

LOT 2
BLOCK A
SAFE STOP ADDITION
DOC. NO. 202400099438
O.P.R.D.C.T.

Foundry HUTCHINS HUTCHINS, TX Landscape Calculations Chart		
Site Data	SF	ACRES
Zoning	LI - LIGHT INDUSTRIAL	
Total Site	498,262	11.44
Parking Lots	CURRENT: 56 SPACES	
Total Trees	43 Trees	
PERIMETER LANDSCAPE	Required	Provided
15% street yard shall be permanently landscaped	3,275.41 SF	18,695.23 SF
21,836.09 SF * .15 = 3,275.41 SF		
10' min. landscape buffer required when adjacent to the right-of-way of any major thrufare street	yes	yes
E WINTERGREEN RD (271 LF - not including drives and visibility triangles)	7 Trees	7 Trees
1 Large tree / 40 LF of street frontage		
*not counted towards number of trees required, only for permanent landscape area		
GOODE RD (1,232 LF)	31 Trees	31 Trees
1 Large tree / 40 LF of street frontage		
*not counted towards number of trees required, only for permanent landscape area		
INTERIOR LANDSCAPE	Required	Provided
PARKING LOT		
No landscape area having a tree shall be less than 50 SF in area	yes	yes
1 Tree / 60 FT of every parking space	yes	yes
1 Tree min. / 10 parking spaces for lots with more than 20 spaces	6 Trees	8 Trees
56 SPACES / 10 SPACES = 5.6 TREES		
1 Tree min. / Terminus island	8 Trees	8 Trees
*50% min. of total trees shall be large trees	yes	yes

MATERIAL LEGEND:

METALS	
M-1	STEEL EDGE MATERIAL: 3/16" x 4" STEEL PLATE COLOR: POWDERCOAT BLACK SIZE: LENGTHS PER PLAN, ALL SEAMS TO BE FLUSH AND LEVEL INSTALL: REF. DETAILS APPROVAL: CUT SHEET
AGGREGATES	
AG-1	DECORATIVE ROCK TYPE: CHEROKEE GRAVEL SIZE: 2"-3" SIZE, 4" DEPTH INSTALL: REFER DETAILS SUPPLIER: STONE DEPOT TEXAS, OR APPROVED EQUAL (972.707.7900) CONTACT: APPROVAL: SAMPLE, MOCKUP

PLANT SCHEDULE

SYMBOL	COMMON / BOTANICAL NAME	CONT.	SIZE	SPACING	QTY	REMARKS
TREES						
(Circle with dot)	Chinese Pistache / Pistacia chinensis	3"	cal	10'-12' ht	As Shown	20 B&B, NURSERY GROWN, MATCHED, FULL, WELL-BRANCHED, STRONG CENTRAL LEADER, 7" CLEAR AT SIDEWALKS, 14' CLEAR AT FIRELANE
(Circle with diagonal lines)	Chinquapin Oak / Quercus muhlenbergii	3"	cal	10'-12' ht	As Shown	15 B&B, NURSERY GROWN, MATCHED, FULL, WELL-BRANCHED, STRONG CENTRAL LEADER, 7" CLEAR AT SIDEWALKS, 14' CLEAR AT FIRELANE
(Circle with cross)	Lacebark Elm / Ulmus parvifolia	3"	cal	10'-12' ht	As Shown	11 B&B, NURSERY GROWN, MATCHED, FULL, WELL-BRANCHED, STRONG CENTRAL LEADER, 7" CLEAR
GROUND COVERS						
(Square with horizontal lines)	Bermuda Grass / Cynodon dactylon	sod			5,165 sf	SOD TO HAVE TIGHT, SAND FILLED JOINTS AND BE FREE OF WEEDS
(Square with diagonal lines)	Mexican Feather Grass / Nassella tenuissima	1 gal		12" h x 12" w	18" o.c.	248 CONTAINER, NURSERY GROWN, MATCHED AND WELL ROOTED
(Square with dots)	Permanent Bermuda Seed / Seed	seed			83,715 sf	HANCOCK SEED SUPPLY, OR APPROVED EQUAL SEED RATES 2LBS PER 1,000 SF OR 75 LBS PER ACRE, PER MANUFACTURER.

PLANTING NOTES:

- LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL UNDERGROUND UTILITIES, PIPES, STRUCTURES, AND LINE RUNS IN THE FIELD PRIOR TO THE INSTALLATION OF ANY PLANT MATERIAL.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ADVISE THE LANDSCAPE ARCHITECT OF ANY CONDITION FOUND ON THE SITE WHICH PROHIBITS INSTALLATION AS SHOWN ON THESE DRAWINGS.
- ALL PLANT MATERIAL SHALL BE MAINTAINED IN A HEALTHY AND GROWING CONDITION AND MUST BE REPLACED WITH PLANT MATERIAL OF SAME VARIETY AND SIZE IF DAMAGED, DESTROYED, OR REMOVED.
- LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR FINE GRADING AND REMOVAL OF DEBRIS PRIOR TO PLANTING IN ALL AREAS.
- FINAL FINISH GRADING SHALL BE REVIEWED BY THE LANDSCAPE ARCHITECT. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ADDITIONAL TOPSOIL REQUIRED TO CREATE A SMOOTH CONDITION PRIOR TO PLANTING.
- ALL PLANT QUANTITIES LISTED ARE FOR INFORMATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE FULL COVERAGE IN ALL PLANTING AREAS AS SPECIFIED IN THE PLANT SCHEDULE AND VERIFY ALL QUANTITIES.
- LANDSCAPE CONTRACTOR TO PROVIDE STEEL EDGING BETWEEN ALL PLANTING BEDS AND LAWN AREAS.
- ALL PLANT MATERIAL SHALL CONFORM TO THE SPECIFICATIONS AND SIZES GIVEN IN THE PLANT LIST AND SHALL BE NURSERY GROWN IN ACCORDANCE WITH THE AMERICAN STANDARD FOR NURSERY STOCK, LATEST EDITION AMERICAN ASSOCIATION OF NURSERYMEN STANDARDS. ANY PLANT SUBSTITUTION SHALL BE APPROVED BY LANDSCAPE ARCHITECT PRIOR TO PURCHASE.
- LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR ANY COORDINATION WITH OTHER CONTRACTORS ON SITE AS REQUIRED TO ACCOMPLISH ALL PLANTING OPERATIONS.
- ALL NEW PLANTING AREAS TO BE AMENDED PER SPECIFICATIONS.
- ANY PLANT MATERIAL THAT DOES NOT SURVIVE SHALL BE REPLACED WITH AN EQUIVALENT SIZE AND SPECIES WITHIN THIRTY (30) DAYS.
- PLANT MATERIAL SHALL BE PRUNED AS NECESSARY TO CONTROL SIZE BUT NOT TO DISRUPT THE NATURAL GROWTH PATTERN OR CHARACTERISTIC FORM OF THE PLANT EXCEPT AS NECESSARY TO ACHIEVE HEIGHT CLEARANCE FOR VISIBILITY AND PEDESTRIAN PASSAGE OR TO ACHIEVE A CONTINUOUS OPAQUE HEDGE IF REQUIRED.
- LANDSCAPED AREAS SHALL BE KEPT FREE OF TRASH, WEEDS, DEBRIS, AND DEAD PLANT MATERIAL.
- ALL LIME STABILIZED SOIL & INORGANIC SELECT FILL FOR BUILDING SHOULD BE REMOVED FROM PLANTING AREAS TO A DEPTH OF 24" & REPLACED WITH ORGANIC IMPORTED TOPSOIL FILL.
- TREES OVERHANGING PEDESTRIAN WALKWAYS AND PARKING SHALL HAVE A 7' MINIMUM CLEAR TRUNK HEIGHT TO MEET ACCESSIBILITY STANDARDS. TREES OVERHANGING PUBLIC STREETS, DRIVE AISLES, AND FIRE LANES SHALL HAVE A 14' MINIMUM CLEAR TRUNK HEIGHT.
- CONTRACTOR TO PROVIDE 12 MONTH WARRANTY AFTER ALL CONSTRUCTION IS COMPLETE.

IRRIGATION PERFORMANCE SPECS

- CITY NOTES**
- THE CONTRACTOR SHALL SUPPLY AN AUTOMATIC IRRIGATION SYSTEM TO COVER ALL LANDSCAPE AREAS WITHIN THE SITE INCLUDING TREES, SHRUBS, AND OTHER PLANTINGS.
 - THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR REVIEW AND APPROVAL BY THE LANDSCAPE ARCHITECT AND OWNER.
 - THE CONTRACTOR SHALL COORDINATE WITH THE CITY FOR THE PROPOSED CONNECTION POINT TO THE CITY'S SYSTEM AND SHALL COORDINATE WITH THE CITY FOR THE IRRIGATION METER SIZING, PAYMENT, AND INSTALLATION.
- OVERALL IRRIGATION NOTES**
- IRRIGATION SYSTEM SHALL PROVIDE 100% COVERAGE FOR GROUNDCOVERS, SHRUBS AND TREES. NO PERMANENT IRRIGATION PROVIDED FOR SODDED AND SEEDED AREAS OUTSIDE OF TEMPORARY IRRIGATION.
 - AUTOMATIC IRRIGATION CONTROLLER IS REQUIRED
 - MASTER CONTROL VALVE TO BE INSTALLED
 - RAIN AND FREEZE SENSOR TO BE INSTALLED
 - FLOW SENSOR TO BE INSTALLED
 - ELECTRIC SHALL BE PROVIDED TO IRRIGATION CONTROLLER AND SOURCE WHERE NEEDED (PUMP SYSTEM)
 - SLEEVES SHALL BE SCHEDULE 40, AND SHALL EXTEND 12" BEYOND EDGE OF ALL PAVEMENT
 - CONTROLLER TO BE PLACED OUTDOORS
- SPECIFIC PRODUCT INFORMATION**
- ALL SHRUBS AND GROUNDCOVER TO BE IRRIGATED WITH DRIPLENE
 - ALL TREES TO BE IRRIGATED WITH BUBBLERS
- IRRIGATION REQUIREMENTS:**
CONTRACTOR TO PROVIDE IRRIGATION SYSTEM AS NOTED BELOW:
- IF SOD IS TO BE IRRIGATED AS DIRECTED BY OWNER - HUNTER MP ROTARY NOZZLES SPACED ACCORDING TO DEPTH OF SOD WITH HEAD TO HEAD SPACING HEADS TO BE ADJUSTED TO NOT OVERSPRAY INTO ROAD. DRIPLENE TO BE PLACED IN ALL AREAS LESS THAN 4' WIDTH. ALL DRIPLENE TO BE PLACED ON SEPARATE ZONES.
- TREES - ONE BUBBLER PER TREE. BUBBLERS TO BE ON SEPARATE ZONE FROM SOD.
- SHRUBS / GROUNDCOVER- NETAFIM DRIPLENE TO BE PLACED TO PROVIDE FULL COVERAGE OF MATERIAL. PLACE DRIP ON SEPARATE ZONE DRIPLENE FOR SHRUBS & SOD SHOULD NOT BE COMBINED ON ONE ZONE-ALL SHRUBS TO BE IRRIGATED SEPARATE FROM SOD

WARNING: EXISTING UTILITIES SHOWN ARE BASED ON AVAILABLE RECORD DRAWINGS AND ABOVE GROUND FIELD SURVEY DATA. THEREFORE THERE MAY BE UTILITIES PRESENT THAT ARE NOT SHOWN ON THESE CONSTRUCTION PLANS. CONTRACTOR TO FIELD VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION AND USE CAUTION DURING CONSTRUCTION. NOTIFY ENGINEER AND OWNER OF ANY DISCREPANCIES.

Know what's below.
Call before you dig.

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FOUNDry HUTCHINS
PREPARED FOR
FOUNDry COMMERCIAL
HUTCHINS TEXAS

LANDSCAPE PLAN

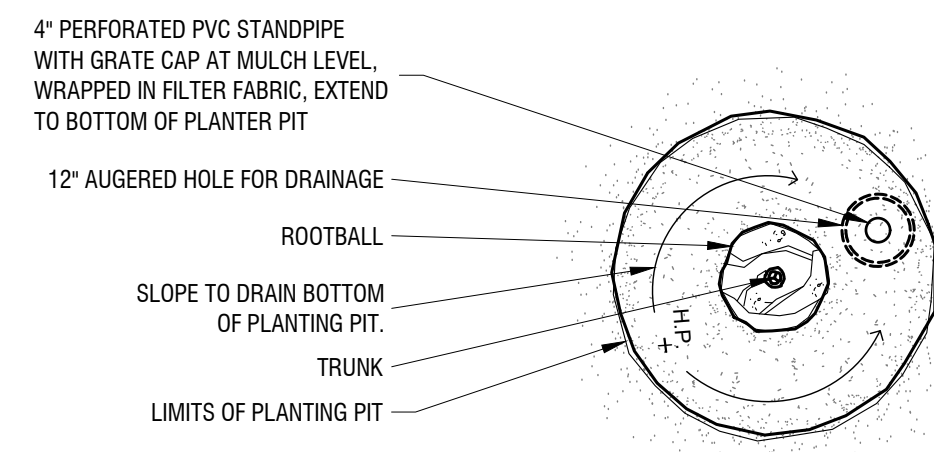
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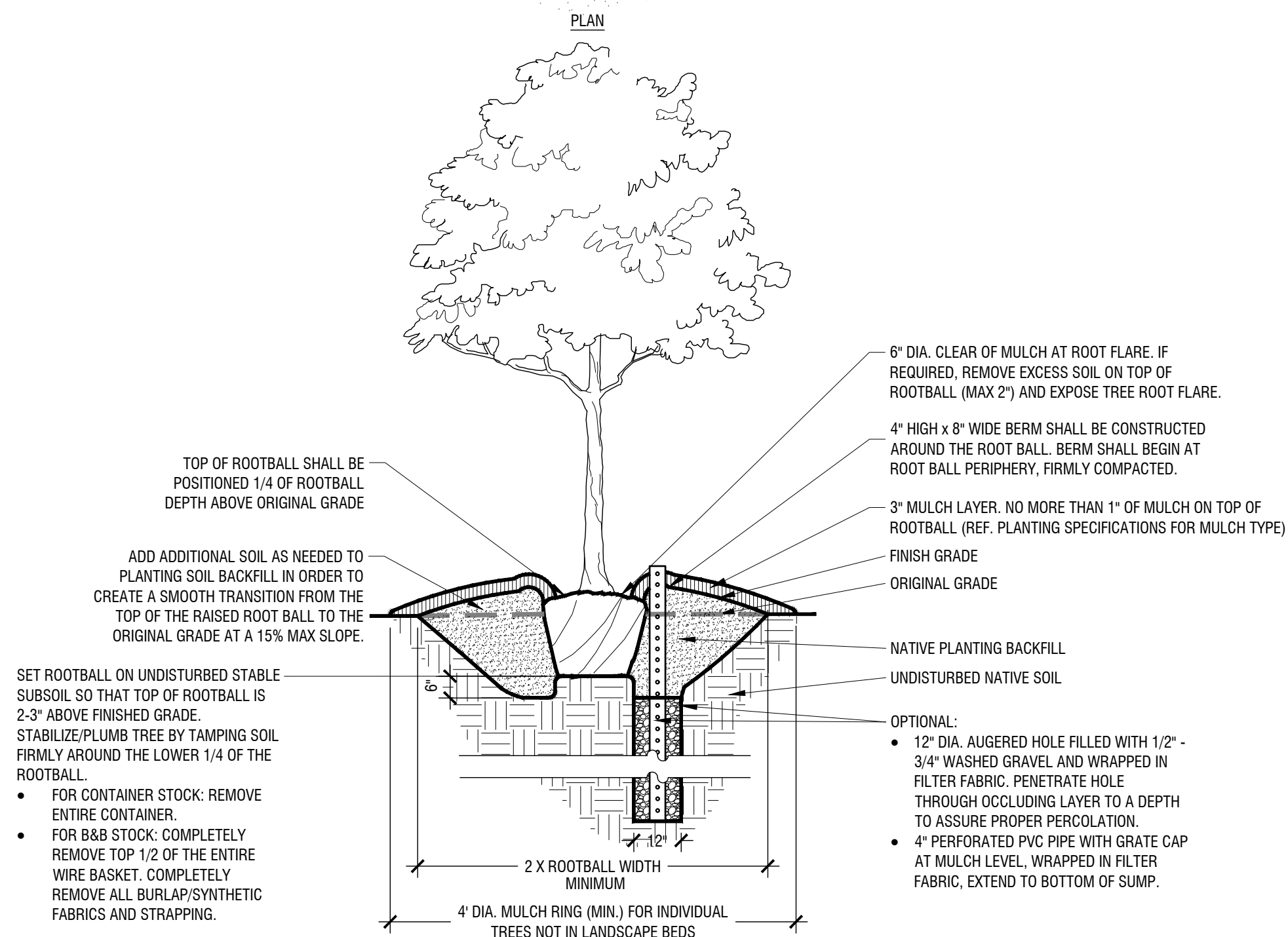
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THIS SHEET SUBSTITUTES FOR THE FOLLOWING SHEETS: 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 203. 204. 205. 206. 207. 208. 209. 210. 211. 212. 213. 214. 215. 216. 217. 218. 219. 220. 221. 222. 223. 224. 225. 226. 227. 228. 229. 230. 231. 232. 233. 234. 235. 236. 237. 238. 239. 240. 241. 242. 243. 244. 245. 246. 247. 248. 249. 250. 251. 252. 253. 254. 255. 256. 257. 258. 259. 260. 261. 262. 263. 264. 265. 266. 267. 268. 269. 270. 271. 272. 273. 274. 275. 276. 277. 278. 279. 280. 281. 282. 283. 284. 285. 286. 287. 288. 289. 290. 291. 292. 293. 294. 295. 296. 297. 298. 299. 300. 301. 302. 303. 304. 305. 306. 307. 308. 309. 310. 311. 312. 313. 314. 315. 316. 317. 318. 319. 320. 321. 322. 323. 324. 325. 326. 327. 328. 329. 330. 331. 332. 333. 334. 335. 336. 337. 338. 339. 340. 341. 342. 343. 344. 345. 346. 347. 348. 349. 350. 351. 352. 353. 354. 355. 356. 357. 358. 359. 360. 361. 362. 363. 364. 365. 366. 367. 368. 369. 370. 371. 372. 373. 374. 375. 376. 377. 378. 379. 380. 381. 382. 383. 384. 385. 386. 387. 388. 389. 390. 391. 392. 393. 394. 395. 396. 397. 398. 399. 400. 401. 402. 403. 404. 405. 406. 407. 408. 409. 410. 411. 412. 413. 414. 415. 416. 417. 418. 419. 420. 421. 422. 423. 424. 425. 426. 427. 428. 429. 430. 431. 432. 433. 434. 435. 436. 437. 438. 439. 440. 441. 442. 443. 444. 445. 446. 447. 448. 449. 450. 451. 452. 453. 454. 455. 456. 457. 458. 459. 460. 461. 462. 463. 464. 465. 466. 467. 468. 469. 470. 471. 472. 473. 474. 475. 476. 477. 478. 479. 480. 481. 482. 483. 484. 485. 486. 487. 488. 489. 490. 491. 492. 493. 494. 495. 496. 497. 498. 499. 500. 501. 502. 503. 504. 505. 506. 507. 508. 509. 510. 511. 512. 513. 514. 515. 516. 517. 518. 519. 520. 521. 522. 523. 524. 525. 526. 527. 528. 529. 530. 531. 532. 533. 534. 535. 536. 537. 538. 539. 540. 541. 542. 543. 544. 545. 546. 547. 548. 549. 550. 551. 552. 553. 554. 555. 556. 557. 558. 559. 560. 561. 562. 563. 564. 565. 566. 567. 568. 569. 570. 571. 572. 573. 574. 575. 576. 577. 578. 579. 580. 581. 582. 583. 584. 585. 586. 587. 588. 589. 590. 591. 592. 593. 594. 595. 596. 597. 598. 599. 600. 601. 602. 603. 604. 605. 606. 607. 608. 609. 610. 611. 612. 613. 614. 615. 616. 617. 618. 619. 620. 621. 622. 623. 624. 625. 626. 627. 628. 629. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 660. 661. 662. 663. 664. 665. 666. 667. 668. 669. 670. 671. 672. 673. 674. 675. 676. 677. 678. 679. 680. 681. 682. 683. 684. 685. 686. 687. 688. 689. 690. 691. 692. 693. 694. 695. 696. 697. 698. 699. 700. 701. 702. 703. 704. 705. 706. 707. 708. 709. 710. 711. 712. 713. 714. 715. 716. 717. 718. 719. 720. 721. 722. 723. 724. 725. 726. 727. 728. 729. 730. 731. 732. 733. 734. 735. 736. 737. 738. 739. 740. 741. 742. 743. 744. 745. 746. 747. 748. 749. 750. 751. 752. 753. 754. 755. 756. 757. 758. 759. 760. 761. 762. 763. 764. 765. 766. 767. 768. 769. 770. 771. 772. 773. 774. 775. 776. 777. 778. 779. 780. 781. 782. 783. 784. 785. 786. 787. 788. 789. 790. 791. 792. 793. 794. 795. 796. 797. 798. 799. 800. 801. 802. 803. 804. 805. 806. 807. 808. 809. 810. 811. 812. 813. 814. 815. 816. 817. 818. 819. 820. 821. 822. 823. 824. 825. 826. 827. 828. 829. 830. 831. 832. 833. 834. 835. 836. 837. 838. 839. 840. 841. 842. 843. 844. 845. 846. 847. 848. 849. 850. 851. 852. 853. 854. 855. 856. 857. 858. 859. 860. 861. 862. 863. 864. 865. 866. 867. 868. 869. 870. 871. 872. 873. 874. 875. 876. 877. 878. 879. 880. 881. 882. 883. 884. 885. 886. 887. 888. 889. 890. 891. 892. 893. 894. 895. 896. 897. 898. 899. 900. 901. 902. 903. 904. 905. 906. 907. 908. 909. 910. 911. 912. 913. 914. 915. 916. 917. 918. 919. 920. 921. 922. 923. 924. 925. 926. 927. 928. 929. 930. 931. 932. 933. 934. 935. 936. 937. 938. 939. 940. 941. 942. 943. 944. 945. 946. 947. 948. 949. 950. 951. 952. 953. 954. 955. 956. 957. 958. 959. 960. 961. 962. 963. 964. 965. 966. 967. 968. 969. 970. 971. 972. 973. 974. 975. 976. 977. 978. 979. 980. 981. 982. 983. 984. 985. 986. 987. 988. 989. 990. 991. 992. 993. 994. 995. 996. 997. 998. 999. 1000.

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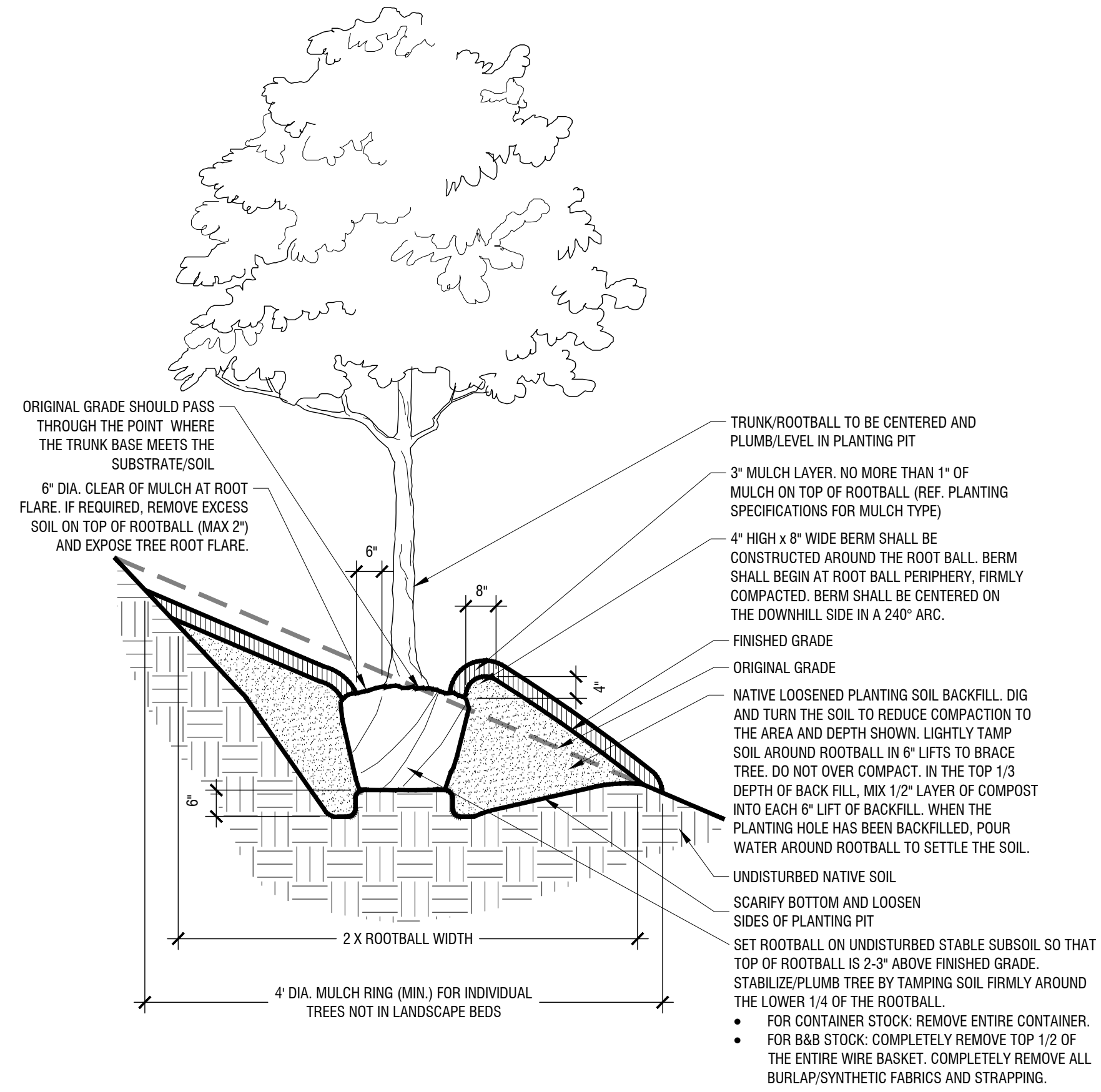
NOTES:
1. THIS DETAIL IS FOR TREE PLANTING IN POOR DRAINAGE CONDITIONS ONLY. REF. DETAIL A THIS SHEET FOR TYPICAL TREE PLANTING.



Tree Planting (Poor Drainage Condition)

Scale: NTS

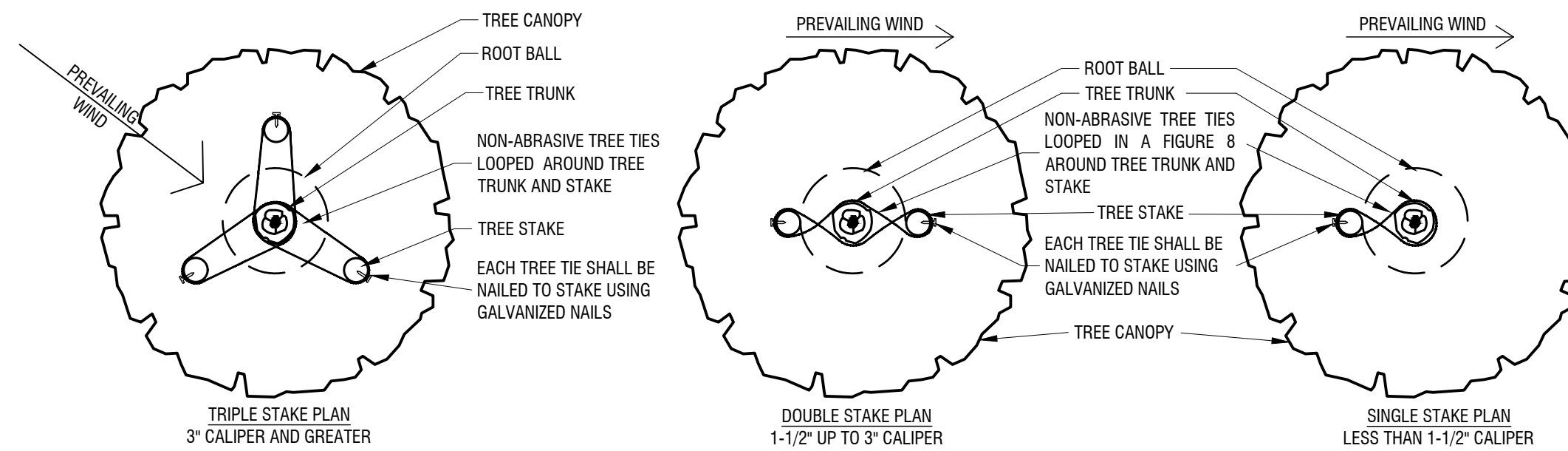
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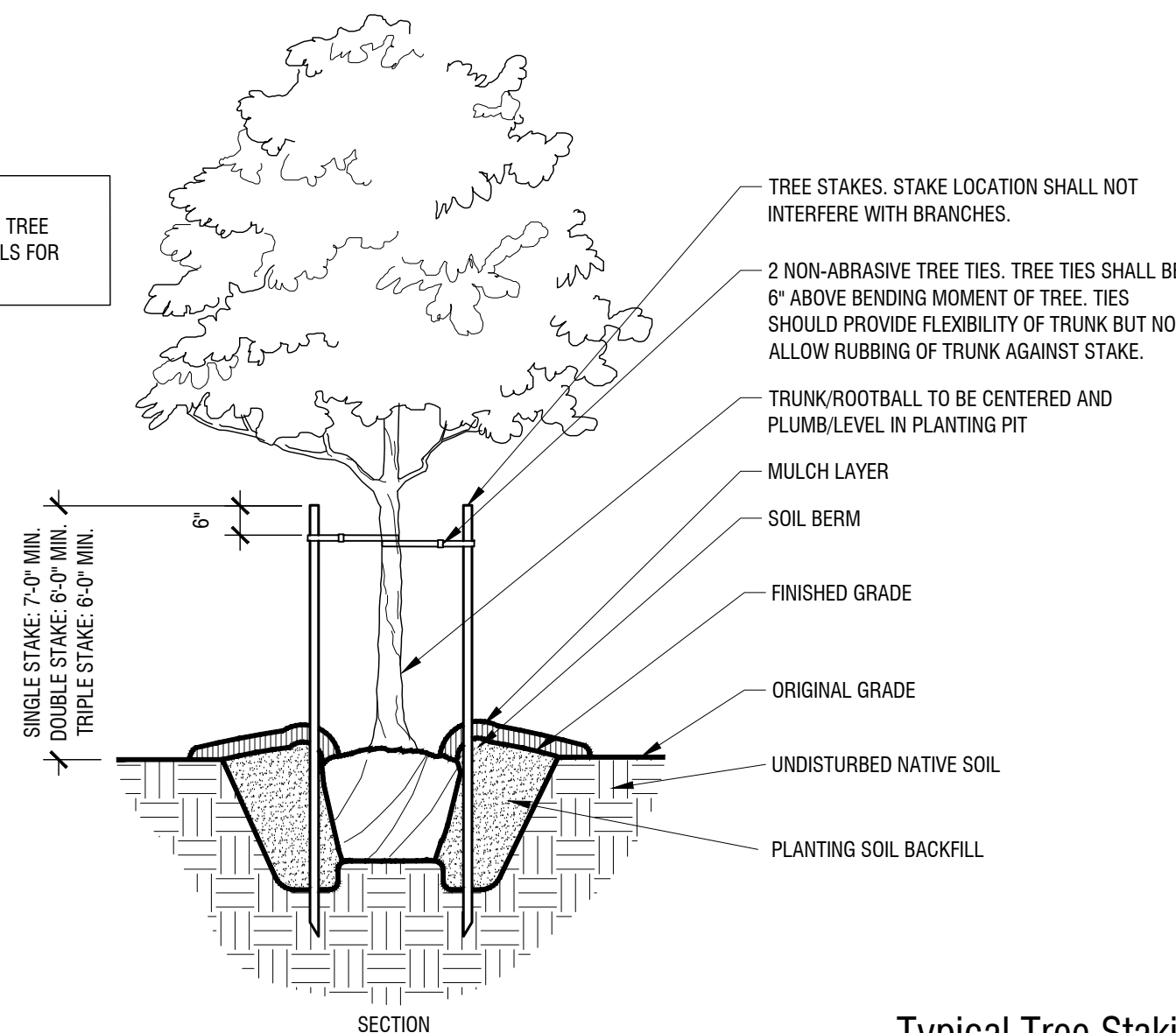
Tree Planting On 5-25% Slopes (20:1 to 4:1 Slopes)

Scale: NTS

B



NOTES:
1. THIS DETAIL IS FOR ABOVE GRADE TREE STAKING ONLY. REF. OTHER DETAILS FOR TYPICAL TREE PLANTING.



Typical Tree Staking

Scale: NTS

A

811 Know what's below. Call before you dig.

NO.	REVISIONS	DATE

Kimley-Horn
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FOR REVIEW ONLY
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Kimley-Horn
Anna M. Harman
P.L.A. No. 3146 Date 10/17/2025

KHA PROJECT	063227204
DATE	OCTOBER 2025
SCALE	AS SHOWN
DESIGNED BY	AMH
DRAWN BY	AMH
CHECKED BY	AMH

FOUNDRY HUTCHINS
PREPARED FOR
FOUNDRY COMMERCIAL
HUTCHINS TEXAS

LANDSCAPE
DETAILS

SHEET NUMBER
L1.02

329310 - PLANTS	329310 - PLANTS (CONT.)	329200 - TURF AND GRASSES	328400 - PLANTING IRRIGATION	329510 - LANDSCAPE MAINTENANCE	329510 - LANDSCAPE MAINTENANCE (CONT.)
<p>329310 - PLANTS</p> <p>PART 1 - GENERAL</p> <p>1.1 SECTION INCLUDES</p> <p>A. Furnish all labor, material, equipment, related services and supervision necessary for or incidental to the installation of the trees and plants as shown and indicated on the Drawings and/or as specified.</p> <p>B. Work Included:</p> <ol style="list-style-type: none"> 1. Trees. 2. Mulching. 3. Bed Preparation. <p>1.2 REFERENCE STANDARDS</p> <p>A. American Standard for Nursery Stock, Edition approved May 2, 1986 by American National Standards Institute, Inc. - plant material.</p> <p>1.3 SUBMITTALS</p> <p>A. Delivery Receipts and Invoices: Submit original delivery receipts and invoices for materials used.</p> <p>B. Product Data: Submit manufacturer's product data sheets for proprietary products.</p> <p>C. Samples:</p> <ol style="list-style-type: none"> 1. Submit photos of trees and source nursery information to the Landscape Architect for review prior to tree tagging. 2. Submit for approval sufficient representative quantities of sandy loam, composted organic material, steel edging, mulch, peat moss and crushed rock. Samples shall be approved by the Landscape Architect before use on project. <p>D. Soil Fertility Test Reports:</p> <ol style="list-style-type: none"> 1. Submit analysis, test results and corrective recommendations to Landscape Architect. 2. Two tests required of existing soil taken at different locations on the project site as directed by the Landscape Architect. 3. One test required of the specified composted organic material mixed in equal parts with the existing topsoil. <p>1.4 DELIVERY, STORAGE AND HANDLING</p> <p>A. Deliver packaged materials in containers showing weight, analysis and name of manufacturer.</p> <p>B. Protect materials from deterioration during delivery and while stored at the site.</p> <p>1.5 PROJECT CONDITIONS</p> <p>A. Site Inspection:</p> <ol style="list-style-type: none"> 1. It is the bidding contractor's responsibility to review all site conditions, as they relate to the proposed project, prior to submission of a bid. Any issues or concerns will be submitted to the Landscape Architect prior to bidding. Submission of a bid will indicate that the bidding contractor has made a site inspection. <p>B. Utilities:</p> <ol style="list-style-type: none"> 1. Determine locations of underground utilities and perform work in a manner which will avoid possible damage. Do not permit heavy equipment such as trucks to damage utilities. Hand excavate, as required to minimize possibility of damage to underground utilities. Maintain grade stakes until removal is directed. 2. Coordinate with irrigation work to prevent damage to temporary risers of underground sprinkling system and obstruction of work located in landscape areas. <p>C. Protections:</p> <ol style="list-style-type: none"> 1. Do not move equipment over existing or newly placed structures without the Landscape Architect's approval. 2. Provide board roading as required to protect paving and soft soil. 3. Protect other improvements from damage, with protection boards, ramps and protective sheeting as required. 4. Lock and stake irrigation heads, valve risers and equipment prior to beginning soil preparation work. 5. During work and maintenance period, maintain topsoil and prepared soil in place at established grades. Replace topsoil, prepared soil and mulch to due erosion. <p>D. Delivery and Storage:</p> <ol style="list-style-type: none"> 1. Store materials in area covered with protective sheeting. 2. If balled plants cannot be planted within 24 hours after delivery to site, protect root balls by heeling in with sandwood or other approved material. <p>1.6 SUBSTANTIAL COMPLETION & PROJECT CLOSEOUT</p> <p>A. A Certificate of Substantial Completion will be issued when the Work performed under the Contract has been reviewed and found, to the Landscape Architect's best knowledge, information and belief, to be substantially complete. Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents to the Owner or portion thereof is also the date of commencement of applicable warranties as specified.</p> <p>B. A list of items to be completed or corrected will be attached to the Certificate of Substantial Completion. The failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.</p> <p>C. The Contractor will complete or correct the Work on the list of items within a specific number of days as shown on the Certificate of Substantial Completion.</p> <p>D. Upon completion and re-inspection of all corrected items listed, the Landscape Architect will recommend to the Owner that the work of this Section is ready for final acceptance.</p> <p>1.7 QUALITY ASSURANCE</p> <p>A. General: Comply with applicable Federal, state, county and local regulations governing landscape materials and work.</p> <p>B. Installer Qualifications: The bidding company will specialize in landscape installation with 5 years documented experience. The contractor will staff the project with a competent superintendent and the necessary assistants as approved by the Landscape Architect. The superintendent will not be changed except with the consent of the Landscape Architect and Owner. The superintendent must have a minimum 5 years' experience with similar projects.</p> <p>C. Personnel: Employ only experience personnel who are familiar with the required work. Provide adequate supervision by a qualified foreman.</p> <p>1.8 GUARANTEE</p> <p>A. Guarantee plants and trees for one year after date of Final Acceptance. Replace dead materials and materials not in vigorous, thriving condition as soon as weather permits and on notification by the Landscape Architect. Replace plants, including trees, which have partially died thereby damaging shape, size or symmetry.</p> <p>B. Replace plants and trees with same kind and sizes as originally planted, at no cost to the Owner. At direction of the Landscape Architect, trees may be replaced at start of next year's planting or digging season. In such cases, remove dead trees immediately. Protect irrigation system and other piping, conduit or other work during replacement. Repair damage immediately.</p> <p>1.9 PROGRESS MEETINGS</p> <p>A. Contractor shall attend all progress meetings as requested by the Landscape Architect/Owner during installation.</p> <p>1.10 QUANTITY VERIFICATION</p> <p>A. The bidding contractor is responsible for the inclusion of all materials, labor, and equipment as outlined in the plans and specification. The plant list is provided to the bidding contractor as a convenience and the quantities are approximate.</p> <p>B. VERIFICATION OF ALL QUANTITIES IS THE SOLE RESPONSIBILITY OF THE BIDDING CONTRACTOR. Any discrepancies must be reported to the Landscape Architect prior to submittal of bid.</p> <p>C. The Contractor is required to install the specified type and quantity of composted organic material purchased from the specified supplier. Soil Building Systems will e-mail the Landscape Architect, as orders are being placed, for verification that the specified material, quantity and supplier are being used.</p> <p>PART 2 - PRODUCTS</p> <p>2.1 PLANTS</p> <p>A. General: Plants shall be well-formed No. 1 grade or better nursery stock in accordance with requirements of reference standards, subject to the Landscape Architect's approval. Listed plant heights are from tops of plant balls to the nominal tops of plants.</p> <p>B. Caliper: Trees 4 inches and less are measured 6 inches above top of root ball.</p> <p>C. Trees connected to stakes at the nursery are not acceptable and will be rejected.</p> <p>2.2 SOIL PREPARATION MATERIALS</p> <p>A. Sandy Loam: Fertilized, dark sandy loam free of rubble, stones, lumps, plant roots and reasonably free of weeds. Loam containing nut grass or Ballgrass shall be rejected.</p> <p>B. Commercial Fertilizer: Complete fertilizer, uniform in composition, dry and free flowing. Deliver to site in original unopened containers, each bearing manufacturer's guaranteed statement of analysis. Less than 14-14-14 landscape and ornamental fertilizer with micronutrients.</p> <p>C. Composted Organic Material: Soil Building Systems -or- The Organic Recycler/ Ph Balanced Compost with a pH of 5.5 to 6.5 and shall be free of treated or used lumber, pine bark or mushroom compost waste. 97% of the material shall pass through a 5 inch screen and 100% shall pass through a 75 inch screen.</p> <p>2.3 MISCELLANEOUS MATERIALS</p> <p>A. Crushed Rock: Washer, 75 inch to 1.5 inches in diameter.</p> <p>B. Tree Staking: Arborguy @ (866) 272-6771.</p> <ol style="list-style-type: none"> 1. Trees up to 4 inch caliper - Arborguy PRO40HD. 2. Mulch: As noted per plans. <p>C. Filter Fabric: Miral 140N by Celanese Fibers Marketing Co. or equal.</p> <p>D. Fertilizer Tablets: BioPlex Planting Tablets, 15 gram, 12-8-8, BioPlex @ 1-800-441-3573</p> <p>E. 4 inch PVC pipe and cap CUA 55 200.</p> <p>F. Technical Concentrate and Plant Enhancer: BioPlex @ 1-800-441-3573 Pre-Emergent Herbicide: Barracade or Pre-M.</p>	<p>329310 - PLANTS (CONT.)</p> <p>PART 3 - EXECUTION</p> <p>3.1 EXAMINATION AND PREPARATION</p> <p>A. Examine sub-grade and other related construction for defects that adversely affect Work.</p> <p>B. Do not proceed until unsatisfactory conditions have been corrected.</p> <p>C. Plant trees during normal seasons for such work in the project location and only when weather conditions are suitable.</p> <p>D. Plant trees after final grades are established and prior to planting of lawns.</p> <p>E. Additional soil amendments may be required per soil test results.</p> <p>3.2 BED PREPARATION</p> <p>A. When grassy or broadleaf weeds are present, spray with Roundup, a non-selective systemic herbicide, for 100% control. When Nut Sedge is present, spray with Manage, a selective post emergent herbicide, for 100% control. Application of post emergent herbicides is to be performed by a licensed applicator.</p> <p>B. Layout and stake beds for the Landscape Architect's approval prior to installation of steel edging and staking.</p> <p>C. Excavate existing soil to beds as needed to allow for installation of the specified organic compost and mulch. Excavated materials will be removed from the site as required by the Landscape Architect and Owner.</p> <p>D. IMPORTANT: Provide 4 inches of composted organic material in shrub and groundcover beds. Tie to a depth of 8 inches.</p> <p>F. Add additional fertilizer at 7 pounds per 1,000 square feet of bed area and apply prior to application of mulch.</p> <p>G. The fertilizer type and rate specified herein are surface unless otherwise countermanded by the soil fertility test corrective recommendations, in which case they will be applicable.</p> <p>H. Grade beds to allow for free flow of water to the bed edges and away from buildings. Beds will be mounded 2 inches to 3 inches and tapered at the edges to meet existing grade.</p> <p>3.4 PLANTING</p> <p>A. Trees:</p> <ol style="list-style-type: none"> 1. Plant trees in pits 3 times greater in diameter than root ball. Top 1/3 of backfill will be 20% compost mixed with 80% native soil. Bottom 2/3 of backfill will be 100% native soil. Carefully settle by watering to prevent air pockets. 2. Add fertilizer tablets at the rate of four (4) per 1 inch caliper for trees. Follow label directions for placement of tablets. 3. Carefully prune trees to remove dead and broken branches. 4. Place root ball in the center of the hole. Do not handle tree by the trunk to place in hole. Scarily and roughen sides of hole where glazed by mechanical excavation. 5. Make sure the root flare is 2 inches higher than the adjacent soil elevation. The top of the terminal roots at the outer edge of the root ball should be even with or slightly higher than the adjacent soil elevation. Set root ball on undisturbed soil. <p>3.5 SUMMER DIGGING & TRANSPLANTING</p> <p>B. To minimize transplant shock, plant decline, defoliation or loss to all balled and burlaped plants:</p> <ol style="list-style-type: none"> 1. Apply Technical Concentrate and Plant Enhancer to plants 24 to 96 hours prior to digging or transplanting. 2. Apply with both a foliar and root drench at identical dilutions of 1.0 fl. oz. (low stress conditions) to 3.0 fl. oz. (high stress conditions) per inch of trunk diameter for each 24 inches of plant height. Mix into 5 to 10 gallons of water for each 1 inch of trunk diameter and 24 inches of plant height. 3. Re-apply in 15 to 30 days or sooner if extreme environmental stresses require Re-apply at either a rate of 1 to 3 fl. oz. per inch of trunk diameter or 5 to 7 fl. oz. per 10 gallons of water. <p>3.6 TREE SUMPS</p> <p>A. Perform percolation tests for each tree pit and install sump detail only when satisfactory drainage does not occur within 24 hours.</p> <p>B. Excavate sump pit to a minimum depth of 4 feet 6 inches below bottom of root ball and a minimum of 12 inch diameter.</p> <p>C. Install 4 inch diameter PVC pipe and cap. The portion of pipe in crushed rock is to be perforated.</p> <p>D. Place crushed rock per tree planting detail.</p> <p>E. Place filter fabric over top of crushed rock and 12 inches up side of tree pit.</p> <p>F. Paint PVC cap, color to be selected. Drill 5/8 inch diameter hole in top of cap.</p> <p>3.7 STAKING TREES</p> <p>A. Stake trees immediately after planting as shown on planting details.</p> <p>B. All container grown and containerized trees will be staked per the tree planting detail.</p> <p>C. All balled and burlap trees are not required to be staked but maybe guyed with the Landscape Architect's approval.</p> <p>D. It will be the Landscape Contractor's responsibility to maintain trees in a plumb position through the warranty period whether they are guyed or not.</p> <p>3.8 MULCHING</p> <p>A. After planting has been completed and approved by the Landscape Architect, cover all bare soil around plants. The depth shall vary depending on the plants being mulched. Large plants will receive a 3 inch depth and plants in 4 inch pots and smaller will receive a 1 inch depth. All no time will mulch come in contact with the stems of plants. Delay mulching in shrub beds until after application of pre-emergent herbicide and near substantial completion of the project.</p> <p>3.9 CLEANUP</p> <p>A. During work, keep premises neat and orderly including organization of storage areas. Trash, including debris resulting from removing weeds or rocks from planting areas, preparing beds, or planting plants, shall be removed from site daily as work progresses.</p> <p>B. Keep sidewalks, streets and courtyard areas clean by sweeping or hosing.</p> <p>3.10 MAINTENANCE</p> <p>A. Water will be provided by the Owner. Provide necessary hoses and other watering equipment required to complete work.</p> <p>B. Until Final Acceptance, maintain plantings and trees by watering, cultivating, weeding, spraying, cleaning and replacing as necessary to keep the landscape in a vigorous, healthy condition and rake bed areas as required.</p> <p>C. Follow landscape maintenance procedures outlined in Specifications Section 329510 - Planting Maintenance.</p> <p>3.11 PLANT SCHEDULE</p> <p>A. Refer to schedule on drawings.</p> <p style="text-align: center;">END OF SECTION</p>	<p>329200 - TURF AND GRASSES</p> <p>PART 1 - GENERAL</p> <p>1.1 SUMMARY</p> <p>A. Section Includes:</p> <ol style="list-style-type: none"> 1. Soil Preparation. 2. Sod. 3. Seed. 4. Hydro-mulch. 5. Temporary Irrigation. <p>1.2 DEFINITIONS</p> <p>A. Fresh Grade: Elevation of finished surface of planting soil.</p> <p>B. Planting Soil: Native or imported topsoil, manufactured topsoil, or surface soil modified to become topsoil, mixed with soil amendments.</p> <p>C. Subgrade: Surface or elevation of subsoil remaining after completing excavation, or top surface of a fill or backfill immediately beneath planting soil.</p> <p>D. Subsoil: All soil beneath the topsoil layer of the soil profile, and typified by the lack of organic matter and soil organisms.</p> <p>1.3 SUBMITTALS</p> <p>A. Any deviation from this specification and drawings must be approved in writing by the Owner via submittal.</p> <ol style="list-style-type: none"> 1. Certification of seed source. 2. Certification of seed source. 3. Soil Test Results. <p>1.4 QUALITY ASSURANCE</p> <p>A. Installer's Field Supervision: Require installer to maintain an experienced full-time supervisor on Project site when planting is in progress.</p> <p>B. Topsoil Analysis: Contractor shall furnish soil analysis from (2) locations of stockpiled existing topsoil to be re-used on site. If imported topsoil is proposed, a soil analysis shall be provided from the source material as well. Test shall be performed by a qualified soil-testing laboratory, such as the Texas A&M Extension service.</p> <p>1. Test Type: Report suitability of topsoil for Turf Grass. State recommended quantities on nitrogen, phosphorus, and potash nutrients and soil amendments to be added to produce satisfactory topsoil.</p> <p>1.5 MAINTENANCE SERVICE</p> <p>A. Initial Lawn Maintenance Service: Provide full maintenance by skilled employees of landscape installer. Maintain as required in Part 3. Begin maintenance immediately after each area is planted and continue until acceptable lawn is established, but for not less than the following periods:</p> <ol style="list-style-type: none"> 1. Sodded Lawns: 30 days from date of Substantial Completion. 2. Seeded Lawns: 40 days from date of Substantial Completion. <p>PART 2 - PRODUCTS</p> <p>2.1 SOD</p> <p>A. Sod per the planting schedule.</p> <p>2.2 SEED</p> <p>A. Seed per the planting schedule.</p> <p>2.3 HYDRO-MULCH CAP</p> <p>A. Per Mix by Profile, or approved equal. Application rate per manuf.</p> <p>2.4 TOPSOIL</p> <p>A. Topsoil: On site soil, stripped prior to mass grading, or imported meeting criteria herein.</p> <ol style="list-style-type: none"> 1. Clean surface soil of roots, plants, sod, stones, clay lumps, and other extraneous materials harmful to plant growth. If disposed topsoil is insufficient in quantity or quality, the contractor shall import, at no additional expense, sufficient soils to bring the site grading to the required elevations. 2. Minimum profile for all areas to receive seed. <p>2.5 COMPOST</p> <p>A. Compost: well-composted, stable, and weed-free organic matter, pH range of 5.5 to 8; moisture content 35 to 55 percent by weight; 100 percent passing through 1/4 inch sieve; soluble salt content of 5 to 10 decigrams/cm³; Living Earth Compost or approved equal.</p> <p>PART 3 - EXECUTION</p> <p>3.1 LAWN PREPARATION</p> <p>A. Newly Graded Topsoil: Finish grade by removing stones larger than 1 inch in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them at Owner's property.</p> <p>B. Sod Soil: Apply fertilizer in recommended rates from soil test, then fill into 4" existing soil to prepare turf areas.</p> <p>C. Finish Grading: Grade planting areas to a smooth, uniform surface plane with loose, uniformly fine texture. Grade to within plus or minus 1/2 inch of finish elevation. Roll and rake, remove ricks, and fill depressions to meet finish grade. Limit finish grading to areas that can be planted in the immediate future.</p> <p>D. Before planting, prepare lawn areas before planting if soil is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.</p> <p>E. Before planting, restore areas if eroded or otherwise disturbed after finish grading.</p> <p>3.2 SOD INSTALLATION</p> <p>A. Sod: Roll sod over the areas identified on the plans with staggered joints. Use a manual roller drum following first watering. Use fine sand to fill joints and re-roll after the first week of watering. Any settling in areas of trenches, or other areas will not be accepted until a smooth, evenly draining slope is obtained.</p> <p>3.3 SEED INSTALLATION</p> <p>A. Seeding in large open areas: Contractor shall seed at the rates per seed manufacturer.</p> <p>B. Hydro-Mulch Cap: Apply over seed installed per 2.3.</p> <p>C. Install in reinforced Channel Areas (Areas 3.1 or greater).</p> <p>D. Temporary Irrigation</p> <ol style="list-style-type: none"> 1. The contractor shall utilize temporary irrigation by any method approved by the Owner's Representative on the condition that planting establishment and acceptance is the sole responsibility of the Contractor. 2. The irrigation Plan identifies areas that are to receive vegetation and temporary watering for establishment. Fire hydrants area located on the plan for water access. <p>3.4 LAWN MAINTENANCE</p> <p>A. Maintain and establish lawn by watering, fertilizing, weeding, mowing, trimming, replanting, and other operations. Roll, re-grade, and replant bare or eroded areas and re-mulch to produce a uniformly smooth lawn. Provide materials and installation the same as those used in the original installation.</p> <p>B. Mow sod for maintenance. Mow lawn one time as soon as top growth is tall enough to cut.</p> <p>C. Mow seeded areas once when average height reaches 12" inches, down to a height of 6" inches.</p> <p>3.5 SATISFACTORY TURF</p> <p>A. Satisfactory Sod: Fully rooted, evenly colored sod without visible sod joints that has been mowed at least twice.</p> <p>B. Use specified materials to reestablish lawns that do not comply with requirements and continue maintenance until lawns are satisfactory.</p> <p>C. Satisfactory Seeded Areas: A healthy, uniform, close stand of grass has been established, free of weeds and surface irregularities, with coverage exceeding 90 percent over any 10 sq. ft. and bare spots not exceeding 8 by 8 inches, or city standard (>70% uniform cover) that has been mowed at least twice. Use specified materials to reestablish lawns that do not comply with requirements and continue maintenance until lawns are satisfactory.</p> <p style="text-align: center;">END OF SECTION</p>	<p>328400 - PLANTING IRRIGATION</p> <p>PART 1 - GENERAL</p> <p>1.1 SUMMARY</p> <p>A. This Section includes piping, valves, sprinklers, specialties, controls, and wiring for automatic control irrigation system.</p> <p>1.2 DEFINITIONS</p> <p>A. Lateral Piping: Downstream from control valves to sprinklers, specialties, and drain valves. Piping is under pressure during flow.</p> <p>B. Irrigation Main Piping: Downstream from point of connection to water distribution piping to, and including, control valves. Piping is under water-distribution-system pressure.</p> <p>1.3 SUBMITTALS</p> <p>A. Product Data: Include pressure ratings, rated capacities, and settings of selected models for the following:</p> <ol style="list-style-type: none"> 1. System valves. 2. Specialty valves. 3. Control-valve boxes. 4. Sprinklers. 5. Irrigation specialties. <p>B. Operation and maintenance data.</p> <p>1.4 QUALITY ASSURANCE</p> <p>A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a listing agency acceptable to authorities having jurisdiction, and marked for intended use.</p> <p>PART 2 - PRODUCTS</p> <p>2.1 MANUFACTURERS</p> <p>A. As indicated on the drawings.</p> <p>2.2 PIPES, TUBES, AND FITTINGS</p> <p>A. PVC Pipe: ASTM D 1785, PVC 1120 compound, Class 200.</p> <p>1. PVC Socket Fittings, Schedule 40; ASTM D 2466.</p> <p>2.3 GENERAL-DUTY VALVES</p> <p>A. PVC Ball Valves: MSS SP-122, nonunion type, with full-port ball, socket or threaded detachable end connectors, and pressure rating not less than 150 psig.</p> <p>2.4 SPECIALTY VALVES</p> <p>A. Plastic Automatic Control Valves: Matted-globe body, normally closed, diaphragm type with manual flow adjustment, and operated by 24-V ac solenoid.</p> <ol style="list-style-type: none"> 1. Manufacturer as indicated on the drawings. 2. Drainage Backflow: Cleaned gravel or crushed stone, graded from 3/4 inch minimum to 1 inch maximum. <p>2.5 SPRINKLERS</p> <p>A. Description: Plastic housing and corrosion-resistant interior parts designed for uniform coverage over entire spray area indicated on drawings.</p> <ol style="list-style-type: none"> 1. Tuff at 15.5-10 analysis. 2. Tuff at 21-0.4 analysis. 3. Trees at 32-7-4 analysis (Injecto-Feed). 4. Trees at 0-4-4 analysis (Agri-Plex). <p>2.6 AUTOMATIC-CONTROL SYSTEM</p> <p>A. Manufacturer as indicated on the drawings.</p> <p>PART 3 - EXECUTION</p> <p>3.1 EXCAVATION</p> <p>A. Install piping and wiring in sleeves under sidewalks and paving per the drawings.</p> <p>B. Provide minimum cover over top of underground piping according to the following:</p> <ol style="list-style-type: none"> 1. Irrigation Main Piping: Minimum depth of 18 inches. 2. Lateral Piping: 12 inches. 3. Sleeves: 18 inches. <p>C. Place and compact initial backfill of satisfactory soil, free of particles larger than 1 inch in any dimension, to a height of 12 inches over the lateral and mainline pipes. Place and compact final backfill of satisfactory soil to final subgrade elevation.</p> <p>3.2 PIPING APPLICATIONS</p> <p>A. Underground Irrigation Main Piping: As indicated on plans, socket fittings; and solvent-cemented joints per the drawings.</p> <p>B. Lateral Piping: Class 200 PVC pipe and socket fittings per the drawings and details.</p> <p>C. Sleeves: Schedule 40 PVC pipe and socket fittings; and solvent-cemented joints.</p> <p>3.3 VALVE APPLICATIONS</p> <p>A. Control Valves: Per the drawings.</p> <p>3.4 INSTALLATION</p> <p>A. Newly Graded Topsoil: Finish grade by removing stones larger than 1 inch in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them at Owner's property.</p> <p>B. Sod Soil: Apply fertilizer in recommended rates from soil test, then fill into 4" existing soil to prepare turf areas.</p> <p>C. Finish Grading: Grade planting areas to a smooth, uniform surface plane with loose, uniformly fine texture. Grade to within plus or minus 1/2 inch of finish elevation. Roll and rake, remove ricks, and fill depressions to meet finish grade. Limit finish grading to areas that can be planted in the immediate future.</p> <p>D. Before planting, prepare lawn areas before planting if soil is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.</p> <p>E. Before planting, restore areas if eroded or otherwise disturbed after finish grading.</p> <p>3.5 FIELD QUALITY CONTROL</p> <p>A. Perform the following field tests and inspections and prepare test reports:</p> <ol style="list-style-type: none"> 1. Leak Test: After installation, charge system and test for leaks. Repair leaks and retest until no leaks exist. 2. Operational Test: After electrical circuitry has been energized, operate controllers and automatic control valves to confirm proper system operation. 3. Test and adjust controls and solenoids. Replace damaged and malfunctioning controls and equipment. 4. Remove and replace units and re-inspect as specified above. <p>3.6 ADJUSTING</p> <p>A. Adjust settings of controllers.</p> <p>B. Adjust automatic control valves to provide flow rate of rated operating pressure required for each sprinkler circuit.</p> <p>C. Adjust sprinklers so they will be flush with, or not more than 1/2 inch above, finish grade.</p> <p style="text-align: center;">END OF SECTION</p>	<p>329510 - LANDSCAPE MAINTENANCE</p> <p>PART 1 - GENERAL</p> <p>1.1 SECTION INCLUDES</p> <p>A. Landscape Maintenance Contractor shall furnish all labor, equipment, chemicals and fertilizer necessary to maintain newly planted landscaping having plants in a vigorous, healthy state through the end of the stated maintenance period. Maintenance shall consist of watering, weeding, fertilizing, disease and insect control, pruning, aerating, protective spraying and any other procedures consistent with good horticultural practice necessary to insure normal, vigorous and healthy growth of all landscape materials under this contract. Trash and debris will be removed from the project during each regular site visit. Maintenance shall begin following final acceptance of the landscape installation.</p> <p>B. The Landscape Maintenance Contractor shall be responsible for the use of all labor materials, labor and equipment. Injury to plant material caused by such maintenance, labor and equipment shall be corrected and repaired by the Landscape Maintenance Contractor at his/her expense. This includes both reseeded areas damaged by tractor tracks when mowing is conducted at an inappropriate time, as determined by the Owner or his/her agent, and replacement of any plants, landscape, or other amenities on the site when damaged by the Contractor's equipment, materials or agents(s).</p> <p>1.2 INSURANCE</p> <p>A. Contractor shall provide to the Owner, at his own expense, evidence of adequate Workers' Compensation, General Liability and Property Damage Liability, subject to approval of the Owner.</p> <p>1.3 CLEAN UP</p> <p>A. All debris, tools, surplus materials, equipment, etc., shall be removed after each regular visit from the maintenance crew. The site shall be left in a neat, acceptable condition such as to meet the approval of the Owner.</p> <p>1.4 LICENSE REQUIREMENTS</p> <p>A. Pesticide: The contractor shall be a licensed pesticide applicator or employ a licensed certified pesticide applicator for the treatment of insects and diseases if required by the Texas Pesticide Use and Application Regulations of the Texas Department of Agriculture. The Owner may require documentation of such certification as necessary for his records.</p> <p>B. Herbicide: The contractor shall possess a permit or employ a person who possesses a permit to apply herbicide if required by the Texas Pesticide Use and Application Act of the Texas Department of Agriculture. The Owner may require documentation of such certification as necessary for his records.</p> <p>C. Irrigation: The Contractor shall possess an irrigator's license issued by the State of Texas or employ such a licensed irrigator to perform the irrigation system maintenance. The irrigation system shall be maintained under the supervision of the licensed irrigator who shall be on site at all times during the work.</p> <p>The Owner may require documentation of such licenses for his records. The Contractor shall verify and adhere to the requirements and codes of any controlling utility authorities.</p> <p>PART 2 - PRODUCTS</p> <p>2.1 COMMERCIAL FERTILIZER</p> <p>A. Complete fertilizer, uniform with composition, dry and free flowing, delivered to site in original unopened containers, each bearing manufacturer's guaranteed statement of analysis.</p> <ol style="list-style-type: none"> 1. Tuff at 15.5-10 analysis. 2. Tuff at 21-0.4 analysis. 3. Trees at 32-7-4 analysis (Injecto-Feed). 4. Trees at 0-4-4 analysis (Agri-Plex). <p>2.2 SOIL FERTILITY TEST</p> <p>A. The Contractor will be required to sample the Owner with two (2) soil fertility reports including corrective recommendations. B. The exact location of each soil sample taken will be provided by the Landscape Architect or Owner.</p> <p>C. Soil fertility testing will be conducted by a laboratory specializing in this type of testing and approved by the Landscape Architect or Owner.</p> <p>2.3 MULCH</p> <p>A. Partially decomposed dark brown, fine shredded hardwood bark mulch, reference plans for type.</p> <p>2.4 WATER</p> <p>A. Water will be supplied by the Owner.</p> <p>2.5 PLANT REPLACEMENT</p> <p>A. It will be the responsibility of the Landscape Maintenance Contractor to replace any and all plant material that is dead or damaged due to non-performance of the contracted scope of work, un-supervised personnel or un-supervised subcontractors.</p> <p>2.6 PESTICIDES AND HERBICIDES</p> <p>A. Pesticides and herbicides shall be of the type that is commercially available.</p> <p>PART 3 - EXECUTION</p> <p>3.1 TREE MAINTENANCE</p> <p>A. The Scope of Work for plant maintenance includes all possible means required to preserve the plants and vegetative material existing within the site in a healthy and vigorous growing condition to insure their successful establishment. Plant maintenance shall include, as a minimum, the following items:</p> <ol style="list-style-type: none"> 1. Pruning: All trees within the limits of landscape maintenance, shall be pruned by the Contractor to the satisfaction of the Owner. Pruning shall be done in accordance with accepted pruning practices as set forth by the National Arborist Association in Pruning Standards for Shade Trees (current edition). Dead or damaged limbs on trees, including sucker-growth on trunks of trees, are to be removed. Suckers will be removed as needed throughout the year. All pruned materials shall be directed the property of the Contractor and shall be disposed of in a manner acceptable to the Owner. Unless directed differently in the contract documents, pruning shall be accomplished once during the term of this contract. 2. Insect, Disease, and Animal Control: The Contractor shall inspect the plants and planted areas once each two (2) weeks or as approved by the Owner. The Contractor shall be required to notify the Owner in writing of problems with insects, diseases, or animals as such problems arise. The Contractor also shall recommend corrective measures in writing. 3. The Contractor shall treat the plants and/or the planted areas in accordance with accepted methods of horticultural practices and the Texas Department of Agriculture guidelines regarding the use of pesticides. The Contractor also shall follow the manufacturer's instructions for the use and application of any pesticides. 4. Bed Maintenance: The Contractor shall maintain the plant basins and beds free of weeds and grass or other material detrimental to the growth of the plants or appearance of the site. Herbicides, when used by the Contractor, will under no circumstances be used on days where the wind could cause drift hazard to desirable plants. The Contractor shall also follow the manufacturer's instructions for the use and application of any herbicide. Two pre-emergent herbicide applications will be made per year along with manual weeding and post emergent herbicide applications as required. All shrub and groundcover beds shall be fertilized two (2) times per year at a rate of 2 lbs. Per 1,000 square feet. Hardwood mulch shall be maintained to a minimum depth of two (2) inches, in all bed areas. 5. Re-staking and re-bracing of Plants: Any damaged or destroyed stakes, guys or braces shall be replaced by the Contractor. This shall include any adjustment to the staking or guying to prevent girdling of plants. Adjustment will be made to tighten wires and cables as required. 6. Tree Mulching and Fertilization: <ol style="list-style-type: none"> a) Maintain a 2" layer of shredded hardwood mulch over all tree root balls in turf areas. Add new mulch as required. b) Deep root fertilize all trees with a combination of Injecto-Feed 32-7-7 and Agri-Plex 0-4-4 with 2 percent magnesium, 2 percent water soluble magnesium, 3 percent sulfur, .02 percent boron, 5 percent iron, 5 percent manganese and 5 percent zinc. Mix 20 pounds of Injecto-Feed and 1 gallon of Agri-Plex in 100 gallons of water. Apply this solution at the rate of 5 gallons per inch trunk diameter measured at breast height. Space injection points at 2.5 foot intervals starting 2 feet beyond the drip line. Apply 5 gallons of solution per injection site. Soil injections should be made 6 to 8 inches deep using an injector probe at 150 to 200 PSI. Keep fertilizer solution agitated during application. Where trees are closely spaced and have overlapping treatment areas, inject only once in those areas. Do not double inject these areas. For trees growing in wells surrounded by concrete, water or other hard surfaces, drench the top of the root ball with 10 to 15 gallons of fertilizer solution. <p>3.2 TURF AND GRASS MAINTENANCE</p> <p>A. Sod:</p> <ol style="list-style-type: none"> 1. Mowing and Trimming: All lawns shall be mowed approximately every seven days April thru September, three (3) times per month in March and October and once monthly November thru February. All sidewalks and curbs shall be edged, and trimming around all trees and other objects within turf areas shall occur in concurrence with the maximum mowing cycles. The Contractor shall use power equipment as approved by the Owner. Nylon cord trimmers shall not be used inside plant basins or beds around plant material. 2. Fertilization: All sod shall be fertilized in March, May, July and September for a total of four (4) applications. Approximately 1.5 to 2 lbs. nitrogen will be applied per 1,000 square feet per application. Various analyses and blends of fertilizers can be used based on soil tests results. 3. Weed Control: All sod shall be treated with two (2) pre-emergent herbicide and four (4) post-emergent herbicide applications for a total of six (6) applications. Herbicide applications will only be required on established stands of grass. 4. Insect, Disease and Animal Control: The Contractor shall inspect all lawn areas once each two (2) weeks or as approved by the Owner. The Contractor shall be required to notify the Owner in writing of problems with insects, diseases, or animals as such problems arise. The Contractor also shall recommend corrective measures in writing. 	<p>329510 - LANDSCAPE MAINTENANCE (CONT.)</p> <p>3.3 IRRIGATION SYSTEM OPERATION AND MAINTENANCE</p> <p>A. The scope of work for the operation and maintenance of the permanent irrigation system shall consist of the monitoring, adjustment, repair and proper operation of the existing irrigation system as required insuring adequate moisture to the plant material existing on the project. The existing condition of the system and any equipment will be corrected by the Contractor upon approval by the Owner. The Contractor shall insure that irrigation zones, rain sensors and freeze sensors are operating correctly, include seasonal draining and winterizing of irrigation system when required.</p> <p>B. System repairs will include monitoring of the system on a year round bi-weekly basis and reporting of all damaged or trouble areas to the Owner. The Contractor's personnel shall repair any damage that may have occurred during the mowing cycle and set automatic systems to correct time requirements. Any damage to the turf of the Landscape Maintenance Contractor shall be assessed and brought to the attention of the Owner with an estimate of the subsequent costs to make the repairs. In the event the irrigation system fails due to the Contractor's actions or neglect, the Contractor shall furnish plant irrigation by a method and quantity approved by the Owner.</p> <p style="text-align: center;">END OF SECTION</p> <p>329119 - TOP SOIL</p> <p>PART 1 - GENERAL</p> <p>1.1 SECTION INCLUDES</p> <p>A. This section specifies all soil material designated as Topsoil on the drawings or in the specifications.</p> <p>1.2 SUBMITTALS</p> <p>A. Samples</p> <ol style="list-style-type: none"> 1. Provide (3) 1-gallon samples for each soil type. 2. Each sample to be a composite of five to seven (5-7) sub-samples taken the full depth of proposed source. On stockpiles, discard upper 6 inches of soil before sampling. <p>B. Test Reports</p> <ol style="list-style-type: none"> 1. Place samples in plastic bags, seal, and place in second paper bag, and label. 1. Prior to starting work, submit 2 certified copies of soil test reports to the Landscape Architect for approval. 2. Costs of all tests to be borne by the Contractor. <p>1.3 QUALITY ASSURANCE</p> <p>A. All soil sampling and testing shall comply with procedures specified in:</p> <ol style="list-style-type: none"> 1. U.S.D.A. Ag. Handbook 60: Diagnosis and Improvement of Saline and Alkal Soils. <p>B. Testing Laboratories</p> <ol style="list-style-type: none"> 1. Certified facilities normally engaged in agronomic soil testing shall be utilized. <p>A. Required Topsoil Tests</p> <ol style="list-style-type: none"> 1. Chemical analysis indicating: <ol style="list-style-type: none"> a. Fertility: pH, nitrate nitrogen, ammonia nitrogen, phosphate phosphorous, potassium, calcium, magnesium, zinc, iron, and manganese. b. Suitability: total salinity, boron, sodium, potassium, calcium, magnesium, chloride, and sulfate. 2. Physical properties include: <ol style="list-style-type: none"> a. Organic content. b. Particle size distribution. <p>PART 2 - PRODUCTS</p> <p>2.1 TOPSOIL</p> <p>NOTE: Topsoil needs to be from Living Earth, or approved equal. 2" in all turf areas amended and tilled to a depth of 4", and 4" in all planting beds, amended and tilled to a depth of 4".</p> <p>A. On-grade topsoil for the work shall conform to the requirements included in this Section</p> <ol style="list-style-type: none"> 1. A natural, friable, loamy soil, typical of local topsoils which produces heavy vegetative growth, free from subsoil, weeds, sods, stiff clay, stones larger than 1/2 inch, toxic substances, debris, or other substances which may be harmful to plant growth. 2. The pH range shall be 6.5 to 7.5. <p>B. Grading Analysis: Two inch sieve, 100 percent passing. Number 4 sieve, 90 percent minimum passing. Number 10 sieve, 80 percent minimum passing.</p> <p>C. Sand, silt and clay content:</p> <ol style="list-style-type: none"> 1. Sand: 20 to 75 percent. 2. Silt: 10 to 30 percent. 3. Clay: 5 to 30 percent. <p>D. All topsoil shall be free from all herbicides and insecticides which may adversely affect growth of lawn or planting, or which may contain toxic materials.</p> <p>E. Do not deliver in muddy condition.</p> <p>F. The Contractor shall not use materials which do not conform to these criteria. At the discretion of the Landscape Architect, such material can either by amended to meet these requirements, or will be removed from the site and replaced with suitable material as specified.</p> <p>PART 3 - EXECUTION</p> <p>3.1 Not Used</p> <p style="text-align: center;">END OF SECTION</p>
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