

STORMWATER POLLUTION PREVENTION PLAN

For

26th & Clarksville Pike Apartments - Phase 1

2607 Clarksville Pike
Nashville, Davidson County
Tennessee

April 15, 2015

Prepared by:

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Site Description

Location

The 26th & Clarksville Apartments project is located on 2607 Clarksville Pike and is bounded by 26th Ave N to the east and Clarksville Pike to the north. To the west lies two churches and multi-family residential. Single family residential borders the Site to the south. The property can be identified as map 81-02 and parcel 3.00. The site is 5.7ac with approximately 1.7ac proposed to be disturbed.

The property can be identified with the following coordinates:

Latitude: 36.186410° N

Longitude: 86.819414° W

The existing site has established vegetation (trees) and contains three abandoned multi-family buildings, parking lot and entrance, and two building foundations.

Construction Activity

The proposed development will include site grading, utility and road construction, as well as existing entrance modifications. Project will also include the construction of a bioretention water quality ponds on the site.

Sequence of Major Activities

1. A boundary is established by existing streets, sidewalks and existing residential lots.
2. Erosion control measures and construction fence will be installed.
3. Clearing and grubbing will commence once the initial erosion control measures are installed as described.
4. The new utility lines (water, sewer, gas, etc.) and the drainage system will be installed.
5. As the site construction continues, the site will be graded to finished grades.
6. As the project is nearing completion, the proposed landscaping will be installed.
7. Once areas have been stabilized, all construction materials are to be removed from the site.
8. Erosion control measures will be removed once the site has been stabilized.
9. Submit Notice of Termination to TDEC, Environmental Assistance Center after site has been stabilized, per the requirements of the Tennessee Construction Storm Water General NPDES Permit.

The general contractor through the use of his own laborers or through the use of his subcontractors will be responsible for insuring that the proper erosion control measures are in place and working properly to eliminate sediment from leaving the property. The general contractor is responsible for implementing additional measures when necessary to control sedimentation and erosion on the project site.

Disturbed Area

The total approximate land disturbance is 1.7 acres.

Site Topography

The existing topography has typical slopes that range from 2% to 5%, with some areas of 10-13% and up to 25%. In the existing conditions, the majority of the site drains to the west and south, however, there is no singular outfall point for runoff. The western portion of the site typically sheet flows to the western property line with very few instances of concentrated flow. The southern portion of the site drains similarly to the south in sheet flow condition. The northeastern area on the site is fairly flat and tends to drain to the north, towards Clarksville Pike.

Existing Soils

A summary of the soil information for the project area is shown in Table 1. The soils for this project are in the Hydrologic Soil Groups C. Good management will be required to control erosion on this project and should include diligent inspections and prompt repairs of erosion control devices.

Table 1 – General Soil Information

Symbol	Soil Name	Soil Group	Percent of Site
MsD	Mimosa-Urban land complex	C	100%

Source: United States Department of Agriculture Soil Conservation Service.

Runoff

The proposed 26th & Clarksville Apartments Phase 1 development will include 23 single family units, connected parking lots, open space, and a bioretention area. Stormwater will overland flow to bioretention areas, where an underdrain will route treated flows towards the nearest existing storm sewer. No overall drainage patterns will be changed.

In the existing conditions, the Site generally drains east to west in sheet flow condition with no single outfall point, eventually entering an existing storm sewer system in the adjacent O’Neal Drive. The northeastern region drains north towards Clarksville Pike, while the southern portion of the Site sheet flows towards the southern property line, eventually entering the same existing storm sewer network in Salem Mason Drive and Vance Ave. This storm network daylights on the west side of 28th Ave, flows under Ed Temple Blvd via open channel, and into a series of man-made reservoirs in the Ted Rhodes Golf Course, ultimately ending at the Cumberland River.

In the proposed conditions, drainage patterns will remain unchanged. The proposed building and parking lot (Basin A1 - 0.60ac) will overland flow to bioretention area 1 (level 1) within the parking island. This will also provide treatment for any future buildings within the same drainage basin. PH1 Bypass (0.94ac) consists of pavement and turf and drains as it historically has. In the future phases, 0.40ac of this Bypass basin will be collected and treated with bioretention (see Overall Drainage Basins Plan for details). An underdrain will connect the PH1 bioretention area with the future bioretention area. The underdrain will convey treated flows to the southwest corner of the Site, to the existing storm sewer system in O’Neal Drive. The small area in front of the proposed building will continue to drain towards Clarksville pike as it does in the existing conditions.

The site's overall imperviousness for Phase 1 is 16% (CN 81*) (Full design is estimated at 56% (CN 86*). The combined treatments of the basins have been designed to meet or exceed the requirements of the City of Nashville.

The receiving waters are the Cumberland River.

**Through Adjusted Curve Number Calculations, Stormwater Management Manual, Volume 5*

Industrial Discharges

There are no discharges from this project site associated with industrial activities.

Adjacent Streams or Wetlands

There are no known adjacent streams or wetlands.

Receiving Water(s)

The receiving waters are the Cumberland River.

Buffers Along Waters of the State

No buffers are required.

Construction Phasing

Since this project does not disturb more than 50 acres a phasing plan was not established.

Storm Water Runoff Controls

Prior to any construction, the silt fence, construction entrance, and filter rings around headwalls will be installed on the project site. Final stabilization will take place as the site is graded to the proposed grades.

Erosion Prevention and Sediment Controls

General Criteria and Requirements Required of the Contractor

1. The contractor is responsible for making sure that a copy of the SWPPP is retained on-site at or near the construction entrance. If a construction trailer is not available, the contractor shall provide a waterproof enclosure near the construction entrance to place the SWPPP. In addition to the SWPPP, the contractor shall make certain that the following information must also be posted at the construction site (in a construction trailer or in the waterproof enclosure): a.) A copy of the notice of coverage (NOC) with the NPDES permit tracking number for the construction project number, b.) name, company name, email address, telephone number and address of the project site owner or a local contact person; c.) a brief description of the project; d.) the location of the SWPPP if an on-site location for storing the plan is not available.
2. The owner of this project site will provide erosion control measures as shown on this SWPPP. Once the owner sells this property, the new property owner will be required to obtain coverage under this permit from the governing federal, state and local agencies and the new property owner shall assume operational control and responsibility for the portion of the site that he/she purchases.
3. Prior to the commencement of any clearing or grubbing, the contractor shall erect "construction fencing", tree protection fencing, caution tape, etc. along the limits of disturbance to protect trees, stream bank buffers, etc. that are not to be disturbed.
4. Prior to any type of construction activity, the contractor shall install the stone based construction exit, the silt fence and the sediment traps/basins when indicated on the SWPPP. Additional erosion control measures such as rock check dams, diversion swales, temporary creek crossings, temporary mulching of disturbed areas, final seed and straw application and general erosion control maintenance shall be provided as construction progresses and these measures become necessary. The contractor shall be responsible for implementing all of the erosion control measures.
5. All erosion control measures shall be installed and maintained in accordance with the manufacturer's specifications and recommendations. It is the purpose of all control measures to slow runoff so that rill and gully formation is prevented. The contractor shall inspect the control measures periodically and replace and/or modify the controls for relevant site situations.
6. Where the application of temporary or permanent grass seed is specified as part of the SWPPP, the contractor shall use an appropriate grass seed mixture for the time of year that the seed is sowed. Use fescue during the spring and summer months and a mixture of fescue and winter rye during the fall and winter months. Sow at a rate of 6 lbs. per 1,000sf of area. Provide adequate amounts of water to establish a healthy stand of grass.
7. If sediment escapes the construction site, it is the contractor's responsibility to remove the sediment that has escaped the site. The contractor shall obtain the permission of the landowner where the sediment has accumulated before removal can begin. If sediment enters a stream, the contractor must also gain the written permission of the State before remediation/restoration can begin.

8. The contractor shall remove sediment from sediment traps, silt fences, sedimentation ponds, and other sediment controls as necessary and must be removed when capacity has been reduced by 50%.
9. Litter, construction debris and construction chemicals exposed to storm water shall be picked up and removed from the site to prevent them from becoming a pollutant source for storm water discharges. After use, materials used for erosion prevention and sediment control should be removed from the site.
10. All earth stockpiles, whether on the project site or off-site shall include erosion control measures to prevent the material from be washed from the site by storm water runoff.
11. Clearing and grubbing must be held to the minimum necessary for grading and equipment operation. Do not remove any existing vegetative ground cover more than 10 days prior to grading or earth moving.
12. Construction must be phased for projects in which over 50 acres of soil will be disturbed. Areas of the completed phase must be stabilized within 15 days. No more than 50 acres of active soil disturbance is allowed at any time during the construction project.
13. For projects that have a disturbed area of greater than 50 acres, the contractor shall provide a phasing plan to only disturb 50 acres or less at one time. Submit the phasing plan to the state and local agencies for their review.
14. Erosion prevention and sediment control measures must be in place and functional before earth moving operations begin and must be constructed and maintained throughout the construction period. Temporary measures may be removed at the beginning of the workday, but must be replaced at the end of the workday.
15. The contractor shall maintain a rain gauge and daily rainfall records at the site. Records shall include the dates when construction activities temporarily or permanently cease on a portion of the site; the dates when stabilization measures are initiated; inspection records and rainfall records.

Stabilization Practices

1. The contractor shall initiate stabilization measures in portions of the site where construction activities have temporarily or permanently ceased. Temporary or permanent soil stabilization at the construction site must be completed no later than 15 days (7 days for $\geq 35\%$ slopes) after the construction activity on that portion of the site has temporarily or permanently ceased. Stabilization measures include but not limited to temporary seeding, permanent seeding, mulching, geotextiles, sod stabilization, vegetative buffer strips, protection of trees, preservation of mature vegetation and other appropriate measures.
2. The contractor shall construct temporary diversion swales to divert off-site runoff from crossing the disturbed areas. These diversion swales, when necessary, shall be field located to avoid existing trees wherever possible.
3. No work shall be allowed in or around streams or wetlands without the proper permits. Prior to the commencement of any construction activities in these areas, the contractor shall obtain a copy of the permits from the property owner, which allows this work. He shall not begin work with obtaining a copy of these permits or stiff fines from the federal and state agencies may be levied.

4. Muddy water to be pumped from excavation and work areas must be held in settling basins or filtered prior to its discharge into surface waters. Water must be discharged through a pipe, well-grassed or lined channel or other equivalent means so the discharge does not cause erosion and sedimentation. Discharged water must not cause an objectionable color contrast with the receiving stream.
5. After construction is complete, all disturbed areas, which are not covered with impermeable surface (i.e. asphalt, concrete, buildings, etc.), shall be covered with topsoil (4-inch thick minimum), grass seed and straw. The contractor shall maintain the seed and straw until a solid, healthy stand of permanent grass covers the disturbed areas.
6. Silt fence shall be used along the lower edge of disturbed areas that have sheet flow runoff. Where runoff is concentrated (such as swales and ditches), bumpus fences or rock check dams shall be used to slow the velocity and allow settling of sediment.
7. All construction and waste material shall be collected and removed from the site on a periodic basis. All construction and waste material shall be located outside of any existing or proposed drainage ways and shall be covered and protected from the rain until they are removed from the site. Any liquid materials or chemicals stored on-site shall be located away from any existing or proposed drainage ways and a berm of sufficient height to contain the entire volume of the liquid shall be constructed to completely encompass and impound the stored materials to prevent a spill from flowing off of the site.
8. All soil, plants, trees and other vegetation in protected streams and wetlands and along the banks of same are protected by State law and therefore are prohibited from being removed. The contractor shall ensure that these areas remain undisturbed during construction. He shall erect construction barriers or take other means necessary to insure that the areas remain protected.

Structural Practices

1. Construction Exits: temporary sediment control devices installed where ever construction traffic leaves an active construction site. Most often, construction exits are constructed of clean stone. However, several manufactured construction exits are available that do not include stone.
2. Inlet Protection: installed at the entrance to storm drain systems to prevent sediment from construction sites from getting into the storm drain system.
3. Silt Fence: Silt fence is a permeable sediment barrier erected near small disturbed areas to capture sediment from sheet flow. Silt fence reduces the velocity of flow, allows deposition, and retains sediment. Silt fence should be installed along the contour to encourage sheet flow.
4. Outlet Protection: provides permanent stabilization for the material at the outlet of the pipe, channel or other conveyance system. Outlet protection is also needed at outlets to temporary slope drains to prevent scour while the slope drain is in place.
5. Check Dam: A small dam, which can be either temporary or permanent, built across a minor channel, swale, bioswale, or drainage ditch. Check Dams reduce erosion and gullyng in the channel and allow sediments and pollutants to settle. Check Dams also lower the speed of water flow during storm events.

Storm Water Management

1. The permanent stormwater management for this project includes a collection system of inlets, headwalls, swales and drainage pipes. The collection system is designed to route the stormwater through the site and route to the bioretention ponds on the property for treatment. The treated stormwater then infiltrates the ground beneath the pond. The larger storms overtop the interior inlet and exit to the detention pond

Maintenance

1. Sediment removed from sediment control structures is to be placed at a site that has been permitted by local and state agencies. The contractor is responsible for obtaining the site to “waste” the sediment material. The sediment shall be treated in a manner so that the area around the disposal site will not be contaminated or damaged by the sediment in the storm water run-off. Cost of this treatment is to be included in the price for the earthwork.
2. The contractor shall seed and straw all disturbed areas as soon as possible after final grading is completed, unless otherwise indicated. The contractor shall take whatever means necessary to establish permanent soil stabilization. Any areas that do not include construction activity for more than 14 days shall be temporarily covered with straw to help prevent erosion
3. Remove sediment from all drainage structures, pipes and swales before acceptance by the developer or the local governing agency.
4. Remove the temporary erosion and water pollution control devices only when in the opinion of the owner’s representative, they are no longer needed.
5. During the period between the end of the construction and the establishment of the permanent vegetation, erosion control measures shall remain in place and maintained. Once permanent vegetation is established, then the erosion control measures may be removed.
6. The contractor shall ensure that the installed landscaping and vegetative ground cover is alive and healthy before closing out the project and turning the site back over to the owner.
7. Once construction is complete, it shall be the owner’s responsibility to maintain the landscaping and the vegetative ground cover in a thriving, healthy state.
8. The owner shall replace any dead landscaping material and supplement ground cover that is thin or sparse.

Inspections

1. The contractor shall employ a person to inspect the erosion control measures as required by the State and local agencies. The inspector must have successfully completed the “Fundamentals of Erosion Prevention and Sediment Control” course provided by the State. A copy of the certification or training record for inspector certification should be kept on site.
2. Inspections described in the Tennessee General Permit shall be performed at least twice every calendar week and shall be performed at least 72 hours apart. Inspections shall include all erosion control measures, disturbed areas, storage of material areas, outfall points, construction access points, etc.

3. Inspections shall also be performed before anticipated storm events (or series of storm events such as intermittent showers over one or more days), and within 24 hours after the end of a storm event of 0.5 inches or greater.
4. 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
5. 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 drainage system.
6. Outfall points shall be inspected to determine whether erosion prevention and sediment control measures are effective in preventing significant impacts to receiving waters.
7. 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. The contractor shall provide additional erosion control measures where necessary to insure adequate control so that no silt exits the project site.
8. Inspections shall be documented and include: the scope of the inspection, name and title of personnel making the inspection, the date of the inspection, major observations relating to the implementation of the storm water pollution prevention plan (including the location of discharges of sediment or other pollutants from the site and of any control device that failed to operate as designed or proved inadequate from a particular location), and actions taken in accordance with the General Permit. Inspections documentation will be maintained on site and made available upon request. Inspection reports must be submitted to the State (TDEC) within 10 days of the request. Use the inspection report form provided in Appendix C of the General Permit and complete on a weekly basis.

Site Assessment

Quality assurance of erosion prevention and sediment controls shall be done by performing site assessment at the site. The site assessment shall be conducted at each outfall involving drainage totaling 10 or more acres or 5 or more acres if draining to an impaired or exceptional quality waters, within a month of construction commencing at each portion of the site that drains the qualifying acreage of such portion of the site. The site assessment shall be performed by individuals with following qualifications:

- a licensed professional engineer or landscape architect;
- a Certified Professional in Erosion and Sediment Control (CPESC) or
- a person that successfully completed the “Level II Design Principles for Erosion Prevention and Sediment Control for Construction Sites” course.

As a minimum, site assessment should be performed to verify the installation, functionality and performance of the EPSC measures. The site assessment should be performed with the inspector, and should include a review and update (if applicable) of the SWPPP.

Modifications of plans and specifications for any building or structure, including the design of sediment basins or other sediment controls involving structural, hydraulic, hydrologic or other engineering calculations shall be prepared by a licensed professional engineer or landscape architect and stamped and certified in accordance with the Tennessee Code Annotated, Title 62, Chapter 2 and the rules of the Tennessee Board of Architectural and Engineering Examiners.

The site assessment findings shall be documented and the documentation kept with the SWPPP at the site. At a minimum, the documentation shall include information included in the inspection form. The documentation must contain the printed name and signature of the individual performing the site assessment and the following certification:

"I certify under penalty of law that this report and all attachments are, 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 for knowing violations."

The site assessment can take the place of one of the twice weekly inspections.

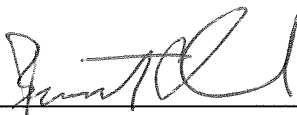
The division may require additional site assessment(s) to be performed if site inspection by division's personnel reveals site conditions that have potential of causing pollution to the waters of the state.

This 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. Civil Site Design Group P.L.L.C. personnel involved with the development of this plan have completed the design of vegetative and structural measures for erosion and sediment control course available from the State of Tennessee.

As instructed by Part III.F of the TNCGP, this plan and all attachments are hereby submitted to the local Environmental Assistance Center (EAC), along with the complete, correctly signed Notice of Intent (NOI). Construction will not be initiated prior to 30 days from the date of submittal of this document, or prior to receipt of a Notice of Coverage (NOC) from the Tennessee Department of Environment and Conservation (TDEC).

DEVELOPER'S CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that a qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the persons who manage the system, or those persons directly responsible for gathering the information, the information submitted 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 for knowing violations.



Developer **Brent Euro, PROJECT DEVELOPER**

5/21/15

Date

CONTRACTOR'S 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 assembly 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 violation and for failure to comply with these permit requirements.

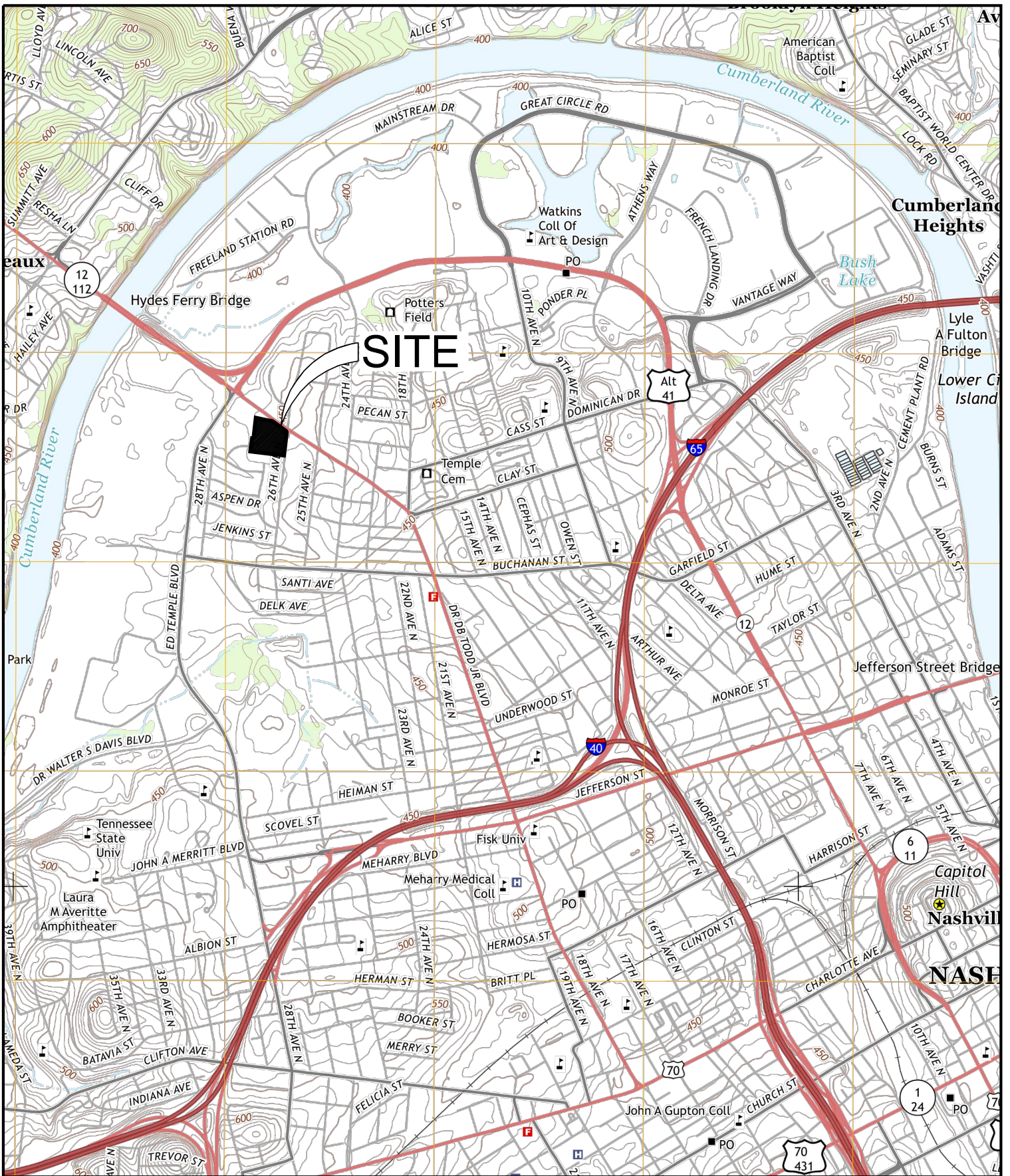
Contractor

Date

APPENDIX

Location Map

Soil Report



USGS MAP LOCATION

DATE: 03-27-2015
JOB NO.: 14-165-01

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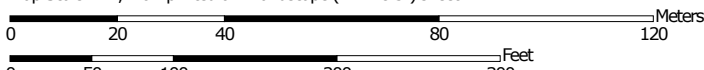
26th & Clarksville Pike Apt's

NASHVILLE, DAVIDSON CO, TN

Hydrologic Soil Group—Davidson County, Tennessee



Map Scale: 1:1,410 if printed on A landscape (11" x 8.5") sheet.




Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84



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: <http://websoilsurvey.nrcs.usda.gov>
 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: Davidson County, Tennessee
 Survey Area Data: Version 13, Sep 18, 2014

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

Date(s) aerial images were photographed: Mar 17, 2011—Jul 2, 2011

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

Hydrologic Soil Group— Summary by Map Unit — Davidson County, Tennessee (TN037)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
MsD	Mimosa-Urban land complex, 5 to 25 percent slopes	C	5.5	100.0%
Totals for Area of Interest			5.5	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.

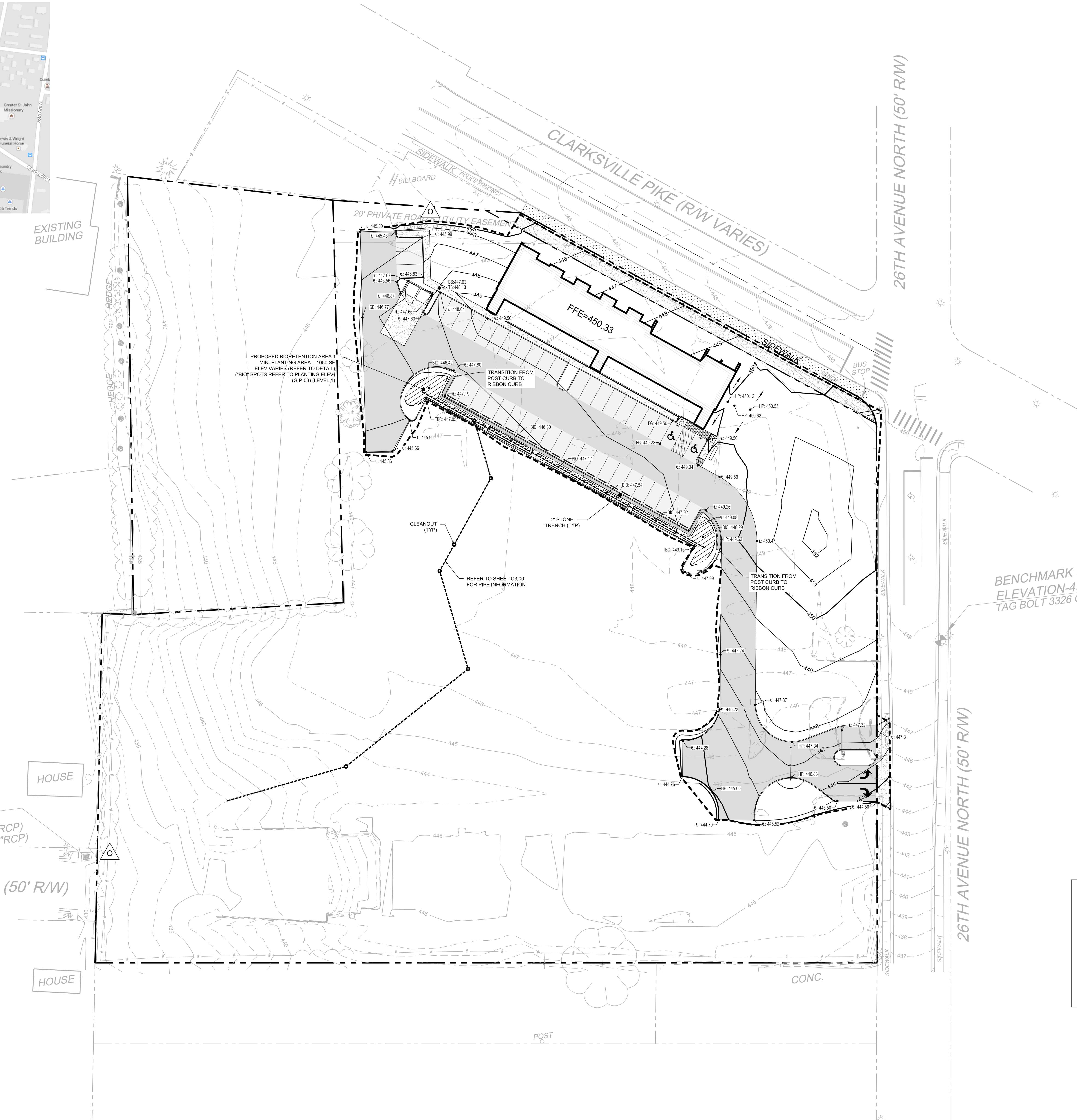
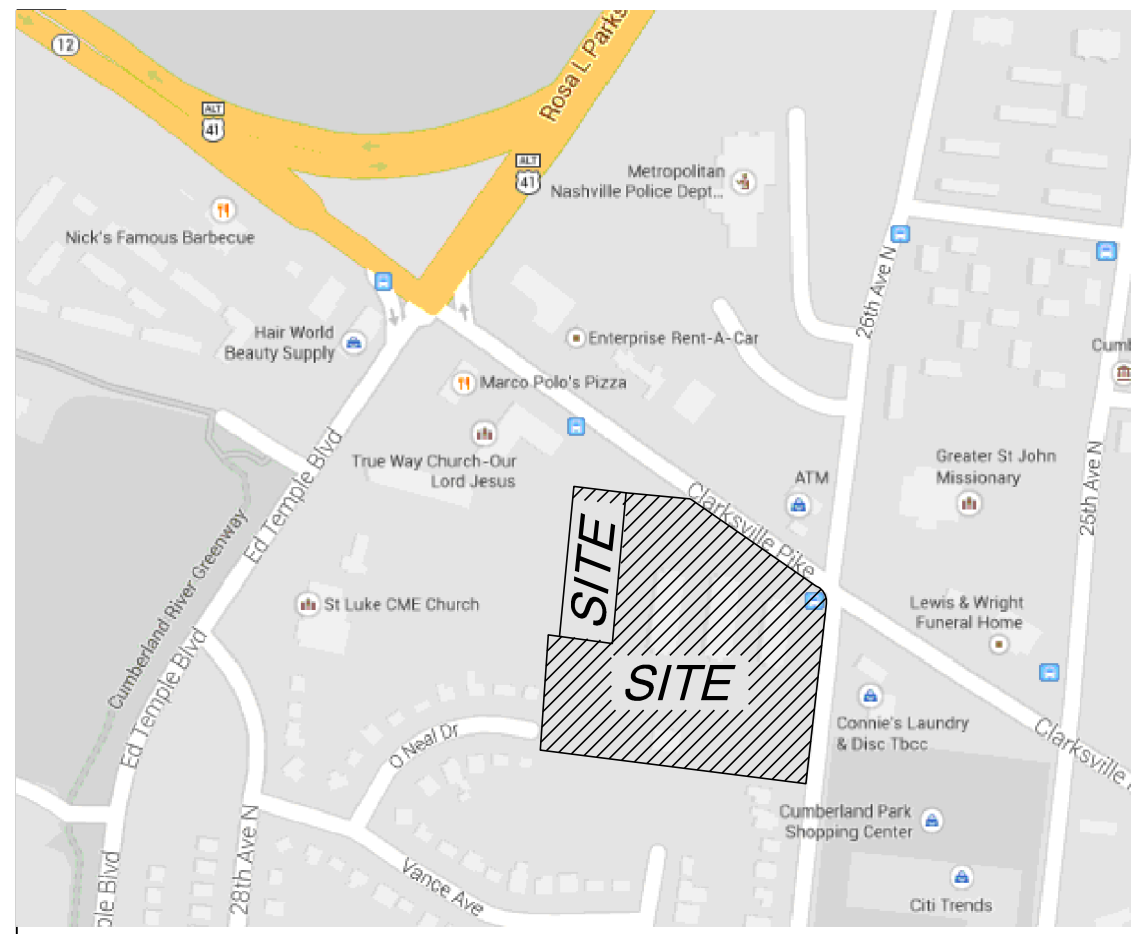
If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher



Site Grading, Drainage & Erosion Control Notes:

- The disturbed area for this project is approximately 2.2 acres.
- The contractor shall comply with all pertinent provisions of the manual of accident prevention and construction issued by AGC of America, Inc. and the safety and health regulations of construction issued by the U.S. Department of Labor.
- The contractor shall call "Tennessee One Call" (811) 72 hours prior to proceeding with any excavation.
- If any springs or underground streams are exposed during construction, permanent French drains may be required. The drains shall be specified and located during construction as required by the conditions which are encountered, and shall be approved by the engineer.
- Stockpiled topsoil or fill material shall be treated so no sediment run-off will contaminate surrounding areas or enter nearby streams.
- Clean silt barriers when they are approximately 50% filled with sediment or as directed by the owner's representative. Silt barriers shall be replaced as effectiveness is significantly reduced, or as directed by the owner's representative.
- All new pipes under existing paved areas shall be backfilled to the top of subgrade with # 57 crushed stone.
- Sediment removed from sediment control structures is to be placed at a site approved by the local governing authority. It shall be treated in a manner so that the area around the disposal site will not be contaminated or damaged by the sediment in the run-off. Cost for this treatment is to be included in the bid price for earthwork. The contractor shall obtain the disposal site as part of his work.
- Reinforced concrete storm drainage pipe shall be Class III. Corrugated metal pipe shall be 14 gauge unless otherwise noted.
- Minimum grade on asphalt or concrete paving shall be 1.0%.
- Construct silt barriers before beginning any grading operations.
- This grading & drainage plan is not a determination or guarantee of the suitability of the subsurface conditions for the work indicated. Determination of the subsurface conditions for the work indicated is solely the responsibility of the contractor.
- Do not disturb vegetation or remove trees except when necessary for grading purposes.
- Top of grate elevations and location of coordinates for drainage structures shall be installed as shown on the plan unless otherwise noted. The grates shall slope longitudinally with the pavement grades. Coordinates provided are for the center of the grate (at the face of curb where applicable).
- Any site used for disposal and/or stockpile of any material shall be properly permitted for such activity. It is the responsibility of the contractor to see that all required permits are secured for each property utilized. A copy of the approved permit must be provided to the inspector prior to commencement of work on any property. Failure to do so may result in the contractor removing any illegally placed material at his own expense.
- Respread topsoil (6 inch minimum thickness), seed, and straw all disturbed areas as soon as possible after final grading is completed, unless otherwise indicated. Contractor shall take whatever means necessary to establish permanent soil stabilization.
- Proposed contour lines and spot elevations are the result of an engineered grading design and reflect a planned intent with regard to drainage and movement of materials. Should the contractor have any question of the intent or any problem with the continuity of grades, the engineer shall be contacted immediately.
- All cut and fill slopes shall be 3 horizontal to 1 vertical or flatter unless otherwise indicated on plans.
- Positive drainage shall be established as the first order of work and shall be maintained at all times during and after construction. Soil softened by perched water in foundation and pavement areas must be undercut and replaced with suitable fill materials.
- Remove sediment from all drainage structures before acceptance by local governing agency, or as directed by the owner's representative.
- Contractor shall conform to all applicable codes and obtain approval as necessary before beginning construction.
- Remove the temporary erosion and water pollution control devices only after a solid stand of grass has been established on graded areas and when in the opinion of the owner's representative, they are no longer needed.
- Provide temporary construction access(es) at the point(s) where construction vehicles exit the construction area. Maintain public roadways free of tracked mud and dirt.
- All earthwork, including the excavated subgrade and each layer of fill, shall be monitored and approved by a qualified geotechnical engineer, or his representative.
- All fill material on this project shall be approved by the geotechnical engineer prior to placement. This material shall be placed in lifts and compacted as directed by the geotechnical engineer. The contractor shall be responsible for employing a geotechnical engineer if one is not provided by the owner.
- All drainage construction materials and installation shall conform to the requirements and specifications of the local governing agency.
- It shall be the contractor's responsibility to waste excess earth material off site at no additional cost to the owner. The contractor shall first offer the excess material to the owner. If not accepted by the owner, the contractor shall dispose of earth material off site. It shall also be the contractor's responsibility to import suitable material (at no additional cost to the owner) for earthwork operations if sufficient amounts of earth material are not available on site.
- The contractor shall check all existing grades and dimensions in the field prior to beginning work and report any discrepancies to the engineer. Commencement of any grading work constitutes the contractor's acceptance of the existing grade as matching those shown on the plans.
- Strip topsoil from all cut and fill areas and stockpile. Upon completion of general grading respread the topsoil over all disturbed areas to a minimum depth of 6". Contractor shall supply additional topsoil if insufficient quantities exist on site. Remove any excess topsoil from site.
- The contractor shall take special care to compact fill sufficiently around and over all pipes, structures, valve stems, etc., inside the proposed paved areas to avoid settlement. Any settlement during the warranty period shall be restored by the contractor at no additional cost to the owner.
- In no case shall slope height, slope inclination, or excavation depth, including trench construction, exceed those specified in local, state and federal regulations, specifically the current OSHA Health and Safety Standards for Excavations (29 CFR Part 1926) shall be followed.
- All fill slopes and cut slopes on this project shall be reviewed by the owner's geotechnical engineer during construction to confirm that the slopes are (will be) stable. It is the contractor's responsibility to have this confirmation in writing from the geotechnical engineer.
- All fill on this project shall be installed and compacted in accordance with the owner's geotechnical engineer's recommendation. The owner's geotechnical engineer shall review all filling operations to confirm the earthwork is properly installed and compacted. It is the contractor's responsibility to have this confirmation in writing from the geotechnical engineer.
- Relocation of existing plant materials shall be coordinated with the owner and relocated to a designated area on site.
- All horizontal and vertical information of proposed culverts shown hereon which accept/discharge flows to/from existing channels are approximate utilizing topographic drawings. The final horizontal and vertical alignments shall be field located by the contractor prior to the ordering of materials or commencement of construction and shall notify the engineer of any discrepancies to what was designed.
- The contractor shall coordinate the exact location of the storm drain connections at the building with the plumbing plans.
- The location of all diversion swales and ditches shall be field adjusted to avoid trees as possible. The contractor shall walk the alignment of these swales and ditches in the field to verify avoidance of trees.

CATCH BASIN
TC-429.45
IE-427.57 IN NE (12"RCP)
IE-426.07 OUT S (24"RCP)

O'NEAL DR. (50' R/W)

BENCHMARK (BM)
ELEVATION-451.85
TAG BOLT 3326 ON HYDRANT

Metro As-Built Note:

In accordance with the Metro Stormwater Management Manual, Volume 1, Section 3.9, as-built certifications, MWS Stormwater Division must approve the following as-builts prior to issuance of the use and occupancy permit:

- Underground detention and water quality infrastructure
- Above ground detention and water quality infrastructure
- Public storm sewer infrastructure
- Cut and fill in the floodplain
- Sink hole alterations

The engineer shall visit www.nashville.gov/stormwater/asbuilt.htm for submittal requirements.

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630 SOUTHGATE AVENUE, SUITE A - NASHVILLE, TN 37203
615.248.9999 www.civil-site.com

PARCEL ID 08102000300

PROJECT BENCHMARK:
DESCRIPTION: TAG BOLT ON
3326 HYDRANT
ELEVATION: 451.85' (NAVD 88)

CSDG PROJECT #: 14-165-01

BEARINGS ARE BASED ON THE TENNESSEE STATE PLANE COORDINATE SYSTEM, NAD83 (HORIZONTAL) & G.C.R.S.

GRAPHIC SCALE 1"=30'

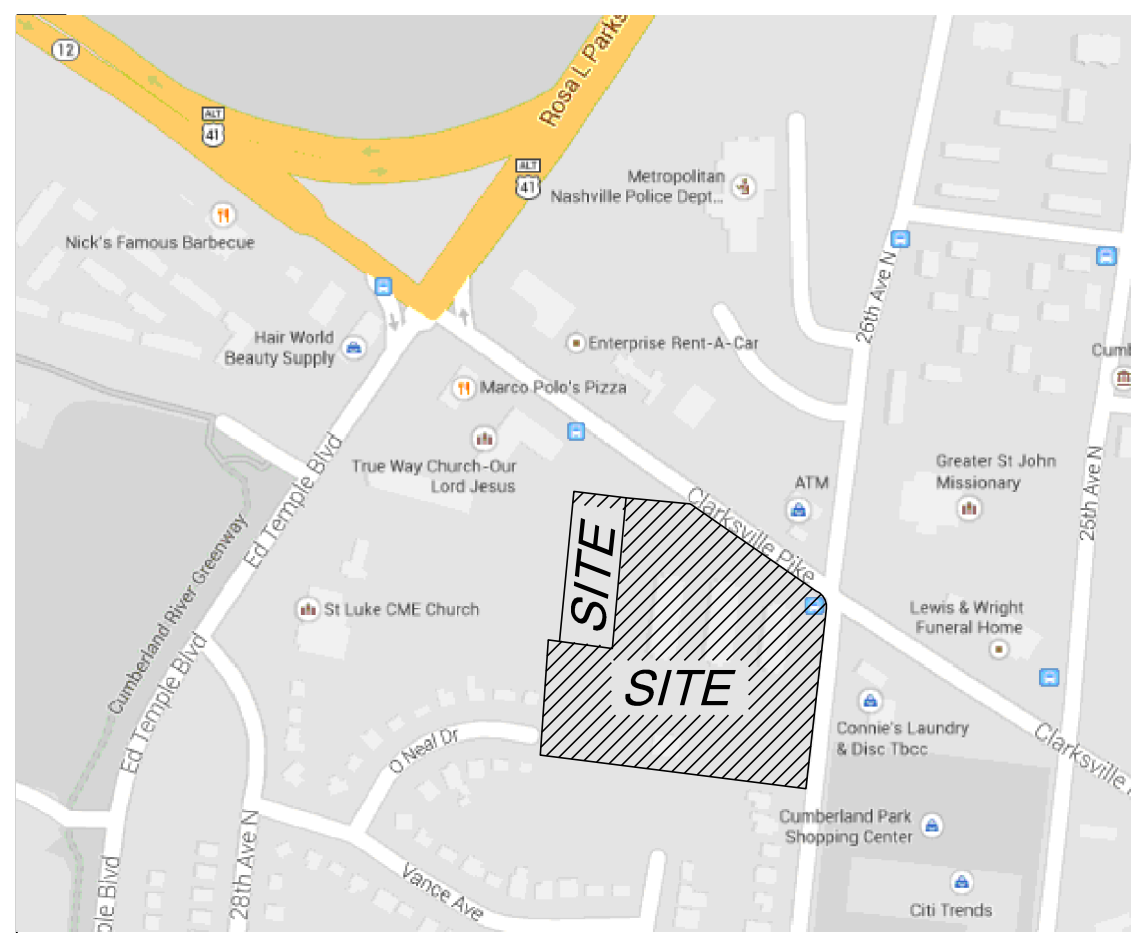
ZINC ARCHITECTURE
5228 TROUSDALE DRIVE
NASHVILLE TENNESSEE 37220
P 615 837 4092
WWW.ZINCARCH.COM

urban housing solutions
Urban Housing Solutions
26th & Clarksville Pike Apartments
2607 Clarksville Pike, Nashville, Tennessee

NOT FOR
CONSTRUCTION

CONSTRUCTION DOCUMENTS
95% CHECK SET
REVISION INFORMATION

DATE: 03.27.15
PROJECT No. 1408
GRADING AND DRAINAGE PLAN
C4.00



N.O.C. Certification

Tennessee Construction General Permit Notice of Coverage (N.O.C.) Certification:

Please fill out and sign/date one of the following statements:

- The project associated with these submitted plans is covered under Tennessee Construction General Permit, TN. _____

Signature _____ Date xx/xx/2015
 Circle one: Developer Project Engineer Other _____

Please attach a copy of the Notice of Coverage under the Construction General Permit.

NOTE: A project will not be scheduled for a Pre-Construction Meeting until the State Construction general Permit N.O.C. letter is submitted.

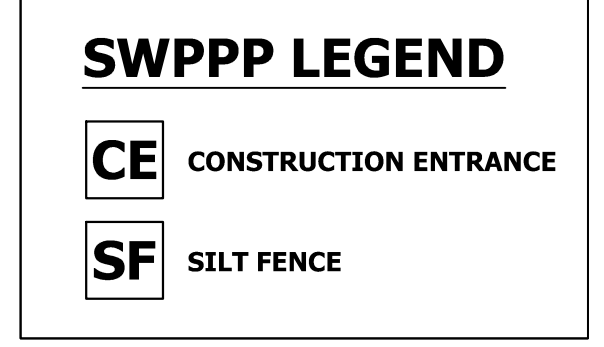
2. I hereby certify that this project does not require coverage under a Tennessee Construction General Permit. The total Disturbed Area is: _____ acres.

Signature _____ Date _____
 Circle one: Developer Project Engineer Other _____

Please attach a copy of the Notice of Coverage under the Construction General Permit.

NOTE: Projects of one (1) or more acres require State permit coverage, while projects of less than one (1) acre do not require State permit coverage. Also, projects less than one (1) acre that are part of a total development of one (1) or more acres require State permit coverage.

DISTURBED AREA: 2.2 ACRES



Stormwater Pollution Prevention Plan Notes:

- The contractor is responsible for making sure that a copy of the SWPPP is retained on-site at or near the construction entrance. If a construction trailer is not available, the contractor shall provide a waterproof enclosure near the construction entrance to place the SWPPP. In addition to the SWPPP, the contractor shall make certain that the following information must also be posted at the construction site (in a construction trailer or in the waterproof enclosure):
 a) A copy of the notice of coverage (NOC) with the NPDES permit tracking number for the construction project number
 b) name, company name, email address, telephone number and address of the project site owner or a local contact person
 c) a brief description of the project
 d) the location of the SWPPP if an on-site location for storing the plan is not available.
- The owner of this project site will provide erosion control measures as shown on this SWPPP. Once the owner sells this property, the new property owner will be required to obtain coverage under this permit from the governing federal, state and local agencies and the new property owner shall assume operational control and responsibility for the portion of the site that he/she purchases.
- Prior to the commencement of any clearing or grubbing, the contractor shall erect "construction fencing", tree protection fencing, caution tape, etc. along the limits of disturbance to protect trees, stream bank buffers, etc. that are not to be disturbed.
- Prior to any type of construction activity, the contractor shall install the stone based construction exit, the silt fence and the sediment traps/basins when indicated on the SWPPP. Additional erosion control measures such as rock check dams, diversion swales, temporary creek crossings, temporary mulching of disturbed areas, final seed and straw application and general erosion control maintenance shall be provided as construction progresses and these measures become necessary. The contractor shall be responsible for implementing all of the erosion control measures.
- All erosion control measures shall be installed and maintained in accordance with the manufacturer's specifications and recommendations. It is the purpose of all control measures to slow runoff so that fill and gully formation is prevented. The contractor shall inspect the control measures periodically and replace and/or modify the controls for relevant site situations.
- Where the application of temporary or permanent grass seed is specified as part of the SWPPP, the contractor shall use an appropriate grass seed mixture for the time of year that the seed is sowed. Use fescue during the spring and summer months and a mixture of fescue and winter rye during the fall and winter months. Sow at a rate of 6 lbs. per 1000 sq.ft. of area. Provide adequate amounts of water to establish a healthy stand of grass.
- If sediment escapes the site, it is the contractor's responsibility to remove the sediment that has escaped the site. The contractor shall obtain the permission of the landowner where the sediment has accumulated before removal can begin. If sediment enters a stream, the contractor must also gain the written permission of the State before remediation/restoration can begin.
- The contractor shall remove sediment from sediment traps, silt fences, sedimentation ponds, and other sediment controls as necessary and must be removed when capacity has been reduced by 50%.
- Litter, construction debris and construction chemicals exposed to storm water shall be picked up and removed from the site to prevent them from becoming a pollutant source for storm water discharges. After use, materials used for erosion prevention and sediment control should be removed from the site.
- There are no other construction activities or industrial activities associated with this project site that are covered under a separate permit.
- There are no streams or wetlands on or near this project site, therefore no additional permits associated with these features are required.
- All earth stockpiles, whether on the project site or off-site shall include erosion control measures to prevent the material from being washed from the site by storm water runoff.
- Clearing and grubbing must be held to the minimum necessary for grading and equipment operation.
- Construction must be phased for projects in which over 50 acres of soil will be disturbed. Areas of the completed phase must be stabilized within 15 days. No more than 50 acres of active soil disturbance is allowed at any time during the construction project.
- For projects that have a disturbed area of greater than 50 acres, the contractor shall provide a phasing plan to only disturb 50 acres or less at one time. Submit the phasing plan to the state and local agencies for their review.
- Erosion prevention and sediment control measures must be in place and functional before earth moving operations begin and must be constructed and maintained throughout the construction period. Temporary measures may be removed at the beginning of the workday, but must be replaced at the end of the workday.
- The contractor shall maintain a rain gauge and daily rainfall records at the site.
- The contractor shall initiate stabilization measures in portions of the site where construction activities have temporarily or permanently ceased. Temporary or permanent soil stabilization at the construction site must be completed no later than 15 days after the construction activity on that portion of the site has temporarily or permanently ceased.
- The contractor shall construct temporary diversion swales to divert off-site runoff from crossing the disturbed areas. These diversion swales, when necessary, shall be field located to avoid existing trees wherever possible.
- No work shall be allowed in or around streams or wetlands without the proper permits. Prior to the commencement of any construction activities in these areas, the contractor shall obtain a copy of the permits from the property owner, which allows this work. He shall not begin work without obtaining a copy of these permits or stiff fines from the federal and state agencies may be levied.
- Muddy water to be pumped from excavation and work areas must be held in settling basins or filtered prior to its discharge into surface waters. Water must be discharged through a pipe, well-grassed or lined channel or other equivalent means so the discharge does not cause erosion and sedimentation. Discharged water must not cause an objectionable color contrast with the receiving stream.
- After construction in complete, all disturbed areas, which are not covered with impermeable surface (i.e. asphalt, concrete, buildings, etc.), shall be covered with topsoil (4-inch thick minimum), grass seed and straw. The contractor shall maintain the seed and straw until a solid, healthy stand of permanent grass covers the disturbed areas.
- Silt fence shall be used along the lower edge of disturbed areas that have sheet flow runoff. Where runoff is concentrated (such as swales and ditches), bumpup fences or rock check dams shall be used to slow the velocity and allow settling of sediment.
- All construction and waste material shall be collected and removed from the site on a periodic basis. All construction and waste material shall be located outside of any existing or proposed drainage ways and shall be covered and protected from the rain until they are removed from the site. Any liquid materials or chemicals stored on-site shall be located away from any existing or proposed drainage ways and a berm of sufficient height to contain the entire volume of the liquid shall be constructed to completely encompass and impound the stored materials to prevent a spill from flowing off of the site.
- All soil, plants, trees and other vegetation in protected streams and wetlands and along the banks of same are protected by State law and therefore a prohibited from being removed. The contractor shall ensure that these areas remain undisturbed during construction. Contractor shall erect construction barriers or take other means necessary to insure that the areas remain protected.
- The contractor shall employ a person to inspect the erosion control measures as required by the State and local agencies. The inspector must have successfully completed the "Fundamentals of Erosion Prevention and Sediment Control" course provided by the State. A copy of the certification or training record for inspector certification should be kept on site.
- Inspections described in the Tennessee General Permit shall be performed at least twice every calendar week and shall be performed at least 72 hours apart. Inspect all erosion control measures, disturbed areas, storage of material areas, outfall points, construction access points, etc.
- Inspections shall also be performed before anticipated storm events (or series of storm events such as intermittent showers over one or more days), and within 24 hours after the end of a storm event of 0.5 inches or greater.
- 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. The contractor shall provide additional erosion control measures where necessary to insure adequate control so that no silt exits the project site.
- Inspections shall be documented and include: the scope of the inspection, name and title of personnel making the inspection, the date of the inspection, major observations relating to the implementation of the storm water pollution prevention plan (including the location of discharges of sediment or other pollutants from the site and of any control device that failed to operate as designed or proved inadequate for a particular location), and actions taken in accordance with the General Permit. Inspection documentation will be maintained on site and made available upon request. Inspection reports must be submitted to the State (TDEC) within 10 days of the request. Use the inspection report form provided in Appendix C of the General Permit and complete on a weekly basis.
- Sediment removed from sediment control structures is to be placed at a site that has been permitted by local and state agencies. The contractor is responsible for obtaining the site to "waste" the sediment material. The sediment shall be treated in a manner so that the area around the disposal site will not be contaminated or damaged by the sediment in the storm water run-off. Cost of this treatment is to be included in the price for the earthwork.
- The contractor shall seed and straw all disturbed areas as soon as possible after final grading is completed, unless otherwise indicated. The contractor shall take whatever means necessary to establish permanent soil stabilization. Any areas that do not include construction activity for more than 14 days shall be temporarily covered with straw to help prevent erosion.
- Remove sediment from all drainage structures, pipes and swales before acceptance by the developer or the local governing agency.
- Remove the temporary erosion and water pollution control devices only when in the opinion of the owner's representative, they are no longer needed.
- During the period between the end of the construction and the establishment of the permanent vegetation, erosion control measures shall remain in place and maintained. Once permanent vegetation is established, then the erosion control measures may be removed.
- This 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. Civil Site Design Group P.L.L.C. personnel involved with the development of this plan have completed the design of vegetative and structural measures for erosion and sediment control course available from the State of Tennessee.

As instructed by Part III.F of the TNCGP, this plan and all attachments are hereby submitted to the local Environmental Assistance Center (EAC), along with the complete, correctly signed Notice of Intent (NOI). Construction will not be initiated prior to receipt of a Notice of Coverage (NOC) from the Tennessee Department of Environment and Conservation (TDEC).

Metro As-Built Note:
 In accordance with the Metro Stormwater Management Manual, Volume 1, Section 3.9, as-built certifications, MWS Stormwater Division must approve the following as-builts prior to issuance of the use and occupancy permit:
 • Underground detention and water quality infrastructure
 • Above ground detention and water quality infrastructure
 • Public storm sewer infrastructure
 • Cut and fill in the floodplain
 • Sink hole alterations
 The engineer shall visit www.nashville.gov/stormwater/asbuilt.htm for submittal requirements.

Concrete Washdown Note:
 Contractor to provide an area for concrete wash down and equipment fueling in accordance with metro CP-10 & CP-13, respectively. Contractor to coordinate exact location with N.P.D.E.S. department during pre-construction meeting. Grading Permittee to include BMP's designed to control site wastes such as discarded building materials, chemicals, litter, and sanitary wastes that may cause adverse impacts to water quality. The location of and / or notes referring to said BMP's shall be shown on the EPSC Plan.



PARCEL ID 08102000300

PROJECT BENCHMARK:
 DESCRIPTION: TAG BOLT ON 3326 HYDRANT
 ELEVATION: 451.85' (NAVD 88)
 CSDG PROJECT #: 14-165-01

BEARINGS ARE BASED ON THE TENNESSEE STATE PLANE COORDINATE SYSTEM, NAD83 (HORIZONTAL) C.O.R.S.

GRAPHIC SCALE 1"=30'

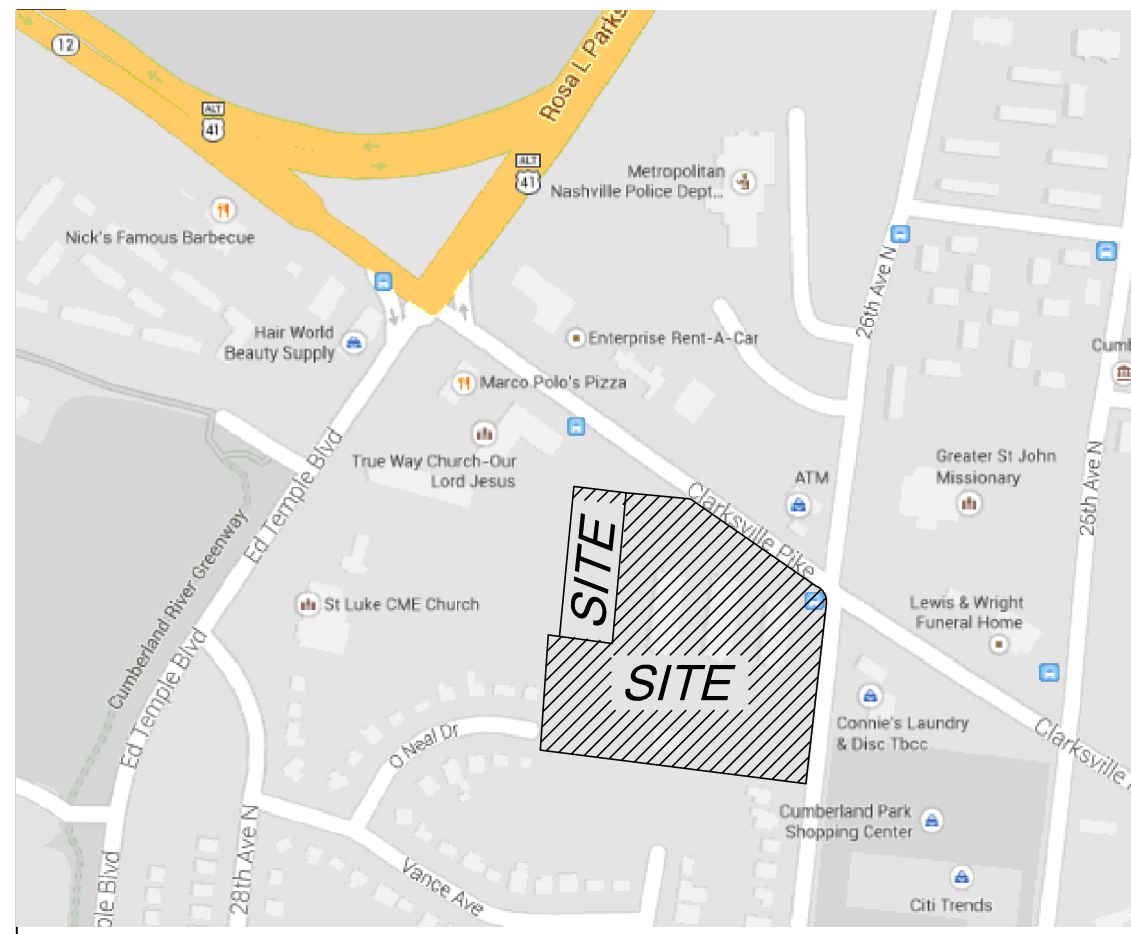
ZINC ARCHITECTURE
 5228 TROUSDALE DRIVE
 NASHVILLE TENNESSEE 37220
 P 615 837 4092
 WWW.ZINCARCH.COM

urban housing solutions
 Urban Housing Solutions
 26th & Clarksville Pike Apartments
 2607 Clarksville Pike, Nashville, Tennessee

NOT FOR CONSTRUCTION

CONSTRUCTION DOCUMENTS
 95% CHECK SET
 REVISION INFORMATION

DATE: 03.27.15
 PROJECT No. 1408
 EROSION CONTROL PLAN - STAGE 1
 C4.01



N.O.C. Certification

Tennessee Construction General Permit Notice of Coverage (N.O.C.) Certification:

Please fill out and sign/date one of the following statements:

- The project associated with these submitted plans is covered under Tennessee Construction General Permit, TN. _____

Signature _____ Date xx/xx/2015

Circle one: Developer Project Engineer Other _____
Please attach a copy of the Notice of Coverage under the Construction General Permit.

NOTE: A project will not be scheduled for a Pre-Construction Meeting until the State Construction general Permit N.O.C. letter is submitted.

2. I hereby certify that this project does not require coverage under a Tennessee Construction General Permit. The total Disturbed Area is: _____ acres.

Signature _____ Date _____

Circle one: Developer Project Engineer Other _____
Please attach a copy of the Notice of Coverage under the Construction General Permit.

NOTE: Projects of one (1) or more acres require State permit coverage, while projects of less than one (1) acre do not require State permit coverage. Also, projects less than one (1) acre that are part of a total development of one (1) or more acres require State permit coverage.

DISTURBED AREA: 2.2 ACRES



EXISTING BUILDING

HOUSE

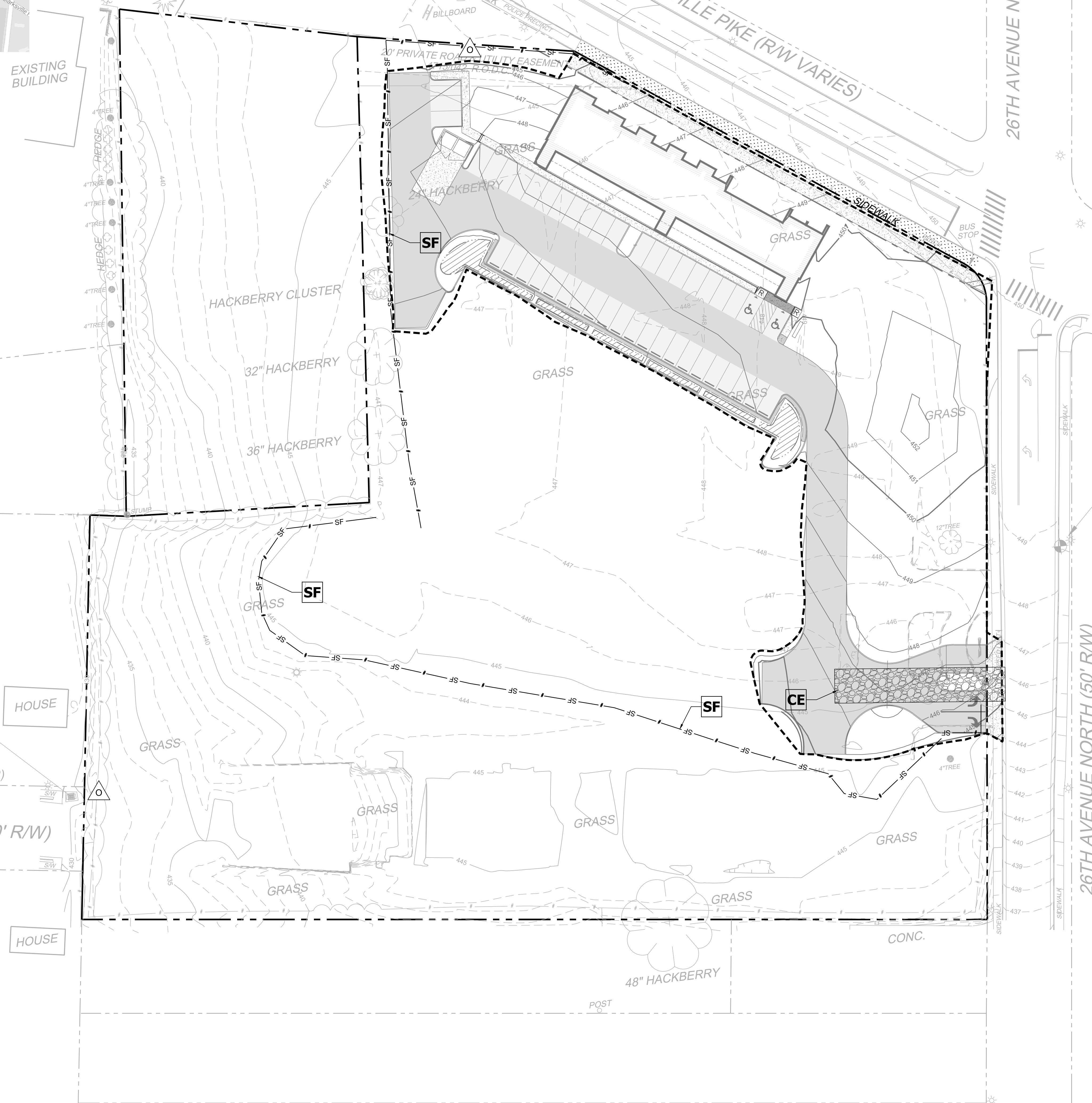
HOUSE

CATCH BASIN
TC-429.45
IE-427.57 IN NE (12"RCP)
IE-426.07 OUT S (24"RCP)

O'NEAL DR. (50' R/W)

SWPPP LEGEND

- CE** CONSTRUCTION ENTRANCE
- SF** SILT FENCE



- Stormwater Pollution Prevention Plan Notes:**
- The contractor is responsible for making sure that a copy of the SWPPP is retained on-site at or near the construction entrance. If a construction trailer is not available, the contractor shall provide a waterproof enclosure near the construction entrance to place the SWPPP. In addition to the SWPPP, the contractor shall make certain that the following information must also be posted at the construction site (in a construction trailer or in the waterproof enclosure):
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 - name, company name, email address, telephone number and address of the project site owner or a local contact person
 - a brief description of the project
 - the location of the SWPPP if an on-site location for storing the plan is not available.
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 - Muddy water to be pumped from excavation and work areas must be held in settling basins or filtered prior to its discharge into surface waters. Water must be discharged through a pipe, well-grassed or lined channel or other equivalent means so the discharge does not cause erosion and sedimentation. Discharged water must not cause an objectionable color contrast with the receiving stream.
 - After construction is complete, all disturbed areas, which are not covered with impermeable surface (i.e. asphalt, concrete, buildings, etc.), shall be covered with topsoil (4-inch thick minimum), grass seed and straw. The contractor shall maintain the seed and straw until a solid, healthy stand of permanent grass covers the disturbed areas.
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 - Inspections shall be documented and include: the scope of the inspection, name and title of personnel making the inspection, the date of the inspection, major observations relating to the implementation of the storm water pollution prevention plan (including the location of discharges of sediment or other pollutants from the site and of any control devices that failed to operate as designed or proved inadequate for a particular location), and actions taken in accordance with the General Permit. Inspection documentation will be maintained on site and made available upon request. Inspection reports must be submitted to the State (TDEC) within 10 days of the request. Use the inspection report form provided in Appendix C of the General Permit and complete on a weekly basis.
 - Sediment removed from sediment control structures is to be placed at a site that has been permitted by local and state agencies. The contractor is responsible for obtaining the site-to "waste" of the sediment material. The sediment shall be treated in a manner so that the area around the disposal site will not be contaminated or damaged by the sediment in the storm water run-off. Cost of this treatment is to be included in the price for the earthwork.
 - The contractor shall seed and straw all disturbed areas as soon as possible after final grading is completed, unless otherwise indicated. The contractor shall take whatever means necessary to establish permanent soil stabilization. Any areas that do not include construction activity for more than 14 days shall be temporarily covered with straw to help prevent erosion.
 - Remove sediment from all drainage structures, pipes and swales before acceptance by the developer or the local governing agency.
 - Remove the temporary erosion and water pollution control devices only when in the opinion of the owner's representative, they are no longer needed.
 - During the period between the end of the construction and the establishment of the permanent vegetation, erosion control measures shall remain in place and maintained. Once permanent vegetation is established, then the erosion control measures may be removed.
 - This 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. Civil Site Design Group P.L.L.C. personnel involved with the development of this plan have completed the design of vegetative and structural measures for erosion and sediment control course available from the State of Tennessee.

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- Above ground detention and water quality infrastructure
- Public storm sewer infrastructure
- Cut and fill in the floodplain
- Sink hole alterations

The engineer shall visit www.nashville.gov/stormwater/asbuilt.htm for submittal requirements.

Concrete Washdown Note:

Contractor to provide an area for concrete wash down and equipment fueling in accordance with metro CP-10 & CP-13, respectively. Contractor to coordinate exact location with N.P.D.E.S. department during pre-construction meeting. Grading Permittee to include BMP's designed to control site wastes such as discarded building materials, chemicals, litter, and sanitary wastes that may cause adverse impacts to water quality. The location of and / or notes referring to said BMP's shall be shown on the EPSC Plan.

CIVIL SITE DESIGN GROUP
ENGINEERS • PLANNERS • LANDSCAPE ARCHITECTS
630 SOUTHGATE AVENUE, SUITE A - NASHVILLE, TN 37203
615.248.9999 WWW.CIVIL-SITE.COM

PARCEL ID 08102000300

PROJECT BENCHMARK:
DESCRIPTION: TAG BOLT ON 3325 HYDRANT
ELEVATION: 451.85' (NAVD 88)

CSDG PROJECT #: 14-165-01

BEARINGS ARE BASED ON THE TENNESSEE STATE PLANE COORDINATE SYSTEM, NAD83 (HORIZONTAL) C.O.R.S.

GRAPHIC SCALE 1"=30'

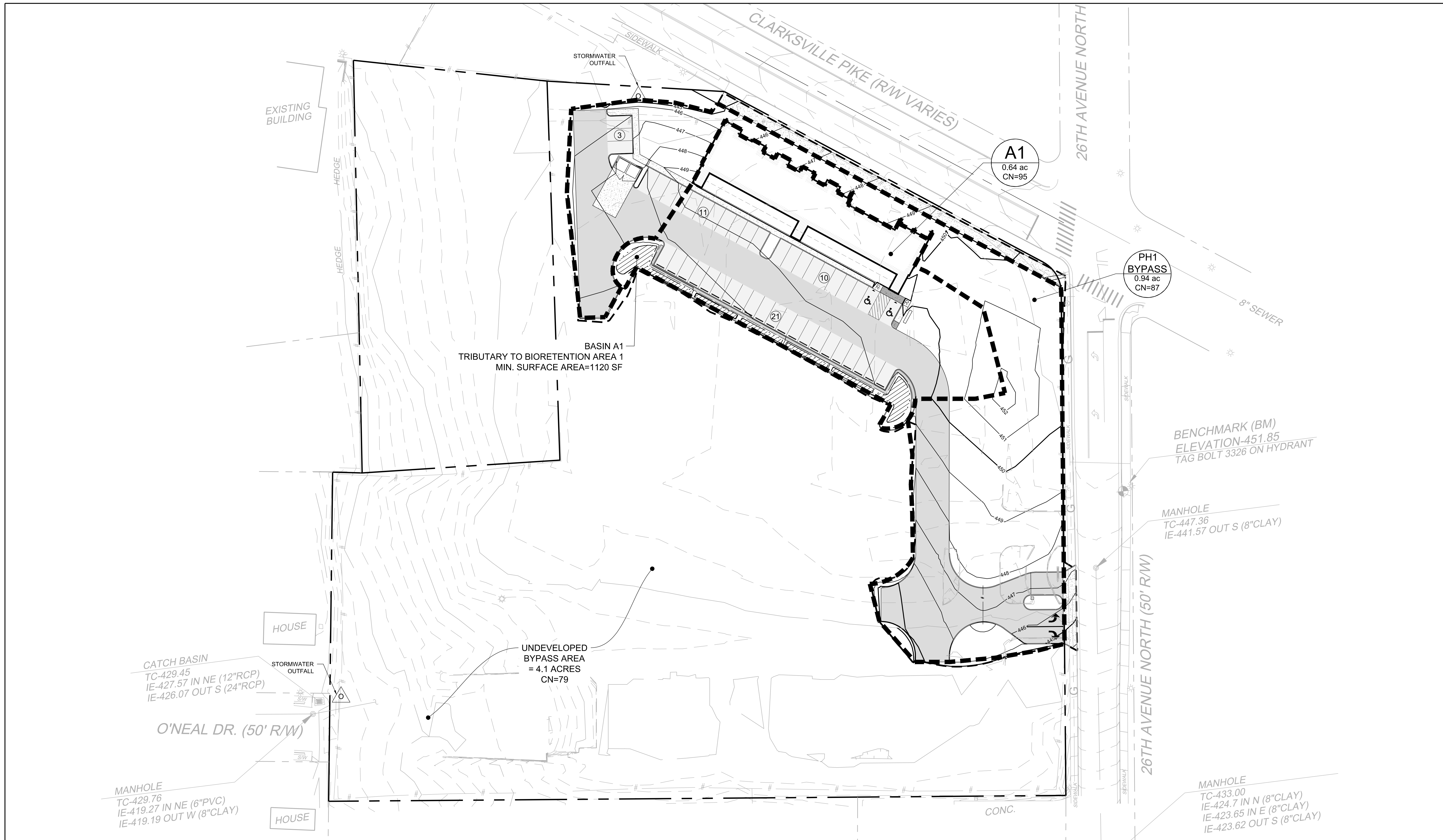
ZINC ARCHITECTURE
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Urban Housing Solutions
26th & Clarksville Pike Apartments
2607 Clarksville Pike, Nashville, Tennessee

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CONSTRUCTION DOCUMENTS
95% CHECK SET
REVISION INFORMATION

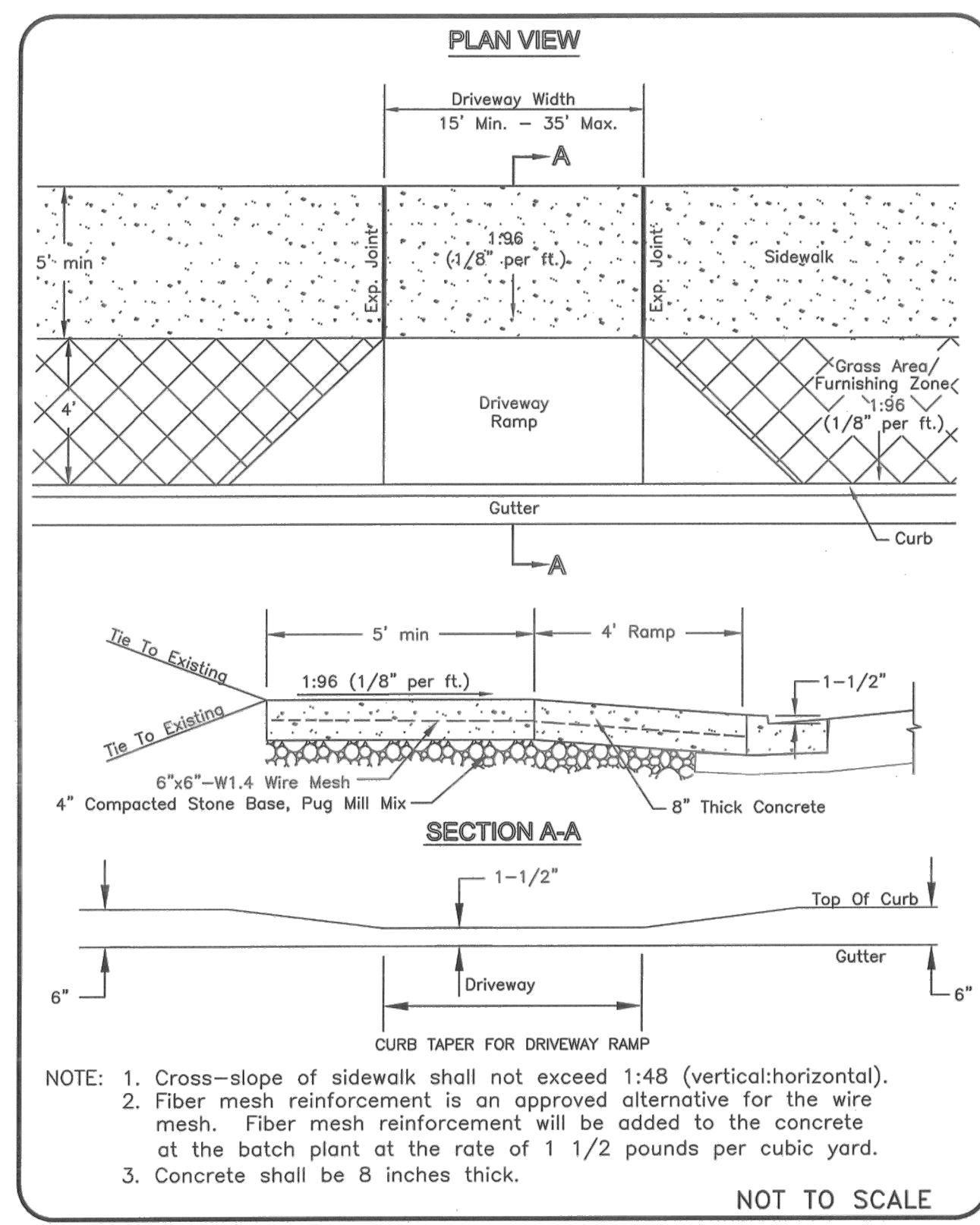
DATE: 03.27.15
PROJECT No. 1408
EROSION CONTROL PLAN - STAGE 2
C4.02



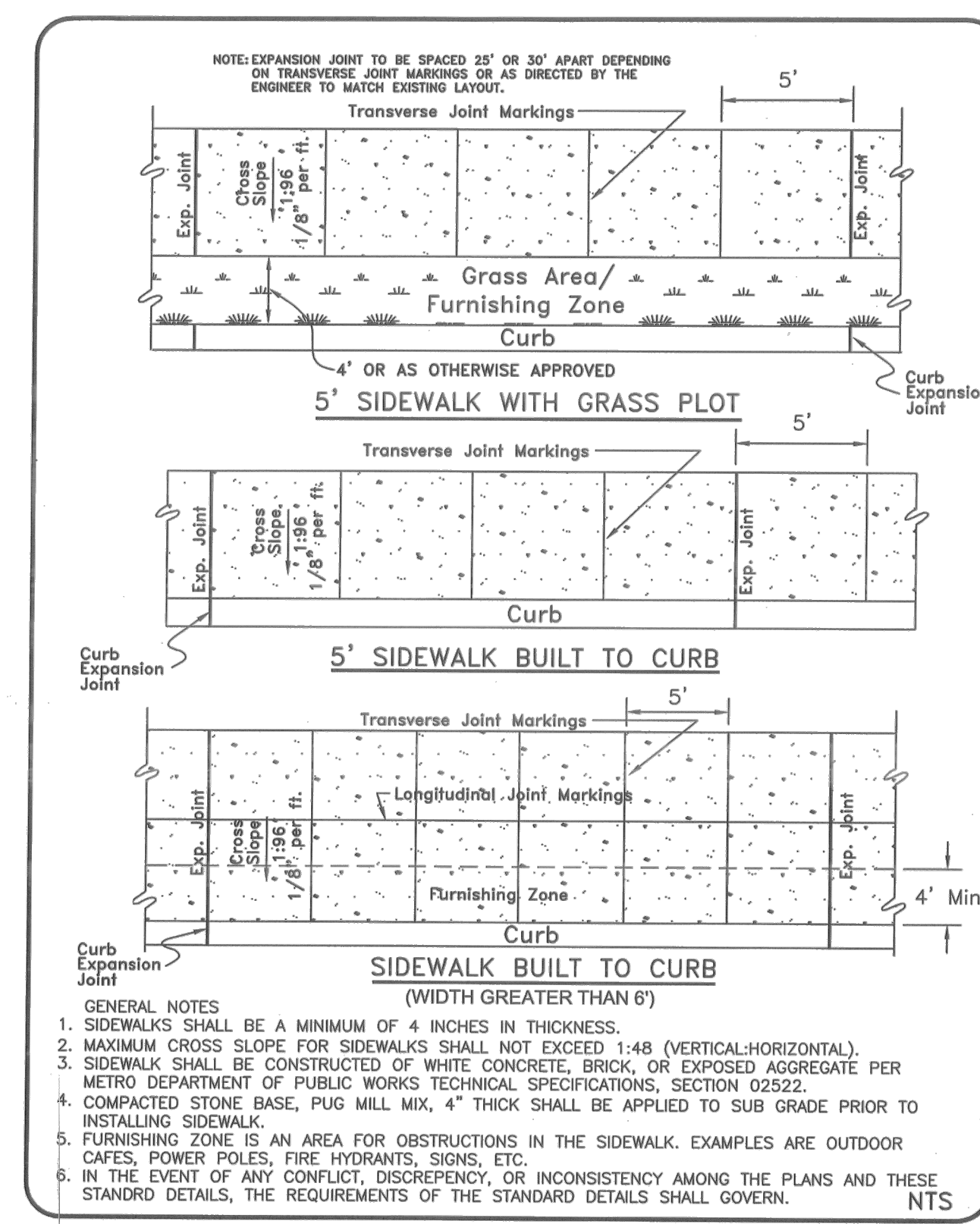
PROPOSED DRAINAGE BASINS
26TH & CLARKSVILLE
PIKE APARTMENTS

Nashville, Davidson County, Tennessee

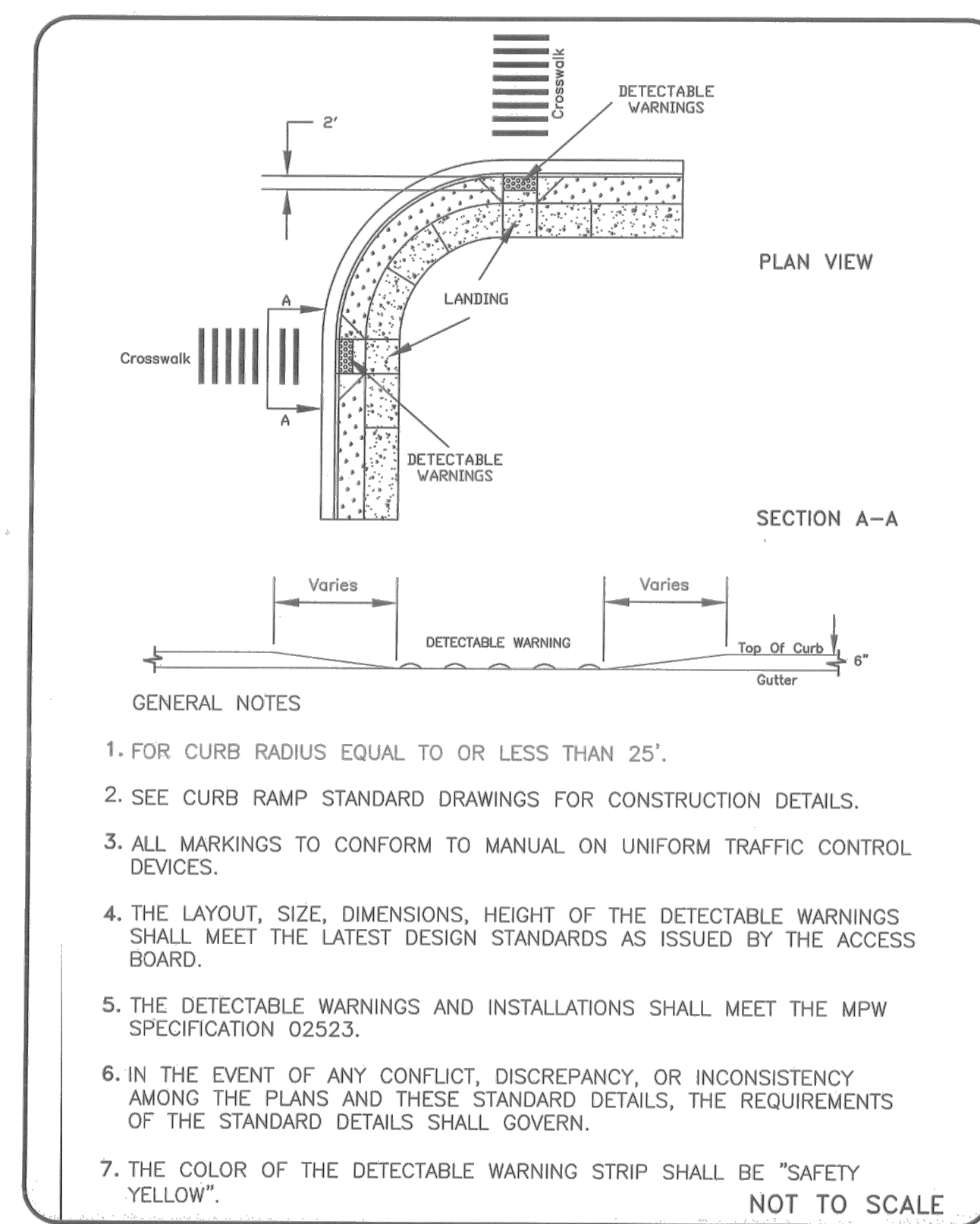




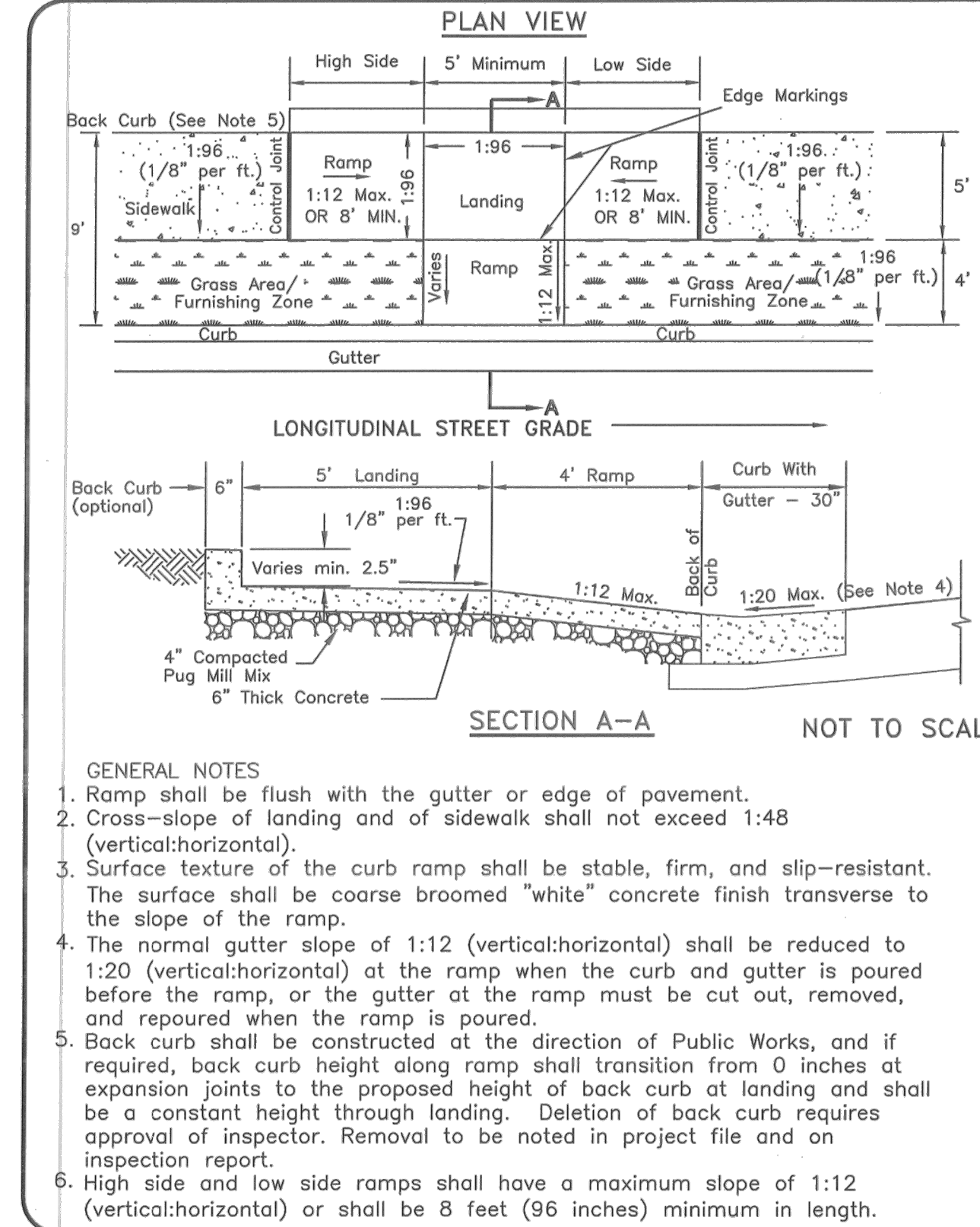
METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY DEPARTMENT OF PUBLIC WORKS	NEW CONSTRUCTION COMMERCIAL DRIVEWAY RAMP	DWG. NO. ST-324
DIR. OF ENG.: <i>Mark May</i>	DATE: 5/12/03	REVISED: 07/27/02 REVISED: 05/08/03



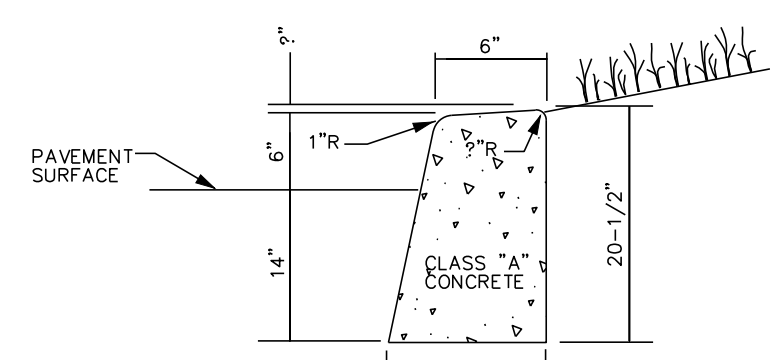
METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY DEPARTMENT OF PUBLIC WORKS	SIDEWALK CONSTRUCTION	DWG. NO. ST-210
DIR. OF ENG.: <i>Mark May</i>	DATE: 7/15/04	REVISED: 05/02/03 REVISED: 11/24/03 REVISED: 06/23/04



METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY DEPARTMENT OF PUBLIC WORKS	DETECTABLE WARNINGS AT CURB RETURNS WITH RADIUS 25' OR LESS	DWG. NO. ST-329
DIR. OF ENG.: <i>Mark May</i>	DATE: 6/17/05	REVISED: 06/17/05 REVISED: 08/13/04



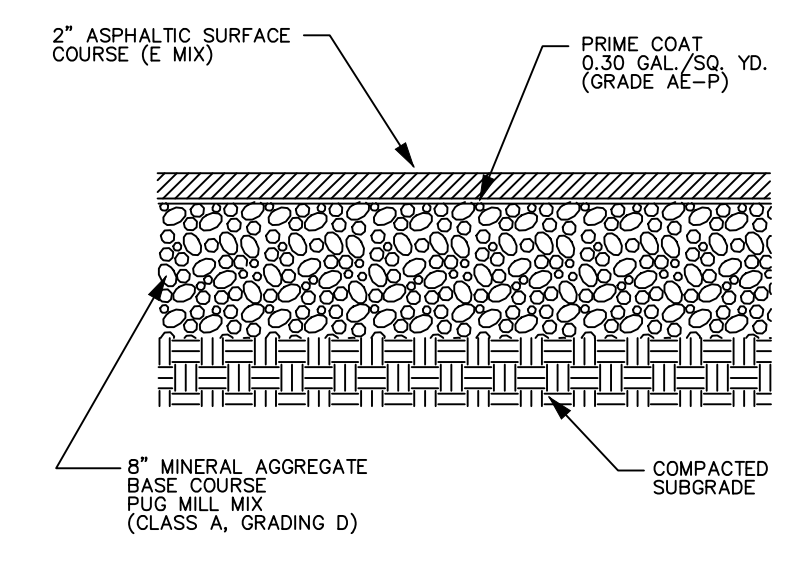
METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY DEPARTMENT OF PUBLIC WORKS	NEW CONSTRUCTION CURB RAMP	DWG. NO. ST-320
DIR. OF ENG.: <i>Mark May</i>	DATE: 5/12/03	REVISED: 07/18/02 REVISED: 05/08/03



GENERAL NOTES:

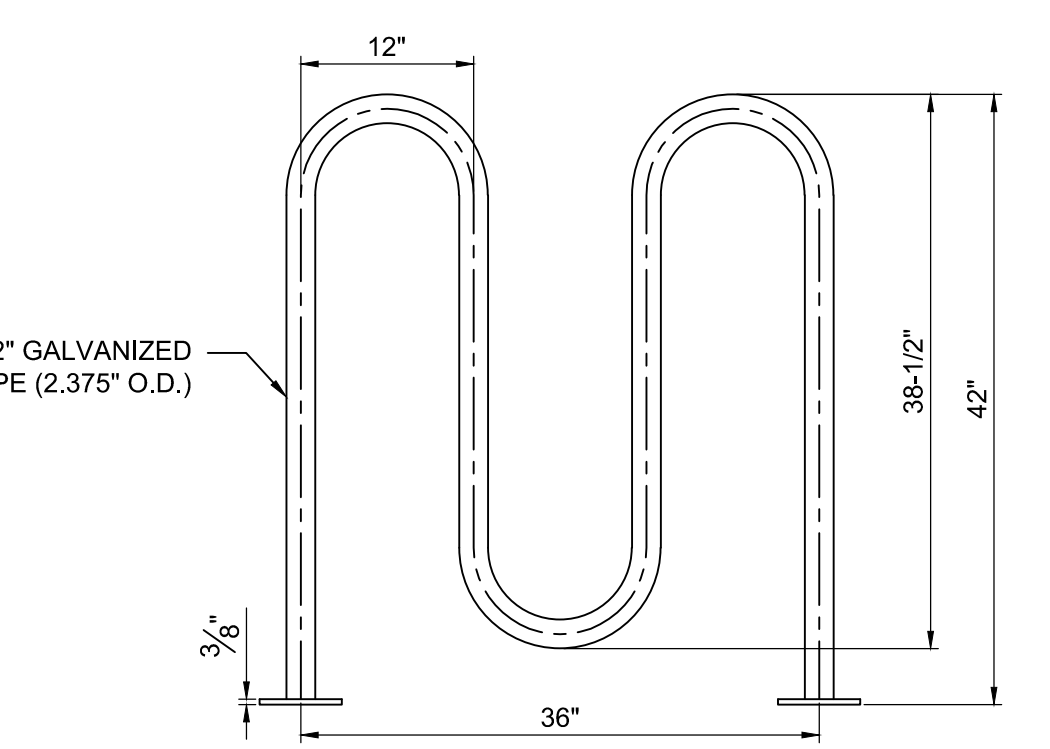
1. EXPANSION JOINTS TO BE SPACED A MAXIMUM OF 100 FEET APART OR AS DIRECTED BY THE ENGINEER.
2. EXPANSION JOINTS WILL ALSO BE REQUIRED AT TANGENT POINTS, RAMPS, AND INLETS.
3. CONTRACTION JOINTS ARE TO BE CUT INTO CURB EVERY 10 FEET TO A DEPTH OF 3/4", WHERE 0 EQUALS THE THICKNESS OF THE SECTION. THE SPACING OF 10 FEET MAY BE REDUCED AT CLOSURES BUT NO SECTION OF CURB SHALL BE LESS THAN 6 FEET.
4. USE 3500 P.S.I. CONCRETE.

POST CURB
N.T.S.



PAVEMENT SECTION
N.T.S.

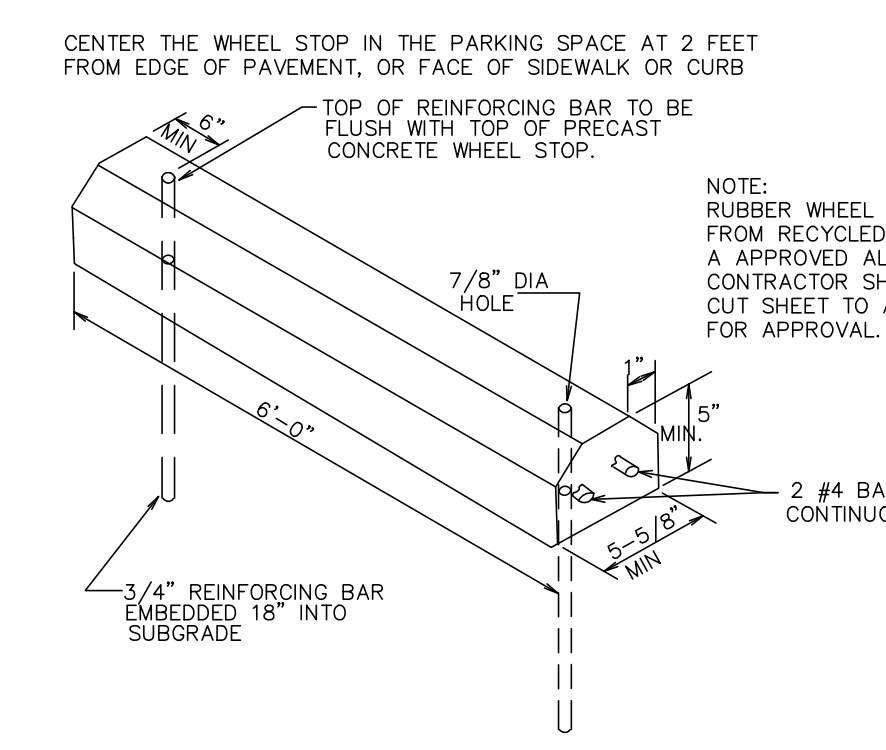
**CONTRACTOR TO REFER TO GEOTECHNICAL REPORT



BIKE RACK DETAIL
N.T.S.

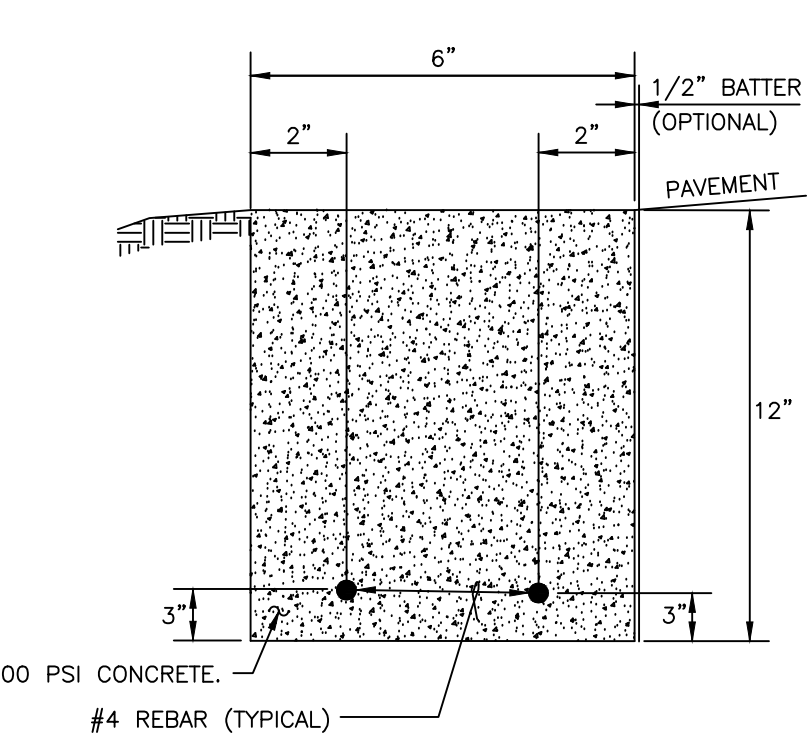
LOOPS	BIKE CAPACITY
3	5
5	7
7	9

• COLOR AND FINISH SHALL BE DETERMINED BY DEVELOPER
• SURFACE MOUNT IS SHOWN
• DEVELOPER SHALL DETERMINE MOUNTING TYPE (SURFACE, EMBEDDED, BENT BASE)

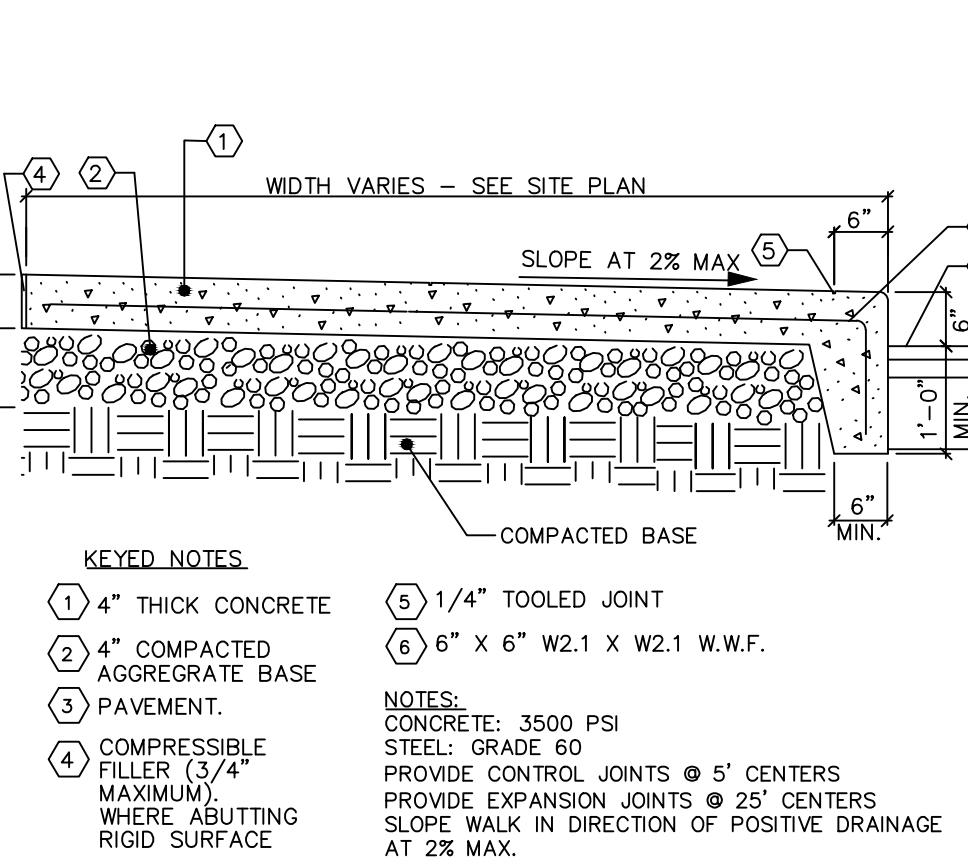


CONCRETE WHEEL STOP
N.T.S.

NOTE: RUBBER WHEEL STOPS MADE FROM RECYCLED RUBBER AS A APPROVED ALTERNATE CONTRACTOR SHALL SUBMIT CUT SHEET TO ARCHITECT FOR APPROVAL.

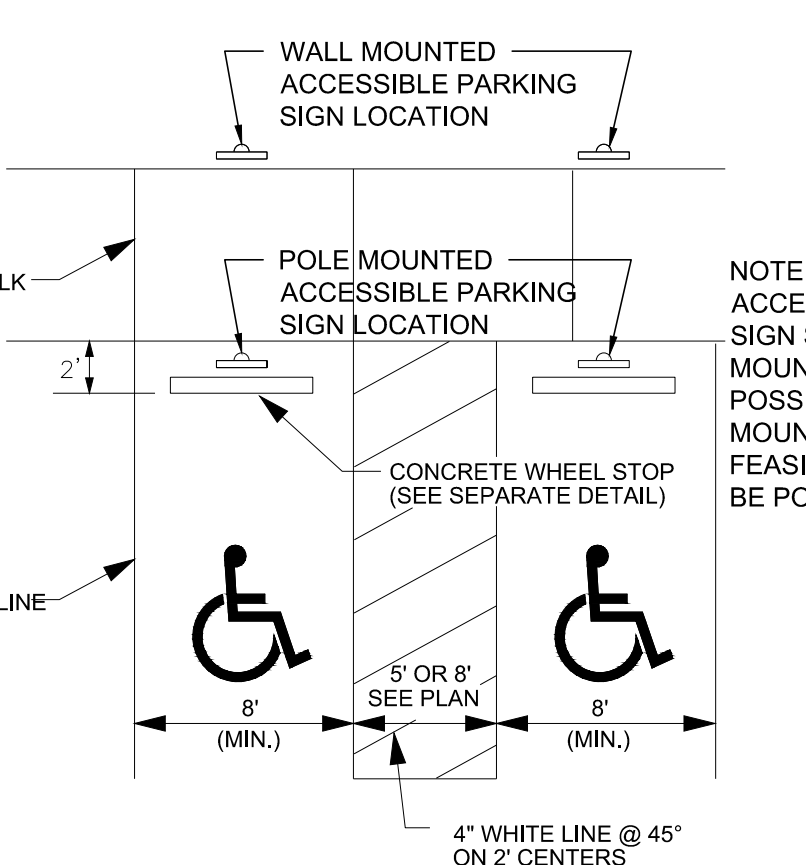


6" RIBBON CURB
N.T.S.



SIDEWALK WITH TURNED DOWN CURB
N.T.S.

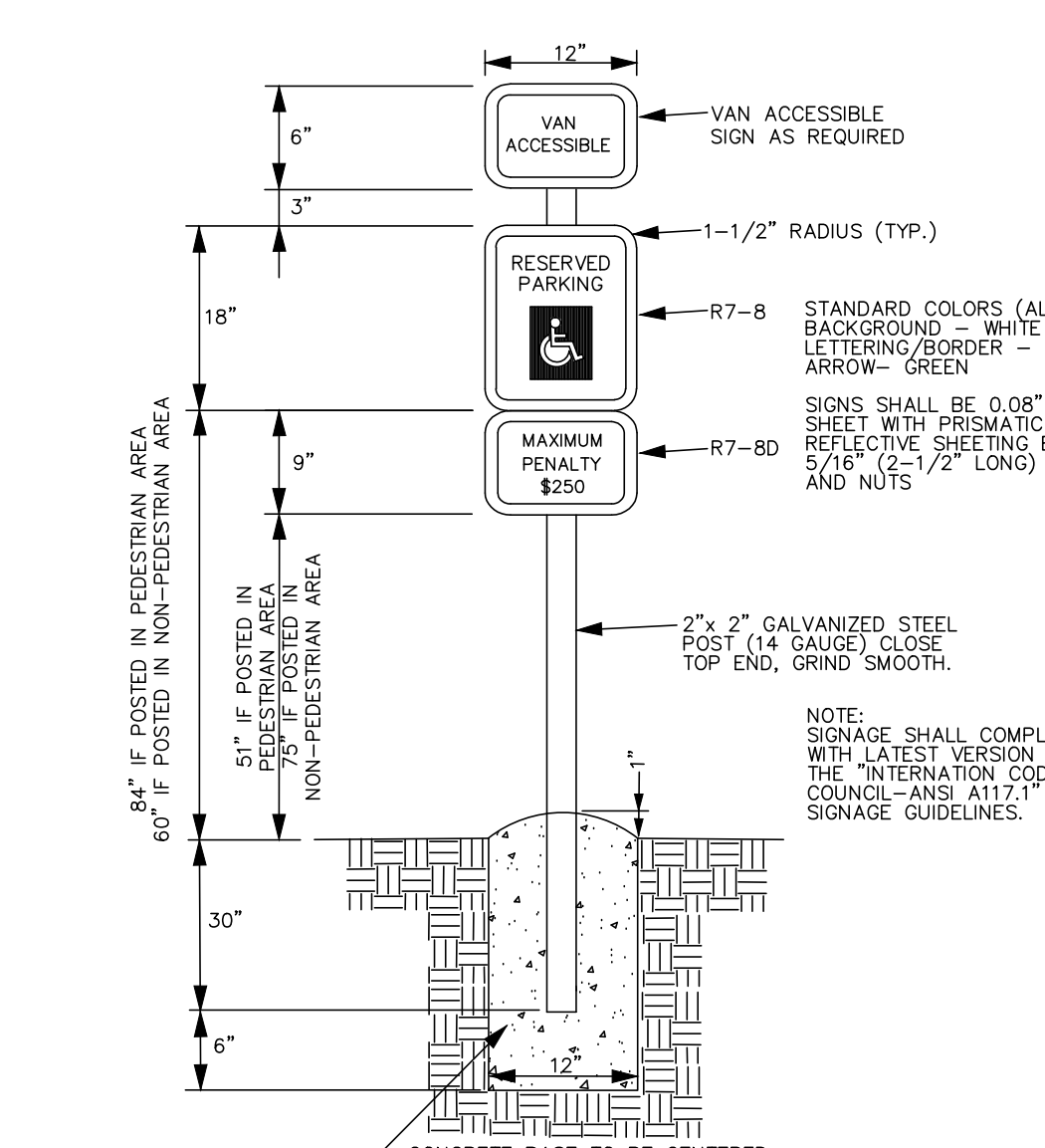
**CONTRACTOR TO REFER TO GEOTECHNICAL REPORT



ACCESSIBLE PARKING DETAIL "A"
N.T.S.

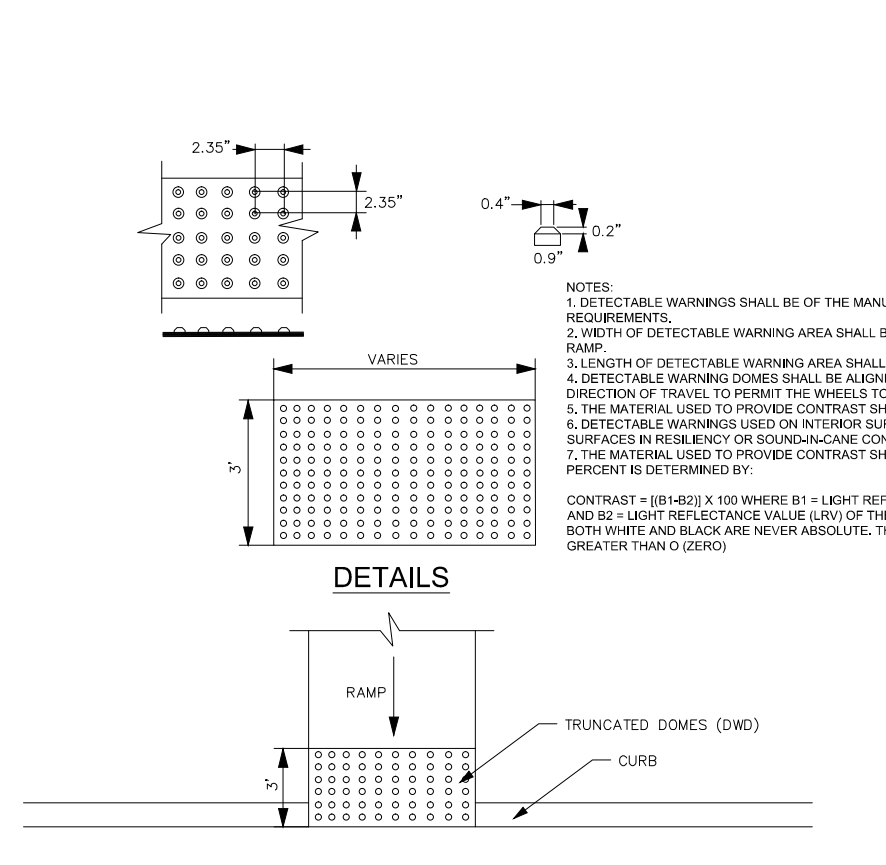
NOTE: ACCESSIBLE PARKING SIGN SHALL BE WALL MOUNTED WHERE POSSIBLE. IF A WALL MOUNT IS NOT FEASIBLE, SIGN SHALL BE POLE MOUNTED

NOTE: 2% MAXIMUM GRADE IN ANY DIRECTION WITHIN HVC PARKING SPACES



EXTERIOR HANDICAP SIGN
N.T.S.

NOTE: SIGNS SHALL COMPLY WITH LATEST VERSION OF THE INTERNATIONAL CODE COUNCIL-ANSI A117.1 SIGNAGE GUIDELINES.



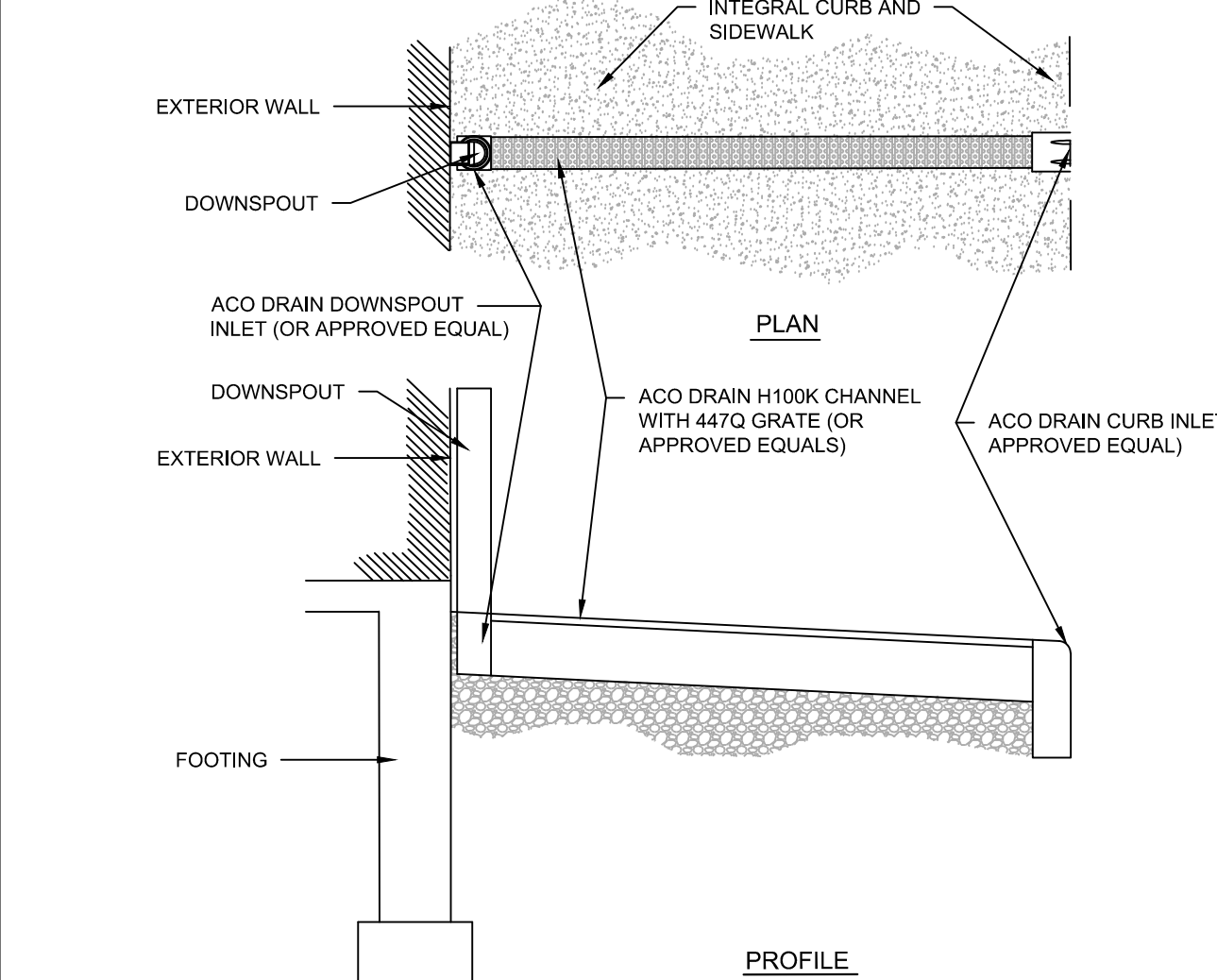
DETECTABLE WARNING DEVICE TRUNCATED DOMES
N.T.S. (DETAIL ST303)

NOTE: DETECTABLE WARNING AREA SHALL BE A MINIMUM OF 1 FEET AND VARY WITH WIDTH OF OBSTRUCTION.

NOTE: DETECTABLE WARNING AREA SHALL BE A MINIMUM OF 1 FEET AND VARY WITH WIDTH OF OBSTRUCTION.

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CROSS SIDEWALK DRAIN DETAIL
N.T.S.

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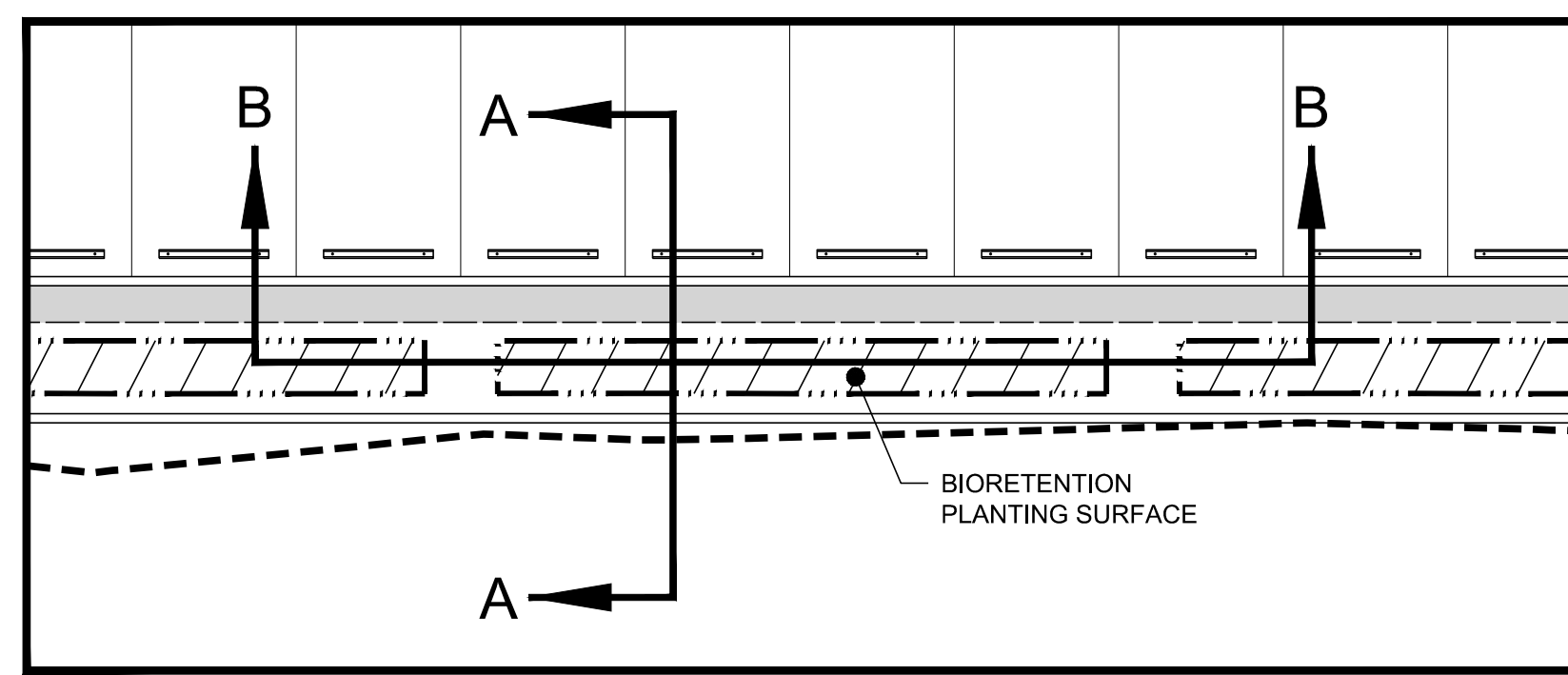
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2607 Clarksville Pike, Nashville, Tennessee

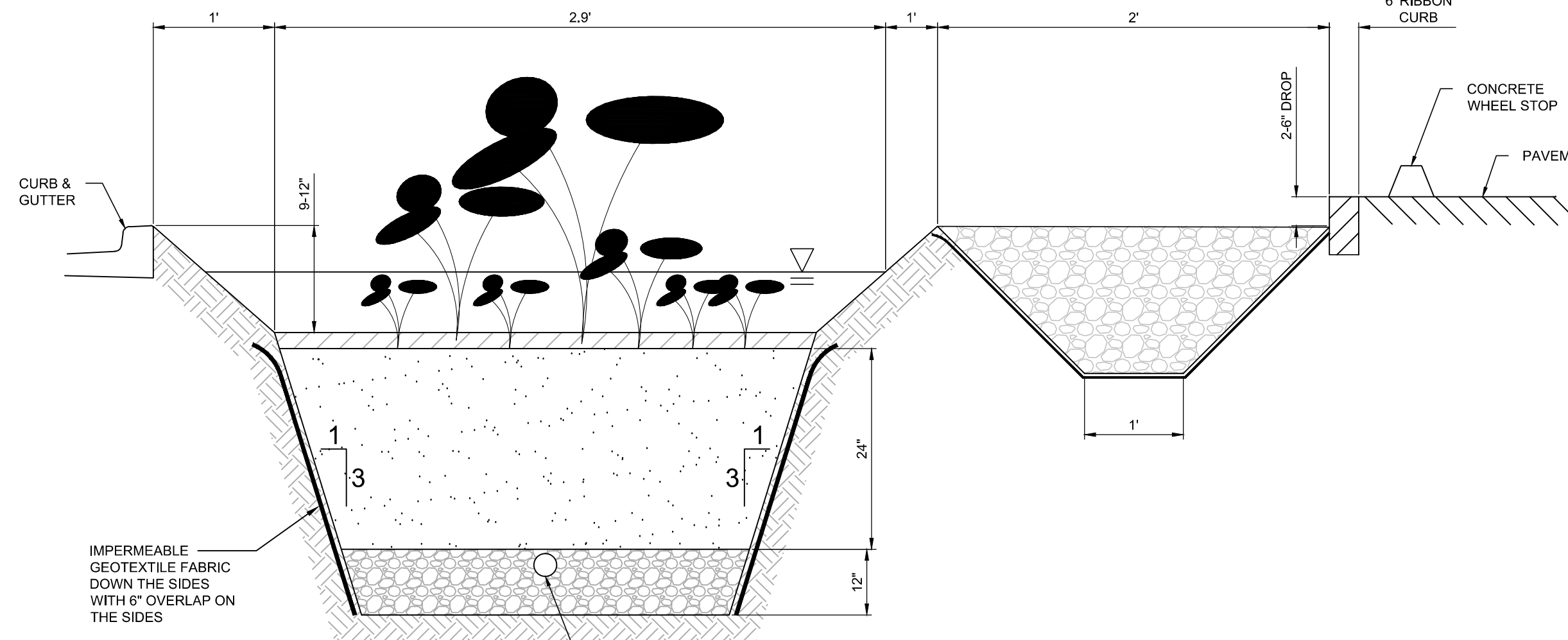
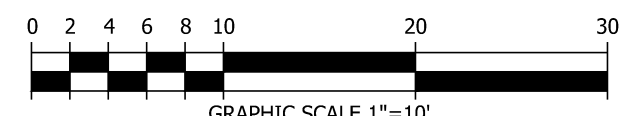
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CONSTRUCTION DOCUMENTS
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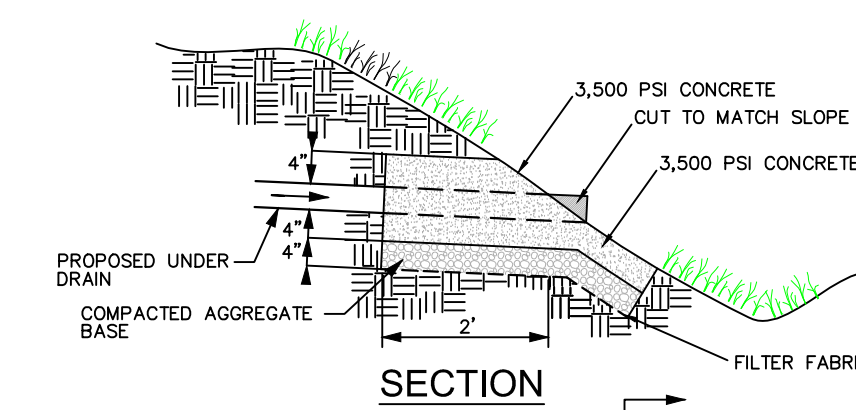
DATE: 03.27.15
PROJECT No. 1408
CIVIL DETAILS
C5.00



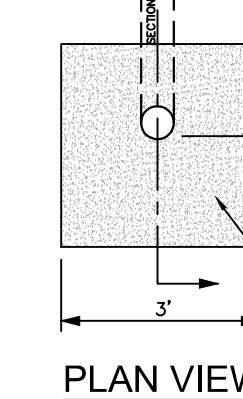
PLAN VIEW
SCALE: 1"=10'



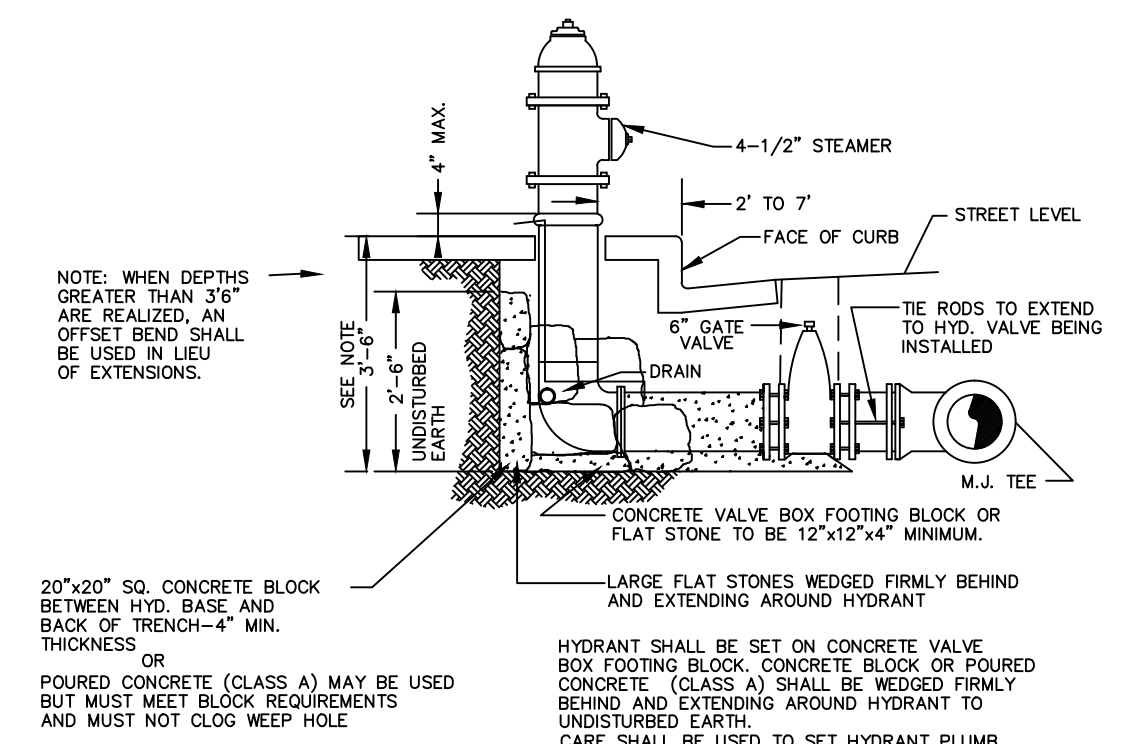
SECTION "A-A"
N.T.S.



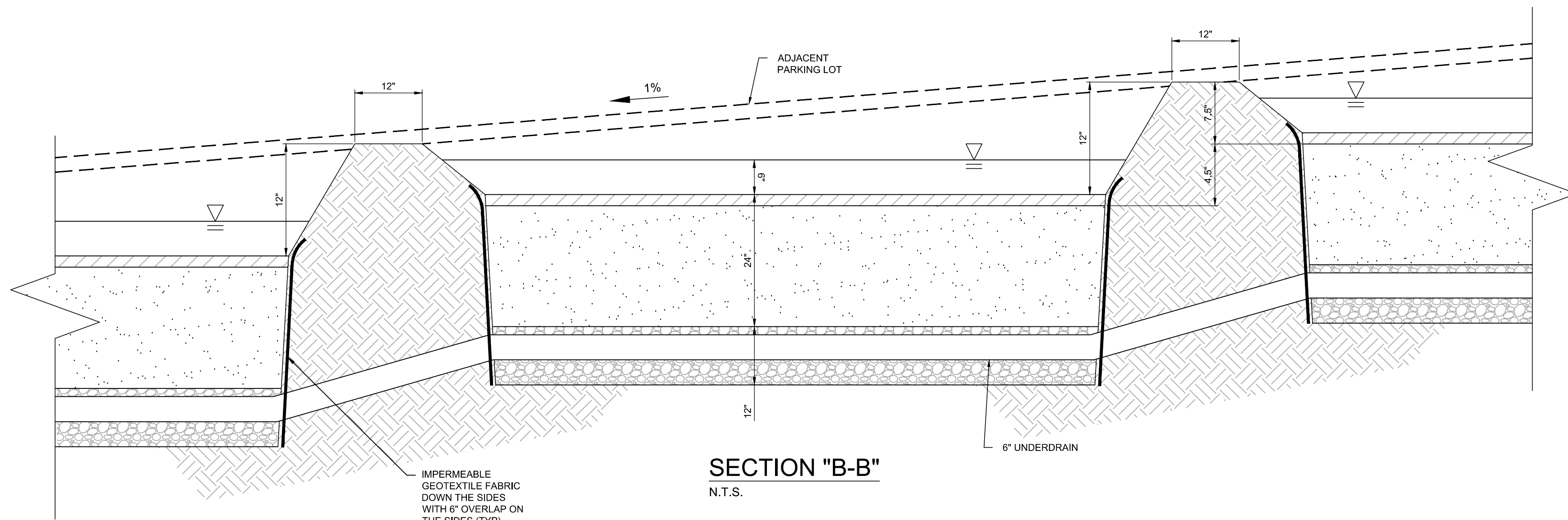
SECTION



SLOPE ENDWALL
N.T.S.



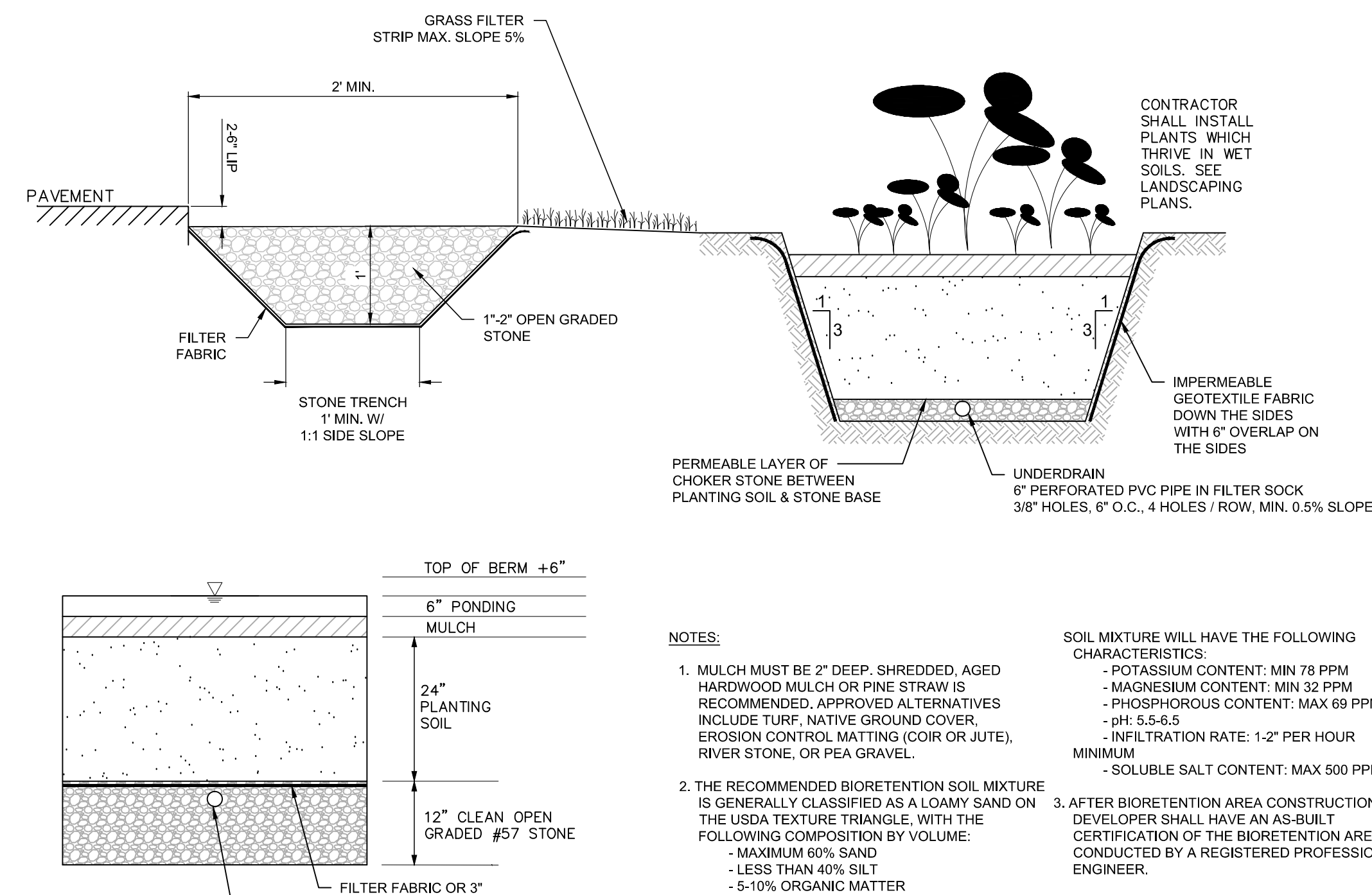
FIRE HYDRANT
N.T.S.



SECTION "B-B"
N.T.S.

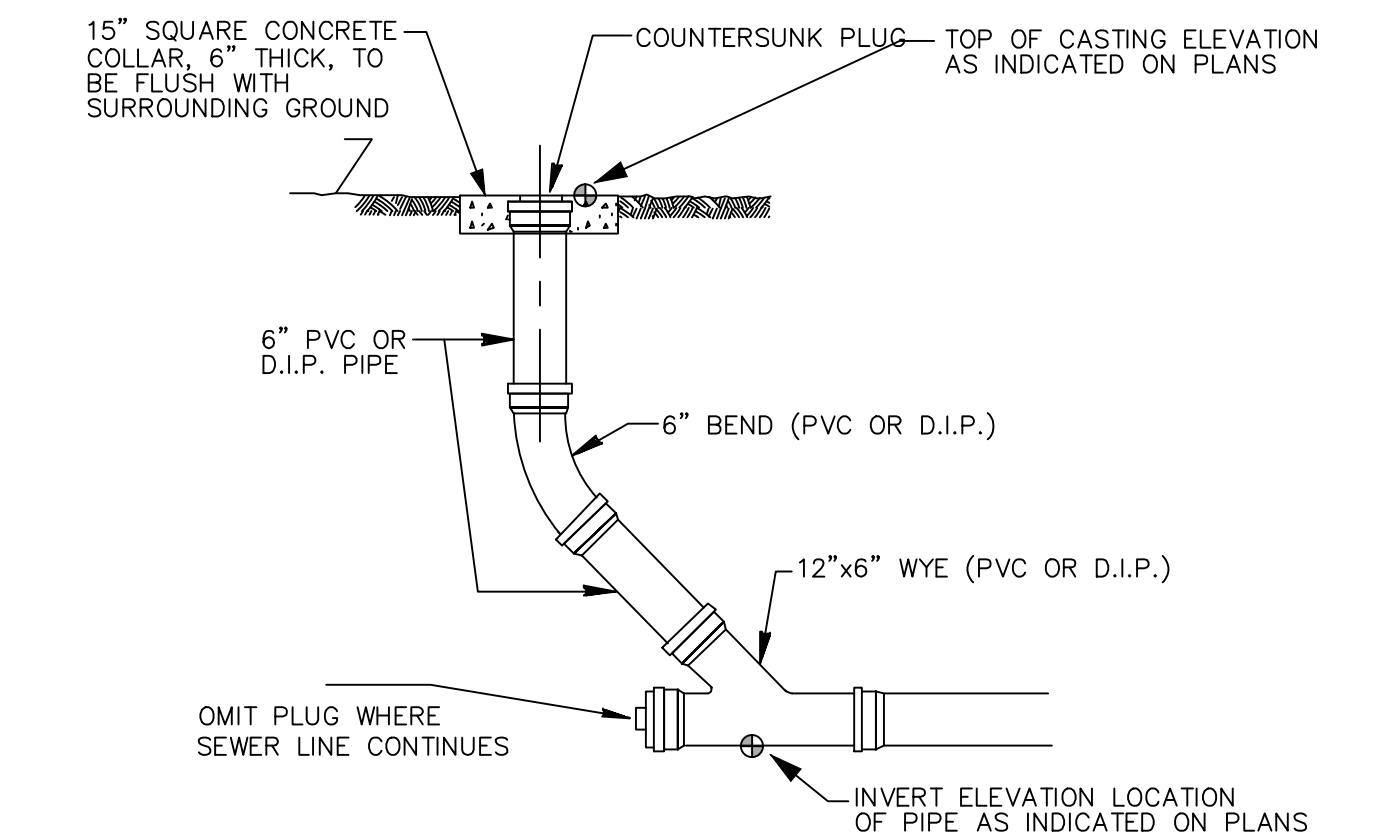
BIORETENTION AREA 1

N.T.S.
MIN. PLANTING SURFACE=1050 SF
PLANTING ELEV VARIES=(SEE GRADING PLAN)

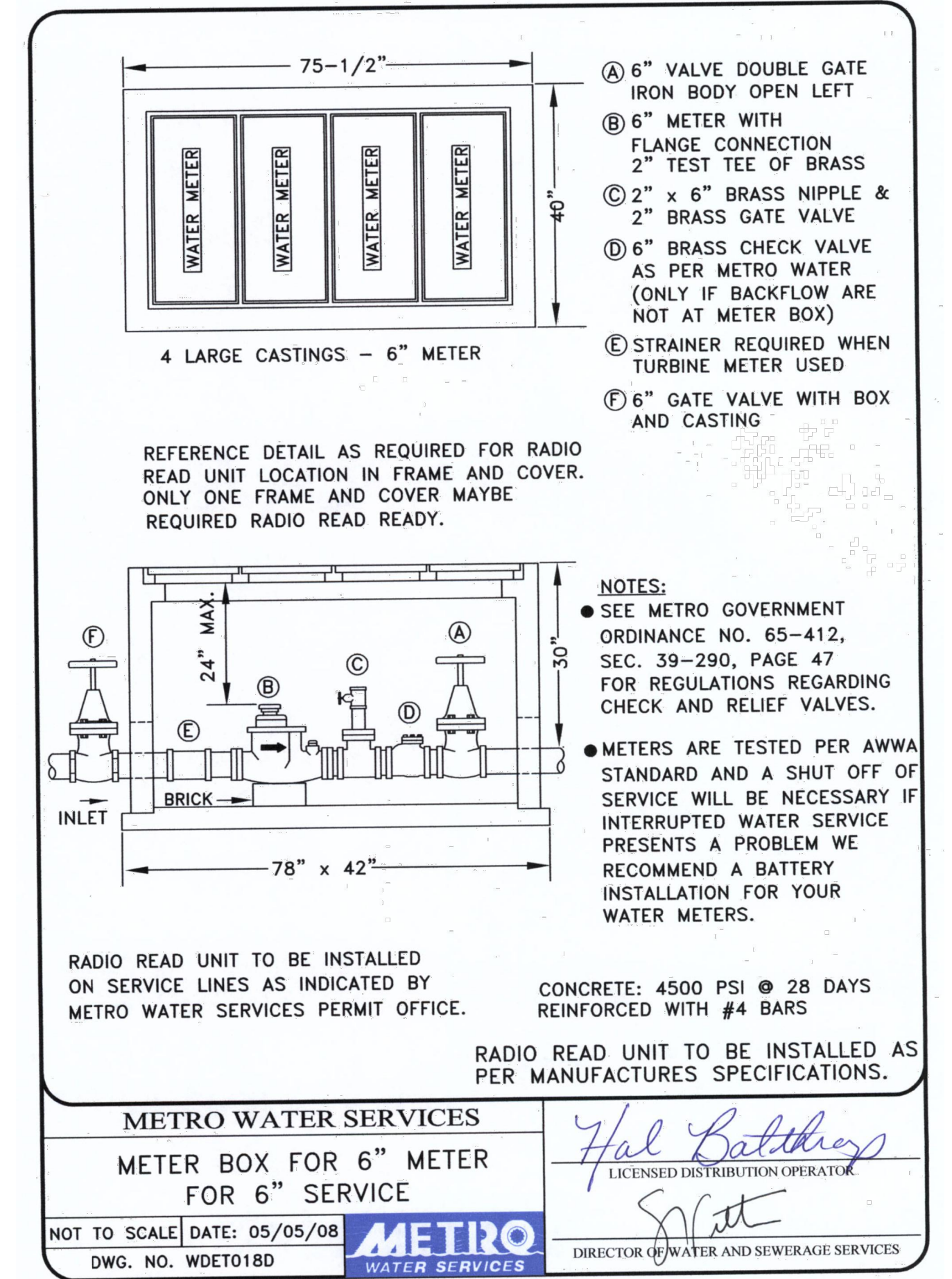
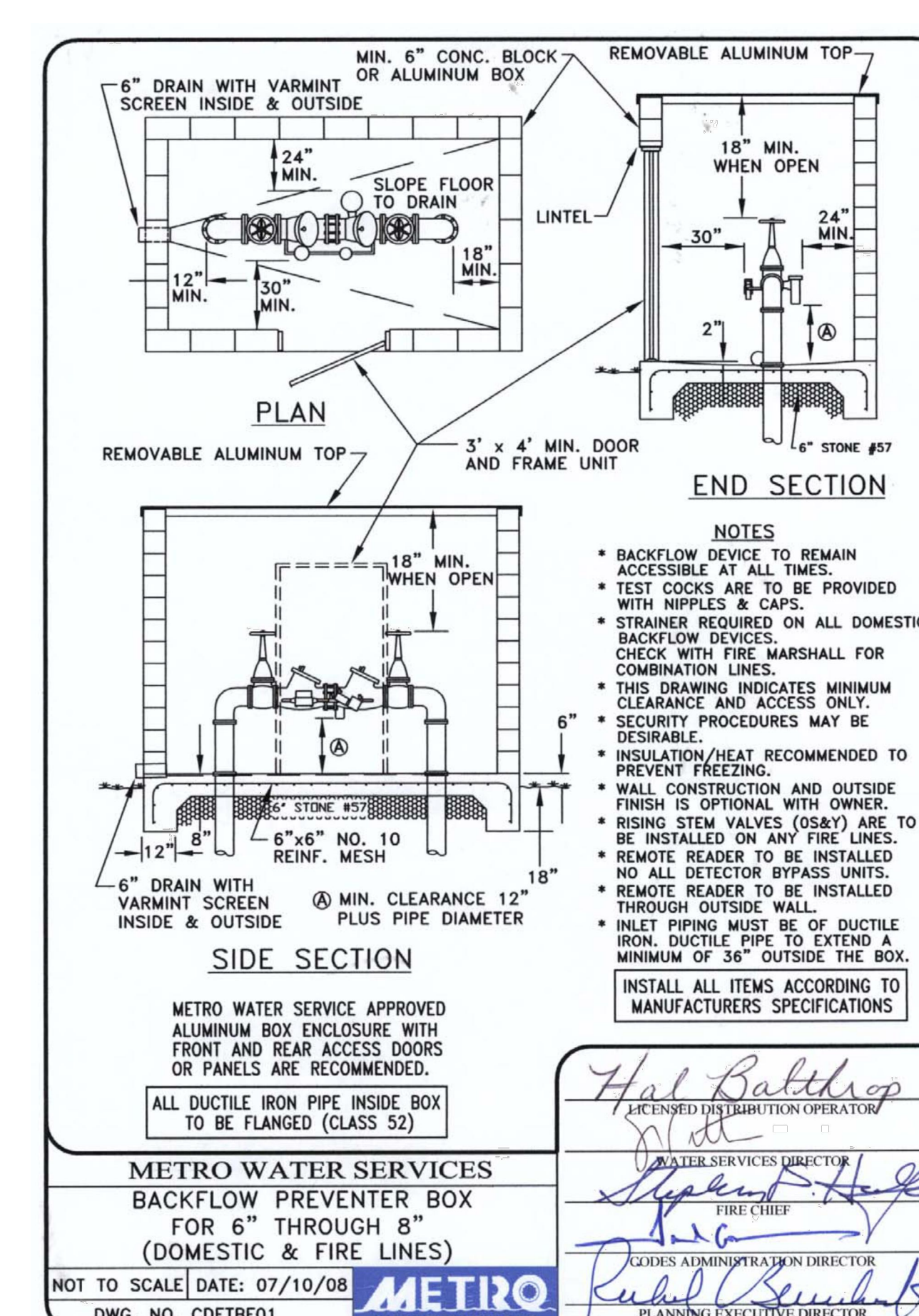
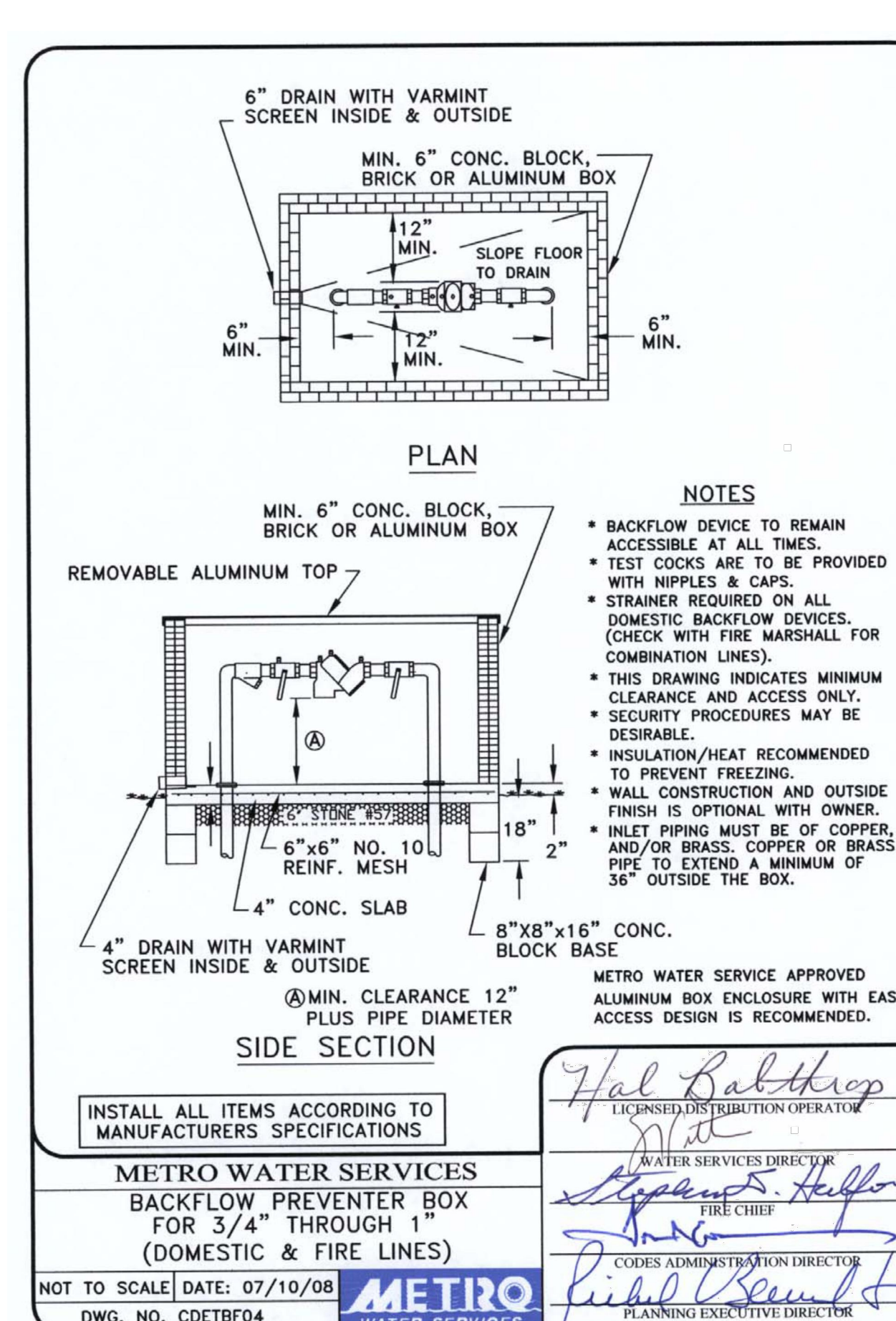
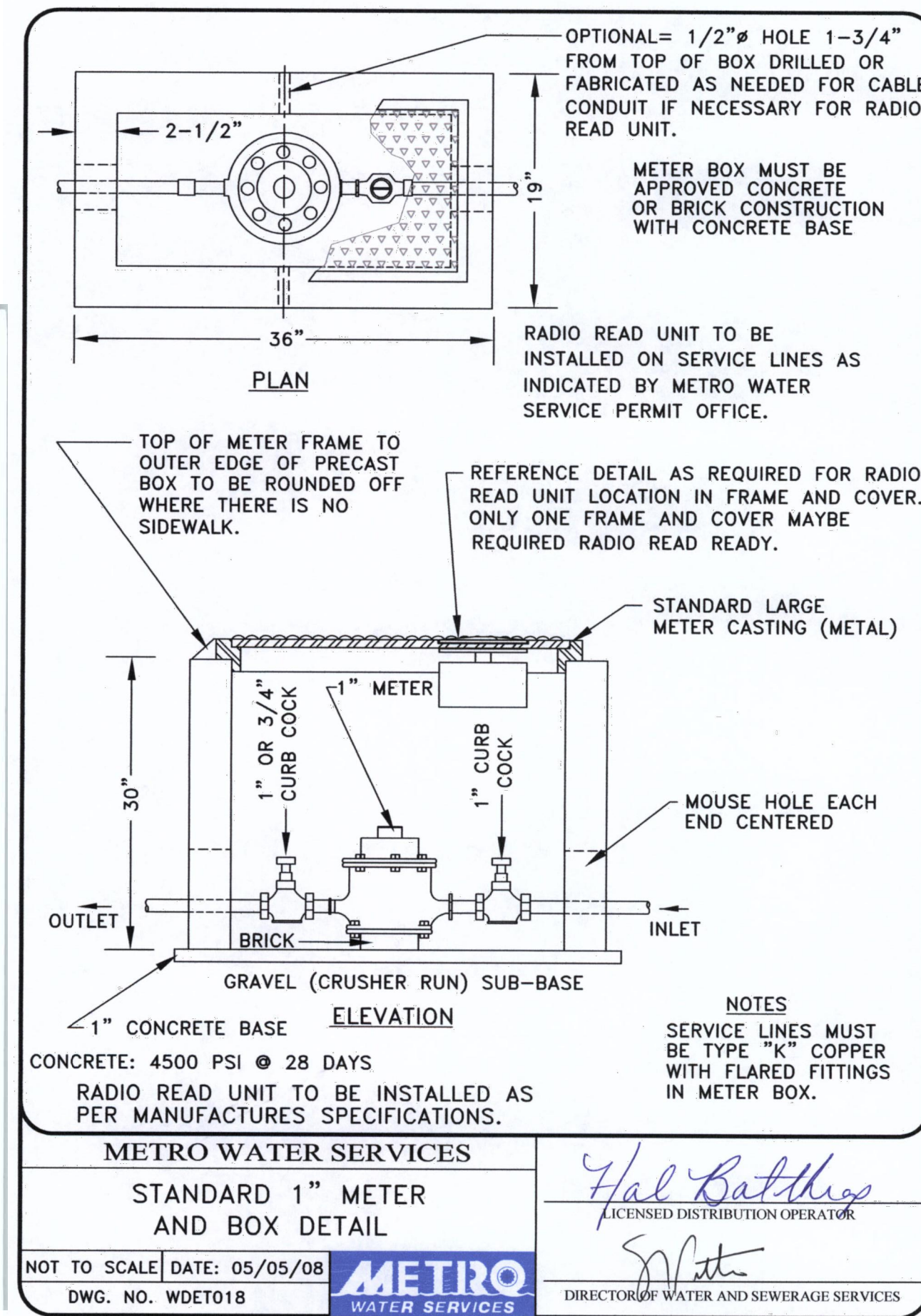
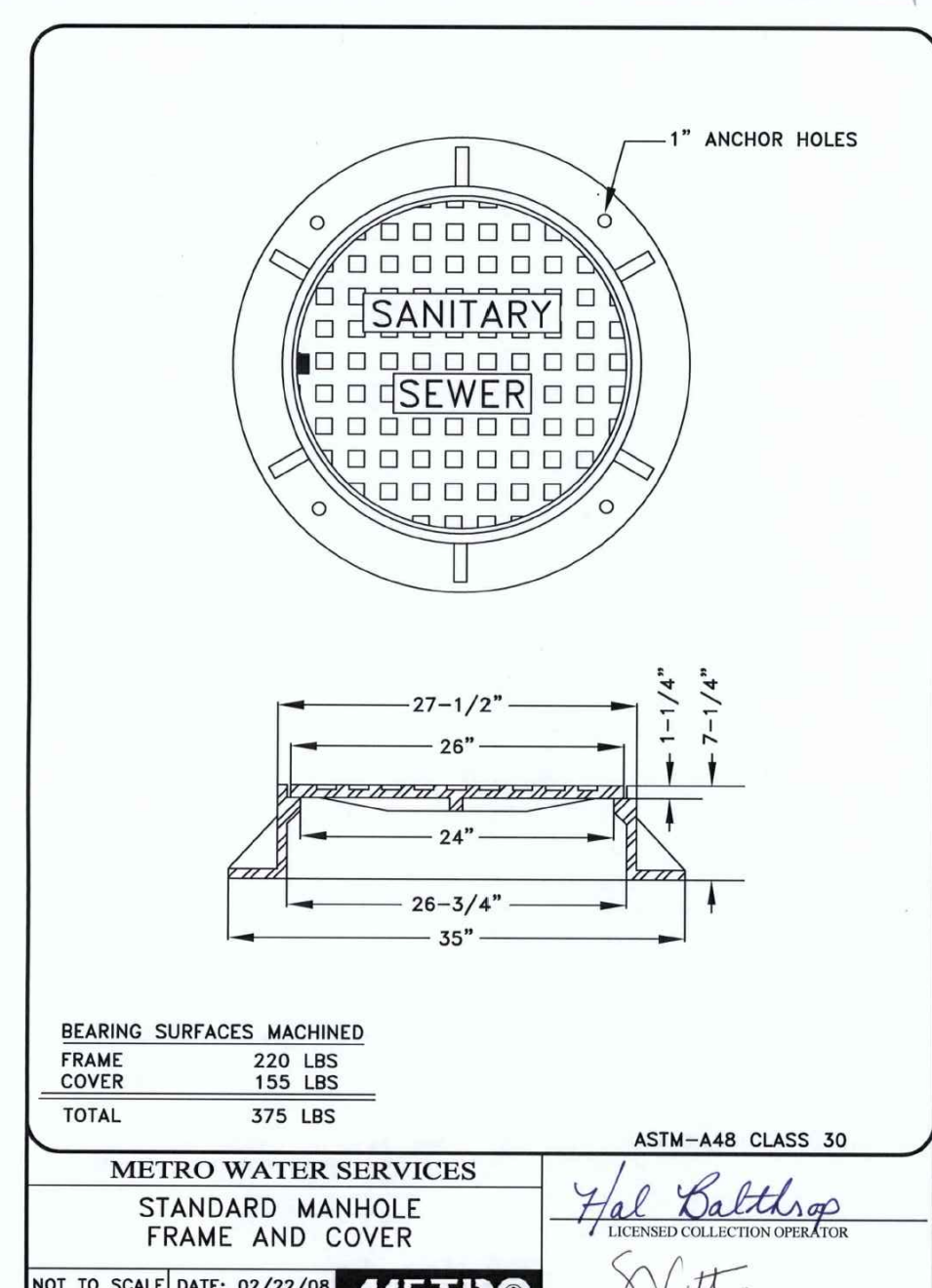
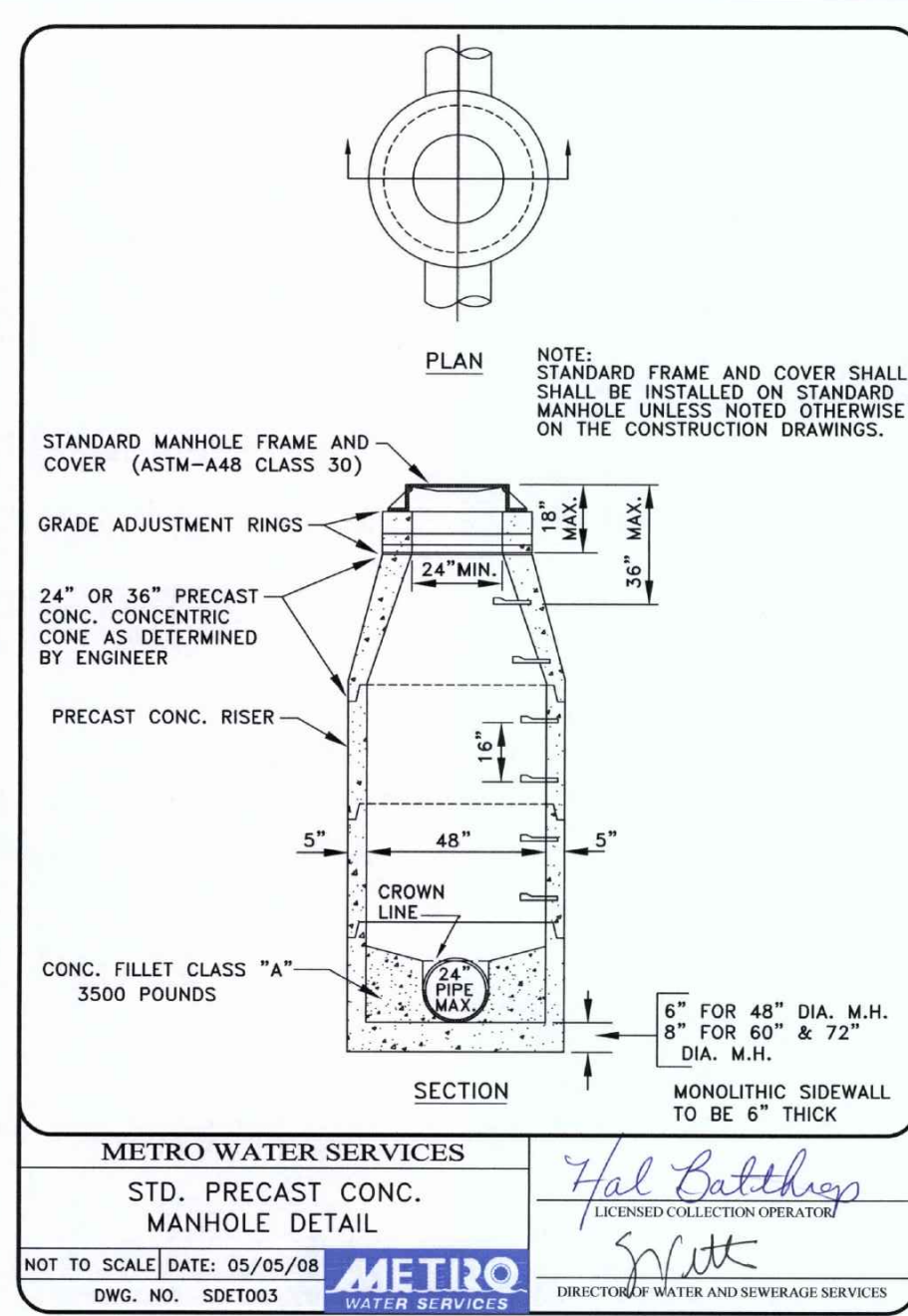


BIORETENTION AREA 2

N.T.S.
MIN. PLANTING SURFACE=800 SF
PLANTING ELEV=443.24



CLEANOUT
N.T.S.



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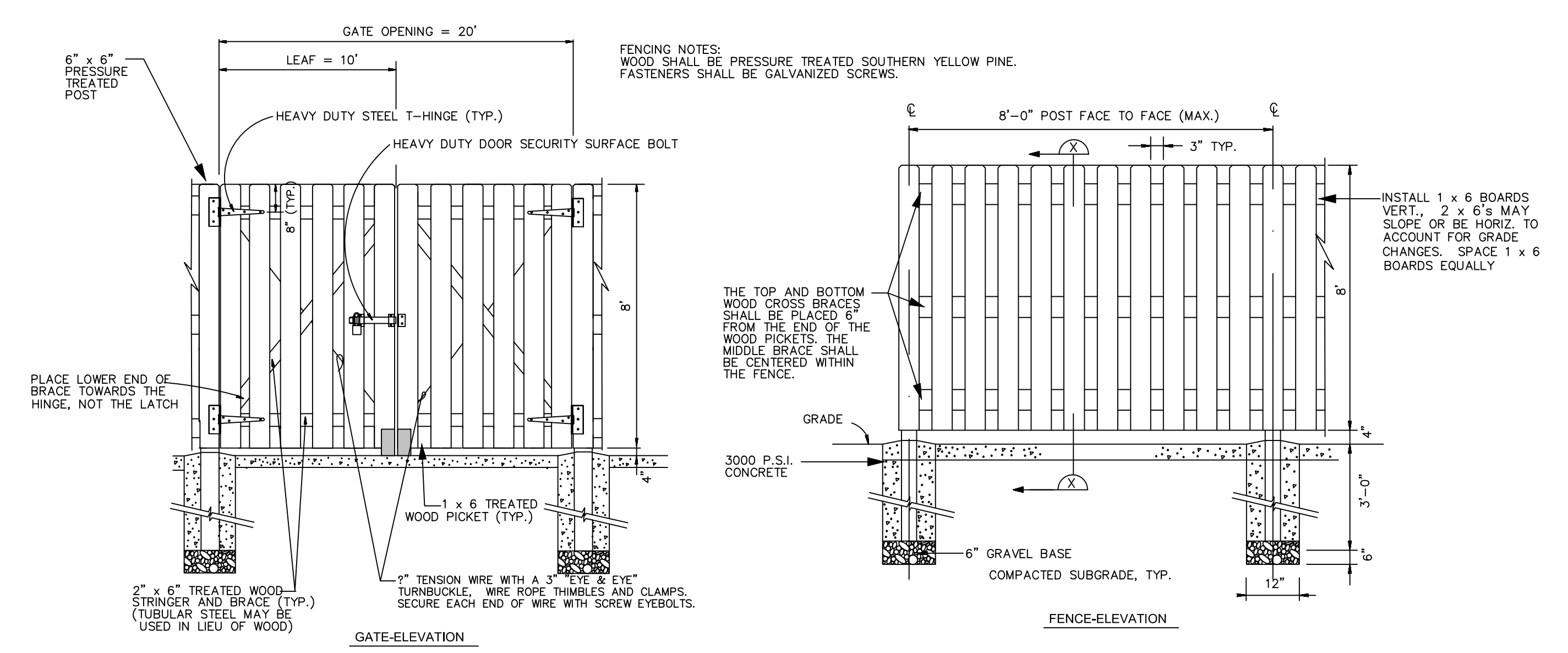
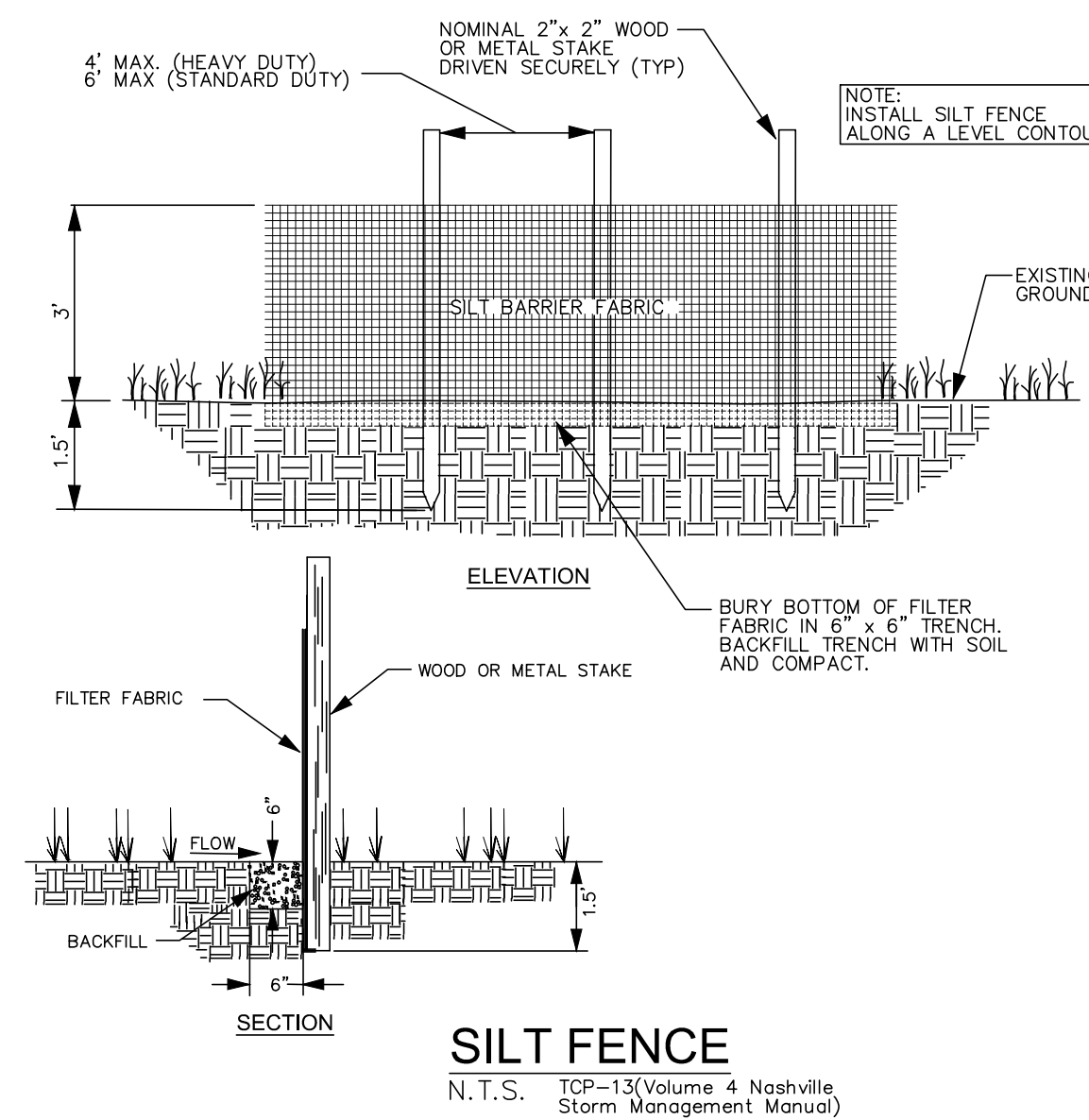
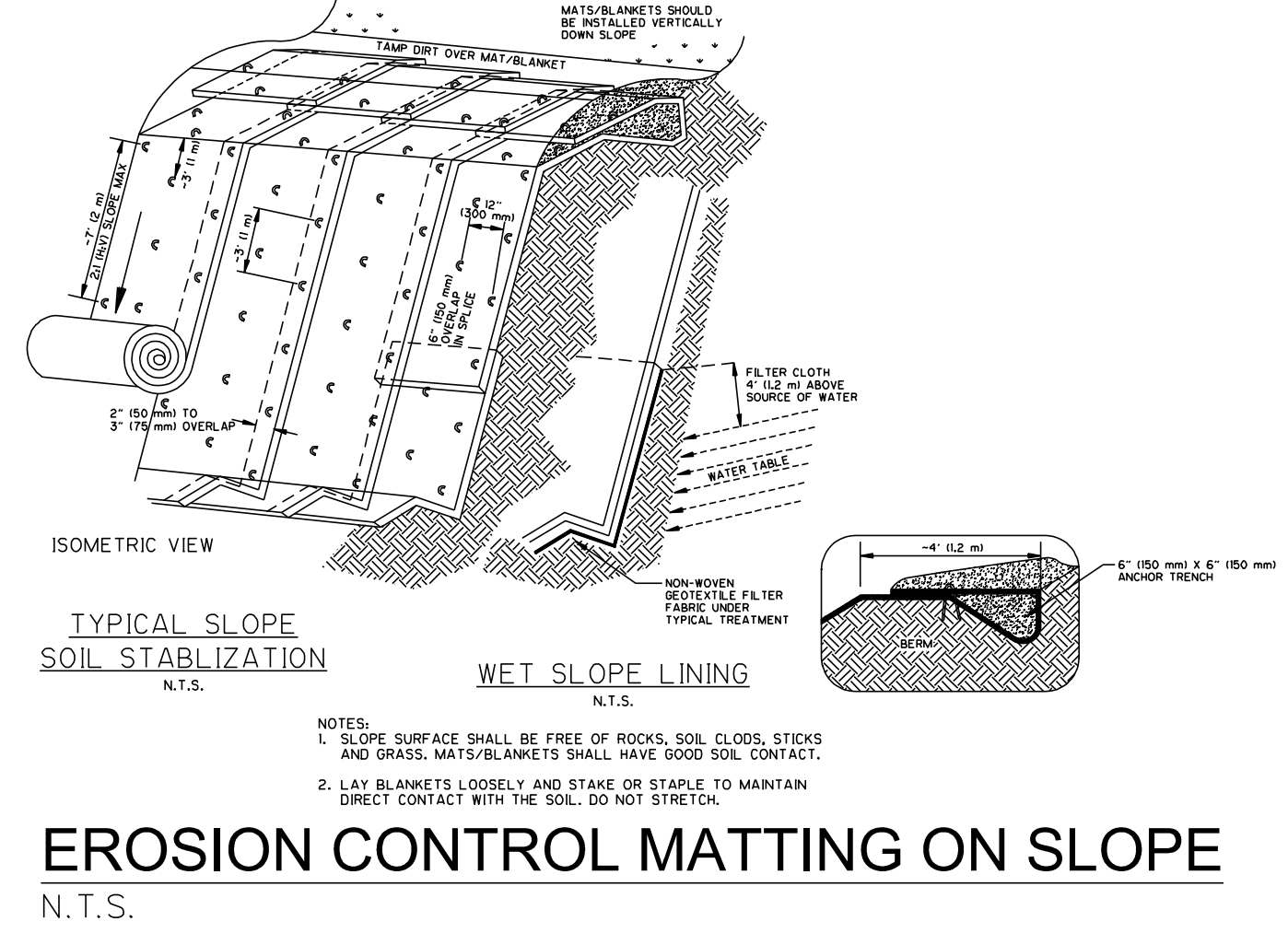
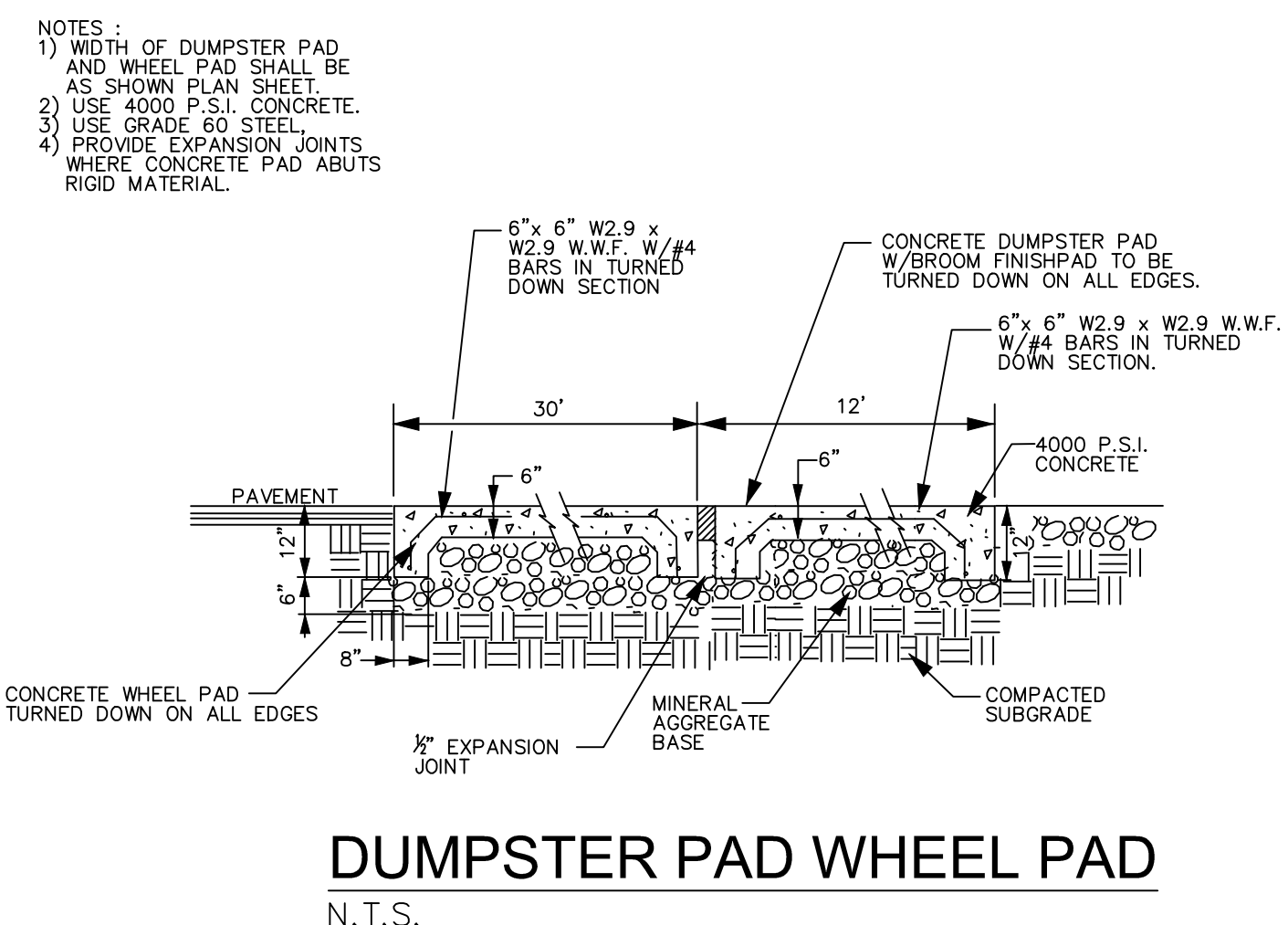
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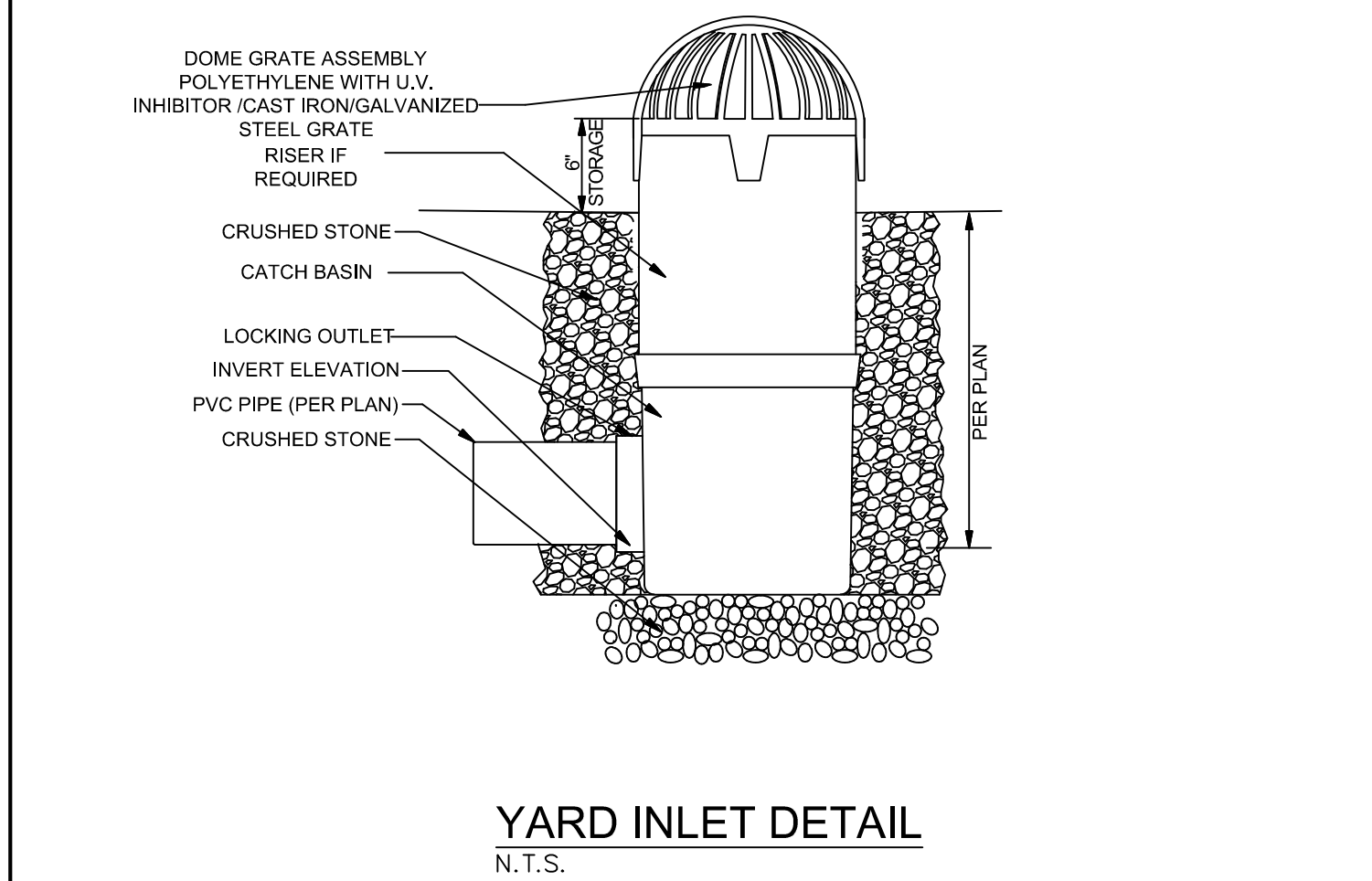
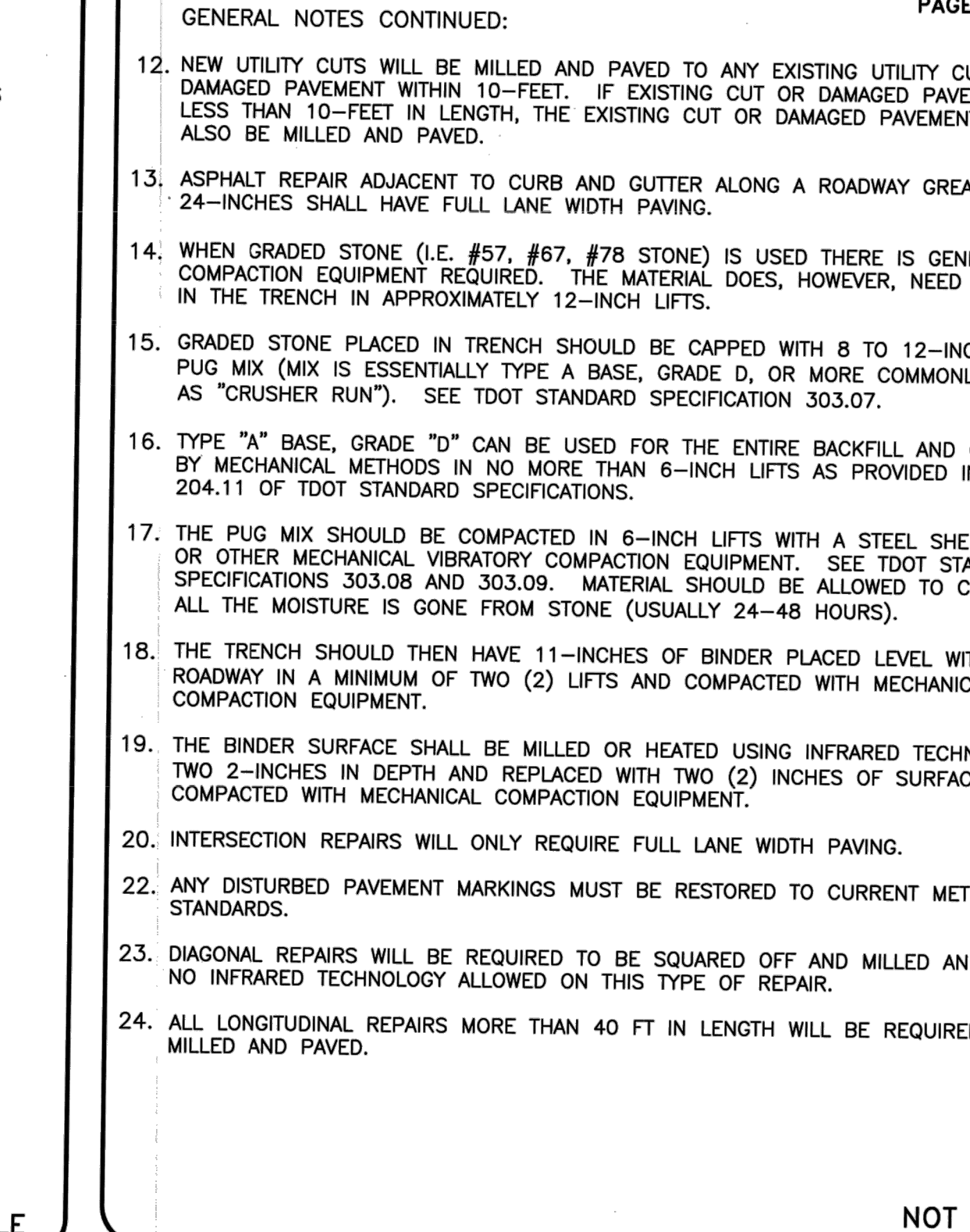
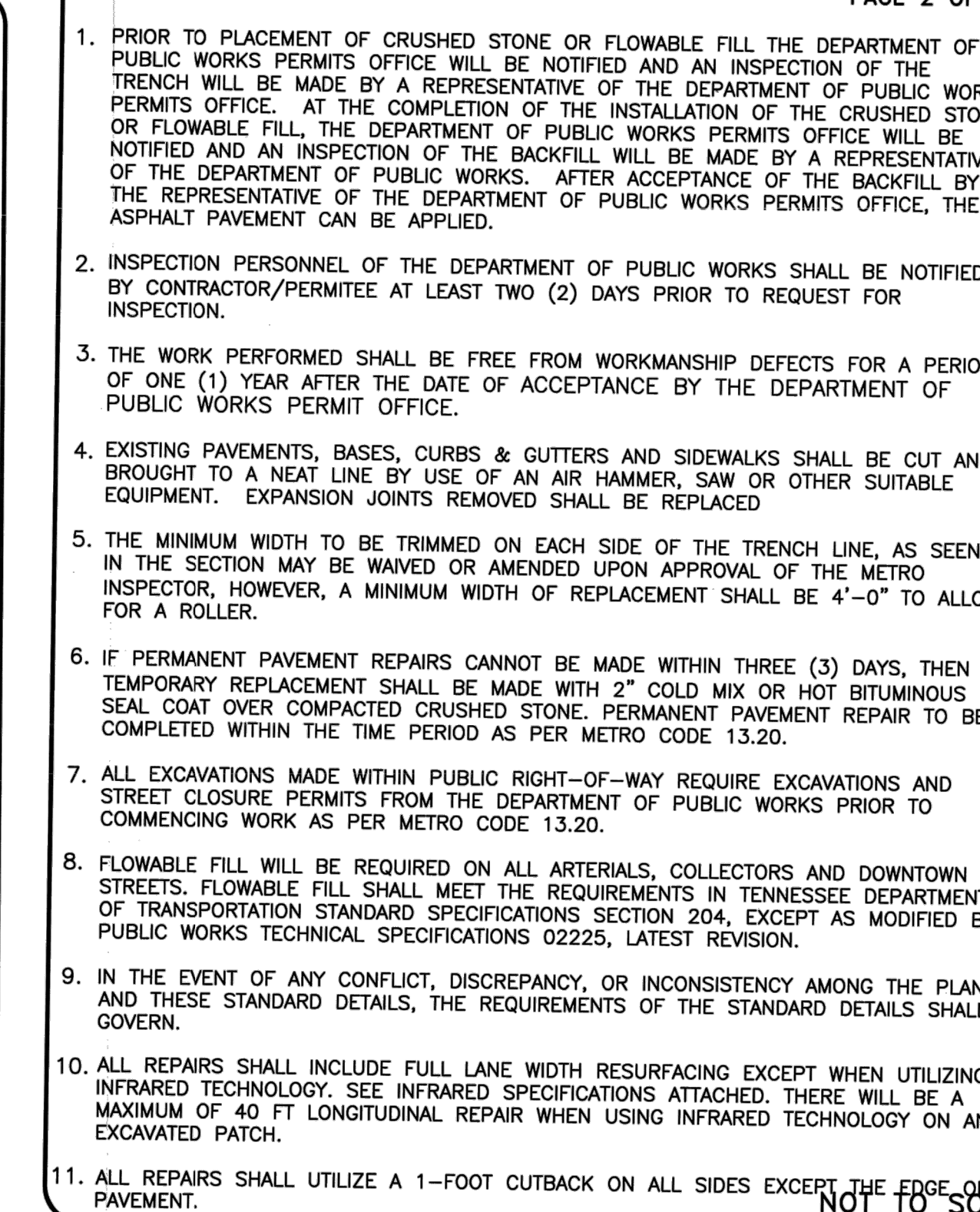
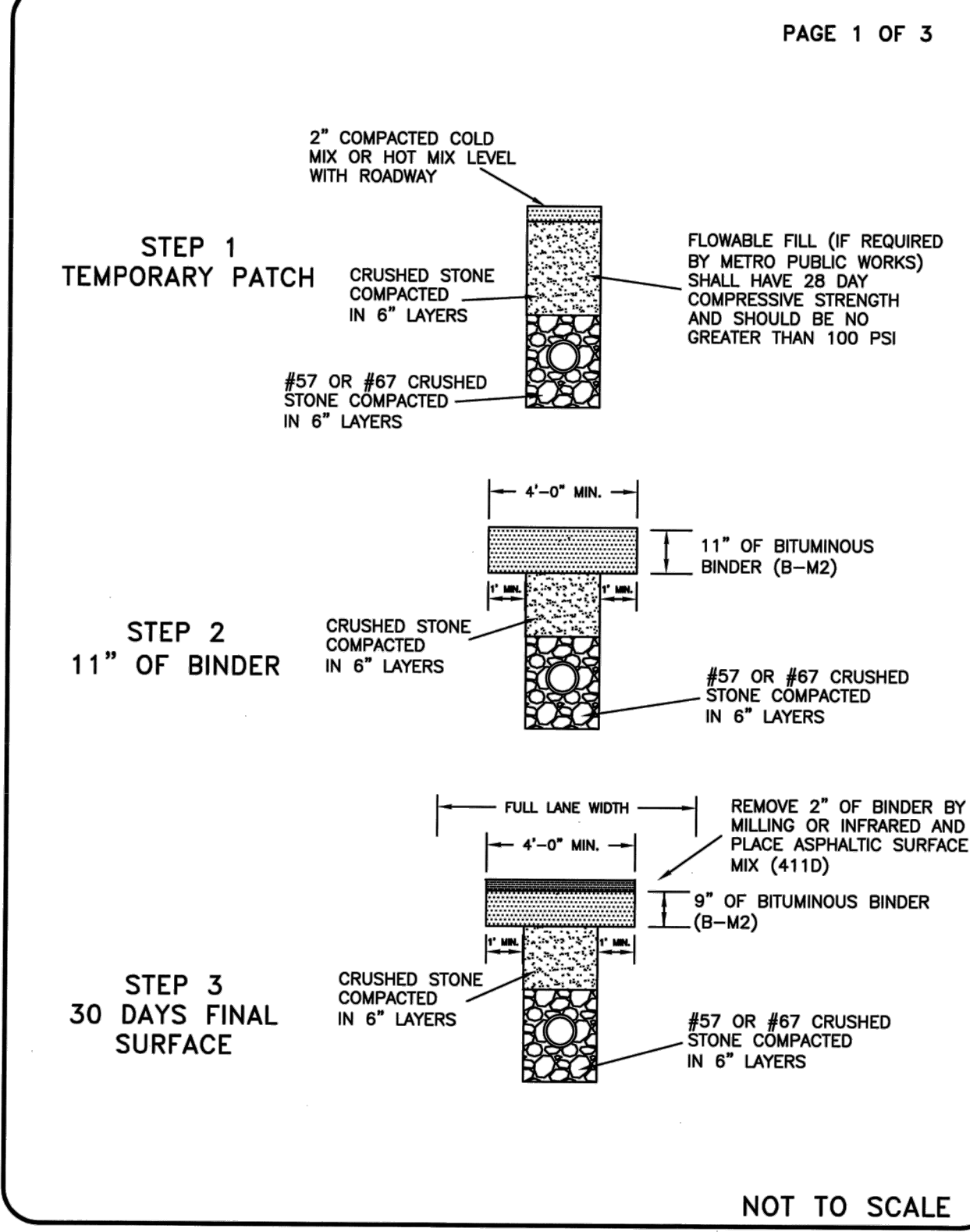
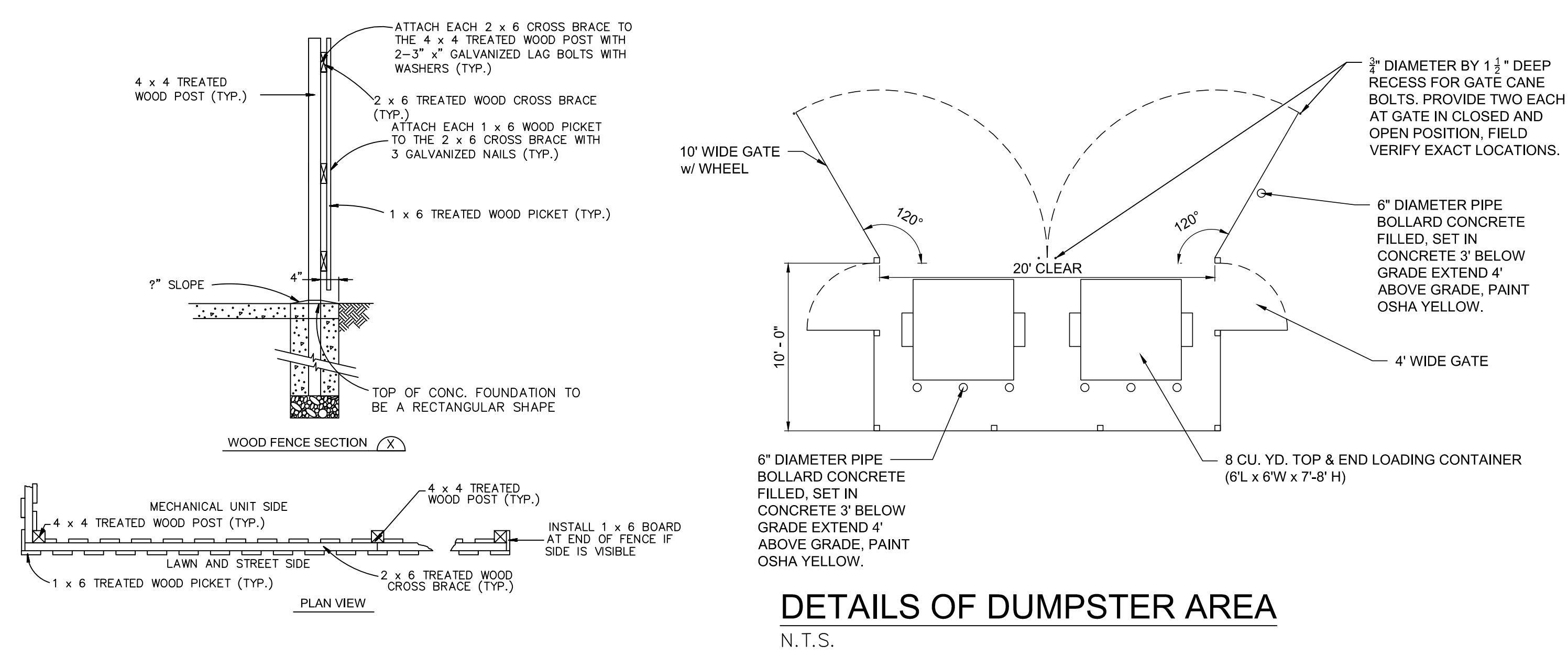
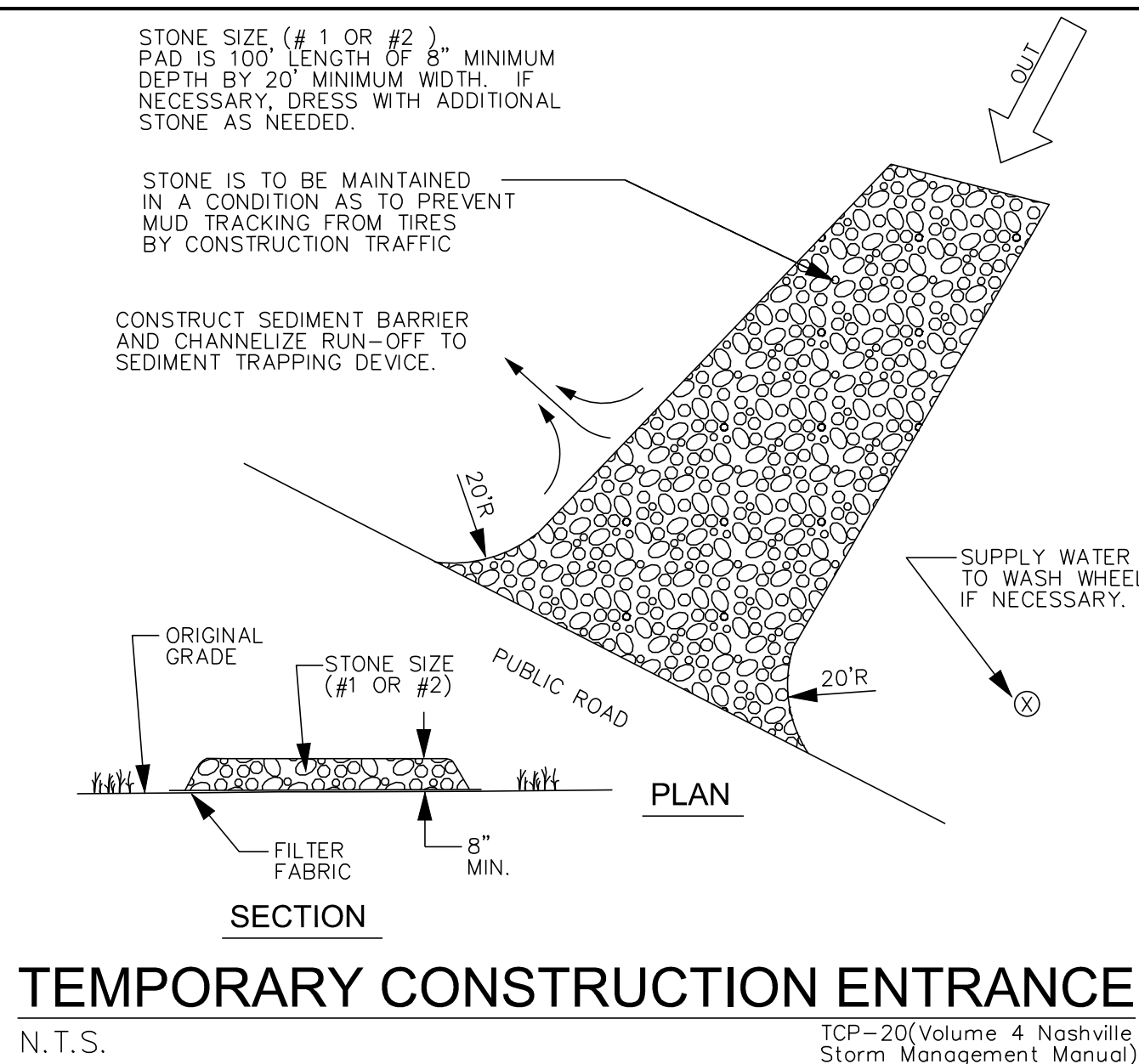
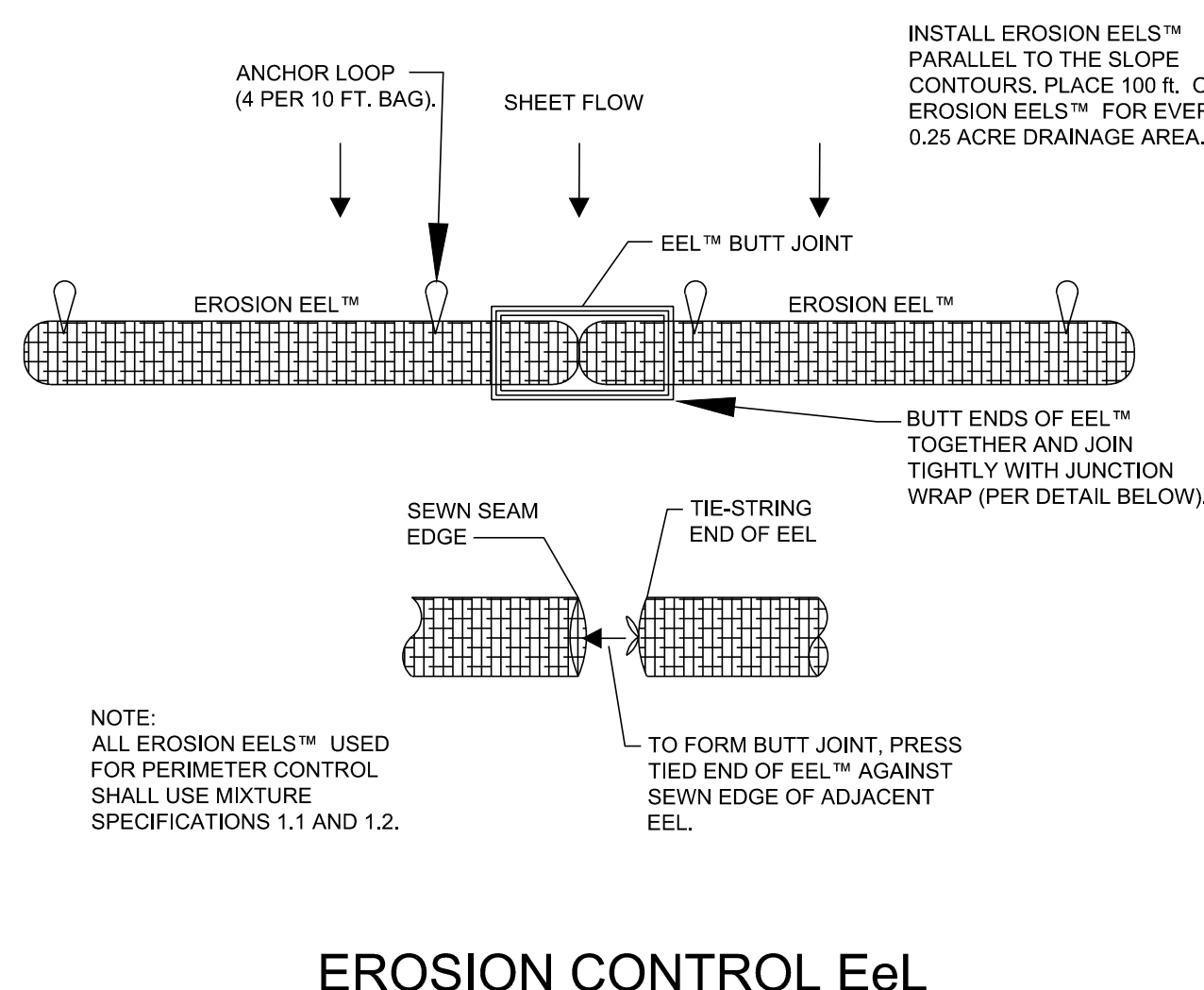
CONSTRUCTION DOCUMENTS
95% CHECK SET
REVISION INFORMATION

DATE: 03.27.15
PROJECT No. 1408
CIVIL DETAILS
C5.01



GENERAL EEL™ NOTES:

- EROSION EEL™ USED IN PERIMETER CONTROL APPLICATIONS SHALL HAVE A SPECIFICATION MIXTURE 1.1 OR 1.2.
 - MIXTURE SPECIFICATION 1.1: A FILTER MIXTURE COMPRISED OF 95% SHREDDED RUBBER AND 5% WOOD CHIP PARTICLES BY VOLUME. THE SHREDDED RUBBER SHALL BE WASHED AND PROCESSED TO REMOVE MOST IF NOT ALL METAL COMPONENTS. THE RUBBER SHALL BE DERIVED FROM RECYCLED TIRES AND SHALL BE SHREDED TO PRODUCE A MAXIMUM PARTICLE SIZE OF +3/4 INCH. THE WOOD CHIPS SHALL BE PRODUCED FROM HARDWOOD TREES AND SHALL CONFORM TO AASHTO CERTIFICATION SPECIFICATION MP-40.
 - MIXTURE SPECIFICATION 1.2: A FILTER MIXTURE COMPRISED OF 10% SHREDDED RUBBER, 10% WOOD CHIPS, AND 10% RECYCLED SYNTHETIC FIBERS. THE SHREDDED RUBBER SHALL BE WASHED AND PROCESSED TO REMOVE MOST IF NOT ALL METAL COMPONENTS. THE RUBBER SHALL BE DERIVED FROM RECYCLED TIRES AND SHALL BE SHREDED TO PRODUCE A MAXIMUM PARTICLE SIZE OF +3/4 INCH. THE WOOD CHIPS SHALL BE PRODUCED FROM HARDWOOD TREES AND SHALL CONFORM TO AASHTO CERTIFICATION SPECIFICATION MP-40. THE SYNTHETIC FIBERS SHALL BE PRODUCED FROM RECYCLED MANUFACTURED MATERIALS, SUCH AS, BUT NOT LIMITED TO, PRE-CONSUMER SODA CANNE, TIRE CHORD, AND TIRE FIBER MATERIALS.
- EROSION EEL™ SHALL BE MANUFACTURED FROM A WOVEN GEOTEXTILE COVERING WITH INTERIOR FIBER MATERIALS SUCH AS 100% SHREDDED RUBBER MIXTURE SPECIFICATION 1.0, 95% SHREDDED RUBBER/5% AASHTO-CERTIFIED WOOD CHIPS MIXTURE SPECIFICATION 1.1.
- LENGTHS OF EROSION EEL™ SHALL BE EITHER A NOMINAL 4'-10 FT. OR 4'-5 FT. NOMINAL DIAMETER SHALL BE 4'-5 INCHES.
- EROSION EEL™ CAN BE PLACED AT THE TOP OF SLOPE OR AT THE TOE OF SLOPE TO INTERCEPT RUNOFF. REDUCE FLOW VELOCITY, RELEASE THE RUNOFF AS SHEET FLOW AND PROVIDE REMOVAL OF SEDIMENT FROM THE RUNOFF.
- EROSION EEL™ SHALL BE INSTALLED ALONG THE GROUND CONTOUR AT THE TOE OF SLOPE AT AN ANGLE TO THE CONTOUR TO DIRECT FLOW AS A DIVERSION BERM AROUND INLET STRUCTURES. IN A DITCH AS A CHECK DAM TO HELP REDUCE SUPERSEDIMENT SOLIDS LOADING AND RETAIN SEDIMENT. OR AS A GENERAL FILTER FOR ANY DISTURBED SOIL AREA.
- NO TRECHING IS REQUIRED FOR INSTALLATION OF EROSION EEL™.
- PREPARE BED FOR EEL™ INSTALLATION BY REMOVING ANY LARGE DEBRIS INCLUDING ROCKS, SOIL CLOSURE, AND WOODY VEGETATION. EROSION EEL™ CAN ALSO BE PLACED OVER PAVED SURFACES INCLUDING CONCRETE AND ASPHALT WITH NO SURFACE PREPARATION REQUIRED.
- RAKE BED AREA WITH A HAND RAKE OR BY DRAG HARROW.
- DO NOT PLACE EEL™ DIRECTLY OVER HILL AND GULLIES UNTIL AREA HAS BEEN HAND-EXCAVATED AND RAKED TO PROVIDE A LEVEL BEDDING SURFACE. ALL SURFACES SHALL BE UNIFORMLY COMPACTED FOR MAXIMUM SEATING OF EEL™ IN PLACE.
- FOR LOCATIONS WHERE EEL™ WILL BE PLACED IN CONCENTRATED FLOWS SUCH AS CHECK DAMS, INLET PROTECTION, AND FOR PERIMETER CONTROL AT PRIMARY DRAINAGE LOCATIONS, THE EEL™ IS A CHECK DAM TO HELP REDUCE SUPERSEDIMENT SOLIDS LOADING AND RETAIN SEDIMENT. THE MAXIMUM DRAINAGE AREA SHALL BE 10 ACRES.
- FOR DITCH APPLICATIONS, THE MAXIMUM DRAINAGE AREA SHALL BE 10 ACRES.
- IF MORE THAN ONE EROSION EEL™ IS PLACED IN A ROW, THE EEL™ SHALL BE OVERLAPPED A MINIMUM OF 12 INCHES TO PREVENT FLOW AND SEDIMENT FROM PASSING THROUGH THE FIELD JOINT. COMPRESS THE TWO EEL™ OF THE OVERLAP TIGHTLY TOGETHER EITHER BY HAND OR MANUFACTURER-APPROVED MECHANICAL MEANS.
- WHEN USED IN DITCHES AS A CHECK DAM, EROSION EEL™ SHALL BE INSTALLED PER MANUFACTURER'S DETAILS.
- FOR CHECK DAM APPLICATIONS, EROSION EEL™ SHALL BE PLACED PERPENDICULAR TO THE FLOW OF THE WATER. EROSION EEL™ SHALL CONTINUE UP THE SLOPE A MINIMUM OF 3 FEET ABOVE THE DESIGN FLOW DEPTH.
- EROSION EEL™ SHALL REMAIN IN PLACE UNTIL FULLY ESTABLISHED VEGETATION HAS COMPLETELY DEVELOPED OR UNTIL THE STORAGE CAPACITY/FUNCTIONAL LIFE OF THE EEL™ HAS BEEN EXHAUSTED, REQUIRING REPLACEMENT WITH NEW EEL™.
- ANCHORING POSTS FOR CHECK DAM APPLICATIONS SHALL HAVE A MINIMUM WEIGHT OF 1.25 LB/FT STEEL T-POSTS (8 TO 10 FT. LENGTH) BOLDED FROM HIGH-CARBON STEEL. POSTS SHOULD BE NOT GALVANIZED OR COATED WITH A WEATHER-RESISTANT PAINT FOR STEEL APPLICATION. POSTS SHOULD BE EQUIPPED WITH A METAL ANCHOR PLATE. INSTALL PER DETAILS ON THIS SHEET.
- PLACE T-POSTS THROUGH HANDLE OF BAGS. DO NOT DRIVE POSTS THROUGH EROSION EEL™. T-POSTS ARE TO BE EMBEDDED A MINIMUM OF 2 FT INTO GROUND.



METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY DEPARTMENT OF PUBLIC WORKS	FLUSH TRENCH REPAIR	DWG. NO. ST-270
DIR. OF ENG.: <i>Mark May</i>	DATE: 11/3/09	REVISED: 01/06/08 REVISED: 04/01/08 REVISED: 11/17/08

METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY DEPARTMENT OF PUBLIC WORKS	FLUSH TRENCH REPAIR NOTES	DWG. NO. ST-270a
DIR. OF ENG.: <i>Mark May</i>	DATE: 12/8/08	REVISED: 07/31/02 REVISED: 09/10/04 REVISED: 11/17/08

METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY DEPARTMENT OF PUBLIC WORKS	FLUSH TRENCH REPAIR NOTES	DWG. NO. ST-270b
DIR. OF ENG.: <i>Mark May</i>	DATE: 12/2/08	REVISED: 03/31/08 REVISED: 11/17/08

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Urban Housing Solutions
 26th & Clarksville Pike Apartments
 2607 Clarksville Pike, Nashville, Tennessee

NOT FOR CONSTRUCTION

CONSTRUCTION DOCUMENTS
 95% CHECK SET
 REVISION INFORMATION

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 C5.02