



REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, MOBILE DISTRICT
P.O. BOX 2288
MOBILE, ALABAMA 36628-0001

CESAM-RD-C
PUBLIC NOTICE NO. SAM-2018-00832-MJF

March 8, 2019

JOINT PUBLIC NOTICE SAM-2018-00832-MJF
U.S. ARMY CORPS OF ENGINEERS

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY
OFFICE OF POLLUTION CONTROL

MISSISSIPPI DEPARTMENT OF MARINE RESOURCES
DMR-190014

**PROPOSED IMPACTS ASSOCIATED WITH THE CONSTRUCTION OF A SINGLE-FAMILY
RESIDENTIAL DEVELOPMENT KNOWN AS MITCHELL ROAD SUBDIVISION, ADJACENT
TO CANAL NO. 2, LONG BEACH, HARRISON COUNTY, MISSISSIPPI**

TO WHOM IT MAY CONCERN:

This District has received an application for a Department of the Army permit pursuant to Section 404 of the Clean Water Act. Please communicate this information to interested parties.

APPLICANT: **A1 Development, LLC**
Attention: Mr. Noah Saunders
Post Office Box 7668
D'Iberville, Mississippi 39540

AGENT: **Mr. Dana R. Sanders, Jr.**
7129 East Central Park Drive
Moss Point, Mississippi 39562

LOCATION: In wetlands adjacent to Canal No. 2, north of Lantana Boulevard, east of Mitchell Road, and east of Old Savannah Drive, Latitude 30.354105 North, Longitude - 89.175234 West, Section 10, Township 8 South, Range 12 West, Long Beach, Harrison County, Mississippi.

WORK: The applicant proposes to place fill material in 5.08 acres of low quality (as determined by M-WRAP), wet pine savannah wetlands to construct a 113-lot, single-family residential subdivision. The subject property is a 108-acre parcel containing approximately 72.89 acres of jurisdictional wetlands. On-site wetlands consist of 24.57 acres of bottomland hardwood wetlands running parallel to Canal No. 2, and 48.32 acres of pine savannah wetlands. The applicant proposes to develop approximately 41 acres of the larger 108-acre tract. The project is made up of two parts, the first located in the northern end of the property east of Mitchell Road and the second along the south property line directly adjacent to an existing subdivision. Best management practices

would be implemented during and following all construction activities. Silt fences and other appropriate materials would be installed to block erosion and sedimentation in wetlands outside the project area. Disturbed surfaces would be planted to grass mixtures, except areas to be sodded. Planting and/or sodding would be undertaken as soon as possible after preparation of the project area.

EXISTING CONDITIONS: The project site is currently forested with a mixed pine/hardwood canopy with a dense sapling/shrub understory. The project site is bordered by private residences to the north, south and west with mostly undeveloped acreage to the east. Canal No. 2 flows northeast to southwest through the southern portion of the property. The northern acreage adjacent to Mitchell Road has an existing private residence along with an abandoned RV park with abandoned buildings. Dominant vegetation in the pine savannah wetland tree stratum include loblolly pine, magnolia, black gum and sweetbay. The sapling/shrub stratum is dominated by big leaf gallberry, farkleberry, and titi. Soils consist of Harleston (HIB and HIA) and Ocilla in the uplands, and Plummer and Ponzer soils in the wetlands. The majority of the site has Harleston soils at a 2-4 percent slope.

PROJECT PURPOSE: As stated by the applicant, "To provide 113 lots for construction of single family residences. The project will provide jobs for the area, create a tax base for the County, and provide a purchasing opportunity for home buyers wishing to live within close proximity of Gulfport schools, shopping and beaches." The U.S. Army Corps of Engineers (USACE) initially determined the basic project purpose is a single-family, 113-lot subdivision, and would not be considered a water dependent activity. Additional review will be performed by the USACE and cooperating agencies.

ALTERNATIVES: The USACE's initial review of alternatives submitted by the applicant consists of four alternate locations in the vicinity. The 108-acre parcel contains 72.89-acres of jurisdictional wetlands. The applicant designed the proposed project to make maximum use of all on-site uplands. Additional review of alternatives will be performed by the USACE and cooperating agencies.

MITIGATION: Compensatory mitigation is required for the loss of 5.08 acres of low quality (based on M-WRAP analysis) wet pine savanna. The applicant is proposing mitigation through the purchase of 10.16 (2:1) mitigation credits from an approved mitigation bank. Additional review of mitigation requirements will be performed by the USACE and cooperating agencies. Final compensatory mitigation will be evaluated by the USACE and cooperating resource agencies throughout the review process for the proposed project.

The applicant has applied for certification from the State of Mississippi in accordance with Section 401(a)(1) of the Clean Water Act and upon completion of the required advertising; a determination relative to certification will be made.

The applicant has applied for coastal zone consistency from the State of Mississippi Department of Marine Resources (MDMR) in accordance with Section 57-15-6 of the Mississippi Code Annotated. The MDMR issued consistency by letter dated December 6, 2018 (DMR-190014).

This public notice is being distributed to all known interested persons in order to assist in developing facts on which a decision by the USACE can be based. For accuracy and completeness of the record, all data in support of or in opposition to the proposed work should be submitted in writing setting forth sufficient detail to furnish a clear understanding of the reasons for support or opposition. The decision whether to issue a permit will be based on an evaluation of the probable impact, including cumulative impacts, of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources.

The benefits, which reasonably may be expected to accrue from the proposal, must be balanced against its reasonably foreseeable detriments. All factors, which may be relevant to the proposal, will be considered, including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, protected species, flood hazards, flood plain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food production and in general, the needs and welfare of the people.

The USACE is soliciting comments from the public; Federal, State and local agencies and officials, Indian Tribes, and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the USACE to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity. Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held for consideration of this application. Requests for public hearings shall state with particularity, the reasons for holding a public hearing.

Evaluation of the probable impacts involving deposits of dredged or fill material into waters of the United States will include the application of guidelines established by the Administrator of the U.S. Environmental Protection Agency.

In accordance with Section 106 of the National Historic Preservation Act, and Appendix C of 33 CFR 325, the undertaking defined in this notice is being considered for the potential to effect cultural and historic properties within the permit area. In accordance with Appendix C of

33 CFR Part 325, the USACE has determined that the permit area is the full area of development for the overall project footprint. The National Park Service, National Register of Historic Places database has been consulted. No known archaeological sites are located within or very close to the project area. The proposed project will have **no potential to cause effects** on cultural resources in the permit area. We are seeking comment from the State Historic Preservation Officer, Federally-recognized American Indian tribes, local historical societies, museums, universities, the National Park Service, and the general public regarding the existence or the potential for existence of significant cultural and historic properties which may be affected by the work. The State Historic Preservation Officer replied to the MDMR notice by letter dated June 1, 2015, stating it is their determination that no cultural resources are likely to be affected, (MDAH Project Log #05-062-15).

Preliminary review of this application and the U.S. Department of the Interior's List of Endangered and Threatened Wildlife and Plants indicated the following terrestrial species may be present within the affected watershed: The West Indian Manatee (E) (*Trichechus manatus*), the Piping Plover (T) (*Charadrius melodus*), the Red Knot (T) (*Calidris canutus rufa*), the Wood Stork (T) (*Mycteria Americana*), the gopher tortoise (T) (*Gopherus polyphemus*), the Mississippi Gopher Frog (E) (*Rana sevosa*) and the Loggerhead Sea Turtle (E) (*Caretta Caretta*). No listed critical habitat is located on or near the project site. Preliminary review of this application and the U.S. Department of the Interior's List of Endangered and Threatened Wildlife and Plants for the 12-HUC watershed suggest that the proposed activity will have **no effect** on listed endangered or threatened species or critical habitat. This determination is being coordinated with the U.S. Fish and Wildlife Service via this public notice.

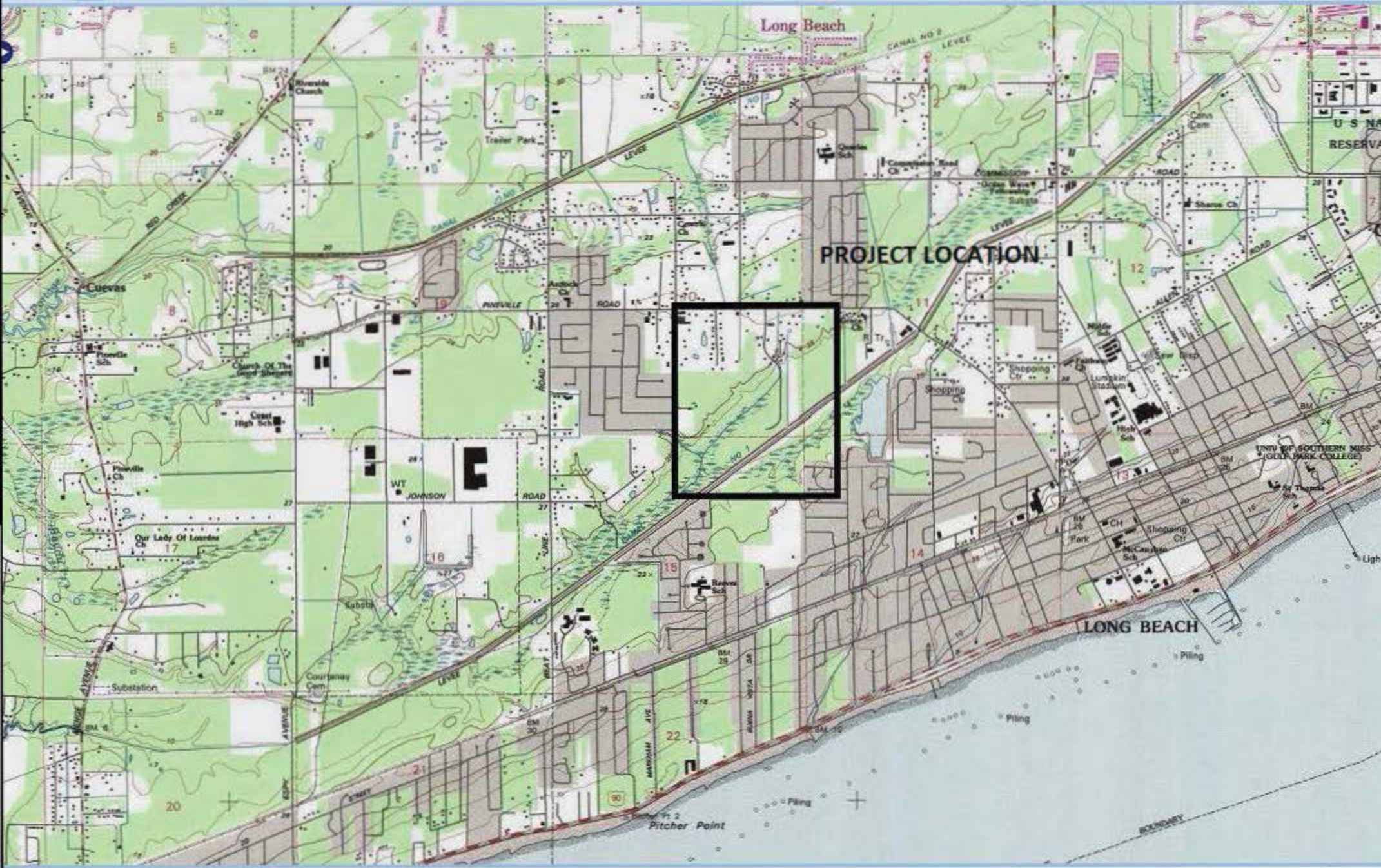
Correspondence concerning this Public Notice should refer to Public Notice Number **SAM-2018-00832-MJF**, and should be directed to the District Engineer, USACE, Mobile District, Biloxi Field Office, Attention: **Ms. Maryellen Farmer**, 1141 Bayview Avenue, Suite 104, Biloxi, Mississippi 39530, with a copy to the Mississippi Department of Environmental Quality, Office of Pollution Control, Attention: **Ms. Florance Bass, P.E.**, Post Office Box 2261, Jackson, Mississippi 39225.

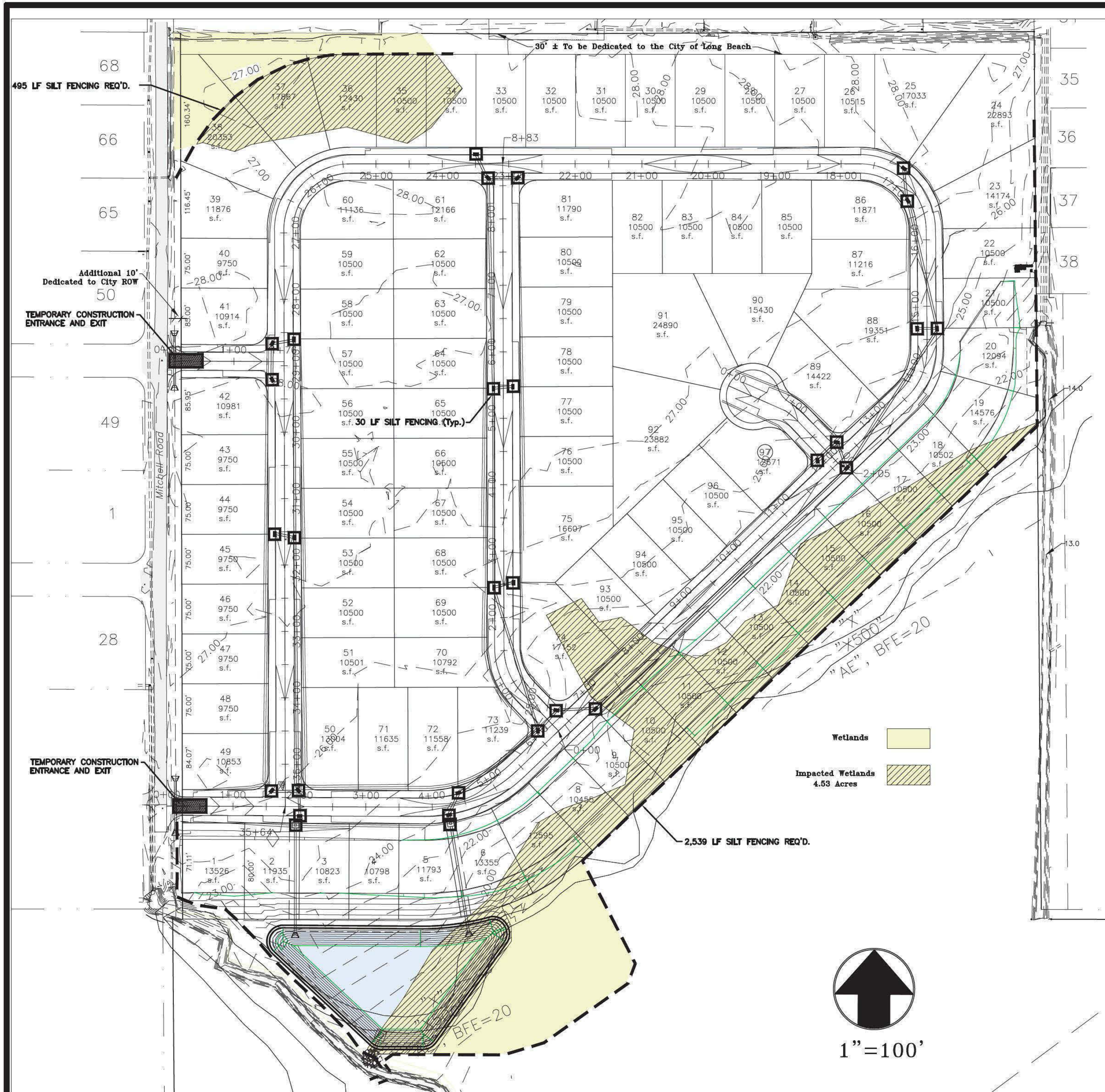
All Comments should be received no later than 30 days from the date of this Public Notice. If you have any questions concerning this publication, you may contact the project manager at (228) 523-4116, or email maryellen.j.farmer@usace.army.mil. Please refer to the above Public Notice number.

For additional information about our Regulatory Program, please visit our web site at: www.sam.usace.army.mil/Missions/Regulatory.aspx.

MOBILE DISTRICT
U.S. Army Corps of Engineers

Enclosures





STORM WATER POLLUTION PREVENTION PLAN

MAINTENANCE PLAN:

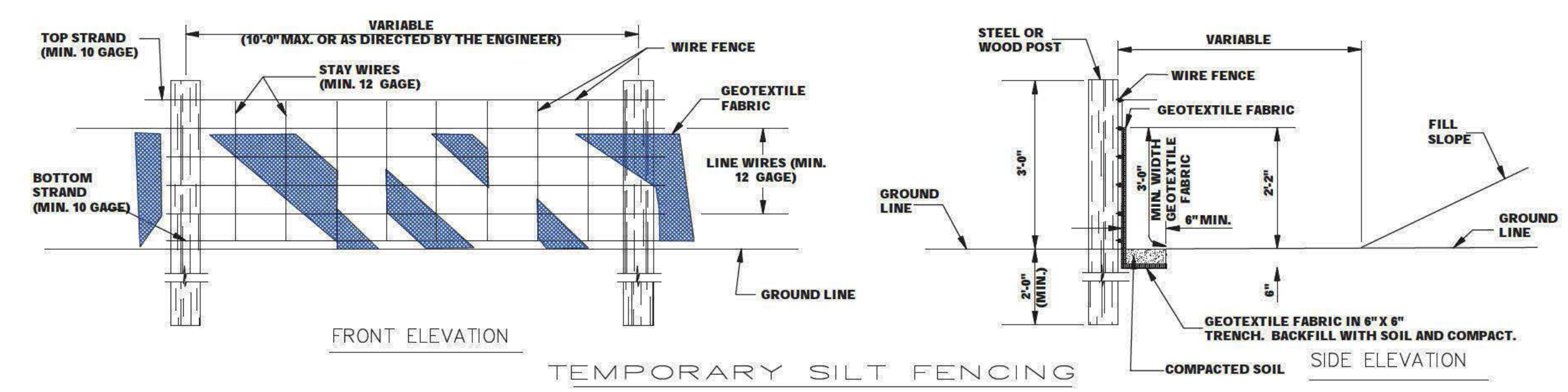
- 1) Vegetative buffer zones shall be maintained between land disturbing activities and perennial water bodies or planted vegetated areas. Buffer zones shall provide a minimum 150-ft buffer and shall be no less than 15 feet in width.
- 2) Vegetative controls shall be initiated no later than the next work day following any clearing, grading, excavating or other land disturbing activities which have temporarily or permanently ceased on any portion of the site and will not resume for a period of fourteen (14) days or more. Vegetative controls shall consist of Bermuda grass or other suitable ground cover grasses which will blend with the native vegetation and provide the desired stabilization and erosion protection. Solid sod may be used in areas prone to erosion due to isolated concentrations of surface drainage.
- 3) Structural controls shall consist of silt fencing, straw bales, rip-rap and/or erosion matting or some combination thereof at all points of discharge into existing drainage systems. The controls are to be left in place and maintained for the duration of the project. Upon satisfactory stabilization of site, structural controls shall be removed along with any and all silt build-up. Structural controls are to eliminate tracking of sediment in order to prevent any damage to the downstream tributaries or water ways and/or associated wetland areas. Best management practices (BMPs) will be utilized throughout the duration of the construction of the project. Stone-stabilized construction entrances (6" thick and 50' long) will be used to prevent sediment from being tracked onto public roads with tires being washed on an as-needed basis.
- 4) Check all disturbed areas, erosion and sediment controls after each significant rainfall but not less than once per week. Make needed repairs within 24 hours. Remove sediment from basin area(s), inlet protection devices and silt fences when accumulated sediment has reached 50 percent capacity. Replace non-functional silt fence. Maintain all vegetated areas to provide proper ground cover, re-grass, fertilize, and mulch as needed.
- 5) Topsoil shall be stockpiled and reapplied to disturbed areas at a depth of 2 inches on 3:1 slopes and 4 inches on flatter slopes with an admixture of commercial grade 13-13-13 fertilizer.
- 6) Heavy equipment use shall be avoided in re-grassed areas. If compaction cannot be avoided, the top 4 inches of the soil bed shall be tilled/scarified before re-vegetation. Any necessary fertilizer or other soil amendments shall be added during the tilling process.
- 7) Steep slopes that cannot be avoided shall have silt fences for all down slope boundaries (and for those side slope boundaries deemed appropriate by individual site conditions) with the exception of those areas incorporating sediment basins with a calculated volume of run-off from a 2-yr, 24-hr storm of 3,600 cubic feet of storage per acre drained as per the Erosion Control & Drainage Plan. Silt fencing shall be installed at the downstream boundaries of the proposed project to protect areas that are to remain undisturbed.
- 8) Storm drain inlets that could potentially receive storm water from construction activities shall be protected by surrounding with silt fence until final stabilization has been achieved. Additionally, the lower orifice in the outfall structure shall be temporarily plugged until the completion of the construction of the project.

SEQUENCE OF CONSTRUCTION ACTIVITIES:

- 1) Construct construction entrance/exits.
- 2) Construct sedimentation/detention basin(s) with appropriate grassing and/or rip-rap.
- 3) Rough grade site, construct diversions and drainage ways, stockpile topsoil and install silt fence around stockpile, install utilities, culverts and inlets with associated silt fencing.
- 4) Install vegetative controls.
- 5) Construct roadways, drives, parking and buildings.
- 6) Perform final grading, grassing and landscaping operations.
- 7) After site is stabilized, remove all temporary measures and any excess sedimentation from basins.

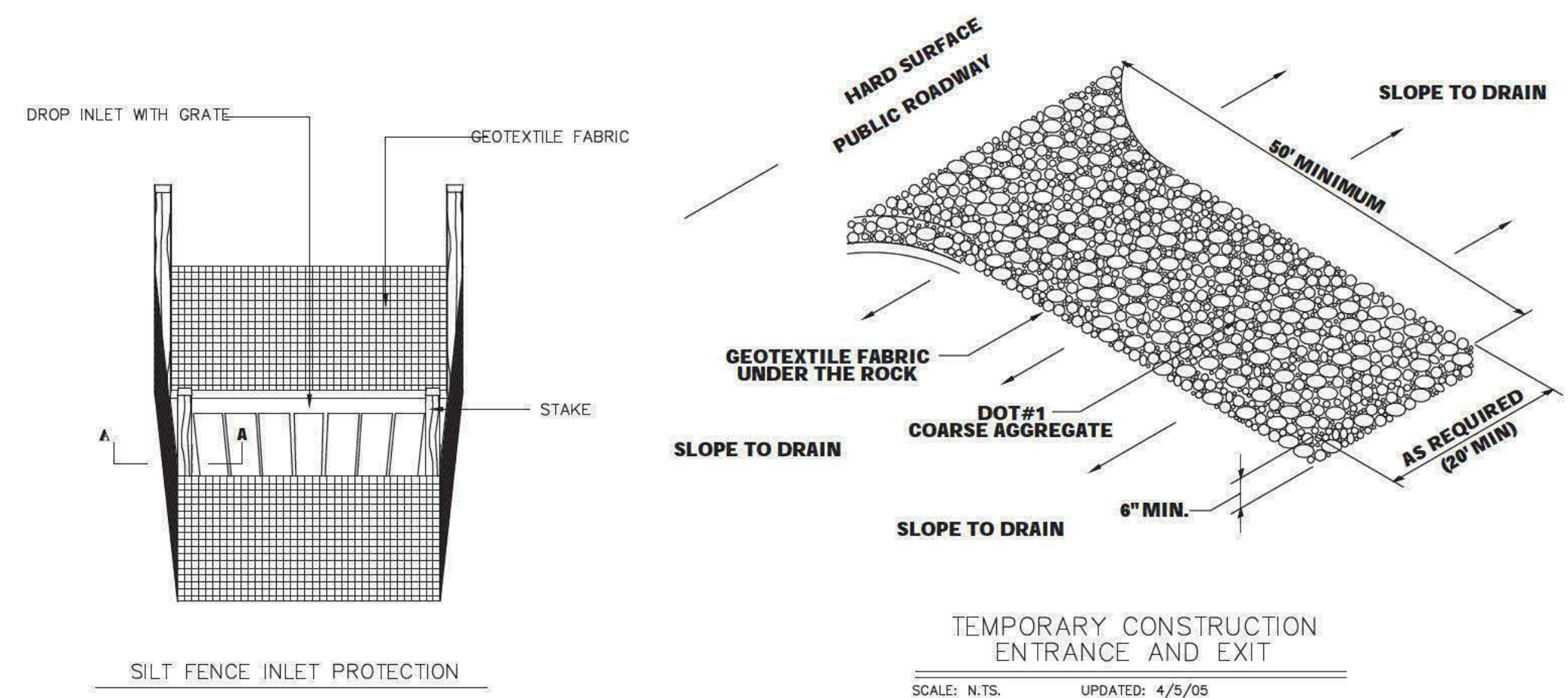
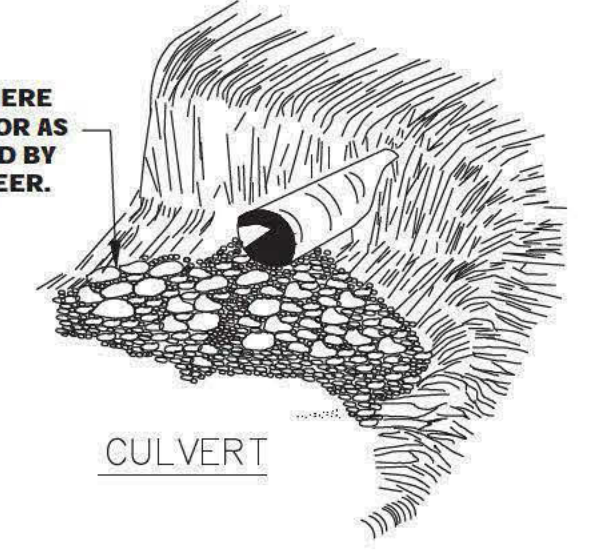
HOUSEKEEPING PRACTICES: All equipment maintenance and repair shall be done off-site. The site is to be cleaned of trash and construction debris on a weekly basis so as to prevent the spreading of such onto adjacent properties. Paints, solvents, fertilizers, and any other potentially toxic materials shall not be stored on site. Portable sanitary facilities will be provided for construction workers. A designated pit area is required near construction entrance(s) for concrete truck wash-out. Site shall be inspected weekly for spills and leaks. Any spills or leaks detected will be immediately cleaned with a dry absorbent material and absorbent oil socks shall be placed around any adjacent drainage inlets. Upon completion of construction, excessive sedimentation and/or pollutants shall be removed from sedimentation basin. Emergency spill kit and telephone shall be available for use for site. Any spills in danger of migrating off-site shall be immediately reported to the National Response Center at (800) 424-8802.

POST CONSTRUCTION/STORM WATER MANAGEMENT MEASURES: The individual lot/site protection plan consists of the installation of sedimentation/detention basin(s), silt fencing, hay bales and/or other erosion/siltation control measures in a continuous band across the downhill side of all disturbed areas including areas adjacent to streets. Under no circumstances will silt laden run-off be allowed to escape the site. Additionally, these requirements are to be an integral part of any sales contracts and recorded covenants for the development. Sedimentation/detention basin(s) are to be thoroughly cleaned of excess sediment after construction. Grassing and/or rip-rap will be placed at concentrated storm water discharge points to prevent erosion from high run-off velocities.



FALL OF DITCH (%)	DISTANCE (ft)
0 - 1	100'
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> 2	25'

MIN. DISTANCES FOR EROSION CHECKS

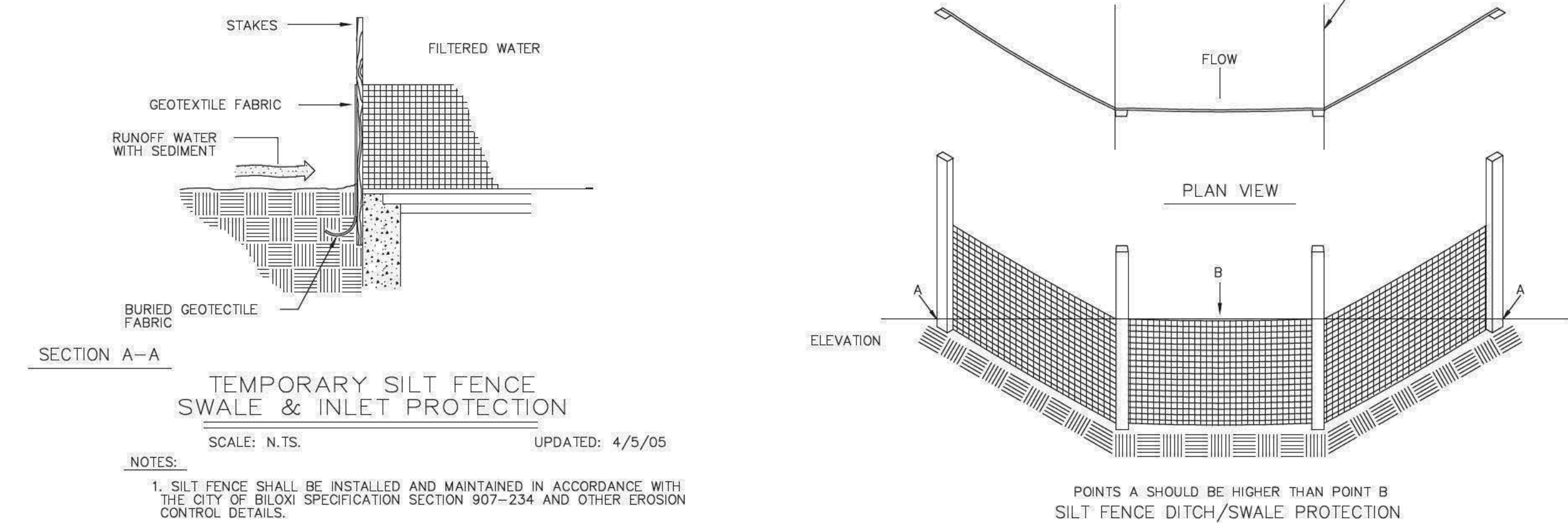


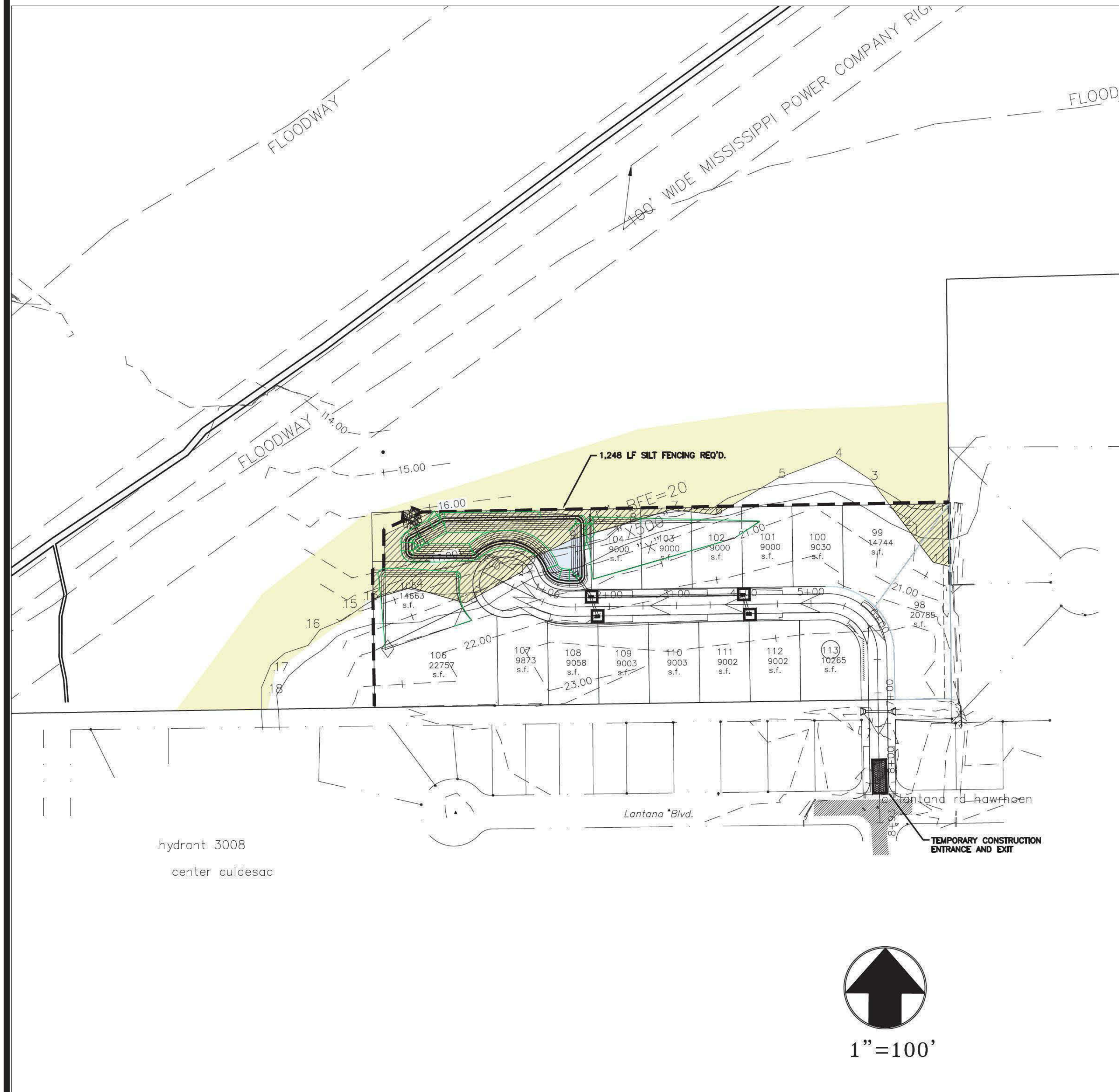
GENERAL NOTES:

1. EROSION CONTROL SEQUENCE SHALL BE AS FOLLOWS: (A) SILT FENCING TO PROTECT EXISTING WETLANDS SHALL BE INSTALLED (B) DETENTION POND TO BE CONSTRUCTED (C) SILT FENCING AND HAY BALES TO BE INSTALLED AROUND ALL DRAINAGE STRUCTURES (D) APPROPRIATE EROSION CONTROL STEPS TAKEN TO STABILIZE SLOPES AND SWALES (E) ALL DISTURBED AREAS TO BE GRASSED EXCEPT WHERE SODDING IS REQUIRED
2. CONTRACTOR SHALL BE RESPONSIBLE FOR THE IMPLEMENTATION OF ALL EROSION CONTROL MEASURES IN ACCORDANCE TO THE WETLANDS PERMIT NUMBER, SAM-2011-1271-TMC, AND THE D.E.G. (SWPP) PERMIT NUMBER. SEE CONTRACT DOCUMENTS FOR COPIES OF PERMITS.
3. CONTRACTOR SHALL INSPECT THE INSTALLED EROSION CONTROL ITEMS AT LEAST ONCE EVERY SEVEN-CALENDAR DAYS AND PROVIDE ANY MAINTENANCE REQUIRED TO PREVENT EROSION AND ADVERSE IMPACTS TO RECEIVING STREAMS.
4. ENTIRE SITE SHALL BE CLEARED AND GRUBBED UNLESS OTHERWISE NOTED, HOWEVER SPECIAL CARE SHOULD BE TAKEN TO PROTECT ANY ORNAMENTAL TREES THAT COULD REMAIN WITH-IN THIS PROJECT.

SILT FENCE NOTES:

1. WIRE SHALL BE MINIMUM OF 32" IN WIDTH AND SHALL HAVE A MINIMUM OF 4 LINE WIRES WITH 12" STAY SPACING.
2. GEOTEXTILE FABRIC SHALL BE A MINIMUM OF 30" IN WIDTH AND SHALL BE FASTENED ADEQUATELY TO THE WIRE AS DIRECTED BY THE ENGINEER.
3. STEEL POST SHALL BE 5'-0" IN HEIGHT AND OF THE SELF-FASTENER ANGLE STEEL TYPE. WOOD POST SHALL BE A MINIMUM OF 4'-0" IN HEIGHT AND 3" OR MORE IN DIAMETER. WIRE FENCE SHALL BE FASTENED TO WOODEN POST WITH NOT LESS THAN 9 GAGE WIRE STAPLES 1' LONG.
4. GEOTEXTILE FABRIC MEETING THE TYPE II MATERIAL REQUIREMENTS AND INSTALLED ACCORDING TO SPECIFICATIONS MAY BE USED WITHOUT WIRE FENCE.





STORM WATER POLLUTION PREVENTION PLAN

MAINTENANCE PLAN:

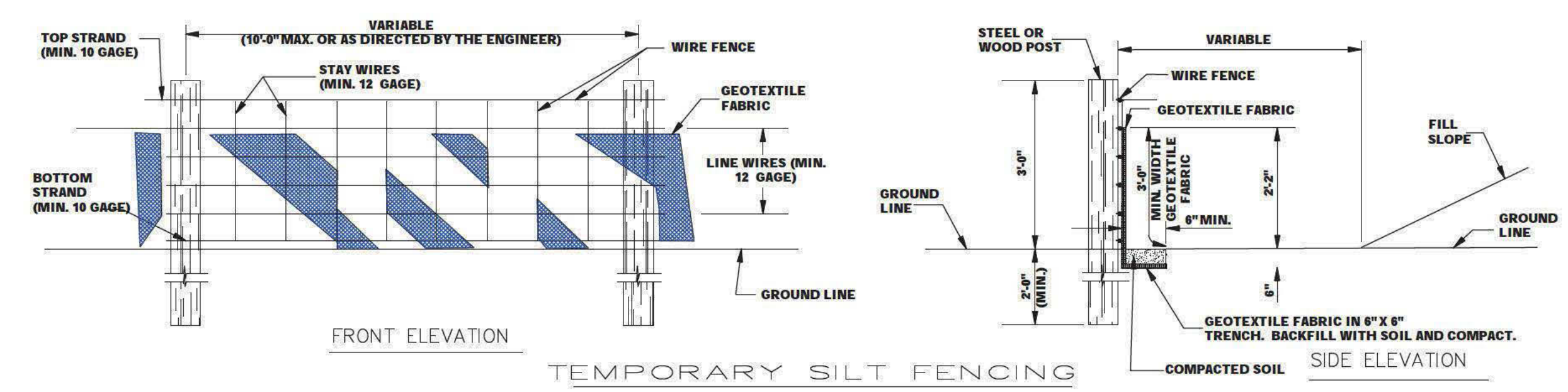
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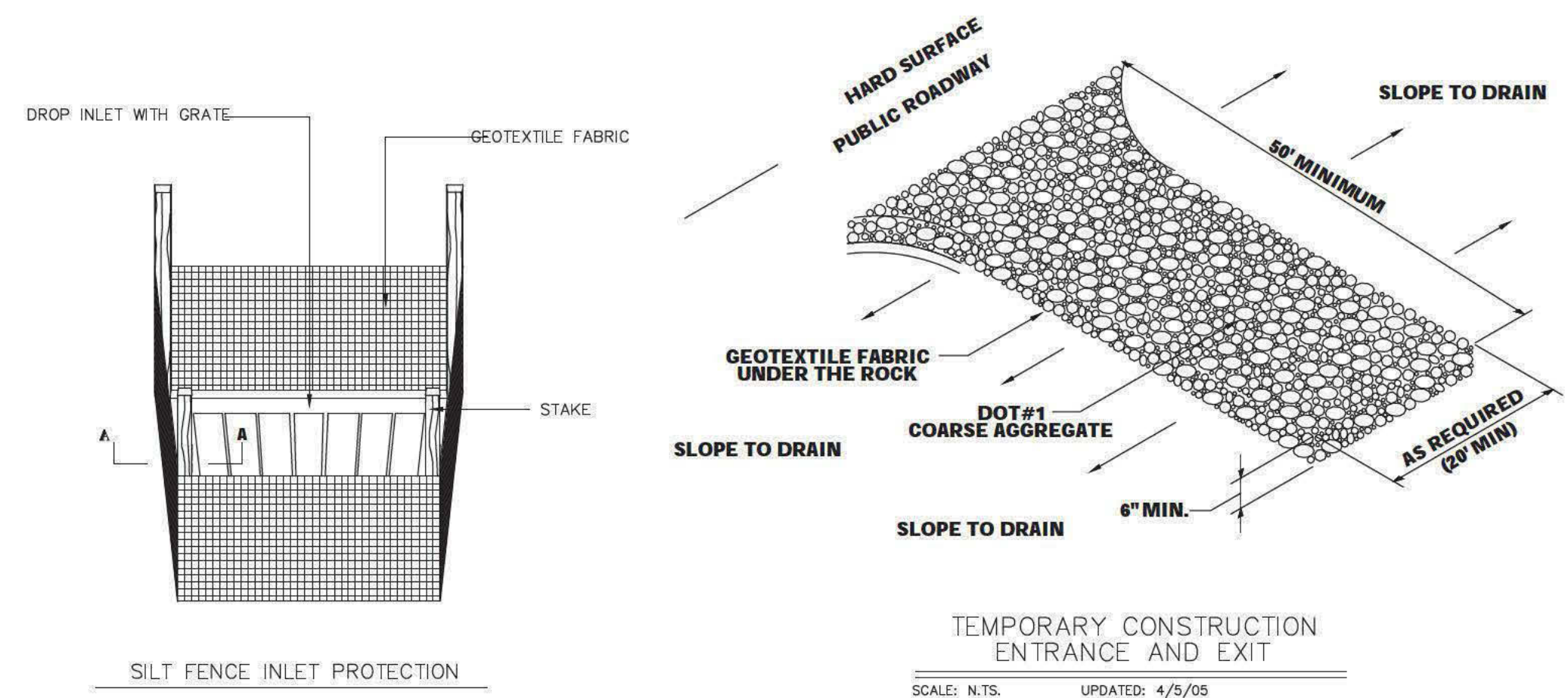
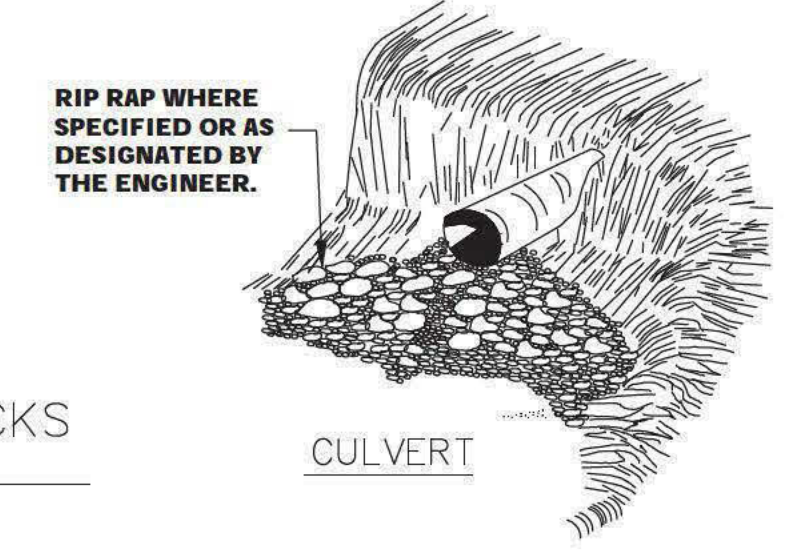
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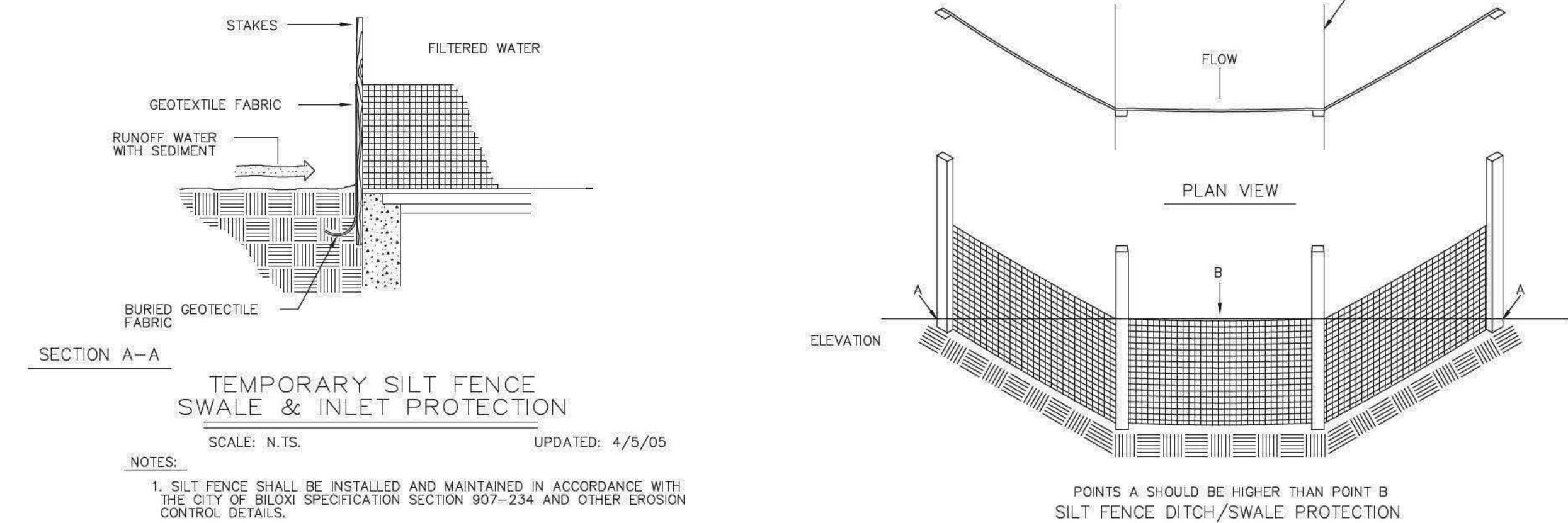


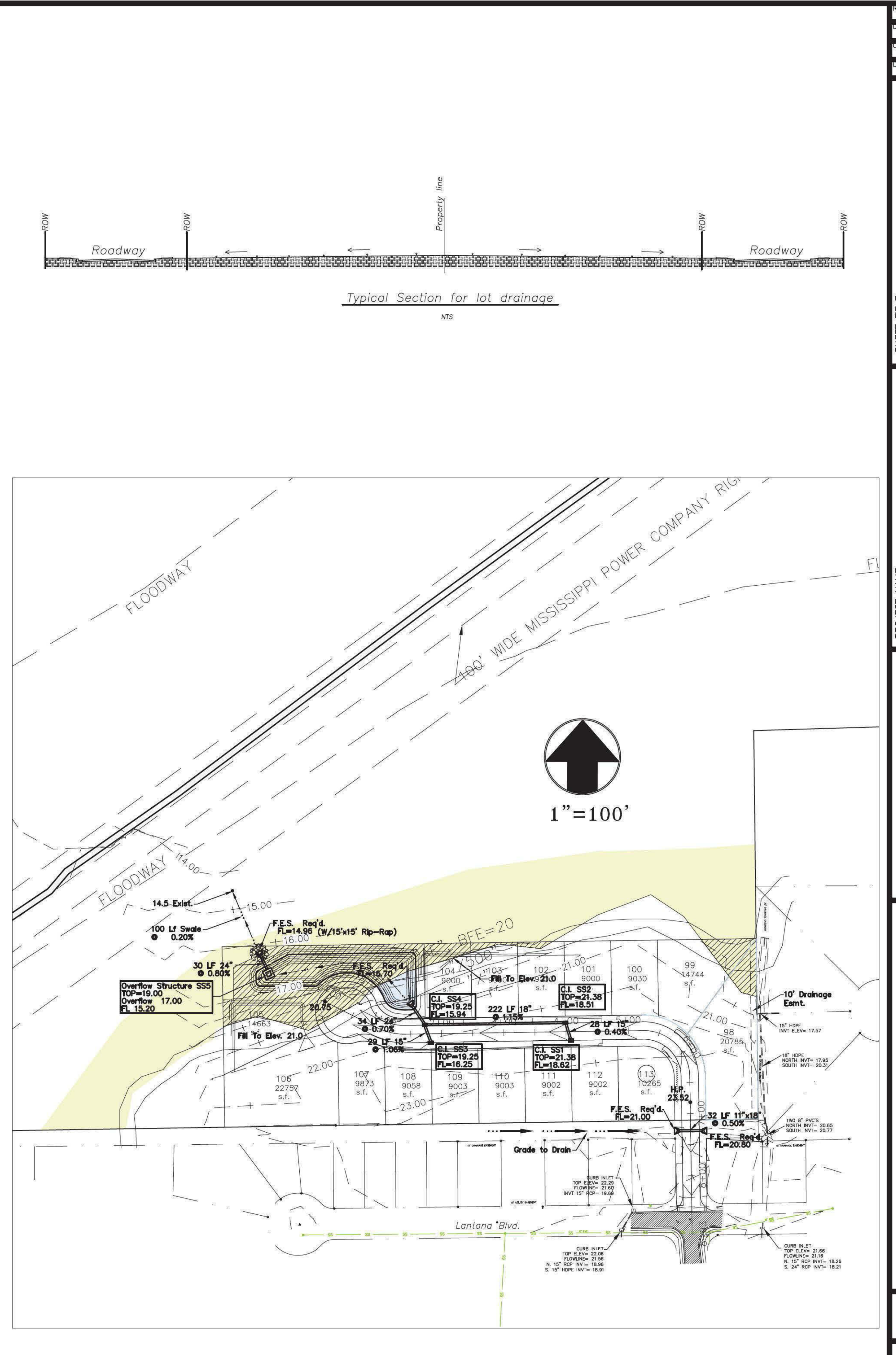
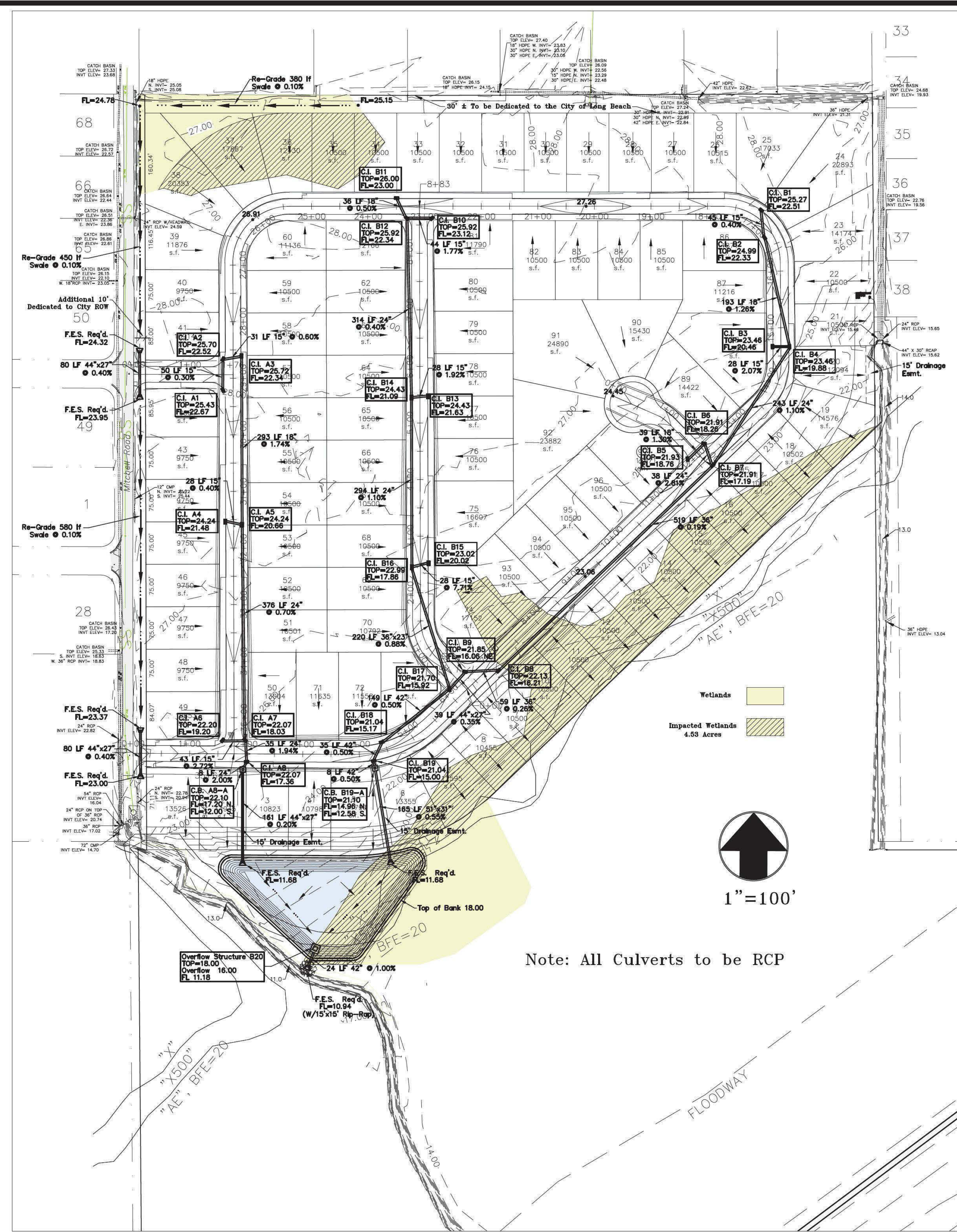
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(B) DETENTION POND TO BE CONSTRUCTED
(C) SILT FENCING AND HAY BALES TO BE INSTALLED AROUND ALL DRAINAGE STRUCTURES
(D) APPROPRIATE EROSION CONTROL STEPS TAKEN TO STABILIZE SIDE SLOPES AND SWALES
(E) ALL DISTURBED AREAS TO BE GRASSED EXCEPT WHERE SODDING IS REQUIRED
2. CONTRACTOR SHALL BE RESPONSIBLE FOR THE IMPLEMENTATION OF ALL EROSION CONTROL MEASURES IN ACCORDANCE TO THE WETLANDS PERMIT NUMBER, SAM-2011-1271-TMC, AND THE D.E.G. (SWPP) PERMIT NUMBER. SEE CONTRACT DOCUMENTS FOR COPIES OF PERMITS.
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3. STEEL POST SHALL BE 5'-0" IN HEIGHT AND OF THE SELF-FASTENER ANGLE STEEL TYPE. WOOD POST SHALL BE A MINIMUM OF 5'-0" IN HEIGHT AND 3" OR MORE IN DIAMETER. WIRE FENCE SHALL BE FASTENED TO WOODEN POST WITH NOT LESS THAN 9 GAGE WIRE STAPLES 1' LONG.
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REVISIONS
DRAWN JG1
CHECKED
DATE May 2016

SHEET TITLE
Drainage Plan

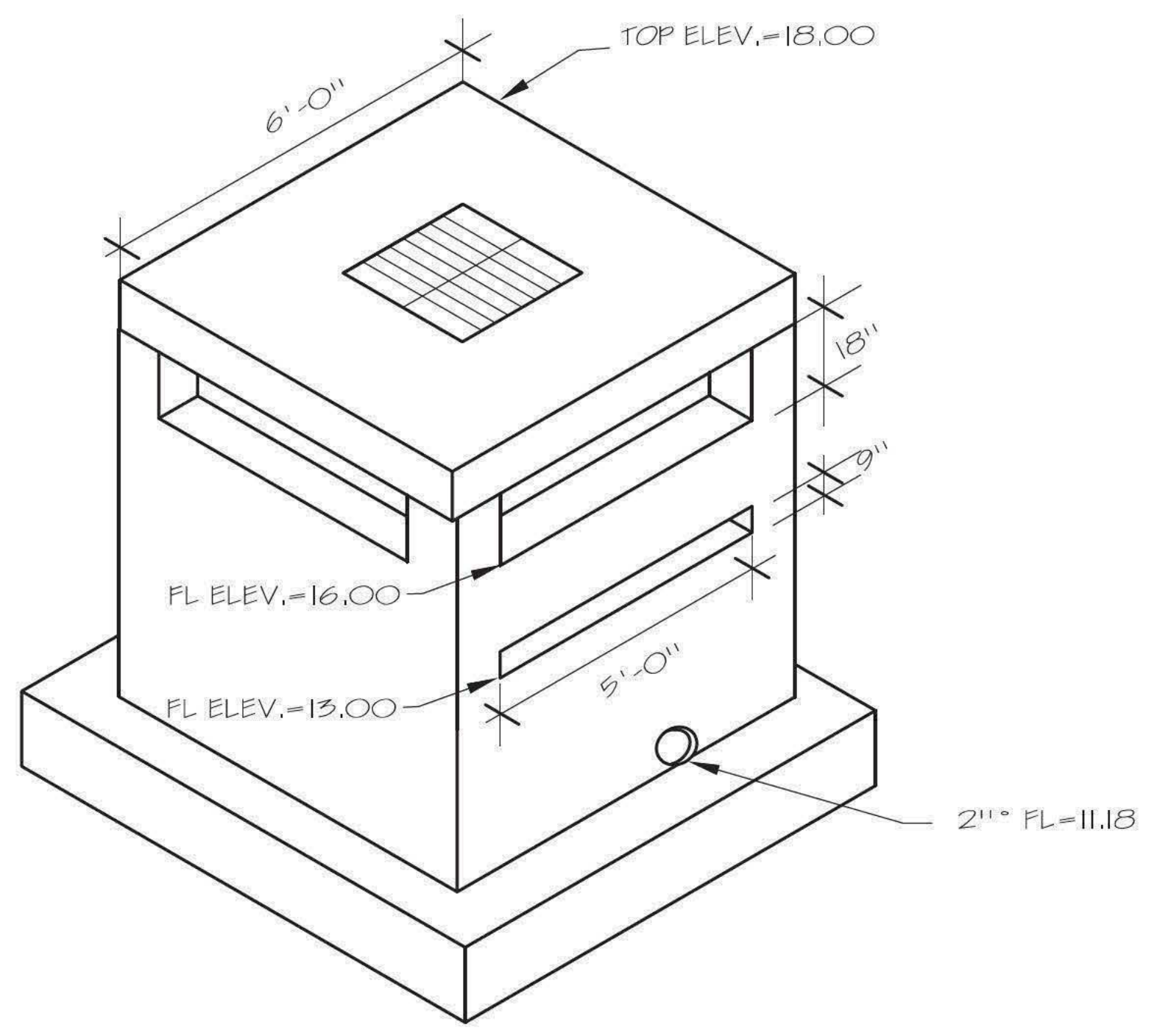
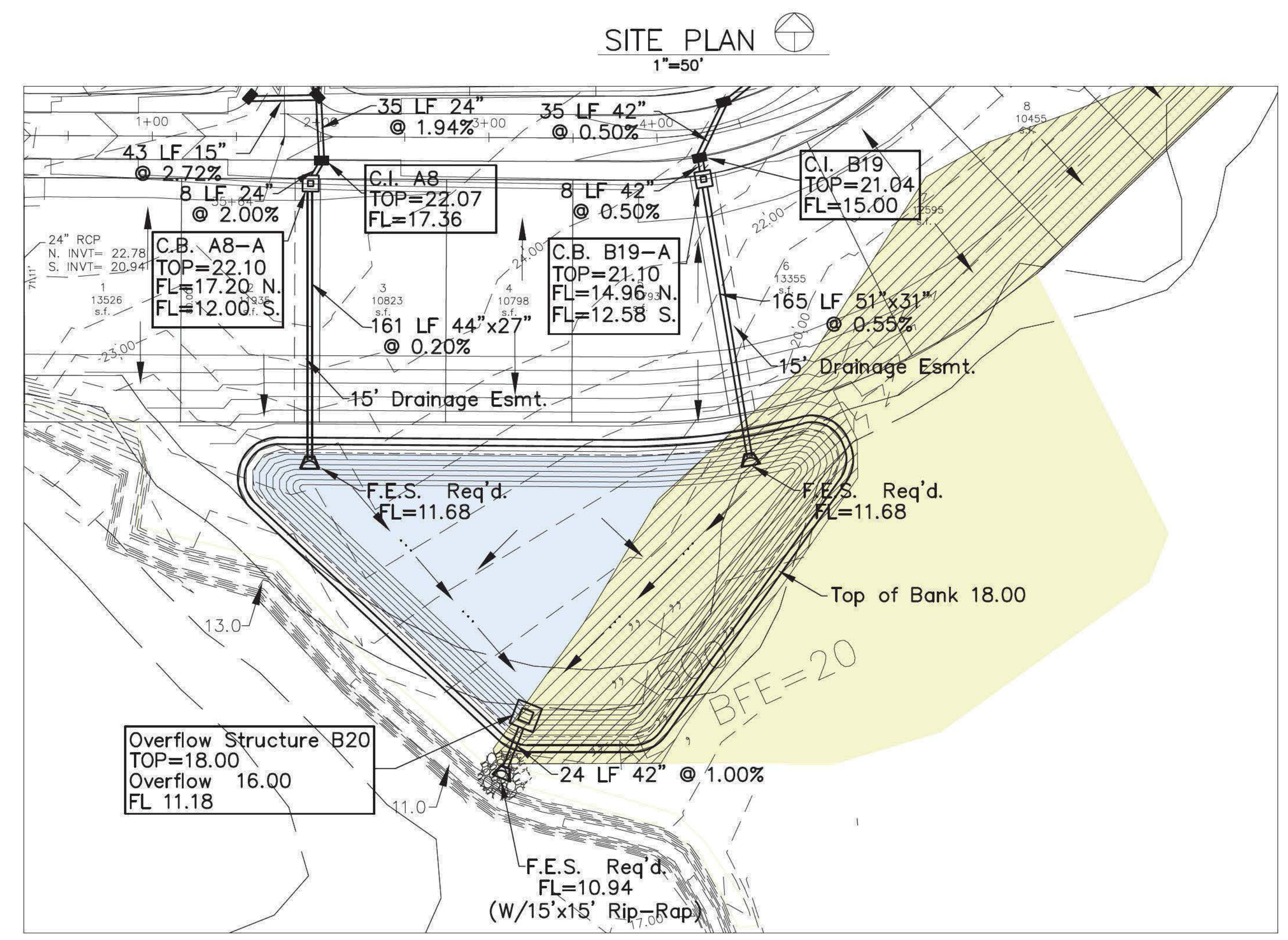
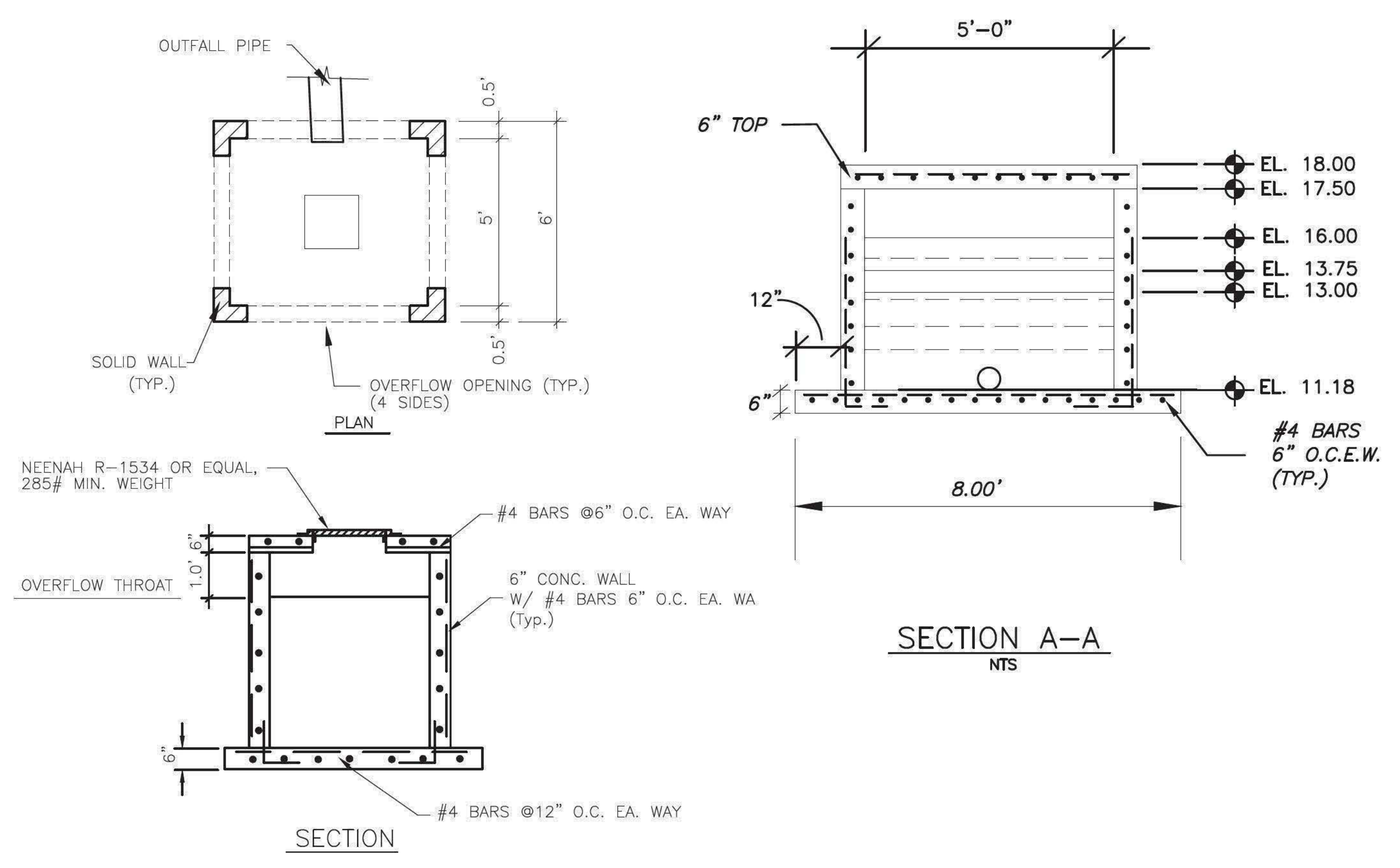
PROJECT NAME
Mitchell Road Subdivision
City of Long Beach, Mississippi

PROJECT NO.
13061 Shriners Blvd, Suite C
Biloxi, Mississippi 39532
Office (228) 392-1638 Fax (601) 392-1679

DESIGNER
Dennis Stiefel and Associates, Inc.
Consulting Engineers

PROJECT NO.
764

Detention Pond Detail



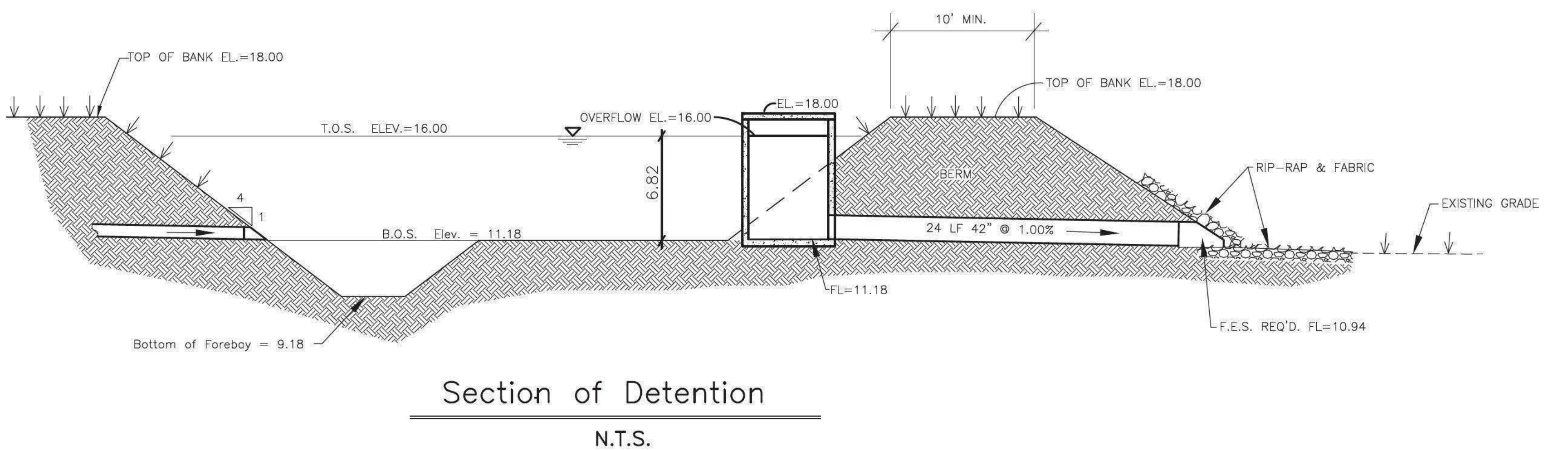
NOTE:
 OVERFLOW BOX TO BE CONSTRUCTED WITH THE SAME MIN. DIMENSIONS NOTED ON THE CATCH BASIN DETAILS EXCEPT WHERE OTHERWISE SPECIFIED.

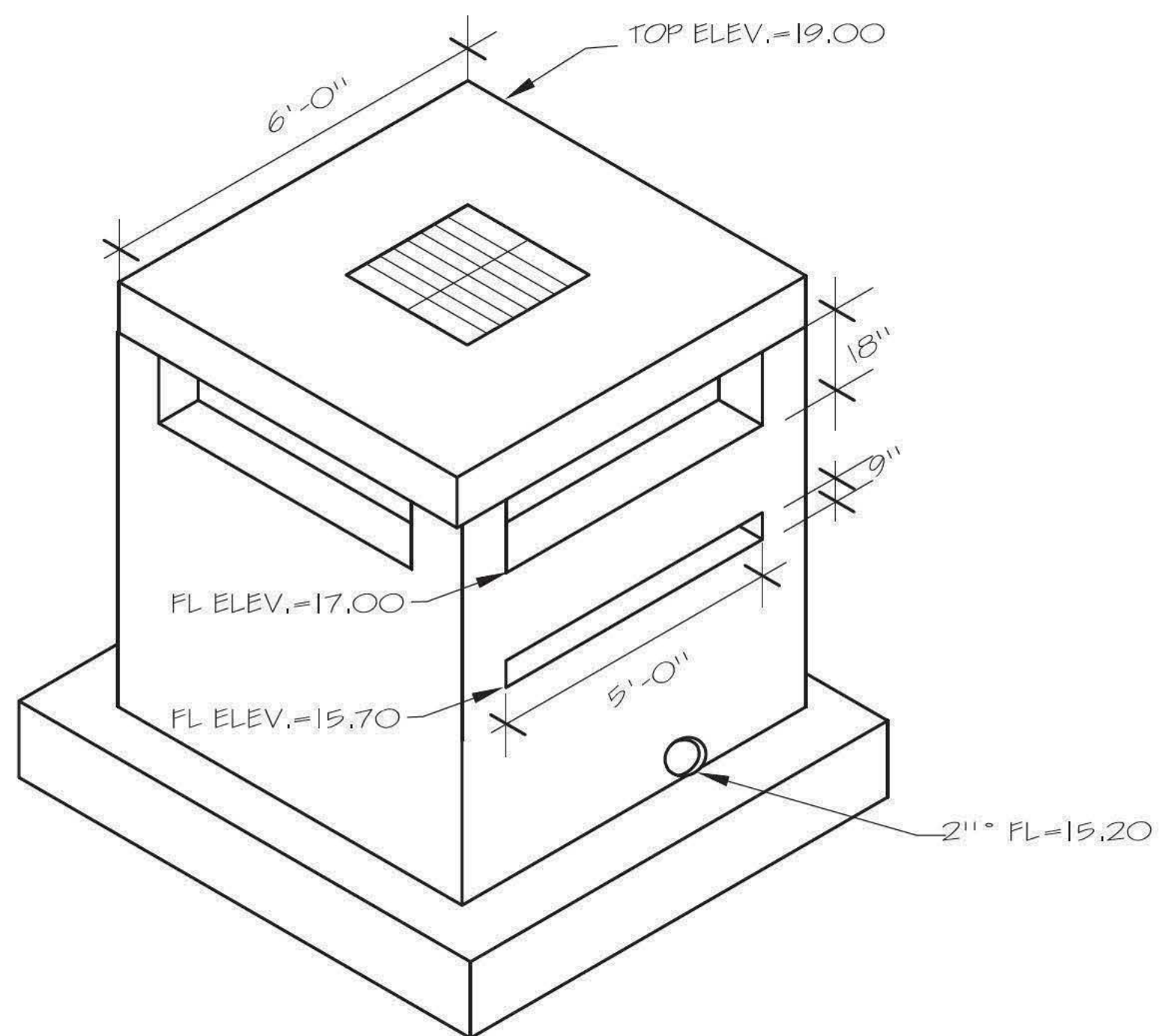
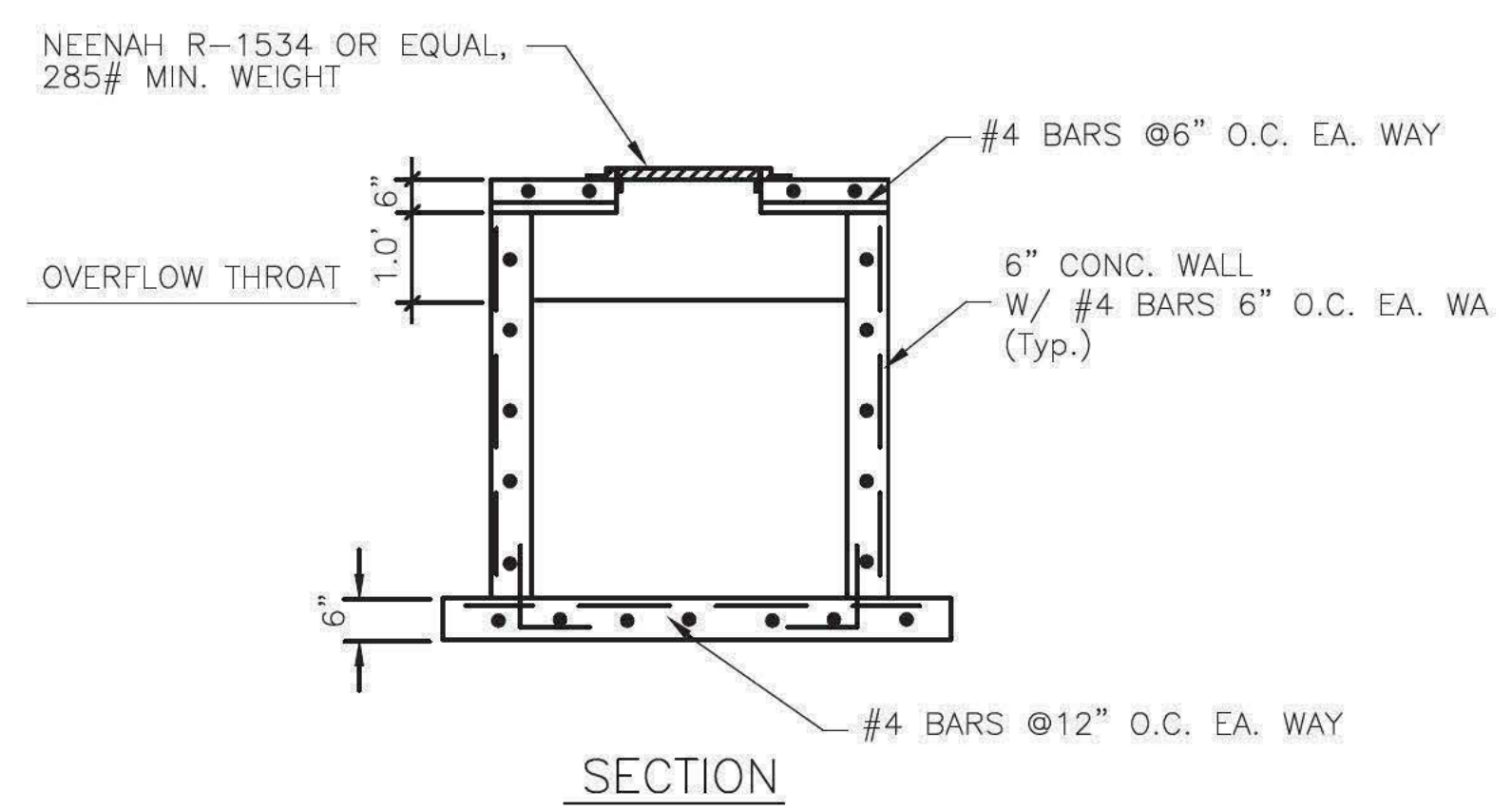
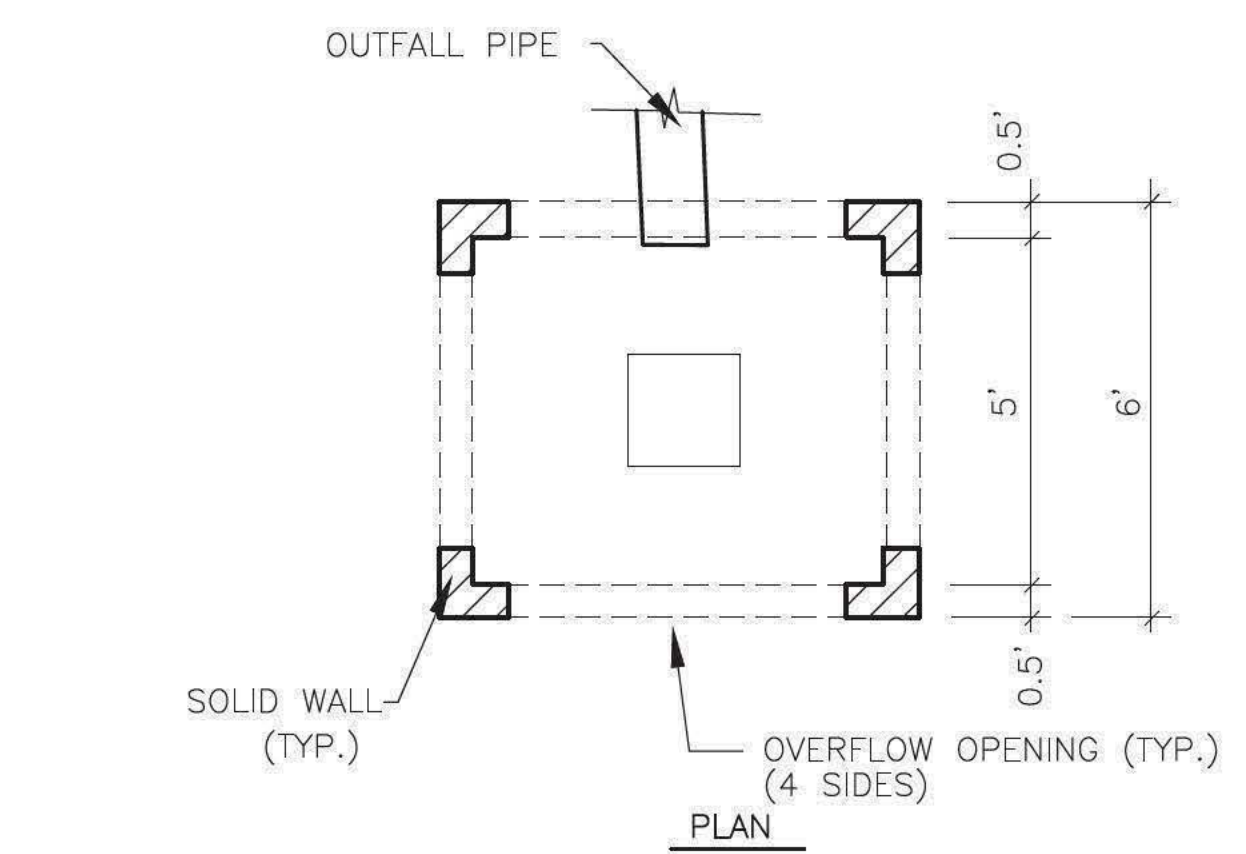
OVERFLOW WEIR DETAIL
 N.T.S.

Detention Basin Geometrics
 Mitchell Road Subdivision (97 lots)
 Project No. 764
 June 9, 2018

Basin	Total Area (ac)	Swale Length (avg/lot) (input)	Number of Units/ Basin (input)	Est. Basin Geometrics			Avg Surf Area Req'd (sf)	*Min Basin Vol Req'd (cf)	Surf Area Provided (ac)	**Basin Vol Provided (cf)	Orifice Dia (in)	Return Time (hrs)	Top of Bank Elev (ft)	Top of Storage Elev (ft)	Avg Storage Area (ac)	Bot of Storage Elev (ft)	Bot of Basin Elev (ft)	Forebay Geometrics										
(input)	(input)	(input)	(ft)	Avg Len (ft)	Avg Wid (ft)	Depth (ft)	(sf)	(cf)	(ac)	(cf)	(input)	(input)	(input)	(input)	(input)	(input)	(ft)	Vol (cf)	L (ft)	W (ft)	D (ft)							
Q	27.4	200	97	133	66	4.82	8,804	42,438	0.8040	168,807	2	63	200+	18.00	0.3919	16.00	0.2988	13.59	0.2021	11.18	0.1226	10.18	0.1140	8,488	65	65	2.0	
						(2' min.)					(E)	48 to 72	(A)	(B)		(C)	(D)											

*Minimum basin volume required for first 1-1/2" over impervious surfaces (3,500 sf per lot).
 **Actual basin volume provided in Construction Plans.
 Note: Outfall structure to drain 1/2 the volume within 48 to 72 hours with no more than 1/2 the volume being discharged within 48 hours.

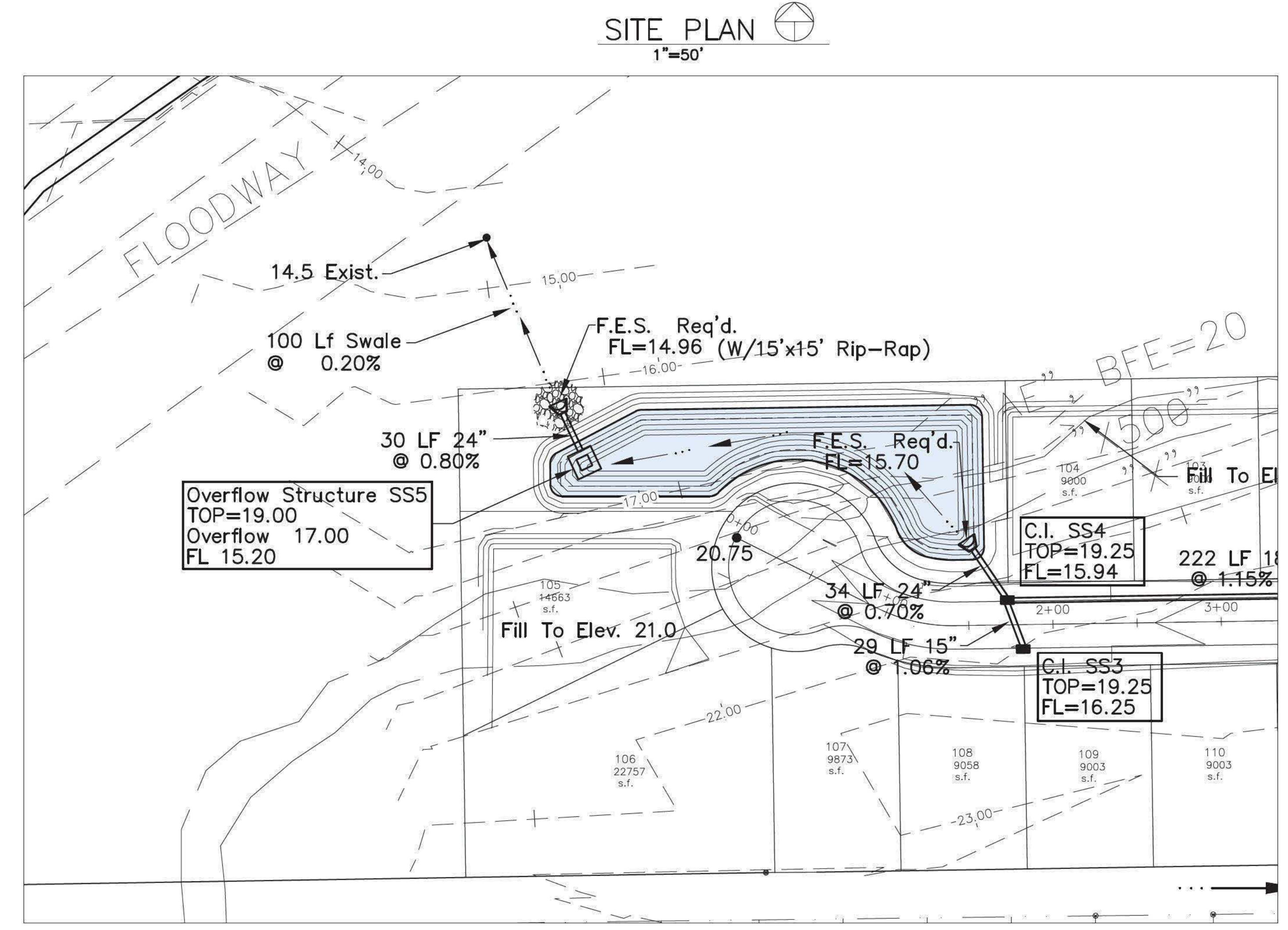
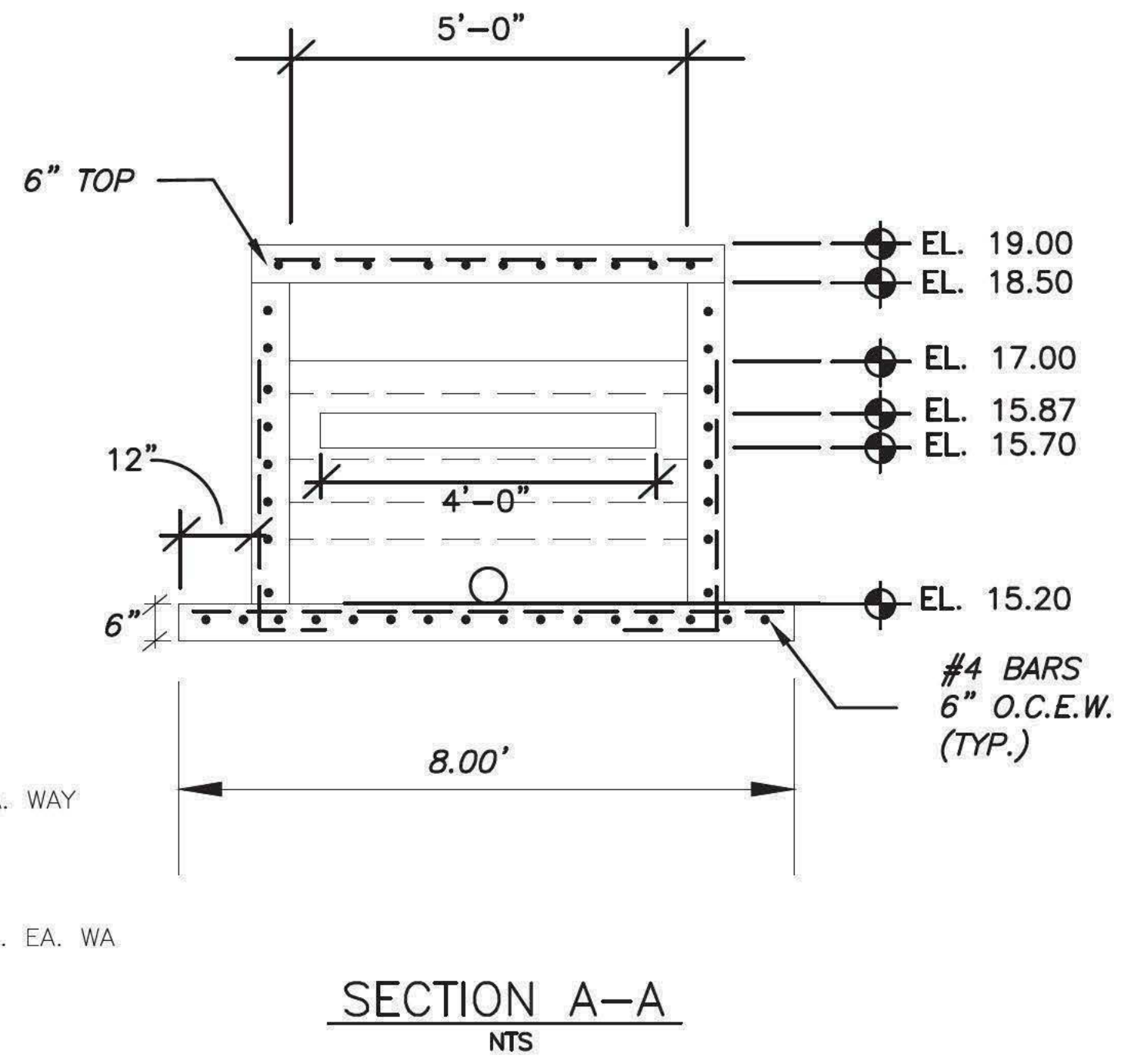




OVERFLOW STRUCTURE
 N.T.S.

NOTE:
 OVERFLOW BOX TO BE CONSTRUCTED WITH THE SAME MIN. DIMENSIONS NOTED ON THE CATCH BASIN DETAILS EXCEPT WHERE OTHERWISE SPECIFIED.

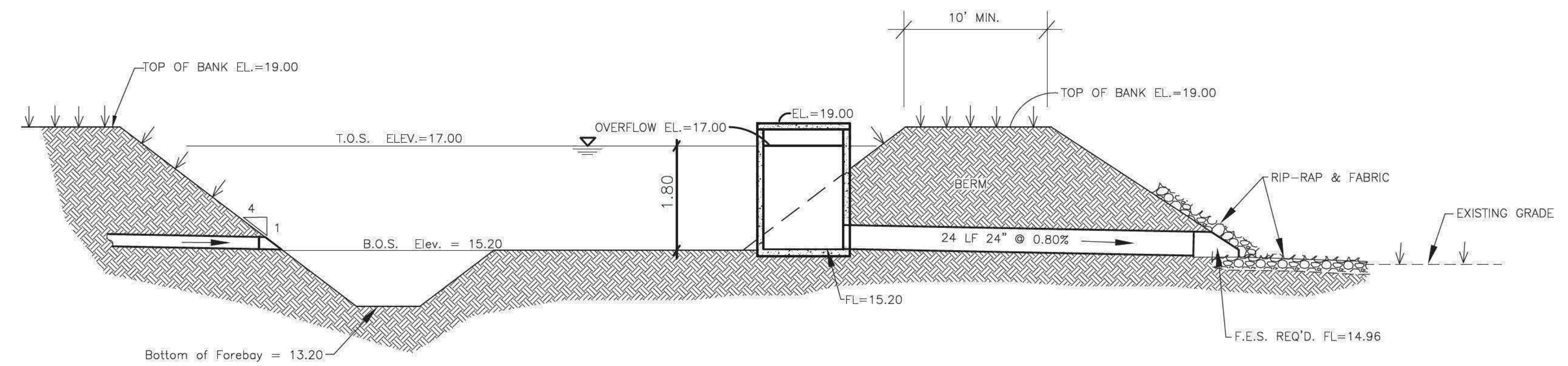
OVERFLOW WEIR DETAIL
 N.T.S.



Detention Basin Geometrics
 Mitchell Road Subdivision -- South Side SS5 (16 lots)
 Project No. 764
 June 9, 2018

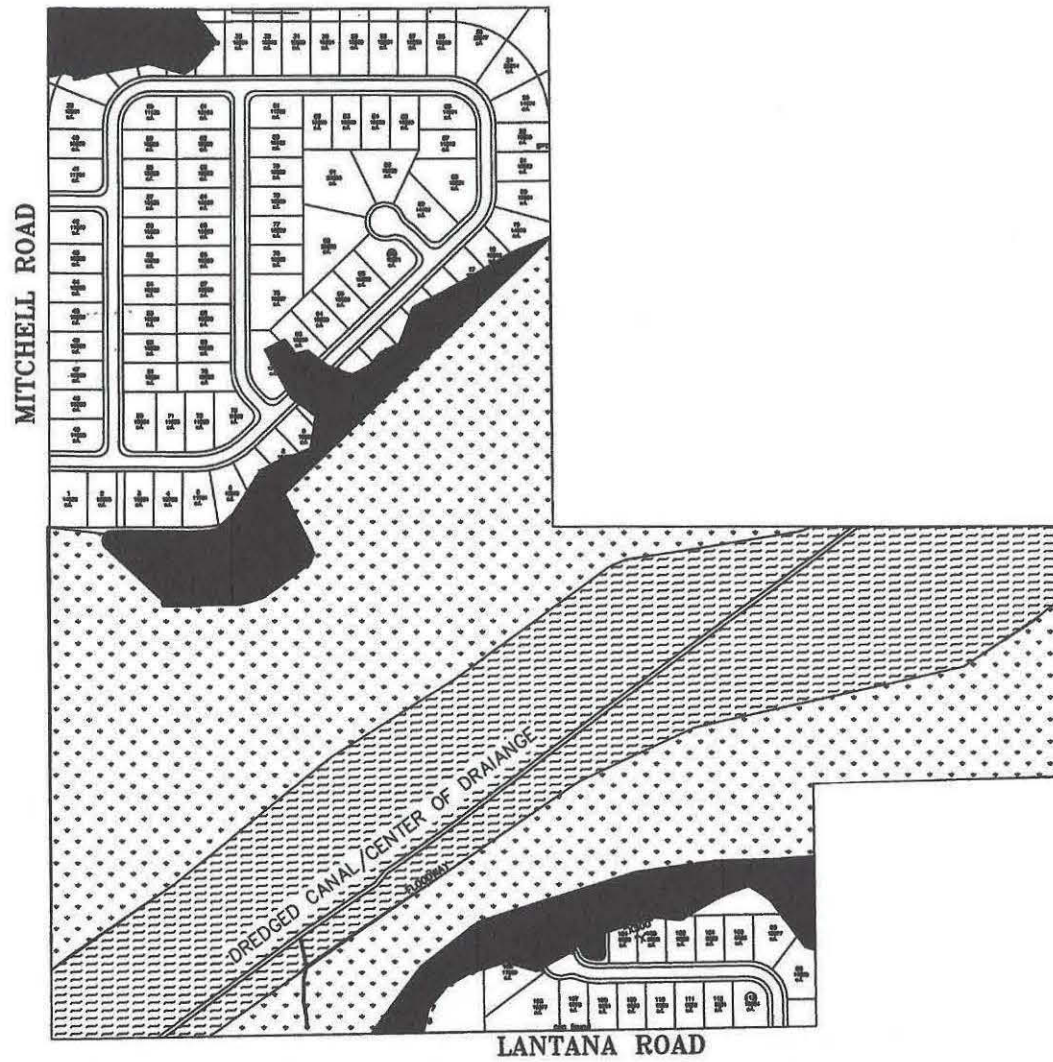
Basin	Total Area (ac)	Swale Length (avg/lot)	Number of Units	Est. Basin Geometrics	Avg Surf Area Req'd	*Min Basin Vol Req'd	Surf Area Provided	**Basin Vol Provided	Orifice Dia (in)	Return Time	Top of Bank	Top of Storage	Avg Storage	Bot of Storage	Bot of Basin	Forebay Geometrics	
	(input)	(input)	(input)	Avg Len (ft) Avg Wid (ft) Depth (ft)	(sf)	(cf)	(ac)	(cf)	(in)	1st Half (hrs) Total (hrs)	Elev (ft) Area (ac)	Elev (ft) Area (ac)	Elev (ft) Area (ac)	Elev (ft) Area (ac)	Elev (ft) Area (ac)	L (ft) W (ft) D (ft)	
SS5	4.3	200	16	88 44 1.80	3,889	7,000	0.2112	16,560	9/16	58 200+	19.00 0.1721	17.00 0.1123	16.10 0.0893	15.20 0.0686	14.20 0.0475	1,400 26 26	2.0
			16						(E)	48 to 72	(A)	(B)		(C)	(D)		

*Minimum basin volume required for first 1-1/2" over impervious surfaces (3,500 sf per lot).
 **Actual basin volume provided in Construction Plans.
 Note: Outfall structure to drain 1/2 the volume within 48 to 72 hours with no more than 1/2 the volume being discharged within 48 hours.



Section of Detention
 N.T.S.

FIGURE 2. MITCHELL ROAD PROPOSED LAYOUT WITH
HARDWOOD/PINE SAVANNA WETLANDS





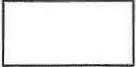

HARDWOOD BOTTOM WETLANDS - 24.57 ACRES	
PINE SAVANNA WETLANDS - 48.32 ACRES	
NONWETLANDS	
PROPOSED WETLAND IMPACTS 4.53 ACRES	

FIGURE 2. PROJECT LAYOUT MAP FOR MITCHELL ROAD
108 ACRE TRACT, GULFPORT, HARRISON COUNTY, MS

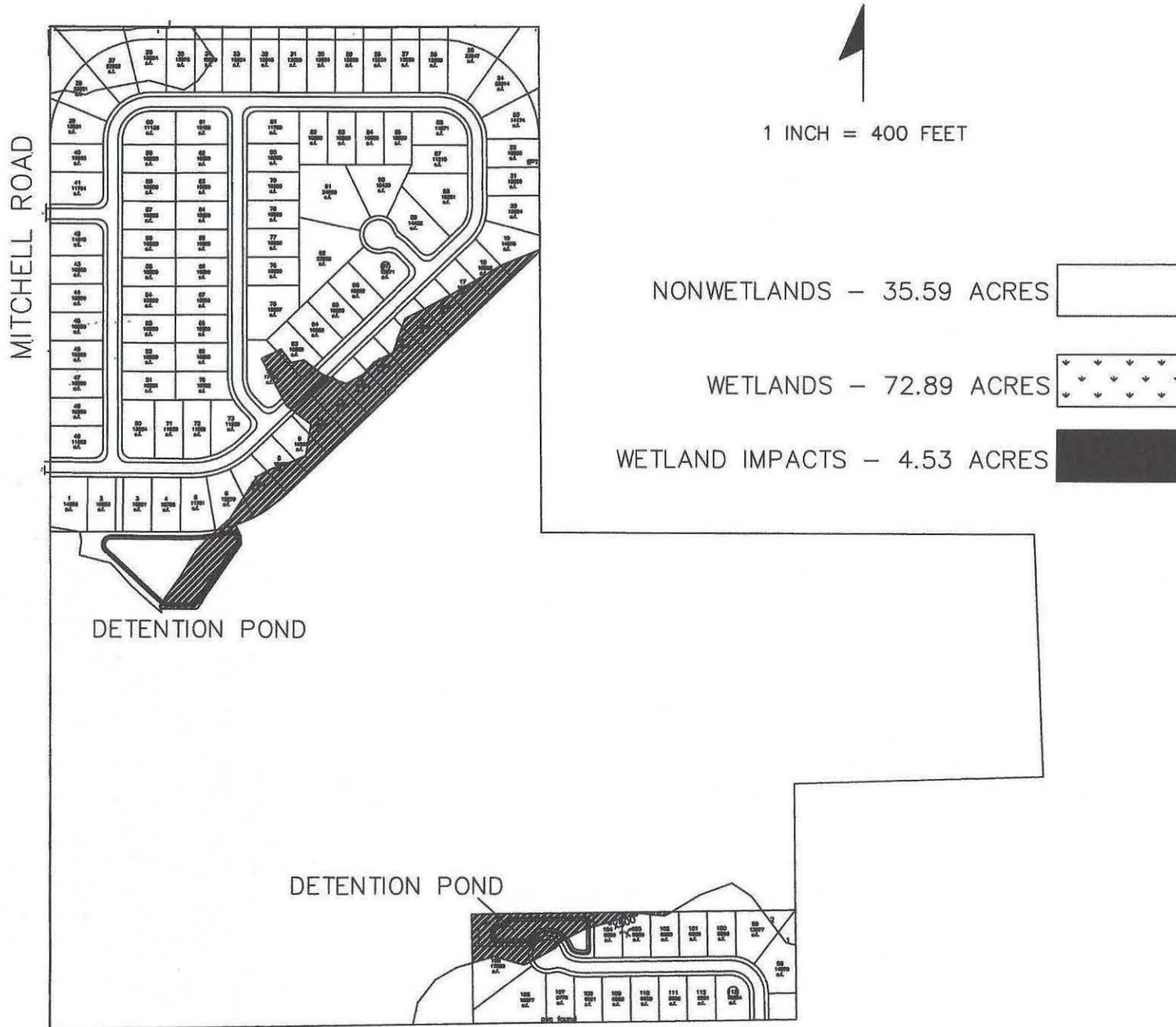
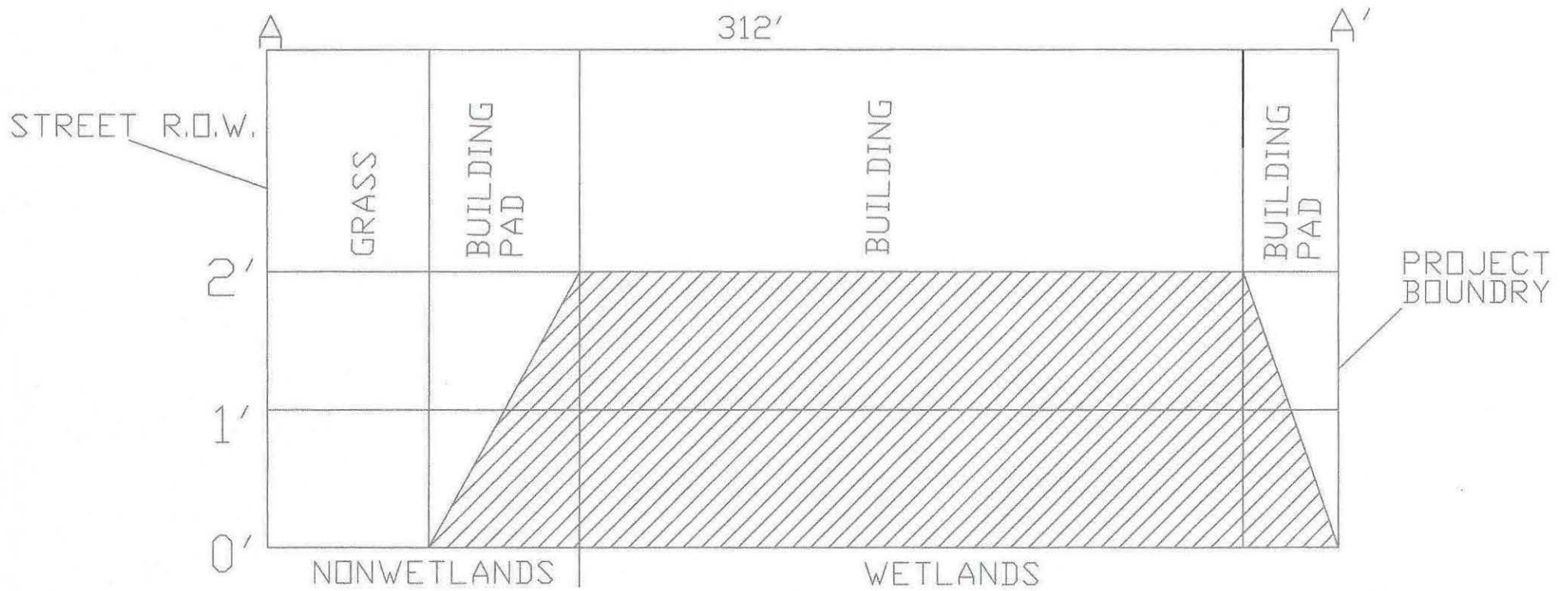
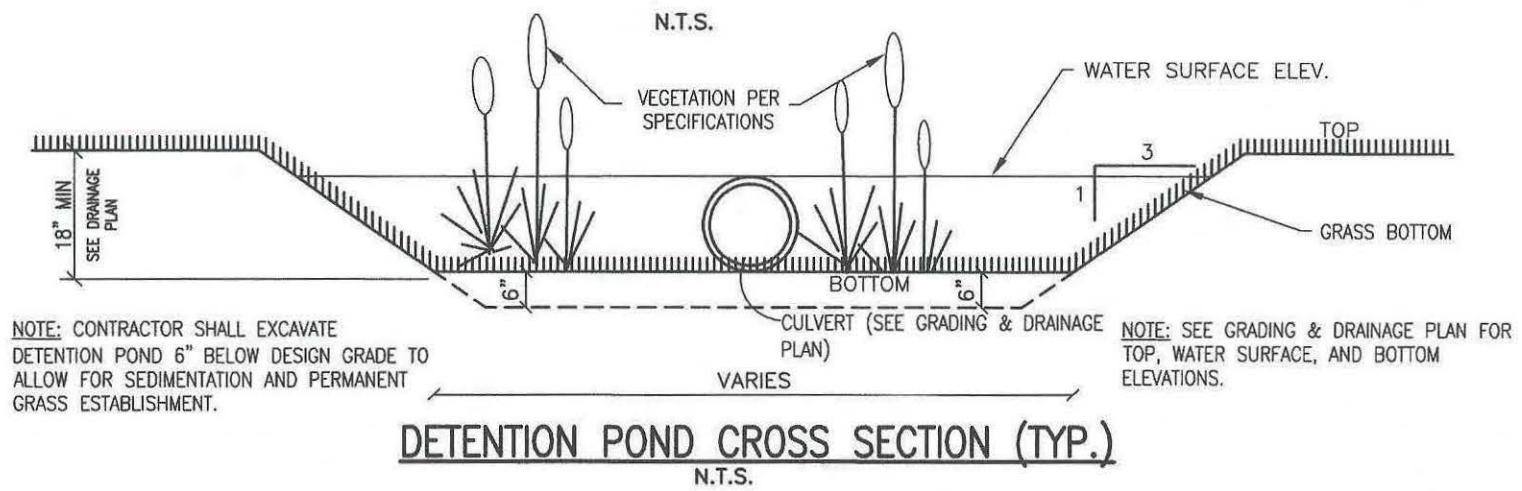


FIGURE 4. CROSS-SECTION OF FILL IN LOT





NOTE: CONTRACTOR SHALL EXCAVATE
 DETENTION POND 6" BELOW DESIGN GRADE TO
 ALLOW FOR SEDIMENTATION AND PERMANENT
 GRASS ESTABLISHMENT.

NOTE: SEE GRADING & DRAINAGE PLAN FOR
 TOP, WATER SURFACE, AND BOTTOM
 ELEVATIONS.