be maintained in a condition that will prevent tracking or flow of material onto public rights-of-way or into the storm drain system. This may require periodic top dressing with fresh stone or full replacement of stone as conditions demand, and repair and/or cleanout of any related diversions and sediment traps. All materials spilled, dropped, washed, or tracked from vehicles or site onto roadways or into storm drains must be removed by the end of the day.

References *TDOT Design Division Drainage Manual*
North Carolina Erosion and Sediment Control Planning and Design Manual

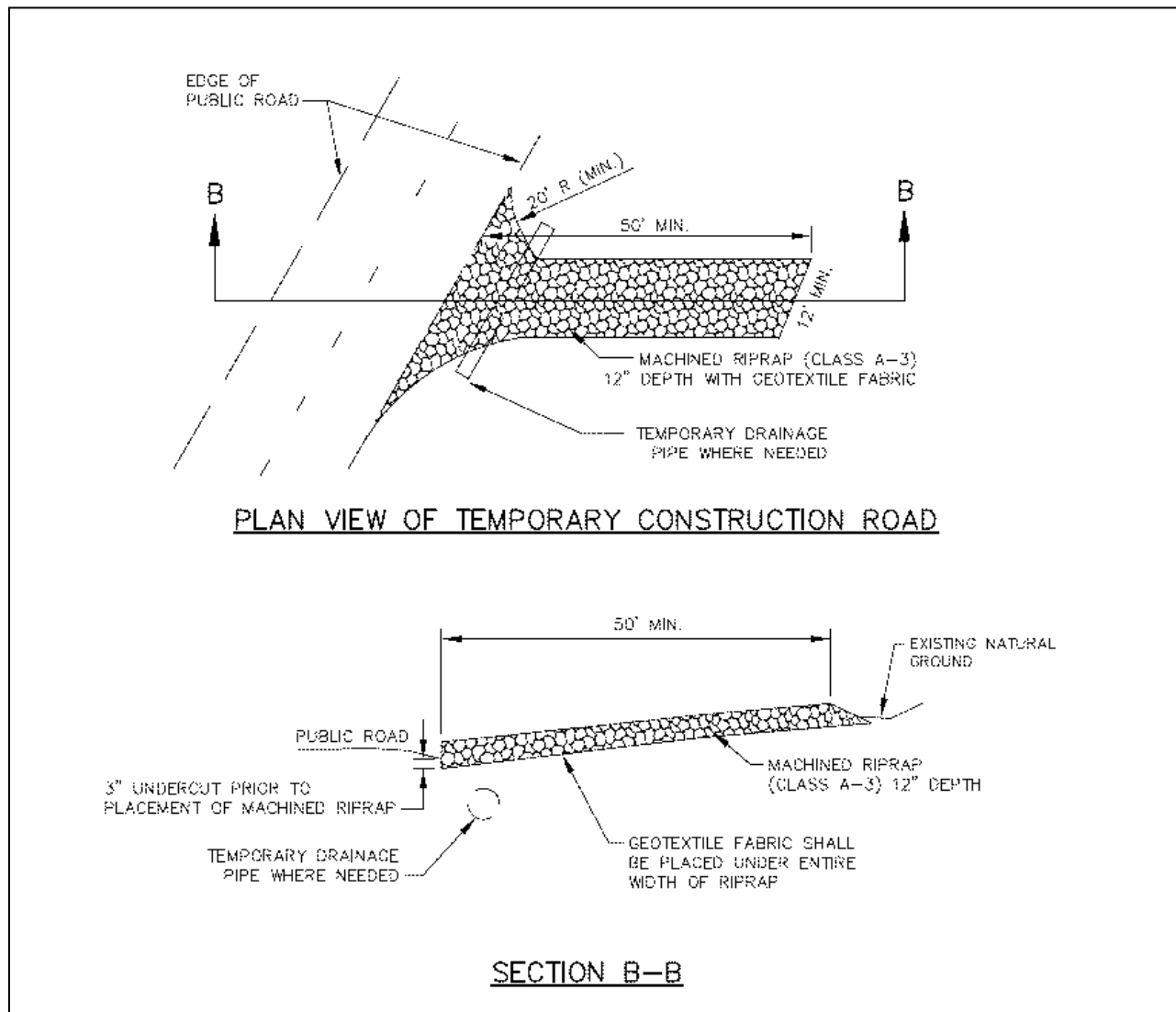


Figure 7.28-2 Construction Exit Detail

POLLUTION PREVENTION

7.16 CONCRETE WASHOUT



CONCRETE WASHOUT

Definition	A designated area where concrete wash can harden, can be broken up, and can then be placed in the dumpster or backfilled.
Purpose	To prevent or reduce the discharge of pollutants to stormwater from concrete waste by conducting washout offsite or performing onsite washout in a designated area.
Conditions Where Practice Applies	Concrete washout areas are applicable where: • Concrete trucks and other concrete-coated equipment are washed onsite. • Slurries containing portland cement concrete or asphalt concrete are generated, such as from saw cutting, coring, grinding, grooving, and hydro-concrete demolition. • Washing of exposed aggregate concrete. • Building or house construction mortar mixer waste
Planning Considerations	There are two main types of concrete washouts to be considered, prefabricated washout containers and site-built washouts.

PREFABRICATED WASHOUT CONTAINERS

Many private companies offer heavy-duty, prefabricated concrete washout containers that are delivered to the site. Some services provide only the containers while others also provide the maintenance and disposal of the materials. Utilizing full-service concrete washout companies removes much of the burden from the jobsite superintendent and tends to result in a more maintained washout facility. When selecting a company to handle concrete waste, ensure that they are properly disposing of all materials. If the project utilizes a concrete pump truck, the prefabricated container should have an adequate ramp to accommodate the concrete pump truck.

SITE-BUILT WASHOUTS

There are many design options for the site-built washout, but preference should be given to those built below-grade to prevent breaches and reduce the likelihood of runoff. Above-grade structure can also be used if they are sized properly to avoid spillage, constructed properly to prevent leaks, and diligently maintained.

An important factor that dictates the success of concrete washout facilities is whether or not concrete truck drivers and subcontractors are educated on the use of the washout facilities. The site superintendent should educate all appropriate parties on proper use of concrete washout facilities. Signs should be posted indicating the location and designated use of the facilities.

Design Criteria When using prefabricated washout containers, ensure containers can withstand heavy impacts and are watertight.

Site-built washouts should be constructed by providing a temporary pit or bermed area sized large enough to handle solids, wash slurry, and rainfall to prevent overflow and include a minimum of 4" freeboard. Above-grade washouts should allow adequate at least 4" of freeboard for structural stability of berms or containment walls. The temporary pit containing dry waste concrete may be incorporated into fill areas as needed. The waste concrete may be broken into smaller pieces to allow proper soil compaction. The storage area should be lined with geotextile fabric to allow water to infiltrate, further aiding the dewatering and drying process.

Consideration should be given to locating washout facilities. The designer should included suggested concrete washout areas on all applicable SWPPPs. Each facility should be located conveniently for concrete trucks, preferably near the area where concrete is being poured, and away from heavy volume construction traffic or access areas to prevent disturbance or tracking. Facilities should also be located a minimum of 50 feet away from storm drains, open ditches, and waterbodies. Appropriate gravel or rock should cover paths to concrete washout facilities if the facilities are located in undeveloped areas.

On large sites with extensive concrete work, concrete washouts should be located in multiple areas for ease of use.

Construction Specifications

- The storage pit area should be lined with a permeable geotextile fabric.
- Do not allow runoff from the storage area. Construct a temporary pit or bermed area large enough to contain anticipated slurry amount, solid waste, and direct rainwater.
- Wash out wastes into the temporary pit where the concrete can set, be broken up, and then disposed properly.
- Avoid creating runoff by draining water to a bermed or level area when washing concrete to remove fine particles and expose the aggregate.

**Maintenance
and Inspection
Points**

Ensure contractors avoid mixing excess amounts of fresh concrete and perform washout of concrete trucks offsite or in designated areas only. Do not allow concrete trucks to wash into storm drains, open ditches, streets, or streams. Do not allow excess concrete to be dumped onsite, except in designated areas. Do not wash sweepings from exposed aggregate concrete into the street or storm drains.

Temporary concrete washout facilities should be maintained to provide adequate holding capacity with a minimum freeboard of 4 inches for above grade facilities and 12 inches for below grade facilities. Inspect plastic linings and sidewalls of site-built washouts to ensure they have not been damaged during construction activities. Inspect all surfaces of prefabricated washouts to ensure the container is not leaking.

Washout facilities must be cleaned, or new facilities must be constructed and ready for use once the washout is 75% full.

Inspectors should note whether washout facilities are being used and maintained regularly. If inspector finds that concrete trucks are being washed out in locations other than designated washout areas, the inspector should notify the site superintendent immediately and the site superintendent should correct the issue.

References

California Stormwater BMP Handbook

City of Knoxville Best Management Practices Manual

Hamilton County, TN BMP Manual

EPA National Pollutant Discharge Elimination System Concrete Washout

The porous baffle material shall be draped over the wire strand to a minimum of 3 ft. of material on each side of the strand. Secure the baffle material to the wire strand with plastic ties or wire fasteners. Place staples across the matting at ends and junctions approximately 1 ft. apart at the bottom and side slopes of the basin or trap. Overlap matting at least 6" where 2 or more widths of matting are installed side by side.

**Maintenance
and Inspection
Points**

- Inspect the sediment deposition cells created by the baffles. Heavier sediments will accumulate in the upper most cell.
- Clean sediment from the cells when half of the storage capacity depth has been filled.
- Ensure that baffle material stays securely installed along the sediment trap sides and in the bottom. Material should stay taut across the trap.
- Watch for scour along the sides of the baffle.
- Replace baffle material if torn or if evidence of deterioration is noted.

References

North Carolina State University Cooperative Extension, Soil Facts

North Carolina Department of Environment and Natural Resources, Erosion and Sediment Control Planning and Design Manual

North Carolina Department of Transportation, Roadside Environmental Details

SEDIMENT CONTROL PRACTICES

7.34 SILT FENCE



SILT FENCE

Definition A temporary sediment control measure, composed of woven geotextile fabric supported by steel or wood posts, used to intercept sediment transported from areas where runoff occurs as sheet flow.

Purpose To prevent sediment carried by sheet flow from leaving the site and entering natural drainage ways or storm drainage systems by slowing storm water runoff, causing ponding and the deposition of sediment at the structure. Silt fence does not filter sediment.

Conditions Where Practice Applies Silt fence may be used in a variety of locations including:

- at the toe of, or on, an exposed slope
- around the perimeter of an exposed construction site
- along the banks of ditches or swales
- around the perimeter of a soil stockpile
- around buffer areas

Silt fence shall not be installed across streams, ditches, waterways, or other concentrated flow areas.

Planning Considerations Silt fence is a system to retain sediment on the construction site. The fence retains sediment primarily by retarding flow and promoting deposition. In operation, the geotextile silt fence material ponds runoff behind it, as the flow rate through the geotextile is often much lower than the flow rate of the runoff coming to the silt fence. Ponding behind the silt fence is necessary to encourage sediment settling. The designer should anticipate ponding and provide sufficient storage areas and overflow outlets to prevent flows from overtopping the fence. Since silt fence is not designed to withstand high water levels, locate them so that only shallow pools can form. Tie the ends of silt fence into higher ground to prevent flow around the end of the fence before the pool reaches design level. Silt fence should be curled uphill

on each end of the fence in a “J” pattern to prevent end flow and scour. Provide stabilized outlets to protect the fence system and release storm flows that exceed the design storm.

Deposition occurs as the storage pool forms behind the fence. The designer can direct flows to specified deposition areas through appropriate positioning of the fence or by providing an excavated area behind the fence. Plan deposition areas at accessible points to promote routine cleanout and maintenance.

Silt fence serves no function along ridges or near drainage divides where there is little movement of water. Confining or diverting runoff unnecessarily with a sediment fence may create erosion and sedimentation problems that would not otherwise occur.

Anchoring of silt fence is critical. The toe of the fabric must be anchored in a trench backfilled with compacted earth. Mechanical compaction must be provided in order for the fence to effectively pond runoff.

Design Criteria Silt fence should be installed along the contour, never up or down a slope. This is essential to ensure that the fence will not accidentally concentrate stormwater flows, thus creating worse erosion problems.

Silt fence can be installed without backing or with wire backing.

- The maximum drainage area for a continuous fence without backing shall be 1/4 acre per 100 linear feet of fence length, up to a maximum area of 2 acres. The maximum slope length behind the fence on the upslope side should be 110 feet (as measured along the ground surface).
- The maximum drainage area for a continuous silt fence with backing shall be 1 acre per 150 linear feet of fence length. The slope length above the silt fence with backing should be no more than 300 feet.

Silt fence should be installed so as to be as close as possible to the ground contour. The bottom of the fence at the ground line should be on a 0% grade, plus or minus 0.5%.

When used at the bottom of a slope, silt fence should be installed 5 feet to 7 feet away from the toe to allow extra space for the ponding of water and collection of sediments.

The expected life span of the silt fence is 6 to 12 months. Therefore, projects of long duration may require a complete replacement of the silt fence. The quantity for silt fence to be in place for a long period of time should be based on the assumption that the material will be replaced every 9 months, on the average.

Table 7.34-1 contains the fabric specifications for silt fence with and without backing. For silt fence without backing, posts shall be hardwood posts that are 2.25” (nominal) x 2.25” (nominal) x 58”. T-type steel posts also may be used. Silt fence with backing shall be installed on a minimum of 1.25 lb/ft steel posts with 14 gauge wire backing that has a maximum mesh size of 6 inches. Ensure that steel posts have projections for fastening the fabric.

Table 7.34-1 Silt Fence Fabric Specifications

	Test Material	Without backing	With backing
Geotextile fabric type		Woven slit film	Woven monofilament
Apparent opening size	ASTM D4751	#30 to #70 standard sieve	#70 to #100 standard sieve
Water flux	ASTM D4491	≥ 4 gpm/ft ²	≥ 18 gpm/ft ²
Tensile strength	ASTM D4632	≥ 120 lb. (warp direction) 100 lb. (fill direction)	≥ 310 lb. (warp direction) 200 lb. (fill direction)
UV Stability (after 500 hrs)	ASTM D4355	$\geq 70\%$	$\geq 90\%$
Elongation	ASTM D4632	$\leq 20\%$ max.	---
Burst strength	ASTM D3786	≥ 250 PSI	≥ 400 psi
Puncture strength	ASTM D4833	≥ 60 lb.	≥ 105 lb.
Trapezoidal tear	ASTM D4533	≥ 50 lb (warp direction) 40 lb (fill direction)	≥ 100 lb (warp direction) 60 lb (fill direction)

Construction Specifications

- Ensure that the height of the sediment fence does not exceed 24 inches above the ground surface. Ponding water depth should not exceed 1.5 feet. (Higher fences may impound volumes of water sufficient to cause failure of the structure.)
- Construct the filter fabric from a continuous roll cut to the length of the barrier to avoid joints. When joints are necessary, securely fasten the filter cloth only at a support post with 4 feet minimum overlap to the next post or roll the fabric together and fasten to one post to create a stronger joint. Where joints are necessary, plan the roll layout so as not to have joints at low points.
- Do not attach filter fabric to trees.
- When silt fence is installed adjacent to streams, wetlands and other natural resources, silt fence with backing should be used.
- Install posts no more than 6 feet apart.
- Install posts 2 feet deep on the downstream side of the silt fence, and as close as possible to the fabric, enabling posts to support the fabric from upstream water pressure.
- Securely attach the silt fence fabric to the posts on the **upstream** side of the posts. For steel posts, attach fabric to the posts using wire or plastic zip ties with a minimum 50 pound tensile strength, at least 5 to a post. Three ties should be installed in the upper 8 inches for top strength. Ties should be installed on the diagonal, as opposed to on the horizontal, to grab more strands. For hardwood posts, attach fabric with 17 gauge wire staples (3/4" wide x 1/2" long), at least 5 to a post. 3 staples should be installed in the upper 8 inches for top strength.
- Install J-hooks for confining the water behind the fence and maximizing the trapping efficiency. See Figure 7.34-1 below.

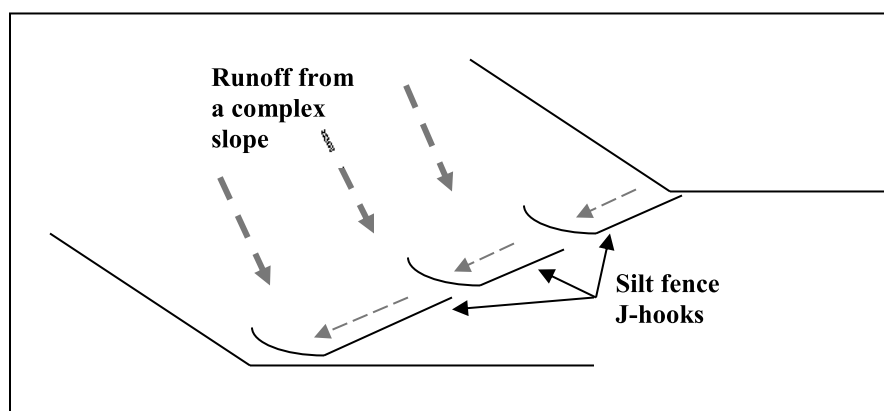


Figure 7.34-1 J-Hook Installation Example

Traditional silt fence trenching method for installation:

- Excavate a trench approximately 4 inches wide and 6 inches deep along the proposed line of posts and upslope from the barrier
- Place 10 inches of the fabric along the bottom and side of the trench. Backfill the trench with soil placed over the filter fabric and compact. Thorough compaction of the backfill is critical to silt fence performance. Poor compaction can cause failure of the silt fence along the toe.
- The base of both end posts should be at least one foot higher than the middle of the fence. Check with a level as necessary.

Slicing method for installation:

- A slicing machine can be used to install silt fence. This method of installation provides excellent compaction and joint integrity along the toe.
- Posts should be set a maximum of 6 feet apart.
- The geotextile fabric should be inserted in a slit in the soil 8-12 inches deep. The slit should be created such that a horizontal chisel point, at the base of a soil-slicing blade, slightly disrupts the soil upward as the blade slices through the soil. This upward disruption minimizes horizontal compaction and creates an optimal soil condition for mechanical compaction against the geotextile. The geotextile should be mechanically inserted directly behind the soil-slicing blade in a simultaneous operation, achieving consistent placement and depth. No turning over (plowing) of soil is allowed for the slicing method.

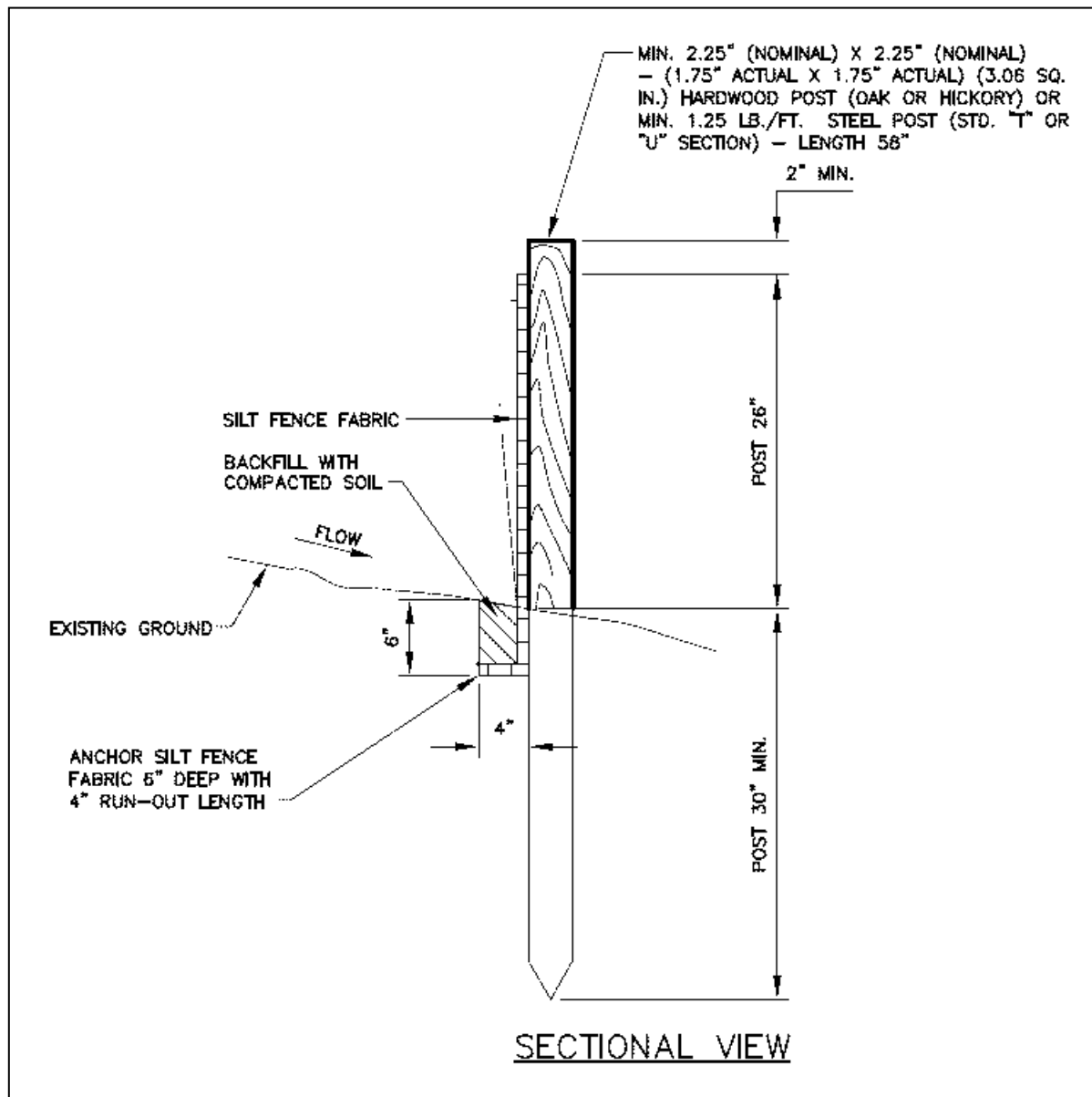


Figure 7.34-2 Silt fence details

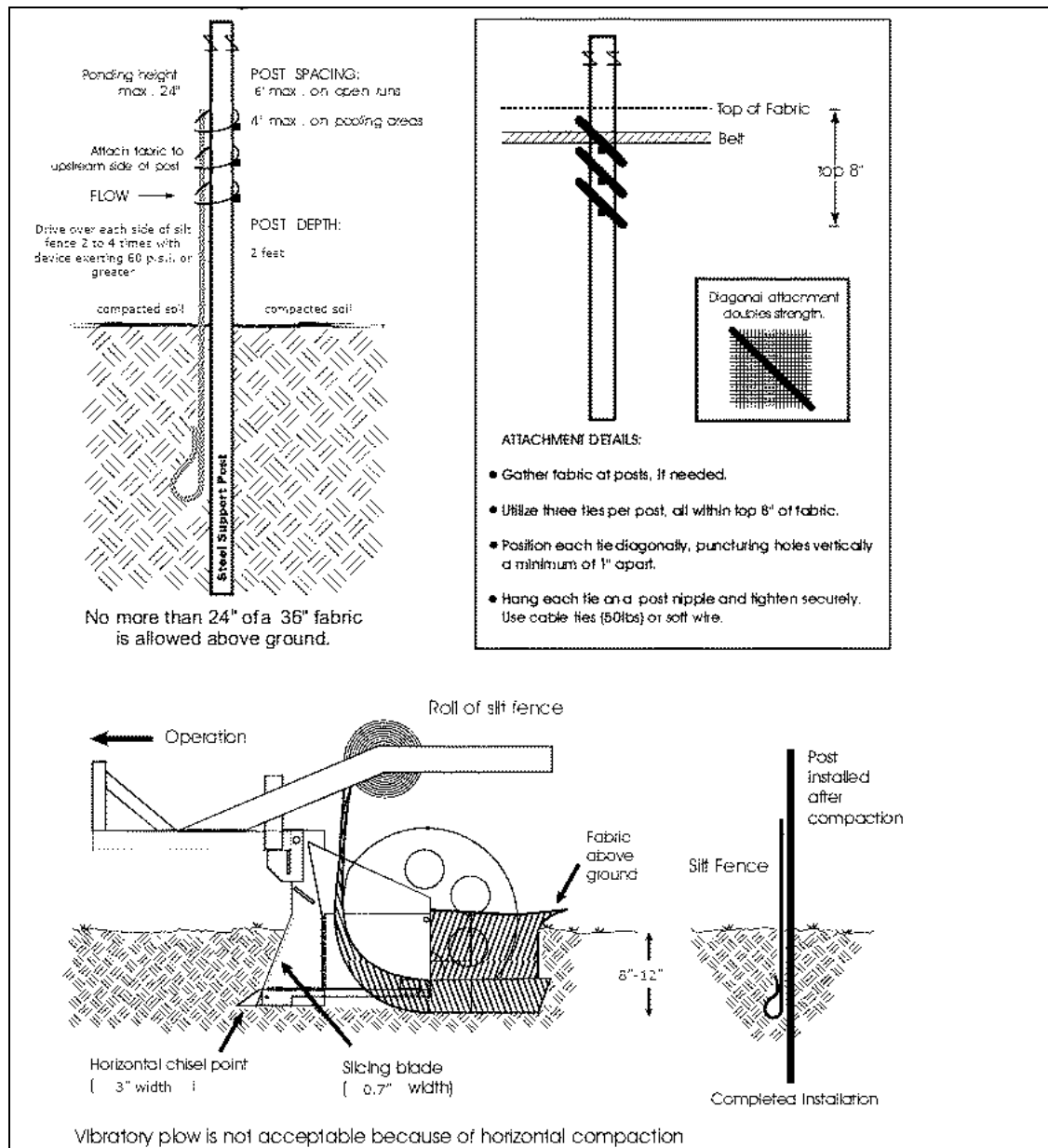


Figure 7.34-3 Silt Fence Slicer Installation Details (Adapted from *Silt Fence That Works*)

**Maintenance
and Inspection
Points**

Remove sediment once it has accumulated to $\frac{1}{2}$ the original height of the barrier.

Replace filter fabric whenever it is worn or has deteriorated to such an extent so that the effectiveness of the fabric is reduced.

All sediment accumulated at the fence should be removed and properly disposed of before the fence is removed.

Repair sagging silt fence to prevent failure or overtopping.

Monitor the toe for evidence of piping or erosion along the toe. Install J-hooks wherever runoff flows along the toe of the fencing to prevent undermining.

Silt fence should remain in place until disturbed areas have been permanently stabilized.

References

TDOT Design Division Drainage Manual

TDOT Erosion Control Standard Drawing EC-STR-3B

North Carolina Erosion and Sediment Control Planning and Design Manual

Devon Distributing Corporation. <http://www.tommy-sfm.com/index.html>

Metropolitan Council (Minnesota) Minnesota Urban Small Sites BMP Manual

SEDIMENT CONTROL PRACTICES

7.35 INLET PROTECTION



EXCAVATED INLET PROTECTION



HARDWARE CLOTH AND GRAVEL INLET PROTECTION



ROCK RING INLET PROTECTION



BLOCK AND GRAVEL INLET PROTECTION

Definition A temporary protective device formed around a storm drain drop inlet to trap sediment.

Purpose To prevent sediment from entering the storm drainage system, prior to temporary or permanent stabilization of the disturbed area.

Conditions Where Practice Applies Many different types of inlet protection devices are available. The types highlighted in this section are non-manufactured. Manufactured inlet protection devices are allowable alternatives, provided the following:

- At least 3600 ft³/acre of drainage is available to store sediment.
- No more than 1 acre of drainage to each measure - 0.5 acre drainage area per each measure is preferable.
- An overflow is provided to safely pass storm events larger than the 5-yr storm.

Non-manufactured inlet protection devices:

Excavated Drop Inlet Protection is applicable where relatively heavy flows are expected and overflow capability is needed.

Hardware Cloth and Gravel Inlet Protection is applicable where the flow is light to moderate. This method is effective where the inlet is expected to drain shallow sheet flow. The immediate land area around the inlet should be relatively flat (less than 1 percent) and located so that accumulated sediment can be easily removed.

Block and Gravel Inlet Protection is applicable to both drop inlets and curb inlets where heavy flows are expected, and an overflow capacity is necessary to prevent excessive ponding around the structure. Shallow temporary flooding after rainfall however, should be expected.

Sod Drop Inlet Protection is applicable where the drainage area of the drop inlet

has been permanently seeded and mulched, and the immediate surrounding area is to remain in dense vegetation. This practice is well suited for lawns adjacent to large buildings.

Rock Ring Inlet Protection is applicable at drop inlets with large drainage areas or at drop inlets that receive high velocity water flows, possibly from many directions.

Rock Pipe Inlet Protection is applicable at pipes with a maximum diameter of 36 inches. This inlet protection may be used to supplement additional sediment traps or basins at the pipe outlet, or used in combination with an excavated sediment storage area to serve as a temporary sediment trap.

Silt fence inlet protection is not allowed, as the failure rate for this type of inlet protection is very high.

Planning Considerations

Inlet protection should be installed at or around all storm drain drop inlets that receive runoff from disturbed areas. Inlet protection should not be used in streams or other natural water resources. It should also not be placed in ditches, swales or other depressions with a depth greater than 1 foot. Due to the high maintenance requirements, inlet protection should be considered secondary sediment controls and not primary sediment controls. These measures should be used in conjunction with other erosion prevention and sediment control measures to be effective. Exercise installation caution so that stormwater runoff cannot back up out adjacent traffic lanes.

Design Criteria

Excavated Drop Inlet Protection (Figure 7.35-1):

- Limit the drainage area to 1 acre. Keep the minimum depth at 1 foot and the maximum depth of 2 feet as measured from the crest of the inlet structure.
- Maintain side slopes around the excavation no steeper than 2:1
- Keep the minimum volume of excavated area around the drop inlet at approximately 3600 ft³/acre of drainage.
- Shape the sediment storage area to fit site conditions, with the longest dimension oriented toward the longest inflow area to provide maximum trap efficiency.
- Install provisions for draining the temporary pool to improve trapping efficiency for small storms and to avoid problems from standing water after heavy rains.

Hardware Cloth and Gravel Inlet Protection (Figure 7.35-2):

- Ensure that drainage area does not exceed 1 acre per inlet.
- Secure the wire mesh hardware cloth barriers using steel T posts. The posts need to be 1.25 lb/linear ft steel with a minimum length of 5 feet. Make sure the posts have projections to facilitate fastening the hardware cloth. Securely drive each stake into the ground to a minimum depth of 2 feet. The maximum spacing for the posts is 4 feet.
- The wire mesh should be at least a 19-gauge hardware cloth with a ¼ inch mesh opening. The total height should be a minimum of 2 feet. Providing a

flap of hardware cloth on the ground projecting away from the inlet can aid in removal of the stone at the project's completion. Place #57 washed stone to a height of 16 inches on the upstream face of the cloth with an outside slope of 2:1.

- The top elevation of the structure must be at least 12 inches lower than the ground elevation downslope from the inlet. It is important that all storm flows pass over the structure into the storm drain and not bypass the structure. Temporary dikes below the structure may be necessary to prevent bypass flow.

Block and Gravel Inlet Protection (Figure 7.35-3):

- Keep the drainage area no greater than 1 acre unless site conditions allow for frequent removal and adequate disposal of accumulated sediment.
- Keep the height of the barrier at least 12 inches and no greater than 24 inches. Do not use mortar. Limit the height to prevent excess ponding and bypass flow.
- Recess the first course of blocks at least 2 inches below the crest opening of the storm drain for lateral support. Support subsequent courses laterally if needed by placing a 2 x 4-inch wood stud through the block openings that are perpendicular to the block course needing support. Lay some blocks on their side in the bottom row for dewatering the pool.
- Place gravel just below the top of the blocks on slopes of 2:1 or flatter. Place hardware cloth or comparable wire mesh with 1/2-inch openings over all block openings to hold gravel in place.

Sod Drop Inlet Protection (Figure 7.35-4):

- Keep velocity of design flow over the sod area at all points less than 5 ft/sec.
- Place sod to form a turf mat completely covering the soil surface for a minimum distance of 4 feet from each side of the drop inlet where runoff will enter.
- Maintain the slope of the sodded area no greater than 4:1.
- Keep the drainage area no greater than 2 acres; maintain this area undisturbed or stabilize it.

Rock Ring Inlet Protection:

- Place measure at least 30 feet away from vehicular traffic. This inlet protection can be modified to protect one side of the inlet if only one side receives flow.
- Stone – A minimum 1-foot wide level area set 4 inches below the drop inlet crest will add protection against the entrance of material. Structural stone should be Class A-1 riprap with 2:1 side slope, and a minimum crest width of 18 inches. The height of the stone should be from 2 to 3.5 feet. The outside face of the riprap should be covered in a 12-inch thick layer of #5 or #57 washed stone. Wire mesh with 2-inch openings may be placed over the drain grating but must be inspected frequently to avoid blockage by trash.

- The top elevation of the stone structure must be at least 12 inches lower than the ground elevation downslope from the inlet. It is important that all stormwater flow over the structure into the storm drain, and not past the structure. Temporary diking below the structure may be necessary to prevent bypass flow. Material may be excavated from inside the sediment pool for this purpose.

Rock Pipe Inlet Protection (Figure 7.35-5):

- When used in combination with an excavated sediment storage area to serve as a temporary sediment trap, the design criteria for temporary sediment traps must be satisfied. The maximum drainage area should be 5 acres, and 3600 cubic feet of sediment storage per acre of drainage area should be provided.
- The minimum stone height should be 2 feet, with side slopes no steeper than 2:1. The stone “horseshoe” around the pipe inlet should be constructed of Class A-1 or Class B riprap, with a minimum crest width of 3 feet. The outside face of the riprap should be coved with a 12-inch thick layer of #57 washed stone.
- In preparing plans for rock pipe inlet protection, it is important to protect the embankment over the pipe from overtopping. The top of the stone should be a minimum of 1 foot below the top of the fill over the pipe. The stone should tie into the fill on both sides of the pipe. The inside toe of the stone should be no closer than 2 feet from the culvert opening to allow passage of high flows.
- The sediment storage area should be excavated upstream of the rock pipe inlet protection, with a minimum depth of 18 inches below grade.

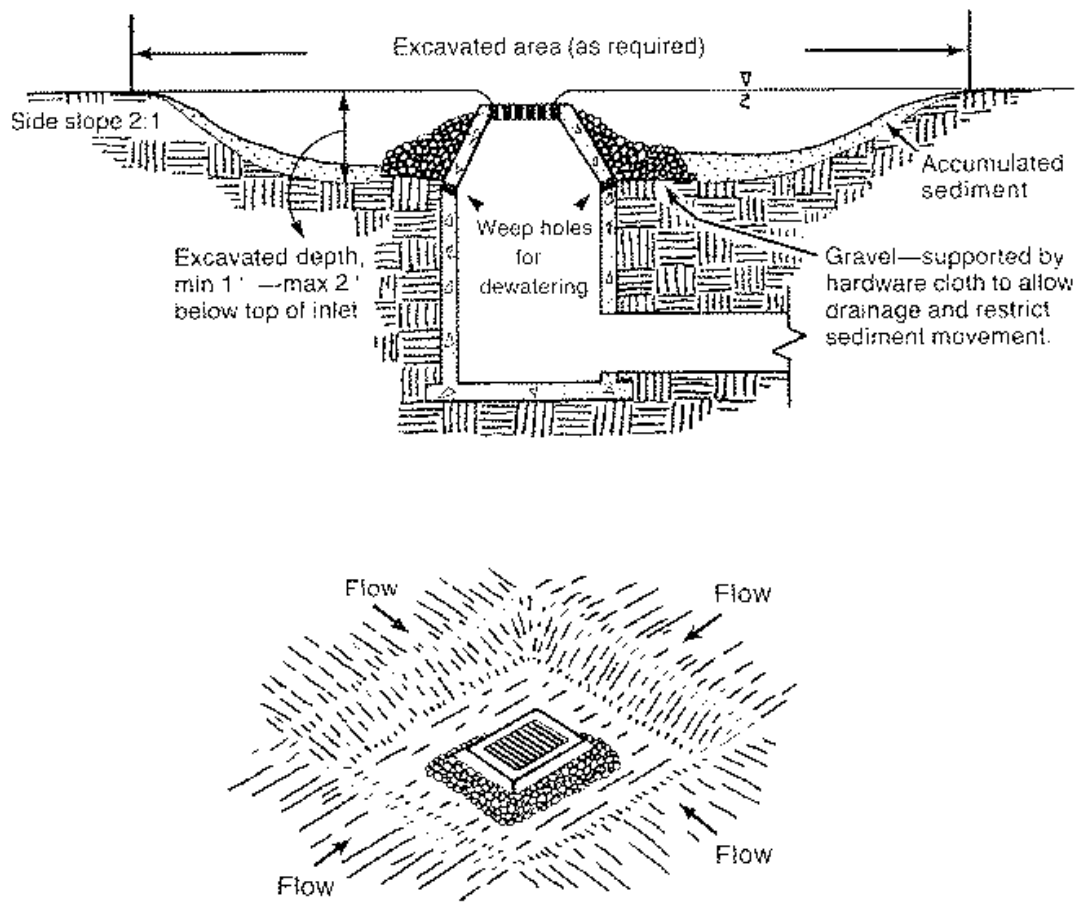


Figure 7.35-1 Excavated Inlet Protection (Source: NCDENR)

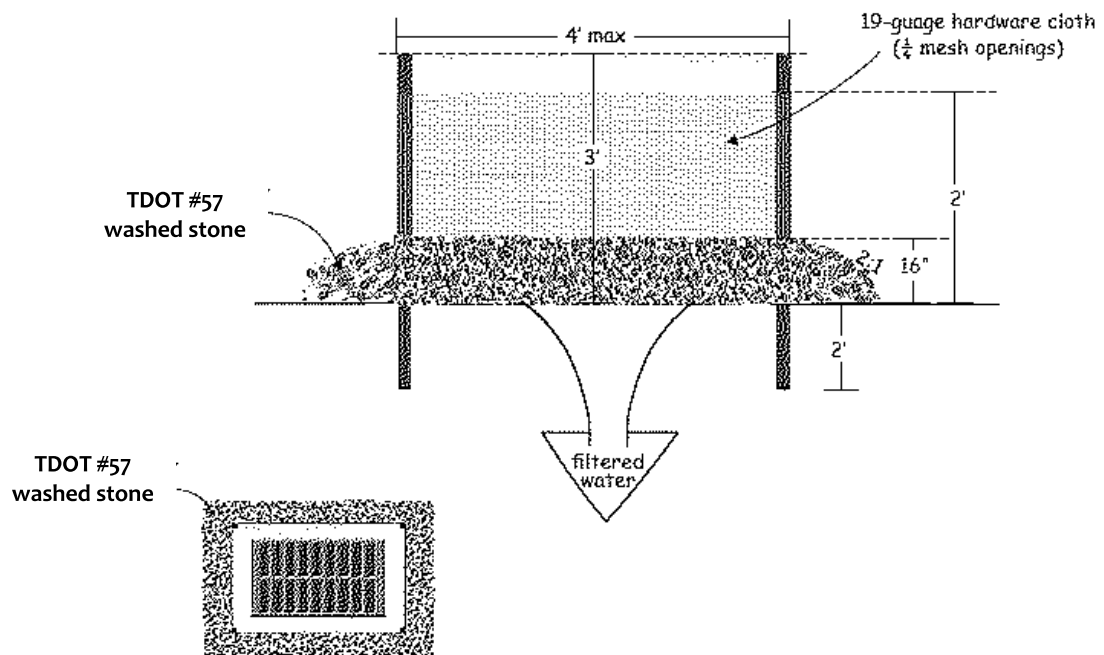


Figure 7.35-2 Hardware Cloth and Gravel Inlet Protection (Source: NCDENR)

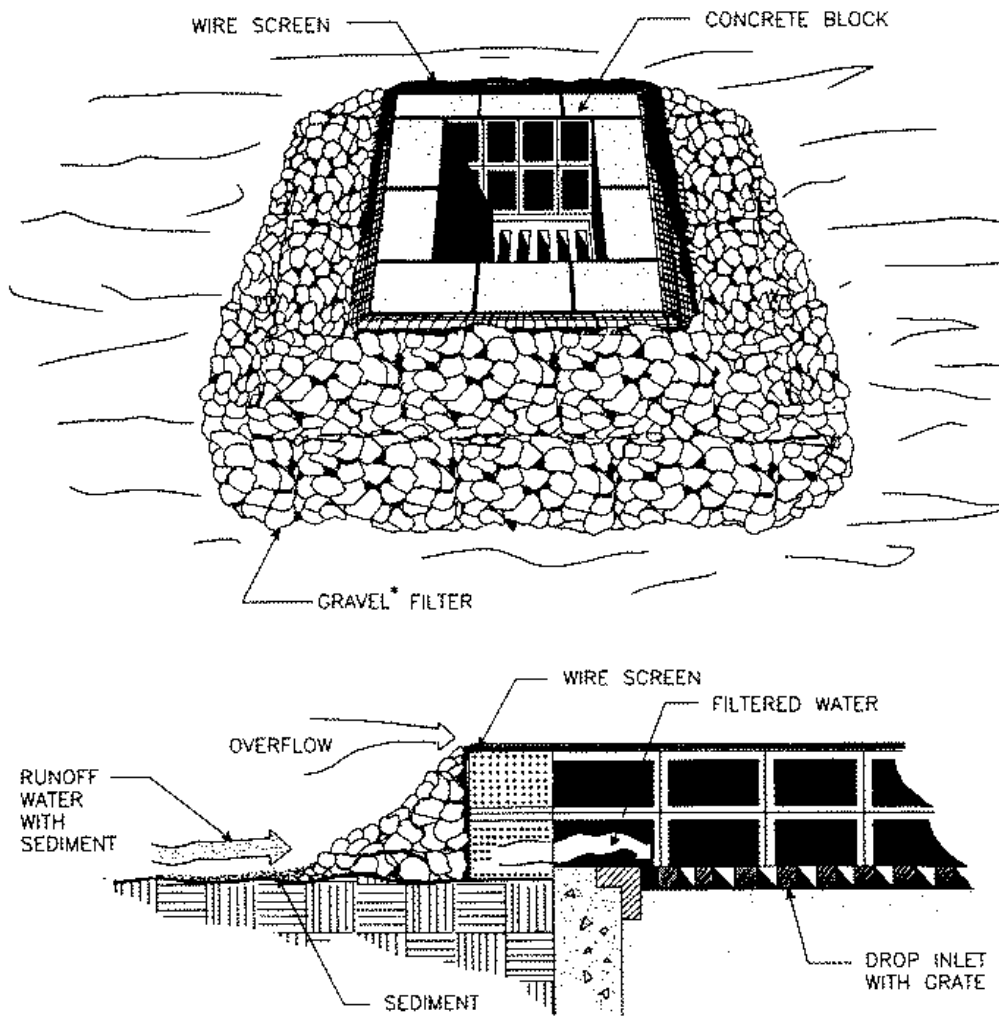


Figure 7.35-3 Block and Gravel Inlet Protection (Source: VA DSWC)

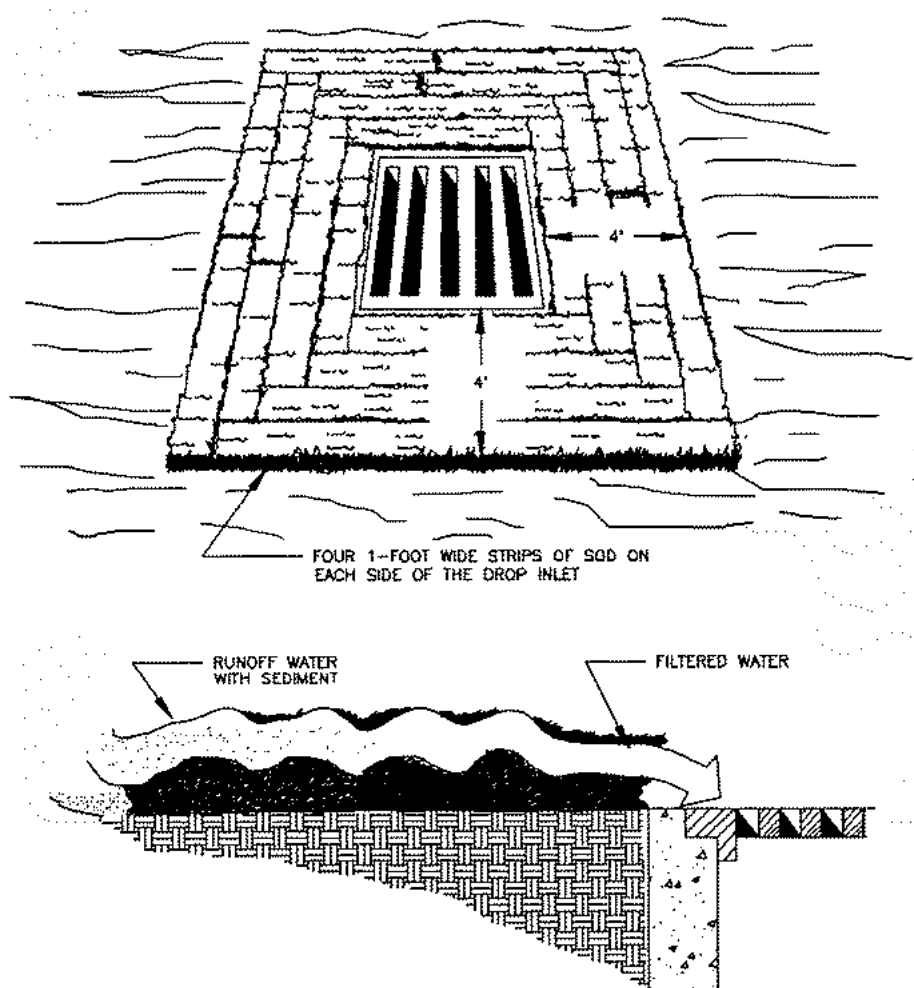


Figure 7.35-4 Sod Inlet Protection Device

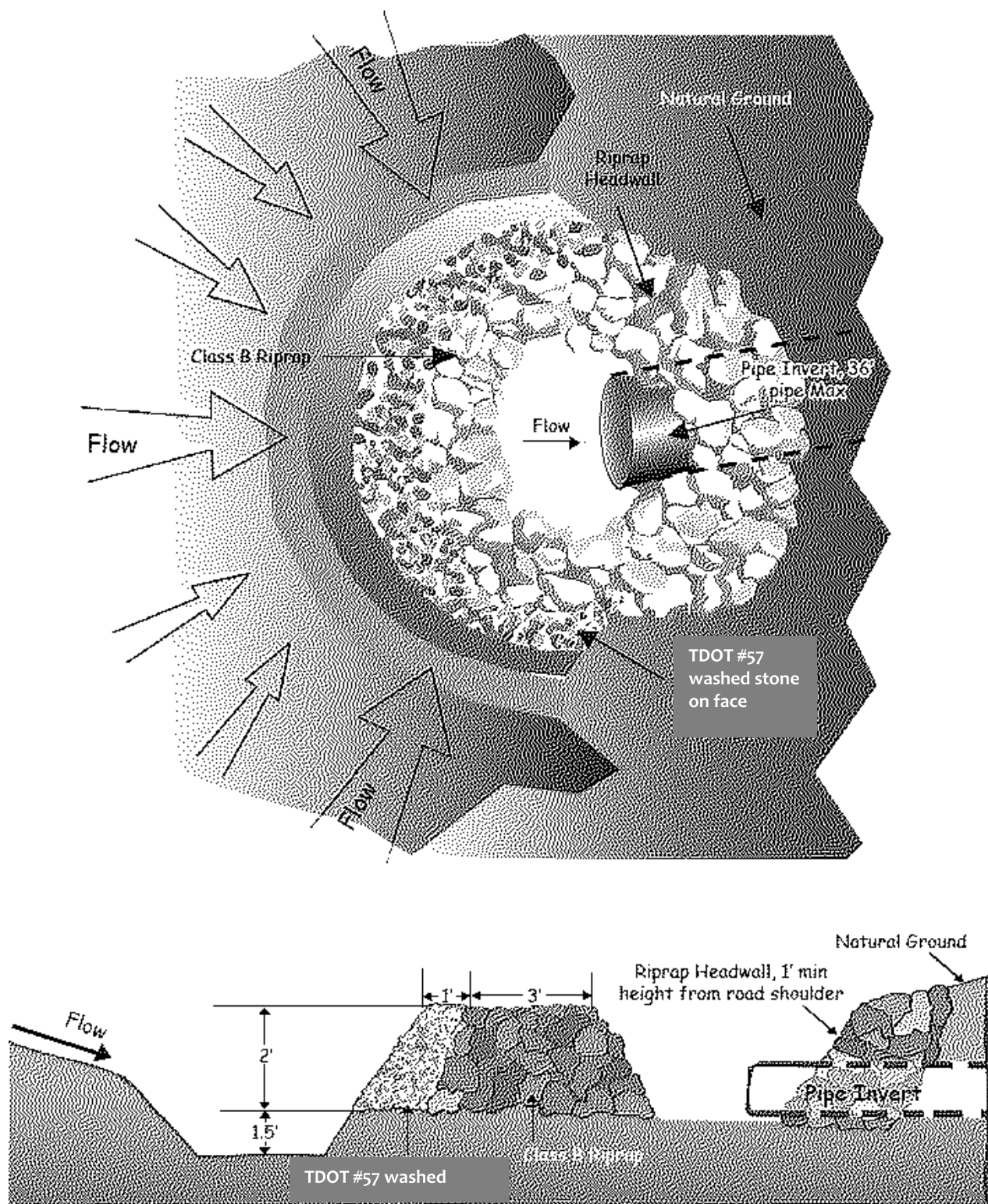


Figure 7.35-5 Rock Pipe Inlet Protection (Source: NCDENR)

Construction Specifications**Excavated Drop Inlet Protection:**

- Clear the area of all debris that might hinder excavation and disposal of spoil.
- Grade the approach to the inlet uniformly.
- Protect weep holes by gravel.
- When the contributing drainage area has been permanently stabilized, seal weep holes, fill the basin with stable soil to final grading elevations, compact it properly, and stabilize.

Hardware Cloth and Gravel Inlet Protection:

- Uniformly grade a shallow depression approaching the inlet.
- Drive 5-foot steel posts 2 feet into the ground surrounding the inlet. Space posts evenly around the perimeter of the inlet, a maximum of 4 feet apart.
- Surround the posts with wire mesh hardware cloth. Secure the wire mesh to the steel posts at the top, middle, and bottom. Placing a 2-foot flap of the wire mesh under the gravel for anchoring is recommended.
- Place clean gravel (#57 stone) on a 2:1 slope with a height of 16 inches around the wire, and smooth to an even grade.
- Once the contributing drainage area has been stabilized, remove accumulated sediment, and establish final grading elevations.
- Compact the area properly and stabilize it with groundcover.

Block and Gravel Drop Inlet Protection:

- Lay one block on each side of the structure on its side in the bottom row to allow pool drainage. The foundation should be excavated at least 2 inches below the crest of the storm drain. Place the bottom row of blocks against the edge of the storm drain for lateral support and to avoid washouts when overflow occurs. If needed, give lateral support to subsequent rows by placing 2 x 4 wood studs through block openings.
- Carefully fit hardware cloth or comparable wire mesh with ½-inch openings over all block openings to hold gravel in place.
- Use clean gravel, ½- to ¾-inch in diameter, placed 2 inches below the top of the block on a 2:1 slope or flatter and smooth it to an even grade. #57 washed stone is recommended.
- If only stone and gravel are used, keep the slope toward the inlet no steeper than 3:1. Leave a minimum 1-foot wide level stone area between the structure and around the inlet to prevent gravel from entering inlet. On the slope toward the inlet, use stone 3 inches in diameter or larger. On the slope away from the inlet use ½ to ¾-inch gravel (#57 washed stone) at a minimum thickness of 1 foot.

Sod Drop Inlet Protection:

- Bring the area to be sodded to final grade elevation with top soil. Add fertilizer and lime, if necessary.
- Lay all sod strips perpendicular to the direction of flows.
- Keep the width of the sod at least 4 feet in the direction of flows.
- Stagger sod strips so that adjacent strip ends are not aligned.

Rock Doughnut Inlet Protection:

- Clear the area of all debris that might hinder excavation and disposal of spoil.
- Grade shallow depression uniformly towards the inlet with side slopes no greater than 2:1. Grade a 1 foot wide level area set 4 inches below the area adjacent to the inlet.
- Install the Class A-1 or Class B riprap in a circle around the inlet. The minimum crest width of the riprap should be 18 inches, with a minimum bottom width of 7.5 feet. The minimum height of the stone is 2 feet.
- The outside face of the riprap is then lined with 12 inches of #57 washed stone.

Rock Pipe Inlet Protection:

- Clear the area of all debris that might hinder excavation and disposal of spoil.
- Install the Class A-1 or Class B riprap in a semi-circle around the pipe inlet. The stone should be built up higher on each end where it ties into the embankment. The minimum crest width of the riprap should be 3 feet, with a minimum bottom width of 11 feet. The minimum height should be 2 feet, but also 1 foot lower than the shoulder of the embankment or diversions.
- A 1 foot thick layer of #5 or #57 stone should be placed on the outside slope of the riprap.
- The sediment storage area should be excavated around the outside of the stone horseshoe 18 inches below natural grade.
- When the contributing drainage area has been stabilized, fill depression and establish final grading elevations, compact area properly, and stabilize with ground cover.

**Maintenance
and Inspection
Points**

Sediment should not be allowed to wash into the inlet. It should be removed from the inlet protection and disposed of and stabilized so that it will not enter the inlet again. Remove sediment from the deposition areas when half the height of the storage area has been filled.

Check measure for damage or evidence of erosion and bypassing around the inlet protection. If inlets are in series, runoff that bypasses an upgradient inlet can overwhelm a downgradient inlet protection device. Sand bags, diversions, or other methods should be used to direct runoff into storm drain inlets.

When the contributing drainage area has been permanently stabilized, all materials and any sediment should be removed, and either salvaged or disposed of properly. The disturbed area should be brought to proper grade, then smoothed and compacted. Appropriately stabilize all disturbed areas around the inlet.

References

TDOT Design Division Drainage Manual

TDOT Erosion Control Standard Drawing EC-STR-11

North Carolina Erosion and Sediment Control Planning and Design Manual

STABILIZATION PRACTICES

7.8 TEMPORARY VEGETATION


TS

 STABILIZATION WITH TEMPORARY
VEGETATION

Definition	The establishment of temporary vegetative cover with fast growing species for seasonal protection on disturbed or denuded areas.
Purpose	To temporarily stabilize denuded areas that will not be brought to final grade for a period of more than 14 days. Temporary seeding controls runoff and erosion until permanent vegetation or other erosion control measures can be established. Seeding with a temporary groundcover provides temporary stabilization until permanent stabilization can be achieved. In addition, it provides residue for soil protection and seedbed preparation, and reduces problems of mud and dust production from bare soil surfaces during construction.
Conditions Where Practice Applies	On any cleared, unvegetated, or sparsely vegetated soil surface where vegetative cover is needed for less than 1 year. For permanent seeding specifications, see Section 7.9.
Planning Considerations	Annual plants that sprout and grow rapidly and survive for only one season are suitable for establishing initial or temporary vegetative cover. Temporary seeding preserves the integrity of earthen sediment control structures such as dikes, diversions, and the banks of dams and sediment basins. It can also reduce the amount of maintenance associated with these devices. For example, the frequency of sediment basin cleanouts will be reduced if the watershed areas outside the active construction zone are stabilized. Proper seedbed preparation, selection of appropriate species, and the use of quality seed are important. Failure to follow established guidelines and recommendations carefully may result in an inadequate or short-lived stand of vegetation that will not control erosion. Temporary seeding provides protection for no more than 1 year, during which time permanent stabilization should be initiated.

Design Criteria Complete grading before preparing seedbeds, and install all necessary erosion control practices such as dikes, waterways, and basins. Minimize steep slopes because they make seedbed preparation difficult and increase the erosion hazard. If soils become compacted during grading, loosen them to a depth of 6-8 inches using a ripper, harrow, or chisel plow.

Construction Specifications **Grading and Shaping:** Excessive water runoff shall be reduced by properly designed and installed erosion control practices such as ditches, dikes, diversions, and sediment basins. No shaping or grading is required if slopes can be stabilized by hand-seeded vegetation or if hydraulic seeding equipment is to be used.

Seedbed Preparation: Good seedbed preparation is essential to successful plant establishment. A good seedbed is well pulverized, loose and uniform. Where hydroseeding methods are used, the surface may be left with a more irregular surface of large clods and stones.

Liming: Apply lime according to soil test recommendations. If the pH (acidity) of the soil is not known, an application of ground agricultural limestone at the rate of 1 to 1½ tons/acre on coarse textured soils and 2-3 tons/acre on fine textured soils is usually sufficient. Apply limestone uniformly and incorporate into the top 4-6 inches of soil. Soils with a pH of 6 or higher do not need to be limed.

Fertilizer: Base application rates on soil tests. When soil tests are not possible, apply a 10-10-10 grade fertilizer at 700-1000lb/acre. Both fertilizer and lime should be incorporated into the top 4-6 inches of soil. If a hydraulic seeder is used, do not mix seed and fertilizer more than 30 minutes before the application.

Surface Roughening: If recent tillage operations have resulted in a loose surface, additional roughening may not be necessary, except to break up large clods. If rainfall caused the surface to become sealed or crusted, loosen it just prior to seeding by disking, raking, harrowing, or other suitable methods. Groove or furrow slopes steeper than 3:1 on the contour before seeding.

Seeding: Select a non-invasive grass or grass-legume mixture suitable to the area and season of the year. See Figures 7.8-1 to 7.8-3 for suggestions of temporary seeding species. Although native plants are preferred, there are currently no available native species that are not cost prohibitive. Non-invasive annual plants are preferred. Seed shall be applied uniformly by hand, cyclone seeder, drill, cultipacker seeder, or hydraulic seeder. Drill or cultipacker seeders should normally place seed ¼ to ½ inches deep. Appropriate depth of planting is 10 times the seed diameter. Soil should be raked lightly to cover seed with soil if seeded by hand.

Mulching: The use of mulch will help ensure establishment under normal conditions, and is essential to seeding success under harsh site conditions. Harsh site conditions include:

- Seeding in fall for winter cover
- Slopes steeper than 3:1
- Excessively hot or dry weather
- Adverse soils (shallow, rocky, or high in clay or sand), and
- Areas receiving concentrated flow.

Irrigation: During times of drought, water shall be applied at a rate not causing runoff and erosion. The soil shall be thoroughly wetted to a depth that will ensure germination of the seed. Subsequent applications should be made as needed. Newly seeded areas require more water than more mature plants.

Species	Rate (lb/acre)
Rye	120
Seeding dates	
East	Above 2500 feet: Feb. 15 - May 15 Below 2500 feet: Feb. 1 - May 1
Middle	Jan. 1 - May 1
West	Dec. 1 - Apr. 15
Soil amendments	
Follow recommendations of soil tests or apply 2,000 lb/acre ground agricultural limestone and 750 lb/acre 10-10-10 fertilizer.	
Mulch	
Apply 4,000 lb/acre straw. Anchor straw by tacking with asphalt, netting, or a mulch anchoring tool. A disk with blades set nearly straight can be used as a mulch anchoring tool.	
Maintenance	
Refertilize if growth is not fully adequate. Reseed, refertilize and mulch immediately following erosion or other damage.	

Figure 7.8-1 Temporary Seeding Recommendation for Late Winter and Early Spring

Species	Rate (lb/acre)
Oats	60
Brown top millet	30
Seeding dates	
East	May 15 - Aug. 15
Middle	May 1 - Aug. 15
West	Apr. 15 - Aug. 15
Soil amendments	
Follow recommendations of soil tests or apply 2,000 lb/acre ground agricultural limestone and 750 lb/acre 10-10-10 fertilizer.	
Mulch	
Apply 4,000 lb/acre straw. Anchor straw by tacking with asphalt, netting, or a mulch anchoring tool. A disk with blades set nearly straight can be used as a mulch anchoring tool.	
Maintenance	
Refertilize if growth is not fully adequate. Reseed, refertilize and mulch immediately following erosion or other damage.	

Figure 7.8-2 Temporary Seeding Recommendation for Summer

Species	Rate (lb/acre)
Oats	30
Winter wheat	30
Seeding dates	
East	Aug 15 – Dec 15
Middle	Aug. 15 – Dec 30
West	Aug. 15 – Dec 30
Soil amendments	
Follow recommendations of soil tests or apply 2,000 lb/acre ground agricultural limestone and 750 lb/acre 10-10-10 fertilizer.	
Mulch	
Apply 4,000 lb/acre straw. Anchor straw by tacking with asphalt, netting, or a mulch anchoring tool. A disk with blades set nearly straight can be used as a mulch anchoring tool.	
Maintenance	
Refertilize if growth is not fully adequate. Reseed, refertilize and mulch immediately following erosion or other damage. If necessary to extend temporary cover beyond June 15, overseed with 50 lb/ac crimson clover in late February or early March.	

Figure 7.8-3 Temporary Seeding Recommendations for Fall

**Maintenance
and Inspection
Points**

Reseed and mulch areas where seedling emergence is poor or where erosion occurs, as soon as possible. Do not mow.

References

North Carolina Erosion and Sediment Control Planning and Design Manual

STABILIZATION PRACTICES

7.9 PERMANENT VEGETATION

**PS**STABILIZATION WITH PERMANENT
VEGETATION

Definition The planting of native perennial vegetation such as ground covers, shrubs, vines, trees, and/or flowering plants (forbs) on exposed areas for erosion control and final stabilization. Permanent perennial vegetation is required to achieve final stabilization. Native perennial plants are preferred for erosion control because of the following reasons:

- In appropriate habitats, native plants are better adapted to environmental and site conditions, resulting in lower maintenance costs
- Natives are not typically aggressive and do not allow the site to become a source of exotic invasive plants that can spread to other locations and become costly to remove
- Unlike most non-natives, native plants support native insect, bird, and other wildlife for pollinations, food sources, and nesting
- Using native plants provides opportunities to educate and demonstrate various sustainable approaches for the public
- The Tennessee Exotic Pest Plant (TNEPPC) council has ranked non-native plants in Tennessee based on their invasiveness and threats to the natural environment. The following plants that have been used for erosion control by TDEC and TDOT are listed in TNEPPC's publication **"Invasive Exotic Pest Plants in Tennessee – 2009"**:
 - Korean (and Kobe) lespedeza – "Severe Threat" Category (Kobe is not ranked but has same invasive characteristics as Korean)
 - Tall fescue – "Significant Threat" Category

- Foxtail millet – “Significant Threat” Category
- Crown vetch – “Alert” Category

We are providing native and non-invasive alternative species as the preferred choice for erosion control and soil stabilization for TDEC projects. (Table 7.9-1)

Purpose	To reduce stormwater runoff velocity, maintain sheet flow, protect the soil surface from erosion, promote infiltration of runoff into the soil, and improve aesthetics and provide diversity. Many native grasses have very deep and fibrous roots, a minimum of one foot and up to fifteen feet, and provide long-term erosion control.
Conditions Where Practice Applies	Apply to fine-graded areas on which permanent, long-lived vegetative cover is the most practical or most effective method of stabilizing the soil. Permanent seeding may also be used on rough-graded areas that will not be brought to final grade for a year or more. Areas to be seeded with permanent vegetation must be seeded or planted within 14 days after the construction activity in that portion of the site has permanently ceased.
Planning Considerations	The most common and economical means of stabilizing disturbed soils is by seeding a mixture of grasses and forbs. The advantages of seeding over other means of establishing plants include the smaller initial cost, lower labor input, and greater flexibility of method. The disadvantages of seeding include the potential for erosion during the establishment stage, the need to reseed areas that fail to establish, seasonal limitations on suitable seeding dates, and a need for water and appropriate temperatures during germination and early growth. The probability of successful plant establishment can be maximized through good planning, knowledge of the soil characteristics, selection of suitable plant materials for the site, good seedbed preparation, adequate liming and fertilization, and timely planting and maintenance. Native grasses can be planted by drilling or seeding. The ground should be prepared by disking or rotovating prior to seeding in the spring or summer. Annual grains such as rye or oats can be planted prior to sowing the grass seed for erosion control. Grass seed can be planted in the dormant season as well. Permanent perennial vegetation is used to provide a protective cover for exposed areas including cuts, fill, and other denuded areas that will not be regraded. Permanent stabilization should be applied where topsoil was never stripped, or has been returned and incorporated into the soil surface. • When stripping a site, topsoil should be stockpiled for later use. • Stockpiled topsoil should be stabilized using temporary vegetation. • Where a suitable planting medium is not present, topsoil shall be imported and incorporated into the site. • Block sod provides immediate cover; it is especially effective in controlling erosion adjacent to concrete flumes and other structures. . • When mixed plantings are done during marginal planting periods, companion crops shall be used. • No-till planting can be effective when planting is done following a summer or winter annual cover crop. • Irrigation should be used when the soil is dry or when summer plantings are done.

- Native species are low maintenance plants and are preferred to ensure long-lasting erosion control.
- Wildlife plantings of native species should be included when applicable.

Wildlife Plantings: Commercially available plants beneficial to wildlife species include the following:

- Mast Bearing Trees: Beech, Black Cherry, Blackgum, Chestnut, Oak, Hackberry, Hickory, Honey Locust, Black Locust, and Persimmon.
- Shrubs and Small Trees: Serviceberry, Crabapple, Pawpaw, Spicebush, Hazelnut, Dogwood, Highbush and Lowbush Blueberries, native Holly, Red Cedar, Red Mulberry, Sumac, Wild Plum, Blackhaw and Blackberry. Plant shrubs in patches without tall trees to develop stable shrub communities. All produce fruit used by many kinds of wildlife.

Design Criteria The state is divided into three planting regions designated I, II and III as shown in the figure below. Native seed mixes are preferred and the recommendations are shown in Table 7-9.1. Note that the rates are based upon Pure Live Seed (PLS).

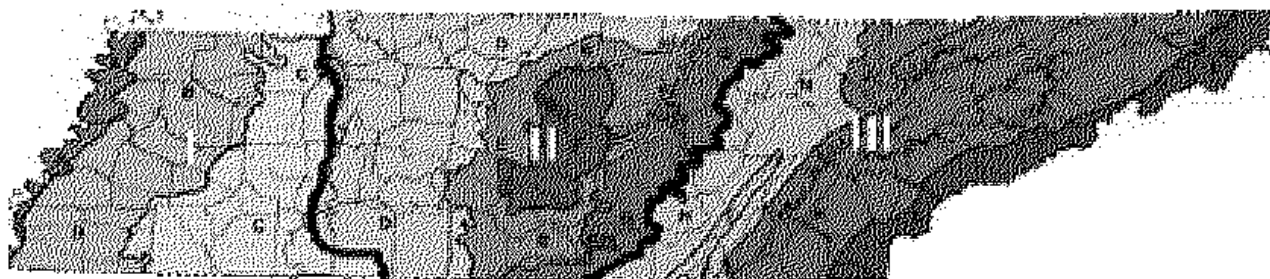


Figure 7.9-1: TN Planting Regions

Table 7.9-1 Preferred seed mixes using natives or naturalized plants and planting dates.**non-native but do not spread.*

Zone		Best	Marginal	Preferred Rate/Mix (lb/ac PLS)
Region I	Poorly drained soils	Feb 1 – Mar 20 Sept 1 – Sept 30	Mar 20 – Apr 30 Sept 30 – Oct 31	15 Browntop millet* (nurse crop) 2 switch grass 4 little bluestem 4 Virginia wild rye 4 purpletop 2 partridge pea 2 black-eyed susan
	Well drained soils	Apr 1 – July 15		15 Browntop millet* (nurse crop) 4 little blue stem 4 purpletop 2 sideoats gramma 2 partridge pea 2 black-eyed susan
	High maintenance	Apr 1 – July 15		15 Browntop millet* (nurse crop) 2 partridge pea 45 Red fescue* 45 hard fescue* 25 chewing fescue*
Region II	Low maintenance; Slopes and Poor, shallow soils	Aug 25 – Sept 15 Feb 15 – May 30	Sept 15 – Oct 25 Mar 21 – May 30	15 Browntop millet* (nurse crop) 5 little bluestem 2 switch grass 2 tall dropseed 5 sideoats gramma 2 black-eyed susan 2 partridge pea 1 greyheaded coneflower
	Low maintenance; Moderate slopes; soils >6 in. depth	Aug 25 – Sept 15 Feb 15 – May 30	Sept 15 – Oct 25 Mar 21 – Apr 15	15 Browntop millet* (nurse crop) 5 purpletop 5 little bluestem 5 Virginia wild rye 2 black-eyed susan 2 partridge pea 1 greyheaded coneflower
	High maintenance	Aug 30 – Oct 15	Feb 15 – Apr 15	15 Browntop millet* (nurse crop) 2 partridge pea 45 Red fescue* 45 hard fescue* 25 chewing fescue*
Region III	>2500 ft elevation; steep slopes	Mar 20 – Apr 30	Aug 15 – Aug 30 Mar 1 – Mar 20 Apr 20 – June 15	15 Browntop millet* (nurse crop) 5 purpletop 10 little bluestem 10 Indian grass
	<2500 ft elevation; steep slopes	Aug 15 – Sept 1 Mar 1 – Apr 1	Sept 1 – Sept 15 Apr 1 – June 10	2 black-eyed susan 0.5 monarda (bergamot) 4 Maryland senna

Region III <i>cont'd</i>	>2500 ft elev.; Shallow soils	Mar 20 – Apr 20	Aug 15 – Aug 30 Mar 5 – Mar 20 April 20 – June 15	15 Browntop millet* (nurse crop) 4 purpletop 10 little bluestem 10 broomsedge 2 partridge pea 2 black-eyed susan 0.5 monarda (bergamot)
	<2500 ft elev.; Shallow soils	Aug 15 – Sept 1 Mar 1 – Apr 1	Sept 1 – Sept 15 Apr 1 – June 10	
	>2500 ft. elev.; Moderate slopes	Mar 20 – Apr 20	Aug 15 – Aug 30 Mar 5 – Mar 20 Apr 20 – June 15	15 Browntop millet* (nurse crop) 4 purpletop 10 little bluestem 10 Indian grass 2 black-eyed susan 0.5 monarda (bergamot) 4 Maryland senna
	<2500 ft. elev.; Moderate slopes	Aug 15 – Sept 1 Mar 1 – Apr 1	Sept 1 – Sept 15 Apr 1 – June 10	
	>2500 ft elev.; High maintenance	Mar 20 – Apr 20	Aug 15 – Aug 30 Mar 5 – Mar 20 Apr 20 – June 15	15 Browntop millet* (nurse crop) 45 Red fescue* 45 hard fescue* 25 chewing fescue*
	<2500 ft elev.; High maintenance	Aug 15 – Sept 1 Mar 1 – Apr 1	Sept 1 – Sept 15 Apr 1 – June 10	

In Table 7.9-1, the bold dates are the preferred dates for seeding. Also, high maintenance areas include lawns and other grassed areas that will be maintained for aesthetics.

Table 7.9-2 Allowable seed mixes and planting dates.

	Zone	Best	Marginal	Rate/Mix (lb/ac PLS)
Region I	Poorly drained soils	Feb 1 – Mar 20 Sept 1 – Sept 30	Mar 20 – Apr 30 Sept 30 – Oct 31	80 Pensacola bahiagrass 30 Bermudagrass (hulled) 20 Korean lespedeza** 10 Kobe lespedeza**
	Well drained soils	Apr 1 – July 15		50 Pensacola bahiagrass 15 Bermudagrass (hulled) 30 Korean lespedeza** 15 Foxtail millet**
	High maintenance	Apr 1 – July 15		40 Bermudagrass (hulled)
Region II	Low maintenance; Slopes and Poor, shallow soils	Aug 25 – Sept 15 Feb 15 – Mar 21	Sept 15 – Oct 25 Mar 21 – Apr 15	100 Pensacola bahiagrass 40 Bermudagrass (hulled) 20 Korean lespedeza** 10 Kobe lespedeza**
	Low maintenance; Moderate slopes; soils >6 in. depth	Aug 25 – Sept 15 Feb 15 – Mar 21	Sept 15 – Oct 25 Mar 21 – Apr 15	80 Pensacola bahiagrass 30 Bermudagrass (hulled) 20 Korean lespedeza** 10 Kobe lespedeza**
	High maintenance	Aug 15 – Oct 15	Feb 15 – Apr 15	200 KY 31 fescue**

Region III	>2500 ft elevation; steep slopes	July 25 - Aug 15 Mar 20 – Apr 20	July 15 – July 25 Aug 15 – Aug 30 Mar 1 - Mar 20 Apr 20 – May 15	100 KY 31 fescue** 20 Kobe lespedeza** 10 Korean lespedeza** 5 Redtop
	<2500 ft elevation; steep slopes	Aug 15 – Sept 1 Mar 1 – Apr 1	July 25 – Aug 15 Sept 1 – Sept 15 Apr 1 – May 10	
	>2500 ft elev.; Shallow soils	July 25 - Aug 15 Mar 20 – Apr 20	July 15 – July 25 Aug 15 – Aug 30 Mar 5 – Mar 20 Apr 20 – May 15	40 KY 31 Fescue** 10 Korean lespedeza** 10 Redtop 10 Crown vetch**
	<2500 ft elev.; Shallow soils	Aug 15 – Sept 1 Mar 1 – Apr 1	July 25 – Aug 15 Sept 1 – Sept 15 Apr 1 – May 10	
	>2500 ft. elev.; Moderate slopes	July 25- Aug 15 Mar 20 – Apr 20	July 15 – July 25 Aug 15 – Aug 30 Mar 5 – Mar 20 Apr 20 – May 15	60 KY 31 fescue** 15 Korean lespedeza** 15 Kobe lespedeza**
	<2500 ft. elev.; Moderate slopes	Aug 15 – Sept 1 Mar 1 – Apr 1	July 25 – Aug 15 Sept 1 – Sept 15 Apr 1 – May 10	
	>2500 ft elev.; High maintenance	July 25 - Aug 15 Mar 20 – Apr 20	July 15 – July 25 Aug 15 – Aug 30 Mar 5 – Mar 20 Apr 20 – May 15	200 KY 31 fescue**
	<2500 ft elev.; High maintenance	Aug 15 – Sept 1 Mar 1 – Apr 1	July 25 – Aug 15 Sept 1 – Sept 15 Apr 1 – May 10	



Figure 7.9-2 Typical Seed

Roundstone Native Seed, LLC
9764 Raider Hollow Road, Upton, KY 42784

Kind: Switchgrass		Lot No: 11074	
Variety:	Cave-in-Rock	Inert Matter:	1.78
Origin:	KY	Weed Seeds:	0.00
Test Date:	02/12	Crop Seeds:	0.00
Pure Seed:	98.22	Hard Seed:	0.00
Total Germ:	95.32	Germ:	95.32
Pure Live Seed:	93.62	Noxious:	0.00

Seeding rates: Seed rates in Table 7.9-1 are based upon Pure Live Seed (PLS), which is the product of the purity shown on the seed tag multiplied by the germination. The PLS for the seed tag shown in Figure 7.9-2 would be $0.9362 \times 0.95 = 0.89$. Thus only 89% of the seed are considered live. If the plan calls for a seed rate of 2 lb/acre of switchgrass find the actual seed rate for the conditions shown on the tag. Actual seed rate required is $2 \text{ lb/ac} / 0.95 \text{ PLS} = 2.15 \text{ lb/acre}$. In other words, to get an actual rate of 2 lb. per acre it will require 2.15 lb. of seed.

Temporary seed may be required when seeding outside of the preferred seeding dates. See Section 7.8 for more information on temporary seeding.

Construction Specifications

Grading and Shaping: Grading and shaping may not be required where hydraulic seeding and fertilizing equipment is to be used. Vertical banks shall be sloped to enable plant establishment.

When conventional seeding and fertilizing are to be done, grade and shape the slope, where feasible and practical, so that equipment can be used safely and efficiently during seedbed preparation, seeding, mulching, and maintenance of vegetation.

Concentrations of water that could cause excessive soil erosion should be diverted to a safe outlet. Diversions and other treatment practices must conform to the appropriate standards and specifications.

Plant Selection: Only certified seed shall be used. Refer to Table 7.9-1 for suggested species. Grass type should be selected on the basis of species characteristics; site and soil conditions; planned use and maintenance of the area; time of year of planting, method of planting; and the needs and desires of the land user.

Plant selection may also include annual companion crops. Annual companion crops should be used only when the perennial species are not planted during their optimum planting period. Care should be taken in selecting companion crop species and seeding rates because annual crops will compete with perennial species for water, nutrients, and growing space. A high seeding rate of the companion crop may prevent the establishment of perennial species.

Ryegrass shall not be used in any seeding mixtures containing permanent, perennial species due to its ability to out-compete desired species chosen for permanent perennial cover. However, crimson, clover, oats and winter wheat can be planted any time of the year and are recommended as a cover crop with native perennial species.

Topsoil: Topsoil should be replaced on all areas to be seeded. See Practice 7.3 for more information on the removal, storage and reapplication of topsoil.

Seedbed Preparation: When conventional seeding is to be used, topsoil should be applied to any area where the disturbance results in subsoil at the final grade surface. Figure 7.9-3 provides guidance on the volume of topsoil required to provide specific topsoil depths. Soil pH should be above 5 – preferably between 6.0 and 6.5. Soil on the site should be tested to determine lime and fertilizer rates. Soil should be submitted to a soils specialist or County Agricultural Extension agent for testing and soil amendment recommendations. In the absence of soil test results, the following application rates can be used:

- **Ground agricultural limestone:**

- Light-textured, sandy soils: 1- 1 1/2 tons/acre

- Heavy-textured, clayey soils: 2-3 tons/acre

- **Fertilizer:**

- Grasses: 800-1200 lb/acre of 10-10-10 (or the equivalent)

- Grass-legume mixtures: 800-1200 lb/acre of 5-10-10 (or the equivalent)

Broadcast Seeding:

- Seedbed preparation may not be required where hydraulic seeding equipment is to be used.
- Tillage, at a minimum, shall adequately loosen the soil to a depth of 4 to 6 inches; alleviate compaction; incorporate topsoil, lime, and fertilizer; smooth and firm the soil; allow for the proper placement of seed, sprigs, or plants; and allow for the anchoring of straw or hay mulch if a crimper is to be used.
- Tillage may be done with any suitable equipment.
- Tillage should be done parallel to the contour where feasible.
- On slopes too steep for the safe operation of tillage equipment, the soil surface shall be pitted or trenched across the slope with appropriate hand tools to provide consecutive beds, 6 to 8 inches apart, in which seed may lodge and germinate. Hydraulic seeding may also be used.

Depth (Inches)	Per 1,000 Square Feet	Per Acre
1	3.1	134
2	6.2	268
3	9.3	403
4	12.4	537
5	15.5	672
6	18.6	806

7.9-3 Cubic yards of topsoil required to attain various soil depths

Inoculants: Native legume seeds do not need to be inoculated. All non-native legume seed shall be inoculated with appropriate nitrogen fixing bacteria. The inoculants shall be pure culture prepared specifically for the seed species and used within the dates on the container. A mixing medium recommended by the manufacturer shall be used to bond the inoculants to the seed. For conventional seeding, use twice the amount of inoculants recommended by the manufacturer.

No-Till Seeding: No-till seeding is permissible into annual cover crops when planting is done following maturity of the cover crop or if the temporary cover stand is sparse enough to allow adequate growth of the permanent (perennial) species. No-till seeding shall be done with appropriate no-till seeding equipment. The seed must be uniformly distributed and planted at the proper depth. Native grasses respond very well to drill seeding at a depth of one-fourth inch.

Mulch: Straw mulch is required for all permanent vegetation applications and must be applied immediately after the application of seed. The application rate for mulch is 2 tons per acre with overall uniform soil coverage of 70%. All mulch must be anchored. See Practice 7.6 for more information on straw mulch.

**Maintenance
and Inspection
Points**

Any areas that have washed out due to high stormwater flows, areas that have been disturbed by blowing wind, and areas that do not show good germination should be retreated.

Inspect seeded areas for failure and make necessary repairs and reseedings within the same season, if possible.

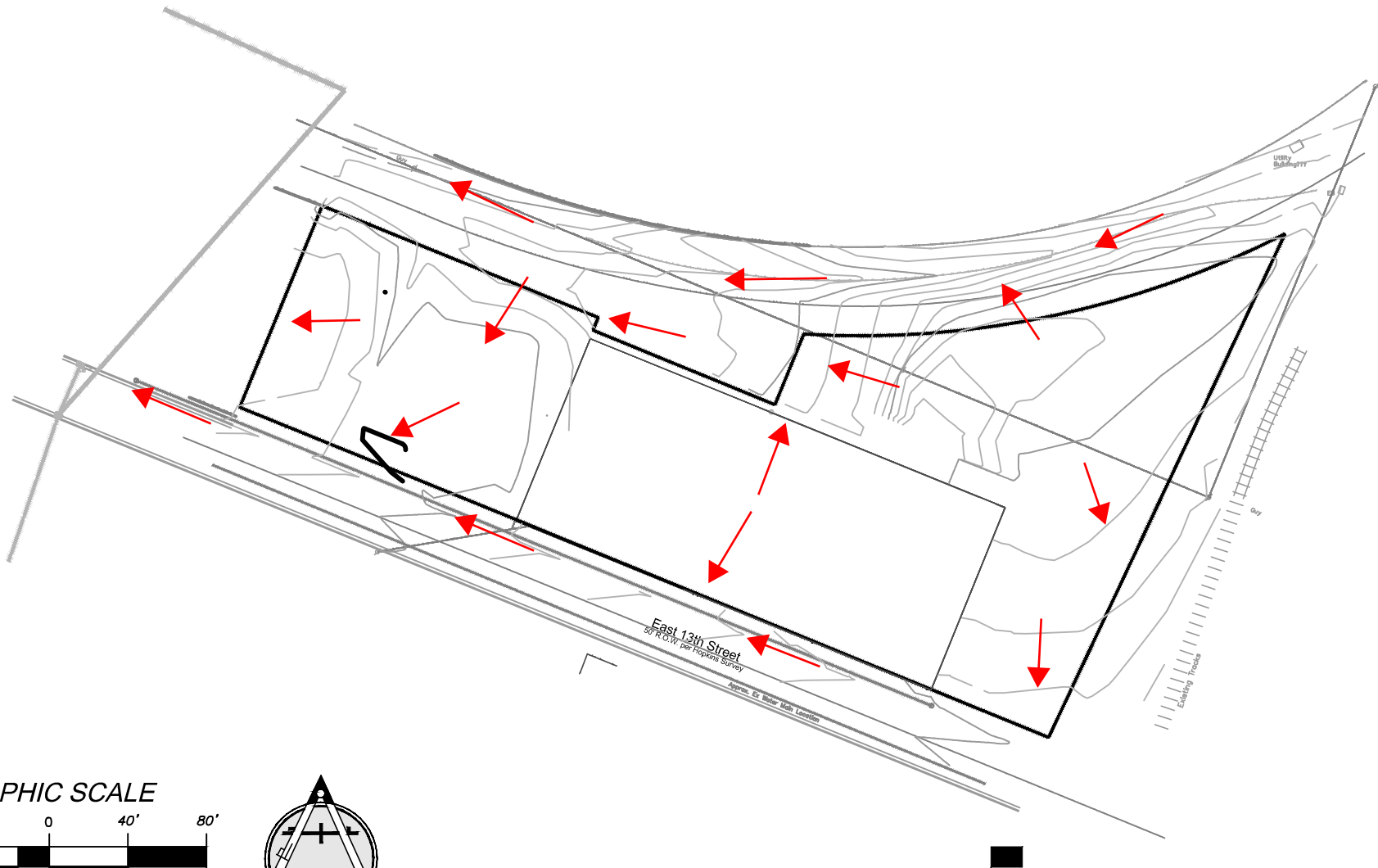
Reseeding: If a stand has inadequate cover, re-evaluate choice of plant materials and quantities of lime and fertilizer. Re-establish the stand after seedbed preparation or over-seed the stand. Consider seeding temporary, annual species if the time of year is not appropriate for permanent seeding.

References

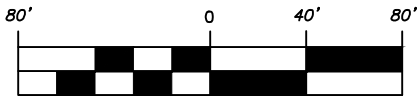
North Carolina Erosion and Sediment Control Planning and Design Manual

Appendix D

Pre-Development Drainage Map
Post-Development Drainage Map
Site Soil Survey



GRAPHIC SCALE



1 inch = 80 ft.



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Chattanooga, TN 37403
423.266.3501
adengineering.us

PRE-CONSTRUCTION DRAINAGE

Tax Map 146P C 002 & 146P C 003
1256 & 1265 E. 13th Street
Chattanooga, TN

Factory Lofts

1265 E. 13th Street
CHATTANOOGA, TENNESSEE

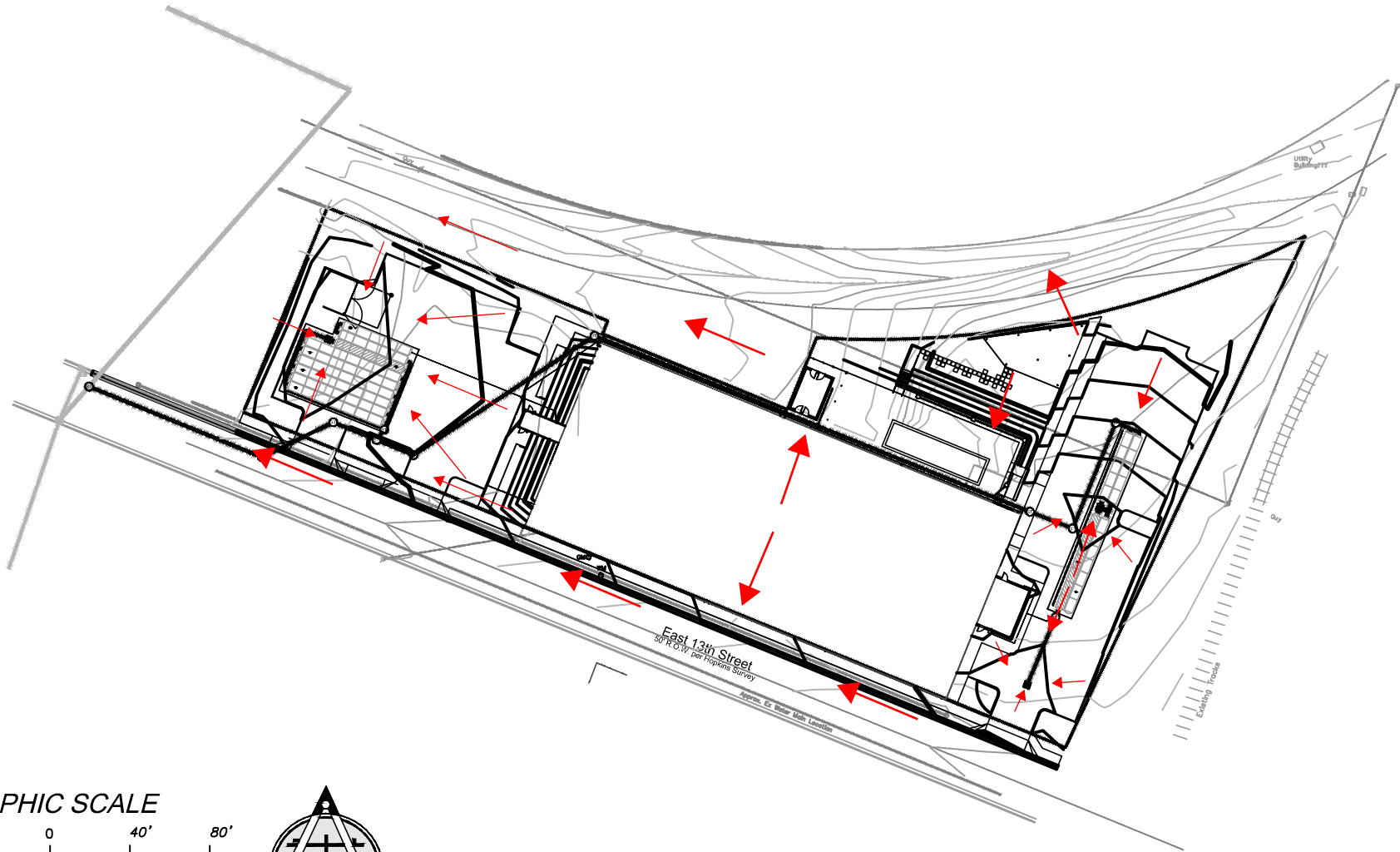
DATE: 10/28/2020

DRAWN BY: JWW

JOB NO: 20160

sheet #:

EX-01



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Chattanooga, TN 37403
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POST-CONSTRUCTION DRAINAGE

Tax Map 146P C 002 & 146P C 003
1256 & 1265 E. 13th Street
Chattanooga, TN

Factory Lofts

1265 E. 13th Street
CHATTANOOGA, TENNESSEE

DATE: 10/28/2020

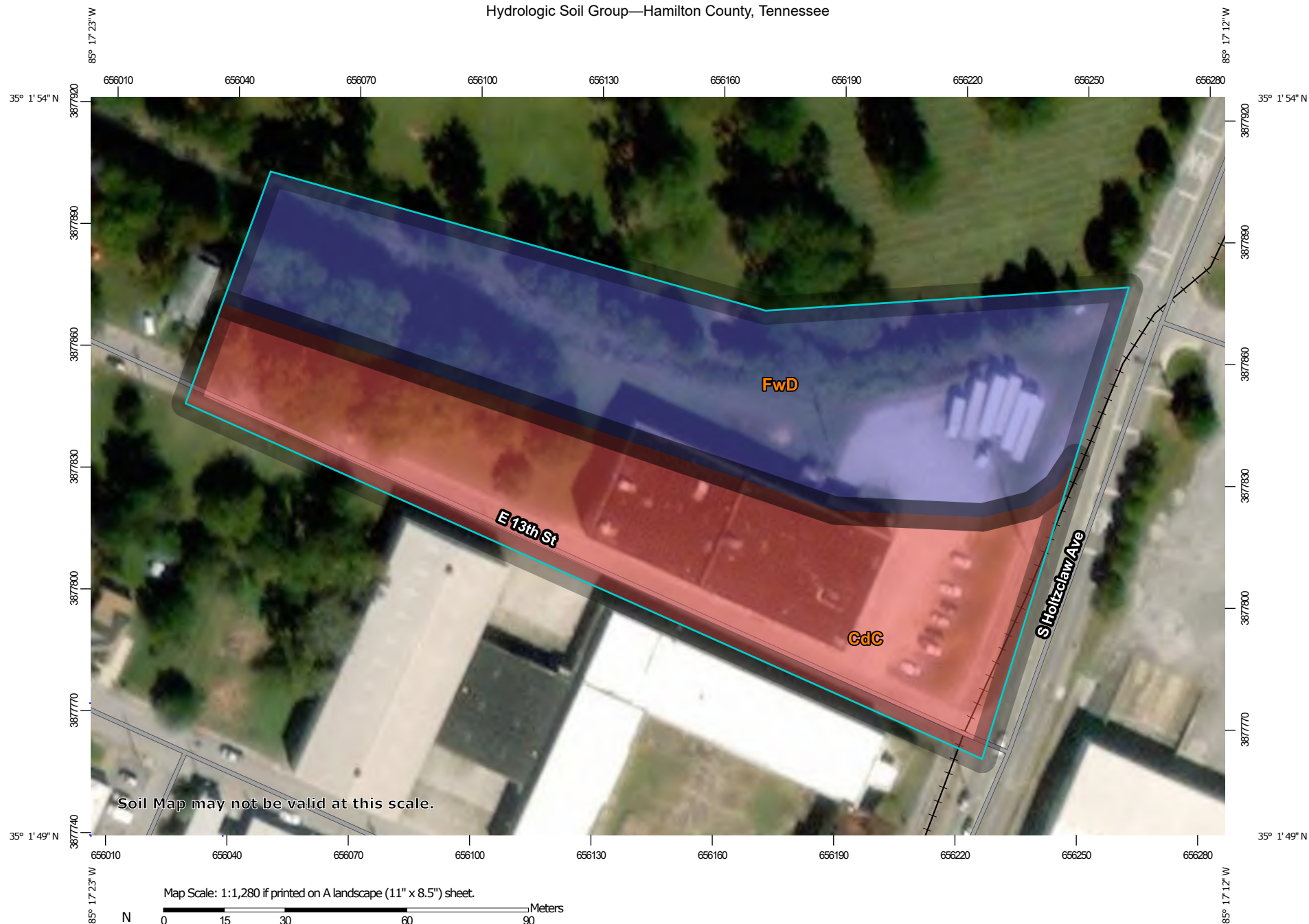
DRAWN BY: JWW

JOB NO: 20160

sheet #:

EX-02

Hydrologic Soil Group—Hamilton County, Tennessee



MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

-  A
-  A/D
-  B
-  B/D
-  C
-  C/D
-  D
-  Not rated or not available

Soil Rating Lines

-  A
-  A/D
-  B
-  B/D
-  C
-  C/D
-  D
-  Not rated or not available

Soil Rating Points

-  A
-  A/D
-  B
-  B/D

-  C
-  C/D
-  D
-  Not rated or not available

Water Features

-  Streams and Canals

Transportation

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

Background

-  Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

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

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

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

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

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

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

Soil Survey Area: Hamilton County, Tennessee
Survey Area Data: Version 17, May 29, 2020

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

Date(s) aerial images were photographed: Oct 23, 2011—Oct 20, 2017

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

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
CdC	Colbert-Urban land complex, 2 to 12 percent slopes	D	2.0	47.0%
FwD	Fullerton-Urban land complex, 3 to 40 percent slopes	B	2.3	53.0%
Totals for Area of Interest			4.3	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

FACTORY LOFT CONDOMINIUMS

ZONING: UGC-Urban General Commercial

LOCATED IN CHATTANOOGA, TENNESSEE
HAMILTON COUNTY

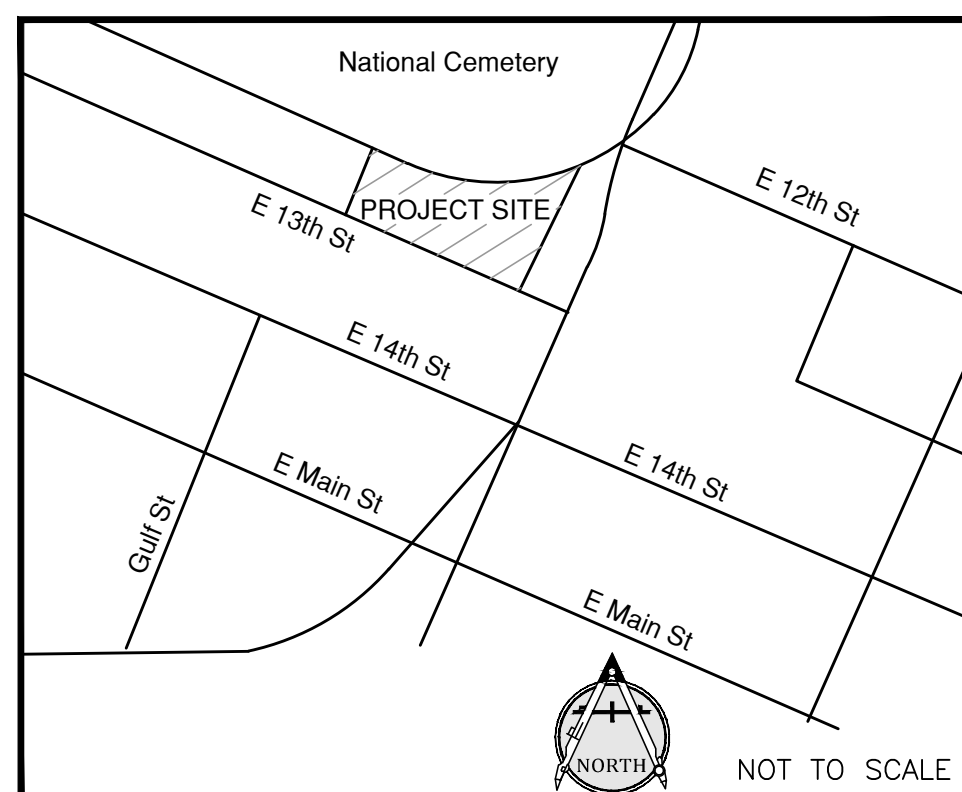
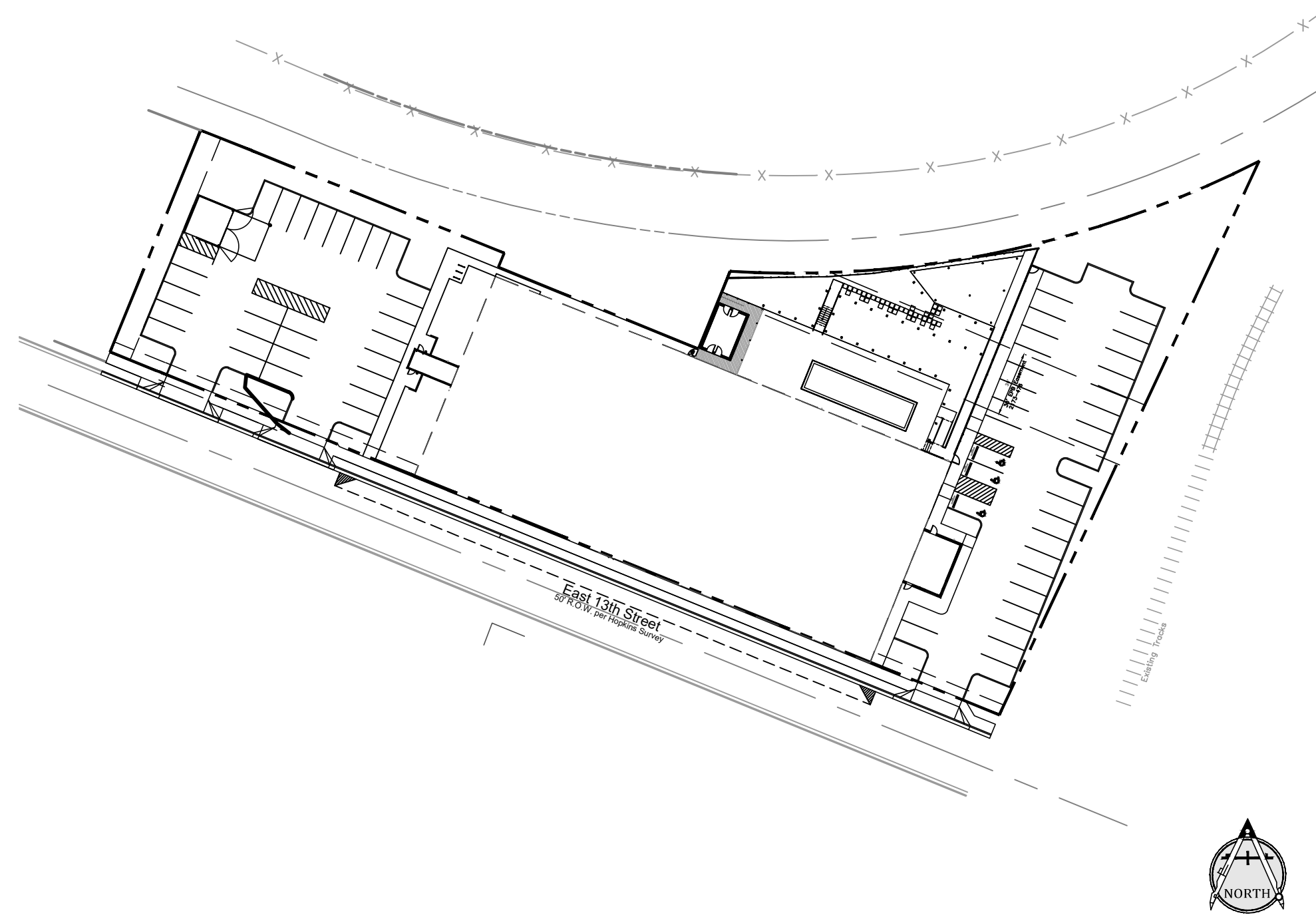
DEVELOPMENT REFERENCE

OWNER: 1265 13th ST LLC
1265 13th STREET
CHATTANOOGA, TN 37408
(423) 752-0161

CIVIL ENGINEER: A.D. ENGINEERING SERVICES, INC
651 E. 4TH STREET, SUITE 407
CHATTANOOGA, TN 37403
(423) 266-3501

SURVEYOR: CLEMONS SURVEYING
300 DUGGAN ROAD
JASPER, TN 37347
(423) 314-4569

CONTRACTOR & TBD
24-HOUR CONTACT:



SITE LOCATION MAP

INDEX OF SHEETS

C1.0	EXISTING CONDITIONS & SITE DEMO PLAN
C2.0	SITE PLAN
C2.1	SITE DETAILS
C2.2	SITE DETAILS
C3.0	GRADING & DRAINAGE PLAN
C3.1	GRADING & DRAINAGE DETAILS
C3.2	GRADING & DRAINAGE DETAILS
C3.3	STORMTECH CHAMBER DETAILS
C4.0	INITIAL EROSION & SEDIMENTATION CONTROL PLAN
C4.1	INTERMEDIATE & FINAL EROSION & SEDIMENTATION CONTROL PLAN
C4.2	EROSION & SEDIMENTATION CONTROL DETAILS
C5.0	UTILITIES PLAN
C5.1	UTILITY DETAILS
C5.2	UTILITY DETAILS
C6.0	PROJECT NOTES
L1.0	LANDSCAPE PLAN
L2.0	LANDSCAPE NOTES & DETAILS

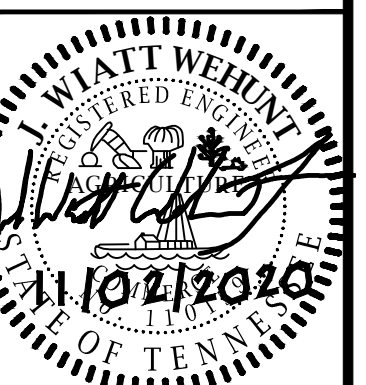
24-HOUR CONTACT: to be determined

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Factory Loft Condominiums
Fletcher Bright Company
1265 E. 13th Street
Chattanooga, TN

for
CARDON SMITH
FLETCHER BRIGHT COMPANY
537 Market Street, Suite 400
Chattanooga, TN 37402
(423) 752-0161

AD
Engineering
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11/02/2020

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ASD

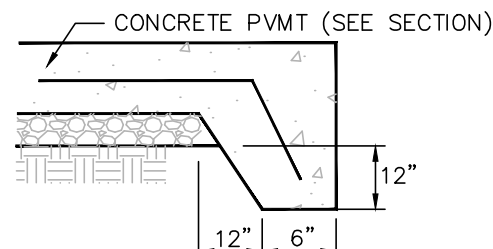
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JOB NUMBER
20160

COVER

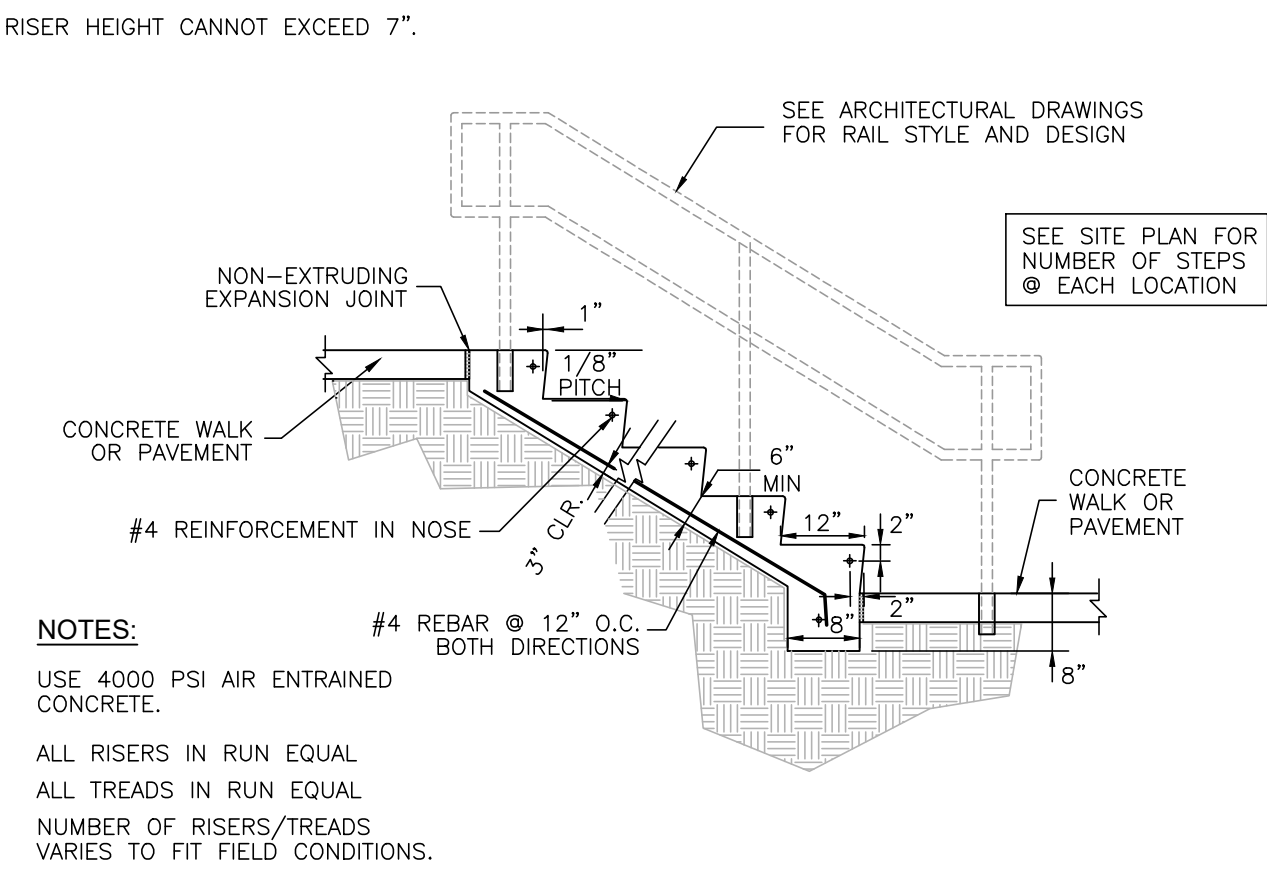
PAVEMENT MATERIALS	RECOMMENDED THICKNESS (INCHES)
4,000 PSI TYPE I CONCRETE	5.0
COMPACTED CRUSHED AGGREGATE BASE	6.0

- ALL PAVED AREAS SHOULD BE CONSTRUCTED WITH POSITIVE DRAINAGE TO DIRECT WATER OFF-SITE AND TO MINIMIZE SURFACE WATER SEEPING INTO THE PAVEMENT SUBGRADE. THE SUBGRADE SHOULD HAVE A MINIMUM SLOPE OF 1 PERCENT. IN DOWN GRADE AREAS, THE BASE STONE SHOULD EXTEND THROUGH THE SLOPE TO ALLOW ANY WATER ENTERING THE BASE STONE A PATH TO EXIT. FOR RIGID PAVEMENTS, WATER-TIGHT SEALS SHOULD ALSO BE PROVIDED AT FORMED CONSTRUCTION AND EXPANSION JOINTS.



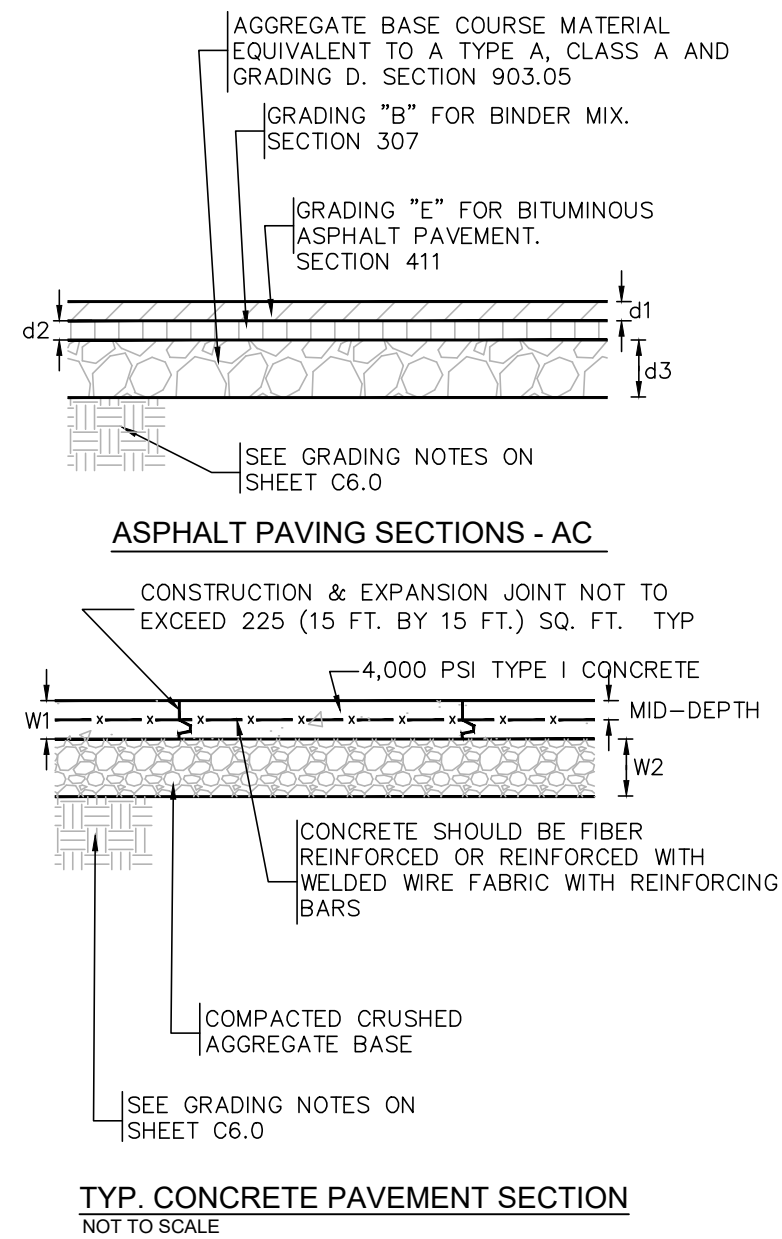
NOTES:

1. CONTRACTOR TO VERIFY RECOMMENDED PAVEMENT SECTIONS WITH GEOTECHNICAL ENGINEER BASED ON SOIL TESTING. REPORT NUMBER 41-20624

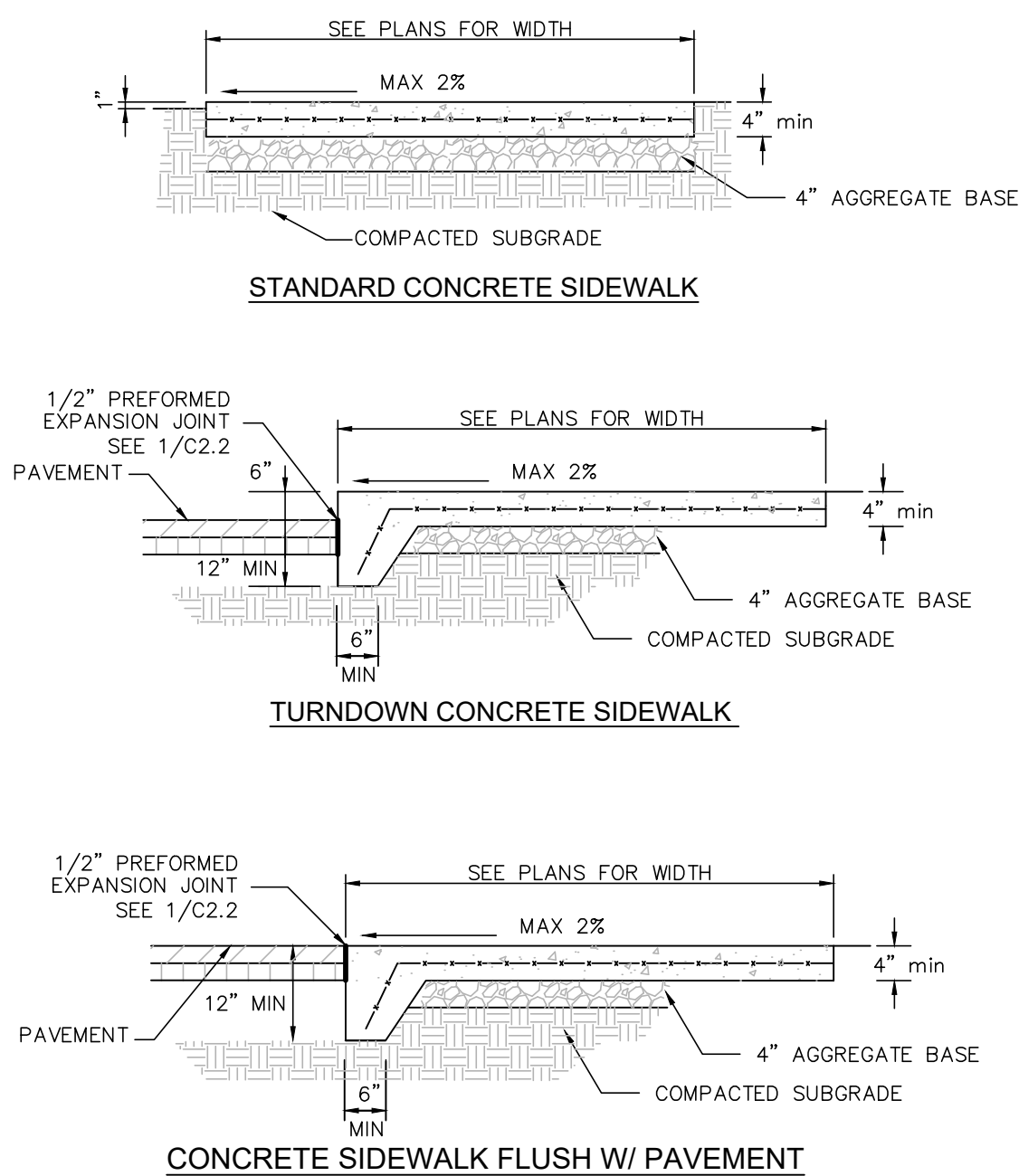


4 CONCRETE STEPS
C2.1 not to scale

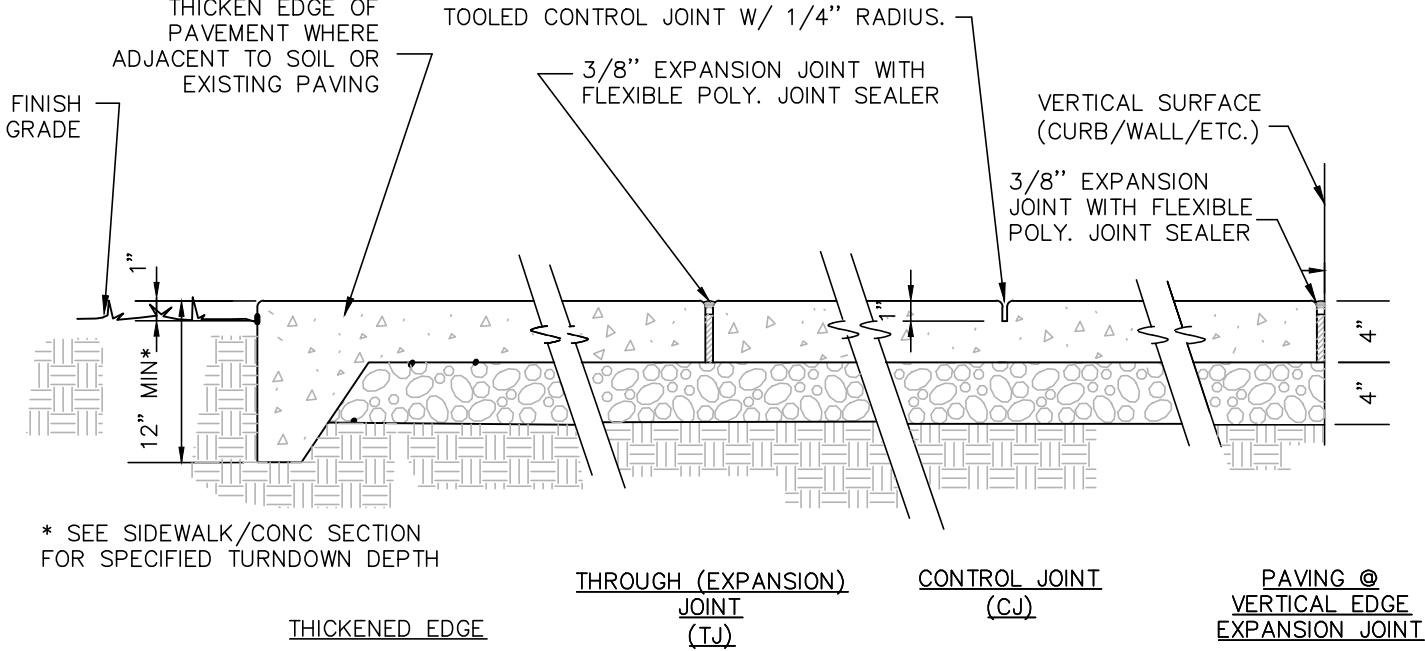
7 ACCESSIBLE PARKING DETAILS
C2.1 NOT TO SCALE



1 PAVING SECTIONS
C2.1 NOT TO SCALE

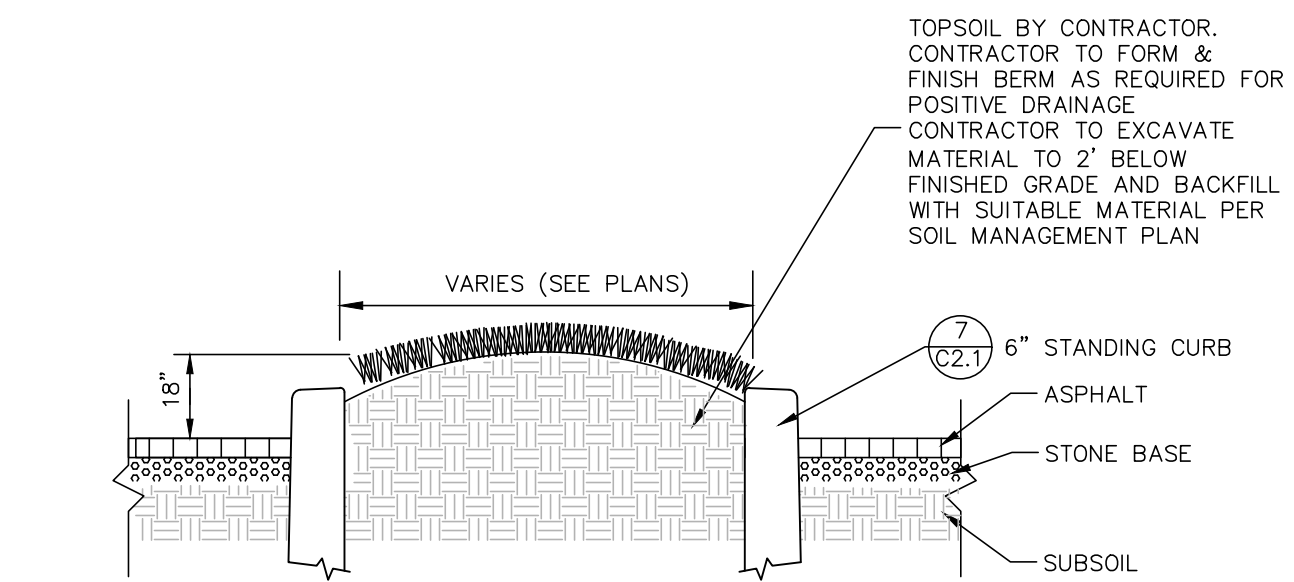


2 CONCRETE SIDEWALKS
C2.1 NOT TO SCALE

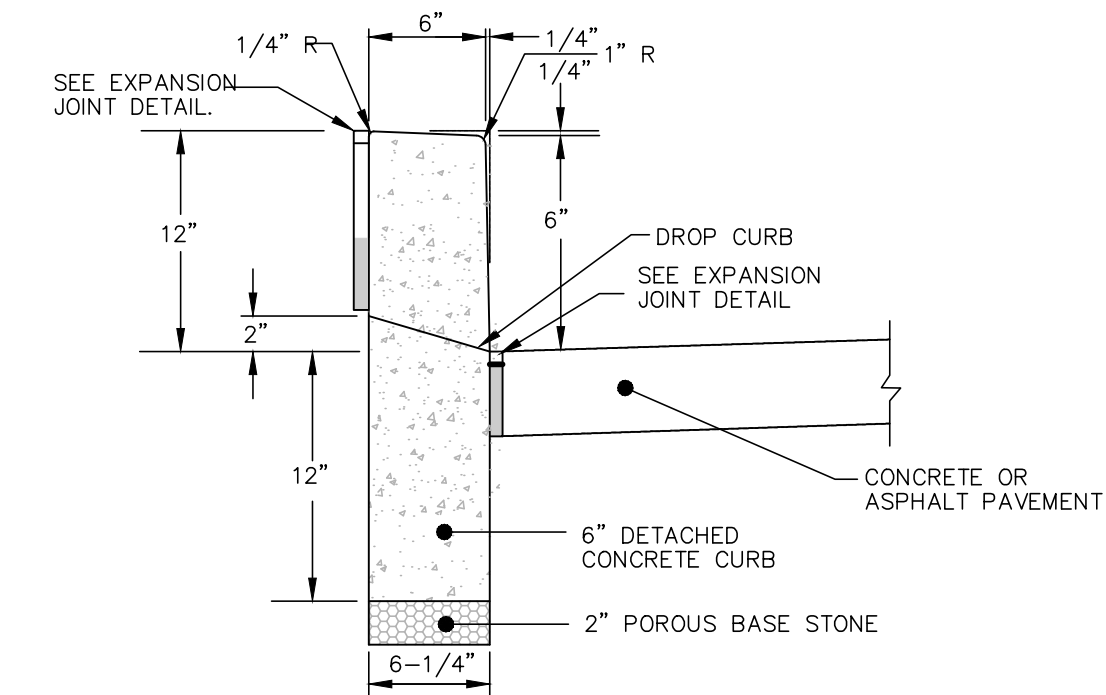


NOTES:

1. 4000 PSI CONCRETE @ 28 DAYS W/ REINFORCEMENT -6X6-W1.4xW1.4 WWM AT MID-DEPTH.
2. USE TYPICAL CONSTRUCTION EXPANSION JOINTS
3. PROVIDE 1" DEEP TRANSVERSE GROOVES AT 5'-0" INTERVALS.
4. PROVIDE 1/2" WIDE EXPANSION JOINTS AT 20' INTERVALS AND AT ALL CURBS, RIGID STRUCTURES AND RIGID PAVEMENT.
5. TOOL ALL EXPOSED EDGES AND JOINTS TO 1/4" RADIUS.
6. BROOM FINISH ACROSS DIRECTION OF TRAVEL.
7. MAXIMUM CROSS SLOPE = 2%.
8. ~~FIBERMESH ALTERNATIVE:~~ MIX AND RATE OF APPLICATION OF FIBERMESH SHALL BE IN ACCORDANCE W/ MANUFACTURERS RECOMMENDATIONS.
9. PROVIDE 1/2" SLIP BAR FOR COLD JOINTS.



3 LANDSCAPING ISLAND SECTION
C2.1 NOT TO SCALE



SEE EXPANSION JOINT DETAIL (SD-201.01)

6" 1" R 2" R 6" 1.5" 8.25" 2" POROUS BASE STONE 24"

TYPICAL SECTION

TYPE "A" CONCRETE CURB AND GUTTER

• NOTE
SEE NOTES ON STANDARD SD-203.01.

EXISTING OR PROPOSED CONCRETE CURB AND GUTTER

EDGE SHALL BE ROUNDED TO MATCH THE CURB.

6" 6" 1" 6" 3' TRANSITION 8.25"

ASPHALT OVERLAY AT DRIVEWAY APRON SHALL BE PLACED SO TO PROVIDE POSITIVE DRAINAGE TO GUTTER LINE

ON E. 13TH STREET, PAVE GUTTER PAN TO MATCH EXISTING CONDITION

NEW TYPE 'A' CURB AND GUTTER ON E. 13TH STREET. PAVE GUTTER PAN TO MATCH EXISTING PAVEMENT SURFACE

EXISTING PAVEMENT ON E. 13TH STREET

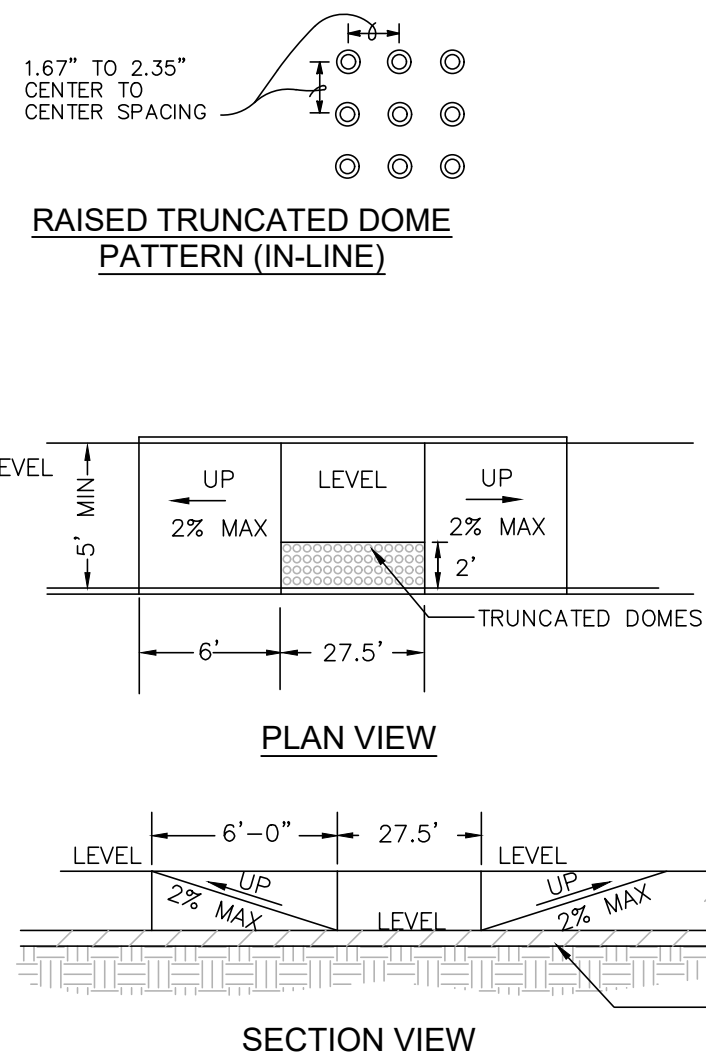
THE EXISTING CURB AND GUTTER SHALL BE SAW-CUT ALONG A LINE PERPENDICULAR TO THE CURB.

END OF CURB

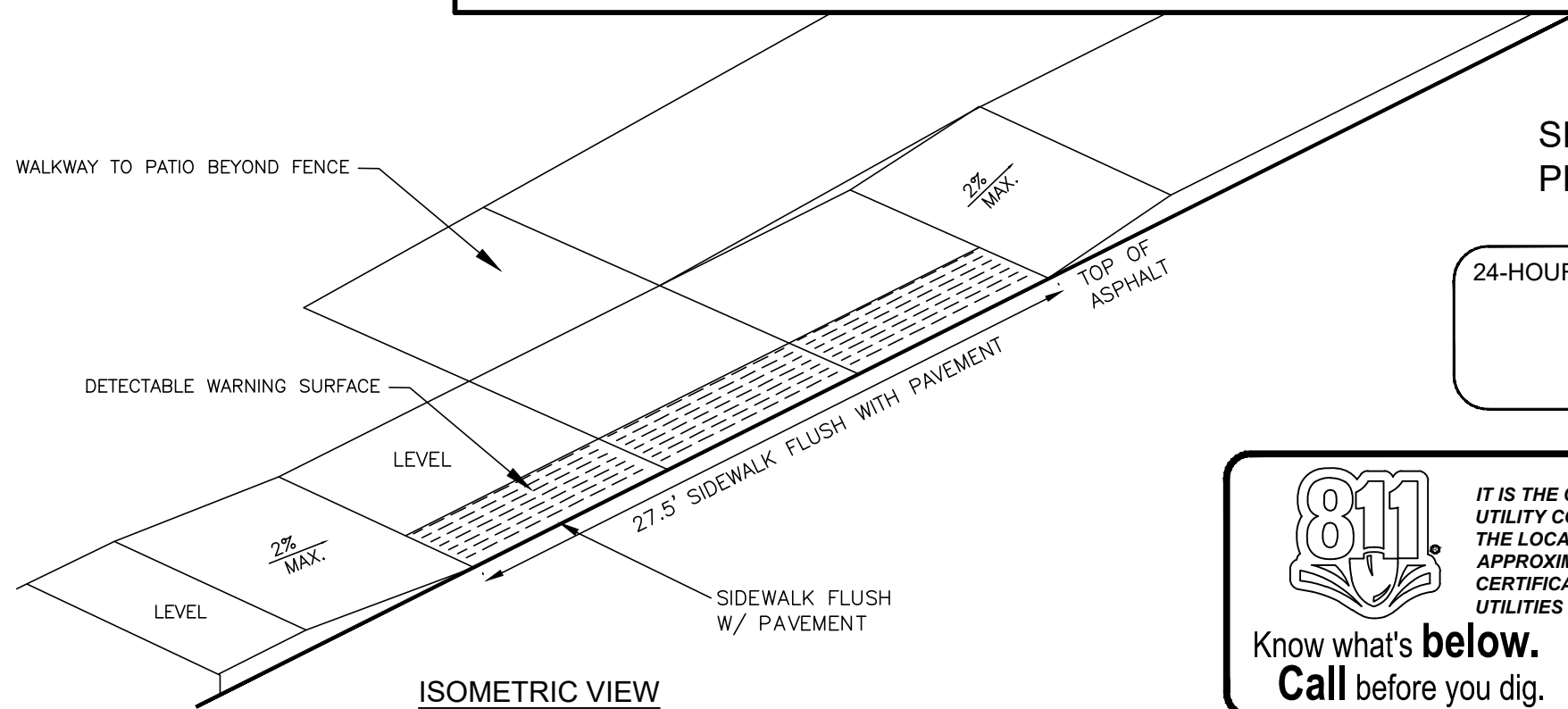
TYPE 'A' CONCRETE CURB IN R/W

6 CURB DETAILS
C2.1 NOT TO SCALE

- NOTES:**
1. CONTRACTION JOINTS SHALL BE 1/2" WIDE AND FULL DEPTH. JOINTS SHALL BE PLACED AT A MAXIMUM OF 50 FEET LONGITUDINAL INTERVALS AND ALL ABUTTING STRUCTURES, DRIVEWAYS, AND TANGENT POINTS OF RADIUS RETURNS.
 2. TOOLED CURB CONTROL JOINTS SHALL BE PLACED 1/4" WIDE, 1" DEEP, AND 5 FEET ON CENTER.
 3. ALL CONCRETE TO COMPLY WITH ACI 318 WITH A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT THE 28 DAYS TEST.
 4. CONCRETE TO BE AIR-ENTRAINED WITH AN AIR CONTENT OF 4-6%.
 5. JOINTS TO BE FILLED WITH BITUMINOUS EXPANSION MATERIAL.



8 DOUBLE STRAIGHT ACCESSIBLE RAMP
C2.1 NOT TO SCALE



SEE SHEET C6.0 FOR
PROJECT NOTES

24-HOUR CONTACT: to be determined



Know what's **below.**
Call before you dig.

[illegible]

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Chattanooga, TN

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FLETCHER BRIGHT COMPANY
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(423) 752-0161

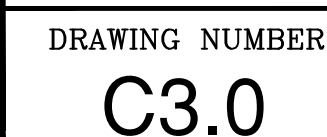
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Chattanooga, TN 37403
423.266.3501
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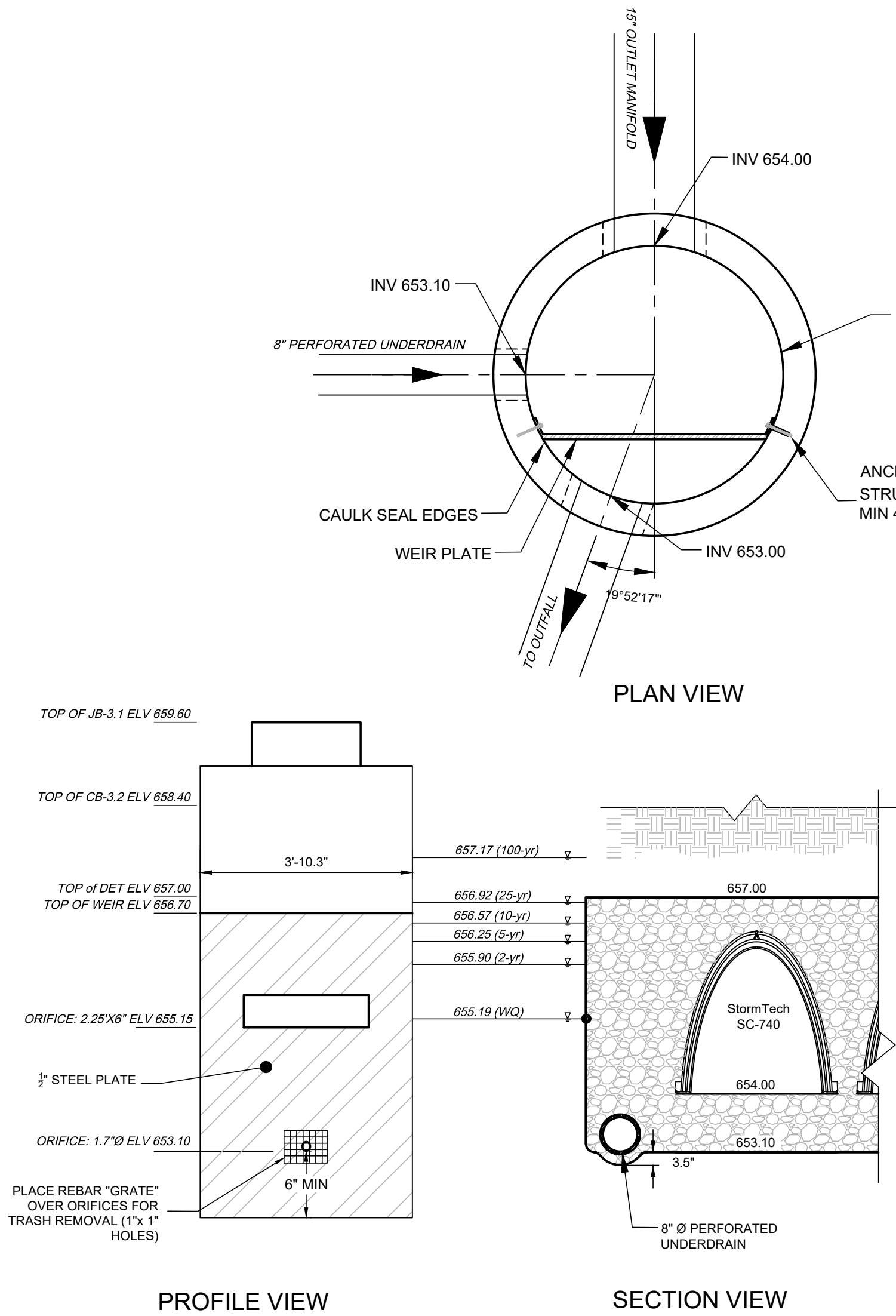


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JF/JWW
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SD
SCALE
AS SHOWN
JOB NUMBER
20160

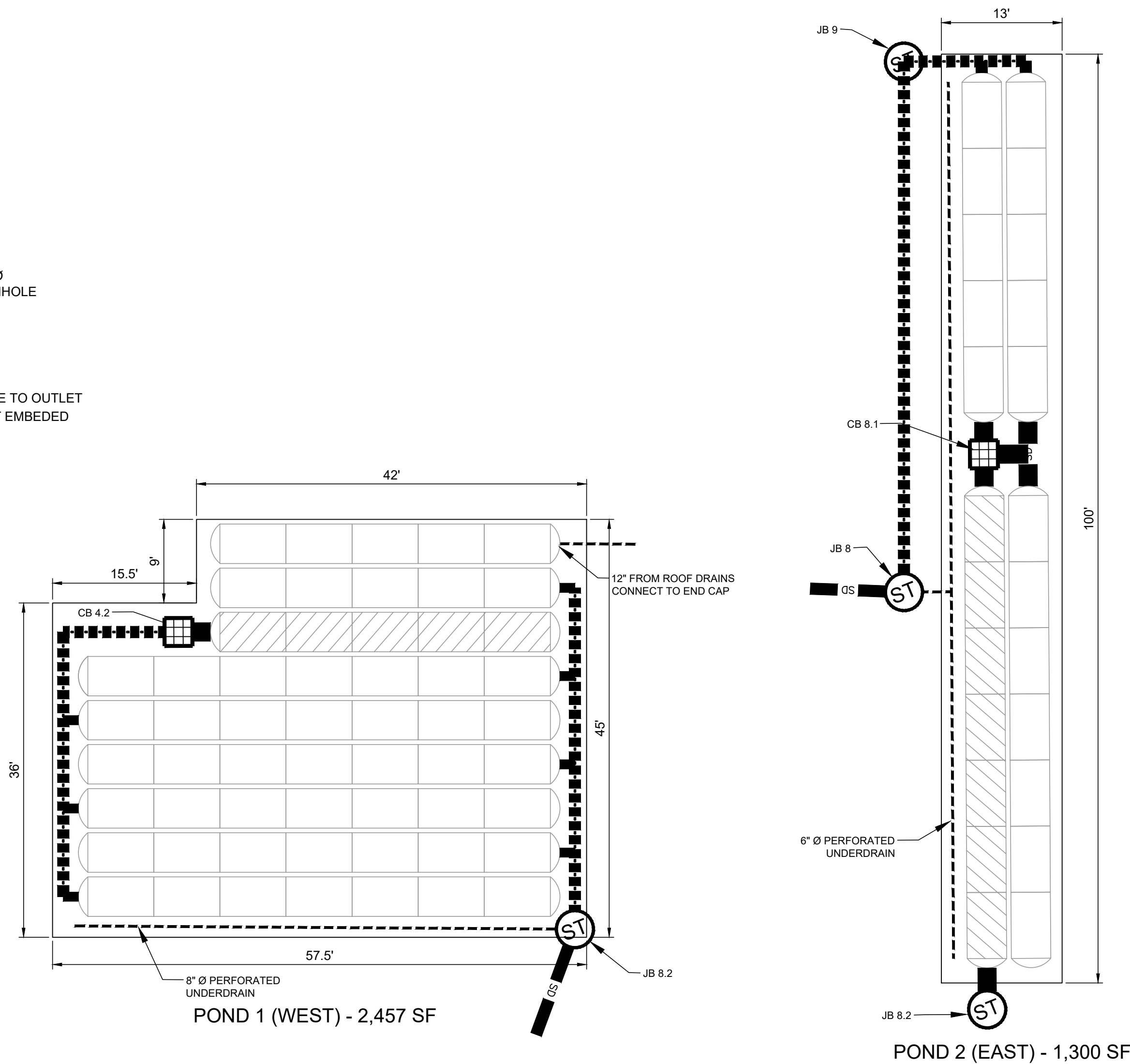
SITE DETAILS

DRAWING NUMBER
C2.1

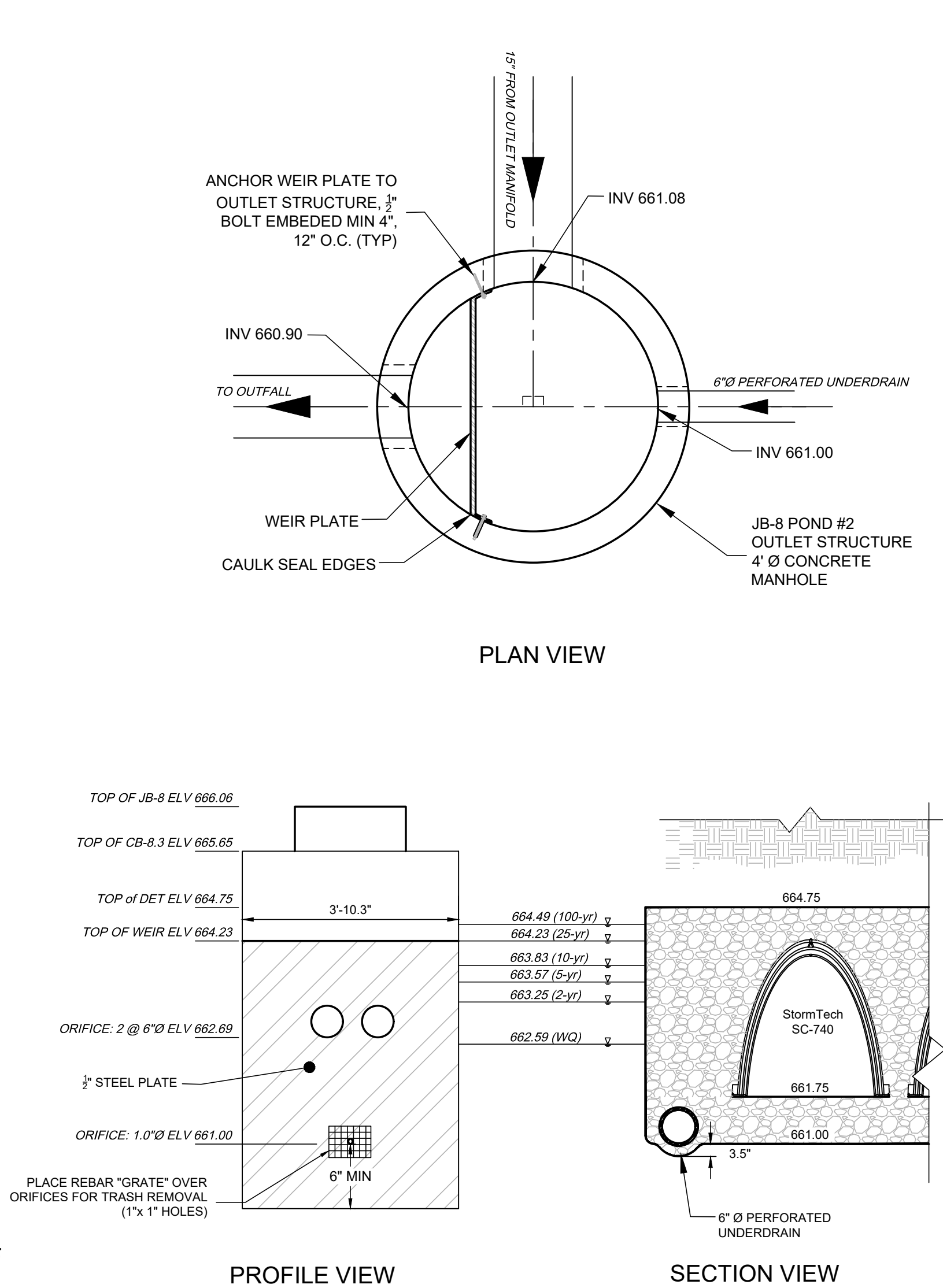




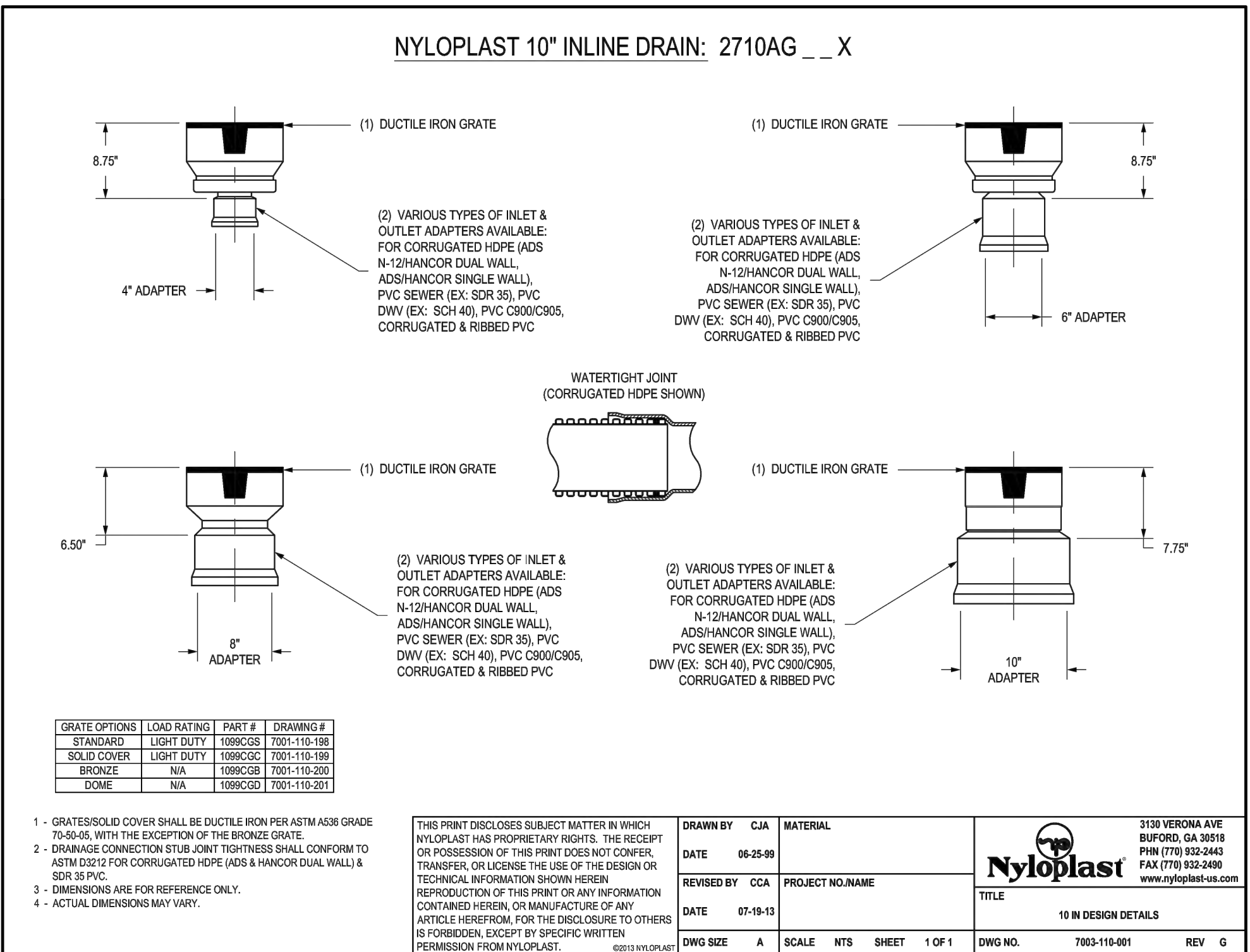
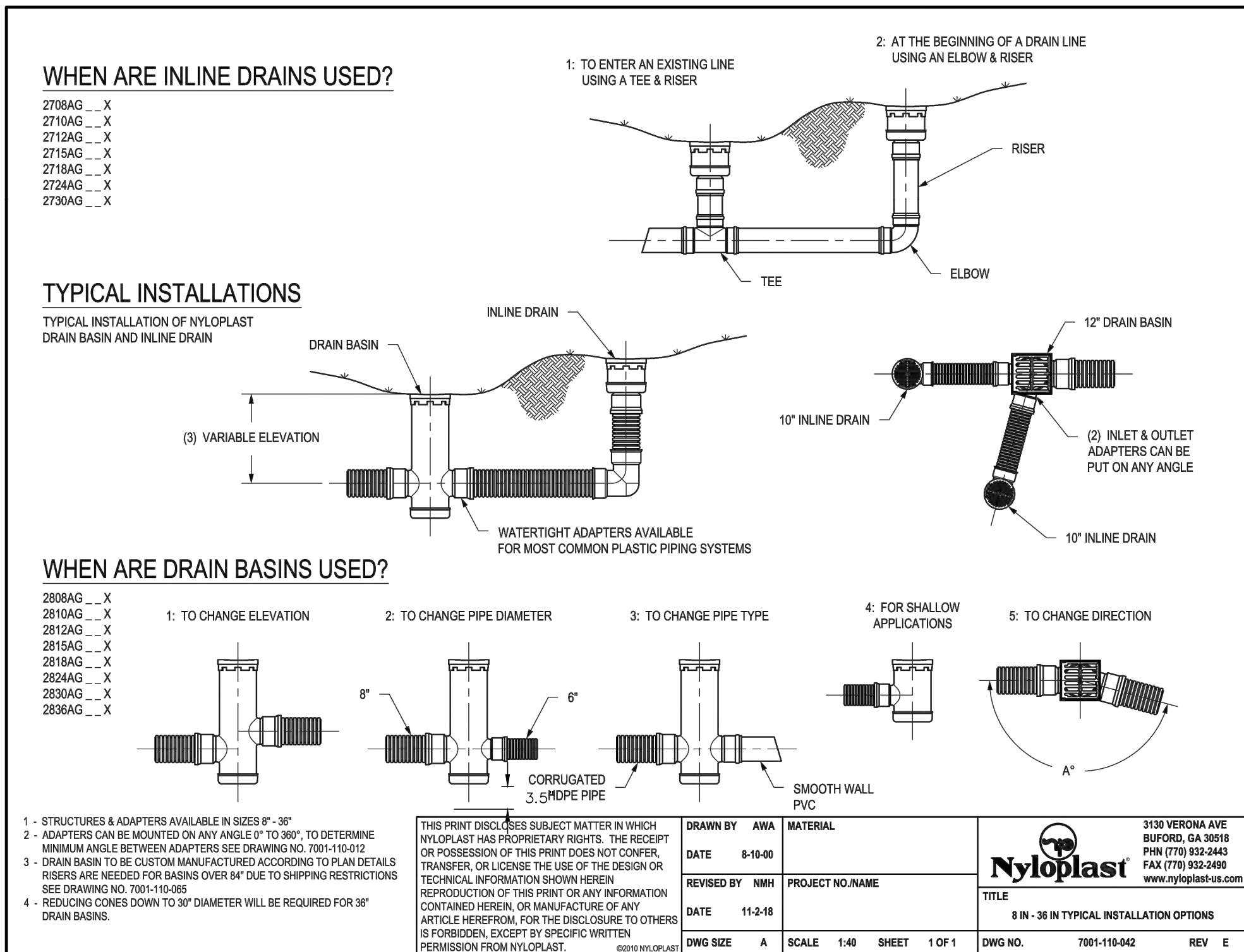
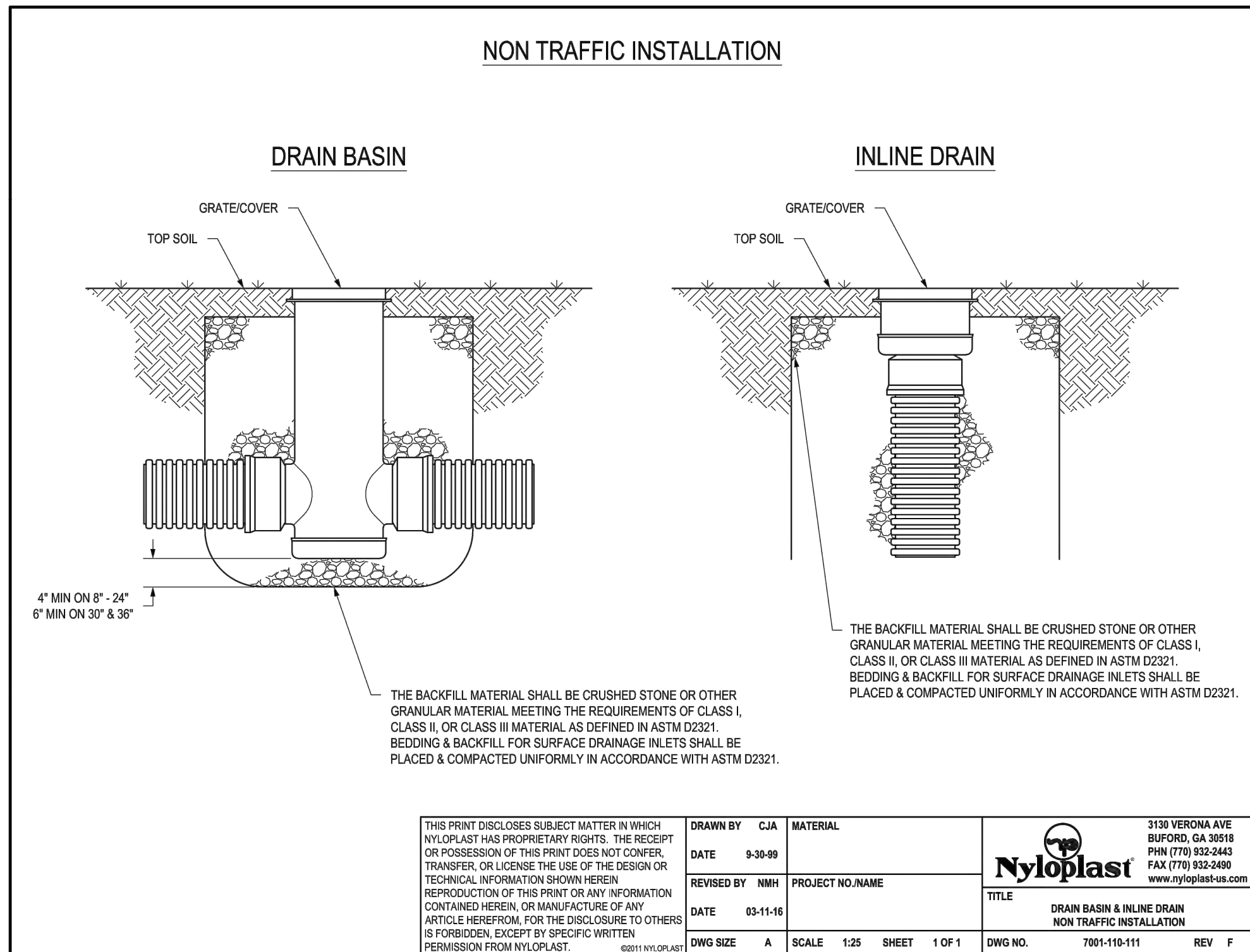
JB-4.1 OUTLET CONTROL STRUCTURE - POND 1 (WEST)



UNDERGROUND CHAMBER DETENTION POND DETAILS
not to scale



JB-8 OUTLET CONTROL STRUCTURE - POND 2 (EAST)

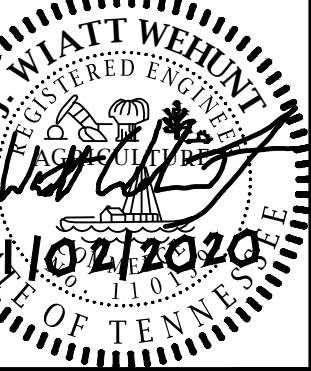
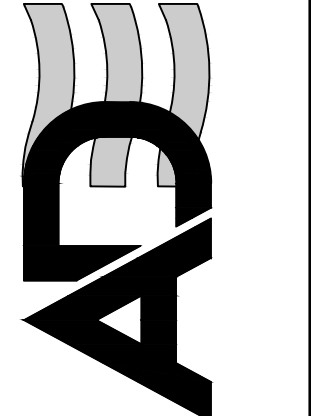


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ASD
SCALE
AS SHOWN
JOB NUMBER
20160

GRADING &
DRAINAGE
DETAILS

DRAWING NUMBER
C3.2

ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS				
MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145 ¹ A-1, A-2-4, A-3 OR AASHTO M43 ³ 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43 ³ 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43 ³ 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. ^{2,3}

PLEASE NOTE:

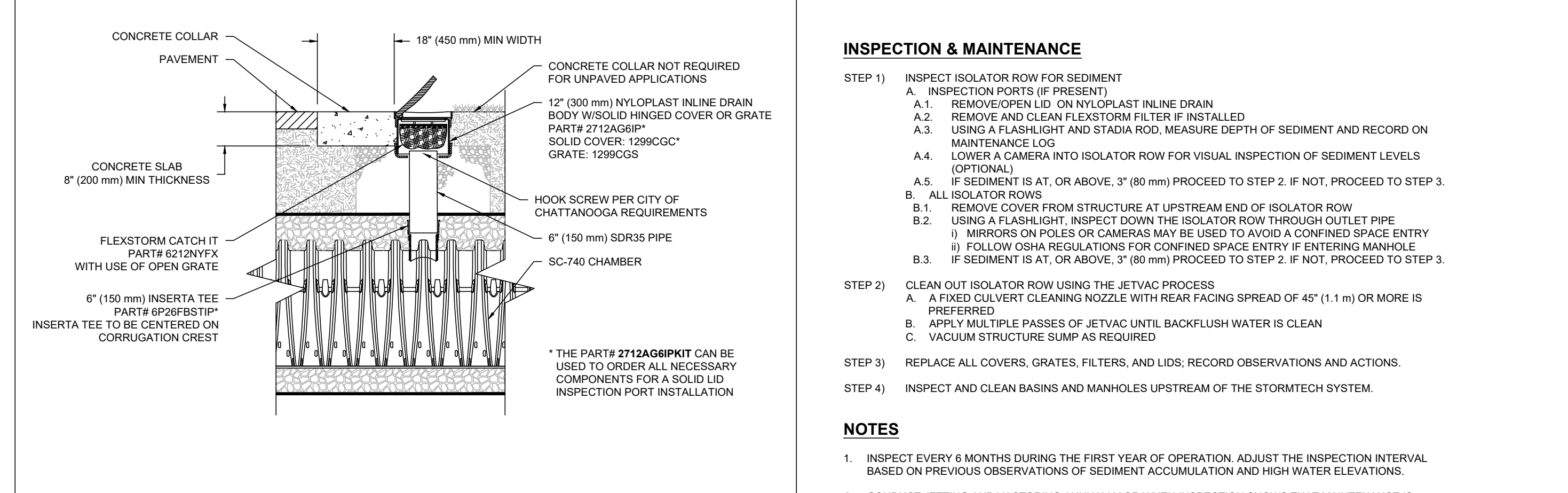
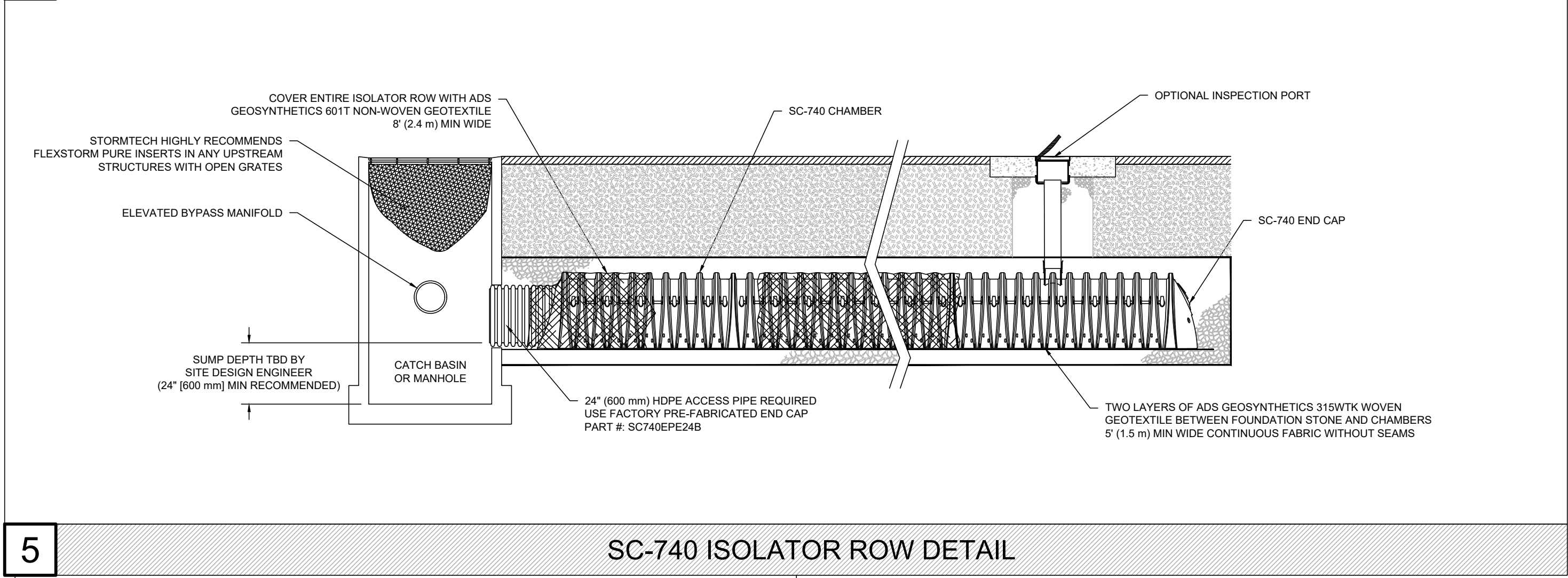
- THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
- STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.

NOTES:

- SC-740 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS", OR ASTM F2922 "STANDARD SPECIFICATION FOR POLYETHYLENE (PE) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
- THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
- PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
- ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.

1

SC-740 CROSS SECTION DETAIL





STORMTECH CHAMBER SPECIFICATIONS

- 
- ADVANCED DRAINAGE SYSTEMS, INC.



IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-310/SC-740 SYSTEM

- USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORITCHE STANDARD WARRANTY.
- CONTACT STORMTACHE AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

24. HOUR CONTACT: to be determined

	24-HOUR CONTACT: to be determined

811 IT IS THE CONTRACTORS RESPONSIBILITY TO CALL 811 PRIOR TO ANY CONSTRUCTION. THE LOCATION OF UTILITIES SHOWN ON THIS MAP IS AN APPROXIMATE AND POSSIBLY INCOMPLETE LISTING. CERTIFICATION TO THE LOCATION OF UTILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR.

Know what's **below**.
Call before you dig.

BY GRAPHIC PLOTTING ONLY, THIS PROPERTY DOES NOT LIE IN THE 100-YEAR FLOOD HAZARD AREA AS SHOWN ON FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NO. 47065C0341G, DATED FEBRUARY 3, 2016.

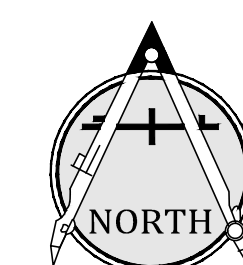
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1. DISTURBED ACRE: ~1.10 AC
2. PRECONSTRUCTION IMPERVIOUS ACREAGE: ~0.96 AC
3. POSTCONSTRUCTION IMPERVIOUS ACREAGE: ~1.24 AC
4. NUMBER OF OIL SKIMMERS: 3
5. OWNERS REPRESENTATIVE FOR EROSION CONTROL AND MAINTENANCE:
NAME: TBD
COMPANY:
ADDRESS:
CITY, STATE ZIP:
PHONE:

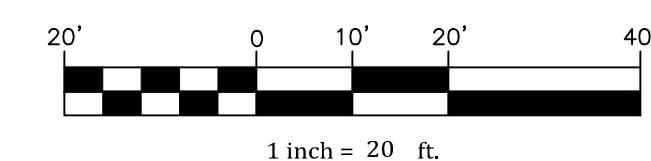
6. INSPECTIONS:
CITY OF CHATTANOOGA INSPECTION REQUIREMENT:
SITE EROSION CONTROLS SHALL BE CHECKED AND IF NECESSARY, REPAIRED WEEKLY AND WITHIN 24 HOURS AFTER EACH RAINFALL $\geq \frac{1}{2}$ " IN THE EVENT OF CONTINUOUS RAINFALL, EROSION CONTROLS SHALL BE CHECKED DAILY. THE STATE OF TENNESSEE INSPECTION REQUIREMENT:
1. ALL EROSION CONTROL MEASURES SHALL BE INSPECTED
A) AT LEAST TWICE EVERY WEEK WITH THE INSPECTION OCCURRING AT LEAST 72 HOURS APART
B) WITHIN 24 HOURS AFTER THE END OF STORM EVENTS 0.5 INCHES OR GREATER
C) BEFORE ANTICIPATED STORM EVENTS
D) A REGISTERED ENGINEER WILL PERFORM A SITE ASSESSMENT WITHIN A MONTH OF CONSTRUCTION COMMENCING AT EACH OUTFALL INVOLVING DRAINAGE TOTALING 10 OR MORE ACRES OR 5 OR MORE ACRES IF DRAINING TO AN IMPAIRED OR EXCEPTIONAL QUALITY WATERS AND DOCUMENT THE FINDINGS.
2. ALL AREAS TO REMAIN BARE > 14 DAYS MUST BE TEMPORARILY STABILIZED. STEEP SLOPES OF 35% OR GREATER OR A 20-FOOT OR GREATER ELEVATION CHANGE THAT REMAIN BARE > 7 DAYS MUST BE TEMPORARILY STABILIZED.
3. AN NPDES PERMIT IS REQUIRED FOR THIS PROJECT BECAUSE THE TOTAL DISTURBED AREA IS GREATER THAN 1.0 ACRE.

EROSION CONTROL DETAILS
ARE SHOWN ON SHEET C4.2

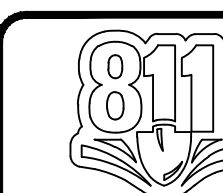
"THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO, OR CONCURRENT WITH, LAND DISTURBING ACTIVITIES."



GRAPHIC SCALE



24-HOUR CONTACT: to be determined

[illegible]

Know what's **below**.
Call before you dig.

IT IS THE CONTRACTORS RESPONSIBILITY TO CONTACT UTILITY COMPANIES PRIOR TO ANY CONSTRUCTION AS THE LOCATION OF UTILITIES SHOWN ON THIS PLAT ARE APPROXIMATE AND POSSIBLY INCOMPLETE. THEREFORE CERTIFICATION TO THE LOCATION OF ALL UNDERGROUND UTILITIES ARE WITHHELD.

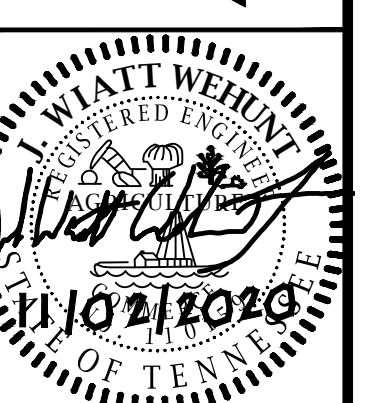
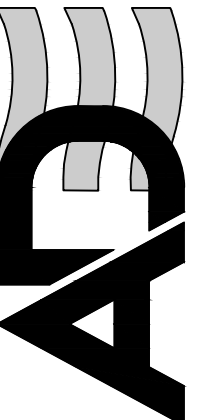
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NO.	DATE	REVISION/DESCRIPTION
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Factory Loft Condominiums
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1265 E. 13th Street
Chattanooga, TN

for
CARDON SMITH
FLETCHER BRIGHT COMPANY
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Chattanooga, TN 37402
(423) 752-0161

AD Engineering
651 E. 4th Street, Suite 407
Chattanooga, TN 37403
423.266.3501
adengineering.us



DATE _____

DRAWN BY

DRAWN BY

CHECKED BY

SCALE

JOB NUMBER

20160

INITIAL EROSION & SEDIMENT CONTROL PLAN

DRAWING NUMBER

C4.0

BY GRAPHIC PLOTTING ONLY, THIS PROPERTY DOES NOT LIE IN THE 100-YEAR FLOOD HAZARD AREA AS SHOWN ON FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NO. 47065C0341G, DATED FEBRUARY 3, 2016.

CONTRACTOR TO DIRECT THE MAXIMUM
AMOUNT OF STORMWATER RUN-OFF
PRACTICAL TO THE SEDIMENT CONTROL
DEVICES DURING ALL PHASES OF
CONSTRUCTION

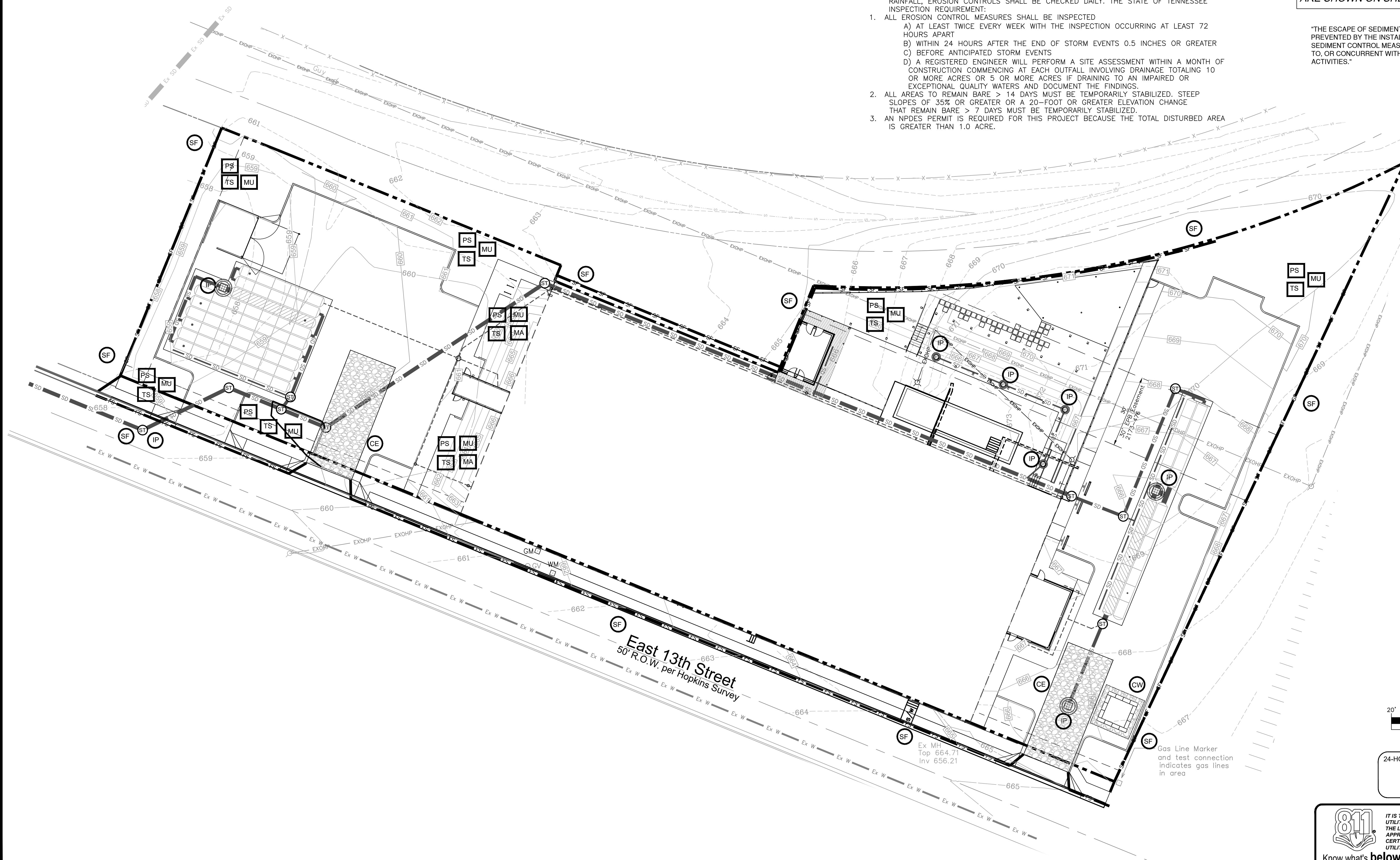
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3. POSTCONSTRUCTION IMPERVIOUS ACREAGE: ~1.24 AC
4. NUMBER OF OIL SKIMMERS: 3
5. OWNERS REPRESENTATIVE FOR EROSION CONTROL AND MAINTENANCE:
NAME: TBD
COMPANY:
ADDRESS:
CITY, STATE ZIP:
PHONE:

TN EROSION CONTROL LEGEND			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	CONSTRUCTION EXIT		PERMANENT SEEDING
	INLET PROTECTION		TEMPORARY SEEDING
	SILT FENCE*		MULCHING
	CONCRETE TRUCK WASH OUT		MATTING
 EXISTING CONTOUR (MSL)		 NEW CONTOUR (MSL)	

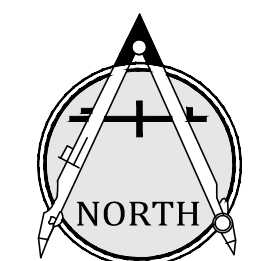
* Silt Sock of equivalent effectiveness may be used in lieu of Silt Fence

* Silt Sock of equivalent effectiveness may be used in lieu of Silt Fence

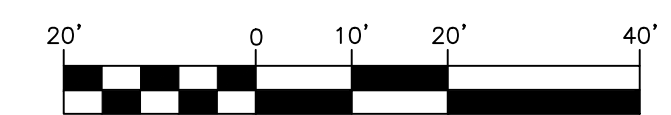
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SEE SHEET C6.0 FOR
PROJECT NOTES



GRAPHIC SCALE



24-HOUR CONTACT: to be determined



Know what's **below**.
Call before you dig.

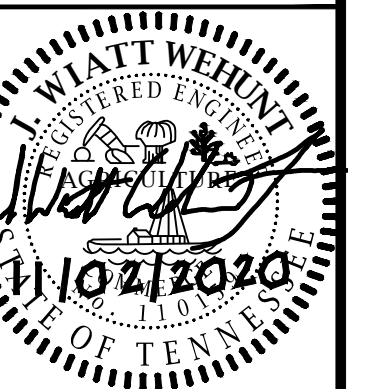
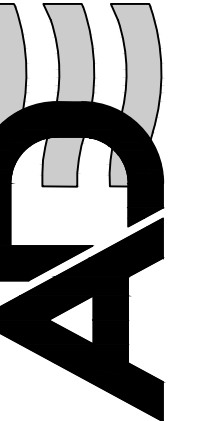
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DATE _____

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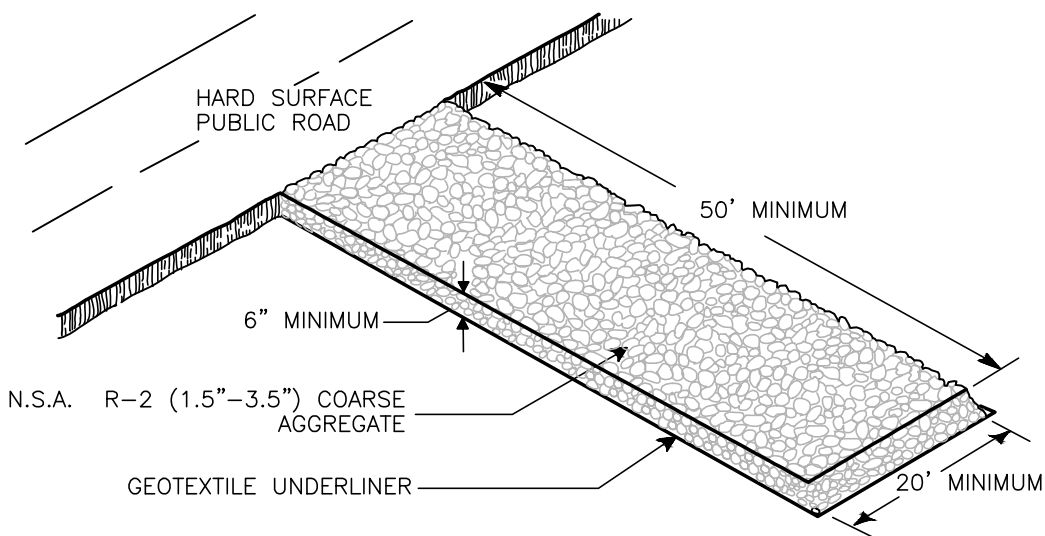
SCALE

JOB NUMBER
20160

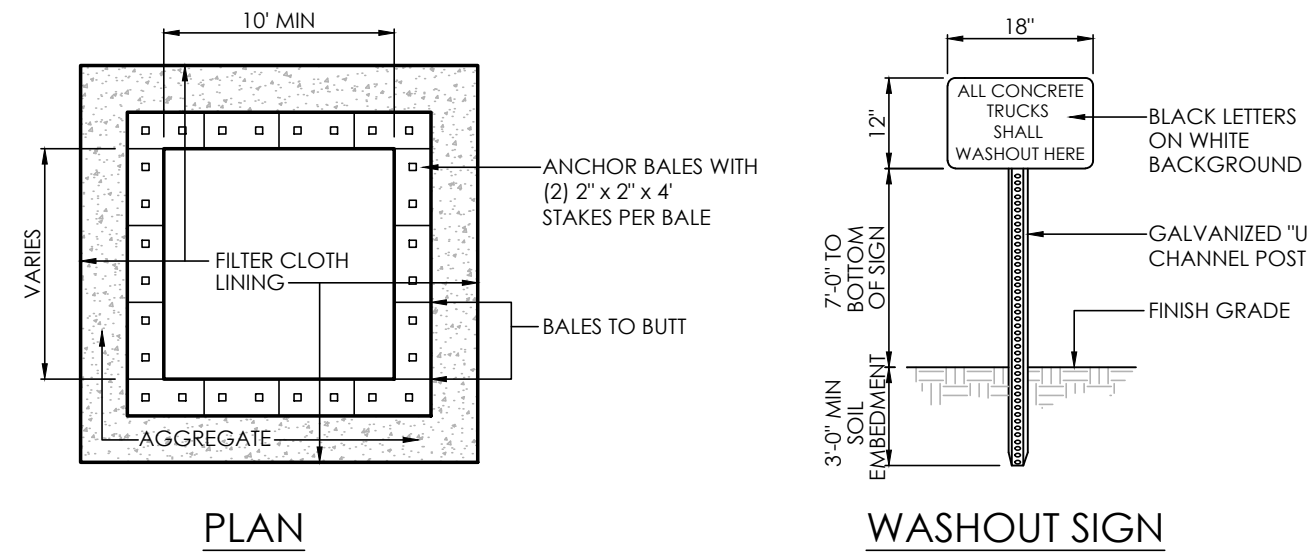
INTERMEDIATE &
FINAL
EROSION &
SEDIMENT
CONTROL PLAN

DRAWING NUMBER

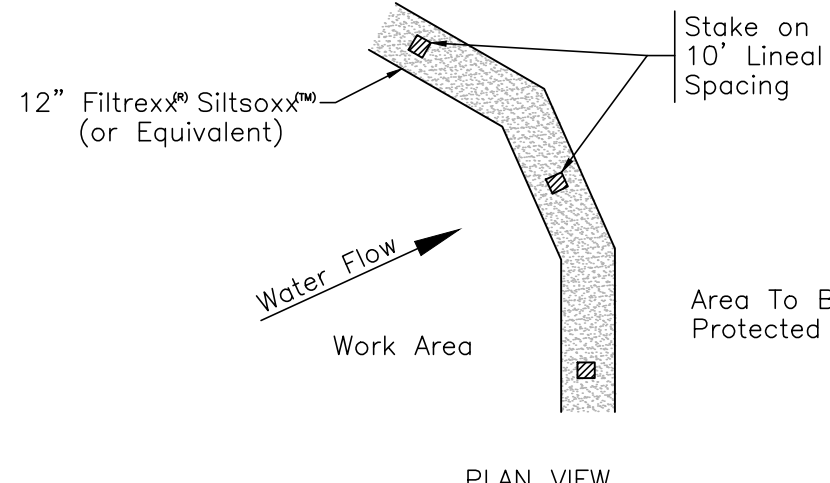
C4.1



CE CRUSHED STONE CONSTRUCTION EXIT
NOT TO SCALE



CW CONCRETE WASHOUT AREA
NOT TO SCALE



IP SILT SOCK/ FILTER SOCK
NOT TO SCALE

- NOTES:**
1. WASHOUT AREA(S) SHALL BE INSTALLED IN A LOCATION EASILY ACCESSIBLE BY CONCRETE TRUCKS.
 2. ONE OR MORE AREAS MAY BE INSTALLED ON THE CONSTRUCTION SITE AND MAY BE RELOCATED AS CONSTRUCTION PROGRESSES.
 3. REMOVE ACCUMULATION OF SAND AND AGGREGATE WEEKLY AND DISPOSE OF PROPERLY.
 4. WASHOUT SIGN SHALL BE PLACED IN A PROMINENT LOCATION AT WASHOUT AREA.

1. ALL MATERIAL TO MEET MANUFACTURER'S SPECIFICATIONS
2. SOCK COMPOST/SOIL/ROCK/SEED FILL TO MEET APPLICATION REQUIREMENTS
3. SILT SOCK DEPICTED IS FOR MINIMUM SLOPES. GREATER SLOPES MAY REQUIRE LARGER SOCKS PER THE ENGINEER.
4. COMPOST MATERIAL TO BE REMOVED FROM SITE AT END OF PROJECT.

Typical Amount of Lime Required for Grass Seeding	
Topsoil pH	Lime required per 1000 square feet (soil not suitable for use)
Less than 4.0	160 pounds
4.0 to 4.5	120 pounds
4.5 to 5.0	80 pounds
5.0 to 5.5	40 pounds
5.5 to 6.0	0 pounds
6.0 to 8.0	(soil not suitable for use)

Temporary Seed Mixtures					
Location	Seeding Dates	Grass Seeds	Percentages	Seed Rate per 1000 sf	Fertilizer Rate per 1000 sf
Lawn areas	all	See Permanent seeding chart	---	2-3	5

Fertilizer is not required for fertile soils. Apply on very low fertility soil. Apply limestone only on highly acidic soils (pH 5.5 and lower)

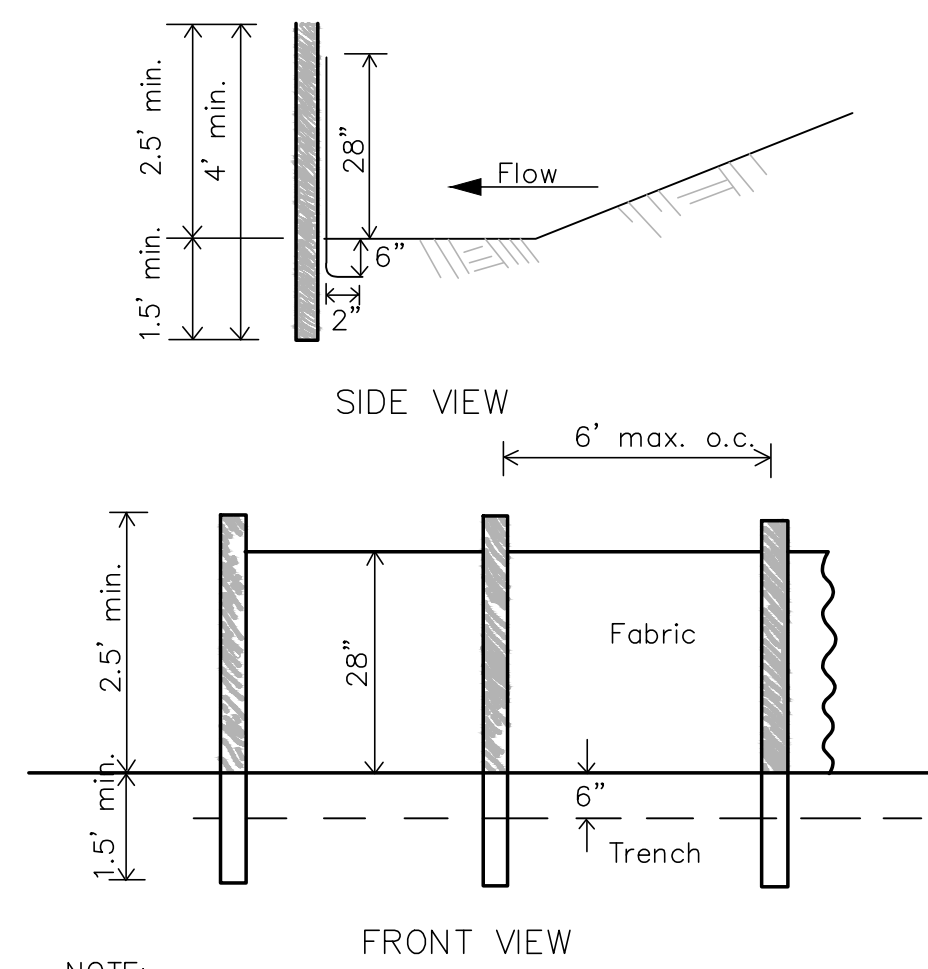
Permanent Seed Mixtures					
Location	Seeding Dates	Grass Seeds	Amount	Seed Rate per 1000 sf	Fertilizer Rate per 1000 sf
Lawn areas	Mar 1 to Apr 1 or Sept 1 to Oct 15	Improved Turf Type II Fescue*	80%	8	30
		Kentucky Bluegrass Type II*	20%		

Slopes 3:1 (H:V) or greater require matting blanket. Steep slopes without matting blanket require a tackifier with mulch

* Seed mixture for lawns. The mix shall be a blend of one vigorously growing Kentucky Bluegrass varieties and two to four Tall Fescue varieties

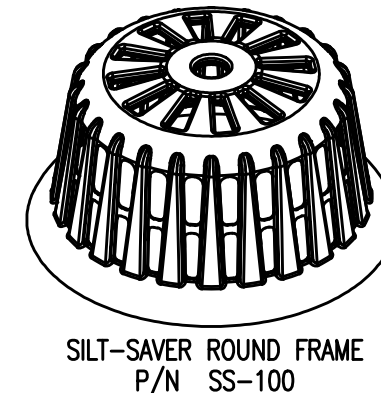
Mulch Material MU

1. All mulch materials shall be air-dried and reasonably free of noxious weeds and weed seeds or other materials detrimental to plant growth.
2. Mulch in lawn areas shall be wheat straw



NOTE:
Use 36" D.O.T. approved fabric.
Use wood or steel posts
Silt Soxx may be used in lieu of Silt Fence

SF SILT FENCE - TYPE A
NOT TO SCALE



- TYPICAL CONSTRUCTION SEQUENCE FOR SILT-SAVER FRAME & FILTER**
1. EXCAVATE APPROXIMATELY 4" TO 6" BELOW THE TOP OF THE INLET STRUCTURE.
 2. PLACE THE FRAME ONTO THE INLET STRUCTURE, ENSURING PROPER SEATING OF FRAME TO STRUCTURE.
 3. SLIDE THE FILTER OVER THE FRAME.
 4. FILL THE FILTER POCKETS WITH SOIL, #57 STONE OR EQUIVALENT. THE FILTER POCKETS SHALL BE COMPLETELY FILLED TO ENSURE A GOOD SEAL BETWEEN THE GROUND AND INLET STRUCTURE.
 5. BACK FILL AROUND THE FRAME AND FILTER ASSEMBLY IS NOT REQUIRED TO COMPLETE INSTALLATION; HOWEVER, BACK FILLING MAY BE NECESSARY TO COMPLETE EXCAVATION REQUIREMENTS FOR THE SITE.

IP INLET PROTECTION - SILT SAVER
not to scale

SEE SHEET C6.0 FOR
PROJECT NOTES

24-HOUR CONTACT: to be determined

811
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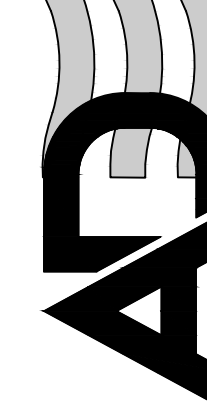
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DATE	11/02/2020
DRAWN BY	TJF/JWW
CHECKED BY	ASD
SCALE	AS SHOWN
JOB NUMBER	20160

**EROSION &
SEDIMENT
CONTROL
DETAILS**

DRAWING NUMBER
C4.2



DRAWING NUMBER
C5.2

PROJECT INFORMATION

TOTAL LAND AREA IS 1.53± ACRES, TOTAL LAND DISTURBED IS 1.10 ACRES.
DESCRIPTION OF ACTIVITIES – CONVERSION OF EXISTING BLDG TO LOFT CONDOMINIUMS AND ASSOCIATED PARKING.
SOIL NATURE AS INDICATED BY THE USDA SOIL SURVEY OF HAMILTON CO., TN IS COLBERT URBAN LAND COMPLEX (HYDROLOGIC SOIL GROUP D) & FULLERTON URBAN LAND COMPLEX (HYDROLOGIC SOIL GROUP B).
NO STORM WATER ORIGINATES FROM THIS SITE WHICH IS CONTRIBUTED FROM INDUSTRIAL ACTIVITIES.
THE STORMWATER DRAINAGE RELEASED FROM THE SITE ENTERS INTO THE CITY STORM SYSTEM AND EVENTUALLY INTO DOBBS BRANCH 3.
NO SINKHOLES HAVE BEEN IDENTIFIED ON THIS SITE.

A TENNESSEE GENERAL STORM WATER PERMIT WITH TDEC FOR CONSTRUCTION SITE RUNOFF IS REQUIRED FOR THIS PROJECT.

BY GRAPHIC PLOTTING ONLY, THIS PROPERTY DOES NOT LIE IN THE 100–YEAR FLOOD HAZARD AREA AS SHOWN ON FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NO. 47065C0341G, DATED FEBRUARY 3, 2016.
THE BOUNDARY SURVEY AND TOPOGRAPHIC INFORMATION HAS BEEN PROVIDED BY CLEMONS SURVEYING.

PER TOPOGRAPHIC SURVEY BY CLEMONS SURVEYING, BASIS FOR ELEVATION IS SANITARY MANHOLE SHOWN ON CITY GIS
ZONING: UGC– NO CONDITIONS
TAX MAP NO: 146P C 002 & 146P C 003
PROPERTY ADDRESS: 1265 & 1257 E 13th STREET
CHATTANOOGA, TN 37408
PROPERTY OWNER: 1265 13TH ST LLC

CITY OF CHATTANOOGA EROSION CONTROL AND STORMWATER NOTES

- 1. DISTURBED ACRE: ~1.10 AC
- 2. PRECONSTRUCTION IMPERVIOUS ACREAGE: ~0.96 AC
- 3. POSTCONSTRUCTION IMPERVIOUS ACREAGE: ~1.24 AC
- 4. NUMBER OF OIL SKIMMERS: 3
- 5. OWNERS REPRESENTATIVE FOR EROSION CONTROL AND MAINTENANCE:
NAME: TBD
COMPANY:
ADDRESS:
CITY, STATE ZIP:
PHONE:
- 6. INSPECTIONS:
CITY OF CHATTANOOGA INSPECTION REQUIREMENT:
SITE EROSION CONTROLS SHALL BE CHECKED AND IF NECESSARY, REPAIRED WEEKLY AND WITHIN 24 HOURS AFTER EACH RAINFALL >= ¼” IN THE EVENT OF CONTINUOUS RAINFALL, EROSION CONTROLS SHALL BE CHECKED DAILY. THE STATE OF TENNESSEE INSPECTION REQUIREMENT:
1. ALL EROSION CONTROL MEASURES SHALL BE INSPECTED
A) AT LEAST TWICE EVERY WEEK WITH THE INSPECTION OCCURRING AT LEAST 72 HOURS APART
B) WITHIN 24 HOURS AFTER THE END OF STORM EVENTS 0.5 INCHES OR GREATER
C) BEFORE ANTICIPATED STORM EVENTS
D) A REGISTERED ENGINEER WILL PERFORM A SITE ASSESSMENT WITHIN A MONTH OF CONSTRUCTION COMMENCING AT EACH OUTFALL INVOLVING DRAINAGE TOTALING 10 OR MORE ACRES OR 5 OR MORE ACRES IF DRAINING TO AN IMPAIRED OR EXCEPTIONAL QUALITY WATERS AND DOCUMENT THE FINDINGS.
2. ALL AREAS TO REMAIN BARE > 14 DAYS MUST BE TEMPORARILY STABILIZED. STEEP SLOPES OF 35% OR GREATER OR A 20–FOOT OR GREATER ELEVATION CHANGE THAT REMAIN BARE > 7 DAYS MUST BE TEMPORARILY STABILIZED.
3. AN NPDES PERMIT IS REQUIRED FOR THIS PROJECT BECAUSE THE TOTAL DISTURBED AREA IS GREATER THAN 1.0 ACRE.

EROSION CONTROL NOTES:

- 1. CONTRACTOR TO ADHERE TO THE TENNESSEE EROSION AND SEDIMENT CONTROL HANDBOOK.
- 2. SEDIMENT AND EROSION CONTROL FACILITIES AND STORMWATER DRAINAGE FACILITIES SHALL BE CONSTRUCTED PRIOR TO ANY OTHER CONSTRUCTION.
- 3. ALL GRADED AREAS SHALL BE STABILIZED WITH A TEMPORARY FAST GROWING COVER AND/OR MULCHED NO LATER THAN 2 WEEKS AFTER EARTH DISTURBING ACTIVITY ENDS IN THOSE AREAS WHERE GRADING HAS CEASED AND FINE GRADING WILL NOT TAKE PLACE FOR AT LEAST 15 DAYS.
- 4. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL EROSION CONTROL MEASURES AS CALLED FOR ON THE DRAWINGS UNTIL THE PROJECT IS COMPLETE AND FINAL STABILIZATION IS ACHIEVED.
- 5. IF FINES OR PENALTIES ARE LEVIED AGAINST THE PROPERTY OR PROPERTY OWNER BECAUSE OF LACK OF EROSION AND/OR SEDIMENT CONTROL, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PAYMENT OF ANY FINES OR PENALTIES WHICH WILL BE DEDUCTED FROM THE CONTRACT AMOUNT.
- 6. SEDIMENT AND EROSION CONTROL MEASURES SHOULD BE CHECKED AFTER EACH RAIN EVENT. EACH DEVICE IS TO BE MAINTAINED OR REPLACED IF SEDIMENT ACCUMULATION HAS REACHED ONE HALF THE CAPACITY OF THE DEVICE. ADDITIONAL DEVICES MUST BE INSTALLED IF NEW CHANNELS HAVE DEVELOPED.
- 7. THE CONSTRUCTION EXIT SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACK OR FLOW OF MUD ONTO PUBLIC RIGHT–OF–WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH 1–3” OF STONE. AS CONDITIONS DEMAND, ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLE ONTO PUBLIC ROADWAY OR INTO STORM DRAIN MUST BE REMOVED IMMEDIATELY.
- 8. ALL DISTURBED AREAS NOT TO BE PAVED SHALL HAVE A MINIMUM OF 3 INCHES OF TOPSOIL PLACED ON THEM AND SHALL BE SEEDED AS SPECIFIED.
- 9. SEDIMENT SHALL BE REMOVED FROM SILT FENCES AND OTHER SEDIMENTATION CONTROLS AS NECESSARY WHEN THE DEPTH OF THE TRAPPED SEDIMENT REACHES 50% CAPACITY.
- 10. ALL TEMPORARY SEDIMENT CONTROL DEVICES SHALL BE REMOVED AND/OR FILLED AFTER THE PERMANENT VEGETATION HAS BEEN ESTABLISHED.
- 11. MAXIMUM TOPSOIL THICKNESS FOR SLOPES STEEPER THAN 3:1 SHALL BE 3 INCHES.
- 12. ALL AREAS NOT OTHERWISE SURFACED ARE TO BE SEEDED, LANDSCAPED, MULCHED, WATERED, AND MAINTAINED UNTIL AN ADEQUATE STAND OF GRASS IS OBTAINED.
- 13. THE GRADING CONTRACTOR SHALL USE WHATEVER MEASURES ARE REQUIRED TO PREVENT SILT AND CONSTRUCTION DEBRIS FROM FLOWING ONTO ADJACENT PROPERTIES. THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL EROSION, CONSERVATION AND SILTATION ORDINANCES.
- 14. THE GRADING CONTRACTOR SHALL TAKE ALL PRECAUTIONS TO CONTROL DUST BY SPRINKLING, OR BY OTHER METHODS AS DIRECTED BY THE ENGINEER OR THE OWNERS REPRESENTATIVE AT NO ADDITIONAL COST TO THE OWNER.
- 15. THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO, OR CONCURRENT WITH, LAND DISTURBING ACTIVITIES.
- 16. IF FULL IMPLEMENTATION OF THE SEDIMENT AND EROSION CONTROL PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE.
- 17. ALL CONTROL MEASURES MUST BE PROPERLY INSTALLED AND MAINTAINED TO RETAIN EROSION AND SEDIMENT ON SITE THROUGHOUT THE DURATION OF THE PROJECT. ALLOW NO SEDIMENT TO ESCAPE FROM THE SITE, INCLUDING ON ROADWAYS LEAVING SITE.
- 18. EROSION CONTROL MEASURES ARE TO BE CONSTRUCTED IN THE INITIAL PHASES OF CONSTRUCTION.
- 19. SEE GENERAL AND GRADING NOTES FOR ADDITIONAL INFORMATION.

GENERAL NOTES:

- 1. ALL UTILITY LOCATIONS TO BE FIELD VERIFIED BY PROPER AGENCIES BEFORE BEGINNING CONSTRUCTION. UNDERGROUND UTILITIES ARE NOT FIELD LOCATED NOR ARE ALL PURPORTED TO BE SHOWN. INFORMATION SHOWN SHOULD BE CONSIDERED APPROXIMATE. CONTRACTOR TO CONTACT ALL UTILITY COMPANIES TO HAVE UTILITIES FIELD LOCATED BEFORE EXCAVATION OR DEMOLITION WORK BEGINS.
 - 2. ALL WORK AND MATERIALS SHALL COMPLY WITH THE CITY OF CHATTANOOGA (NAME LOCAL AGENCY), STATE, FEDERAL, O.S.H.A. REGULATIONS, CODES AND STANDARDS.
 - 3. CONTRACTOR SHALL OBTAIN ALL PERMITS BEFORE CONSTRUCTION BEGINS.
 - 4. NECESSARY AND SUFFICIENT BARRICADES, LIGHTS, SIGNS, AND OTHER TRAFFIC CONTROL MEASURES AS MAY BE NECESSARY FOR THE PROTECTION AND SAFETY OF THE PUBLIC SHALL BE PROVIDED AND MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD.
 - 5. THE LOCATIONS OF EXISTING UNDERGROUND OR OVERHEAD UTILITIES HAVE NOT BEEN VERIFIED BY OWNER OR AD ENGINEERING SERVICES, INC. CONTRACTOR SHALL DETERMINE THE EXACT LOCATION BEFORE COMMENCING WORK AND AGREEES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTORS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND OR OVERHEAD UTILITIES.
 - 6. CONTRACTOR MUST CALL TENNESSEE ONE CALL AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST THE EXACT LOCATION OF THE UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THESE PLANS.
 - 7. NOTIFY THE CITY OF CHATTANOOGA INSPECTIONS DEPARTMENT 24 HOURS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
 - 8. ALL DIMENSIONS SHOWN ARE TO FACE OF CURB UNLESS OTHERWISE NOTED. CONTRACTOR SHALL VERIFY ALL DIMENSIONS BEFORE BEGINNING CONSTRUCTION.
 - 9. ALL EXISTING TREES, VEGETATION AND ORGANIC TOPSOIL SHALL BE STRIPPED AND REMOVED FROM THE CONSTRUCTION AREA, AS REQUIRED.
 - 10. NO WORK SHALL OCCUR OFFSITE ON PROPERTY OWNED BY OTHERS WITHOUT THE OWNER AND CONTRACTOR OBTAINING WRITTEN PERMISSION AND THE REQUIRED PERMITS TO DO SO.
 - 11. A MINIMUM CLEARANCE OF TWO FEET SHALL BE MAINTAINED BETWEEN THE FACE OF CURB AND ANY PART OF A TRAFFIC SIGNAL OR LIGHT POLE.
 - 12. THE CONTRACTOR SHALL SAW–CUT TO PROVIDE SMOOTH TRANSITIONS AT TIE–INS TO EXISTING EDGES OF PAVEMENT.
 - 13. THE CONTRACTOR SHALL SAW–CUT TIE–INS AT EXISTING CURBS AS NECESSARY TO ENSURE SMOOTH TRANSITION TO MEET EXISTING PAVEMENT AS NECESSARY AND TO ENSURE POSITIVE DRAINAGE (TYPICAL AT ALL INTERSECTIONS).
 - 14. JOINTS OR SCORE MARKS ARE TO BE SHARP AND CLEAN WITHOUT SHOWING EDGES OF THE JOINT TOOL.
 - 15. DIMENSIONS ON BUILDINGS ARE FOR GRADING PURPOSES ONLY AND SHOULD NOT BE USED TO LAYOUT FOOTINGS.
 - 16. THE CONTRACTOR SHALL REPAIR OR REPLACE IN–KIND ANY DAMAGE THAT OCCURS AS A RESULT OF HIS WORK.
 - 17. IT IS THE INTENT OF THIS PROJECT FOR THE CONTRACTOR TO VERIFY AND MATCH EXISTING CONDITIONS UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL NOTIFY THE ENGINEER/ARCHITECT OF ANY ITEMS THAT DO NOT EXIST AS SHOWN.
 - 18. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER/ARCHITECT OF ANY CONFLICTING INFORMATION OR DISCREPANCIES THAT EXISTS ON THE CONTRACT DOCUMENTS OR DRAWINGS.
 - 19. IN THE EVENT THAT THERE IS CONFLICTING INFORMATION ON THE DRAWING OR SPECIFICATIONS THE MORE STRINGENT REQUIREMENT WILL APPLY.
- DRAINAGE & GRADING NOTES:
- 1. ALL CONSTRUCTION MUST CONFORM TO THE CITY OF CHATTANOOGA STANDARDS AND SPECIFICATIONS.
 - 2. EROSION CONTROL DEVICES TO BE PLACED PRIOR TO CUTTING AS SHOWN AND/OR AS DIRECTED BY PROJECT ENGINEER AND/OR CITY OF CHATTANOOGA INSPECTOR.
 - 3. ALL TRENCHING AND SHORING SHALL COMPLY WITH OSHA STANDARDS.
 - 4. PIPE LENGTHS AND SLOPE ARE MEASURED FROM THE CENTER OF STRUCTURE AND ARE APPROXIMATE.
 - 5. THE SUITABILITY OF THE EXISTING SUBGRADE AND EXISTING SITE MATERIAL SHALL BE EVALUATED BY A QUALIFIED GEOTECHNICAL ENGINEER PRIOR TO ANY FILL WORK.
 - 6. FILL MATERIAL SHALL BE FREE OF DEBRIS, STICK, STUMPS, ROCKS AND ORGANICS.
 - 7. IN CONFINED AREAS, SUCH AS UTILITY TRENCHES, PORTABLE COMPACTION EQUIPMENT AND THIN LIFTS OF 3 TO 4 INCH MAY BE REQUIRED TO ACHIEVE SPECIFIED DEGREES OF COMPACTION. COMPACTION OF BACKFILL IN ALL TRENCHES SHALL BE 95% OF MAXIMUM DRY WEIGHT ACCORDING TO ASTM D698.
 - 8. GEOTECHNICAL WORK HAS BEEN PERFORMED ON THIS SITE BY GEOSERVICE, LLC. ALL GRADING AND FILL WORK SHALL COMPLY WITH THE RECOMMENDATIONS OF THEIR FINAL REPORT.
 - 9. FILL SHOULD BE PLACED IN THIN LIFTS WITH A MAXIMUM LOOSE THICKNESS OF 8 INCHES, THEN COMPACTED TO 95 PERCENT OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY, WITH A MOISTURE CONTENT WITHIN MINUS 2 PERCENT TO PLUS 3 PERCENT OF THE OPTIMUM MOISTURE CONTENT. A QUALIFIED GEOTECHNICAL ENGINEER SHOULD TEST THE DENSITY AND MOISTURE CONTENT OF EACH LIFT BEFORE PLACING ADDITIONAL LIFTS. FILL PLACEMENTS SHOULD BE WITNESSED BY A QUALIFIED GEOTECHNICAL ENGINEER. FREQUENT FILL DENSITY AND MOISTURE TESTS SHOULD BE PERFORMED TO VERIFY THAT THE SPECIFIED DEGREE OF COMPACTION IS BEING ACHIEVED. ANY AREAS THAT DO NOT MEET THE COMPACTION SPECIFICATION SHOULD BE RE–COMPACTED TO ACHIEVE COMPLIANCE.
- CONTRACTOR SHALL REFER TO THE GEOTECHNICAL REPORT FOR ADDITIONAL GRADING CONSIDERATIONS
- 10. ANY UNUSABLE SOIL MATERIALS SHALL EITHER BE RESPREAD ONSITE AT A LOCATION APPROVED BY THE ENGINEER OR DISPOSED OFFSITE LEGALLY. ALL GRUBBING DEBRIS SHALL BE DISPOSED OFFSITE BY CONTRACTOR AT AN APPROVED LOCATION UNLESS OTHERWISE APPROVED BY ENGINEER TO BE PLACED ONSITE.
 - 11. BLEND ALL SLOPES WITH SURROUNDING ENVIRONMENT. IF ANY FIELD ADJUSTMENTS ARE REQUIRED DUE TO TOPOGRAPHY VARYING FROM THE TOPOGRAPHIC SURVEY, ENGINEER SHALL BE NOTIFIED PRIOR TO CHANGES.
 - 12. UNLESS OTHERWISE SPECIFIED, ALL SLOPES TO BE COVERED WITH A MINIMUM OF 3” OF TOPSOIL.
 - 13. HDPP OR HDPE PIPE MAY BE SUBSTITUTED WITH CLASS III REINFORCED CONCRETE CONFORMING TO ASTM–76
 - 14. PRE CAST STRUCTURES MAY BE USED IN LIEU OF CAST IN PLACE STRUCTURES. ALL CONCRETE TO HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI.
 - 15. CONTRACTOR IS TO ENSURE THAT ALL CONTROL POINTS AND BENCHMARKS ARE PROTECTED AND MAINTAINED THROUGHOUT THE ENTIRE PROJECT. IF POINTS ARE COMPROMISED, THEN PROJECT MAY NEED TO CEASE UNTIL SUCH POINTS AND GRADE STAKES ARE REESTABLISHED.
 - 16. ALL NEW FINISHED CONTOURS ARE TOP OF PAVEMENT OR TOP OF TOPSOIL TO BE SEEDED.
 - 17. THE GRADES SHOWN ARE FINISHED GRADES. CONTRACTOR SHALL DETERMINE SUBGRADE ELEVATIONS BY EXAMINING TYPICAL PAVEMENT SECTIONS.
 - 18. IN NO CASE SHALL ANY PAVED AREAS BE LESS THAN 1.00% UNLESS OTHERWISE NOTED.
 - 19. ALL PERMANENT CUT/FILL SLOPES SHALL BE NO STEEPER THAN 2 H TO 1 V (UNLESS OTHERWISE NOTED ON THE PLANS).
 - 20. SEE GENERAL AND EROSION CONTROL NOTES FOR ADDITIONAL INFORMATION.

UTILITY NOTES

- 1. EXISTING UTILITIES SHALL BE VERIFIED IN FIELD PRIOR TO INSTALLATION OF ANY NEW PIPELINES.
- 2. ALL SERVICE LATERALS SHALL BE MARKED WITH MAGNETIC TAPE.
- 3. LINES UNDERGROUND SHALL BE INSTALLED, TESTED, AND APPROVED BEFORE BACKFILLING. PRESSURE AND LEAKAGE TESTS SHALL BE PERFORMED IN ACCORDANCE WITH CURRENT AWWA STANDARD C600 AND/OR MANUFACTURERS PROCEDURE.
- 4. PRECAST STRUCTURES MAY BE USED AT THE CONTRACTORS OPTION.
- 5. ALL CONCRETE TO HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI.
- 6. THE SITE UTILITY CONTRACTOR SHALL COOPERATE AND WORK WITH OTHER CONTRACTORS PERFORMING WORK ON THIS PROJECT TO INSURE PROPER AND TIMELY COMPLETION OF THIS PROJECT.
- 7. LUBRICANTS SHALL BE NON–TOXIC AND SHALL NOT PROMOTE BIOLOGICAL GROWTH. SOLVENT CEMENT JOINTS NOT PERMITTED.
- 8. WHERE PROPOSED WATER LINE EXTENDS UNDER ANY PAVED SURFACE, THE TRENCH MUST BE BACKFILLED WITH APPROVED STONE.
- 9. ALL VALVES (G.V.) SHALL BE GATE VALVES WITH CAST IRON BOXES.
- 10. WATER INSTALLATION SHALL BE ACCORDING TO TAWC STANDARDS AND MAY NOT BEGIN WITHOUT APPROVAL FROM BOTH TDEC AND TAWC.
- 11. CONNECTION TO THE EXISTING WATER MAIN SHALL BE MADE UNDER THE SUPERVISION OF THE LOCAL WATER UTILITY.
- 12. RADIUS (DEFLECTED) WATER LINES IN LIEU OF FITTINGS SHALL BE IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS.
- 13. ALL WATER LINES SHALL HAVE A MINIMUM OF 36 INCHES OF COVER.
- 14. WHERE WATER PIPING CROSSES THE SANITARY SEWER LINE, THE WATER SERVICE WITHIN 10 FEET OF THE POINT OF CROSSING SHALL BE AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER LINE. THE SEWER LINE SHALL BE OF DUCTILE IRON WITH MECHANICAL JOINTS AT LEAST 10 FEET ON BOTH SIDES OF THE CROSSING.
- 15. WATER MUST BE CONSTRUCTED BY A LICENSED MUNICIPAL UTILITY CONTRACTOR (CLASSIFICATION MU).
- 16. ALL MATERIALS SHALL BE UL LISTED AND FACTORY MUTUAL APPROVED UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- 17. THRUST BLOCKS SHALL BE PROVIDED AT ALL TEES, ELBOWS, BENDS AND FIRE HYDRANTS OF SUFFICIENT SIZE TO COMPLY WITH THE MINIMUM STANDARDS OF N.F.P.A. #24 EXISTING SOIL CONDITIONS.
- 18. THE CONTRACTOR SHALL NOTIFY THE WATER AND SEWER UTILITY COMPANIES, AND THE ENGINEER PRIOR TO CONSTRUCTION.
- 19. SANITARY SEWER SERVICE LINES SHOWN AS 4” PVC (UNLESS NOTES AS DIP) AND SHALL BE LAID AT A MINIMUM SLOPE OF 1.10%. MIN SLOPE FOR 6” PVC IS 1.00%.
- 20. A CONCRETE ANCHOR BLOCK AS SHOWN ON THE UTILITY DETAIL SHEET SHALL BE POURED AROUND THE FIRST BELL AND SPIGOT PIPE JOINT RESTRAINT FROM THE END OF THE WATERLINE. THE MECHANICAL RESTRAINT SECURING THE JOINT SHALL BE WRAPPED WITH PLASTIC PRIOR TO POURING OF THE CONCRETE. THE INTENT OF THE CONCRETE ANCHOR BLOCK WILL HELP KEEP THE JOINTS FROM SEPARATING NEAR THE END OF THE WATERLINE.
- 21. ALL DUCTILE IRON PIPE TO BE AWWA C–151–81, CLASS 50.
- 22. ALL UNDERGROUND FITTINGS TO BE MECH JOINT AWWA C110/A21.10, CLASS 250.
- 23. ALL UNDERGROUND VALVES TO BE MECH JOINT AWWA C509, CLASS 250.
- 24. ALL UNDERGROUND JOINTS TO BE TESTED AND FLUSHED PER NFPA #24.
- 25. THE CONTRACTOR SHALL ADJUST LOCATION OF PROPOSED WATER LINES AS REQUIRED TO AVOID CONFLICTS WITH STORM AND OTHER STRUCTURES.
- 26. FIRE HYDRANTS ARE TO BE INSTALLED SO THAT THE FIRE DEPARTMENT CONNECTION FACES THE STREET. THE FIRE HYDRANT CONNECTION IS TO BE NO LESS THAN 18 INCHES OR MORE THAN 36 INCHES ABOVE FINISHED GRADE. FIRE HYDRANTS SHALL BE CLEAR OF ANY OBSTRUCTIONS WITHIN 5 FEET IN ANY DIRECTION PARALLEL WITH THE APPROACH OR VISIBILITY OF ANY FIRE HYDRANT. OR F.D.C./SIAMENSE. FIRE HYDRANTS LOCATED IN PARKING AREAS SHALL BE PROTECTED BY BARRIERS THAT WILL PREVENT PHYSICAL DAMAGE BY VEHICLES (NFPA 11413–6.5, 3–6.6).
- 27. PROCEDURES FOR DISINFECTING POTABLE WATER LINES SHALL CONFORM TO THE REQUIREMENTS OF AWWA C601.
- 28. REFER TO GENERAL NOTES FOR ADDITIONAL REQUIREMENTS.

CONTACTS

CITY ENGINEER MR. BILL PAYNE 1250 MARKET ST–SUITE 2080 CHATTANOOGA, TN 37402 PHONE: 423–757–5117	ELECTRIC POWER BOARD MR. DAVID HENDERSON CHATTANOOGA, TN 37422 PHONE: 423–648–3305
CITY SEWER SYSTEM MR. SHAUN WADE 1250 MARKET ST–SUITE 1000 CHATTANOOGA, TN 37402 PHONE: 423–643–5841	CHATTANOOGA GAS COMPANY CONSTRUCTION OPERATIONS 6125 PRESERVATION DRIVE CHATTANOOGA, TN. 37416 PHONE: 1–800–599–3770
BUILDING INSPECTOR CITY OF CHATTANOOGA MR. JOHN HAUSTEIN 1250 MARKET ST–SUITE 1000 CHATTANOOGA, TN 37402 PHONE: 423–643–5831	TENNESSEE AMERICAN WATER KURT STAFFORD 1500 RIVERSIDE DRIVE CHATTANOOGA, TN. 37406 PHONE: 423– 771–4703
CITY STORMWATER ENGINEER MR. TBD 1250 MARKET ST CHATTANOOGA, TN 37402 PHONE: 423–643–6022	AT&T MR. SHAUN BRIGMORE 300 EAST M.L. KING BLVD. CHATTANOOGA, TN. 37403 PHONE: 423–752–9018
TENNESSEE DEPT. OF TRANSPORTATION MR. LANDON CASTLEBERRY 4005 CROMWELL ROAD CHATTANOOGA, TN 37416 PHONE: 423–510–1208	FIRE MARSHAL’S OFFICE CITY OF CHATTANOOGA MR. MICHAEL WRIGHT 910 WISDOM STREET CHATTANOOGA, TN 37406–1750 PHONE: 423–643–5622

24-HOUR CONTACT: to be determined



Know what's below.
Call before you dig.

IT IS THE CONTRACTORS RESPONSIBILITY TO CONTACT UTILITY COMPANIES PRIOR TO ANY CONSTRUCTION AS THE LOCATION OF UTILITIES SHOWN ON THIS PLAT ARE APPROXIMATE AND POSSIBLY INCOMPLETE. THEREFORE CERTIFICATION TO THE LOCATION OF ALL UNDERGROUND UTILITIES ARE WITHHELD.

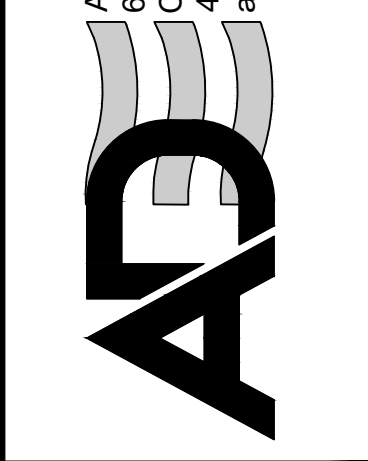
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NO.	DATE	REVISION/DESCRIPTION

Factory Loft Condominiums
Fletcher Bright Company
1265 E. 13th Street
Chattanooga, TN

for
CARDON SMITH
FLETCHER BRIGHT COMPANY
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DATE
11/02/2020

DRAWN BY
TJF/JWW

CHECKED BY
ASD

SCALE
NONE

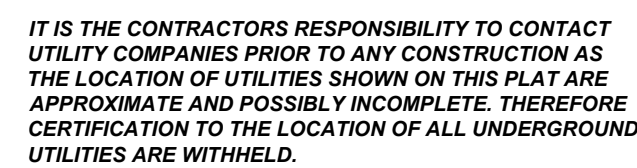
JOB NUMBER
20160

PROJECT
NOTES

DRAWING NUMBER
C6.0



24-HOUR CONTACT: to be determined



DRAWING NUMBER

From: [Wiatt Wehunt](#)
To: [Barbara Russell](#)
Cc: [Tiffany Farley](#)
Subject: [EXTERNAL] Factory Lofts SWPPP Submission (20160)
Date: Tuesday, November 10, 2020 10:52:52 AM
Attachments: [20160 Factory Lofts - SWPPP.pdf](#)
[20160-Factory Loft Civil Set 11-02-2020r.pdf](#)

Barbara,

This email is for submission of the Storm Water Pollution Prevention Plan (SWPPP) for a project located at 1265 E. 13th Street in Chattanooga. The project is called Factory Loft Condominiums and is a renovation of an existing building for residential use. Site work includes stormwater and other utility installation along with new parking lots and other site amenities with a disturbance of approximately 1.1 acres. Fee payment will be sent (or delivered) by the owner following this submission. What info does he need to include to make sure the payment is associated with this submission? Is there an option to pay by credit card over the phone or on-line? Please let me know if I need to know anything specific with this submission or if I need to do anything differently. Thank you.

Wiatt Wehunt, PE



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