

Landscape Architectural Plans for:
CE
Oil and Gas Pad Site
Loveland, Colorado

Plans Prepared For:

MRG, LP
2725 Rocky Mountain Avenue
Suite 200
Loveland, CO 80538

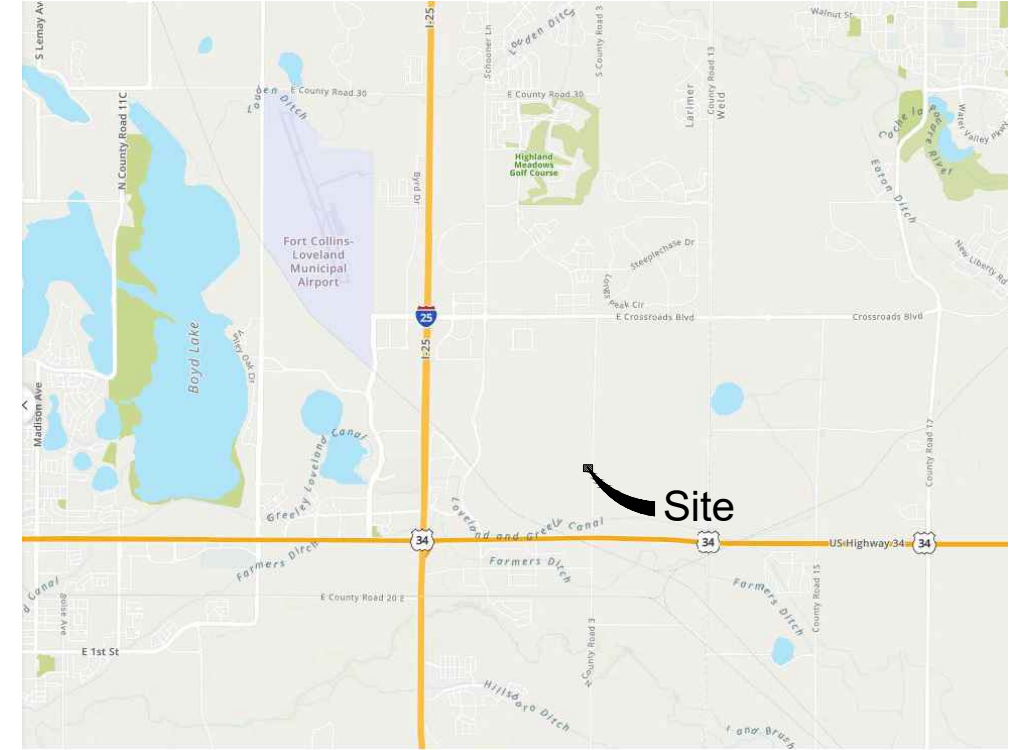
Project Manager: William Irwin

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Vicinity Map:



Landscape Sheet Index:

SHEET LS 01 COVER SHEET
SHEET LS 02 LANDSCAPE AND BUFFER YARD PLAN
SHEET LS 03 FENCING DETAILS

General Notes:

- 1. GRADES DISTURBED SHALL MATCH OR IMPROVE EXISTING GRADES TO PROVIDE POSITIVE DRAINAGE AWAY FROM STRUCTURES OR TO DRAINAGE AREAS AND SWALES WHILE PROVIDING A SMOOTH TRANSITION BETWEEN ALL ADJACENT UNDISTURBED GRADES AND PROPOSED GRADES.
- 2. JOB SITE TO BE KEPT CLEAN AT ALL TIMES AND CONSTRUCTION AREAS ARE TO BE MAINTAINED FOR SAFETY.
- 3. ALL SOILS DISTURBED WITHIN AND ADJACENT TO WORK AREA, INCLUDING AREAS OUTSIDE OF CONSTRUCTION LIMITS, DUE TO NEW CONSTRUCTION ARE TO BE REGRADED AND SURFACE CONDITIONS REPAIRED BY RESEEDING THESE AREAS PER THE NATIVE GRASS SEED MIX NOTES THIS SHEET.
- 4. PROTECT EXISTING SURFACES AND SOILS, BOTH INSIDE AND OUTSIDE OF CONSTRUCTION LIMITS, DURING CONSTRUCTION. IF GRADES, CONCRETE OR ASPHALT ARE DAMAGED DUE TO CONSTRUCTION OPERATIONS OR WEATHER THE CONTRACTOR IS RESPONSIBLE FOR REPAIR TO THAT EQUIVALENT TO EXISTING CONDITIONS AT NO EXPENSE TO THE OWNER / CITY.
- 5. CONTRACTOR IS RESPONSIBLE FOR SETUP OF BARRICADES, WARNING SIGNAGE, OR OTHER PROTECTIVE DEVICES IF ANY EXCAVATIONS ARE LEFT EXPOSED AFTER ON-SITE WORK HOURS.
- 6. THE CONTRACTOR SHALL NOT PURPOSEFULLY PROCEED WITH ANY CONSTRUCTION PER PLANS PROVIDED WHEN OBSTRUCTIONS AND/OR GRADE DIFFERENCES EXIST THAT WERE NOT CONSIDERED OR CHANGED AFTER PLANS WERE SUBMITTED. CONTRACTOR SHALL NOTIFY OWNER OR OWNER'S REPRESENTATIVE AND THE CITY OF LOVELAND IF SITUATION ARISES AND REVISIONS ARE NECESSARY.
- 7. THE CONTRACTOR SHALL PREVENT SEDIMENT, DEBRIS AND OTHER POLLUTANTS FROM ENTERING ANY STORM WATER SEWER SYSTEM OR, ADJACENT WATER WAYS, ETC., DURING THE DEMOLITION OR CONSTRUCTION OPERATIONS THAT ARE PART OF THIS PROJECT. THE CONTRACTOR SHALL BE HELD RESPONSIBLE AND EXPENSE FOR THE CORRECTION OF ANY ADVERSE IMPACTS TO THE STORM WATER SEWER SYSTEM OR, ADJACENT WATER WAYS, WETLANDS ETC., RESULTING FROM THE WORK DONE AS PART OF THIS PROJECT/CONTRACT.
- 8. THE CONTRACTOR SHALL BE RESPONSIBLE PRIOR TO BIDDING AND CONSTRUCTION, OF BECOMING AWARE OF ALL EXISTING AND PROPOSED UTILITIES, PIPES, STRUCTURES, ETC. CALL UNCC THREE DAYS BEFORE SCHEDULED WORK AT 811 OR 1-800-922-1987.
- 9. CONTRACTOR IS RESPONSIBLE FOR BECOMING AWARE OF AND OBTAINING ANY AND ALL PERMITS AS REQUIRED FOR THIS PROJECT.

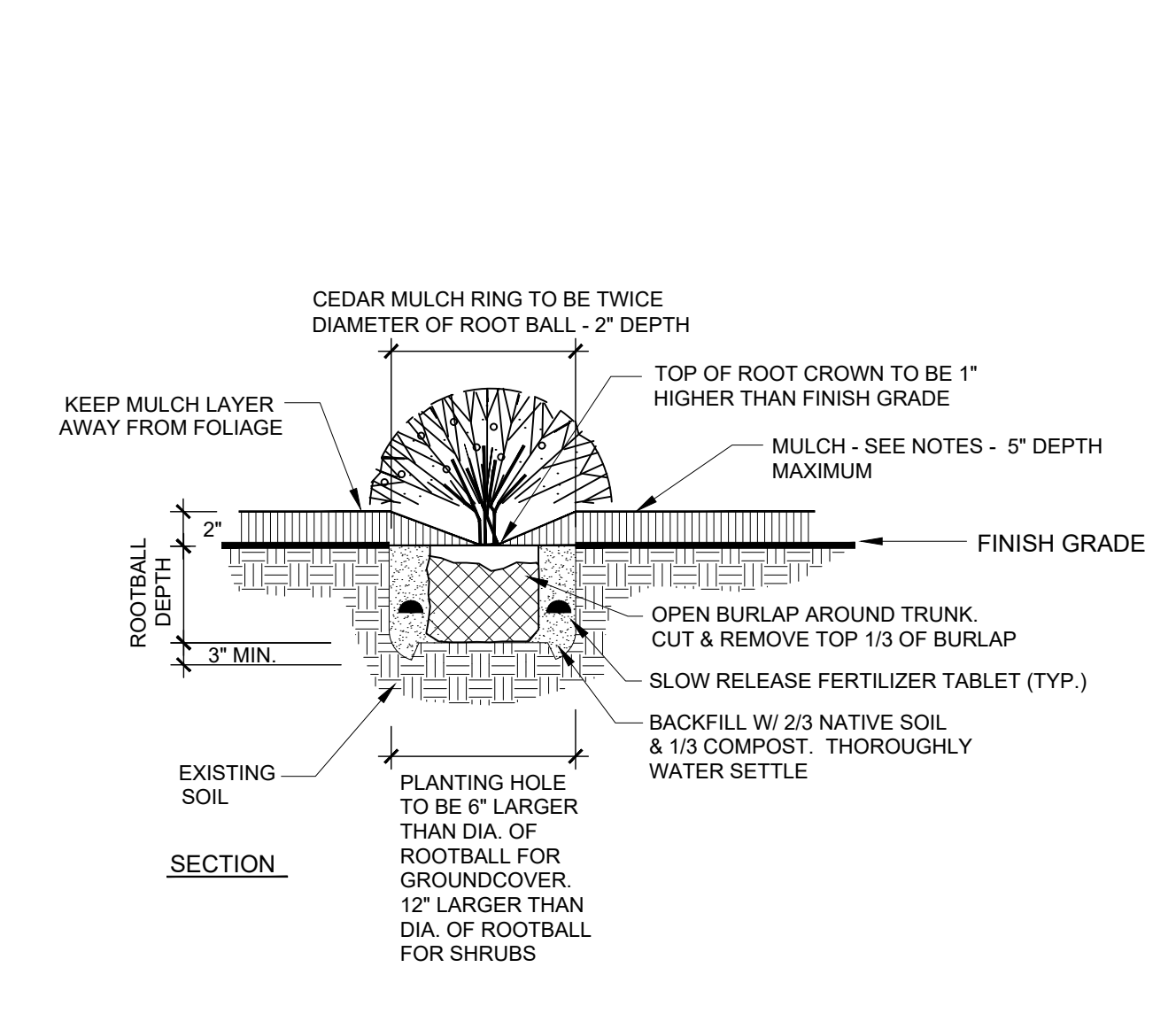
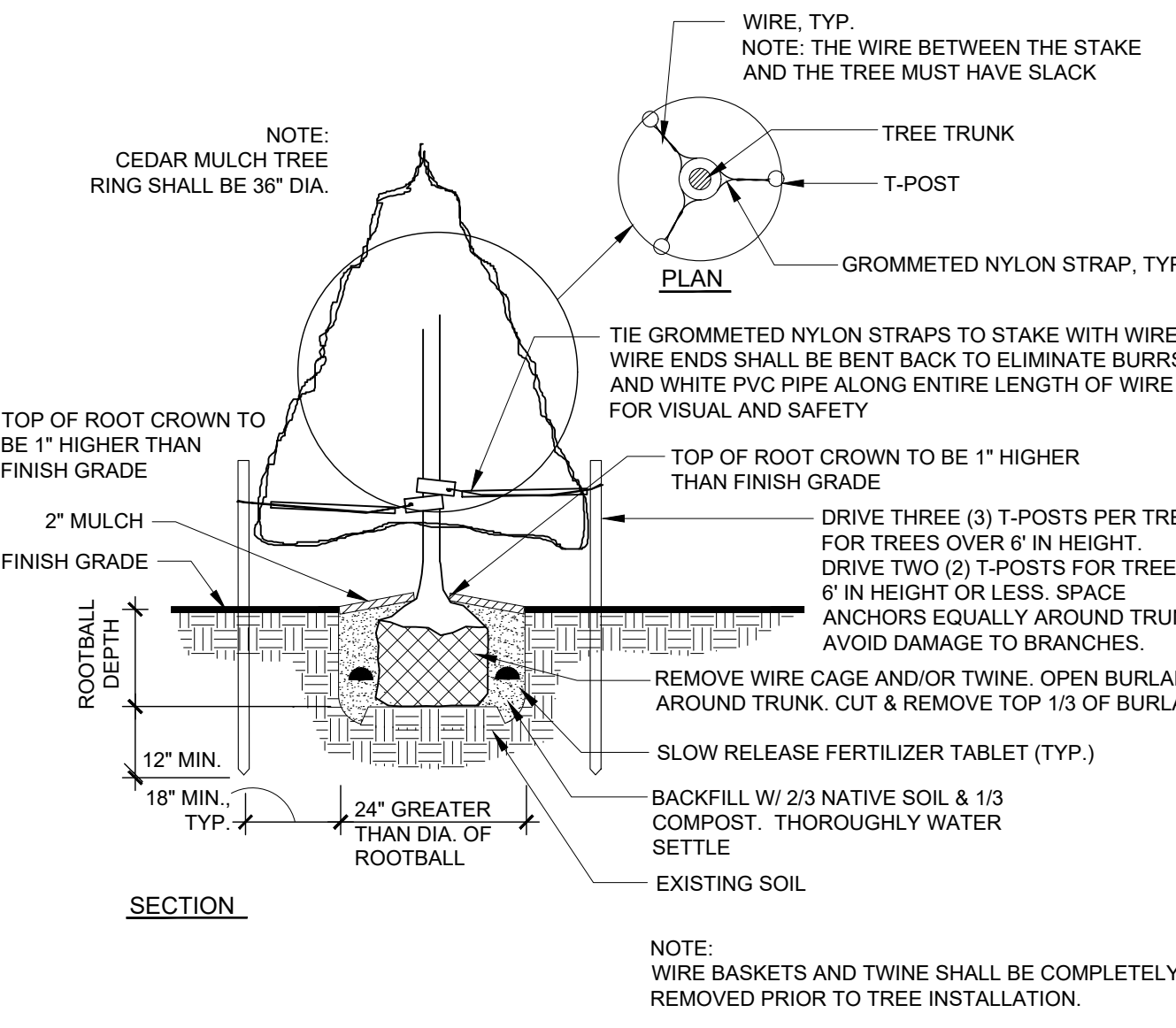
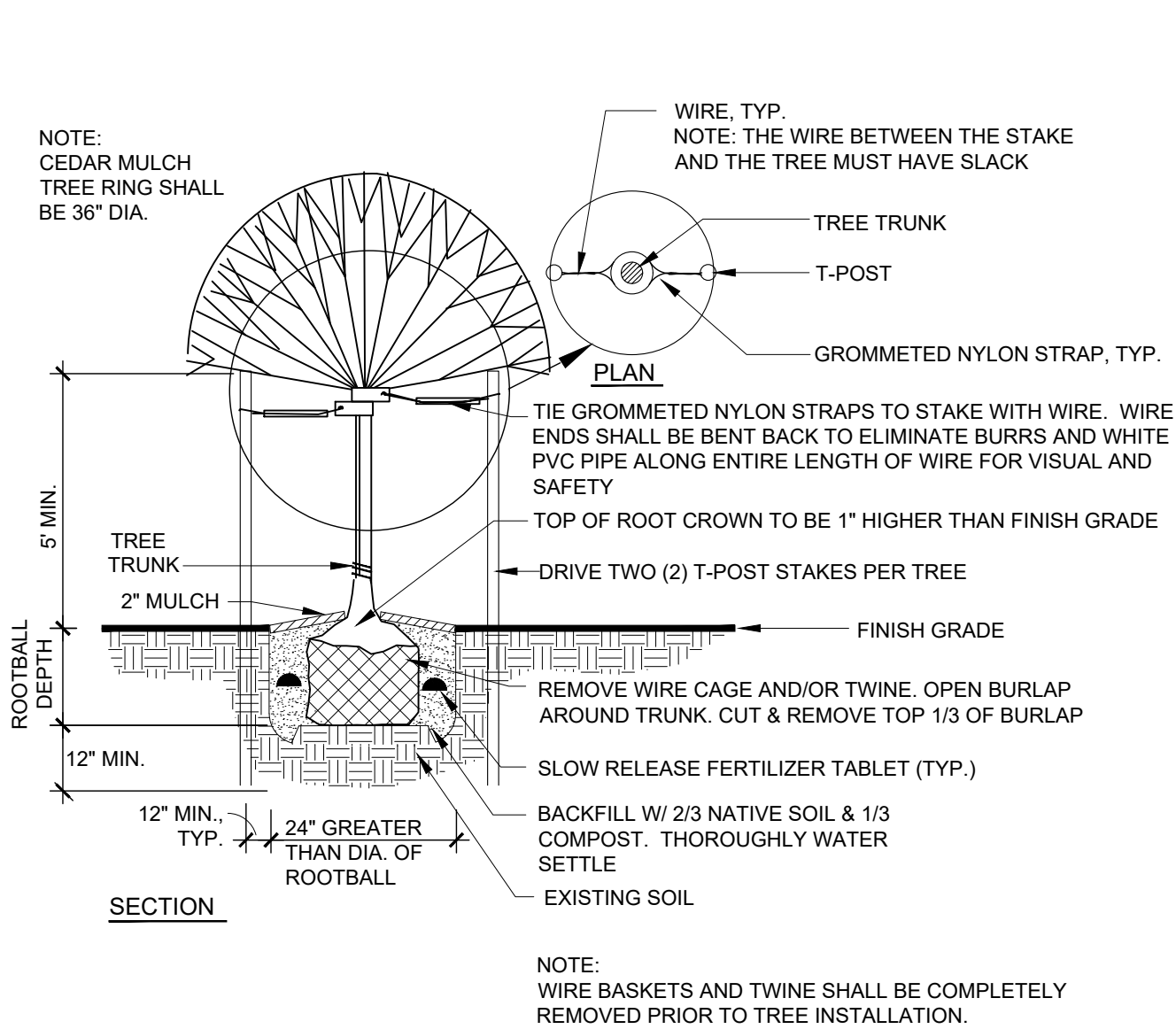
Irrigation Notes

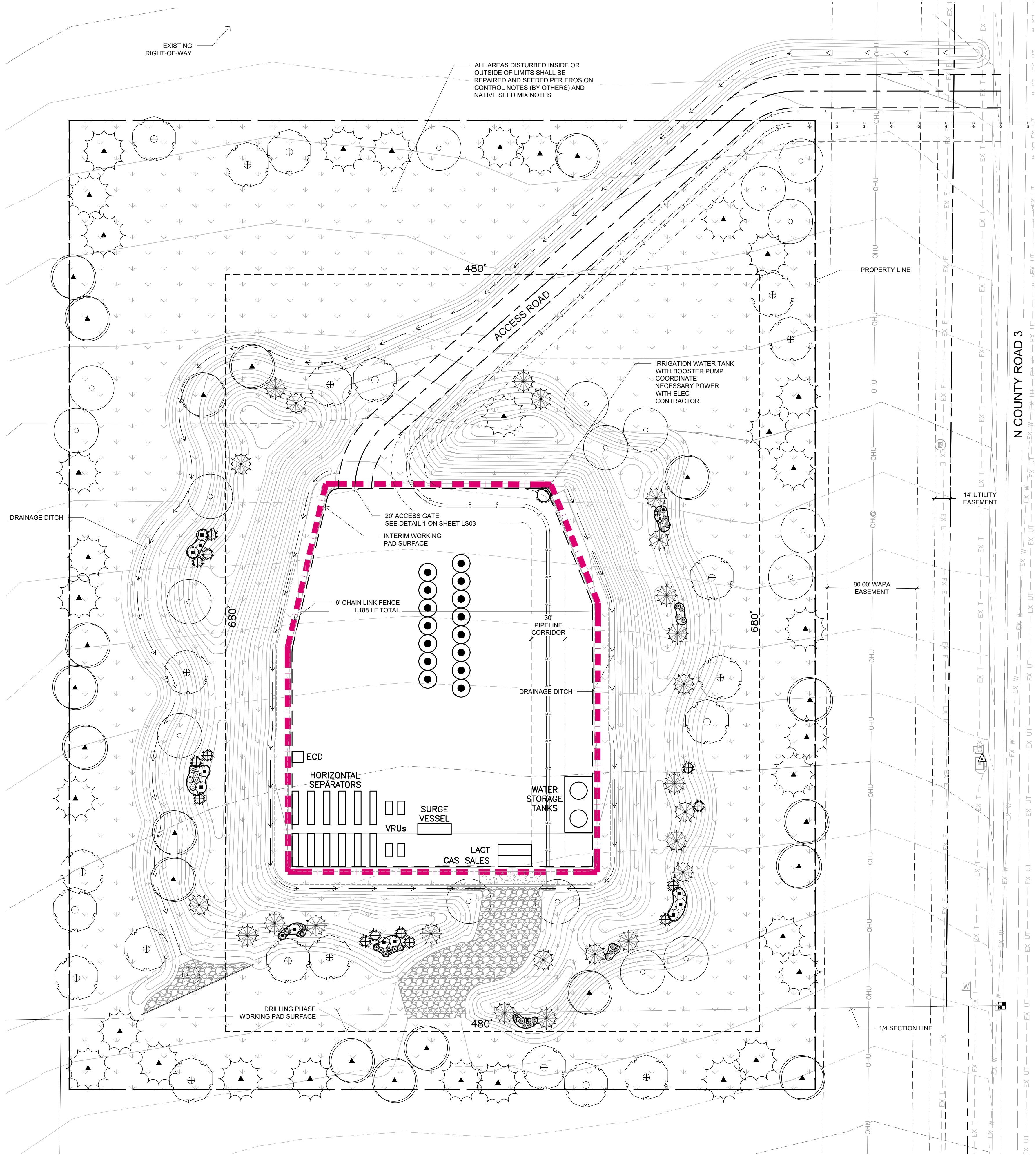
- 1. CONTRACTOR TO SELECT AND UTILIZE AN IRRIGATION WATER TANK FOR THE AUTOMATIC IRRIGATION SYSTEM DESIGN. THIS DESIGN TO INCLUDE ELECTRONIC CONTROLLER AND BOOSTER PUMP AS A PART OF THEIR DESIGN AND SCOPE FOR THE PROPOSED LANDSCAPE DEPICTED ON PLANS.
- 2. THE DESIGN FOR THE AUTOMATIC IRRIGATION SYSTEM SHALL BE EQUIPPED WITH AN AUTOMATIC RAIN DETECTION DEVICE.
- 3. CONTRACTOR SHALL VERIFY THE MAXIMUM AVAILABLE P.S.I. AND GPM AND DESIGN THE IRRIGATION SYSTEM TO MEET THE REQUIRED P.S.I. AND GPM FOR THE PROPOSED LANDSCAPE.
- 4. ALL TREES AND SHRUBS ARE TO BE IRRIGATED WITH A PERMANENT DRIP IRRIGATION SYSTEM.
- 5. IRRIGATION SYSTEM WILL BE ADJUSTED TO THE MINIMUM WATER REQUIREMENT, BASED ON THE NEEDS OF EACH SELECTED PLANT MATERIAL.
- 6. QUICK COUPLERS SHALL BE PROVIDED AT EACH POINT OF CONNECTION AND AT REGULAR SPACING ALONG THE IRRIGATION MAINLINE. SPACING OF QUICK COUPLES SHALL NOT EXCEED 200 FEET. LOCATE QUICK COUPLING VALVE AT A POINT OF EASY ACCESS.
- 7. ALL IRRIGATION TRENCHES SHALL BE PROPERLY WATERED AND COMPACTED TO AVOID FUTURE SETTling. ANY SETTling DURING WARRANTY PERIOD WILL BE REPAIRED BY THE CONTRACTOR AT NO COST TO THE OWNER.
- 8. CONTRACTOR TO DETERMINE AND COORDINATE APPROPRIATE POWER SOURCE AND ASSOCIATED ELECTRICAL DESIGN FOR THE ELECTRONIC CONTROLLER AND BOOSTER PUMP.
- 9. ALL IRRIGATION SLEEVING SHALL BE PROVIDED AND INSTALLED BY GENERAL CONTRACTOR. IRRIGATION CONTRACTOR SHALL COORDINATE SLEEVING LOCATIONS WITH GENERAL CONTRACTOR. ALL IRRIGATION SLEEVING TO BE STAKED IN THE FIELD OR LOCATED ON DIMENSIONED "AS-BUILT" DRAWING BY THE GENERAL CONTRACTOR TO ALLOW FUTURE USE AND LOCATION.

Landscape Notes

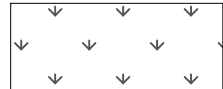
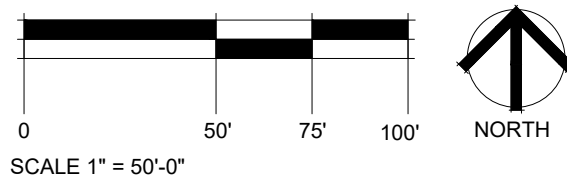
- 1. MAINTENANCE PERIOD: LANDSCAPE SHALL BE MAINTAINED, INCLUDING WATERING, MOWING, PRUNING, REPLACEMENT OF DEAD OR DYING PLANT MATERIALS, AND FERTILIZING BY CONTRACTOR FOR ONE (1) FULL YEAR AFTER FINAL ACCEPTANCE. AFTER MAINTENANCE PERIOD OWNER WILL MAINTAIN AS DESCRIBED ABOVE.
- 2. WARRANTY PERIOD: LANDSCAPE WILL BE WARRANTED FOR ONE (1) FULL YEAR AFTER MAINTENANCE PERIOD.
- 3. ANY DISCREPANCIES WITH THE DRAWINGS AND SITE CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNERS REPRESENTATIVE PRIOR TO PROCEEDING WITH CONSTRUCTION.
- 4. CONTRACTOR TO VERIFY ALL FIELD CONDITIONS, EASEMENTS, PROPERTY LINES, FENCE LINES, ETC. PRIOR TO STARTING WORK. SHOULD ANY DISCREPANCIES, OMISSIONS, OR ERRORS OCCUR, NOTIFY THE OWNER'S REPRESENTATIVE IMMEDIATELY.
- 5. CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UTILITIES 48 HRS. PRIOR TO ANY EXCAVATION OR PLANTING.
- 6. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COORDINATION WITH SUBCONTRACTORS AS REQUIRED TO ACCOMPLISH PLANTING OPERATIONS.
- 7. NO PLANT MATERIAL WITH MATURE GROWTH GREATER THAN THREE (3) FEET IN HEIGHT SHALL BE PLANTED WITHIN POTABLE WATER, SANITARY SEWER, OR NON-POTABLE IRRIGATION EASEMENTS. (VOLUME III, SECTION 2.05.A)
- 8. NO SHRUBS SHALL BE PLANTED WITHIN FIVE (5) FEET OR TREES WITHIN TEN (10) FEET OF POTABLE AND NON-POTABLE WATER METERS, FIRE HYDRANTS, SANITARY SEWER MANHOLES, OR POTABLE WATER, SANITARY SEWER, AND NON-POTABLE IRRIGATION MAINS AND SERVICES. (VOLUME III, SECTION 2.05.B)
- 9. MINIMUM CLEARANCE OF THREE (3) FEET ON EACH SIDE OF FIRE DEPARTMENT CONNECTION (FDC). NO VEGETATION OTHER THAN TURF OR GROUND COVERS PLANTED IN FRONT OF FDC.
- 10. IF TREES OR SHRUBS ARE LOCATED ON TOP OF FIELD VERIFIED UTILITIES, CONTRACTOR SHALL NOTIFY OWNER BEFORE ANY DIGGING HAS COMMENCED. VERIFY WITH OWNER IF AND WHICH SHRUBS/TREES SHALL BE TAKEN OUT OF PROJECT/CONTRACT.
- 11. TO THE MAXIMUM EXTENT FEASIBLE, TOPSOIL THAT IS REMOVED DURING CONSTRUCTION ACTIVITY SHALL BE CONSERVED FOR LATER USE ON AREAS REQUIRING REVEGETATION AND LANDSCAPING.
- 12. EXCAVATED MATERIAL TO BE USED AS FILL WILL HAVE ALL ROCKS, DEBRIS, WASTE MATERIAL, FROZEN MATERIAL, VEGETATION LARGER THAN 3" IN ANY DIMENSION REMOVED BEFORE PLACEMENT AND COMPACTION OF SOIL.
- 13. PROVIDE POSITIVE DRAINAGE AWAY FROM STRUCTURES OR FOUNDATIONS CREATING A SMOOTH TRANSITION BETWEEN ALL ADJACENT EXISTING GRADES AND PROPOSED GRADES BEING SURE NOT TO DISTURB EXISTING DRAINAGE PATTERNS.
- 14. PRIOR TO NATIVE SEEDING OPERATIONS; FOOTHILLS NATIVE GRASS SEEDED AREAS AND THE PLANTING BEDS, SHALL BE THOROUGHLY LOOSENEED AND FINE GRADED. REMOVE ALL UNSUITABLE SOIL, INCLUDING ALL ROCKS LARGER THAN 3 INCHES IN ANY DIRECTION, ALL CONCRETE, TRASH, DEBRIS, WEEDS, ROOTS AND OTHER WASTE MATERIALS.
- 15. ORGANIC AMENDMENTS SHALL BE INCORPORATED WITHIN THE FOOTHILLS NATIVE GRASS SEEDED AREAS AND PLANTING BEDS TO A MINIMUM 6" DEPTH AT THE MINIMUM OF RATE OF 2 CU. YDS. / 1,000 SQ. FT.
- 16. ALL PLANT MATERIALS ARE SIZED AND OUTLINED IN PLANT LIST. ALL PLANTS TO BE PLANTED IN AMENDED SOIL AND STAKED AS SHOWN IN DETAILS. ALL PLANT MATERIAL SHALL MEET OR EXCEED THE CODE OF STANDARDS CURRENTLY RECOMMENDED BY THE COLORADO NURSERY ACT FOR NUMBER ONE GRADE.
- 17. IF PLANTS ARE IN NEED OF REPLACEMENT DUE TO DECLINING HEALTH, DISEASE, OR DEATH, THE PLANTS MUST BE REPLACED WITH THE ORIGINAL SPECIES UNLESS APPROVED BY THE CITY.
- 18. CHANGES IN PLANT SPECIES OF PLANT LOCATIONS FROM WHAT IS LISTED ON THE LANDSCAPE PLAN WILL REQUIRE THE APPROVAL OF THE CITY PRIOR TO INSTALLATION OF REPLACEMENT. OVERALL QUANTITY AND QUALITY TO BE CONSISTENT WITH THE APPROVED PLANS. IN THE EVENT OF CONFLICT WITH THE QUANTITIES INCLUDED IN THE PLANT LIST, SPECIES AND QUANTITIES SHALL BE PROVIDED.
- 19. ALL TREES AND SHRUBS TO BE BALLED AND BURLAPPED, OR CONTAINERIZED.
- 20. ALL PLANT MATERIAL SHALL HAVE ALL WIRE, TWINE, BASKETS, BURLAP, AND ALL OTHER NON-BIODEGRADABLE CONTAINMENT MATERIAL REMOVED FROM THE TRUNK AND/OR ROOT BALL OF THE PLANT, PRIOR TO PLANTING.
- 21. ALL SHRUB BEDS SHALL HAVE MINIMUM 4" DEPTH OF WASHED RIVER ROCK OVER A CONTINUOUS LAYER OF TYPAR LANDSCAPE FABRIC OR APPROVED EQUAL SHALL BE INSTALLED IN ALL AREAS WITH 6" OVERLAP AT SEAMS WITH 4" STAPLES 4' O.C. IN ALL DIRECTIONS.

Planting Details





Landscape and Buffer Yard Plan



NATIVE GRASS GROUNDCOVER  
SEE NATIVE SEED MIX NOTES



6' CHAIN LINK FENCE WITH FENCE SCREEN  
SEE FENCE DETAILS ON SHEET LS03

### Native Grass Seed Mix

#### NON IRRIGATED NATIVE GRASS -

UPLAND NATIVE MIX (PER CENTERRA DESIGN GUIDELINES):  
ALL AREAS DISTURBED SHALL BE A MIXTURE THAT MATCHES THE FOLLOWING:

COMMON NAME	Lbs. PLS/acre
SLENDER WHEATGRASS	3
WESTERN WHEATGRASS, ROSANA	3
GREEN NEEDLE GRASS, LODORM	1
CANADA WILDRYE, MANDAN	1
BEARDLESS WILDRYE, SHOSHONE	0.5
ANNUAL RYE	2
BLUE GRAMA, BAD RIVER	0.5
SIDEOTS GRAMA, VAUGHN	1.5
LITTLE BLUESTEM, CAMPER	1.5
YELLOW INDIANGRASS	1
TOMAHAWK OR NEB 54	1
BIG BLUESTEM, PAWNEE	1
SWITCHGRASS, BLACKWELL	0.5
ALKALI SACATON	0.25
<b>TOTAL</b>	<b>16.75 pounds per live seed per acre</b>

- SEED SHALL BE AS MANUFACTURED BY ARKANSAS VALLEY SEED SOLUTIONS, 4625 COLORADO BOULEVARD, DENVER, CO 80216, (877) 957-3337.
- DRILLED IN TWO PERPENDICULAR DIRECTIONS WITH A TOTAL APPLICATION RATE: 16.75 LBS (PLS) PER ACRE
- ADEQUATE TEMPORARY IRRIGATION OR BY WATER TRUCK WILL BE PROVIDED BY CONTRACTOR FOR THE ESTABLISHMENT AND MAINTENANCE OF THESE SEEDED AREAS, AND THAT NATIVE GRASSES SHALL BE MAINTAINED IN A CONDITION OF ACCEPTABLE HEIGHT, FREE OF WEEDS, TRASH AND DEBRIS, AND SHALL NOT REPRESENT A FIRE HAZARD NOR BECOME A NUISANCE SITE FOR WATER OR WIND EROSION.

#### MULCH IN ALL NATIVE SEED AREAS:

- IMMEDIATELY FOLLOWING THE RAKING / SEEDING OPERATION, ADD STRAW MULCH TO THE SEEDED AREAS.
- APPLY STRAW MULCH AT A MINIMUM OF 1.5 TONS PER ACRE OF AIR DRY MATERIAL. SPREAD STRAW MULCH UNIFORMLY OVER THE AREA WITH MECHANICAL MULCH SPREADER / CRIMPER. DO NOT MULCH WHEN WIND VELOCITY EXCEEDS 10 MPH.
- WHEREVER THE USE OF CRIMPING EQUIPMENT IS PRACTICAL, PLACE MULCH IN THE MANNER NOTED ABOVE AND ANCHOR IT INTO THE SOIL. USE A DISC SUCH AS A MULCH TILLER, WITH A FLAT SERRATED DISC AT LEAST 1/4 INCH IN THICKNESS, HAVING DULL EDGES, AND SPACE NO MORE THAN 9 INCHES APART, WITH DISCS OF SUFFICIENT DIAMETER TO PREVENT THE FRAME OF THE EQUIPMENT FROM DRAGGING THE MULCH. ANCHOR MULCH A MINIMUM DEPTH OF 2 INCHES AND ACROSS THE SLOPE WHERE PRACTICAL WITH NO MORE THAN TWO PASSES OF THE ANCHORING EQUIPMENT.
- IMMEDIATELY UPON COMPLETION OF THE MULCHING AND BINDING OPERATION, THE SEEDED AREAS SHALL BE IRRIGATED, KEEPING THE TOP 2 INCHES OF SOIL EVENLY MOIST UNTIL SEED HAS UNIFORMLY GERMINATED AND GROWN TO A HEIGHT OF 2-INCHES.
- WATERING APPLICATION SHALL BE DONE IN A MANNER WHICH WILL PROVIDE UNIFORM COVERAGE BUT WHICH WILL NOT CAUSE EROSION, MOVEMENT, OR DAMAGE TO THE FINISHED SURFACE.

### Bufferyard Standards and Calculations

BUFFER YARD REQUIREMENT - WIDTH: 150 FT., 1151 LF PERIMETER TOTAL

- 5 CANOPY TREES PER 100 LF
- 6 EVERGREEN TREES PER 100 LF
- 4 LARGE SHRUBS PER 100 LF

#### BUFFERYARD LANDSCAPING REQ'D:

58 CANOPY TREES  
69 EVERGREEN TREES  
46 SHRUBS

#### BUFFERYARD LANDSCAPING PROVIDED:

58 CANOPY TREES  
69 EVERGREEN TREES  
46 SHRUBS

### Plant List

DECIDUOUS TREES	QTY	BOTANICAL / COMMON NAME	SIZE	HEIGHT	WIDTH
	18	Catalpa speciosa Western Catalpa	2.0" cal. BB	50'	40'
	19	Gleditsia triacanthos f. inermis 'Imperial' TM Imperial Honey Locust	2.0" cal. BB	50'	40'
	21	Quercus shumardii Shumard Red Oak	2.0" cal. BB	50'	40'
EVERGREEN TREES	QTY	BOTANICAL / COMMON NAME	SIZE	HEIGHT	WIDTH
	14	Juniperus scopulorum Rocky Mountain Juniper	6" B&B	30'	12'
	24	Pinus edulis Pinyon Pine	6" B&B	30'	20'
	31	Pinus nigra Austrian Pine	6" B&B	60'	40'
SHRUBS	QTY	BOTANICAL / COMMON NAME	SIZE	HEIGHT	WIDTH
	15	Cercocarpus intricatus Littleleaf Mountain Mahogany	5 gal.	6'	5'
	10	Cercocarpus montanus argenteus Silverleaf Mountain Mahogany	5 gal.	8'	6'
	5	Chrysothamnus viscidiflorus Yellow Rabbitbrush	5 gal.	5'	5'
	5	Rhus trilobata Three-leaf Sumac	5 gal.	6'	6'
	11	Shepherdia argentea Silver Buffaloberry	5 gal.	10'	10'

REVISIONS	DATE
1st Submittal	06/13/22
2nd Submittal	02/03/23

## FENCING INSTALLATION NOTES

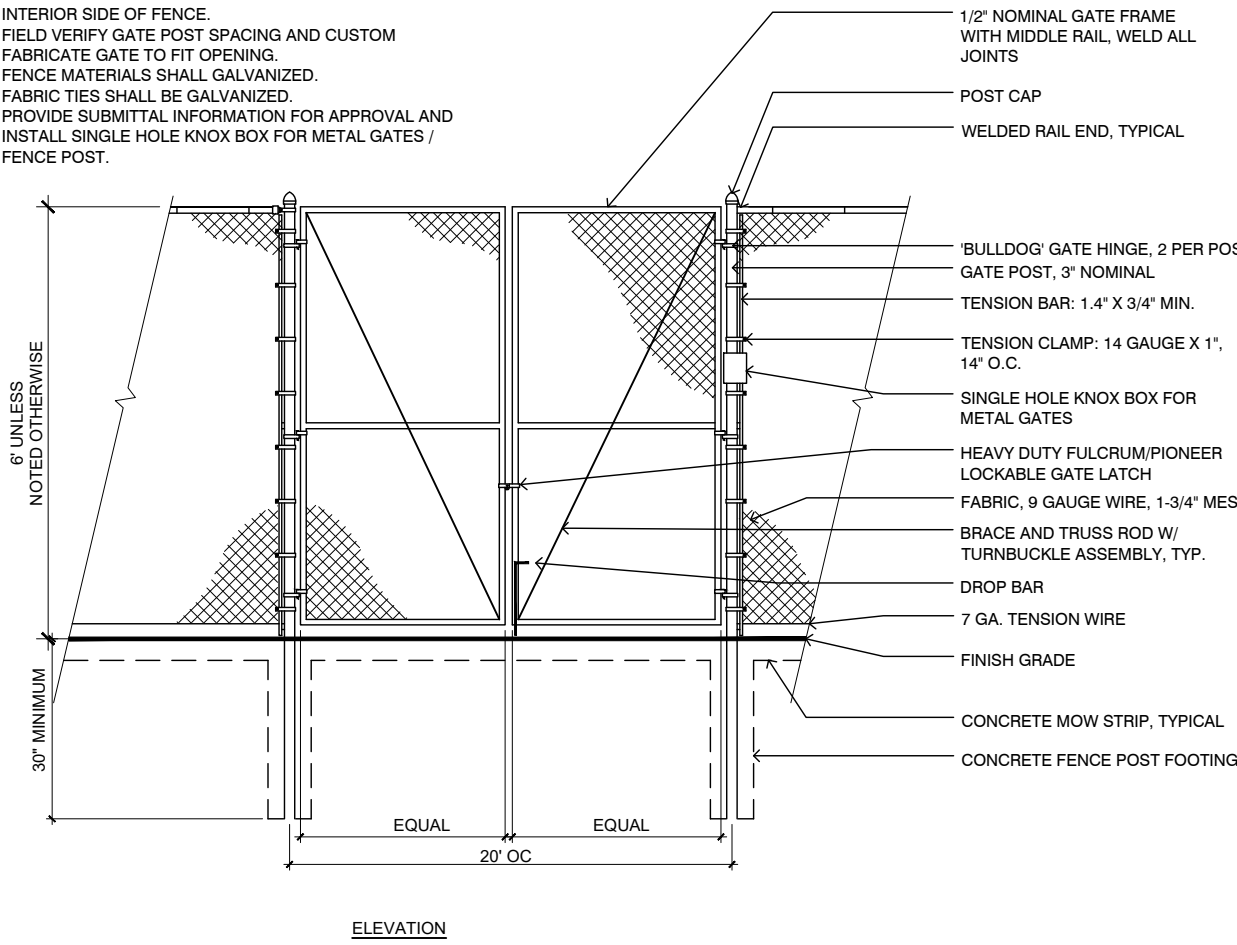
- CONTRACTOR TO OBTAIN ALL INSTALLATION AND STRUCTURAL INFORMATION OR DRAWINGS FROM MANUFACTURER PRIOR TO INSTALLATION.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SUBMIT ALL NECESSARY PERMIT DOCUMENTS AS REQUIRED BY THE LOCAL JURISDICTIONS FOR THESE PRODUCTS.
- CONTRACTOR TO SUBMIT PRODUCT INFORMATION FOR OWNER'S REVIEW AND APPROVAL PRIOR TO ORDERING
- COORDINATE FINAL LOCATION OF ALL FENCING AND EQUIPMENT WITH OWNER PRIOR TO FINAL INSTALLATION / MOUNTING.
- SUBSTITUTIONS ARE ALLOWED, FOR SPECIFIED PRODUCTS THAT ARE NO LONGER AVAILABLE, OR IF A SUBSTANTIAL COST SAVINGS CAN BE REALIZED FOR THE OWNER BY USE OF AN ALTERNATE AND EQUAL PRODUCT. IF SUCH SUBSTITUTION OCCURS IT MUST BE SUBMITTED IN WRITING AND APPROVED BY THE OWNER OR ANY GOVERNING AGENCIES.

## GATE NOTES

- GATES SHALL BE PROVIDED WITH A COMBINATION CATCH AND LOCKING ATTACHMENT DEVICE FOR A PAD LOCK, AND SHALL BE KEPT LOCKED EXCEPT WHEN BEING USED FOR ACCESS TO THE SITE.
- THE OPERATOR MUST PROVIDE THE CHIEF OF THE APPROPRIATE FIRE PROTECTION DISTRICT WITH A "KNOX PADLOCK" OR "KNOX BOX WITH KEY" TO ACCESS THE WELL SITE TO BE USED IN CASE OF AN EMERGENCY.

### NOTES:

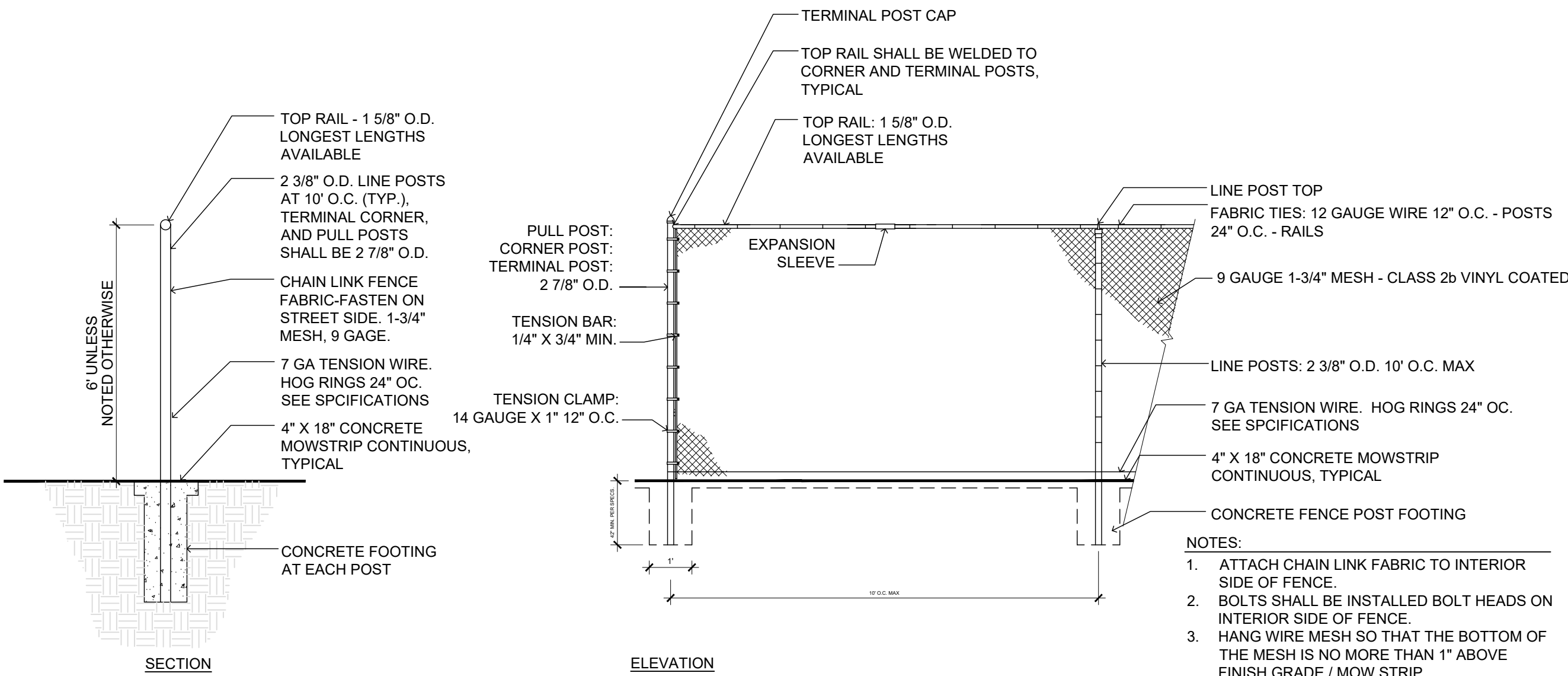
- CONTRACTOR SHALL PREPARE SHOP DRAWINGS OF GATES FOR APPROVAL
- BOLTS SHALL BE INSTALLED WITH BOLT HEADS ON INTERIOR SIDE OF FENCE.
- FIELD VERRY' GATE POST SPACING AND CUSTOM FABRICATE GATE TO FIT OPENING.
- FENCE MATERIALS SHALL GALVANIZED.
- FABRIC TIES SHALL BE GALVANIZED
- PROVIDE SUBMITTAL INFORMATION FOR APPROVAL AND INSTALL SINGLE HOLE KNOX BOX FOR METAL GATES / FENCE POST.



## 1 20' WIDE CHAIN LINK GATE

NOT TO SCALE

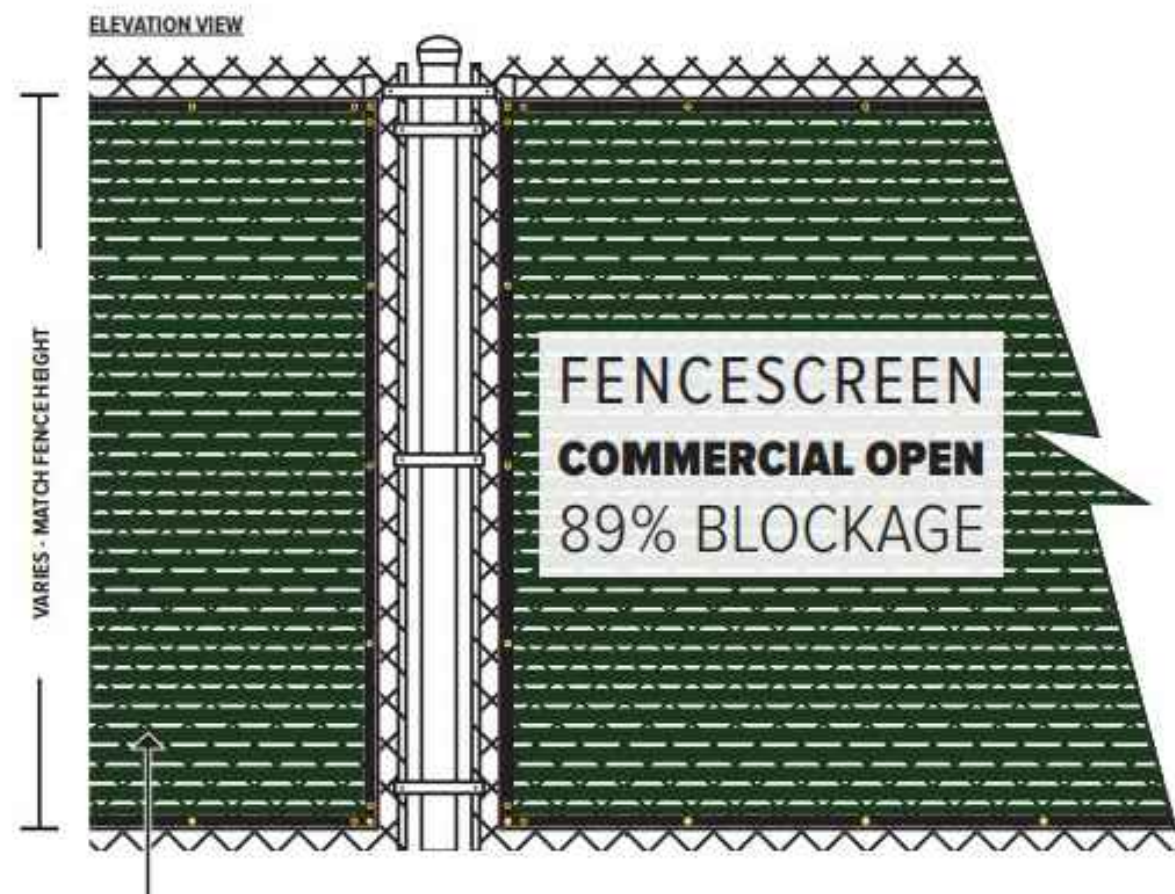
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## 2 6' CHAIN LINK FENCE

NOT TO SCALE

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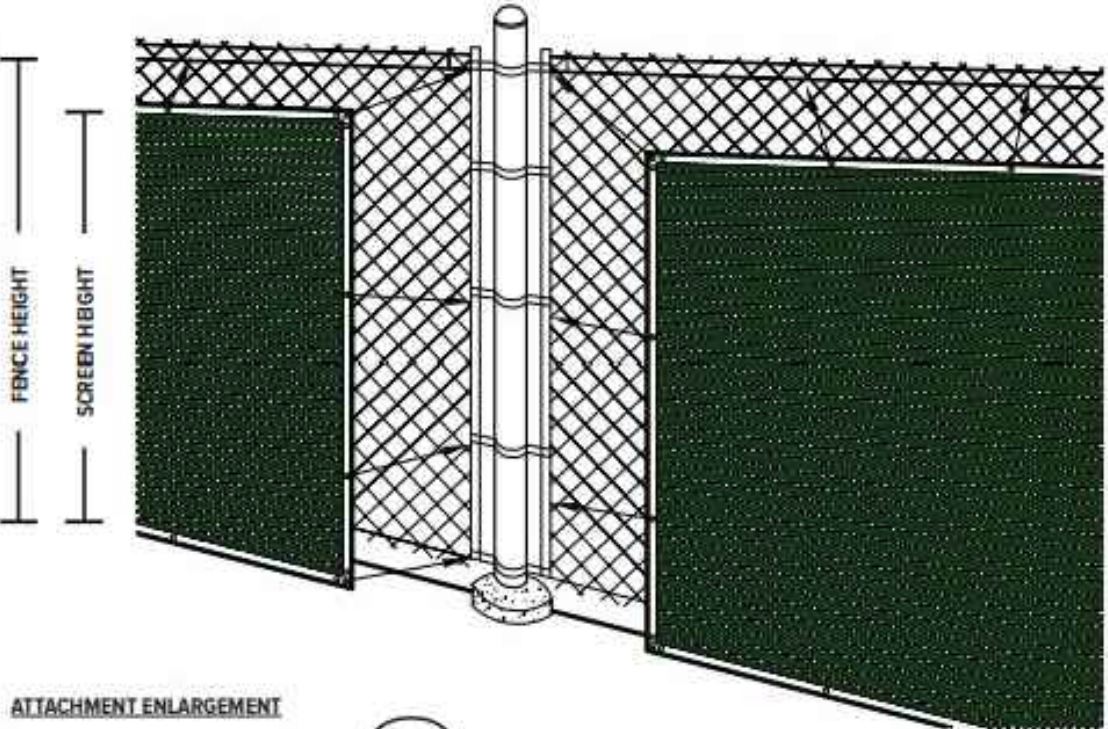
- FENCESCREEN PANELS WITH 2" POLYPROPYLENE WEBBING FOR EDGE REINFORCEMENT.
- 3/8" BRASS GROMMETS AT 24" ON CENTER ATTACH TO FENCE WITH FENCESCREEN FASTENERS OR GALVANIZED HOG RINGS.

### FENCESCREEN MATERIAL SPECIFICATIONS

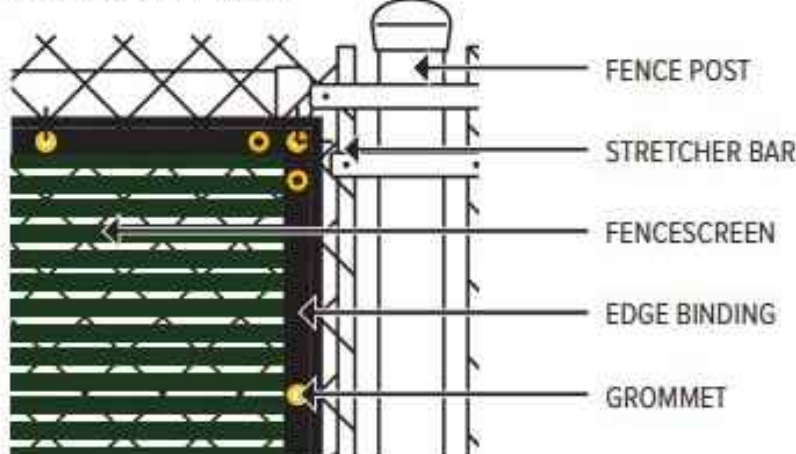
MATERIAL COMPOSITION: OPEN LENO WEAVE POLYPROPYLENE

PROPERTIES	RESULTS
Weight	300 g/m <sup>2</sup>
Construction	30 x 16 weave lath-leno Closed Mesh
Grab Tensile Strength	400/234 lbs.
Burst Strength	469 psi
Tear	120 x 95
Shade Percentage	89%

### ATTACHMENT DETAIL 3D



### ATTACHMENT ENLARGEMENT



### NOTE:

- INSTALL PER FENCESCREEN MANUFACTURER RECOMMENDATION
- REFER TO STRUCTURAL PLANS FOR ALL FOOTING SIZE

### AVAILABLE COLORS:



## 3 FENCE SCREEN DETAILS

MANUFACTURER: FENCE SCREEN  
MODEL: 600 SERIES  
COLOR: BLACK  
MATERIAL: KNITTED POLYPROPYLENE OPEN MESH

Scale: NTS