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SITE CLEARING AND DEMOLITION

PART 1 – GENERAL

1.1 SUMMARY

A. Furnish all labor, materials, equipment, facilities, transportation and services to complete all site clearing and demolition work plus all related activities as shown on the Drawings and/or specified herein.

B. Scope of work: The general extent of the site clearing and demolition work is shown on the Drawings and can include, but is not necessarily limited to the following:

1. Demolition, removal and disposal of designated items.

2. Careful removal, protection and re-installation of designated items.

3. Careful removal and salvage of designated items.

4. Disconnection and capping of existing utility and/or irrigation lines.

5. Incidental demolition of abandoned utility and irrigation lines.

6. Spraying until dead, clearing, grubbing vegetated areas and/or roto-tilling in existing turf areas.

7. Protection of existing plant material.

8. Removal of designated trees and planting areas.

9. Related sections can include, but may not be limited to:

1.2 RELATED SECTIONS

A. TREE PROTECTION: Section 31 13 16

B. EARTHWORK: Section 31 20 00

1.3 REFERENCES AND REGULATORY REQUIREMENTS

State of California Department of Transportation Standard Specifications, current edition.

1.4 SUBMITTALS

A. Conform to requirements of Division 1, General Conditions and Special Provisions.

B. Indicate the proposed timeline for site clearing and demolition work including all required shut off times and capping of utility services on the project schedule.

C. Submit a written description of all proposed salvage, demolition and removal procedures to the District's representative for review before work is started. Procedures shall include:

1. List of items to be removed and disposition of materials specified to be salvaged.

2. Plan of coordination with other work in progress.

3. Disconnection schedule of utility services.

4. Detailed description of methods and equipment to be used for each operation.

5. Sequence of operations.

1.5 QUALITY ASSURANCE

The District shall obtain and pay for all permits required in connection with this work. Fees for the dumping of debris shall be paid for by the Contractor.

1.6 PROJECT CONDITIONS

A. Dust Control:

1. The contractor shall, at all times, prevent the formation of airborne dust on and around the project site with the use of sprinkled water or other means acceptable to the District's representative. Non-compliance with proper dust control measures shall be grounds for issuance of "stop work" orders by the District's representative until such time as satisfactory measures are implemented.

B. Utility Services:

1. Issue written notices of planned demolition operations to utility companies and coordinate site clearing and demolition improvements as requested by said utility companies.

2. Existing power poles and lines serving existing occupied buildings shall remain. Arrange all necessary work in order to maintain utilities not designated for removal.

3. Coordinate work in order to maintain utilities to any applicable temporary on-site facilities.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION

3.1 EXAMINATION

A. Conform to QUALITY CONTROL: Section 01 45 00 (as applicable).

B. Carefully identify limits of demolition.

C. Mark project areas as directed by the District's representative and as necessary to clearly identify the interface of items to be removed and items to be left in place intact.

3.2 PREPARATION

A. Protection:

1. Make provisions and take necessary precautions to protect all existing items not designated for removal. Any existing item or area damaged during construction operations shall be replaced or repaired to an "as was" or better condition at no additional cost to the project and subject to the acceptance of the District's representative.

2. Erect barriers, fences, guard rails, enclosures, chutes, and shoring as necessary to protect personnel, structures, and utilities remaining intact.

3. Provide warning signs and lighting as necessary for vehicular and personnel protection. Maintain warning signs during construction as required by applicable safety ordinances and as reasonably prudent.

4. Coordinate arrangements for items to be salvaged and turned over to the District.

5. Notify Underground Service Alert (USA), (800) 227-2600, and local utility companies to verify locations of existing utilities a minimum of 48 hours prior to beginning work.

B. Traffic Access:

1. Ensure minimum interference with roads, streets, driveways, sidewalk and adjacent facilities.

2. Do not close or obstruct streets, sidewalk, alleys or passageways without acceptance from the District's representative.

3. Provide approved alternate routes around closed or obstructed traffic ways as required by the District's representative.

4. Maintain access to adjacent existing buildings to ensure uninterrupted operations during demolition work.

3.3 DEMOLITION

A. General: Refer to drawings for extent of demolition work.

B. Paving: Demolish paving in accordance with local noise ordinance regulations and as acceptable to the District's representative.

C. Filling: Completely fill below-grade areas and voids resulting from demolition work. Install appropriate, acceptable fill material consisting of soil or sand, free of trash and debris, stones over two-inch (2") diameter, roots or other organic matter. Meet compaction requirements as specified.

D. Other: If unanticipated mechanical, electrical or structural elements which conflict with intended function or design are encountered, investigate and measure both the nature and extent of the conflict. Submit report to District's representative in written, accurate detail. Pending receipt of directive from District's representative, rearrange selective demolition schedule as necessary to continue overall job progress without delay.

E. Clearing and Grubbing:

1. Clear/strip vegetative material from soil surface down to a max height of 1” and remove. Once removed, the remaining organic matter to be pulverized into the top eight inches (8”) of the soil. Any remaining large clumps that cannot be pulverized need to be removed so the finished surface is smooth, properly compacted, and have an even consistency per the review and discretion of the Landscape Architect.

F. Utilities and Related Equipment:

1. The locations of existing utilities, as may be shown on the Drawings, are approximate. Should existing utilities not shown on the Drawings be encountered during construction operations, notify the District's representative immediately, and re-direct work to avoid delay. The District's representative shall then determine what action, if any, is required.

2. Remove all abandoned utilities as indicated and as uncovered by the work, and terminate in a manner conforming to code.

3. Remove and salvage designated items and related equipment and deliver to a location acceptable to the District's representative.

G. Underground Piping:

1. Existing irrigation systems, as may be shown on the Drawings, may be modified to allow for construction of new items as a part of this project. Caution shall be exercised so as not to damage underground piping not scheduled for removal.

2. Remove underground piping as indicated, or as necessary and backfill to designated compaction density.

3. Materials used for pipe terminations and temporary connections shall be the same as the existing lines. Fittings and flanges shall be of weight and class suitable for the service in which used.

4. All existing utilities, including irrigation systems shall be completed so that work to remove or modify minimum impact to the school and its students is ensured by the contractor.

3.4 SALVAGE

A. Demolition:

1. Materials or equipment to be demolished shall become the property of the Contractor except for items specified to be salvaged for the District.

2. Carefully remove items to be salvaged to avoid damage and deliver to location acceptable to the District's representative.

B. Replacement: In the event items not scheduled to be demolished are damaged, promptly replace or repair such items to an "as-was" or better condition per the discretion of the District's representative at no additional cost.

C. Materials scheduled for removal shall not be placed on view to prospective purchasers or sold on site.

3.5 CLEANING

A. Debris and Rubbish:

1. Remove and transport debris and rubbish as it accumulates and dispose in a legal manner via recognized haul routes, in a manner that will prevent spillage on streets or adjacent areas.

2. Remove all tools, equipment and appliances used for demolition from the site upon completion of the work.

3. Clean entire project area, adjacent streets, and pavements to a "broom-clean", "stain-free" condition per the discretion of the District's representative.

END OF SECTION

DOCUMENT 31 13 16

TREE PROTECTION

PART 1 - GENERAL

1.1 DESCRIPTION

A. Provide tree protection complete as shown and as specified.

1.2 RELATED SECTIONS

A. SITE CLEARING AND DEMOLITION: Section 31 10 00.

B. IRRIGATION: Section 32 80 00.

C. LANDSCAPING: Section 32 90 00.

1.3 GUARANTEE

A. Guarantee all workmanship and materials hereunder against defective workmanship and materials, including damage by leaks and settlement of irrigation trenches, for the duration specified in Division 01 of these Specifications. (The Contractor is not responsible for vandalism or theft after date of final acceptance.)

1.4 SUBMITTALS AND SUBSTITUTIONS

A. Contractor shall submit Fenced Tree Protection Area plan to Architect outlining all trees and plants listed by number to be protected and their groupings. All trees and plants shall be grouped in their own Fenced Tree Protection Areas as shown in Drawings.

B. Contractor shall submit to Landscape Architect in writing a schedule including any and all activity inside Fenced Tree Protection Areas. This schedule to include but not limited to the dates fences are initially installed, altered and dates of fence replacement. Intent of these provisions is that the Tree Protection Zone (TPZ) are fenced for the entire duration with only exceptions of short intervals or specifically defined construction activity needs. Revise schedule as directed by Architect.

C. Provide a Mediation Plan to keep existing trees and planting irrigated during construction.

PART 2 - PRODUCTS

2.1 GENERAL

Use materials as specified; any deviation from the Specifications must first be approved by the Owner's Representative in writing. All material containers or certificates shall be clearly marked by manufacturer as to contents for inspection.

2.2 MATERIALS

A. Trunk Protection constructed of:

1. 20-foot long 2x6 wood boards or length needed to protect the trunk if tree trunk is shorter than 20'.

2. Metal wire. Gauge strong enough to tie the boards around the trunk of the tree.

B. Tree Protection Zone Fencing:

1. 6-foot-tall metal chain link construction fencing.

C. Bark Mulch: Untreated, shredded cedar.

PART 3 - EXECUTION

3.1 GENERAL REQUIREMENTS FOR TREES AND PLANTS TO BE RETAINED

A. Maintain pre-existing moisture levels.

B. Maintain areas inside the fenced tree protection area including lawn mowing, leaf removal, operation and repair of irrigation.

C. Protect root systems from flooding, erosion, excessive watering and drying resulting from dewatering or other operations:

D. Prohibitions - DO NOT:

1. Allow run off or spillage of damaging materials in vicinity of root systems,

2. Rinse tools or equipment under trees,

3. Store materials, stockpile soil, park or drive vehicles within drip lines or in areas with plants,

4. Cut, break skin or bark, bruise roots or branches,

5. Allow fires under and adjacent trees and plants,

6. Discharge exhaust under foliage,

7. Secure cable, chain or rope to trees,

8. Change grade within drip line of trees without Landscape Architect's approval,

9. Lime shall not be used.

3.2 TREE TRUNK PROTECTION

A. Conform to requirements for trees and plants to be retained, per 3.01, above.

B. Install boards vertically around tree and bind together with wire to protect the bark 360 degrees around the entire tree prior to start of any demolition and construction. Boards are not to dig into bark.

C. Major scaffold limbs may require plastic fencing to be wrapped around them to protect them.

3.3 TREE DRIPLINE PROTECTION

A. The Tree Protection Zone (TPZ) is a restricted area around the base of the tree with a radius of one foot (1') for every inch of tree trunk diameter or ten feet, which is greater, enclosed by 6' tall chain link fence.

B. Signage designating the protection zone and penalties for violations shall be secured in prominent location on each protection fence.

3.4 REQUIREMENTS FOR TREES TO BE PROTECTED

A. Duration: Tree protection shall be erected before demolition, grading, or any construction begins and remain in place until final inspection of the project.

B. Conform to requirements for trees and plants to be retained, per 3.01, above.

C. Architect shall give final review of Tree Protection before construction to begin. Revise schedule as directed by Architect.

D. Vehicle movement within the TPZ will only be allowed for construction equipment.

1. Within dripline, apply 10-inch layer of mulch over geotextile fabric.

E. Perform trenching operations within the TPZ of the tree so that:

1. Digging shall be by hand using narrow trenching shovel,

2. No roots larger than 2" diameter are cut and utilities are routed around or below them,

3. Roots smaller than 2" diameter are cut with sharp tools, saws, loppers- not torn, chopped or broken.

F. Where roots are exposed:

1. Do not allow the roots to dry out,

2. On the same day the excavation is made, provide temporary backfill to original grade at tree roots,

3. Or cover roots with 4 layers of wet untreated burlap, made wet each

day, including weekends.

G. Roots larger than 3" in diameter are not to be cut without review and approval of Arborist.

3.5 REPAIR AND REPLACEMENT OF TREE:

A. It shall be the responsibility of Contractor to repair or replace any damaged trees.

B. Repair trees damaged by operations:

1. within 24 hours of damage,

2. to satisfaction of Landscape Architect,

3. to ISA Pruning Standards.

C. Replace repaired trees where repair has not restored them to health or aesthetics:

1. within 6 months of request to replace,

2. to the satisfaction of Landscape Architect,

3. with replacement plants of a size and variety matching those that were removed,

D. Replaced trees and plants shall be the responsibility of Contractor to maintain in good health and aesthetics for the duration of the project from installation.

1. Contractor shall submit to Landscape Architect comprehensive maintenance plan for replacement tree, including but not limited to provisions for irrigation system independent of existing system.

E. Where suitable replacement of trees and plants are not available:

1. Contractor shall provide affidavits to Landscape Architect that they are not available.

2. Contractor shall provide compensation to the District at the following rates:

a. $2000 for each caliper inch of any tree or plants removed under 12 inches.

b. $4000 for each caliper inch of any tree or plants removed 12 inches or more.

c. Caliper of trees and plants measured at 6 inches above grade.

d. Caliper defined here as thickness of diameter, measured in inches.

3.6 SOIL CONTAMINATION:

A. Contractor shall remove soil that has been contaminated during the performance of the Work by oil, solvents, and other materials which could be harmful to trees and plants, and replace with good soil, at Contractor's expense.

END OF SECTION

DOCUMENT 31 20 00

EARTHWORK

PART 1 - GENERAL

1.01 APPLICABLE REQUIREMENTS

A. Requirements of Division 1 apply to work of this Section.

1.02 SCOPE OF WORK

A. At landscape areas, provide excavating and fill to rough grade.

B. Provide for off-site disposal of unsuitable material, importing of material, storing and re-using of suitable native materials.

1.03 RELATED WORK SPECIFIED ELSEWHERE

A. QUALITY CONTROL: Section 01 45 00

1.04 QUALITY ASSURANCE

A. Conform to OSHA and State and local codes, rules, regulations and ordinances for protection of workers, public and private property, and provide, install, and maintain barricades, warning devices, and other protection required therefor.

1.05 SUBMITTALS AND SUBSTITUTIONS

A. Comply with requirements of Section 01 33 00 – SUBMITTALS.

B. Product names are used as standards; provide proof as to equality of any proposed material and do not use other materials or methods unless approved in writing by the Owner's Representative. Submit no more than one request for substitution for each item. The decision of the Owner's Representative is final.

C. Use equipment capacities specified herein as the minimum acceptable standards.

D. List materials in the order in which they appear in Specifications; include substitutions. Submit the list for approval by the Owner's Representative.

E. Make any mechanical, electrical, or other changes required for installation of any approved, substituted equipment to satisfaction of Owner's Representative and without additional cost to Owner. Approval by Owner's Representative of substituted equipment and/or dimensional drawing does not waive these requirements.

F. Do not construe approval of material as authorization for any deviations from Specifications unless attention of Owner's Representative has been directed to specified deviations.

1.06 WARRANTY

A. Refer to General Conditions and Section 01 78 36.

1.07 REFERENCES

A. Standard Specifications of the Department of Transportation, State of California (CALTRANS), latest edition.

B. ANSI/ASTM D68-00 – Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures, Using 5.5 lbs (2.49 Kg) Rammer and 18 inch (457 mm) Drop.

C. ANSI/ASTM D1557-02E1 – Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures, Using 10. lbs (4.54 Kg) Rammer and 18 inch (457 mm) Drop.

D. ANSI/ASTM D 422-63(2007)E2 Test Method for Particle Size Analysis of Soil.

E. ANSI/ASTM D 4318-05 Test Method for Liquid Limit, Plastic Limit, and Plasticity Limit.

F. CAL-OSHA, Title 8, Section 1590 (e).

G. Determine degree of soil compaction in accordance with ASTM D 1557-70. If necessary, moisten soil or allow to dry to correct moisture content before compaction.

1.08 PROJECT CONDITIONS

A. Existing civil, mechanical, and electrical improvements are shown on respective site plans to the extent known. Should the Contractor encounter any deviations between actual conditions and those shown, he is to immediately notify the Landscape Architect before continuing work.

B. Excavation dewatering may be necessary. Contractor shall provide any and all tools, equipment and labor necessary or excavation dewatering no matter what the source. Dewatering shall be continuous until all site utilities are installed and backfilled.

1.09 PROTECTION

A. Provide adequate measures to protect workmen and passers-by the site; fully protect streets and adjacent property throughout the operations.

B. In accordance with generally accepted construction practices, provide proper working conditions continuously at job site, considering safety of persons and property during performance of the work and off-site, not limited to normal working hours.

C. Any construction review of Contractor's performance conducted by the Soil Engineer is not intended to include review of the adequacy of Contractor's safety measures, in, on, or near construction site.

D. Keep adjacent streets and sidewalks free of mud, dirt or similar nuisances resulting from earthwork operations.

E. Provide for surface drainage during the period of construction in a manner to avoid creating a nuisance to adjacent areas.

F. Water as required to suppress dust nuisance.

1.10 EXISTING SITE CONDITIONS

A. Promptly notify Owner’s Representative and await instructions if un-shown active utilities are encountered during the work or be liable for damage to these utilities arising from contracting operations subsequent to discovery of such un-shown utilities.

1.11 SEASONAL LIMITS

A. Do not place, spread or roll fill material during unfavorable weather conditions. When work is interrupted by heavy rains, do not resume fill operations until field tests indicate that moisture contents of the subgrade and fill materials are satisfactory.

1.12 ENVIRONMENTAL REQUIREMENTS

A. Use all means necessary to control dust on and near work and all off-site borrow areas if such dust is caused by Contractor's operations during performance of Work or if resulting from the condition in which Contractor leaves site. Thoroughly moisten all surfaces as required to prevent dust from being a nuisance to public, neighbors, and concurrent performance of other work on site.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Sand: clean river sand.

B. Fill in Landscaped Areas to Subgrade:

1. All backfill material: approved local materials from required excavations, supplemented by imported fill. Approved local materials are defined as local soils free from ruble, rubbish and vegetation, tested and approved by Soil Engineer prior to use. Do not allow clods, rocks, or hard lumps exceeding six inches in final size in the upper one foot, below subgrade, of any fill in landscape areas.

2. Imported fill: meets above requirements, has a plasticity index not exceeding twelve, and is of one-inch maximum particle size.

3. All materials: subject to approval by Owner's Representative.

PART 3 - EXECUTION

3.01 GENERAL

A. Observe rules and regulations governing respective utilities in executing Work under this Section.

B. Adequately protect active utilities shown on Drawings from damage and remove and relocate only as indicated or specified.

C. Advise Owner's Representative where active utilities are encountered but not shown on Drawings; adequately protect, support, or relocate work as directed by Owner's Representative. Contract price may be adjusted for such additional work.

D. Report inactive or abandoned utilities encountered in excavation operations to Owner's Representative. Remove, plug or cap as directed. In absence of specified requirements, plug or cap such utility lines at least three inches outside building walls, or as required by local regulations.

1. Clean out resulting excavation and depressions and depressions from removal of inactive or abandoned utilities to firm, undisturbed soil, and backfill in accordance with these Specifications.

3.02 LAYOUT AND PREPARATION

A. Notify Owner's Representative of source of materials at least ten days prior to the placement of any fill and obtain samples to determine suitability of materials and for conducting compaction tests on these samples.

B. Notify Owner's Representative at least two days before the placement of any fill requiring compaction control.

C. Prior to beginning actual earthwork operations, lay out all work, establish grades, locate existing underground utilities, set markers and stakes, set up and maintain barricades and protection of improvements.

3.03 TESTING AND OBSERVATION

A. All grading operations shall be tested and observed by Geotechnical Engineer, who is serving as the representative of Owner.

B. Field density tests shall be made by the Geotechnical Engineer or his representative after compaction of each layer of fill. Where compaction equipment has disturbed surface to a depth of several inches, take density tests in compacted material below disturbed surface. Do not spread additional layers of fill until field density tests indicate that specified density has been obtained.

C. Do not perform earthwork without the physical presence or approval of Geotechnical Engineer. Notify Geotechnical Engineer at least two working days prior to commencement of any aspect of site earthwork.

D. Subgrade moisture content of pavement sections shall be field-checked by Geotechnical Engineer or his representative not more than 24 hours prior to placement of concrete.

E. If failing to meet technical or design requirements on the applicable plans, make necessary readjustments until all work is deemed satisfactory as determined by Soil Engineer and Owner's Representative. Do not deviate from specifications except upon written approval of Soil Engineer and Owner's Representative.

3.04 LANDSCAPE AREA PREPARATION

A. Remove and dispose of all vegetation, concrete and asphalt concrete rubble, rubbish, stockpiled soils, loose existing fill and other loose and/or saturated materials so as to leave areas that have been disturbed with a neat and finished appearance, free from unsightly debris. Clean out excavations and depressions resulting from removal of such items, as well as any existing excavations or loose soil deposits as determined by Soil Engineer or his representative, to firm, undisturbed soil and backfill with suitable materials in accordance with these specifications.

B. Plow or scarify surfaces upon which fill is to be placed, as well as subgrades left at existing grade, to a depth of at least six inches, until surface is free from ruts, hummocks or other uneven features which would tend to prevent uniform compaction by equipment to be used.

3.05 EXCAVATIONS

A. Correct excavations made below levels required on Drawings by filling with concrete. No additional payment will be made by Owner for correction of unauthorized over-depth excavations.

B. Maintain and keep all excavated areas free of frost, water, mud, silts, etc. during excavation, forming and concrete depositing operations, and until subgrade concrete work is completed and backfill is placed. Keep excavated areas free of water for 24 hours prior to depositing of concrete.

C. Maintain safe excavation slopes and faces in accordance with all governing codes.

3.06 PLACING, SPREADING AND COMPACTING FILL MATERIAL TO SUBGRADE:

A. Place selected fill material in layers, which when compacted do not exceed six inches in thickness. Spread each layer evenly and mix thoroughly during spreading to promote uniformity of material in each layer.

B. When moisture content of fill material is below optimum moisture content, add water until a moisture content of at least optimum is achieved.

C. When moisture content of fill material is too high to permit specified degree of compaction to be achieved, aerate fill material by blading or other methods until moisture content is satisfactory for compacting, but not less than optimum moisture content.

D. After each layer has been placed, mixed and spread evenly, thoroughly compact to not less than 90 percent of maximum dry density as determined by ASTM Specification D1557-78 in pavement areas, to not less than 95 percent of maximum dry density within pavement areas, and to not more than 90 percent nor less than 85 percent of maximum dry density within landscaped areas. Undertake compacting with equipment capable of achieving the specified density and accomplish while fill material is at required moisture content. Compact each layer over its entire area until the desired density has been obtained.

E. Continue filling operation until the fill has been brought to finished slopes and subgrades as shown on Drawings.

3.07 FINISH GRADING

A. At completion of project, site shall be finished graded, as indicated on Drawings. Finish grades shall be "flat graded" to grades shown on the drawing. Mounding of finish grades will not be allowed unless otherwise directed on the landscape drawings. Tolerances for finish grades in drainage swales shall be +-0.05'. Tie in new and existing finish grades. Leave all landscaped areas in finish condition for planting. Landscaped planters shall be graded uniformly from edge of planter to inlets. If sod is used for turf areas the finish grade on which it is placed shall be lowered to allow for sod thickness.

3.08 CLEANUP

A. Upon completion of work herein, clear affected adjacent areas of all excess excavation materials, all debris, tools and equipment and leave in a clean condition.

B. Dispose of excavated materials, unsuitable for use as fill or backfill, and other debris off Site. Disposal areas and length of hauls shall be Contractor's responsibility.

END OF SECTION

DOCUMENT 32 80 00

IRRIGATION

PART 1 - GENERAL

Construction Documents and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification sections, apply to this section.

1.1 DESCRIPTION

A. Scope of Work: Furnish all labor, materials, tools, equipment, and transportation required to perform and complete the installation of an automatic sprinkler irrigation system, including all piping, sprinkler heads, controls, connections, testing, etc. aas shown on the Drawings and as specified herein. The water source for this project is potable water.

B. Utilize and accept as standards manufacturer's recommendations and/or installation details for any information not specifically detailed on the Drawings.

1.2 RELATED SECTIONS

A. SUBMITTALS: Section 01 33 00.

B. CONTRACT CLOSEOUT AND FINAL CLEANING: Section 01 77 00.

C. EARTHWORK: Section 31 20 00.

D. LANDSCAPING: Section 32 90 00.

1.3 GUARANTEE

A. Guarantee all workmanship and materials hereunder against defective workmanship and materials, including damage by leaks and settlement of irrigation trenches, for the duration specified in Division 01 of these Specifications. (The Contractor is not responsible for vandalism or theft after date of final acceptance.)

1.4 QUALITY CONTROL

A. Qualifications of Contractor: Work must be completed by a licensed Landscape Contractor. Provide proof of five years of continuous experience in landscaping and irrigation of projects of similar size (+\- 20% of the construction cost) and scope for education campuses. Contractor to have a minimum of two projects either completed or in construction in the last five years.

B. Work Force: Ensure that an experienced foreman is present at all times during installation. Keep the same foreman and workers on the job from commencement to completion.

C. Reviews: Specifically request reviews of all items listed below in "Inspection Requirements" prior to progressing to the next level of work.

D. Certification: Ensure that the contractor installing the Central Control System is trained and certified in the installation of the Central Control System. The training and certification must have been completed within two years prior to the installation date.

E. Standards:

1. Provide work and material in full accordance with the rules and regulations of the National Electric Code; the Uniform Plumbing Code; and other applicable state or local laws or regulations.

2. Furnish, without extra charge, additional material and labor required to comply with these rules and regulations, though the work may not be specifically indicated in the Specifications or Drawings.

3. Where the Specification requirements exceed those of the above-mentioned codes and regulations, comply with the requirements in the Specifications.

F. Delivery, Storage, and Handling:

1. Use all means necessary to protect irrigation system materials before, during, and after installation and to protect related work and material.

2. Handle plastic pipe carefully, especially protecting it from prolonged exposure to sunlight. Store pipe on beds that are the full length of the pipe, and keep pipe flat and off the ground with blocks.

G. Comply with the requirements of Section 01 77 00 - CONTRACT CLOSEOUT AND FINAL CLEANING.

1.5 INSPECTION REQUIREMENTS

A. Request and hold a pre-construction meeting prior to beginning the work of this Section. Parties required to be in attendance are the Landscape Contractor, Project Inspector, Owner's Representative, and the Landscape Architect.

B. Prior to commencement of the work of this Section, obtain written verification from the project Civil Engineer that the rough grade in landscape areas is in conformance with Section 31 00 00 - EARTHWORK.

C. Obtain verification from Project Inspector for the following at the appropriate times during construction and prior to further progression of work in this Section:

1. Pressure testing of all mainlines and lateral lines (See "Hydrostatic Tests – Open Trench" in Part 3.13 of this Section),

2. Trench depth,

3. Sleeves under pavement,

4. Flushing of all mainlines and lateral lines,

5. Installation of Leemco joint restraints and bolts,

6. Backfill and pipe bedding,

7. Layout of heads,

8. Operation of system and coverage adjustments (with Landscape Architect) after system is fully automated and operational, backfill of trenching is completed, and surface has been restored to original grades.

D. In case of failure to obtain any verification by the Project Inspector as required above, remove and replace work as necessary to obtain the verification at no additional cost to the Owner.

1.6 SUBMITTALS AND SUBSTITUTIONS

A. Comply with requirements of Section 01 33 00 – SUBMITTALS.

B. Product names are used as standards; provide proof as to equality of any proposed material and do not use other materials or methods unless approved in writing by the Owner's Representative. Submit no more than one request for substitution for each item. The decision of the Owner's Representative is final.

C. Use equipment capacities specified herein as the minimum acceptable standards.

D. List materials in the order in which they appear in Specifications; include substitutions. Submit the list for approval by the Owner's Representative.

E. Make any mechanical, electrical, or other changes required for installation of any approved, substituted equipment to satisfaction of Owner's Representative and without additional cost to Owner. Approval by Owner's Representative of substituted equipment and/or dimensional drawing does not waive these requirements.

F. Do not construe approval of material as authorization for any deviations from Specifications unless attention of Owner's Representative has been directed to specified deviations.

1.7 PROJECT CONDITIONS, AND PROTECTION

A. Information on Drawings relative to existing conditions is approximate. During progress of construction, make deviations necessary to conform to actual conditions, as approved by Owner's Representative, without additional cost to Owner. Accept responsibility for any damage caused to existing services. Promptly notify Owner's Representative if services are found which are not shown on Drawings.

B. Protect existing trees-to-remain as specified in "Existing Tree Protection" in Part 3.02 of this Section.

C. Protect existing utilities within construction area. Repair damages to utility lines that occur as a result of operations of this work.

D. Verify dimensions at building site and check existing conditions before beginning work. Make changes necessary to install work in harmony with other crafts after receiving approval by Owner's Representative.

1.8 MAINTENANCE AND OPERATING INSTRUCTIONS

A. Furnish three complete sets of operating maintenance instructions bound in a hardback binder and indexed. Start compiling data upon approval of list of materials. Do not request final inspection until booklets are approved by Owner's Representative.

B. Incorporate the following information in these sets:

1. Complete operating instructions for each item of irrigation equipment.

2. Typewritten maintenance instructions for each item of irrigation equipment.

3. Manufacturer's bulletins which explain installation, service, replacement parts, and maintenance.

4. Service telephone numbers and/or addresses posted in an appropriate place as designated by Owner's Representative.

1.9 RECORD DRAWINGS

Upon completion of work, and as a precedent to final payment, deliver to Owner's Representative one complete set of reproducible originals of Drawings showing work exactly as installed. (See "Record Drawings" in Part 3.16 of this Section)

PART 2 - PRODUCTS

2.1 GENERAL

Use materials as specified; any deviation from the Specifications must first be approved by the Owner's Representative in writing. All material containers or certificates shall be clearly marked by manufacturer as to contents for inspection.

2.2 MATERIALS

A. Automatic Control Valves: As indicated on Drawings.

B. Gate Valve: As indicated on Drawings.

C. Pipe and Fittings:

1. PVC pipe: As indicated on Drawings.

2. PVC fittings for mainline two inches (2") and smaller and all lateral lines: High impact, standard weight, Schedule 40, molded PVC as manufactured by George Fischer, Lasco, Spears, or approved equal.

3. Ductile iron fittings for all mainline fittings two and one-half inches (2 ½") and larger: Leemco joint restraint fittings or approved equal.

4. All plastic pipe and fittings: Continuously and permanently marked with manufacturer's name, type of material, IPS size, schedule, NSF approval, and code number.

5. Threaded PVC pipe and nipples: IPS Schedule 80 when necessary to use threaded connections to gauges, valves, or control valves. Threaded adapters may be used in place of nipples when making pipe to valve connections.

6. Use 45-degree fittings for changes in depth of pipe, and at transition from main line to automatic control valves.

7. Piping above ground: Schedule 40 galvanized steel with cast-iron fittings.

8. Piping used for electrical purposes to be Schedule 40 PVC Rigid Nonmetallic Conduit electrical conduit.

D. PVC Primer: Weld-On P-70 Purple Primer or approved equal.

E. PVC Glue: Weld-On 711 Gray heavy bodied PVC Cement or approved equal.

F. Sprinkler Heads: As indicated on Drawings.

G. Quick Coupler Valves: As indicated on Drawings.

H. Sleeves: As indicated on Drawings.

I. All Valve Boxes and Covers: Manufactured, green with "Irrigation – Non-Potable" permanently embossed on cover. Carson, Rainbird or approved equal.

J. Automatic Sprinkler Control Wire:

1. Connections between remote control valves and controller: UF-14 direct burial plastic polyethylene (PE) insulated wire, Paige Electric P7079D or approved equal. Common wire to be white, and lead wire to be colored. If multiple controllers are used, a different color is to be used for each controller's lead wire. (Use red for the first controller). Spare wires are to be yellow.

2. UL Listed waterproof sealing pack for wire connections: 3M DBR/Y-6, or approved equal.

3. Provide adequate working space around electrical equipment in

compliance with local codes and ordinances.

4. Electrical, other than low voltage, such as power wiring, conduit, fuses, thermal overloads and disconnect switches, is included under Division 26 of these Specifications.

K. Trace Wire:

1. Direct burial #12 AWG Solid, steel core soft drawn tracer wire, 250# average tensile break load, 30 mil high molecular-high density polyethylene jacket complying with ASTM-D-1248, 30-volt rating. Color shall be green.

2. Connectors: UL Listed waterproof sealing pack for wire connections: 3M DBR/Y-6, or approved equal.

L. Unions And Flanges:

1. Steel unions and flanges two inches (2") and smaller: 150 lb. screwed black (brass to iron seat) or galvanized malleable iron (ground joint).

2. Steel unions and flanges two and one-half inches (2 ½") and larger: 150 lb. black flange union, flat-faced, full gasket.

3. Gaskets: One-sixteenth inch (1/16") thick rubber Garlock No. 122, Johns-Manville or approved equal.

4. Flange Bolts: Open-hearth bolt steel, square heads with cold pressed hexagonal nuts, cadmium plated in ground. Provide copper-plated steel bolts and nuts or brass bolts and nuts for brass flanges.

M. Valve Identification Tags: Christy's irrigation ID tags, standard yellow color or approved equal.

N. Sand for Trench Backfill: Natural sand, free of roots, bark, sticks, rags, or other extraneous material.

PART 3 - EXECUTION

3.1 SITE CONDITIONS

Locations of existing utilities and other improvements shown on the Drawings are approximate. Verify existing conditions and, should any utilities be encountered that are not indicated on the plans, notify the Owner's Representative immediately. Accept responsibility for any damages caused to existing services.

3.2 PREPARATION

A. Scheduling: Notify the Project Inspector prior to commencing and/or continuing the work of this Section. Remove and replace, at no cost to Owner, any work required as a result of failure to give the appropriate notification.

B. Examination: Examine conditions of work in place before beginning work; report defects.

C. Measurements: Take field measurements; report variance between plan and field dimensions.

D. Protection: Maintain warning signs, shoring and barricades as required. Prevent injury to, or defacement of, existing improvements. At no additional cost to Owner, repair or replace items damaged by installation operations.

E. Existing Tree Protection:

1. Avoid unnecessary root disturbance, compaction of soils within drip line, or limb breakage.

2. Do not store material or dispose of any material other than clean water within the drip line.

3. Provide adequate irrigation during construction.

4. Replace any tree damaged during construction with a tree of equal size and value at no additional cost to Owner.

5. Adjust trench locations in field to minimize damage to existing elements and plant roots of trees-to-remain at no additional cost to Owner.

F. Surface Preparation: Prior to beginning sprinkler irrigation work, complete placement of topsoil as specified in Section 31 00 00 – EARTHWORK. Notify Project Inspector of irregularities if any.

3.3 GRADING

Install all irrigation features to their finished grade and at depths indicated. Complete and /or accommodate all rough grading and/or finish grading before commencing with trenching.

3.4 LAYOUT

A. Lay out work as accurately as possible to Drawings. Drawings are generally diagrammatic to extent that swing joint offsets and fittings are not shown. Record all changes on the Record Drawings.

B. Do not willfully install the irrigation system as shown on Drawings when it is obvious, in the field, that obstructions or other discrepancies exist which may not have been considered in the design. Notify Owner's Representative of discrepancies before proceeding.

3.5 EXCAVATING AND TRENCHING

A. General: Perform excavations as required for installation of work included under this Section, including shoring of earth banks to prevent cave-ins. Restore surfaces, existing underground installations, etc., damaged or cut as result of this work to their original condition and in a manner approved by the Landscape Architect.

B. Width:

1. Make trenches wide enough to allow a minimum of six inches (6") between parallel pipelines and three inches (3") between side of pipe and side of trench. Do not allow stacking of pipe within trench.

2. Allow a minimum clearance of twelve inches (12") in any direction from parallel pipes of other trades.

C. Preparation of Excavations: Remove rubbish and rocks from trenches. Bed pipe on a minimum of three inches (3") of clean, rock-free soil to provide a firm, uniform bearing for entire length of pipeline. Cover pipe with a minimum of three inches (3") of clean, rock-free soil. If clean, rock-free soil is not available, use sand for pipe bedding and three inches (3") of backfill above the pipe. The remainder of the trench backfill material can be native soil. Do not allow wedging or blocking of pipe.

D. Minimum depth of cover: Unless shown otherwise, provide the following minimums:

1. Mainline: twenty-four inches (24") cover.

2. Lateral line: twelve inches (12") cover for spray heads, and eighteen inches (18") cover for rotor heads.

E. Conflicts with other trades:

1. Hand-excavate trenches where potential conflict with other underground utilities exist.

2. Where other utilities interfere with irrigation trenching and piping work, adjust the trench depth as instructed by Owner's Representative.

3.6 BACKFILL AND COMPACTING

A. General: Do not begin until hydrostatic tests are completed. When system is operating and after required tests and inspections have been made, backfill trenches under paving areas to the compaction rate specified in Section 31 00 00 – EARTHWORK.

B. Place backfill in six-inch (6") layers and compact with an acceptable mechanical compactor.

1. Compact backfill material in landscape areas to eighty-five percent (85%) maximum dry density of the soil.

2. If settlement occurs along trenches, make adjustments in pipes, valves, and sprinkler heads, soil, sod or paving as necessary to bring the system, soil, sod or paving to the proper level or the permanent grade, without additional cost to the Owner.

C. Excess Soil: Remove all rocks, debris, and excess soil that results from sprinkler irrigation trenching operations, landscape planting, and soil preparation operations off site at no additional cost to the Owner. If soil meets topsoil requirements in Section 31 00 00 – EARTHWORK, it may be used for finish grading.

D. Finishing: Dress-off areas to eliminate construction scars.

3.7 CONTROL WIRES

A. General: Install control wires beneath sprinkler main line whenever possible; tape wires to mainline pipe. Provide one spare wire for each controller.

B. Slack Wire: Provide eighteen inches (18") of slack wire for each wire connected to automatic control valve. Slack wire shall be coiled and left in the valve box. Tape wires in bundles every ten feet (10'); do not tape wires in sleeves.

C. Expansion and Contraction: Snake wire in trench to allow for contraction of wire.

D. Wire Passing Under Existing or Future Paving or Construction: Encase in PVC Schedule 40 or galvanized steel conduit extending at least twelve inches (12") beyond edges of paving or construction.

E. Wire Connections: Install wire connections in a waterproof sealing pack.

F. Wire Splicing: Permit splicing only on runs exceeding 500 feet. Locate all splices within valve boxes.

G. Wire Termination: Install wire in a valve box with eighteen inches (18") of slack wire coiled and individually capped with approved waterproof sealing pack.

H. Spare Wire: Install two (2) spare wires along each wire path. If there is more than one wire path from the controller, the contractor to install two (2) spare wires per path. Provide eighteen inches (18") of slack wire at each automatic control valve.

3.8 TRACE WIRE

A. General: Install trace wire above sprinkler main line whenever possible; tape wire to mainline pipe at 10' intervals to ensure the wire remains adjacent to the pipe.

B. Wire Connections: Install wire connections in a waterproof sealing pack.

C. Trace wire access points shall be accessible at all automatic control valves.

D. At all mainline end caps, a minimum of six feet (6') of tracer wire shall be coiled and secured to the cap for future connections. The end of the tracer wire shall be spliced to the wire of a six-pound zinc anode and is to be buried at the same elevation as the irrigation mainline.

E. Testing: The contractor shall perform a continuity test on all trace wires in the presence of the client. If the trace wire is found to be not continuous after testing, Contractor shall repair or replace the failed segment of the wire.

3.9 FLUSHING LINES

Thoroughly flush lines prior to installing valves, performing hydrostatic testing, or installing sprinklers. Divert water to prevent washouts.

3.10 AUTOMATIC CONTROL AND QUICK COUPLER VALVES

A. Install where shown and where practical; place no closer than twelve inches (12") to walk edges, building walls, or fences. Refer to detail for example.

B. Thoroughly flush mainline before installing valve.

C. Install valves in ground cover areas where possible.

3.11 PIPING

A. General: Install in conformance with reference standards, manufacturer's written directions, as shown on Drawings and as herein specified.

B. Workmanship:

1. General: Install sprinkler irrigation equipment in planted areas throughout the site.

2. Coordination: Organize location of sleeves with other trades as required.

C. Pipe Line Assembly:

1. General:

a. Cutting: Cut pipe square; remove rough edges or burrs.

b. Solvent-welded Connections: Use materials and methods recommended by the pipe manufacturer.

c. Brushes: Use non-synthetic brushes to apply solvents and primer.

d. Cleaning: Clean pipe and fittings of dirt, moisture, and debris prior to applying solvent or primer.

e. Assembly: Allow pipe to be assembled and welded on the surface or in the trench.

f. Expansion and Contraction: Snake pipe from side to side of trench to allow for expansion and contraction.

g. Location: Locate pipes as shown on Drawings except where existing supply valves, utilities or obstructions prohibit or where slight changes are approved to better suit field conditions.

2. Flexible Elastomeric Seal Joints:

a. General: Assemble in strict conformance with the pipe manufacturer's instruction.

b. Rubber Rings: Use rubber rings specific for water service systems.

c. Cleaning: Thoroughly clean ring and groove of dirt, moisture and debris using a clean, dry cloth. Do not use solvents, lubricants, cleaning fluids or other material for cleaning.

d. Seating: Properly seat ring in groove.

e. Spigot:

1.) General: Clean spigot-end of pipe as in "Cleaning" above prior to applying lubricant recommended by pipe manufacturer.

2.) Seating: Insert spigot into bell and seat to full depth required.

3. Connections:

a. Threaded Plastic Pipe Connection:

1.) Use Teflon tape or pipe joint compound.

2.) When assembling to threaded pipe, take up joint no more than one full turn beyond hand-tight.

b. Metal Valves and Plastic Pipe: Use threaded plastic male adapters.

c. Metal to Metal Connections:

1.) Use specific joint compound or gasket material for type of joint made. Where pipe of dissimilar metals are connected, use dielectric fittings.

2.) Where assembling, do not allow more than three full threads to show when joint is made up.

d. Where assembling soft metal (brass or copper) or plastic pipe, use strap-type friction wrench only; do not use a metal-jawed wrench.

e. Threading:

1.) Do not permit the use of field-threading of plastic pipe or fittings. Use only factory-formed threads.

2.) Use factory-made nipples wherever possible. Permit the use of field-cut threads in metallic pipe only where absolutely necessary. When field-threading, cut threads accurately on axis with sharp dies.

3.) Use pipe joint compound for all threaded joints. Apply compound to male thread only.

4. Sleeves and conduits:

a. Use sleeves of adequate size to accommodate retrieval for repair of wiring or piping and extend a minimum of twelve inches (12”) beyond edges of walls or paving.

b. Provide removable, non-decaying plug at end of sleeve to prevent entrance of soil.

5. Unions: Locate unions for easy removal of equipment or valve.

6. Joint Restraints: Install per manufacturer’s recommendations.

7. Capping: Plug or seal opening as lines are installed to prevent entrance materials that would obstruct pipe. Leave in place until removal is necessary for completion of installation.

3.12 SPRINKLER HEADS

A. Sprinkler heads: Locate as shown on the Drawings except where existing conditions prohibit, or slight changes are approved to achieve as good or better coverage under the same conditions. Do not allow sprinkler head spacing to exceed the maximum shown on the Drawings. Plumb heads.

B. Handling, Assembly of Pipe, Fittings, and Accessories: Allow only skilled tradesmen to handle and assemble pipe, fittings and equipment. Keep interior of pipes, fittings and accessories clean at all times. Close ends of pipe immediately after installation; leave closure in place until removal is necessary for completion of installation. Do not permit bending of pipe.

C. Flushing: Remove end heads and operate system at full pressure until all rust, scale, and sand is removed. Divert water to prevent ponding or damage to finished work.

D. Coverage: Accept responsibility for full and complete coverage of irrigated areas to satisfaction of Landscape Architect and make necessary adjustments to better suit field conditions at no additional costs to Owner.

3.13 FIELD QUALITY CONTROL

A. Visual Inspection: Verify that all pipe is homogenous throughout and free from visual cracks, holes, or foreign materials. Inspect each length of pipe. All materials are subject to impact test at the discretion of the Landscape Architect.

B. Hydrostatic Tests – Open Trench:

1. Center-load piping with a small amount of backfill to prevent arching or slipping under pressure.

2. Request the presence of the Project Inspector in writing at least forty-eight hours in advance of testing.

3. At no additional cost to Owner, test in the presence of the Project Inspector.

4. Apply continuous static water pressure of 100 psi when welded plastic joints have cured at least twenty-four hours, and with the risers capped, as follows: test main lines and submains for four hours; test lateral lines for two hours.

5. Repair leaks resulting from tests; and repeat tests.

6. Test to determine that all sprinkler heads function according to manufacturer's data and give full coverage according to intent of Drawings. Replace any sprinklers not functioning as specified with ones that do, or otherwise correct system to provide satisfactory performance.

C. Continuity Testing: Test locating device and control wires for continuity prior to and after back-filling operations.

3.14 CLEAN-UP

Remove debris resulting from work of this Section.

3.15 ADJUSTMENTS AND MAINTENANCE

A. Adjusting System: Prior to acceptance, satisfactorily adjust and regulate entire system. Set watering schedule on controller appropriate to types of plants and season of year. Adjust remote control valves to operate sprinkler heads at optimum performance based on pressure and simultaneous demands through supply lines.

B. System Layout: Provide reduced prints of Record Document irrigation plans, laminated in four (4) mil. plastic, of size to fit controller door. Enlarge remote-control valve designations as necessary for legibility. Color-code areas covered by each station. Affix plans to inside of controller door.

C. Instructions: Upon completion of work, instruct maintenance personnel on operation and maintenance procedures for entire system.

D. Flow Charts: Record and prepare an accurate flow-rate chart for each automatic control valve.

3.16 RECORD DRAWINGS

A. Regularly update plans of the system and any changes made to the system throughout the project. Record all changes on this plan before trenches are back-filled.

B. Record the as-built information on reproducible plans provided by the Architect. Complete and submit the Record Drawings to the Architect before applying for payment for work installed.

C. As-built drawings are to be completed electronically with a pdf editing software or computer aided drafting software. As-built drawing done by hand will not be accepted for final submittal.

D. Show the following on the Record Drawings accurately to scale and dimensioned from two permanent points of reference:

1. Distance of mainline from nearby hardscape.

2. Location of automatic control valves, quick couplers, and gate valves.

3. Location and size of all sleeves.

4. Location of automatic control wires and spares.

3.17 OPERATION MANUALS

Deliver two complete sets of manufacturer's warranties, Contractor guarantees, instruction sheets, parts lists and operation manuals to the Architect before requesting final acceptance of the project. Do not request final inspection until the sets are approved.

END OF SECTION

DOCUMENT 32 90 00

LANDSCAPING

PART 1 - GENERAL

1.1 DESCRIPTION

A. Scope of Work: Furnish all labor, materials, tools, equipment, and transportation required to perform and complete the following work as specified herein:

1. Soil Preparation and Fertilization
2. Sodding
3. Weed Control
4. Infield Mix
5. Decomposed Granite
6. Mulch
7. Clean-up
8. Landscape Maintenance Period
9. Guarantee

B. Work not included in this Section: Landscape elements such as concrete walks, fencing, outdoor lighting, rough grading, and clearing are not a part of this Section unless shown on the landscape Drawings.

C. Construction Documents and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specifications sections, apply to this section.

1.2 RELATED SECTIONS

A. SUBMITTALS: Section 01 33 00.

B. CONTRACT CLOSEOUT AND FINAL CLEANING: Section 01 77 00.

C. EARTHWORK: Section 31 20 00.

D. IRRIGATION: Section 32 80 00.

1.3 GUARANTEE

A. The guarantee period for lawn and plant material shall be the duration of the landscape maintenance period, from commencement until final acceptance of the work of this Section. See Division 01 for other applicable guarantee requirements.

B. During the guarantee period, repair and/or replace plants and lawn not in satisfactory growing condition, as determined by Owner's Representative, without additional cost to Owner. Plants are to be replaced as per "Landscape Maintenance" in Part 3.10 of this Section, using plants of the same kind and size specified in plant list.

1.4 QUALITY CONTROL

A. Qualifications: Work must be completed by a licensed Landscape Contractor. Provide proof of five years of continuous experience in landscaping and irrigation of projects of similar size (+\- 20% of the construction cost) and scope for education campuses. Contractor to have a minimum of two projects either completed or in construction in the last five years.

B. Work Force: Ensure that an experienced foreman is present at all times during installation. Keep the same foreman and workers on the job from commencement to completion.

C. Reviews: Specifically request reviews of all items listed below in "Inspection Requirements" prior to progressing to the next level of work. The Owner's Representative reserves the right to inspect and reject material, both at place of growth and at site, before and/or after planting, for compliance with requirements for name, variety, size and quality.

D. Reference Standards: Meet or exceed Federal, State and County laws requiring inspection of all plants and planting materials for plant disease and insect control.

E. Delivery, Storage, and Handling:

1. Packaged Materials: Deliver packaged materials in original, unopened containers showing weight, certified analysis, name and address of manufacturer, and indication of conformance with state and federal laws if applicable.

2. Bulk Materials:

a. Do not dump or store bulk materials near structures, utilities, walkways or pavements, or on existing turf areas or plants.

b. Provide erosion-control measures to prevent erosion or displacement of bulk materials, discharge of soil-bearing water runoff, and airborne dust reaching adjacent properties, water conveyance systems, or walkways.

c. Accompany each delivery of bulk fertilizers and soil amendments

with appropriate certificates.

F. Comply with the requirements of Section 01 77 00 - CONTRACT CLOSEOUT AND FINAL CLEANING.

1.5 INSPECTION REQUIREMENTS

A. Landscape Architect reserves the right to examine and reject plant material both at place of growth and at site, before and after planting, for compliance with requirements of name, variety, size, and quality.

B. Request and hold a pre-construction meeting prior to beginning the work of this Section. Parties required to be in attendance are the Landscape Contractor, Project Inspector, Owner's Representative, and Landscape Architect.

C. Obtain verification from Project Inspector for the following at the appropriate times during construction and prior to further progression of work in this Section:

1. Rough grading is to tolerances specified in Section 31 00 00 – EARTHWORK.

2. The placement of landscape backfill material is as specified in this Section.

3. Prior to the commencement of the work specified in this Section, the coverage and operation of the sprinkler irrigation system are as specified in Section 32 80 00 - IRRIGATION.

4. The soil amendment does not include any metal fragments. (Obtain a letter from the manufacturer stating that the material submitted for use on this project has no metal or foreign objects. Submit this letter as part of the Data Sheet submittal package [see "Submittals and Substitutions" in this Section])

5. Required Test: For each load of soil amendment delivered to the site, spread at least two cubic yards (2 cy) of material onto a paved surface approximately two inches (2") deep. Pass a magnetic rake over the material in two directions. If any metal is found, test the entire load in the same manner. Perform all testing in the presence of the Project Inspector.

6. Soil amendments, fertilizer, and bark mulch have been delivered to the site by the supplier, the invoices from the supplier indicate the project name and quantities delivered, and the Project Inspector has received copies of all such documents.

7. Prior to planting, amendments and conditioners have been incorporated as per pre-planting recommendations, and planting areas have been made ready to receive planting.

D. In case of failure to obtain any verification by the Project Inspector as required above, remove and replace work as necessary to obtain the verification at no additional cost to the Owner.

E. Beginning of Maintenance Period: Verify all work is complete, then request and hold a meeting to include the Landscape Architect, Project Inspector, Architect and Owner's Representative for authorization to begin the landscape maintenance period.

F. End of Maintenance: Verify that all work is complete and acceptable, and that the maintenance has been completed per specifications; and continue to provide landscape maintenance until the Owner's Representative has accepted the work.

1.6 SUBMITTALS AND SUBSTITUTIONS

A. See Section 01 33 00 – SUBMITTALS for additional requirements.

B. Plant Material: Within fifteen (15) days after award of contract, locate plant materials required for construction. Ensure that trees and shrubs are contract-grown from a certified nursery. Notify Owner's Representative of plant material "tied off" for review at selected nursery. If specified material is not obtainable, submit the following to Owner's Representative: proof of non-availability, proposal for use of equivalent material, photographs of alternative choices of plant material. Include clear, written description of type, size, condition, and general character of plant material.

C. Data Sheets: Provide product data for each type of landscape material indicated in the Drawings and Specifications.

D. Samples: Submit samples of the following materials to Landscape Architect for approval:

1. Soil amendment: (3) one-quart zip-locked plastic bags.

2. Bark Mulch: (3) one-quart zip-locked plastic bags.

3. Imported Topsoil: (3) one-quart zip-locked plastic bags. (if needed)

4. Baseball Infield Mix: (3) one-quart zip-locked plastic bags.

5. Decomposed Granite: (3) one-quart zip-locked plastic bags.

E. Provide soils analysis reports prepared by a qualified soils laboratory in compliance with the Soil Testing Requirements under "Soil Testing" in Part 3.02 of this Section.

F. Prior to planting, submit copies of all trucking or packaging tags for all soil amendment, fertilizer and other additives to Landscape Architect so the quantities can be verified.

1.7 PROTECTION AND CLEAN-UP

A. Provide protection for persons and property throughout progress of work. Use temporary barricades as required. Proceed with work in such manner as to minimize spread of dust and flying particles and to provide safe working conditions for personnel. Store materials and equipment where directed.

B. Existing Construction: Execute work in an orderly and careful manner to protect paving, work of other trades, and other improvements.

C. Existing Utilities: Provide protection for existing utilities within construction area. At no additional cost to Owner, repair any damages to utility lines that occur as a result of this work.

D. Landscaping: Protect landscape work and materials from damage due to landscape operations, operations by other contractors and trades, and trespassers. Maintain protection during installation and maintenance periods.

E. Paving: Maintain cleanliness of paving areas and other public areas used by equipment, and immediately remove spillage; remove rubbish, debris, and other material resulting from landscaping work, leaving site in a safe and clean condition.

1.8 PLANTING SCHEDULE / ENVIRONMENTAL REQUIREMENTS

A. Install, establish, and maintain all lawn areas for a minimum of ninety (90) days prior to date of substantial completion. Coordinate schedule with other work and overall project schedule. Failure to install lawn areas by this date shall result in assessment of liquidated damages.

B. Proceed with work in an orderly and timely manner to complete installation of landscaping within contract limits.

C. Planting Season Limits: Do not plant when grounds are wet or temperature is below 25° F. Do not proceed with any soil preparation and fertilization if all planting cannot be completed within Planting Season Limit.

1.9 LANDSCAPE MAINTENANCE PERIOD REQUIREMENTS

A. Beginning of Landscape Maintenance Period:

1. General: Landscape Maintenance Period does not begin until all work is installed, as determined by Landscape Architect, in writing.

2. On-site Inspection: When all work is complete, request and hold a meeting to include the Landscape Architect, Project Inspector, Architect and Owner's Representative who must together authorize and determine the start date for the landscape maintenance period. Coordinate and give notice of the date and time of the on-site meeting to all parties at least forty-eight (48) hours in advance.

3. Acceptability: In cases where the lawn has reached adequate fullness and germination in some areas but not all, and authorization has not been given to begin the maintenance period, proceed with mowing, trimming, spraying, etc., as necessary prior to the beginning of the maintenance period.

B. Duration of Landscape Maintenance Period:

The Landscape Maintenance Period shall continue for a minimum of ninety (90) calendar days. During this time, continuously maintain all areas involved until final acceptance of the work by the Owner's Representative. See Landscape Maintenance Period procedure in Part 3.10 of this Section.

C. Final Acceptance of the Landscape Maintenance Period:

Request the final inspection forty-eight (48) hours in advance. If items require attention, hold on-site meetings until Landscape Architect can certify, in writing, and in concurrence with the Owner's Representative, the successful completion of the Landscape Maintenance Period.

1.10 RECORD DRAWINGS

Upon completion of work, and as a precedent to final payment, deliver to Owner's Representative one complete set of reproducible originals of Drawings showing work exactly as installed.

PART 2 - PRODUCTS

2.1 GENERAL

Use material in new and perfect condition as specified. Any deviations or substitutions from the Specification and Drawings must first be approved by Owner's Representative in writing prior to use.

2.2 SOIL PREPARATION MATERIALS

A. Topsoil: Fertile; friable; natural loam surface soil; reasonably free of subsoil, clay lumps, brush, weeds and other litter; and free of roots, stumps, stones/rocks, and other extraneous or toxic matter harmful to plant growth.

B. Soil Amendment: One-percent nitrogen-impregnated bark product with a ninety-percent (90%) bark base and zero to one-quarter inch (0-1/4") particle size, or approved equivalent. **Do not spread until testing requirements have been satisfied.**

C. Fertilizer/Soil Conditioner: Gro-Power Plus or approved equal.

2.3 MISCELLANEOUS LANDSCAPE MATERIALS

A. Bark Mulch: Untreated, shredded cedar.

B. Pre-Emergent Weed Control: Oxadiazon, "Treeflan", "Ronstar 2G", "Surflan" (Elano Products Company), or approved equal.

C. Decomposed Granite:

1. Reddish-brown in color.

2. A mixture of fines to three-eighths inch (3/8”) size particles with no clods.

3. Free of vegetation, other soils, debris and rocks, and of such nature that it can be compacted readily under watering and rolling.

D. Infield Mix: Premixed infield mix by an approved supplier of volcanic cinder fines and clay. Approved suppliers such as Turface Athletics, TMT Enterprises, or approved equal.

2.4 PLANT MATERIAL:

A. Nursery Plant Stock:

1. As indicated on Drawings. Do not remove container-grown stock from containers until planting time. Plants shall be true to name.

2. Healthy, shapely, well-rooted, not pot-bound, free from insect pests or plant diseases and properly "hardened off" before planting. Replace plants that are not alive or are not in satisfactory growing condition, as determined by the Landscape Architect, without additional cost to Owner. The Landscape Architect may reject plants before and/or after planting.

3. Labeled. Label at least one tree and one shrub of each species with a securely-attached, waterproof tag bearing legible designation of botanical and common name.

B. Lawn Sod: Latitude 36TM Hybrid Bermuda.

PART 3 - EXECUTION

3.1 SITE CONDITIONS

A. Examine the site, verify grade elevations, and observe conditions under which work is to be performed. Do not proceed with work until unsatisfactory conditions have been corrected in a manner acceptable to the Owner’s Representative.

B. Proceed with complete landscape work as rapidly as portions of the site become available, working within seasonal limitations for each kind of landscape work required.

C. Determine location of underground utilities and perform work in a manner which will avoid possible damage. Hand-excavate, as required, to minimize possibility of damage to underground utilities. Maintain grade stakes set by others until removal is mutually agreed upon by parties concerned.

D. When conditions detrimental to sod or plant growth are encountered, such as rubble fill, adverse drainage condition, or other obstructions, notify the Owner's Representative before planting.

3.2 SOIL TESTING

A. Coordinate soil testing in an expeditious and timely manner as required for on-site topsoil materials. Contract with a soil laboratory and include cost of sampling and testing in contract price. Take one (1) sample for every 5,000 square feet of landscape area up to a maximum of six (6) samples under the direction of and in the presence of the Owner's Representative.

B. Submit each sample, according to the quantity of soil required by testing laboratory, to a competent laboratory approved by the Owner's Representative.

C. Provide analysis of soil samples for pH, salinity, ammonia, phosphate, potassium, calcium, magnesium, boron, and sodium levels. Provide appraisal of chemical properties, including particle size determination, and recommendations for types and quantities of amendments and fertilizers.

3.3 PREPARATION

A. Clearing of Vegetation:

1. If live perennial weeds exist on site at the beginning of work, spray with a non-selective systemic contact herbicide as recommended and applied by an approved licensed landscape pest control advisor and applicator. Leave sprayed plants intact for at least 15 days.

2. Clear and remove existing weeds by mowing or grubbing off all plant parts at least one-quarter inch (¼") inch below surface of soil over entire areas to be planted.

B. Soil preparation:

1. Loosen soil in all planting areas, and on slopes flatter than 3:1 gradient, to a depth of six to eight inches (6" - 8") below finish grade. All debris, foreign matter, and stones shall be removed prior to the placing of any fertilizers or conditioners. Soil preparation is for lawn sodded lawn areas.

2. Conduct the required soil tests and instruct the lab to include a minimum of the following soil improvements in the recommendation on the soils report.

   a. Soil Amendment: Two cubic yards (2 cy) per 1,000 square feet.

   b. Gro-Power Plus: One hundred fifty pounds (150 lbs) per 1,000 square feet.

   c. If the lab recommends less than six cubic yards (6 cy) of soil amendment, the excess bid amount shall be applied to the cost of any additional recommended soil improvements, or returned to the Owner as a credit

3. Apply amendments as follows, using rates recommended by the soils testing laboratory (the rates of amendments shown below are for bidding purposes only):

   a. Fertilizer/Soil Conditioner: Broadcast 150 pounds of Gro Power Plus per 1,000 square feet in all planting areas and rototill to a depth of six to eight inches (6" - 8"). Remove from the site any rock and debris brought to the surface by cultivations. "Cultipack" all areas to receive sod or hydroseed.

   b. Apply soil amendment to all planting areas at the rate of six cubic yards (6 cy) per 1,000 sf and rototill into the top six to eight inches (6" – 8").

4. Upon completion of finish grading, request a review and obtain approval of Landscape Architect prior to commencement of planting.

C. Finish Grading for all Planting areas

1. Refer to Earthwork Specification Section for Rough Grading.

2. Grade to elevations and contours shown on Drawings. Fill low spots with landscape backfill material and grade to surface drain in manner indicated on Drawings.

3. Finish-grade so that the entire area within the contract lines has a natural and pleasing appearance as specified and as directed by Landscape Architect.

4. Adjust sprinkler heads flush to finish grade in preparation to receive hydroseeding or one-half inch above finish grade in preparation to receive sod. Reset sprinkler heads flush to grade after turf has germinated.

5. Flag the sprinkler heads and valve markers.

3.4 PLANTING

A. Lawn Sod:

1. Cultivate all lawn areas to a depth of six inches (6"). If cultivation does not break lumps, pull a spike-toothed harrow over the area behind the tractor.

2. Give all lawn areas that are to be sodded a smooth finish to prevent pockets. Do not allow any abrupt changes of surface. Prior to installation of sod, roll the grade with a 200-pound water-ballast roller. Request that the lawn grade be inspected and approved by the Landscape Architect prior to sodding to determine its suitability for planting. Obtain such approval prior to commencing sodding operations.

3. Do not take heavy objects (except lawn rollers) over lawn areas after they have been prepared for planting.

4. Completely lay the sod within twelve hours (12 hrs.) of delivery. Do not leave sod on pallets in the hot sun longer than necessary.

5. Unroll sod carefully. Lay sod tight without any visible open joints, and without overlapping; stagger end joints twelve inches (12") minimum. Do not stretch or overlap sod pieces. Do not place sod in pieces smaller than twenty-four inches (24") in length by width of roll.

6. When new sod is to match existing turf, cut the edge of the existing turf in a series of straight lines that will accept new sod rolls in full width of the sod roll. Make the transition of grade between existing turf and new sod to be seamless with no change in elevation.

7. Immediately after laying sod, roll lawn areas with a 200-pound water-ballast roller.

8. Trim sod to conform to lawn shapes designated in Drawings.

9. On slopes of six inches (6") per foot and steeper, lay sod perpendicular to slope and secure every row with wooden pegs at a maximum of two feet (2') on center. Drive pegs flush with soil portion of sod.

10. Ensure that finished appearance is that of one continuous lawn.

11. Do not lay whole lawn before watering. When a conveniently large area has been sodded, water lightly to prevent drying. Continue to lay sod and to water until installation is complete.

12. All sod areas must be approved by Landscape Architect.

13. Water the complete lawn surface thoroughly. Moisten soil at least eight inches (8") deep. Repeat sprinkling at regular intervals to keep sod moist at all times until rooted. After sod is established, decrease frequency and increase amount of water per application as necessary.

3.5 WEED CONTROL

Apply pre-emergent weed control to all planting areas (except lawn) after completion of all planting and one complete watering. Follow manufacturer's directions. To prevent washing away of weed control, do not over-water after its application. Do not allow any weed control into lawn areas. Treat any existing noxious weeds, such as Johnson grass, with Roundup in successive treatments until all roots are destroyed, then remove all grass and roots. Notify Owner's Representative of time of installation for verification of application.

3.6 BARK MULCH

Apply mulch at the rate of three inches (3") deep to all planting areas, exclusive of lawn, after the planting and weed control are completed. Twelve inches (12”) from planter edges, taper full depth of mulch to meet adjacent grades. Do not place mulch within three inches (3”) of trunk or stems.

3.7 DECOMPOSED GRANITE

A. Prepare all areas to receive decomposed granite, and treat sub-grade with weed control.

B. Install a two-inch (2") lift, and wet and roll to compact to ninety percent (90%).

C. Install the remaining material to achieve the required thickness when it is wet and rolled.

D. Remove all weed grass and re-compact the surface by the end of the landscape maintenance period.

3.8 INFIELD MIX

A. Contractor shall layout the infield, identifying home plate, all bases, and pitching rubber. Install home plate, base pins and pitching rubber. If equipment is not specified locations to be marked with a ¾” diameter x 12” long galvanized pipe. Pipe to be buried in the ground, so the top is flush with finish grade.

B. Contractor shall layout edge of infield with white marking paint the edge of infield.

C. When layout of infield has been completed and verified by landscape architect, contractor shall excavate all areas to receive infield mix to a 6” depth. Excess soil shall be distributed on site as directed by landscape architect.

D. Infield mix to be compacted to 90% compaction.

E. Infield mix to be thoroughly blended by the supplier prior to delivery to the site. Delivery tickets showing quantities and mixture shall be given to landscape architect.

3.9 CLEAN-UP

A. During construction, keep the site free of rubbish and debris, and clean up the site promptly when notified to do so. Take care to prevent spillage on streets from hauling and immediately clean up any such spillage and/or debris deposited on streets due to the work of this Section.

B. During all phases of the construction work, take all precautions to abate dust nuisance by clean-up, sweeping, sprinkling with water, or other means as necessary.

3.10 LANDSCAPE MAINTENANCE

A. The Landscape Maintenance Period will begin when all the Landscape Maintenance Period Requirements have been met (See Part 1 of these Specifications).

B. Cleaning: Maintain cleanliness on paving areas and other public areas used by equipment and immediately remove all spillage. Remove from project site all rubbish and debris found thereon and all material and debris resulting from landscaping work, leaving the site in a safe and clean condition.

C. Maintenance:

1. Sprinkler Irrigation System:

a. Check system weekly for proper operation. Flush lateral lines out after removing last sprinkler head or two at each end of lateral. Adjust all heads as necessary for unimpeded coverage.

b. Set and program automatic controllers for seasonal water requirements. Provide the Owner's Representative with keys to the controllers and instructions on how to turn off system in case of emergency.

c. Repair all damages to sprinkler irrigation system as part of the contract work. Make repairs within one watering period or one week, whichever is the least amount of time.

2. Turf Areas:

a. Begin mowing turf when grass has reached a height of three inches (3") and cut to a height of one and one-half inches to two inches (1 ½" - 2"). Mow at least weekly after the first cut. Turf must be well-established and free of bare spots and weeds, to satisfaction of Landscape Architect, prior to final acceptance. Do not mow lawns when the soil is not able to support maintenance equipment. Repair wheel marks and ruts caused by the maintenance equipment at no additional cost to the Owner.

b. Pick up grass clippings and remove from the site and premises.

c. Trim edges at least twice monthly for neat appearance. Vacuum or blow clippings off walks.

d. Water the lawns at such frequency as weather conditions require to replenish soil moisture below the root zone. Normally, a total of one and one-half inches (1 ½") of water is needed weekly in hot weather.

e. Fertilize the lawn areas at the beginning of the Landscape Maintenance Period and at the completion of the Landscape Maintenance Period. Use a fertilizer with the following characteristics:

1.) Slow release, Best 16-6-8, or approved equal, at the rate of 6.25 lbs per 1,000 square feet from March through October.

2.) Calcium Nitrate (15-0-0) at the rate of 6.5 lbs per 1,000 square feet from November through February.

f. Broadcast fertilizer using a mechanical spreader; do not apply by hand-broadcasting. Sweep all fertilizer off hardscape into adjacent planters.

g. Weekly as needed and as directed, re-sod lawn areas with material that matches previously installed material. Use sod to repair any bare areas. Repair areas to receive sod as follows:

1.) Mark out areas to receive new sod repair.

2.) Cut straight lines that will accept sod the full width of the roll and a minimum of twenty-four inches (24") in length.

3.) Transition the grade between existing turf and new sod seamlessly, with no change in elevation.

3. Insecticide and Herbicide Application:

a. If needed, control weeds with selective herbicides and sprays. In areas where crabgrass has infested the lawn, apply pre-emergent herbicides such as Dacthal by Amvac, Balan, or Betasan by Gowan for control prior to crabgrass germination. Control insect pests if necessary.

b. Use only a licensed Pest Control Operator to apply herbicides and sprays and to maintain a log for applications indicating material, timing, and rate.

4. Decomposed Granite:

a. Remove debris, such as paper, grass clippings, leaves or other organic material by mechanically blowing or hand raking the surface as needed.

b. During the first year, a minor amount of loose aggregate will appear on the paving surface (1/16" to 1/4"). If this material exceeds a ¼", redistribute the material over the entire surface. Water thoroughly to the depth of 1". Compact with power roller of no less than 1,000 lbs. This process should be repeated as needed.

c. If cracking occurs, sweep fines into the crack, water thoroughly and hand tamp with an 8”-10” hand tamp plate.

5. Pre-scheduled On-site Meetings: Hold regularly-scheduled (monthly or bimonthly as determined by the Landscape Architect) on-site meetings with the Landscape Architect, Project Inspector and Owner’s Representative. Dates and times will be jointly agreed upon.

6. Request, forty-eight hours (48 hrs.) in advance, on-site visits by the Landscape Architect to determine the end of the Landscape Maintenance Period.

END OF SECTION

HARPER JUNIOR HIGH SCHOOL
PLAYFIELD RENOVATIONS

DAVIS, CALIFORNIA

PROJECT APPLICANT:

DAVIS JOINT UNIFIED SCHOOL DISTRICT
1919 5TH STREET, DAVIS CA 95616
ph: (530) 759-2182

LANDSCAPE ARCHITECT
MTW GROUP
PETER LARIMER
2707 K STREET, SUITE 201
SACRAMENTO, CA 95816
916-369-3990

SHEET INDEX

MTW group
LANDSCAPE ARCHITECTURE AND PLANNING
2707 K Street, Suite 201
Sacramento, CA 95816
916 369-3990

LICENSED LANDSCAPE ARCHITECT — PETER D. LARIMER — 9/12/22 — 6/30/24 — RENEWAL DATE — STATE OF CALIFORNIA

Peter D. Larimer C-5284

CONSULTANTS

REVISIONS

NO.	DESCRIPTION	DATE

INITIAL BOX

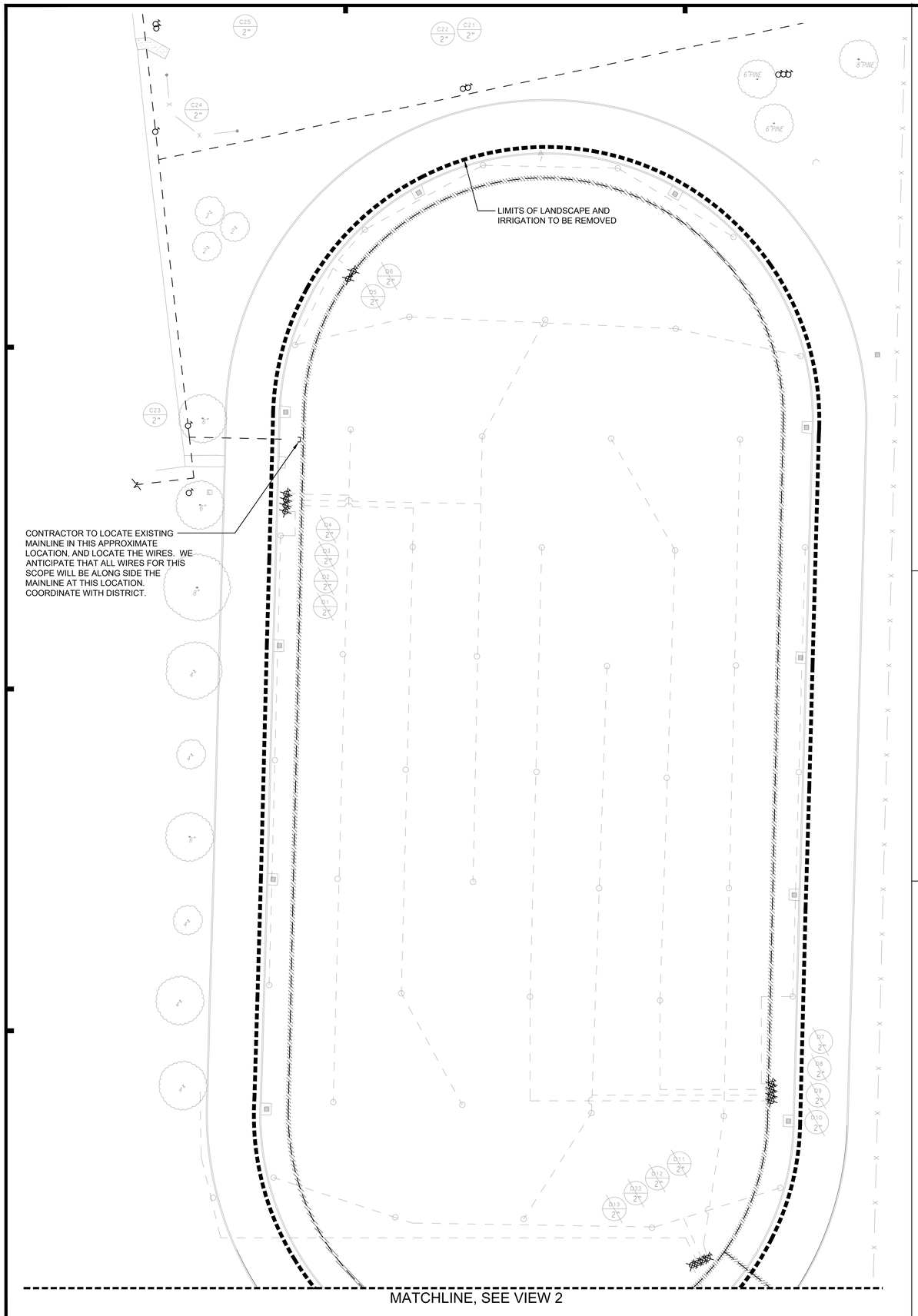
NO.	DWG BY	DATE	REVIEWED

HARPER JUNIOR HIGH SCHOOL
PLAYFIELD RENOVATIONS
DAVIS JOINT UNIFIED SCHOOL DISTRICT
DAVIS, CA

DATE 09/12/22
JOB NO. 21-67
SHEET TITLE

COVERSHEET

SHEET NO.
CVR
SHEET 1 OF 22 TOTAL



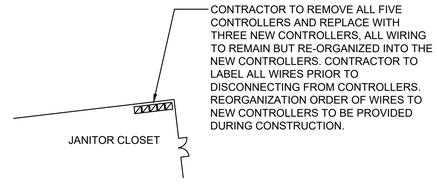
VIEW 1

KEY — IRRIGATION DEMOLITION LEGEND

- EXISTING TREE TO REMAIN
- LIMITS OF LANDSCAPE AND IRRIGATION TO BE REMOVED
- CONTRACTOR TO REMOVE ALL VEGETATION (GRASS/WEEDS/ETC) FROM THE FIELD SURFACE DOWN TO AN 1" HEIGHT OR LESS. ONCE THE VEGETATION HAS BEEN REMOVED, PULVERIZE THE REMAINING ORGANIC MATTER INTO THE TOP 8" OF SOIL.
- EXISTING AUTOMATIC CONTROL VALVE TO REMAIN
- EXISTING AUTOMATIC CONTROL VALVE TO REMOVE
- EXISTING IRRIGATION MAINLINE TO REMAIN
- EXISTING IRRIGATION MAINLINE TO BE ABANDONED
- EXISTING LATERAL LINE TO BE ABANDONED
- EXISTING IRRIGATION HEAD TO REMOVE
- A15 2" — VALVE IDENTIFICATION - VALVE TO REMAIN
- E3 2" — VALVE IDENTIFICATION - VALVE TO BE REMOVED

PRE-CONSTRUCTION SPRINKLER IRRIGATION NOTES

1. PRIOR TO START OF CONSTRUCTION CONTRACTOR REQUIRED TO CONTACT:
   NAME, TITLE: ALAIN CONTRERAS
   PHONE NUMBER: 530-304-4056
   TO SET UP A MEETING ON SITE TO OPERATE THE EXISTING SPRINKLER IRRIGATION SYSTEM AND DISCUSS THE MODIFICATIONS THAT ARE TO BE MADE TO THE EXISTING SYSTEM TO ACCOMMODATE FOR THE NEW CONSTRUCTION.
2. CONTRACTOR TO OPERATE AND PROGRAM EXISTING SPRINKLER IRRIGATION SYSTEM THAT IS TO REMAIN IN ORDER TO PROVIDE WATER TO THE EXISTING LANDSCAPE TO REMAIN.
3. CONTRACTOR TO REMOVE ALL EXISTING PIPE AND SPRINKLER HEADS WHEN THEY ARE IN NEW PLANTING AREAS.
4. CONTRACTOR TO RESTORE AND REPAIR ANY EXISTING SPRINKLER IRRIGATION SYSTEM OR EXISTING LANDSCAPE WHICH IS IN AREAS TO REMAIN THAT IS DAMAGED BY NEW WORK.
5. ALL WORK TO EXISTING SPRINKLER IRRIGATION SYSTEM TO BE COMPLETED PRIOR TO SITE DEMOLITION.



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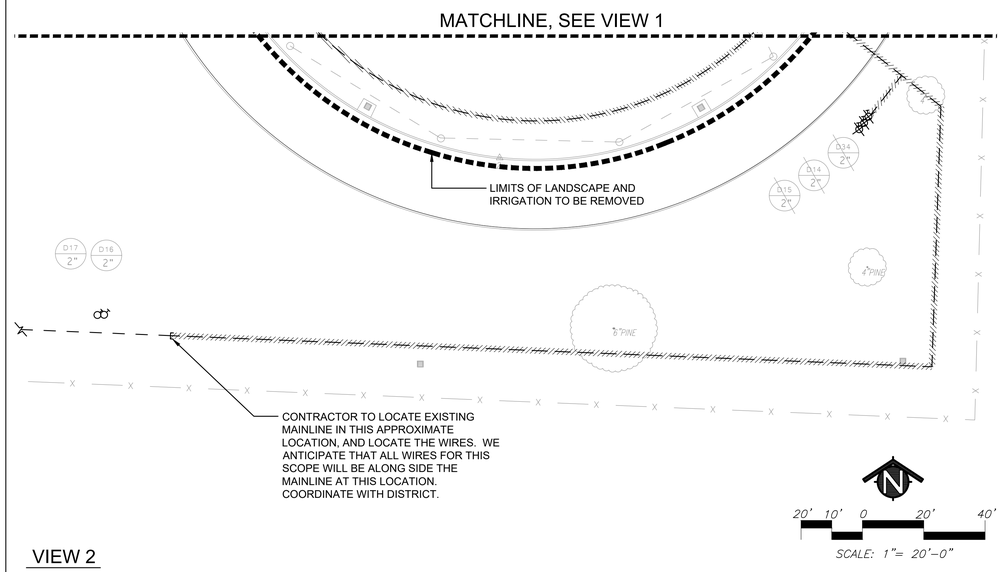

VIEW 2

MTW group
LANDSCAPE ARCHITECTURE AND PLANNING
2707 K Street, Suite 201
Sacramento, CA 95816
916 369-3990

LICENSED LANDSCAPE ARCHITECT — PETER D. LARIMER — 9/12/22 — 6/30/24 — RENEWAL DATE — STATE OF CALIFORNIA

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DAVIS JOINT UNIFIED SCHOOL DISTRICT
DAVIS, CA

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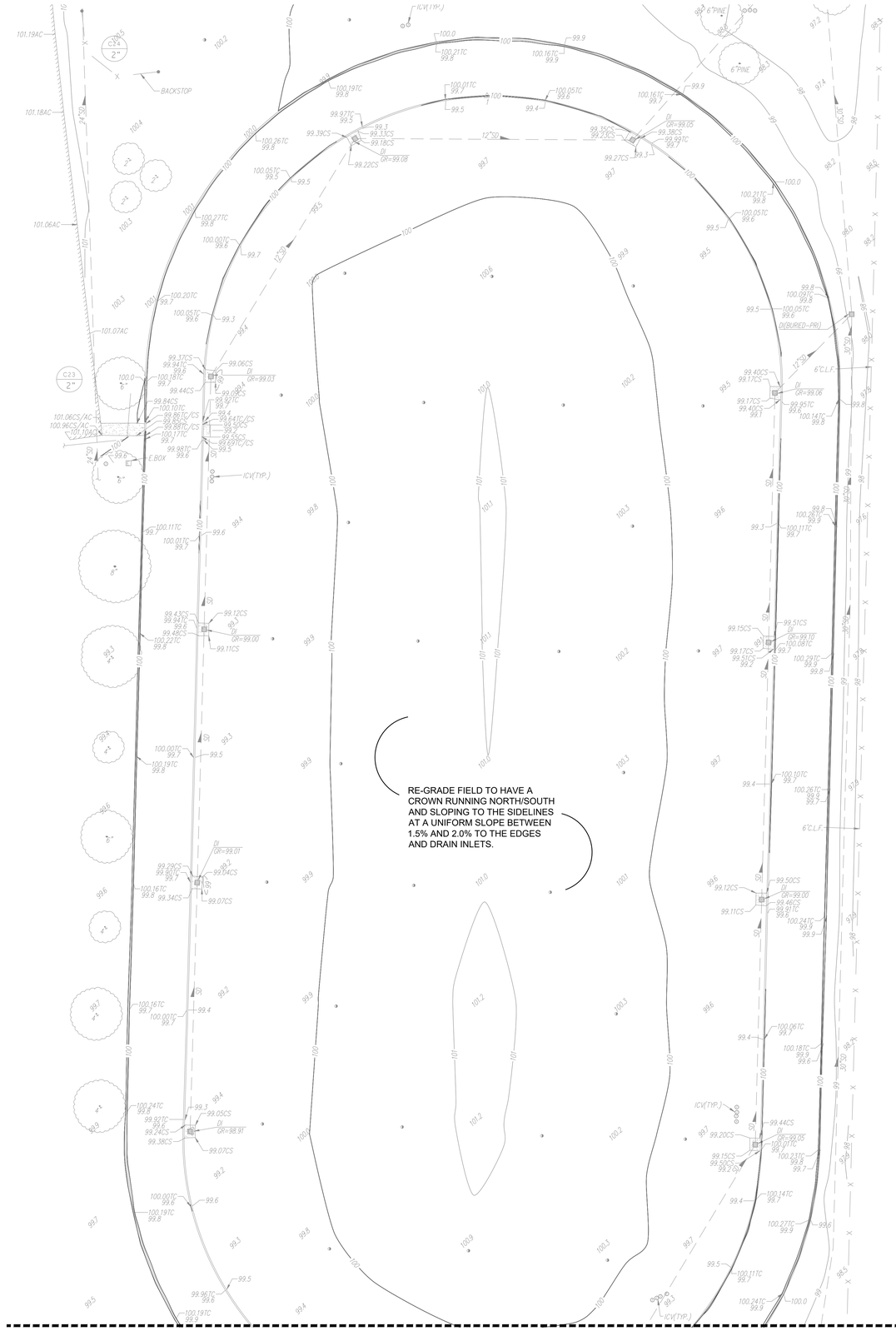
SHEET TITLE

DEMOLITION PLAN

BASE BID

SHEET NO.
L0.1

SHEET 2 OF 22 TOTAL



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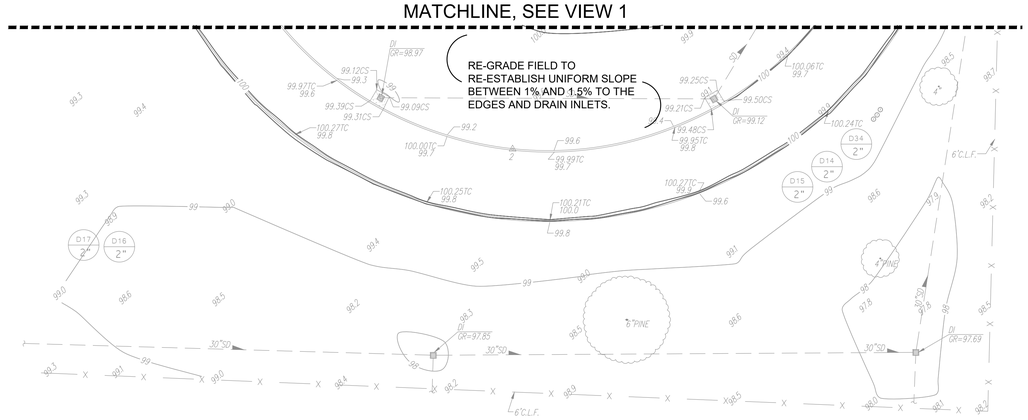

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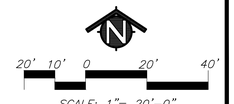

MTW group

LANDSCAPE ARCHITECTURE AND PLANNING

2707 K Street, Suite 201
Sacramento, CA 95816
916 369-3990

LANDSCAPE ARCHITECT — PETER D. LARIMER — 9/12/22 — 6/30/24 — RENEWAL DATE — STATE OF CALIFORNIA

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DAVIS JOINT UNIFIED SCHOOL DISTRICT
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SHEET TITLE

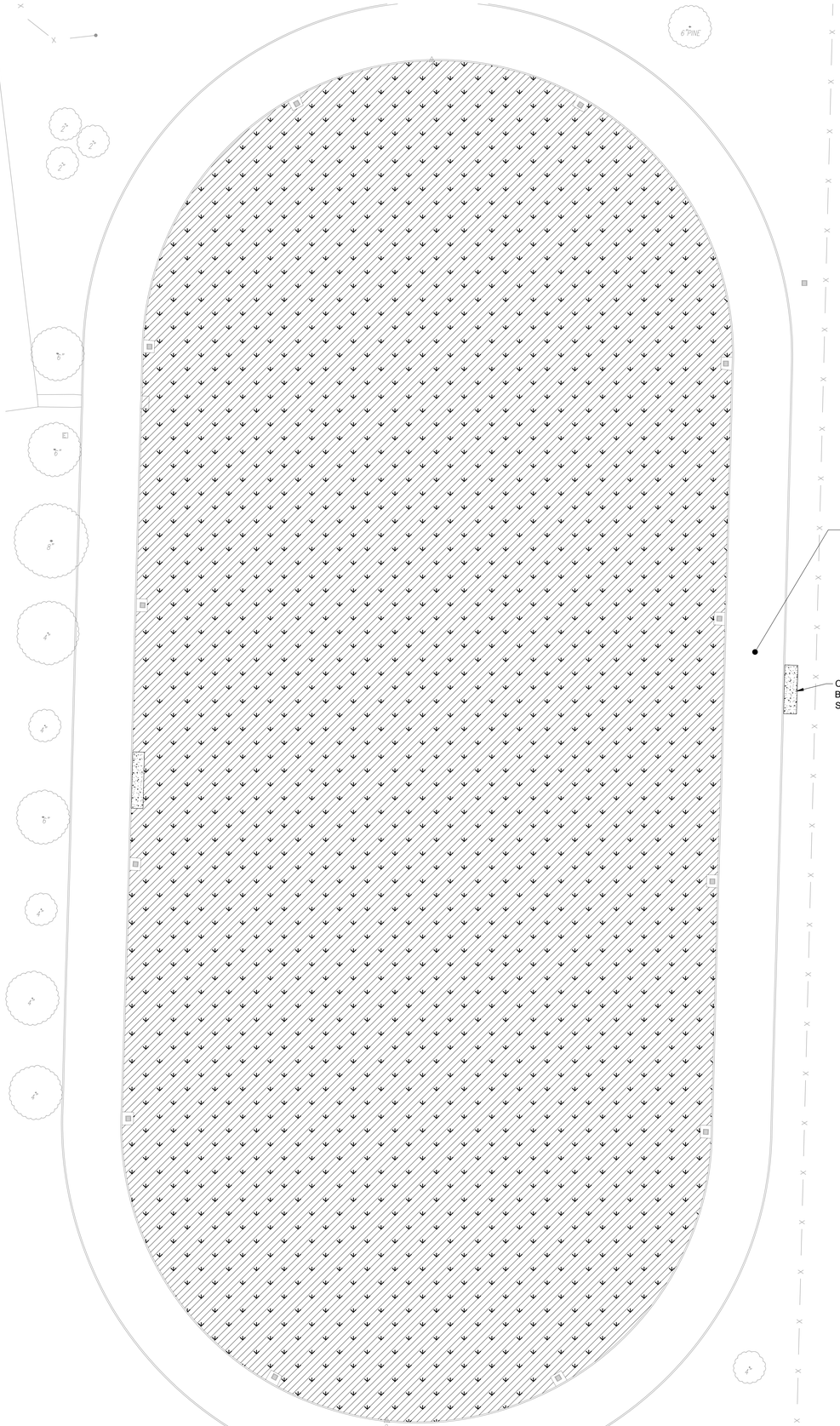
GRADING PLAN

BASE BID

SHEET NO.

L1.1

SHEET 3 OF 22 TOTAL



20' 10' 0 20' 40'

SCALE: 1"= 20'-0"

KEY	LANDSCAPE LEGEND
+	EXISTING TREES TO REMAIN
	LAWN (SOD)

GENERAL LANDSCAPE REQUIREMENTS/NOTES

1. NO PLANTING SHALL BE STARTED UNTIL SPRINKLER IRRIGATION SYSTEM HAS BEEN TESTED BY CONTRACTOR IN PRESENCE OF OWNER'S REPRESENTATIVE AND NOTED DEFICIENCIES CORRECTED.
2. NO PLANTING SHALL BE STARTED UNTIL SOIL PREPARATION AND FINISH GRADING OPERATIONS HAVE BEEN COMPLETED AND APPROVED BY THE OWNER'S REPRESENTATIVE.

ENVIRONMENTAL REQUIREMENTS:

GENERAL: PROCEED WITH WORK IN ORDERLY AND TIMELY MANNER TO COMPLETE INSTALLATION OF LANDSCAPING WITHIN CONTRACT LIMITS.

PROTECTION:

EXISTING CONSTRUCTION: EXECUTE WORK IN AN ORDERLY AND CAREFUL MANNER TO PROTECT NEW CONCRETE WALKS, WORK OF OTHER TRADES, AND OTHER IMPROVEMENTS.

EXISTING UTILITIES: DETERMINE LOCATION OF UNDERGROUND UTILITIES AND PERFORM WORK IN A MANNER WHICH WILL AVOID POSSIBLE DAMAGE. HAND EXCAVATE, AS REQUIRED, TO MINIMIZE POSSIBILITY OF DAMAGE TO UNDERGROUND UTILITIES. MAINTAIN GRADE STAKES SET BY OTHERS UNTIL REMOVAL IS MUTUALLY AGREED UPON BY ALL PARTIES CONCERNED. BE RESPONSIBLE FOR PROTECTION OF EXISTING UTILITIES WITHIN CONSTRUCTION AREA; REPAIR DAMAGE TO UTILITIES THAT OCCUR AS A RESULT OF OPERATIONS OF THIS WORK.

LANDSCAPING: PROTECT LANDSCAPE WORK AND MATERIALS FROM DAMAGE DUE TO LANDSCAPE OPERATIONS, OPERATIONS BY OTHER CONTRACTORS AND TRADES AND TRESPASSERS. MAINTAIN PROTECTION DURING INSTALLATION AND MAINTENANCE PERIODS. TREAT, REPAIR OR REPLACE DAMAGED LANDSCAPE WORK AS DIRECTED AT NO ADDITIONAL COST TO CONTRACT.

ADVERSE CONDITIONS: WHEN CONDITIONS DETRIMENTAL TO SOD OR PLANT GROWTH ARE ENCOUNTERED, SUCH AS RUBBLE FILL, ADVERSE DRAINAGE CONDITIONS, OR OBSTRUCTIONS, NOTIFY OWNER'S REPRESENTATIVE BEFORE STARTING WORK.

PLANTING AND TURF INSTALLATION SEASONS AND CONDITIONS

NO WORK SHALL BE DONE WHEN GROUND IS FROZEN, SNOW COVERED, TOO WET OR IN AN OTHERWISE UNSUITABLE CONDITION FOR AMENDING SOIL, FINISH GRADING OR PLANTING.

SOIL TESTING/SOIL IMPROVEMENT:

SEE SPECIFICATIONS 32 90 00, SECTION 3.02 SOIL TESTING AND SECTION 3.03 PREPARATION.

EXISTING LANDSCAPE AND SPRINKLER IRRIGATION SYSTEM

WORK LIMITS OF THIS PROJECT EXTEND INTO AREAS THAT WERE PREVIOUSLY DEVELOPED UNDER OTHER CONTRACTS. PRIOR TO START OF WORK, CONTRACTOR SHALL MEET WITH OWNER'S REPRESENTATIVE TO LOCATE ALL CONNECTIONS CALLED FOR ON DRAWINGS. WORK LIMITS/FENCING SHALL BE LAID OUT BY CONTRACTOR AND VERIFIED BY OWNER'S REPRESENTATIVE. FENCE TO BE INSTALLED AND IRRIGATION SYSTEM SHALL BE TESTED WITH CONTRACTOR, INSPECTOR, AND OWNER'S REPRESENTATIVE PRESENT. DEFICIENCIES SHALL BE NOTED AT THIS TIME AND ARE THE RESPONSIBILITY OF OWNER. AT COMPLETION OF WORK, SYSTEM WILL AGAIN BE TESTED, DEFICIENCIES NOTED AT THIS TIME THAT WERE NOT NOTED PREVIOUSLY WILL BE RESPONSIBILITY OF CONTRACTOR. EXISTING LANDSCAPE THAT HAS BEEN DAMAGED DUE TO CONSTRUCTION SHALL BE RESTORED TO ORIGINAL CONDITION BY CONTRACTOR AT NO ADDITIONAL COST TO OWNER. PRIOR TO MAKING ANY CONNECTION TO MAIN LINE, CONTRACTOR SHALL NOTIFY OWNER 1 WEEK IN ADVANCE SO ADJUSTMENTS TO EXISTING WATERING PROGRAMS CAN BE MADE.

MTW group
LANDSCAPE ARCHITECTURE AND PLANNING
2707 K Street, Suite 201
Sacramento, CA 95816
916 369-3990

LANDSCAPE ARCHITECT — PETER D. LARIMER — 9/12/22 RENEWAL 6/30/24 — STATE OF CALIFORNIA

Peter D. Larimer C-5284

CONSULTANTS

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HARPER JUNIOR HIGH SCHOOL
PLAYFIELD RENOVATIONS

DAVIS JOINT UNIFIED SCHOOL DISTRICT
DAVIS, CA

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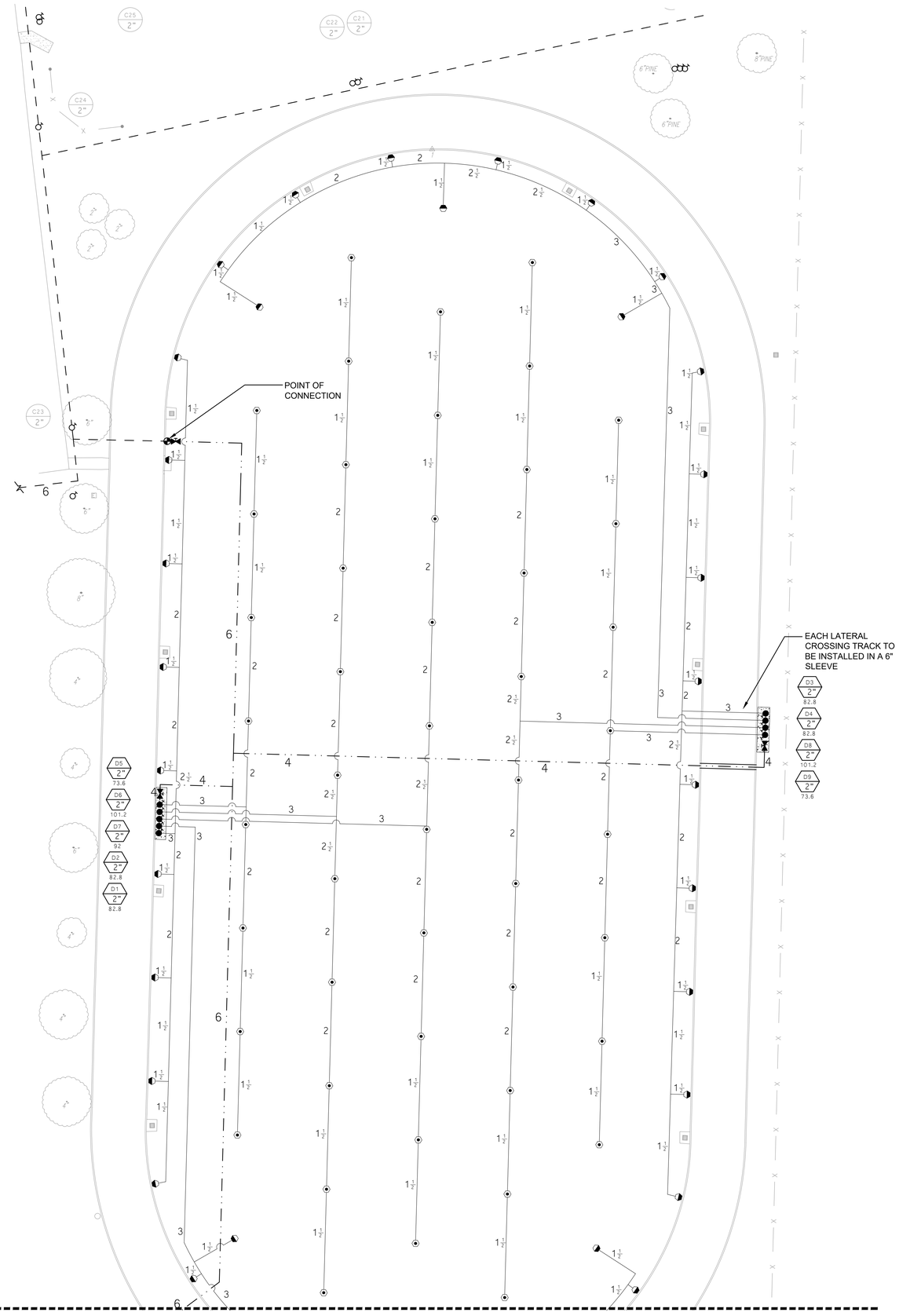
JOB NO. 21-67
SHEET TITLE

LANDSCAPE PLANTING PLAN

BASE BID
SHEET NO.

L2.1

SHEET 4 OF 22 TOTAL



VIEW 1

KEY — SPRINKLER IRRIGATION LEGEND

AUTOMATIC CONTROLLER:
RAINMASTER DX: CENTRAL CONTROL SYSTEM:
CONTROLLER 'A', 'B', 'C',
DXI-FMW-LAGUNA • DXI-PWM48P - 48 STATION CONVENTIONAL WITH ETHERNET CONNECTION AND PROMAX REMOTE ASSEMBLY AND ANTENNA
REUSE EXISTING 110V SERVICE.
BUDGET 300' OF DATA LINE FROM EACH CONTROLLER B AND C BACK TO THE IDF THROUGH EXISTING CONDUIT. COORDINATE PATHWAY WITH DISTRICT.
EXTEND WIRE TO THE ROOF AND INSTALL NEW ANTENNAS ON THE ROOF.
COORDINATE WITH DESIGN TEAM FOR REORGANIZATION OF STATION WIRES TO NEW CONTROLLERS

POINT OF CONNECTIONS:
IRRIGATION SYSTEM OPERATING WATER PRESSURE: 110 PSI
MAXIMUM FLOW IS 102 GPM

CONTRACTOR SHALL LOCATE EXISTING IRRIGATION MAINLINE AT APPROXIMATE LOCATION SHOWN
CONNECT AT THIS POINT AND EXTEND AS INDICATED ON DRAWINGS.

GATE VALVE:
TYPE:
LEEMCO LMV-XXFF FLANGED WITH A NON-RISING STEM AND OPERATING NUT.
GATE VALVE INSTALLLED IN A VALVE BOX WITH TOP OF BOX SET FLUSH TO FINISH GRADE.
GATE VALVE TO BE LINE SIZE.

PRESSURE MAIN LINE:
TYPE:
ASTM D2241 SDR 21, 200 PSI, RUBBER GASKETED WITH LEEMCO JOINT RESTRAINTS

TRENCH DEPTH:
IN PLANTED AREAS: 24" MINIMUM COVER.
UNDER PAVED AREAS: 24" MINIMUM COVER.
PVC SCHEDULE 40 SLEEVES ARE REQUIRED FOR ALL PIPING UNDER PAVEMENT.

LATERAL LINE:
TYPE:
ASTM D1785, PVC SCHEDULE 40, SOLVENT WELD ALL UNSIZED PIPE SHALL BE 1 1/2" SIZE.
TRENCH DEPTH:
IN PLANTED AREAS: 18" MINIMUM COVER.
UNDER PAVED AREAS: 24" MINIMUM COVER.
PVC SCHEDULE 40 SLEEVES ARE REQUIRED FOR ALL PIPING UNDER PAVEMENT.

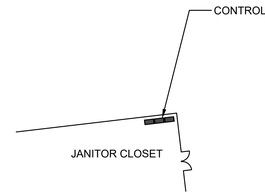
AUTOMATIC CONTROL VALVE:
HUNTER ICV WITH ADJUSTABLE ACCU SYNC

LAWN POP-UP ROTOR HEADS:
60 PSI; 9.2 GPM; 0.84 PRECIP△
08 LT BROWN NOZZLE
FULL CIRCLE
HUNTER: I-40-06-SS-08
THREE QUARTER
HUNTER: I-40-06-SS-08
HALF CIRCLE
HUNTER: I-40-06-SS-08
QUARTER CIRCLE
HUNTER: I-40-06-SS-08

A1 / 1" / 0.00
INDICATES CONTROL VALVE AND STATION NUMBER
INDICATES CONTROL VALVE SIZE
INDICATES GALLONS PER MINUTE

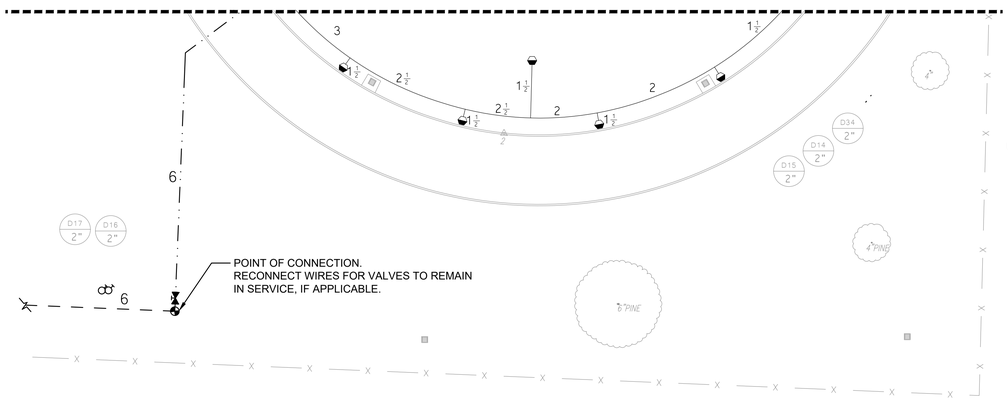
EXISTING TREE PROTECTION AREA:
THE PROTECTION AREA UNDER ANY EXISTING TREE THAT IS TO REMAIN IS DEFINED BY ITS DRIP LINE OR CANOPY COVER, WITHIN THIS AREA NO STORAGE OR PARKING WILL BE PERMITTED. ALL TRENCHING WILL BE PERFORMED BY HAND. DO NOT CUT ROOTS 1" IN DIAMETER OR LARGER. USE BORING PROCEDURES WHEN ENCOUNTERING ROOTS 1" SIZE AND LARGER. NO ROOTS ARE TO BE EXPOSED LONGER THAN 48 HOURS.

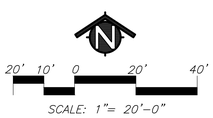
NOTE: SEE SPRINKLER IRRIGATION NOTES ON L4.2.



VIEW 3

MATCHLINE, SEE VIEW 1





VIEW 2

MTW group
LANDSCAPE ARCHITECTURE AND PLANNING
2707 K Street, Suite 201
Sacramento, CA 95816
916 369-3990

LICENSED LANDSCAPE ARCHITECT — PETER D. LARIMER — 9/12/22 RENEWAL — 6/30/24 RENEWAL DUE — STATE OF CALIFORNIA

Peter D. Larimer C-5284

CONSULTANTS

REVISIONS

NO.	DESCRIPTION	DATE

INITIAL BOX

NO.	DWG BY	DATE	REVIEWED

HARPER JUNIOR HIGH SCHOOL PLAYFIELD RENOVATIONS

DAVIS JOINT UNIFIED SCHOOL DISTRICT
DAVIS, CA

DATE 09/12/22
JOB NO. 21-67
SHEET TITLE

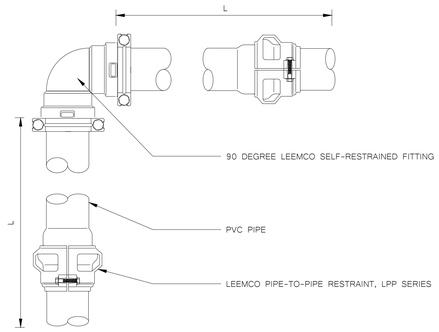
LANDSCAPE IRRIGATION PLAN

BASE BID

SHEET NO.
L3.1

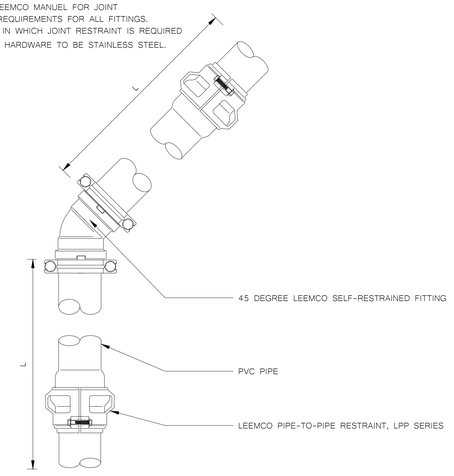
SHEET 5 OF 22 TOTAL

NOTES:
1. REFER TO LEEMCO MANUEL FOR JOINT RESTRAINT REQUIREMENTS FOR ALL FITTINGS. L = LENGTH IN WHICH JOINT RESTRAINT IS REQUIRED
2. ALL LEEMCO HARDWARE TO BE STAINLESS STEEL.



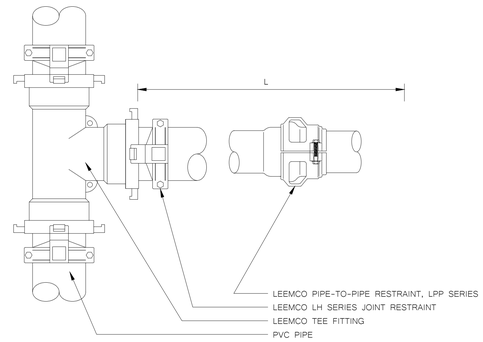
1 LEEMCO ELBOW WITH JOINT RESTRAINTS DETAIL

NOTES:
1. REFER TO LEEMCO MANUEL FOR JOINT RESTRAINT REQUIREMENTS FOR ALL FITTINGS. L = LENGTH IN WHICH JOINT RESTRAINT IS REQUIRED
2. ALL LEEMCO HARDWARE TO BE STAINLESS STEEL.



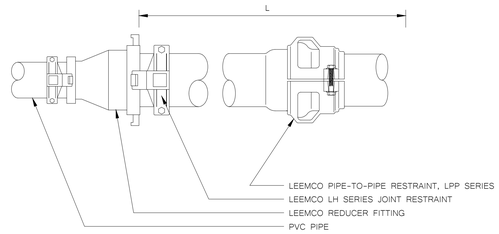
2 LEEMCO 45 ELBOW WITH JOINT RESTRAINTS DETAIL

NOTES:
1. REFER TO LEEMCO MANUEL FOR JOINT RESTRAINT REQUIREMENTS FOR ALL FITTINGS. L = LENGTH IN WHICH JOINT RESTRAINT IS REQUIRED
2. ALL LEEMCO HARDWARE TO BE STAINLESS STEEL.



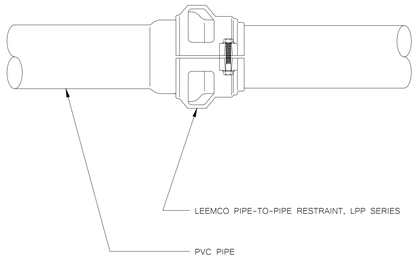
3 LEEMCO TEE WITH JOINT RESTRAINTS DETAIL

NOTES:
1. REFER TO LEEMCO MANUEL FOR JOINT RESTRAINT REQUIREMENTS FOR ALL FITTINGS. L = LENGTH IN WHICH JOINT RESTRAINT IS REQUIRED
2. ALL LEEMCO HARDWARE TO BE STAINLESS STEEL.



4 LEEMCO REDUCER WITH JOINT RESTRAINTS DETAIL

NOTES:
1. ALL LEEMCO HARDWARE TO BE STAINLESS STEEL.



5 LEEMCO BELL JOINT RESTRAINTS DETAIL

DISTANCE CHART

REFER TO THE FOLLOWING TABLE THAT LISTS THE LENGTH (IN FEET) FOR EACH SIZE/TYPE FITTING WITHIN WHICH ALL JOINTS JUST BE RESTRAINED. ALL FITTINGS AND JOINT RESTRAINTS SHALL BE INSTALLED PER MANUFACTURERS RECOMMENDATIONS & SPECIFICATIONS.

AS AN EXAMPLE, IF YOU ARE INSTALLING A 3" MAINLINE WITH A DIRECTIONAL CHANGE OF 90°, REFER TO CHART UNDER PIPE SIZE TO 3" AND UNDER BENDS 90 YOU WILL SEE THE DISTANCE OF 11'. IF THERE IS ANY JOINT (VALVE, BELL, ETC.) YOU MUST INSTALL A JOINT RESTRAINT WITHIN 11' OF THE 90° MAINLINE DIRECTIONAL CHANGE.

PIPE SIZE	BENDS				REDUCERS			DEAD END	
	11°	22°	45°	90°	1 STEP	2 STEP	3 STEP	BLIND	SERV. B.
2"	1'	1'	2'	6'	-	-	-	19'	6'
2.5"	1'	2'	4'	9'	4'	-	-	23'	10'
3"	2'	3'	6'	11'	8'	10'	-	30'	15'
4"	2'	4'	9'	20'	14'	20'	31'	45'	25'
6"	3'	6'	13'	29'	30'	40'	53'	63'	40'
8"	4'	8'	15'	38'	33'	55'	63'	75'	70'
10"	5'	9'	19'	45'	36'	56'	75'	96'	90'
12"	5'	10'	21'	53'	38'	60'	83'	112'	110'

INSTALLATION CHART

REFER TO THE FOLLOWING TABLE WHICH LISTS THE NUMBER OF BOLTS, SIZE, AND TORQUE FOR EACH BOLT IN REFERENCE TO THE SIZE OF PIPE WHICH IS BEING RESTRAINED.

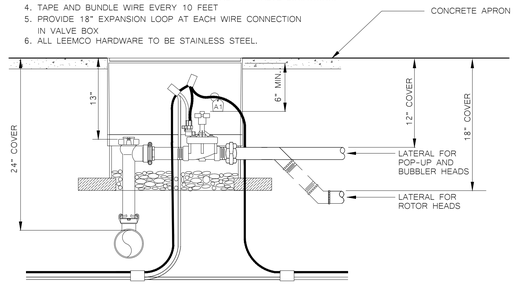
AS AN EXAMPLE, IF YOU HAVE A 3" PIPE, YOU WILL NEED 2 BOLTS THAT ARE 3/8 X 2.5" AND TIGHTEN THEM WITH A TORQUE WRENCH TO 20 FT-LBS.

PIPE SIZE	NO. BOLTS	BOLT SIZE	TORQUE FT-LBS.
2"	2	3/8" x 2.5"	20
2.5"	2	3/8" x 2.5"	20
3"	2	3/8" x 2.5"	20
4"	2	1/2" x 3"	50
6"	2	1/2" x 3.5"	50
8"	4	1/2" x 4"	50
10"	4	5/8" x 5.5"	100
12"	4	5/8" x 5.5"	100

CONTACT NUNZIO DICHRISTOPHER @ (916) 202-1333, THE LEEMCO REPRESENTATIVE, FOR ALL QUESTIONS CONCERNING LEEMCO PRODUCTS. COORDINATE AN INSTALLATION CLINIC WITH NUNZIO PRIOR TO INSTALLING THE MAINLINE.

6 LEEMCO JOINT RESTRAINTS CHART

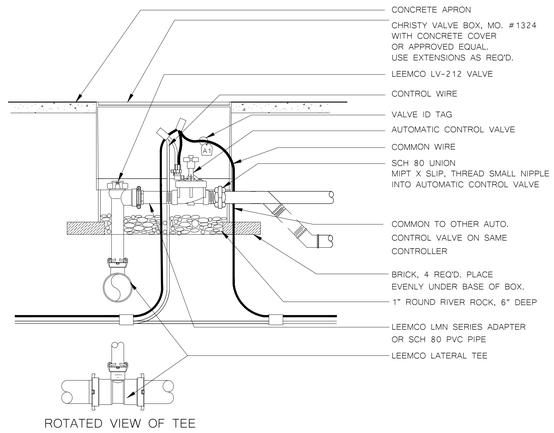
NOTES:
1. SET VALVE BOX LEVEL, PLACE LOCATOR INSIDE VALVE BOX TO BE LEVEL WITH GRADE.
2. INSTALL VALVE BOX EXTENSIONS AS REQUIRED.
3. CONNECT ALL WIRES WITH WEATHER TIGHT CONNECTORS. SPLICES IN WIRE SHALL BE PERMITTED ONLY AT VALVE LOCATIONS.
4. TAPE AND BUNDLE WIRE EVERY 10 FEET
5. PROVIDE 18" EXPANSION LOOP AT EACH WIRE CONNECTION IN VALVE BOX
6. ALL LEEMCO HARDWARE TO BE STAINLESS STEEL.



6. FOR VALVES WITH PRESSURE REGULATION FEATURE, SET VALVE PRESSURE AS PER MANUFACTURERS RECOMMENDATIONS TO THE PRESSURE AS FOLLOWS:

POP-UP SPRAY HEADS:	35 - 40 PSI
INTERMEDIATE POP-UP ROTOR HEADS:	50 - 55 PSI
POP-UP ROTOR HEADS:	60 - 70 PSI
BUBBLER HEADS:	30 - 40 PSI
DRIP SYSTEMS:	15 - 20 PSI

VALVE BOX, SETTINGS, AND CLEARANCES

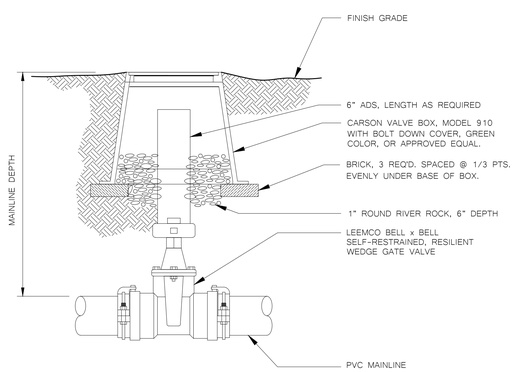


ROTATED VIEW OF TEE

COMPONENTS INSTALLATION

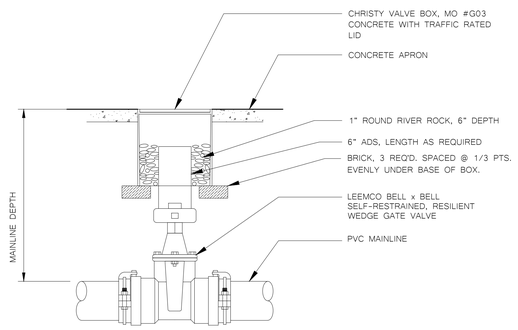
7 AUTOMATIC CONTROL VALVE/LEEMCO ANGLE VALVE DETAIL

NOTES:
1. ALL LEEMCO HARDWARE TO BE STAINLESS STEEL.



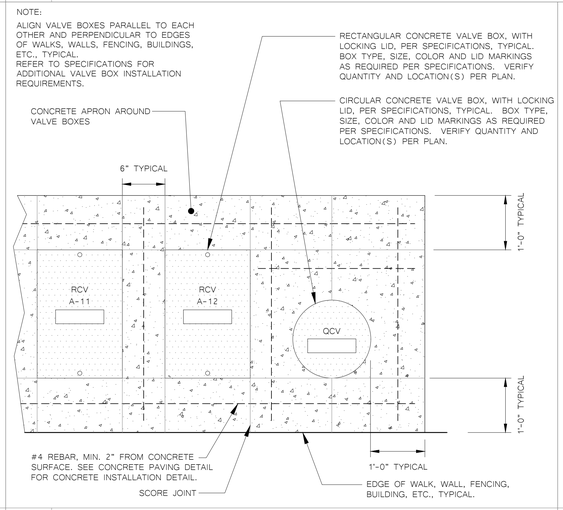
8 LEEMCO SELF-RESTRAINED GATE VALVE DETAIL - IN TURF

NOTES:
1. ALL LEEMCO HARDWARE TO BE STAINLESS STEEL.



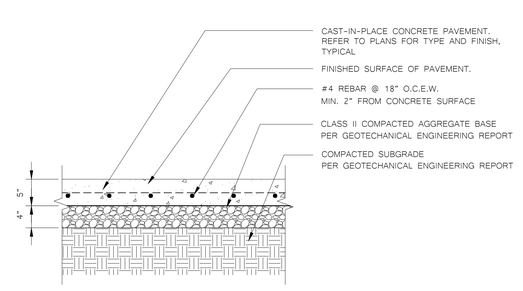
9 LEEMCO SELF-RESTRAINED GATE VALVE DETAIL - IN CONCRETE

NOTE:
ALIGN VALVE BOXES PARALLEL TO EACH OTHER AND PERPENDICULAR TO EDGES OF WALKS, WALLS, FENCING, BUILDINGS, ETC., TYPICAL
REFER TO SPECIFICATIONS FOR ADDITIONAL VALVE BOX INSTALLATION REQUIREMENTS.



10 TYPICAL CONCRETE VALVE BOX LAYOUT - IN LAWN

NOTE:
1. INSTALL REBAR ON 2" CONCRETE DOBIES



11 CAST-IN-PLACE CONCRETE PAVING

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Peter D. Larimer C-5284

CONSULTANTS

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DAVIS, CA

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SHEET TITLE

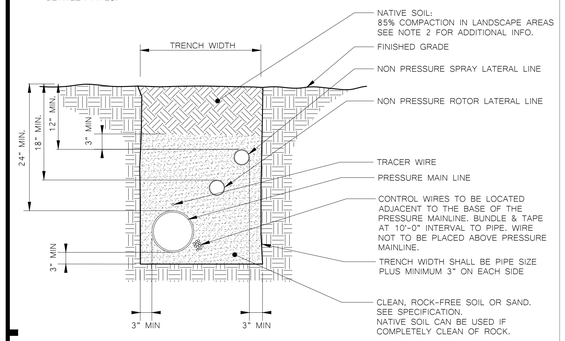
LANDSCAPE IRRIGATION DETAILS

BASE BID

SHEET NO.
L4.1
SHEET 6 OF 22 TOTAL

NOTES:

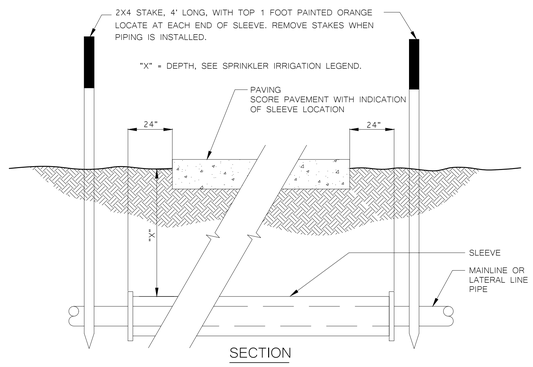
1. REFER TO SPECIFICATIONS AND PLAN SHEETS FOR MORE INFORMATION.
2. WHEN TRENCHES ARE LOCATED UNDER PAVEMENT, COMPACTION RATE FOR THE BACKFILL SHALL COMPLY WITH THE COMPACTION RATES REQUIRED FOR THOSE PAVING SECTIONS.
3. PIPES TO HAVE A MINIMUM OF 6" HORIZONTAL SEPARATION WHEN PLACED IN THE SAME TRENCH ALONG WITH A MINIMUM OF 6" VERTICAL SEPARATION BETWEEN PIPES.



1 PIPE TRENCH DETAIL

NOTES:

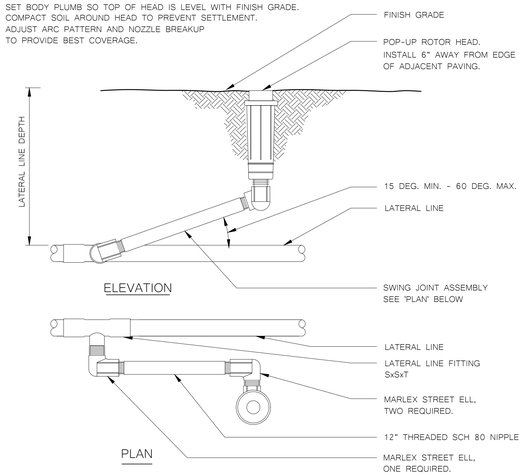
1. ALL PIPE AND FITTINGS TO BE SCHEDULE 40, P.V.C. SEE PLAN FOR LOCATION.
2. SLEEVES TO BE LARGE ENOUGH TO ACCEPT THE PIPE AND FITTINGS TO BE ENCASED.
3. PROVIDE A SEPARATE SLEEVE FOR EACH LATERAL OR MAIN CROSSING.
4. PROVIDE A SEPARATE SLEEVE FOR CONTROL WIRE
5. TAPE ALL ENDS WITH DUCT TAPE TO PREVENT ENTRY OF SOIL.



2 SLEEVE DETAIL

NOTES:

1. SET BODY PLUMB SO TOP OF HEAD IS LEVEL WITH FINISH GRADE.
2. COMPACT SOIL AROUND HEAD TO PREVENT SETTLEMENT.
3. ADJUST ARC PATTERN AND NOZZLE BREAKUP TO PROVIDE BEST COVERAGE.



3 POP-UP ROTOR HEAD DETAIL

SPRINKLER IRRIGATION NOTES

1. COMPOSITE BASE SHEET: PROPOSED IMPROVEMENTS SHOWN ON DRAWINGS ARE SUPERIMPOSED ON A COMPOSITE BASE SHEET. THE COMPOSITE BASE SHEET IS A COMPILATION OF ARCHITECTURAL, ENGINEERING, AND OTHER DATA THAT IS PROVIDED. THE LANDSCAPE ARCHITECT SHALL NOT BE HELD LIABLE FOR CHANGES, INACCURACIES, OMISSIONS, OR ERRORS PERTAINING TO THE COMPOSITE BASE SHEET. CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING THESE DOCUMENTS. ANY DISCREPANCIES NEED TO BE BROUGHT TO THE ATTENTION OF THE DESIGN TEAM AND RESOLVED PRIOR TO CONTINUATION OF WORK.
2. DESIGN PRESSURE SHOWN ON PLANS HAS BEEN FURNISHED BY WATER COMPANY OR WATER DISTRICT SERVING SITE. VERIFY PRESSURE ON-SITE PRIOR TO THE INSTALLATION OF ANY SPRINKLER IRRIGATION EQUIPMENT. IF THERE IS A DISCREPANCY, NOTIFY OWNER'S REPRESENTATIVE IMMEDIATELY IN WRITING SO ADJUSTMENTS CAN BE MADE BY LANDSCAPE ARCHITECT. FAILURE TO REPORT DISCREPANCIES AND CONTINUANCE OF WORK WILL RESULT IN ALL RE-DESIGN COSTS BEING CHARGED TO CONTRACTOR.
3. DETERMINE LOCATION OF UNDERGROUND UTILITIES. DAMAGE CAUSED BY INSTALLATION OF THIS WORK SHALL BE REPAIRED TO SATISFACTION OF GOVERNING AGENCY OR OWNER AT NO ADDITIONAL COST TO THE CONTRACT.
4. SPRINKLER OVER SPRAY SHALL NOT BE ALLOWED ON PUBLIC SIDEWALKS, BUILDING WALLS OR FENCES. MINIMUM OVERSPRAY MAY OCCUR IN PARKING AREAS. USE ADJUSTABLE NOZZLES WHENEVER POSSIBLE TO CONTROL SPRINKLER OVERSPRAY.
5. ALL LOCAL CODES AND ORDINANCES SHALL BE COMPLIED WITH. IF THERE IS A CONFLICT, NOTIFY OWNER'S REPRESENTATIVE IMMEDIATELY.
6. TESTING:
   A. PRESSURE TEST ALL UNDERGROUND PIPING AS FOLLOWS:
      MAIN LINE - AT 100 PSI FOR 4 HOURS.
      LATERAL LINES - AT 100 PSI FOR 2 HOURS.
   B. COVERAGE TEST, NOTE: PRIOR TO REQUESTING COVERAGE TEST, INSURE ALL HEADS ARE SET PLUMB, NOZZLES ARE ADJUSTED PROPERLY AND SYSTEM HAS BEEN CHECKED FOR AUTOMATION. REQUEST OWNER'S REPRESENTATIVES PRESENCE ON-SITE WHEN SPRINKLER SYSTEM IS COMPLETELY INSTALLED AND FULLY AUTOMATIC. PROVIDE ADEQUATE PERSONNEL AT THIS MEETING TO ADJUST AND FINE TUNE SYSTEM TO SATISFACTION OF OWNER'S REPRESENTATIVE.
7. LAYOUT ALL WORK PRIOR TO TRENCHING OPERATIONS TO DETERMINE IF MINOR MODIFICATIONS OR ADJUSTMENTS WILL BE REQUIRED.
8. INSTALL ALL SPRINKLER HEADS PERPENDICULAR TO SLOPES OR GRADE.
9. CONTROL WIRE SHALL BE UF-14, COLOR FOR LEAD AND WHITE FOR COMMON. SPLICES SHALL BE PERMITTED AT VALVE BOX LOCATIONS ONLY.
10. PROVIDE AND INSTALL AUTOMATIC CONTROLLER AND UF-14 CONTROL WIRE. ELECTRICAL SUBCONTRACTOR SHALL PROVIDE 110V SERVICE AND SERVICE HOOKUP FROM POWER SOURCE TO AUTOMATIC CONTROLLER.
11. COORDINATE ALL WORK WITH OTHER TRADES SO PROGRESS OF WORK IS NOT INTERRUPTED AND CAN BE COMPLETED IN A TIMELY MANNER.
12. NO PLANTING SHALL BE STARTED UNTIL ALL SPRINKLER WORK HAS BEEN TESTED AND APPROVED IN PRESENCE OF OWNER'S REPRESENTATIVE.
13. FOR SPRINKLER IRRIGATION INSTALLATION DETAILS, SEE SHEET NO. L4.1 AND L4.2.

MTW group
LANDSCAPE ARCHITECTURE AND PLANNING
2707 K Street, Suite 201
Sacramento, CA 95816
916 369-3990

LICENSED LANDSCAPE ARCHITECT PETER D. LARIMER 9/12/22 6/30/24 RENEWAL DATE STATE OF CALIFORNIA

Peter D. Larimer C-5284

CONSULTANTS

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DAVIS JOINT UNIFIED SCHOOL DISTRICT
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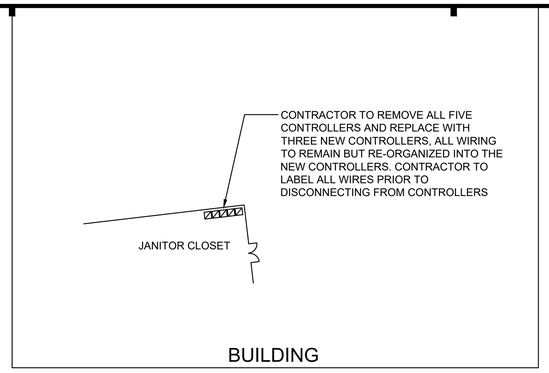
SHEET TITLE

LANDSCAPE IRRIGATION DETAILS

BASE BID

SHEET NO.
L4.2

SHEET 7 OF 22 TOTAL

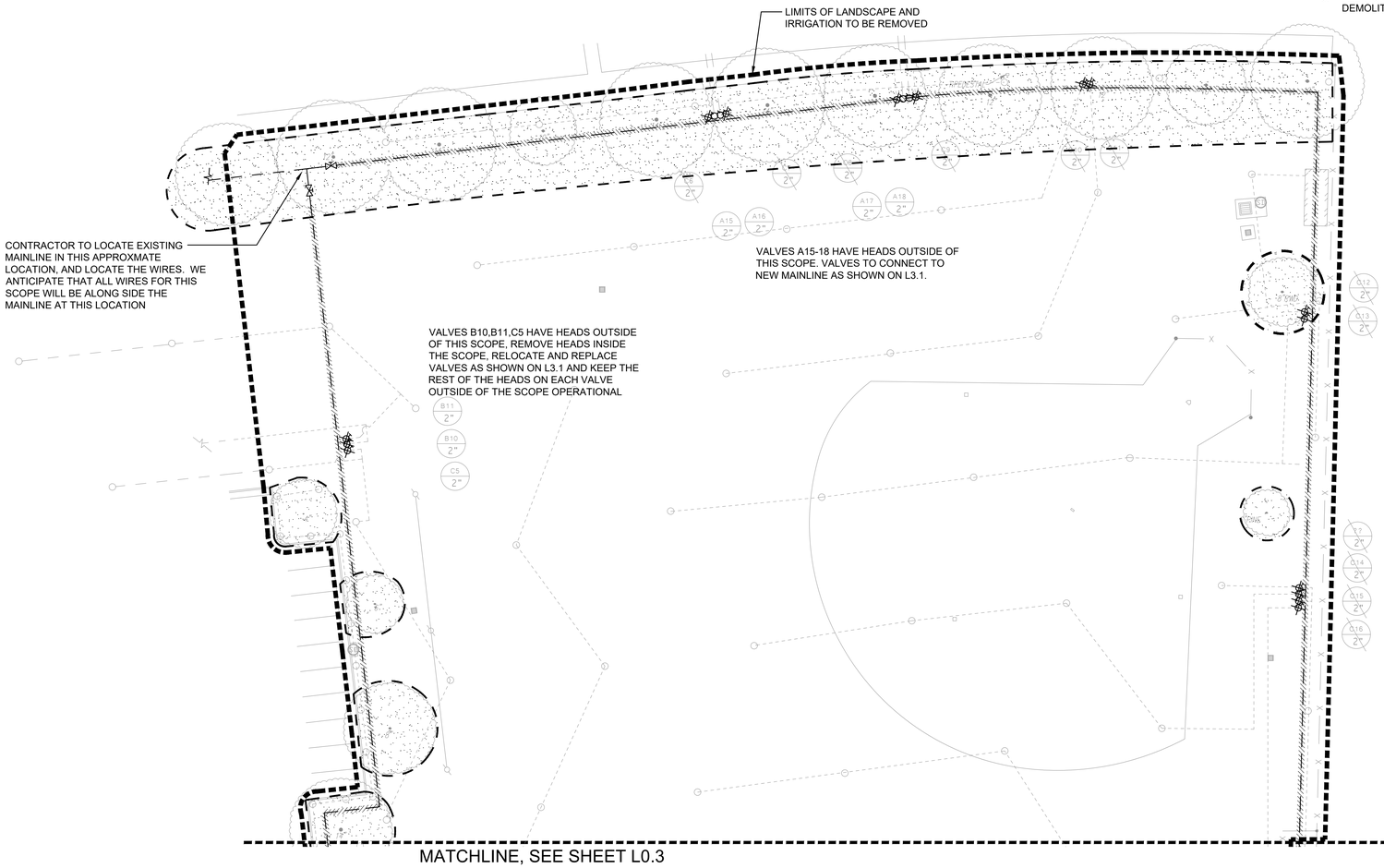


KEY — IRRIGATION DEMOLITION LEGEND

- EXISTING TREE TO REMAIN
- LIMITS OF LANDSCAPE AND IRRIGATION TO BE REMOVED
- CONTRACTOR TO REMOVE ALL VEGETATION (GRASS/WEEDS/ETC) FROM THE FIELD SURFACE DOWN TO AN 1" HEIGHT OR LESS. ONCE THE VEGETATION HAS BEEN REMOVED, PULVERIZE THE REMAINING ORGANIC MATTER INTO THE TOP 8" OF SOIL.
- EXISTING AUTOMATIC CONTROL VALVE TO REMAIN
- EXISTING AUTOMATIC CONTROL VALVE TO REMOVE
- EXISTING IRRIGATION MAINLINE TO REMAIN
- EXISTING IRRIGATION MAINLINE TO BE ABANDONED
- EXISTING LATERAL LINE TO BE ABANDONED
- EXISTING IRRIGATION HEAD TO REMOVE
- VALVE IDENTIFICATION - VALVE TO REMAIN (A15, 2")
- VALVE IDENTIFICATION - VALVE TO BE REMOVED (X8, 2")
- EXISTING TREE PROTECTION AREA:
  SEE TREE PROTECTION SPECIFICATIONS AND DETAILS L4.3-1 AND 2

PRE-CONSTRUCTION SPRINKLER IRRIGATION NOTES

1. PRIOR TO START OF CONSTRUCTION CONTRACTOR REQUIRED TO CONTACT:
   NAME, TITLE: ALAIN CONTRERAS
   PHONE NUMBER: 530-304-4056
   TO SET UP A MEETING ON SITE TO OPERATE THE EXISTING SPRINKLER IRRIGATION SYSTEM AND DISCUSS THE MODIFICATIONS THAT ARE TO BE MADE TO THE EXISTING SYSTEM TO ACCOMMODATE FOR THE NEW CONSTRUCTION.
2. CONTRACTOR TO OPERATE AND PROGRAM EXISTING SPRINKLER IRRIGATION SYSTEM THAT IS TO REMAIN IN ORDER TO PROVIDE WATER TO THE EXISTING LANDSCAPE TO REMAIN.
3. CONTRACTOR TO REMOVE ALL EXISTING PIPE AND SPRINKLER HEADS WHEN THEY ARE IN NEW PLANTING AREAS.
4. CONTRACTOR TO RESTORE AND REPAIR ANY EXISTING SPRINKLER IRRIGATION SYSTEM OR EXISTING LANDSCAPE WHICH IS IN AREAS TO REMAIN THAT IS DAMAGED BY NEW WORK.
5. ALL WORK TO EXISTING SPRINKLER IRRIGATION SYSTEM TO BE COMPLETED PRIOR TO SITE DEMOLITION.



20' 10' 0 20' 40'
SCALE: 1"= 20'-0"

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LICENSED LANDSCAPE ARCHITECT — PETER D. LARIMER — 9/12/22 — 6/30/24 — RENEWAL DATE — STATE OF CALIFORNIA

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1	ADDENDUM 1	5/2/22

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SHEET TITLE

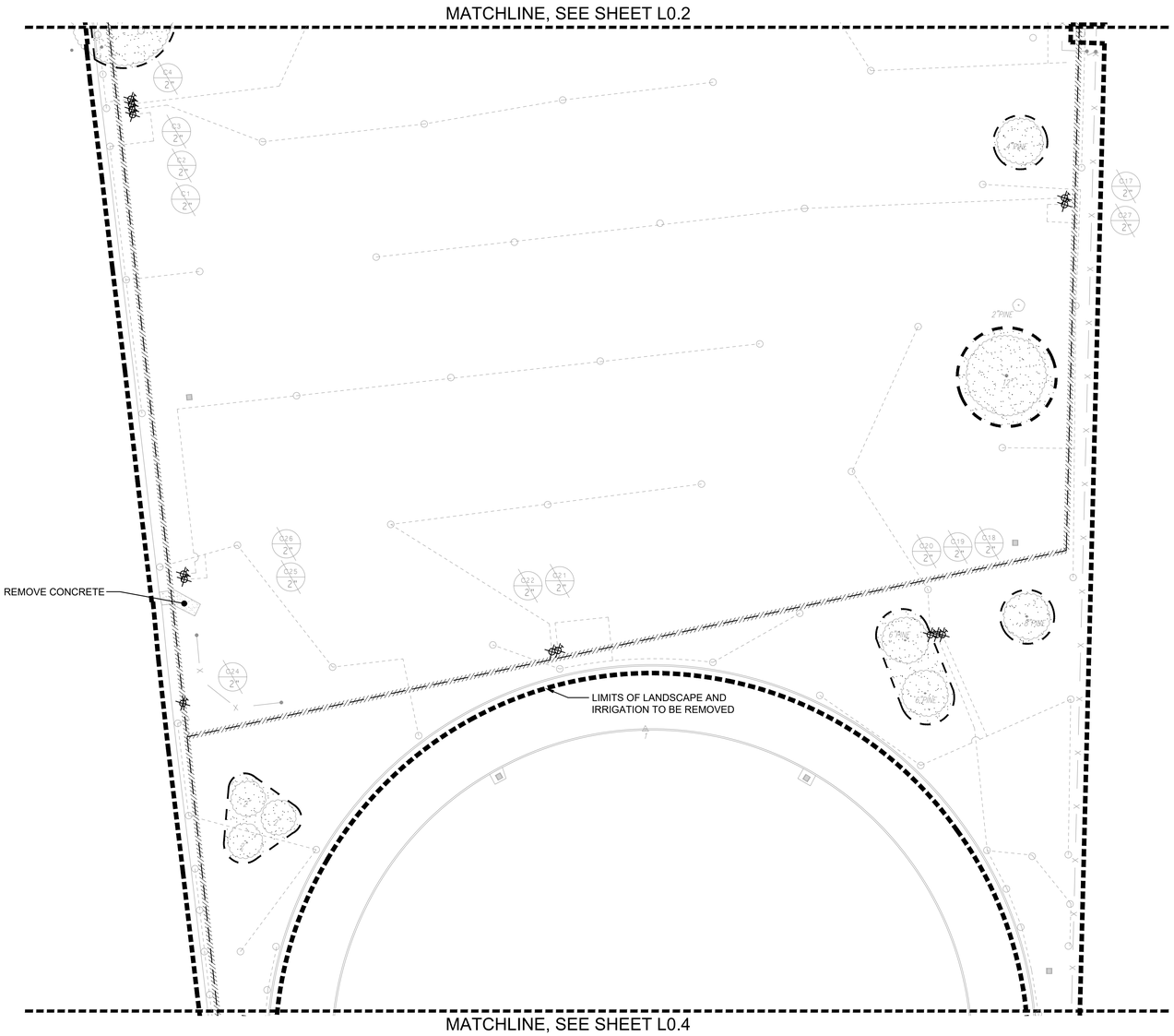
DEMOLITION PLAN

ADD ALTERNATE #1

SHEET NO.

L0.2

SHEET 8 OF 22 TOTAL



KEY — IRRIGATION DEMOLITION LEGEND

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- CONTRACTOR TO REMOVE ALL VEGETATION (GRASS/WEEDS/ETC) FROM THE FIELD SURFACE DOWN TO AN 1" HEIGHT OR LESS. ONCE THE VEGETATION HAS BEEN REMOVED, PULVERIZE THE REMAINING ORGANIC MATTER INTO THE TOP 8" OF SOIL.
- EXISTING AUTOMATIC CONTROL VALVE TO REMAIN
- EXISTING AUTOMATIC CONTROL VALVE TO REMOVE
- EXISTING IRRIGATION MAINLINE TO REMAIN
- EXISTING IRRIGATION MAINLINE TO BE ABANDONED
- EXISTING LATERAL LINE TO BE ABANDONED
- EXISTING IRRIGATION HEAD TO REMOVE
- A15 2" — VALVE IDENTIFICATION - VALVE TO REMAIN
- L6 2" — VALVE IDENTIFICATION - VALVE TO BE REMOVED
- EXISTING TREE PROTECTION AREA: SEE TREE PROTECTION SPECIFICATIONS AND DETAILS L4.3-1 AND 2

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   PHONE NUMBER: 530-304-4056
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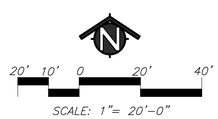
2. CONTRACTOR TO OPERATE AND PROGRAM EXISTING SPRINKLER IRRIGATION SYSTEM THAT IS TO REMAIN IN ORDER TO PROVIDE WATER TO THE EXISTING LANDSCAPE TO REMAIN.
3. CONTRACTOR TO REMOVE ALL EXISTING PIPE AND SPRINKLER HEADS WHEN THEY ARE IN NEW PLANTING AREAS.
4. CONTRACTOR TO RESTORE AND REPAIR ANY EXISTING SPRINKLER IRRIGATION SYSTEM OR EXISTING LANDSCAPE WHICH IS IN AREAS TO REMAIN THAT IS DAMAGED BY NEW WORK.
5. ALL WORK TO EXISTING SPRINKLER IRRIGATION SYSTEM TO BE COMPLETED PRIOR TO SITE DEMOLITION.



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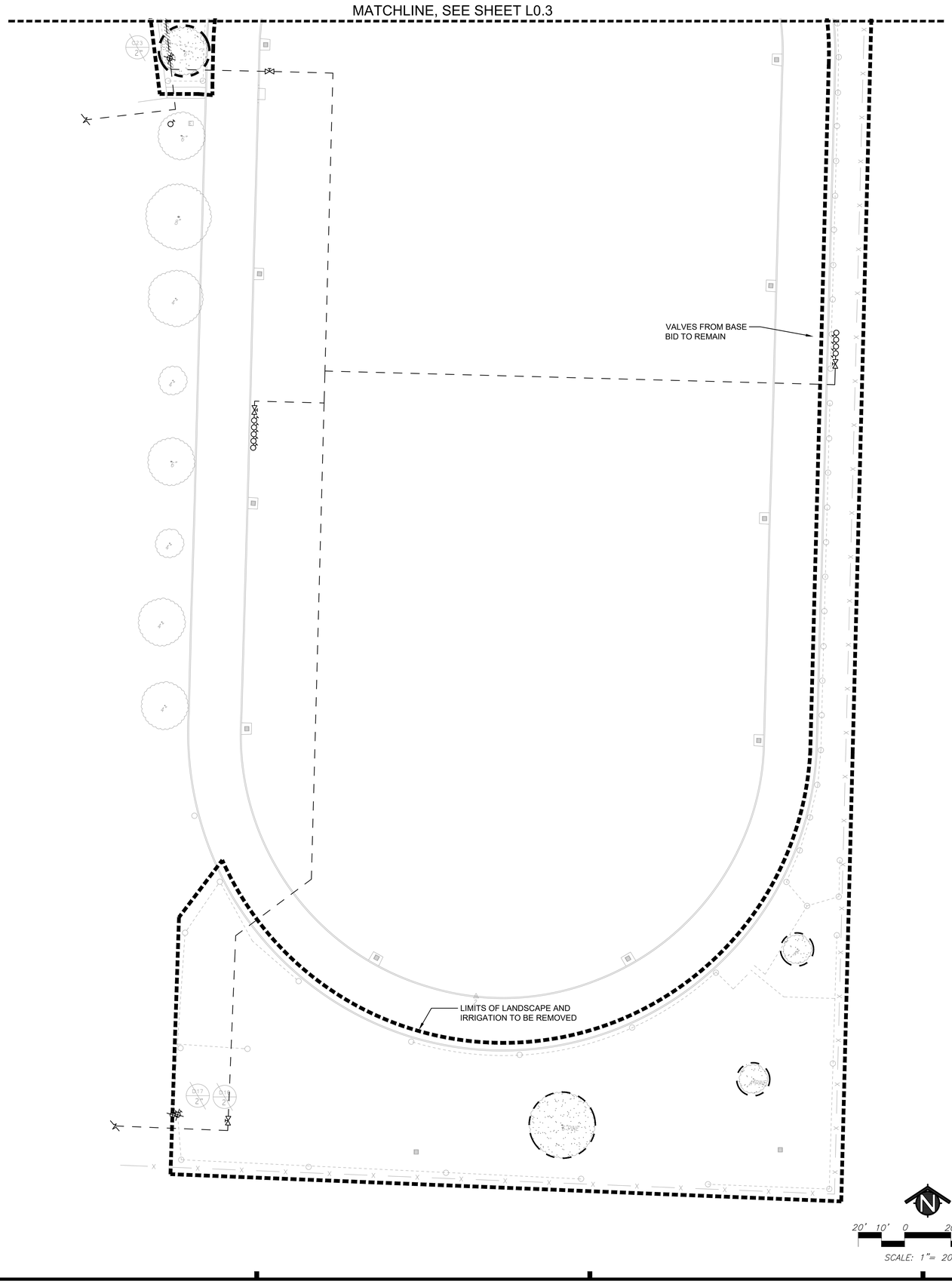
SHEET TITLE

DEMOLITION PLAN

ADD ALTERNATE #1

SHEET NO.
L0.3
SHEET 9 OF 22 TOTAL

DEMOLITION



KEY	IRRIGATION DEMOLITION LEGEND
	EXISTING TREE TO REMAIN
	LIMITS OF LANDSCAPE AND IRRIGATION TO BE REMOVED
	CONTRACTOR TO REMOVE ALL VEGETATION (GRASS/WEEDS/ETC) FROM THE FIELD SURFACE DOWN TO AN 1" HEIGHT OR LESS. ONCE THE VEGETATION HAS BEEN REMOVED, PULVERIZE THE REMAINING ORGANIC MATTER INTO THE TOP 8" OF SOIL.
	EXISTING AUTOMATIC CONTROL VALVE TO REMAIN
	EXISTING AUTOMATIC CONTROL VALVE TO REMOVE
	EXISTING IRRIGATION MAINLINE TO REMAIN
	EXISTING IRRIGATION MAINLINE TO BE ABANDONED
	EXISTING LATERAL LINE TO BE ABANDONED
	EXISTING IRRIGATION HEAD TO REMOVE
A15 2"	VALVE IDENTIFICATION - VALVE TO REMAIN
C8 2"	VALVE IDENTIFICATION - VALVE TO BE REMOVED
	EXISTING TREE PROTECTION AREA: SEE TREE PROTECTION SPECIFICATIONS AND DETAILS L4.3-1 AND 2

PRE-CONSTRUCTION SPRINKLER IRRIGATION NOTES

1. PRIOR TO START OF CONSTRUCTION CONTRACTOR REQUIRED TO CONTACT:
   NAME, TITLE: ALAIN CONTRERAS
   PHONE NUMBER: 530-304-4056
   TO SET UP A MEETING ON SITE TO OPERATE THE EXISTING SPRINKLER IRRIGATION SYSTEM AND DISCUSS THE MODIFICATIONS THAT ARE TO BE MADE TO THE EXISTING SYSTEM TO ACCOMMODATE FOR THE NEW CONSTRUCTION.
2. CONTRACTOR TO OPERATE AND PROGRAM EXISTING SPRINKLER IRRIGATION SYSTEM THAT IS TO REMAIN IN ORDER TO PROVIDE WATER TO THE EXISTING LANDSCAPE TO REMAIN.
3. CONTRACTOR TO REMOVE ALL EXISTING PIPE AND SPRINKLER HEADS WHEN THEY ARE IN NEW PLANTING AREAS.
4. CONTRACTOR TO RESTORE AND REPAIR ANY EXISTING SPRINKLER IRRIGATION SYSTEM OR EXISTING LANDSCAPE WHICH IS IN AREAS TO REMAIN THAT IS DAMAGED BY NEW WORK.
5. ALL WORK TO EXISTING SPRINKLER IRRIGATION SYSTEM TO BE COMPLETED PRIOR TO SITE DEMOLITION.

MTW group
LANDSCAPE ARCHITECTURE AND PLANNING
2707 K Street, Suite 201
Sacramento, CA 95816
916 369-3990

LICENSED LANDSCAPE ARCHITECT PETER D. LARIMER 9/12/22 6/30/24 RENEWAL DATE STATE OF CALIFORNIA

Peter D. Larimer C-5284

CONSULTANTS

REVISIONS

NO.	DESCRIPTION	DATE

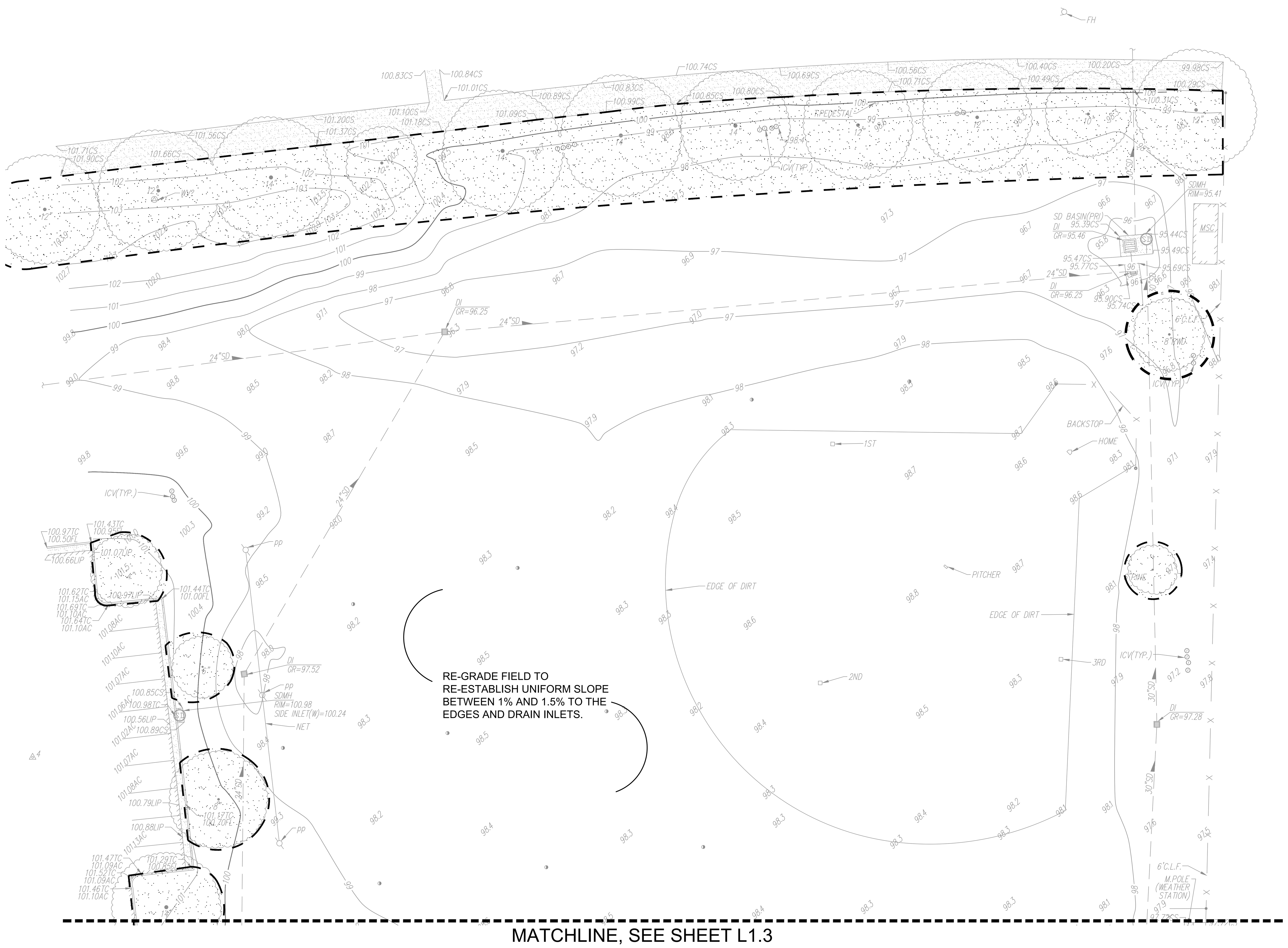
INITIAL BOX

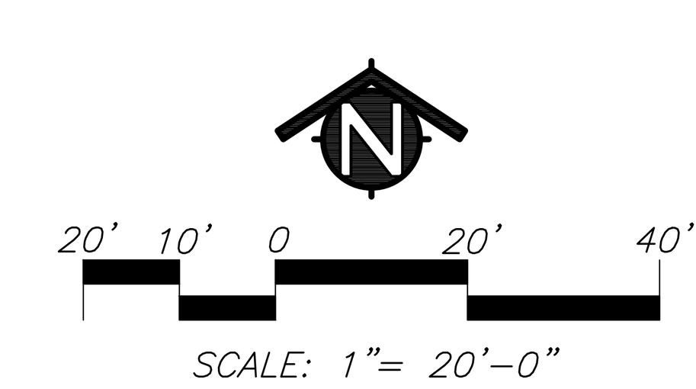
NO.	DWG BY	DATE	REVIEWED

HARPER JUNIOR HIGH SCHOOL
PLAYFIELD RENOVATIONS
DAVIS JOINT UNIFIED SCHOOL DISTRICT
DAVIS, CA

DATE 09/12/22
JOB NO. 21-67
SHEET TITLE
DEMOLITION PLAN

ADD ALTERNATE #1
SHEET NO.
L0.4
SHEET 10 OF 22 TOTAL





MTW *group*
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AND PLANNING
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Sacramento, CA 95816
916 369-3990

LICENSED LANDSCAPE ARCHITECT
PETER D. LARIMER
5284
SIGNATURE
9/12/22
DATE
6/30/24
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DAVIS JOINT UNIFIED SCHOOL DISTRICT
DAVIS, CA

DATE 09/12/22
JOB NO. 21-67
SHEET TITLE

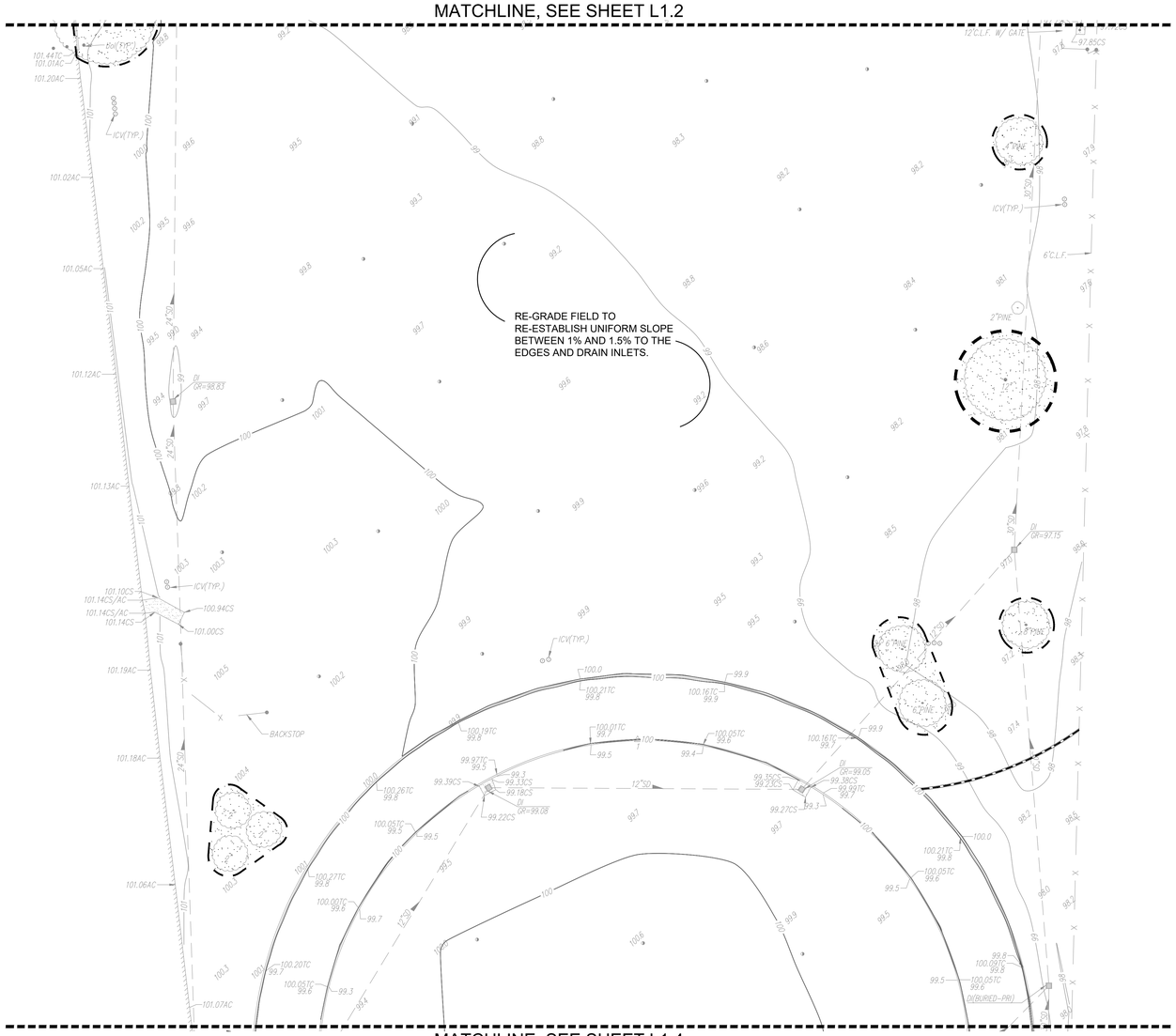
GRADING PLAN

ADD ALTERNATE #1

SHEET NO.
L1.2

SHEET 11 OF 22 TOTAL

MATCHLINE, SEE SHEET L1.2



MATCHLINE, SEE SHEET L1.4

20' 10' 0 20' 40'

SCALE: 1"= 20'-0"

MTW group

LANDSCAPE ARCHITECTURE
AND PLANNING

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916 369-3990

LANDSCAPE ARCHITECT
PETER D. LARIMER
9/12/22
6/30/24
RENEWAL DATE
STATE OF CALIFORNIA

Peter D. Larimer C-5284

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DAVIS JOINT UNIFIED SCHOOL DISTRICT
DAVIS, CA

DATE 09/12/22

JOB NO. 21-67

SHEET TITLE

GRADING PLAN

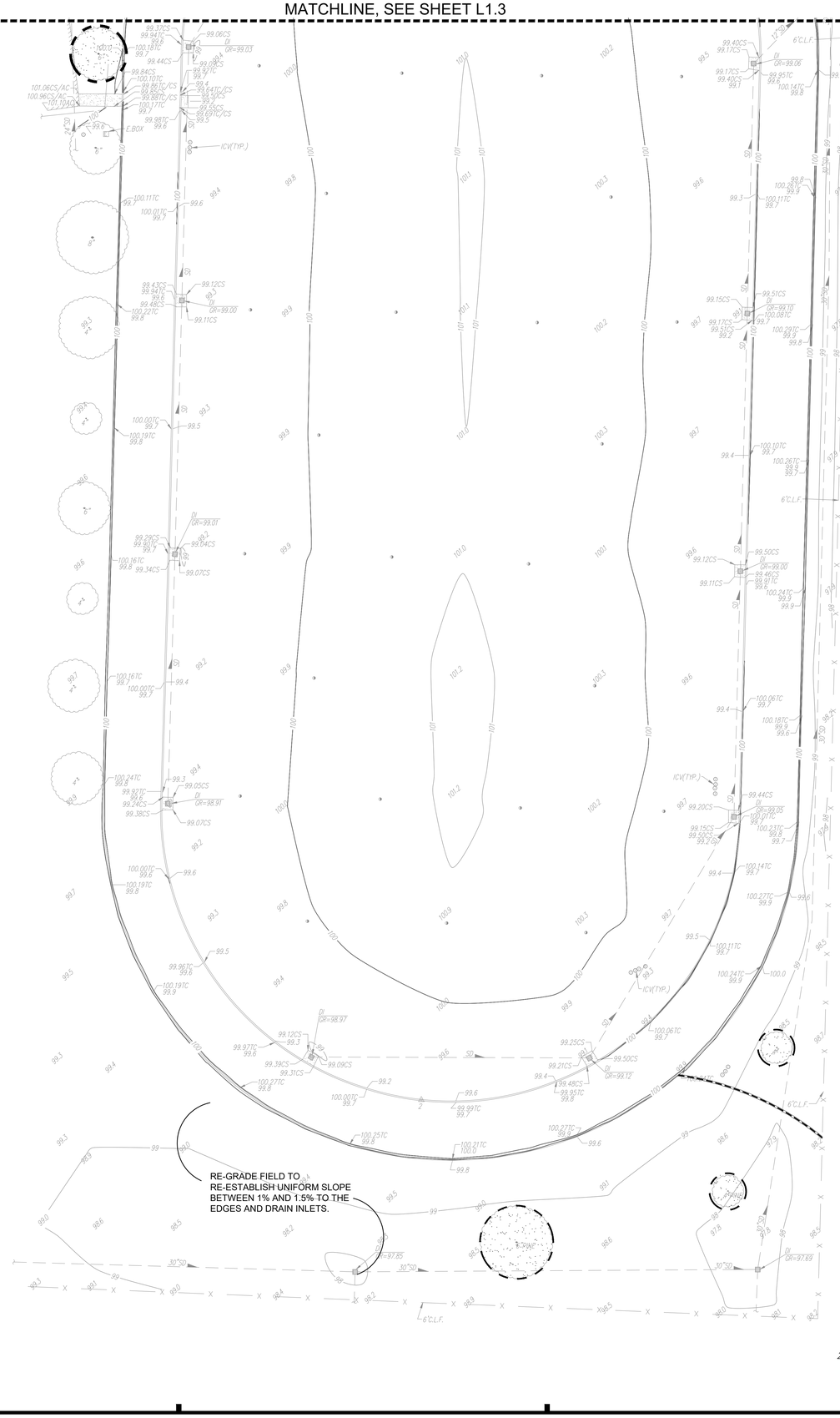
ADD ALTERNATE #1

SHEET NO.

L1.3

SHEET 12 OF 22 TOTAL

MATCHLINE, SEE SHEET L1.3



SCALE: 1"= 20'-0"

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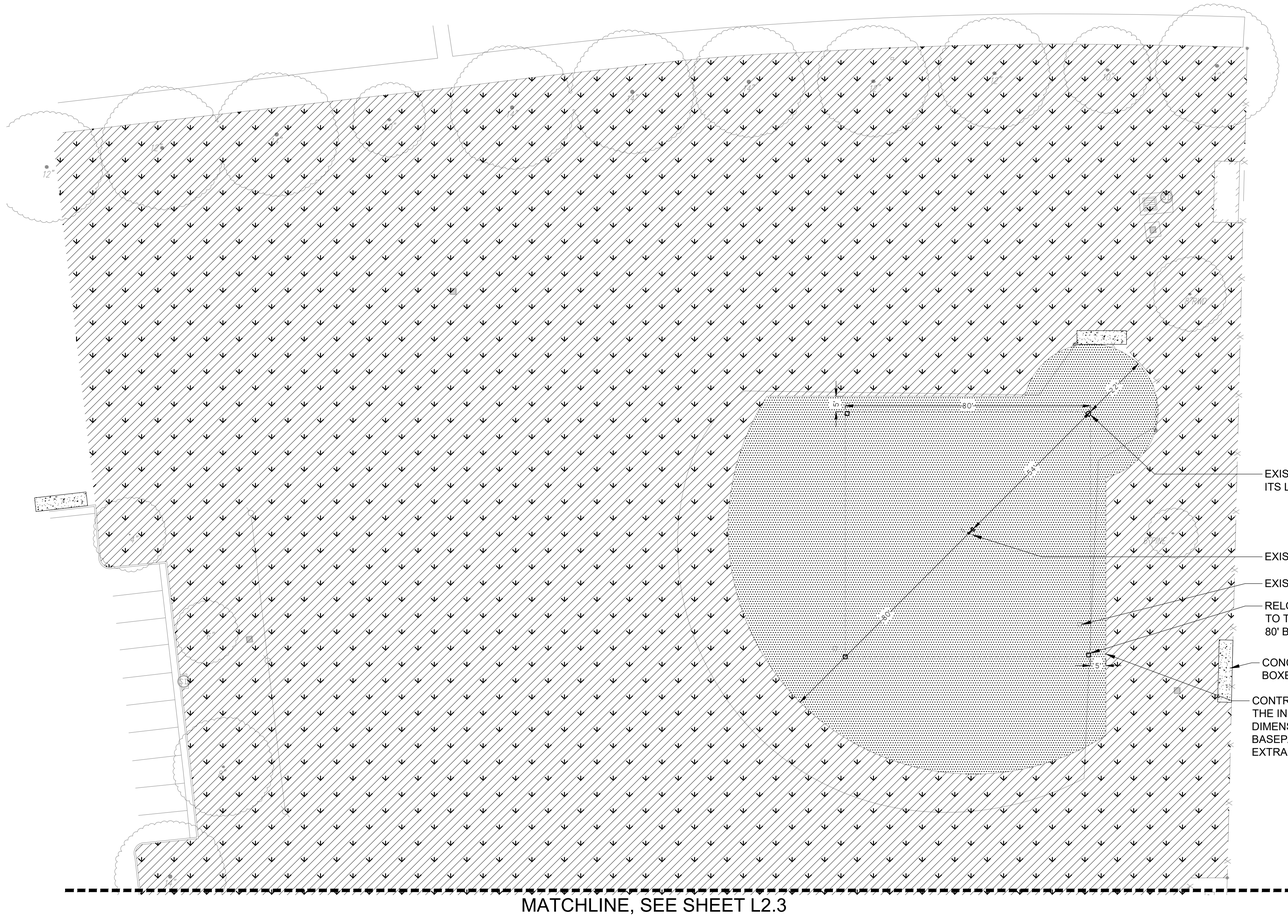

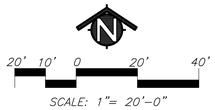

KEY	LANDSCAPE LEGEND
	EXISTING TREES TO REMAIN
	LAWN (SOD)
	BASEBALL INFIELD MIX (SEE BASEBALL INFIELD MIX NOTES)
	4" DEPTH OF BARK MULCH
	9" WIDE CONCRETE MOWSTRIP

GENERAL LANDSCAPE REQUIREMENTS/NOTES

1. NO PLANTING SHALL BE STARTED UNTIL SPRINKLER IRRIGATION SYSTEM HAS BEEN TESTED BY CONTRACTOR IN PRESENCE OF OWNER'S REPRESENTATIVE AND NOTED DEFICIENCIES CORRECTED.
2. NO PLANTING SHALL BE STARTED UNTIL SOIL PREPARATION AND FINISH GRADING OPERATIONS HAVE BEEN COMPLETED AND APPROVED BY THE OWNER'S REPRESENTATIVE.
3. QUANTITIES SHOWN ON PLANT MATERIAL LIST ARE APPROXIMATE. PROVIDE QUANTITIES INDICATED ON LANDSCAPE PLAN.
4. PLANT MATERIAL IS SUBJECT TO APPROVAL OF OWNER'S REPRESENTATIVE.
5. SEE SHEET L4.1 FOR PLANTING INSTALLATION DETAILS.

ENVIRONMENTAL REQUIREMENTS:

GENERAL: PROCEED WITH WORK IN ORDERLY AND TIMELY MANNER TO COMPLETE INSTALLATION OF LANDSCAPING WITHIN CONTRACT LIMITS.

PROTECTION:

EXISTING CONSTRUCTION: EXECUTE WORK IN AN ORDERLY AND CAREFUL MANNER TO PROTECT NEW CONCRETE WALKS, WORK OF OTHER TRADES, AND OTHER IMPROVEMENTS.

EXISTING UTILITIES: DETERMINE LOCATION OF UNDERGROUND UTILITIES AND PERFORM WORK IN A MANNER WHICH WILL AVOID POSSIBLE DAMAGE. HAND EXCAVATE, AS REQUIRED, TO MINIMIZE POSSIBILITY OF DAMAGE TO UNDERGROUND UTILITIES. MAINTAIN GRADE STAKES SET BY OTHERS UNTIL REMOVAL IS MUTUALLY AGREED UPON BY ALL PARTIES CONCERNED. BE RESPONSIBLE FOR PROTECTION OF EXISTING UTILITIES WITHIN CONSTRUCTION AREA; REPAIR DAMAGE TO UTILITIES THAT OCCUR AS A RESULT OF OPERATIONS OF THIS WORK.

LANDSCAPING: PROTECT LANDSCAPE WORK AND MATERIALS FROM DAMAGE DUE TO LANDSCAPE OPERATIONS, OPERATIONS BY OTHER CONTRACTORS AND TRADES AND TRESPASSERS. MAINTAIN PROTECTION DURING INSTALLATION AND MAINTENANCE PERIODS. TREAT, REPAIR OR REPLACE DAMAGED LANDSCAPE WORK AS DIRECTED AT NO ADDITIONAL COST TO CONTRACT.

ADVERSE CONDITIONS: WHEN CONDITIONS DETRIMENTAL TO SOD OR PLANT GROWTH ARE ENCOUNTERED, SUCH AS RUBBLE FILL, ADVERSE DRAINAGE CONDITIONS, OR OBSTRUCTIONS, NOTIFY OWNER'S REPRESENTATIVE BEFORE STARTING WORK.

PLANTING AND TURF INSTALLATION SEASONS AND CONDITIONS

NO WORK SHALL BE DONE WHEN GROUND IS FROZEN, SNOW COVERED, TOO WET OR IN AN OTHERWISE UNSUITABLE CONDITION FOR AMENDING SOIL, FINISH GRADING OR PLANTING.

SOIL TESTING/SOIL IMPROVEMENT:

SEE SPECIFICATIONS 32 90 00, SECTION 3.02 SOIL TESTING AND SECTION 3.03 PREPARATION.

SOIL PERCOLATION

EXCAVATE 10 PLANTING PITS IN RANDOM AREAS OF SITE. FILL EXCAVATED PLANTING PITS WITH WATER TO 1/2 DEPTH OF PIT. PITS SHOULD DRAIN WITHIN 4 HOURS. IF PLANTING PITS DO NOT DRAIN, NOTIFY INSPECTOR IMMEDIATELY. PLANTING SHALL NOT BE STARTED UNTIL OWNER'S REPRESENTATIVE HAS RESOLVED A METHOD TO REMEDY DRAINAGE ISSUE.

PLANT MATERIAL STANDARDS

PLANTS SHALL BE IN ACCORDANCE WITH AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI) ANSI Z60.1- AMERICAN STANDARD FOR NURSERY STOCK, EXCEPT AS OTHERWISE STATED IN SPECIFICATIONS OR SHOWN ON DRAWINGS. WHERE DRAWINGS OR SPECIFICATIONS ARE IN CONFLICT WITH ANSI Z60.1, DRAWINGS AND SPECIFICATIONS SHALL PREVAIL. PRUNE, THIN OUT AND SHAPE TREES IN ACCORDANCE WITH ANSI STANDARD HORTICULTURAL PRACTICE. PRUNE TREES TO RETAIN REQUIRED HEIGHT AND SPREAD, UNLESS OTHERWISE DIRECTED BY LANDSCAPE ARCHITECT. DO NOT CUT TREE LEADERS, AND REMOVE ONLY INJURED OR DEAD BRANCHES FROM FLOWERING TREES.

EXISTING LANDSCAPE AND SPRINKLER IRRIGATION SYSTEM

WORK LIMITS OF THIS PROJECT EXTEND INTO AREAS THAT WERE PREVIOUSLY DEVELOPED UNDER OTHER CONTRACTS. PRIOR TO START OF WORK, CONTRACTOR SHALL MEET WITH OWNER'S REPRESENTATIVE TO LOCATE ALL CONNECTIONS CALLED FOR ON DRAWINGS. WORK LIMITS/FENCING SHALL BE LAID OUT BY CONTRACTOR AND VERIFIED BY OWNER'S REPRESENTATIVE. FENCE TO BE INSTALLED AND IRRIGATION SYSTEM SHALL BE TESTED WITH CONTRACTOR, INSPECTOR, AND OWNER'S REPRESENTATIVE PRESENT. DEFICIENCIES SHALL BE NOTED AT THIS TIME AND ARE THE RESPONSIBILITY OF OWNER. AT COMPLETION OF WORK, SYSTEM WILL AGAIN BE TESTED, DEFICIENCIES NOTED AT THIS TIME THAT WERE NOT NOTED PREVIOUSLY WILL BE RESPONSIBILITY OF CONTRACTOR. EXISTING LANDSCAPE THAT HAS BEEN DAMAGED DUE TO CONSTRUCTION SHALL BE RESTORED TO ORIGINAL CONDITION BY CONTRACTOR AT NO ADDITIONAL COST TO OWNER. PRIOR TO MAKING ANY CONNECTION TO MAIN LINE, CONTRACTOR SHALL NOTIFY OWNER 1 WEEK IN ADVANCE SO ADJUSTMENTS TO EXISTING WATERING PROGRAMS CAN BE MADE.

MTW group
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LANDSCAPE ARCHITECT PETER D. LARIMER
9/12/22
6/30/24
RENEWAL DATE
STATE OF CALIFORNIA

Peter D. Larimer C-5284

CONSULTANTS

REVISIONS

NO.	DESCRIPTION	DATE

INITIAL BOX

NO.	DWG BY	DATE	REVIEWED

HARPER JUNIOR HIGH SCHOOL PLAYFIELD RENOVATIONS

DAVIS JOINT UNIFIED SCHOOL DISTRICT
DAVIS, CA

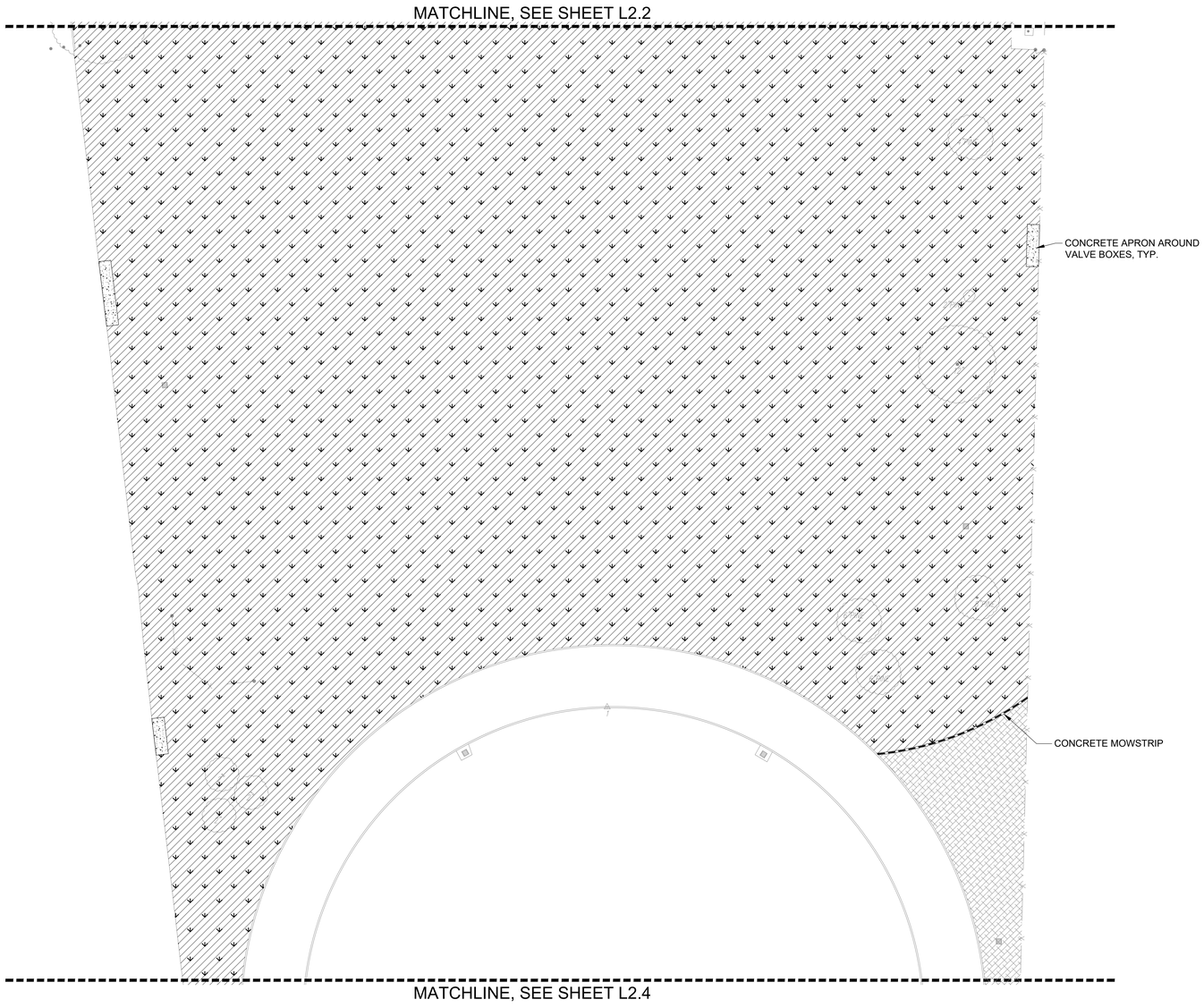
DATE 09/12/22
JOB NO. 21-67
SHEET TITLE

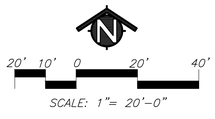
LANDSCAPE PLANTING PLAN

ADD ALTERNATE #1
SHEET NO.

L2.2

SHEET 14 OF 22 TOTAL





KEY	LANDSCAPE LEGEND
	EXISTING TREES TO REMAIN
	LAWN (SOD)
	BASEBALL INFIELD MIX (SEE BASEBALL INFIELD MIX NOTES)
	4" DEPTH OF BARK MULCH
	9" WIDE CONCRETE MOWSTRIP

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SOIL TESTING/SOIL IMPROVEMENT:

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SOIL PERCOLATION

EXCAVATE 10 PLANTING PITS IN RANDOM AREAS OF SITE. FILL EXCAVATED PLANTING PITS WITH WATER TO 1/2 DEPTH OF PIT. PITS SHOULD DRAIN WITHIN 4 HOURS. IF PLANTING PITS DO NOT DRAIN, NOTIFY INSPECTOR IMMEDIATELY. PLANTING SHALL NOT BE STARTED UNTIL OWNER'S REPRESENTATIVE HAS RESOLVED A METHOD TO REMEDY DRAINAGE ISSUE.

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LANDSCAPE ARCHITECT — PETER D. LARIMER — 9/12/22 RENEWAL 6/30/24 — STATE OF CALIFORNIA

Peter D. Larimer C-5284

CONSULTANTS

REVISIONS

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HARPER JUNIOR HIGH SCHOOL
PLAYFIELD RENOVATIONS
DAVIS JOINT UNIFIED SCHOOL DISTRICT
DAVIS, CA

DATE 09/12/22
JOB NO. 21-67
SHEET TITLE

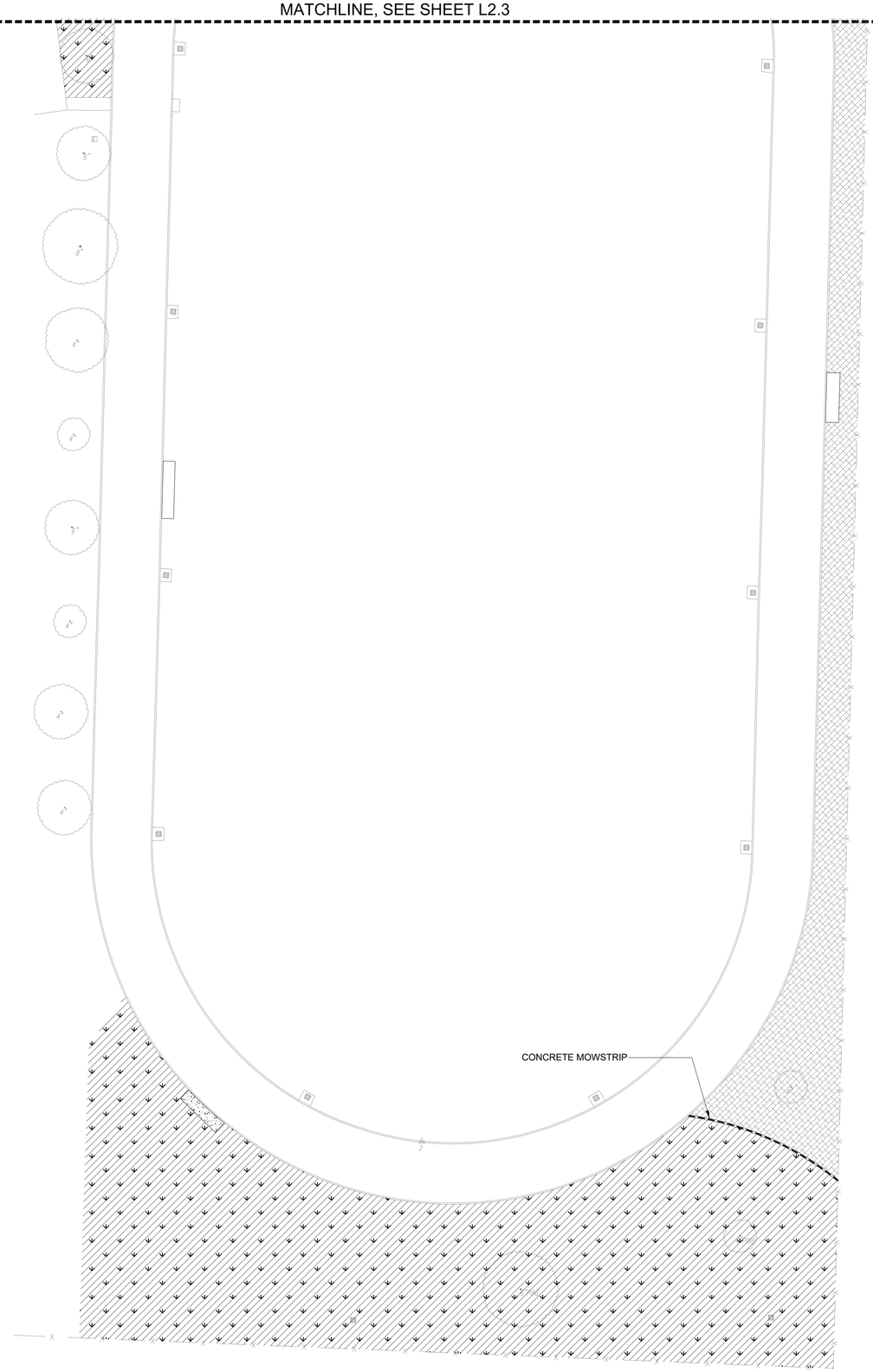
LANDSCAPE PLANTING PLAN

ADD ALTERNATE #1

SHEET NO.
L2.3

SHEET 15 OF 22 TOTAL

MATCHLINE, SEE SHEET L2.3



20' 10' 0 20' 40'

SCALE: 1"= 20'-0"

KEY | LANDSCAPE LEGEND

- EXISTING TREES TO REMAIN
- LAWN (SOD)
- BASEBALL INFIELD MIX (SEE BASEBALL INFIELD MIX NOTES)
- 4" DEPTH OF BARK MULCH
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PLAYFIELD RENOVATIONS
DAVIS JOINT UNIFIED SCHOOL DISTRICT
DAVIS, CA

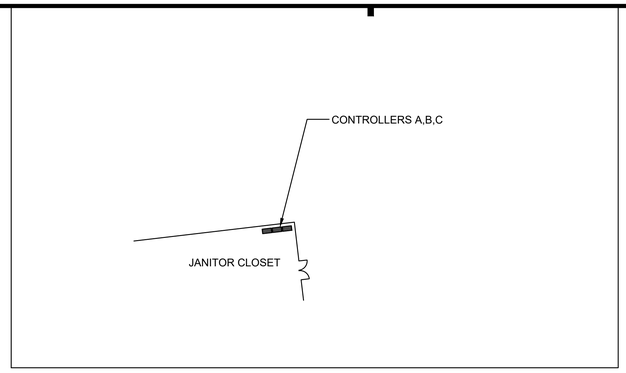
DATE 09/12/22
JOB NO. 21-67
SHEET TITLE

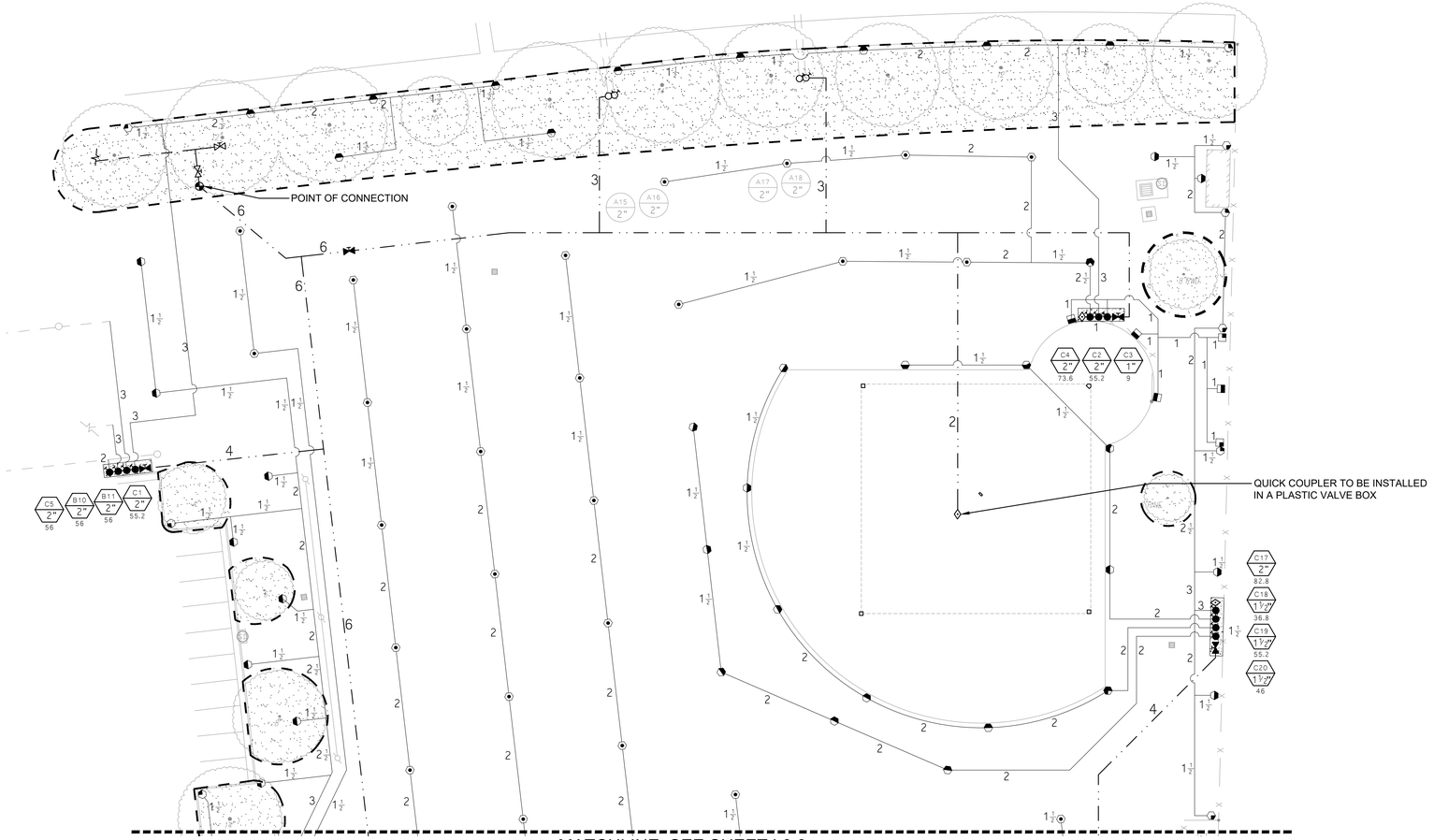
LANDSCAPE PLANTING PLAN

ADD ALTERNATE #1

SHEET NO.
L2.4

SHEET 16 OF 22 TOTAL





KEY

SPRINKLER IRRIGATION LEGEND

POINT OF CONNECTIONS:
IRRIGATION SYSTEM OPERATING WATER PRESSURE: 110 PSI
MAXIMUM FLOW IS 102 GPM

CONTRACTOR SHALL LOCATE EXISTING IRRIGATION MAINLINE AT APPROXIMATE LOCATION SHOWN
CONNECT AT THIS POINT AND EXTEND AS INDICATED ON DRAWINGS.

GATE VALVE:
TYPE:
LEEMCO LMV-XXFF FLANGED WITH A NON-RISING STEM AND OPERATING NUT.
GATE VALVE INSTALLED IN A VALVE BOX WITH TOP OF BOX SET FLUSH TO FINISH GRADE.
GATE VALVE TO BE LINE SIZE.

PRESSURE MAIN LINE:
TYPE:
4" SIZE AND LARGER: ASTM D2241 SDR 21, 200 PSI, RUBBER GASKETED WITH LEEMCO JOINT RESTRAINTS

TRENCH DEPTH:
IN PLANTED AREAS: 24" MINIMUM COVER.
UNDER PAVED AREAS: 24" MINIMUM COVER.
PVC SCHEDULE 40 SLEEVES ARE REQUIRED FOR ALL PIPING UNDER PAVEMENT.

LATERAL LINE:
TYPE:
ASTM D1785, PVC SCHEDULE 40, SOLVENT WELD ALL UNSIZED PIPE SHALL BE 1 1/2" SIZE.
TRENCH DEPTH:
IN PLANTED AREAS: 18" MINIMUM COVER.
UNDER PAVED AREAS: 24" MINIMUM COVER.
PVC SCHEDULE 40 SLEEVES ARE REQUIRED FOR ALL PIPING UNDER PAVEMENT.

AUTOMATIC CONTROL VALVE:
HUNTER ICV WITH ADJUSTABLE ACCU SYNC

QUICK COUPLER VALVE:
HUNTER HQ-44-LRC-R OR APPROVED EQUAL.
VALVES SHALL HAVE LOCKING RUBBER COVERS, INSTALLED IN VALVE BOXES. TOP OF VALVE BOX SHALL HAVE BOLT DOWN LID AND TOP SET LEVEL TO FINISH GRADE.

LAWN POP-UP ROTOR HEADS:
60 PSI; 9.2 GPM; 0.84 PRECIP.△
08 LT BROWN NOZZLE
FULL CIRCLE
HUNTER: I-40-06-SS-08
THREE QUARTER
HUNTER: I-40-06-SS-08
HALF CIRCLE
HUNTER: I-40-06-SS-08
QUARTER CIRCLE
HUNTER: I-40-06-SS-08

LAWN POP-UP INTERMEDIATE ROTOR HEADS:
50 PSI;1.5 GPM; 0.46 PRECIP □
1.5 SR BLACK NOZZLE
FULL CIRCLE
HUNTER: I-20-06-SS-1.5SR
THREE QUARTER
HUNTER: I-20-06-SS-1.5SR
HALF CIRCLE
HUNTER: I-20-06-SS-1.5SR
QUARTER CIRCLE
HUNTER: I-20-06-SS-1.5SR

A1 / 1" / 0.00
INDICATES CONTROL VALVE AND STATION NUMBER
INDICATES CONTROL VALVE SIZE
INDICATES GALLONS PER MINUTE

EXISTING TREE PROTECTION AREA:
THE PROTECTION AREA UNDER ANY EXISTING TREE THAT IS TO REMAIN IS DEFINED BY ITS DRIP LINE OR CANOPY COVER. WITHIN THIS AREA NO STORAGE OR PARKING WILL BE PERMITTED. ALL TRENCHING WILL BE PERFORMED BY HAND. DO NOT CUT ROOTS 1" IN DIAMETER OR LARGER. USE BORING PROCEDURES WHEN ENCOUNTERING ROOTS 1" SIZE AND LARGER. NO ROOTS ARE TO BE EXPOSED LONGER THAN 48 HOURS.

AUTOMATIC CONTROLLER:
RAINMASTER DXi CENTRAL CONTROL SYSTEM:
CONTROLLER 'A', 'B', 'C'
DXi-FMW-LAGUNA + DXi-PWM48P - 48 STATION CONVENTIONAL
WITH ETHERNET CONNECTION AND PROMAX REMOTE ASSEMBLY AND ANTENNA
REUSE EXISTING 110V SERVICE.
BUDGET 300' OF DATA LINE FROM CONTROLLER B AND C BACK TO THE IDF THROUGH EXISTING CONDUIT.
EXTEND WIRE TO THE ROOF AND INSTALL NEW ANTENNAS ON THE ROOF.
COORDINATE WITH DESIGN TEAM FOR TRANSFER STATION WIRES TO NEW CONTROLLERS

SPRINKLER IRRIGATION NOTES

1. COMPOSITE BASE SHEET: PROPOSED IMPROVEMENTS SHOWN ON DRAWINGS ARE SUPERIMPOSED ON A COMPOSITE BASE SHEET. THE COMPOSITE BASE SHEET IS A COMPILATION OF ARCHITECTURAL, ENGINEERING, AND OTHER DATA THAT IS PROVIDED. THE LANDSCAPE ARCHITECT SHALL NOT BE HELD LIABLE FOR CHANGES, INACCURACIES, OMISSIONS, OR ERRORS PERTAINING TO THE COMPOSITE BASE SHEET. CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING THESE DOCUMENTS. ANY DISCREPANCIES NEED TO BE BROUGHT TO THE ATTENTION OF THE DESIGN TEAM AND RESOLVED PRIOR TO CONTINUATION OF WORK.
2. DESIGN PRESSURE SHOWN ON PLANS HAS BEEN FURNISHED BY WATER COMPANY OR WATER DISTRICT SERVING SITE. VERIFY PRESSURE ON-SITE PRIOR TO THE INSTALLATION OF ANY SPRINKLER IRRIGATION EQUIPMENT. IF THERE IS A DISCREPANCY, NOTIFY OWNER'S REPRESENTATIVE IMMEDIATELY IN WRITING SO ADJUSTMENTS CAN BE MADE BY LANDSCAPE ARCHITECT. FAILURE TO REPORT DISCREPANCIES AND CONTINUANCE OF WORK WILL RESULT IN ALL RE-DESIGN COSTS BEING CHARGED TO CONTRACTOR.
3. DETERMINE LOCATION OF UNDERGROUND UTILITIES. DAMAGE CAUSED BY INSTALLATION OF THIS WORK SHALL BE REPAIRED TO SATISFACTION OF GOVERNING AGENCY OR OWNER AT NO ADDITIONAL COST TO THE CONTRACT.
4. SPRINKLER OVER SPRAY SHALL NOT BE ALLOWED ON PUBLIC SIDEWALKS, BUILDING WALLS OR FENCES. MINIMUM OVERSPRAY MAY OCCUR IN PARKING AREAS. USE ADJUSTABLE NOZZLES WHENEVER POSSIBLE TO CONTROL SPRINKLER OVERSPRAY.
5. ALL LOCAL CODES AND ORDINANCES SHALL BE COMPLIED WITH. IF THERE IS A CONFLICT, NOTIFY OWNER'S REPRESENTATIVE IMMEDIATELY.
6. TESTING.
   A. PRESSURE TEST ALL UNDERGROUND PIPING AS FOLLOWS:
      SYSTEMS WITH BOOSTER PUMP:
      MAIN LINE - AT 100 PSI FOR 4 HOURS.
      LATERAL LINES - AT 100 PSI FOR 2 HOURS.
      SYSTEMS WITH OUT BOOSTER PUMP:
      MAIN LINE - AT STATIC PSI FOR 4 HOURS.
      LATERAL LINES - AT STATIC PSI FOR 2 HOURS.
   B. COVERAGE TEST: NOTE: PRIOR TO REQUESTING COVERAGE TEST, INSURE ALL HEADS ARE SET PLUMB, NOZZLES ARE ADJUSTED PROPERLY AND SYSTEM HAS BEEN CHECKED FOR AUTOMATION. REQUEST OWNER'S REPRESENTATIVES PRESENCE ON-SITE WHEN SPRINKLER SYSTEM IS COMPLETELY INSTALLED AND FULLY AUTOMATIC. PROVIDE ADEQUATE PERSONNEL AT THIS MEETING TO ADJUST AND FINE TUNE SYSTEM TO SATISFACTION OF OWNER'S REPRESENTATIVE.
7. LAYOUT ALL WORK PRIOR TO TRENCHING OPERATIONS TO DETERMINE IF MINOR MODIFICATIONS OR ADJUSTMENTS WILL BE REQUIRED.
8. INSTALL ALL SPRINKLER HEADS PERPENDICULAR TO SLOPES OR GRADE.
9. CONTROL WIRE SHALL BE UF-14, COLOR FOR LEAD AND WHITE FOR COMMON. SPLICES SHALL BE PERMITTED AT VALVE BOX LOCATIONS ONLY.
10. PROVIDE AND INSTALL AUTOMATIC CONTROLLER AND UF-14 CONTROL WIRE. ELECTRICAL SUBCONTRACTOR SHALL PROVIDE 110V SERVICE AND SERVICE HOOKUP FROM POWER SOURCE TO AUTOMATIC CONTROLLER.
11. COORDINATE ALL WORK WITH OTHER TRADES SO PROGRESS OF WORK IS NOT INTERRUPTED AND CAN BE COMPLETED IN A TIMELY MANNER.
12. NO PLANTING SHALL BE STARTED UNTIL ALL SPRINKLER WORK HAS BEEN TESTED AND APPROVED IN PRESENCE OF OWNER'S REPRESENTATIVE.
13. FOR SPRINKLER IRRIGATION INSTALLATION DETAILS, SEE SHEET NO. L4.1.

20' 10' 0 20' 40'
SCALE: 1"= 20'-0"

MTW group
LANDSCAPE ARCHITECTURE AND PLANNING
2707 K Street, Suite 201
Sacramento, CA 95816
916 369-3990

LICENSED LANDSCAPE ARCHITECT — PETER D. LARIMER — 9/12/22 — 6/30/24 RENEWAL DATE — STATE OF CALIFORNIA

Peter D. Larimer C-5284

CONSULTANTS

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM 1	5/2/22

INITIAL BOX

NO.	DWG BY	DATE	REVIEWED

HARPER JUNIOR HIGH SCHOOL PLAYFIELD RENOVATIONS

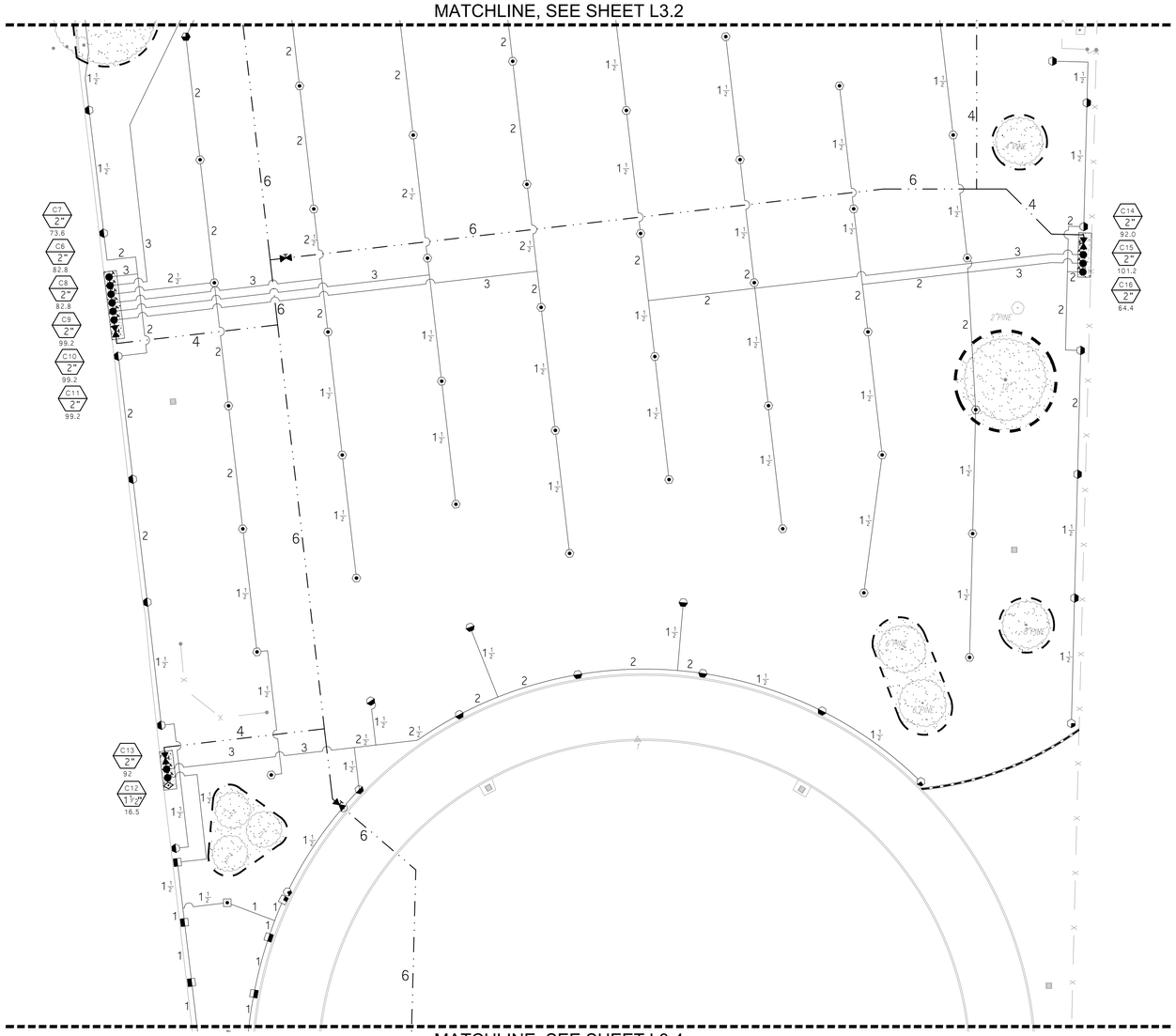
DAVIS JOINT UNIFIED SCHOOL DISTRICT
DAVIS, CA

DATE 09/12/22
JOB NO. 21-67
SHEET TITLE

LANDSCAPE IRRIGATION PLAN

ADD ALTERNATE #1
SHEET NO.
L3.2
SHEET 17 OF 22 TOTAL

MATCHLINE, SEE SHEET L3.2



MATCHLINE, SEE SHEET L3.4

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TYPE:
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ASTM D1785, PVC SCHEDULE 40, SOLVENT WELD ALL UNSIZED PIPE SHALL BE 1 1/2" SIZE.
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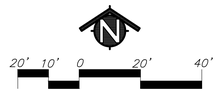

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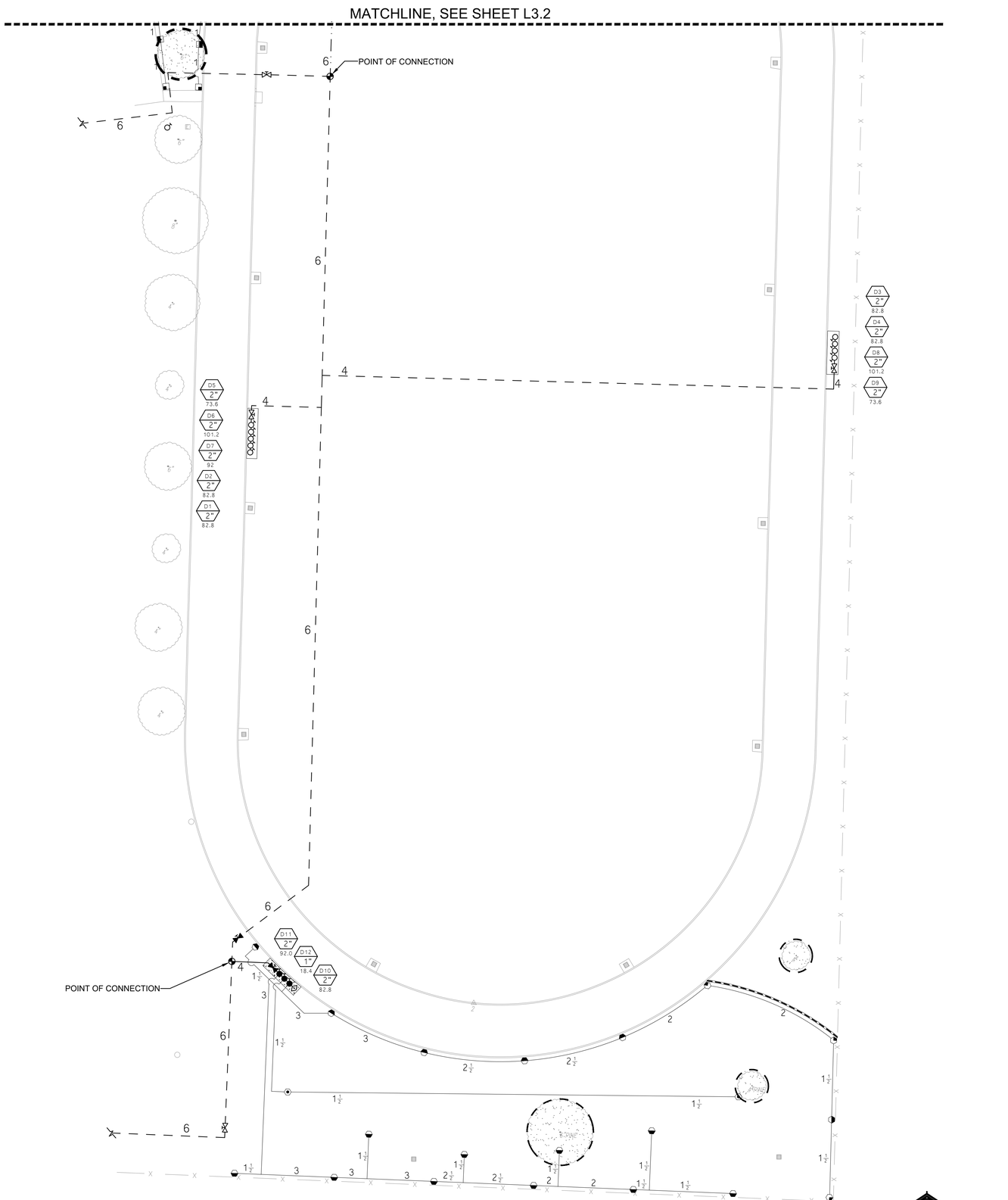
ADD ALTERNATE #1

SHEET NO.
L3.3

SHEET 18 OF 22 TOTAL



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6/30/24
RENEWAL DATE
STATE OF CALIFORNIA

Peter D. Larimer C-5284

CONSULTANTS

REVISIONS

NO.	DESCRIPTION	DATE

INITIAL BOX

NO.	DWG BY	DATE	REVIEWED

HARPER JUNIOR HIGH SCHOOL PLAYFIELD RENOVATIONS

DAVIS JOINT UNIFIED SCHOOL DISTRICT
DAVIS, CA

DATE 09/12/22
JOB NO. 21-67
SHEET TITLE

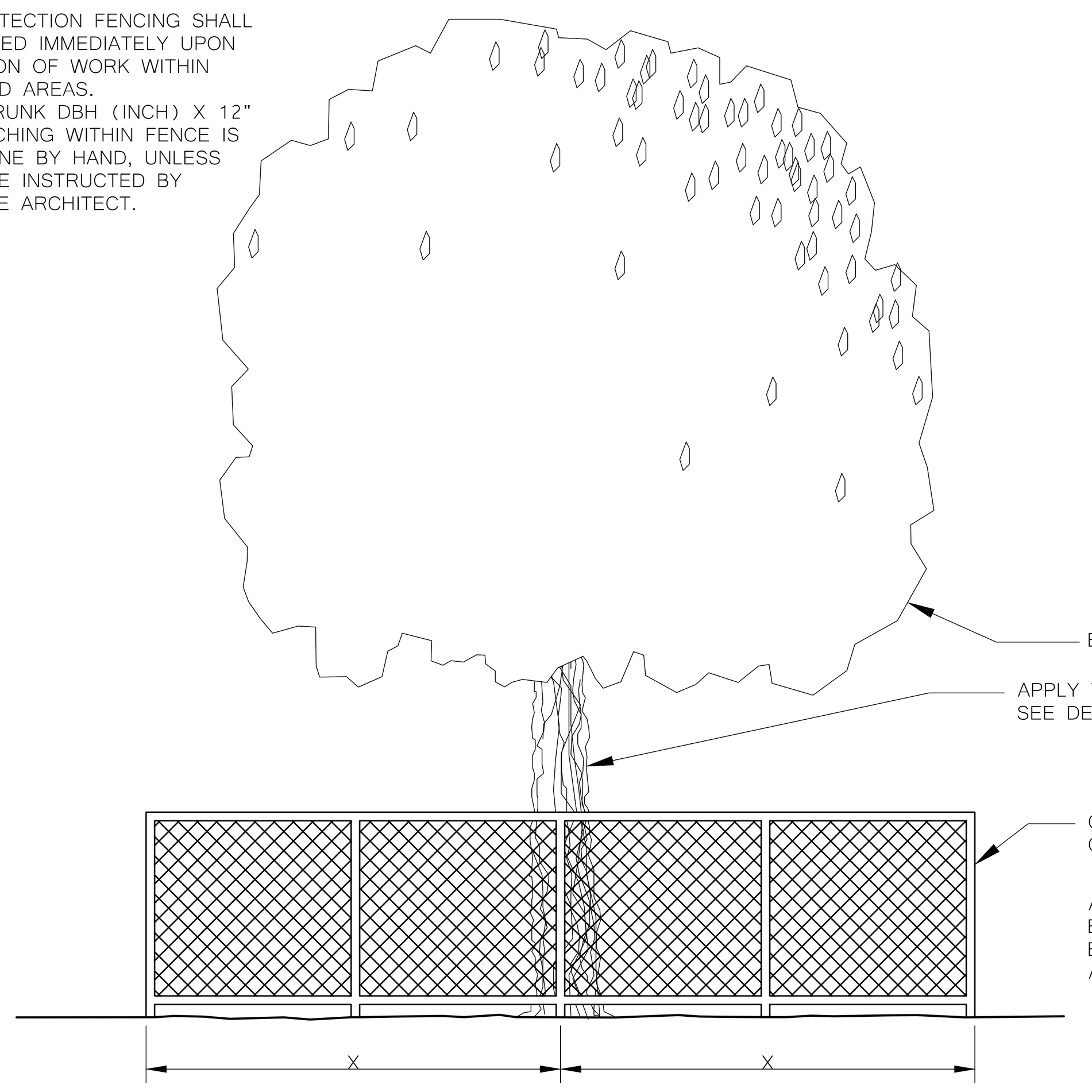
LANDSCAPE IRRIGATION PLAN

ADD ALTERNATE #1

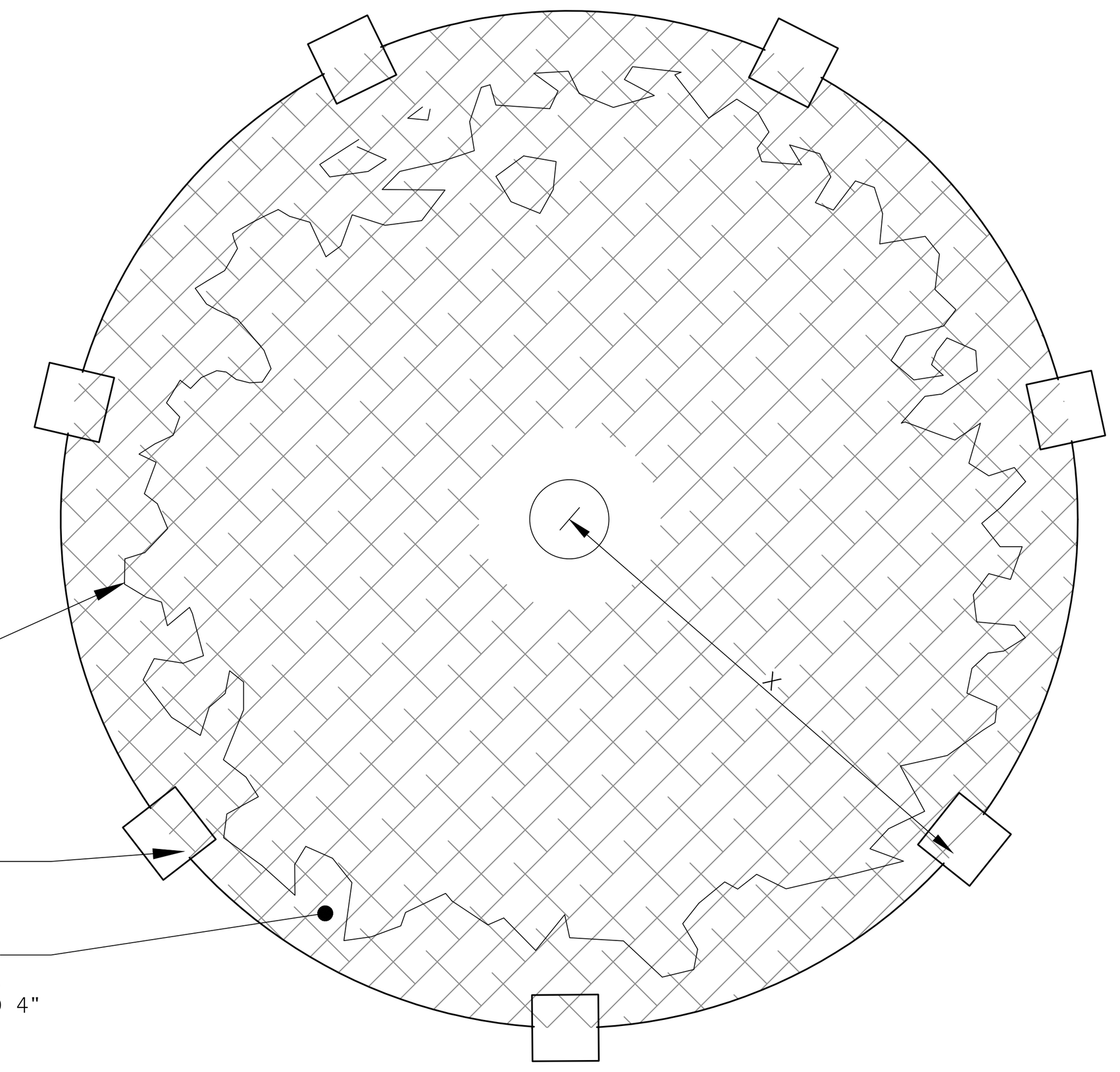
SHEET NO.
L3.4

SHEET 19 OF 22 TOTAL

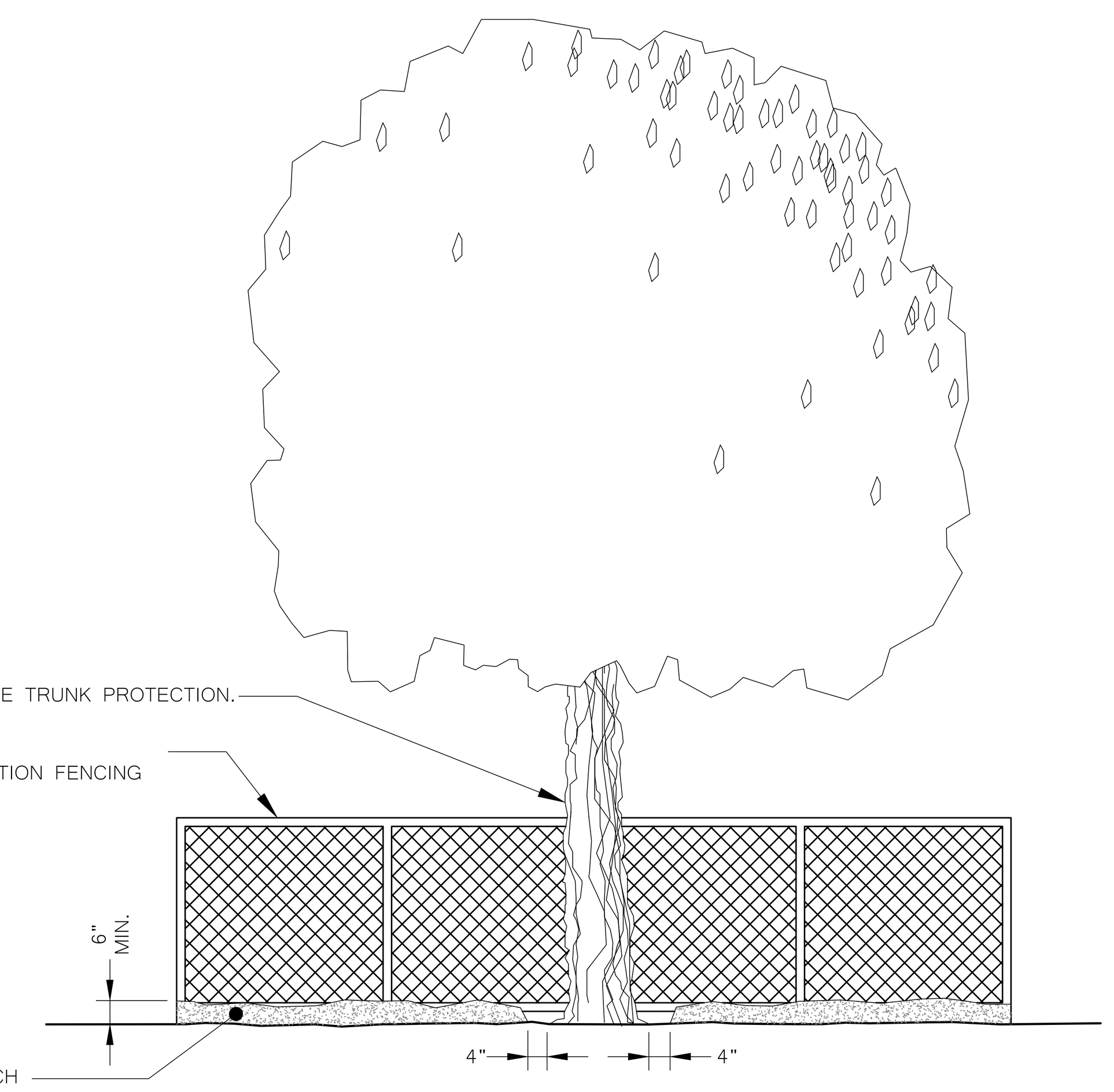
NOTE:
1. TREE PROTECTION FENCING SHALL BE REMOVED IMMEDIATELY UPON COMPLETION OF WORK WITHIN PROTECTED AREAS.
2. X=TREE TRUNK DBH (INCH) X 12"
3. ALL TRENCHING WITHIN FENCE IS TO BE DONE BY HAND, UNLESS OTHERWISE INSTRUCTED BY LANDSCAPE ARCHITECT.



ELEVATION



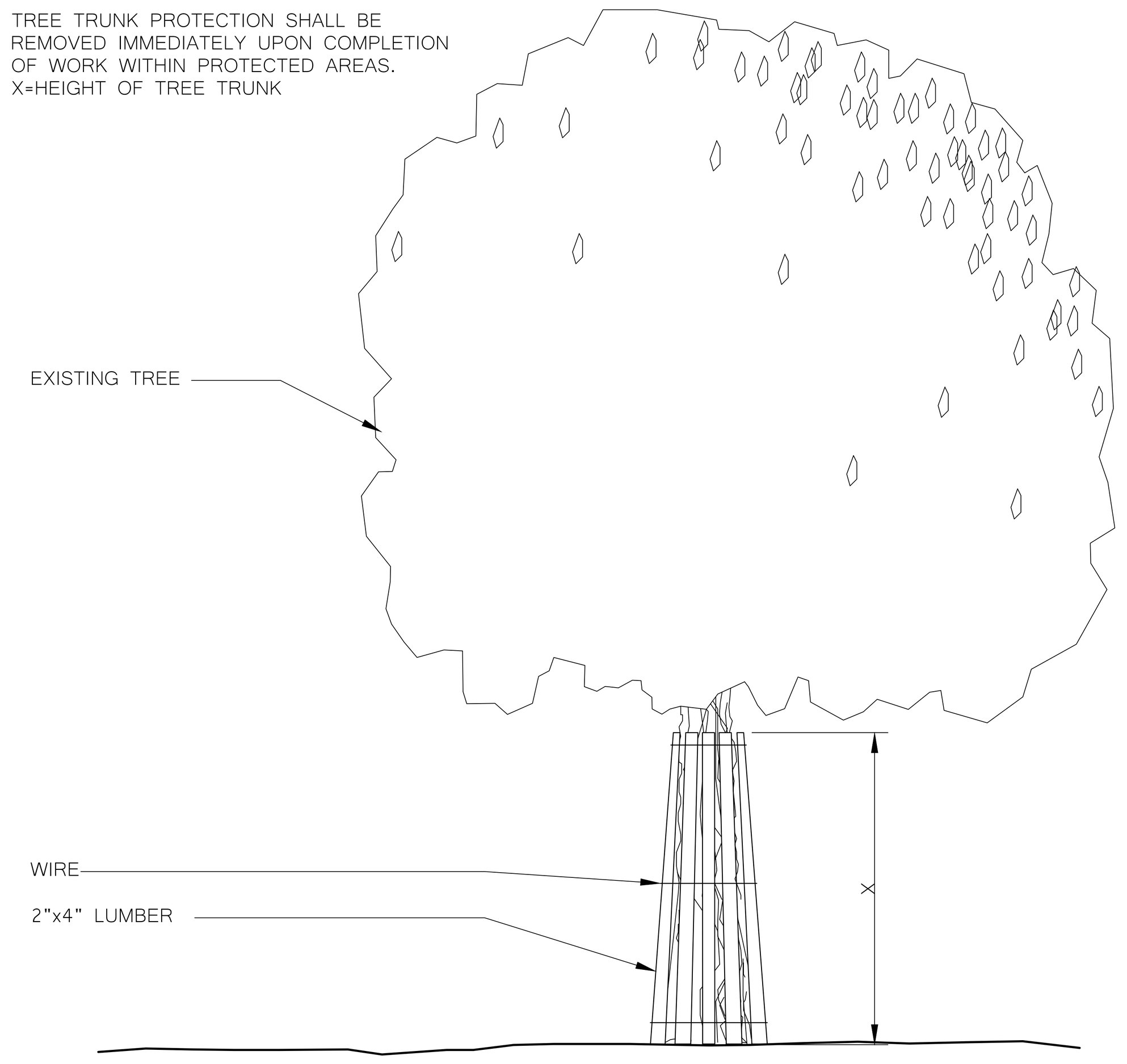
PLAN



ELEVATION - WITHIN FENCE

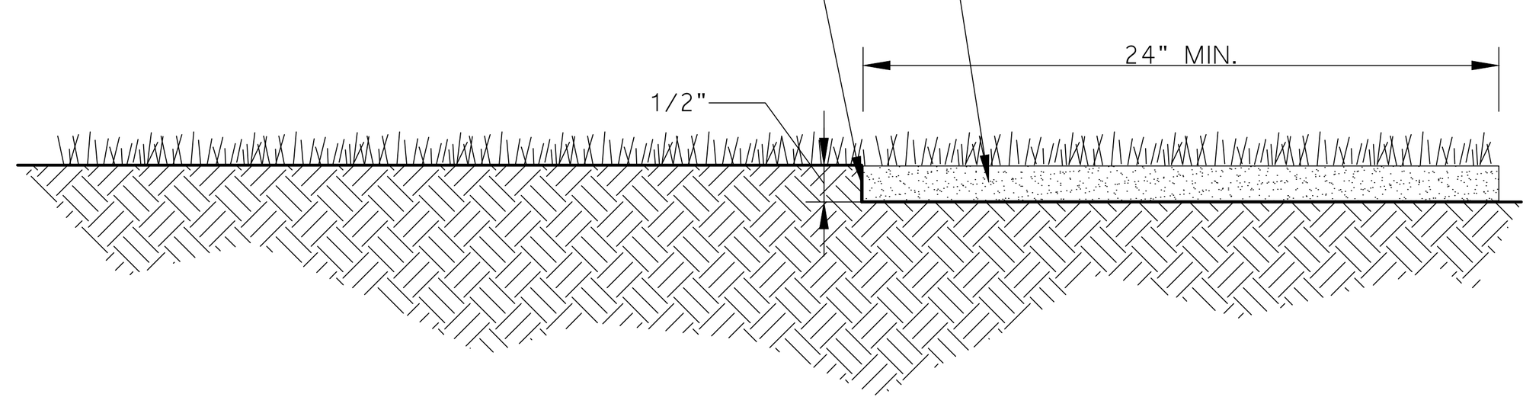
1 | TREE PROTECTION FENCING DETAIL

NOTE:
1. TREE TRUNK PROTECTION SHALL BE REMOVED IMMEDIATELY UPON COMPLETION OF WORK WITHIN PROTECTED AREAS.
2. X=HEIGHT OF TREE TRUNK



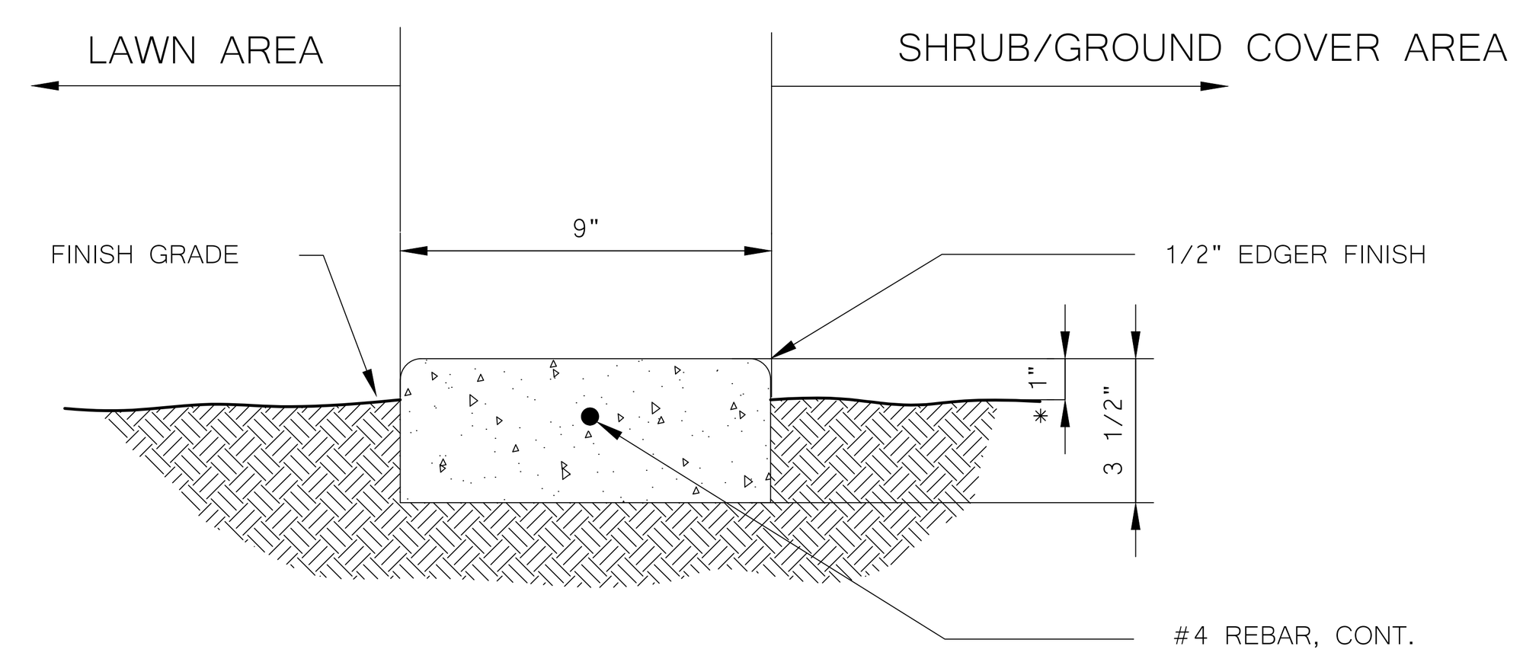
2 | TREE TRUNK PROTECTION DETAIL

NOTE:
1. SEE SPECIFICATIONS FOR SOD BLEND.



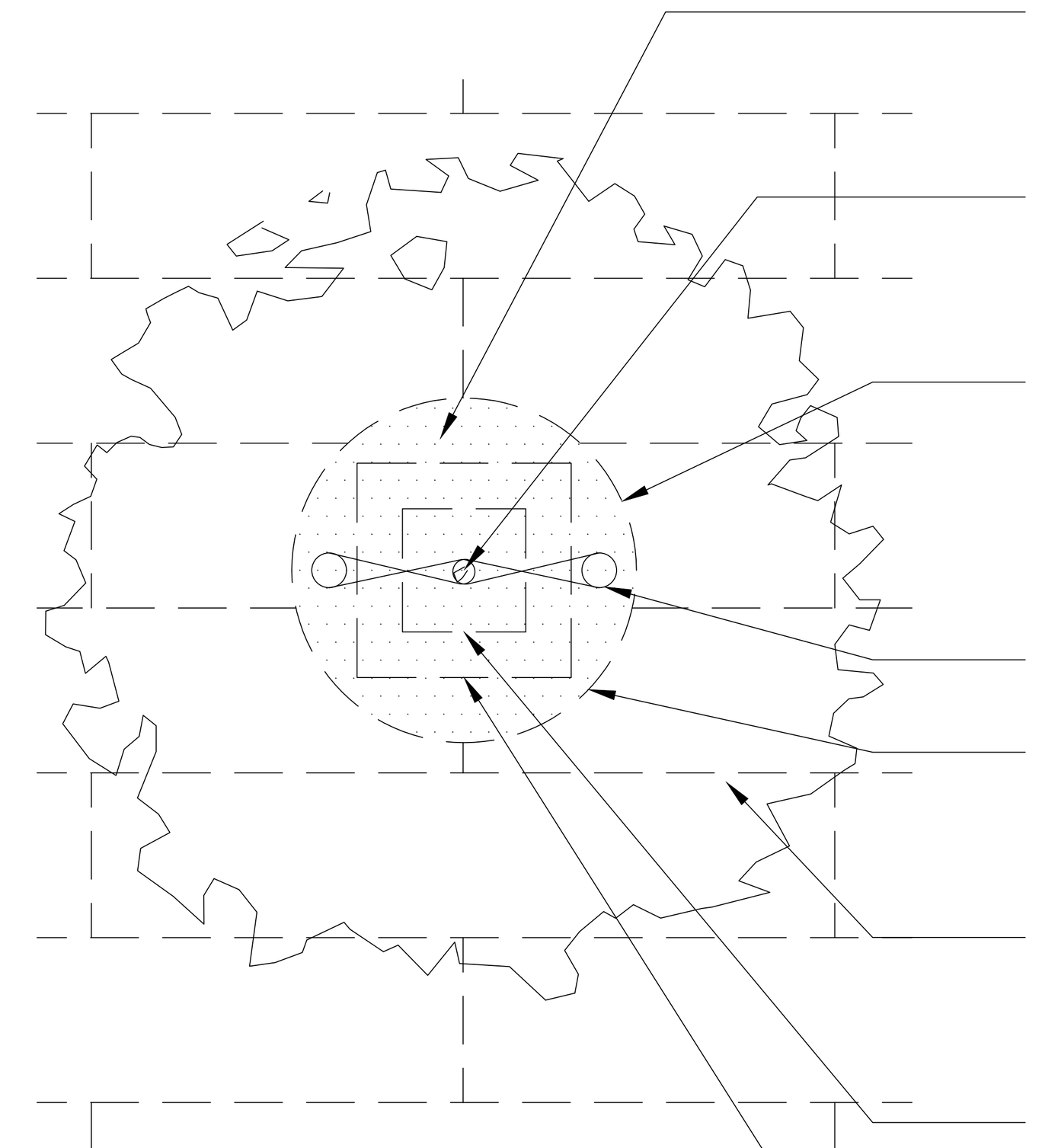
3 | TURF REPAIR WITH SOD DETAIL

NOTES:
1. USE 1/2" FELT EXPANSION JOINT MATERIAL AT ALL CHANGES OF DIRECTIONS AND AT 10' O.C.
*2. WHEN SURFACE DRAINAGE IS INTENDED TO FLOW TOWARD AND ACROSS MOWSTRIP, SOIL SURFACE SHALL BE FLUSH WITH TOP OF MOWSTRIP. UNLESS OTHERWISE NOTED SOIL SHALL BE 1" BELOW TOP OF MOWSTRIP.
3. ALL CONCRETE SHALL BE 5 SACK MIX, 2800 PSI AT 28 DAYS AFTER POUR.
4. FINISH SHALL BE FINE BROOM.



4 | 9" CONCRETE MOWSTRIP DETAIL

NOTES:
1. IF SOD IS NOT USED, CONTRACTOR SHALL REMOVE AN 36" ROUND AREA OF LAWN TO CREATE A "MULCH RING".
2. THE "MULCH RING" TO BE CENTERED ON THE TREE TRUNK AND THE TREE STAKES TO BE INSTALLED WITHIN THE "MULCH RING"



5 | TREE MULCH RING IN TURF GRASS

MTW group
LANDSCAPE ARCHITECTURE AND PLANNING
2707 K Street, Suite 201
Sacramento, CA 95816
916 369-3990

LICENSED LANDSCAPE ARCHITECT
PETER D. LARIMER
5284
SIGNATURE
9/12/22
DATE
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DAVIS JOINT UNIFIED SCHOOL DISTRICT
DAVIS, CA

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SHEET TITLE

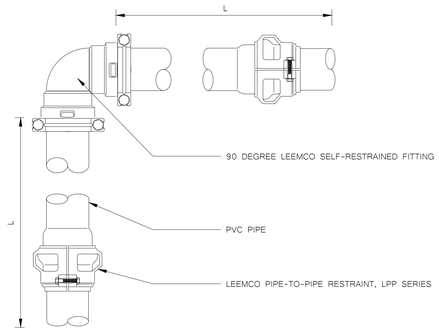
LANDSCAPE AND TREE PROTECTION DETAILS

ADD ALTERNATE #1

SHEET NO.
L4.3

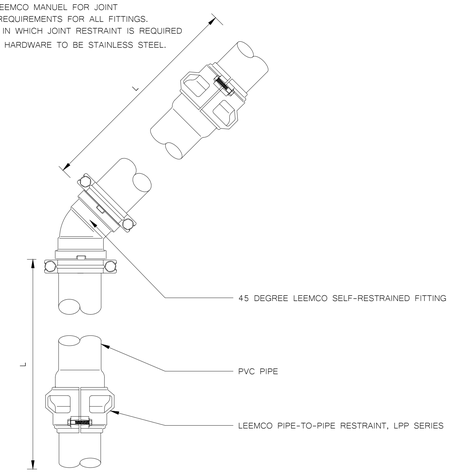
SHEET 20 OF 22 TOTAL

NOTES:
1. REFER TO LEEMCO MANUEL FOR JOINT RESTRAINT REQUIREMENTS FOR ALL FITTINGS. L = LENGTH IN WHICH JOINT RESTRAINT IS REQUIRED
2. ALL LEEMCO HARDWARE TO BE STAINLESS STEEL.



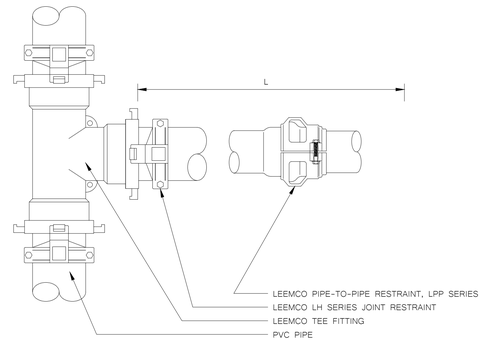
1 LEEMCO ELBOW WITH JOINT RESTRAINTS DETAIL

NOTES:
1. REFER TO LEEMCO MANUEL FOR JOINT RESTRAINT REQUIREMENTS FOR ALL FITTINGS. L = LENGTH IN WHICH JOINT RESTRAINT IS REQUIRED
2. ALL LEEMCO HARDWARE TO BE STAINLESS STEEL.



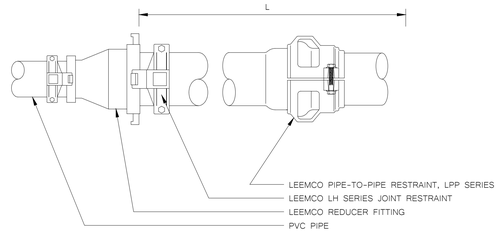
2 LEEMCO 45 ELBOW WITH JOINT RESTRAINTS DETAIL

NOTES:
1. REFER TO LEEMCO MANUEL FOR JOINT RESTRAINT REQUIREMENTS FOR ALL FITTINGS. L = LENGTH IN WHICH JOINT RESTRAINT IS REQUIRED
2. ALL LEEMCO HARDWARE TO BE STAINLESS STEEL.



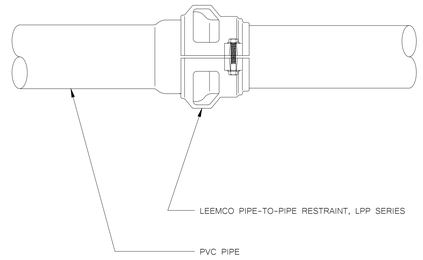
3 LEEMCO TEE WITH JOINT RESTRAINTS DETAIL

NOTES:
1. REFER TO LEEMCO MANUEL FOR JOINT RESTRAINT REQUIREMENTS FOR ALL FITTINGS. L = LENGTH IN WHICH JOINT RESTRAINT IS REQUIRED
2. ALL LEEMCO HARDWARE TO BE STAINLESS STEEL.



4 LEEMCO REDUCER WITH JOINT RESTRAINTS DETAIL

NOTES:
1. ALL LEEMCO HARDWARE TO BE STAINLESS STEEL.



5 LEEMCO BELL JOINT RESTRAINTS DETAIL

DISTANCE CHART

REFER TO THE FOLLOWING TABLE THAT LISTS THE LENGTH (IN FEET) FOR EACH SIZE/TYPE FITTING WITHIN WHICH ALL JOINTS JUST BE RESTRAINED. ALL FITTINGS AND JOINT RESTRAINTS SHALL BE INSTALLED PER MANUFACTURERS RECOMMENDATIONS & SPECIFICATIONS.

AS AN EXAMPLE, IF YOU ARE INSTALLING A 3" MAINLINE WITH A DIRECTIONAL CHANGE OF 90°, REFER TO CHART UNDER PIPE SIZE TO 3" AND UNDER BENDS 90 YOU WILL SEE THE DISTANCE OF 11'. IF THERE IS ANY JOINT (VALVE, BELL, ETC.) YOU MUST INSTALL A JOINT RESTRAINT WITHIN 11' OF THE 90° MAINLINE DIRECTIONAL CHANGE.

PIPE SIZE	BENDS				REDUCERS			DEAD END	
	11°	22°	45°	90°	1 STEP	2 STEP	3 STEP	BLIND	SERV. B.
2"	1'	1'	2'	6'	-	-	-	19'	6'
2.5"	1'	2'	4'	9'	4'	-	-	23'	10'
3"	2'	3'	6'	11'	8'	10'	-	30'	15'
4"	2'	4'	9'	20'	14'	20'	31'	45'	25'
6"	3'	6'	13'	29'	30'	40'	53'	63'	40'
8"	4'	8'	15	38'	33'	55'	63'	75'	70'
10"	5'	9'	19'	45'	36'	56'	75'	96'	90'
12"	5'	10'	21'	53'	38'	60'	83'	112'	110'

INSTALLATION CHART

REFER TO THE FOLLOWING TABLE WHICH LISTS THE NUMBER OF BOLTS, SIZE, AND TORQUE FOR EACH BOLT IN REFERENCE TO THE SIZE OF PIPE WHICH IS BEING RESTRAINED.

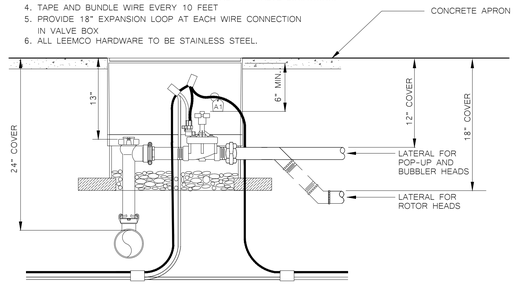
AS AN EXAMPLE, IF YOU HAVE A 3" PIPE, YOU WILL NEED 2 BOLTS THAT ARE 3/8 X 2.5" AND TIGHTEN THEM WITH A TORQUE WRENCH TO 20 FT-LBS.

PIPE SIZE	NO. BOLTS	BOLT SIZE	TORQUE FT-LBS.
2"	2	3/8" x 2.5"	20
2.5"	2	3/8" x 2.5"	20
3"	2	3/8" x 2.5"	20
4"	2	1/2" x 3"	50
6"	2	1/2" x 3.5"	50
8"	4	1/2" x 4"	50
10"	4	5/8" x 5.5"	100
12"	4	5/8" x 5.5"	100

CONTACT NUNZIO DICHRISTOPHER @ (916) 202-1333, THE LEEMCO REPRESENTATIVE, FOR ALL QUESTIONS CONCERNING LEEMCO PRODUCTS. COORDINATE AN INSTALLATION CLINIC WITH NUNZIO PRIOR TO INSTALLING THE MAINLINE.

6 LEEMCO JOINT RESTRAINTS CHART

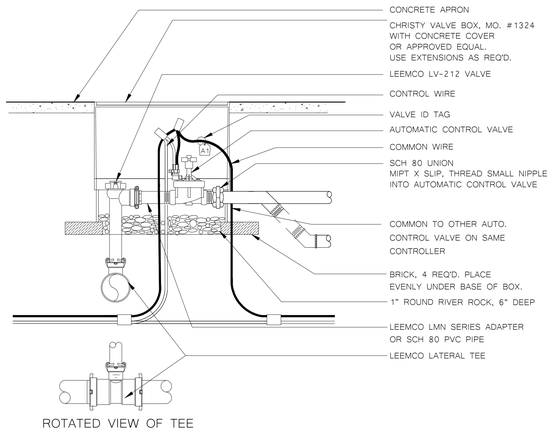
NOTES:
1. SET VALVE BOX LEVEL, PLACE LOCATOR INSIDE VALVE BOX TO BE LEVEL WITH GRADE.
2. INSTALL VALVE BOX EXTENSIONS AS REQUIRED.
3. CONNECT ALL WIRES WITH WEATHER TIGHT CONNECTORS. SPLICES IN WIRE SHALL BE PERMITTED ONLY AT VALVE LOCATIONS.
4. TAPE AND BUNDLE WIRE EVERY 10 FEET
5. PROVIDE 18" EXPANSION LOOP AT EACH WIRE CONNECTION IN VALVE BOX
6. ALL LEEMCO HARDWARE TO BE STAINLESS STEEL.



6. FOR VALVES WITH PRESSURE REGULATION FEATURE, SET VALVE PRESSURE AS PER MANUFACTURERS RECOMMENDATIONS TO THE PRESSURE AS FOLLOWS:

POP-UP SPRAY HEADS:	35 - 40 PSI
INTERMEDIATE POP-UP ROTOR HEADS:	50 - 55 PSI
POP-UP ROTOR HEADS:	60 - 70 PSI
BUBBLER HEADS:	30 - 40 PSI
DRIP SYSTEMS:	15 - 20 PSI

VALVE BOX, SETTINGS, AND CLEARANCES

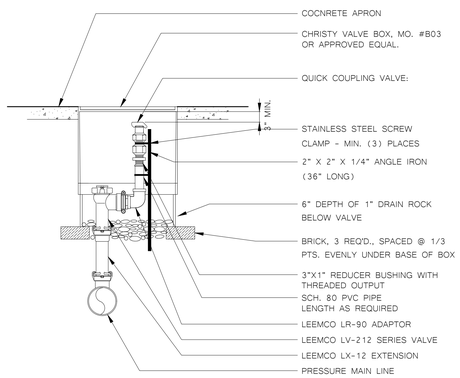


ROTATED VIEW OF TEE

COMPONENTS INSTALLATION

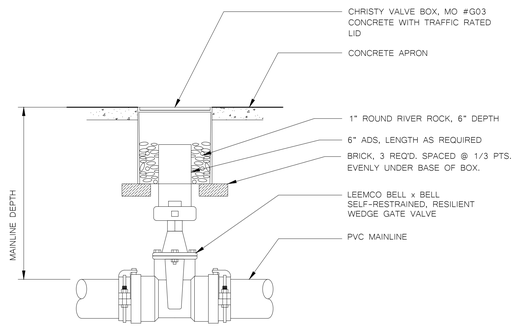
7 AUTOMATIC CONTROL VALVE/LEEMCO ANGLE VALVE DETAIL

NOTES:
1. INSTALL VALVE BOXES SO THAT THE TOP OF THE BOX IS FLUSH WITH THE TOP OF ADJACENT SURFACE.
2. USE TEFLON TAPE ON ALL THREADED CONNECTIONS.
3. ALL LEEMCO HARDWARE TO BE STAINLESS STEEL.



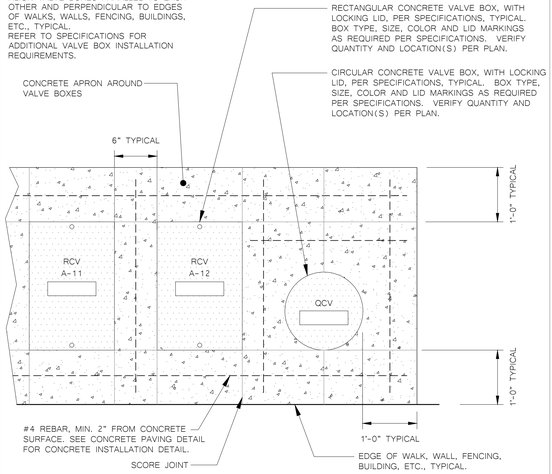
8 QUICK COUPLING VALVE/LEEMCO ANGLE VALVE DETAIL

NOTES:
1. ALL LEEMCO HARDWARE TO BE STAINLESS STEEL.



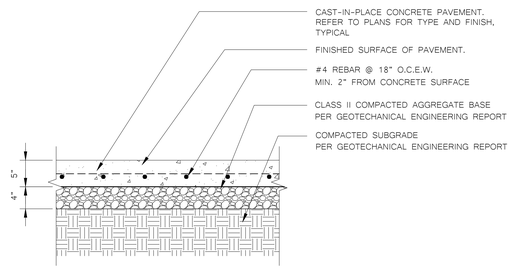
9 LEEMCO SELF-RESTRAINED GATE VALVE DETAIL

NOTE:
ALIGN VALVE BOXES PARALLEL TO EACH OTHER AND PERPENDICULAR TO EDGES OF WALKS, WALLS, FENCING, BUILDINGS, ETC., TYPICAL. REFER TO SPECIFICATIONS FOR ADDITIONAL VALVE BOX INSTALLATION REQUIREMENTS.



10 TYPICAL CONCRETE VALVE BOX LAYOUT - IN LAWN

NOTE:
1. INSTALL REBAR ON 2" CONCRETE DOBIES



11 CAST-IN-PLACE CONCRETE PAVING

MTW group
LANDSCAPE ARCHITECTURE AND PLANNING
2707 K Street, Suite 201
Sacramento, CA 95816
916 369-3990

LICENSED LANDSCAPE ARCHITECT PETER D. LARIMER 9/12/22 6/30/24 RENEWAL DATE STATE OF CALIFORNIA

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LANDSCAPE IRRIGATION DETAILS

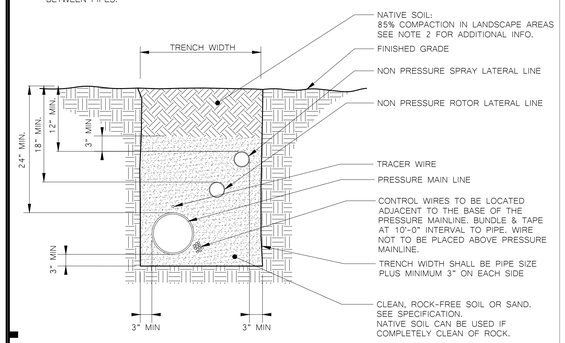
ADD ALTERNATE #1

SHEET NO.
L4.4

SHEET 21 OF 22 TOTAL

NOTES:

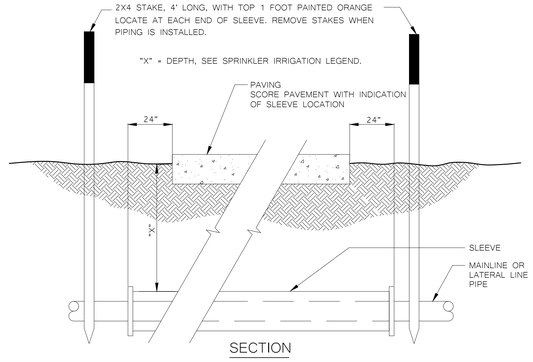
1. REFER TO SPECIFICATIONS AND PLAN SHEETS FOR MORE INFORMATION.
2. WHEN TRENCHES ARE LOCATED UNDER PAVEMENT, COMPACTION RATE FOR THE BACKFILL SHALL COMPLY WITH THE COMPACTION RATES REQUIRED FOR THOSE PAVING SECTIONS.
3. PIPES TO HAVE A MINIMUM OF 6" HORIZONTAL SEPARATION WHEN PLACED IN THE SAME TRENCH ALONG WITH A MINIMUM OF 6" VERTICAL SEPARATION BETWEEN PIPES.



1 PIPE TRENCH DETAIL

NOTES:

1. ALL PIPE AND FITTINGS TO BE SCHEDULE 40, P.V.C. SEE PLAN FOR LOCATION.
2. SLEEVES TO BE LARGE ENOUGH TO ACCEPT THE PIPE AND FITTINGS TO BE ENCASED.
3. PROVIDE A SEPARATE SLEEVE FOR EACH LATERAL OR MAIN CROSSING.
4. PROVIDE A SEPARATE SLEEVE FOR CONTROL WIRE
5. TAPE ALL ENDS WITH DUCT TAPE TO PREVENT ENTRY OF SOIL.

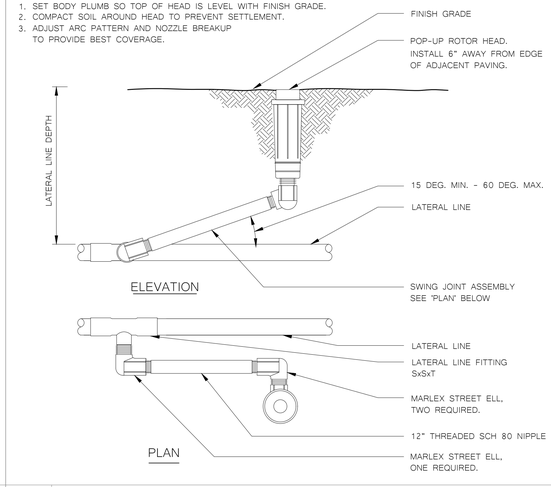


SECTION

2 SLEEVE DETAIL

NOTES:

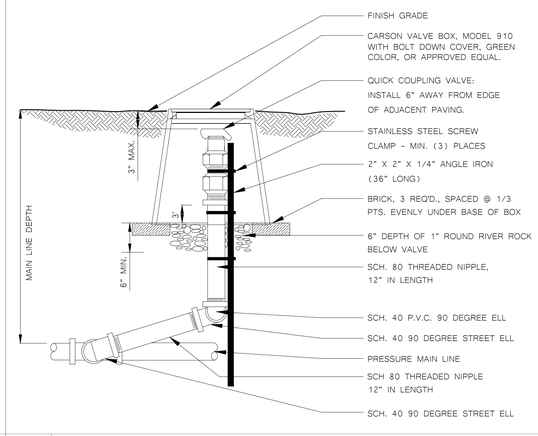
1. SET BODY PLUMB SO TOP OF HEAD IS LEVEL WITH FINISH GRADE.
2. COMPACT SOIL AROUND HEAD TO PREVENT SETTLEMENT.
3. ADJUST ARC PATTERN AND NOZZLE BREAKUP TO PROVIDE BEST COVERAGE.



3 POP-UP ROTOR HEAD DETAIL

NOTES:

1. INSTALL VALVE BOXES SO THAT THE TOP OF THE BOX IS FLUSH WITH THE TOP OF ADJACENT SURFACE.
2. USE TEFLON TAPE ON ALL THREADED CONNECTIONS.



4 QUICK COUPLING VALVE FOR INFIELD DETAIL

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ADD ALTERNATE #1

SHEET NO.
L4.5

SHEET 22 OF 22 TOTAL