

CITY OF NORTH LITTLE ROCK, ARKANSAS
COMMERCE DEPARTMENT
Amy Smith, Purchasing Manager



700 W. 29th St., North Little Rock, AR 72114
P.O. BOX 5757, North Little Rock, AR 72119
501-975-8881 Phone
501-975-8885 Fax

INVITATION TO BID/PROPOSAL COVER SHEET

Bid Number: 24-3864 Date Issued: April 14, 2024

Date & Time Bid Opening: Tuesday, April 30, 2024 @ 10:30am.

McCain Blvd Medians (McCain Fire Station to Justin Matthews) Irrigation and Landscape Maintenance

Total Project Bid Price: \$ _____

Plans and specifications may be obtained from:

- Commerce Department at 700 W. 29th St, North Little Rock, AR 72114
- www.nlr.ar.gov click on the tab "Business," select "Bids and Vendors" and then choose "Open Bid Opportunities."
- Please direct all technical questions in writing to David Cook at dcook@nlr.ar.gov.
- General bid questions should be directed to the Commerce Department at 501-975-8881.

The City of North Little Rock encourages participation of small, minority, and woman own business enterprises in the procurement of goods, services, professional services, and construction, either as a general contractor or sub-contractor. It is further requested that whenever possible, majority contractors who require sub-contractors, seek qualified small, minority, and woman businesses to partner with them.

If you are obtaining this bid from our website, please be reminded that addendums may occur. It is therefore advisable that you review our listings for attachments including any changes to the bid.

Note: FAILURE TO FILL OUT AND SIGN THE INVITATION TO BID SHEET WILL RESULT IN REJECTION OF THE BID.

EXECUTION OF BID

Upon signing this page, the organization certifies that they have read and agree to the requirements set forth in this bid including conditions set forth and pertinent information requests.

Name of Firm: _____ Phone No.: _____

Arkansas Tax Permit No.: _____

Business Address: _____

Signature of Authorized Person: _____

Title: _____ Date: _____

GENERAL TERMS AND CONDITIONS FOR THE CITY OF NORTH LITTLE ROCK, AR

1. When submitting an "Invitation to Bid," the bidder warrants that the commodities covered by the bid shall be free from defects in material and workmanship under normal use and service. In addition, bidder must deliver new commodities of the latest design and model, unless otherwise specified in the "Invitation to Bid."
2. Prices quoted are to be net process, and when an error is made in extending total prices, the City may accept the bid for the lesser amount whether reflected by extension or by the correct multiple of the unit price.
3. Discounts offered will be taken when the City qualifies for such. The beginning date for computing discounts will be the date of invoice or the date of delivery and acceptance, whichever is later.
4. When bidding other than the brand and/or model specified in the "Invitation to Bid," the brand and/or model number must be stated by that item in the "Invitation to Bid," and descriptive literature be submitted with the bid.
5. **REJECTION**
 - A. The City reserves the right to reject any or all Bids, to waive any minor informality or irregularity in any Bid, to negotiate changes and/or modifications with the lowest responsible bidder and to make award to the response deemed to be the most advantageous to the City. Bidders shall be required to comply with all applicable federal, state and local laws.
 - B. The City reserves the right to cancel request for bids without penalty with it is in the best interest of the City. Notice of Cancellation shall be inserted on the City's website (www.nlr.ar.gov).
 - C. Any Bid not conforming to the specifications or requirements set forth by the City in this Bid Request may be rejected.
 - D. Bids may be also rejected if they are made by a Bidder that is deemed un-responsible due to lack of qualifications, capacity, skill, character, experience, reliability, financial stability or quality of services, supplies, materials, equipment or labor.
 - E. The City of North Little Rock reserves the right to reject any and all bids, to accept in whole or in part, to waive any informalities in bids received, to accept bids on materials or equipment with variations from specifications in those cases where efficiency of operation will not be impaired, and unless otherwise specified by the bidder, to accept any item in the bid. If unit prices and extensions thereof do not coincide, the City of North Little Rock may accept the bid for the lesser amount whether reflected by the extension or by the correct multiple of the unit price
6. The Purchasing office reserves the right to award items, all or none, or by line item(s).
7. Quality, time and probability of performance may be factors in making an award.
8. Bid quotes submitted will remain firm for 30 calendar days from bid opening date; however, the prices may remain firm for a longer period of time if mutually agreeable between bidder and the Department of Commerce.
9. Bidder must submit a completed signed copy of the front page of the "Invitation to Bid" and must submit any other information required in the "Invitation to Bid."
10. In the event a contract is entered into pursuant to the "Invitation to Bid," the bidder shall not discriminate against any qualified employee or qualified applicant for employment because of race, sex, color, creed, national origin or ancestry. The bidder must include in any and all subcontracts a provision similar to the above.
11. Sales or use tax is not to be included in the bid price, but is to be added by the vendor to the invoice billing to the City. Although use tax is not to be included in this bid, vendors are to register and pay tax direct to the Arkansas State Revenue Department.

12. Prices quoted shall be "Free on Board" (F.O.B.) to destination at designated facility in North Little Rock. Charges may not be added after the bid is opened.
13. In the event of two or more identical low bids, the contract may be awarded arbitrarily or for any reason to any of such bidders or split in any proportion between them at the discretion of the Department of Commerce..
14. Specifications furnished with this Invitation are intended to establish a desired quality or performance level, or other minimum dimensions and capacities, which will provide the best product available at the lowest possible price. Other than designated brands and/or models approved as equal to designated products shall receive an equal consideration.
15. Samples of items when required, must be furnished free, and, if not called for within 30 days from date of bid opening, will become property of the City.
16. Bids will not be considered if they are:
 1. Submitted after the bid's opening time.
 2. Submitted electronically or faxed (unless authorized by Purchasing Agent).
17. Guarantees and warranties should be submitted with the bid, as they may be a consideration in making an award.
18. **CONSTRUCTION**
 - A. Contractor is to supply the City with evidence of having and maintaining proper and complete insurance, specifically Workman's Compensation Insurance in accordance with the laws of the State of Arkansas, Public Liability and Property Damage. All premiums and cost shall be paid by the Contractor. In no way will the City be responsible in case of accident.
 - B. When noted, a Certified check or bid bond in the amount of 5% of total bid shall accompany bid.
 - C. A Performance Bond equaling the total amount of any bid exceeding \$50,000.00 must be provided for any contract for the repair, alteration or erection of any public building, public structure or public improvement (pursuant to Arkansas Code Annotated Section 22-9-203).
19. **LIQUIDATED DAMAGES** - Liquidated damages shall be assessed beginning on the first day following the maximum delivery or completion time entered on this bid form and/or provided for by the plans and specifications.
20. **AMBIGUITY IN BID** - Any ambiguity in any bid as the result of omission, error, lack of clarity or non-compliance by the bidder with specifications, instructions, and all conditions of bidding shall be construed in the light most favorable to the City.
21. The bid number should be stated on the face of the sealed bid envelope. If it is not, the envelope will have to be opened to identify.
22. Whenever a bid is sought seeking a source of supply for a specified period of time for materials and services, the quantities of usage shown are estimated ONLY. No guarantee or warranty is given or implied by the participants as to the total amount that may or may not be purchased from any resulting contracts. These quantities are for the bidders information ONLY and will be used for tabulation and presentation of bid and the participant reserves the right to increase or decrease quantities as required.
23. The City of North Little Rock will follow procedures to check bidder eligibility through the federal System for Award Management (S.A.M.) as outlined in 2 C.F.R. § 200. This will be completed prior to the award of any contract in which federal grant funds will be expended.

24. Additional information or bid forms may be obtained from:

COMMERCE DEPARTMENT, 700 West 29th Street, P.O. Box 5757, North Little Rock, Arkansas 72119 (501)975-8881
www.nlr.ar.gov

Bidding documents must be submitted on or before the bid's opening date and time. Unless noted, bids must be sealed and mailed or delivered to:

**Amy Smith, Purchasing Manager
Commerce Department
700 W. 29th Street, 3rd Floor
North Little Rock, AR 72114**

BID FORM

NOTE TO BIDDER: Please use BLACK ink for completing this Bid form.

To. _____
Address: _____

Project Title: **MCCAIN BLVD MEDIANS
(MCCAIN FIRE STATION TO JUSTIN MATTHEWS)
IRRIGATION AND LANDSCAPE MAINTENANCE**

Engineer's
Project No.: **CNLR ENGINEERING PROJECT NO. 24-03**

Arkansas Contractor's
License No.: _____

Date: _____

Bidder: _____
Address: _____

Bidder's person to contact for additional information on this Bid:

Name: _____

Telephone: _____

ADDENDA

The Bidder hereby acknowledges that he/she has received Addenda Numbers:

_____ to these Specifications.
(Bidder insert number of each addendum received.)

INSURANCE AND BONDING REQUIREMENTS

The Bidder hereby acknowledges that he/she has read and understands the performance bond, payment bond, and insurance requirements for this project as specified in the General Conditions. If awarded a construction contract, the Bidder agrees to furnish the required bonds and insurance certificates within fifteen (15) days of the date the award is made.

Signature _____ Title _____

BIDDER'S DECLARATION AND UNDERSTANDING

The undersigned, hereinafter called the Bidder, declares that the only persons or parties interested in this Bid are those named herein, that this Bid is, in all respects, fair and without fraud, that it is made without collusion with any official of the Owner, and that the Bid is made without any connection or collusion with any person submitting another Bid on this Contract.

The Bidder further declares that he has carefully examined the Contract Documents for the construction of the project, that he has personally inspected the site, that he has satisfied himself as to the quantities involved, including materials and equipment, and conditions of work involved, including the fact that the description of the quantities of work and materials, as included herein, is brief and is intended only to indicate the general nature of the work and to identify the said quantities with the detailed requirements of the Contract Documents, and that this Bid is made according to the provisions and under the terms of the Contract Documents, which Documents are hereby made a part of this Bid.

The Bidder further agrees that he has exercised his own judgment and has utilized all data which he believes pertinent from the Engineer, Owner, and other sources in arriving at his own conclusions.

The Bidder states that he has experience in and is qualified to perform the work herein specified and, if he does not have craftsmen experienced and qualified in any phase of the work for which this Bid is offered, that he will subcontract the work under said phase to a contractor who does have the necessary experience and qualifications.

CONTRACT EXECUTION AND BONDS

The Bidder agrees that if this Bid is accepted, he will, within 15 days after notice of award, sign the Contract in the form annexed hereto, and will at that time, deliver to the Owner the Performance Bond and Payment Bond required herein, and will, to the extent of his Bid, furnish all machinery, tools, apparatus, and other means of construction and do the work and furnish all the materials necessary to complete all work as specified or indicated in the Contract Documents.

CERTIFICATES OF INSURANCE, PAYMENT BOND, AND PERFORMANCE BOND

The Bidder further agrees to furnish the Owner, before executing the Contract, the certificates of insurance, Payment Bond, and Performance Bond as specified in these Documents.

START OF CONSTRUCTION, CONTRACT COMPLETION TIME, AND LIQUIDATED DAMAGES

Start of Construction, Contract Completion Time, and Liquidated Damages are stated in Document 00500 - Contract.

SALES AND USE TAXES

The Bidder agrees that all federal, state, and local sales and use taxes are included in the stated bid prices for the work.

UNIT PRICE BASE BID

Any Bid may be rejected which contains material omissions, or irregularities, or in which any of the unit prices are obviously unbalanced in the opinion of the Owner. Also, a bid may be rejected if, in any manner it shall fail to conform to the conditions of the published Bidding Requirements and Contract Documents.

The bidder agrees to accept as full payment for the work proposed herein the amount computed under the provisions of the Contract Documents and based on the following unit price amounts, it being expressly understood that the unit prices are independent of the exact quantities involved. The bidder agrees that the unit prices represent a true measure of the labor and materials required to perform the work, including all allowances for overhead and profit for each type and unit of work called for in the Contract Documents.

| Item No. | Item Description | Units | Quantity | Unit Cost | Total Cost |
|----------|-----------------------------|-------|----------|-----------|------------|
| 1 | Miscellaneous Items of Work | LS | 1 | \$ | \$ |

***TOTAL BASE BID AMOUNT \$ _____**

Words

***NOTES:**

1. Contractor is responsible for notifying City Engineer by text message at the beginning and end of every service provided for the purpose of verifying hours worked and services provided for each site visit (this includes notification of any breaks during the service and delays of work).
2. Pricing to be based on a one year contract.
3. Minimum frequency of site visits is described in the “Irrigation and Landscape Scope of Work” document within Project Manual.
4. Traffic Control shall be coordinated with NLR Traffic Services when work is anticipated to disrupt traffic.

BASIS OF AWARD

The Bidder understands that the Contract will be awarded to the most qualified bidder with the lowest Total Base Bid that the Owner may choose that makes the Project cost acceptable to the Owner. The Owner reserves the right to waive irregularities, reject bids, choose the most qualified bidder for the Project, and to postpone award of the Contract for a period of time which shall not exceed beyond 90 days from the bid opening date.

PAYMENT SCHEDULE

A detailed payment schedule for each structure or unit shall be submitted by the successful low Bidder. The successful low Bidder shall meet with the Engineer and Owner in North Little Rock, Arkansas, to review the format and details of the payment schedule. This meeting shall be held within 5 days of notification that the Contractor is the low Bidder. The purpose of the meeting shall be to establish an acceptable format for the payment schedule. The construction detailed payment schedule shall be completed by the Contractor 14 days after the meeting and submitted to the Engineer and Owner for review and approval. Failure of the Contractor to submit the payment schedule as required may result in the Owner's rejection of the Bid or delay in processing the Contractor's request for a progress payment.

SUBCONTRACTORS

The Bidder further certifies that proposals from the following subcontractors were used in the preparation of this Bid; and if awarded a contract, Bidder agrees to not enter into Contracts with others for these divisions of the Work without written approval from the Owner and Engineer.

Subcontractor

Subcontractor

Arkansas Contractor License #

Street Address, City, State, Zip Code

Subcontractor

Arkansas Contractor License #

Street Address, City, State, Zip Code

Arkansas Contractor License #

Street Address, City, State, Zip Code

Subcontractor

Arkansas Contractor License #

Street Address, City, State, Zip Code

SUPPLIERS/VENDORS

The Bidder shall list the suppliers/vendors where material for this Project will be purchased from and successful Bidder shall updated suppliers/vendors during construction of the Project.

Supplier/Vendor Name

Street Address, City, State, Zip Code

Phone Number

Supplier/Vendor Name

Street Address, City, State, Zip Code

Phone Number

Supplier/Vendor Name

Street Address, City, State, Zip Code

Phone Number

Supplier/Vendor Name

Street Address, City, State, Zip Code

Phone Number

PERFORMANCE OF WORK BY CONTRACTOR

The Bidder shall perform at least 40 percent of the work with his own forces (refer to Paragraph 24, INSTRUCTIONS TO BIDDERS. Bids from so called "Brokerage Contractors" will not be considered.) List below the items that the Bidder will perform with his own forces, if awarded this Contract, and fill in the blank showing the estimated total cost of these items.

Estimated total cost of the above items the Bidder states that will be performed with his own forces, if awarded Contract:

_____ Dollars (\$ _____)

(Words)

EXPERIENCE OF BIDDER

The Bidder states that he is an experienced Contractor and has completed similar projects within the last 5 years. (List similar projects, with types, names of clients, construction costs, and references with telephone numbers. Use additional sheets if necessary.)

SURETY

If the Bidder is awarded a construction Contract on this Bid, the Surety who provides the Performance and Payment Bond will be:

_____ whose address is:

Street, City, State Zip Code

BIDDER

The name of the Bidder submitting this Bid is:

_____ doing business at:

Street, City, State, Zip Code

which is the address to which all communications concerned with this Bid and with the Contract shall be sent.

The names of the principal officers of the corporation submitting this Bid, or of the partnership, or of all persons interested in this Bid as principals are as follows:

If Sole Proprietor or Partnership

IN WITNESS hereto the undersigned has set his (its) hand this ____ day of _____, 20__.

Signature of Bidder

Title

If Corporation

IN WITNESS WHEREOF the undersigned corporation has caused this instrument to be executed and its seal affixed by its duly authorized officers this ____ day of _____, 20__.

Name of Corporation

By _____

Title _____

Attest _____

Secretary

(SEAL)

BID BOND

STATE OF ARKANSAS

KNOW ALL MEN BY THESE PRESENTS, that we:

Principal and Contractor, and _____

hereinafter called Surety, are held and firmly bound unto the **City of _____, Arkansas** and represented by its Mayor and City Council, hereinafter called Owner, in the sum of

_____ DOLLARS (\$ _____)

lawful money of the United States of America, for the payment of which well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, by these presents.

WHEREAS, the Principal contemplates submitting or has submitted a bid to the Owner for the furnishing of all labor, materials (except those to be specifically furnished by the Owner), equipment, machinery, tools, apparatus, means of transportation for, and the performance of the work covered in the Bid and the detailed Drawings and Specifications, entitled:

**MCCAIN BLVD MEDIANS (MCCAIN FIRE STATION TO JUSTIN MATTHEWS)
IRRIGATION AND LANDSCAPE MAINTENANCE
City Engineering Project No. 24-03
North Little Rock, Arkansas**

WHEREAS, it was a condition precedent to the submission of said bid that a cashier's check, certified check, or bid bond in the amount of 5 percent of the base bid be submitted with said bid as a guarantee that the Bidder would, if awarded the Contract, enter into a written Contract with the Owner for the performance of said Contract within 15 consecutive calendar days after written notice having been given of the award of the Contract.

NOW, THEREFORE, the conditions of this obligation are such that if the Principal within 15 consecutive calendar days after written notice of such acceptance enters into a written Contract with the Owner and furnishes a Contract Surety Bond in an amount equal to 100 percent of the base bid, satisfactory to the Owner, then this obligation shall be void; otherwise the sum herein stated shall be due and payable to the Owner and the Surety herein agrees to pay said sum immediately upon demand of the Owner in good and lawful money of the United States of America, as liquidated damages for failure thereof of said Principal.

IN WITNESS WHEREOF, the said _____, as Principal herein, has caused these presents to be signed in its name by its _____ and attested by its _____ under its corporate seal, and the said _____ as Surety herein, has caused these presents to be signed in its name by its _____ under its corporate seal, this _____ day of _____ A.D., 20__.

Signed, sealed and delivered
in the presence of:

Principal-Contractor

By _____

As to Principal

Title

Surety

Attorney-in-Fact
(Power-of-Attorney to be Attached)

As to Surety

By _____
Agent

Irrigation and Landscape Scope of Work

Verification of Existing Conditions at Each Site

An as-built construction plan for each area will be provided. All future repairs or modifications to a sprinkler system are to be documented on the as-built drawing after completion. The documentation should note any aspect of the sprinkler system that is typically covered but is visible because it is uncovered for the repair or modification. I.E. Main line size, type of connection to a sprinkler head (funny pipe or hard pipe), wire location. Each repair should be documented with a photograph before it is covered. The photograph should include a clear picture of the repair or modification with a tape measure extended to the nearest monument or feature.

RPZ

Each individual RPZ and Sprinkler System is to be activated on March 15th if no hard freezes are in the two week forecast. If a hard freeze is predicted the sprinkler systems are to be activated two days after the hard freeze has passed. The date of activation is to be approved by City Engineering before moving forward.

Each sprinkler system that is not equipped with rain sensing technology is to be monitored to prevent over watering until May 1st.

All repairs are to be made using similar pipe/fittings to the original. Slip fittings for pipe repair will not be allowed. Primer and glue are to be used at all PVC pipe repairs.

At the end of each season the RPZ assembly is to be removed, drained, and delivered to North Little Rock Public Works. Upon removal of the RPZ the sprinkler system will need to be drained down if so equipped. If no drainage points were included in the original installation the system should have compressed air applied to outlet side of the RPZ piping at a pressure of 50 psi. Then the system is to be cycled through each zone until the majority of the latent water has been expelled.

Mowing

Mowing and edging of sodded/grass areas will be based upon rate of growth. The expectation of this outline is to have mowing services provided at a sufficient rate to keep the areas neat and presentable. Because the growth rate of each area will be different (due to climate and watering rates) it is the expectation that mowing could be needed as infrequently as every 2.5 weeks up to a rate of once a week.

Herbicide/ Chemical Application

Sodded/grass areas will need to be monitored for unwanted weed growth. If unwanted weed growth is discovered it will be the responsibility of the contractor to provide and apply an herbicide that is pet safe to eliminate the unwanted weeds. The herbicide is to be applied per

the manufactures instructions. After the herbicide is applied the area should be monitored to insure that the unwanted weeds have been neutralized. If the first application does not have the desired neutralization effect then a second application should be applied and monitored.

Fertilization

Fertilizer should be applied once per year at the beginning of the growing season. (Normally in mid-April) When the RPZ is installed a soil sample should be taken from each landscape area. This soil sample is to be delivered the Pulaski County Public Extension Office for analysis. The analysis will determine what mix and quantity of fertilizer to apply. Once the analysis results are known the contractor will provide and apply the fertilizer to each area per the analysis recommendation. Please note that it is preferable that fertilizer be applied in a conservative manner to avoid "burning" vegetation.

Sod/ Plant Repair and Replacement

Any damaged sod should be replaced with solid sodding matching the species/type of what is to be replaced. All damage to landscaping is to be photographed before and after it is replaced. Any subgrade damage should be remedied with clean sandy loam topsoil before the new solid sodding is installed. Please note that sod repairs should be rolled or tamped with sufficient force to ensure 100% contact of the root system with the prepared subgrade. After any sod repair the sprinkler zone(s) that service the affected area are to be increased in time duration to provide extra water to the repair for the first 10 days following installation.

It is the desire of the City of North Little Rock to standardize the species of Annual plants that is installed in the various landscaped areas. The species selection will be made in consultation with City Engineering (City of North Little Rock Chief Engineer). To facilitate a selection the contractor will submit a short written proposal and include pictures of each species of Annual to match your proposal. The picture should be of the Annual at maturity. Any proposed Annual should be readily available in the quantities needed on a yearly basis. It is preferred that the proposal include a minimum of (3) species.

Perennial plants should be trimmed or shaped to promote plant health. Similar to the initial RPZ installation requirements, the contractor will need to provide a list of species and quantity of Perennial plants at each location at the beginning of service. The original landscape plan will be provided to aid in species identification. If a Perennial plant is damaged or dead it should be replaced with a plant of the same species and similar maturity. If multiple Perennial plants are damaged please consult with City Engineering before replacement. The intent of this consultation is to provide the City of North Little Rock with the option to update or change the layout of the landscaping before new plants have been provided and installed.

Mulch

Mulch in the landscaped areas should be maintained to a neat appearance. Any mulch provided and installed must be free of trash and clean in appearance. Pine bark mulch will not be allowed. Hardwood mulch is to be the standard. All mulch should be dark in color upon installation and installed to a depth that prevents wash out into adjacent areas or roadway.

Weed Removal

Weeds or undesirable plants that are discovered in mulched or landscaped areas are to be manually removed and disposed of off site. Herbicide may be used to eliminate weeds if the manufactures directions specifically exclude the species of plants adjacent to and around the area where the herbicide is to be applied. Any plants or vegetation that is killed due to incorrect application or incorrect indication of an herbicide will be the responsibility of the contractor to replace at no cost to the City of North Little Rock. If an area proves to have a repetitive problem with weed intrusion you must notify the City Engineering to discuss other weed prevention methods. These may include removal of existing plants and subgrade to facilitate clean top soil installation or the installation of weed control fabric. These options will only be exercised at the direction of City Engineering.

Clean up

At the completion of work at each location, any clippings, plants, or trash it to be cleaned up and disposed of off site. Upon mowing completion, any grass clippings in a roadway are to be blown to an unimproved area or manually removed.

Traffic Control

A traffic control permit will be required at any location where work is to be completed in the roadway. This maintenance plan includes multiple locations where the landscaping is in median/island areas of a roadway. Permits may be obtained at the City of North Little Rock Traffic Services Department. There will be no cost for the permit but all City signage and traffic control regulation must be strictly adhered to.

Summary

The intent of this plan to provide the City of North Little Rock with all aspects of landscape maintenance. As it is impossible to predict all necessary tasks, any item not explicitly covered in this plan is to be discussed with City Engineering to develop a standardized approach to similar future occurrences.

**Note: Refer to the Following
Pages for Existing Information
about Irrigation and Landscape
for Each Site**

MISCELLANEOUS ITEMS OF WORK

DESCRIPTION

This item covers the miscellaneous items of work related to irrigation and landscape maintenance. **The attention of the bidder is directed to the necessity for careful examination of the entire project site to determine, at the time of bid preparation, the full extent of work to be done under the item "MISCELLANEOUS ITEMS OF WORK."**

The item "MISCELLANEOUS ITEMS OF WORK" shall include but not be limited to the following:

1. Mobilization/Demobilization
2. Labor
3. Contractor's Staging Areas
4. Contractor's Access
5. Materials
6. Clean Up

CONSTRUCTION METHODS

MOBILIZATION/DEMOBILIZATION: The Contractor shall consider and include his cost for providing personnel, equipment, materials, bonds, etc. required for prosecution of the work under this item.

LABOR: The Contractor shall consider and include his cost for labor involved in all aspects of the project including but not limited to:

- RPZ activation at the beginning of each season
- Activation testing of irrigation system(s) at start-up
- Removal of RPZ at the end of each season
- Preparing the irrigation system(s) for the off season
- Installation/Repair of all irrigation materials (if applicable)
- Application of herbicides/chemicals, fertilizers, mulch installation, sod/plant installation or repair/replacement, weed removal, etc.
- Mowing and weed eating

CONTRACTOR'S STAGING AREAS: The Contractor's staging area location shall be coordinated with the City Engineer and used by the Contractor to store materials/equipment, for employee parking, and for other purposes necessary to perform the work on this project. All areas used or otherwise occupied by the Contractor for his operations shall be cleaned and restored to their original condition prior to the final acceptance of the project by the Owner.

CONTRACTOR'S ACCESS: The Contractor's access to the site shall be coordinated with the City Engineer. Before final acceptance of the project, any damage to the existing public or private property caused by the Contractor shall be repaired as directed by the City Engineer.

MATERIALS: The Contractor shall consider and include his cost for providing irrigation materials (if applicable), herbicides/chemicals, fertilizers, mulch, sod, plants, etc.

CLEAN UP: From time to time, the Contractor shall clean up the site in order that the site presents a neat appearance and that the progress of work will not be impeded. One such clean up shall immediately precede final inspection.

Immediately following acceptance of the work by the Owner, the Contractor shall remove all temporary equipment, surplus materials, and debris resulting from his operations, and leave the site in a condition fully acceptable to the Owner.

MEASUREMENT AND PAYMENT

Miscellaneous Items of Work will be measured as a lump sum complete item. Work completed and accepted under this item will be paid for at the contract lump sum price bid for "MISCELLANEOUS ITEMS OF WORK," which price shall be full compensation for furnishing all labor, tools, equipment and incidentals necessary to complete the work.

Periodic payments will be made under this item in proportion to the amount of work accomplished, as determined by the City Engineer.

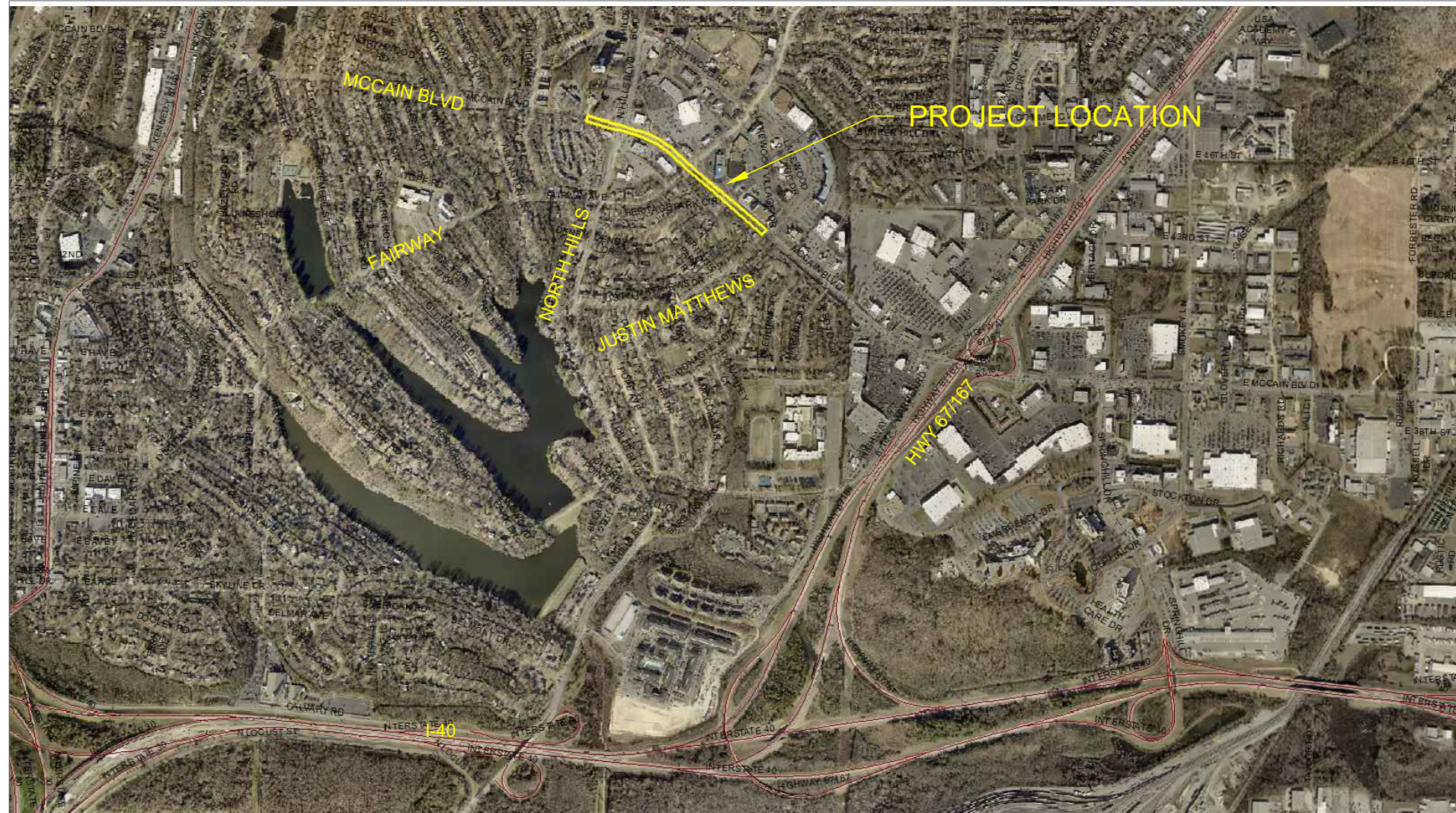
Payment will be made under:

Miscellaneous Items of Work - per Lump Sum

END OF SECTION

MCCAIN BLVD MEDIANS (MCCAIN FIRE STATION TO JUSTIN MATTHEWS) IRRIGATION AND LANDSCAPE MAINTENANCE

NORTH LITTLE ROCK, AR



APRIL 2024

| INDEX OF SHEETS | |
|-----------------|--------------------------------|
| SHEET | TITLE |
| 1 | COVER SHEET |
| 2 | SITE LAYOUT |
| 3-8 | LANDSCAPE AND IRRIGATION PLANS |



CITY OF NORTH LITTLE ROCK
Engineering Department

NORTH LITTLE ROCK, AR 72114

500 WEST 13TH STREET

MCCAIN BLVD MEDIANS (MCCAIN
FIRE STATION TO JUSTIN
MATTHEWS) IRRIGATION AND
LANDSCAPE MAINTENANCE

COVER SHEET

DATE: 04/2024
DESIGNED BY: MCK
DRAWN BY: MCK
SCALE: NONE

SHEET NUMBER

1



CITY OF NORTH LITTLE ROCK
Engineering Department

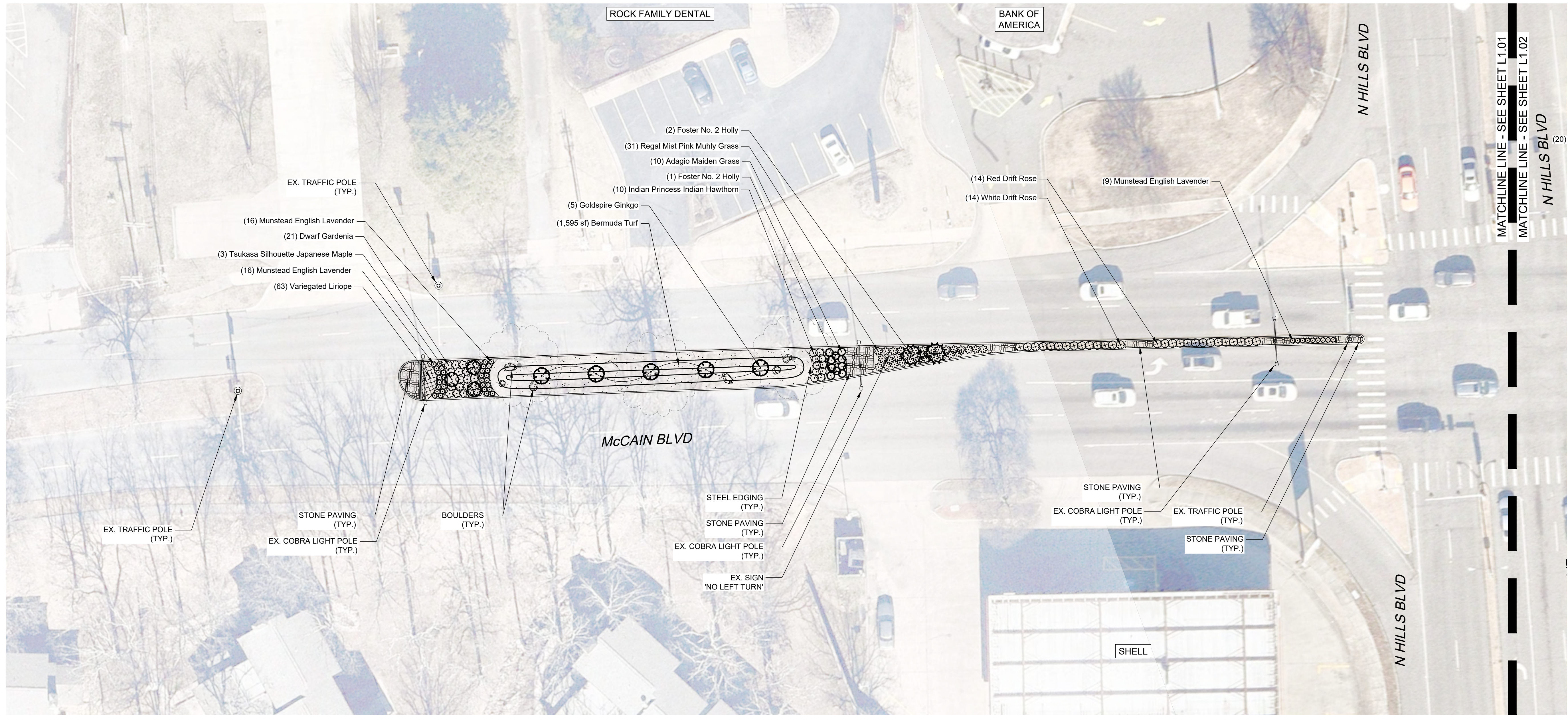
500 WEST 13TH STREET
NORTH LITTLE ROCK, AR 72114

MCCAIN BLVD MEDIANS (MCCAIN
FIRE STATION TO JUSTIN
MATTHEWS) IRRIGATION AND
LANDSCAPE MAINTENANCE

SITE
LAYOUT

DATE: 04/2024
DESIGNED BY: MCK
DRAWN BY: MCK
SCALE: 1" = 1'

SHEET NUMBER
2

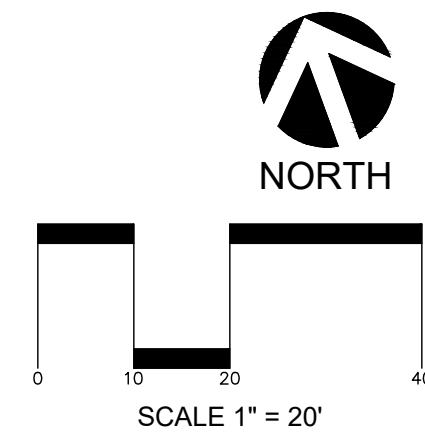


PLANT SCHEDULE L1.01

| TREES / DECIDUOUS | COMMON / BOTANICAL NAME | CONT | CAL | HT | SPD | QTY | SHRUBS / EVERGREEN | COMMON / BOTANICAL NAME | CONT | HT | SPD | QTY |
|---------------------------|--|-------------|------------|------------|------------|---------------------------|---|--|-------------|----------------|------------|------------|
| | Goldspire Ginkgo / Ginkgo biloba 'Blagon' TM - Specimen; full; trees well branched, well balanced all sides; trees well matched. | B&B/Cont. | 2'-2 1/2" | 8'-9' | 42"-48" | 5 | | Dwarf Gardenia / Gardenia augusta 'Radicans' - Full, dense, well rounded form. | 3 gal. | 10"-12" | 12"-15" | 21 |
| TREES / EVERGREEN | COMMON / BOTANICAL NAME | CONT | CAL | HT | SPD | QTY | SHRUBS / EVERGREEN | COMMON / BOTANICAL NAME | CONT | HT | SPD | QTY |
| | Foster No. 2 Holly / Ilex x attenuata 'Foster No. 2' - Specimen; multi-trunk; dense, full compact pyramidal form; trees well matched; 3 trunks minimum. | B&B/Cont. | 2'-2 1/2" | 8'-9' | 42"-48" | 3 | | Indian Princess Indian Hawthorn / Rhaphiolepis indica 'Monto' TM - Full, dense, compact form. | 3 gal. | 12"-14" | 15"-18" | 10 |
| TREES / ORNAMENTAL | COMMON / BOTANICAL NAME | CONT | CAL | HT | SPD | QTY | SHRUBS / EVERGREEN | COMMON / BOTANICAL NAME | CONT | HT | SPD | QTY |
| | Tsukasa Silhouette Japanese Maple / Acer palmatum 'Tsukasa Silhouette' - Specimen; Full, well branched and well balanced; trees well matched. | B&B/Cont. | 2'-2 1/2" | 7'-9' | 30"-42" | 3 | | Munstead English Lavender / Lavandula angustifolia 'Munstead' - Full clump; well branched. | 3 gal. | 10"-12" | 10"-15" | 41 |
| ORNAMENTAL GRASSES | COMMON / BOTANICAL NAME | CONT | HT | SPD | QTY | SHRUBS / EVERGREEN | COMMON / BOTANICAL NAME | CONT | HT | SPD | QTY | |
| | Adagio Maiden Grass / Miscanthus sinensis 'Adagio' - Full clump; well rooted. | 5 gal. | 24"-28" | 24"-28" | 10 | | Red Drift Rose / Rosa x 'Meigalpio' TM - Full, well branched. | 3 gal. | 10"-15" | 10"-15" | 14 | |
| | Regal Mist Pink Muhly Grass / Muhlenbergia capillaris 'Lenca' TM - Full clump; well rooted. | 3 gal. | 15"-18" | 15"-18" | 32 | GROUND COVERS | COMMON / BOTANICAL NAME | CONT | SIZE | SPACING | QTY | |
| | | | | | | | Variegated Liriope / Liriope muscari 'Variegata' - Full clump; well rooted. | 1 gal. | 8"-10" | 12" o.c. | 63 | |
| | | | | | | SOD | COMMON / BOTANICAL NAME | CONT | SIZE | SPACING | QTY | |
| | | | | | | | Bermuda Turf / Cynodon dactylon '419 Hybrid' - Free of weeds, debris, insects and other grasses. | Solid Sod | | | 1,595 sf | |
| | | | | | | BOULDERS | TYPE | DESCRIPTION AND SIZE | QTY | | | |
| | | | | | | | Native Stone Boulders | Boulders to have moss where possible. Provide a mixture of sizes, large and small. Large boulders shall range from 2' x 3' in size up to 2 1/2' x 4'. Small boulders shall range from 2' x 2' up to 2' x 3'. Provide a mixture of sizes. Refer to 'BOULDERS' notes for additional information', Sheet L2.01. | 6 | | | |

NOTES

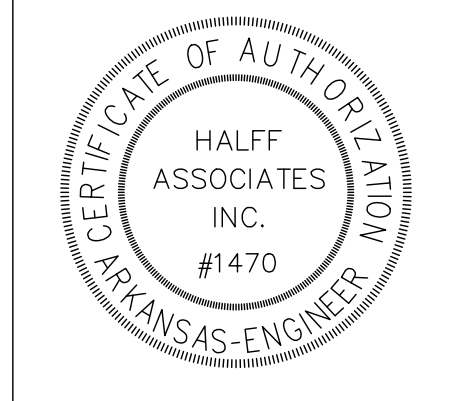
- PROVIDE 4" MINIMUM DEPTH OF "WASHED" RIVER ROCK WITH WEED BARRIER FOR ALL SHRUBS BEDS ONLY. ROCK SHALL BE APPROXIMATELY 2" - 3" IN SIZE.
- PROVIDE A 2" MINIMUM DEPTH OF SHREDDED HARDWOOD MULCH IN ALL MASS GROUND COVER PLANTING BEDS.



**McCain Boulevard
Median Improvements**
North Little Rock, Arkansas

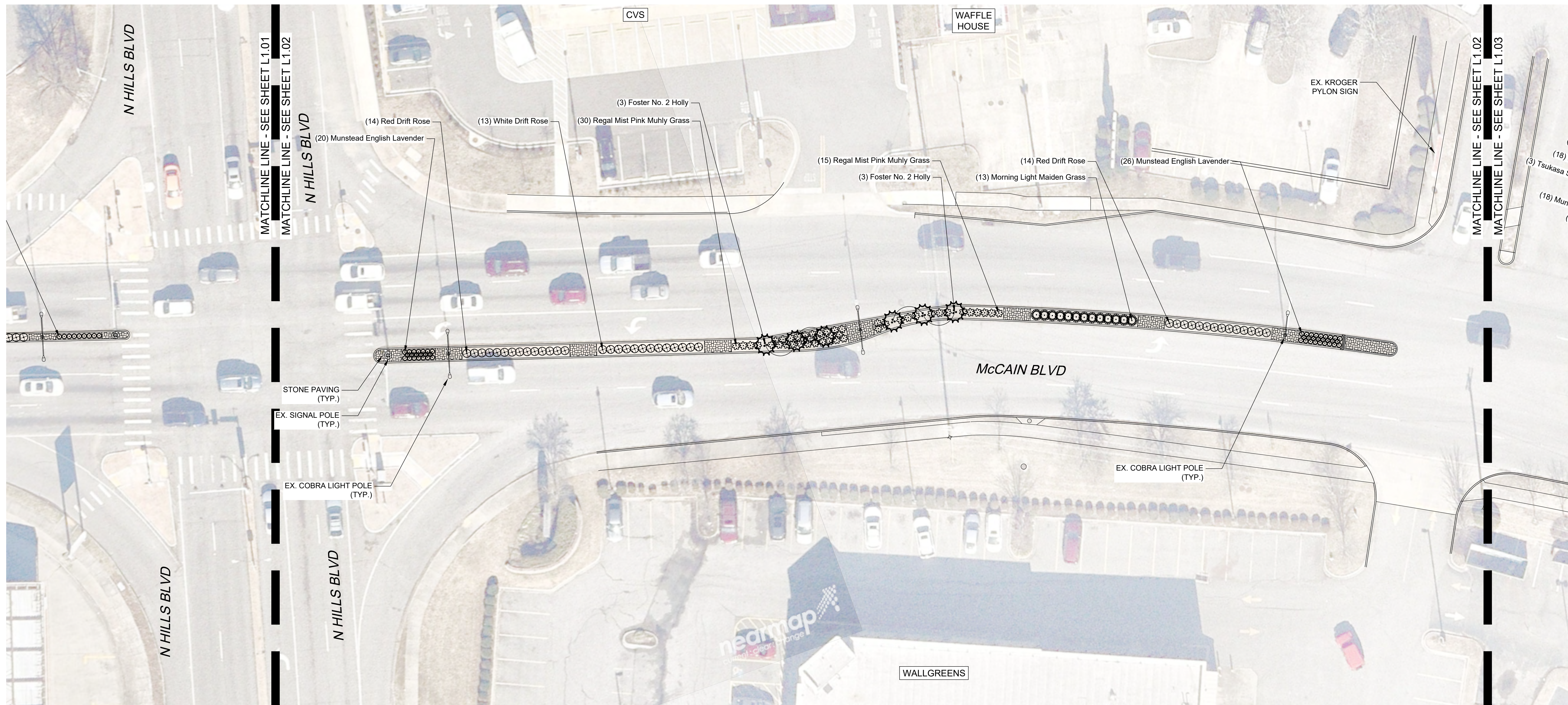


| Revision No. | Date | Description |
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Project No.: 43220.001
Issued: FEBRUARY 2022
Drawn By: LCJ
Checked By: SBH
Sheet Title

PLANTING PLAN
Sheet Number
L1.01



PLANT SCHEDULE L1.02

| TREES / EVERGREEN | COMMON / BOTANICAL NAME | CONT | CAL | HT | SPD | QTY |
|--------------------|---|-----------|-----------|---------|---------|-----|
| | Foster No. 2 Holly / <i>Ilex x attenuata</i> 'Foster No. 2' - Specimen; multi-trunk; dense, full compact pyramidal form; trees well matched; 3 trunks minimum. | B&B/Cont. | 2'-2 1/2" | 8'-9' | 42"-48" | 6 |
| ORNAMENTAL GRASSES | COMMON / BOTANICAL NAME | CONT | | HT | SPD | QTY |
| | Morning Light Maiden Grass / <i>Miscanthus sinensis</i> 'Morning Light' - Full, well rooted clump. | 3 gal. | | 24"-28" | 20"-24" | 13 |
| | Regal Mist Pink Muhly Grass / <i>Muhlenbergia capillaris</i> 'Lenca' TM - Full clump; well rooted. | 3 gal. | | 15"-18" | 15"-18" | 45 |
| SHRUBS / EVERGREEN | COMMON / BOTANICAL NAME | CONT | | HT | SPD | QTY |
| | Munstead English Lavender / <i>Lavandula angustifolia</i> 'Munstead' - Full clump; well branched. | 3 gal. | | 10"-12" | 10"-15" | 46 |
| | Red Drift Rose / <i>Rosa x 'Meigalpio'</i> TM - Full, well branched. | 3 gal. | | 10"-15" | 10"-15" | 28 |
| | White Drift Rose / <i>Rosa x 'Meizorland'</i> TM - Full, well branched. | 3 gal. | | 10"-15" | 10"-15" | 13 |

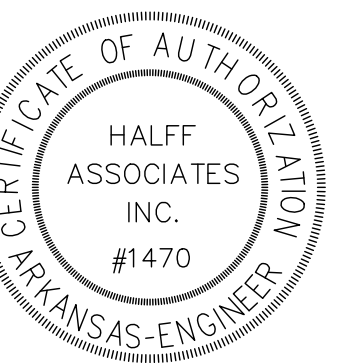
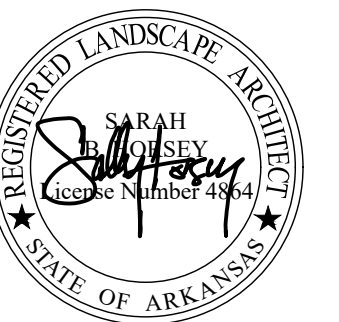
NOTES

1. PROVIDE 4" MINIMUM DEPTH OF "WASHED" RIVER ROCK WITH WEED BARRIER FOR ALL SHRUBS BEDS ONLY. ROCK SHALL BE APPROXIMATELY 2" - 3" IN SIZE.
2. PROVIDE A 2" MINIMUM DEPTH OF SHREDDED HARDWOOD MULCH IN ALL MASS GROUNDCOVER PLANTING BEDS.

**McCain Boulevard
Median Improvements**
North Little Rock, Arkansas



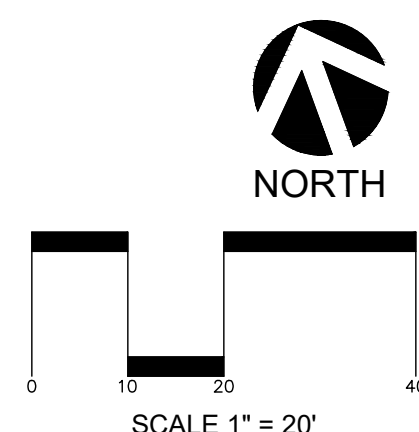
| Revision No. | Date | Description |
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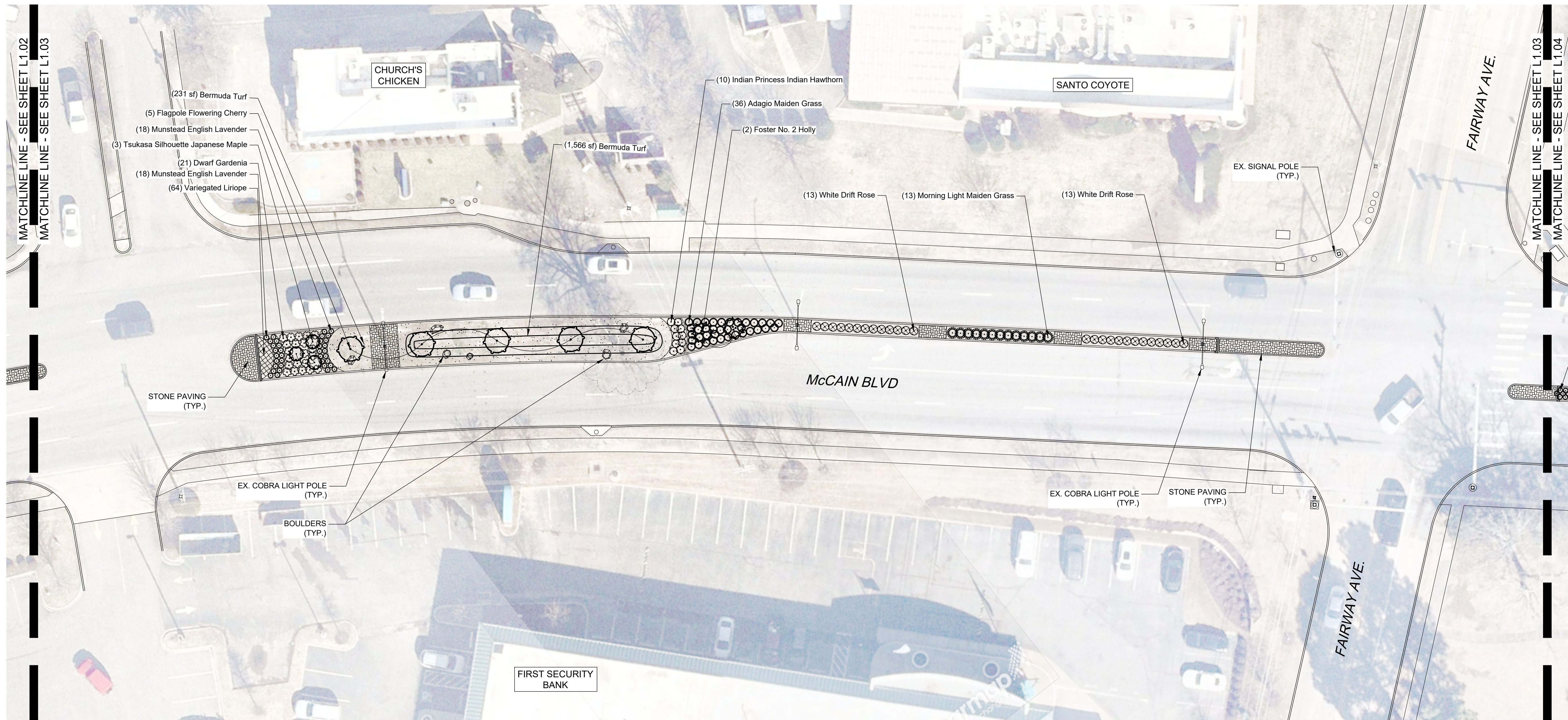


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 Checked By: SBH
 Sheet Title

PLANTING PLAN

Sheet Number
L1.02



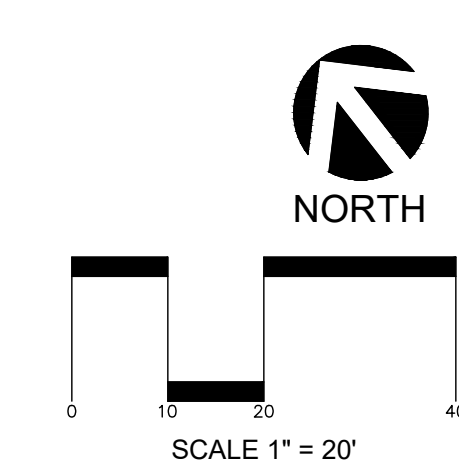


PLANT SCHEDULE L1.03

| TREES / EVERGREEN | COMMON / BOTANICAL NAME | CONT | CAL | HT | SPD | QTY | SHRUBS / EVERGREEN | COMMON / BOTANICAL NAME | CONT | HT | SPD | QTY |
|-------------------|---|-----------|-----------|---------|---------|-----|----------------------|--|--|-------------|----------------|------------|
| | Foster No. 2 Holly / <i>Ilex x attenuata</i> 'Foster No. 2' - Specimen; multi-trunk; dense, full compact pyramidal form; trees well matched; 3 trunks minimum. | B&B/Cont. | 2'-2 1/2" | 8'-9' | 42"-48" | 2 | | Dwarf Gardenia / <i>Gardenia augusta</i> 'Radicans' - Full, dense, well rounded form. | 3 gal. | 10"-12" | 12"-15" | 21 |
| | Indian Princess Indian Hawthorn / <i>Rhaphiolepis indica</i> 'Monto' TM - Full, dense, compact form. | B&B/Cont. | 2'-2 1/2" | 8'-9' | 36"-42" | 5 | | Munstead English Lavender / <i>Lavandula angustifolia</i> 'Munstead' - Full clump; well branched. | 3 gal. | 10"-12" | 10"-15" | 36 |
| | Flagpole Flowering Cherry / <i>Prunus amanogawa</i> - Full; well branched, well balanced. | B&B/Cont. | 2'-2 1/2" | 7'-9' | 30"-42" | 3 | | White Drift Rose / <i>Rosa x 'Meizorland'</i> TM - Full, well branched. | 3 gal. | 10"-15" | 10"-15" | 26 |
| | Tsukasa Silhouette Japanese Maple / <i>Acer palmatum</i> 'Tsukasa Silhouette' - Specimen; Full, well branched and well balanced; trees well matched. | B&B/Cont. | 2'-2 1/2" | 7'-9' | 30"-42" | 3 | GROUND COVERS | COMMON / BOTANICAL NAME | CONT | SIZE | SPACING | QTY |
| | Adagio Maiden Grass / <i>Miscanthus sinensis</i> 'Adagio' - Full clump; well rooted. | 5 gal. | | 24"-28" | 24"-28" | 36 | | Variegated Liriope / <i>Liriope muscari</i> 'Variegata' - Full clump; well rooted. | 1 gal. | 8"-10" | 12" o.c. | 64 |
| | Morning Light Maiden Grass / <i>Miscanthus sinensis</i> 'Morning Light' - Full, well rooted clump. | 3 gal. | | 24"-28" | 20"-24" | 13 | SOD | COMMON / BOTANICAL NAME | CONT | SIZE | SPACING | QTY |
| | | | | | | | | Bermuda Turf / <i>Cynodon dactylon</i> '419 Hybrid' - Free of weeds, debris, insects and other grasses. | Solid Sod | | | 1,797 sf |
| | | | | | | | BOULDERS | TYPE | DESCRIPTION AND SIZE | | | QTY |
| | | | | | | | | Native Stone Boulders | Boulders to have moss where possible. Provide a mixture of sizes, large and small. Large boulders shall range from 2' x 3' in size up to 2 1/2' x 4'. Small boulders shall range from 2' x 2' up to 2' x 3'. Provide a mixture of sizes. Refer to 'BOULDERS' notes for additional information', Sheet L2.01. | | | 6 |

NOTES

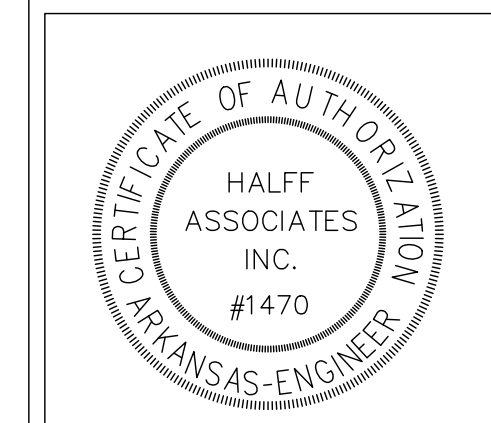
- PROVIDE 4" MINIMUM DEPTH OF "WASHED" RIVER ROCK WITH WEED BARRIER FOR ALL SHRUBS BEDS ONLY. ROCK SHALL BE APPROXIMATELY 2" - 3" IN SIZE.
- PROVIDE A 2" MINIMUM DEPTH OF SHREDDED HARDWOOD MULCH IN ALL MASS GROUND COVER PLANTING BEDS.



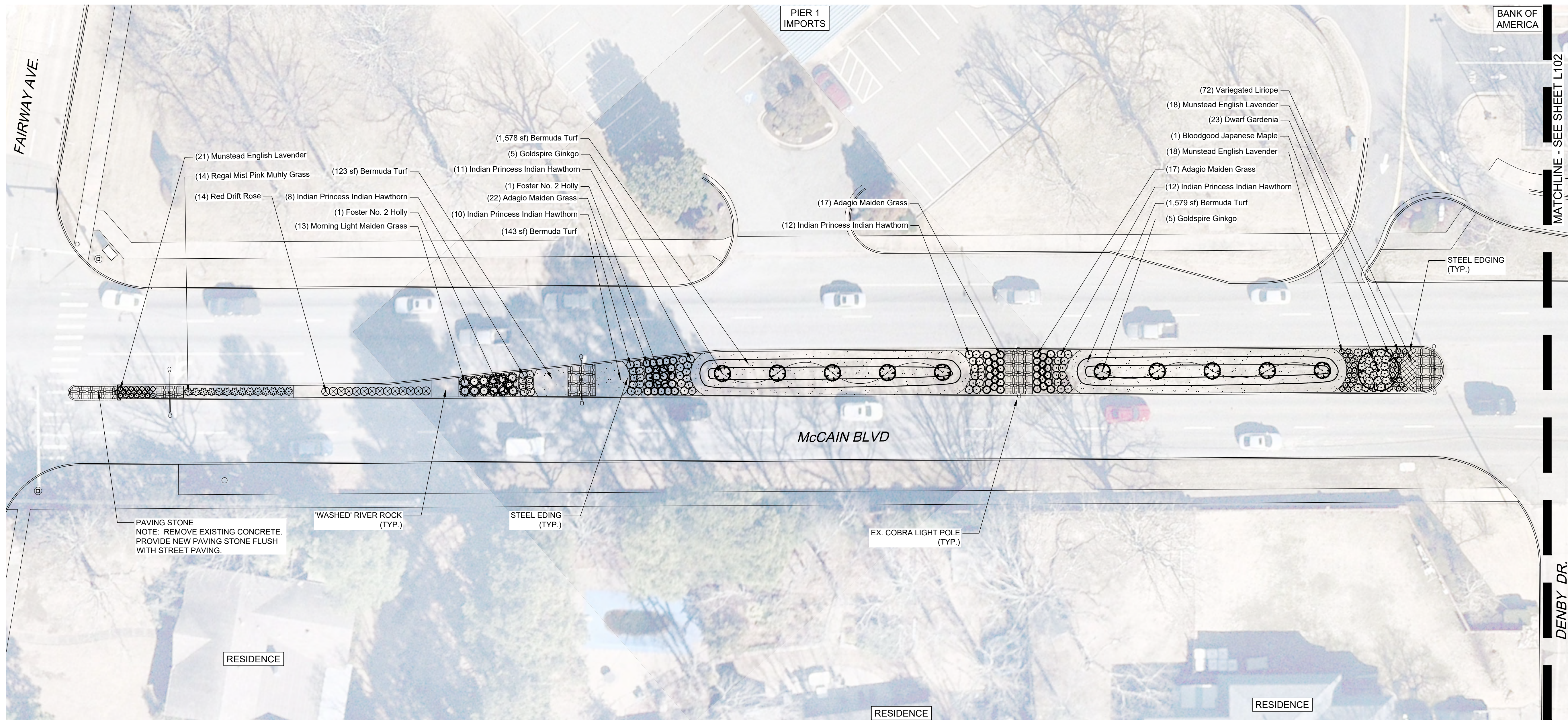
**McCain Boulevard
Median Improvements**
North Little Rock, Arkansas



| Revision No. | Date | Description |
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Project No.: 43220.001
 Issued: FEBRUARY 2022
 Drawn By: LCJ
 Checked By: SBH
 Sheet Title
PLANTING PLAN
 Sheet Number
L1.03

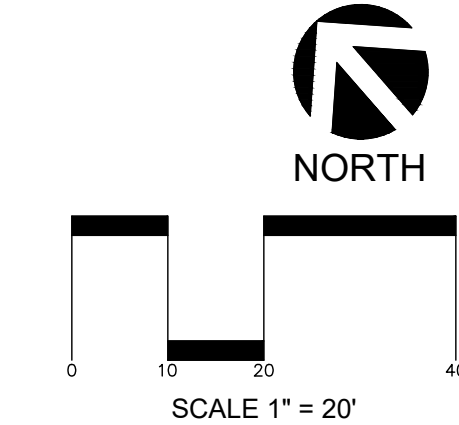


PLANT SCHEDULE

| TREES / DECIDUOUS | COMMON / BOTANICAL NAME | CONT | CAL | HT | SPD | QTY | SHRUBS / EVERGREEN | COMMON / BOTANICAL NAME | CONT | HT | SPD | QTY |
|---------------------------|--|--------------|------------|------------|------------|------------|----------------------|---|-------------|-------------|----------------|------------|
| | Goldspire Ginkgo / Ginkgo biloba 'Blagon' TM - Specimen; full; trees well branched, well balanced all sides; trees well matched. | B&B/Cont. | 2"-2 1/2" | 8'-9' | 42"-48" | 10 | | Dwarf Gardenia / Gardenia augusta 'Radicans' - Full, dense, well rounded form. | 3 gal. | 10"-12" | 12"-15" | 25 |
| TREES / EVERGREEN | COMMON / BOTANICAL NAME | CONT | CAL | HT | SPD | QTY | | Indian Princess Indian Hawthorn / Rhampholepis indica 'Monto' TM - Full, dense, compact form. | 3 gal. | 12"-14" | 15"-18" | 53 |
| | Foster No. 2 Holly / Ilex x attenuata 'Foster No. 2' - Specimen; multi-trunk; dense, full compact pyramidal form; trees well matched; 3 trunks minimum. | B&B/Cont. | 2"-2 1/2" | 8'-9' | 42"-48" | 2 | | Munstead English Lavender / Lavandula angustifolia 'Munstead' - Full clump; well branched. | 3 gal. | 10"-12" | 10"-15" | 57 |
| | Red Drift Rose / Rosa x 'Meigalpio' TM - Full, well branched. | 3 gal. | | | | | | Variegated Liriope / Liriope muscari 'Variegata' - Full clump; well rooted. | 1 gal. | 8"-10" | 12" o.c. | 72 |
| TREES / ORNAMENTAL | COMMON / BOTANICAL NAME | CONT | CAL | HT | SPD | QTY | GROUND COVERS | COMMON / BOTANICAL NAME | CONT | SIZE | SPACING | QTY |
| | Bloodgood Japanese Maple / Acer palmatum 'Bloodgood' Specimen; full, well branched specimen form. | B&B or Cont. | 1 3/4"-2" | 7'-8' | 36"-42" | 1 | | Bermuda Turf / Cynodon dactylon '419 Hybrid' - Free of weeds, debris, insects and other grasses. | Solid Sod | | | 3,423 sf |
| ORNAMENTAL GRASSES | COMMON / BOTANICAL NAME | CONT | HT | SPD | QTY | | | | | | | |
| | Adagio Maiden Grass / Miscanthus sinensis 'Adagio' - Full clump; well rooted. | 5 gal. | | 24"-28" | 24"-28" | 56 | | | | | | |
| | Morning Light Maiden Grass / Miscanthus sinensis 'Morning Light' - Full, well rooted clump. | 3 gal. | | 24"-28" | 20"-24" | 13 | | | | | | |
| | Regal Mist Pink Muhly Grass / Muhlenbergia capillaris 'Lenca' TM - Full clump; well rooted. | 3 gal. | | 15"-18" | 15"-18" | 14 | | | | | | |

NOTES

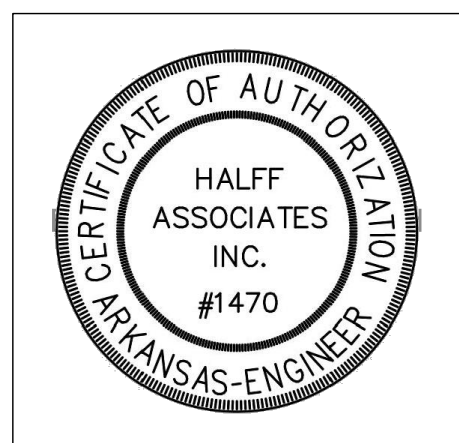
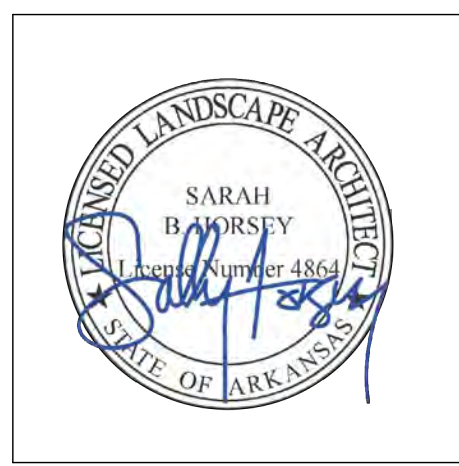
- THE LISTED QUANTITIES ARE PROVIDED FOR ESTIMATING PURPOSES ONLY. ESTIMATED QUANTITIES OF MASS PLANTING AREAS ARE BASED ON DESIGNATED ON-CENTER SPACING PER SQUARE FOOTAGE. ALL MASS PLANTING BEDS SHALL BE FULL UPON COMPLETION OF LANDSCAPE INSTALLATION BASED ON THE ON-CENTER SPACING. THE NUMBER OF PLANT MATERIAL SYMBOLS (CIRCLES) SHOWN ON THE DRAWINGS SHALL TAKE PRECEDENCE OVER ESTIMATED QUANTITIES SHOWN ABOVE. CONFIRM ALL QUANTITIES.
- PROVIDE 4" MINIMUM DEPTH OF 'WASHED' RIVER ROCK WITH WEED BARRIER FOR ALL SHRUBS BEDS ONLY. ROCK SHALL BE APPROXIMATELY 2" - 3" IN SIZE.
- PROVIDE A 2" MINIMUM DEPTH OF SHREDDED HARDWOOD MULCH IN ALL MASS GROUND COVER PLANTING BEDS.
- PROVIDE STEEL EDGING BETWEEN GROUND COVER BEDS AND SHRUBS BEDS TO DIVIDE THE WASHED RIVER ROCK MULCH FROM THE SHREDDED HARDWOOD MULCH.
- ALL AREAS SHOWN TO BE LANDSCAPED WILL HAVE AN AUTOMATIC IRRIGATION SYSTEM.
- ALL SLEEVES BY INFRASTRUCTURE CONTRACTOR.



McCain Boulevard Median
Landscape Improvements
Phase II
North Little Rock, Arkansas

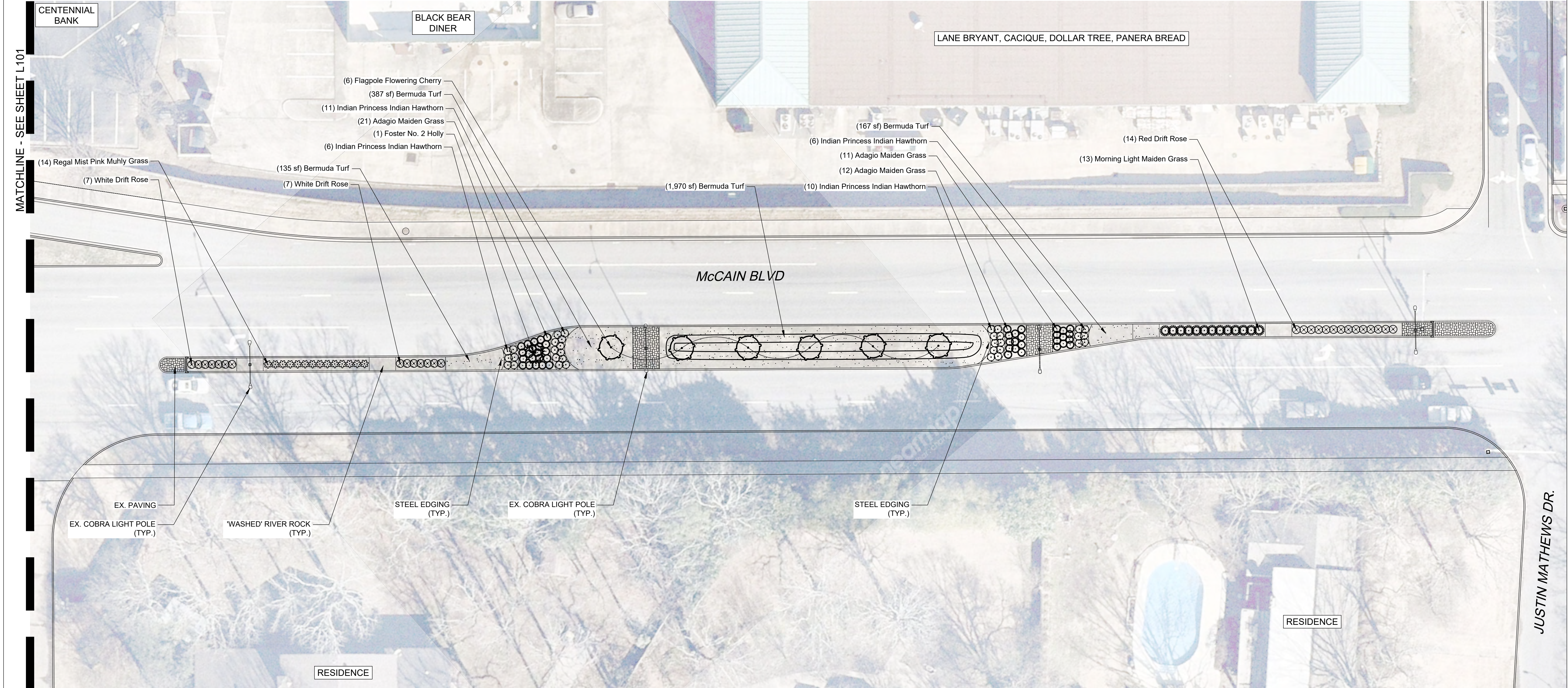


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| Project No.: | 43220.001 |
| Issued: | 05-09-2023 |
| Drawn By: | LCJ |
| Checked By: | SBH |
| Sheet Title | PLANTING PLAN |
| Sheet Number | L101 |

NOTE: SCALE SHOWN ON PLAN REPRESENTS A PRINTED 22" x 34" SIZE SHEET.



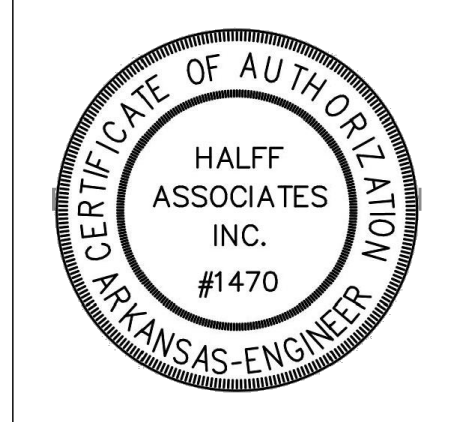
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PLANT SCHEDULE

| TREES / EVERGREEN | COMMON / BOTANICAL NAME | CONT | CAL | HT | SPD | QTY | SHRUBS / EVERGREEN | COMMON / BOTANICAL NAME | CONT | HT | SPD | QTY |
|-------------------|---|-----------|-----------|---------|---------|-----|--------------------|--|-----------|---------|---------|----------|
| | Foster No. 2 Holly / <i>Ilex x attenuata</i> 'Foster No. 2' - Specimen; multi-trunk; dense, full compact pyramidal form; trees well matched; 3 trunks minimum. | B&B/Cont. | 2'-2 1/2" | 8'-9' | 42"-48" | 1 | | Indian Princess Indian Hawthorn / <i>Rhaphiolepis indica</i> 'Monto' TM - Full, dense, compact form. | 3 gal. | 12"-14" | 15"-18" | 33 |
| | Flagpole Flowering Cherry / <i>Prunus amanogawa</i> - Full; well branched, well balanced. | B&B/Cont. | 2'-2 1/2" | 8'-9' | 36"-42" | 6 | | Red Drift Rose / <i>Rosa x 'Meigalpio'</i> TM - Full, well branched. | 3 gal. | 10"-15" | 10"-15" | 14 |
| | Adagio Maiden Grass / <i>Miscanthus sinensis</i> 'Adagio' - Full clump; well rooted. | 5 gal. | | 24"-28" | 24"-28" | 44 | | White Drift Rose / <i>Rosa x 'Meizoland'</i> TM - Full, well branched. | 3 gal. | 10"-15" | 10"-15" | 14 |
| | Morning Light Maiden Grass / <i>Miscanthus sinensis</i> 'Morning Light' - Full, well rooted clump. | 3 gal. | | 24"-28" | 20"-24" | 13 | | Bermuda Turf / <i>Cynodon dactylon</i> '419 Hybrid' - Free of weeds, debris, insects and other grasses. | Solid Sod | | | 2,659 sf |
| | Regal Mist Pink Muhly Grass / <i>Muhlenbergia capillaris</i> 'Lenca' TM - Full clump; well rooted. | 3 gal. | | 15"-18" | 15"-18" | 14 | | | | | | |

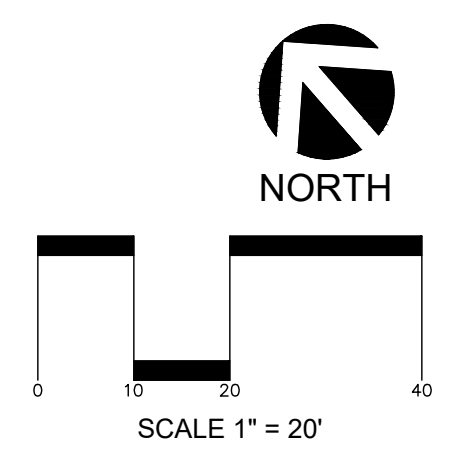
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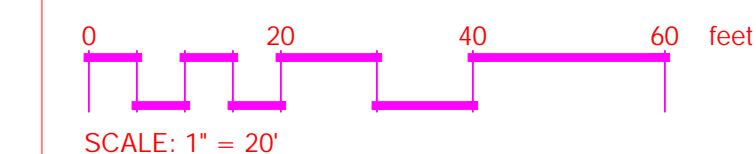
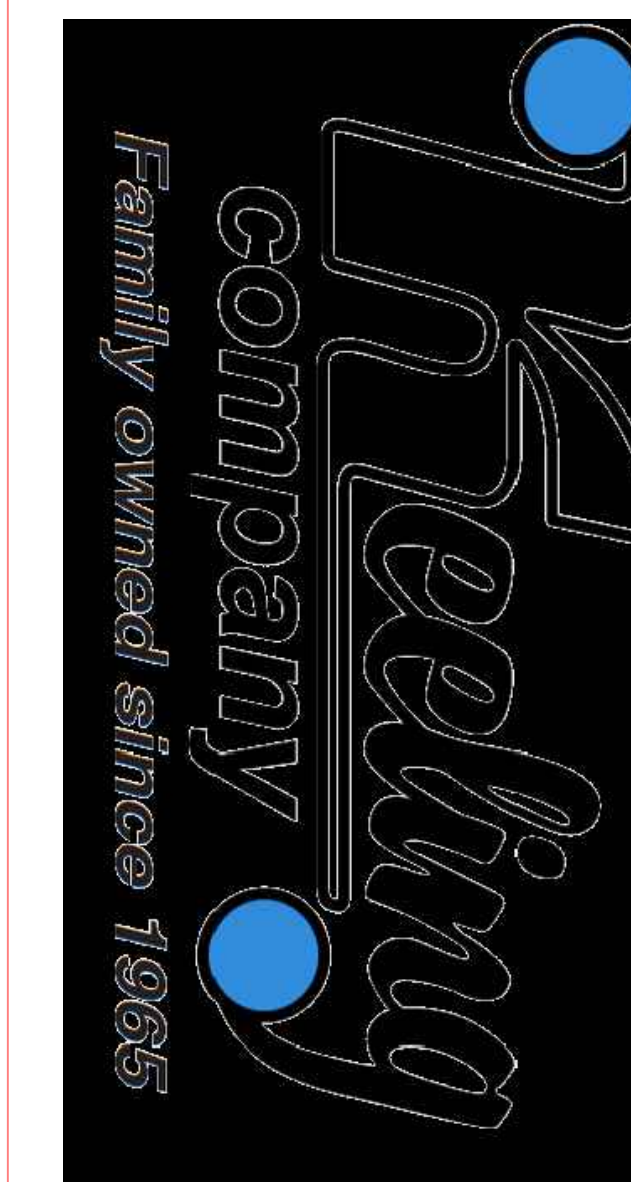
- THE LISTED QUANTITIES ARE PROVIDED FOR ESTIMATING PURPOSES ONLY. ESTIMATED QUANTITIES OF MASS PLANTING AREAS ARE BASED ON DESIGNATED ON-CENTER SPACING PER SQUARE FOOTAGE. ALL MASS PLANTING BEDS SHALL BE FULL UPON COMPLETION OF LANDSCAPE INSTALLATION BASED ON THE ON-CENTER SPACING. THE NUMBER OF PLANT MATERIAL SYMBOLS (CIRCLES) SHOWN ON THE DRAWINGS SHALL TAKE PRECEDENCE OVER ESTIMATED QUANTITIES SHOWN ABOVE. CONFIRM ALL QUANTITIES.
- PROVIDE 4" MINIMUM DEPTH OF 'WASHED' RIVER ROCK WITH WEED BARRIER FOR ALL SHRUBS BEDS ONLY. ROCK SHALL BE APPROXIMATELY 2" - 3" IN SIZE.
- PROVIDE A 2" MINIMUM DEPTH OF SHREDDED HARDWOOD MULCH IN ALL MASS GROUNDCOVER PLANTING BEDS.
- ALL AREAS SHOWN TO BE LANDSCAPED WILL HAVE AN AUTOMATIC IRRIGATION SYSTEM.
- ALL SLEEVES BY INFRASTRUCTURE CONTRACTOR.



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| Project No.: | 43220.001 |
| Issued: | 05-09-2023 |
| Drawn By: | LCJ |
| Checked By: | SBH |
| Sheet Title | |

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| PLANTING PLAN | |
| Sheet Number | L102 |





Irrigation Notes
 1.) This irrigation plan is for estimation and planning purposes only and is not to taken as a guarantee.

2.) The irrigation system is designed assuming the PSI stated in the critical analysis to be available at the points of connection.

3.) The irrigation equipment and design and are schematic in nature. The contractor is responsible for adjusting for conditions on site which may or may not be reflected in this plan (utilities, slopes, etc)

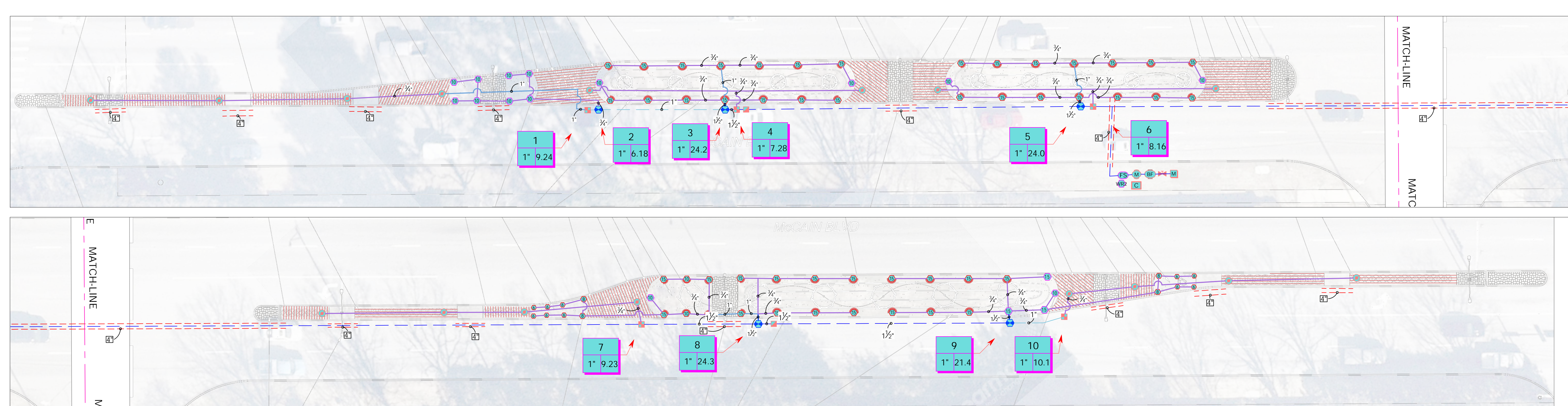
| No. | Revision/Issue | Date |
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Firm Name and Address
Keeling Company
 4227 E. 43rd St
 North Little Rock, AR 72117

Michael Reid

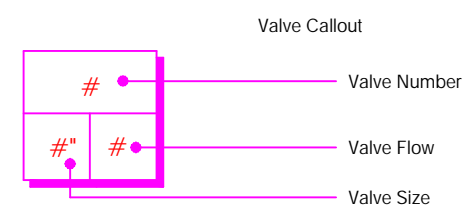
Project Name and Address
 McCain Boulevard
 Fairway to Justin Matthews
 North Little Rock, AR

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| Project McCain Medians Ph2 | Sheet IR1 |
| Date 5-12-2023 | |
| Scale 1"=20' | |



IRRIGATION SCHEDULE

| SYMBOL | MANUFACTURER/MODEL/DESCRIPTION | QTY |
|--------|--|------------|
| | Rain Bird 1804 10 Series MPR Turf Spray 4.0" Pop-Up Sprinkler with Co-Molded Wiper Seal. 1/2" NPT Female Threaded Inlet. | 2 |
| | Rain Bird 1804 15 Series MPR Turf Spray 4.0" Pop-Up Sprinkler with Co-Molded Wiper Seal. 1/2" NPT Female Threaded Inlet. | 47 |
| | Rain Bird 1804 ADJ Turf Spray 4.0" Pop-Up Sprinkler with Co-Molded Wiper Seal. 1/2" NPT Female Threaded Inlet. | 31 |
| SYMBOL | MANUFACTURER/MODEL/DESCRIPTION | QTY |
| | Rain Bird XZ-100-PRB-COM 1" Wide Flow Drip Control Kit for Commercial Applications. 1in. Ball Valve with 1in. PESB Valve and 1in. Pressure Regulating 40psi Quick-Check Basket Filter. 0.3 GPM-20 GPM | 5 |
| | Pipe Transition Point above grade Pipe transition point from PVC lateral to drip tubing with riser to above grade installation. | 16 |
| | Area to Receive Dripline Rain Bird XFCV-06-12 XFCV XOn-Surface Landscape Dripline with a Heavy-Duty 3.5 psi Check Valve. 0.6 GPH emitters at 12" O.C. Dripline laterals spaced at 12" apart, with emitters offset for triangular pattern. Great for elevation change. Specify XF insert fittings. | 4,395 l.f. |
| SYMBOL | MANUFACTURER/MODEL/DESCRIPTION | QTY |
| | Rain Bird PESB 1" 1in., 1-1/2in., 2in. Plastic Industrial Valves. Low Flow Operating Capability, Globe Configuration. With Scrubber Technology for Reliable Performance in Dirty Water Irrigation Applications. | 5 |
| | Rain Bird 3-RC 3/4" 3/4in. Brass Quick-Coupling Valve, with Corrosion-Resistant Stainless Steel Spring, Thermoplastic Rubber Cover, and 1-Piece Body. | 2 |
| | Shut Off Valve Size to Mainline | 1 |
| | Rain Bird PESB 1" 1in., 1-1/2in., 2in. Plastic Industrial Master Valves. Low Flow Operating Capability, Globe Configuration. With Scrubber Technology for Reliable Performance in Dirty Water Irrigation Applications. | 1 |
| | Zurn 350XL 1" Double Check Valve Assembly w/ EZSwap insert. | 1 |
| | Rain Bird ESP4ME3 with (2) ESP-SM3 10 Station, Hybrid Modular Outdoor Controller. For Residential or Light Commercial Use. LNK WIFI Module and Flow Sensor Ready. | 1 |
| | Rain Bird WR2-RFC Wireless Rain and Freeze Sensor Combo, includes 1 receiver and 1 rain/freeze sensor transmitter. | 1 |
| | Rain Bird FS-100-B 1in. Flow Sensor, Brass Model. Suggested Operating Range 2.0 GPM to 40.0 GPM. Size for Flow Not According to Pipe Size, Rain Bird Compatible Controllers: ESP-LXIVM(P) LXI LXME2(P) ME3, or Controllers Accepting Custom K-Factor and Offset. Install in Rain Bird Valve Box. | 1 |
| | Water Meter 1" | 1 |
| | Irrigation Lateral Line: PVC Class 200 SDR 21 3/4" | 1,598 l.f. |
| | Irrigation Lateral Line: PVC Class 200 SDR 21 1" | 115.3 l.f. |
| | Irrigation Lateral Line: PVC Class 200 SDR 21 1 1/2" | 12.1 l.f. |
| | Irrigation Mainline: PVC Class 200 SDR 21 1" | 75.2 l.f. |
| | Irrigation Mainline: PVC Class 200 SDR 21 1 1/2" | 675.9 l.f. |
| | Pipe Sleeve: PVC Schedule 40 4" | 289.6 l.f. |



NOZZLE SCHEDULE

| SYMBOL | MANUFACTURER/MODEL | QTY |
|--------|--------------------|-----|
| | Rain Bird 1804 10H | 2 |
| | Rain Bird 1804 15H | 33 |
| | Rain Bird 1804 15Q | 14 |
| | Rain Bird 1804 06V | 10 |
| | Rain Bird 1804 08V | 4 |
| | Rain Bird 1804 10V | 14 |
| | Rain Bird 1804 15V | 3 |

VALVE SCHEDULE

| NUMBER | MODEL | SIZE | TYPE | GPM | WIRE | PSI | PSI @ POC | PRECIPI |
|--------|--------------------------------------|------|-------------------|-------|-------|------|-----------|-----------|
| 1 | Rain Bird XZ-100-PRB-COM | 1" | Area for Dripline | 9.24 | 246.8 | 28.9 | 36.4 | 1.27 in/h |
| 2 | Rain Bird PESB | 1" | Turf Spray | 6.18 | 242.6 | 32.5 | 39.0 | 2.37 in/h |
| 3 | Rain Bird PESB | 1" | Turf Spray | 24.16 | 193.2 | 34.9 | 49.7 | 1.5 in/h |
| 4 | Rain Bird XZ-100-PRB-COM | 1" | Area for Dripline | 7.28 | 188.7 | 26.4 | 32.8 | 1.24 in/h |
| 5 | Rain Bird PESB | 1" | Turf Spray | 24.01 | 54.4 | 34.8 | 47.9 | 1.5 in/h |
| 6 | Rain Bird XZ-100-PRB-COM | 1" | Area for Dripline | 8.16 | 49.6 | 27.1 | 33.5 | 1.22 in/h |
| 7 | Rain Bird XZ-100-PRB-COM | 1" | Area for Dripline | 9.23 | 371.0 | 28.3 | 35.5 | 1.24 in/h |
| 8 | Rain Bird PESB | 1" | Turf Spray | 24.25 | 416.6 | 35.6 | 53.2 | 1.62 in/h |
| 9 | Rain Bird PESB | 1" | Turf Spray | 21.36 | 514.8 | 34.3 | 50.1 | 1.55 in/h |
| 10 | Rain Bird XZ-100-PRB-COM Common Wire | 1" | Area for Dripline | 10.06 | 536.4 | 29.6 | 37.7 | 1.29 in/h |

CRITICAL ANALYSIS

| | |
|------------------------------------|------------------|
| Generated: | 2023-05-12 08:31 |
| P.O.C. NUMBER: 01 | 2 |
| Water Source Information: | |
| FLOW AVAILABLE | |
| Water Meter Size: | 1" |
| Flow Available: | 37.5 GPM |
| PRESSURE AVAILABLE | |
| Static Pressure at POC: | 60 PSI |
| Elevation Change: | 5.00 ft |
| Service Line Size: | 2" |
| Length of Service Line: | 10 ft |
| Pressure Available: | 58 PSI |
| DESIGN ANALYSIS | |
| Maximum Station Flow: | 24.25 GPM |
| Flow Available at POC: | 37.5 GPM |
| Residual Flow Available: | 13.25 GPM |
| Critical Station: | 8 |
| Design Pressure: | 30 PSI |
| Friction Loss: | 1.41 PSI |
| Fittings Loss: | 0.14 PSI |
| Elevation Loss: | 0 PSI |
| Loss through Valve: | 4.05 PSI |
| Pressure Req. at Critical Station: | 35.6 PSI |
| Loss for Fittings: | 0 PSI |
| Loss for Main Line: | 5.04 PSI |
| Loss for POC to Valve Elevation: | 0 PSI |
| Loss for Backflow: | 5 PSI |
| Loss for Master Valve: | 4.05 PSI |
| Loss for Water Meter: | 3.48 PSI |
| Critical Station Pressure at POC: | 53.2 PSI |
| Pressure Available: | 58 PSI |
| Residual Pressure Available: | 4.84 PSI |