

City of Auburn

HOME OF AUBURN UNIVERSITY

Project Manual

ANNALUE DRIVE AND EAST UNIVERSITY DRIVE INTERSECTION IMPROVEMENTS PROJECT

Not For Bidding Purposes

Project Manager: Patrick Slaughter, 334.501.7390

City of Auburn
Engineering Services Department
161 North Ross Street
Auburn, Alabama 36830

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ANNALUE DRIVE AND EAST UNIVERSITY DRIVE INTERSECTION IMPROVEMENTS PROJECT

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Please go to <https://www.auburnalabama.org/engineering-services/standard-specifications> for the City of Auburn Standard Specifications.

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City of Auburn
Home of Auburn University

February 26, 2023

INVITATION TO BID

Sealed bids will be received by the City of Auburn, Alabama ("City"), until 2:00 p.m., local time, on Tuesday, March 21, 2023, in the Office of the City Manager, 144 Tichenor Avenue, and then be publicly opened and read at the City Meeting Room, 122-B Tichenor Avenue, for furnishing all labor, materials and equipment necessary for the completion of the following project:

ANNALUE DRIVE AND EAST UNIVERSITY DRIVE INTERSECTION IMPROVEMENTS PROJECT

The following are approximate quantities (not complete list):

ITEM DESCRIPTION	UNITS	QTY
Superpave Bituminous Concrete Wearing Surface Layer, 3/8" Maximum Aggregate Size Mix, ESAL Range C/D (1" Thick)	TON	742
Crushed Aggregate Base Course, Type B (9" Thick)	SY	3,380
Intersection Signalization	LS	1
Combination Curb and Gutter	LF	3,465

Plans, specifications, and contract documents are available for viewing, free of charge, at www.auburnalabama.org/bids. Plans and specifications may be obtained by prime contractor bidders electronically at no charge via email by request. Please email webengineering@auburnalabama.org for information on obtaining these plans and specifications. Please contact **Patrick Slaughter**, Project Manager, 334-501-7390 for additional project information.

Guarantee will be required with each bid to submit the following: At least five percent (not to exceed \$10,000) of the amount bid in the form of a certified or cashier's check or bid bond payable to the City of Auburn, Alabama.

Your attention in particular is invited to the section entitled "Instructions to Bidders", which is to be followed in all respects. The City reserves the right to select the lowest responsible bidder as the best interest of the City may require, to award the purchase contract from any of the bids, to reject any and all bids, and to waive any informalities in bids received. Bids will be good for thirty

(30) days after being opened by the City.

Failure to complete the project (all pay items) within one hundred and eighty **(180)** consecutive calendar days after the date specified in the Notice to Proceed may result in the assessment of liquidated damages in the amount of \$1,500 per calendar day for each day the contract remains incomplete.

All bidders are required to be compliant with the Beason-Hammon Alabama Taxpayer and Citizen Protection Act, Act No. 2011-535 (Code of Alabama (1975) § 31-13-9) as amended May 16, 2012 regarding employment practices. Documentation of enrollment in E-Verify should be included with the bid and will be required as a condition for the award of any contract. All bidders are advised that the award of the contract is conditioned on the bidder not knowingly employing, hiring for employment or continuing to employ an unauthorized alien within the State of Alabama. The awarded contract will contain a provision whereby the bidder pledges not to violate federal immigration law.

Legislative Act 2016-312 (the "Act") prohibits the City from entering into contracts with any business entity that is actively engaged in or plans to engage in the boycott of a person or an entity based in or doing business with a jurisdiction with which the State can enjoy open trade; unless such business entity provides the goods or services for at least 20 percent (20%) less than the lowest business entity in compliance with the Act. All bidders understand and agree that in the awarded contract, the lowest responsible bidder must either certify that it is in compliance with the Act and agree that it will not violate the act during the term of the contract; or agree to offer the goods or services for at least 20 percent (20%) less than the lowest business entity certifying compliance with the Act.

Bids must be submitted upon the standard forms furnished by the City. No bids may be withdrawn for a period of thirty (30) days after the scheduled closing time for the receipt of bids. A sealed envelope containing the original proposal and one (1) copy must be delivered to City Hall or mailed, addressed to:

Purchasing Officer, City of Auburn
144 Tichenor Avenue
Auburn, Alabama 36830

The envelope should be plainly marked on the outside as follows:

**BID: EAST UNIVERSITY DRIVE AND ANNALUE DRIVE INTERSECTION
IMPROVEMENTS PROJECT**
OPENING: 2:00 P.M., LOCAL TIME
DATE: TUESDAY, MARCH 21, 2023
STATE LICENSE NO. _____

Documentation of the issuance of a State contractor's license as required under Title 34, Chapter 8 of the Code of Alabama, 1975, shall be included with the bid proposal and shall be required as a requirement of the award of the contract. State license number and expiration date should be clearly and plainly marked on the outside of the bid proposal envelope.

The successful bidder is responsible for acquiring the appropriate business licenses and permits to conduct work with the City. In addition to the business license and permit requirements, the bidder is required to remit all applicable sales and use tax, occupational license fees, and contractors/subcontractors license fee in accordance with City ordinances and codes. In accordance with Section 39-3-5 of Sate Code, any non-Alabama bidders must submit a written opinion from an attorney stating the amount and criteria, if any, of local preference granted by law to non-resident businesses in his state of residence.

Award of the contract, if to be awarded, will be made within thirty (30) calendar days after opening of bids to the lowest responsible bidder whose proposal complies with the requirements of the invitation to bid. Should no award be made within the thirty (30) days, all proposals will be rejected unless the successful bidder agrees in writing to a stipulated extension in the time limit for award. The successful bidder will be notified by letter, mailed to the address shown on his proposal, that his bid has been accepted and that he has been awarded the contract.

The City believes fully in equal opportunity in the provision of supplies, equipment, construction and services. Positive steps should be taken to assure that small business, minority businesses and women-owned businesses are given many opportunities to provide the above-mentioned services when economically feasible. In the case of construction projects, the City shall rely on individuals or firms seeking to do business with the City to ensure that such above-mentioned businesses are given ample opportunity to participate on a sub-contractual basis.

The successful bidder in all events will be required to use materials, supplies and products manufactured, mined, processed or otherwise produced in the United States or its territories if the same are available at reasonable prices. If the successful bidder determines that said items are not available at a reasonable price, the successful bidder must first contact the City and obtain approval for the use of other materials, supplies and products. In the event the successful bidder breaches the agreement to use domestic products, and domestic products are not used, there shall be a downward adjustment in the contract price equal to any realized savings or benefits to the successful bidder.

Please note that the City has a mandatory Partial Payment Request form that must be completed and submitted by the successful bidder before payment is considered. A copy of the required form is included in the "Information to Bidders." Payments are mailed on each Friday of the month. Pay requests must be reviewed and approved by the appropriate City representative (architect, if applicable, inspector, project manager and department head) and received by Accounts Payable at least seven (7) days prior to the scheduled mailing date. The City will process only one invoice per month for partial payment to the successful bidder. If you have any

questions concerning billing, contact our accounts payable office at 334.501.7237 or 334.501.7238.

The successful bidder will be required to provide certificates of insurance showing that it carries, or has in force, automobile liability insurance, general liability insurance and workers' compensation insurance. Limits of liability for automobile liability insurance shall be, at a minimum, \$1,000,000.00 combined single limit. Limits of liability for general liability insurance shall be, at a minimum, \$1,000,000.00 per occurrence, \$1,000,000.00 personal and advertising injury, \$1,000,000.00 general aggregate and \$1,000,000.00 products/completed operations aggregate. General liability insurance will include coverage for contractually assumed liability and explosion, collapse, and underground (X, C & U) hazards. If the general liability insurance coverage is on a claims-made basis, the successful bidder will maintain coverage in force for a period of two (2) years following completion of the work specified in the agreement at the limits specified in this paragraph. Workers' compensation insurance shall provide statutory workers' compensation coverage and employers' liability coverage with limits of, at a minimum, \$500,000.00 each accident, \$500,000.00 disease- each employee and, \$500,000.00 disease – policy limit. The successful bidder will be responsible for the payment of any deductibles or self-insured retentions. The successful bidder's insurance is primary. If the successful bidder carries higher insurance limits than those specified, the higher insurance limits will apply.

The certificate of insurance shall provide the City with thirty (30) days written notice of cancellation of any of the coverages named in said certificate with waivers of subrogation in favor of the City for the coverages listed on the certificate.

The City will be named as additional insured under the successful bidder's general liability insurance and automobile liability insurance policies.

The successful bidder shall require certificates of insurance from subcontractors. Subcontractors will carry limits of insurance equal to or greater than those carried by the successful bidder. These certificates shall evidence waivers of subrogation in favor of the successful bidder and the City, and shall be made available to the City upon request.

At the City's discretion, the successful bidder may be required to have in force builder's risk coverage and/or higher liability limits than that mentioned above and/or broader coverage than normally carried by the successful bidder.

The successful bidder will be required to indemnify, hold harmless, and defend the City, its officials, representatives, agents, servants, and employees from and against any and all claims, actions, lawsuits, damages, judgments, liability and expense, including attorney's fees and litigation expenses, in whole or in part arising out of, connected with, or in any way associated with the activities of the successful bidder, its employees, or its sub-contractors in connection with the work to be performed under this contract. This obligation survives the payment of any losses by the successful bidder's insurance company.

Legal action arising from the performance of this contract will be filed in the Circuit Court of Lee County, Alabama located in Opelika, Alabama or the Federal District Court for the Middle District of Alabama – Eastern Division located in Opelika, Alabama.

Questions concerning insurance coverage may be directed to the Risk Manager, McCarthy Autry at 334.501.7243.

CITY OF AUBURN, ALABAMA

James Griffin
Purchasing Officer

FOR SPECIFIC INFORMATION CONCERNING THIS PROJECT, PLEASE CONTACT **PATRICK SLAUGHTER** AT 334.501.7390.

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INSTRUCTIONS TO BIDDERS

1. Contract Documents. The "Advertisement for Bids", the "Instruction to Bidders", the "Proposal", the "Agreement", the "General Conditions", the "Drawings", the "Specifications", the "Contract", the "Performance Bond", the "Labor and Material Payment Bond", the "Proposal Bond", General Conditions and the "Special Conditions", make up the "Contract Documents". The Contractor must visit the location of the work and inform itself of all site conditions and make its own estimates of the facilities and difficulties attending the execution of the work.

2. Delivery of Proposals. Envelopes containing proposals must be sealed, addressed as follows, and sent First Class Mail or delivered to the Office of the City Manager, Auburn City Hall, 144 Tichenor Avenue, Suite 5, Auburn, Alabama 36830. The City assumes no responsibility for the delivery of a proposal by mail or otherwise.

The following note must be clearly shown on the face of the envelope:

ANNALUE DRIVE AND EAST UNIVERSITY DRIVE INTERSECTION IMPROVEMENTS PROJECT

Bids will be opened on **Tuesday, March 21, 2023, 2:00 p.m., local time.**

3. Omissions and Discrepancies. Should a bidder find ambiguities or discrepancies in, or omissions from, the Drawings or Contract Documents, or should he be in doubt as to their meaning, he must at once notify the Engineer, who may send a written instruction to all bidders.

4. Acceptance or Rejection of Proposals. The City reserves the right to reject any or all Proposals. Without limiting the generality of the foregoing, any Proposal which contains incomplete, obscure or irregular material or information may be rejected; any Proposal which omits a Proposal on any one or more items in the price sheet may be rejected; any Proposal in which unit prices are omitted, or in which unit prices are obviously unbalanced, may be rejected; any Proposal accompanied by an insufficient or irregular Proposal bond, certified or cashier's check may be rejected.

5. Proposal Bond. All Proposals shall be accompanied by a Proposal bond or a certified or cashier's check upon a national or state bank, drawn and make payable to the order of the City of Auburn, Alabama. The Proposal bond or check must be enclosed in the same envelope with the Proposal. The amount of the Proposal bond or check will be at least five percent (5%) of the amount of Proposal (**not to exceed \$10,000.00**). All such Proposal bonds or checks will be returned to the respective bidders within ten **(10)** days after Proposals are opened, except those which the City elects to hold until the successful bidder has executed the Contract. Thereafter all remaining Proposal bonds and checks, including the Proposal bond or check of the successful bidder, will be returned within ten **(10)** days.

6. Acceptance of Proposals and Its Effect. All Proposals shall be Irrevocable for a period of thirty **(30)** days after proposal opening. Within thirty **(30)** days after the opening of the

Proposals, the City of Auburn will act upon them. The acceptance of a proposal will be a notice in writing signed by a duly authorized representative of the City of Auburn, and no other act of the City of Auburn shall constitute the acceptance of a Proposal. The acceptance of a Proposal shall bind the successful bidder to execute and perform the Contract and to be responsible for liquidated damages as provided in Paragraph 8. The rights and obligations provided for in the Contract shall become effective and binding upon the City of Auburn only upon its formal execution by the City of Auburn.

7. Time for Executing Contract and Damages for Failure to Execute. The bidder to whom the award is made shall enter into a written contract on the form included in the proposal, plans, and specifications, furnish a performance bond and payment bond executed by a surety company duly authorized and qualified to make such bonds in the State of Alabama in the amount required in Item 13 and provide evidence of insurance as required by the bid documents within the period specified or, if no period is specified, **within 15 days** after the prescribed forms have been presented to him or her for signature. If extenuating circumstances prevail, the awarding authority may grant an extension in time not exceeding five days for the return of the contract, required bonds and required evidence of insurance. Failure or neglect to do so shall constitute a breach of the agreement effected by the acceptance of the Proposal. The damages to the City for such breach shall include loss from interference with its construction program and other items whose accurate amount will be difficult or impossible to compute. The amount of the Proposal bond or certified or cashier's check accompanying the Proposal of such bidder shall be retained by the City of Auburn, Alabama as liquidated damages for such breach. In the event any bidder whose Proposal shall be accepted shall fail or refuse to execute the Contracts hereinbefore provided, the City Engineer of the City of Auburn may, at his option, determine that such bidder has abandoned the Contract and thereupon the City shall be entitled to liquidated damages as above provided.

8. Determination of Low Bidder. Except where the City exercises the right reserved herein to reject any or all proposals, the Contract will be awarded by the City to the bidder who has submitted the lowest Proposal determined by the sum of the following.

For a Lump Sum Proposal:

- Base Proposal;
- Algebraic sum of alternatives elected by City after opening of Proposals;
- Amount of unit price work based on quantities given in proposal form or estimated by City or Engineer;
- Amount of management fees called for in Proposal.

For a Unit Price Proposal:

- Sums of unit price work based on quantities given in schedule;
- Algebraic sum of alternatives elected by City after opening of Proposals;
- Amount of management fees called for in Proposal.

The City reserves the right to accept or not accept any or none of the additive alternates as it determines is within its project budget. If an alternate bid is accepted, the base bid will be modified by that amount. Example: If Additive Alternate No. 1 is accepted by the City, then the total of Additive Alternate No. 1 plus the Base Bid shall be used to determine the apparent low bidder. If no Additive Alternate is accepted by the City, then only the Base Bid shall be used to determine the apparent low bidder.

9. Time for Beginning and Completing the Work. The Contractor shall commence the work within ten (10) consecutive calendar days after the date specified in the Notice to Proceed given to him by the City Engineer, and he shall complete the work within one hundred eighty **(180)** consecutive calendar days after the date specified in the Notice to Proceed. *The Contractor should account for normal rain during the anticipated construction time period. No additional days will be granted for rain within the normal rainfall amount. If necessary, time extensions will be granted for delays above normal rainfall.*

10. Prices. In case of discrepancy between the prices quoted in the Proposal in words and those quoted in figures, the words shall control. The prices are to include the furnishing of all materials, plant, equipment, tools, scaffolds, and all other facilities, and the performance of all labor and services necessary or proper for the completion of the work, except such as may be otherwise expressly provided in the Contract Documents.

11. Interpretations and Addenda. No oral interpretations shall be made to any bidder as to the meaning of any of the Contract Documents, or be effective to modify any of the provisions of the Contract Documents. Every request for an interpretation shall be made in writing, addressed, and forwarded to the City Engineer of the City of Auburn, Alabama. All requests must be submitted at least 48 hours before the date and time of the bid opening. Requests for interpretations will not be accepted after that time.

12. Postponement of Date for Presenting and Opening Proposal. The City reserves the right to postpone the date for presentation and openings of Proposals and will give notice by registered mail of any such postponement to each prospective bidder. Proposals shall be irrevocable for the period of any postponement of openings not to exceed thirty **(30)** days.

13. Bonds. Performance Bond will be required as follows: One hundred percent (100%) of the contract price. Labor and Material Bond will be required as follows: One hundred percent (100%) of the contract price.

14. Liquidated Damages. Time is of essence in this contract. The City will allow one hundred eighty **(180)** consecutive calendar days from the start date established by the written notice to proceed for completion of the project, and the Contractor will be subject to payment of Liquidated Damages in the amount of \$1,500.00 per calendar day for each day the contract remains incomplete (considering additional time which may be allowed the Contractor by the Engineer for completion of Extra Work) after the time allowed in the contract.

15. Informalities. The City reserves the right to reject any and all Proposals and to waive any informality in the Proposals received.

16. Business Licenses. Successful bidder must have or must purchase all appropriate Auburn City Business Licenses and Permits before beginning work.

17. Fair Labor Standards Act (FLSA). The contractor must abide by the requirements of the Federal Labor Standards Provisions Act.

18. Suppliers and Subcontractors. The low bidder must supply the names and addresses of major material suppliers and subcontractors before the Notice Award.

19. Progress Schedule. Within ten **(10)** days of delivery of the executed agreement by the City to the Contractor, Contractor shall submit to Engineer for approval a progress schedule indicating the starting and completion date of the various stages of the work and a preliminary schedule of shop drawings submissions. In addition, Contractor will submit a plan indicating his requirements for traffic control and pedestrian safety facilities.

20. Federal Immigration Law. By signing this contract, the contracting parties affirm, for the duration of the agreement, that they will not violate federal immigration law or knowingly employ, hire for employment, or continue to employ an unauthorized alien within the State of Alabama. Furthermore, a contracting party found to be in violation of this provision shall be deemed in breach of the agreement and shall be responsible for all damages resulting therefrom.

21. Retainage. In accordance with Alabama State Code Section 39-2-12(c), retainage shall be withheld at a rate of not more than 5% of the estimated amount of work done and the value of materials stored on the site or suitably stored and insured off-site, and after 50% completion has been accomplished no further retainage shall be withheld.

NOT FOR BIDDING PURPOSES

PROPOSAL

TO: CITY OF AUBURN, ALABAMA

Submitted: _____, 2023.

The undersigned, as Bidder, hereby declares that he has examined the site of the work and informed himself fully in regard to all conditions pertaining to the place where the work is to be done; that he has examined the plans and specifications for the work and contractual documents relative thereto; and has read all Special provisions furnished prior to the opening of bids; that he has satisfied himself relative to the work to be performed.

The Bidder proposes and agrees, if this proposal is accepted, to contract with the City of Auburn, Alabama, in the form of contract specified, to furnish all necessary materials, equipment, machinery, tools, apparatus, means of transportation, and labor necessary to and to complete

ANNALUE DRIVE AND EAST UNIVERSITY DRIVE INTERSECTION IMPROVEMENTS PROJECT

in full and complete accordance with the shown, noted, described and reasonably intended requirements of the plans, specifications and contract documents, to the full and entire satisfaction of the City of Auburn, Alabama, with a definite understanding that no money will be allowed for extra work except as set forth in the attached General Conditions and Contract Documents, for the unit prices listed opposite each item in the attached schedule of estimated quantities and bid prices.

It is agreed that the description under each item, being briefly stated, implies, although it does not mention, all incidentals and that the prices stated are intended to cover all such work, materials and incidentals as constitute Bidder's obligations as described in the specifications and any details not specifically mentioned, but evidently included in the contract shall be compensated for in the item which most logically includes it.

The quantities for bid items listed on the proposal sheets are estimated quantities only for the purpose of comparing bids. Any difference between these estimated quantities and actual quantities required for construction shall not be taken as a basis for claims by the Contractor for extra compensation. Compensation will be based on the unit prices and actual construction quantities.

The Bidder further proposes and agrees hereby to commence the work with an adequate force, plant and equipment at the time stated in the notice to the Contractor from the Engineer to proceed and fully complete performance of the base bid work within one hundred eighty **(180)** or less consecutive calendar days from and after the date stated in said notice.

The undersigned further agrees that, in case of failure on his part to execute the said contract

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and the bonds within ten **(10)** consecutive calendar days after written notice being given of the award of the contract, the check or bid bond in the amount of 5%, (not to exceed \$10,000.00) and the monies payable thereon, shall be paid into the funds of the City of Auburn, Alabama as liquidated damages for such failure; otherwise, the check or bid bond accompanying this proposal shall be returned to the undersigned.

Attached hereto is a certified or cashier's check on the _____

or bid bond for the sum of _____ dollars (\$ _____)
(5% of AMOUNT BID (not to exceed \$10,000.00))

made payable to the City of Auburn, Alabama.

Base Bid: _____
(in words)

TOTAL LUMP SUM BID PRICE: \$ _____

EXCEPTIONS: If "none", so state here: _____

If any exceptions of Owner's specifications are offered, attach full explanations to this bid.

BY: _____

PRINTED NAME _____

TITLE _____

CONTRACTOR _____

ADDRESS: _____

CITY _____

STATE _____

CONTRACTOR'S LICENSE NUMBER

TELEPHONE NUMBER

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PROPOSAL BOND

KNOW ALL MEN BY THESE PRESENTS, that we the undersigned, _____,
as Principal, and _____, as Surety, are held and
firmly bound to the City of Auburn, Alabama hereinafter called "Obligee" or "City" in the penal
sum of _____ Dollars
(\$_____) for the payment of which we hereby jointly and severally bind
ourselves, successors and assigns. Signed this the _____ day of _____
_____, 2023.

The Condition of the above obligation is such that whereas the Principal has submitted to the
City a certain Proposal, attached hereto and hereby made a part hereof to enter into a Contract
in writing, for the:

ANNALUE DRIVE AND EAST UNIVERSITY DRIVE INTERSECTION IMPROVEMENTS PROJECT

THEREFORE,

- (a) If said Proposal shall be rejected, or in the alternative,
- (b) If said Proposal shall be accepted and the Principal shall execute and deliver the
Contract attached hereto (properly completed in accordance with said Proposal)
and shall furnish a bond for his faithful performance of said Contract, and for the
payment of all persons performing labor or furnishing materials in connection
therewith, and shall appear in all other respects perform the agreement created
by the acceptance of said Proposal,

then this obligation shall be void, otherwise the same shall remain in force and effect; it being
expressly understood and agreed that the liability of the Surety for any and all claims hereunder
shall in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety
and its bond shall in no way impaired or affected by an extension of the time within which the
City may accept such Proposal; and said Surety does hereby waive notice of any such extension.

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IN WITNESS WHEREOF, the Principal and Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

PRINTED NAME OF CONTRACTOR

PRINTED NAME OF PRINCIPAL

SEAL

BY: _____

ITS: _____

SEAL

SURETY

BY: _____

ITS: _____

Not For Bidding Purposes

IMPORTANT: Surety companies executing bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the project is located.

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ANNALUE DRIVE AND EAST UNIVERSITY DRIVE INTERSECTION IMPROVEMENTS PROJECT

BASE BID

SCHEDULE OF ESTIMATED QUANTITIES AND BID PRICES

ITEM	DESCRIPTION	UNIT	QUANTITY	COST	TOTAL COST
1	1.25" Fiber Conduit and Junction Boxes	Linear Foot	1,725		
2	15" Slope Paved Headwall on Skew	Each	1		
3	15" Reinforced Concrete Pipe	Linear Foot	158		
4	3/4 Inch Water Meter and Box Reset	Each	2		
5	3/4 Inch Water Meter and Box Set	Each	1		
6	Area Inlet	Each	2		
7	Borrow Excavation (Approx. 410 C.Y.)	Lump Sum			
8	Broken Temporary Traffic Stripe (5" Wide)	Linear Foot	3,076		
9	Broken White, Class 2, Type A Traffic Stripe (5" Wide)	Linear Foot	3,076		
10	Channelizing Drums	Each	140		
11	Clearing and Grubbing (Max. Allowable Bid \$4000/Acre) (Approx. 2 Acres)	Lump Sum	1		
12	Combination Curb and Gutter	Linear Foot	3,465		
13	Concrete Driveway, 6" Thick	Square Yard	26		
14	Concrete Flume, 6" Thick	Square Yard	12		
15	Concrete Sidewalk, 4" Thick	Square Yard	1,390		
16	Concrete Sidewalk, 6" Thick	Square Yard	72		
17	Cones (36 Inches High)	Each	50		
18	Construction Signs	Square Foot	256		
19	Convert Existing Inlet to Junction Box	Each	7		
20	Crushed Aggregate Base Course, Type B (9" Thick)	Square Yard	3,380		
21	Dotted White, Class 2, Type A Traffic Stripe (5" Wide)	Linear Foot	580		
22	Double Wing Inlet	Each	1		
23	Engineering Controls	Lump Sum	1		
24	Fire Hydrant Reset	Each	1		
25	Intersection Signalization	Lump Sum	1		

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26	Milling (1" Thick)	Square Yard	490		
27	Mobilization	Lump Sum	1		
28	Modular Block Retaining Wall	Square Foot	1,022		
29	Pavement Markers, Class A-H, Type 1B	Each	238		
30	Pavement Markers, Class A-H, Type 2C	Each	82		
31	Pavement Markers, Class A-H, Type 2D	Each	24		
32	Pavement Markers, Class A-H, Type 2E	Each	119		
33	Permanent Road Signs with Posts	Square Foot	14		
34	Portable Sequential Arrow and Chevron Sign Unit	Each	4		
35	Removing Existing Area Inlet	Each	4		
36	Removing 15" Concrete Pipe	Linear Foot	32		
37	Removing 15" Headwall	Each			
38	Removing Asphalt and Concrete Pavement	Square Yard	1,872		
39	Removing Concrete Curb and Gutter	Linear Foot	3,920		
40	Removing Concrete Sidewalk	Square Yard	832		
41	Seeding and Mulching	Acre	1		
42	Sidewalk Handrail	Linear Foot	110		
43	Silt Fence	Linear Foot	1,700		
44	Single Wing Inlet	Each	12		
45	Slope Paving	Cubic Yard	30		
46	Solid Sodding (Bermuda)	Square Yard	1,690		
47	Solid Temporary Traffic Stripe (5" Wide)	Linear Foot	5,890		
48	Solid White, Class 2, Type A Traffic Stripe (5" Wide)	Linear Foot	2,040		
49	Solid Yellow, Class 2, Type A Traffic Stripe (5" Wide)	Linear Foot	4,100		
50	Superpave Bituminous Concrete Binder Layer, 3/4" Maximum Aggregate Size Mix, ESAL Range C/D (4" Thick)	Ton	612		
51	Superpave Bituminous Concrete Binder Layer, Patching, 3/4" Maximum Aggregate Size Mix, ESAL Range C/D	Ton	100		
52	Superpave Bituminous Concrete Wearing Surface Layer, 3/8" Maximum Aggregate Size Mix, ESAL Range C/D (1" Thick)	Ton	742		
53	Superpave Bituminous Concrete Wearing Surface Layer, Leveling, 3/8" Maximum Aggregate Size Mix, ESAL Range C/D	Ton	100		
54	Temporary Seeding and Mulching	Acre	1		

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55	Temporary Traffic Control Markings	Square Foot	402		
56	Traffic Control Legends, Class 2, Type A	Square Foot	113		
57	Traffic Control Markings, Class 2, Type A	Square Foot	1,602		
58	Type N Concrete Curb	Linear Foot	840		
59	Type N Special Concrete Curb	Linear Foot	212		
60	Unclassified Excavation (Approx. 3,200 C.Y.)	Lump Sum	1		
61	Water Valve Box Adjustment	Each	8		
62	Wattles	Linear Foot	140		

Total Base Bid: _____

TOTAL BASE BID FOR ANNALUE DRIVE AND EAST UNIVERSITY DRIVE INTERSECTION IMPROVEMENTS PROJECT:

(IN WORDS)

CONTRACTOR NAME: _____

COMPANY NAME: _____

ADDRESS: _____

MAILING ADDRESS: _____

CITY/STATE/ZIP CODE: _____

TELEPHONE NUMBER: _____

FAX NUMBER: _____

EMAIL ADDRESS: _____

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City of Auburn

CONSTRUCTION CONTRACT

THIS AGREEMENT made and entered into this _____ day of _____ 2023, by and between _____ hereinafter called the CONTRACTOR and the City of Auburn, Alabama, hereinafter called the CITY;

WITNESSETH: That for and in consideration of the payments and agreements hereinafter mentioned:

1. The CONTRACTOR will commence and complete the WORK as defined in the Contract Documents (defined in Section 4 hereof). The WORK is generally described as follows:

Constructing left and right turn lanes at the intersection of East University Drive and Annalue Drive. Also included in this work is the construction of a landscaped median at the intersection of Saugahatchee Road to prevent left turn movements to and from East University Drive. The project will also include the removal and upgrade of the existing traffic signal to include decorative poles and mast arms. East University Drive and Annalue Drive will be resurfaced entirely within the project limits.

2. The PROJECT, of which the WORK under the Contract Documents is a part, is generally described as follows _____ (the "PROJECT").
3. The CONTRACTOR will furnish all of the material, supplies, tools, equipment, labor and other services necessary for the construction and completion of the PROJECT described herein. Prior to commencing work, the CONTRACTOR shall have obtained a City of Auburn Business License, all required insurance and any required permits. If the CONTRACTOR does not obtain the required Business License, the CITY may withhold payment to CONTRACTOR until the Business License is obtained.
4. All time limits for milestones, if any, substantial completion, and completion and readiness for final payments as stated in the Contract Documents are of the essence.

The CONTRACTOR will commence the work required by the PROPOSAL within _____ calendar days after the date of the NOTICE TO PROCEED and will complete the same within _____ calendar days, unless the period for completion is extended otherwise by the CITY.

The CONTRACTOR shall only take instructions from the person or persons who are authorized in writing by the CITY to give the same.

If the CONTRACTOR is delayed at any time in the progress of the work by labor disputes, fire, adverse weather conditions not reasonably anticipated, unavoidable casualties, or any other causes beyond the CONTRACTOR's control and without the fault or negligence of CONTRACTOR, the CONTRACTOR shall prepare and submit to the CITY within five (5) calendar days of the occurrence a written report of its assessment of the occurrence and any proposed amendment to the Term. The CONTRACTOR shall proceed with due diligence to alleviate any such delay and shall continue in the performance of its obligations hereunder. The CITY may determine, in its sole discretion, after the receipt of such notice of delay from the CONTRACTOR, whether to terminate this Agreement in accordance with Article 10 hereof or extend the Term by Change Order for such time as the CITY may determine.

5. The Contract Documents consist of:

1. This Contract Document
2. Appendix A – Invitation to Bid
3. Appendix B – Instructions to Bidders
4. Appendix C – Proposal/Base Bid
5. Appendix D – General Conditions
5. Appendix E – Special Conditions
6. Appendix F – Measurement and Payment
7. Appendix G – Performance Bond
8. Appendix H – Labor and Material Payment Bond
9. Appendix I – Project Schedule

The intent of the Contract Documents is to include all items necessary for the execution and completion of the Work. The Contract Documents are complementary, and what is required by anyone shall be deemed to be required by all. In the event of any conflict between the terms of this Agreement and the other Contract Documents, the terms of this Agreement shall control.

6. The CONTRACTOR shall be compensated for satisfactory completion of the Work in compliance with the Contract Documents in the Contract Sum of _____ Dollars (\$_____). The CONTRACTOR shall submit Applications for Payment in accordance with the Contract Documents.

The CITY will pay the CONTRACTOR in the manner and at such times as set forth in the Contract Documents.

7. If the CONTRACTOR is of the opinion that any services requested hereunder are beyond the scope of the Work as provided in the Contract Documents, the CONTRACTOR shall promptly notify the CITY in writing of such opinion and the reasons for the same, with

specific references to the Contract Documents.

8. No additional services beyond the scope of the Work as provided in the Contract Documents shall be performed by the CONTRACTOR unless the CITY shall, in writing, have specifically directed such services to be performed, and a Change Order (hereafter defined) shall have been signed by the CITY and the CONTRACTOR. In the event of noncompliance with the foregoing, the CONTRACTOR shall neither have nor make any claim for additional compensation by reason of a claim for additional services.
9. The term "**Change Order**" as used herein is a written order to the CONTRACTOR, issued and signed by the CITY after execution of this Agreement, authorizing a change in the Work. Unless the CONTRACTOR requests a modification in such Change Order, the CONTRACTOR shall sign the Change Order and return a copy thereof to the CITY within ten (10) business days after it has received the same. The CONTRACTOR shall have ten (10) business days from its receipt of a Change Order within which to request a modification thereto. Failure of CONTRACTOR to respond to a Change Order within such ten (10) day period shall be deemed to signify CONTRACTOR's acceptance of such Change Order as if CONTRACTOR had signed the same without modification. If CONTRACTOR requests a modification of a Change Order, the CITY shall have ten (10) business days from receipt of such request to accept such modification in writing. If not so accepted, such request is deemed to be rejected.
10. The CONTRACTOR and the CITY recognize that time is of the essence as stated in Section 4 above and that CITY will suffer financial and other losses if the WORK is not completed and milestones, if any, are not achieved within the times specified in the Contract Documents, plus any extensions thereof allowed in accordance with the Agreement. The parties also recognize the delays, expense and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by CITY if the WORK is not completed on time.

Accordingly, instead of requiring any such proof, the CONTRACTOR and the CITY agree that as liquidated damages for delay (but not as a penalty), CONTRACTOR shall pay CITY the amount of _____ (\$ _____) per day for each Day occurring after the expiration of the Contract Time until CONTRACTOR achieves Substantial Completion of the PROJECT.
11. This Agreement is binding upon all parties hereto and their respective heirs, executors, administrators, successors, and assigns.
12. The CONTRACTOR is required to provide certificates of insurance showing that it carries, or has in force, automobile liability insurance, general liability insurance, and workers' compensation insurance. Limits of liability for automobile liability insurance shall be, at

a minimum, \$1,000,000.00 combined single limit. Limits of liability for general liability insurance shall be, at a minimum, \$1,000,000.00 per occurrence, \$1,000,000.00 personal and advertising injury, \$1,000,000.00 general aggregate and \$1,000,000.00 products/completed operations aggregate. General liability insurance will include coverage for contractually assumed liability and explosion, collapse, and underground (X, C & U) hazards. If the general liability insurance coverage is on a claims-made basis, the CONTRACTOR will maintain coverage in force for a period of two (2) years following completion of the work specified in the agreement. Workers' compensation insurance shall provide statutory workers' compensation coverage and employers' liability coverage with limits of, at a minimum, \$500,000.00 each accident, \$500,000.00 disease- each employee and \$500,000.00 accident, \$500,000.00 disease – policy limit. The CONTRACTOR will be responsible for the payment of any deductibles or self-insured retentions. The CONTRACTOR'S insurance will be primary. If the CONTRACTOR carries higher coverage limits than those specified above, the higher coverage limits apply.

13. The certificate of insurance shall provide the CITY thirty (30) days written notice of cancellation of any of the coverage named in said certificate with waivers of subrogation in favor of the City for each of the coverages listed on the certificate of insurance.
14. The CITY will be named as additional insured under the CONTRACTOR'S general liability insurance and automobile liability insurance policies. The CITY will be provided copies of the additional insured endorsements.
15. The CONTRACTOR shall require certificates of insurance from subcontractors. Subcontractors will carry limits of insurance equal to or greater than those carried by the CONTRACTOR. These certificates shall evidence waivers of subrogation in favor of the CONTRACTOR and the CITY, and shall be made available to the City upon request.
16. The CONTRACTOR agrees to advise fully all of its employees and others working for CONTRACTOR concerning environmental, safety and health procedures required by applicable state and federal law, regulation or order or required by the CITY; and to take the necessary steps to assure that such procedures are complied with.
17. The CONTRACTOR agrees to indemnify, hold harmless, and defend the CITY, its officials, representatives, agents, servants, and employees from and against any and all claims, actions, lawsuits, damages, judgments, liability and expense, including attorney's fees and litigation expenses, in whole or in part arising out of, connected with, or in any way associated with the activities of the CONTRACTOR, its employees, or its sub-contractors in connection with the work to be performed under this contract. This obligation survives the payment of any loss by the CONTRACTOR'S insurance carrier.
18. The CONTRACTOR is required to be compliant with the Beason-Hammon Alabama

Taxpayer and Citizen Protection Act, Act No. 2011-535 (Code of Alabama (1975) § 31-13-9) as amended May 16, 2012 regarding employment practices. Documentation of enrollment in E-Verify must be included with the contract.

By signing this Agreement, the CONTRACTOR affirms, for the duration for the Agreement, that they will not violate federal immigration law, or knowingly employ, hire for employment, or continue to employ an unauthorized alien within the State of Alabama. Furthermore, a contracting party found to be in violation of this provision shall be deemed to be in breach of the Agreement and shall be responsible for all damages resulting therefrom.

19. Any subcontractor who works on the PROJECT must be enrolled in E-Verify. By signing this Agreement, the CONTRACTOR acknowledges understanding of this requirement and represents that the CONTRACTOR has in place a system for assuring compliance.
20. By signing this agreement, the CONTRACTOR hereby attests that it is currently in compliance with Alabama Legislative Act 2016-312 (the "Act"). The CONTRACTOR hereby agrees to maintain compliance with the Act during the term of this Agreement. The CONTRACTOR understands and agrees that should it violate the Act during the term of this agreement, such violation will be an event of Default, giving the CITY the right to immediately terminate this Agreement and to seek damages, including, but not limited to, consequential, special, indirect damages and liquidated damages.
21. Legal action arising from the performance of this contract will be filed in the Circuit Court of Lee County, Alabama located in Opelika, Alabama or the Federal District Court for the Middle District of Alabama – Eastern Division located in Opelika, Alabama.
22. This Agreement does not, and shall not, be construed to create any partnership or agency whatsoever.
23. Failure to insist upon strict compliance with any provision hereof shall not be deemed a waiver of such provision or any other provision hereof.
24. This Agreement may not be modified except by Change Order or written Amendment executed by the parties hereto.
25. The invalidity or unenforceability of any provision hereof shall not affect the validity or enforceability of any other provision.
26. The CONTRACTOR may not assign this agreement without the written permission of the City.
27. This Agreement shall be binding on the parties hereto and their respective successors,

assigns and legal representatives.

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IN WITNESS, THEREOF the parties hereto have executed, or caused to be executed by their duly authorized officials, this Agreement in three copies each of which shall be deemed an original on the date first above written.

(SEAL)

ATTEST:

BY: _____

NAME: _____

TITLE: _____

CONTRACTOR

BY: _____

NAME: _____

TITLE: _____

ADDRESS: _____

TELEPHONE: _____

(SEAL)

ATTEST:

BY: _____

ASSISTANT CITY CLERK

THE CITY OF AUBURN, ALABAMA
A Municipal Corporation

BY: _____

ITS CTY MANAGER

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PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: That we, _____, hereinafter called the "Principal," and _____, hereinafter called the "Surety," are held and firmly bound unto the City of Auburn, Alabama, herein after called the "Obligee," in the penal sum of _____ Dollars (\$ _____) for the payment of which we bind ourselves, heirs, executors, administrators, successors, and assigns for the faithful performance of a certain written contract dated the _____ day of _____, 2023, entered into between the Principal and the Obligee for the

ANNALUE DRIVE AND EAST UNIVERSITY DRIVE INTERSECTION IMPROVEMENTS PROJECT

a copy of which said contract is incorporated herein by reference and is made a part hereof as if fully copied herein.

NOW, THEREOF, the condition of this obligation is such that the Principal shall faithfully perform the terms and conditions of the contract in all respects on its part, and shall fully pay all obligations incurred in connection with the performance of such contract on account of labor and materials used in connection therewith, and all such other obligations of every form, nature, and character, and shall save harmless the City from all and any liability of every nature, kind and character which may be incurred in connection with the performance or fulfillment of such contract or other such liability resulting from negligence or otherwise on the part of such Principal, and further shall save harmless the City from all cost and damage which may be suffered by reason of the failure to fully and completely perform said contract and shall fully reimburse and repay the City for all expenditures of every kind, character and description which may be incurred by the City in making good any and every default which may exist on the part of the Principal in connection with the performance of said contract; and further that the Principal shall pay all lawful claims of all persons, firms, partnerships, or corporations and shall give them a direct right of action against the Principal and Surety under this obligation; and further that no suit, action, or proceedings by reason of any default whatever shall be brought on this bond within one year after the date on which the final payment on the contract falls due. Any alterations or additions which may be under the contract, or in the work to be done under it, or the giving by the City of any extension of time for the performance of the contract or any other forbearance on the part of either the City or the Principal shall not, in any way release the Principal and Surety, or either of them, their heirs, executors, administrators, successors, or assigns from their liability hereunder. Notice to the Surety of any such alterations, extensions or forbearance is expressly waived. This obligation shall remain in full force and effect until the performance of all covenants, terms and conditions herein stipulated

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and after such performance, it shall become null and void.

IN TESTIMONY WHEREOF witness the hands and seals of the parties hereto on this _____ day of _____, 2023.

SIGNATURE OF PRINCIPAL

WITNESS TO SIGNATURE
OF PRINCIPAL:

PRINTED NAME OF PRINCIPAL

BY _____

TITLE

WITNESS TO SIGNATURE
OF SURETY:

SURETY

BY _____

TITLE

Countersigned:

Resident Agent

Address

Telephone Number

Not For Bidding Purposes

IMPORTANT: Surety companies executing bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the project is located.

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LABOR AND MATERIALS PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS: That we, _____, as Principal, and _____ as Surety are held and firmly bound unto the City of Auburn, Alabama, hereinafter called the "Obligee" or "City", in the penal sum of _____ lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, personal representatives, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, said Principal has entered into a certain contract with said Obligee, dated _____, 2023, hereinafter called the "Contract" for the

ANNALUE DRIVE AND EAST UNIVERSITY DRIVE INTERSECTION IMPROVEMENTS PROJECT

which Contract and the specifications for said work shall be deemed a part hereof as fully as if set out herein.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH that if said Principal and all Subcontractors to whom any portion of the work provided for in said Contract is sublet and all assignees of said Principal and of such Subcontractors shall promptly make payment to all persons supplying him or them with labor, materials, feed-stuffs or supplies for or in the prosecution of the work provided for in such Contract, or in any amendment or extension of or additions to said Contract, and for the payment of reasonable attorney's fees, incurred by the claimant or claimants in suits or said bond, then the above obligation shall be void; otherwise to remain in full force and effect. PROVIDED, however, that this bond is subject to the following conditions and limitations:

(a) Any person, firm or corporation that has furnished labor, materials, feed-stuffs or supplies for or in the prosecution of the work provided for in said Contract shall have a direct right of action against the Principal and Surety on this bond, which right of action shall be asserted in a proceeding, instituted in the county in which the work provided for in said Contract is to be performed or in any county in which said Principal or Surety does business. Such right of action shall be asserted in a proceedings instituted in the name of the claimant or claimants for his or their use and benefit against said Principal and Surety or either of them (but not later than one year after the final settlement of said Contract) in which action such claim or claims shall be adjudicated and judgment entered thereon.

(b) The Principal and Surety hereby designate and appoint _____ as the agent of each of them to receive and accept service of process or other pleading issued or filed in any proceeding instituted on this bond and hereby consent that such service shall be the same as personal service on the Principal and/or Surety.

(c) The Surety shall not be liable hereunder for damage or compensation recoverable under Workers' Compensation or Employer's Liability Statute.

(d) In no event shall the Surety be liable for a greater sum than the penalty of this bond, or subject to any suit, action or proceedings thereon that is instituted later than one year after the final settlement of said

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Contract.

(e) This bond is given pursuant to the terms of Act No. 39, General Laws of Alabama, approved February 8, 1935, entitled "An Act to Further Provide for Bonds of Contractors on State and Other Public Works and Suits Thereon."

Executed in three (3) counterparts

SIGNED, SEALED AND DELIVERED THIS _____ day of _____ 2023.

PRINTED NAME OF CONTRACTOR

WITNESS TO SIGNATURE
OF PRINCIPAL:

PRINTED NAME OF PRINCIPAL

BY _____

TITLE

WITNESS TO SIGNATURE
OF SURETY:

SURETY

BY _____

TITLE

Countersigned:

Resident Agent

Address

Telephone Number

Not For Bidding Purposes

IMPORTANT: Surety companies executing bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the project is located.

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ANNALUE DRIVE AND EAST UNIVERSITY DRIVE INTERSECTION IMPROVEMENTS

SPECIAL CONDITIONS

1. PROJECT DESCRIPTION:

This project consists of the construction of left and right turn lanes at the intersection of East University Drive and Annalue Drive. Also included in this work is the construction of a landscaped median at the intersection of Saugahatchee Road to prevent left turn movements to and from East University Drive. The project will also include the removal and upgrade of the existing traffic signal to include decorative poles and mast arms. East University Drive and Annalue Drive will be resurfaced entirely within the project limits

2. TIME OF COMPLETION:

The Contractor shall commence the work within 10 days after the written "Notice to Proceed" and shall complete the bid work within ~~one hundred eighty (180)~~ **one hundred eighty (180) consecutive calendar days.**

3. LIQUIDATED DAMAGES:

Liquidated damages as specified in the general conditions are hereby mutually fixed and agreed upon at the rate of one thousand, five hundred (\$1,500) per calendar day of delay past the contract completion date.

4. LICENSE FEE:

The Contractor will be required to obtain a license from the City of Auburn for performing the work prior to beginning the project. The license fee will be one-fourth of one percent ($\frac{1}{4}$ of 1%) of the contract amount.

5. WORK TO BE DONE:

Base Bid:

The work to be done under the Base Bid of this project shall consist of, demolition, excavation, hauling, subgrade preparation, curb and gutter installation, storm drain installation, concrete sidewalk installation, construction of asphalt pavement sections, traffic signal installation, striping and installation of signage and pavement markers, grassing, and all items shown within the construction documents that are a part of the Base Bid. **The Contractor shall mark the clearing limits and consult with the City's Project Manager prior to clearing operations beginning.**

Striping:

If permanent striping including permanent markings cannot be completed within four (4) months of wearing surface temporary striping and markings, the Contractor will be required to re-stripe

the temporary stripe and markings until permanent striping and markings can be completed. The additional temporary striping and marking will be completed at no additional cost to the City.

Materials:

All materials and construction work shall be in accordance with the City of Auburn or Alabama Department of Transportation standard details and specifications, as noted in the plans. Submittals for all materials must be received and approved prior to any work beginning.

If borrow material is required for this project, the source and material properties of the material should be submitted to the project manager prior to use to ensure compliance with these specifications. No borrow material will be permitted that has not been properly identified, tested, and approved by the City of Auburn.

All roadway materials including crushed aggregate base, asphalt courses, storm sewer, and temporary and permanent traffic control markings, must comply with the latest edition of the Alabama Department of Transportation standard specifications. This includes, but is not limited to, source, gradation, placement, and testing.

Traffic Control:

All traffic control measures shall be the responsibility of the Contractor, and be paid for under Traffic Control as appropriate. This shall include all material, labor, and equipment needed to install and maintain required traffic control devices and utilizing flagmen as needed. All traffic control devices must conform to the "Manual on Uniform Traffic Control Devices," Latest Edition. All required traffic control measures must be installed and approved by the City of Auburn prior to any construction activities. All traffic control measures must have reflectivity as outlined in the ALDOT Specifications. The City of Auburn reserves the right to reject any items with incorrect reflectivity and placement and deny payment of the same.

If the Contractor fails to install and maintain proper traffic control measures, the City of Auburn reserves the right to immediately stop work, at no cost to the City, until such measures are installed properly.

Lane closures will generally be allowed between 9:00 AM and 2:00 PM, Monday through Friday, unless otherwise permitted by the Project Manager. However, if deemed necessary by the City, lane closures during peak times within this time frame may also be prohibited. Lane closures are not allowed the day before or during any Auburn University athletic event or graduation. No work will be allowed after daylight hours, and no traffic is to be detoured without the consent of the Project Manager.

The project site must be cleaned and opened for traffic as designated by the Project Manager or Project Inspector. No traffic is to be detoured without the consent of the Project Manager. All property owners with driveways that fall within the work zone shall be notified by the Contractor of the operating procedures of the traffic control plan prior to work beginning. Ingress and egress must be maintained at all times for each property falling within the construction zone. In the event the contractor should require no access for a limited amount of time, immediate notice should be given to the Project Manager and the property owners.

It will be the Contractor's responsibility to relocate street markers, signage, mailboxes, sprinkler heads, headwalls, and driveways out of the construction area as noted in the plans or as directed by the Project Manager.

Sidewalk:

As part of the project, the Contractor will be required to install 'Sidewalk Closed' signage and traffic control to keep the sidewalk closed until completely finished. Before opening sidewalks for use, all accessible ramps must be completed, including detectable warning devices. All sidewalks shall not exceed 2% cross slope.

Erosion Control:

All Erosion and Sediment Control must comply with the City's Erosion and Sediment Control Requirements as defined in Article III of the Code of the City of Auburn. Erosion and sedimentation control measures must be installed prior to construction activities and be maintained during the life of construction as shown on the plans. The Engineer, Project Manager or Project Inspector may request additional erosion measures as deemed necessary. It will be the responsibility of the Contractor to apply for and obtain an ADEM permit for this project, and to comply with all provisions of the permit. The Contractor should take special care in maintaining the erosion and sedimentation control measures in order to comply with the ADEM permit.

If at any time a deficiency is noted, the Contractor must perform corrective actions immediately, no later than the end of the day. Fines or penalties, if any, assessed to the project will not be the responsibility of the City of Auburn. All assessments will be the responsibility of the Contractor to remediate prior to close out of the project.

All disturbed areas within the project limits are to be sodded or seeded and mulched immediately upon final grading. It will be the responsibility of the Contractor to ensure proper irrigation of all sodded areas throughout the project. It will also be the responsibility of the Contractor to ensure a stand of grass and mowing at least once during the construction period and once after the construction is complete. The Contractor, at his expense, shall repair any area that is disturbed outside the construction limits. Any disturbed area not to be worked for five (5) days or more must be stabilized.

Utility:

Any dewatering needed shall be included in the respective bid item.

Utility markings should be placed on the curb face and flat gutter in accordance with the current City of Auburn standard details or as noted by Water Resource Management.

The Contractor is to coordinate work with all public utility companies, including adjustments and relocations. All utilities must be located before any construction begins by calling Alabama One Call and must be kept current through the life of the construction. If locates are not kept current and if damage occurs to an existing utility line, the Contractor cannot make claims for down time and/or losses while repairs are being made. The Contractor is advised to take care when working

around existing utility lines. The locations identified on the drawings are approximate locations only and cannot be constituted as representing exact locations and/or all existing lines.

Miscellaneous:

If during the course of the inspections, the Project Manager determines that all work has been satisfactorily completed and that a substantial stand of grass exists on all or part of the work, he may recommend acceptance if the Contractor provides a bond covering all erosion control, grassing, and other related items. The face amount of the bond shall equal replacement costs of erosion control items and grassing determined by the Engineer. The time period to be covered by the bond will be sufficient to ensure obtaining a satisfactory stand of growth; however, it shall not exceed 12 months. It shall be understood by all that such bond is to ensure replacement of the erosion control items and the grassing, should it become necessary, and will in no way relieve the Contractor from the responsibility of damages caused by the lack of erosion control.

Work Performed by Others:

Contractor shall coordinate with the City regarding the location of the signal components to be installed. This may include staking of curb lines and pole locations in conjunction with the signal contractor to ensure no conflicts exist.

6. SAFETY:

In accordance with generally accepted construction practices, the Contractor will be solely and completely responsible for conditions of the job site, including safety of all persons and property during performance of the work. This requirement will apply continuously and not be limited to the normal working hours. The Contractor should take all necessary precautions to insure safety of the jobsite at all times in conjunction with OSHA regulations.

7. ENVIRONMENTAL:

The Contractor must promptly restore disturbed areas, keep debris out of streams, and use construction methods to minimize erosion. Under no circumstance shall sewage or other contaminants be allowed into streams, ditches or storm drains. The Contractor will be solely responsible for any violation of environmental laws and penalties or fines that are imposed by local, state, and/or federal authorities.

Clearing and grubbing and disturbance should not extend beyond the edge of the right-of-way or temporary construction easements shown in the plans.

8. PROJECT PROGRESS SCHEDULE

Prior to construction, the Contractor shall submit a detailed coordinated construction schedule for all work activities. The schedule shall be prepared as a network diagram in Critical Path Method (CPM), PERT, or other format, or as otherwise specified in the contract. As a minimum, it shall provide information on the sequence of work activities, milestone dates, and activity duration.

The Contractor shall maintain the work schedule and provide an update and analysis of the

progress schedule on a monthly basis, or as otherwise specified in the contract. The updated construction schedule shall be submitted with pay applications. Submission of the work schedule shall not relieve the Contractor of overall responsibility for scheduling, sequencing, and coordinating all work to comply with the requirements of the contract within the time of completion.

9. RECORD DOCUMENTS

The Contractor shall submit record documents including as-builts per the Engineering Construction Manual prior to receiving final payment.

Not For Bidding Purposes

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Not For Bidding Purposes

ANNALUE DRIVE AND EAST UNIVERSITY DRIVE INTERSECTION IMPROVEMENTS PROJECT

MEASUREMENT AND PAYMENT

01 1.25" FIBER CONDUIT WITH JUNCTION BOXES

Work under this item shall include all labor, equipment, and materials necessary to furnish and install 1.25" minimum diameter roll HDPE conduit, orange in color along the west side of East University Drive within the project limits as shown on the construction drawings. Work shall include, but not be limited to, boring and/or trenching conduit, backfilling trenches, and any other miscellaneous items needed for the complete installation of the conduit as shown on the construction drawings. All bends shall be sweeps; plumbing 90-degree bends shall not be allowed. The minimum bore depth shall be 36", while the maximum depth shall be 48". Installed conduit shall contain a #10 stranded copper tracer wire or traceable mule tape. No conduit run will be more than 500' without a junction box installed. Installing the four (4) 12"x12" fiber junction boxes and one (1) 12"x12" termination junction box shown on the drawings shall be a subsidiary obligation of this work. Junction boxes shall be standard "F2" fiber communication boxes. The junction box lids shall be Tier 22 traffic rated and marked "CGA Fiber". Open-cutting of roadways shall not be allowed. All work shall be done in accordance with the City of Auburn Standard Details and Specifications, and Engineering Design and Construction Manual. Care shall be taken not to damage existing utility services.

Measurement and payment shall be based on linear feet of 1.25" fiber conduit with junction boxes installed.

02 15" SLOPE PAVED HEADWALL ON SKEW

Work under this item shall include all labor, materials, and equipment necessary for the complete installation of a 15" slope paved headwall on skew as shown in the construction drawings and in accordance with the details provided from the Alabama Department of Transportation Standard Drawings for Highway Construction, latest edition. Included in this work is excavation, backfilling, compaction, removal of unsuitable materials, forming, pouring, installing steel reinforcement, grouting, bedding, and other incidental work.

Measurement shall be based upon each 15" Slope Paved Headwall on Skew installed. Payment shall be based upon the unit price bid for 15" Slope Paved Headwall on Skew.

03 15" REINFORCED CONCRETE PIPE

Work under this item shall include all labor, materials, and equipment necessary for the complete installation of 15" reinforced concrete pipe, ALDOT Class III, per the manufacturer's specifications. Included in this work is excavation, backfilling, compaction, removal of unsuitable materials, grouting, bedding, and other incidental work. Also included will be pouring any necessary concrete collars required to tie to existing pipe.

Measurement shall be by linear feet of 15" Reinforced Concrete Pipe installed. Payment shall be based upon the unit price bid for 15" Reinforced Concrete Pipe.

04 3/4 INCH WATER METER AND BOX RESET

Work under this item shall include all labor, materials, and equipment necessary for the complete adjustment or resetting, horizontal and/or vertical, of existing water meters, and services, along with any related appurtenances as shown on the construction drawings in accordance with City of Auburn Standard Details and Specifications. The adjustment shall include any necessary copper pipe, excavation, backfill, compaction, extensions, replacements, leveling, plumbing or any other incidental work associated with the completion of each water meter and box reset. No water outages will be allowed without coordination with the Project Manager and the Auburn Water Works Board and notice to impacted residences or businesses.

Measurement shall be based upon each 3/4 Inch Water Meter and Box Reset. Payment shall be based upon the unit price bid for 3/4 Inch Water Meter and Box Reset.

05 3/4 INCH WATER METER AND BOX SET

Work under this item shall include all labor, materials, and equipment necessary for the complete setting of a new water meter, including service, along with any related appurtenances as shown on the construction drawings in accordance with City of Auburn Standard Details and Specifications. The adjustment shall include any necessary copper pipe, excavation, backfill, compaction, extensions, replacements, leveling, plumbing or any other incidental work associated with the completion of each water meter and box set. No water outages will be allowed without coordination with the Project Manager and the Auburn Water Works Board and notice to impacted residences or businesses.

Measurement shall be based upon each 3/4 Inch Water Meter and Box Set. Payment shall be based upon the unit price bid for 3/4 Inch Water Meter and Box Set.

06 AREA INLET

Work under this item shall include all labor, materials, and equipment necessary for the complete installation of an area inlet as shown on the construction drawings including excavation, backfilling, compaction, forming, installing reinforcement, installing top with ring and cover, pouring, finishing and other incidental work. Construction shall be in accordance with the City of Auburn Standard Details and Specifications.

Measurement shall be based upon each completed Area Inlet. Payment shall be based upon the unit price bid for Area Inlet.

07 BORROW EXCAVATION (APPROXIMATELY 410 CUBIC YARDS)

Work under this item shall include all labor, materials, and equipment necessary for hauling, overhaul, building of embankments, mixing, wetting, drying, rolling, filling, compacting, testing, finishing and protecting slopes, and other incidental work associated with subgrade and shoulder preparation and completion. All such material shall be from an approved source and shall meet the testing requirements set forth in the City of Auburn Standard Details and Specifications.

Measurement and payment shall be based on the lump sum price bid for Borrow Excavation (Approximately 410 Cubic Yards).

08 BROKEN TEMPORARY TRAFFIC STRIPE (5" WIDE)

Work under this item shall include all labor, equipment, and materials necessary for the complete installation of Broken Temporary Traffic Stripe (5" Wide) in accordance with the Alabama Department of Transportation Standard Specifications for Highway Construction, latest edition. Work shall include placement of temporary striping as shown on the construction drawings and specifications for this project.

Measurement shall be based upon linear feet of Broken Temporary Traffic Stripe (5" wide) installed. Payment shall be based upon the unit price bid for Broken Temporary Traffic Stripe (5" Wide).

09 BROKEN WHITE, CLASS 2, TYPE A TRAFFIC STRIPE (5" WIDE)

Work under this item shall include all labor, equipment, and materials necessary for the complete installation of Broken White, Class 2, Type A, Traffic Stripe (5" Wide) in accordance with the Alabama Department of Transportation Standard Specifications for Highway Construction, latest edition. Work shall include placement of new striping as shown on the construction drawings and specifications for this project.

Measurement shall be based upon linear feet of Broken White, Class 2, Type A Traffic Stripe (5" Wide) installed. Payment shall be based upon the unit price bid for Broken White, Class 2, Type A Traffic Stripe (5" Wide).

10 CHANNELIZING DRUMS

Work under this item shall include all labor, equipment, and materials necessary for the complete installation of channelizing drums in accordance with the Alabama Department of Transportation Standard Specifications for Highway Construction, latest edition and the Manual on Uniform Traffic Control Devices, latest edition.

NOT FOR BIDDING PURPOSES

Measurement shall be based upon each Channelizing Drum installed. Payment shall be based upon the unit price bid for Channelizing Drums.

11 CLEARING AND GRUBBING (MAX. ALLOWABLE BID \$4000/ACRE) (APPROX. 2 ACRES)

Work under this item shall include all labor, equipment, and materials necessary for the complete removal of trees, shrubs, and the like within the work limits, including back slopes, to the right-of-way or work limits. Work will include the clearing, grubbing, disposal, and other incidental work required to remove the existing vegetation and miscellaneous items not covered under other items. **The Contractor and City's Project Manager shall walk the clearing limits and flag trees to be removed prior to clearing operations beginning.** The unit price shall also include the hauling and disposing of material offsite in accordance with applicable laws and regulations. Also included is the relocating of existing street signs falling within the work limits. Capping of irrigation lines within the right of way shall also be included in this item of work. Approximately 2 acres of clearing and grubbing is anticipated. **This item shall also include the necessary costs to obtain an ADEM Notice of Intent (NOI) permit for the project, and all costs associated with inspection monitoring during the project, and terminating the permit, once the project is complete.**

Measurement and payment shall be based upon the lump sum price bid for Clearing and Grubbing (Max. Allowable Bid \$4000/Acre) (Approx. 2 Acres).

12 COMBINATION CURB AND GUTTER

Work under this item shall include all labor, materials, and equipment necessary for the complete placement of standard curb and gutter in accordance with City of Auburn Standard Details and Specifications, including excavating, backfilling, forming, pouring, finishing and other incidental items of work. Included in this item will be the required crushed aggregate base under the curb and gutter to the widths and depths as shown on Typical Section, Cross Sections and City of Auburn Standard Details.

Measurement shall be based upon linear feet of Combination Curb and Gutter installed.

Payment shall be based upon the unit price bid for Combination Curb and Gutter.

13 CONCRETE DRIVEWAY (6" THICK)

Work under this item shall include all labor, materials, and equipment necessary for the complete installation of concrete driveway turnouts including excavation, compaction, forming, pouring, finishing and other incidental work. Construction shall be in accordance with the construction drawings and City of Auburn Standard Details and Specifications. It may be necessary to pour one-half of the driveway at a time, to allow ingress and egress during construction. During the work, this item may include the temporary placement and maintenance of aggregate surfacing in lieu of a standard concrete driveway turnout to maintain ingress and egress. No driveways shall be closed without giving the resident and Project Manager 48 hours of advanced notice.

Measurement shall be based upon square yards of Concrete Driveway (6" Thick) installed. Payment shall be based upon the unit price bid for Concrete Driveway (6" Thick).

14 CONCRETE FLUME, 6" THICK

Work under this item shall include all labor, materials, and equipment necessary for the complete installation of concrete flume including excavation, compaction, forming, pouring, finishing and other incidental work. Construction shall be in accordance with the construction drawings and City of Auburn Standard Details and Specifications.

Measurement shall be based upon square yards of Concrete Flume (6" Thick) installed. Payment shall be based upon the unit price bid for Concrete Flume (6" Thick).

15 CONCRETE SIDEWALK (4" THICK)

This work shall include all labor, materials, material testing, and equipment necessary for the complete installation of 4" thick concrete sidewalk including excavation, fill material, subgrade preparation, forming, pouring, expansion joints, saw cutting, finishing, and other incidental work in accordance with City of Auburn Standard Details and Specifications. Work under this item will also include any spot remediation of broken or damaged sidewalk within the project limits identified by the Project Manager.

Measurement shall be based upon square yards of Concrete Sidewalk (4" Thick) installed. Payment shall be based upon the unit price bid for Concrete Sidewalk (4" Thick).

16 CONCRETE SIDEWALK (6" THICK)

This work shall include all labor, materials, material testing, and equipment necessary for the complete installation of 6" thick concrete sidewalk including excavation, fill material, subgrade preparation, forming, pouring, expansion joints, saw cutting, finishing, installing detectable warning material and other incidental work in accordance with City of Auburn Standard Details and Specifications.

Measurement shall be based upon square yards of Concrete Sidewalk (6" Thick) installed. Payment shall be based upon the unit price bid for Concrete Sidewalk (6" Thick).

17 CONES (36" HIGH)

Work under this item shall include all labor, equipment, and materials necessary for the complete installation of cones in accordance with the Alabama Department of Transportation Standard Specifications for Highway Construction, latest edition and the Manual on Uniform Traffic Control Devices, latest edition. This work shall also include ballasts for cones.

NOT FOR BIDDING PURPOSES

Measurement shall be based upon each Cone (36" High) installed. Payment shall be based upon the unit price bid for Cones (36" High).

18 CONSTRUCTION SIGNS

Work under this item shall include all labor, equipment, and materials necessary for the complete installation of construction signs in accordance with the Alabama Department of Transportation Standard Specifications for Highway Construction, latest edition and the Manual on Uniform Traffic Control Devices, latest edition. Temporary signs shall be taken down when not in use. Signs without the correct retroreflectivity will not be allowed.

Measurement shall be based upon square feet of Construction Signs installed. Payment shall be based upon the unit price bid for Construction Signs.

19 CONVERT EXISTING INLET TO JUNCTION BOX

Work under this item shall include all labor, materials, and equipment necessary to convert an existing inlet to a junction box, per the construction drawings and per City of Auburn Standard Details and Specifications. Included in this work is removing existing inlet top, throat, and walls as needed, excavation, backfilling, compaction, removing and repouring walls as needed, removal of unsuitable materials, forming, installing steel reinforcement, tying in existing pipes, pouring, grouting, bedding, installing top, ring and cover to grade, and other incidental work.

Measurement shall be based upon each existing inlet converted to a junction box. Payment shall be based upon the unit price bid for Convert Existing Inlet to Junction Box.

20 CRUSHED AGGREGATE BASE COURSE, TYPE B (9" THICK)

Work under this item shall include all labor, materials, and equipment necessary for the placement of Crushed Aggregate Base Course, Type B, 9" compacted thickness. Work shall include hauling, **placement in 2 equal lifts**, wetting, compaction, testing, and any other incidental items of work. This work shall also include replacement of any contaminated base or base not passing compaction testing prior to paving, at the Contractor's expense.

Measurement shall be based upon square yards of Crushed Aggregate Base Course, Type B, (9" Thick) installed. Measurement will include only the crushed aggregate base under asphalt surfaces. Crushed aggregate base placed under the curb and gutter will be paid for under the curb and gutter item. Payment shall be based on unit price bid for Crushed Aggregate Base Course, Type B, (9" Thick) in accordance with City of Auburn Standard Details.

21 DOTTED WHITE, CLASS 2, TYPE A TRAFFIC STRIPE (5" WIDE)

Work under this item shall include all labor, equipment, and materials necessary for the complete

installation of Dotted White, Class 2, Type A, Traffic Stripe (5" Wide) in accordance with the Alabama Department of Transportation Standard Specifications for Highway Construction, latest edition. Work shall include placement of new striping as shown on the construction drawings and specifications for this project.

Measurement shall be based upon linear feet of Dotted White, Class 2, Type A Traffic Stripe (5" Wide) installed. Payment shall be based upon the unit price bid for Dotted White, Class 2, Type A Traffic Stripe (5" Wide).

22 DOUBLE WING INLET

Work under this item shall include all labor, materials, and equipment necessary for the complete installation of a double wing inlet including excavation, backfilling, compaction, forming, installing reinforcement, installing ring and cover, pouring, finishing and other incidental work. Construction shall be in accordance with the City of Auburn Standard Details and Specifications.

Measurement shall be based upon each completed Double Wing Inlet. Payment shall be based upon the unit price bid for Double Wing Inlet.

23 ENGINEERING CONTROLS

Work under this item shall include all labor, materials and equipment necessary for placing and maintaining construction stakes, lines, controls, and grades for proper execution of the work. This work shall also include the re-setting of any property pins disturbed during construction by a licensed professional land surveyor. As builts will be required for storm sewer modifications, per the City of Auburn Engineering Design and Construction Manual.

Measurement and payment shall be based on the lump sum price bid for Engineering Controls.

24 FIRE HYDRANT RESET

Work under this item shall include all labor, materials, and equipment necessary for the complete removal and re-installation of a fire hydrant assembly in accordance with City of Auburn Standard Details and Specifications, including all necessary appurtenances, valve, valve box, hydrant lead, fittings, tapping sleeve and valve, locking hydrant tees, restraints and thrust blocks, etc. The Contractor will be responsible for ensuring the hydrant is marked out of service until such time as the hydrant is tested and placed back in service.

Measurement shall be based upon each completed Fire Hydrant Reset. Payment shall be based upon the unit price bid for Fire Hydrant Reset.

25 INTERSECTION SIGNALIZATION

Work under this item shall include all labor, materials, and equipment necessary to provide and install a new complete and fully functional traffic signal at the intersection of East University Drive and Annalue Drive in accordance with the traffic signal layout in the construction drawings, the City of Auburn Standard Details, and the City of Auburn Engineering Design and Construction Manual. **The traffic signal poles and mast arms, vehicular signal heads and brackets, traffic control cabinet and pedestrian heads shall be provided by the City. Installing the poles and mast arms shall be the responsibility of the Contractor as part of this line item.** Removal of the existing traffic signal, including cabinet, strain poles, span wire, signal heads, junction boxes and other miscellaneous components shall also be included in this item of work. Work shall include installing all traffic signal poles, pole foundations, decorative bases, signal heads, signage Iteris video detection, 16-phase traffic signal cabinet, M62 controller, junction boxes, disconnect, conduit including all necessary boring, wiring, re-installing illuminated street name signs, coordination with Alabama Power Company for new service, and other incidental items necessary for the complete operation of a traffic signal. Existing illuminated street name signs shall be relocated to the new mast arm poles using new brackets. Also included is all labor, materials, programming, and equipment for a fully functional emergency vehicle preemption system and communications and operations of the signal via the Auburn Traffic Control Center utilizing the AI Glance and Tactics integration. It shall be the responsibility of the Contractor to ensure height of signal heads meets MUTCD standards. The work shall also include furnishing, wiring and installing all Holophane Site Link Pedestrian Signal Poles, LED pedestrian signal heads, and APS push buttons as shown on the construction drawings in accordance with City of Auburn Standard Details. Pedestrian signal heads and clamshell mounting brackets will be provided by the City. All pedestrian poles shall be powder-coated black in color. **Pole foundation designs are included in Appendix A.** Traffic signal equipment specifications shall be submitted to the City immediately after contract execution, no more than 30 days, in order to expedite delivery of materials to accommodate the construction schedule.

Measurement and payment shall be based upon the lump sum price for Intersection Signalization. The City will allow partial payments for traffic signal stored materials based on proof of purchase.

26 MILLING (1" THICK)

Work under this item shall include all labor, equipment, and materials necessary for the milling of the asphalt pavement areas indicated on the plans or any other tie-ins deemed necessary by the Project Manager. Work includes the removal of mill material from the site. Included in this work is the hauling, excavation, wetting, sweeping, grading, and other incidental work. The necessary temporary signage associated with milling shall be included in this item.

Measurement shall be based upon the square yards of Milling (1.0" Thick). Payment shall be based upon the unit price bid for Milling (1.0" Thick).

27 MOBILIZATION

Work under this item shall include the preparatory work and operations, including, but not limited to those necessary for the movement of personnel, equipment, supplies and incidentals to the project site; for the establishment of facilities necessary for work on the project. The Contractor is required to submit a construction schedule as part of this item before work commences.

Measurement and payment shall be based on the lump sum price bid for Mobilization. No more than 20% of the lump sum amount for mobilization will be paid on the first estimate. When 50% of the contract amount is completed, up to 100% of the lump sum amount for mobilization can be paid.

28 MODULAR BLOCK RETAINING WALL

Work under this section shall include all labor, materials, and equipment necessary for the complete installation of modular block retaining wall as shown on the construction drawings to the manufacturer's specifications. Included in this work is excavation, compaction, installing any necessary bedding material to construct the foundation, setting blocks, installing steel reinforcement, forming and pouring foundations, installing drain pipes, backfilling with an approved backfill material, installing cap blocks, joints, finishing, and other incidental work. Color samples shall be submitted to the Project Manager for approval prior to ordering.

Measurement shall be based upon square feet of Modular Block Retaining Wall installed. Payment shall be based upon the unit price bid for Modular Block Retaining Wall.

29 PAVEMENT MARKERS, CLASS A-H, TYPE 1B

Work under this item shall include all labor, equipment, and materials necessary for the complete furnishing and installation of Pavement Markers, Class A-H, Type 1B, in accordance with the Alabama Department of Transportation Standard Specifications for Highway Construction, latest edition. Work under this pay item shall also include removal of existing pavement markers.

Measurement shall be based on each Pavement Marker, Class A-H, Type 1B placed. Payment shall be based on the unit price bid for Pavement Marker, Class A-H, Type 1B.

30 PAVEMENT MARKERS, CLASS A-H, TYPE 2C

Work under this item shall include all labor, equipment, and materials necessary for the complete furnishing and installation of Pavement Markers, Class A-H, Type 2C, in accordance with the Alabama Department of Transportation Standard Specifications for Highway Construction, latest edition. Work under this pay item shall also include removal of existing pavement markers.

Measurement shall be based on each Pavement Marker, Class A-H, Type 2C placed. Payment shall

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be based on the unit price bid for Pavement Marker, Class A-H, Type 2C.

31 PAVEMENT MARKERS, CLASS A-H, TYPE 2D

Work under this item shall include all labor, equipment, and materials necessary for the complete furnishing and installation of Pavement Markers, Class A-H, Type 2D, in accordance with the Alabama Department of Transportation Standard Specifications for Highway Construction, latest edition. Work under this pay item shall also include removal of existing pavement markers.

Measurement shall be based on each Pavement Marker, Class A-H, Type 2D placed. Payment shall be based on the unit price bid for Pavement Marker, Class A-H, Type 2D.

32 PAVEMENT MARKERS, CLASS A-H, TYPE 2E

Work under this item shall include all labor, equipment, and materials necessary for the complete furnishing and installation of Pavement Markers, Class A-H, Type 2E, in accordance with the Alabama Department of Transportation Standard Specifications for Highway Construction, latest edition. Work under this pay item shall also include removal of existing pavement markers.

Measurement shall be based on each Pavement Marker, Class A-H, Type 2E placed. Payment shall be based on the unit price bid for Pavement Marker, Class A-H, Type 2E.

33 PERMANENT ROAD SIGNS WITH POSTS

Work under this item shall include all labor, equipment, and materials necessary for furnishing and installing signs and posts as noted on the construction drawings and specifications. Posts shall be "U" channel galvanized steel. All work shall be done in accordance with the Alabama Department of Transportation Standard Specifications for Highway Construction, latest edition and the Manual on Uniform Traffic Control Devices, latest edition.

Measurement shall be based upon square feet of Permanent Road Signs with Posts installed. Payment shall be based upon the unit price bid for Permanent Road Signs with Posts.

34 PORTABLE SEQUENTIAL ARROW AND CHEVRON SIGN UNIT

Work under this item shall include all labor, equipment, and materials necessary for the complete furnishing and daily operation of a working portable sequential arrow and chevron sign unit.

Measurement shall be based upon each Portable Sequential Arrow and Chevron Sign Unit. Payment shall be based upon the unit price bid for Portable Sequential Arrow and Chevron Sign Unit.

Not For Bidding Purposes

35 REMOVING EXISTING AREA INLET

Work under this item shall include all labor, equipment, and materials necessary for the complete removal of existing area inlets as shown on the construction drawings. Removal shall include necessary sawing, demolition, removal, hauling and disposal to an off-site location deemed necessary by the Contractor and other incidental work related to disposing of the material in accordance with applicable laws and regulations (Contractor to pay disposal fees). Excavation will be done to depths necessary to remove all material, unless otherwise deemed necessary by the Project Manager. This item shall also include any necessary temporary measures to make the area safe until the new structure is constructed.

Measurement shall be based upon each existing area inlet removed. Payment shall be based upon the unit price bid for Removing Existing Area Inlet.

36 REMOVING 15" CONCRETE PIPE

Work under this item shall include all labor, equipment, and materials necessary for the complete removal of existing 15" concrete pipe as noted on the construction drawings. Removal shall include necessary saw-cutting, removal, disposal to a location deemed necessary by the contractor and other incidental work.

Measurement shall be based upon linear feet for Removing 15" Concrete Pipe. Payment shall be based on the unit price bid for Removing 15" Concrete Pipe.

37 REMOVING 15" HEADWALL

Work under this item shall include all labor, equipment, and materials necessary for the complete removal of a 15" headwall as denoted on the construction drawings. Removal shall include necessary sawing, demolition, removal, hauling and disposal to an off-site location deemed necessary by the contractor and other incidental work related to disposing of the material in accordance with applicable laws and regulations (Contractor to pay disposal fees). Excavation will be done to depths necessary to remove all material, unless otherwise deemed necessary by the Project Manager. This item shall also include any necessary temporary measures to make the area safe until the new headwall can be poured.

Measurement shall be based upon each 15" headwall removed. Payment shall be based upon the unit price bid for Removing 15" Headwall.

38 REMOVING ASPHALT AND CONCRETE PAVEMENT

Work under this item shall include all labor, equipment, and materials necessary for the complete removal of existing asphalt and concrete pavement as noted on the construction drawings or at the discretion of the Project Manager. Existing concrete flumes to be removed shall also be covered

under this item. Removal shall include necessary saw cutting, removal, disposal to a location deemed necessary by the Contractor and other incidental work.

Measurement shall be based upon square yards for Removing Asphalt and Concrete Payment. Payment shall be based on the unit price bid for Removing Asphalt and Concrete Pavement.

39 REMOVING CONCRETE CURB AND GUTTER

Work under this item shall include all labor, equipment, and materials necessary for the complete removal of existing curb, curb and gutter, and gutter as necessary for the construction identified on the drawings and within these specifications. Removal shall include necessary saw cutting, removal, disposal to a location deemed necessary by the Contractor, and other incidental work.

Measurement shall be based upon linear feet of concrete curb and gutter removed. Payment shall be based upon the unit price bid for Removing Concrete Curb and Gutter.

40 REMOVING CONCRETE SIDEWALK

Work under this item shall include all labor, equipment, and materials necessary for the complete removal of existing concrete sidewalk as shown on the construction drawings and within these specifications. Removal shall include necessary saw cutting, removal, disposal to a location deemed necessary by the Contractor, and other incidental work.

Measurement shall be based upon square yards of concrete sidewalk removed. Payment shall be based upon the unit price bid for Removing Concrete Sidewalk.

41 SEEDING AND MULCHING

Work under this item shall include all labor, materials, and equipment necessary for the complete installation of seeding and mulching including preparation, scarifying, watering, fertilizing, placement, and other incidental work. This work shall also include the placement of 4" of topsoil in all areas to receive seeding and mulching. Topsoil shall be free of rocks, limbs and debris. The Contractor shall install seeding based on the seed mix chart provided in the Alabama Department of Transportation Standard Specifications for Highway Construction, latest edition. No Millet or Bahia seed will be permitted for use on this project. Seeding and mulching should take place as soon as final slopes are graded and receive topsoil. The Contractor shall be responsible for the first cutting of all grass.

Measurement shall be based upon the acreage for complete seeding and mulching. Payment shall be based upon the unit price bid for Seeding and Mulching.

NOT FOR BIDDING PURPOSES

42 SIDEWALK HANDRAIL

Work under this item shall include all labor, materials, and equipment necessary for the complete installation of sidewalk handrail as shown on the construction drawings. Work shall include fabrication and installation of handrail in accordance with City of Auburn Standard Details and Specifications. Submittals shall be reviewed and approved prior to fabrication. Handrail shall have a powder-coat black finish, and the exact length needed shall be measured and agreed upon prior to fabrication.

Measurement shall be based upon linear feet of Sidewalk Handrail installed. Payment shall be based upon the unit price bid for Sidewalk Handrail.

43 SILT FENCE

Work under this item shall include all labor, equipment, and materials necessary for the complete installation and maintenance of silt fence on the project as shown on the construction drawings or deemed necessary by the Project Manager. All silt fence installed must comply with the City's Erosion and Sediment Control Requirements as defined in Article III of the Code of the City of Auburn, and the Alabama Handbook for Erosion Control, Sediment Control and Stormwater Management on Construction Sites and Urban Areas. The work shall include excavation needed to install silt fences, maintenance including removing sediment from silt fences during construction, removing silt fences at the end of construction, backfilling and compacting trenches once silt fences are removed, and other incidental items of work.

Measurement shall be based on linear feet of Silt Fence installed. Payment shall be based on the unit price bid for Silt Fence.

44 SINGLE WING INLET

Work under this item shall include all labor, materials, and equipment necessary for the complete installation of single wing inlets including excavation, backfilling, compaction, forming, pouring, finishing and other incidental work. Construction shall be in accordance with the City of Auburn Standard Details and Specifications.

Measurement shall be based upon each Single Wing inlet completed. Payment shall be based upon the unit price bid for Single Wing Inlet.

45 SLOPE PAVING

Work under this item shall include all labor, materials, and equipment necessary for the complete installation of slope paving for the island mountable noses as shown on the construction drawings and in accordance with the Alabama Department of Transportation Standard and Special Drawings, latest edition. Work shall include excavation, removal of unsuitable materials, forming, pouring,

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finishing, backfilling, compaction, and other incidental work. Included in this item will be the required crushed aggregate base under the slope paving to the widths and depths as shown on Cross Sections and ALDOT details.

Measurement shall be based upon square yards of Slope Paving installed. Payment shall be based upon the unit price bid for Slope Paving.

46 SOLID SODDING (BERMUDA)

Work under this item shall include all labor, materials, and equipment necessary for the complete installation of Bermuda solid sod including 4" topsoil, preparation, watering, fertilizing, placement, rolling, and other incidental work. The Contractor shall place Bermuda sod in accordance with the Alabama Department of Transportation Standard Specifications, latest edition and City of Auburn Standard Details and Specifications. The topsoil shall be free of rocks and debris prior to the placement of sod. Sod shall be "notched" in to match existing sod conditions. Under no circumstances shall sod be laid unevenly or on top of existing sod. Dead or un-watered sod shall not be paid for, and the replacement shall be the responsibility of the Contractor. The Contractor shall be responsible for the first cutting of all grass.

Measurement shall be based upon square yards of in-place Bermuda sod laid. Payment shall be based upon the unit price bid for Solid Sodding (Bermuda).

47 SOLID TEMPORARY TRAFFIC STRIPE (5" WIDE)

Work under this item shall include all labor, equipment, and materials necessary for the complete installation of Solid Temporary Traffic Stripe (5" Wide) in accordance with the Alabama Department of Transportation Standard Specifications for Highway Construction, latest edition. Work shall include placement of temporary striping as shown on the construction drawings and specifications for this project.

Measurement shall be based upon linear feet of Solid Temporary Traffic Stripe (5" Wide) installed. Payment shall be based upon the unit price bid for Solid Temporary Traffic Stripe (5" Wide).

48 SOLID WHITE, CLASS 2, TYPE A TRAFFIC STRIPE (5" WIDE)

Work under this item shall include all labor, equipment, and materials necessary for the complete installation of Solid White, Class 2, Type A, Traffic Stripe (5" Wide) in accordance with the Alabama Department of Transportation Standard Specifications for Highway Construction, latest edition. Work shall include placement of new striping as shown on the construction drawings and specifications for this project.

Measurement shall be based upon linear feet of Solid White, Class 2, Type A Traffic Stripe (5" Wide)

installed. Payment shall be based upon the unit price bid for Solid White, Class 2, Type A Traffic Stripe (5" Wide).

49 SOLID YELLOW, CLASS 2, TYPE A TRAFFIC STRIPE (5" WIDE)

Work under this item shall include all labor, equipment, and materials necessary for the complete installation of Solid Yellow, Class 2, Type A, Traffic Stripe (5" Wide) in accordance with the Alabama Department of Transportation Standard Specifications for Highway Construction, latest edition. Work shall include placement of new striping as shown on the construction drawings and specifications for this project.

Measurement shall be based upon linear feet of Solid Yellow, Class 2, Type A Traffic Stripe (5" Wide) installed. Payment shall be based upon the unit price bid for Solid Yellow, Class 2, Type A Traffic Stripe (5" Wide).

50 SUPERPAVE BITUMINOUS CONCRETE BINDER LAYER, 3/4" MAXIMUM AGGREGATE SIZE MIX, ESAL RANGE C/D (4" THICK)

Work under this section shall include all labor, materials, and equipment necessary for the placement of 424B Superpave Bituminous Concrete Binder Layer, 3/4" Maximum Aggregate Size Mix, ESAL Range C/D (4" Thick), in accordance with the Alabama Department of Transportation Standard Specifications for Highway Construction, latest edition. Work shall include, but not be limited to, hauling, placement, compaction, testing, tack coat, and any other incidental items of work. **All asphalt binder layer for the project shall be installed in 2 – 2.0" lifts.**

Measurement shall be based on tons of in place 424B Superpave Bituminous Concrete Binder Layer, 3/4" Maximum Aggregate Size Mix, ESAL Range C/D (4" Thick). Payment shall be based on the unit price bid for 424B Superpave Bituminous Concrete Binder Layer, 3/4" Maximum Aggregate Size Mix, ESAL Range C/D (4" Thick), in accordance with Alabama Department of Transportation Standard Specifications for Highway Construction, latest edition.

51 SUPERPAVE BITUMINOUS CONCRETE BINDER LAYER, PATCHING, 3/4" MAXIMUM AGGREGATE SIZE MIX, ESAL RANGE C/D

Work under this section shall include all labor, materials, and equipment necessary for the placement of 424B Superpave Bituminous Concrete Binder Layer, Patching, 3/4" Maximum Aggregate Size Mix, ESAL Range C/D, to the depth excavated to reach suitable base material, in accordance with the Alabama Department of Transportation Standard Specifications for Highway Construction, latest edition. Work shall include, but not be limited to, hauling, placement, compaction, testing, tack coat, and any other incidental items of work. Areas to receive patching shall be marked by the Project Inspector prior to removal.

Measurement shall be based on tons of in place 424B Superpave Bituminous Concrete Binder

Layer, Patching, ¾" Maximum Aggregate Size Mix, ESAL Range C/D. Payment shall be based on the unit price bid for 424B Superpave Bituminous Concrete Binder Layer, Patching, ¾" Maximum Aggregate Size Mix, ESAL Range C/D, in accordance with Alabama Department of Transportation Specifications.

52 SUPERPAVE BITUMINOUS CONCRETE WEARING SURFACE LAYER, 3/8" MAXIMUM AGGREGATE SIZE MIX, ESAL RANGE C/D (1" THICK)

Work under this section shall include all labor, materials, and equipment necessary for the placement of 424A Superpave Bituminous Concrete Wearing Surface Layer, 3/8" Maximum Aggregate Size Mix, ESAL Range C/D (1" Thick), in accordance with the Alabama Department of Transportation Standard Specifications for Highway Construction. Work shall include, but not be limited to, hauling, placement, compaction, testing, tack coat, and any other incidental items of work.

Measurement shall be based on tons of in place 424A Superpave Bituminous Concrete Wearing Surface Layer, 3/8" Maximum Aggregate Size Mix, ESAL Range C/D (1" Thick). Payment shall be based on the unit price bid for 424A Superpave Bituminous Concrete Wearing Surface Layer, 3/8" Maximum Aggregate Size Mix, ESAL Range C/D (1" Thick), in accordance with Alabama Department of Transportation Specifications.

53 SUPERPAVE BITUMINOUS CONCRETE WEARING SURFACE LAYER, LEVELING, 3/8" MAXIMUM AGGREGATE SIZE MIX, ESAL RANGE C/D

Work under this section shall include all labor, materials, and equipment necessary for the placement of 424A Superpave Bituminous Concrete Wearing Surface Layer, Leveling, 3/8" Maximum Aggregate Size Mix, ESAL Range C/D, to the thickness necessary to remove existing asphalt "rutting", in accordance with the Alabama Department of Transportation Standard Specifications for Highway Construction. Work shall include, but not be limited to, hauling, placement, compaction, testing, tack coat, and any other incidental items of work.

Measurement shall be based on tons of in place 424A Superpave Bituminous Concrete Wearing Surface Layer, Leveling, 3/8" Maximum Aggregate Size Mix, ESAL Range C/D. Payment shall be based on the unit price bid for 424A Superpave Bituminous Concrete Wearing Surface Layer, Leveling, 3/8" Maximum Aggregate Size Mix, ESAL Range C/D, in accordance with Alabama Department of Transportation Specifications

54 TEMPORARY SEEDING AND MULCHING

Work under this item shall include all labor, materials, and equipment necessary for the complete installation of temporary seeding and mulching including preparation, watering, fertilizing, placement, and other incidental work. The Contractor shall place temporary seeding and mulching in accordance with the Alabama Department of Transportation specifications. No Millet or Bahia seed will be permitted for use on this project. All mulch and hay shall be free of

Cogongrass.

Measurement shall be based upon the acreage of complete temporary seeding and mulching. Payment shall be based upon the unit price bid for Temporary Seeding and Mulching.

55 TEMPORARY TRAFFIC CONTROL MARKINGS

Work under this item shall include all labor, equipment, and materials necessary for the placement of temporary traffic control markings as shown on the attached contract documents. Temporary markings shall be installed the same day for any existing markings that are covered during paving operations. Striping material shall be Class I, Type "A" paint with reflective beads and shall be placed in accordance with Alabama Department of Transportation Standard Specifications for Highway Construction, latest edition.

Measurement shall be based upon square feet of Temporary Traffic Control Markings installed. Payment shall be based upon the unit price bid for Temporary Traffic Control Markings.

56 TRAFFIC CONTROL LEGENDS, CLASS 2, TYPE A

Work under this item shall include all labor, equipment, and materials necessary for the complete installation of Traffic Control Legends, Class 2, Type A in accordance with the Alabama Department of Transportation Standard Specifications for Highway Construction and Standard and Special Drawings, latest edition. Work shall include placement of new legends as shown on the construction drawings and specifications. Work under this pay item shall also include removal of existing traffic control legends where new legends will not align with the existing on the edge of the project limits.

Measurement shall be based upon square feet of Traffic Control Legends, Class 2, Type A placed. Payment shall be based upon the unit price bid for Traffic Control Legends, Class 2, Type A.

57 TRAFFIC CONTROL MARKINGS, CLASS 2, TYPE A

Work under this item shall include all labor, equipment, and materials necessary for the complete installation of Traffic Control Markings, Class 2, Type A in accordance with the Alabama Department of Transportation Standard Specifications for Highway Construction, latest edition. Work shall include placement of new markings as shown on the construction drawings and specifications. Work under this pay item shall also include removal (grinding) of existing traffic control markings where new markings will not align with the existing markings on the edge of the project limits.

Measurement shall be based upon square feet of Traffic Control Markings, Class 2, Type A placed. Payment shall be based upon the unit price bid for Traffic Control Markings, Class 2, Type A.

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58 TYPE N CONCRETE CURB

Work under this item shall include all labor, materials, and equipment necessary for the complete installation of Type N Concrete Curb in accordance with the construction drawings and Alabama Department of Transportation Standard and Special Drawings, latest edition. Work shall include excavation, removal of unsuitable materials, forming, pouring, finishing, backfilling, compaction, and other incidental work. Included in this item will be the required crushed aggregate base under the curb to the widths and depths as shown on Cross Sections and ALDOT details.

Measurement shall be based upon linear foot of Type N Concrete Curb installed. Payment shall be based upon the unit price bid for Type N Concrete Curb.

59 TYPE N SPECIAL CONCRETE CURB

Work under this item shall include all labor, materials, and equipment necessary for the complete installation of Type N Special Concrete Curb in accordance with the construction drawings and Alabama Department of Transportation Standard and Special Drawings, latest edition. Work shall include excavation, removal of unsuitable materials, forming, pouring, finishing, backfilling, compaction, and other incidental work. Included in this item will be the required crushed aggregate base under the curb to the widths and depths as shown on Cross Sections and ALDOT details.

Measurement shall be based upon linear foot of Type N Special Concrete Curb installed. Payment shall be based upon the unit price bid for Type N Special Concrete Curb.

60 UNCLASSIFIED EXCAVATION (APPROXIMATELY 3,200 CUBIC YARDS)

Work under this item shall include all labor, materials, and equipment necessary for gathering and reusing all on-site material including, stripping, stockpiling, excavation, loading, hauling, spreading, and other incidental work. The work shall also include the cost involved with the excavation and removal of any unsuitable material (including rock) falling within the construction limits, and reuse of existing materials removed from within the project limits meeting the testing requirements set forth in the City of Auburn Standard Details and Specifications.

Measurement and payment shall be based on the lump sum price bid for Unclassified Excavation.

61 WATER VALVE BOX ADJUSTMENT

Work under this item shall include all labor, materials, and equipment necessary for the complete adjustment or resetting, horizontal and/or vertical, of existing water valve boxes, and any related appurtenances as shown on the construction drawings in accordance with City of Auburn Standard Details and Specifications. The adjustment shall include any necessary excavation, backfill, compaction, valve box risers, extensions, replacements, leveling, plumbing

NOT FOR BIDDING PURPOSES

or any other incidental work associated with the completion of each valve box adjustment. Included in this item the Contractor will be responsible for keeping the valve box in operating configuration in relation to the valve stem and nut. The Contractor shall set the top of each valve box flush with the finished grade and shall verify that each valve nut is accessible before and after paving operations.

Measurement shall be based upon each completed Water Valve Box Adjustment. Payment shall be based upon the unit price bid for Water Valve Box Adjustment.

62 WATTLES

Work under this item shall include all labor, materials, and equipment necessary for the complete installation of straw wattles on the project as noted on the construction drawings or as deemed necessary by the Project Manager in drainage swales, inlet locations or areas. Straw wattles shall be from an approved source and shall comply with the City's Erosion and Sediment Control Requirements as defined in Article III of the Code of the City of Auburn, and the Alabama Handbook for Erosion Control, Sediment Control and Stormwater Management on Construction Sites and Urban Areas. The wattles shall be removed once sod has been placed or the Project Manager has determined that an acceptable stand of grass exists to no longer warrant the wattles.

Measurement shall be based upon linear feet of straw Wattles installed on the project. Payment shall be based upon the unit price bid for straw Wattles.

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Not For Bidding Purposes

Not For Bidding Purposes

APPENDIX A. FOUNDATION FOR TRAFFIC SIGNAL POLES

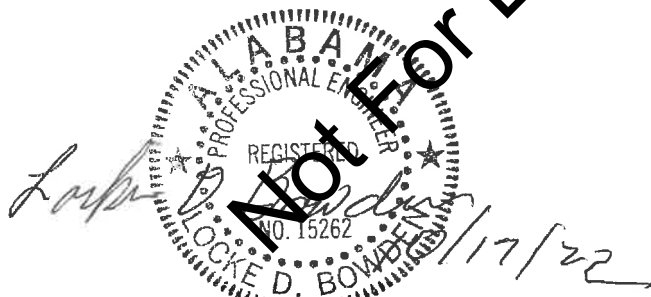
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Not For Bidding Purposes

**Foundations for Traffic Signal Poles
Intersection of East University Drive
and Annalue Drive
22' Mast Arm
46' Mast Arm
41'/37' Dual Mast Arms
Auburn, Alabama**

Prepared by

**Locke D. Bowden, P.E.
Alabama Registration No. 15262
9450 Alshury Place
Montgomery, AL 36117**



**Locke D. Bowden, P.E.
Alabama Registration No. 15262**

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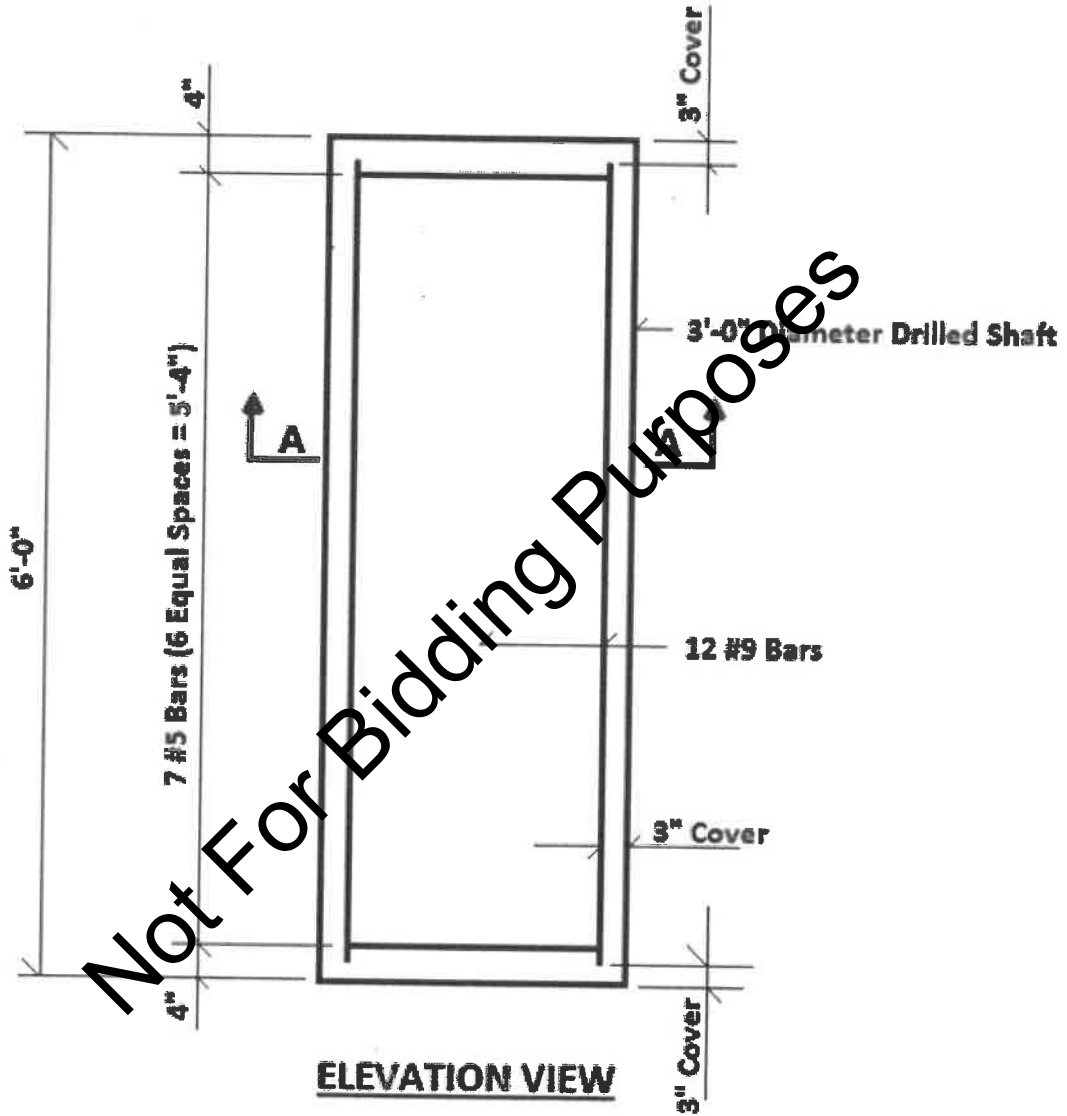
Intersection of East University Drive
and Annalue Drive
Auburn, Alabama

Foundation Notes

- 1.) Foundation concrete shall be Class A, Type 1A, with a minimum 28-day strength of 3000 psi
- 2.) Steel reinforcement shall be Grade 60
- 3.) Construction methods and materials shall be in accordance with ALDOT Standard Specifications for Highway Construction, Current Edition
- 4.) Anchor bolt design and details and electrical by others

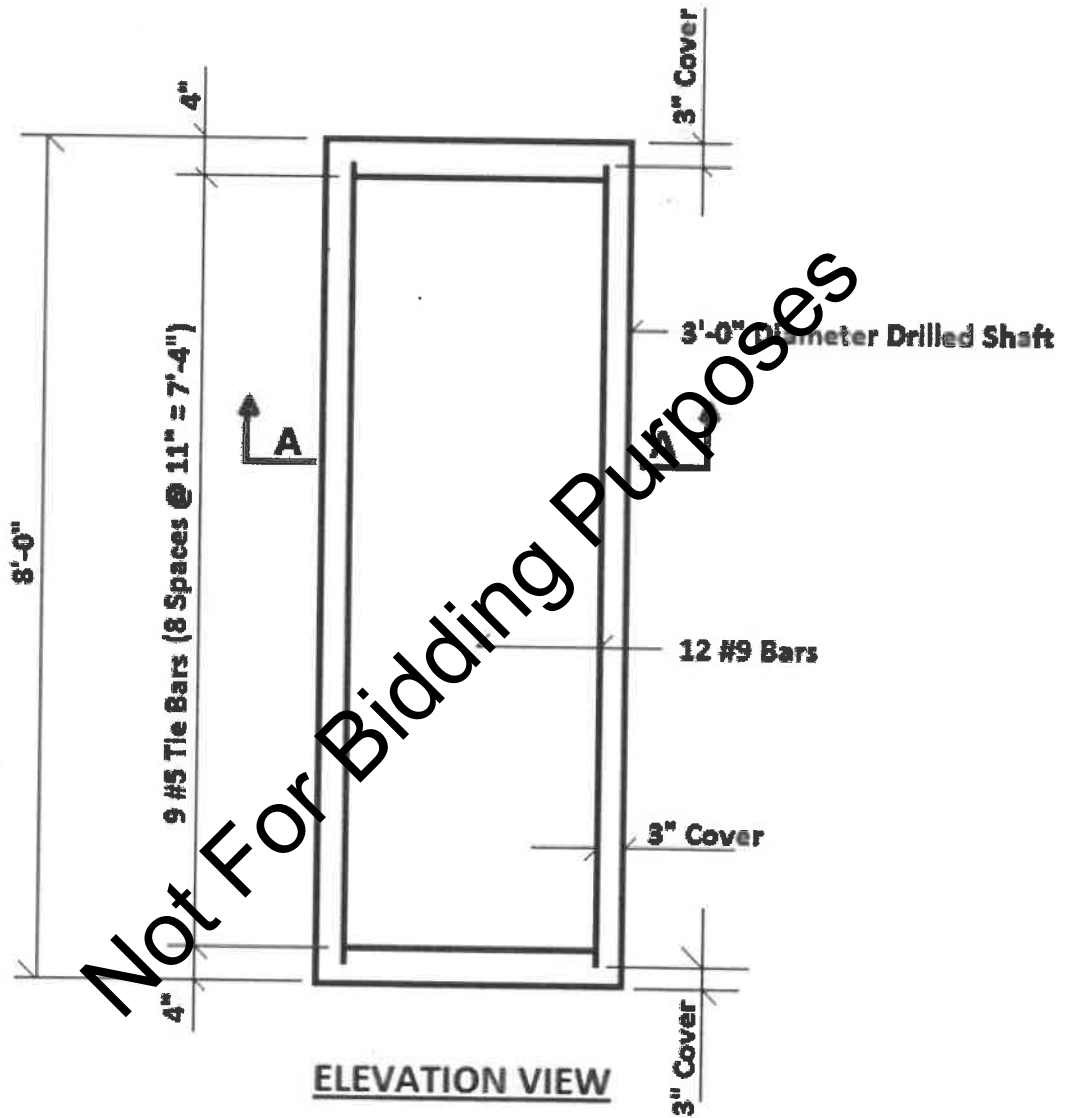
Not For Bidding Purposes

Intersection of East University Drive
and Annaluc Drive
Auburn, Alabama



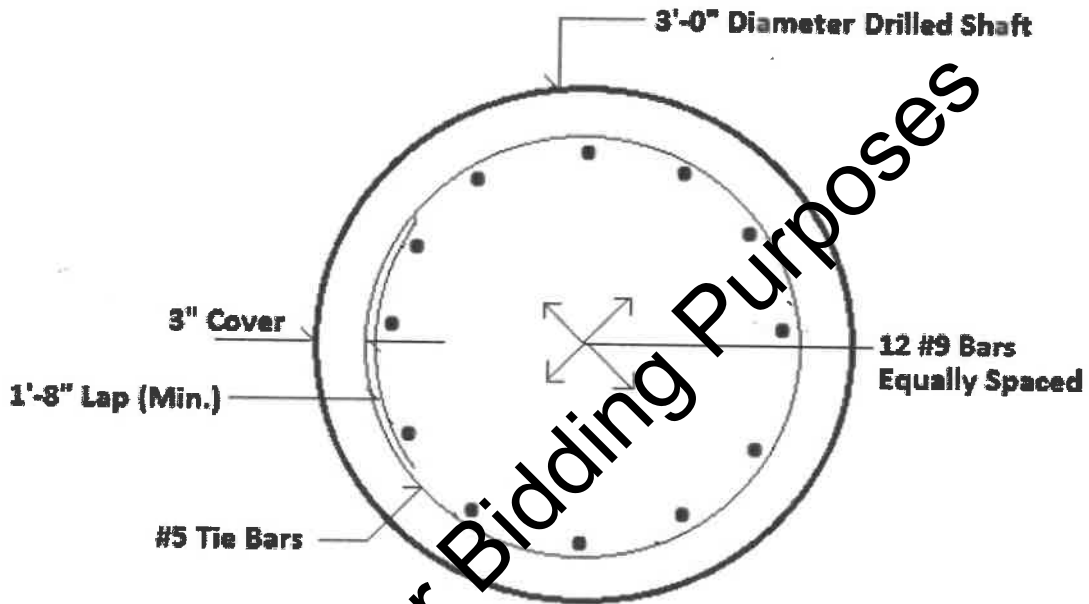
Traffic Signal Pole Foundation for
22'-0" Mast Arm

Intersection of East University Drive
and Annaloe Drive
Auburn, Alabama



Traffic Signal Pole Foundation for
46'-0" Mast Arm
&
41'/37' Dual Mast Arms

Intersection of East University Drive
and Annakue Drive
Auburn, Alabama



SECTION A-A

Not For Bidding Purposes

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Plans for:
The City of Auburn
Auburn, Alabama

Annalue Drive and East University Drive Intersection Improvements

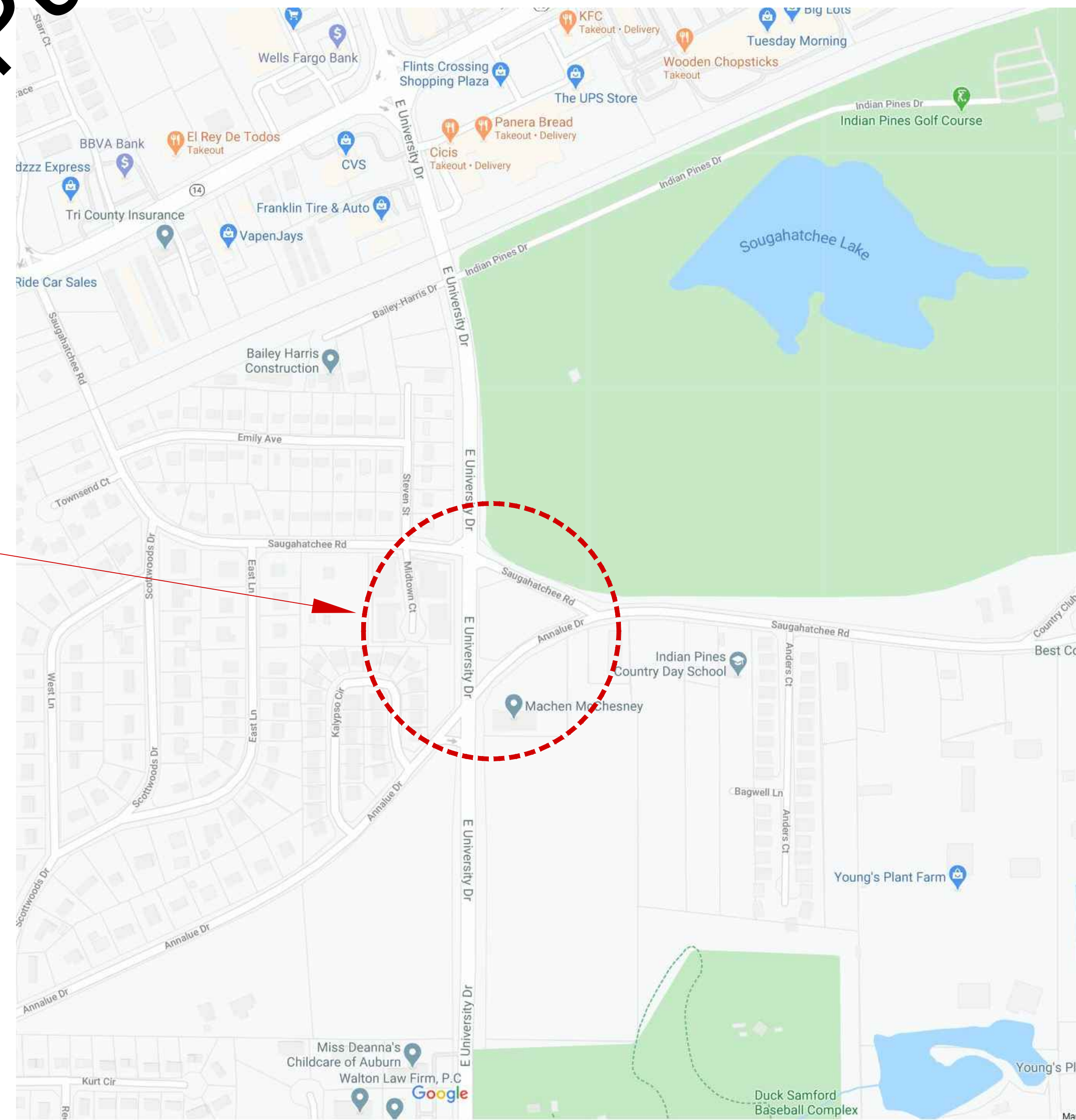
INDEX OF SHEETS:

1. COVER SHEET
2. TRAFFIC CONTROL PLAN
3. TEMPORARY TRAFFIC CONTROL DETAILS
4. OVERALL DEMOLITION PLAN
5. DEMOLITION AND EROSION CONTROL PLAN - STA -3+00 - 9+00
6. DEMOLITION AND EROSION CONTROL PLAN - STA 9+50 - 13+00
7. TYPICAL SECTIONS
8. OVERALL PLAN VIEW
9. PLAN VIEW - STA -3+00 - 9+00 EAST UNIVERSITY DRIVE
10. PLAN VIEW - STA 9+00 - 13+30 EAST UNIVERSITY DRIVE & STA 1+37 - 6+90 ANNALUE DRIVE
11. STRIPING AND SIGNAGE PLAN
12. TRAFFIC SIGNAL LAYOUT PLAN
13. CROSS SECTIONS - STA -3+00 - 3+50 EAST UNIVERSITY DRIVE
14. CROSS SECTIONS - STA 4+00 - 10+50 EAST UNIVERSITY DRIVE
15. CROSS SECTIONS - STA 11+00 - 13+00 EAST UNIVERSITY DRIVE
16. CROSS SECTIONS - STA 1+00 - 7+50 ANNALUE DRIVE
17. SLOPE PAVED HEADWALL ON SKEW DETAIL - SHEET 1 OF 2
18. SLOPE PAVED HEADWALL ON SKEW DETAIL - SHEET 2 OF 2
19. STANDARD DETAILS: EROSION CONTROL - SHEET 1 OF 3
20. STANDARD DETAILS: EROSION CONTROL - SHEET 2 OF 3
21. STANDARD DETAILS: EROSION CONTROL - SHEET 3 OF 3
22. STANDARD DETAILS: STORM - SHEET 1 OF 2
23. STANDARD DETAILS: STORM - SHEET 2 OF 2
24. STANDARD DETAILS: STREETS - SHEET 1 OF 4
25. STANDARD DETAILS: STREETS - SHEET 2 OF 4
26. STANDARD DETAILS: STREETS - SHEET 3 OF 4
27. STANDARD DETAILS: STREETS - SHEET 4 OF 4
28. STANDARD DETAILS: TRAFFIC - SHEET 1 OF 3
29. STANDARD DETAILS: TRAFFIC - SHEET 2 OF 3
30. STANDARD DETAILS: TRAFFIC - SHEET 3 OF 3
31. STANDARD DETAILS: WATER - SHEET 1 OF 4
32. STANDARD DETAILS: WATER - SHEET 2 OF 4
33. STANDARD DETAILS: WATER - SHEET 3 OF 4
34. STANDARD DETAILS: WATER - SHEET 4 OF 4

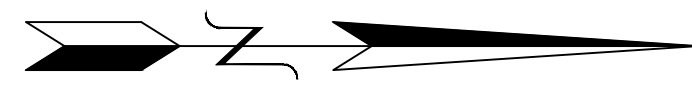
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PROJECT LOCATION

VICINITY MAP:



REVISIONS		DESCRIPTION
NO.	DATE	CHECK
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CHECKED		BPW
DATE		FEBRUARY 23, 2023
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SHEET NO.		1



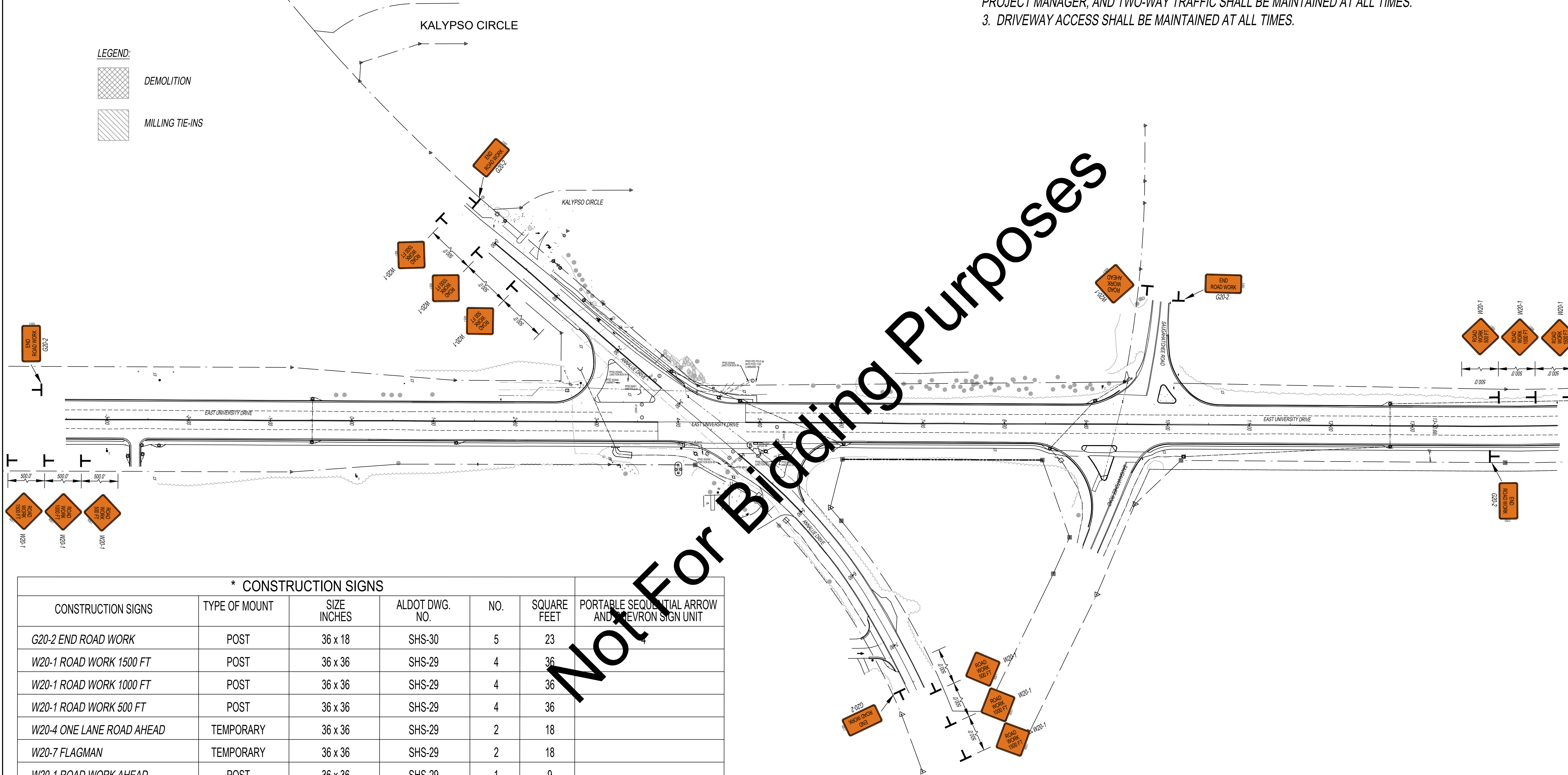
SCALE:
1.0" = 60.0'

LEGEND:

- DEMOLITION
- MILLING TIE-INS

NOTES:

1. ALL UTILITIES MUST BE FIELD LOCATED PRIOR TO CONSTRUCTION. CONTRACTOR IS ADVISED THAT UTILITIES SHOWN REPRESENT THOSE LOCATED DURING INITIAL SURVEY AND MAY NOT BE ALL INCLUSIVE.
2. NO MORE THAN ONE LANE SHALL BE CLOSED AT A TIME WITHOUT THE APPROVAL OF THE CITY'S PROJECT MANAGER, AND TWO-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES.
3. DRIVEWAY ACCESS SHALL BE MAINTAINED AT ALL TIMES.



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* CONSTRUCTION SIGNS

CONSTRUCTION SIGNS	TYPE OF MOUNT	SIZE INCHES	ALDOT DWG. NO.	NO.	SQUARE FEET	PORTABLE SEQUENTIAL ARROW AND CHEVRON SIGN UNIT
G20-2 END ROAD WORK	POST	36 x 18	SHS-30	5	23	
W20-1 ROAD WORK 1500 FT	POST	36 x 36	SHS-29	4	36	
W20-1 ROAD WORK 1000 FT	POST	36 x 36	SHS-29	4	36	
W20-1 ROAD WORK 500 FT	POST	36 x 36	SHS-29	4	36	
W20-4 ONE LANE ROAD AHEAD	TEMPORARY	36 x 36	SHS-29	2	18	
W20-7 FLAGMAN	TEMPORARY	36 x 36	SHS-29	2	18	
W20-1 ROAD WORK AHEAD	POST	36 x 36	SHS-29	1	9	
W8-15 GROOVED PAVEMENT	POST	36 x 36	SHS-28	4	36	
W4-2 LANE DROP AHEAD	TEMPORARY	36 x 36	SHS-26	2	18	
W8-15P MOTORCYCLE	POST	24 x 18	SHS-28	4	12	
R9-9 SIDEWALK CLOSED	TEMPORARY	24 x 12	SHS-7	7	14	
TOTAL					256	4

* THE TEMPORARY SIGN TYPES LISTED AND THEIR QUANTITIES MAY VARY DEPENDING ON THE CONTRACTOR'S SEQUENCE OF CONSTRUCTION. ALL SIGNS SHALL BE INSTALLED PER THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.

ENGINEERING SERVICES
DEPARTMENT
161 N. ROSS STREET
AUBURN, ALABAMA 36830
PHONE: (334) 501-7390; FAX: (334) 501-7294

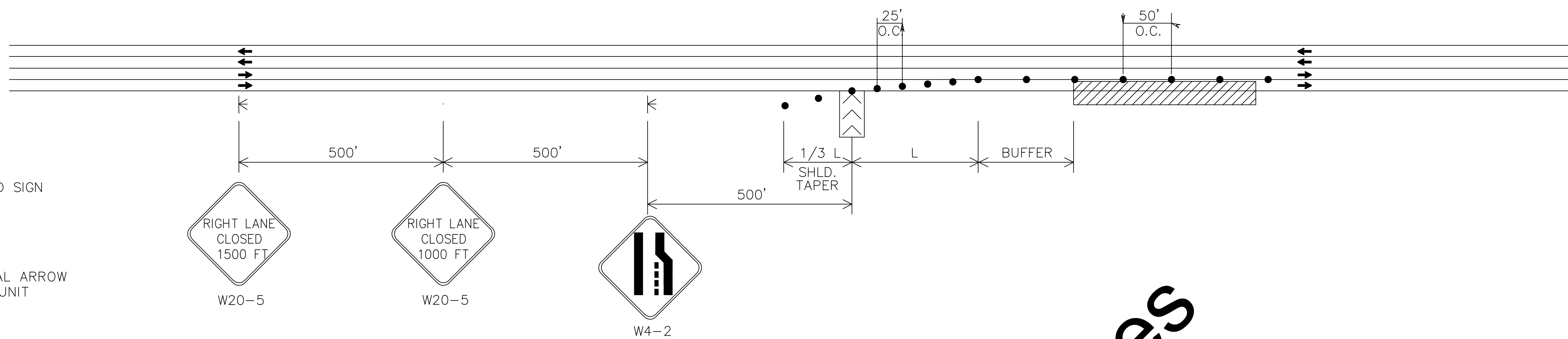


TRAFFIC CONTROL PLAN
CITY OF AUBURN
ANNALUE DRIVE AND EAST UNIVERSITY
DRIVE INTERSECTION IMPROVEMENTS

NO.	CHECK	DATE	REVISIONS	
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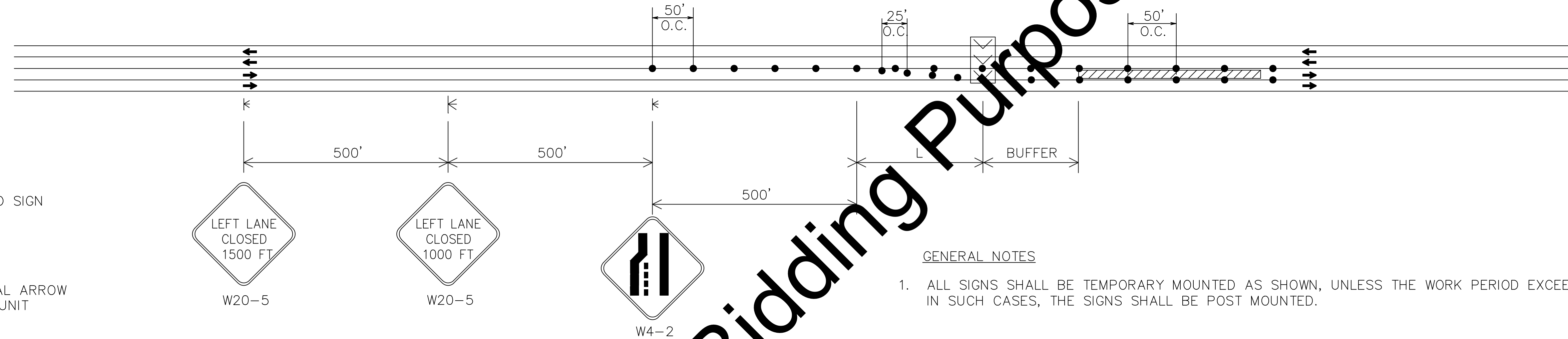
TYPICAL SCHEME FOR OUTSIDE LANE CLOSURE ON MULTI-LANE ROADS

- LEGEND**
- ✂ TEMPORARY MOUNTED SIGN
 - CHANNELIZING DRUM
 - ▨ WORK AREA
 - ⏏ PORTABLE SEQUENTIAL ARROW AND CHEVRON SIGN UNIT



TYPICAL SCHEME FOR INSIDE LANE CLOSURE ON MULTI-LANE ROADS

- LEGEND**
- ✂ TEMPORARY MOUNTED SIGN
 - CHANNELIZING DRUM
 - ▨ WORK AREA
 - ⏏ PORTABLE SEQUENTIAL ARROW AND CHEVRON SIGN UNIT



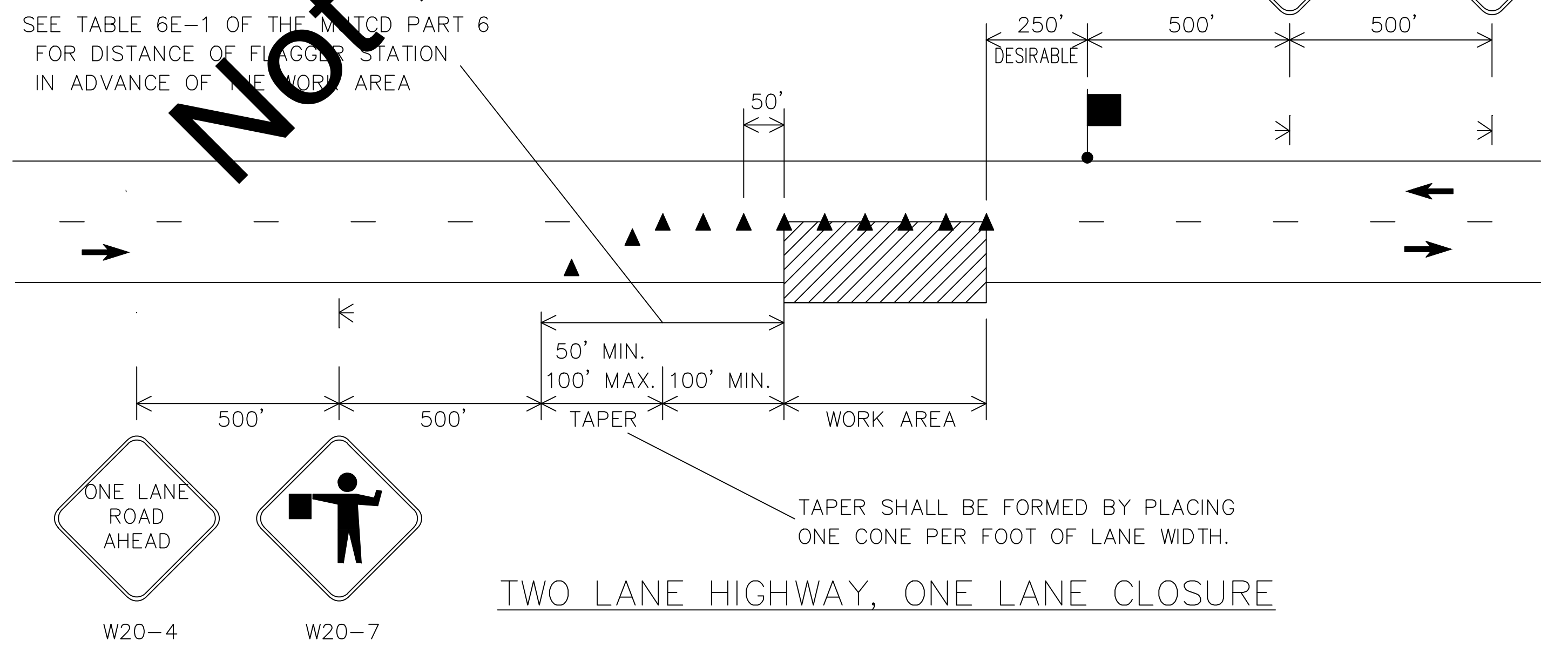
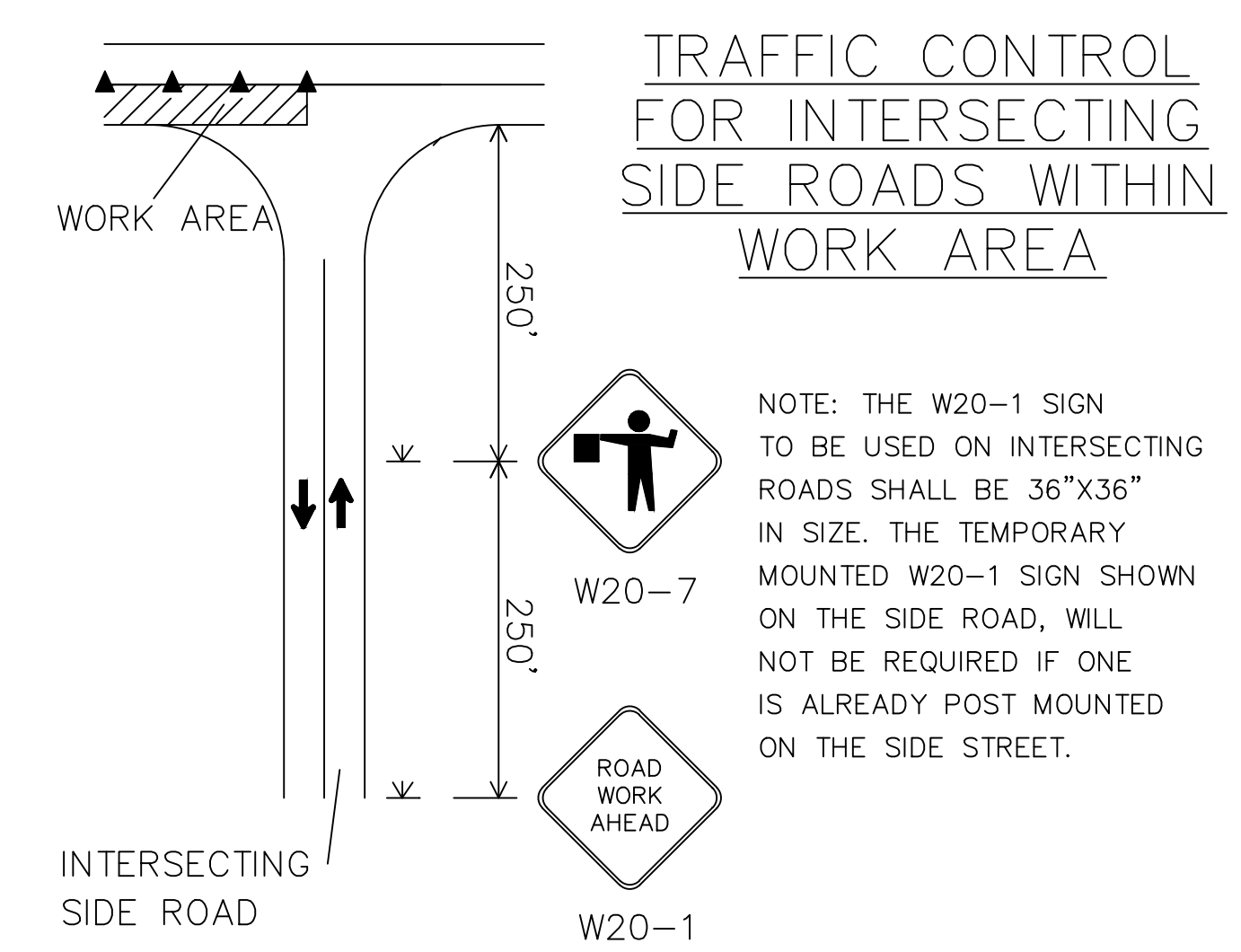
GENERAL NOTES

1. ALL SIGNS SHALL BE TEMPORARY MOUNTED AS SHOWN, UNLESS THE WORK PERIOD EXCEEDS FOUR (4) DAYS. IN SUCH CASES, THE SIGNS SHALL BE POST MOUNTED.

TYPICAL SCHEME FOR LANE CLOSURE ON 2-LANE ROADS

GENERAL NOTES

1. ALL SIGNS SHALL BE TEMPORARY MOUNTED AS SHOWN, UNLESS THE WORK PERIOD EXCEEDS FOUR (4) DAYS. IN SUCH CASES, THE SIGNS SHALL BE POST MOUNTED.

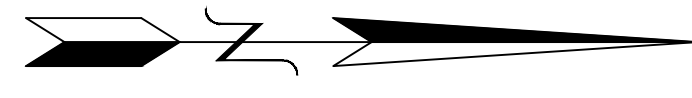


THE SIGN SIZES SHOWN ON THIS SHEET SHALL SUPERCEDE THOSE SHOWN ON THE STANDARD HIGHWAY SIGNS DRAWINGS UNLESS OTHERWISE APPROVED BY THE ENGINEER.

- LEGEND**
- ✂ TEMPORARY MOUNTED SIGN
 - POST MOUNTED SIGN
 - ▲ CONES
 - FLAGGER
 - ▨ WORK AREA

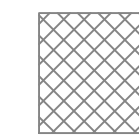
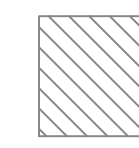
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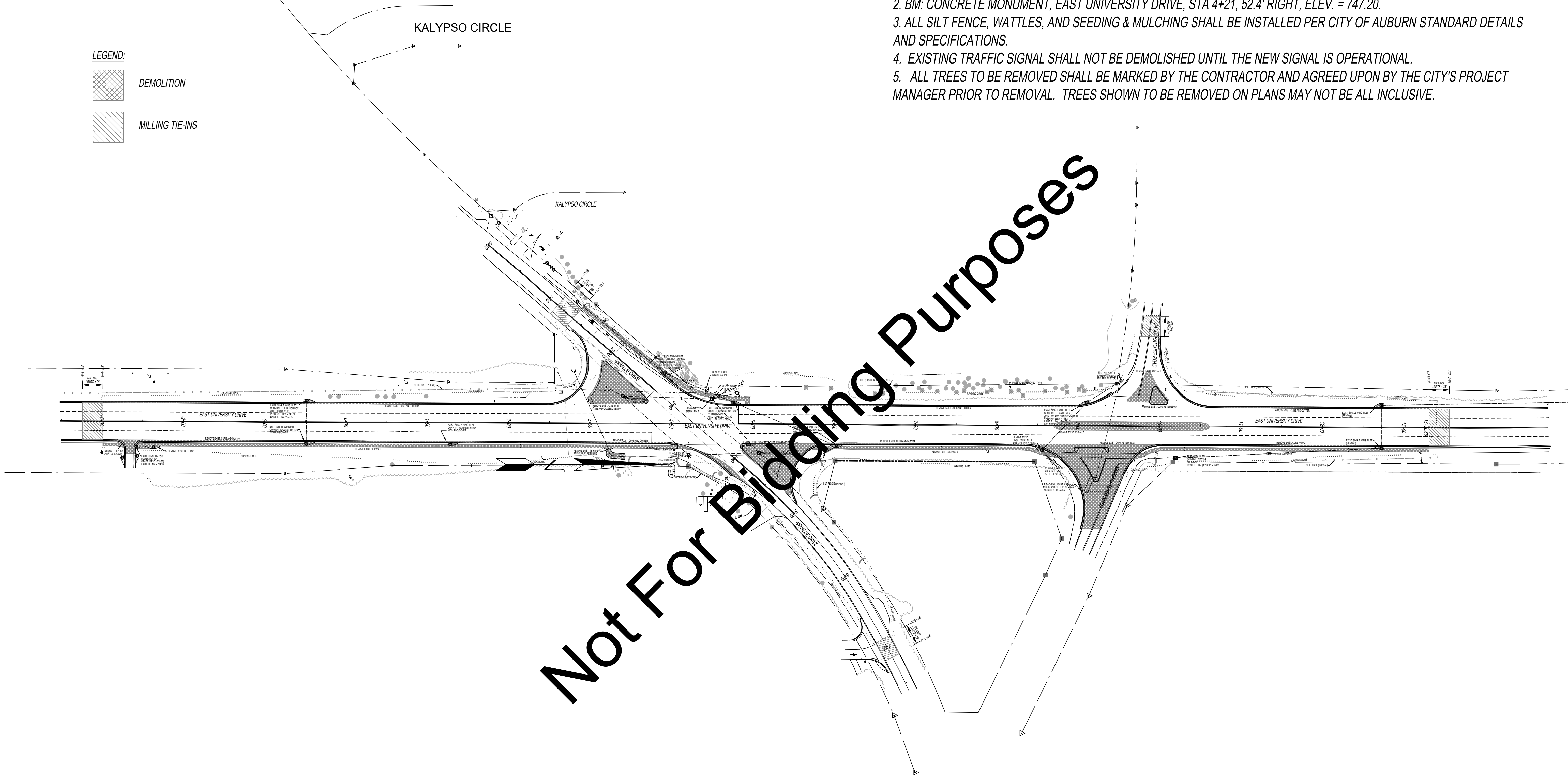
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LEGEND:

-  DEMOLITION
-  MILLING TIE-INS

NOTES:

1. ALL UTILITIES MUST BE FIELD LOCATED PRIOR TO CONSTRUCTION. CONTRACTOR IS ADVISED THAT UTILITIES SHOWN REPRESENT THOSE LOCATED DURING INITIAL SURVEY AND MAY NOT BE ALL INCLUSIVE. AT THE TIME OF BIDDING, AERIAL RELOCATIONS WERE UNDERWAY.
2. BM: CONCRETE MONUMENT, EAST UNIVERSITY DRIVE, STA 4+21, 52.4' RIGHT, ELEV. = 747.20.
3. ALL SILT FENCE, WATTLES, AND SEEDING & MULCHING SHALL BE INSTALLED PER CITY OF AUBURN STANDARD DETAILS AND SPECIFICATIONS.
4. EXISTING TRAFFIC SIGNAL SHALL NOT BE DEMOLISHED UNTIL THE NEW SIGNAL IS OPERATIONAL.
5. ALL TREES TO BE REMOVED SHALL BE MARKED BY THE CONTRACTOR AND AGREED UPON BY THE CITY'S PROJECT MANAGER PRIOR TO REMOVAL. TREES SHOWN TO BE REMOVED ON PLANS MAY NOT BE ALL INCLUSIVE.



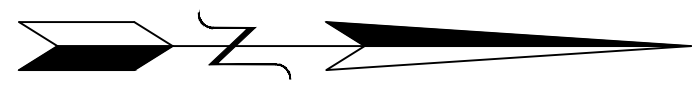
ENGINEERING SERVICES
DEPARTMENT
161 N. ROSS STREET
AUBURN, ALABAMA 36830
PHONE: (334) 501-7390; FAX: (334) 501-7294



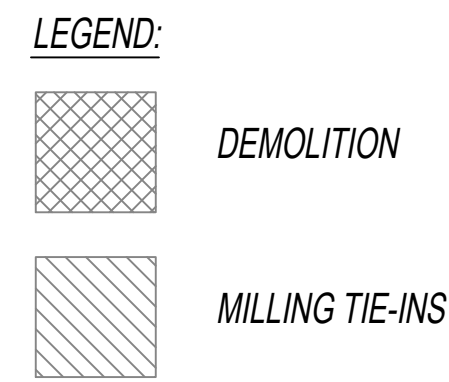
OVERALL DEMOLITION PLAN
CITY OF AUBURN
ANNALVE DRIVE AND EAST UNIVERSITY
DRIVE INTERSECTION IMPROVEMENTS

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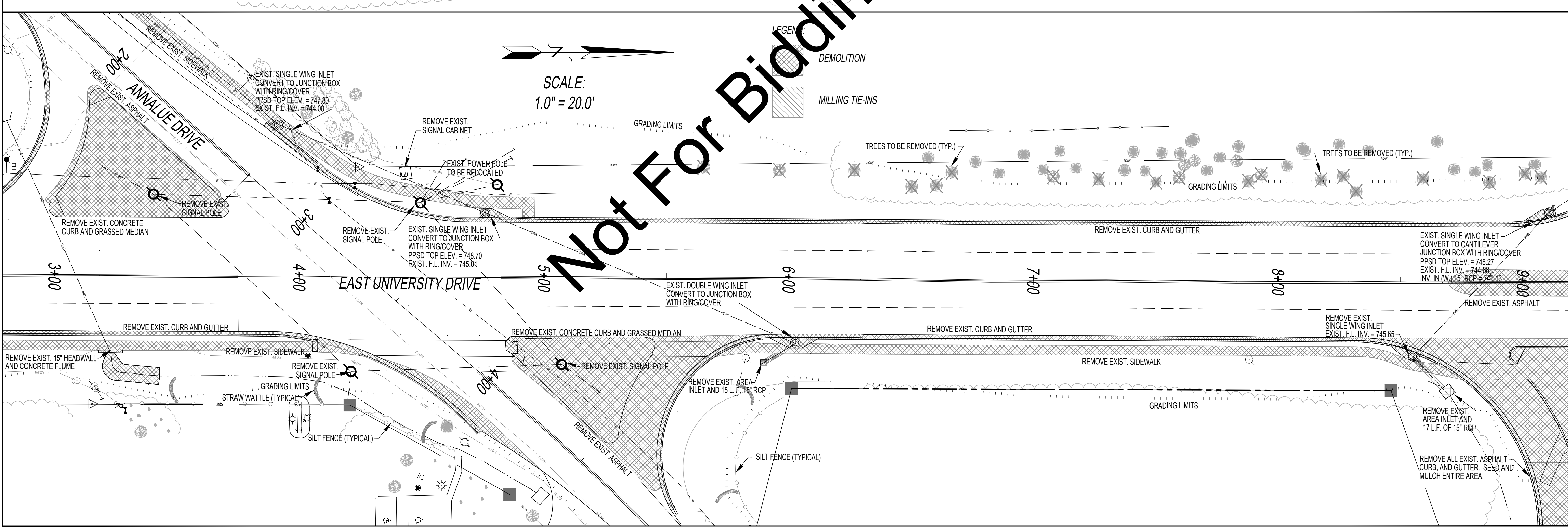
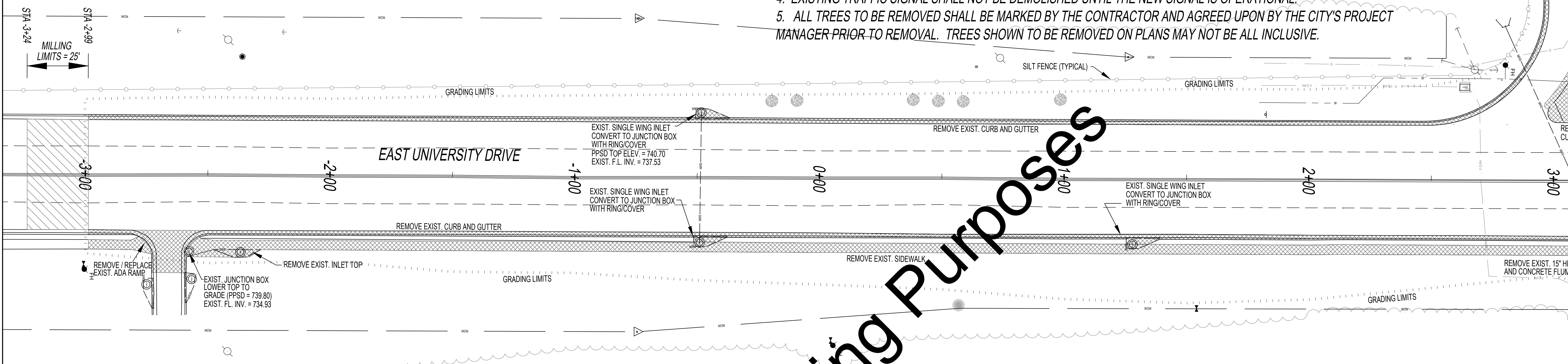


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1.0" = 20.0'



NOTES:

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2. BM: CONCRETE MONUMENT, EAST UNIVERSITY DRIVE, STA 4+21, 52.4' RIGHT, ELEV. = 747.20.
3. ALL SILT FENCE, WATTLES, AND SEEDING & MULCHING SHALL BE INSTALLED PER CITY OF AUBURN STANDARD DETAILS AND SPECIFICATIONS.
4. EXISTING TRAFFIC SIGNAL SHALL NOT BE DEMOLISHED UNTIL THE NEW SIGNAL IS OPERATIONAL.
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Not For Bidding Purposes

ENGINEERING SERVICES DEPARTMENT
161 N. ROSS STREET
AUBURN, ALABAMA 36830
PHONE: (334) 501-7390; FAX: (334) 501-7294

City of Auburn

DEMOLITION AND EROSION CONTROL PLAN - STA -3+00 - 9+00

CITY OF AUBURN
ANNALEE DRIVE AND EAST UNIVERSITY DRIVE INTERSECTION IMPROVEMENTS

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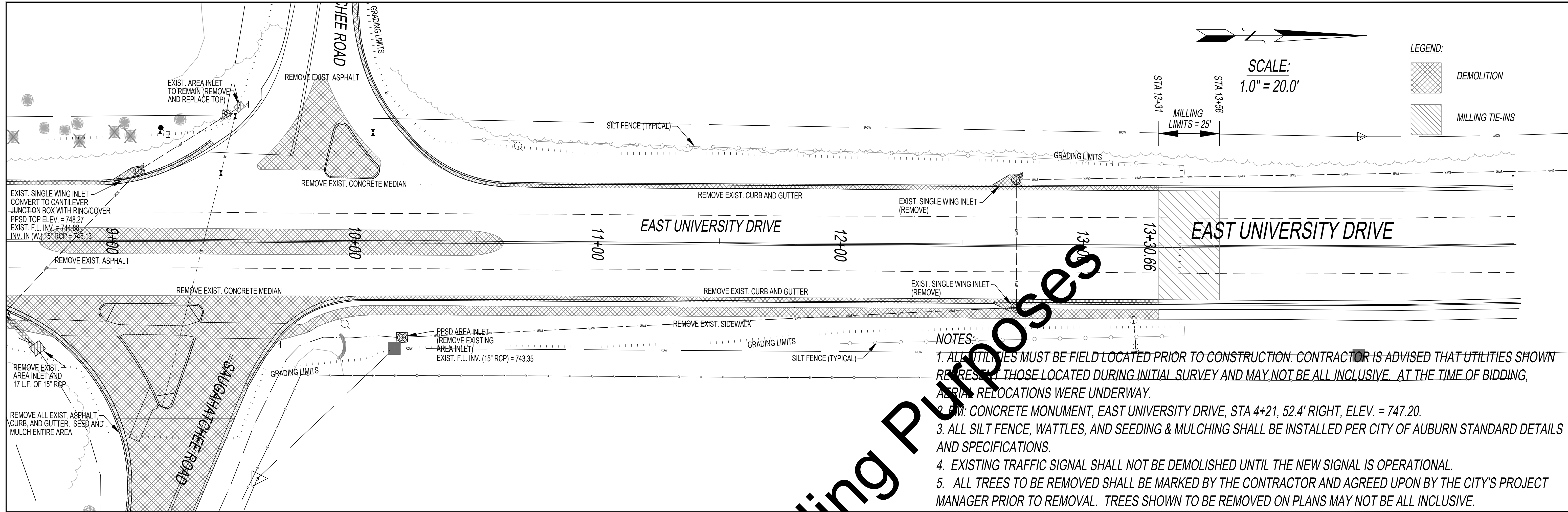
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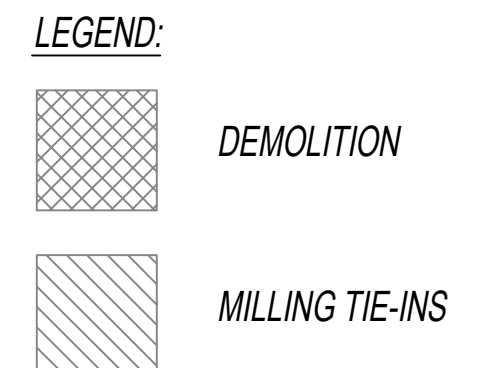
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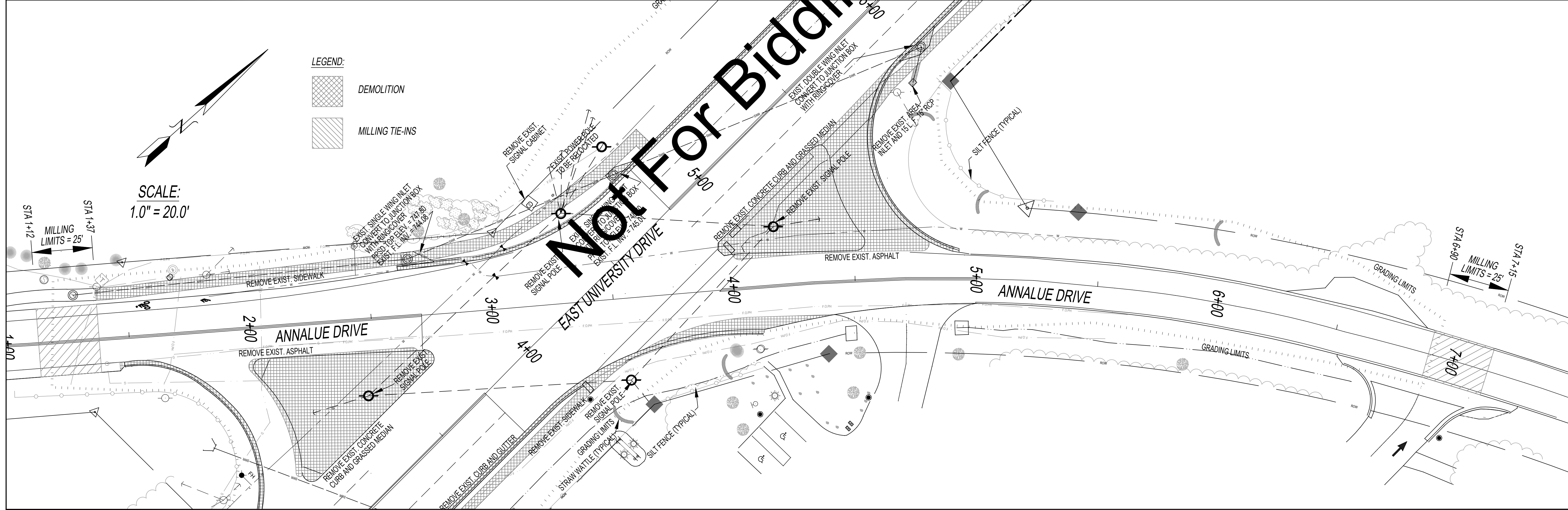
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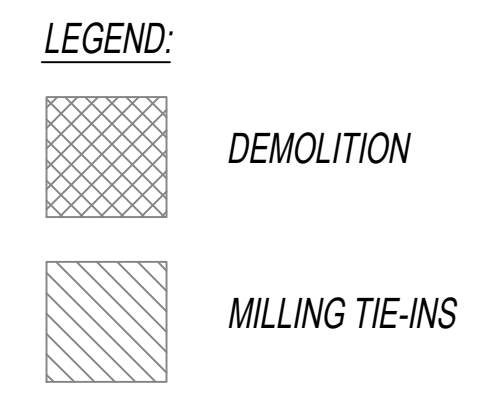
SCALE:
1.0" = 20.0'



- NOTES:
1. ALL UTILITIES MUST BE FIELD LOCATED PRIOR TO CONSTRUCTION. CONTRACTOR IS ADVISED THAT UTILITIES SHOWN REPRESENT THOSE LOCATED DURING INITIAL SURVEY AND MAY NOT BE ALL INCLUSIVE. AT THE TIME OF BIDDING, AERIAL RELOCATIONS WERE UNDERWAY.
 2. P.M. CONCRETE MONUMENT, EAST UNIVERSITY DRIVE, STA 4+21, 52.4' RIGHT, ELEV. = 747.20.
 3. ALL SILT FENCE, WATTLES, AND SEEDING & MULCHING SHALL BE INSTALLED PER CITY OF AUBURN STANDARD DETAILS AND SPECIFICATIONS.
 4. EXISTING TRAFFIC SIGNAL SHALL NOT BE DEMOLISHED UNTIL THE NEW SIGNAL IS OPERATIONAL.
 5. ALL TREES TO BE REMOVED SHALL BE MARKED BY THE CONTRACTOR AND AGREED UPON BY THE CITY'S PROJECT MANAGER PRIOR TO REMOVAL. TREES SHOWN TO BE REMOVED ON PLANS MAY NOT BE ALL INCLUSIVE.



SCALE:
1.0" = 20.0'

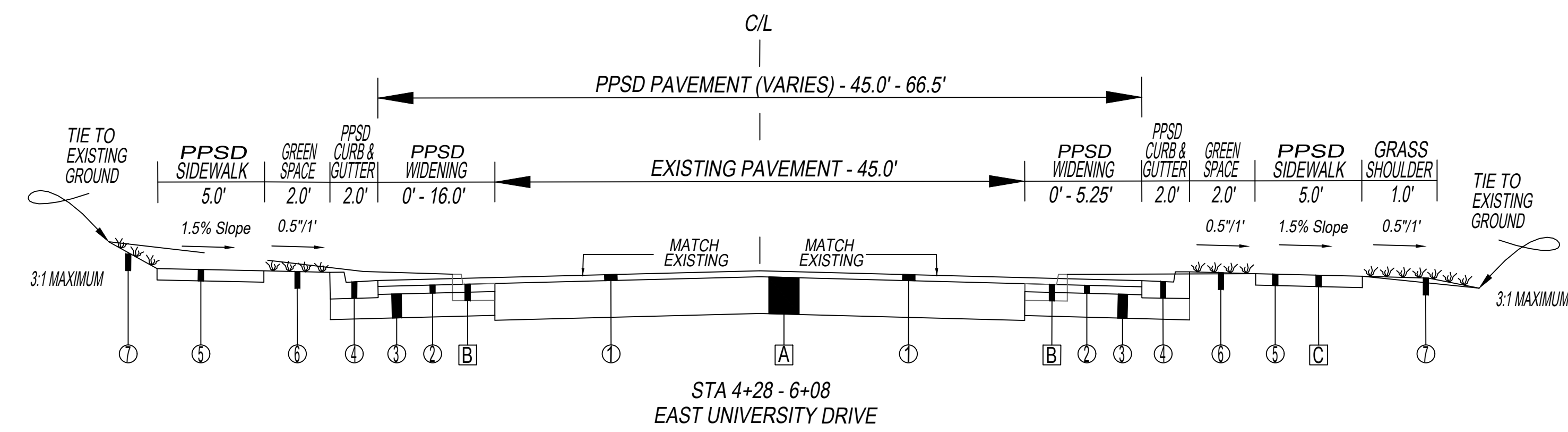
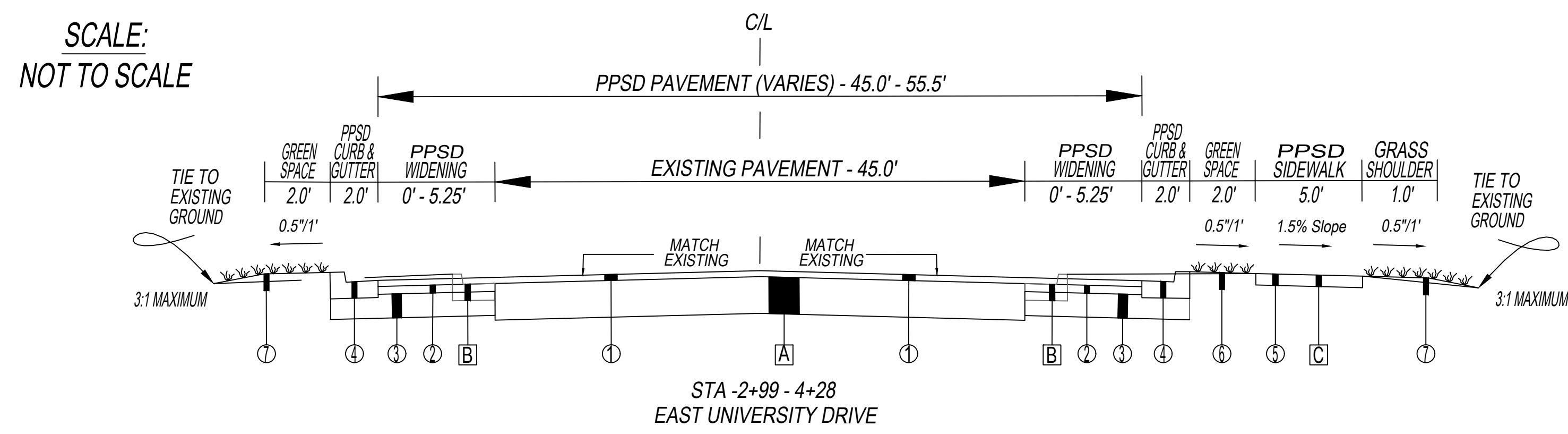


Not For Bidding Purposes

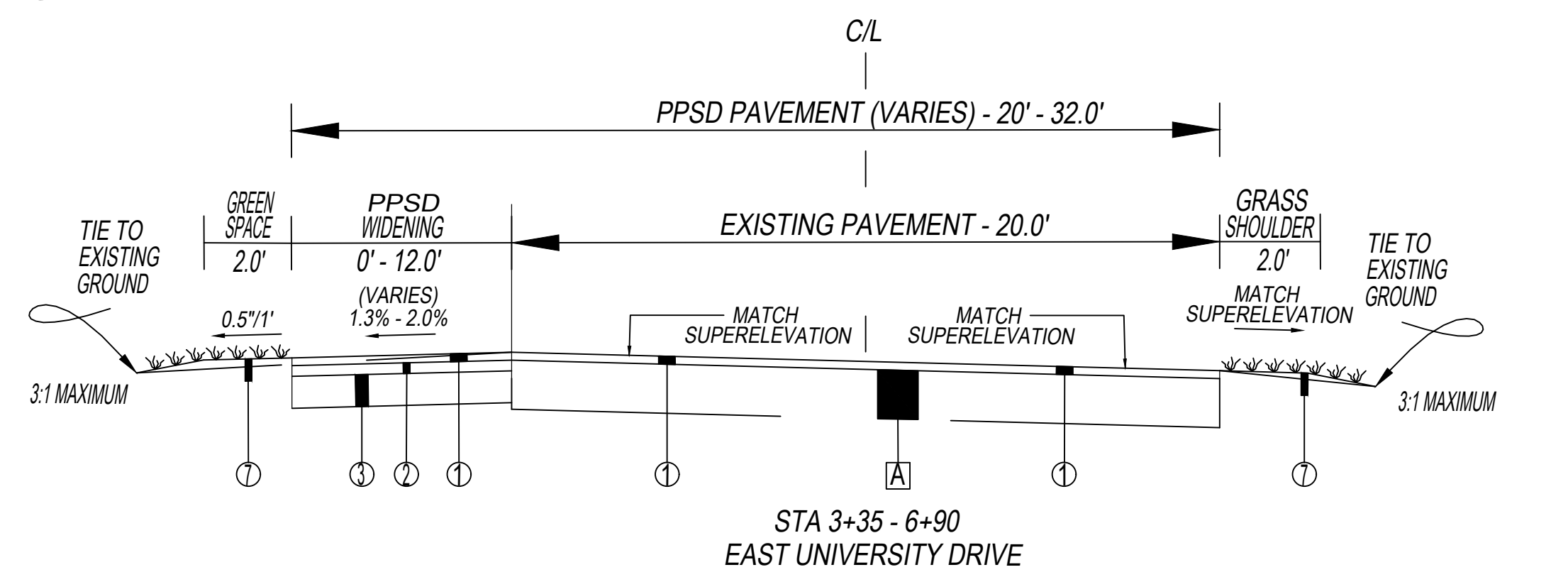
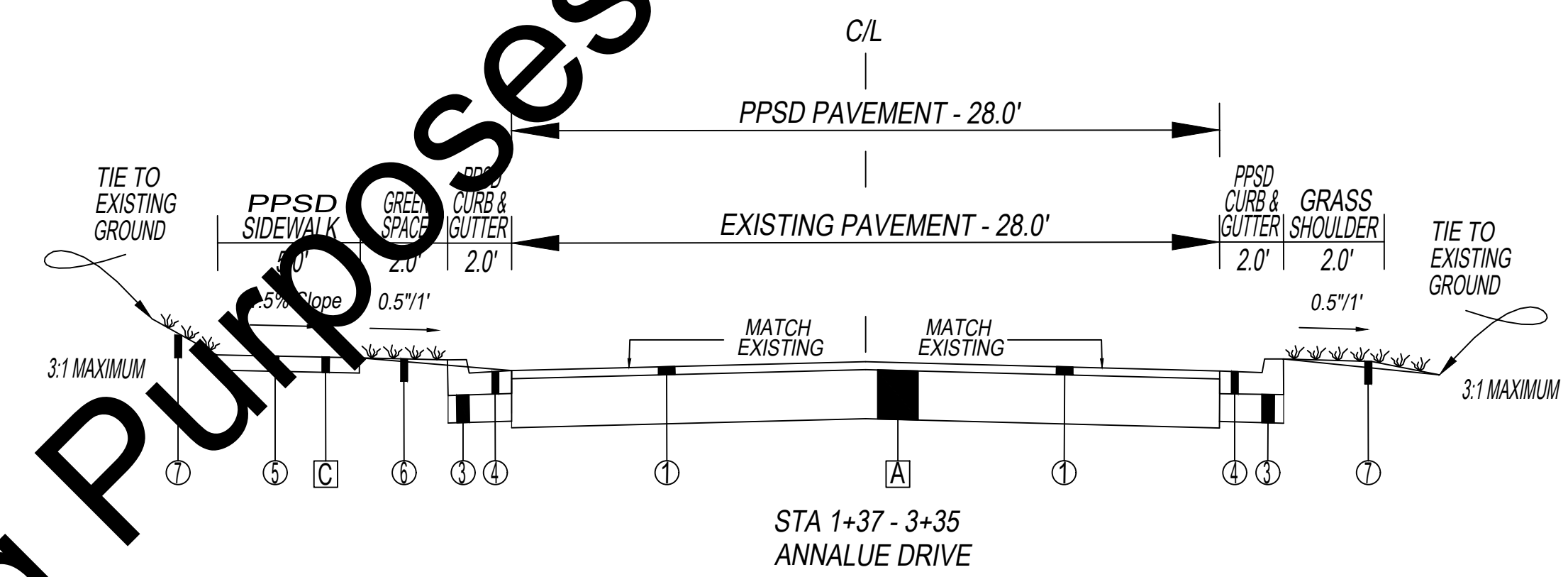
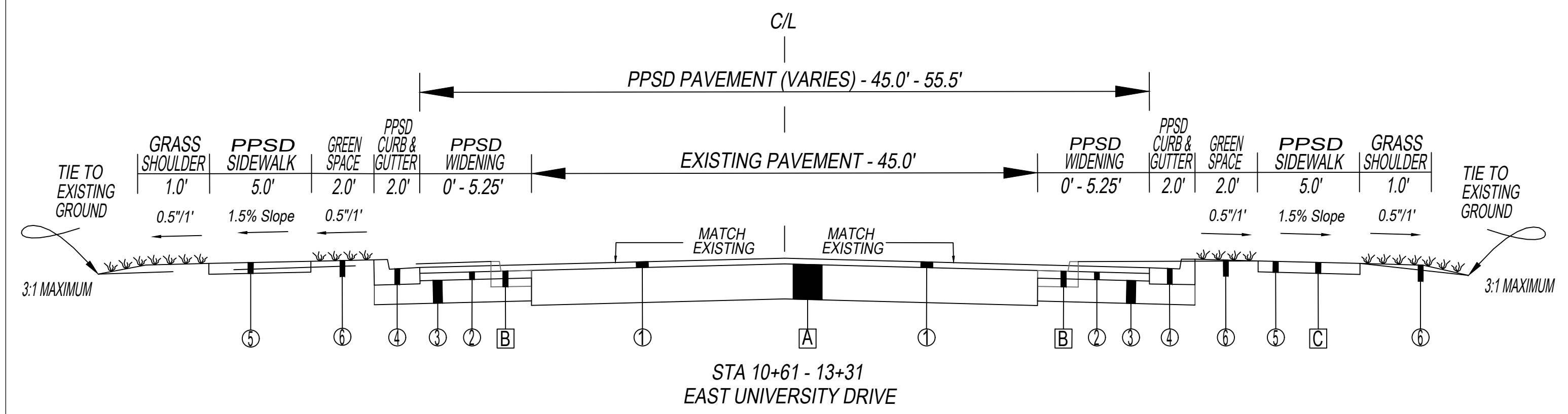
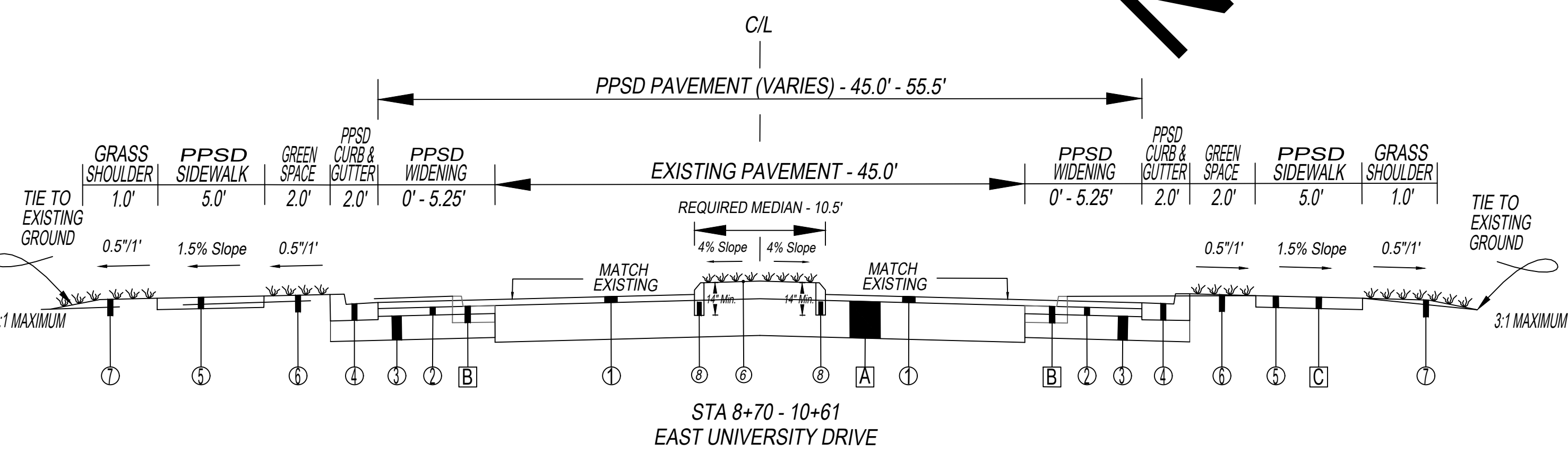
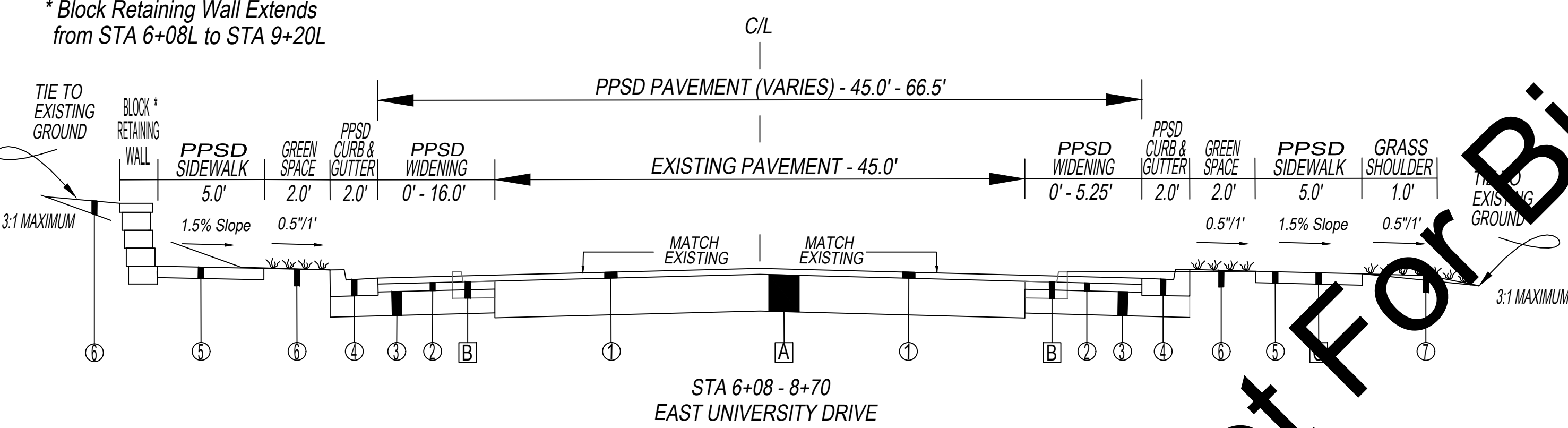
NO.	CHECK	DATE	REVISIONS	DESCRIPTION

DRAWN: PS
CHECKED: BPW
DATE: FEBRUARY 23, 2023
SCALE: 1.0" = 20.0'
SHEET NO. 6

SCALE:
NOT TO SCALE



* Block Retaining Wall Extends from STA 6+08L to STA 9+20L



Not For Bidding Purposes

IN PLACE / EXISTING MATERIALS LEGEND:
LEGEND # ITEM DESCRIPTION:

- [A] EXIST Buildup (To Remain)
- [B] EXIST Curb and Gutter (Remove)
- [C] EXIST Sidewalk (Remove)

REQUIRED MATERIALS LEGEND:
LEGEND # ITEM DESCRIPTION:

- ① PPSD Superpave Bituminous Concrete Wearing Surface Layer, 3/8" Maximum Aggregate Size Mix, ESAL Range C/D (1" Thick)
- ② PPSD Superpave Bituminous Concrete Binder Layer, 3/4" Maximum Aggregate Size Mix, ESAL Range C/D (4" Thick) (Installed in 2 - 2" layers)
- ③ PPSD Crushed Aggregate Base Course, Type B (9" Thick) (Installed in 2 - 4.5" layers)
- ④ PPSD Combination Curb and Gutter
- ⑤ PPSD Concrete Sidewalk, 4" Thick
- ⑥ PPSD Solid Sodding (Bermuda) and 4" Minimum Topsoil
- ⑦ PPSD Grass Seeding/Mulching and 4" Minimum Topsoil
- ⑧ PPSD Concrete Curb, Type N.

ENGINEERING SERVICES
DEPARTMENT
161 N. ROSS STREET
AUBURN, ALABAMA 36830
PHONE: (334) 501-7390; FAX: (334) 501-7294



TYPICAL SECTIONS
CITY OF AUBURN
ANNALUE DRIVE AND EAST UNIVERSITY
DRIVE INTERSECTION IMPROVEMENTS

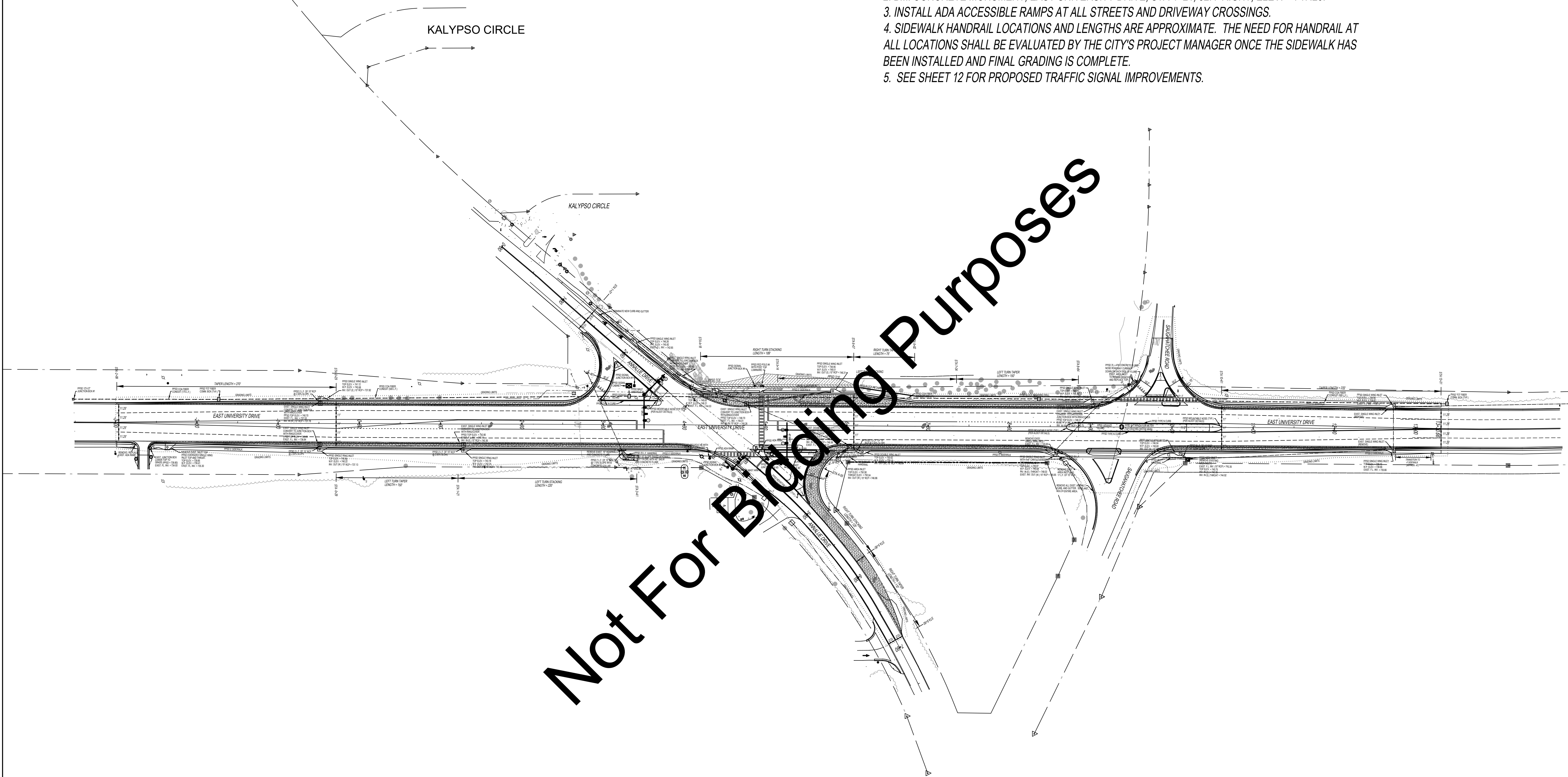
REVISIONS	DESCRIPTION	DATE	CHECK	NO.

DRAWN	PS
CHECKED	BPW
DATE	FEBRUARY 23, 2023
SCALE	1.0" = 20.0'
SHEET NO.	7

SCALE:
PLAN 1.0" = 60.0'

LEGEND:
WIDENING

- NOTES:
1. ALL UTILITIES MUST BE FIELD LOCATED PRIOR TO CONSTRUCTION. CONTRACTOR IS ADVISED THAT UTILITIES SHOWN REPRESENT THOSE LOCATED DURING INITIAL SURVEY AND MAY NOT BE ALL INCLUSIVE.
 2. BM: CONCRETE MONUMENT, EAST UNIVERSITY DRIVE, STA 4+21, 52.4' RIGHT, ELEV. = 747.20.
 3. INSTALL ADA ACCESSIBLE RAMPS AT ALL STREETS AND DRIVEWAY CROSSINGS.
 4. SIDEWALK HANDRAIL LOCATIONS AND LENGTHS ARE APPROXIMATE. THE NEED FOR HANDRAIL AT ALL LOCATIONS SHALL BE EVALUATED BY THE CITY'S PROJECT MANAGER ONCE THE SIDEWALK HAS BEEN INSTALLED AND FINAL GRADING IS COMPLETE.
 5. SEE SHEET 12 FOR PROPOSED TRAFFIC SIGNAL IMPROVEMENTS.



Not For Bidding Purposes

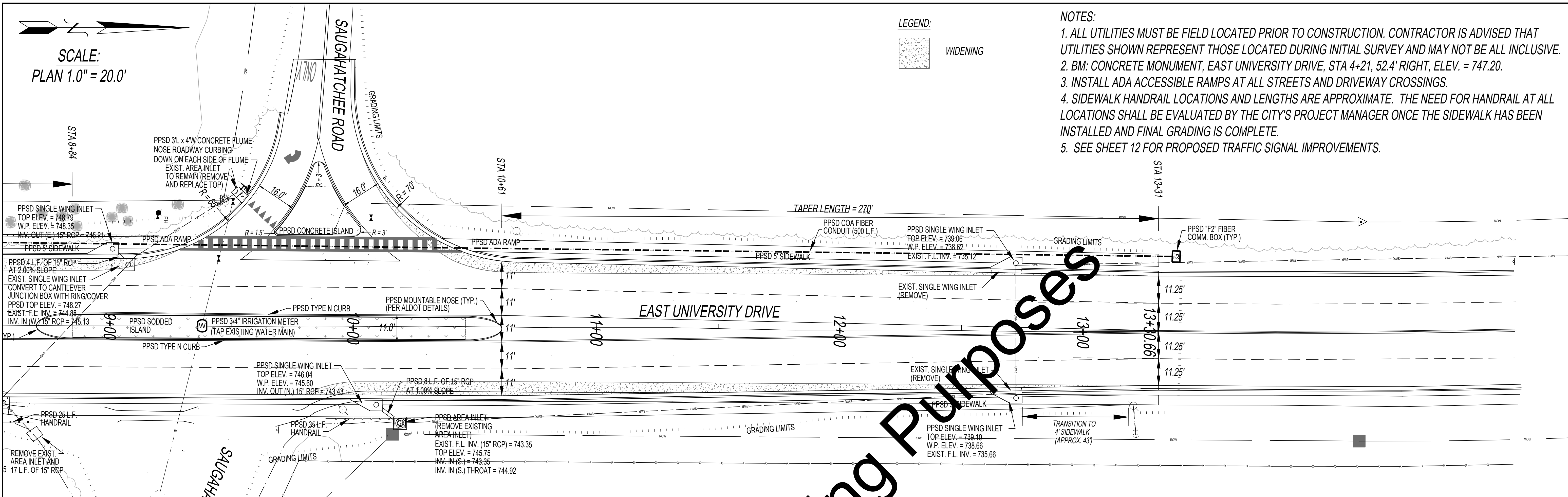
ENGINEERING SERVICES
DEPARTMENT
161 N. ROSS STREET
AUBURN, ALABAMA 36830
PHONE: (334) 501-7390; FAX: (334) 501-7294



OVERALL PLAN VIEW
CITY OF AUBURN
ANNALOE DRIVE AND EAST UNIVERSITY
DRIVE INTERSECTION IMPROVEMENTS

NO.	CHECK	DATE	REVISIONS	DESCRIPTION

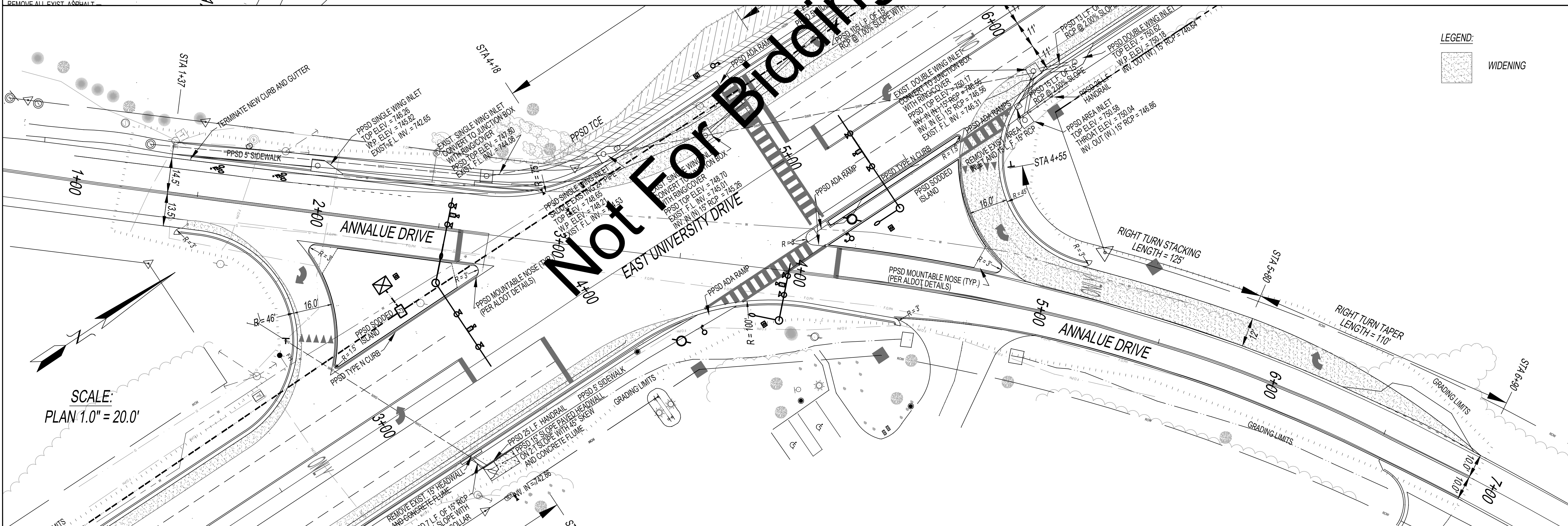
DRAWN	PS
CHECKED	BPW
DATE	FEBRUARY 23, 2023
SCALE	1.0" = 20.0'
SHEET NO.	8



SCALE:
PLAN 1.0" = 20.0'

LEGEND:
[Symbol] WIDENING

- NOTES:
1. ALL UTILITIES MUST BE FIELD LOCATED PRIOR TO CONSTRUCTION. CONTRACTOR IS ADVISED THAT UTILITIES SHOWN REPRESENT THOSE LOCATED DURING INITIAL SURVEY AND MAY NOT BE ALL INCLUSIVE.
 2. BM: CONCRETE MONUMENT, EAST UNIVERSITY DRIVE, STA 4+21, 52.4' RIGHT, ELEV. = 747.20.
 3. INSTALL ADA ACCESSIBLE RAMPS AT ALL STREETS AND DRIVEWAY CROSSINGS.
 4. SIDEWALK HANDRAIL LOCATIONS AND LENGTHS ARE APPROXIMATE. THE NEED FOR HANDRAIL AT ALL LOCATIONS SHALL BE EVALUATED BY THE CITY'S PROJECT MANAGER ONCE THE SIDEWALK HAS BEEN INSTALLED AND FINAL GRADING IS COMPLETE.
 5. SEE SHEET 12 FOR PROPOSED TRAFFIC SIGNAL IMPROVEMENTS.



SCALE:
PLAN 1.0" = 20.0'

LEGEND:
[Symbol] WIDENING

ENGINEERING SERVICES
DEPARTMENT
161 N. ROSS STREET
AUBURN, ALABAMA 36830
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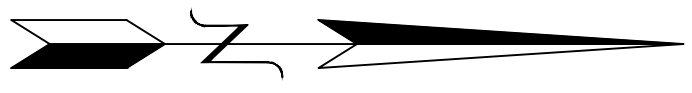
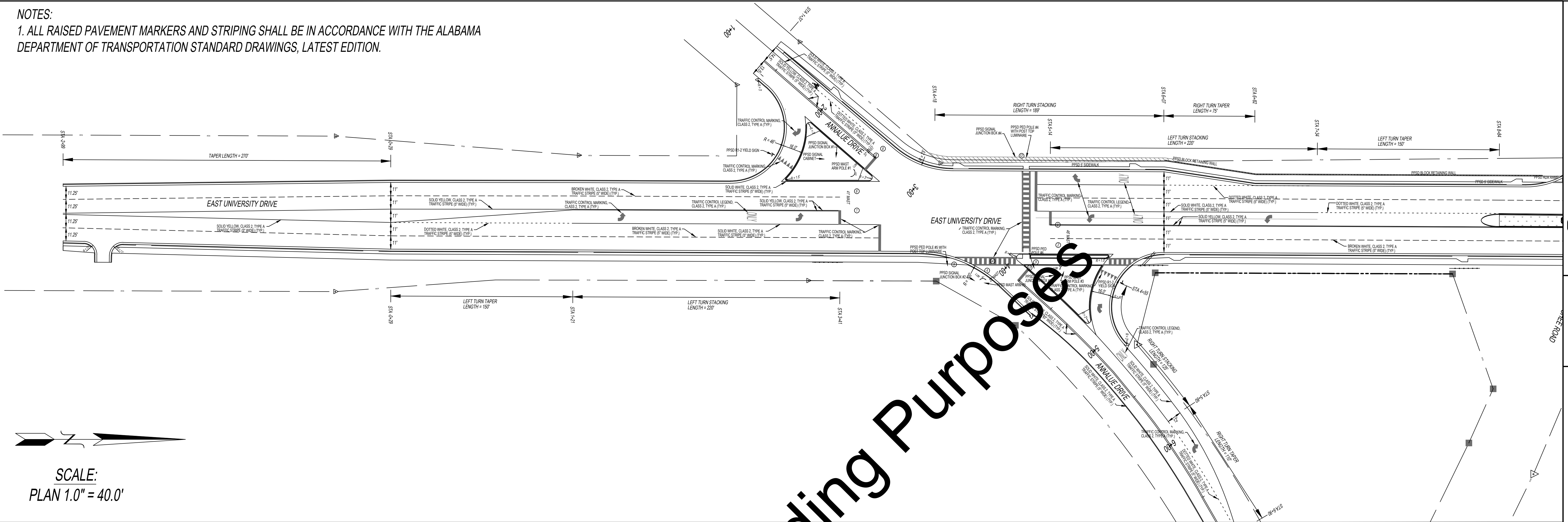
PLAN VIEW - STA 9+00 - 13+31 - EAST UNIVERSITY DRIVE
AND STA 1+37 - 6+90 ANNALUE DRIVE

CITY OF AUBURN
ANNALUE DRIVE AND EAST UNIVERSITY
DRIVE INTERSECTION IMPROVEMENTS

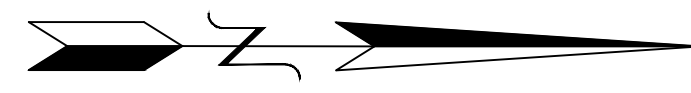
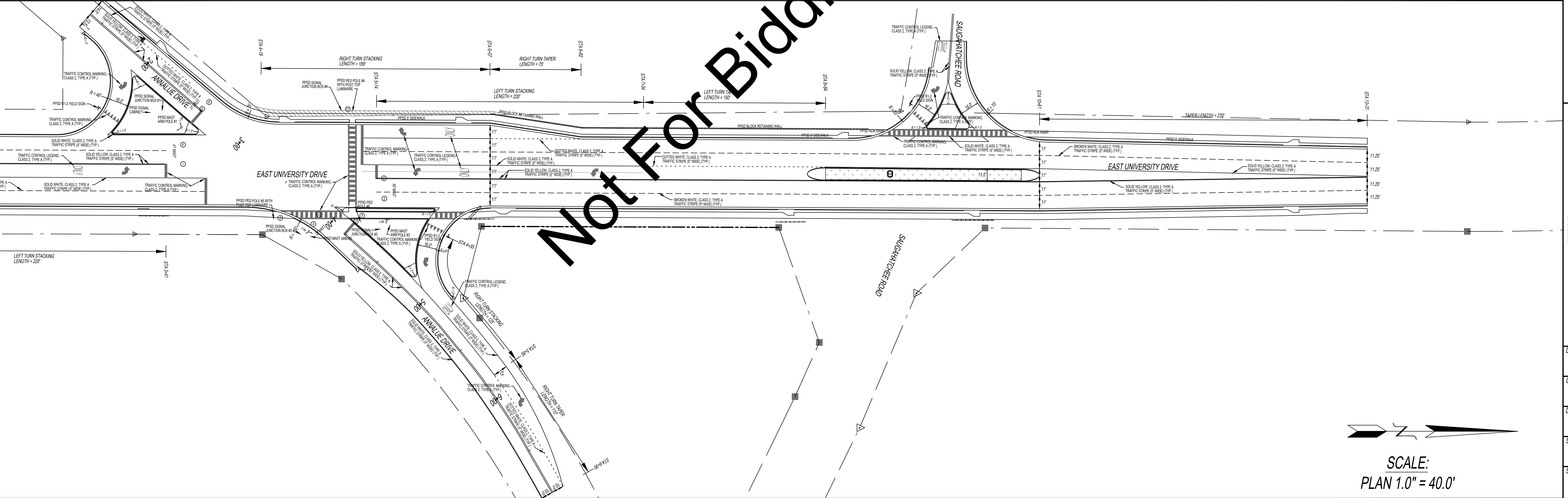
NO.	CHECK	DATE	REVISIONS	DESCRIPTION

DRAWN: PS
CHECKED: BPW
DATE: FEBRUARY 23, 2023
SCALE: 1.0" = 20.0'
SHEET NO.: 10

NOTES:
 1. ALL RAISED PAVEMENT MARKERS AND STRIPING SHALL BE IN ACCORDANCE WITH THE ALABAMA DEPARTMENT OF TRANSPORTATION STANDARD DRAWINGS, LATEST EDITION.



SCALE:
 PLAN 1.0" = 40.0'



SCALE:
 PLAN 1.0" = 40.0'

ENGINEERING SERVICES
 DEPARTMENT
 161 N. ROSS STREET
 AUBURN, ALABAMA 36830
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STRIPING AND SIGNAGE PLAN
 CITY OF AUBURN
 ANNULE DRIVE AND EAST UNIVERSITY
 DRIVE INTERSECTION IMPROVEMENTS

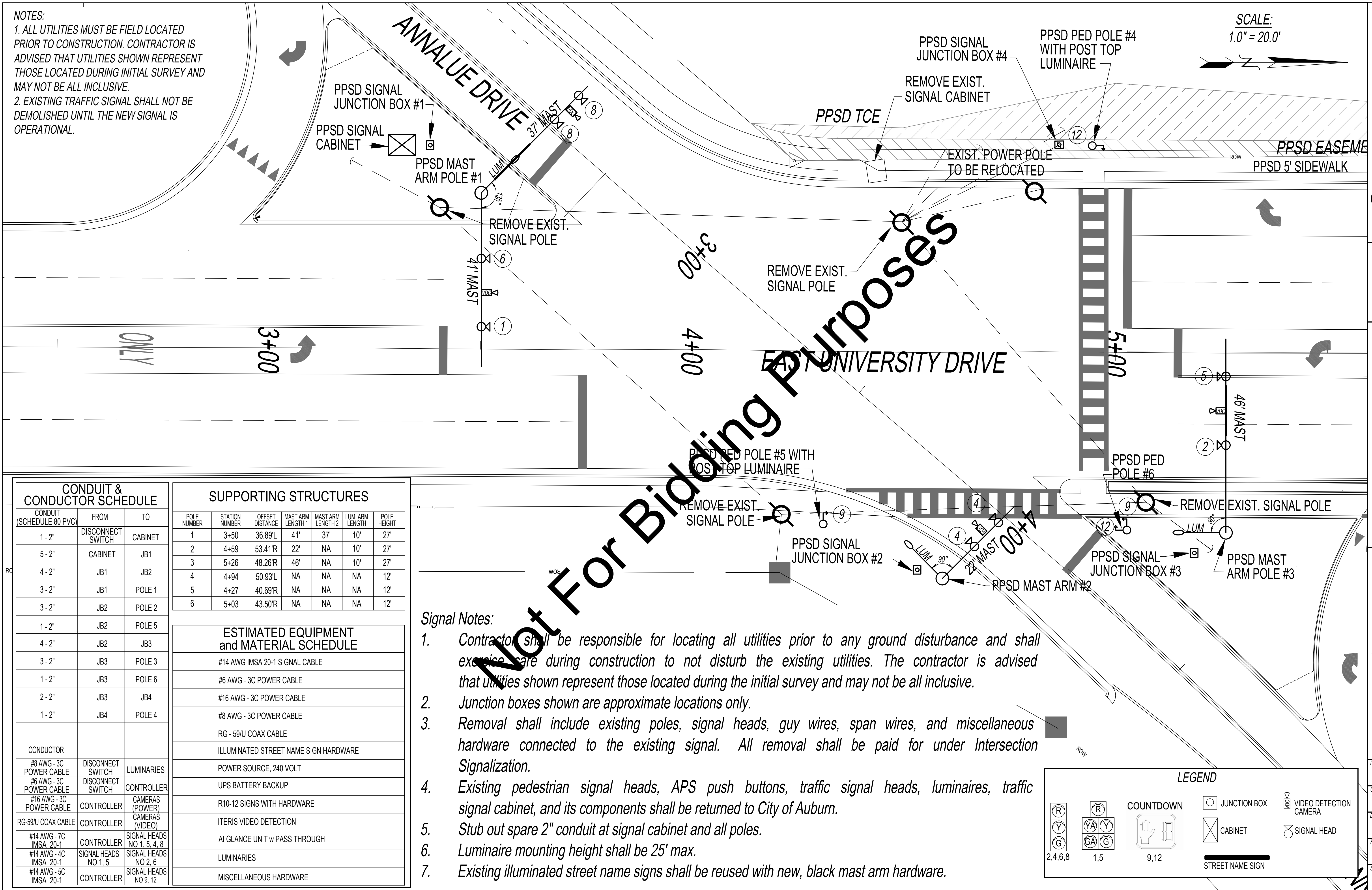
REVISIONS	NO.	CHECK	DATE	DESCRIPTION

DRAWN	PS
CHECKED	BPW
DATE	FEBRUARY 23, 2023
SCALE	1.0" = 20.0'
SHEET NO.	11

NOTES:
 1. ALL UTILITIES MUST BE FIELD LOCATED PRIOR TO CONSTRUCTION. CONTRACTOR IS ADVISED THAT UTILITIES SHOWN REPRESENT THOSE LOCATED DURING INITIAL SURVEY AND MAY NOT BE ALL INCLUSIVE.
 2. EXISTING TRAFFIC SIGNAL SHALL NOT BE DEMOLISHED UNTIL THE NEW SIGNAL IS OPERATIONAL.

SCALE:
 1.0" = 20.0'

ENGINEERING SERVICES DEPARTMENT
 161 N. ROSS STREET
 AUBURN, ALABAMA 36830
 PHONE: (334) 501-7390; FAX: (334) 501-7294
 City of Auburn



CONDUIT & CONDUCTOR SCHEDULE		
CONDUIT (SCHEDULE 80 PVC)	FROM	TO
1 - 2"	DISCONNECT SWITCH	CABINET
5 - 2"	CABINET	JB1
4 - 2"	JB1	JB2
3 - 2"	JB1	POLE 1
3 - 2"	JB2	POLE 2
1 - 2"	JB2	POLE 5
4 - 2"	JB2	JB3
3 - 2"	JB3	POLE 3
1 - 2"	JB3	POLE 6
2 - 2"	JB3	JB4
1 - 2"	JB4	POLE 4
CONDUCTOR		
#8 AWG - 3C POWER CABLE	DISCONNECT SWITCH	LUMINARIES
#6 AWG - 3C POWER CABLE	DISCONNECT SWITCH	CONTROLLER
#16 AWG - 3C POWER CABLE	CONTROLLER	CAMERAS (POWER)
RG-59/U COAX CABLE	CONTROLLER	CAMERAS (VIDEO)
#14 AWG - 7C IMSA 20-1	CONTROLLER	SIGNAL HEADS NO 1, 5, 4, 8
#14 AWG - 4C IMSA 20-1	SIGNAL HEADS	SIGNAL HEADS NO 1, 5
#14 AWG - 5C IMSA 20-1	CONTROLLER	SIGNAL HEADS NO 9, 12

SUPPORTING STRUCTURES							
POLE NUMBER	STATION NUMBER	OFFSET DISTANCE	MAST ARM LENGTH 1	MAST ARM LENGTH 2	LUM. ARM LENGTH	POLE HEIGHT	
1	3+50	36.89'L	41'	37'	10'	27'	
2	4+59	53.41'R	22'	NA	10'	27'	
3	5+26	48.26'R	46'	NA	10'	27'	
4	4+94	50.93'L	NA	NA	NA	12'	
5	4+27	40.69'R	NA	NA	NA	12'	
6	5+03	43.50'R	NA	NA	NA	12'	

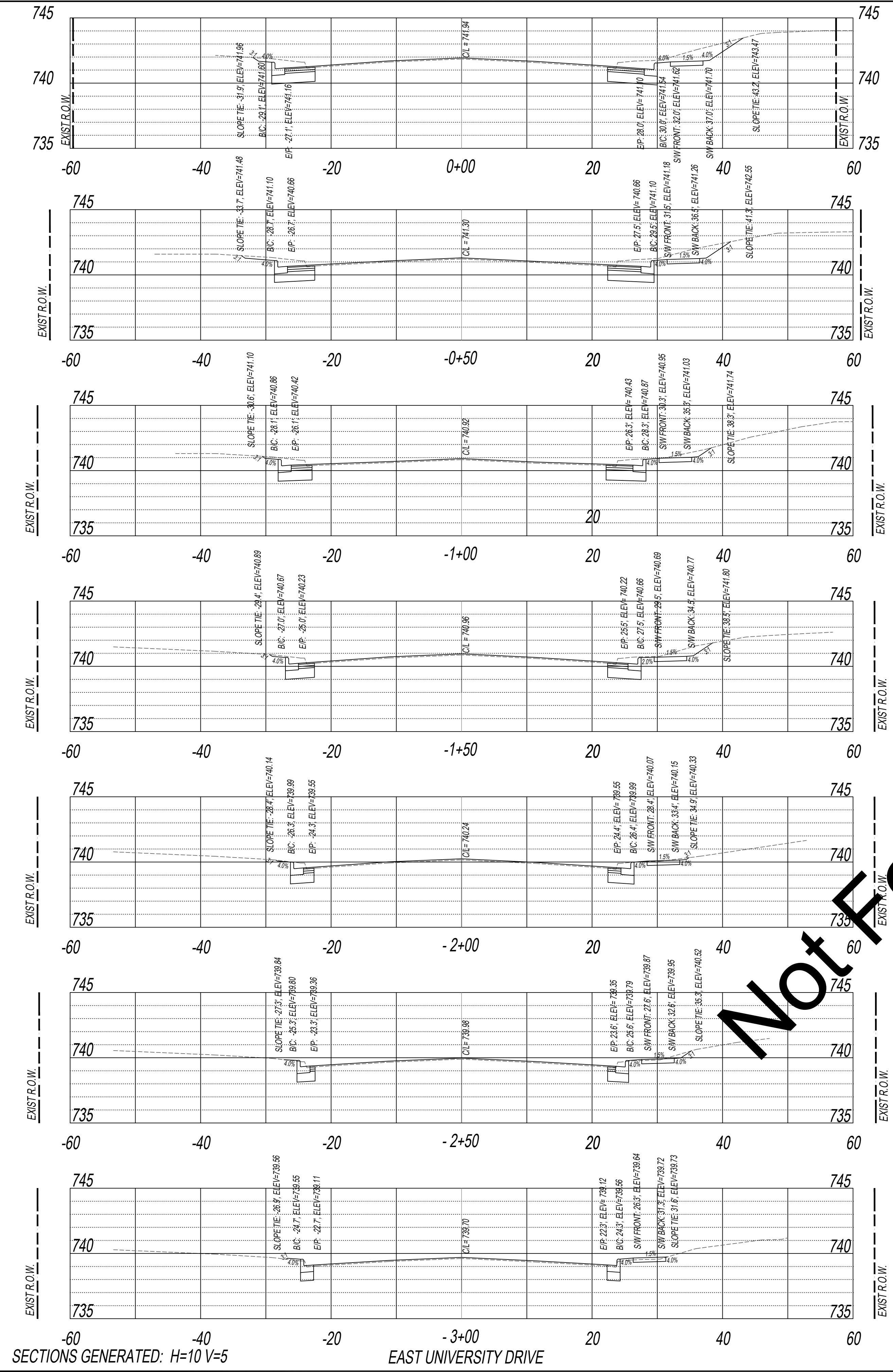
ESTIMATED EQUIPMENT and MATERIAL SCHEDULE	
#14 AWG IMSA 20-1 SIGNAL CABLE	
#6 AWG - 3C POWER CABLE	
#16 AWG - 3C POWER CABLE	
#8 AWG - 3C POWER CABLE	
RG - 59/U COAX CABLE	
ILLUMINATED STREET NAME SIGN HARDWARE	
POWER SOURCE, 240 VOLT	
UPS BATTERY BACKUP	
R10-12 SIGNS WITH HARDWARE	
ITERIS VIDEO DETECTION	
AI GLANCE UNIT w PASS THROUGH	
LUMINARIES	
MISCELLANEOUS HARDWARE	

Signal Notes:

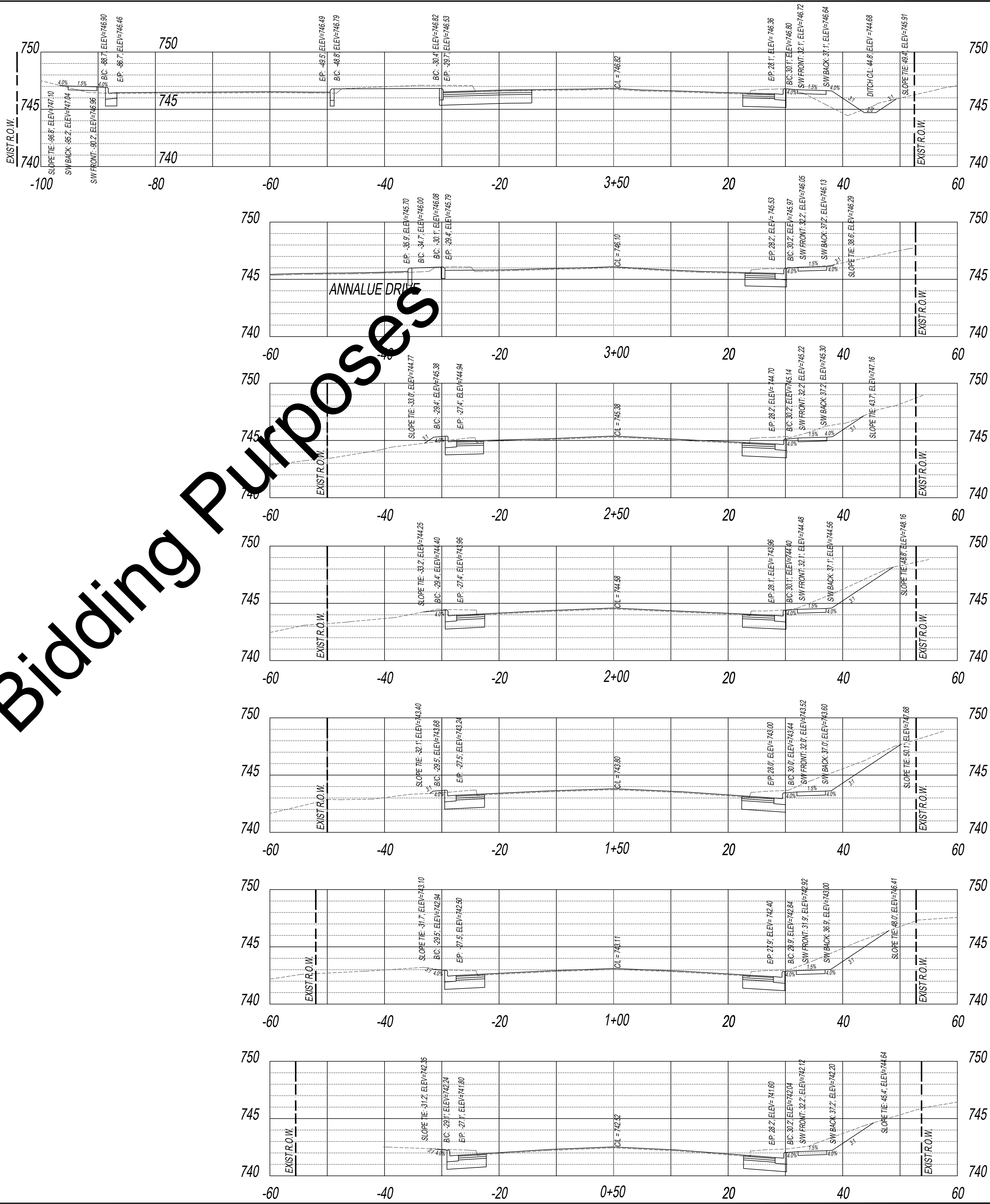
- Contractor shall be responsible for locating all utilities prior to any ground disturbance and shall exercise care during construction to not disturb the existing utilities. The contractor is advised that utilities shown represent those located during the initial survey and may not be all inclusive.
- Junction boxes shown are approximate locations only.
- Removal shall include existing poles, signal heads, guy wires, span wires, and miscellaneous hardware connected to the existing signal. All removal shall be paid for under Intersection Signalization.
- Existing pedestrian signal heads, APS push buttons, traffic signal heads, luminaires, traffic signal cabinet, and its components shall be returned to City of Auburn.
- Stub out spare 2" conduit at signal cabinet and all poles.
- Luminaire mounting height shall be 25' max.
- Existing illuminated street name signs shall be reused with new, black mast arm hardware.

LEGEND			
(R)	(Y)	(G)	2,4,6,8
(YA)	(Y)	(GA)	1,5
(R)	(Y)	(G)	9,12
(R)	(Y)	(G)	2,4,6,8
(YA)	(Y)	(GA)	1,5
(R)	(Y)	(G)	9,12
COUNTDOWN	JUNCTION BOX	CABINET	VIDEO DETECTION CAMERA
SIGNAL HEAD	STREET NAME SIGN		

TRAFFIC SIGNAL LAYOUT	
CITY OF AUBURN	
ANNALUE DRIVE AND EAST UNIVERSITY DRIVE INTERSECTION IMPROVEMENTS	
REVISIONS	DESCRIPTION
DATE	
CHECK	
NO	
DRAWN	PS
CHECKED	BPW
DATE	FEBRUARY 23, 2023
SCALE	1.0" = 10.0'
SHEET NO.	12

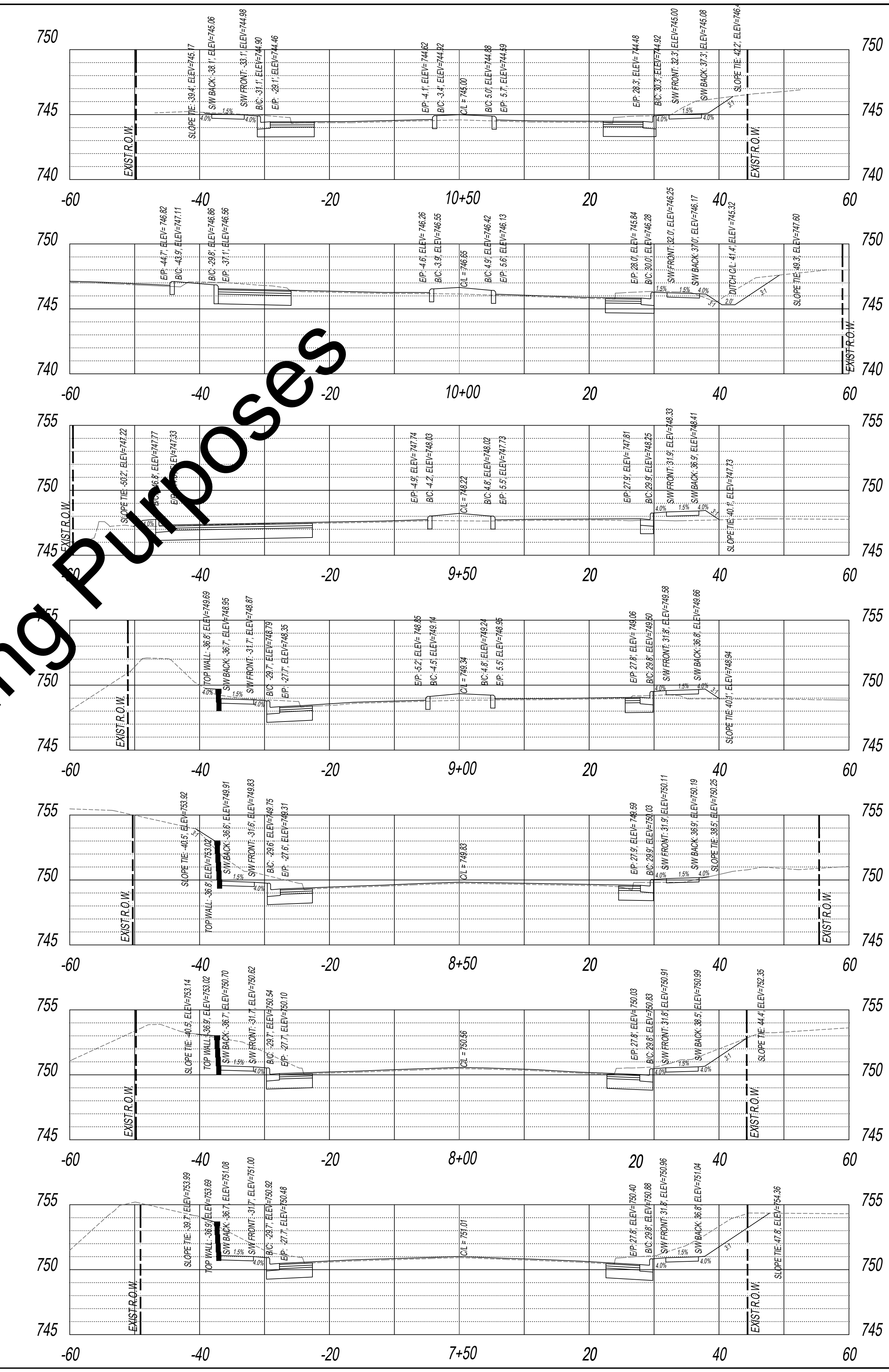
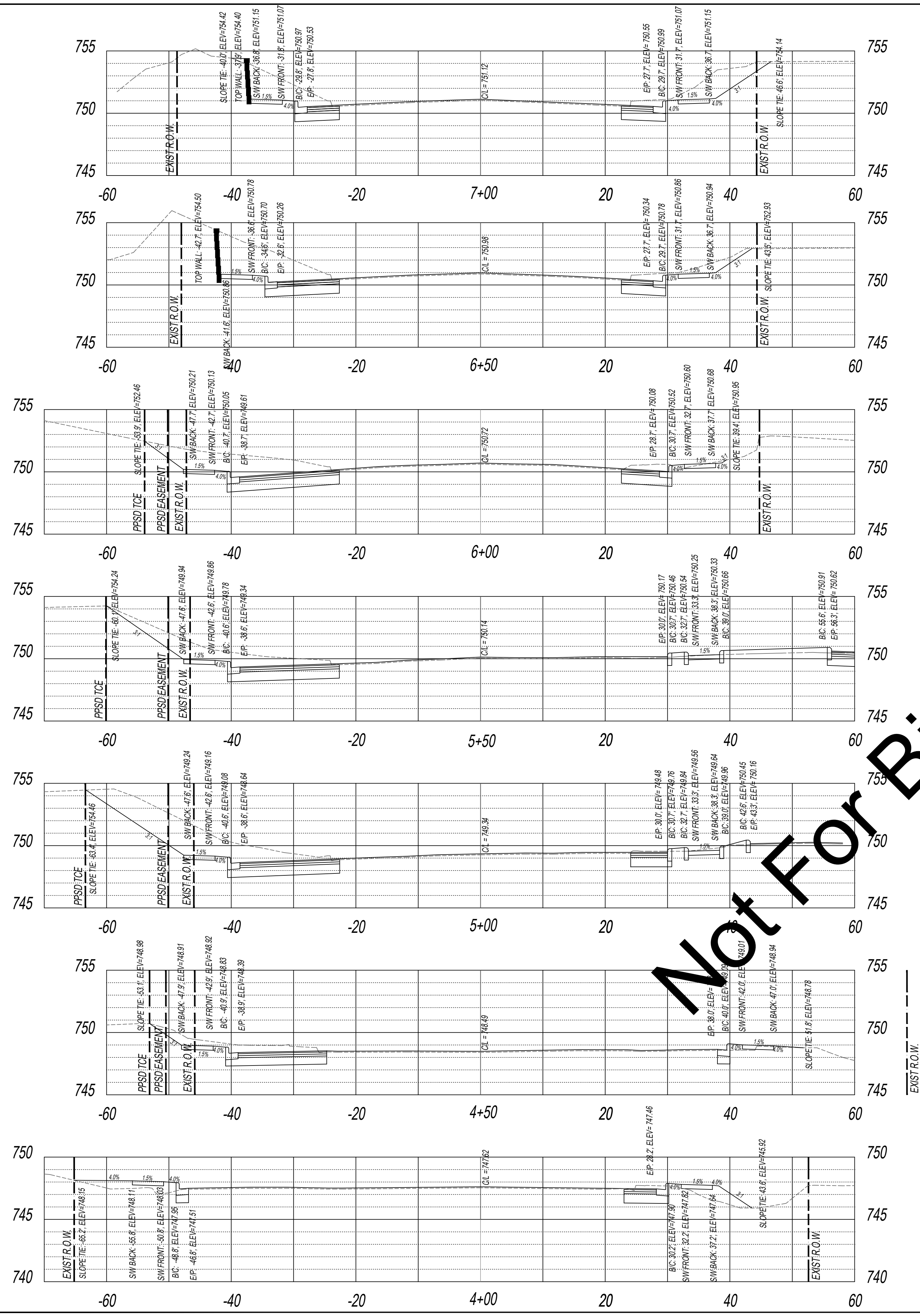


SECTIONS GENERATED: H=10 V=5 EAST UNIVERSITY DRIVE



Not For Bidding Purposes

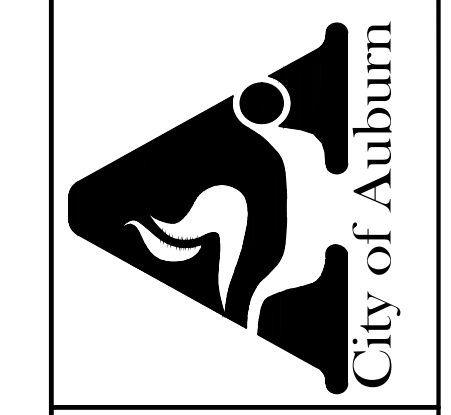
<p style="text-align: center; margin: 0;"> ENGINEERING SERVICES DEPARTMENT 161 N. ROSS STREET AUBURN, ALABAMA 36830 PHONE: (334) 501-7390; FAX: (334) 501-7294 </p>													
<p style="margin: 0;">CITY OF AUBURN</p> <p style="margin: 0;">ANNUALUE DRIVE AND EAST UNIVERSITY DRIVE INTERSECTION IMPROVEMENTS</p>													
<p style="margin: 0;">CROSS SECTIONS - STA -3+00 - 3+50</p> <p style="margin: 0;">EAST UNIVERSITY DRIVE</p>													
<p style="margin: 0;">DRAWN: PS</p> <p style="margin: 0;">CHECKED: BPW</p> <p style="margin: 0;">DATE: FEBRUARY 23, 2023</p> <p style="margin: 0;">SCALE: 1.0" = 10.0'</p> <p style="margin: 0;">SHEET NO.: 13</p>													
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NO.	CHECK	DATE	REVISIONS DESCRIPTION										

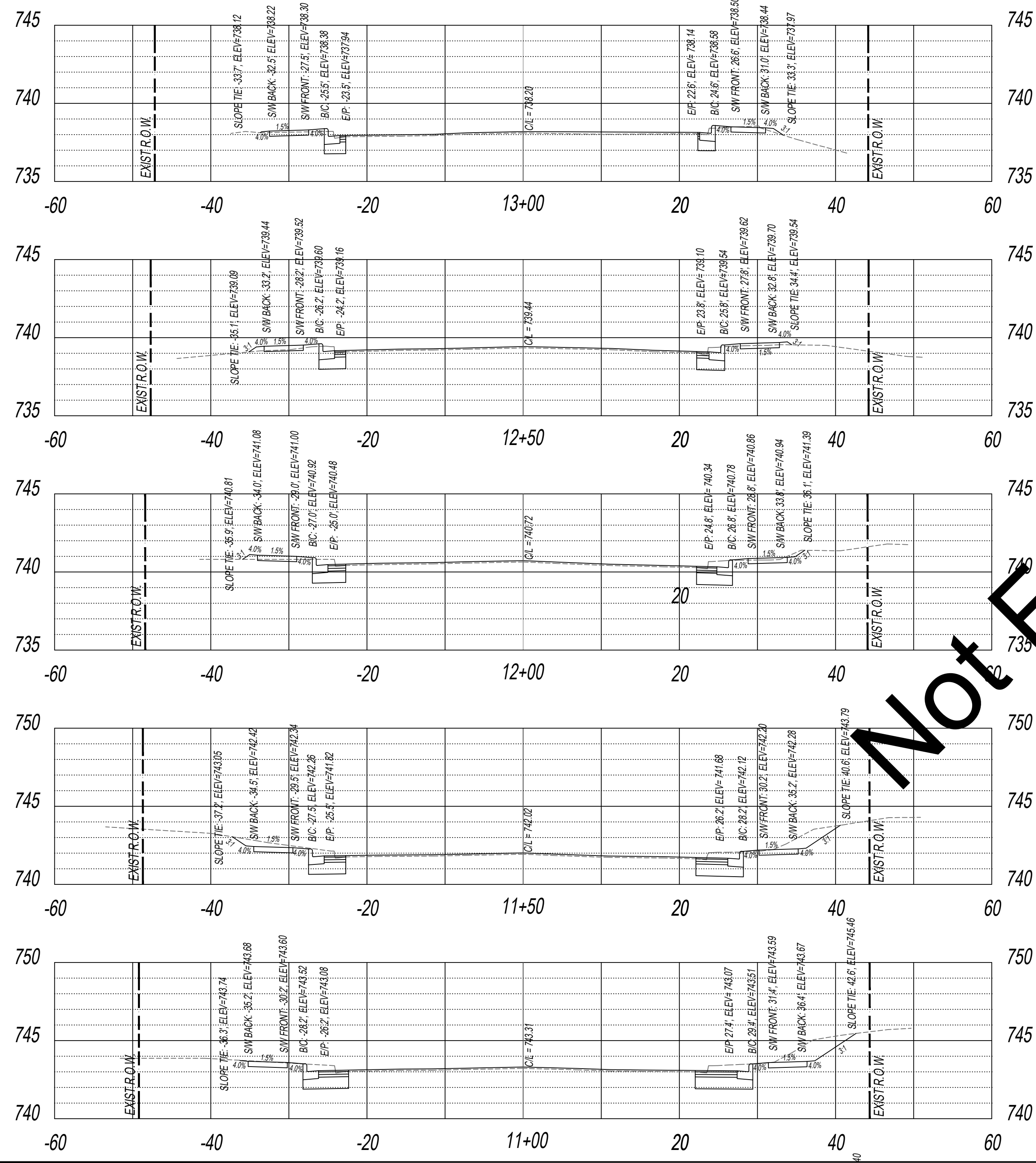


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CROSS SECTIONS - STA 4+00 - 10+50	
EAST UNIVERSITY DRIVE	
CITY OF AUBURN	
ANNULEE DRIVE AND EAST UNIVERSITY DRIVE INTERSECTION IMPROVEMENTS	
NO.	REVISIONS
CHECK	DESCRIPTION
DATE	DATE
DRAWN PS	
CHECKED BPW	
DATE FEBRUARY 23, 2023	
SCALE 1" = 10.0'	
SHEET NO. 14	

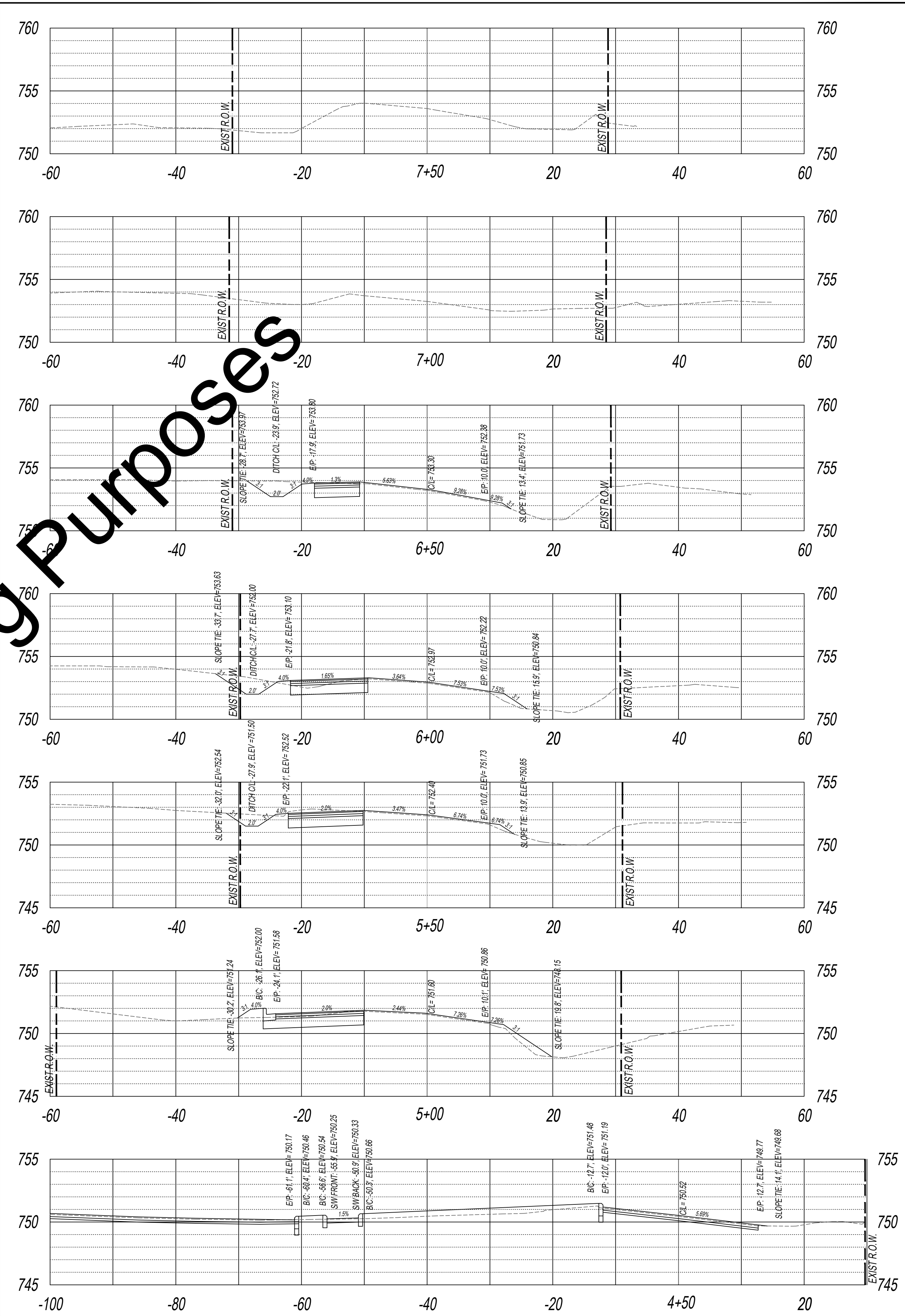
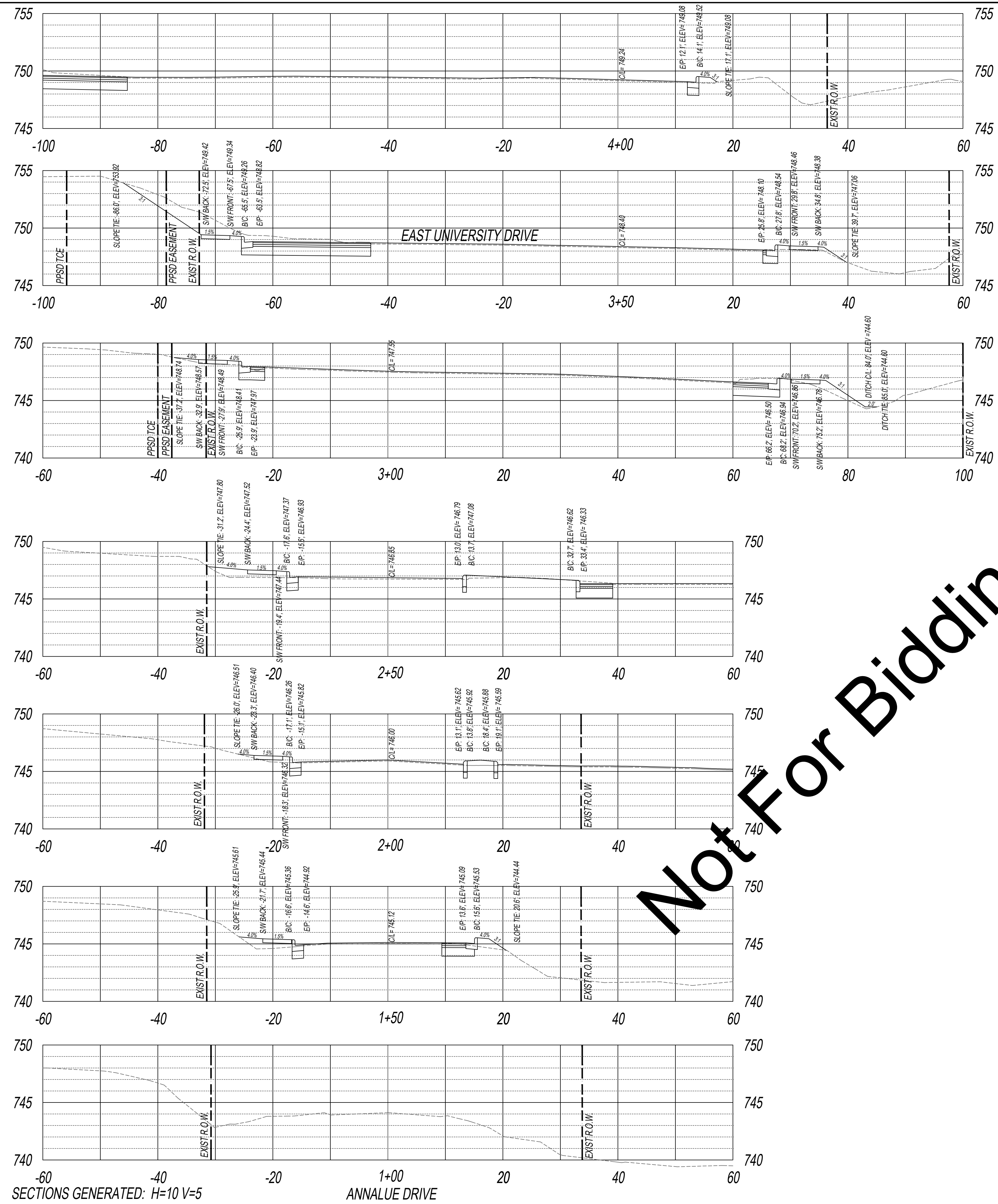
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AUBURN, ALABAMA 36830
PHONE: (334) 501-7390; FAX: (334) 501-7294





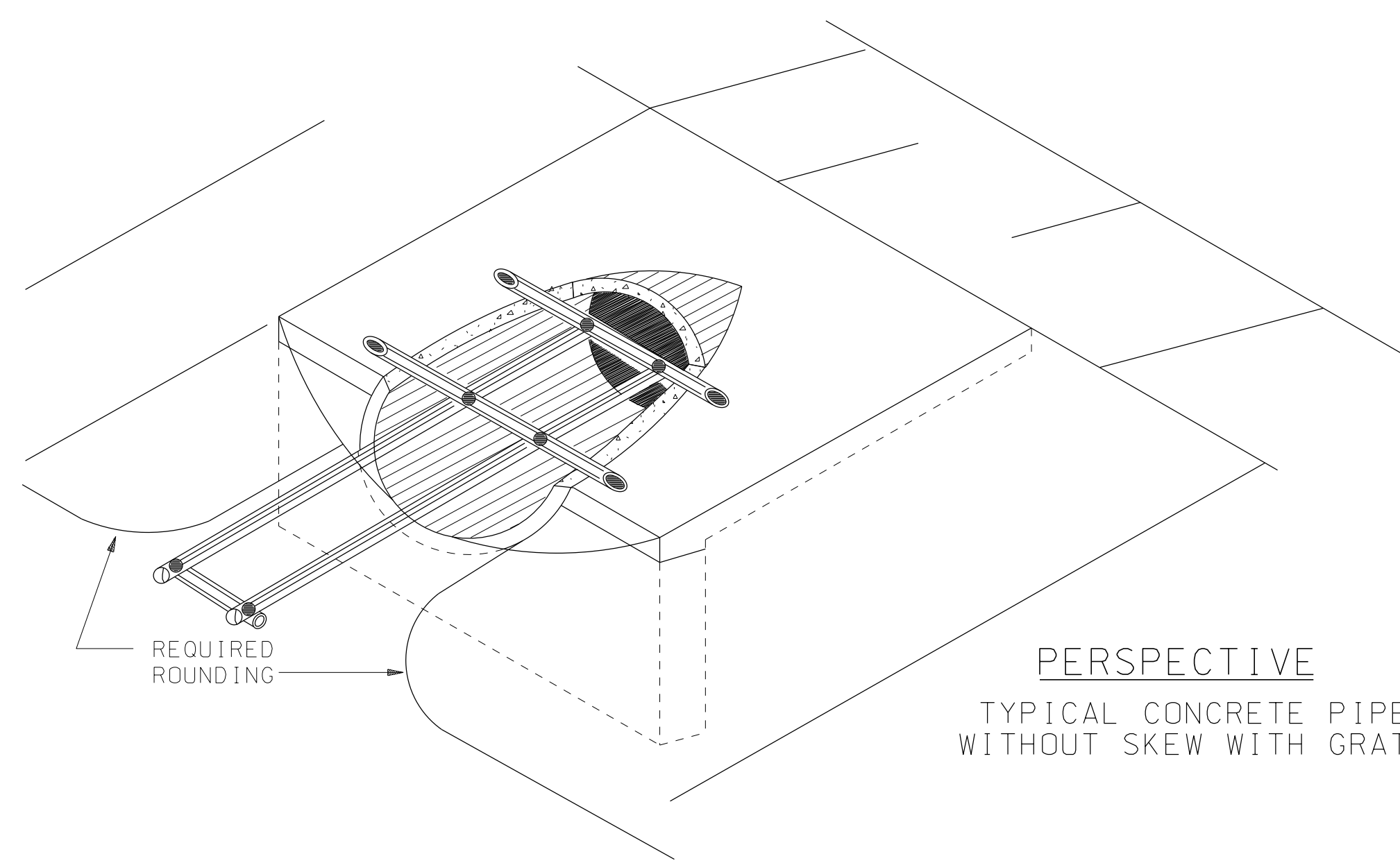
Not For Bidding Purposes

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CROSS SECTIONS - STA 11+00 - 13+00 EAST UNIVERSITY DRIVE CITY OF AUBURN ANNULEE DRIVE AND EAST UNIVERSITY DRIVE INTERSECTION IMPROVEMENTS	
REVISIONS	DESCRIPTION
NO.	DATE
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DRAWN	PS
CHECKED	BPW
DATE	FEBRUARY 23, 2023
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SHEET NO.	15

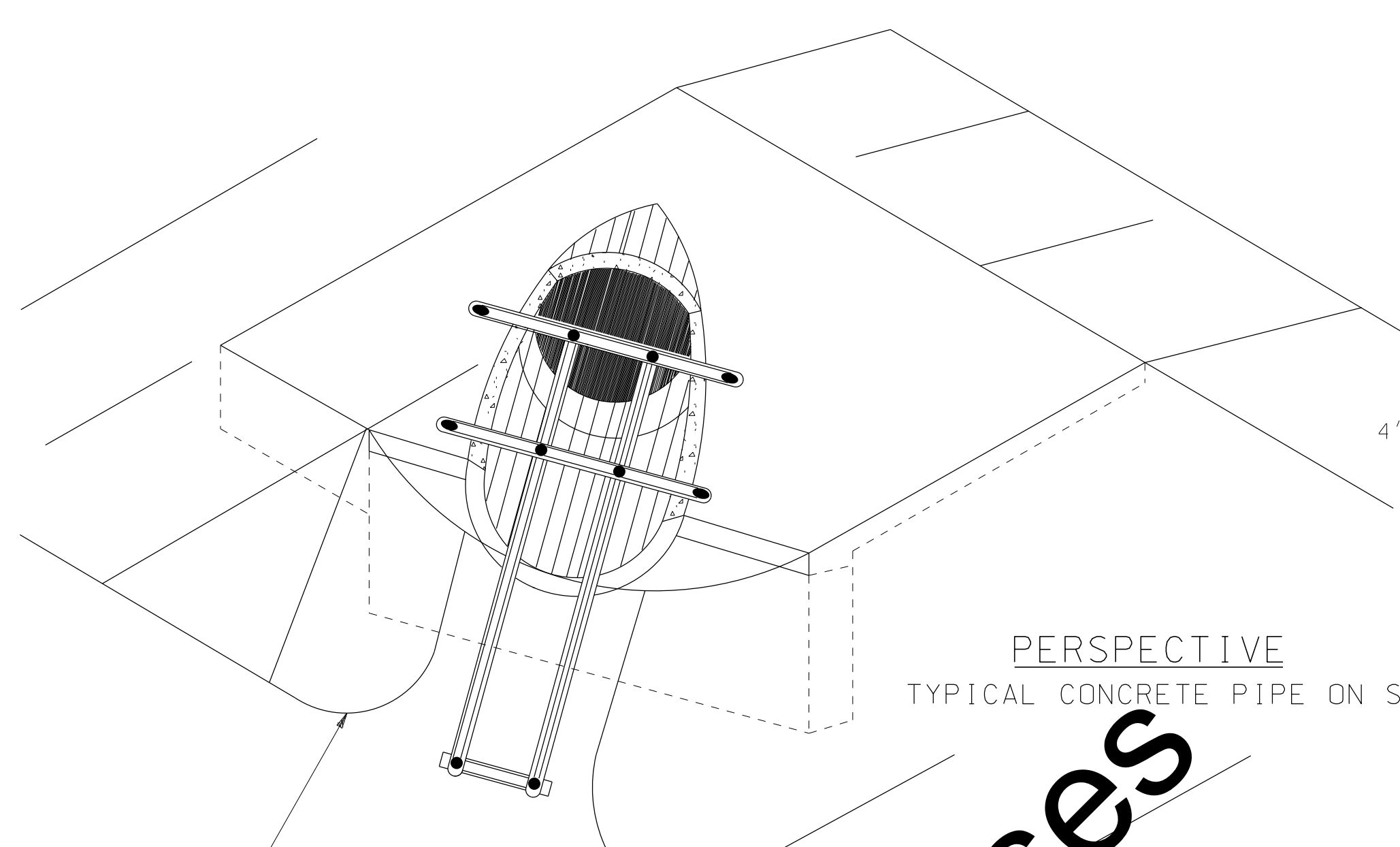


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CITY OF AUBURN		CITY OF AUBURN	
CROSS SECTIONS - STA 1+00 - 7+50 ANNALUE DRIVE		ANNALUE DRIVE AND EAST UNIVERSITY DRIVE INTERSECTION IMPROVEMENTS	
NO.	CHECK	DATE	DESCRIPTION
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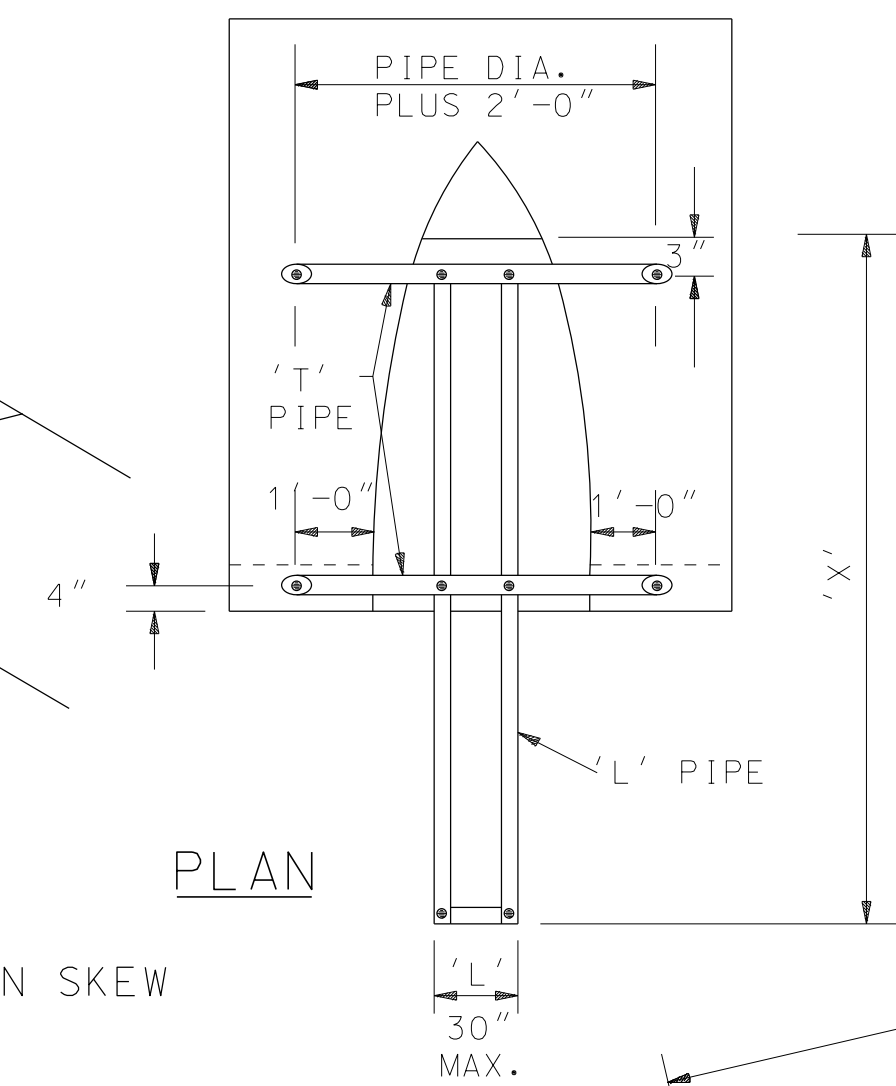
REFERENCE PROJECT NO	FISCAL YEAR	SHEET NO



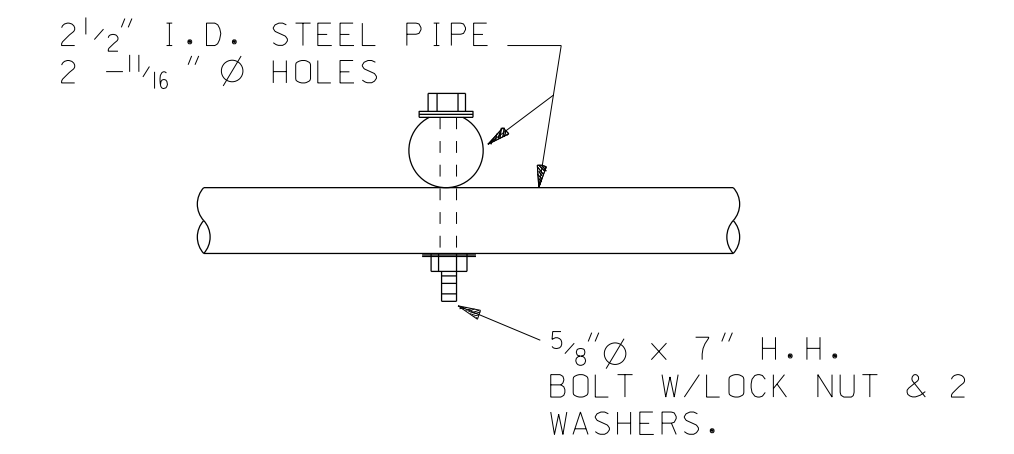
PERSPECTIVE
TYPICAL CONCRETE PIPE
WITHOUT SKEW WITH GRATE



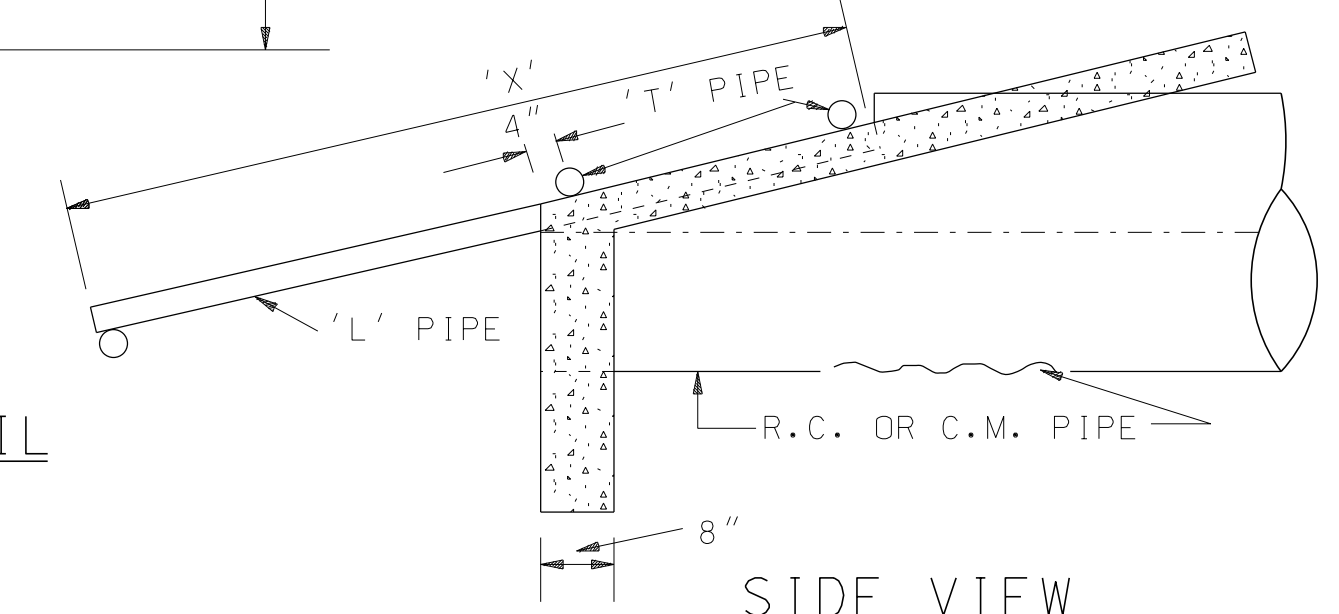
PERSPECTIVE
TYPICAL CONCRETE PIPE ON SKEW



PLAN

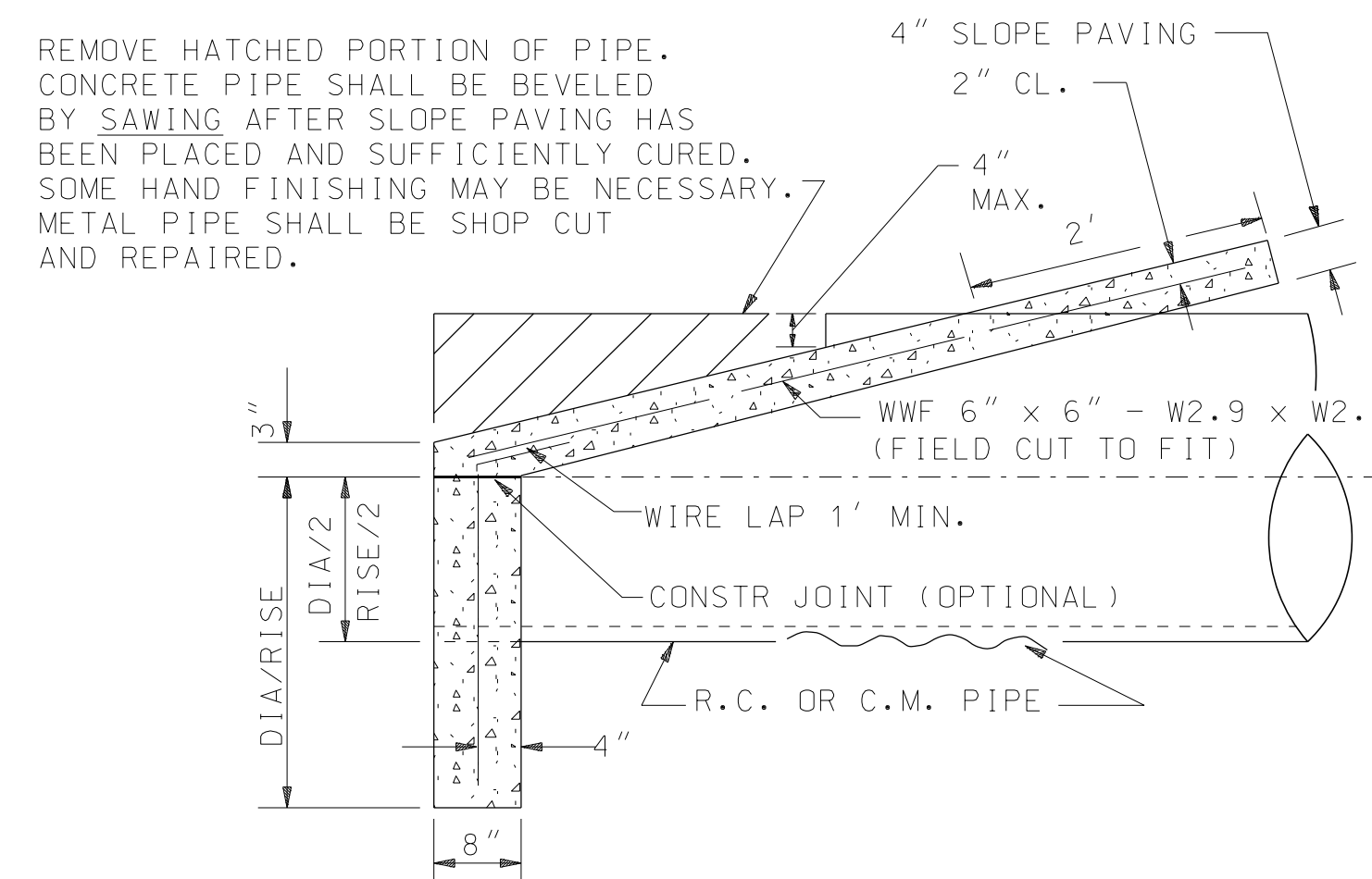


FASTENING DETAIL

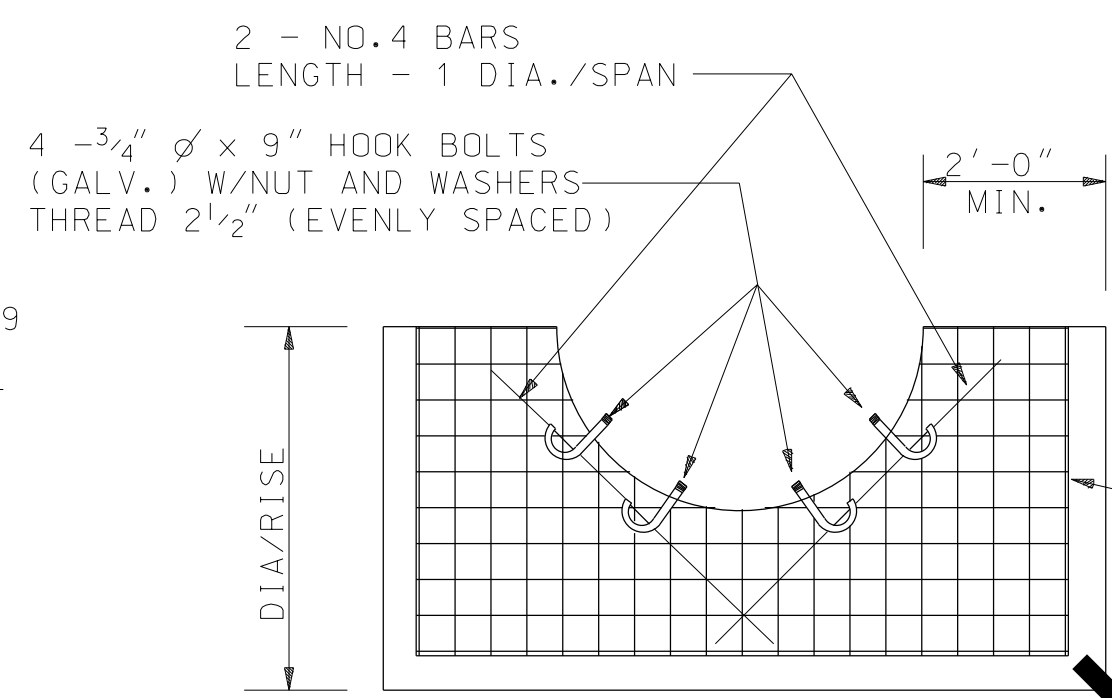


GRATE DETAIL

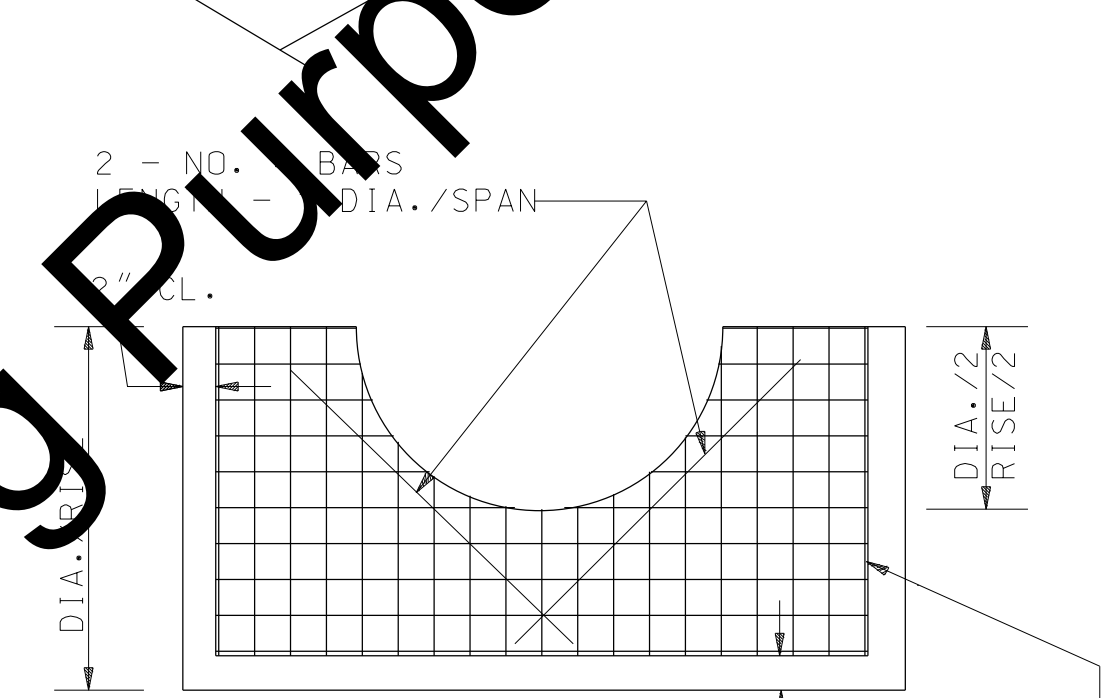
SIDE VIEW



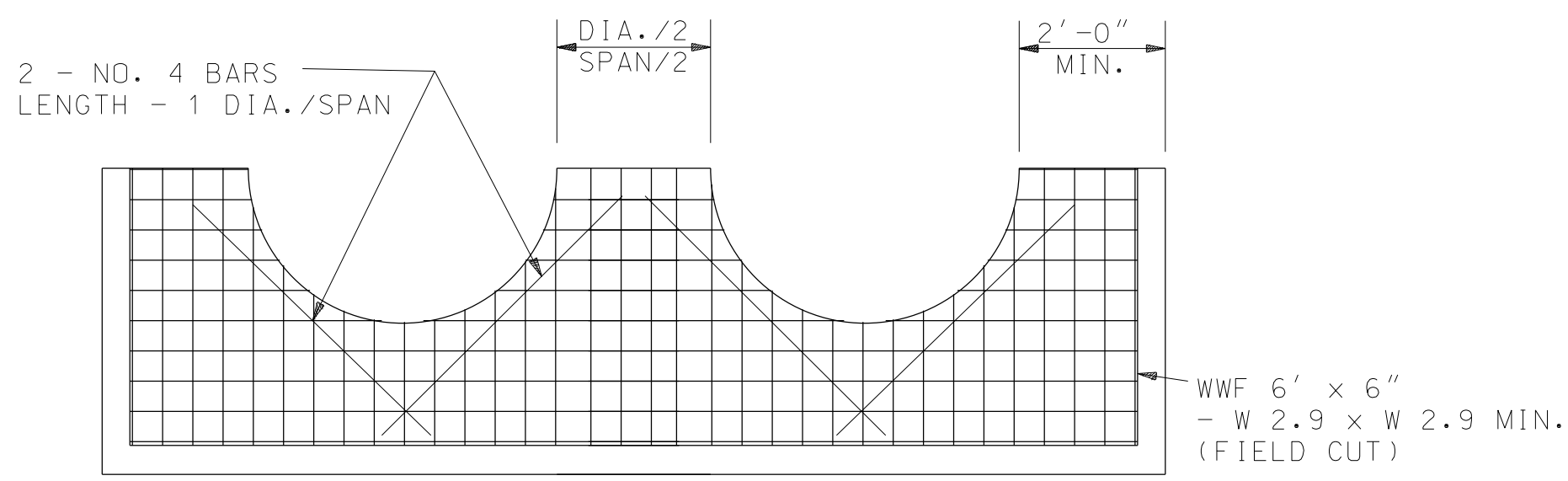
SIDE VIEW



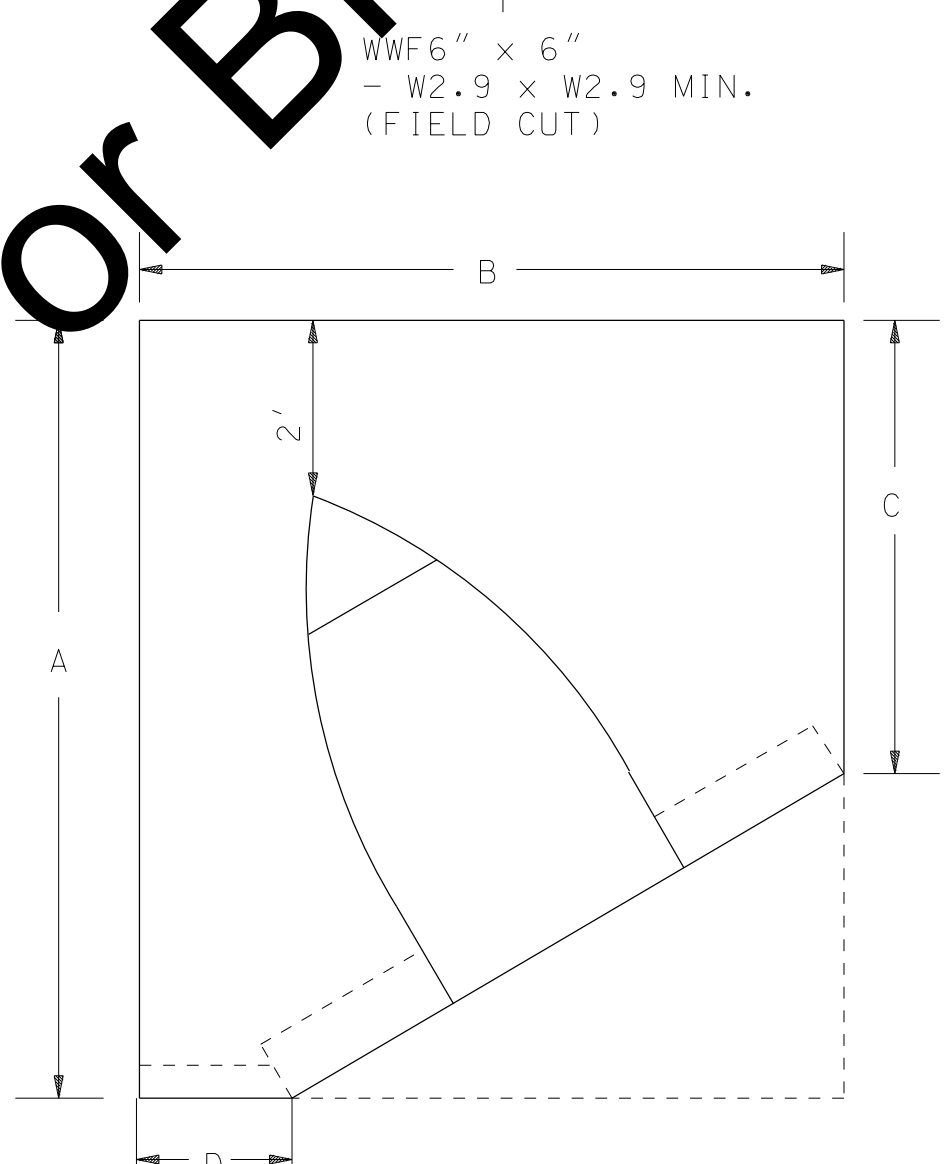
END VIEW-METAL PIPE



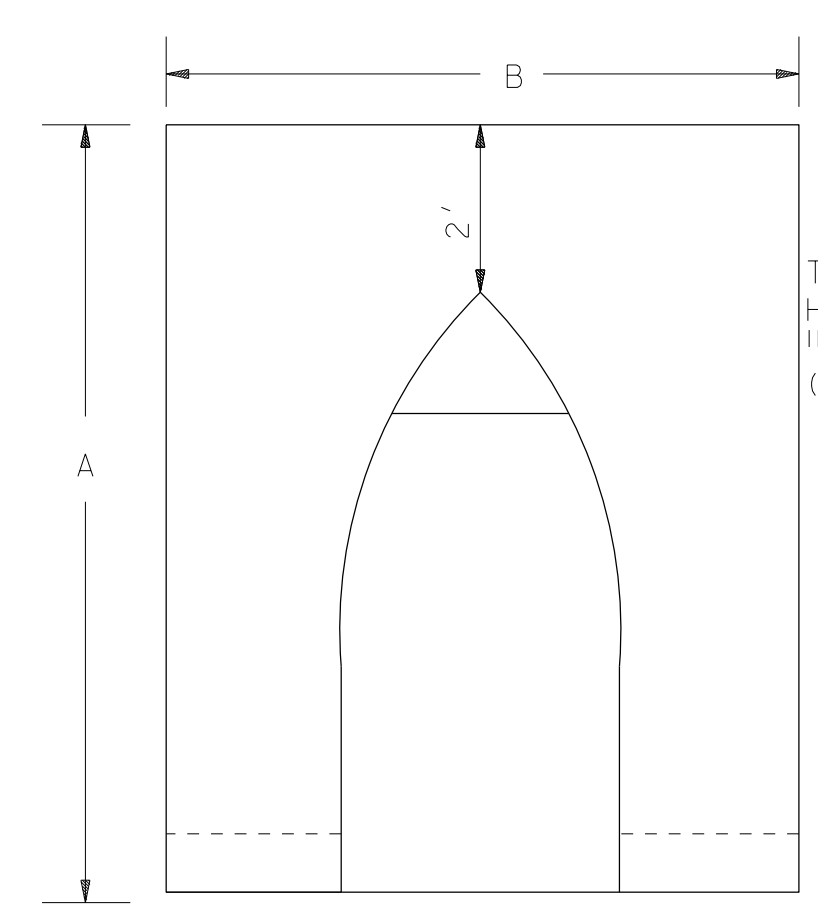
END VIEW-CONCRETE PIPE



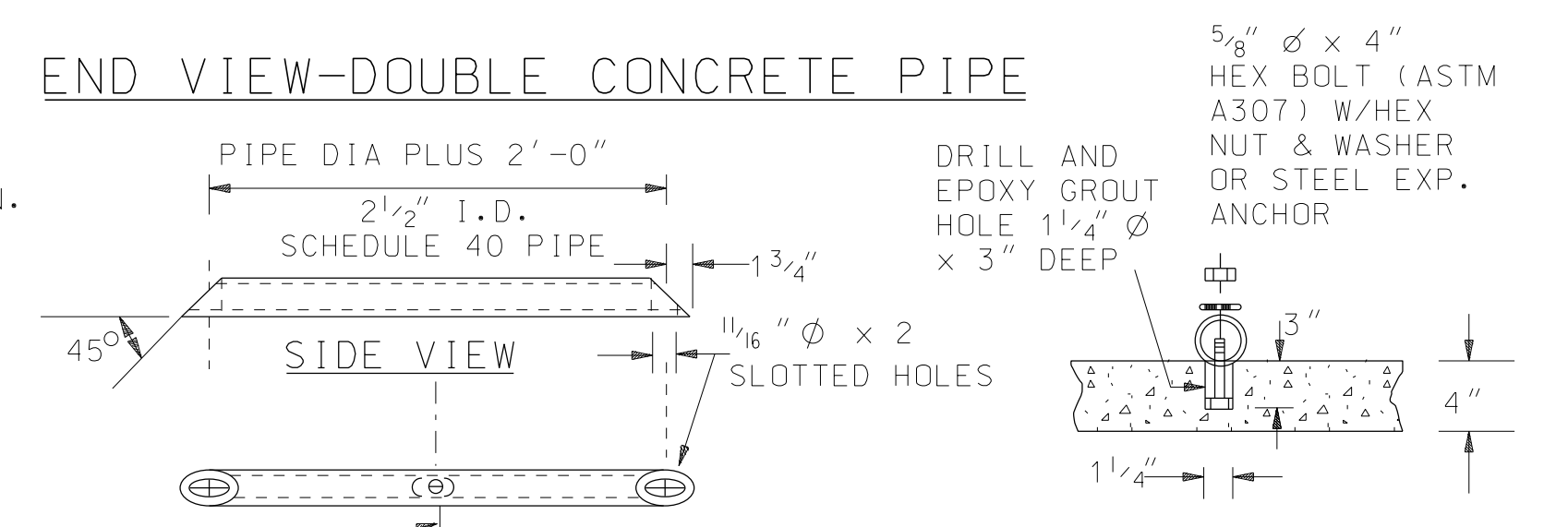
END VIEW-DOUBLE CONCRETE PIPE



PLAN
ON SKEW



PLAN
NO SKEW



GRATE ATTACHMENT DETAIL



PIPE DETAIL

GENERAL NOTES

1. THE FILL SHALL BE PLACED AND FINISHED AND ALL SHORING REMOVED BEFORE ANY CONCRETE SHALL BE PLACED ON SLOPES.
2. QUANTITIES SHOWN INCLUDES TWO (2) COMPLETE HEADWALLS.
3. WHERE 6:1 FRONT SLOPES ARE REQUIRED, THEY SHALL BE WARPED TO FIT 4:1 INSTALLATION.
4. 8" THICK END WALL SHALL BE PERPENDICULAR TO FLOW LINE. WARP AND DRESS ADJACENT FILL TO FIT SKEWED CONDITIONS. EDGES OF PAVING PLACED UPON FRONT SLOPE SHALL BE PARALLEL TO SLOPE LINE.
5. DETAIL AND QUANTITIES SHOWN ON THIS DRAWING APPLIES TO REINFORCED CONCRETE AND CORRUGATED METAL PIPES.
6. SLOPED PAVED HEADWALL WITHOUT GRATE SHALL BE CLASS 1, HEAD WALL WITH GRATE SHALL BE CLASS 2.
7. A 24" PIPE WITH GREATER THAN A 30° SKEW AND 30" OR GREATER IN DIAMETER SHALL HAVE A CLASS 2 END TREATMENT WHEN TERMINATED WITHIN THE CLEAR ZONE.
8. ADDITIONAL 4" THICK TOEWALL 12" DEEP WILL BE REQUIRED ON 30° AND 45° SKEW. SEE DIMENSION "D" ON PLAN VIEW.

Not For Bidding Purposes

--SPECIFICATIONS--
CURRENT ALABAMA DEPARTMENT OF TRANSPORTATION

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REVISIONS
1. Added to CADD on 12-01-99 by J.F.T.
2. Changed Note No. 7 and added a grate to concrete pipe on skew on 12-31-08 by W.W.A.

ALABAMA DEPARTMENT OF TRANSPORTATION
1409 COLISEUM BOULEVARD
MONTGOMERY, AL 36130-3050

DESIGN BUREAU SPECIAL DRAWING
SLOPE PAVED HEADWALL DETAILS FOR REINFORCED CONCRETE AND CORRUGATED METAL ROADWAY PIPE

SPECIAL DRAWING NO
HW-614-B (SHEET 1 OF 2)

INDEX NO
61909

Bureau Std Engr: D.J.W.
DRAWN BY: _____ DATE DRAWN: 06-07-90

DIMENSIONS AND QUANTITIES TABLES FOR ROUND PIPE

PIPE DIA	ROUND PIPE	0° SKEW												15° SKEW												30° SKEW												45° SKEW																	
		2:1 SLOPE				3:1 SLOPE				4:1 SLOPE				2:1 SLOPE				3:1 SLOPE				4:1 SLOPE				2:1 SLOPE				3:1 SLOPE				4:1 SLOPE																					
		A	B	CU YD CONC	CONC	A	B	CU YD CONC	CONC	A	B	C	D	CU YD CONC	CONC	A	B	C	D	CU YD CONC	CONC	A	B	C	D	CU YD CONC	CONC	A	B	C	D	CU YD CONC	CONC	A	B	C	D	CU YD CONC	CONC																
15"	SINGLE DOUBLE	3'-5" 3'-5"	5'-3" 7'-2"	.4 .5	4'-0" 4'-0"	5'-3" 7'-2"	.4 .5	4'-7" 4'-7"	5'-3" 7'-2"	.4 .6	4'-1" 4'-1"	5'-5" 7'-3"	2'-9" 2'-9"	5" 5"	.4 .6	4'-8" 5'-2"	5'-7" 7'-5"	3'-4" 3'-4"	7" 7"	.4 .6	5'-3" 5'-9"	5'-9" 7'-7"	3'-11" 3'-11"	9" 9"	.5 .6	4'-9" 5'-8"	5'-4" 7'-0"	2'-1" 2'-1"	10" 10"	.4 .5	5'-3" 6'-3"	5'-8" 7'-4"	2'-8" 2'-8"	1'-2" 1'-2"	.4 .6	5'-11" 6'-10"	6'-0" 7'-8"	3'-4" 3'-4"	1'-6" 1'-6"	.5 .7	5'-3" 6'-2"	5'-1" 6'-6"	1'-7" 1'-7"	1'-5" 1'-5"	.4 .6	5'-10" 7'-11"	5'-8" 7'-11"	2'-2" 2'-2"	2'-0" 2'-0"	.5 .6	7'-10" 7'-10"	6'-3" 7'-8"	2'-9" 2'-9"	2'-7" 2'-7"	.5 .7

GRATE FABRICATION TABLES

ROUND ROADWAY PIPE					ROADWAY PIPE GRATE			ROUND ROADWAY PIPE					ROADWAY PIPE GRATE				
DIA	SKEW	SLOPE	"X"	"L" PIPE	"T" PIPE	DIA	SKEW	SLOPE	"X"	"L" PIPE	"T" PIPE	DIA	SKEW	SLOPE	"X"	"L" PIPE	"T" PIPE
36"	0°	3:1	8'-6"	2 @ 12" OC	3	48"	0°	4:1	15'-2"	2 @ 16" OC	3	48"	15°	3:1	8'-10"	2 @ 16" OC	3

DIMENSIONS AND QUANTITIES TABLES FOR ARCH PIPE

PIPE SIZE	ARCH PIPE	EQUIVALENT ROUND PIPE	0° SKEW								15° SKEW								30° SKEW								45° SKEW							
			4:1 SLOPE				4:1 SLOPE				4:1 SLOPE				4:1 SLOPE				4:1 SLOPE				4:1 SLOPE											
			A	B	CU YD CONC	CONC	A	B	C	D	CU YD CONC	CONC	A	B	C	D	CU YD CONC	CONC	A	B	C	D	CU YD CONC	CONC	A	B	C	D	CU YD CONC	CONC				
1'-6" x 11"	SINGLE DOUBLE	15"	6'-1" 6'-1"	5'-6" 7'-9"	.5 .6	6'-9" 7'-4"	6'-5" 8'-7"	5'-4" 5'-4"	1'-1" 1'-1"	.6 .8	7'-5" 8'-7"	7'-1" 9'-0"	4'-8" 4'-8"	2'-4" 2'-4"	.7 .8	8'-0" 9'-7"	7'-11" 9'-7"	4'-1" 4'-1"	4'-1" 4'-1"	.8 1.0														

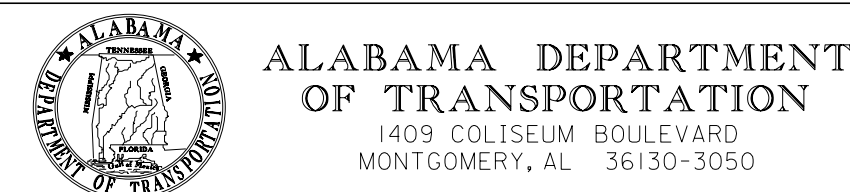
GRATE FABRICATION TABLES

ARCH ROADWAY PIPE					ROADWAY PIPE GRATE		
SPAN-RISE	SKEW	SLOPE	"X"	"L" PIPE	"T" PIPE		
3'-7" x 2'-3"	0°	4:1	7'-0"	2 @ 14" OC	3		
3'-7" x 2'-3"	15°	4:1	7'-4"	2 @ 14" OC	3		

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- REVISIONS
1. Added to CADD on 05-28-99 by J.F.T.
2. Corrected various numbers in the charts on 03-28-06 by J.F.T.



ALABAMA DEPARTMENT OF TRANSPORTATION
1409 COLISEUM BOULEVARD
MONTGOMERY, AL 36130-3050

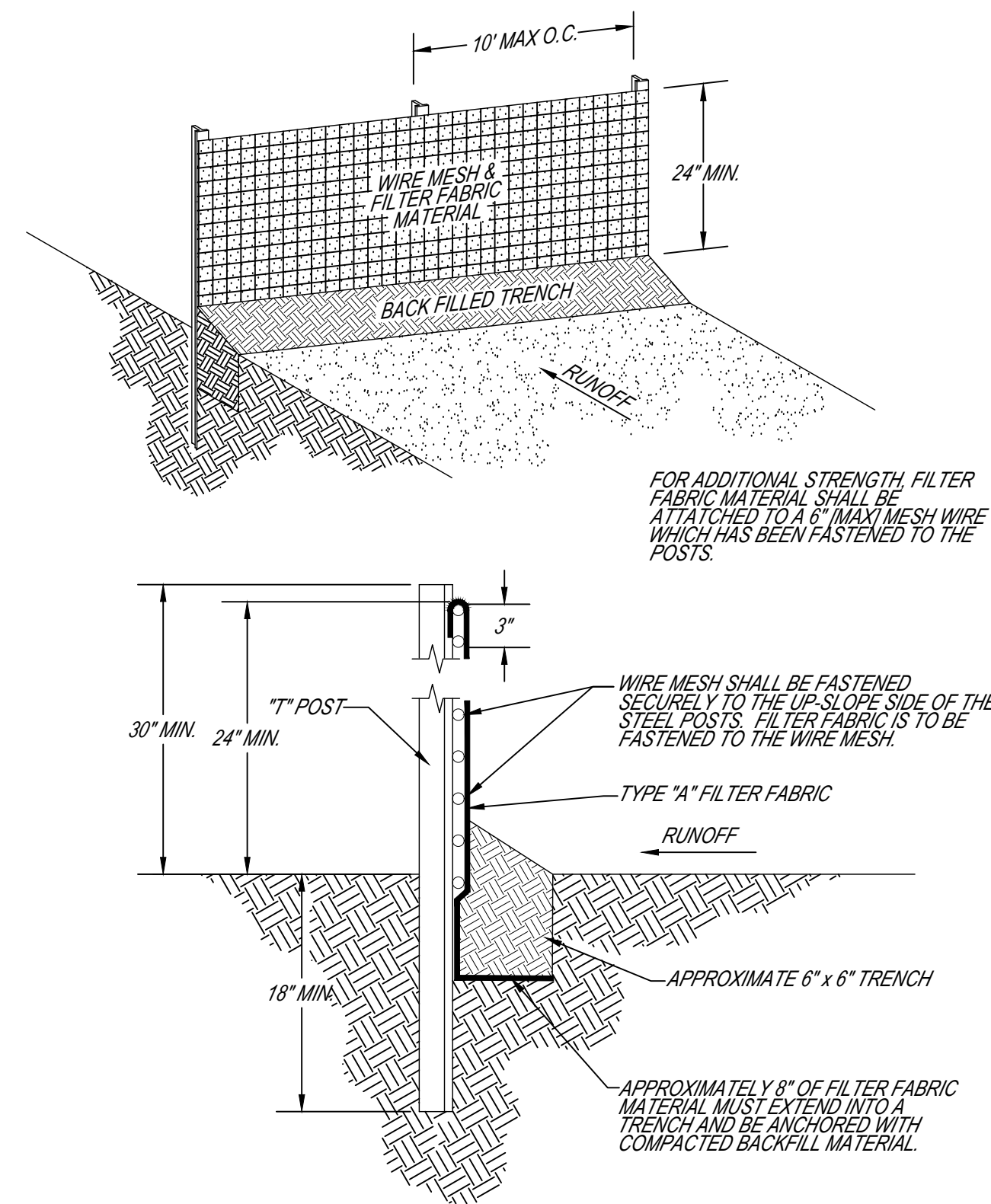
DESIGN BUREAU SPECIAL DRAWING

SLOPE PAVED HEADWALL DETAILS FOR REINFORCED CONCRETE AND CORRUGATED METAL ROADWAY PIPE

SPECIAL DRAWING NO
DRAWN BY: D.J.W. DATE DRAWN: 06-07-90

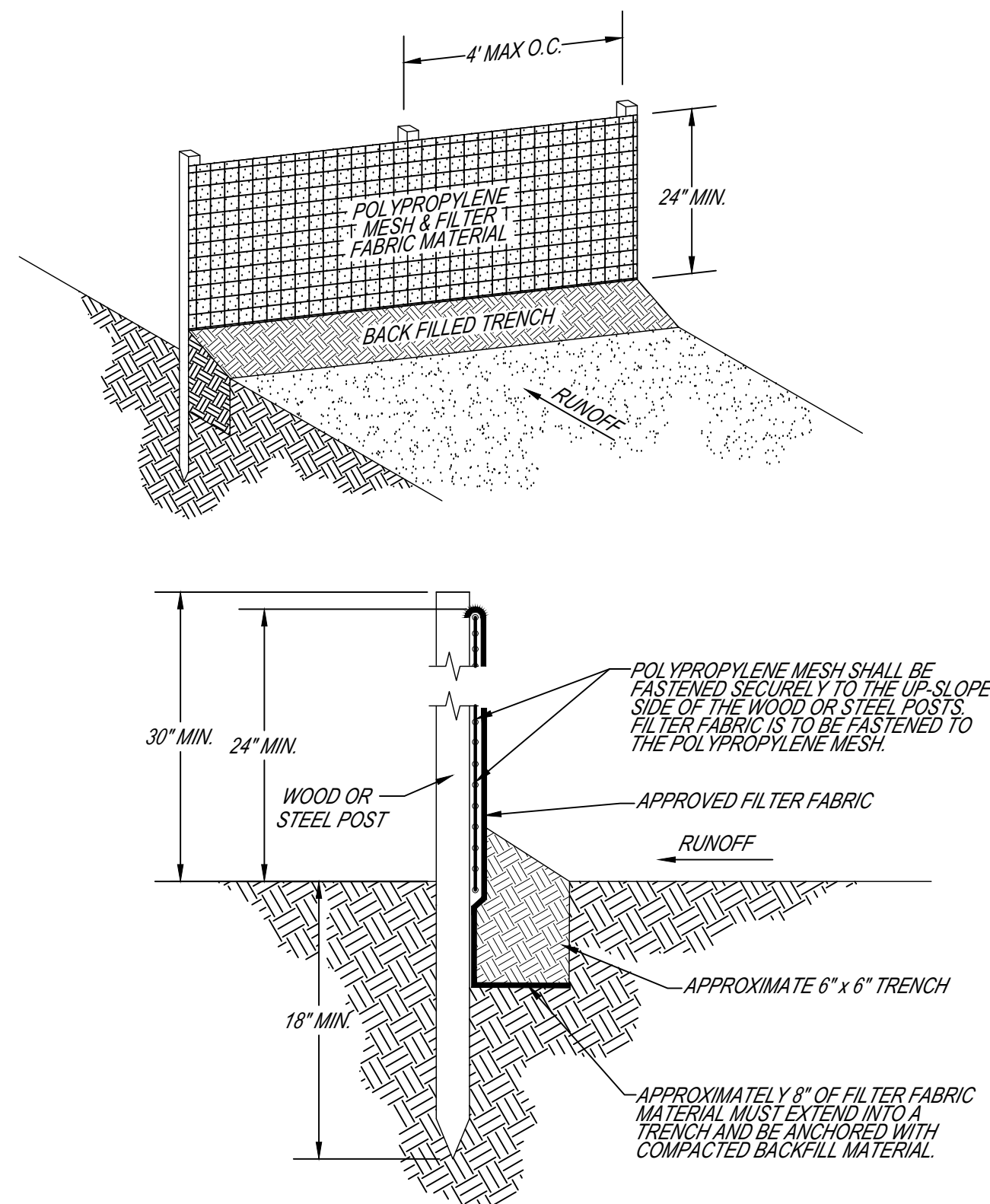
INDEX NO
HW-614-B (SHEET 2 OF 2) 61910

SILT FENCE W/ WIRE MESH (ALDOT TYPE A)

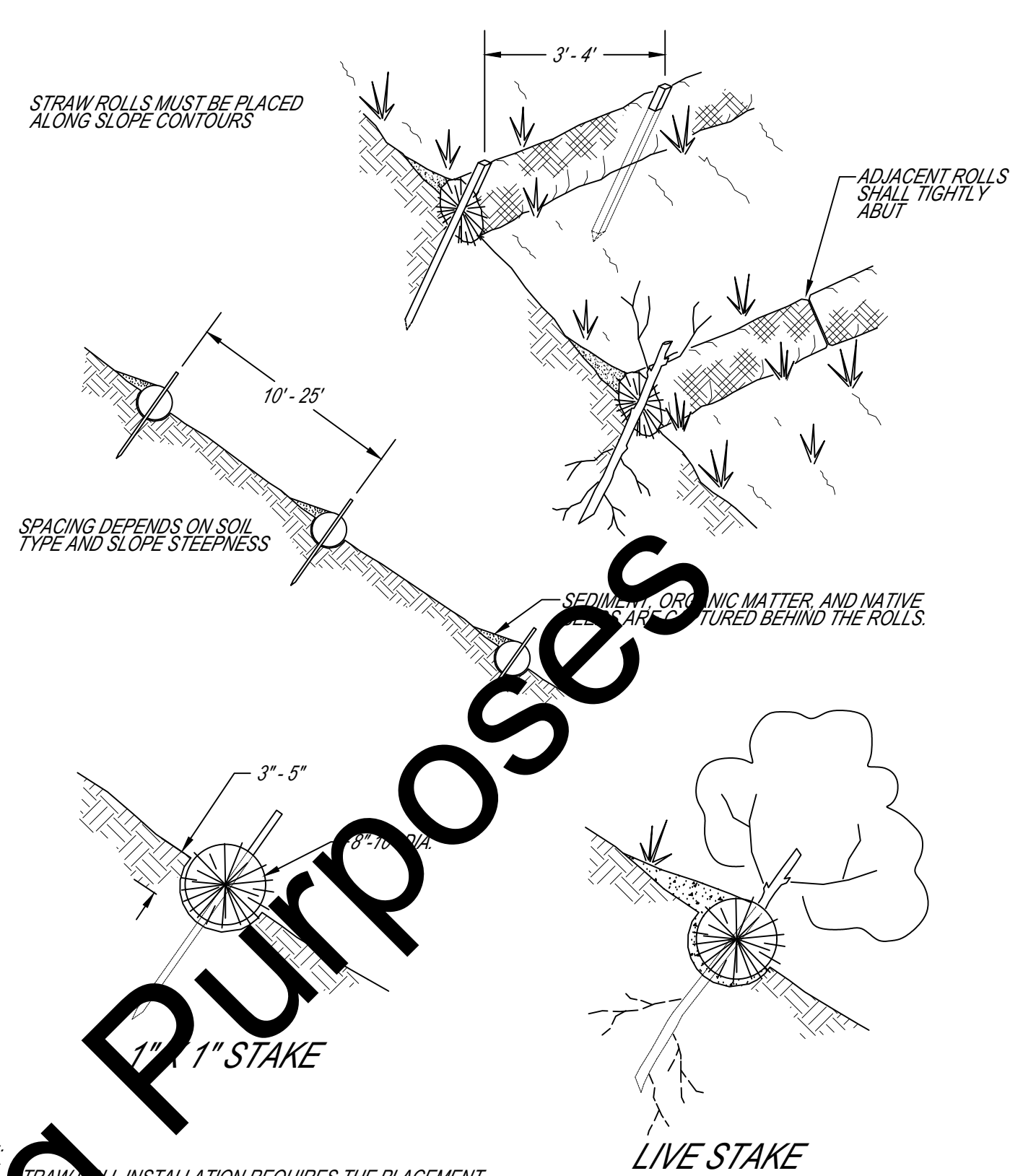


SILT FENCE W/ WIRE MESH (ALDOT TYPE A)

SILT FENCE W/ POLYPROPYLENE MESH (GDOT TYPE C)

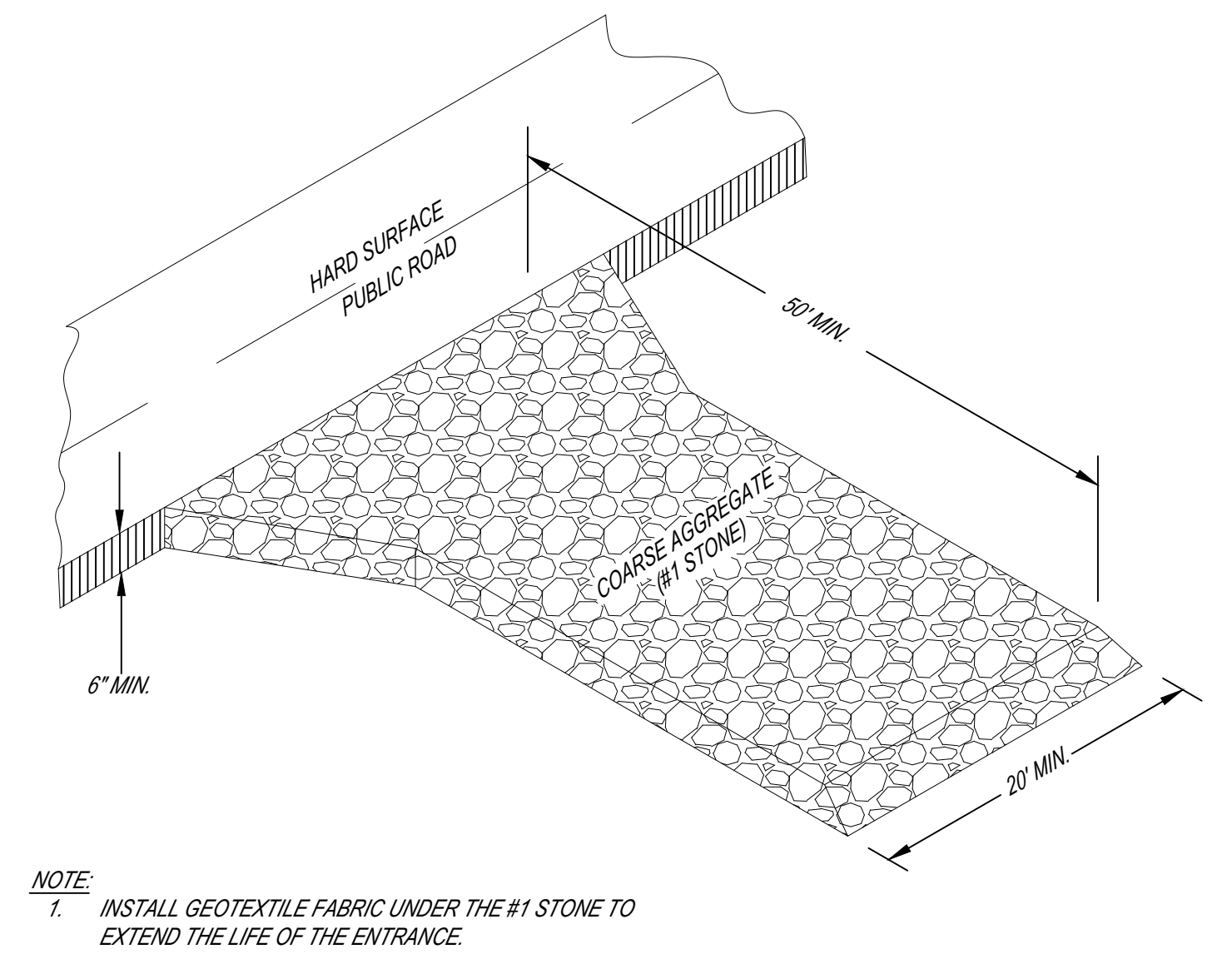


STRAW ROLL



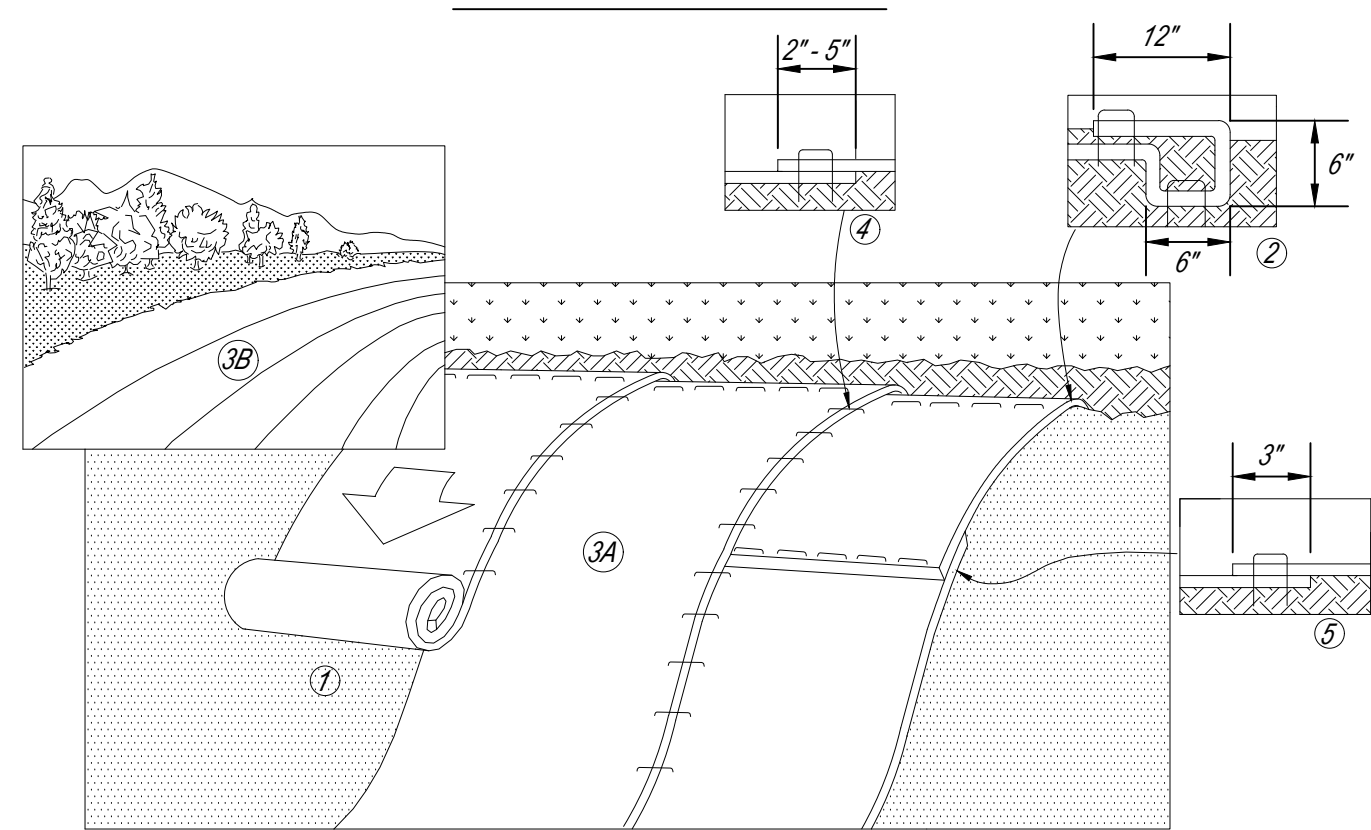
NOTE:
1. STRAW ROLL INSTALLATION REQUIRES THE PLACEMENT OF SECONDARY STAKING OF THE ROLL IN A TRENCH, 3'-5\"/>

CONSTRUCTION EXIT PAD (CEP)



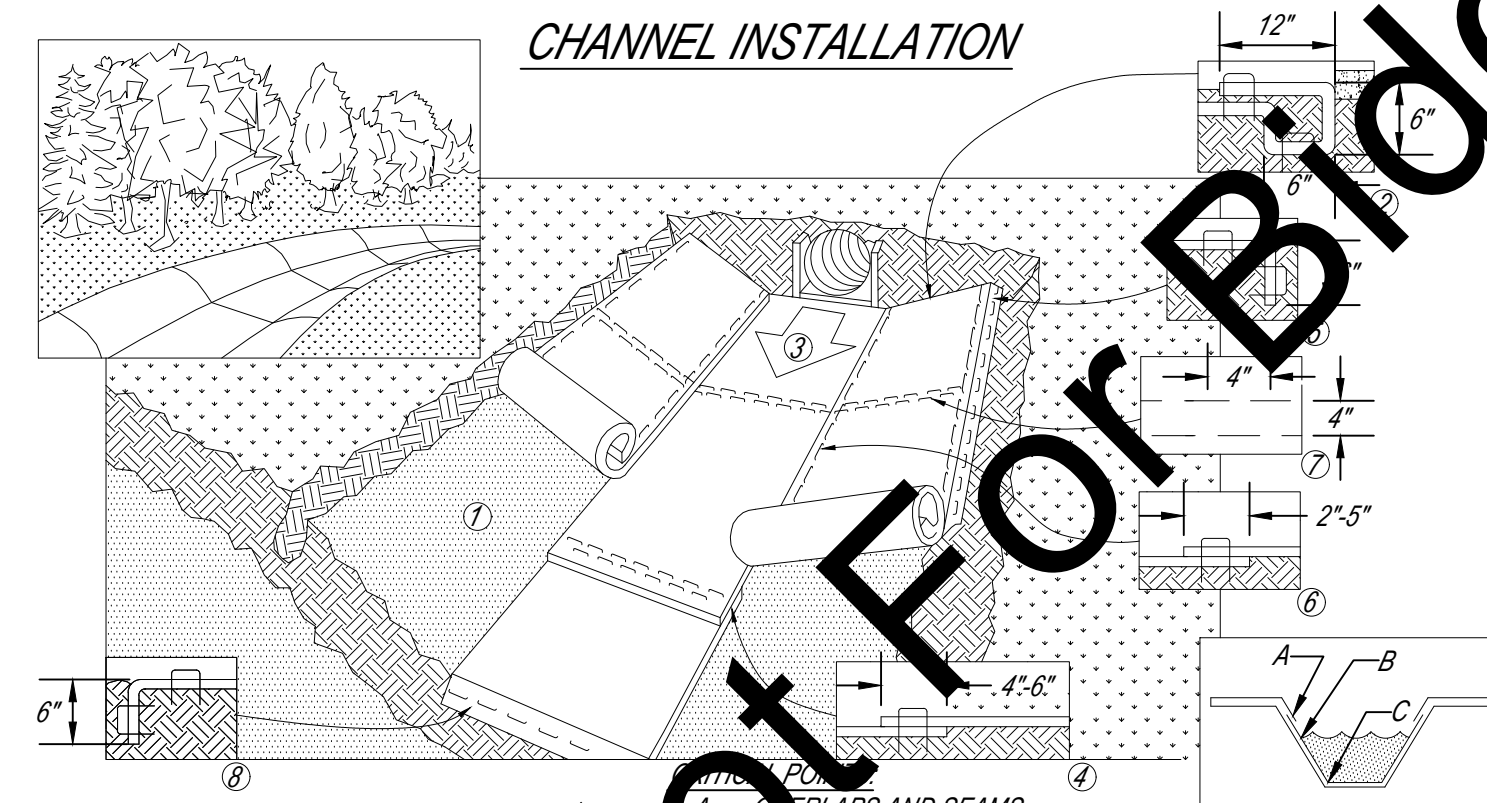
NOTE:
1. INSTALL GEOTEXTILE FABRIC UNDER THE #1 STONE TO EXTEND THE LIFE OF THE ENTRANCE.

SLOPE INSTALLATION



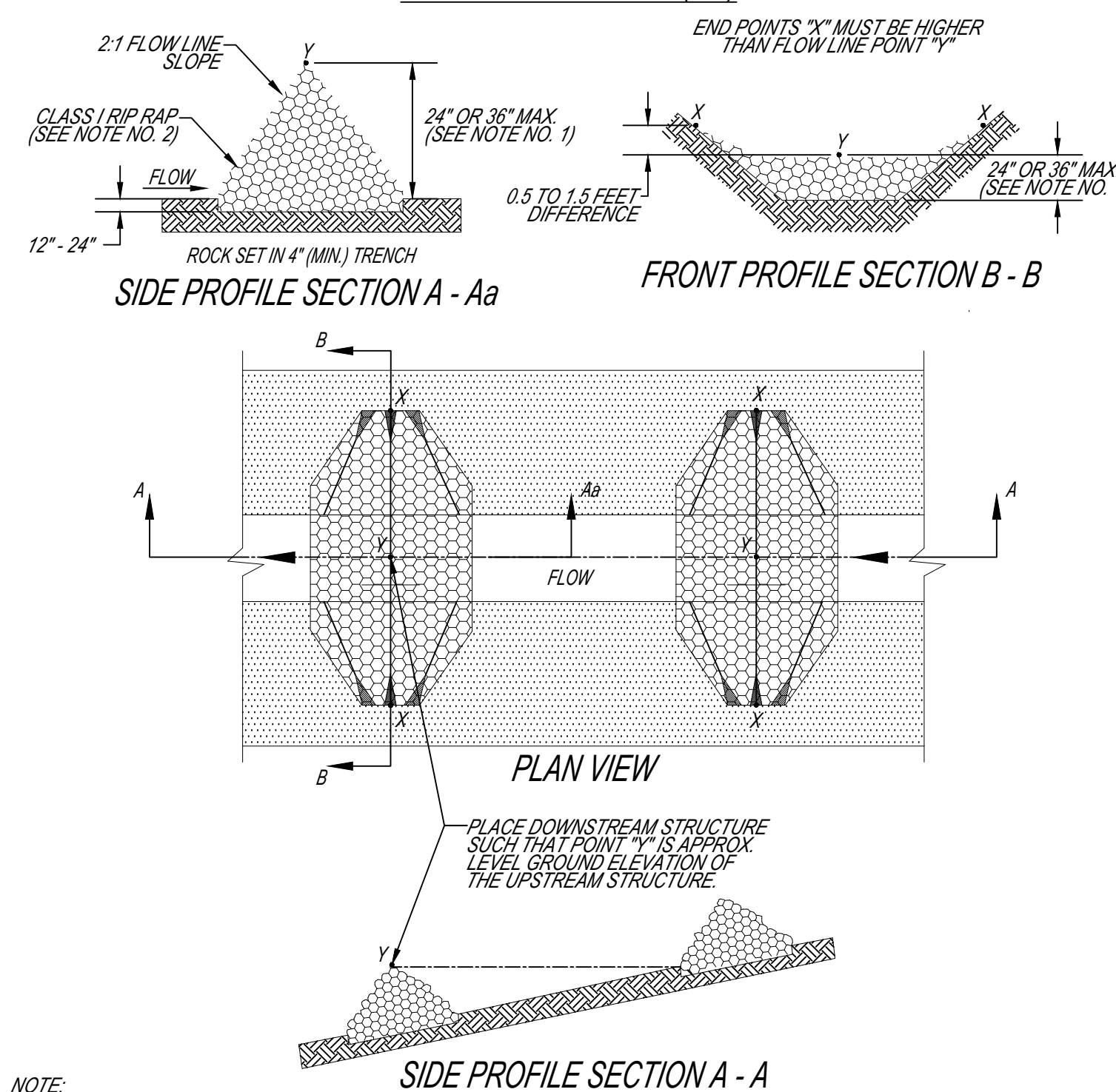
- NOTES:
1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECPs), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
 2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECPs IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF RECPs EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECPs WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF RECPs BACK OVER SEED AND COMPACTED SOIL. SECURE RECPs OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE RECPs.
 3. ROLL THE RECPs (A) DOWN OR (B) HORIZONTALLY ACROSS THE SLOPE. RECPs WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECPs MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
 4. THE EDGES OF PARALLEL RECPs MUST BE STAPLED WITH APPROXIMATELY 2'-5" OVERLAP DEPENDING ON RECPs TYPE.
 5. CONSECUTIVE RECPs SPICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE RECPs WIDTH.
 6. IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE RECPs.
 7. RECPs SHALL BE IDENTIFIED AND DESIGNED ACCORDING TO THE CLASSIFICATION DESIGNATION GIVEN IN TABLES ECB-1, ECB-2, ECB-3, AND ECB-4 OF THE ALABAMA HANDBOOK FOR EROSION CONTROL, SEDIMENT CONTROL AND STORMWATER MANAGEMENT ON CONSTRUCTION SITES AND URBAN AREAS (LATEST EDITION).

CHANNEL INSTALLATION



- NOTES:
1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECPs), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
 2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE RECPs IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF RECPs EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECPs WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF RECPs BACK OVER SEED AND COMPACTED SOIL. SECURE RECPs OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE RECPs.
 3. ROLL CENTER RECPs IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. RECPs WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECPs MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
 4. PLACE CONSECUTIVE RECPs END OVER END (SHINGLE STYLE) WITH A 4'-6" OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER TO SECURE RECPs.
 5. FULL LENGTH EDGE OF RECPs AT TOP OF SIDE SLOPES MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
 6. ADJACENT RECPs MUST BE OVERLAPPED APPROXIMATELY 2'-5" (DEPENDING ON RECPs TYPE) AND STAPLED.
 7. IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT INTERVALS. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER OVER ENTIRE WIDTH OF THE CHANNEL.
 8. THE TERMINAL END OF THE RECPs MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
 9. IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY ANCHOR THE RECPs.
 10. HORIZONTAL STAPLE SPACING SHOULD BE ALTERED IF NECESSARY TO ALLOW STAPLES TO SECURE THE CRITICAL POINTS ALONG THE CHANNEL SURFACE.
 11. RECPs SHALL BE IDENTIFIED AND DESIGNED ACCORDING TO THE CLASSIFICATION DESIGNATION GIVEN IN TABLES ECB-1, ECB-2, ECB-3, AND ECB-4 OF THE ALABAMA HANDBOOK FOR EROSION CONTROL, SEDIMENT CONTROL AND STORMWATER MANAGEMENT ON CONSTRUCTION SITES AND URBAN AREAS (LATEST EDITION).

TYPICAL CHECK DAM (CD)



- NOTE:
1. MAXIMUM HEIGHT SHALL BE 24 INCHES WHEN DRAINAGE AREA IS LESS THAN 5 ACRES AND 36 INCHES WHEN DRAINAGE AREA IS 5 TO 10 ACRES.
 2. RIP RAP GRADATION SHALL CONFORM TO THE REQUIREMENTS OF CLASS I RIP RAP, ALABAMA HIGHWAY DEPARTMENT, STANDARD SPECIFICATION FOR HIGHWAY CONSTRUCTION.

D-50 OF ROCK (INCHES)	DOWNSTREAM FLOWLINE SLOPE OF STRUCTURE (FT/FT)					
	0.35	0.30	0.25	0.20	0.15	0.10
3	0.6	0.7	0.8	1.0	1.3	1.9
6	1.2	1.4	1.6	2.0	2.6	3.9

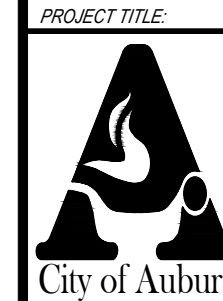
RECOMMENDED ROCK SIZE AND FLOW DEPTHS

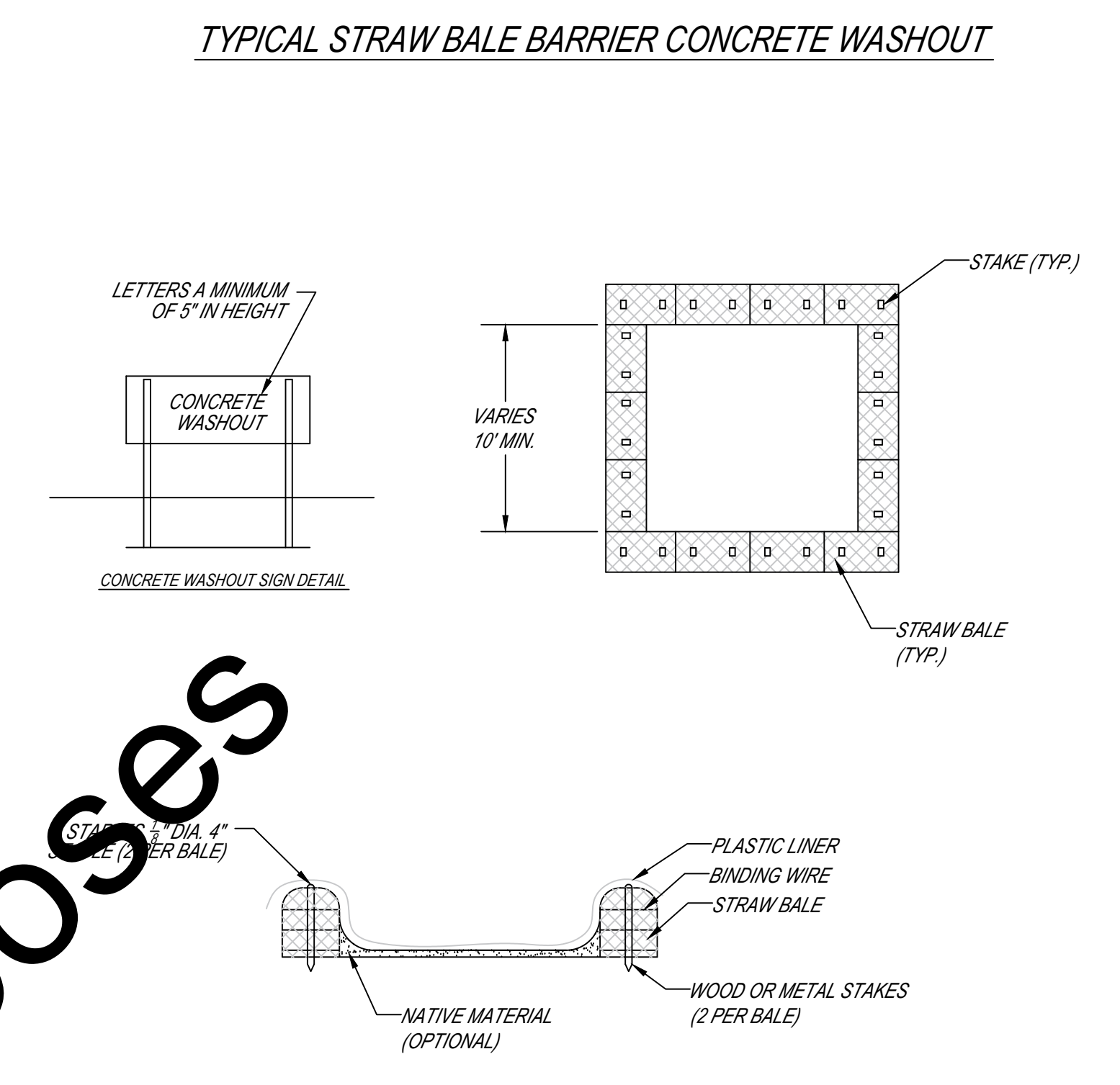
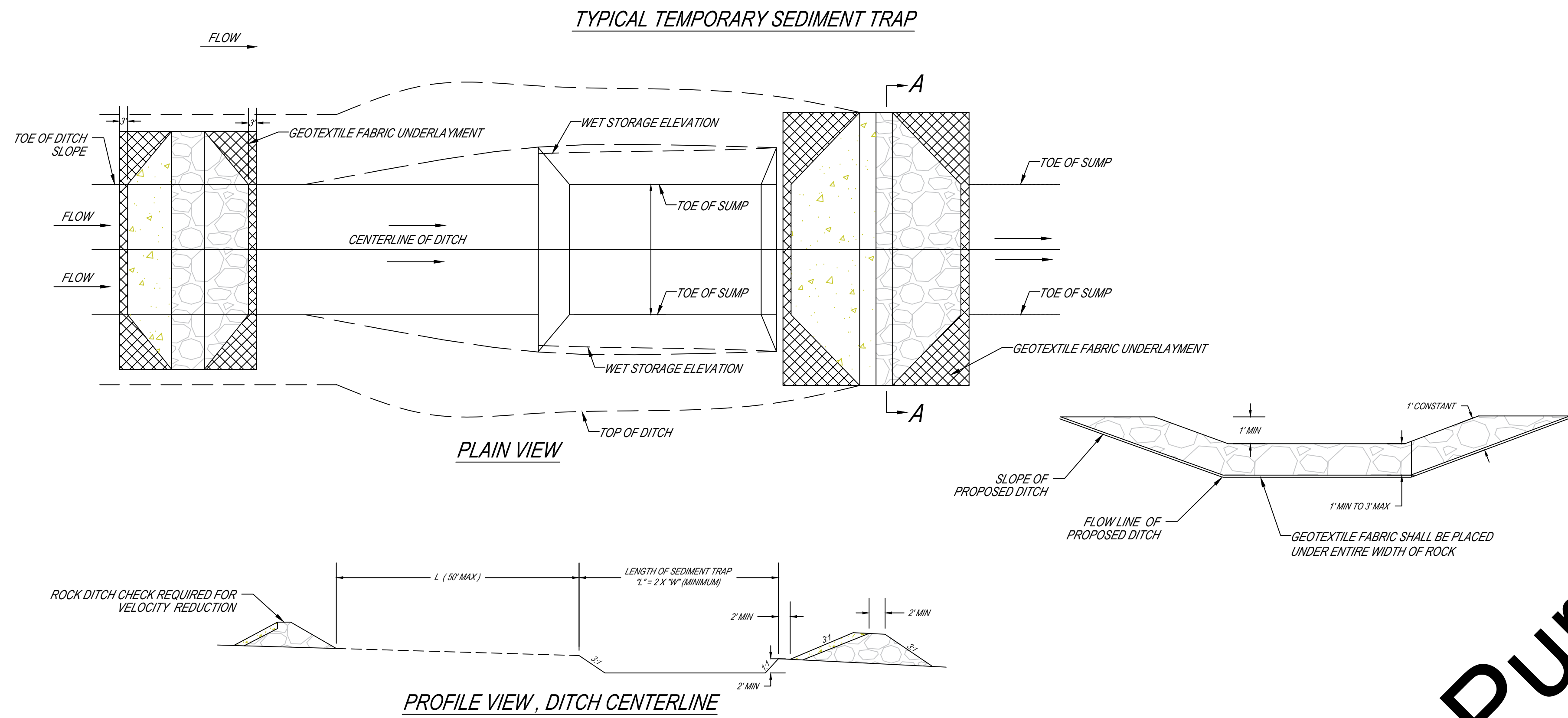
EROSION CONTROL NOTES:

1. A CONSTRUCTION EXIT PAD MUST BE INSTALLED AT ALL POINTS OF INGRESS/EGRESS TO THE SITE.
2. EROSION CONTROL BLANKETS AND NETTING SHOULD BE USED ON STEEP SLOPES AND IN CHANNELS IN CONJUNCTION WITH PERMANENT VEGETATION.
3. MULCH ALL BARE AREAS IMMEDIATELY FOLLOWING INITIAL GRADING PROCEDURES. BMPs SHALL BE INSPECTED AT LEAST MONTHLY AND WITHIN 24 HOURS OF RAIN EVENTS OF 0.75 INCHES OR GREATER. MAINTENANCE AND REPAIR MUST BE MADE WITHIN 3 DAYS OF INSPECTIONS, UNLESS OTHERWISE DIRECTED. COPIES OF THE QUALIFIED CREDENTIALLED PROFESSIONAL (QCP) / QUALIFIED CREDENTIALLED INSPECTOR (QCI) INSPECTION REPORTS SHALL BE SUBMITTED TO THE CITY OF AUBURN WATER RESOURCE MANAGEMENT DEPARTMENT, ATTN: WATERSHED DIVISION, 1501 WEST SAMFORD AVENUE, AUBURN, ALABAMA 36832.
4. TEMPORARY SEEDING OF DISTURBED AREAS SHOULD BE IMPLEMENTED WHENEVER DISTURBED SOIL AREAS WILL NOT BE BROUGHT TO FINISHED GRADE FOR A PERIOD OF 15 CALENDAR DAYS OR LONGER.
5. THESE STANDARD DETAILS SHALL BE APPLICABLE TO ALL LAND DISTURBING ACTIVITIES AND ATTACHED TO THE RELEVANT SITE PLAN AND/OR SUBDIVISION DRAWINGS.
6. ALL EROSION CONTROL MEASURES ARE TO BE IN ACCORDANCE WITH THE ALABAMA HANDBOOK FOR EROSION CONTROL, SEDIMENT CONTROL, AND STORM WATER MANAGEMENT ON CONSTRUCTION SITES AND URBAN AREAS (LATEST EDITION), AND SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION ACTIVITIES.
7. SILT FENCE: REMOVE ACCUMULATED SEDIMENT WHEN DEPTH REACHES 14" THE HEIGHT OF THE BARRIER.

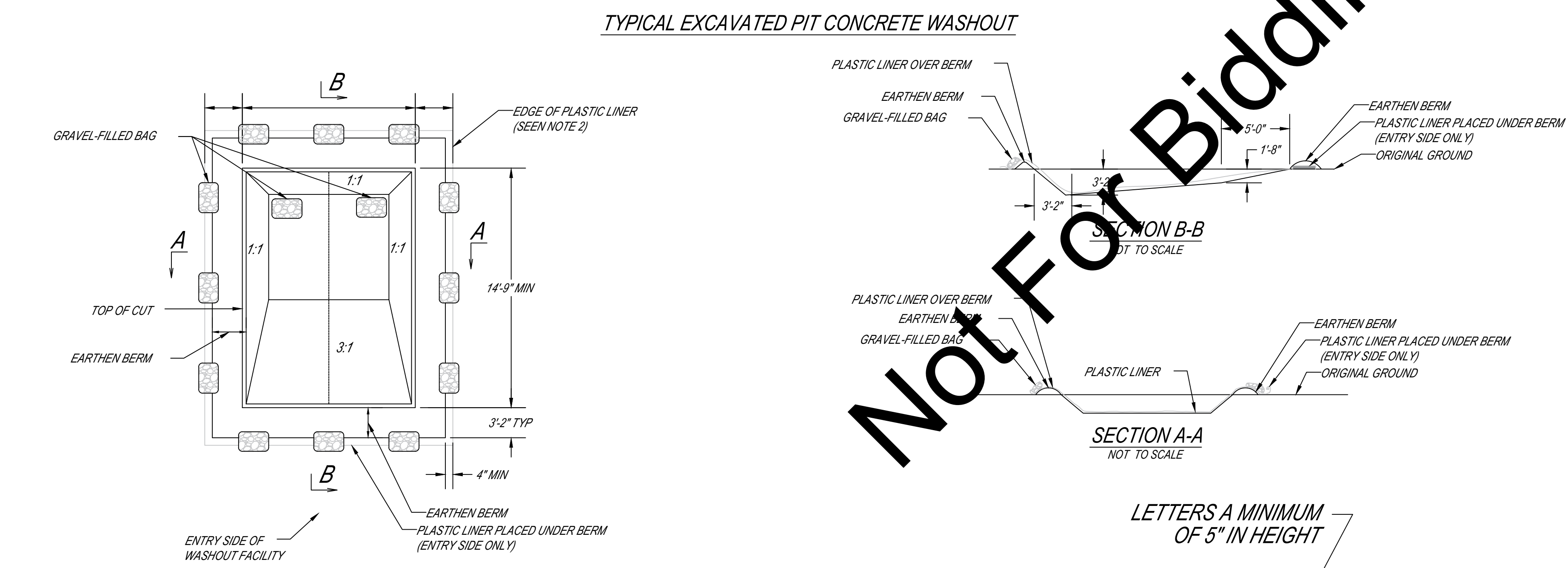
STANDARD DETAILS: EROSION CONTROL - SHEET 1 OF 3

PROJECT TITLE:	DEPARTMENT:	WRM	REVISIONS:	AF-06-13-07
	SCALE:	N.T.S.		BS-10-05-07
	DRAWN BY:	BSGM		DCM 2010
	REVIEWED BY:	MD		JC-12-2012
	APPROVED BY:	MD		MM-12-2021
	IMPLEMENTED:			02/2023

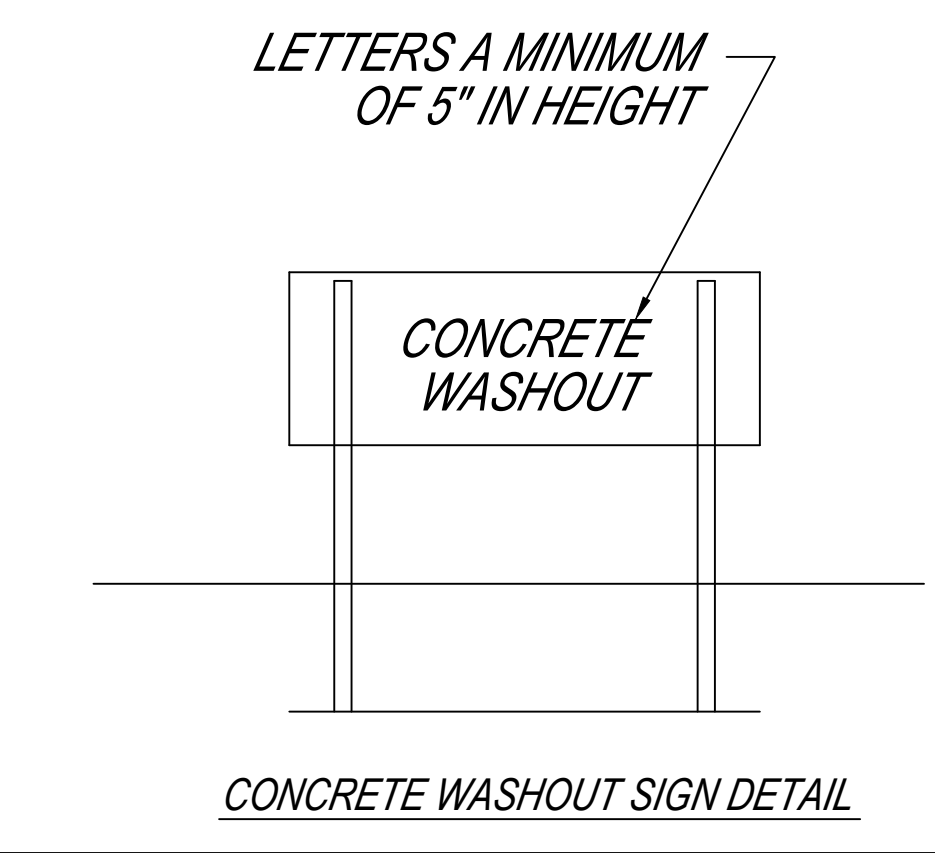




- NOTES:**
1. ACTUAL LAYOUT DETERMINED IN FIELD.
 2. INSTALL CONCRETE WASHOUT SIGN (24"X24", MINIMUM) WITHIN 30' OF TEMPORARY CONCRETE WASHOUT FACILITY.
 3. TEMPORARY WASHOUT AREA MUST BE AT LEAST 50' FROM STORM DRAIN, CREEK BANK OR PERIMETER CONTROL.
 4. CLEAN OUT CONCRETE WASHOUT AREA WHEN 50% FULL..
 5. THE KEY TO FUNCTIONAL CONCRETE WASHOUTS IS WEEKLY INSPECTIONS, ROUTINE MAINTENANCE, AND REGULAR CLEAN OUT.
 6. MUST BE LINED WITH A 10-MIL OR THICKER PLASTIC LINER.



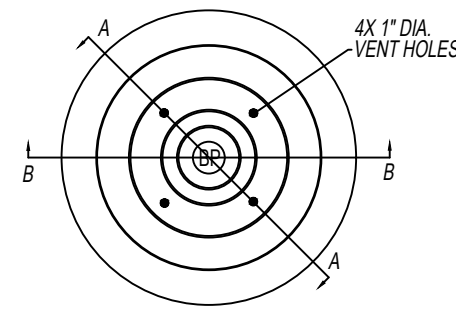
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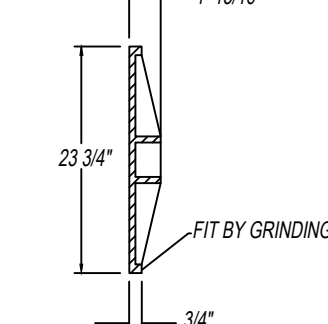
APPROVED FOR NON TRAFFIC

CAST IRON RING AND COVER DETAIL

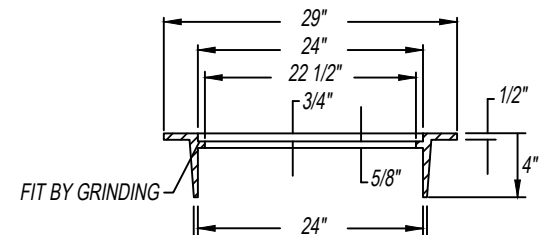
APPROVED FOR TRAFFIC



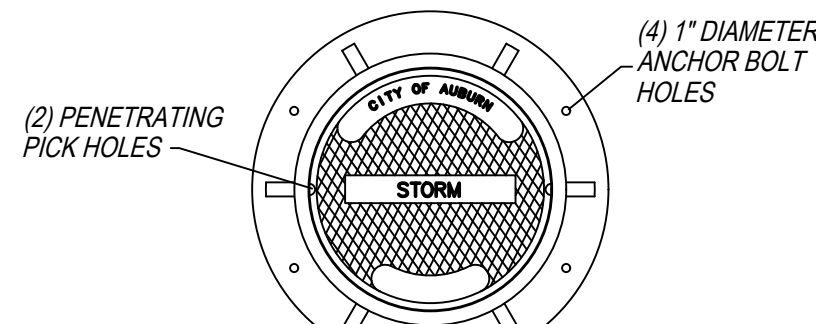
COVER FACE



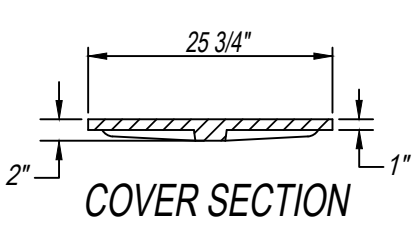
SECTION A - A



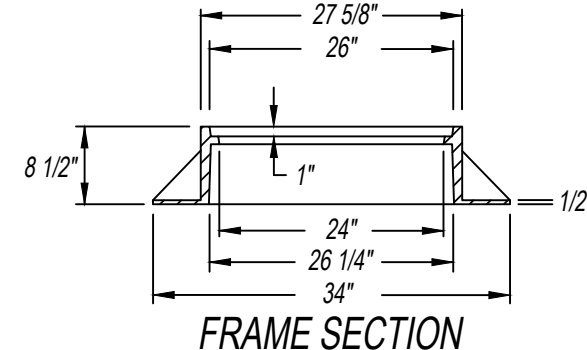
SECTION B - B



COVER FACE



COVER SECTION

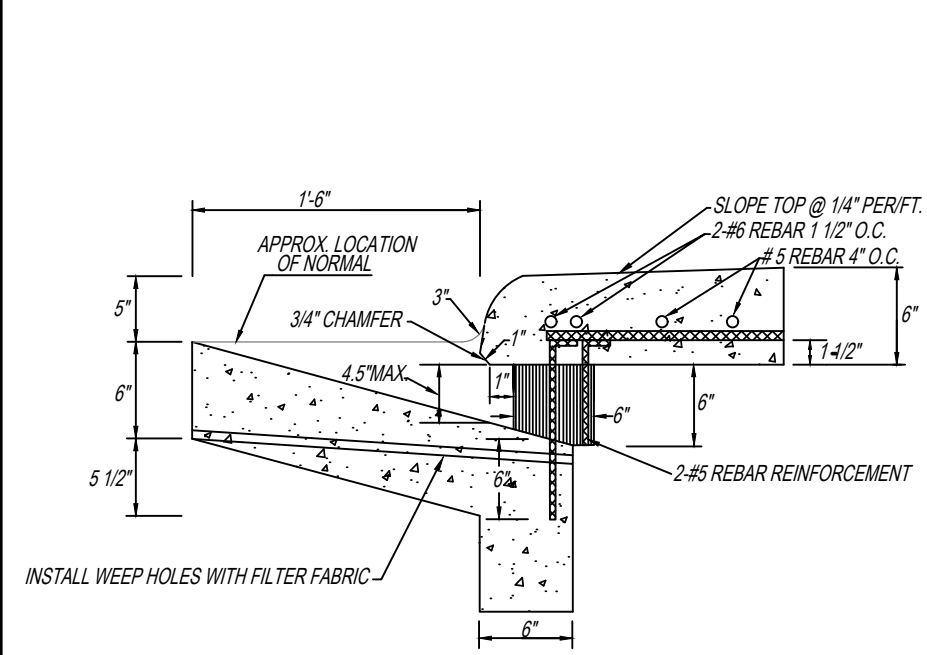


FRAME SECTION

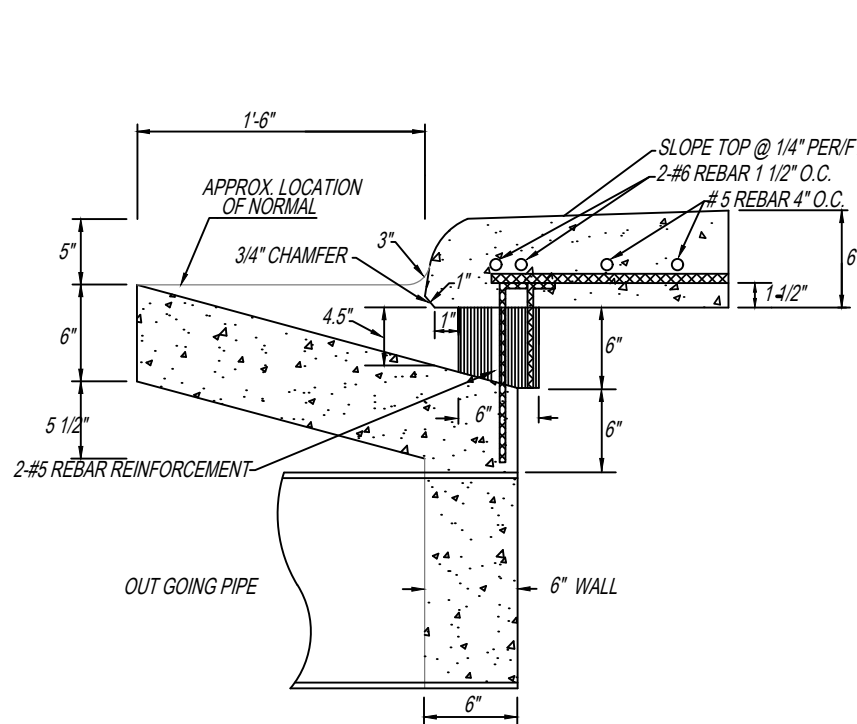
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DEPRESSED GUTTER DETAIL

DEPRESSED GUTTER DETAIL #1

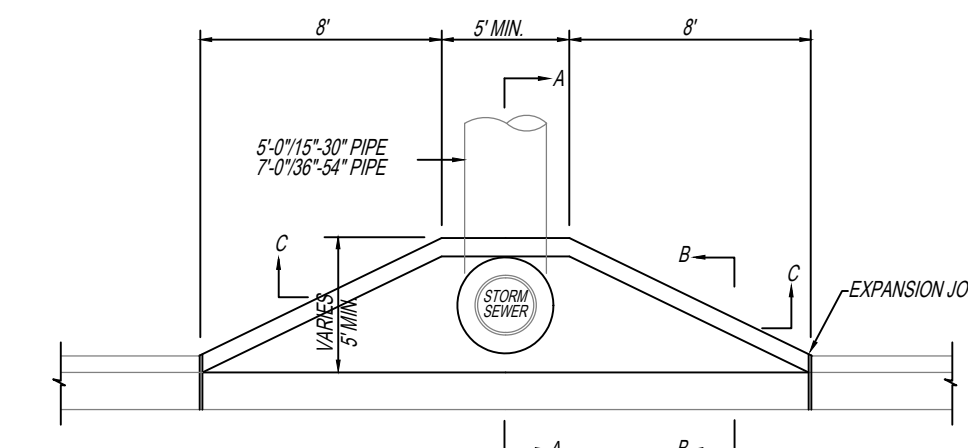


DEPRESSED GUTTER DETAIL #2

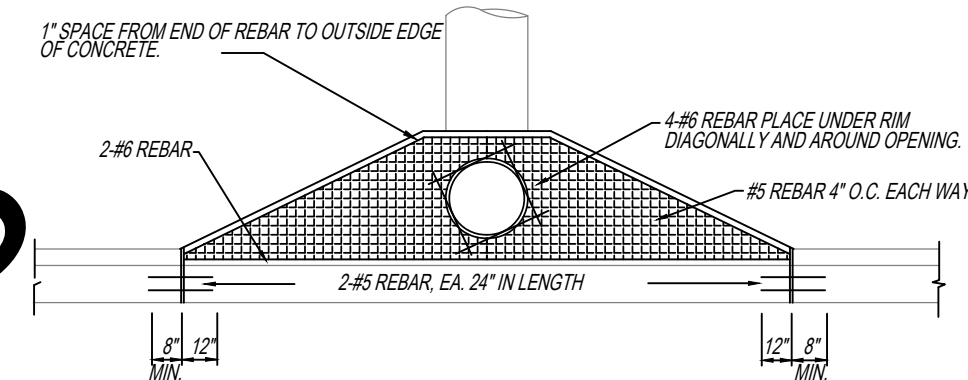


7.01

DOUBLE WING INLET

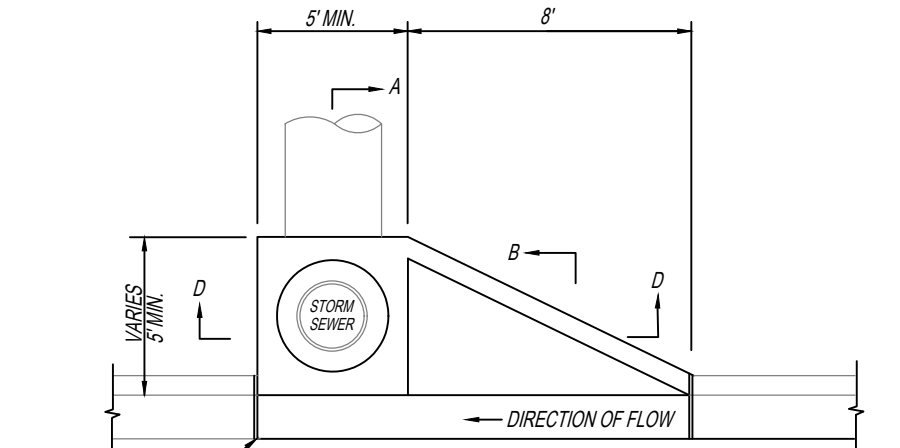


DOUBLE WING INLET PLAN

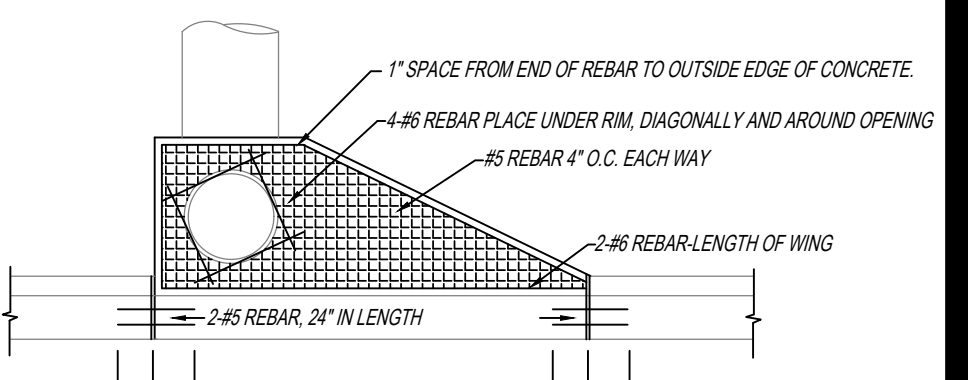


DOUBLE WING INLET TOP SECTION

SINGLE WING INLET



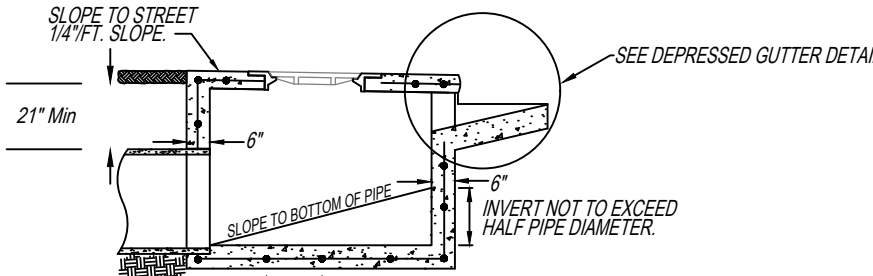
SINGLE WING INLET PLAN



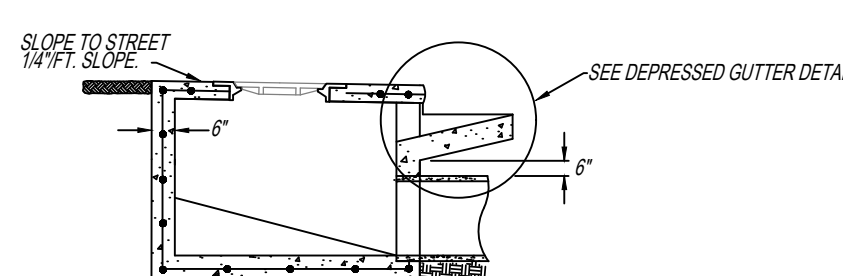
SINGLE WING TOP SECTION

7.02

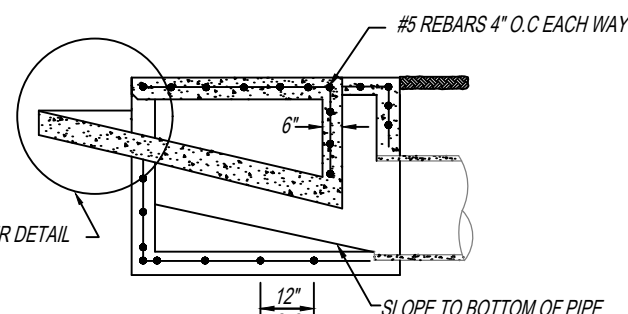
INLET BOX DETAIL



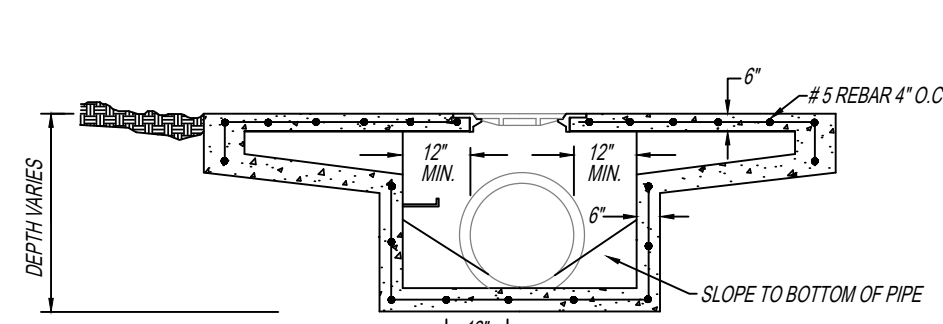
INLET BOX DETAIL AA (#1)



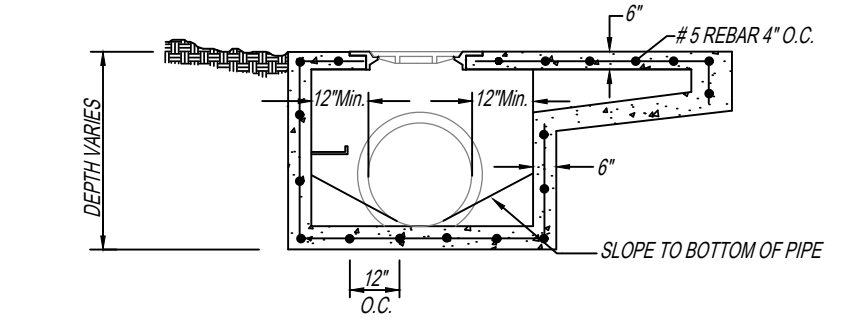
INLET BOX DETAIL AA (#2)



INLET BOX DETAIL BB



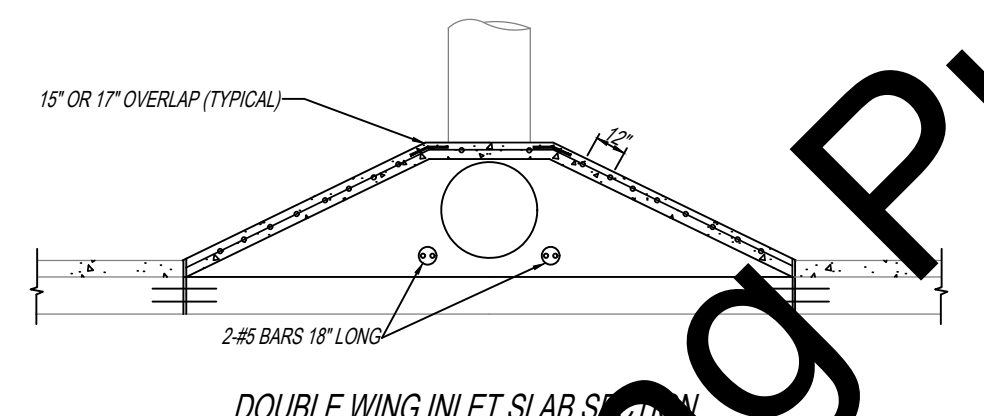
DOUBLE WING INLET DETAIL CC



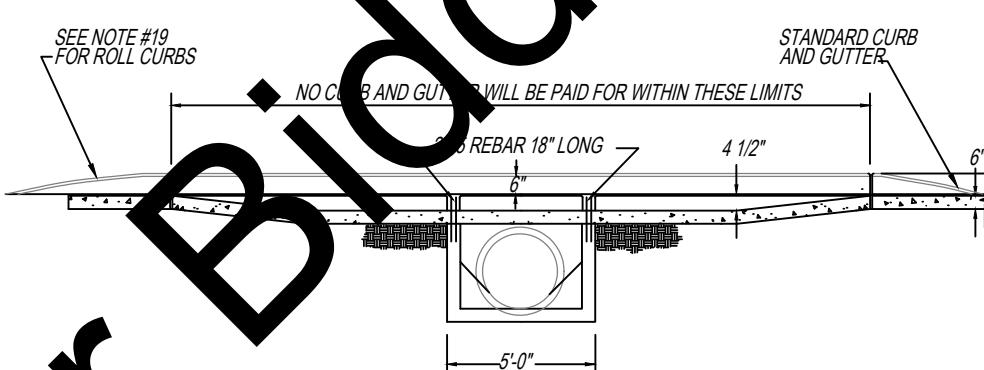
SINGLE WING INLET DETAIL DD

7.03

DOUBLE WING INLET DETAIL



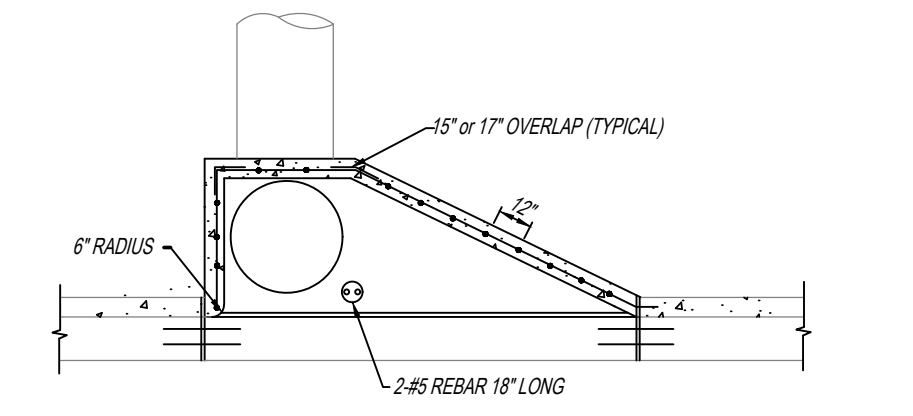
DOUBLE WING INLET SLAB SECTION



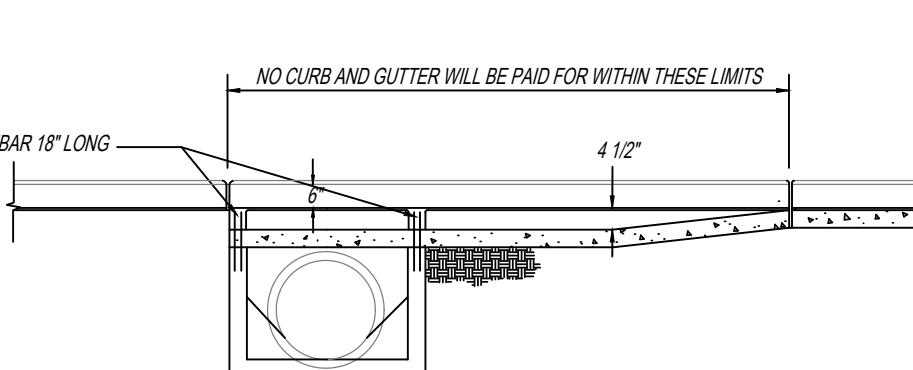
DOUBLE WING INLET ELEVATION

7.04

SINGLE WING INLET DETAIL



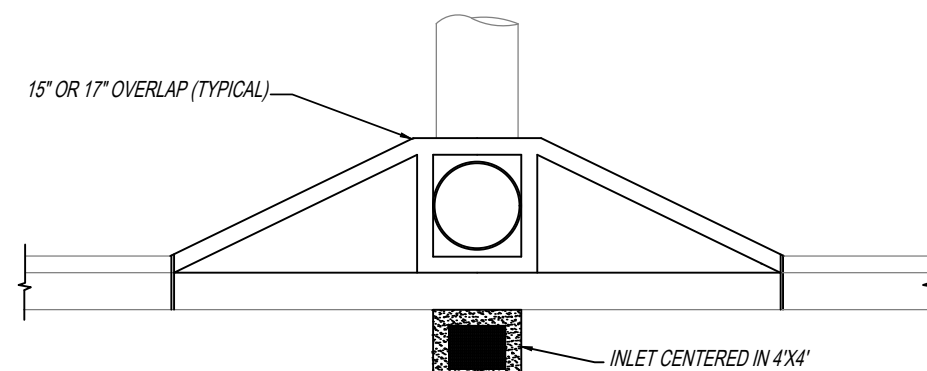
SINGLE WING INLET SLAB SECTION



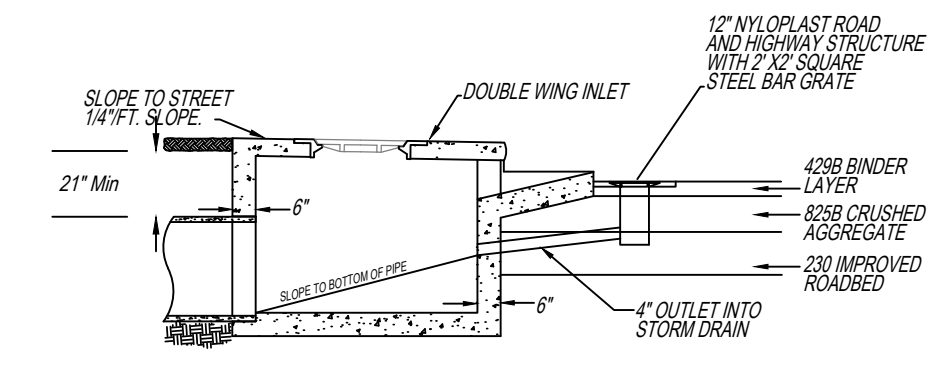
SINGLE WING INLET ELEVATION

7.05

INLET BOX DETAIL (temporary drain)

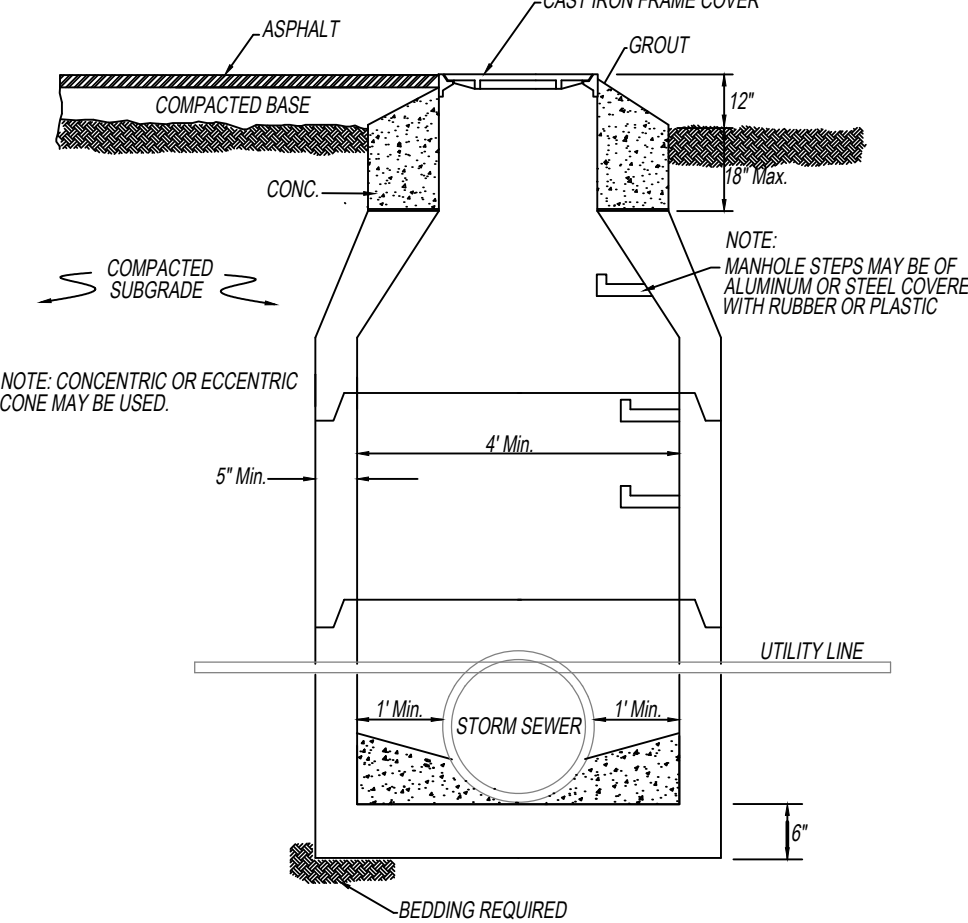


PLAN VIEW



PROFILE VIEW

UTILITY CONFLICT JUNCTION BOX

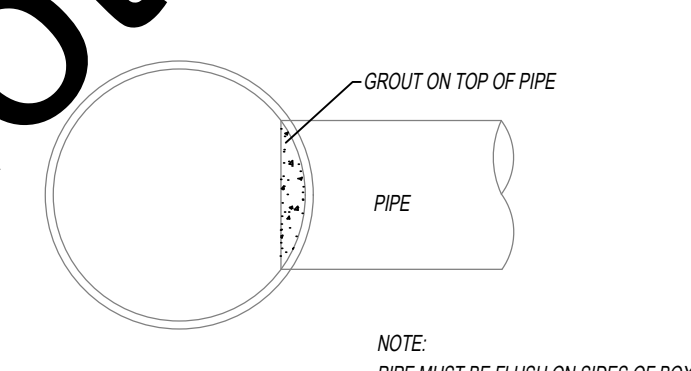


SECTIONAL ELEVATION

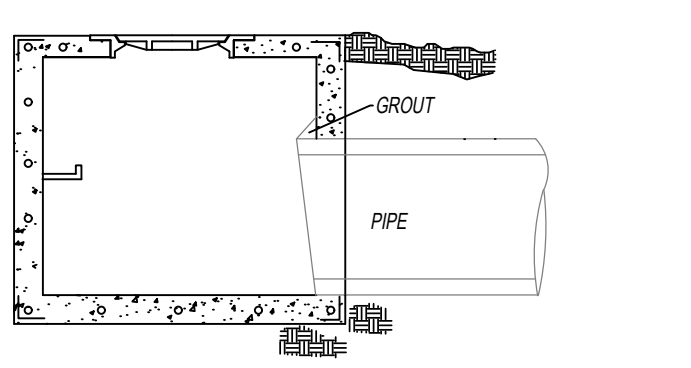
NOTES:
1. INSTALL JUNCTION BOX WHEN THERE IS A CONFLICT BETWEEN STORM SEWER AND OTHER UTILITY LINES.
2. IF THE CONFLICTING UTILITY LINES IS A SANITARY SEWER LINE, REPLACE THE V.C. OR PVC PIPE WITH DUCTILE IRON PIPE.
3. IF POSSIBLE, INSTALL THE CONNECTING UTILITY IN THE UPPER 1/3 OF THE STORM SEWER.

7.06

PIPE BEVELL



PLAN VIEW



ELEVATION

7.07

NOTES

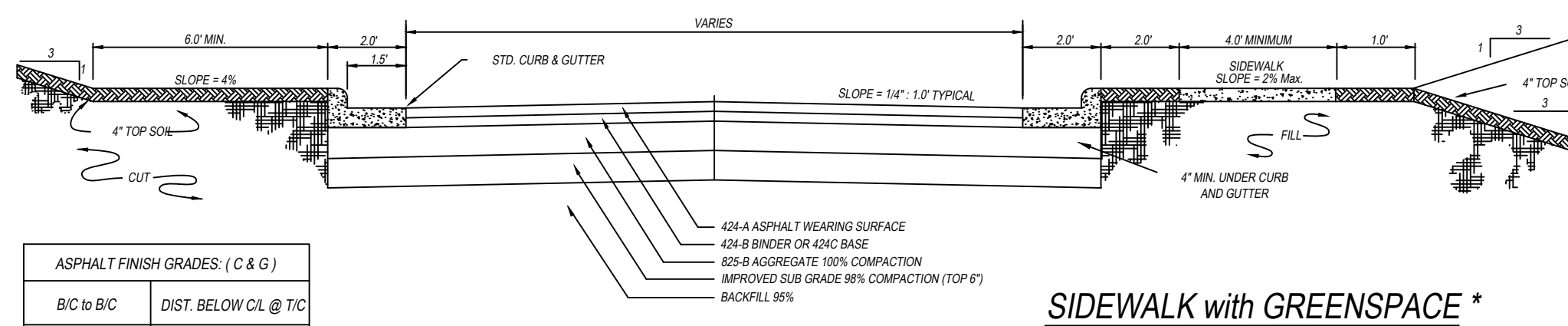
- HEADWALL AND WINGWALLS SHALL HAVE A RUBBED SMOOTH FINISH. PIPE SHALL BE CUT FLUSH WITH THE INSIDE FACE OF THE HEADWALL.
- JUNCTION BOX INVERTS SHALL BE SMOOTH AND APPROXIMATE THE CROSS SECTION OF THE PIPE USED. AT LEAST 0.25 OF ALL IS REQUIRED ACROSS ALL JUNCTION BOXES AND/OR INLETS. THE FLOOR SHALL BE SLOPED TO DRAIN ALL WATER TO THE INVERT. ALL PIPE SHALL BE CUT FLUSH WITH THE FACE OF THE JUNCTION BOX AND INLET JUNCTION BOX.
- CAST IRON FRAME AND COVER SHALL WEIGH 375 POUNDS IN TRAFFIC AND 325 POUNDS OFF TRAFFIC.
- ALL PIPES SHALL BE LAID WITH ENDS ABUTTING AND TRUE TO LINE AND GRADE. PIPE SHALL BE FITTED AND MATCHED TO FORM A LINE WITH A SMOOTH, UNIFORM INVERT. GROUT SHALL THEN BE APPLIED SMOOTHLY TO THE OUTSIDE TOP TWO THIRDS AND THE INSIDE BOTTOM ONE HALF TO WATER PROOF ALL PIPE.
- PRECAST MANHOLES MAY BE USED FOR PIPE UP TO 36". LARGER SIZES MUST BE APPROVED PRIOR TO USE.
- FOR PIPE SIZES LARGER THAN 42", HEADWALLS SHALL BE AS SPECIFIED BY THE CITY ENGINEER.
- INLETS SHALL NOT BE PLACED IN A RADIUS OF INTERSECTING STREETS OR DRIVES.
- PRECAST ITEMS MUST BE APPROVED PRIOR TO USE.
- CHAMFER STRIPS ARE REQUIRED ON ALL HEADWALL EDGES.
- RIPRAP IS REQUIRED AT ALL PIPE OUTLETS WITH GEOFABRIC. THE SIZE OF THE PAD SHALL BE AS DESIGNED BY THE ENGINEER BUT SHALL BE CONSTRUCTED PER THE DETAIL.
- DISTANCE FROM RADIUS POINT TO EXISTING EXPANSION OR CONSTRUCTION JOINT SHALL BE AT LEAST 3.0' IF LESS THAN 3.0', CURB AND GUTTER SHALL BE REPLACED TO EXISTING JOINT.
- MINIMUM INSIDE DIMENSION OF JUNCTION BOXES AND INLETS SHALL BE 4 FEET.
- TOP OF INLET SHALL BE THE SAME ELEVATION AS ADJOINING CURB AND GUTTER.
- 2" MINIMUM WEEP HOLES SHALL BE CONSTRUCTED IN INLETS TO FACILITATE SUBGRADE DRAINAGE.
- IF INLETS ALSO SERVES AS A JUNCTION BOX, CONTOUR BOTTOM AS PER JUNCTION BOX REQUIREMENTS.
- MORTAR: A CONCRETE MIX EQUIVALENT TO AT LEAST A 3000 PSI STABILITY.
- NUMBER 5 REBAR SHALL BE INSTALLED INTO ALL CURB AND GUTTER JOINTS. THE INLS AT ALL INLETS & JUNCTION BOXES, OR TO BE DETERMINED BY THE PROJECT ENGINEER/PROJECT INSPECTOR.
- INSTALL STEPS IN JUNCTION BOXES OR INLET EVERY 18" ON CENTER ACCESSIBLE TO MANHOLE COVER. AT LEAST ONE STEP IS REQUIRED PER BOX. MINIMUM FOUR FOOT (4') MINIMUM TRANSITIONS FROM ROLL CURB TO STANDARD CURB AND GUTTER TO ALLOW STANDARD INLET TO BE CONSTRUCTION.
- INVERTS SHALL BE POURED CONCRETE. NO BRICK OR ROCKS SHALL BE USED AS FILLER MATERIAL.
- #5 BARS REQUIRED IN GUTTER.
- INVERTS SHALL NOT EXCEED HALF THE DIAMETER OF THE PIPE. NO FLAT AREAS ARE PERMITTED.
- INLET TOPS SHALL BE SLOPED AT 1/4" INCH TOWARD THE STREET (SEE DETAIL).
- CONCRETE USED FOR STORM STRUCTURES MUST HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI.
- MODIFIED INLETS MUST HAVE SAME CARRYING CAPACITY AS STANDARD INLETS. DIMENSIONS/DETAILS MUST BE APPROVED BY CITY OF AUBURN ENGINEER PRIOR TO INSTALLATION.
- HOPE CAN BE USED FROM RIGHT OF WAY OUT WITH CITY OF AUBURN APPROVAL.
- AN EXPANSION JOINT MUST BE PROVIDED AT THE INLET / CURB FACE.
- MECHANICAL TAMPING IS REQUIRED AROUND AND BEHIND INLETS.

7.08

STANDARD DETAILS: STORM - SHEET 1 OF 2

	DEPARTMENT:	ENGINEERING SERVICES	REVISIONS:
	SCALE:	N.T.S.	
	DRAWN BY:	GINA MCCRECKARD	
	CITY ENGINEER:	ALISON FRAZIER	
APPROVED BY:	ALISON FRAZIER	EFFECTIVE DATE:	2022
IMPLEMENTED:	01-01-2022		

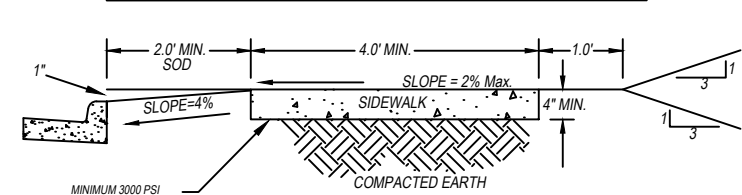
TYPICAL STREET CROSS SECTION WITH CURB/GUTTER AND SIDEWALK



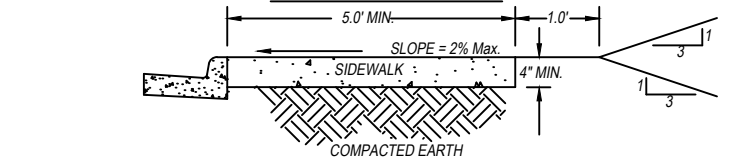
ASPHALT FINISH GRADES: (C & G)

B/C to B/C	DIST. BELOW CL @ 1/1"
26.0'	2.00"
28.0'	1.75"
31.0'	1.38"
35.0'	0.88"
40.0'	0.28"

SIDEWALK with GREENSPACE *



5' SIDEWALK



NOTES:
 1. PROVIDE 1 1/2" DEEP BY 18" WIDE CONTROL JOINTS EVERY 5' WITH EXPANSION JOINTS EVERY 50'. EXPANSION MATERIAL CAN BE FIBER BOARD OR A TREATED 1A.
 2. WHEN THE DISTANCE BETWEEN THE BACK OF CURB AND THE EDGE OF SIDEWALK IS LESS THAN TWO FEET, THE SIDEWALK MUST BE A MINIMUM OF FIVE FEET WIDE.
 3. SIDEWALK ACCESSIBLE ROUTE WITH CLEAR WIDTH LESS THAN 60 INCHES SHALL PROVIDE PASSING SPACES AT INTERVALS OF 20 FEET MAXIMUM. PASSING SPACES SHALL BE COMPLIANT WITH PROWING STANDARDS.
 4. WHERE SIDEWALK ABUT INLET TOPS, A REBAR PLACED 12" O.C. SHALL BE PLACED 6" MIN. INTO INLET TOP AND 12" MIN. INTO SIDEWALK.
 5. 4 FOOT WIDTH IS ALLOWED ON LOCAL STREETS AND CUL DE SACS. 5 FOOT MINIMUM IS REQUIRED ON ALL ARTERIALS, COLLECTORS, LOCAL COMMERCIAL, AND RESIDENTIAL COLLECTORS.

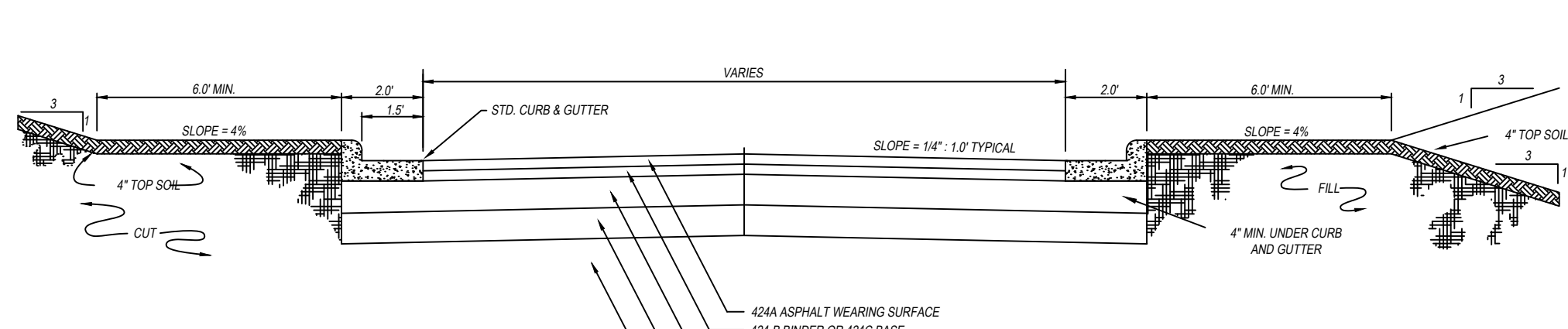
STREET BUILDUP

CLASSIFICATION	ALLEY/VEHICLE DE-FACTO LOCAL RESIDENTIAL	RESIDENTIAL COLLECTOR	LOCAL COMMERCIAL	COLLECTOR/ARTERIAL
CLASS II	CLASS III	CLASS IV		
FULL DEPTH ASPHALT/PAVEMENT	FULL DEPTH ASPHALT/PAVEMENT	FULL DEPTH ASPHALT/PAVEMENT		
WEARING SURFACE (42A)	1"	2"	2"	1"
BINDER (42B) OR BASE (42C)	4"	2"	4"	4"
CRUSHED AGGREGATE BASE (42D)				

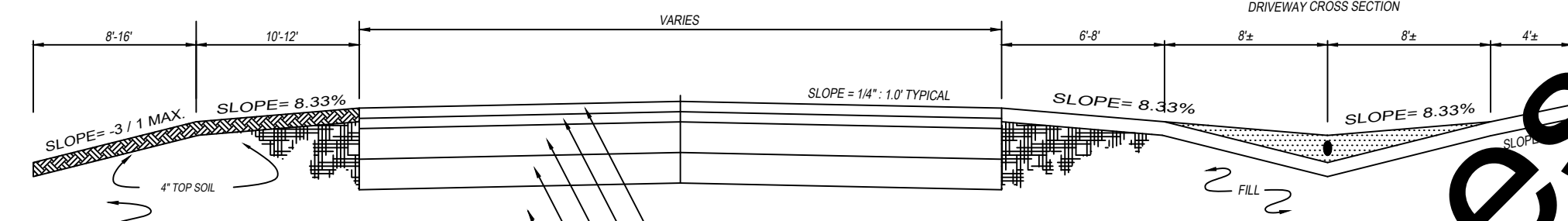
NOTES: THESE SHALL COMPLY WITH THE LATEST EDITION OF THE ALBERTA DEPARTMENT OF TRANSPORTATION ENGINEERING SPECIFICATIONS. *MINIMUM 2000 PSI

5.00

TYPICAL STREET CROSS SECTION WITH CURB AND GUTTER



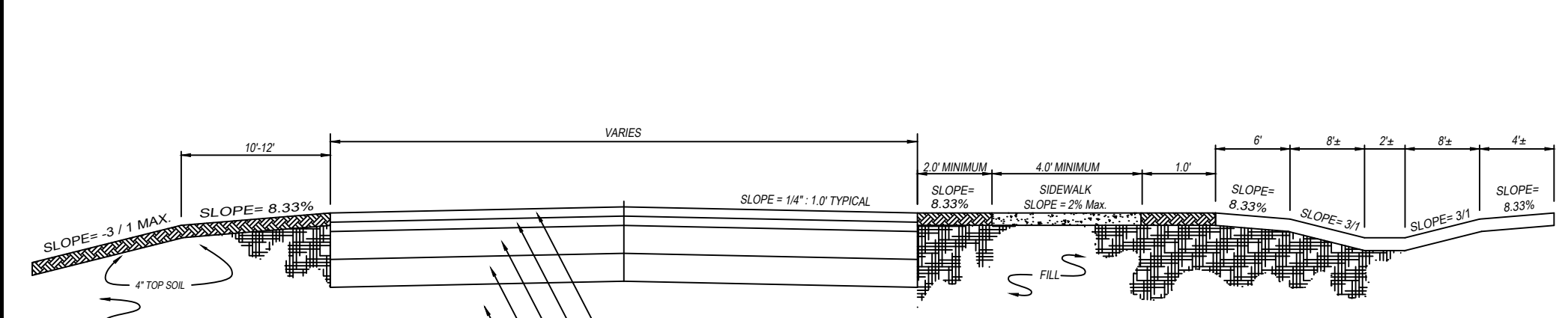
TYPICAL STREET CROSS SECTION WITHOUT CURB AND GUTTER



NOTES:
 1. THIS CROSS SECTION ALLOWED ONLY IF THE SIDEWALK REQUIREMENT IS WAIVED BY THE PLANNING COMMISSION.
 2. 42A ASPHALT WEARING SURFACE
 3. 42B BINDER OR 42C BASE
 4. 42D AGGREGATE 100% COMPACTION
 5. IMPROVED SUB GRADE 98% COMPACTION (TOP 6")
 6. BACKFILL 98%

5.01

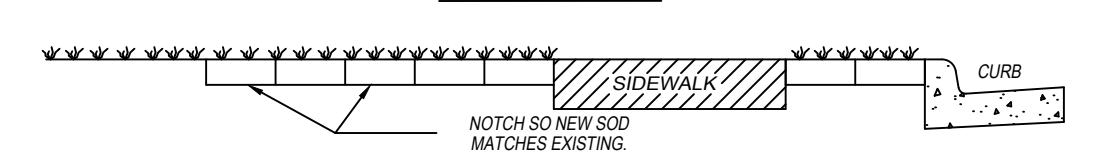
TYPICAL STREET CROSS SECTION WITHOUT CURB/GUTTER, AND WITH SIDEWALK



STREET AND SIDEWALK CONFIGURATIONS

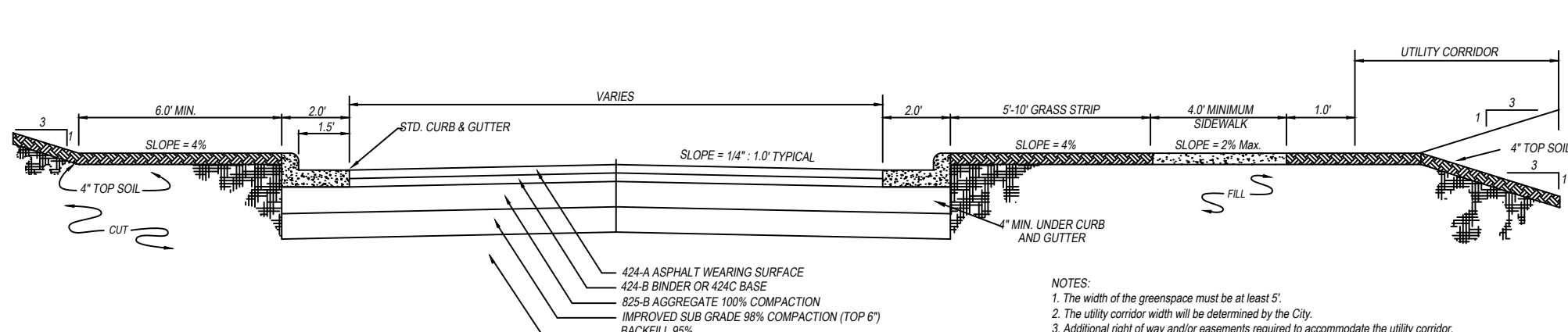
CLASSIFICATION	B/C to B/C WIDTH	PAVEMENT WIDTH	ROW	SIDEWALK LOCATION
ALLEY (ONE-WAY)	NOT REQUIRED	11'	25'	NOT REQUIRED
ALLEY (TWO-WAY)	NOT REQUIRED	20'	30'	NOT REQUIRED
CUL-DE-SAC	26'	22'	50'	SIDE*
LOCAL RESIDENTIAL	26'	22'	50'	BOTH SIDES
LOCAL COMMERCIAL	28'	24'	50'	1 SIDE*
LOCAL RESIDENTIAL	28'	24'	50'	1 SIDE*
RESIDENTIAL COLLECTOR	31'	27'	60'	BOTH SIDES
COLLECTOR	35'	31'	60'	1 SIDE*
COLLECTOR	31'	27'	60'	BOTH SIDES
COLLECTOR @ INTERSECTIONS	40'	36'	60'	BOTH SIDES
ARTERIAL	52'	48'	80'	BOTH SIDES

SOD DETAIL

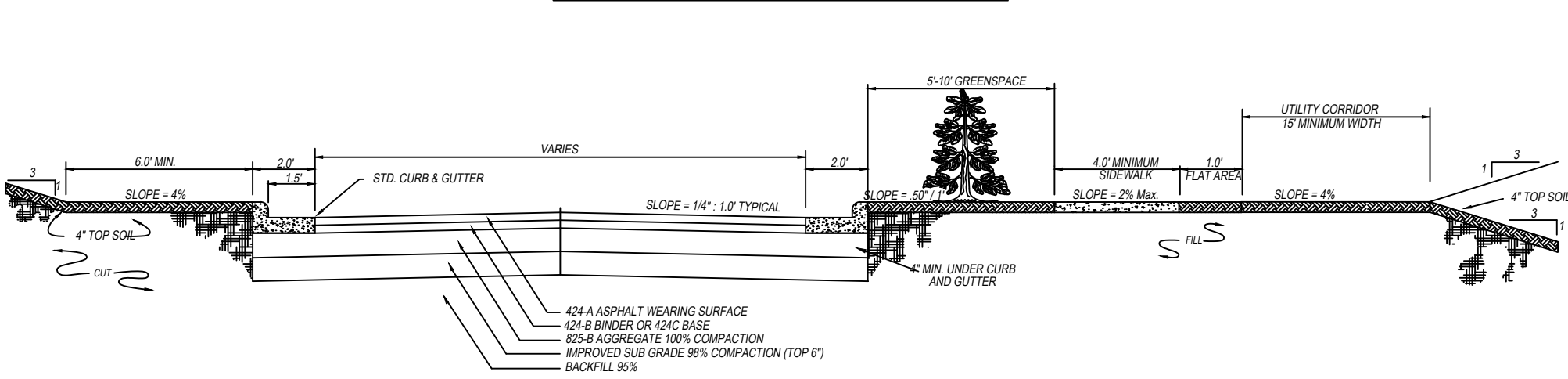


5.02

TYPICAL STREET CROSS SECTION WITH A UTILITY CORRIDOR



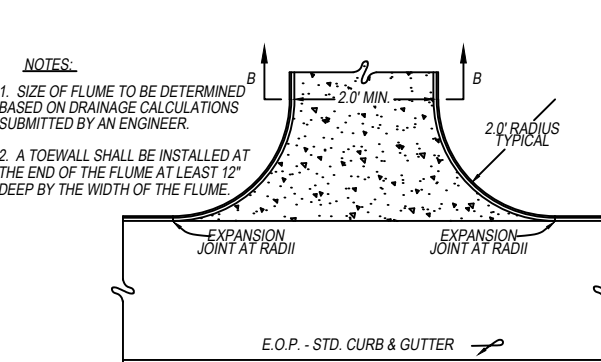
TYPICAL STREET CROSS SECTION WITH A LANDSCAPE CORRIDOR



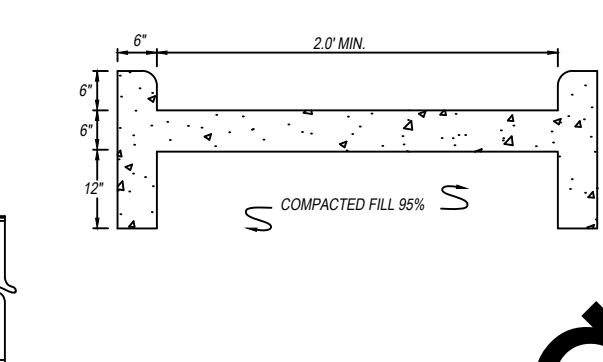
NOTES:
 1. THE WIDTH OF THE GREENSPACE MUST BE AT LEAST 5'. IF THE GREENSPACE CONTAINS CANOPY TREES, A 10' MINIMUM WIDTH IS REQUIRED.
 2. THE UTILITY CORRIDOR WIDTH SPECIFIED APPLIES WHERE A WATER MAIN IS INSTALLED ON THE NORTH AND EAST SIDES. OTHER WIDTHS MAY BE PERMITTED.
 3. ADDITIONAL RIGHT OF WAY AND/OR EASEMENTS REQUIRED TO ACCOMMODATE THE UTILITY CORRIDOR.
 4. THE UTILITY CORRIDOR CAN BE USED ON BOTH SIDES OF THE STREET. MINIMUM WIDTHS AND CONFIGURATION WILL BE BASED ON THE PRESENCE OF SIDEWALK.

5.03

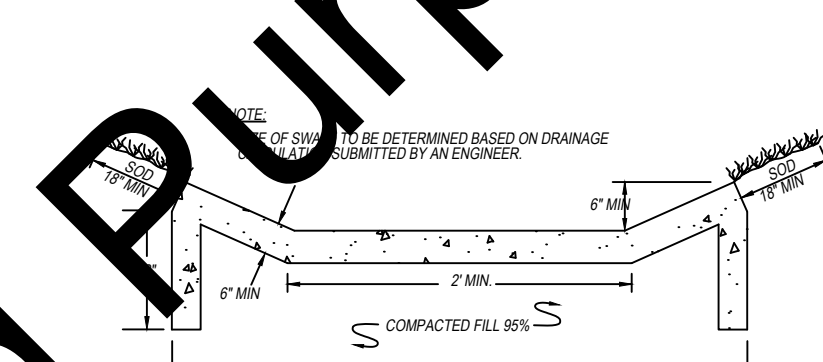
FLUME DETAIL



FLUME DETAIL SECTION B-B



CONCRETE SWALE

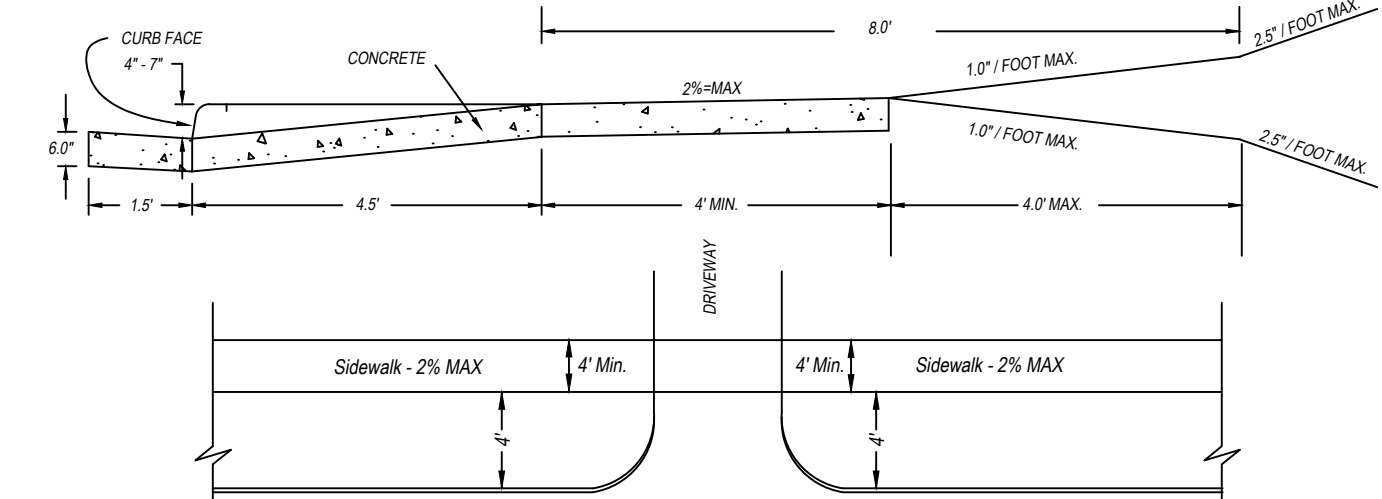


NOTES:
 1. SIZE OF FLUME TO BE DETERMINED BASED ON DRAINAGE CALCULATIONS SUBMITTED BY AN ENGINEER.
 2. A TYPICAL SWALE SHALL BE INSTALLED AT THE END OF THE FLUME AT LEAST 12" DEEP BY THE WIDTH OF THE FLUME.
 3. THE SIZE OF SWALE TO BE DETERMINED BASED ON DRAINAGE CALCULATIONS SUBMITTED BY AN ENGINEER.

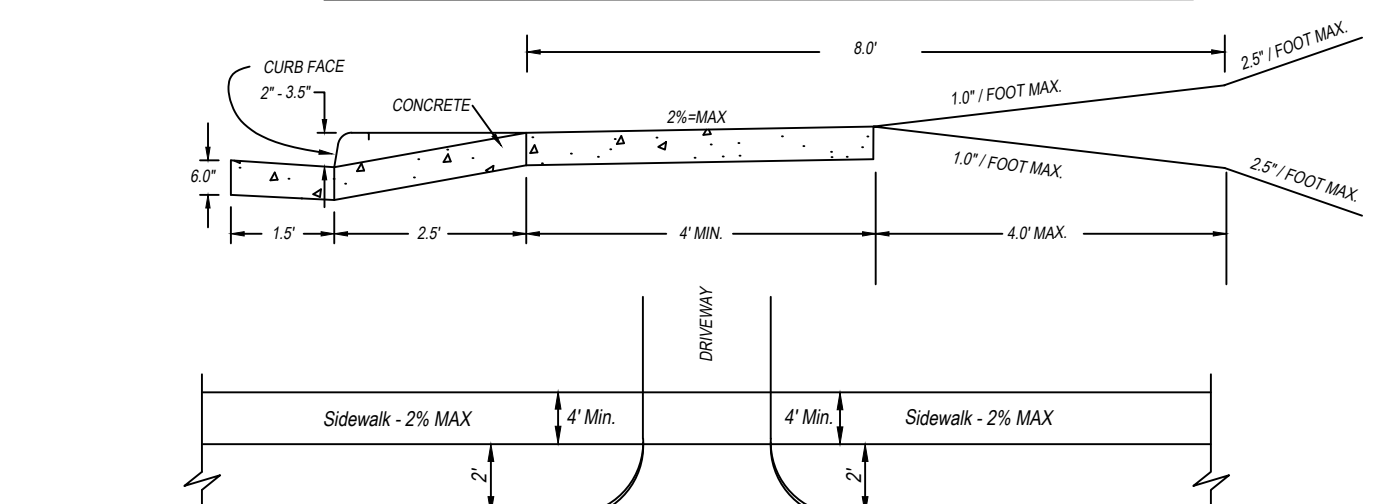
NOTES:
 1. The width of the greenspace must be at least 5'.
 2. The utility corridor width will be determined by the City.
 3. Additional right of way and/or easements required to accommodate the utility corridor.

5.04

DRIVEWAY / SIDEWALK WITH 4.0' GREENSPACE



DRIVEWAY / SIDEWALK WITH 2.0' GREENSPACE



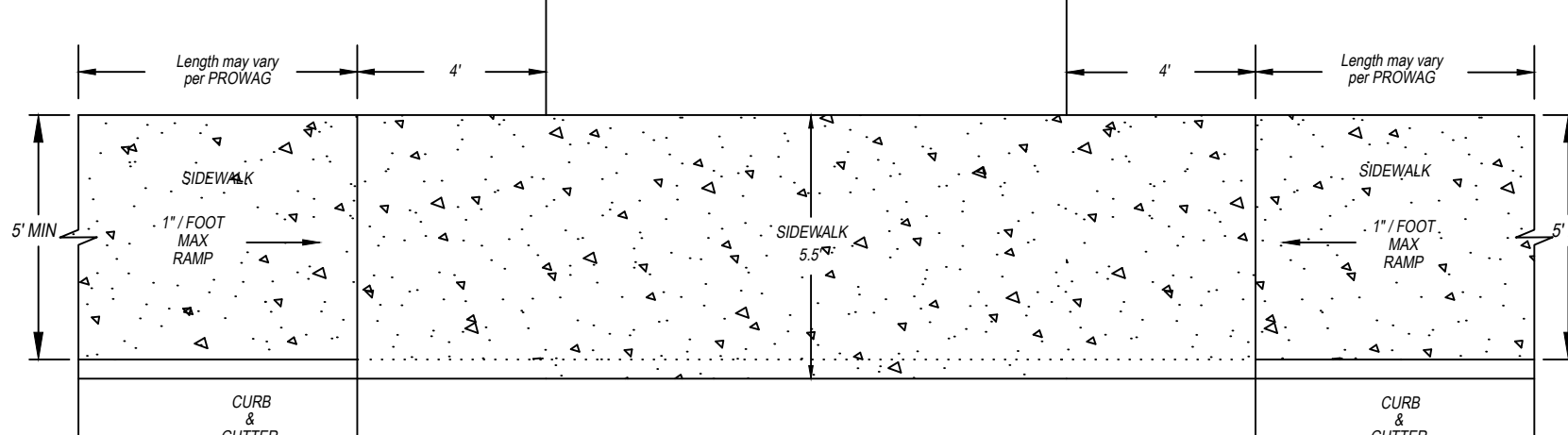
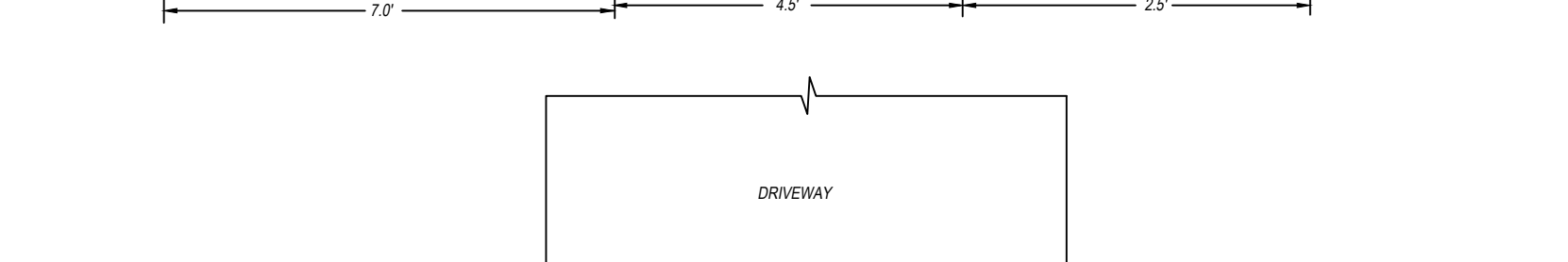
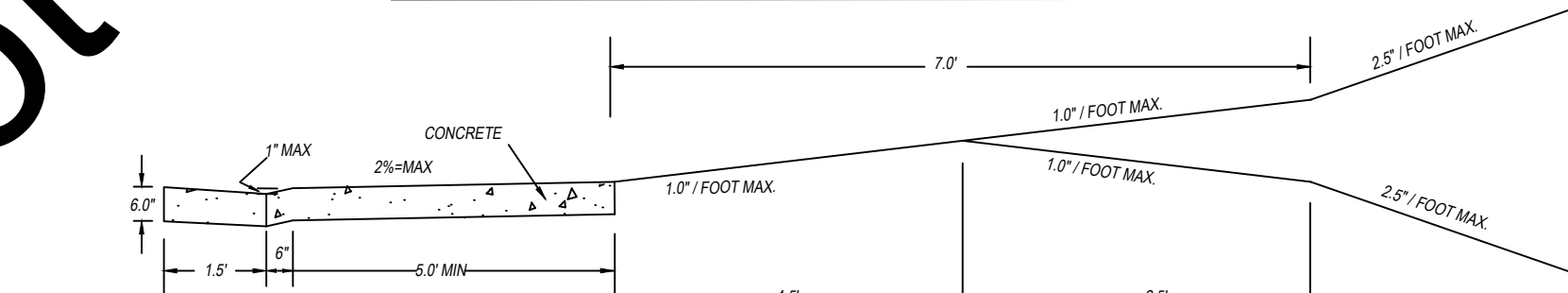
5.05

NOTES:

- SIDE SLOPES FOR STREETS SHALL VARY FROM A POINT SIX (6) FEET BEHIND THE CURB TO THE EXISTING ELEVATION AT THE AT THE RIGHT OF WAY (R.O.W.), EXCEPT THAT SUCH SLOPE SHALL NOT BE GREATER THAN 3:1. IN CASES WHERE A 3:1 SLOPE CARRIES THE CONSTRUCTION LIMITS BEYOND THE R.O.W. LINE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY CLEARING, GRUBBING, EXCAVATION, BACKFILL, MULCHING OR ANY OTHER WORK REQUIRED TO ACCOMMODATE THE 3:1 SLOPE. IN CASES WHERE ROCK IS ENCOUNTERED, THE SLOPE MAY BE 2.5:1 IN THE ROCK PORTION.
- FOR PORTLAND CEMENT CONCRETE PAVEMENTS, THE TYPICAL CROSS SECTION SHALL BE DESIGNED ON A CASE BY CASE BASIS.
- CURB AND GUTTER SHALL BE CAST IN PLACE WITH THE FOLLOWING REQUIREMENTS: EXPANSION JOINT AT FIFTY (50.0) FOOT INTERVALS WITH DUMMY JOINTS AT TEN (10.0) FOOT INTERVALS. WHEN ELECTRIC, GAS, SEWER OR WATER SERVICE LINES ARE IN PLACE, AN "E", "G", "S" OR "W" SHALL BE MARKED ON CURB FACE AND FLAT/GUTTER AT THE APPROPRIATE LOCATIONS. AFTER THE CURB & GUTTER HAS BEEN CURED, EXTRA PRECAUTIONS WILL BE TAKEN DURING BACKFILLING AND/OR OTHER ACTIVITIES TO PREVENT DAMAGE OR MARRING OF FINISH; REFER TO CURB & GUTTER DETAILS FOR PLACEMENT OF UTILITY MARKINGS WITH A MIN. OF 4"x2" LETTERS.
- ALL ROADWAY MATERIALS (ASPHALT AND CRUSHED AGGREGATE BASE) SHALL COMPLY WITH THE CURRENT ALDOT STANDARDS, UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
- TACK POINTS (PRIME) SHALL BE APPLIED PRIOR TO WEARING SURFACE APPLICATION, AND BETWEEN LAYERS OF PAVEMENT MATERIAL FOR RESURFACING PROJECTS. TACK SHALL COMPLY WITH CURRENT ALDOT SPECIFICATIONS. IN ADDITION, IF PAVING OPERATION IS DELAYED, OR EDGES BECOME DIRTY OR MUDDY, ALL DIRT AND MUD MUST BE REMOVED PRIOR TO APPLYING TACK COAT.
- BASE AND WEARING SURFACE REQUIREMENTS ARE BASED ON CBR OF 6-9 FOR SUBGRADE SOILS. ALTERNATE DESIGN FOR FULL DEPTH PAVEMENTS OR VARIANCE TO LISTED THICKNESSES WILL BE CONSIDERED ON A CASE BY CASE BASIS, BASED ON SUBGRADE SOILS AND/OR EXPECTED TRUCK TRAFFIC.
- PROVIDE 1 1/2" DEEP BY 18" WIDE CONTROL JOINTS EVERY 5' WITH EXPANSION JOINTS EVERY 50'. EXPANSION MATERIAL CAN BE FIBER BOARD OR A TREATED 1X4.
- FOR NON CURB AND GUTTER STREETS, A PAVED DRIVEWAY TURNOUT IS REQUIRED. SLOPES MUST MEET ILLUSTRATED REQUIREMENTS ON THESE DETAILS.
- ALL TREE PLANTINGS WITHIN THE RIGHT OF WAY MUST BE APPROVED BY THE CITY OF AUBURN PUBLIC WORKS DEPARTMENT PRIOR TO INSTALLATION. PLANTINGS SHALL BE IN ACCORDANCE WITH THE STANDARD DETAIL.
- WHEN A DEVELOPMENT WARRANTS THE WIDENING OF THE ROADWAY THAT WILL ALTER THE CURRENT TRAFFIC STRIPING, THE DEVELOPER, AT THEIR EXPENSE, SHALL PROVIDE A THREE-QUARTER INCH OVERLAY. THE LIMITS OF THE OVERLAY SHALL COVER ALL TRAVEL LANES AND WILL BEGIN AND END AT THE LIMITS OF ALL ROADWAY IMPROVEMENTS.
- THE GUTTER DEPTH MAY BE USED TO ACCOUNT FOR THE DEPTH OF PARKING SPACE PROVIDED THERE IS A TWO FOOT GRASS STRIP BETWEEN THE BACK OF CURB AND THE FOUR FOOT WIDE SIDEWALK. IF SIDEWALK IS PLACED IMMEDIATELY ADJACENT TO THE BACK OF CURB AND THE GUTTER DEPTH IS USED FOR PARKING THE SIDEWALK SHALL BE INCREASED TO FIVE FEET WIDE. IN NO CASES SHALL THE GUTTER WIDTH BE COUNTED TOWARD THE WIDTH OF A PARKING SPACE.
- JOINT SEAL SHALL BE PLACED ON THE BINDER LAYER IF THE WEARING SURFACE IS NOT APPLIED FOR 12 MONTHS.
- SIDEWALK CROSS SLOPES SHALL BE 1% MINIMUM.

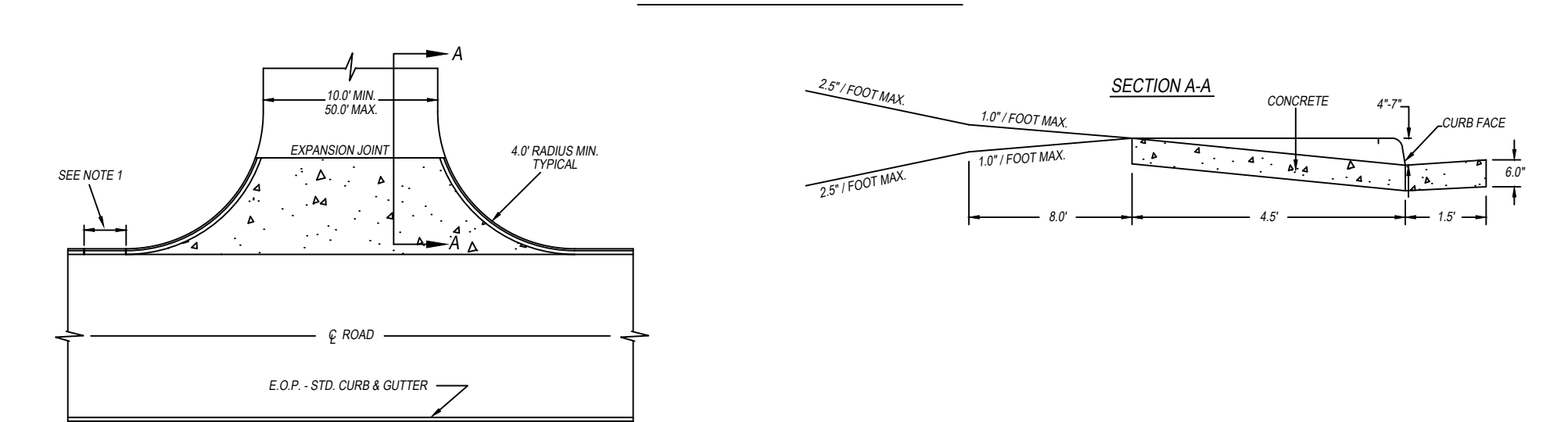
5.06

DRIVEWAY / SIDEWALK WITHOUT GREENSPACE



5.07

STANDARD DRIVEWAY



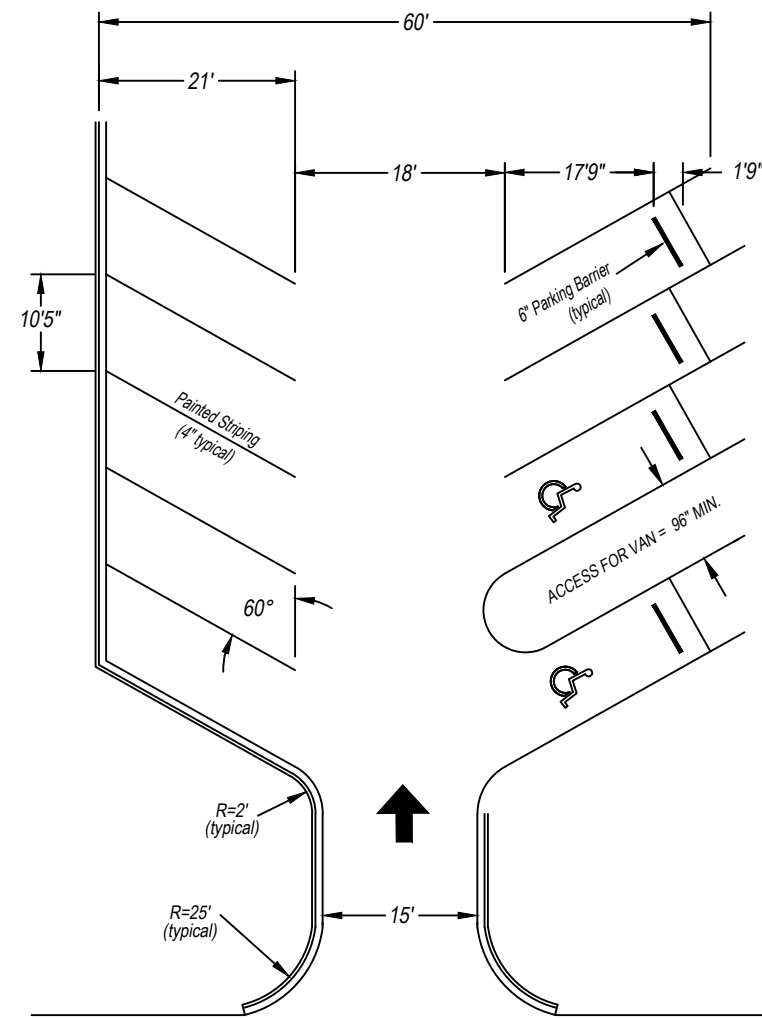
NOTES:
 1. DISTANCE FROM RADUS POINT TO EXISTING EXPANSION OR CONSTRUCTION JOINT SHALL BE AT LEAST 3'.
 2. IF THE DISTANCE IS LESS THAN 3', CURB & GUTTER SHALL BE REPLACED TO THE EXISTING JOINT.
 3. THE 30 FOOT MINIMUM WIDTH FOR RESIDENTIAL USES ON LOCAL STREETS, CUL-DE-SACS, AND ALLEYS ALL OTHERS WILL BE THE 30 FOOT MINIMUM WIDTH. THE 30' WIDTH IS RESERVED FOR COMMERCIAL AND MULTIFAMILY RESIDENTIAL DEVELOPMENTS (SEE SECTION 5.2.8 of the Engineering Design and Construction Manual for further guidance).
 4. DRIVEWAY TURNOUT WIDTHS ARE MEASURED AT THE RIGHT OF WAY.
 5. RESIDENTIAL CURB & GUTTER FOR DRIVEWAY FACED: SAW CUTTING IS PERMITTED ALONG THE CURB LINE/GUTTER TO MAINTAIN EXISTING GUTTER.
 6. ALL CONCRETE SHALL BE A MINIMUM OF SIX INCHES THICK.
 7. RADI FOR USES OTHER THAN RESIDENTIAL MUST BE TWENTY-FIVE FOOT MINIMUM.
 8. ON STREETS WITH SIDEWALK CONCRETE DRIVEWAY TURNOUT MUST EXTEND TO THE BACK EDGE OF THE SIDEWALK.
 9. CONCRETE DRIVEWAY TURNOUT MUST MEET CITY STANDARDS OR CAN BE DESIGNED TO SITE SPECIFIC CONDITIONS.
 10. ON A NON-CURB AND GUTTER STREET AN ASPHALT APRON MAY BE UTILIZED.

5.08

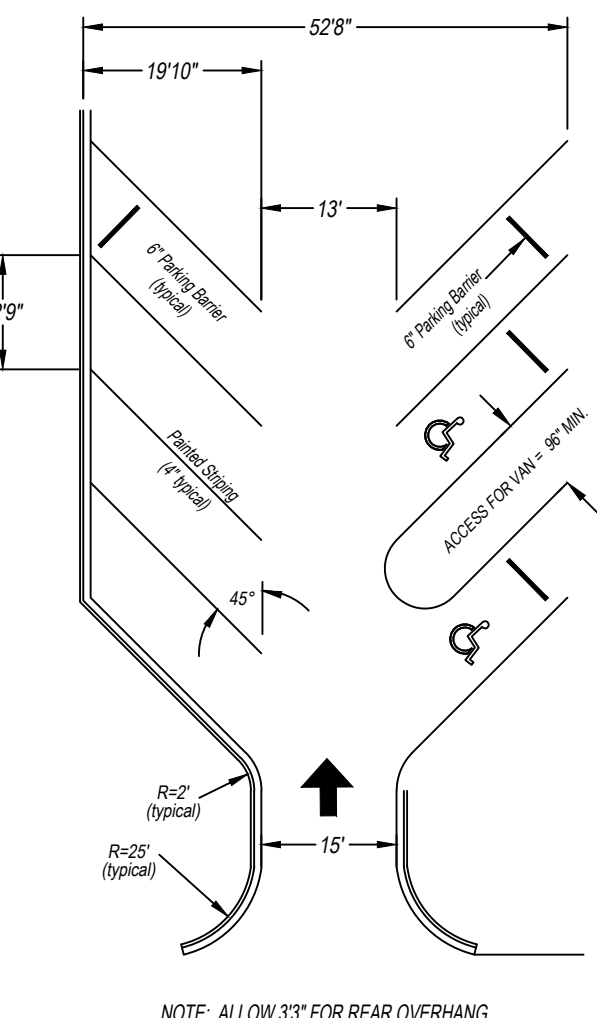
STANDARD DETAILS: STREETS - SHEET 1 of 4

<p>City of Auburn</p>	DEPARTMENT:	ENGINEERING SERVICES	REVISIONS:
	SCALE:	N.T.S.	
	DRAWN BY:	GINA MC CRICKARD	
	CITY ENGINEER:	ALISON FRAZIER	
	APPROVED BY:	ALISON FRAZIER	
IMPLEMENTED:	01-01-2022		
			EFFECTIVE DATE: 2022

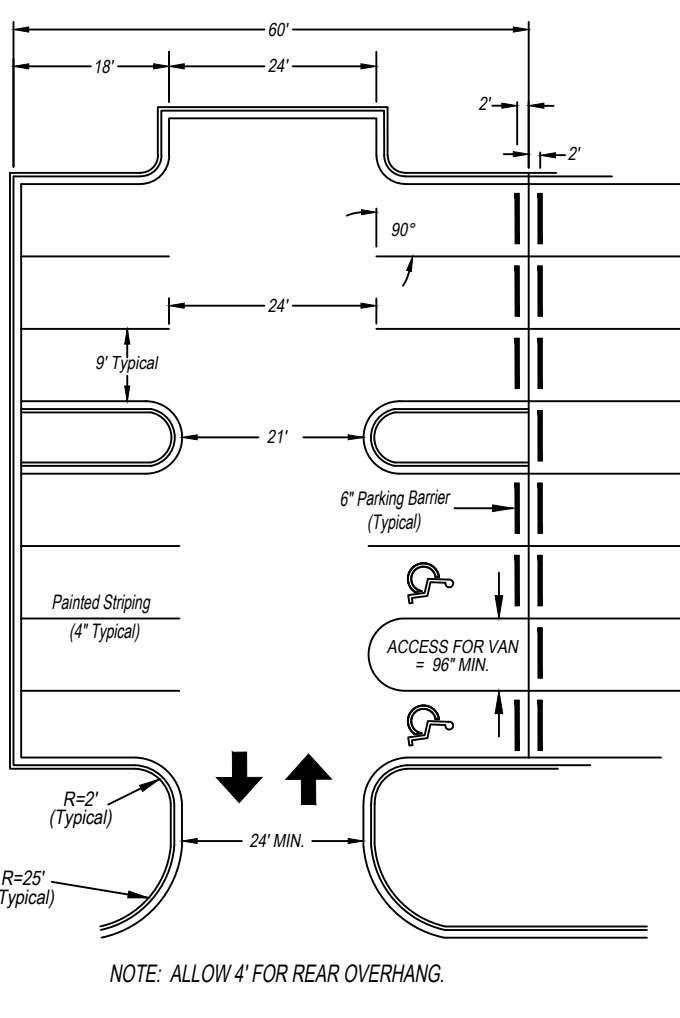
PARKING PLAN - 60° PARKING



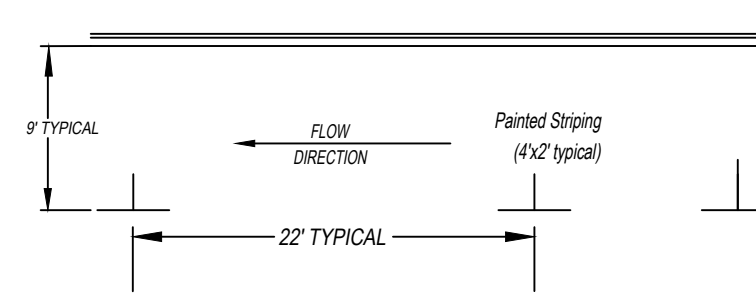
PARKING PLAN - 45° PARKING



PARKING PLAN - 90° PARKING

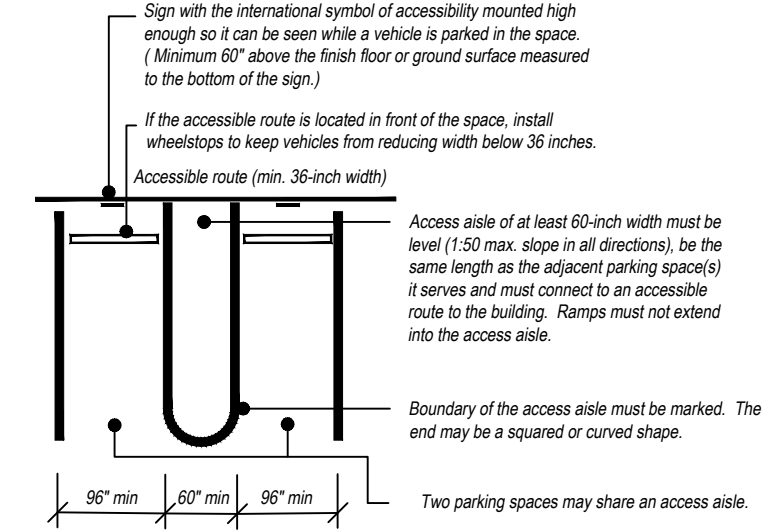


PARKING PLAN - PARALLEL PARKING



ACCESSIBLE PARKING

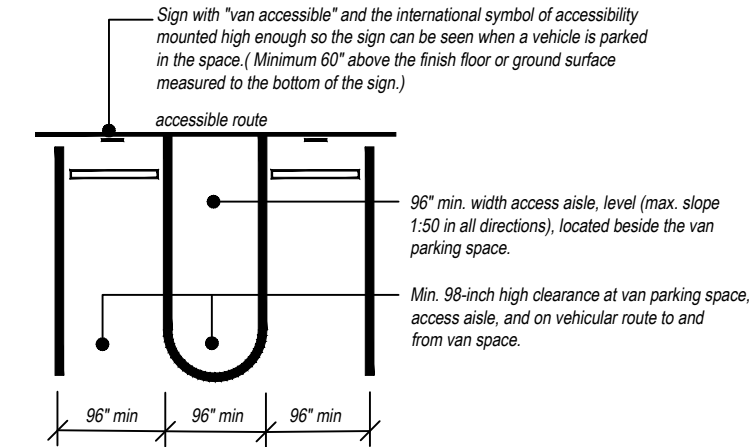
Features of Accessible Parking Spaces for Cars



TOTAL PARKING SPACES PROVIDED	REQUIRED MINIMUM NUMBER OF ACCESSIBLE SPACES
1 to 25	1
26 to 50	2
51 to 75	3
76 to 100	4
101 to 150	5
151 to 200	6
201 to 300	7
301 to 400	8
401 to 500	9
501 to 1,000	2% of total
901 to 1,000	25, plus one for each 100 over 1,000

where parking is provided, accessible parking spaces shall be provided in accordance with this table.
REFERENCE: INTERNATIONAL BUILDING CODE, LATEST EDITION.

Three Additional Features for Van-Accessible Parking Spaces

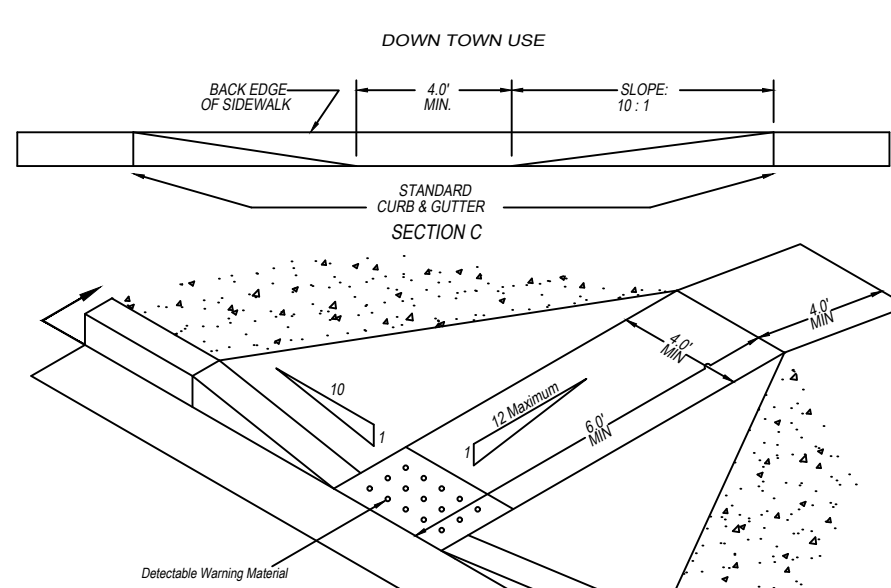


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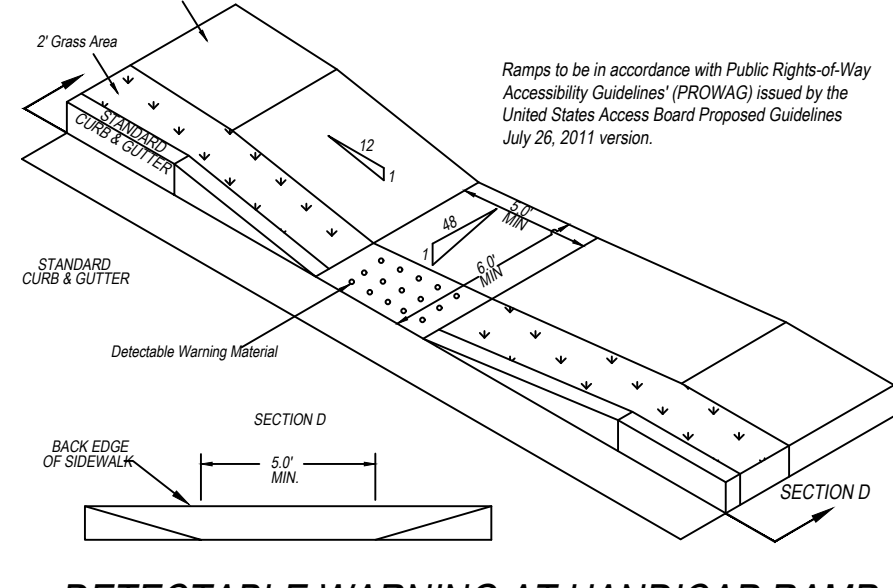
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5.11

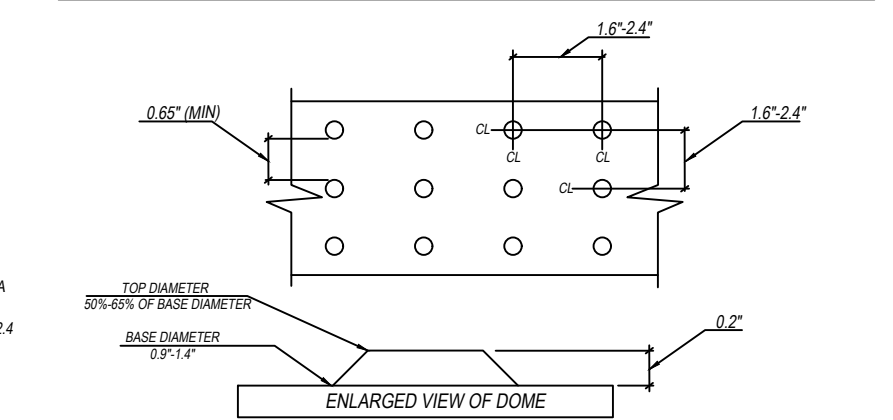
HANDICAP RAMP



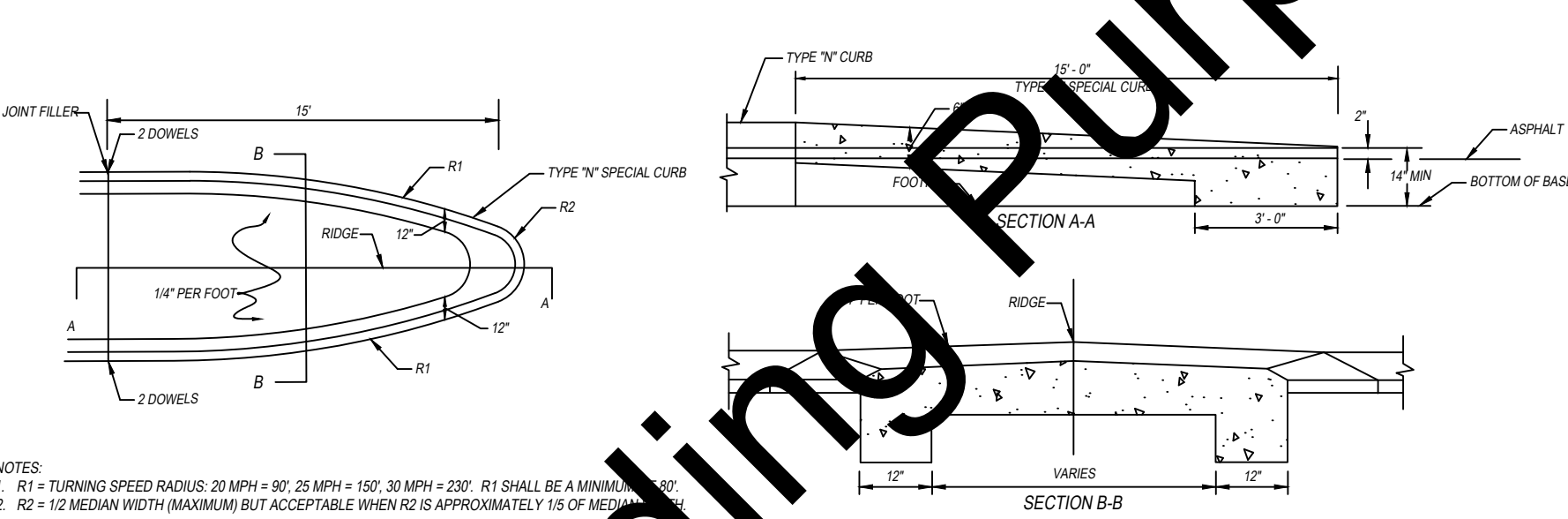
HANDICAP RAMP



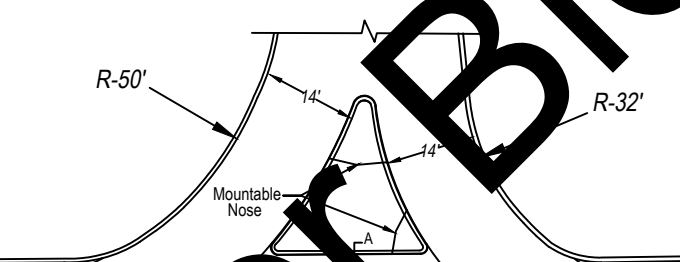
DETECTABLE WARNING AT HANDICAP RAMP



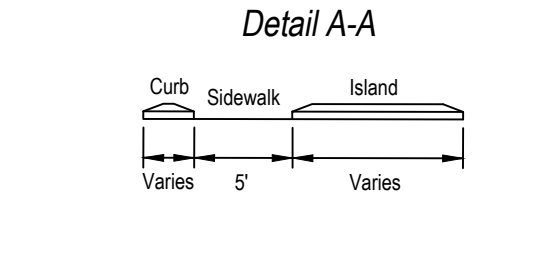
MOUNTABLE ISLAND NOSE



RIGHT IN RIGHT OUT DETAIL



RIGHT IN RIGHT OUT DETAIL

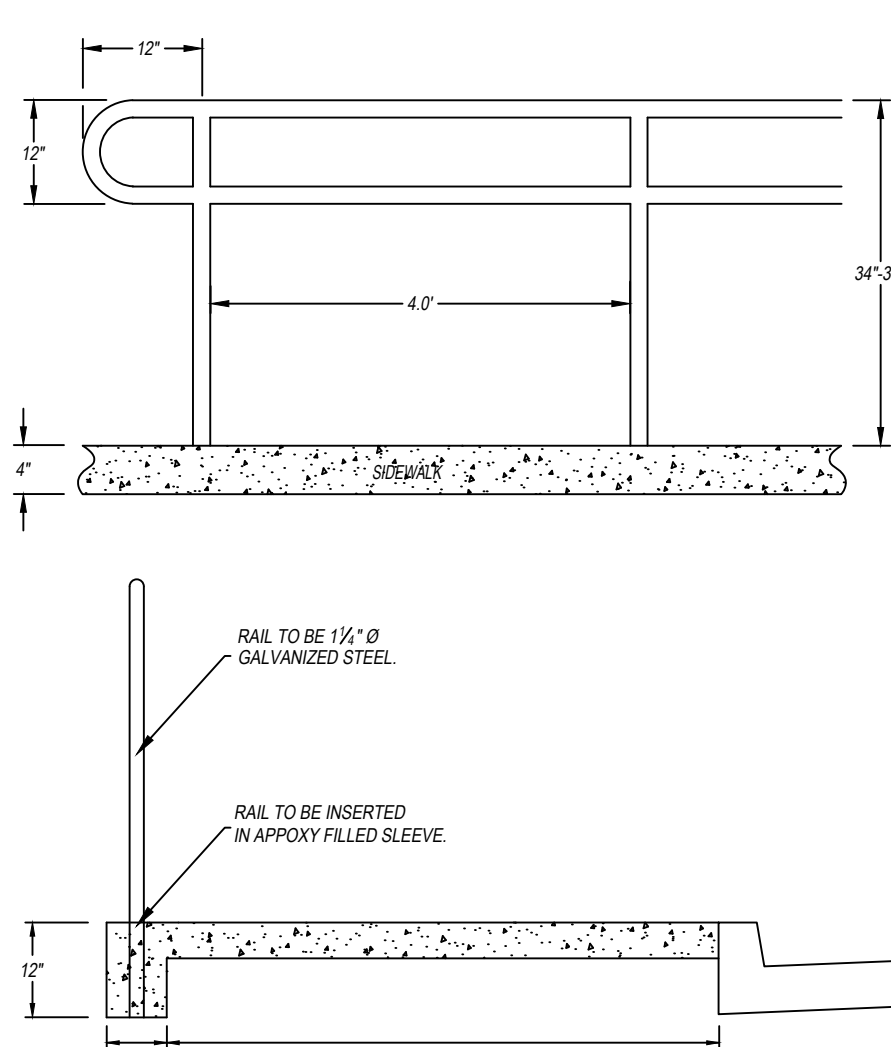


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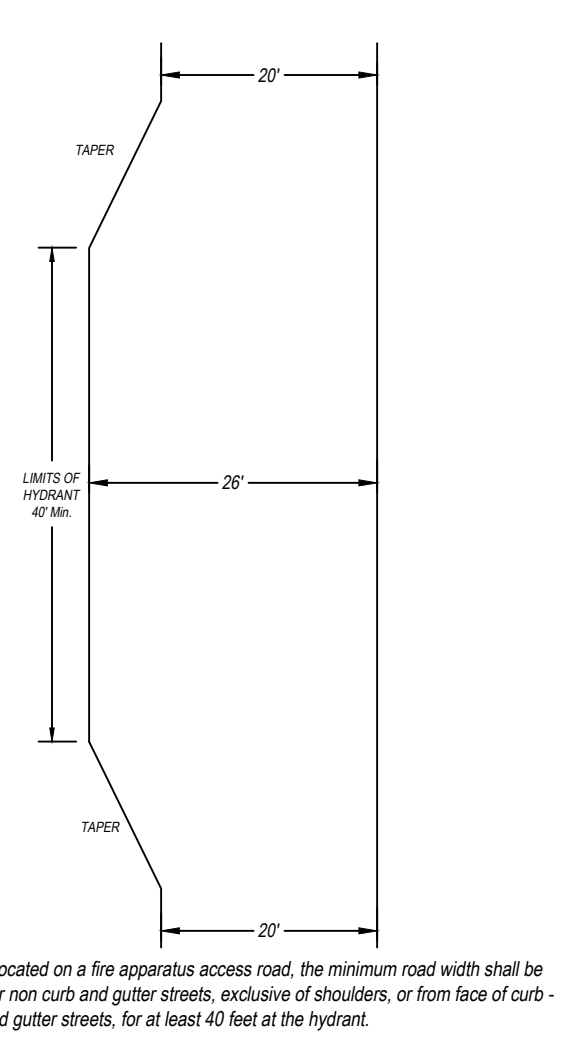
5.13

5.14

SIDEWALK GUARDRAIL DETAIL

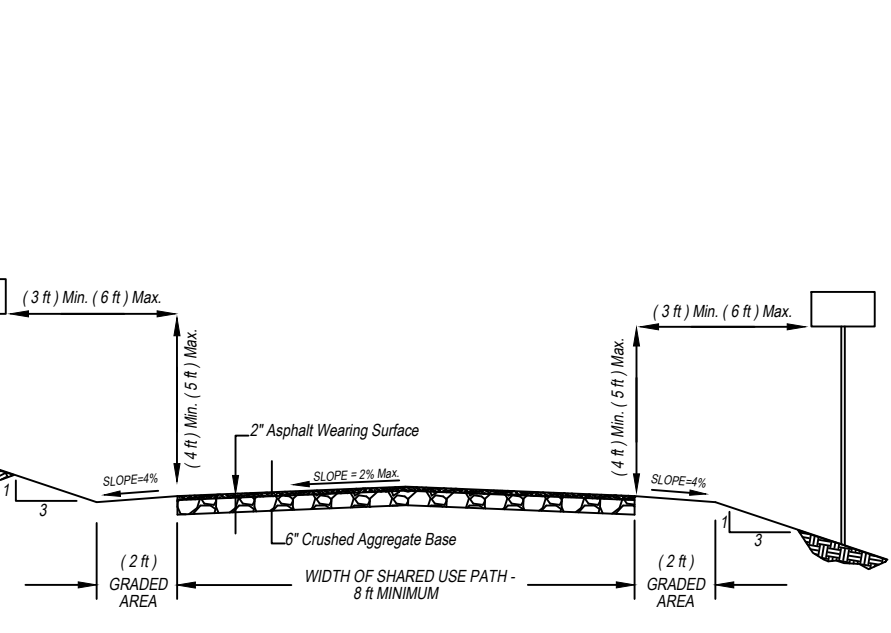


ROADWAY FLARE AT HYDRANT

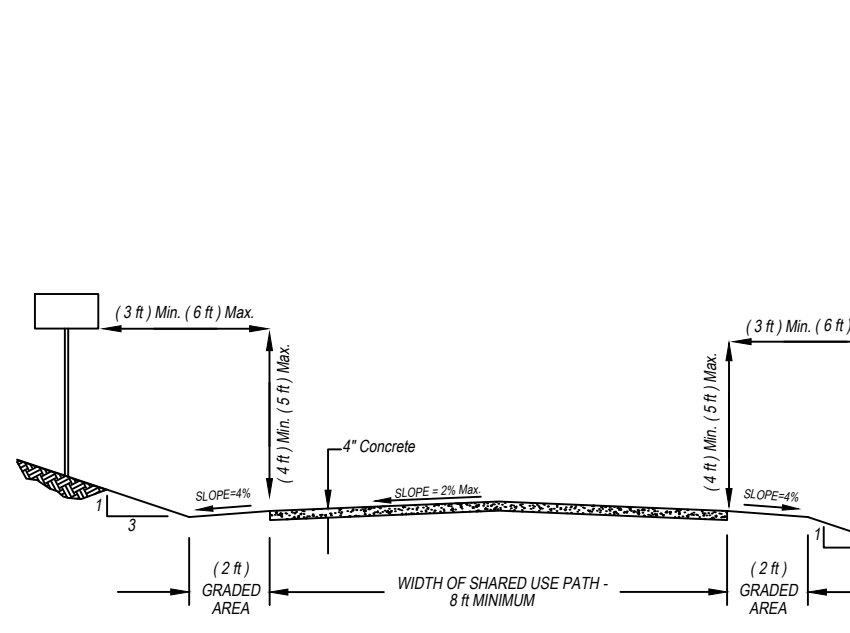


MULTI USE PATH FOR TWO-WAY SHARED ON SEPARATED RIGHT-OF-WAY

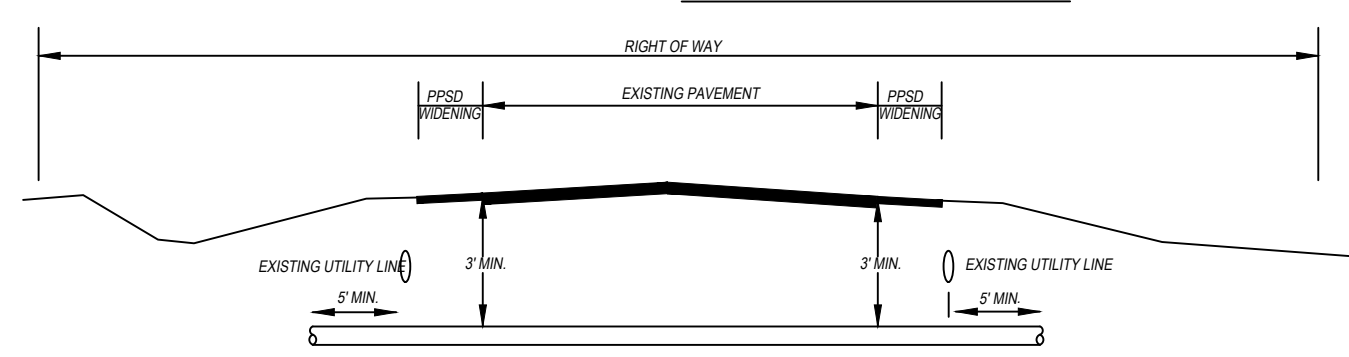
ASPHALT SIDEWALK AND TRAILS



CONCRETE SIDEWALK AND TRAILS



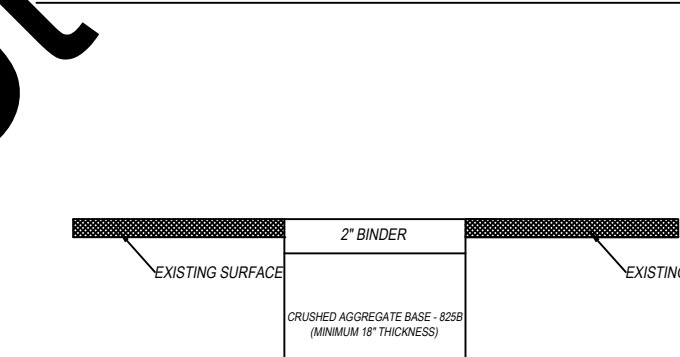
JACK & BORE DETAIL



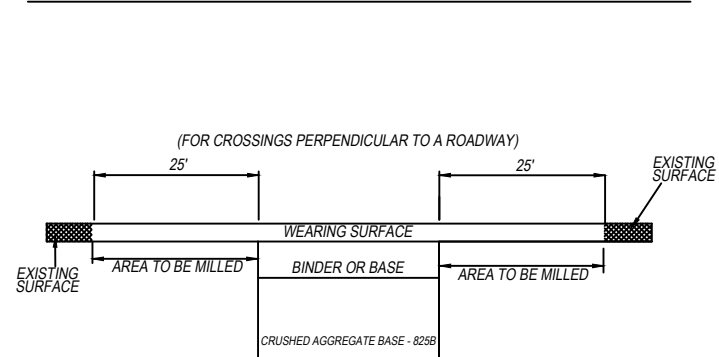
ENCASUREMENT SIZING WATER AND SANITARY SEWER

CARRIER PIPE NOMINAL DIAMETER	STANDARD PIPE BELL O.D.	SPACER CARING BAND WIDTH	MINIMUM CARING THICKNESS	MINIMUM CARING DIAMETER
4	6.0	1	0.25	12
6	8.0	1	0.25	18
8	10.0	1	0.25	24
10	12.0	1	0.25	30
12	14.0	1	0.25	36
14	16.0	1	0.25	42
16	18.0	1	0.25	48
18	20.0	1	0.25	54
20	22.0	1	0.25	60
24	26.0	1	0.25	72
30	34.0	1	0.25	90
36	42.0	1	0.25	108
42	50.0	1	0.25	126
48	58.0	1	0.25	144

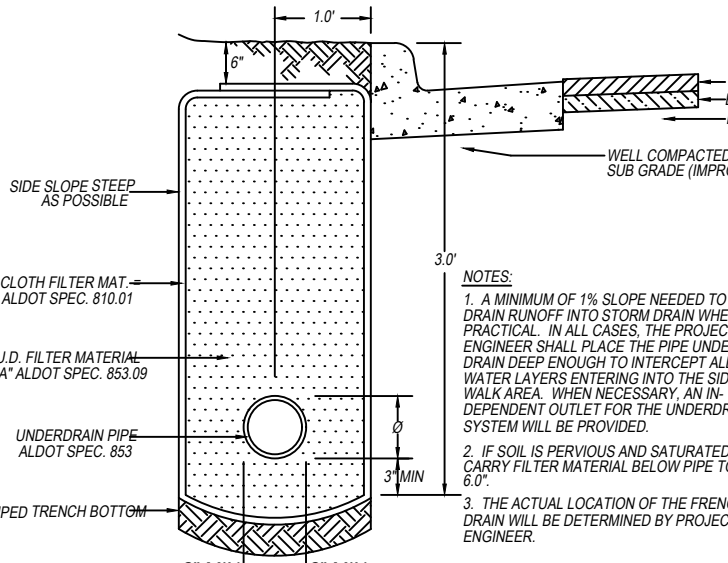
TEMPORARY UTILITY PATCH DETAIL



PERMANENT UTILITY PATCH DETAIL



PIPE UNDERDRAIN W/CURB & GUTTER



5.15

5.16

5.17

STANDARD DETAILS: STREETS - SHEET 2 of 4

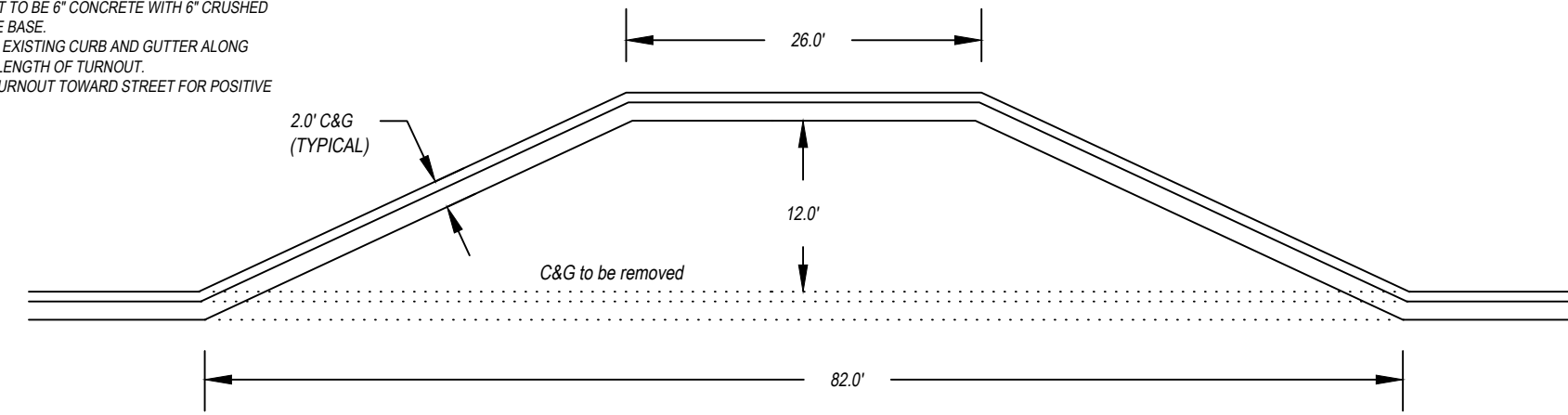
DEPARTMENT:	ENGINEERING SERVICES	REVISIONS:	
SCALE:	N.T.S.		
DRAWN BY:	GINA MCCRICKARD		
CITY ENGINEER:	ALISON FRAZIER		
APPROVED BY:	ALISON FRAZIER		
IMPLEMENTED:	01-01-2022		

EFFECTIVE DATE:

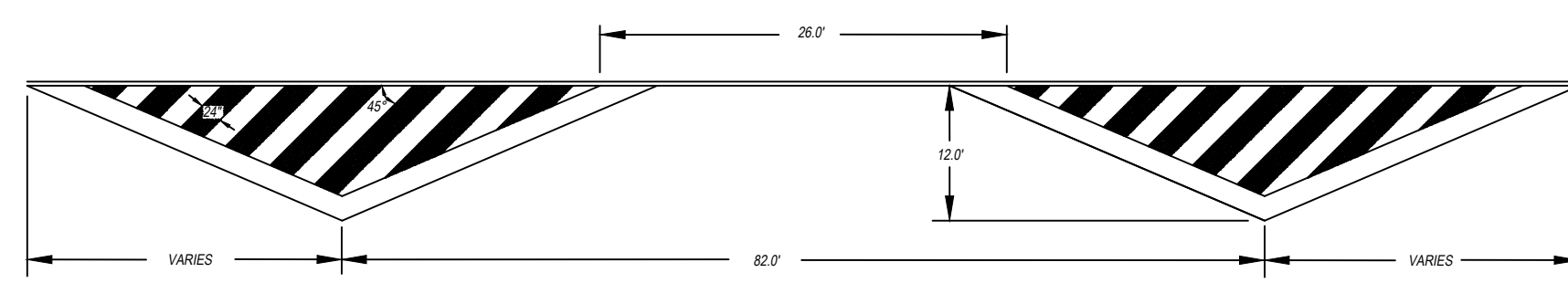
2022

- NOTES:
 1. TURNOUT TO BE 6" CONCRETE WITH 4" CRUSHED AGGREGATE BASE.
 2. REMOVE EXISTING CURB AND GUTTER ALONG COMPLETE LENGTH OF TURNOUT.
 3. SLOPE TURNOUT TOWARD STREET FOR POSITIVE DRAINAGE.

BUS TURNOUT

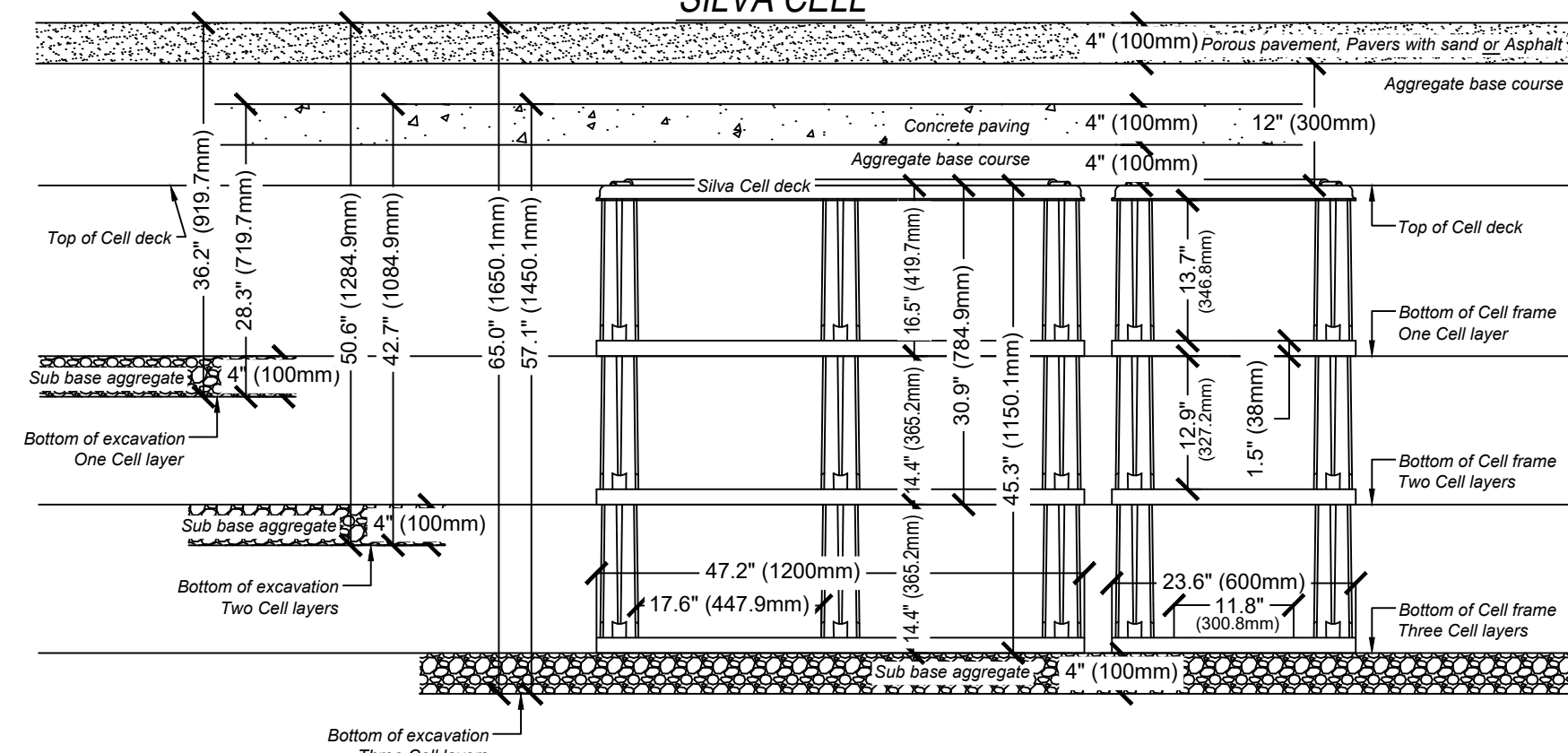


BUS TURNOUT DETAIL PAINTED



5.18

SILVA CELL



This detail shall be used in conjunction with Silva Cells for Trees Details and Specifications. The above information contained in this standard detail is not to scale.

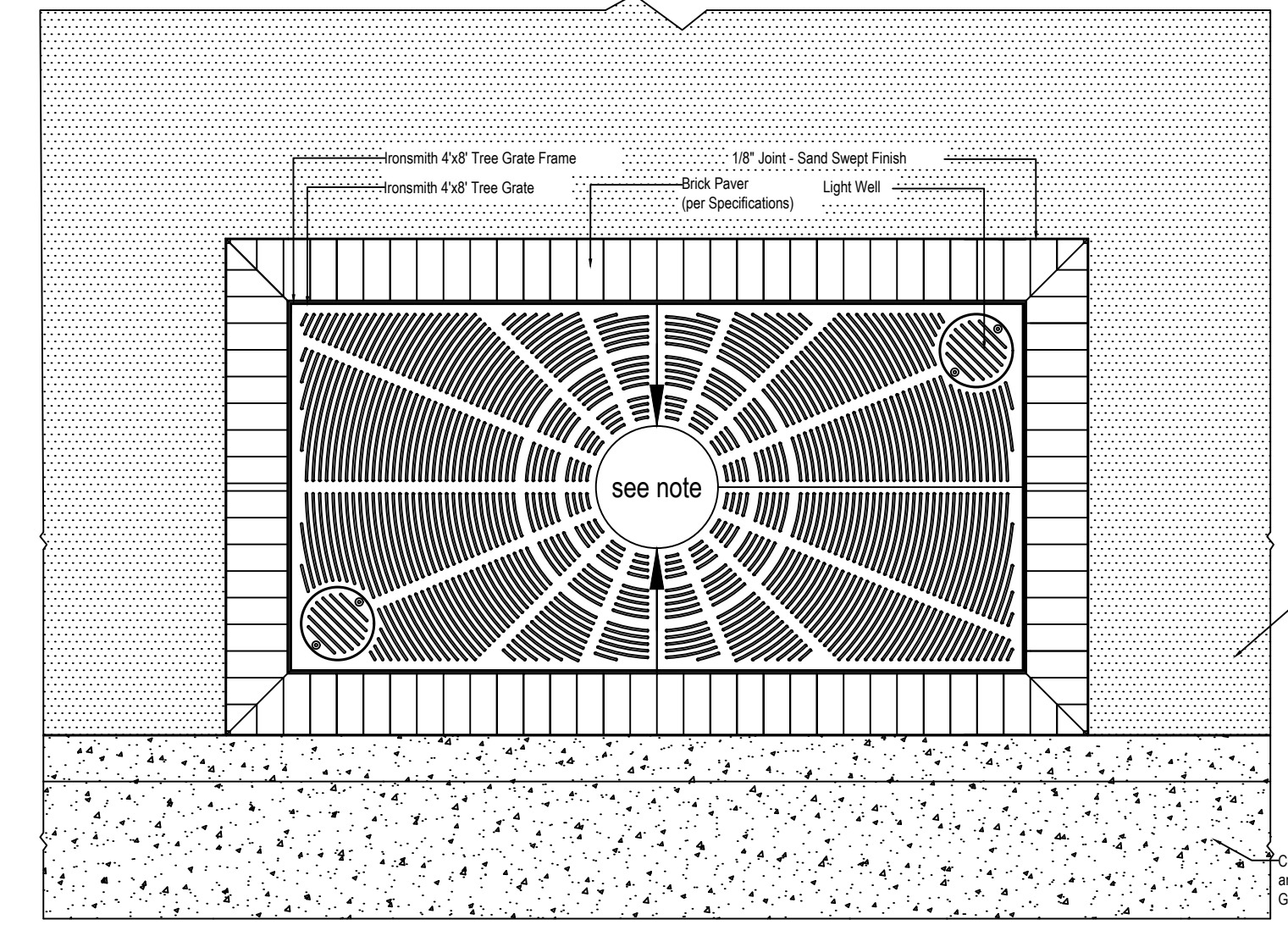
The standard detail is provided for general education and informational purposes only and does not constitute an endorsement, approval or recommendation of any kind. The actual suitability and applicability of this information for a given use depends upon a wide variety of considerations, including specific project specifications, over which DeepRoot® has no information or control. This standard detail should NOT be used as a basis for volume calculations that are site specific and vary greatly depending on cell and deck spacing, soil conditions and soil compaction. All DeepRoot® Silva Cell products are sold with the understanding that the purchaser, either individually or in consultation with purchaser's design professionals, has independently determined the suitability of each product for the application for which it is purchased. Except as expressly provided, DeepRoot® disclaims all warranties, express or implied, and strongly encourages the reader to consult with a construction/design professional and/or engineer before applying any of this information to a specific use or purpose.

Contractor shall resolve utility conflicts using the manufacturer's recommended utility conflict details.

Deep Root Partners L.P.
 388 Washington Street
 San Francisco, California 94111
 Ph: 415.781.0700
 www.deeproot.com
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5.19

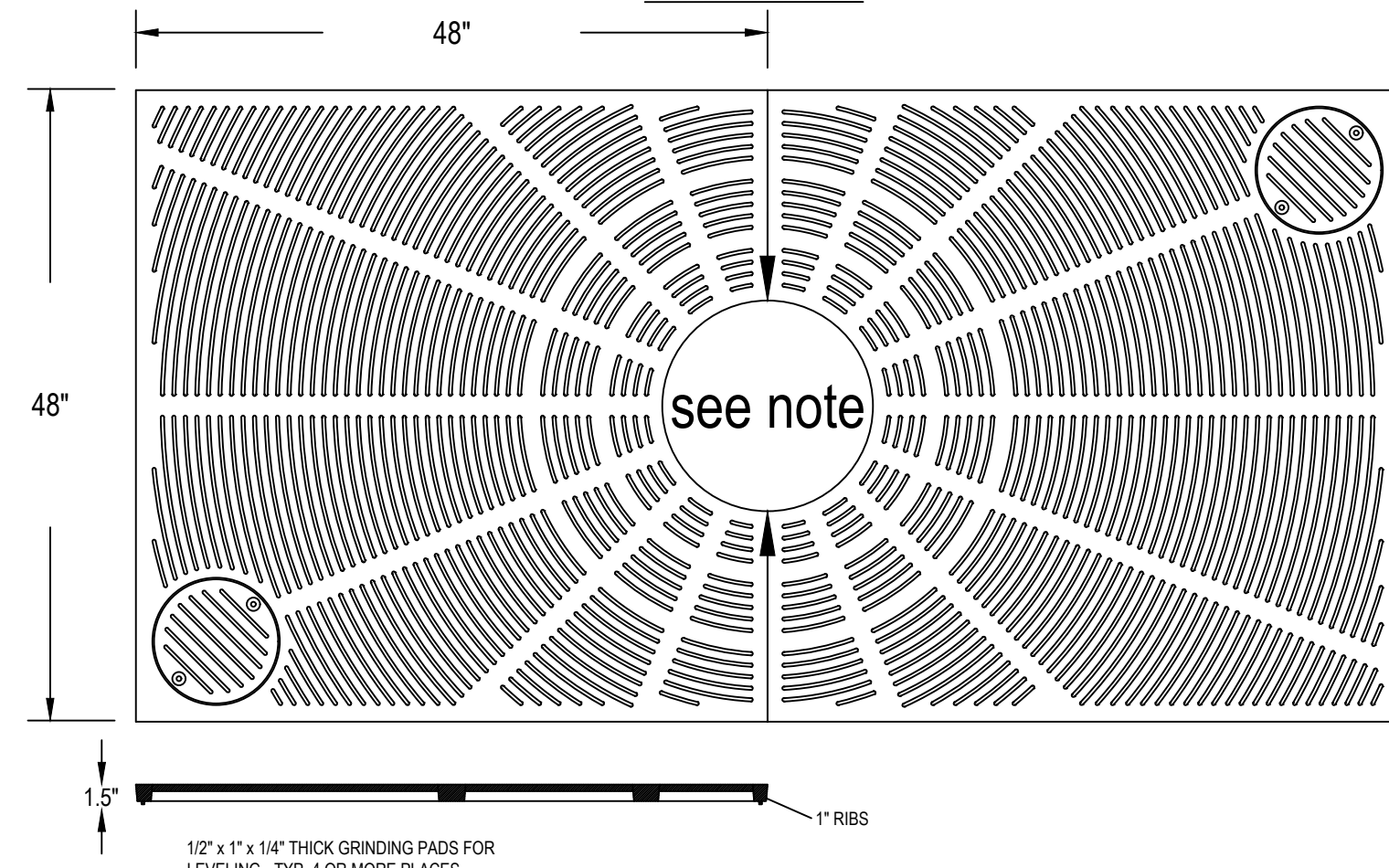
TREE GRATE



TREE GRATE #M9628
 STYLE: OLYMPIAN

5.20

TREE GRATE

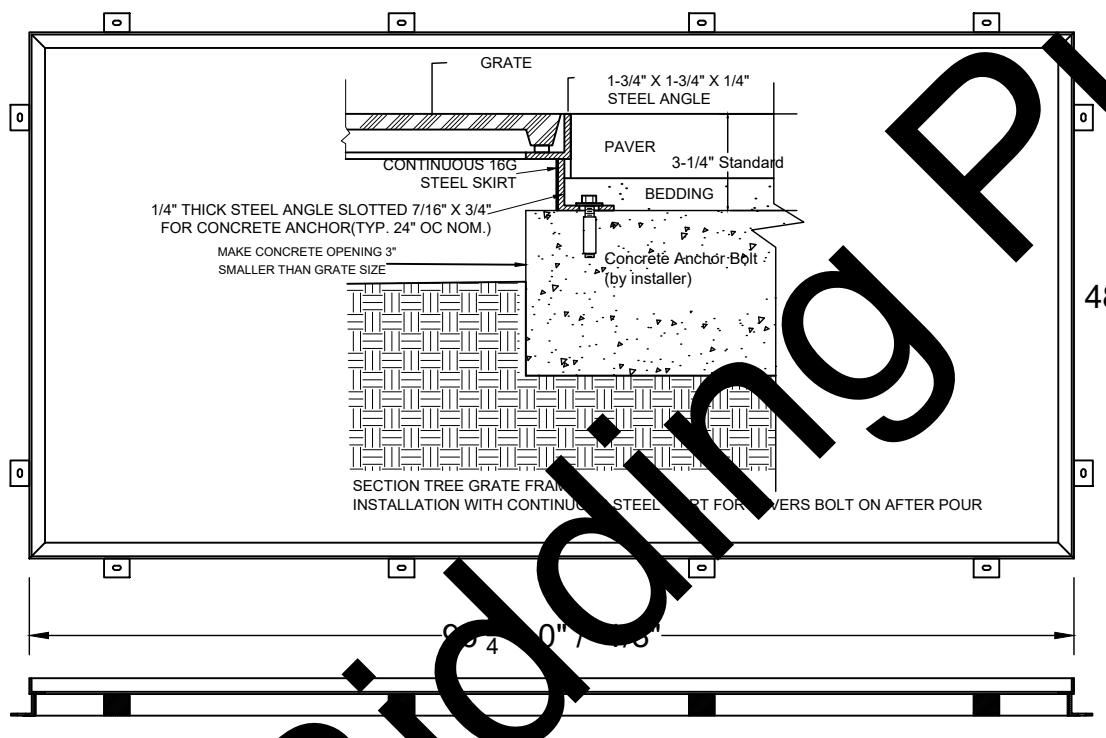


NOTE:
 1. BRICK PAVER COLOR: PINE HALL BRICK ENGLISH
 EDGE FULL RANGE, OR APPROVED EQUAL.

NOTE:
 1. BRICK PAVER COLOR: PINE HALL BRICK ENGLISH
 EDGE FULL RANGE, OR APPROVED EQUAL.

5.21

TREE GRATE

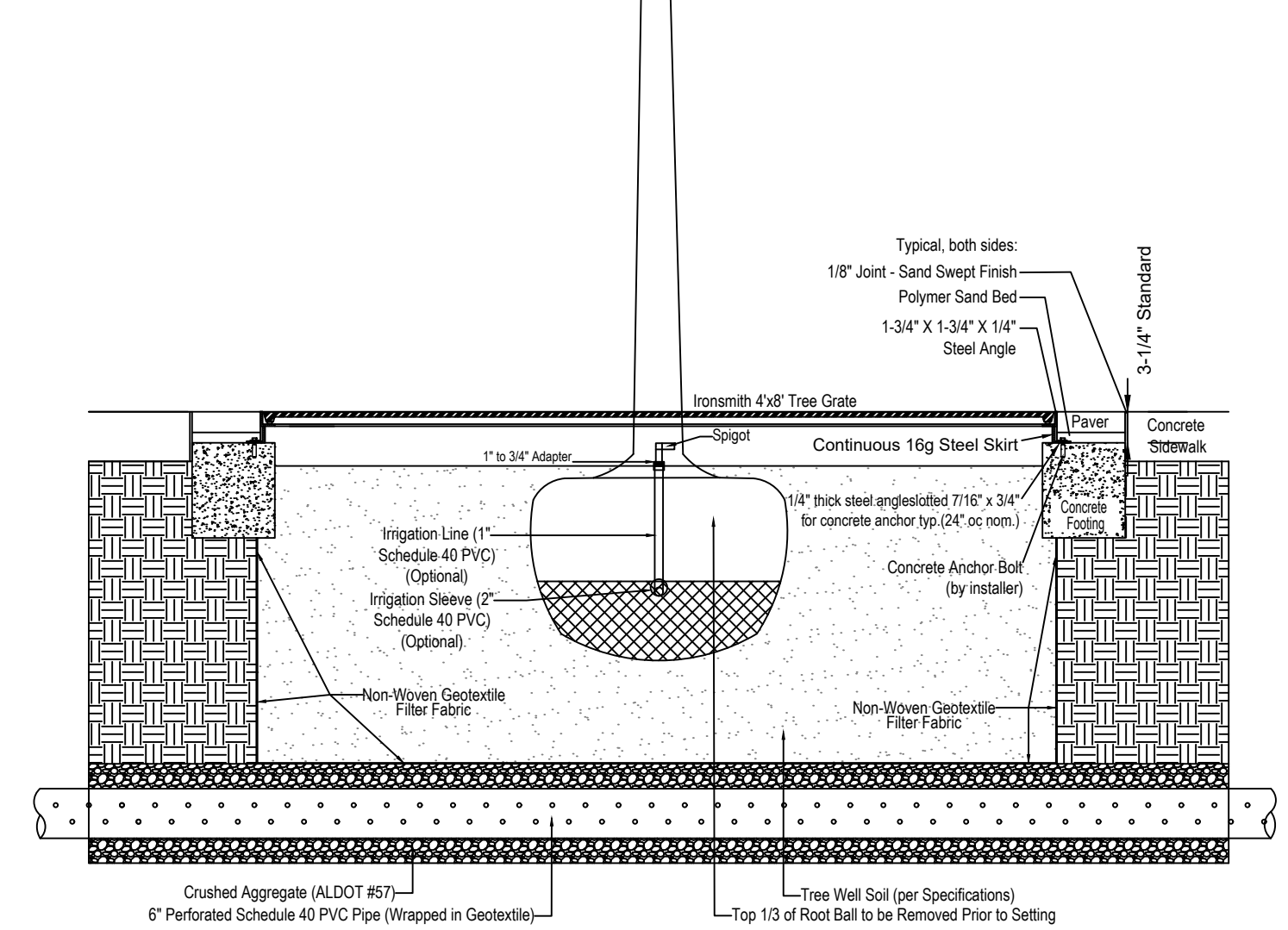


IRONSMITH
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 PALM DESERT, CA 92260
 (800) 338-4766
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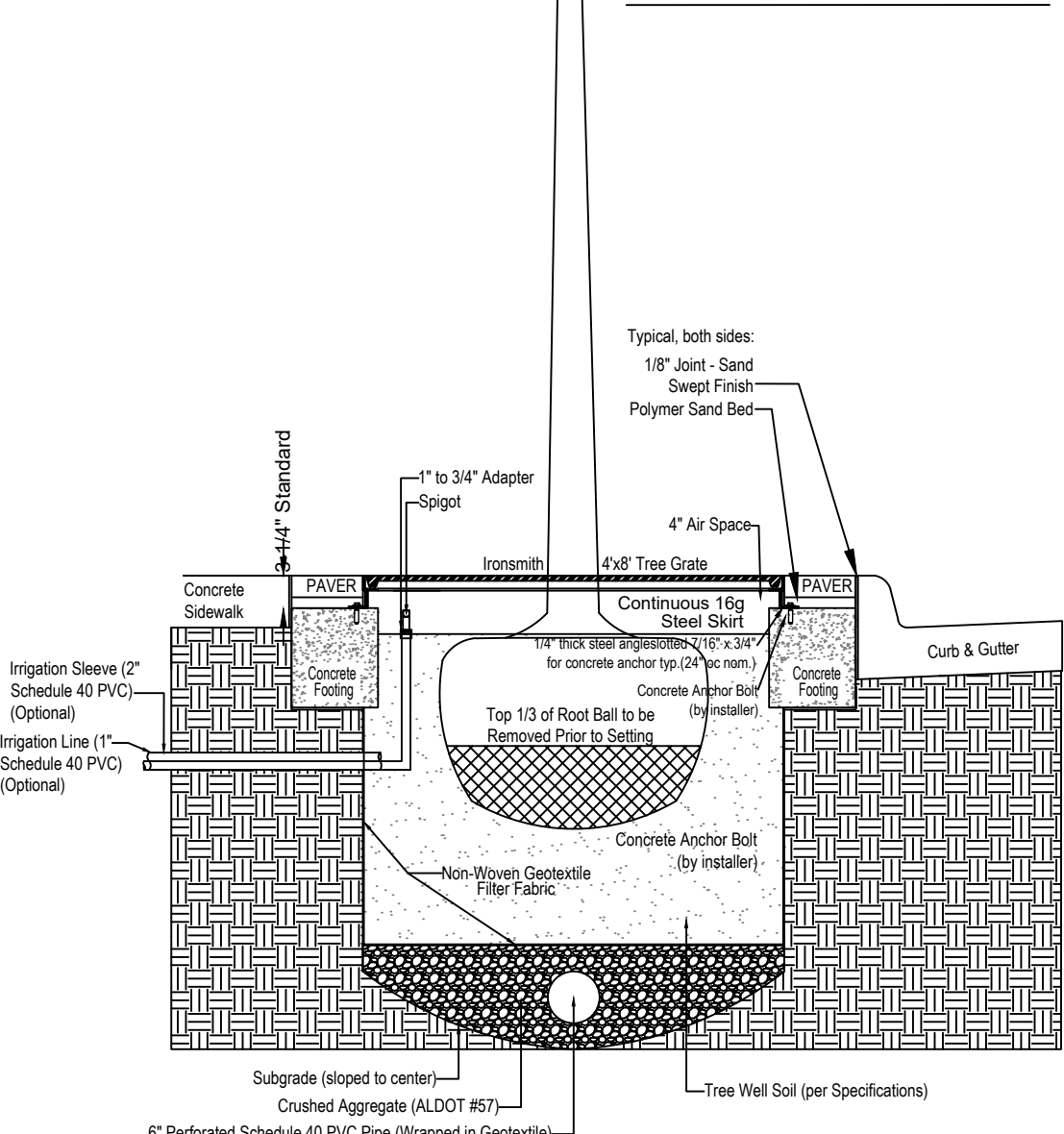
5.22

TREE WELL AND GRATE



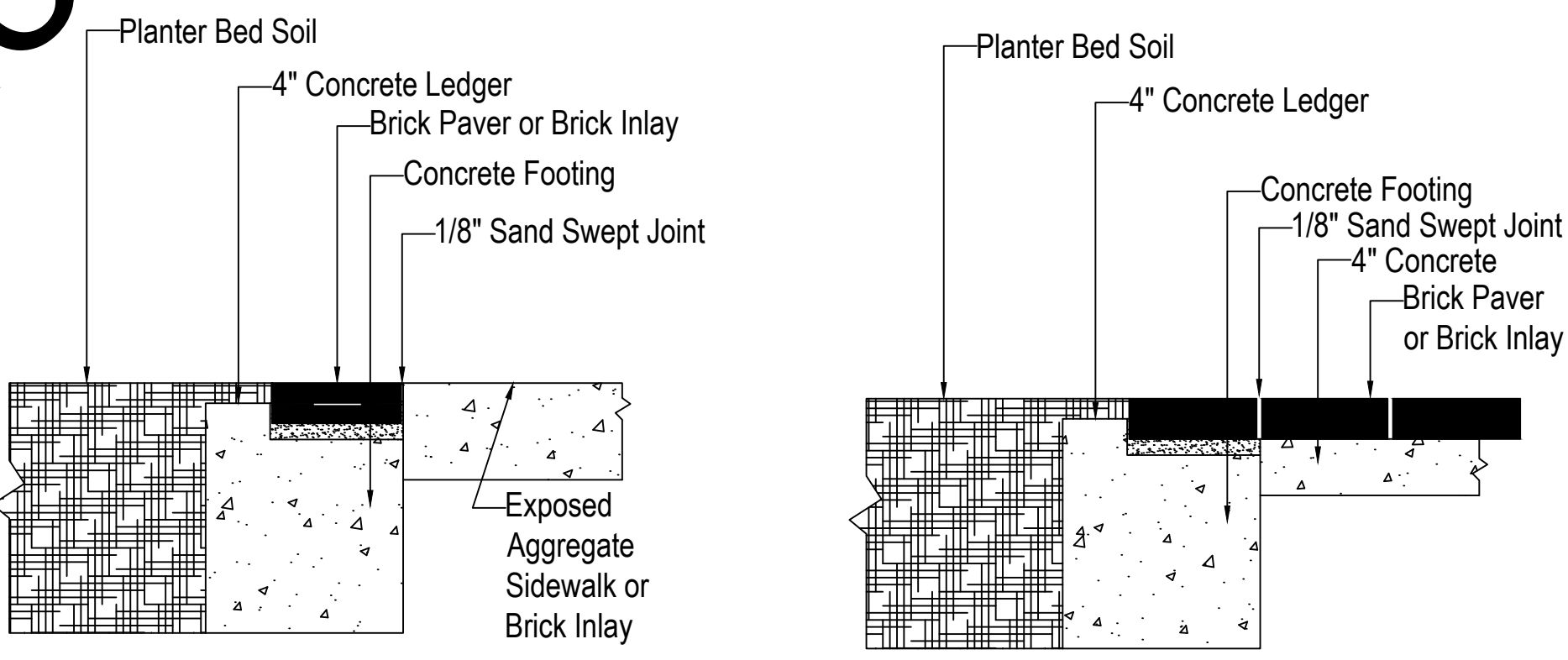
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TREE WELL AND GRATE



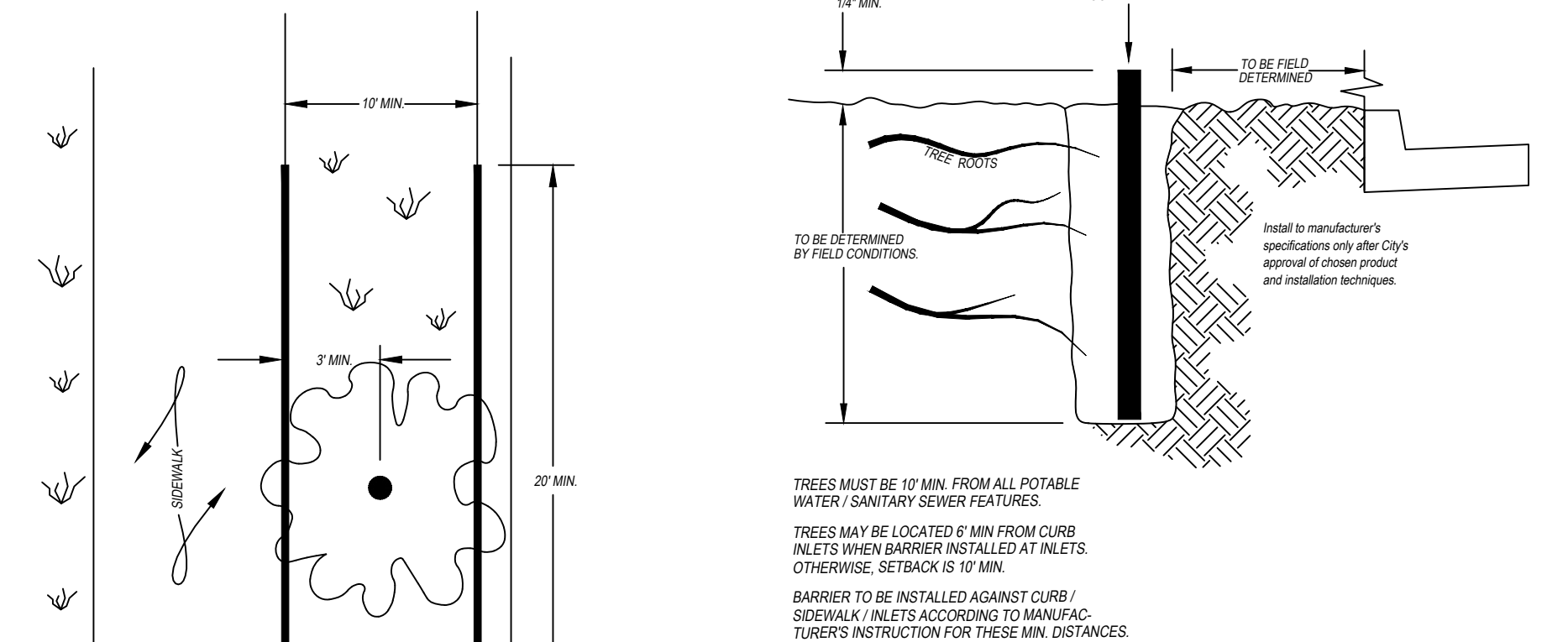
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TREE WELL AND GRATE



5.25

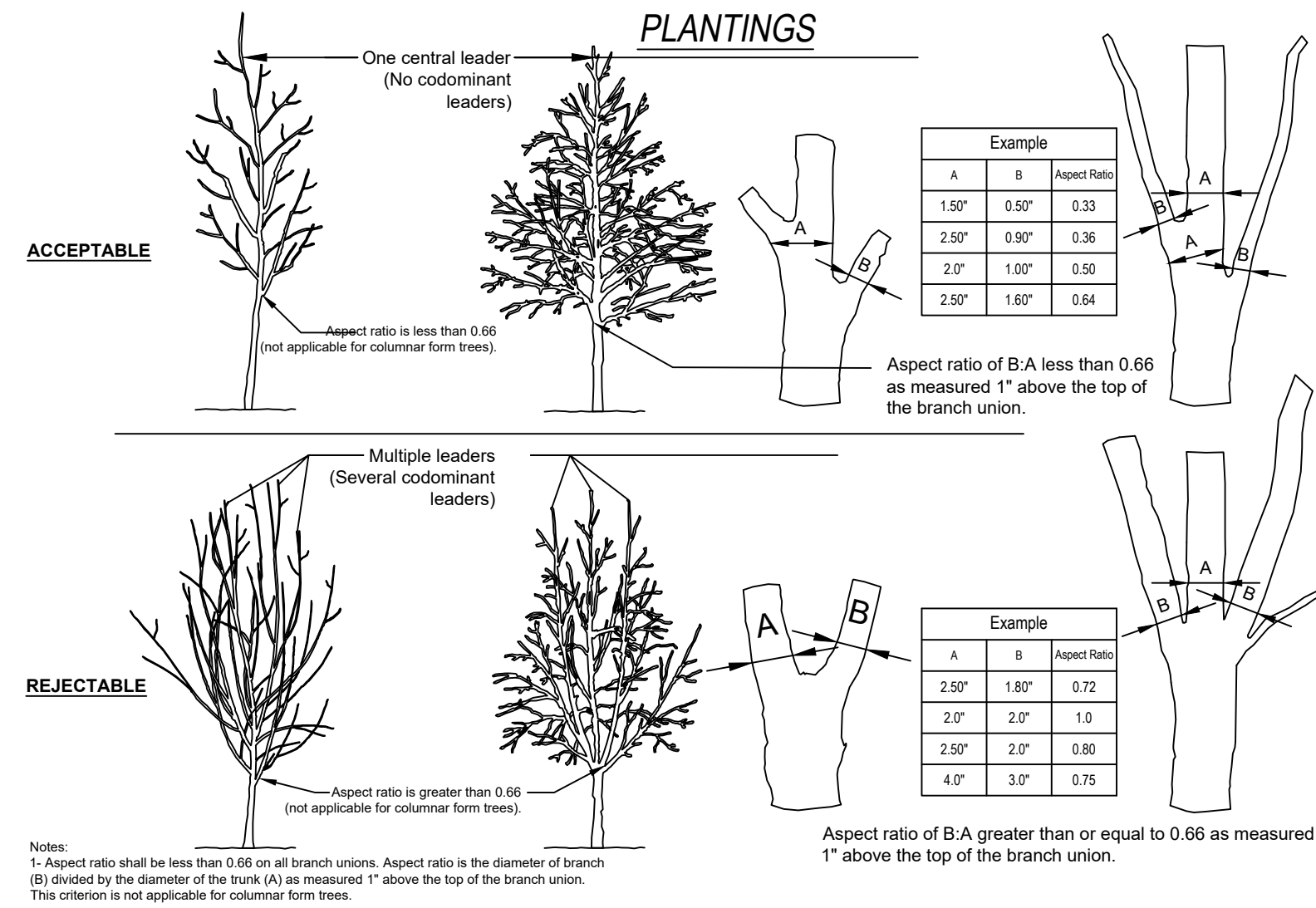
ROOT BARRIER



5.26

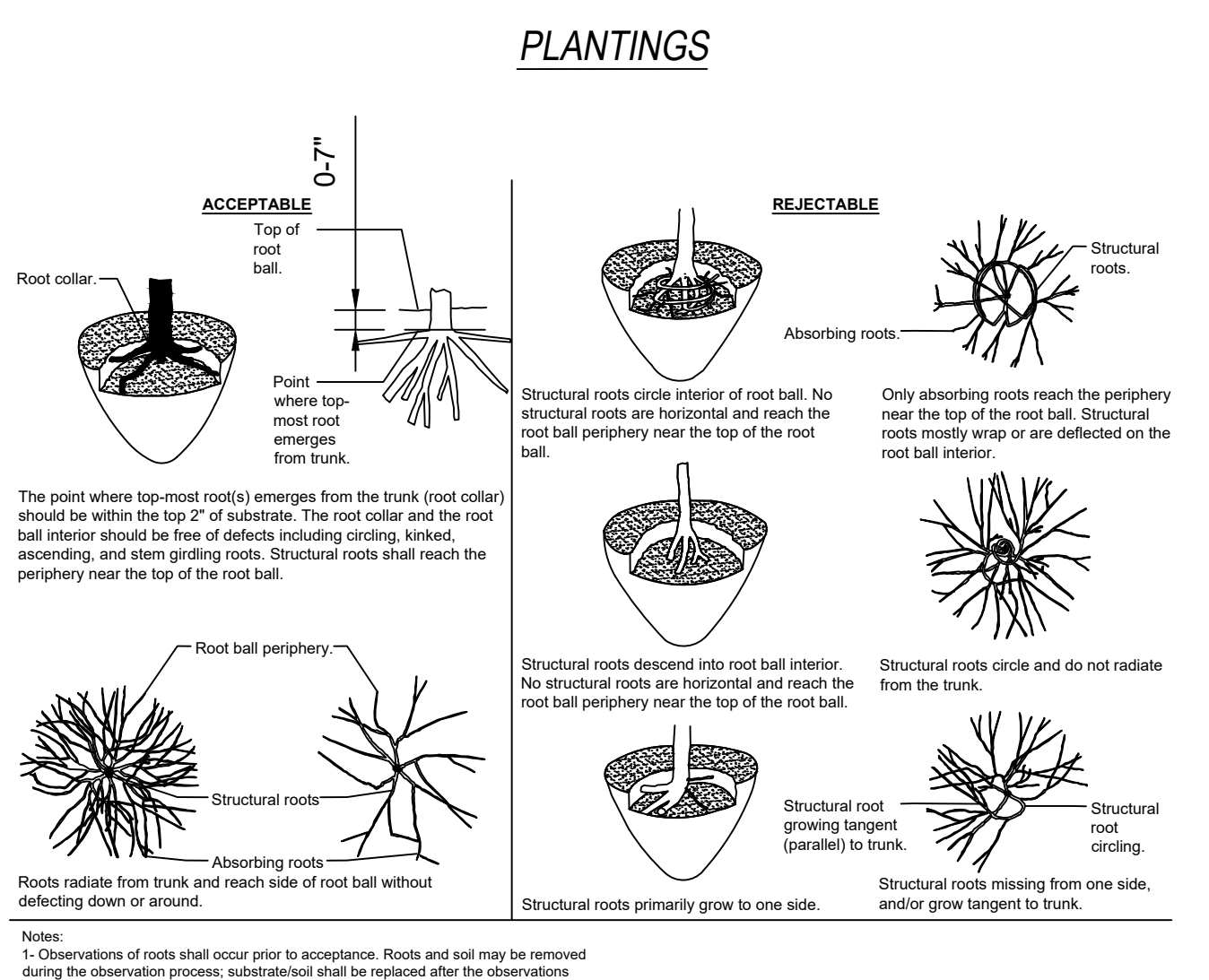
STANDARD DETAILS: STREETS - SHEET 3 of 4

	DEPARTMENT:	ENGINEERING SERVICES	REVISIONS:
	SCALE:	N.T.S.	
	DRAWN BY:	GINA MCCRICKARD	
	CITY ENGINEER:	ALISON FRAZIER	
APPROVED BY:	ALISON FRAZIER		EFFECTIVE DATE:
IMPLEMENTED:	01-01-2022		2022



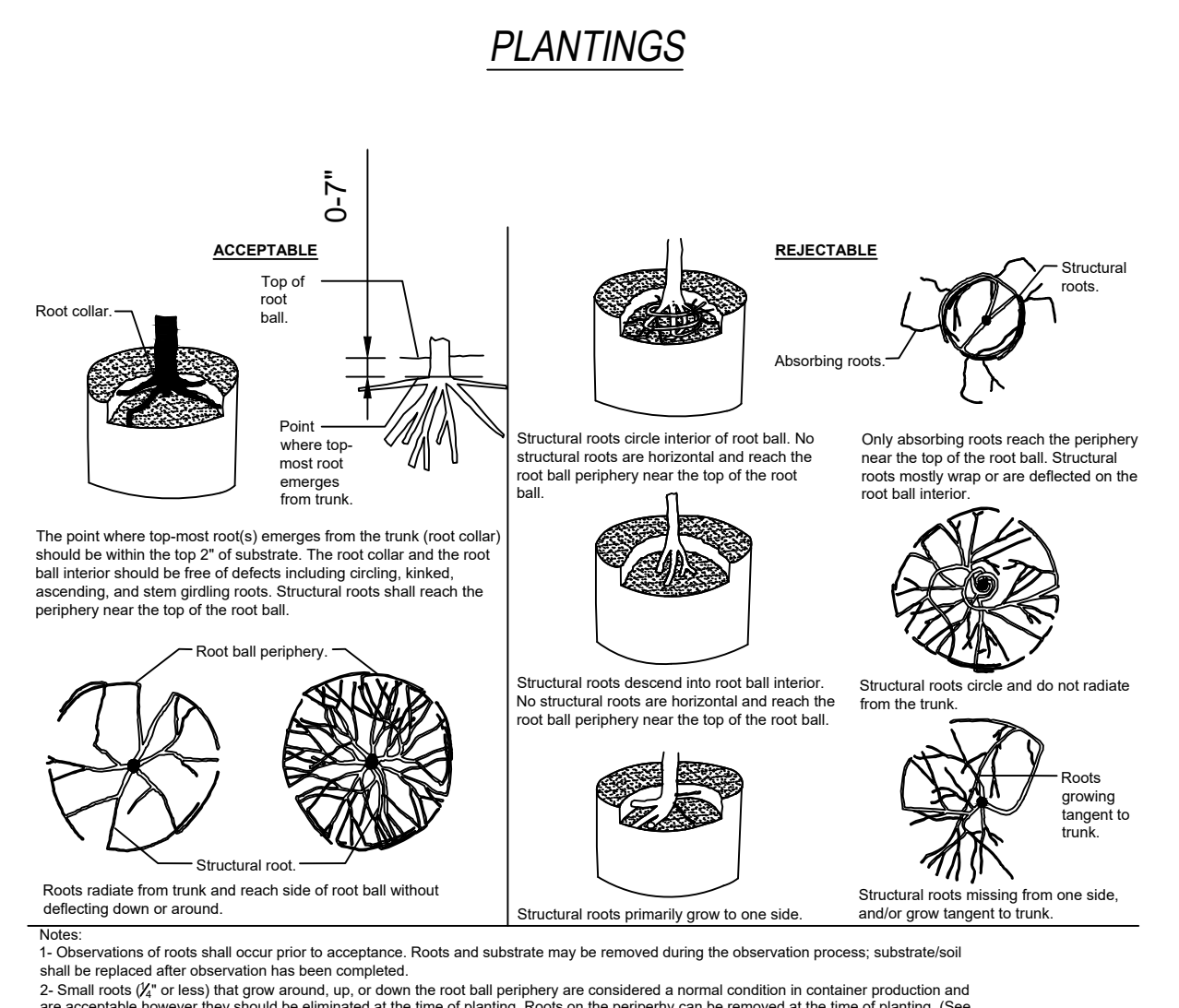
TREE ACCEPTANCE CRITERIA
ADAPTED FOR USE FROM:
URBAN TREE FOUNDATION © 2014

5.27



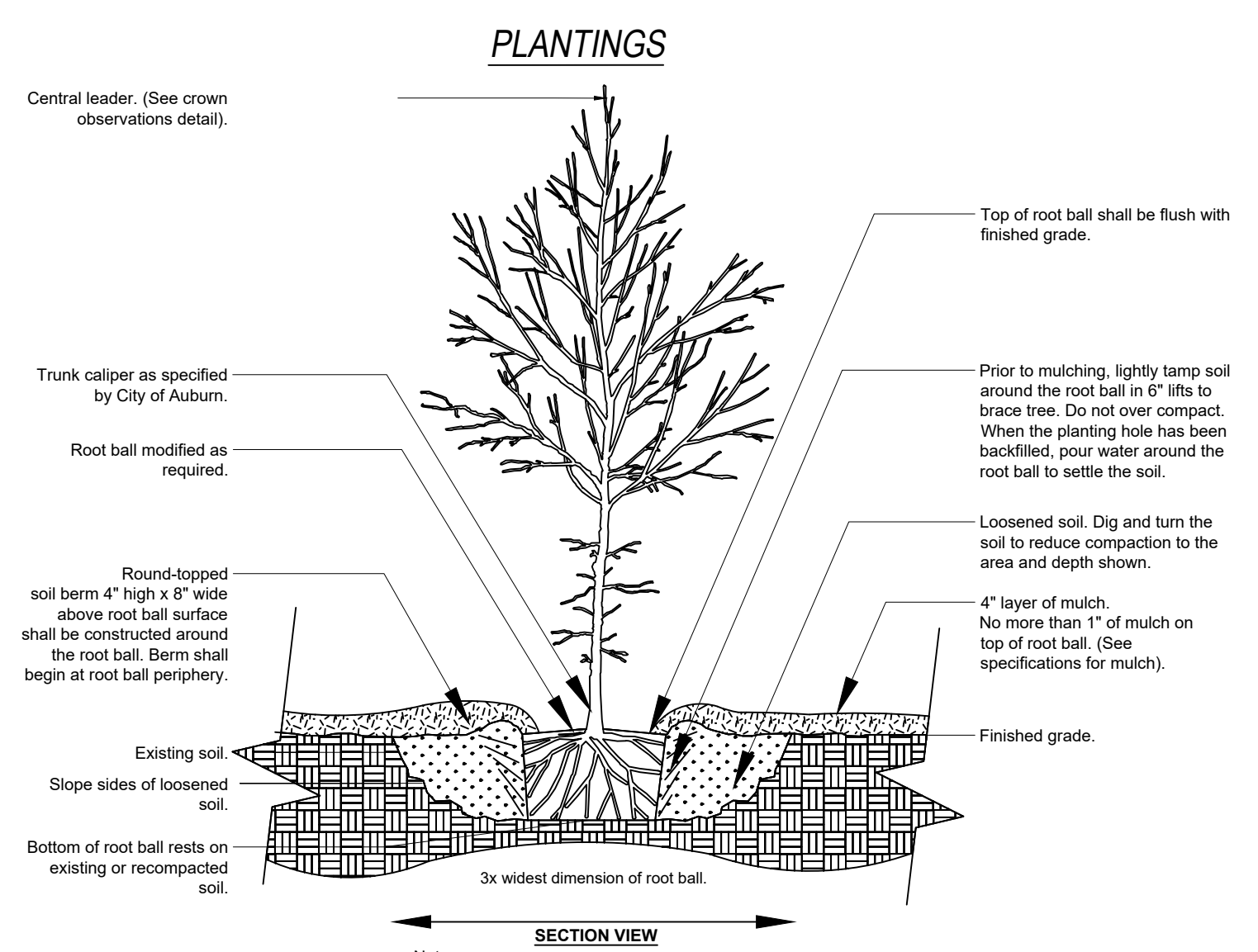
ROOT BALL CRITERIA - BALLED AND BURLAPPED
ADAPTED FOR USE FROM:
URBAN TREE FOUNDATION © 2014

5.28



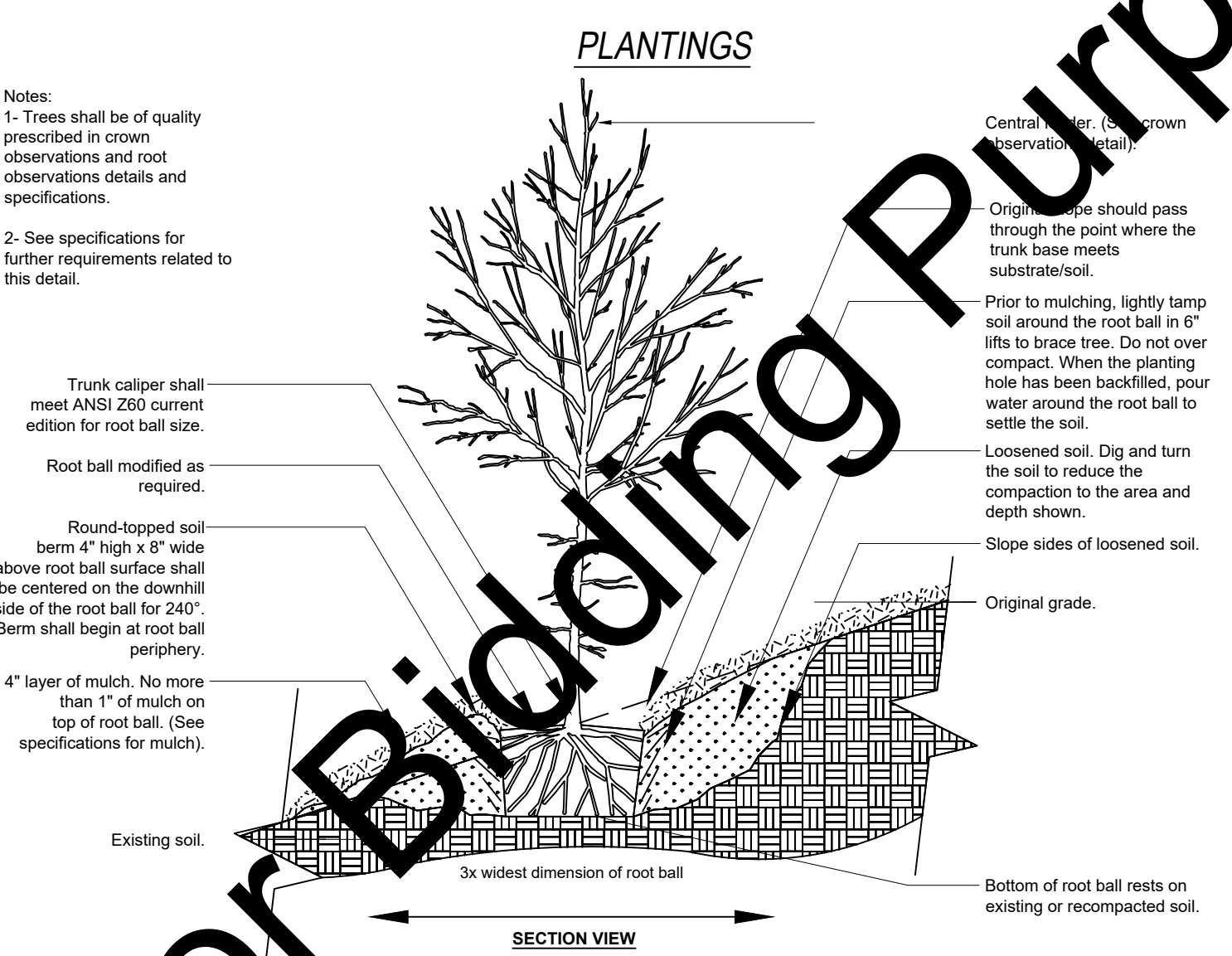
ROOT BALL CRITERIA - CONTAINERIZED
ADAPTED FOR USE FROM:
URBAN TREE FOUNDATION © 2014

5.29



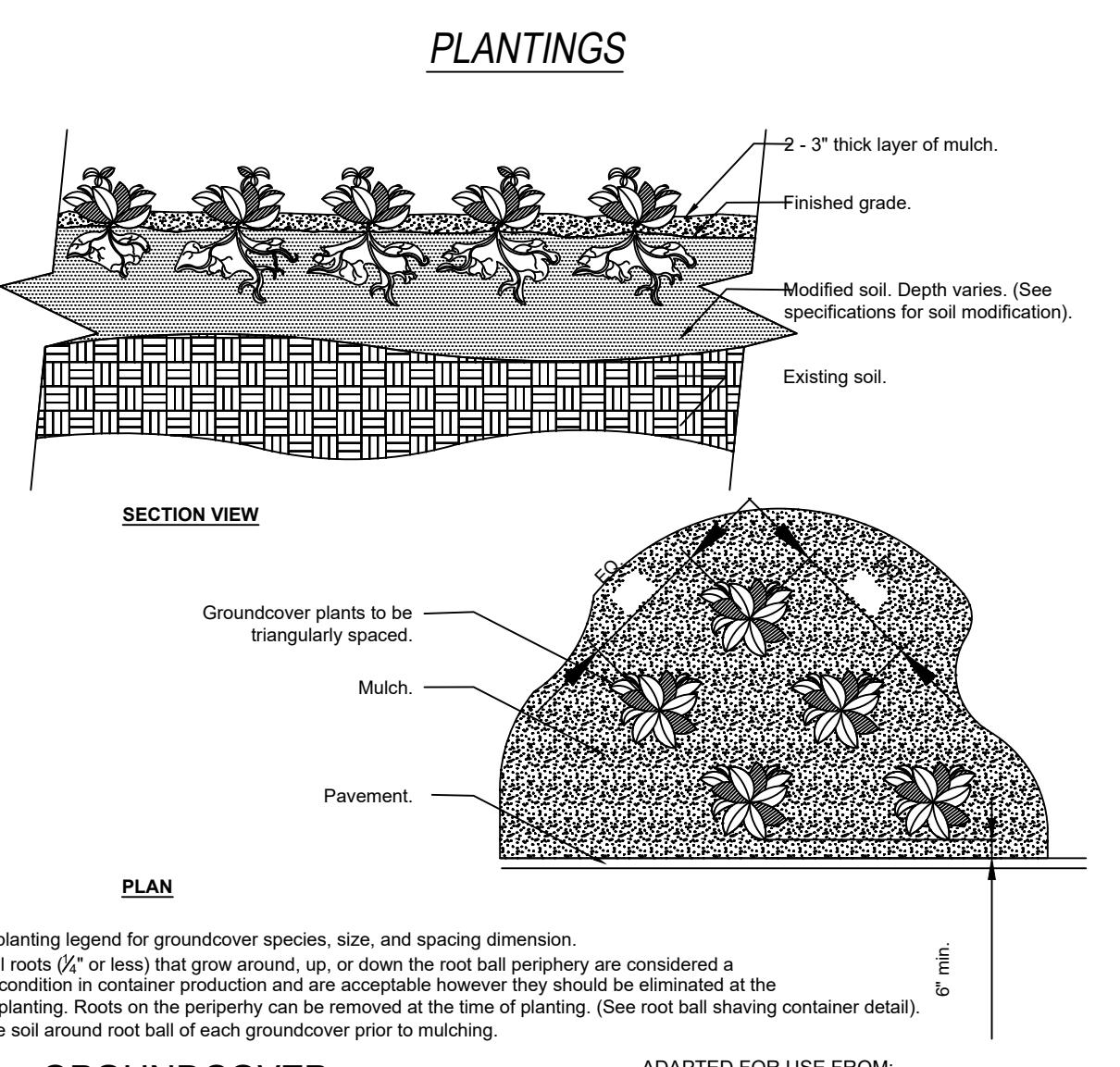
TREE w/ BERM
ADAPTED FOR USE FROM:
URBAN TREE FOUNDATION © 2014

5.30



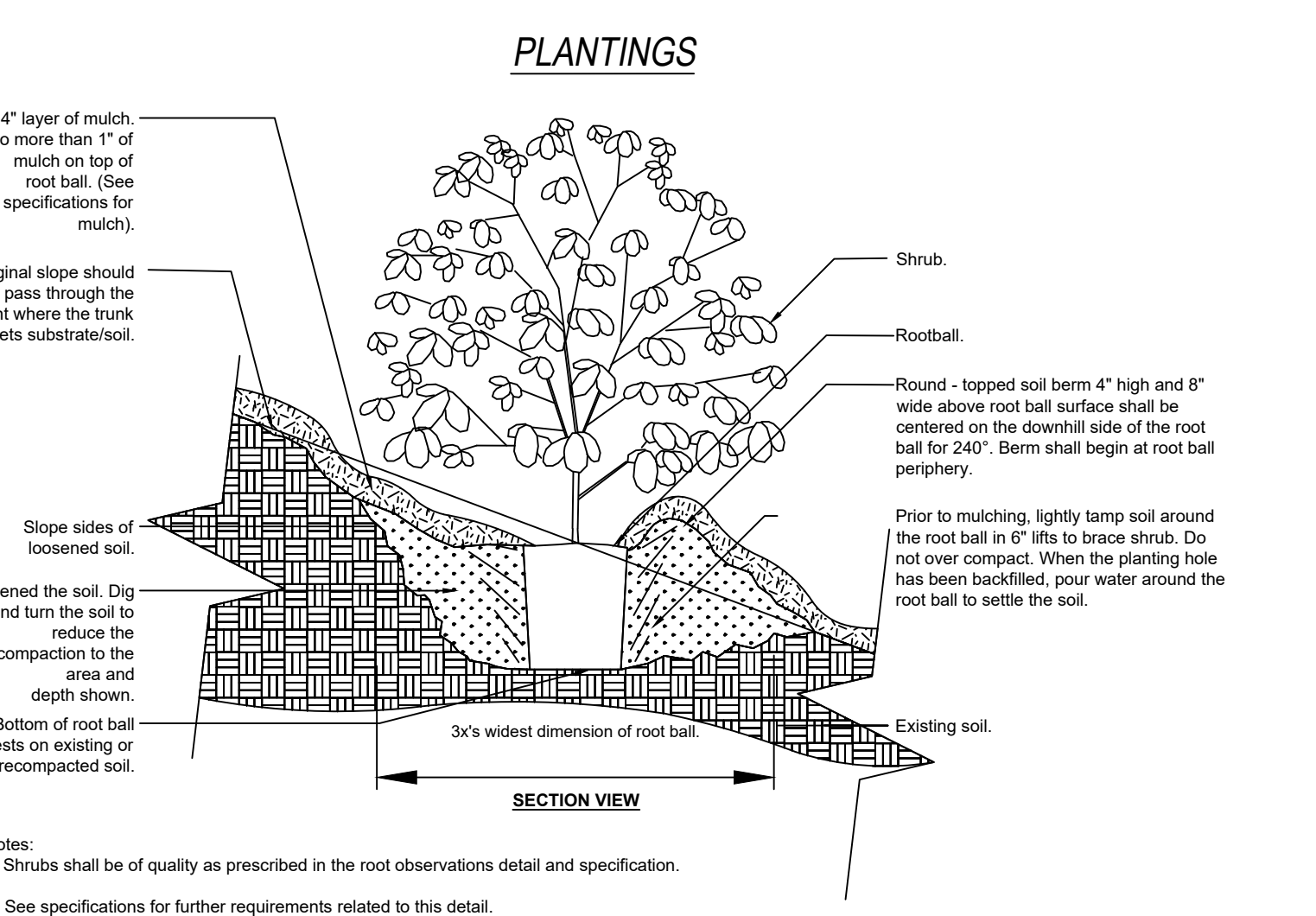
TREE ON SLOPE
ADAPTED FOR USE FROM:
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5.31



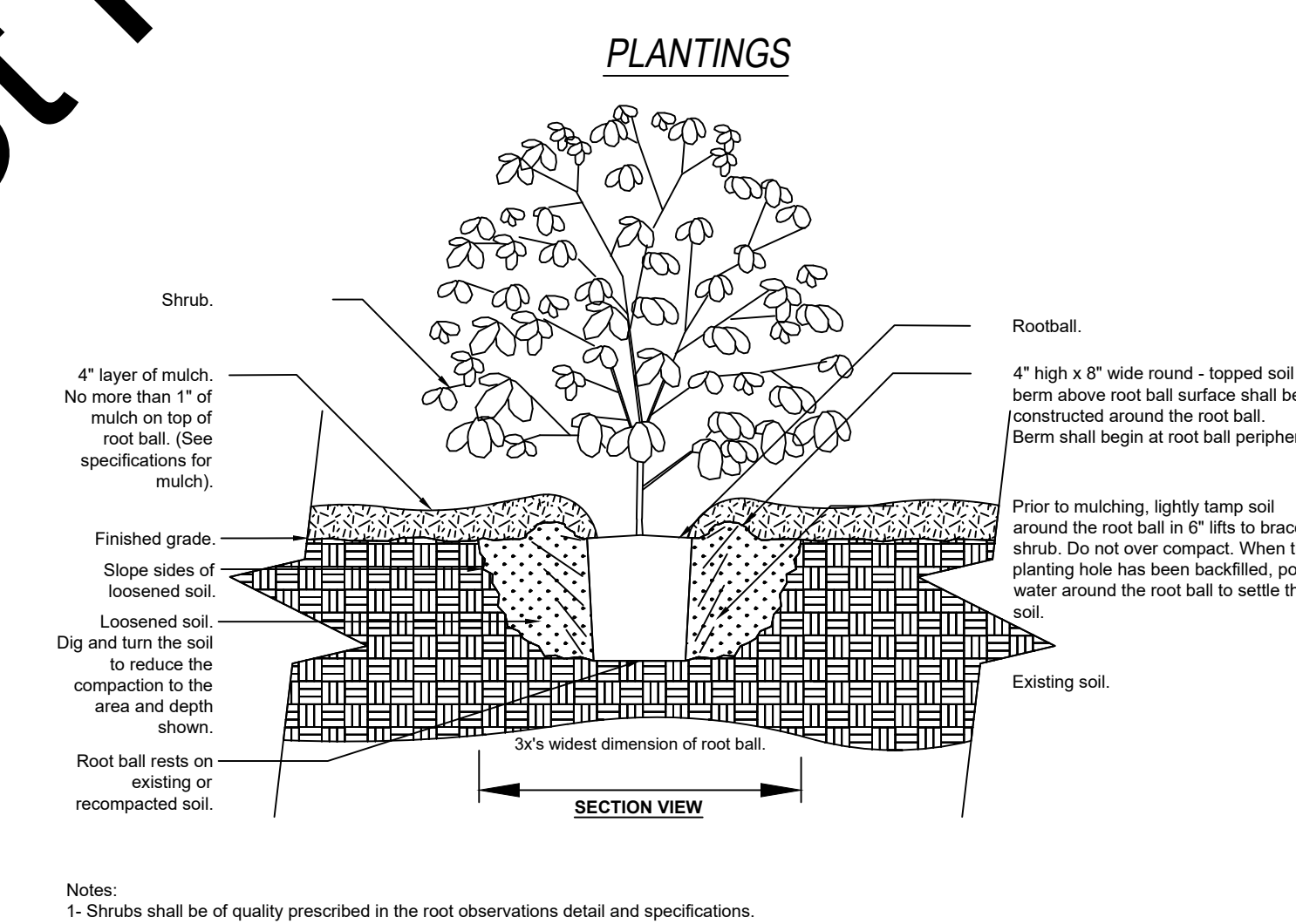
GROUNDCOVER
ADAPTED FOR USE FROM:
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5.32



SHRUB PLANTING ON SLOPE
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5.33



SHRUB PLANTING
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5.34

Planting Guidelines

- If a contractor is performing tree planting, they shall notify the City of Auburn Urban Forestry Specialist 24 hours in advance of the planting of any tree within the City's Right of Way.
- All planting locations within the public right of way shall be checked for underground conflicts.
- Remove container or top third of burlap and all ropes, wires, etc. from root ball.
- Dig planting holes 2-3 times as wide as the container. The depth of the planting pit shall be equal to the size of the rootball. Place the tree in the planting pit so the trunk flare or the top of the root ball is at least one-half inch to 1 inch (1/2" to 1") above finished grade. In grass covered parkways the top of the rootball shall be higher than the surrounding soil by one-half inch to one inch (1/2" to 1").
- When obtaining a tree from a nursery, always carry the tree by its container or rootball, never by the trunk.
- After removing the tree from the container, cut circling roots and matted roots off the bottom. Check for any circling roots missed during initial inspection.
- Before placing the tree in the planting pit, examine the root ball for injured roots and the canopy for broken branches. Damaged roots shall be cleanly cut off at a point just in front of the break. Broken branches shall be cut out of the canopy making sure that the branch collar is not damaged.
- Backfill with soil removed from the planting hole, or as required for structural cells or structural soils. Only add fertilizer or compost if soil analysis indicates it is required. Build a temporary four to six inches (4" to 6") water retention berm around the root ball to allow for establishment watering. Immediately after planting the tree, water it thoroughly by filling the water retention basin twice.
- Eliminate all air pockets while backfilling the planting pit by watering the soil as it is put into the hole. Do not compact the backfill by tamping it down.
- All staking, wrapping, and other material should be removed from the tree trunk, root ball, and canopy at planting. No staking of trees shall be permitted unless approved by the City of Auburn Urban Forestry Specialist or a representative thereof. Approved staking must be removed after one year.
- Mulch with a two to four inch (2" to 4") layer to conserve soil moisture, provide protection from extreme temperatures and prevent damage from weed eaters. Mulch shall be kept three to four inches (3" to 4") away from the tree trunk and shall extend to minimum to the boundary of the water retention basin. It may extend further if desired.
- Install tree bags or donuts at planting to provide supplementary water during the first year. The soil around the new tree shall be kept moist, but not saturated, by watering at least once a week when adequate rainfall is not received.
- Substitution of plant species, sizes, or other specifications will not be allowed without prior approval of the City of Auburn Landscape and Sustainability Division Manager or a representative thereof.

Soil Requirements

The following options are suitable for planting trees in the City of Auburn Right of Way. These specifications apply to normal conditions. Alterations for utility conflicts, slopes, or drainage may be approved by the Urban Forestry Specialist a representative thereof. For the purpose of this document, understory trees are defined as less than 30' mature height, midstory trees are defined as 30' - 50' mature height, and overstory trees are defined as 50' or greater mature height.

Planting type	Soil volume	Soil depth	Soil requirements
Buffer strip	Understory 400 Midstory 800 Overstory 1000	36" minimum	May use soil removed from the planting hole amended as necessary amended as necessary according to soil test
Structural cells	400 800 1000	No minimum 10" - 43" depth available depending on product	Native topsoil amended as necessary according to soil test
Structural soil	1600 3200 4000	36" Minimum	Non-proprietary or patented products may be used according to system specification

Soil testing requirements

All soils must be submitted for testing to determine texture and pH and results provided at least four weeks prior to scheduled installation. Native topsoil must be classified as a sandy loam with a pH between 5 and 7. If tests fail to meet specifications, the Urban Forestry Specialist or representative thereof may require amendments before it is accepted. All soil testing will be at the expense of the contractor.

Structural cells

Structural cells may include Silva Cell by Deep Root Partners, StrataCell by CityGreen, or approved equal. At least four weeks prior to installation, the contractor shall submit manufacturer's literature to the Urban Forestry Specialist. Installation of the structural cells shall fully comply with all requirements of the manufacturer and/or licensed supplier.

5.35

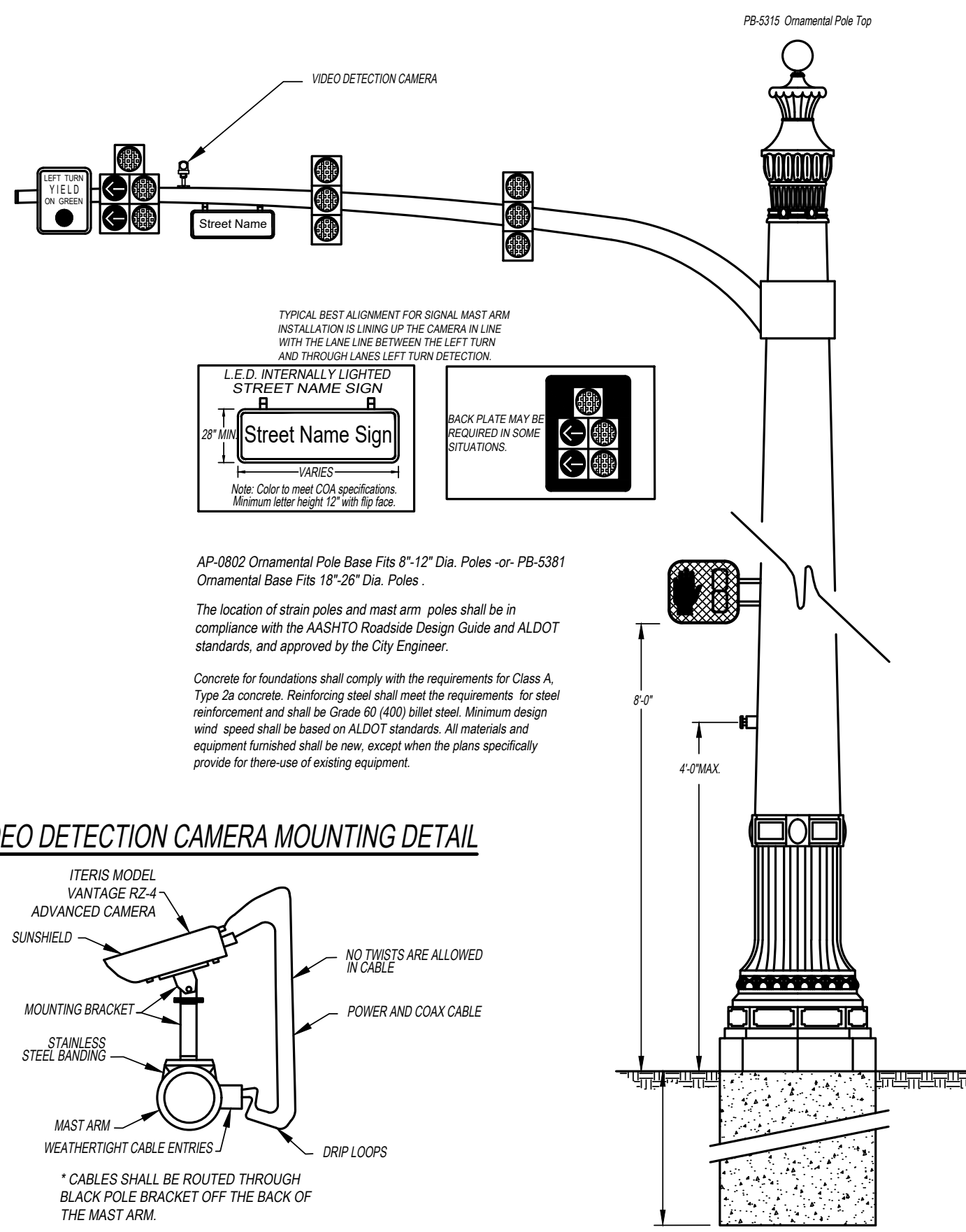
STANDARD DETAILS: STREETS - SHEET 4 OF 4

DEPARTMENT: ENGINEERING SERVICES
SCALE: N.T.S.
DRAWN BY: GINA MCCRICKARD
CITY ENGINEER: ALISON FRAZIER
APPROVED BY: ALISON FRAZIER
IMPLEMENTED: 01-01-2022

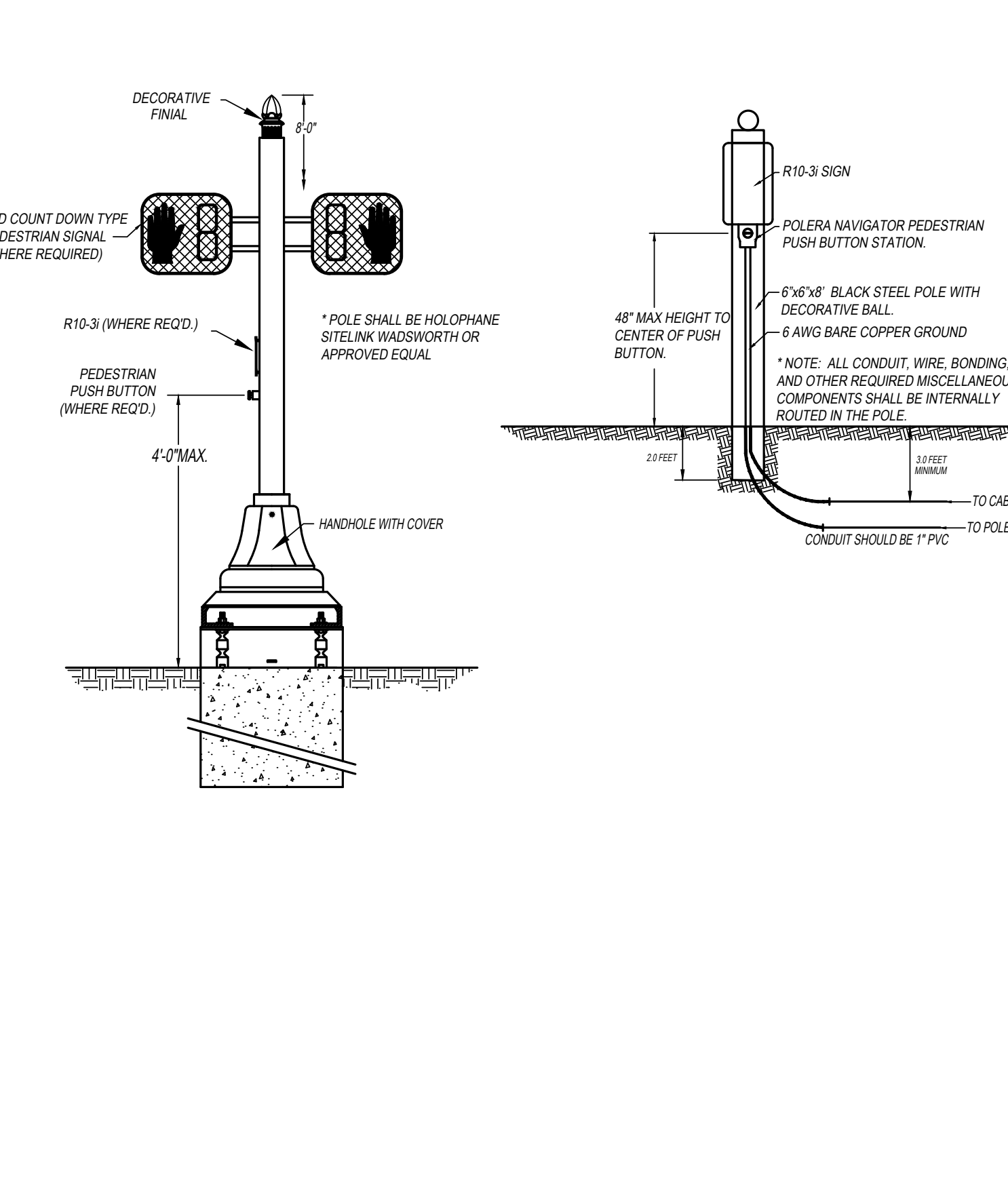
REVISIONS:

EFFECTIVE DATE: 2022

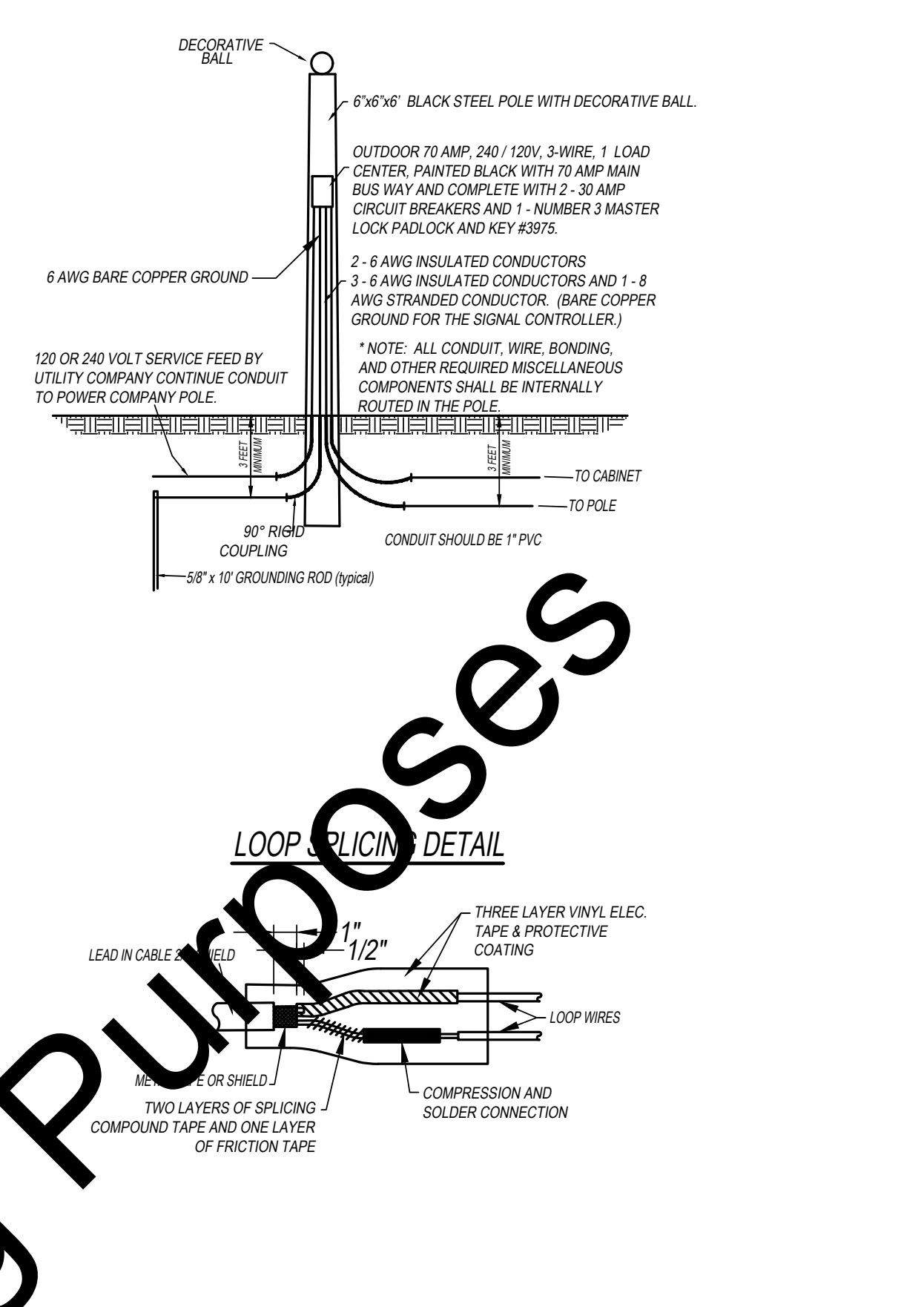
DECORATIVE MAST ARM DETAILS



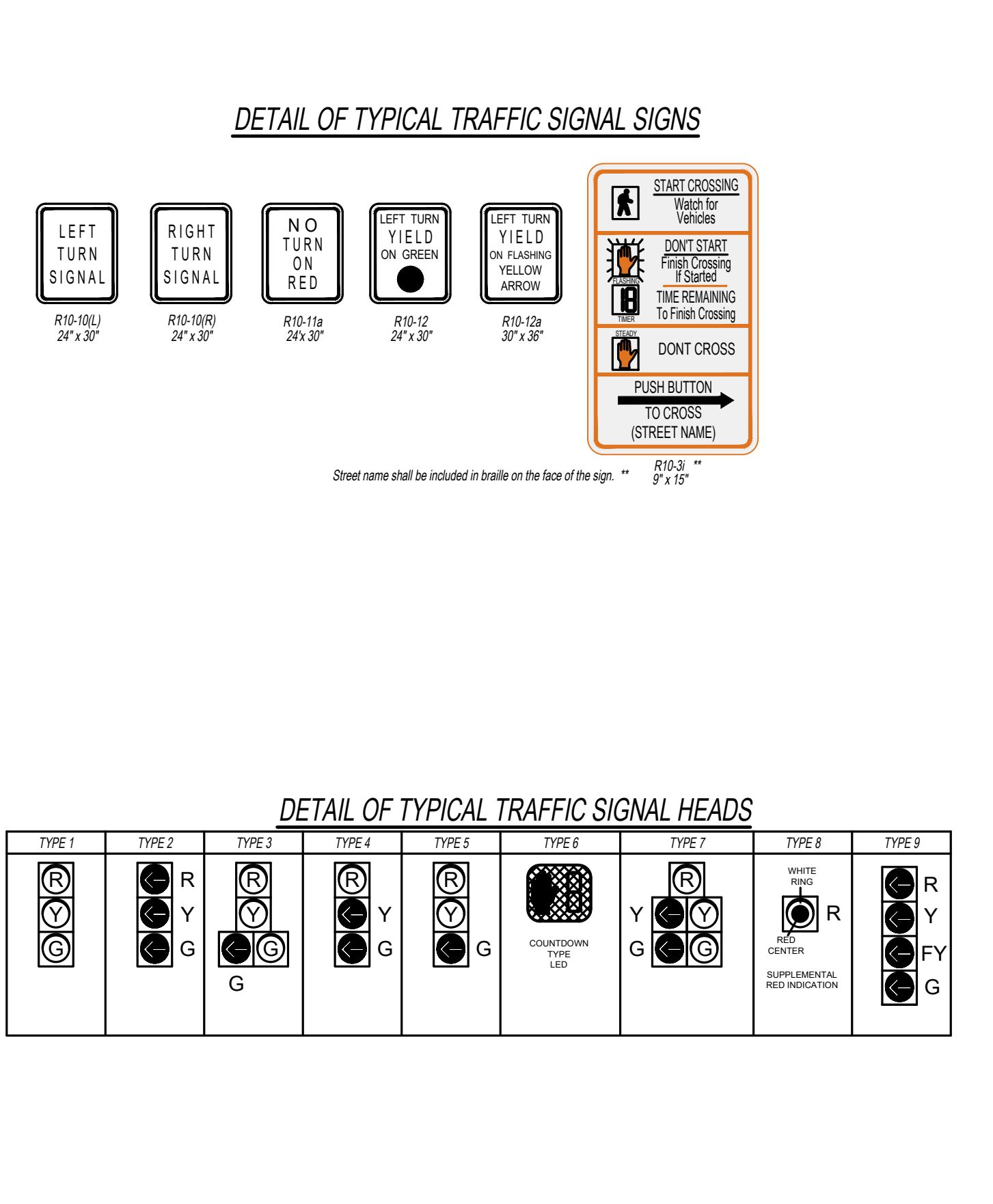
PEDESTRIAN POLE INSTALLATION DETAIL



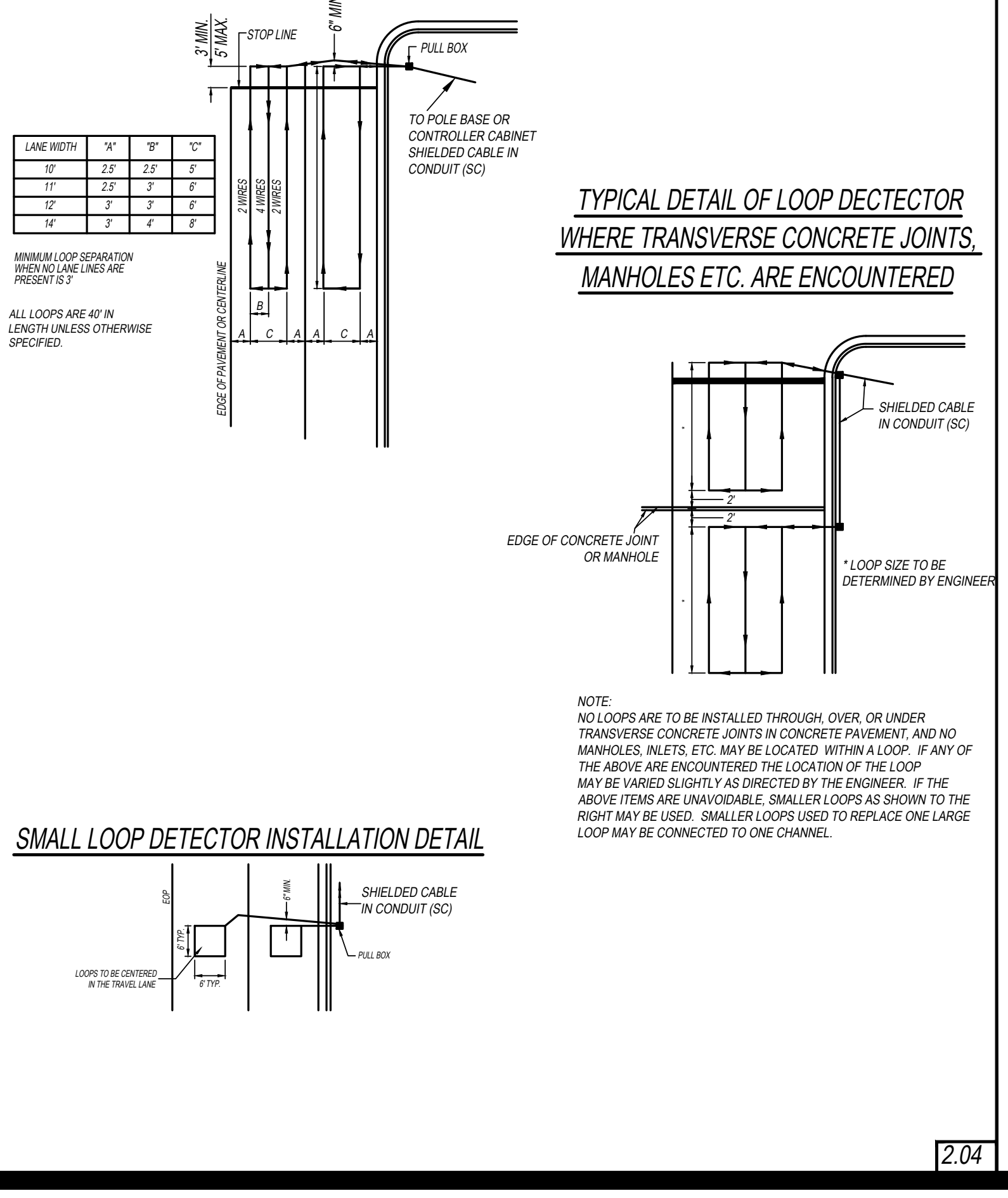
UNDERGROUND POWER SOURCE FOR COMBINATION TRAFFIC SIGNAL AND STREET LIGHTING POLES



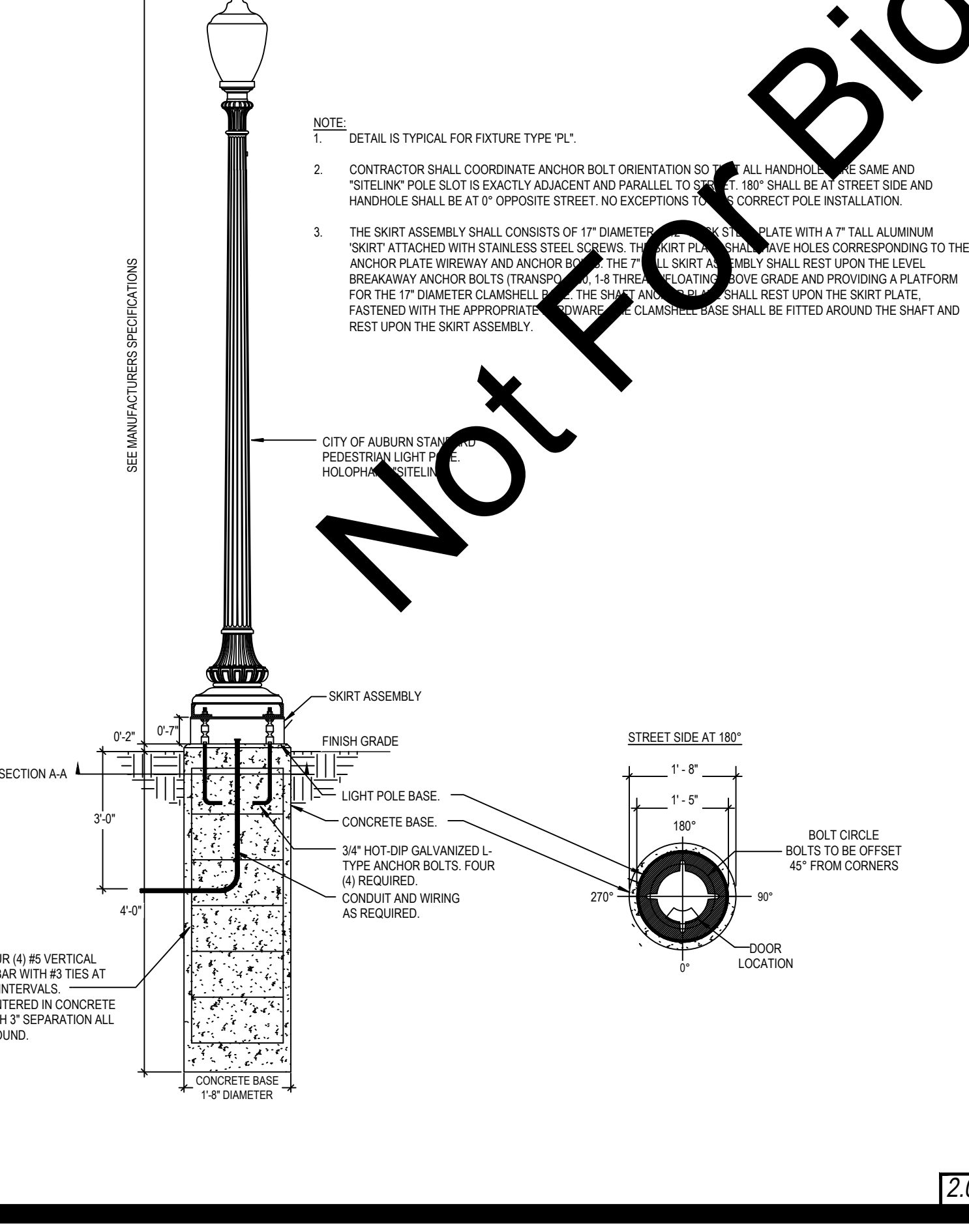
TYPICAL TRAFFIC SIGNAL SIGNS AND HEADS



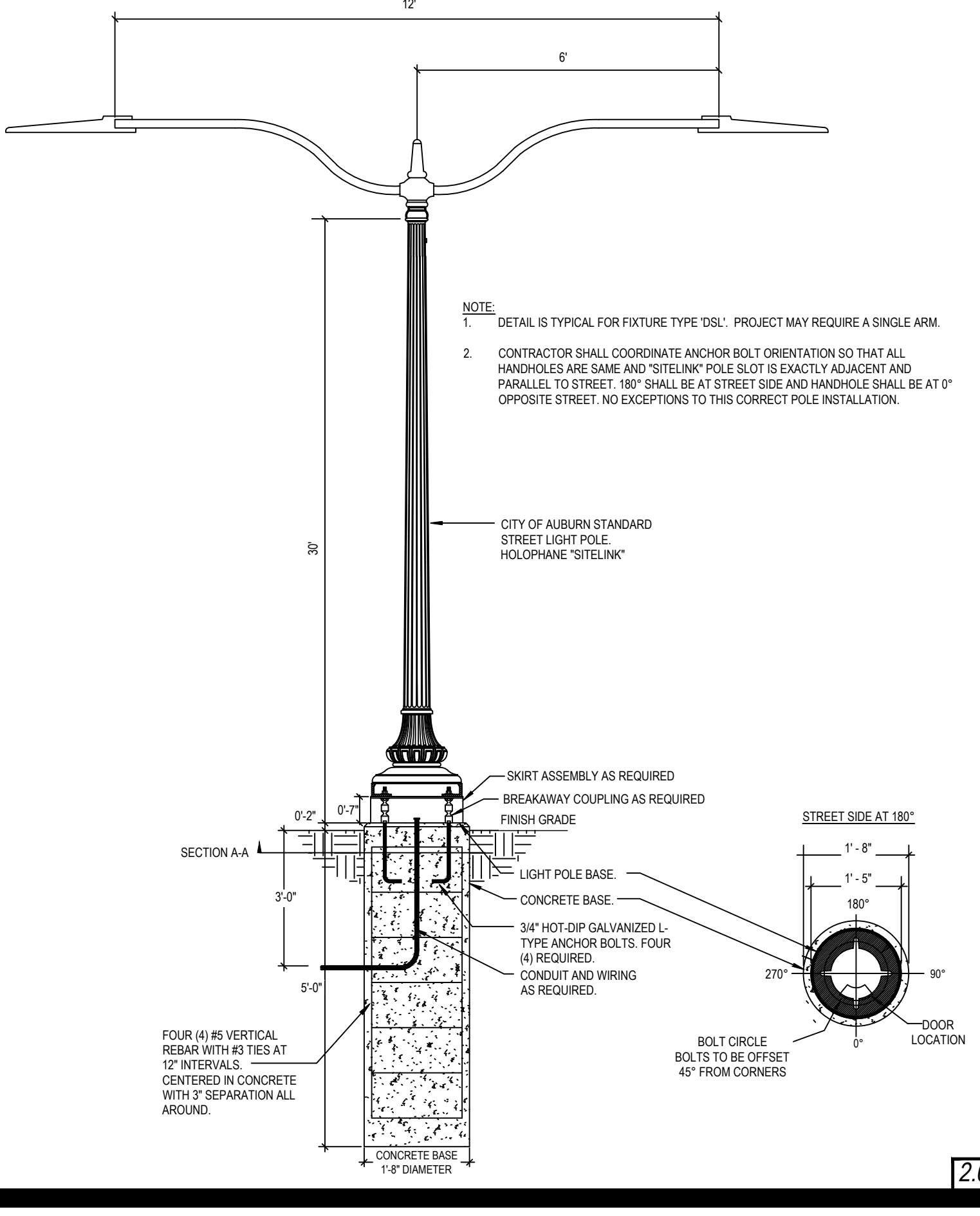
LARGE LOOP DETECTOR INSTALLATION DETAIL



TYPICAL PEDESTRIAN LIGHT POLE DETAIL



TYPICAL STREET LIGHT POLE DETAIL



TYPICAL LIGHT POLE SPECIFICATION

DEVELOPER REQUIREMENTS

- THE DEVELOPER WILL BE RESPONSIBLE FOR THE INDIVIDUAL DESIGNS OF EACH ENCLOSURE AREA OR INCORPORATING LIGHTING INTO THE EXISTING ENCLOSURE AREA DESIGNS.
- REFER TO SECTION 5.6 "STREET LIGHTING IN THE CITY OF AUBURN ENGINEERING DESIGN AND CONSTRUCTION MANUAL FOR FULL REQUIREMENTS."
- PROVISIONS FOR FUTURE FIXTURES LOCATIONS ASSIGNED TO THE ENCLOSURE MUST BE ACCOMMODATED IN THE ELECTRICAL DESIGN. THIS MAY INCLUDE BUT NOT LIMITED TO, INCREASED CONDUIT SIZE, SPARE CONDUIT, INCREASE WIRE SIZE, SPARE WIRE, JUNCTION BOXES, WIRE LABELS AT ALL JUNCTIONS, STUB OUTS, AND OTHER MISCELLANEOUS ACCOMMODATIONS.
- DEVELOPER MUST CONFIRM IF ANY OF MASTER PLAN WORK HAS BEEN DONE AT HIS SPECIFIC LOCATION. VERIFY IF PANEL ENCLOSURE HAS BEEN INSTALLED AND ANY POLE LIGHTS THAT MAY BE IN PLACE. COORDINATE ALL NEW ELECTRICAL WORK WITH OWNER REPRESENTATIVE.

PEDESTRIAN LIGHTING FIXTURE SCHEDULE

SYMBOL	MANUFACTURER & CATALOG NUMBER	LAMP	WATTS	MOUNTING	VOLTS	REMARKS
PL	HOLOPHANE GVD3-P84K-MVOLT-SPL-GL3-BK (LIGHT FIXTURE) WDA-12-SL4-1TD-C03-BWNT-6K-ABG (POLE)	LED 4000K	60	POLE	120	DECORATIVE LED LUMINAIRE WITH CAST ALUMINUM HOUSING (BLACK FINISH), BOROSILICATE GLASS REFRACTOR, TYPE 3 DISTRIBUTION, INTEGRAL 400 MILLIAMP LED DRIVER, MOUNT FIXTURE ON 12" STRAIGHT ALUMINUM, SITELINK POLE.
PB	HOLOPHANE GVD3-P84K-MVOLT-SPL-GL3-BK (LIGHT FIXTURE) WDA-12-SL4-1TD-C03-BWNT-6K-ABG (POLE) FPH-90-FLAG-POLE-HOLDER	LED 4000K	60	POLE	120	DECORATIVE LED LUMINAIRE WITH CAST ALUMINUM HOUSING (BRONZE FINISH), BOROSILICATE GLASS REFRACTOR, TYPE 3 DISTRIBUTION, INTEGRAL 400 MILLIAMP LED DRIVER, MOUNT FIXTURE ON 12" CLASSIC TAPERED AND FLUTED ALUMINUM POLE WITH BRONZE FINISH, WITH RECEPACLE INSIDE HANDLE AND ONE REAR TOP OF POLE FLAG POLE HOLDER AT 90° A.F.G.
PLR	HOLOPHANE GVD3-P84K-MVOLT-SPL-GL3-BK (LIGHT FIXTURE) WDA-12-SL4-1TD-C03-BWNT-6K-FOR-R132 (POLE)	LED 4000K	60	POLE	120	DECORATIVE LED LUMINAIRE WITH CAST ALUMINUM HOUSING (BLACK FINISH), BOROSILICATE GLASS REFRACTOR, TYPE 3 DISTRIBUTION, INTEGRAL 400 MILLIAMP LED DRIVER, MOUNT FIXTURE ON 12" STRAIGHT ALUMINUM, SITELINK POLE WITH RECEPACLE INSIDE HANDLE AND ONE AT 11'-0" ABOVE BOTTOM OF POLE.

STREET LIGHTING FIXTURE SCHEDULE

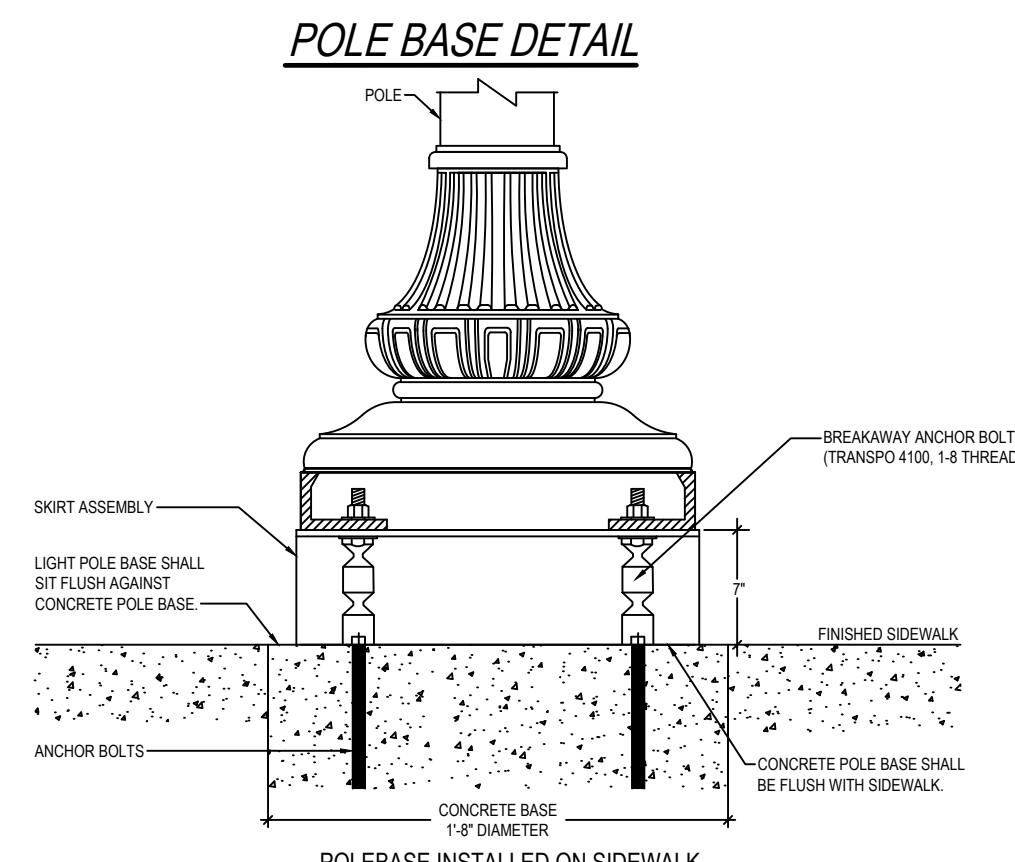
SYMBOL	MANUFACTURER & CATALOG NUMBER	LAMP	WATTS	MOUNTING	VOLTS	REMARKS
DSL	HOLOPHANE ATR0-P84-MVOLT-R3-BK-P7 (LIGHT FIXTURE) WDA-30-SL6-1TD-C02-BK-PR13A-BK-120-24-TA-SL6-BK-FG-6K-BWNT-TYOR-120BRC-100AB-TRANSP-48-RFD325929 (POLE) 14 ROADWAY ARM (2)	LED 4000K	124	POLE	120	"AUTOBAY" LED LUMINAIRE (28'180") WITH CAST ALUMINUM HOUSING, BLACK FINISH, TYPE II DISTRIBUTION, INTEGRAL LED DRIVER, 30' DECORATIVE POLE (2)

STANDARD DETAILS: TRAFFIC - SHEET 1 OF 3

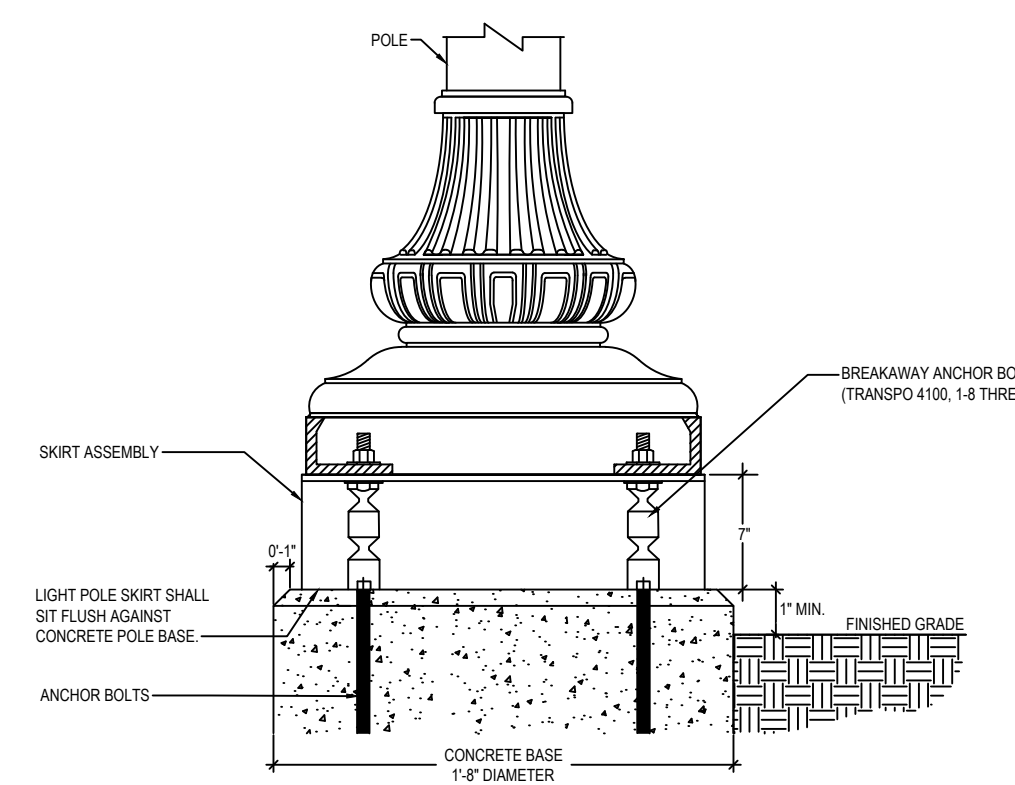
DEPARTMENT: ENGINEERING SERVICES
SCALE: N.T.S.
DRAWN BY: GINA MCCRECKARD
CITY ENGINEER: ALISON FRAZIER
APP'D BY: ALISON FRAZIER
IMPLEMENTED: 01-01-2022

REVISIONS:

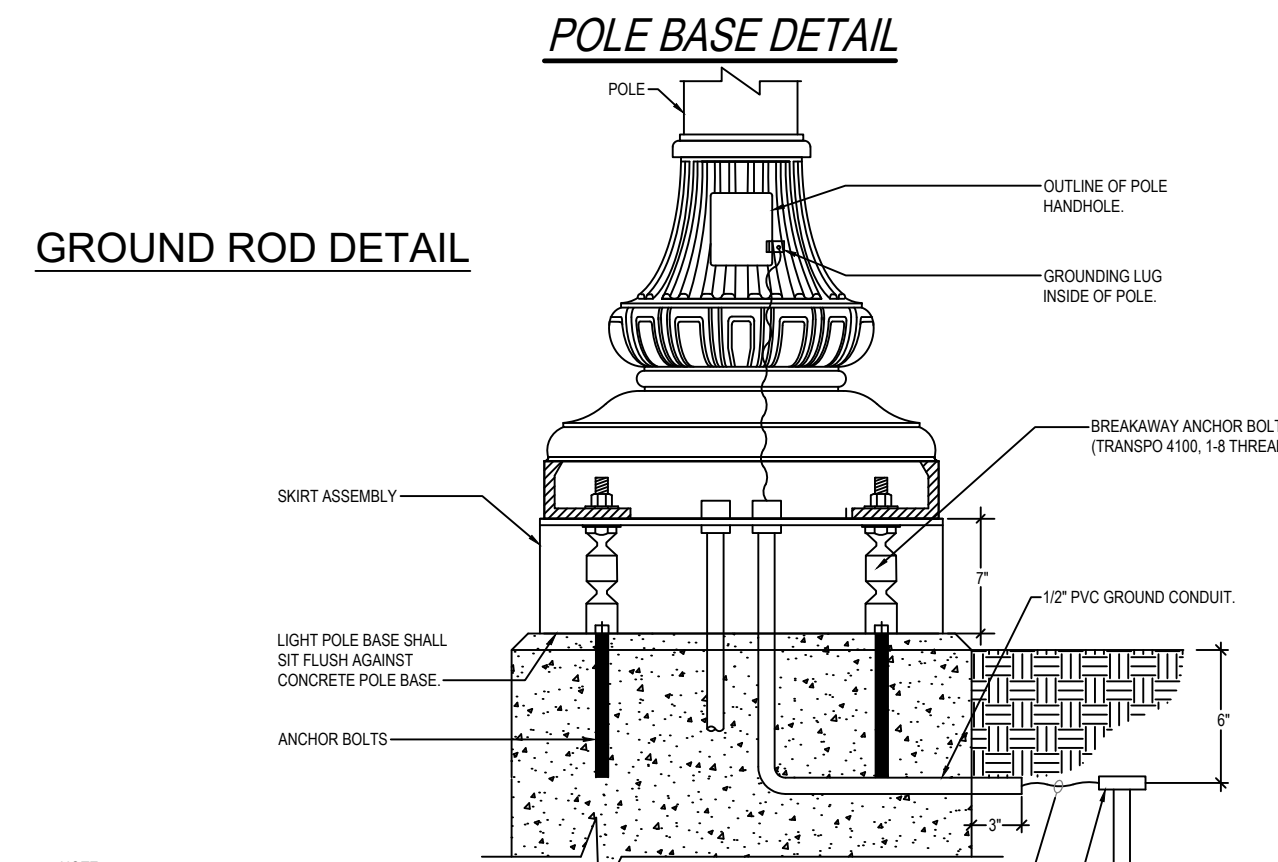
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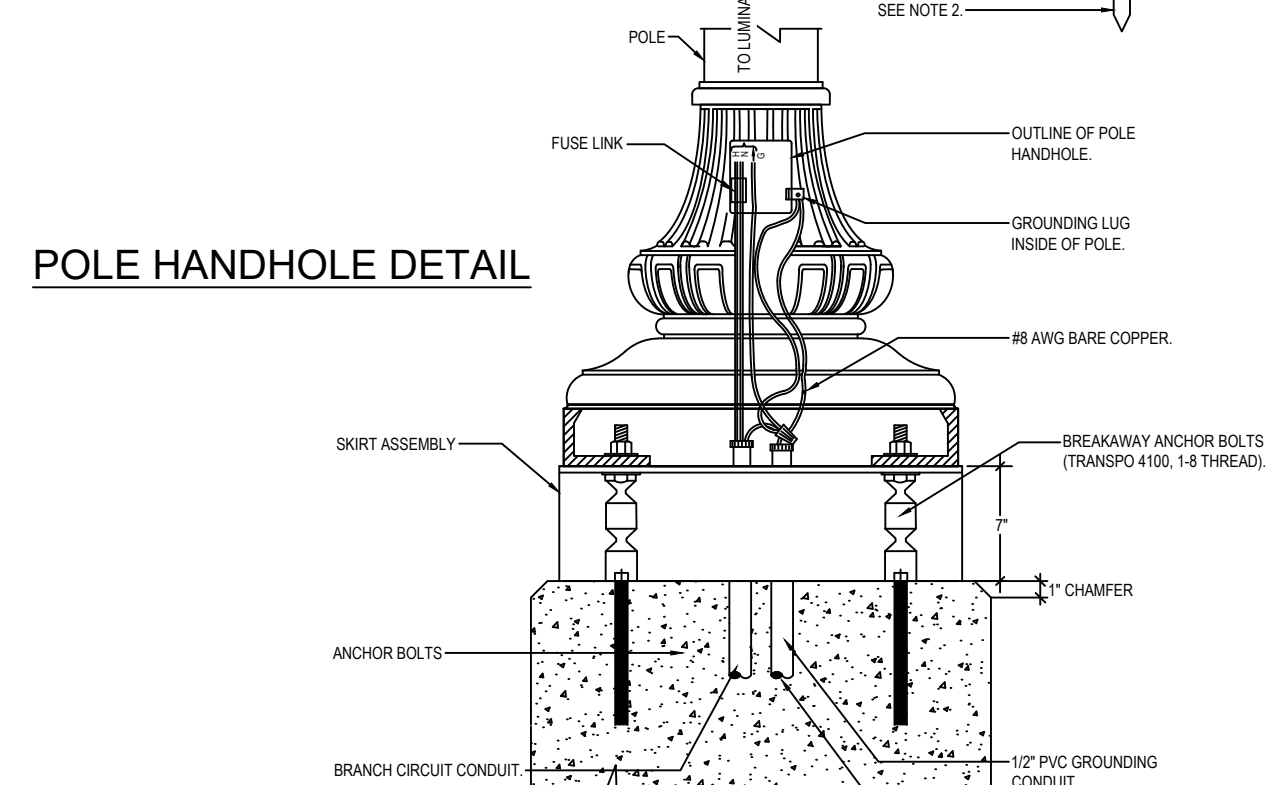
ENLARGED TYPICAL POLEBASE DETAIL



ENLARGED TYPICAL POLEBASE DETAIL



GROUND ROD DETAIL



POLE HANDHOLE DETAIL

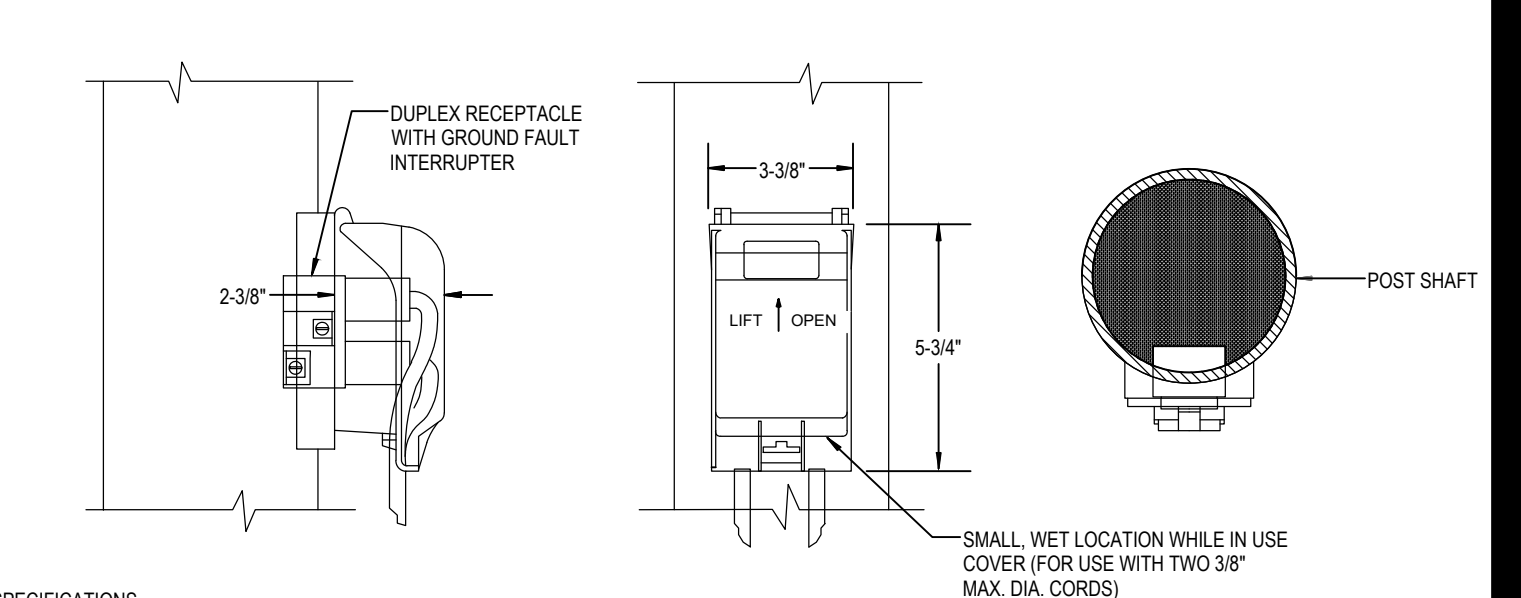
ELECTRICAL NOTES

- ENCLOSURE SHALL BE FREESTANDING ON CONCRETE PAD, PAINTED NEMA 3R, STEEL (G90), PAINTED BLACK (RAL 9017), HINGED DEAD FRONT HINGED COVER. ALL INTERNAL WIRING AND CONNECTIONS SHALL BE BY MANUFACTURER. MUST BE UL "SERVICE ENTRANCE" RATED. SIZE AS REQUIRED. ALL CIRCUIT BREAKERS (MAIN & BRANCH) AND H-O-A SWITCH SHALL BE ACCESSIBLE INSIDE ENCLOSURE WITH DEAD FRONT COVER CLOSED. MILBANK OR APPROVED EQUIVALENT.
- CONTRACTOR SHALL BE 100 AMP 2 POLE, ELECTRICALLY HELD WITH 120 VOLT COIL, OPEN TYPE. THIS CONTACTOR SHALL CONTROL "ON-OFF" OF ALL CIRCUITS IN PANEL "S1".
- HAND-OFF-AUTO (H-O-A) SWITCH SHALL BE 120 VOLT 20 AMP RATED AND SHALL OPERATE AS FOLLOWS:
 "HAND": CONTACTOR IS CLOSED AND PANEL "S1" IS ENERGIZED.
 "OFF": CONTACTOR IS OPEN AND PANEL "S1" IS DEENERGIZED.
 "AUTO": PHOTOCELL CONTROLS CONTACTOR AND "ON-OFF" OF PANEL "S1".
- PHOTOCELL SHALL BE SPST 120 VOLT TO CONTROL CONTACTOR AND "ON-OFF" OF PANEL "S1". PHOTOCELL SHALL BE MOUNTED INSIDE OF ENCLOSURE WITH GLASS WINDOW TO DETECT OUTSIDE LIGHT.
- CIRCUIT BREAKER (SIZE AS NOTED), SEPARATE OPEN TYPE, 10K AIC, ACCESSIBLE ON INSIDE HINGED COVER WITH LABEL DESCRIBING FUNCTION.
- UTILITY COMPANY ELECTRIC METER, MOUNT SOCKET INSIDE ENCLOSURE WITH METER VISIBLE ON OUTSIDE. COORDINATE REQUIREMENTS WITH UTILITY COMPANY. METER MOUNTING HEIGHT SHALL BE BETWEEN 48" AND 60" ABOVE FINISH GRADE TO CENTER OF METER.
- PANEL 120/240VOLT 1 PHASE 3 WIRE, CIRCUIT BREAKER LOAD CENTER TYPE. REFER TO PANELBOARD SCHEDULE FOR CIRCUIT BREAKERS. BREAKERS SHALL BE ACCESSIBLE ON INSIDE HINGED COVER. PROVIDE DIRECTORY OR LABELS.
- CONTRACTOR SHALL FURNISH AND INSTALL ONE (1) 3/4" DEEP ALABAMA POWER COMPANY WILL FURNISH AND INSTALL CONDUCTORS. COORDINATE CONNECTION REQUIREMENTS.
- ALL ENCLOSURE COMPONENTS AND INTERNAL WIRING BETWEEN COMPONENTS SHALL BE DONE BY ENCLOSURE MANUFACTURER.
- THIS IS A STANDARD ELECTRICAL ENCLOSURE FOR CITY OF AUBURN AND MAY INCLUDE EQUIPMENT NOT USED ON THIS PROJECT.
- SERVICE TERMINATION LUGS.

GENERAL NOTES

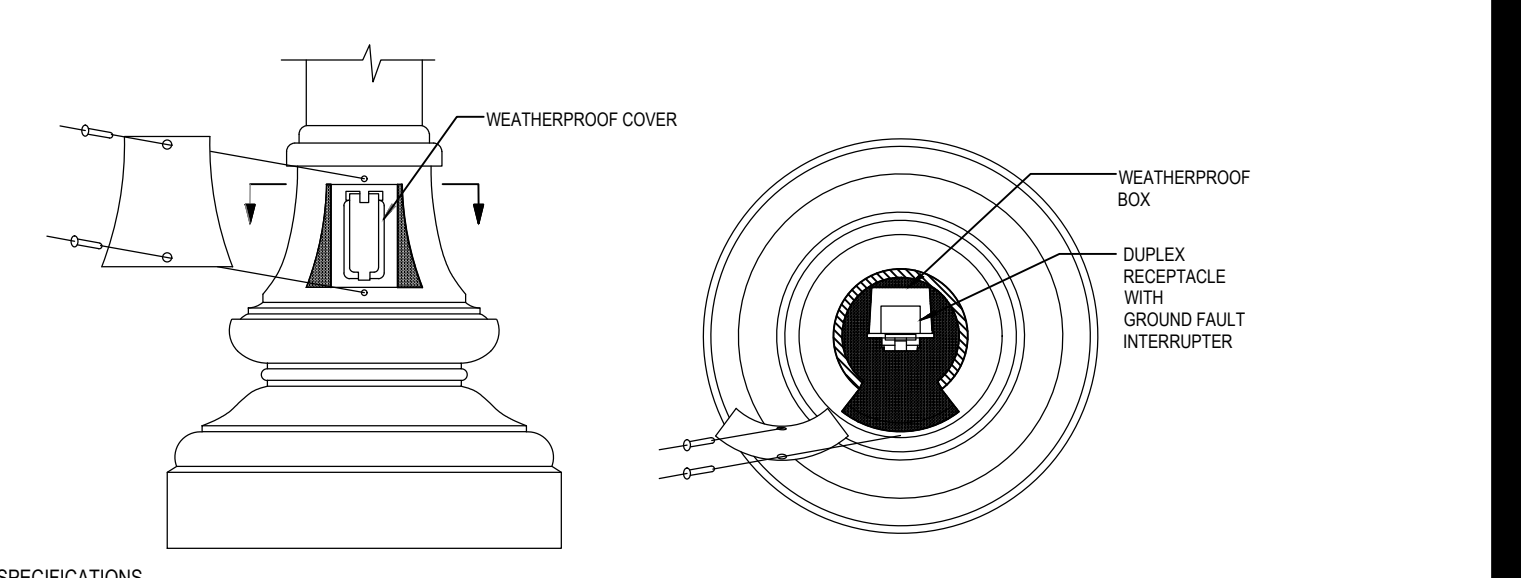
- ALL ELECTRICAL WORK AND MATERIAL SHALL CONFORM TO THE LATEST EDITION OF THE N.E.C. AND ALL REQUIREMENTS OF THE STATE AND LOCAL AUTHORITY HAVING JURISDICTION.
- WIRING SYSTEM SHALL CONSIST OF COPPER WIRING INSTALLED IN CONDUIT, MINIMUM WIRE SIZE SHALL BE #12 AWG. MINIMUM CONDUIT SIZE SHALL BE 3/4".
- ALL CONDUCTORS SHALL BE TYPE THHN.
- CONDUIT SHALL BE SIZED IN ACCORDANCE WITH TABLE 1, CHAPTER 9 OF N.E.C.
- CONTRACTOR SHALL PROVIDE ALL MATERIAL NECESSARY TO FINALIZE A WORKING ELECTRICAL SYSTEM WHICH CONFORMS TO ALL LOCAL CODES AND THE NATIONAL ELECTRICAL CODE AS PER PLANS, AND SPECS.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VISIT THE SITE AND BECOME THOROUGHLY FAMILIAR WITH ALL EXISTING CONDITIONS PRIOR TO BID DATE OR CONSTRUCTION DATE, AS HE SHALL BE RESPONSIBLE FOR SAME.
- EXACT LOCATION OF EXISTING UNDERGROUND UTILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR.
- CUTTING OF EXISTING PAVEMENT IS NOT ALLOWED FOR ROUTING OF NEW CIRCUITS/CONDUITS. PROVIDE DIRECTIONAL HORIZONTAL BORING MINIMUM 3" BELOW GRADE AS REQUIRED.
- FLAG HOLDER SHALL BE INSTALLED 8'-0" ABOVE GROUND FINISH GRADE.
- REQUIRED CHAMFER SHALL BE CONSTRUCTED USING CHAMFER STRIP. IT MAY NOT BE HAND TOoled.
- CONTRACTOR SHALL COORDINATE WITH CITY OF AUBURN FOR PEDESTRIAN LIGHTS WITH OWNER REPRESENTATIVE PRIOR TO INSTALLATION.
- CONTRACTOR SHALL SCHEDULE INSPECTIONS WITH OWNER REPRESENTATIVES AS REQUIRED IN THE CITY OF AUBURN ENGINEERING DESIGN AND CONSTRUCTION MANUAL.
- SERVICE VOLTAGE AT ELECTRICAL ENCLOSURE SHALL BE 120 / 240 VOLT 1 PHASE, 3 WIRE. SERVICE SHALL BE UNDERGROUND BY ALABAMA POWER.
- ENCLOSURE LOCATIONS ARE GENERAL. COORDINATE EXACT LOCATIONS WITH OWNER REPRESENTATIVE AND ALABAMA POWER COMPANY PRIOR TO INSTALLATION.
- EACH ENCLOSURE SHALL HAVE (1) SPARE 2-INCH CONDUIT STUBBED OUT 5' AND CAPPED. COORDINATE EXACT LOCATION WITH THE CITY OF AUBURN.

WEATHERPROOF RECEPTACLE - EXTERNAL POST SHAFT LOCATION



SPECIFICATIONS
 A 20 AMP, 125 VOLT, GROUND FAULT CIRCUIT INTERRUPTER DUPLEX RECEPTACLE SHALL BE MOUNTED IN THE POST. THE RECEPTACLE SHALL BE UL LISTED ACCORDING TO E-48380 AND UL 943 CLASS A AND UL 498. THE RECEPTACLE SHALL HAVE A CAST ALUMINUM, LOCKABLE, UL LISTED COVER THAT IS SUITABLE FOR WET LOCATIONS WHILE IN USE AND COMPLIES WITH NEC ARTICLE 410.57(B). THE COVER SHALL ACCEPT MOST COMMON CORD SETS UP TO 3/8" DIAMETER (14:3). THE RECEPTACLE AND COVER SHALL MOUNT TO AN OUTLET OPENING, IN THE POST SHAFT, WITH A GASKET AND STAINLESS STEEL SCREWS. HOLOPHANE FOCUS-SEKH. LOCATE THIS RECEPTACLE 11" ABOVE BOTTOM OF POLE. THIS RECEPTACLE SHALL BE MOUNTED 11" ABOVE BOTTOM OF POLE BASE.

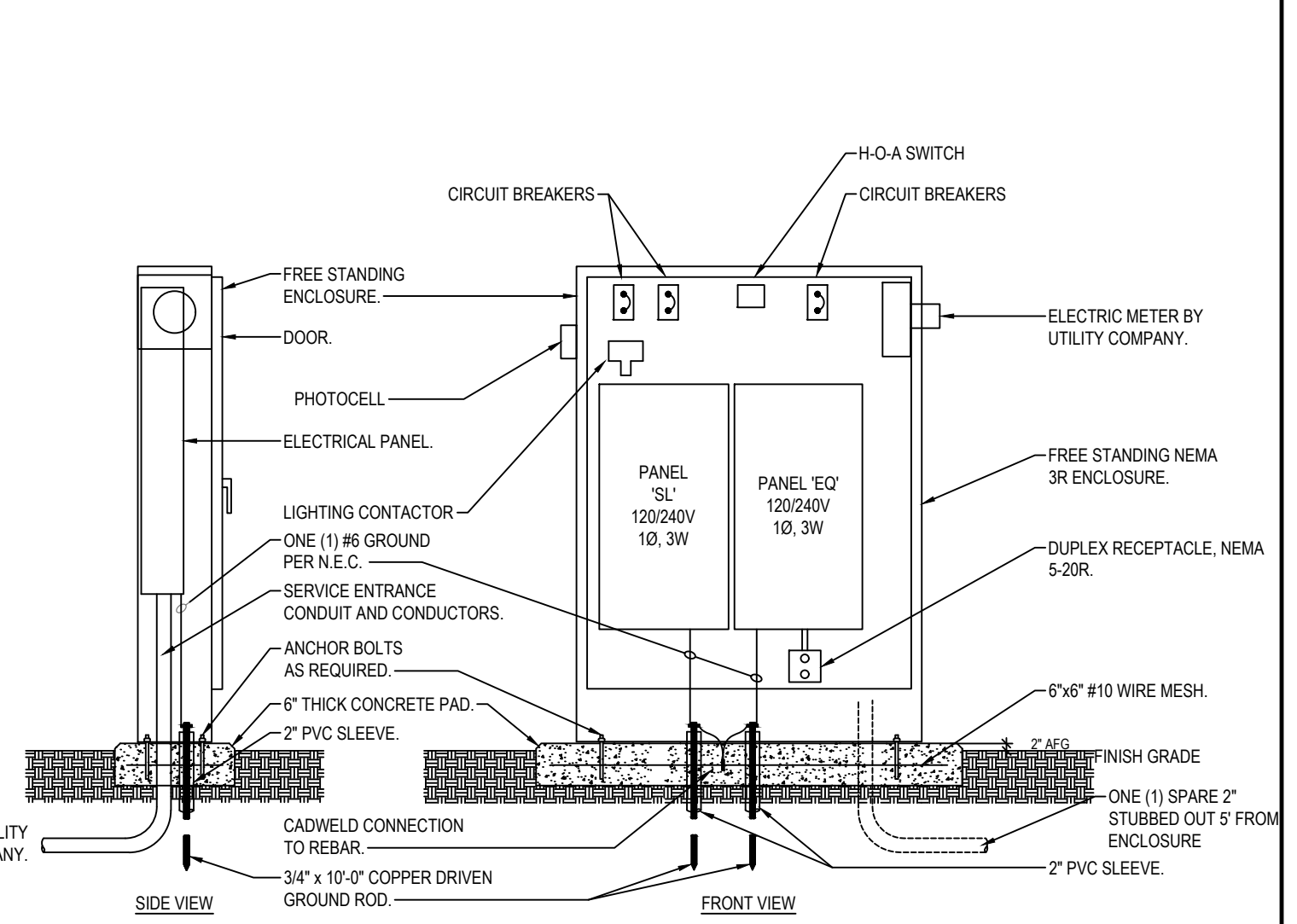
WEATHERPROOF RECEPTACLE - INTERNAL BASE LOCATION



SPECIFICATIONS
 A 20 AMP, 125 VOLT, GROUND FAULT CIRCUIT INTERRUPTER DUPLEX RECEPTACLE SHALL BE MOUNTED INSIDE THE POST BASE, FACING TOWARD THE ACCESS DOOR. THE RECEPTACLE SHALL BE UL LISTED ACCORDING TO E-48380 AND UL 943 CLASS A AND UL 498. THE RECEPTACLE SHALL BE MOUNTED IN A CAST ALUMINUM BOX AND COVER THAT IS SUITABLE FOR WET LOCATIONS WHILE NOT IN USE. THE RECEPTACLE AND COVER SHALL MOUNT TO A GASKET AND STAINLESS STEEL SCREWS. HOLOPHANE FOCUS-SEKH.

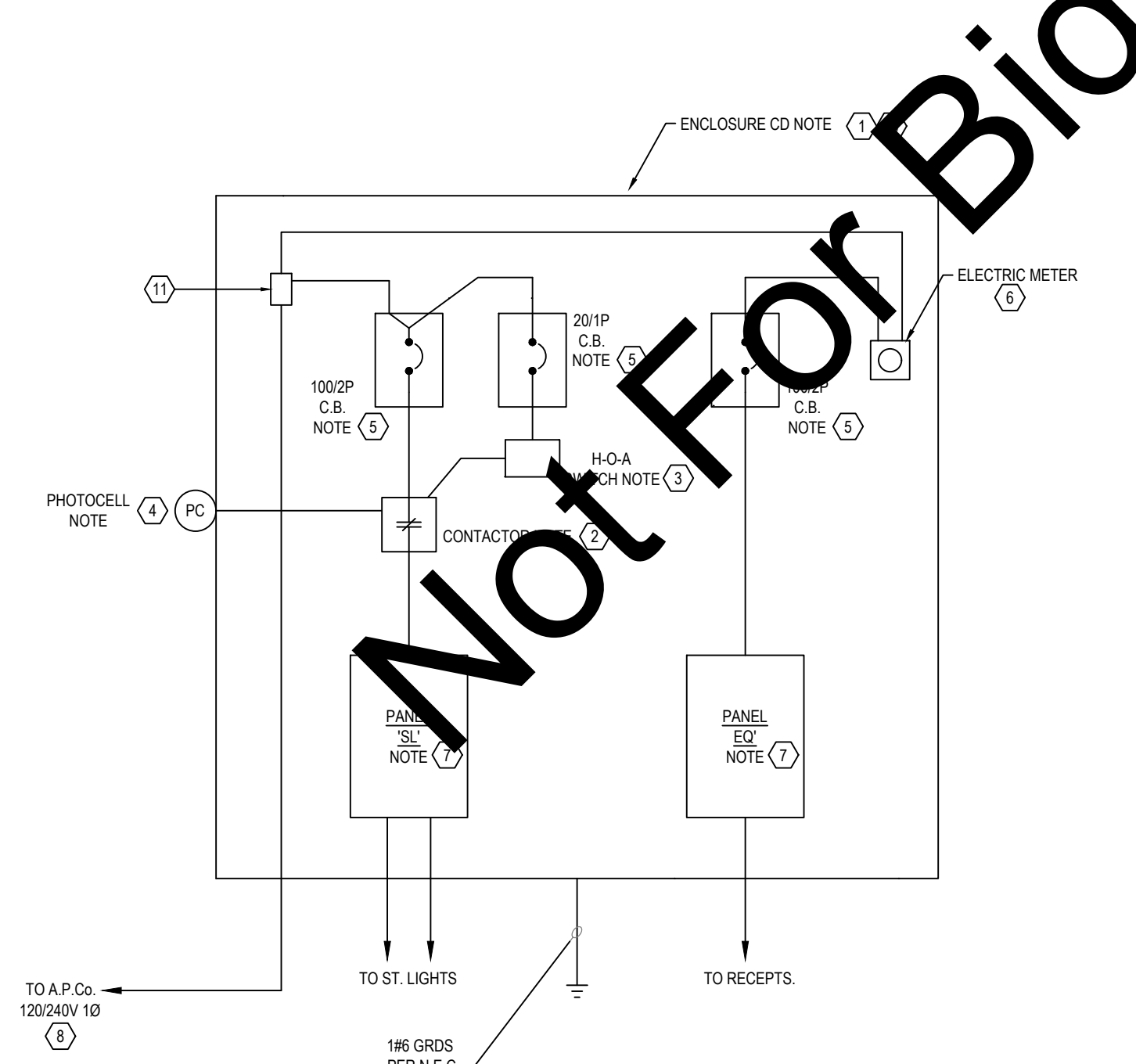
- NOTES:**
- RECEPTACLES MUST BE WIRED ON SEPARATE CIRCUIT FROM LIGHT.
 - RECEPTACLES ARE TYPICALLY INSTALLED FOR USE BY AUTHORIZED PERSONNEL FOR SPECIAL EVENTS, DECORATIVE SEASONAL LIGHTING, AND OWNER MAINTENANCE PURPOSES.

PANEL ENCLOSURE DETAIL - TYPICAL



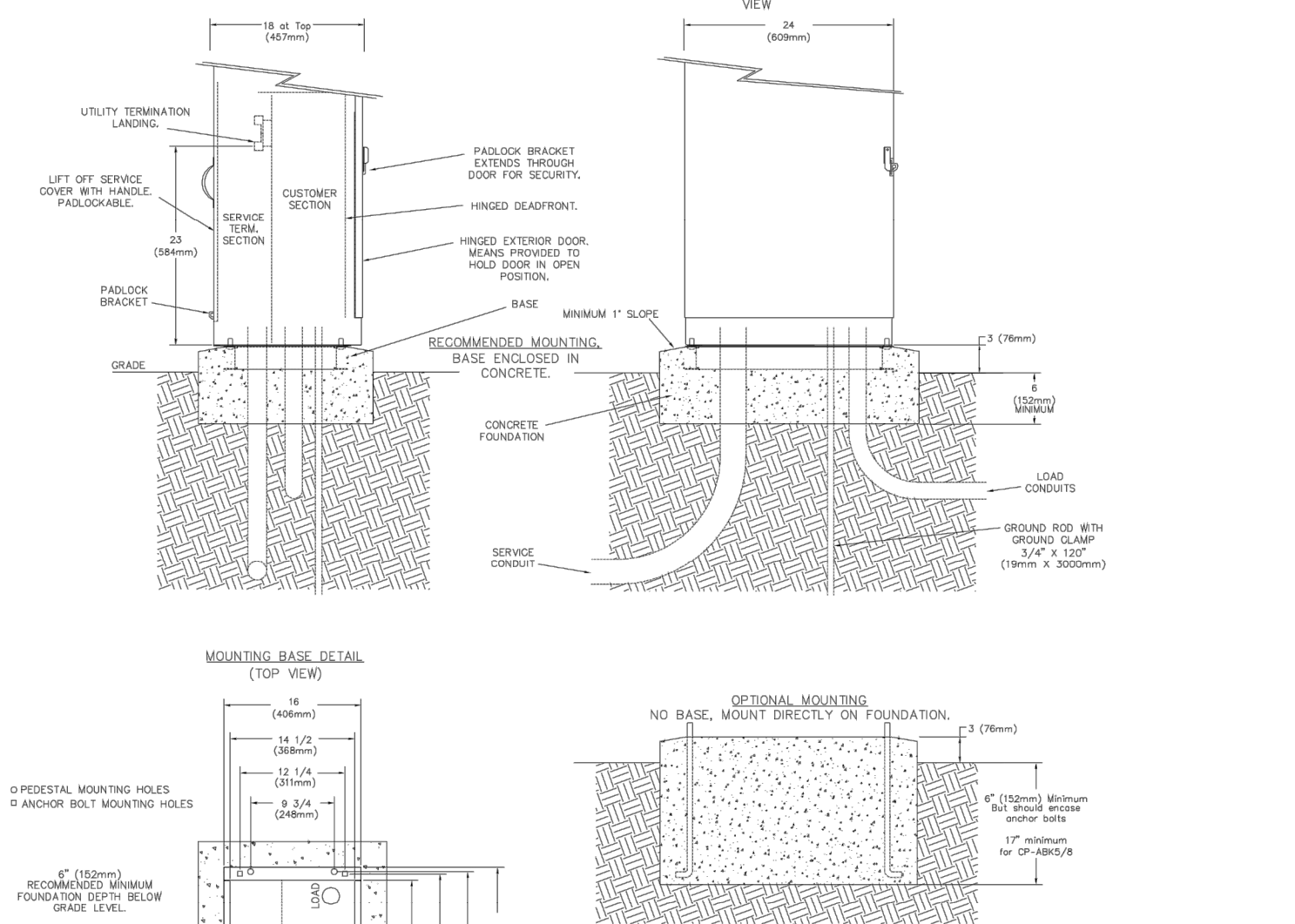
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EQUIPMENT INSIDE ENCLOSURE - TYPICAL

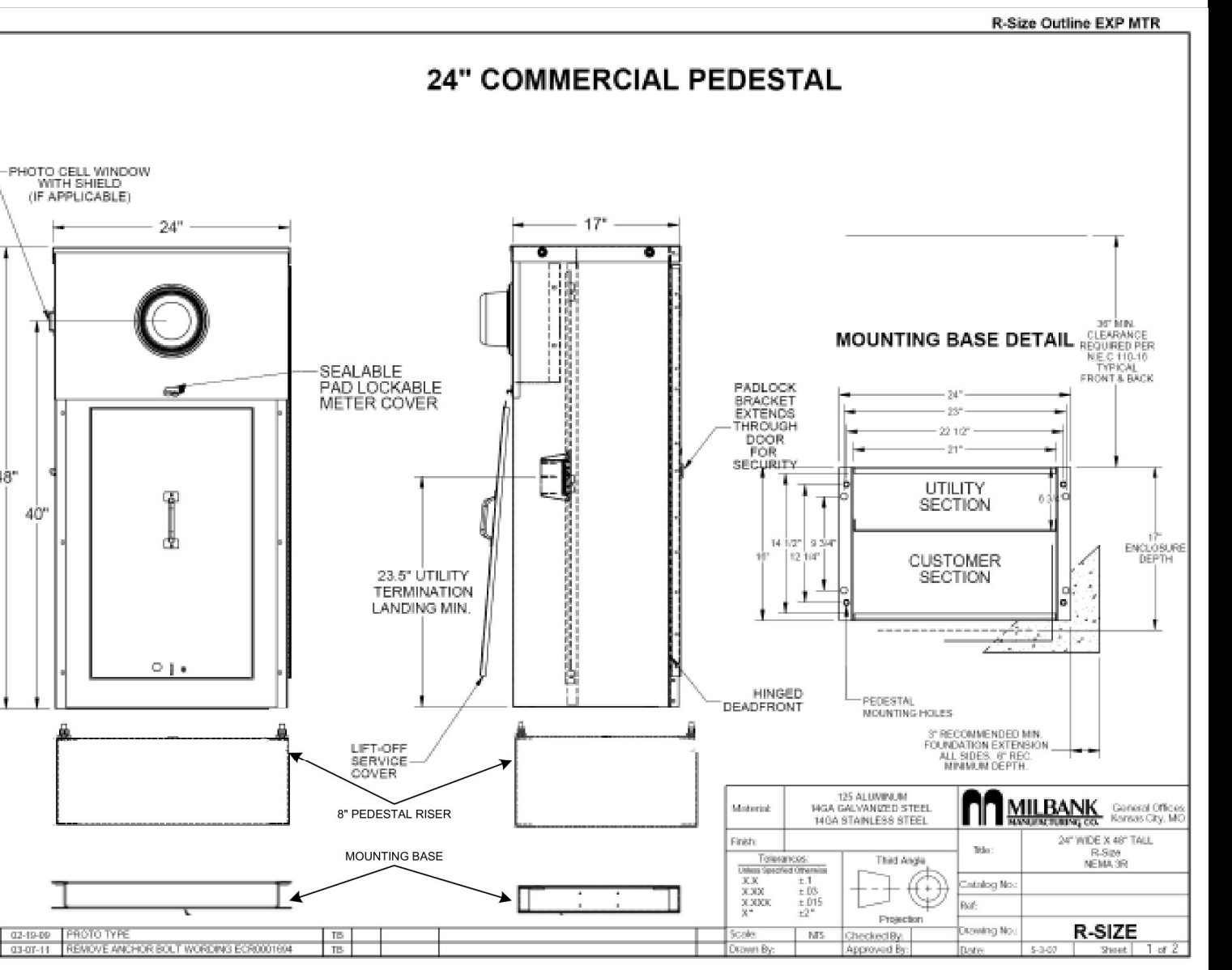


2.09

TYPICAL "30\"/>



2.10



2.15

STANDARD DETAILS: TRAFFIC - SHEET 2 of 3

<p>City of Auburn</p>	DEPARTMENT: ENGINEERING SERVICES	REVISIONS:
	SCALE: N.T.S.	
	DRAWN BY: GINA MCCRICKARD	
	CITY ENGINEER: ALISON FRAZIER	
APPROVED BY: ALISON FRAZIER	IMPLEMENTED: 01-01-2022	EFFECTIVE DATE: 2022

2.12

2.13

2.14

Catalog Number: 120/240 VAC, 1-phase, 3-wire, 200 Amps Maximum, (see Main circuit breaker rating)
CP3B5212BRBKSL1
 TYPE A
 Rainproof - Type 3R, Galvanized (G90) steel Enclosure, painted BLACK (RAL 9017)
 Enclosed Industrial Control - Suitable ONLY for Use as Service Equipment
 The short circuit current rating is 10,000 RMS symmetrical amperes maximum at 240volts maximum, in accordance with the table below, but is limited to the lowest short circuit rating of any installed circuit breaker. Watthour meter is not included in the short circuit rating. Replacement circuit breakers must be of the same type and rating.

No.	Amps	Poles	Circuit Description	No.	Amps	Poles	Circuit Description
1	20	1	RECEPTS	2	20	1	RECEPTS
3	20	1	RECEPTS	4	20	1	RECEPTS
5	20	1	RECEPTS	6	20	1	RECEPTS
7	20	1	RECEPTS	8	20	1	RECEPTS
9	20	1	RECEPTS	10	20	1	RECEPTS
11	20	1	RECEPTS	12	20	1	RECEPTS
13				14			
15				16			
17				18			
19				20			
21				22			
23				24			

AIC RATING	MAIN (METERED)	BRANCHES (METERED)
10	Siemens type BQ	Siemens type BQ, QP

No.	Amps	Poles	Circuit Description	No.	Amps	Poles	Circuit Description
1	20	1	STREET LITS	2	20	1	STREET LITS
3	20	1	STREET LITS	4	20	1	STREET LITS
5	20	1	STREET LITS	6	20	1	STREET LITS
7	20	1	STREET LITS	8	20	1	STREET LITS
9	20	1	STREET LITS	10	20	1	STREET LITS
11	20	1	STREET LITS	12	20	1	STREET LITS
13				14			
15				16			
17				18			
19				20			
21				22			
23				24			

AIC RATING	MAIN (UNMETERED)	BRANCHES (UNMETERED)
22	Siemens type BQ	Siemens type BQ, QP

Circuit breaker handle trip position is between "ON" and "OFF". To reset breaker, move handle to the full "OFF" position, then to full "ON".

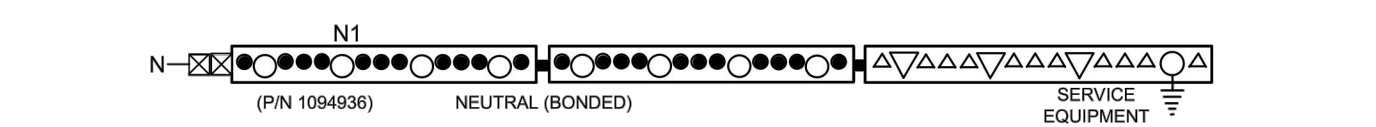
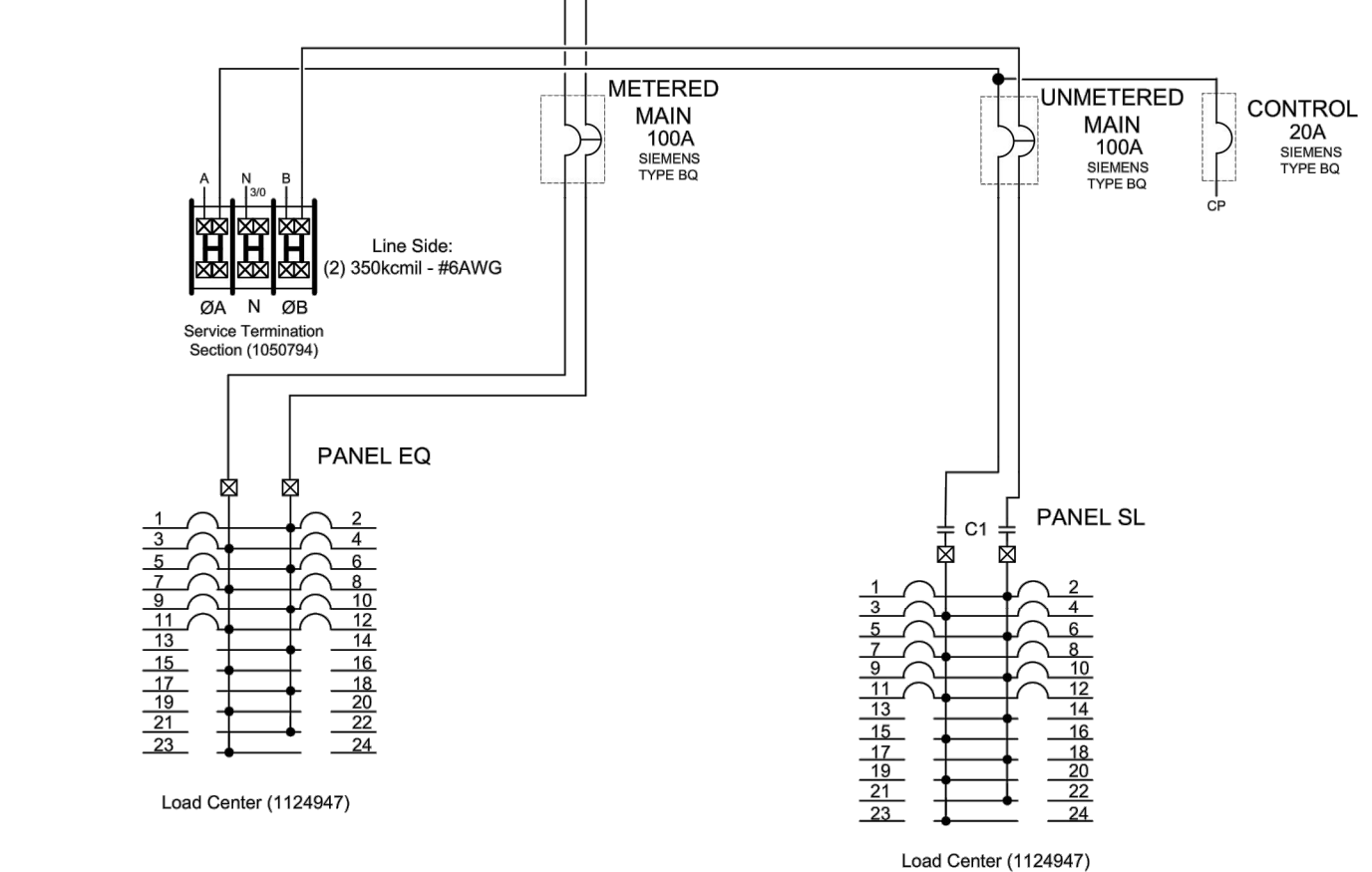
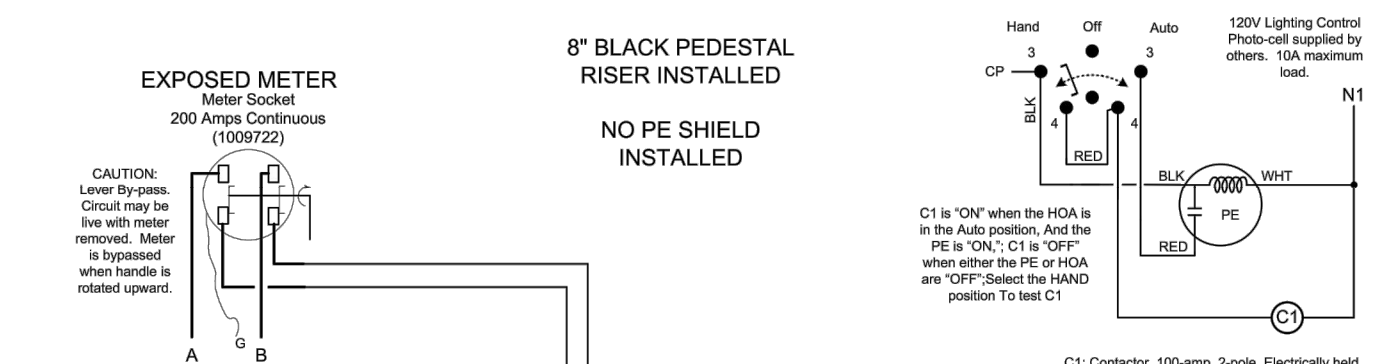
Terminal Information, Use AL/CU conductors

FIELD WIRED CONNECTORS				BUS CONNECTIONS			
Busbar Size	Terminal Size	View	Terminal Size	Terminal Size	Terminal Size	Terminal Size	Terminal Size
3/4"	275	#14-20	20	35	10-24	AL	30
1"	375	#8	25	40	10-24	CU	30
1 1/2"	500	#6	35	45	10-20	AL	50
1 3/4"	600	#4	45	50	10-20	CU	75
		#5-10	50				

Shipping may loosen electrical connections. CHECK TIGHTNESS BEFORE ENERGIZING.

BONDED NEUTRAL - Remove neutral load conductors for test purposes only!
 FIELD INSTALLED conductors shall be 60°C, 75°C, or 90°C, sized to 90°C rating for 110 amps or less; and 75°C or 90°C for 125 amps and above.

Catalog Number: 120/240 VAC, 1-phase, 3-wire, 200 Amps Maximum, (see Main circuit breaker rating)
CP3B5212BRBKSL1
 TYPE A
 Rainproof - Type 3R, 304 Galvanized (G90) steel Enclosure, painted BLACK (RAL 9017)
 Enclosed Industrial Control - Suitable ONLY for Use as Service Equipment

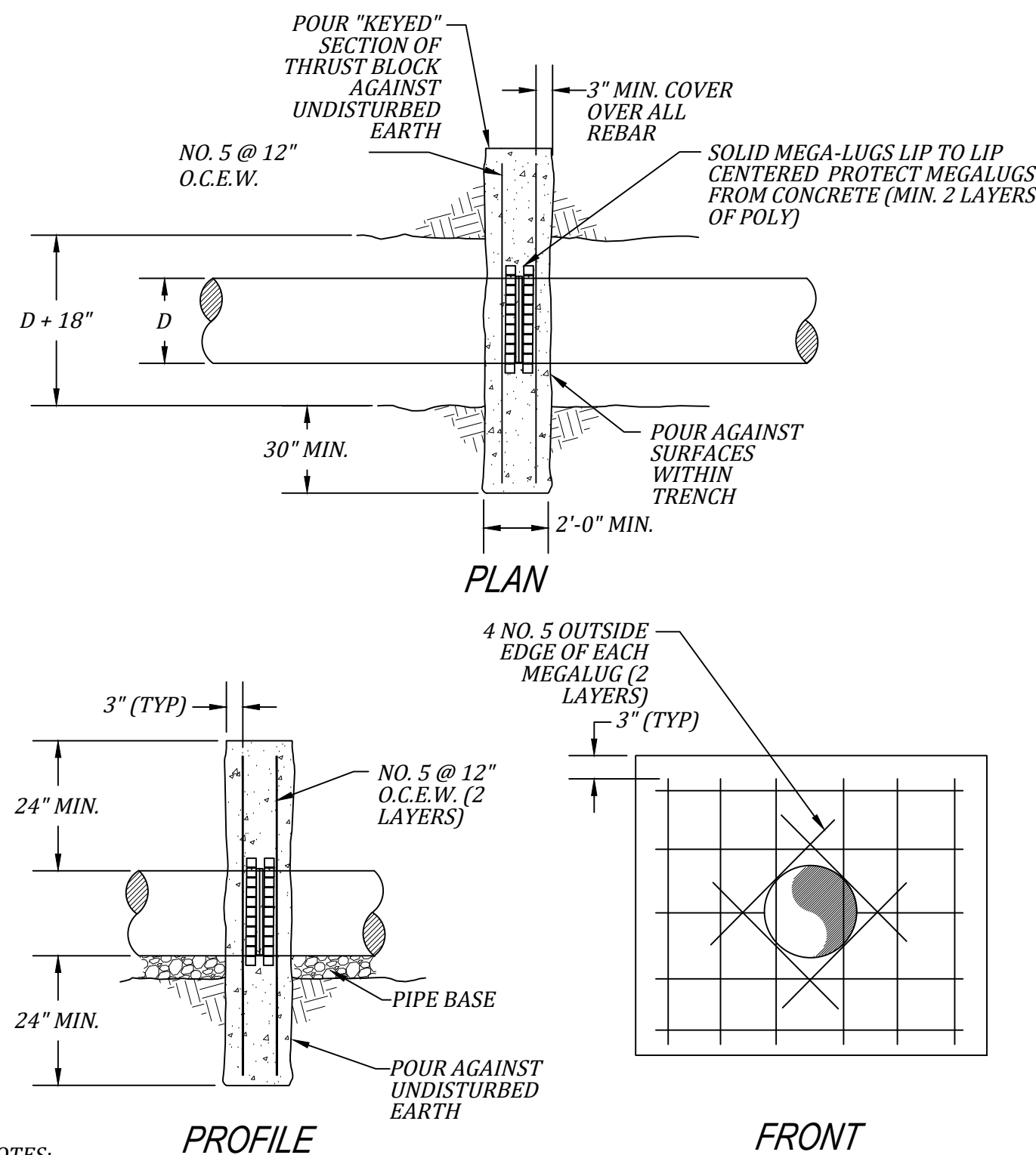


Not For Bidding Purposes

STANDARD DETAILS: TRAFFIC - SHEET 3 of 3	
DEPARTMENT: ENGINEERING SERVICES	REVISIONS:
SCALE: N.T.S.	
DRAWN BY: GINA MCCRICKARD	
CITY ENGINEER: ALISON FRAZIER	
APPROVED BY: ALISON FRAZIER	
IMPLEMENTED: 01-01-2022	

EFFECTIVE DATE
2022

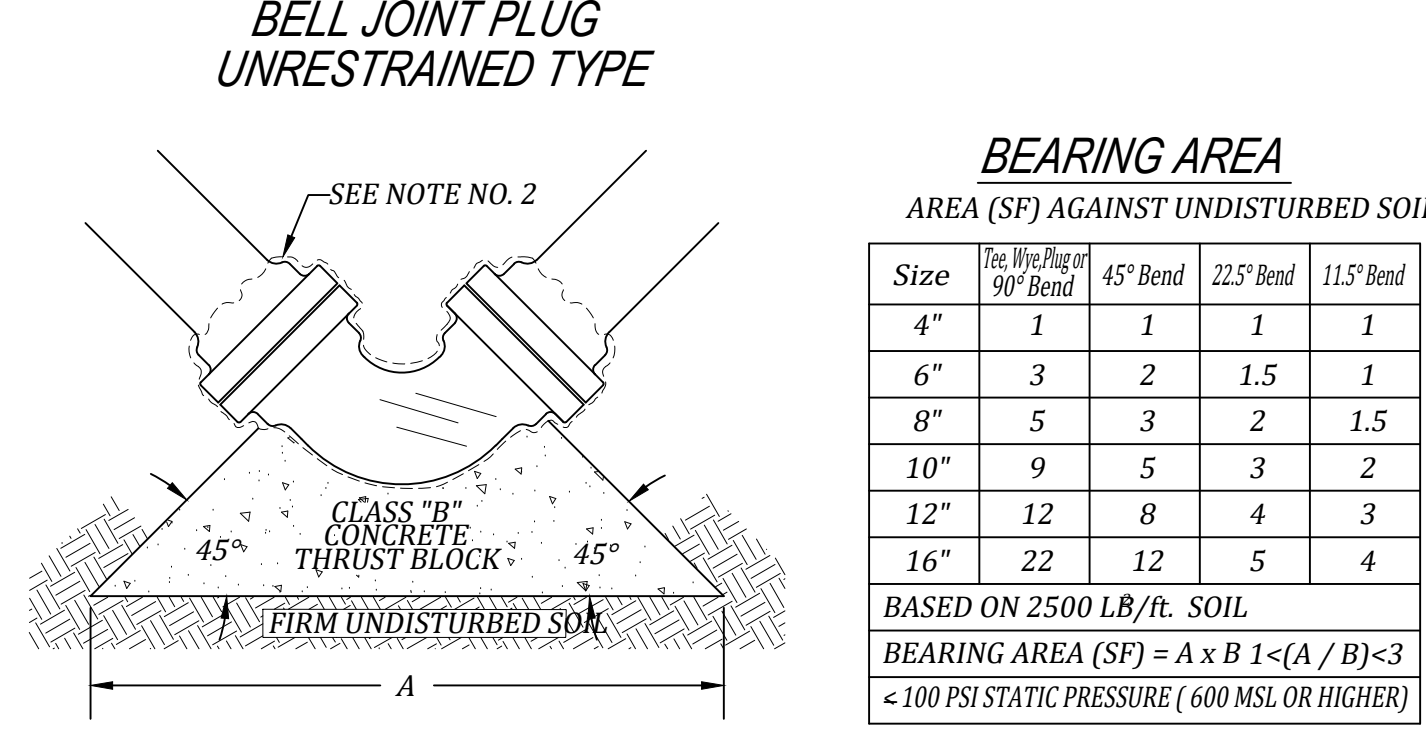
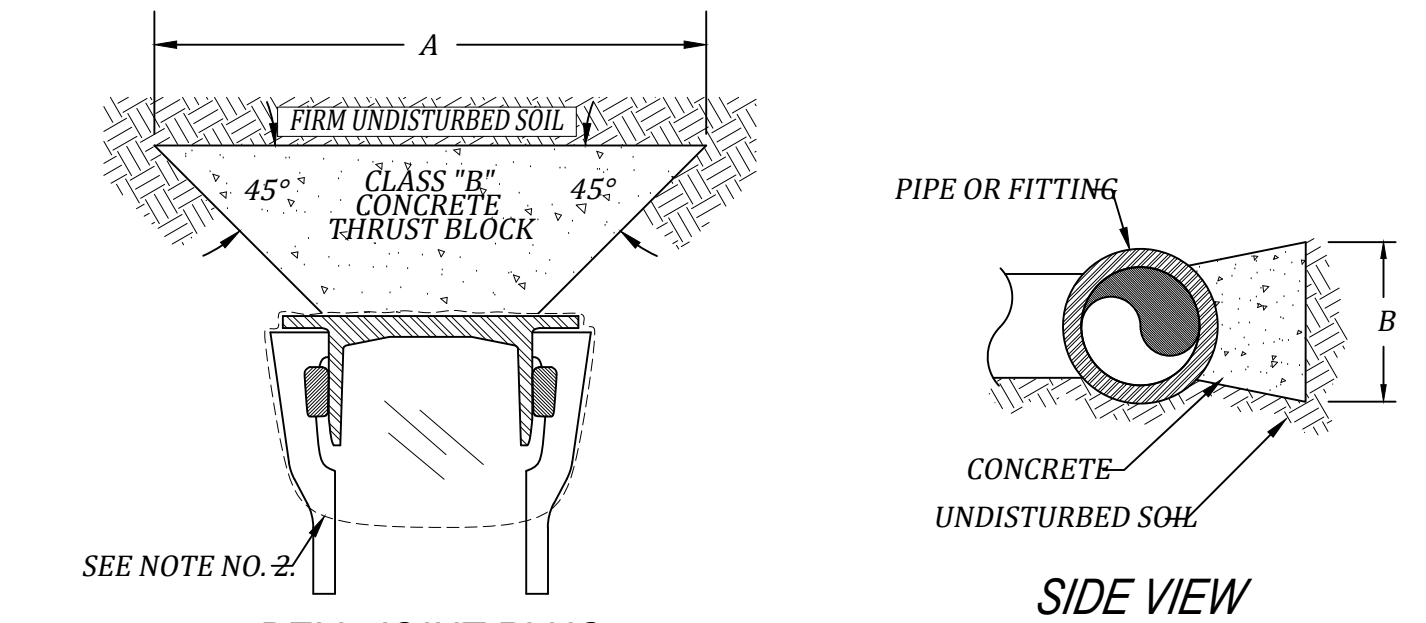
TYPICAL DEADMAN THRUST RESTRAINT



- NOTES:**
- DEADMAN TO BE CENTERED ON FULL JOINT OF PIPE
 - ALL CONCRETE SHALL BE CLASS "A" (4000 PSI) IN ACCORDANCE WITH THE CITY OF AUBURN STANDARD SPECIFICATIONS
 - NO CALCIUM CHLORIDE CURING ACCELERATOR ALLOWED
 - APPLICABLE FOR UP TO AND INCLUDING 12" DIAMETER PIPE. MAY BE USED FOR PIPES ABOVE 12" DIAMETER ON A CASE BY CASE BASIS.
 - TO BE USED ON EXISTING DUCTILE IRON OR CAST IRON PIPE IN GOOD CONDITION.

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TYPICAL CONCRETE THRUST BLOCK DESIGN



BEARING AREA
AREA (SF) AGAINST UNDISTURBED SOIL

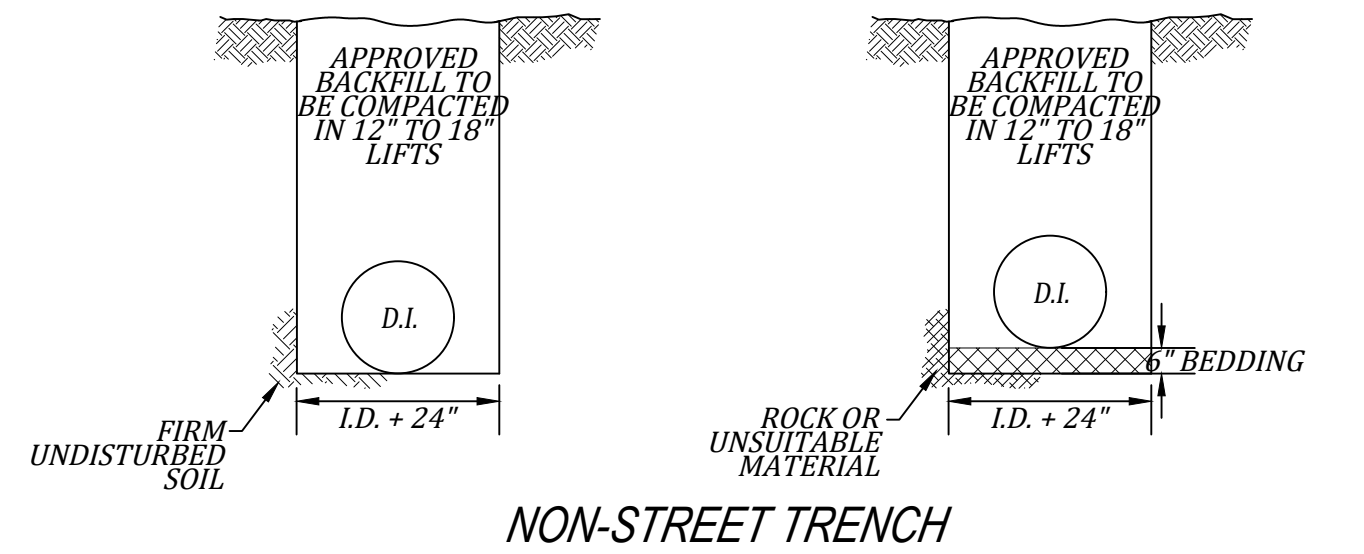
Size	See Note No. 2	45° Bend	22.5° Bend	11.5° Bend
4"	1	1	1	1
6"	3	2	1.5	1
8"	5	3	2	1.5
10"	9	5	3	2
12"	12	8	4	3
16"	22	12	5	4

BASED ON 2500 LB./FT. SOIL
BEARING AREA (SF) = A x B 1 < (A / B) < 3
< 100 PSI STATIC PRESSURE (600 MSL OR HIGHER)

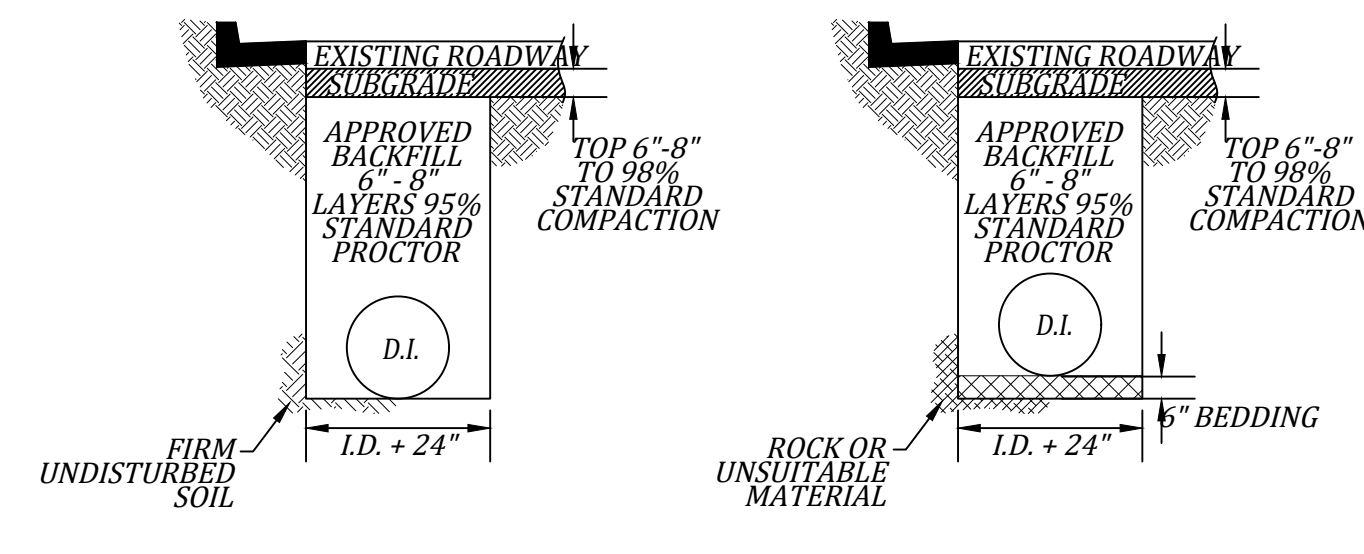
- NOTES:**
- 45 DEGREE ANGLES REQUIRED FOR ALL THRUST BLOCKS.
 - NON STANDARD THRUST BLOCKING WILL REQUIRE SPECIAL DETAILING PROVIDED BY A LICENSED ENGINEER AND APPROVED BY THE CITY OF AUBURN.
 - ALL MECHANICAL JOINT FITTINGS THAT REQUIRE THRUST BLOCKS SHALL BE WRAPPED IN PLASTIC. CONCRETE SHALL NOT BE POURED OVER JOINTS.
 - CLASS "B" CONCRETE SHALL BE AS DEFINED IN THE CITY OF AUBURN STANDARD SPECIFICATIONS SECTION II.
 - THE PREFERRED METHOD OF THRUST RESTRAINT SHALL BE THROUGH THE USE OF EXTERNALLY RESTRAINED JOINT DEVICES SUCH AS MEGA-LUGS IN LIEU OF CONCRETE BLOCKING. CONCRETE BLOCKING SHALL ONLY BE PERMITTED WHERE APPROVED BY THE AWWB AND SHALL NOT BE USED IN CONJUNCTION WITH MEGA-LUG RESTRAINTS. THE APPROPRIATE LENGTH OF RESTRAINT SHALL BE CALCULATED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS.

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BEDDING REQUIREMENTS FOR TRENCHES



NON-STREET TRENCH



STREET TRENCH

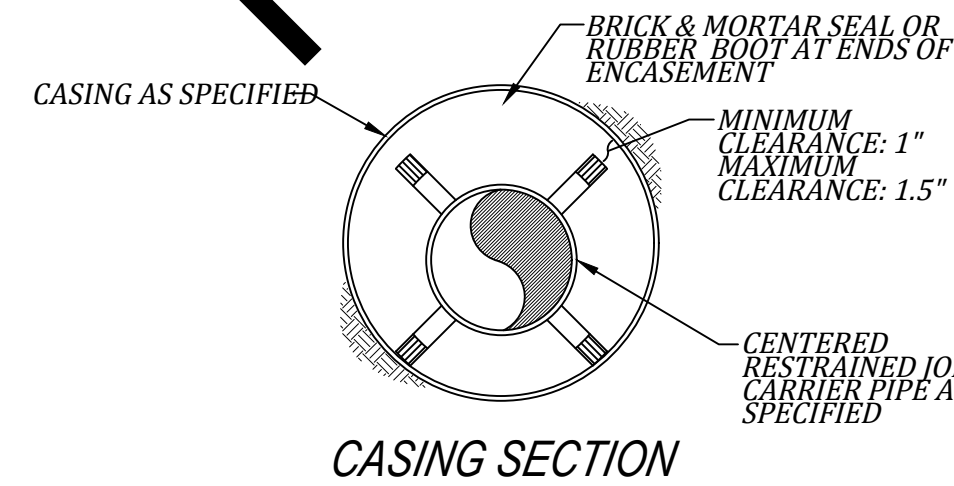
- NOTES:**
- BEDDING MATERIALS SHALL BE 1/4" TO 1 1/2" GRADED CRUSHED STONE SUCH AS 56, 57, 66, 67, 68, 7, OR 78, STONE PER ALDOT STANDARD SPECS.
 - WIDTH VARIES BASED ON WALL STABILITY. STABLE WALLS WIDTH AS NEEDED TO JOIN PIPE AND COMPACT HAUNCHING AND INITIAL BACKFILL. UNSTABLE WALLS: WIDTH TO BE A MINIMUM OF FIVE TIMES PIPE DIAMETER.
 - FLOWABLE FILL CAN BE USED AS BACKFILL, BUT MUST HAVE PRIOR APPROVAL AND MUST BE ALLOWED TO SET FOR 24 HOURS PRIOR TO TOPPING.
 - APPROVED BACKFILL MATERIAL INCLUDES 825 B, FLOWABLE FILL AND APPROVED DIRT. ALTERNATIVE MATERIAL MUST BE APPROVED BY PROJECT MANAGER PRIOR TO USE.

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TYPICAL BORE ENCASEMENT

NOMINAL PIPE DIAMETER	STANDARD PIPE BELL O.D.*	SPACER CASING BAND WIDTH	STEEL ENCASEMENT	
			MINIMUM CASING THICKNESS	MINIMUM CASING DIAMETER
4	6.40	8	0.25	14
6	8.60	8	0.25	16
8	11.16	8	0.25	18
10	13.25	8	0.25	20
12	15.22	8	0.25	22
14	17.73	12	0.3125	24
16	19.86	12	0.3125	26
18	22.16	12	0.3125	30
20	24.28	12	0.3125	32
24	28.50	12	0.3125	36
30	34.95	12	0.5	42
36	41.37	12	0.5	48

ALL SIZES INDICATED ABOVE IN INCHES
*PIPE BELL OUTSIDE DIAMETER BASED ON PRESSURE CLASS 350 DUCTILE IRON PIPE
**CASING DIAMETER SHALL BE A MINIMUM OF 6 INCHES GREATER THAN THE PIPE DIAMETER OF THE JOINT BELL, TO THE NEXT AVAILABLE SIZE

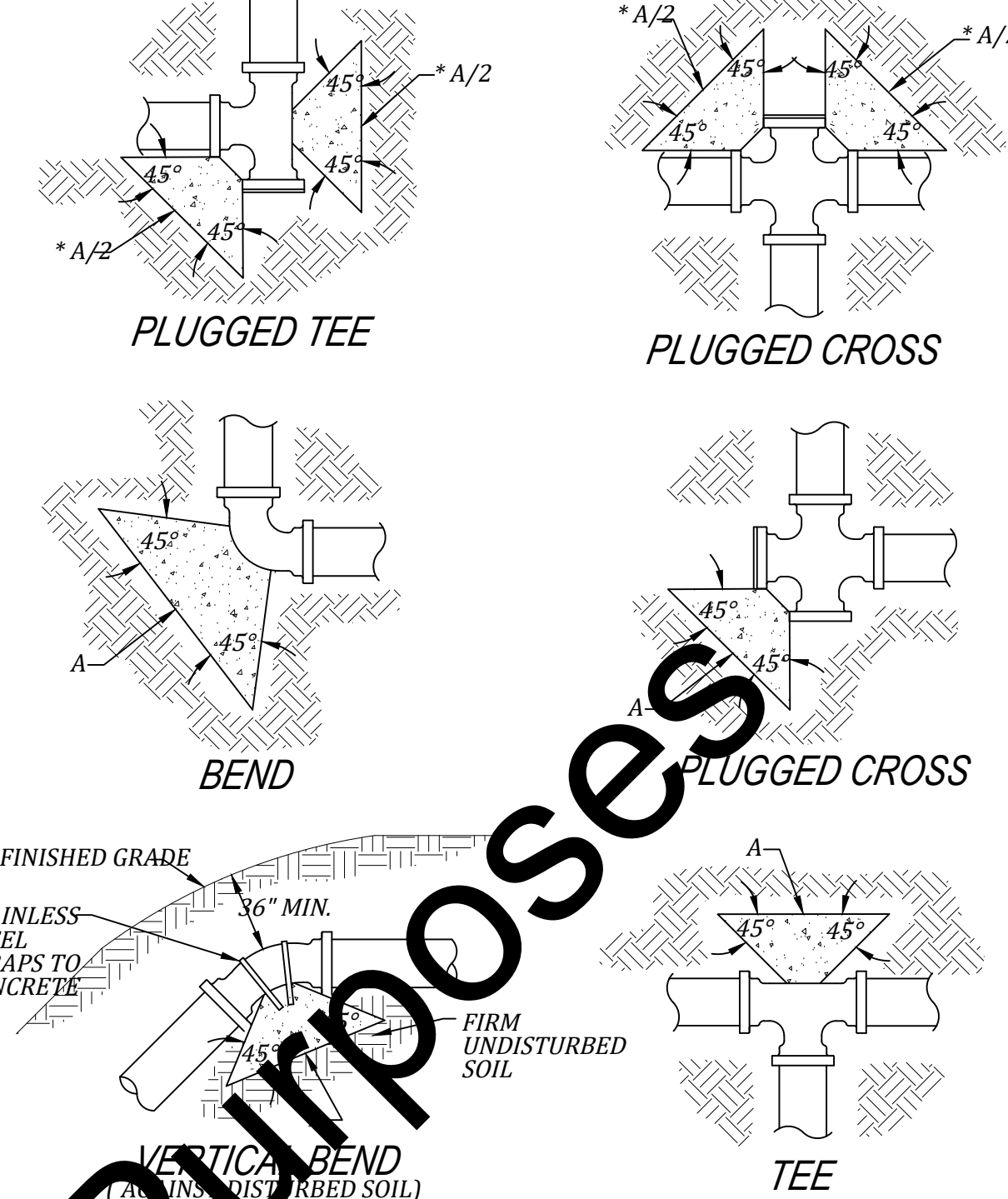


CASING SECTION

- NOTES:**
- ALL SPACER BANDS SHALL BE MADE FROM T-304 STAINLESS STEEL OF A MINIMUM 1/4 GAUGE THICKNESS.
 - ALL SPACERS SHALL HAVE A SYNTHETIC RUBBER OR PVC LINER TO INSULATE THE PIPELINE FROM THE SPACER.
 - ALL SPACERS SHALL HAVE 1.5" WIDE GLASS REINFORCED PLASTIC OR UHMW POLYMER RUNNERS TO INSULATE THE SPACER.
 - SPACERS TO BE MANUFACTURED BY CASCADE WATERWORKS MFG. CO. (PSI) PIPELINE SEAL AND INSULATOR, INC. OR EQUAL.
 - 6" THRU 12" DIAMETER PIPELINE SHALL USE 8" WIDE BANDS: GREATER THAN 12" DIAMETER PIPELINES SHALL USE 12" WIDE BANDS.
 - CENTERED RESTRAINED CASING SPACERS SHALL BE SPACED AT A MAXIMUM OF TEN FEET

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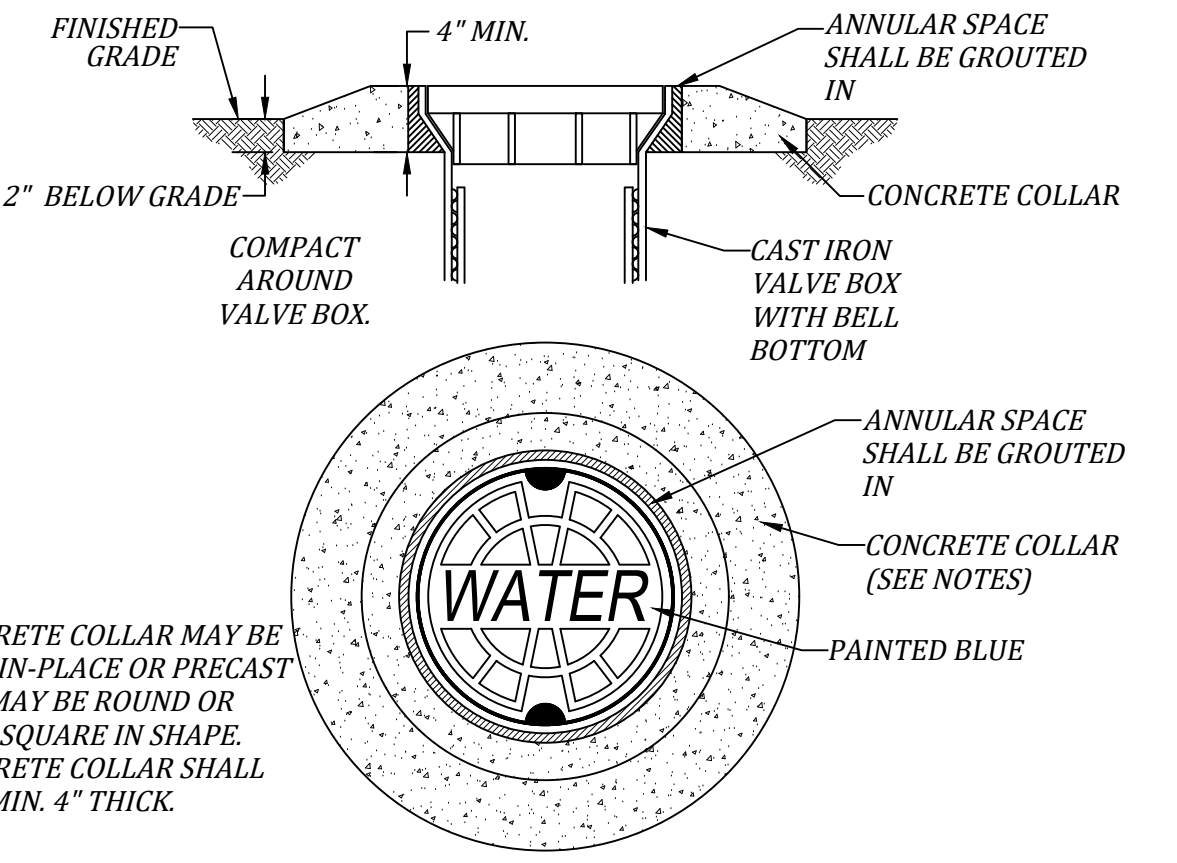
TYPICAL CONCRETE THRUST BLOCK LAYOUT



- NOTES:**
- 45 DEGREE ANGLES REQUIRED FOR ALL THRUST BLOCKS.
 - NON STANDARD THRUST BLOCKING WILL REQUIRE SPECIAL DETAILING PROVIDED BY A LICENSED ENGINEER AND APPROVED BY THE CITY OF AUBURN.
 - ALL MECHANICAL JOINT FITTINGS THAT REQUIRE THRUST BLOCKS SHALL BE WRAPPED IN PLASTIC. CONCRETE SHALL NOT BE POURED OVER JOINTS.
 - CLASS "B" CONCRETE SHALL BE AS DEFINED IN THE CITY OF AUBURN STANDARD SPECIFICATIONS SECTION II.
 - THE PREFERRED METHOD OF THRUST RESTRAINT SHALL BE THROUGH THE USE OF EXTERNALLY RESTRAINED JOINT DEVICES SUCH AS MEGA-LUGS IN LIEU OF CONCRETE BLOCKING. CONCRETE BLOCKING SHALL ONLY BE PERMITTED WHERE APPROVED BY THE AWWB AND SHALL NOT BE USED IN CONJUNCTION WITH MEGA-LUG RESTRAINTS. THE APPROPRIATE LENGTH OF RESTRAINT SHALL BE CALCULATED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS.

204

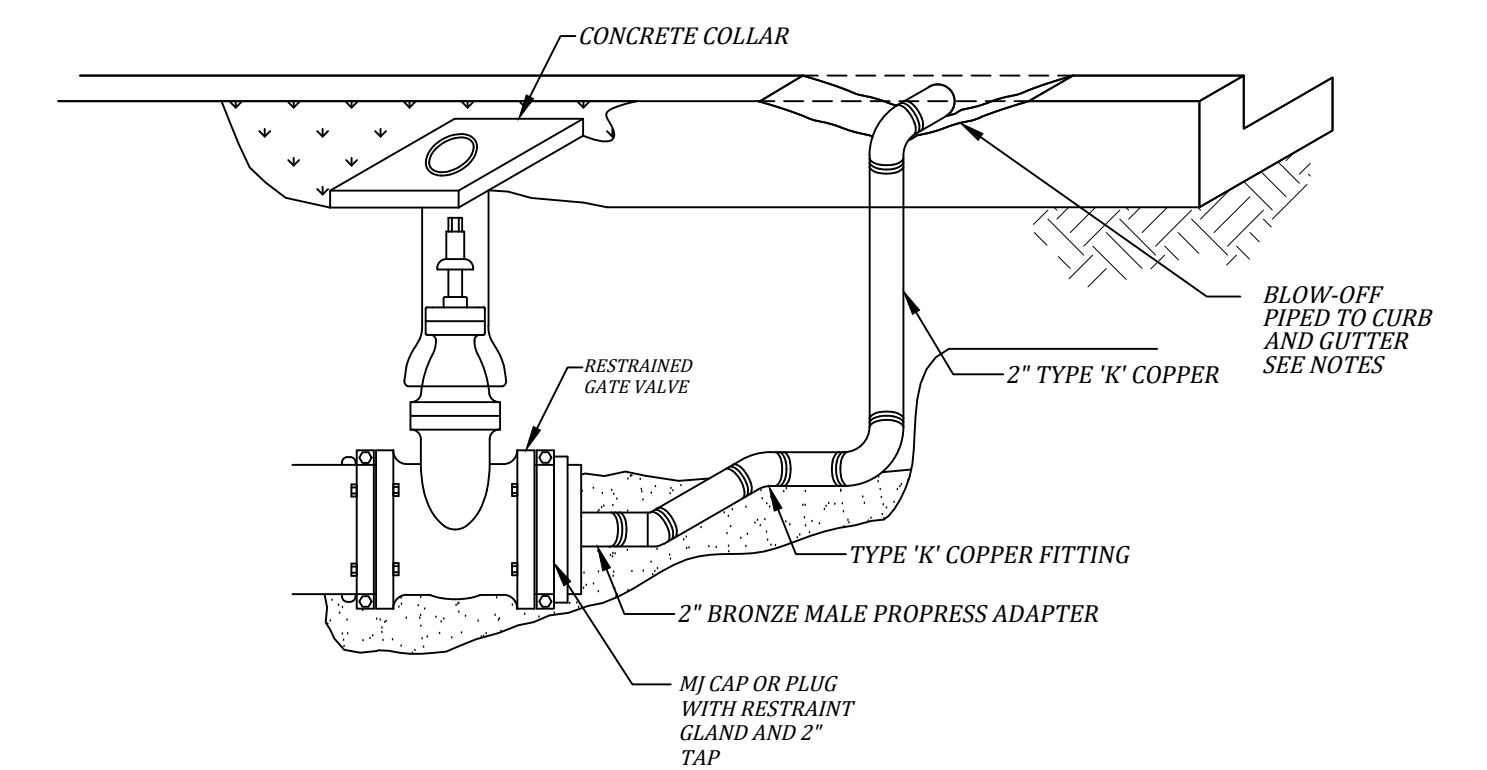
TYPICAL VALVE BOX INSTALLATION



- NOTE:**
- CONCRETE COLLAR MAY BE CAST-IN-PLACE OR PRECAST AND MAY BE ROUND OR SQUARE IN SHAPE.
 - CONCRETE COLLAR SHALL BE A MIN. 4" THICK.

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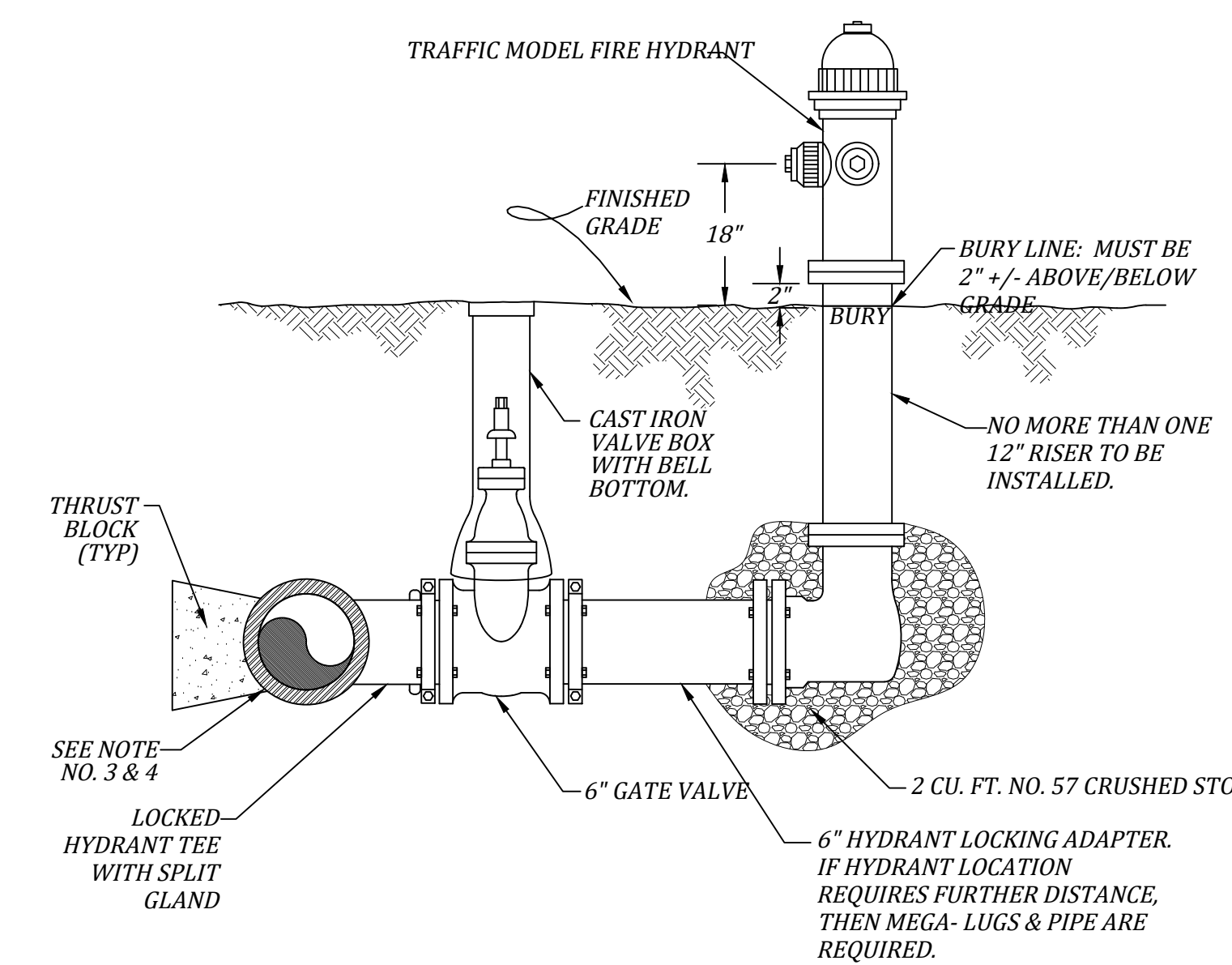
TYPICAL END OF MAIN BLOWOFF ASSEMBLY



- NOTES:**
- THE PREFERRED METHOD OF THRUST RESTRAINT SHALL BE THROUGH THE USE OF EXTERNALLY RESTRAINED JOINT DEVICES SUCH AS MEGA-LUGS IN LIEU OF CONCRETE BLOCKING. CONCRETE BLOCKING SHALL ONLY BE PERMITTED WHERE APPROVED BY THE AWWB AND SHALL NOT BE USED IN CONJUNCTION WITH MEGA-LUG RESTRAINTS. THE APPROPRIATE LENGTH OF RESTRAINT SHALL BE CALCULATED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS.
 - BLOW OFF SHALL BE ANGLED TO PERFECT FLOW AWAY FROM BLOW-OFF AND VALVE, WHERE POSSIBLE
 - VALVE SHALL BE LOCATED WITHIN 24" OF THE BACK OF CURB, MAY BE PLACED IN PAVEMENT.
 - THE BLOW-OFF SHALL BE PLACED WITH AT LEAST 1" CLEARANCE BETWEEN GUTTER AND BOTTOM PIPE AND SHOULD BE POINTED SLIGHTLY UPWARD

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TYPICAL FIRE HYDRANT INSTALLATION



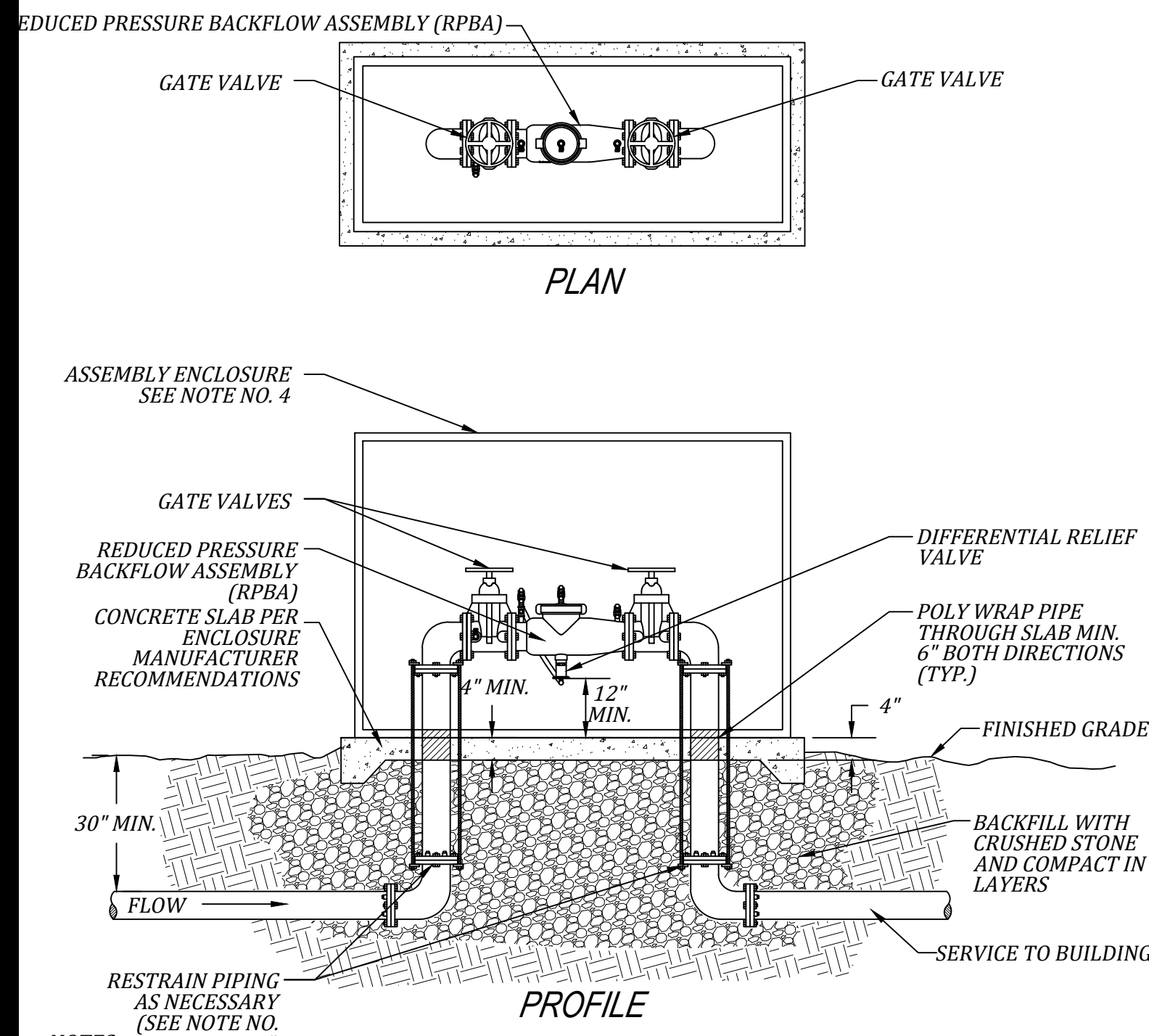
- NOTES:**
- ALL FIRE HYDRANTS SHALL HAVE NATIONAL STANDARD THREADS, 4 1/2-INCH STEAMER & 2 1/2-INCH HOSE NOZZLE, AND SHALL BE MUELLER CENTURION, OR AMERICAN DARLING B-84-B, OR APPROVED EQUAL. BRONZE TO BRONZE SEATED. EPOXY COATED SHOES. WEATHER CAPS SHALL NOT BE MADE OF RUBBER.
 - ALL FIRE HYDRANTS SHALL BE LEVELED AND PLUMBED DURING INSTALLATION.
 - ALL MECHANICAL JOINT FITTINGS THAT REQUIRE THRUST BLOCKS SHALL BE WRAPPED IN PLASTIC. CONCRETE SHALL NOT BE POURED OVER JOINTS.
 - THE PREFERRED METHOD OF THRUST RESTRAINT SHALL BE THROUGH THE USE OF EXTERNALLY RESTRAINED JOINT DEVICES SUCH AS MEGA-LUGS IN LIEU OF CONCRETE BLOCKING. CONCRETE BLOCKING SHALL ONLY BE PERMITTED WHERE APPROVED BY THE AWWB AND SHALL NOT BE USED IN CONJUNCTION WITH MEGA-LUG RESTRAINTS. THE APPROPRIATE LENGTH OF RESTRAINT SHALL BE CALCULATED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS.
 - USE MEGA-LUGS BETWEEN HYDRANT AND GATE VALVE.
 - HYDRANT LOCKING TEE TO BE USED IN LIEU OF STANDARD M.J. TEE ON ALL FIRE HYDRANT CONNECTIONS.

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STANDARD DETAILS: WATER - SHEET 1 OF 4

PROJECT TITLE:	DEPARTMENT:	WBM	REVISIONS:	BS-10-25-07
				DCM 2010
				JC-10-2011
				JC-12-2012
				MW-12-2020
				MW-12-2021

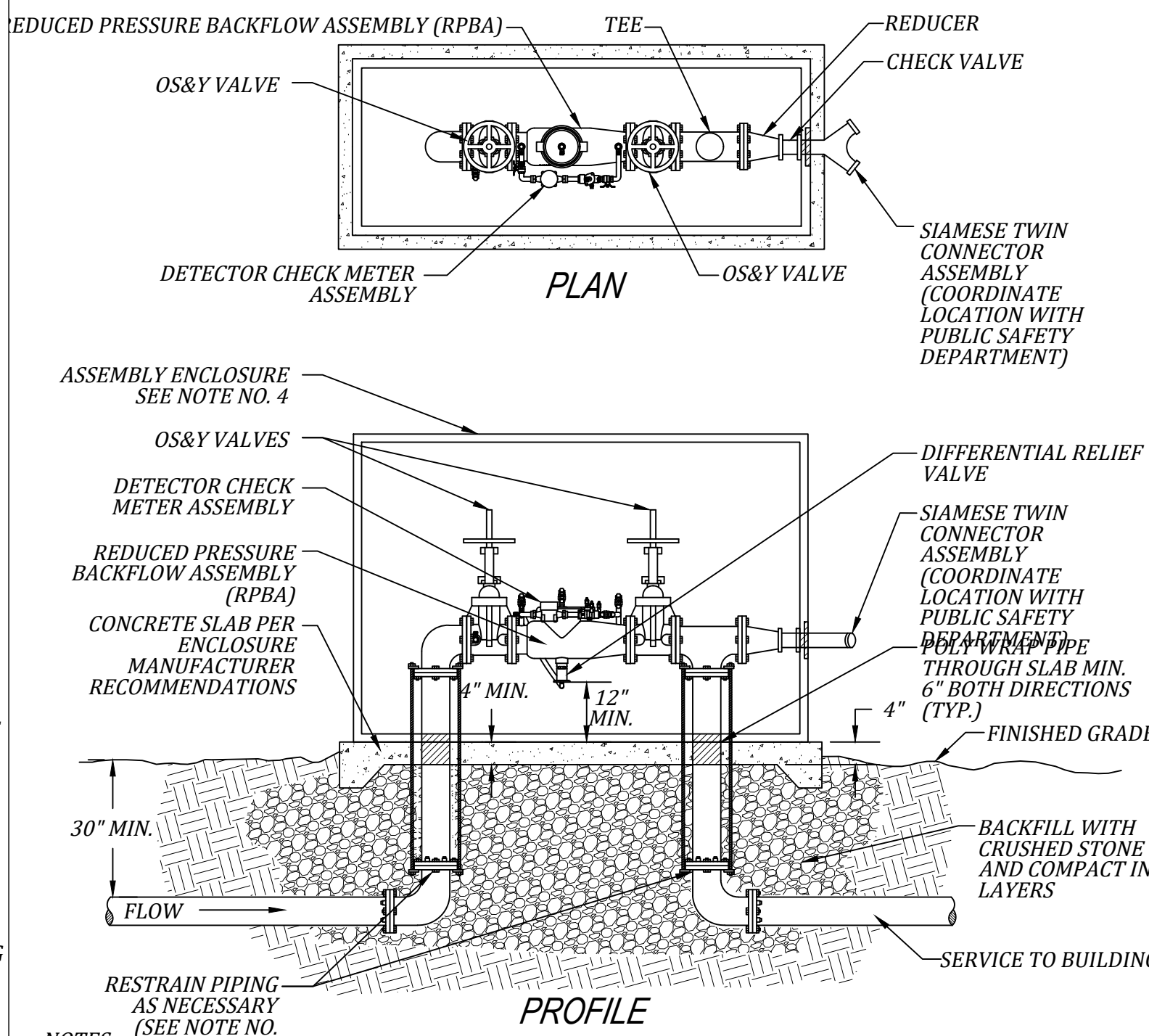
TYPICAL REDUCED PRESSURE BACKFLOW ASSEMBLY (RPBA)



- NOTES:**
1. RPBA SHALL BE MANUFACTURED BY AMES, WATTS, OR AN APPROVED EQUAL.
 2. RPBA TO BE INSPECTED BY AWWB PERSONNEL IN ADDITION TO CITY OF AUBURN PROJECT INSPECTIONS.
 3. RPBA'S SHALL NOT BE BURIED OR INSTALLED IN BELOW GROUND VAULTS.
 4. RPBA ENCLOSURES SHALL BE CONCRETE, REINFORCED ALUMINUM, OR FIBERGLASS CONSTRUCTION AND SHALL BE INSULATED AND/OR HEATED SO AS TO ENSURE AGAINST FREEZING. ENCLOSURES APPROVED FOR INSTALLATION INCLUDE: HYDROCOWL, HOT BOX, AND LOK BOX.
 5. RESTRAINT SYSTEM SHALL BE DESIGNED FOR SPECIFIC INSTALLATION CONDITIONS. WHERE STATIC PRESSURES EXCEED 100 PSI, MEGA-LUG RESTRAINTS USED ON VERTICAL BENDS SHALL BE REINFORCED WITH S.S. RODS.

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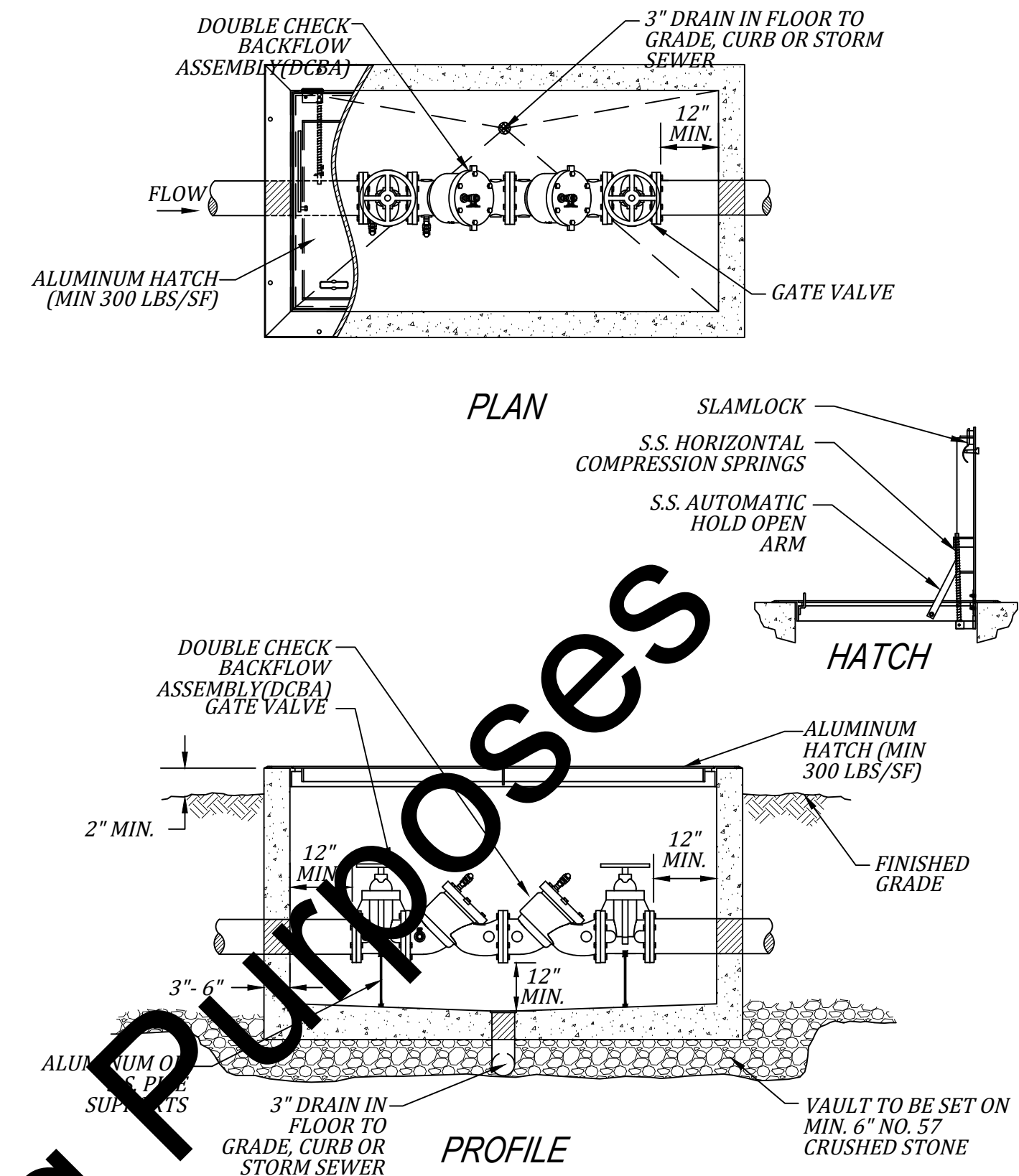
TYPICAL FIRE PROTECTION SYSTEM RPBA



- NOTES:**
1. RPBA SHALL BE MANUFACTURED BY AMES, WATTS, OR AN APPROVED EQUAL.
 2. RPBA TO BE INSPECTED BY AWWB PERSONNEL IN ADDITION TO CITY OF AUBURN PROJECT INSPECTIONS.
 3. RPBA'S SHALL NOT BE BURIED OR INSTALLED IN BELOW GROUND VAULTS.
 4. RPBA ENCLOSURES SHALL BE CONCRETE, REINFORCED ALUMINUM, OR FIBERGLASS CONSTRUCTION AND SHALL BE INSULATED AND/OR HEATED TO PROTECT AGAINST FREEZING. ENCLOSURES APPROVED FOR INSTALLATION INCLUDE: HYDROCOWL, HOT BOX, AND LOK BOX.
 5. RESTRAINT SYSTEM SHALL BE DESIGNED FOR SPECIFIC INSTALLATION CONDITIONS. WHERE STATIC PRESSURES EXCEED 100 PSI, MEGA-LUG RESTRAINTS USED ON VERTICAL BENDS SHALL BE REINFORCED WITH S.S. RODS.

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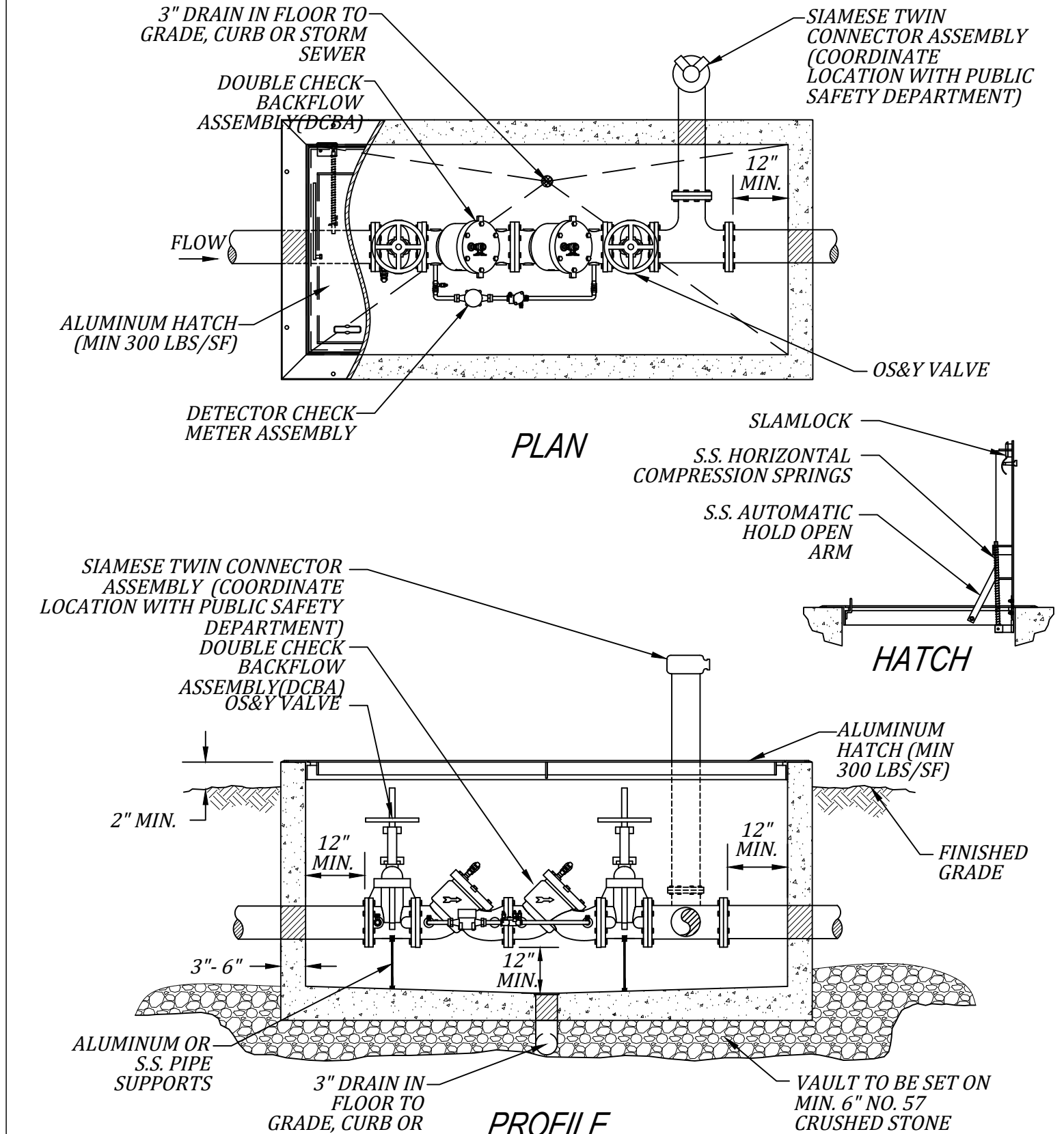
TYPICAL DOUBLE CHECK BACKFLOW ASSEMBLY (DCBA)



- NOTES:**
1. DOUBLE CHECK BACKFLOW ASSEMBLY SHALL BE MANUFACTURED BY AMES, WATTS, OR AN APPROVED EQUAL.
 2. VAULTS SHALL BE INSPECTED BY AWWB PERSONNEL IN ADDITION TO CITY OF AUBURN PROJECT INSPECTIONS.

220

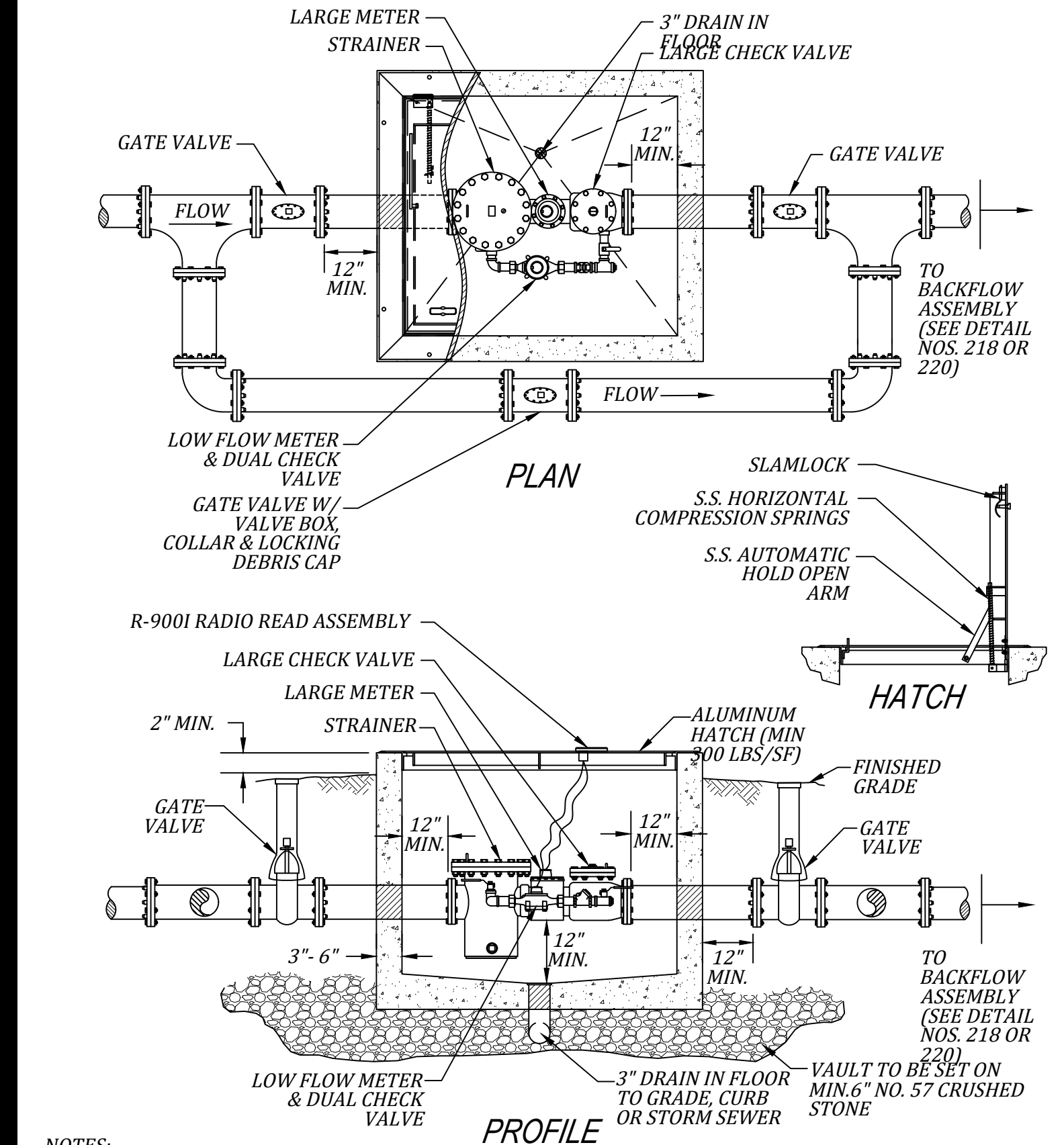
TYPICAL FIRE PROTECTION SYSTEM DCBA



- NOTES:**
1. DOUBLE CHECK BACKFLOW ASSEMBLY SHALL BE MANUFACTURED BY AMES, WATTS, OR AN APPROVED EQUAL.
 2. VAULTS SHALL BE INSPECTED BY AWWB PERSONNEL IN ADDITION TO CITY OF AUBURN PROJECT INSPECTIONS.

221

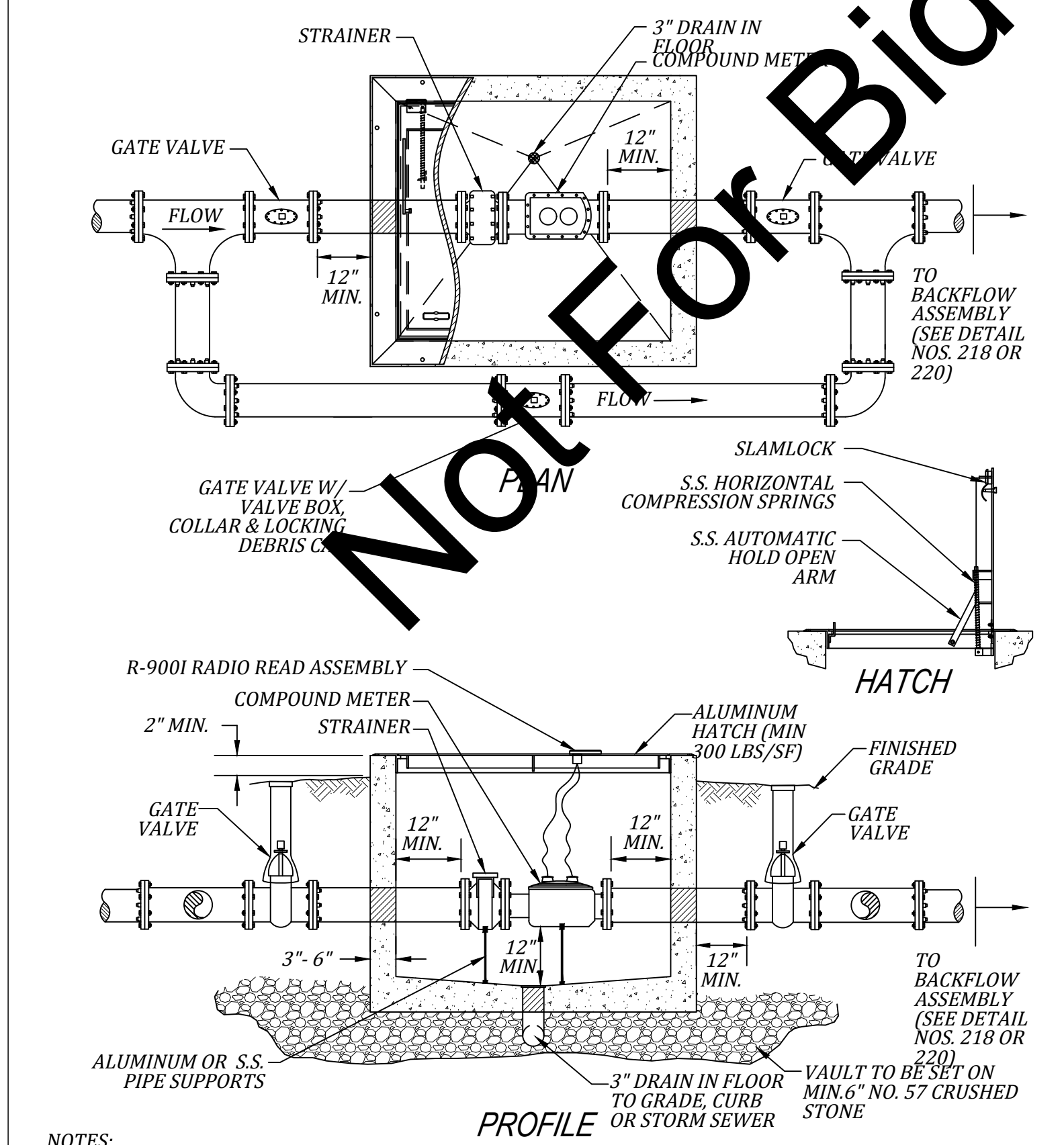
TYPICAL FIRE / DOMESTIC METER VAULT (4\"/>



- NOTES:**
1. COMBINATION FIRE / DOMESTIC METER SHALL BE NEPTUNE PROTECTUS III.
 2. VAULTS SHALL BE INSPECTED BY AWWB PERSONNEL IN ADDITION TO CITY OF AUBURN PROJECT INSPECTIONS.
 3. THE APPROPRIATE BACKFLOW ASSEMBLY IN ACCORDANCE WITH STANDARD DETAIL NOS. 218 OR 220 SHALL BE INSTALLED IMMEDIATELY FOLLOWING THE METER ASSEMBLY.

222

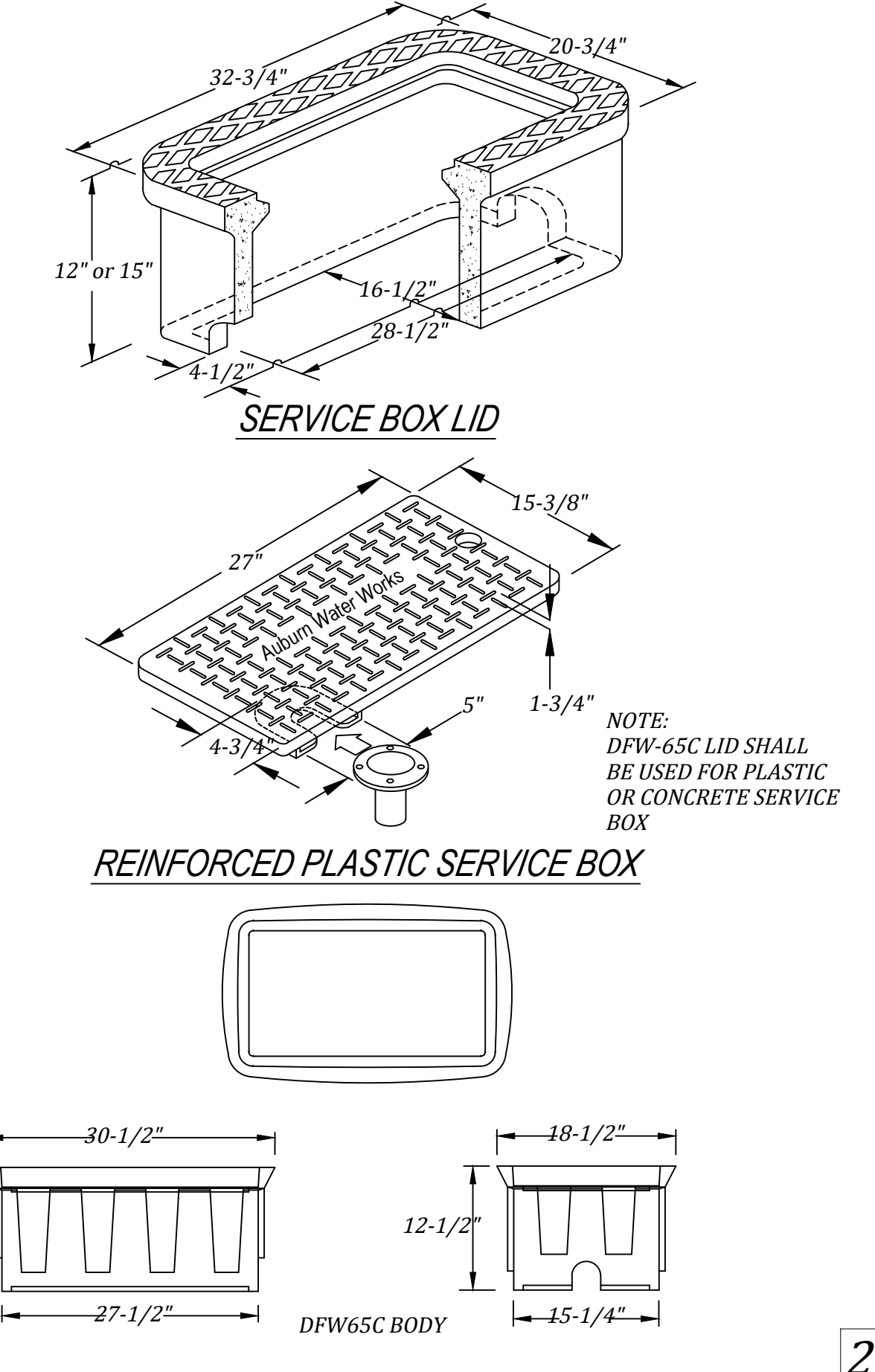
TYPICAL LARGE DOMESTIC METER VAULT (3\"/>



- NOTES:**
1. LARGE METER SHALL BE NEPTUNE TRU-FLOW COMPOUND METER.
 2. VAULTS SHALL BE INSPECTED BY AWWB PERSONNEL IN ADDITION TO CITY OF AUBURN PROJECT INSPECTIONS.
 3. THE APPROPRIATE BACKFLOW ASSEMBLY IN ACCORDANCE WITH STANDARD DETAIL NOS. 218 OR 220 SHALL BE INSTALLED IMMEDIATELY FOLLOWING THE METER ASSEMBLY.

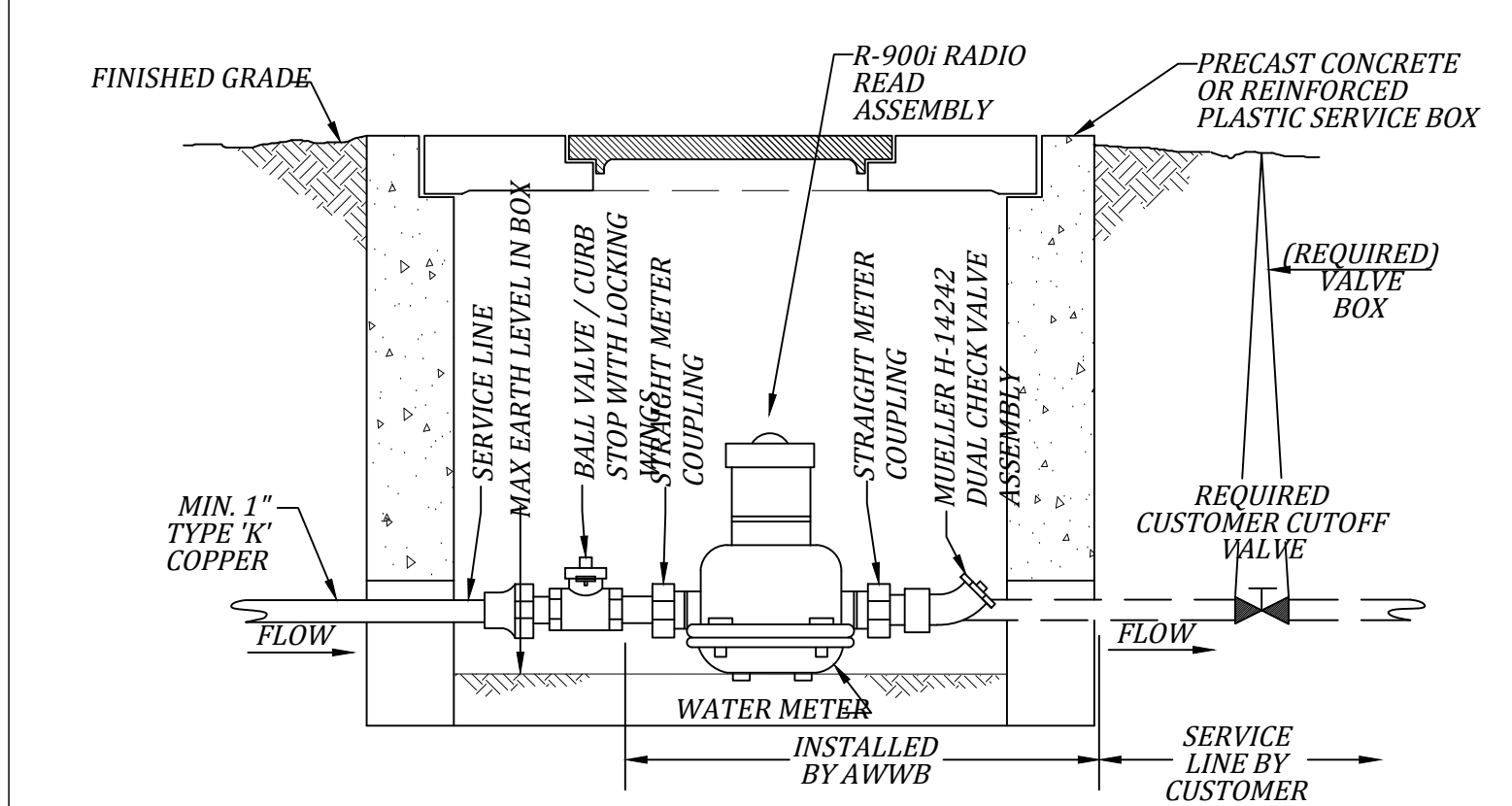
224

CONCRETE SERVICE BOX



230

TYPICAL 3/4\"/>



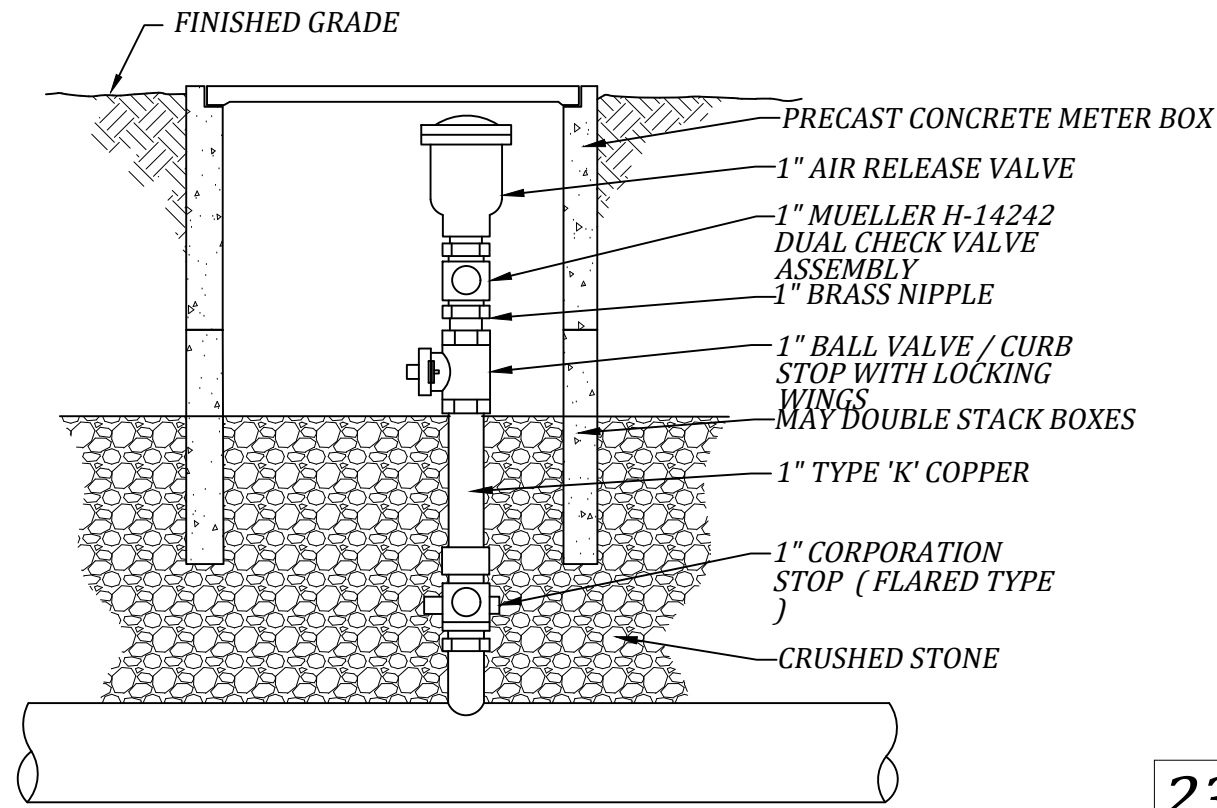
- NOTES:**
1. METER SHALL BE NEPTUNE T-10 METER.
 2. CURB STOP SHALL BE LOCATED JUST INSIDE THE METER BOX TO ALLOW SUFFICIENT SPACE FOR THE WATER METER AND CHECK VALVE ASSEMBLY.

232

STANDARD DETAILS: WATER - SHEET 2 OF 4

PROJECT TITLE:	DEPARTMENT:	WBM REVISIONS:	GM-04/2004
SCALE:	N.T.S.		BS-10-25-0
DRAWN BY:	GM		DCM 2010
REVIEWED BY:	JC		JC-10-2011
APPROVED BY:	EC		JC-12-2012
IMPLEMENTED:	JANUARY 2008		MW-12-2002

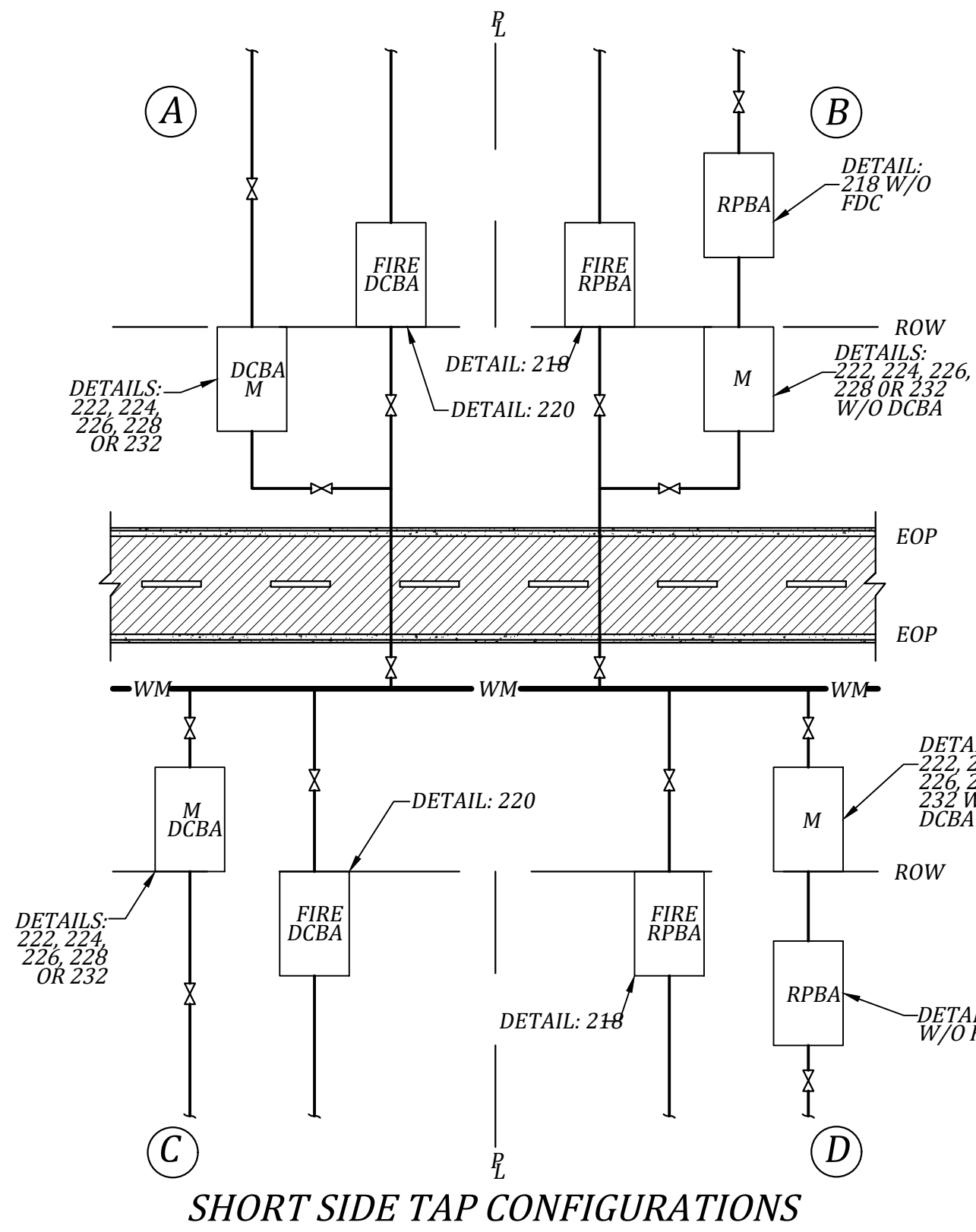
TYPICAL AUTOMATIC AIR RELEASE VALVE



234

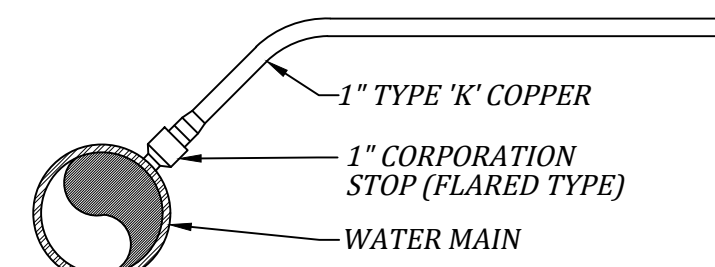
GENERAL SERVICE CONNECTION CONFIGURATIONS

LONG SIDE TAP CONFIGURATIONS



246

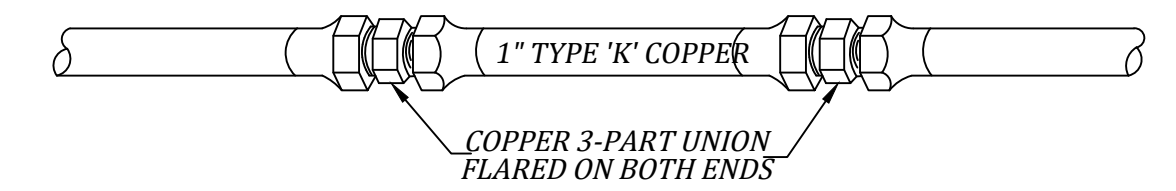
TYPICAL 1" SERVICE CONNECTION



NOTES:
1. TYPICAL 1" SERVICE CONNECTION SHALL BE USED AT A MINIMUM FOR ALL 3/4" AND 1" METER INSTALLATIONS.

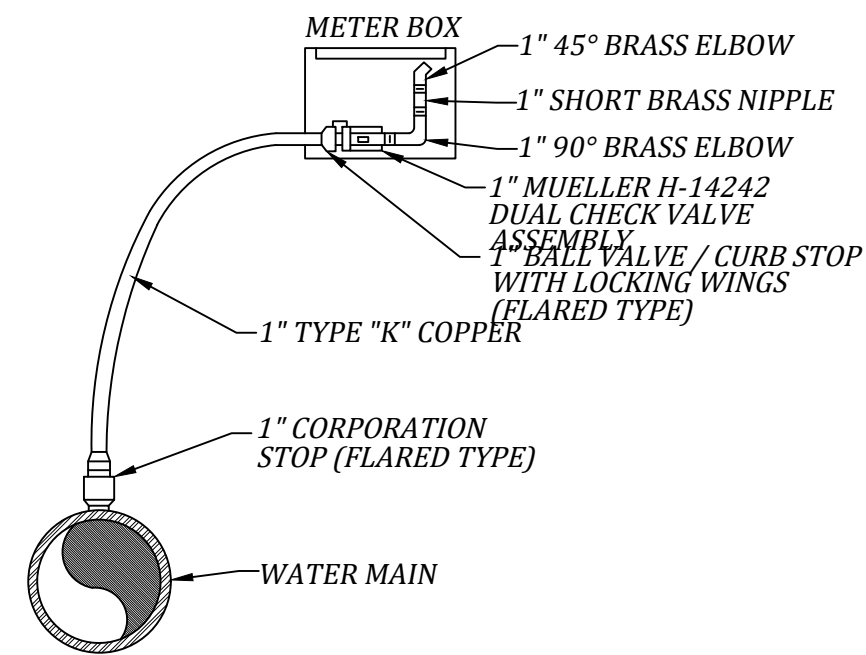
238

TYPICAL COPPER REPAIR (1" ONLY)



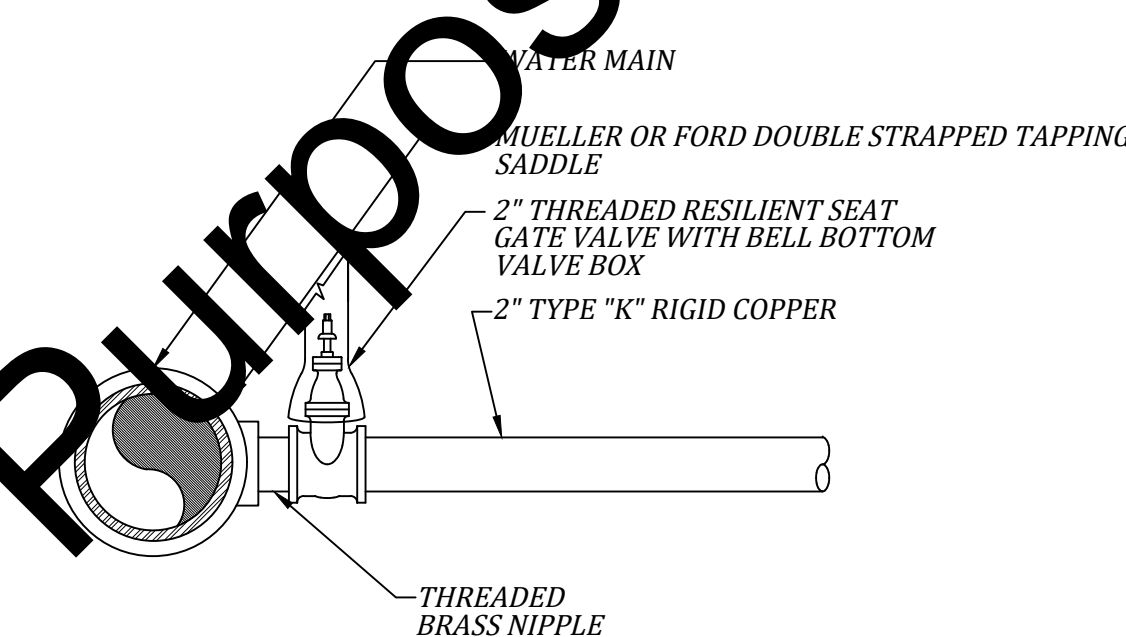
242

TYPICAL MANUAL AIR RELEASE VALVE



236

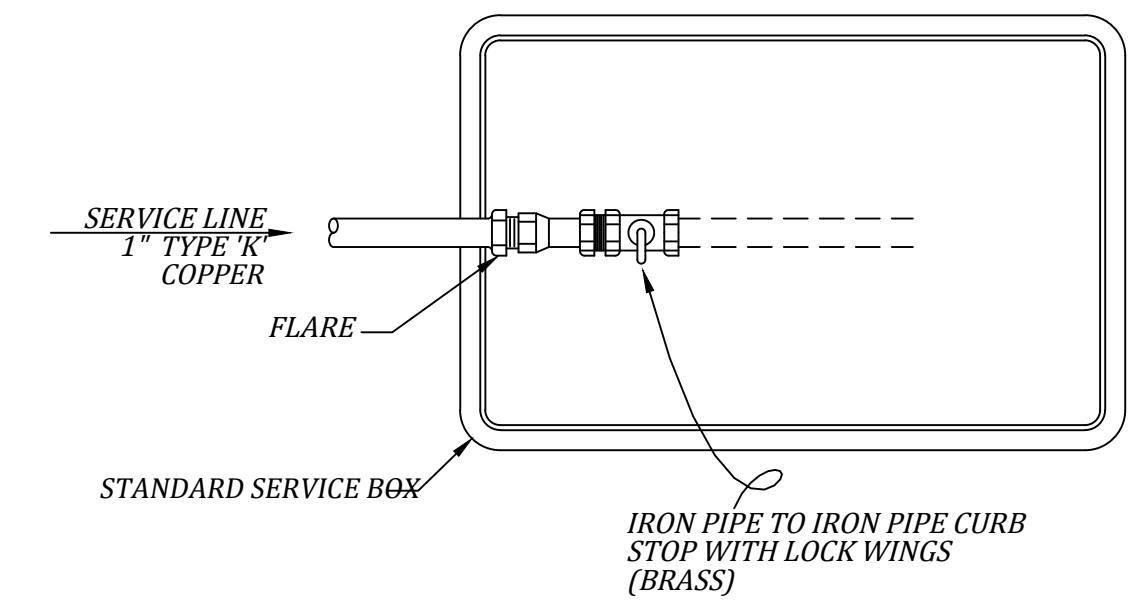
TYPICAL 2" SERVICE CONNECTION



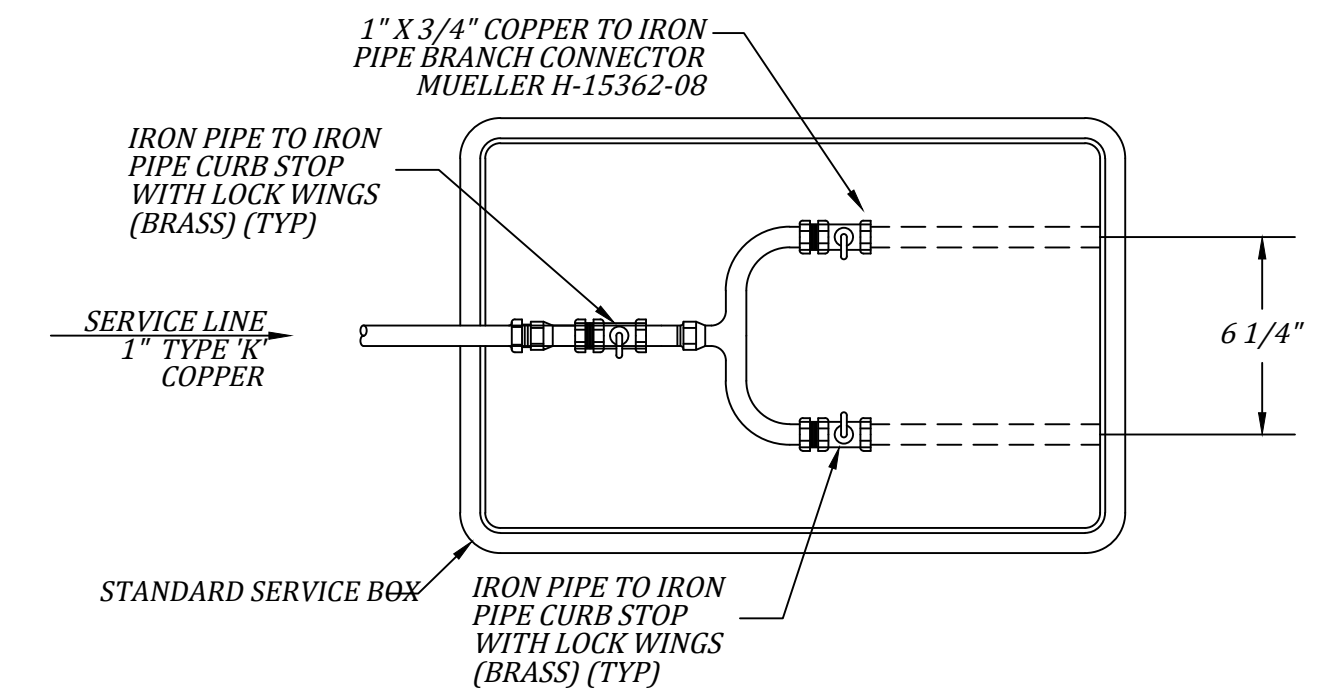
NOTES:
1. TYPICAL 2" SERVICE CONNECTION SHALL BE USED AT A MINIMUM FOR ALL 1-1/2" AND 2" METER INSTALLATIONS.

240

TYPICAL SINGLE SERVICE CONNECTION



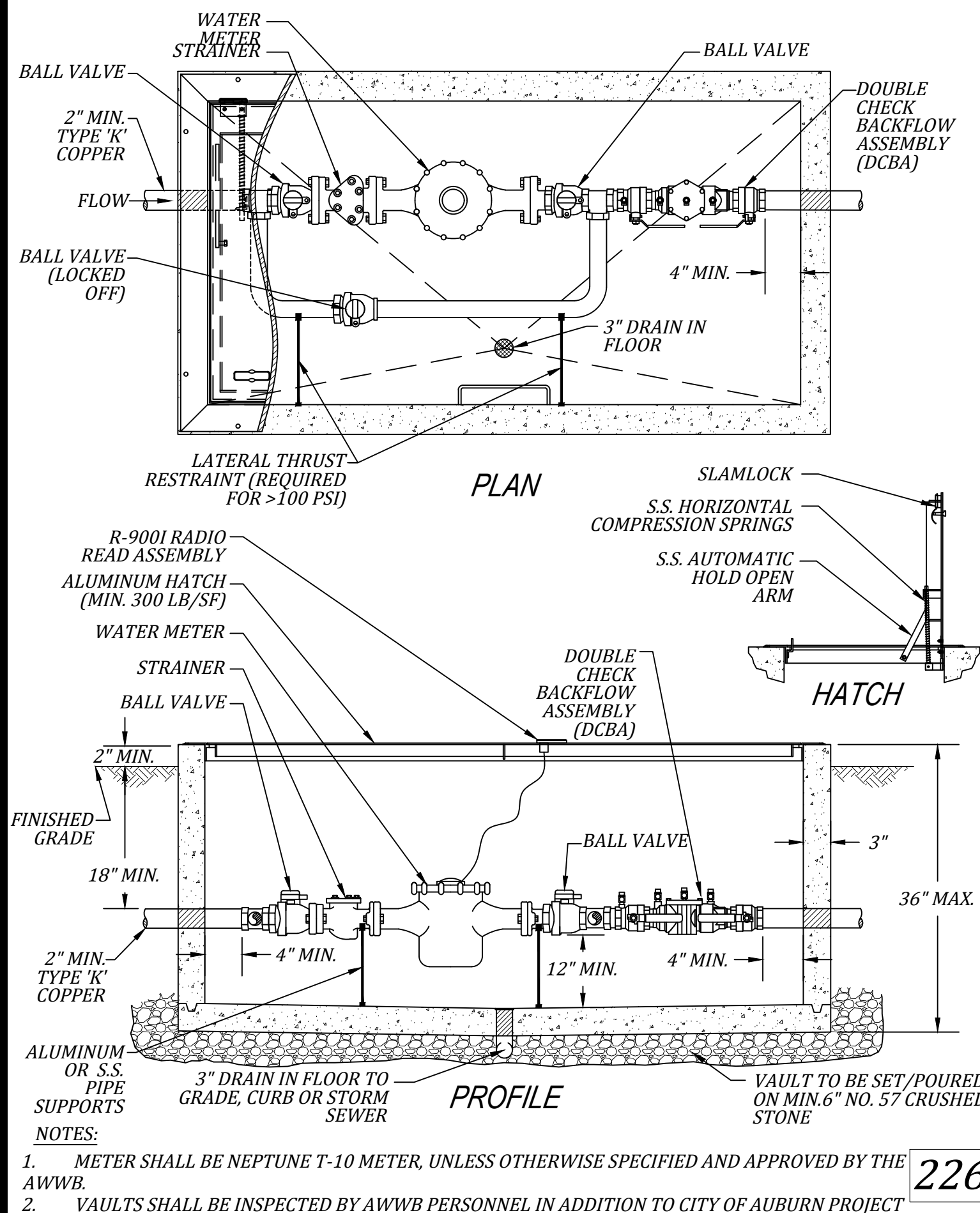
TYPICAL DOUBLE SERVICE CONNECTION



NOTES:
1. IN A SINGLE FAMILY DEVELOPMENT, BRANCH CONNECTORS WILL BE SET BY AWWB ONLY WHEN TWO (2) METERS HAVE BEEN REQUESTED (ONE DOMESTIC AND ONE IRRIGATION) FOR A SINGLE LOT AND ALL APPLICABLE FEES HAVE BEEN PAID
2. THE DOMESTIC METERS WILL NOT BE ALLOWED IN A SERVICE BOX.

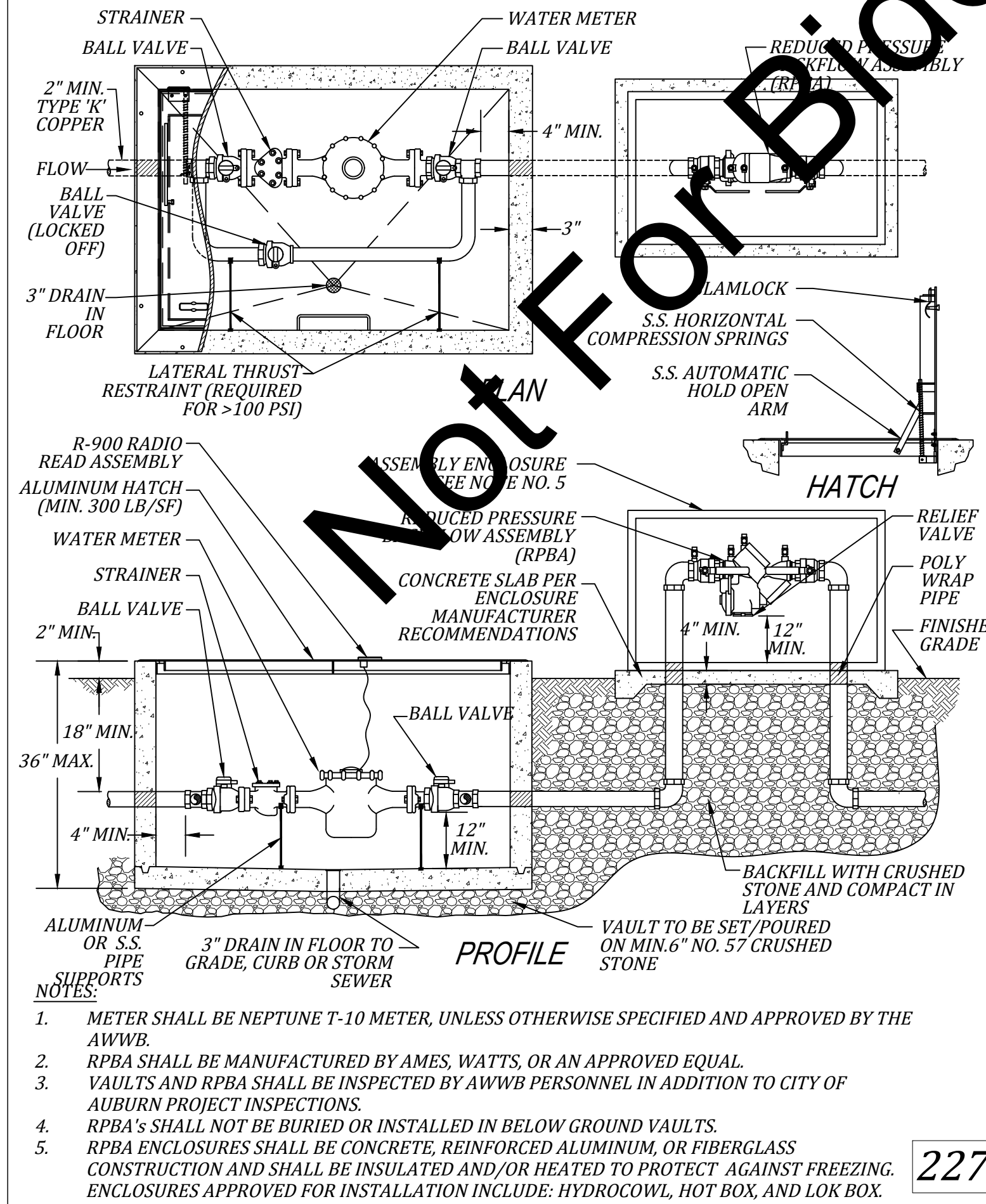
244

TYPICAL 1.5" TO 2.0" METER VAULT W/ DCBA



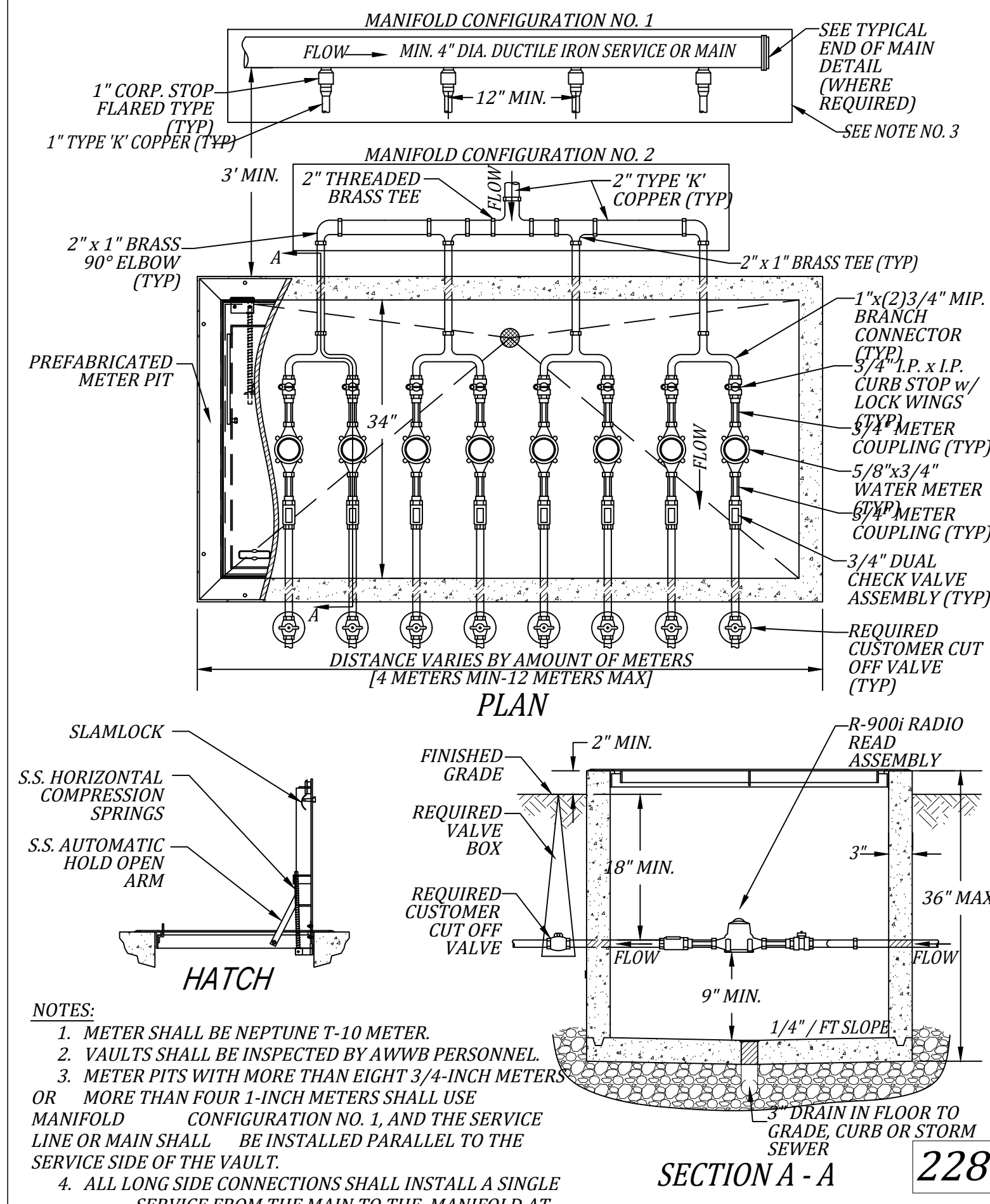
226

TYPICAL 1.5" TO 2.0" METER VAULT W/ RPBA



227

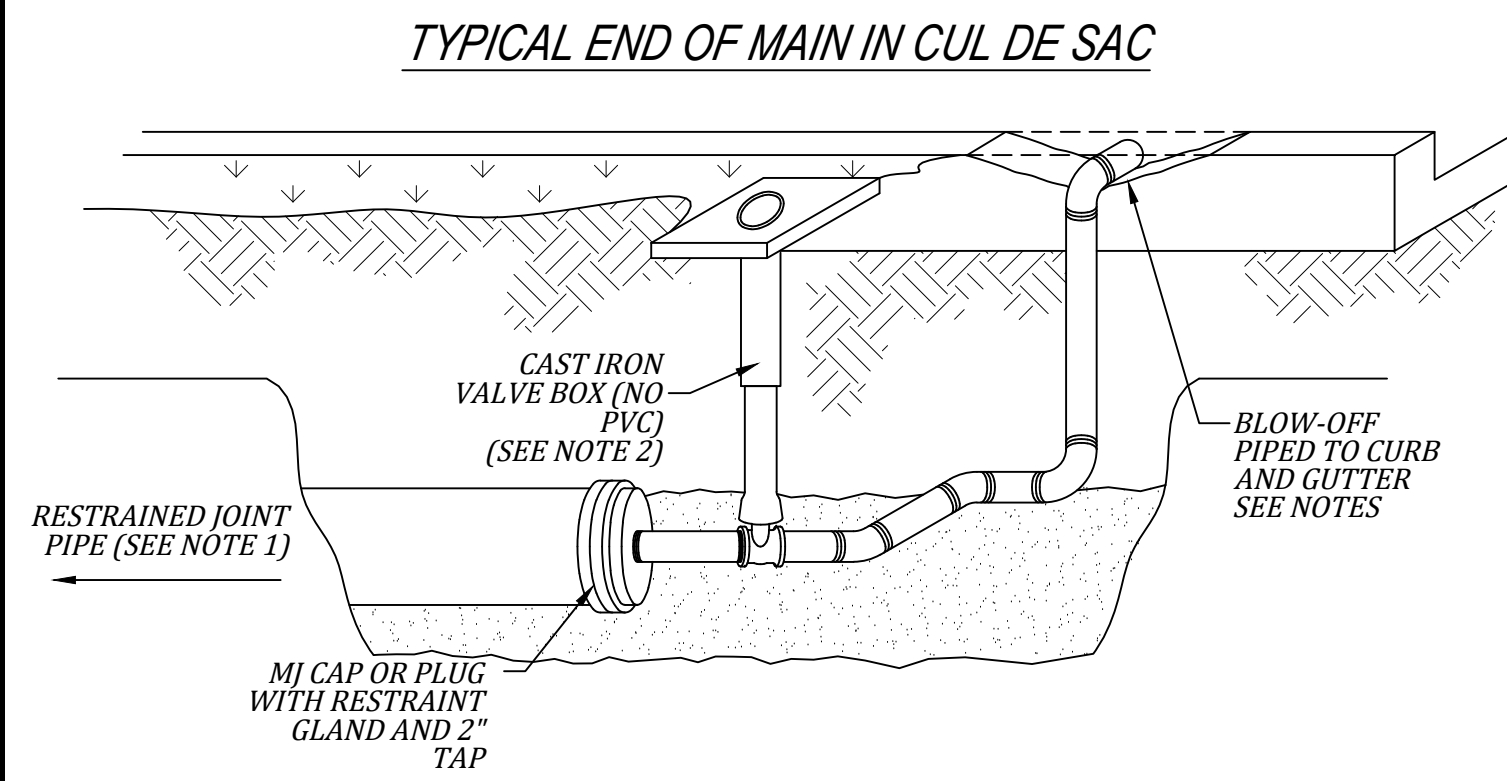
TYPICAL MULTIPLE METER VAULT



228

STANDARD DETAILS: WATER - SHEET 3 OF 4

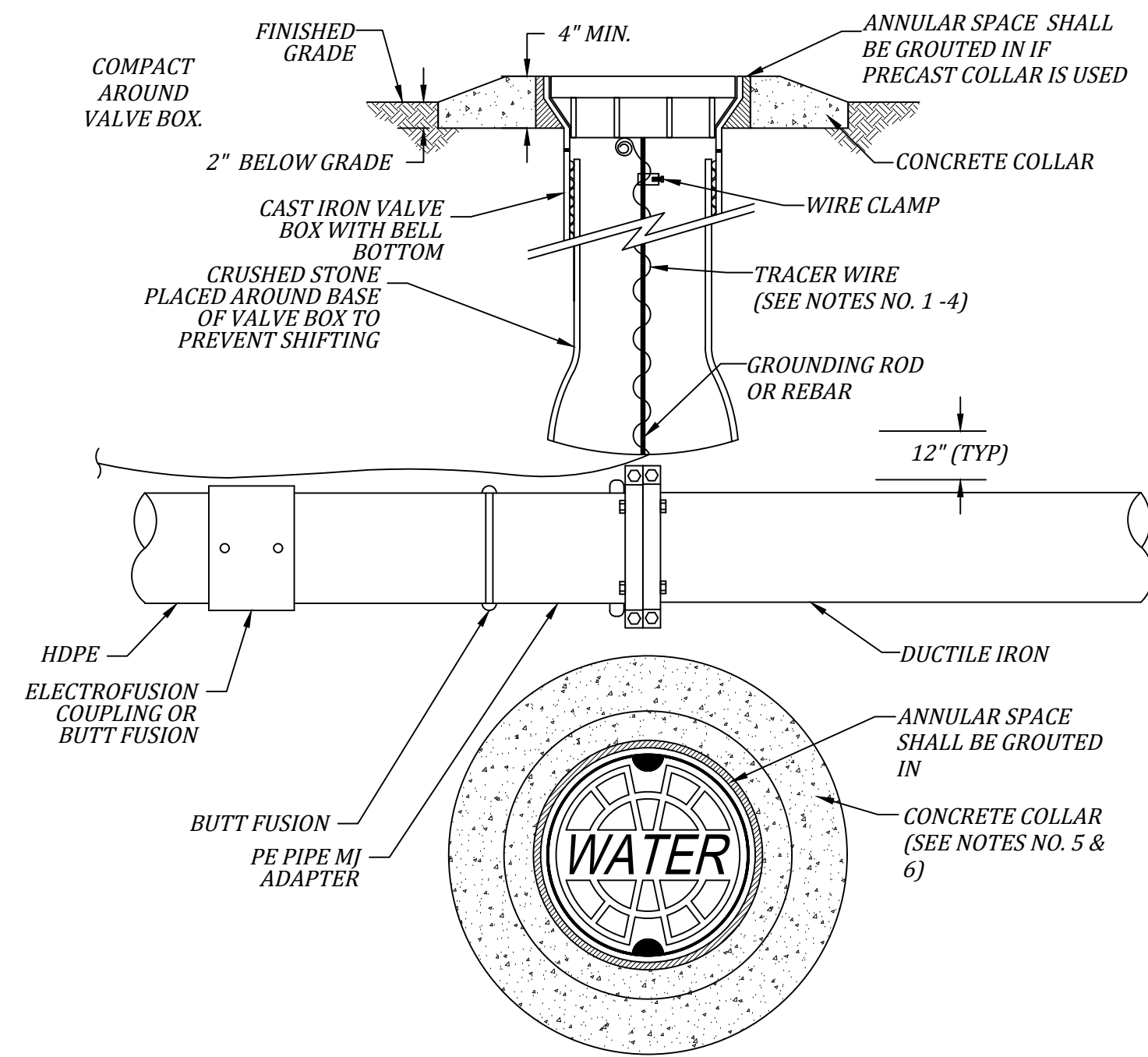
PROJECT TITLE:	DEPARTMENT:	WM	REVISIONS:	GM-04/2012
SCALE:	N.T.S.			BS-10-25-0
DRAWN BY:	GM			DCM 2010
REVIEWED BY:	JC			JC-10-2011
APPROVED BY:	EC			JC-12-2012
IMPLEMENTED:	JANUARY 2008			MM-12-2012



- NOTES:
1. THE PREFERRED METHOD OF THRUST RESTRAINT SHALL BE THROUGH THE USE OF EXTERNALLY RESTRAINED JOINT DEVICES SUCH AS MEGA-LUGS IN LIEU OF CONCRETE BLOCKING. CONCRETE BLOCKING SHALL ONLY BE PERMITTED WHERE APPROVED BY THE AWWB AND SHALL NOT BE USED IN CONJUNCTION WITH MEGA-LUG RESTRAINTS. THE APPROPRIATE LENGTH OF RESTRAINT SHALL BE CALCULATED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS.
 2. VALVE SHALL BE LOCATED WITHIN 24" OF THE BACK OF CURB, MAY BE PLACED IN PAVEMENT.
 3. THE BLOW-OFF SHALL BE PLACED WITH AT LEAST 1" CLEARANCE BETWEEN GUTTER AND BOTTOM OF PIPE AND SHOULD BE POINTED SLIGHTLY UPWARD.
 4. THE BLOW-OFF SHALL BE LOCATED WITHIN 18" OF A PROPERTY LINE AND BE ANGLED TO DIRECT FLOW AWAY FROM THE BLOW-OFF AND VALVE, AND TOWARDS A STORM DRAIN INLET.

208

TYPICAL HDPE TO DUCTILE IRON MAIN TRANSITION



- NOTES:
1. TRACER WIRE SHALL BE BROUGHT TO GRADE AT A MINIMUM OF EVERY 500 FEET IN A VALVE BOX.
 2. TRACER WIRE SHALL WRAP AROUND GROUNDING ROD/ REBAR INSIDE VALVE BOX.
 3. A MINIMUM OF 12 INCHES OF EXCESS WIRE SHALL BE COILED AND LEFT IN THE VALVE BOX.
 4. TRACER WIRE SHALL BE NO. 14 A.W.G. COPPER CLAD STEEL W/ POLYETHYLENE INSULATION.
 5. CONCRETE COLLAR MAY BE CAST-IN-PLACE OR PRECAST AND MAY BE ROUND OR SQUARE IN SHAPE.
 6. CONCRETE COLLAR SHALL BE A MIN. 4" THICK.

213

Not For Bidding Purposes

STANDARD DETAILS: WATER - SHEET 4 OF 4			
PROJECT TITLE:	DEPARTMENT:	REVISIONS:	DATE:
	WBM	BS-10-25-07	
	N.T.S.	DCM 2010	
	GM	JC-10-2011	
	JC	JC-12-2012	
	EC	MW-12-2020	
	JANUARY 2008		MW-12-2021