

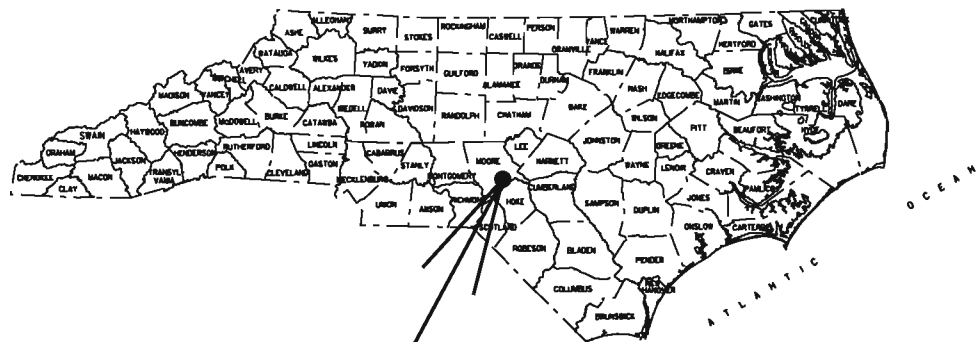
PROJECT: 3708.3.17



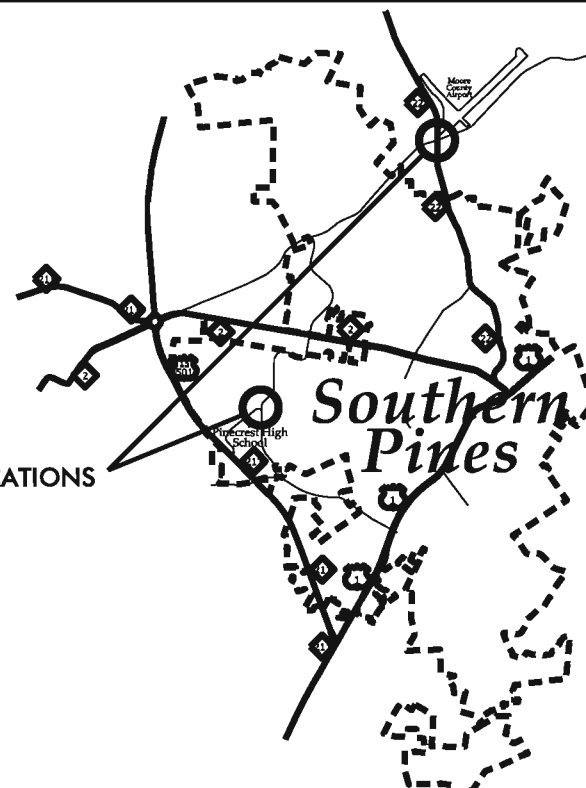
PROPOSED HIGHWAY LANDSCAPE DEVELOPMENT PROJECT



| | | | |
|------------------|--|---------|---------------|
| T.I.P. # | STATE PROJECT W.B.S. # | SHEET # | SHEET # TOTAL |
| | 3708.3.17 | L 1 | 06 |
| FED. PROJ. # | DESCRIPTION | | DIVISION |
| XXX-00-0(000)000 | Landscape Planting and Irrigation | | 08 |



PROJECT LOCATION



PROJECT LOCATIONS

CONVENTIONAL SYMBOLS

| | |
|--|-------------|
| County Line | ----- |
| City or Town Line | ----- |
| Exist. Right of Way Line Marker | -----▲----- |
| Prop. Right of Way Line Marker (By Other) | -----▲----- |
| Prop. Right of Way Line Marker (By Contract) | -----▲----- |
| Exist. Control of Access Line | -----①----- |
| Prop. Control of Access Line | -----②----- |
| Property Line | ----- |
| Easement Line | ----- |
| Slope Stake Line | ----- |
| Exist. Fence | ----- |
| Prop. Woven Wire Fence | ----- |
| Prop. Chain Link Fence | ----- |
| Exist. Road | ----- |
| Prop. Road | ----- |
| Guardrail | ----- |
| Survey Line | ----- |
| Denotes Line Equality | ----- |
| Bridge | ----- |
| Culvert | ----- |
| Railroad | ----- |
| Woods | ----- |
| Exist. Telephone Pole | ----- |
| Prop. Telephone Pole | ----- |
| Tower Pole and Line | ----- |
| Exist. Power Pole | ----- |
| Prop. Power Pole | ----- |
| Sanitary Sewer Line | ----- |
| Water Line | ----- |
| Gas Line | ----- |
| Picnic Shelter | ----- |
| Regeneration | ----- |
| Reforestation | ----- |

INDEX OF L SHEETS:

| | |
|-------|--------------------------------|
| L 1 | - TITLE, DESCRIPTION, LOCATION |
| L 2 | - PLANTING DETAILS |
| L 3-4 | - PLANTING PLANS |
| L 5-6 | - IRRIGATION PLANS |

DIV. 8 SOUTHERN PINES TRAFFIC CIRCLES SUMMARY OF QUANTITIES

| Des | Sec | Qty. | | | Unit | Botanical Name | Common Name | Size | Caliper | Furnish | A.S.N.S. | Remarks |
|------|------|-------|----------|-------|------|--|-------------------------------------|--------|---------|----------|-----------|----------|
| | | NC 22 | Knoll Rd | Total | | | | | | | | |
| L | 1670 | 1 | 1 | 2 | ea | <i>Cercis canadensis</i> 'Forest Pansy' | Forest Pansy Redbud | 6-7' | | B&B | 1.2.3 | as shown |
| L | 1670 | 1 | 1 | 2 | ea | <i>Chionanthus virginica</i> | Fringe Tree | 5-6' | | B&B | 1.2.3 | as shown |
| L | 1670 | 1 | 1 | 2 | ea | <i>Cornus florida</i> 'Cherokee Princess' | Cherokee Princess Flowering Dogwood | 6-7' | | B&B | 1.2.4 | as shown |
| L | 1670 | 99 | 99 | 198 | ea | <i>Hemerocallis</i> 'Prairie Moonlight' | Prairie Moonlight Daylily | 2 Fan | | BR | 12.2.1 | as shown |
| L | 1670 | 15 | 15 | 30 | | <i>Ilex vomitoria</i> 'Nana' | Dwarf Yaupon Holly | 12-15" | | #3 cont. | 4.2.3 | as shown |
| L | 1670 | 39 | 39 | 78 | ea | <i>Juniperus horizontalis</i> 'Plumosa Compacta' | Andorra Juniper | 12-15" | | #3 cont. | 3.2.1 | as shown |
| L | 1670 | 1 | 0 | 1 | ea | <i>Magnolia</i> 'Little Gem' | Little Gem Magnolia | 8-10' | | B&B | 1.3.2.4.2 | as shown |
| L | 1670 | 48 | 48 | 96 | ea | <i>Muhlenbergia capillaris</i> | Pink Muhly Grass | | | #1 cont. | 12.4 | as shown |
| L | 1670 | 204 | 204 | 408 | ea | <i>Narcissus</i> 'St. Keverne' | St Keverne Daffodil | DN II | | Bulb | 11.19 | as shown |
| L | 1670 | 0 | 1 | 1 | ea | <i>Pinus palustris</i> | Longleaf Pine | 6-7' | | B&B | 3.2.4 | as shown |
| L | 1670 | 63 | 63 | 126 | ea | <i>Sedum</i> 'Autumn Joy' | Autumn Joy Sedum | | | #1 cont. | 2.2.1 | as shown |
| L | 1670 | 9 | 9 | 18 | ea | <i>Yucca filamentosa</i> | Adam's Needle | | | #3 cont. | | as shown |
| L | 1670 | 600 | 600 | 1200 | SY | SOD | | | | | | |
| L | 1670 | 2206 | 2206 | 4412 | SF | | Bed preparation | | | | | |
| L | 1670 | 245 | 245 | 490 | SY | | Pre Emergent Bed Treatment | | | | | |
| 2729 | 1670 | 21 | 21 | 42 | CY | Mulch for Planting | | | | | | |
| 2731 | 1670 | 1 | 1 | 2 | M/G | Water for Planting | | | | | | |

PREPARED BY: *dlw* DATE: 8/2/11
Planting Design by Vince Zucchino
 Southern Pines Appearance Commission

REVISIONS

| DATE | DESCRIPTION |
|------|-------------|
| | |
| | |
| | |



**STATE OF
NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION**

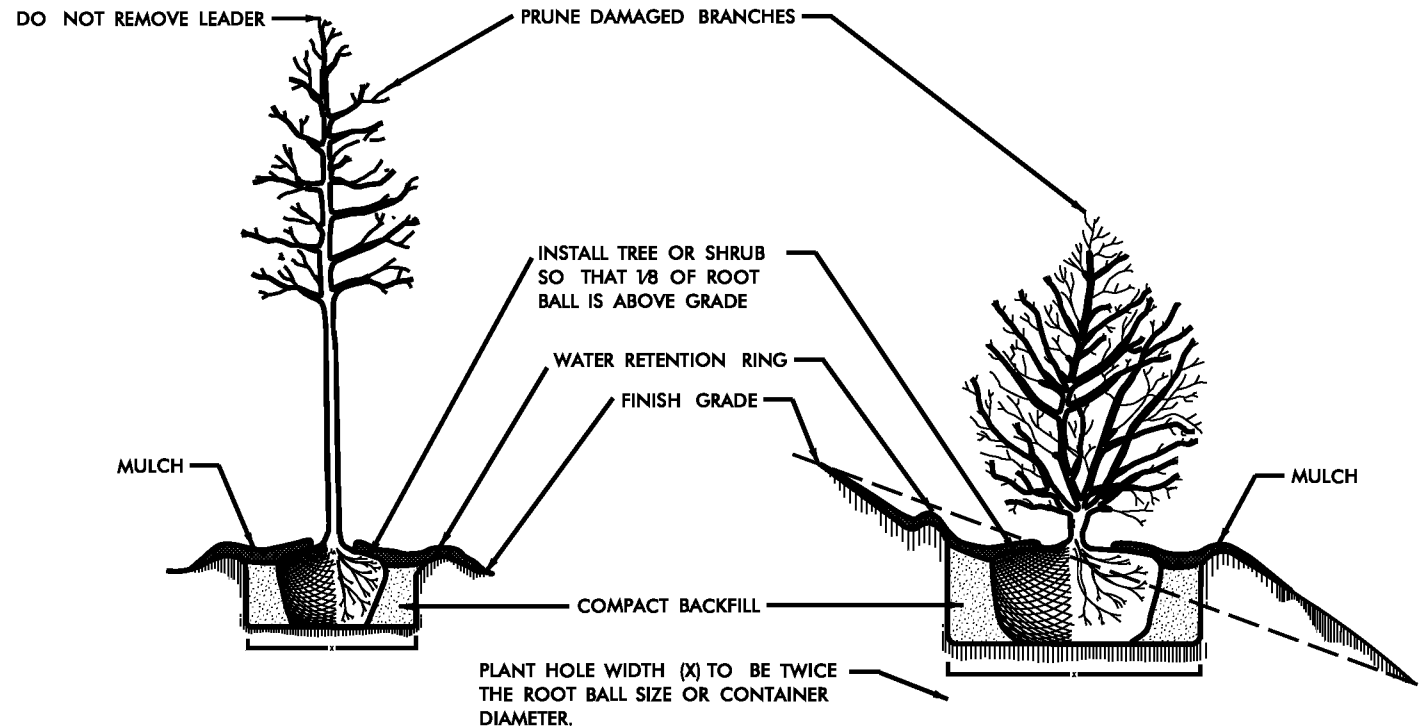
LOCATION: **Southern Pines: NC22 @ Airport Rd. and Knoll Rd. @ Voit Gilmore Ln.**

TYPE of WORK: **Traffic Circles Planting**

COUNTY: **MOORE COUNTY**

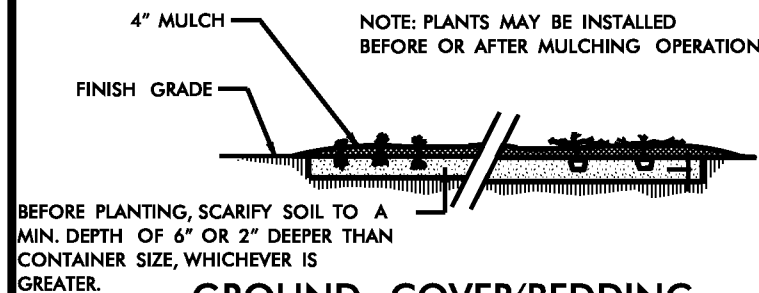
2002 STANDARD SPECIFICATIONS

PREPARED IN THE OFFICE OF:
 NCDOT- ROADSIDE ENVIRONMENTAL UNIT
 LANDSCAPE DESIGN & DEVELOPMENT SECTION
 1557 MAIL SERVICE CENTER
 RALEIGH NC 27699 919-733-2920

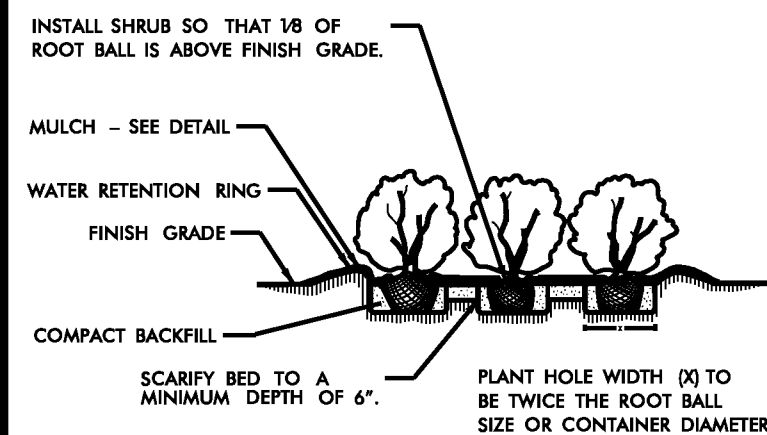


TREE OR SHRUB PLANTING DETAIL
(LEVEL GROUND)

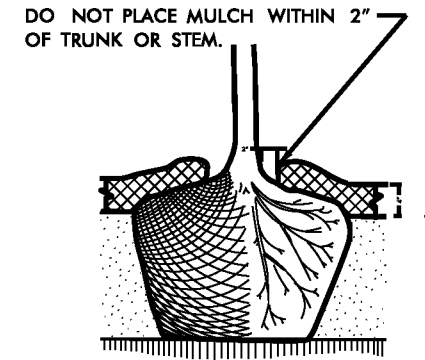
TREE OR SHRUB PLANTING DETAIL
(SLOPING GROUND)



GROUND COVER/BEDDING PLANT DETAIL

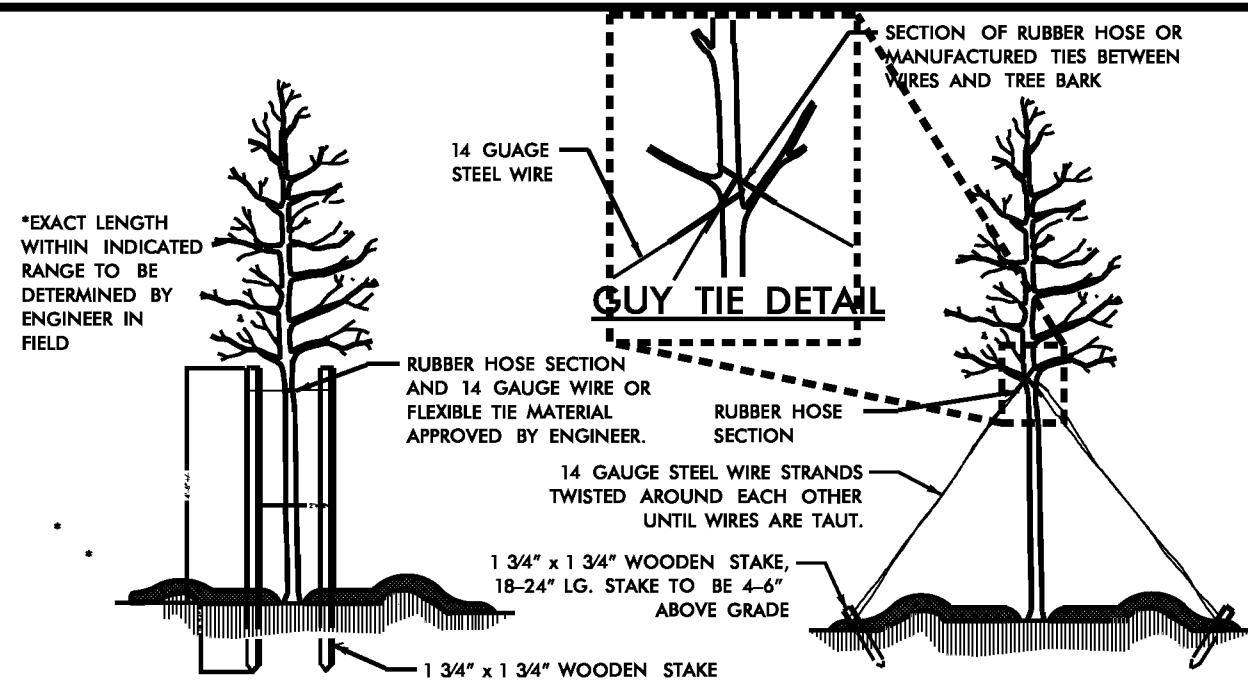


SHRUB BED PLANTING DETAIL



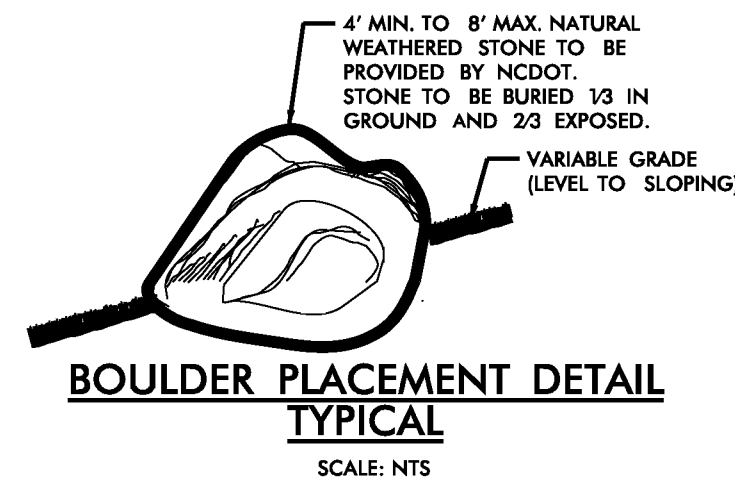
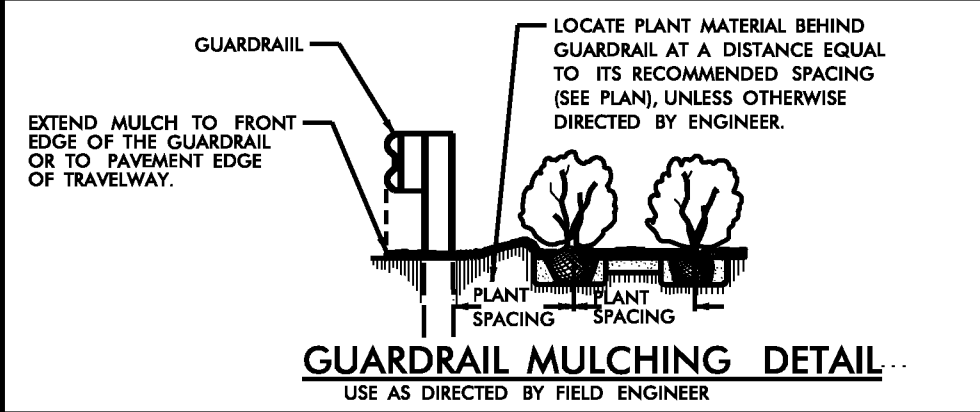
MULCH DETAIL

- NOTES:**
- SCHEDULE FOR PLANT HOLE SIZE: PLANT HOLE WIDTH (X) TO BE TWICE THE ROOT BALL SIZE OR CONTAINER DIAMETER.
 - SEE STANDARD SPECIFICATIONS FOR PLANT BED FUMIGATION AND HERBICIDAL TREATMENT.
 - APPLY FERTILIZER AT PLANTING TIME IN THE FORM OF A SLOW RELEASE PELLET OR TABLET. APPLY AT RATE RECOMMENDED BY MANUFACTURER. BOTH RATE AND FORMULATION MUST BE APPROVED BY FIELD ENGINEER PRIOR TO APPLICATION.
 - REMOVE WIRE BASKET AND FOLD BURLAP BACK FROM TOP OF ROOT BALL BEFORE BACKFILLING IS COMPLETE.
 - ALL PRUNING TO FOLLOW STANDARD ARBORICULTURAL PRACTICES AS SPECIFIED BY INTERNATIONAL SOCIETY OF ARBORICULTURE.
 - DO NOT ATTEMPT TO STRAIGHTEN A TREE THAT HAS BEEN PLANTED AT AN ANGLE WITH THE USE OF STAKING OR GUYING. DIG TREE AND REPLANT TO UPRIGHT POSITION.



PLAN VIEW
STAKING DETAIL
(TREES 6'-10')
USE AS DIRECTED BY FIELD ENGINEER

PLAN VIEW
GUYING DETAIL
(TREES 10' OR LARGER)
USE AS DIRECTED BY FIELD ENGINEER



CLASS "A" STONE DITCH LINING DETAIL
MIN. 12" DEEP CLASS "A" STONE ON FILTER FABRIC LINER IN DITCH. PLACE STONE FLUSH WITH DITCH GRADE FOR MAXIMUM WATER FLOW.

STATE W.B.S. # 3708.3.17 I.T.P. #

LANDSCAPE DESIGN & DEVELOPMENT SECTION
NCDOT ROADSIDE ENVIRONMENTAL UNIT
1557 MAIL SERVICE CENTER
RALEIGH NC 27699 919-733-2920

Planting Details

PROJECT DESCRIPTION: S. Pines Traffic Circles, Moore County NC 22@Airport Rd. and Knoll Rd.@Vot Gilmore Ln.

DESIGNED BY: DLW

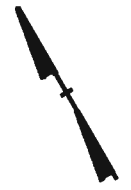
SHEET #

DATE: 8/22/11

SCALE: As Shown

SHEET # OF: L2 6

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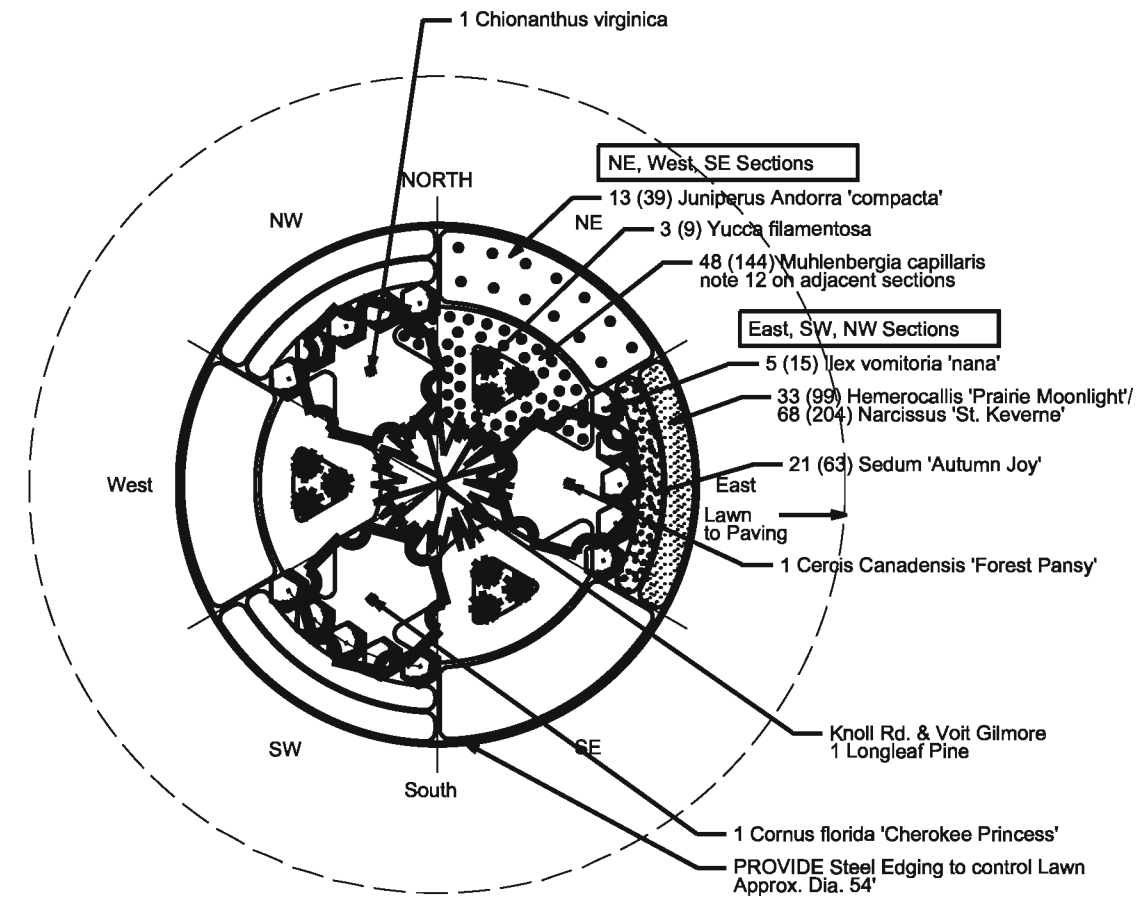
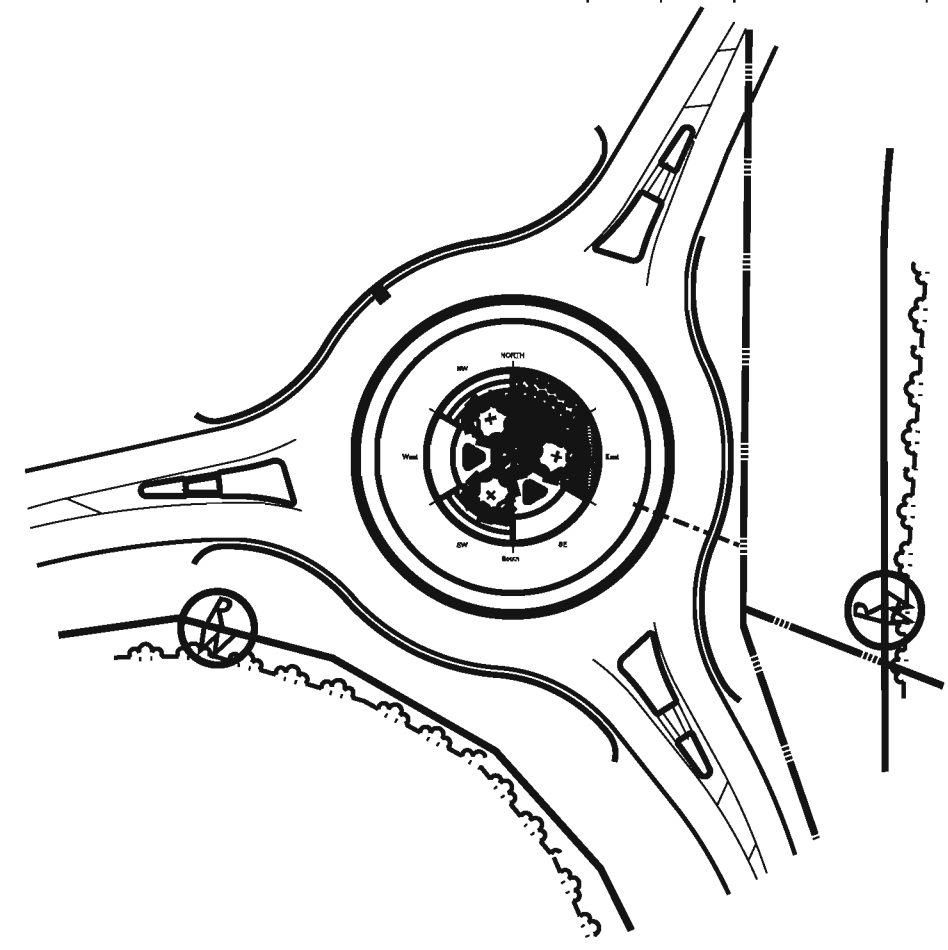


C

B

A

| PLANT LIST | | | | | | | | | | |
|------------|------|------|------|--|-------------------------------------|--------|---------|----------|-----------|----------|
| Des | Sec | Qty. | Unit | Botanical Name | Common Name | Size | Caliper | Furnish | A.S.N.S. | Remarks |
| L | 1665 | 1 | ea | <i>Cercis Canadensis 'Forest Pansy'</i> | Forest Pansy Redbud | 6-7' | | B&B | 1.2.3 | as shown |
| L | 1666 | 1 | ea | <i>Chionanthus virginica</i> | Fringe Tree | 5-6' | | B&B | 1.2.3 | as shown |
| L | 1667 | 1 | ea | <i>Cornus florida 'Cherokee Princess'</i> | Cherokee Princess Flowering Dogwood | 6-7' | | B&B | 1.2.4 | as shown |
| L | 1668 | 99 | ea | <i>Hemerocallis 'Prairie Moonlight'</i> | Prairie Moonlight Daylily | 2 Fan | | BR | 12.2.1 | as shown |
| L | 1669 | 15 | | <i>Ilex vomitoria 'Nana'</i> | Dwarf Yaupon Holly | 12-15" | | #3 cont. | 4.2.3 | as shown |
| L | 1670 | 39 | ea | <i>Juniperus horizontalis 'Plumosa Compacta'</i> | Andorra Juniper | 12-15" | | #3 cont. | 3.2.1 | as shown |
| L | 1670 | 0 | ea | <i>Magnolia 'Little Gem'</i> | Little Gem Magnolia | 8-10' | | B&B | 1.3.2.4.2 | as shown |
| L | 1670 | 48 | ea | <i>Muhlenbergia capillaris</i> | Pink Muhly Grass | | | #1 cont. | 12.4 | as shown |
| L | 1670 | 204 | ea | <i>Narcissus 'St. Keverne'</i> | St Keverne Daffodil | DN II | | Bulb | 11.19 | as shown |
| L | 1670 | 1 | ea | <i>Pinus palustris</i> | Longleaf Pine | 6-7' | | B&B | 3.2.4 | as shown |
| L | 1670 | 63 | ea | <i>Sedum 'Autumn Joy'</i> | Autumn Joy Sedum | | | #1 cont. | 2.2.1 | as shown |
| L | 1670 | 9 | ea | <i>Yucca filamentosa</i> | Adam's Needle | | | #3 cont. | | as shown |
| L | 1670 | 600 | SY | SOD | | | | | | |



NOTE: PLANT MATERIAL SHOULD BE MAINTAINED SO AS NOT TO BSTRUCT THE VIEW ACROSS ANY PORTION OF THE ROUNDABOUT BETWEEN THREE AND SIX FEET IN HEIGHT.



Knoll Rd. @
Voit Gilmore Ln

STATE
W.B.S. # 3708.3.17
I.T.P. #
FA #

LANDSCAPE DESIGN & DEVELOPMENT SECTION
NCDOT ROADSIDE ENVIRONMENTAL UNIT
1557 MAIL SERVICE CENTER
RALEIGH NC 27699 919-733-2920

PLAN: **Planting**
Knoll Road @ Voit Gilmore Traffic Lane Circle
PROJECT DESCRIPTION: S. Pines Traffic Circles, Moore County
NC 22@Airport Rd. and Knoll Rd.@Voit Gilmore Ln.

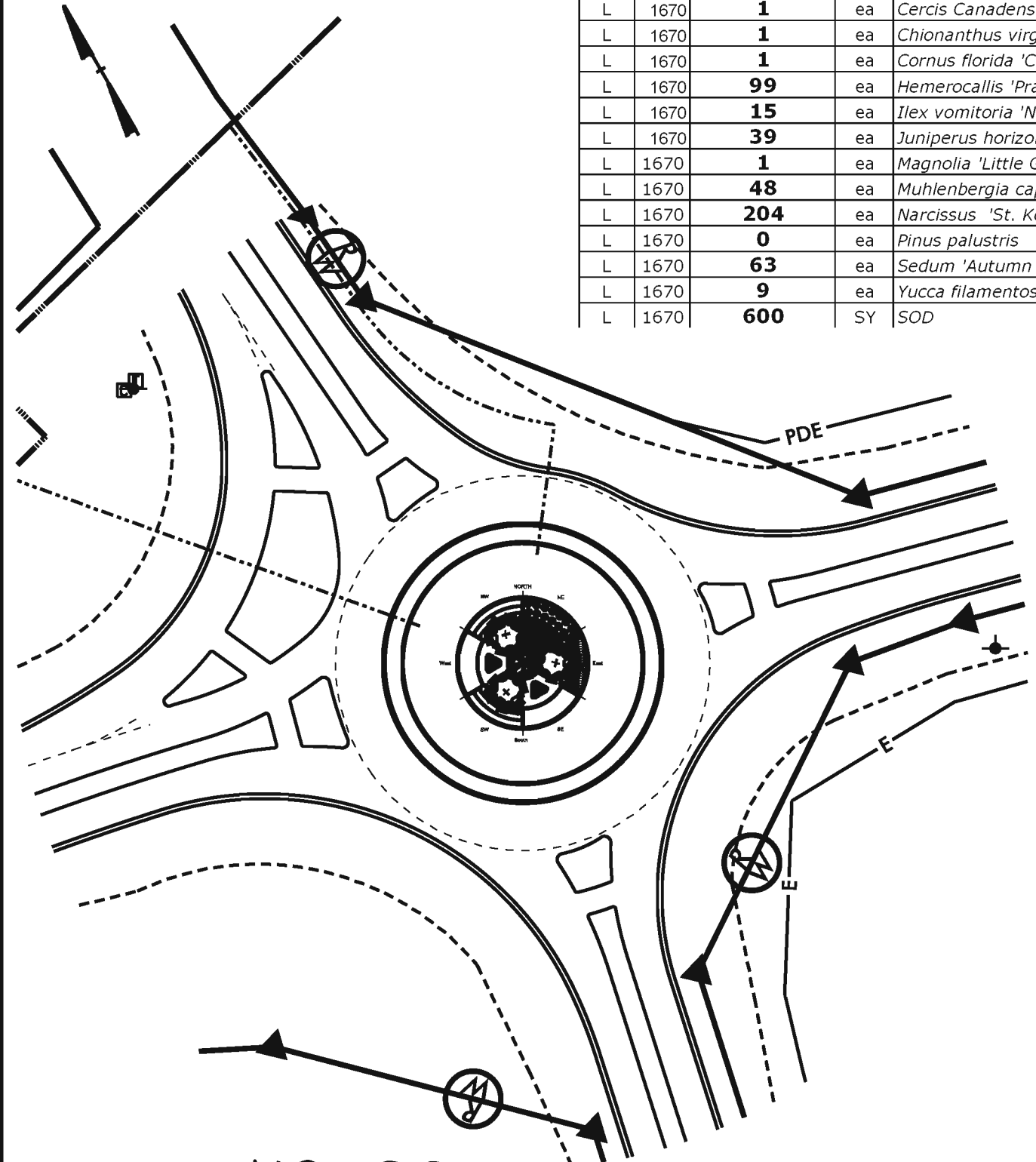
DESIGNED BY:
Vince Zucchino
SP Appearance Commission

SHEET:
DATE
8/2/2011
SCALE
As Shown
SHEET # OF
L3 6

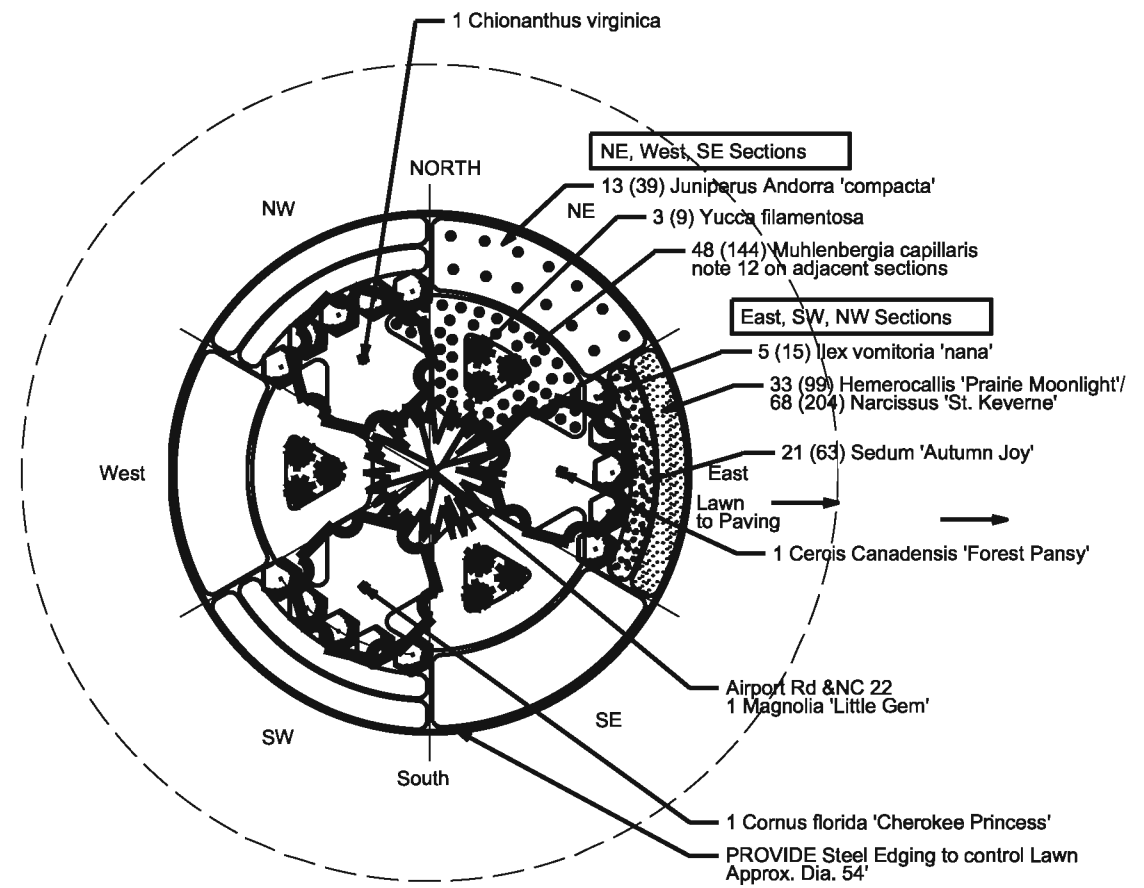
D
C
B
A

1 2 3 4 5 6

| PLANT LIST | | | | | | | | | | |
|------------|------|------|------|--|-------------------------------------|--------|---------|----------|-----------|----------|
| Des | Sec | Qty. | Unit | Botanical Name | Common Name | Size | Caliper | Furnish | A.S.N.S. | Remarks |
| L | 1670 | 1 | ea | <i>Cercis Canadensis</i> 'Forest Pansy' | Forest Pansy Redbud | 6-7' | | B&B | 1.2.3 | as shown |
| L | 1670 | 1 | ea | <i>Chionanthus virginica</i> | Fringe Tree | 5-6' | | B&B | 1.2.3 | as shown |
| L | 1670 | 1 | ea | <i>Cornus florida</i> 'Cherokee Princess' | Cherokee Princess Flowering Dogwood | 6-7' | | B&B | 1.2.4 | as shown |
| L | 1670 | 99 | ea | <i>Hemerocallis</i> 'Prairie Moonlight' | Prairie Moonlight Daylily | 2 Fan | | BR | 12.2.1 | as shown |
| L | 1670 | 15 | ea | <i>Ilex vomitoria</i> 'Nana' | Dwarf Yaupon Holly | 12-15" | | #3 cont. | 4.2.3 | as shown |
| L | 1670 | 39 | ea | <i>Juniperus horizontalis</i> 'Plumosa Compacta' | Andorra Juniper | 12-15" | | #3 cont. | 3.2.1 | as shown |
| L | 1670 | 1 | ea | <i>Magnolia</i> 'Little Gem' | Little Gem Magnolia | 8-10' | | B&B | 1.3.2.4.2 | as shown |
| L | 1670 | 48 | ea | <i>Muhlenbergia capillaris</i> | Pink Muhly Grass | | | #1 cont. | 12.4 | as shown |
| L | 1670 | 204 | ea | <i>Narcissus</i> 'St. Keverne' | St Keverne Daffodil | DN II | | Bulb | 11.19 | as shown |
| L | 1670 | 0 | ea | <i>Pinus palustris</i> | Longleaf Pine | 6-7' | | B&B | 3.2.4 | as shown |
| L | 1670 | 63 | ea | <i>Sedum</i> 'Autumn Joy' | Autumn Joy Sedum | | | #1 cont. | 2.2.1 | as shown |
| L | 1670 | 9 | ea | <i>Yucca filamentosa</i> | Adam's Needle | | | #3 cont. | | as shown |
| L | 1670 | 600 | SY | SOD | | | | | | |



NC 22 @
Airport Rd



NOTE: PLANT MATERIAL SHOULD BE MAINTAINED SO AS NOT TO BSTRUCT THE VIEW ACROSS ANY PORTION OF THE ROUNDABOUT BETWEEN THREE AND SIX FEET IN HEIGHT.



STATE
W.B.S. # 3708.3.17
I.T.P. #
FA #

LANDSCAPE DESIGN & DEVELOPMENT SECTION
NCDOT ROADSIDE ENVIRONMENTAL UNIT
1557 MAIL SERVICE CENTER
RALEIGH NC 27699 919-733-2920

PLAN: **Planting**
NC 22 @ Airport Rd Traffic Circle
PROJECT DESCRIPTION: S. Pines Traffic Circles, Moore County
NC 22@Airport Rd. and Knoll Rd.@Vot Gilmore Ln.

DESIGNED BY:
Vince Zucchino
SP Appearance Commission

SHEET: _____

DATE
8/2/2011

SCALE
As Shown

SHEET # OF
L4 6

NOTES & LEGENDS

HEADS: (May be of comparable manufacture and performance to Brand Named)

- TORO SERIES 570 PRX-8P POP UP - 8" POP UP SPRINKLER HEAD FITTED WITH PRECISION SPRAY 570 SERIES SPRAY NOZZLE
- ALL HEADS WITH A 12" POP UP STROKE, IF INSTALLED WITH LESS THAN 1/3 OF THE SPRINKLER BODY EXPOSED ABOVE GRADE, SHALL BE INSTALLED ON POLYETHYLENE FLEX SWING JOINTS POLY PIPE FITTED WITH (3/8" INSERT BY 1/2" M.P.T. AND /OR 3/4" INSERT BY 1/2" M.P.T.) ELBOWS. IF GREATER THAN 1/3 OF THE SPRINKLER BODY IS EXPOSED THEN THE 12" POP UP HEAD SHALL BE MOUNTED ON A SCHEDULE 40 PVC PIPE RISER AS DESCRIBED BELOW IN RELATION TO MOUNTING SHRUB HEAD MODELS. IN MOUNTING 12" POP UP HEADS ON SHRUBS TYPE RISERS CARE SHALL BE TAKEN TO INSTALL THE HEAD IN SUCH A MANNER THAT SURROUNDING PLANT MATERIAL (PLANNED OR EXISTING) WILL HIDE THE BODY OF THE SPRINKLER AS WELL AS POSSIBLE WHILE THE NOZZLE
- ALL POP UP IRRIGATION HEADS DESIGNED ADJACENT TO CURBS OR PAVEMENT SHALL BE INSTALLED WITH A CLEARANCE OF 1/2" FROM THE EDGES OF ALL PAVED AREAS TO PROVIDE FOR EDGING AND MAINTENANCE OPERATIONS. HEADS INSTALLED ON SHRUBS RISER OR WITH THE TOP OF THE HEAD MORE THAN 1/2" ABOVE GRADE SHALL BE INSTALLED WITH A MINIMUM 6" CLEARANCE FROM PAVED AREAS.
- ALL THREADED PIPE CONNECTIONS SHALL BE ASSEMBLED USING TEFLON THREAD SEALING TAPE.
- ALL HEADS MOUNTED IN THE LAWN AREAS SHALL BE MOUNTED ON TORO POLYETHYLENE PIPE FLEX SWING JOINTS COMPOSED OF MODEL #850-01 3/4" I.D. POLY PIPE FITTED WITH #850-31 (3/8" INSERT BY 1/2" M.P.T.) AND /OR #850-32 (3/8" INSERT BY 3/4" M.P.T.) ELBOWS.

PIPE

- DENOTES ROUTES OF PR 200 PVC LATERAL PIPING. SIZE OF LATERAL PIPING SHALL BE AS NOTED BELOW. MINIMUM DEPTH OF COVER OVER LATERAL PIPING TO BE 12"

LATERAL PIPING SIZING SCHEDULE;

SUMMATION OF GALLONAGE DEMAND ON THE PARTICULAR BRANCHES OF PIPE WITHIN A CONTROL SECTION SHALL BE DETERMINED BY USING THE GPM FOR A NOZZLE BASED ON A 50 PSI BASE OF HEAD PRESSURE AND FULL RADIUS AT THAT PRESSURE AS REPORTED IN THE TORO 2010 IRRIGATION PRODUCTS CATALOG. PIPE SIZES FOR THE LATERALS SHALL BE AS FOLLOWS:
 ZERO TO FIFTEEN GPM ACCUMULATED FLOW USE 1" PR 200 PVC PIPE
 GREATER THAN FIFTEEN UP TO THIRTY -FIVE GPM USE 1-1/2" PR 200 PVC PIPE
 FRICTION LOSS ALLOWANCES FOR THIS PROJECT HAVE BEEN DETERMINED USING THE ABOVE FLOW RANGES AND DEMANDS

- DENOTES ROUTE OF PR 200 MAIN LINE PIPING.
- SIZE OF PIPE TO BE 1-1/2" IN MINIMUM
- DEPTH OF MAINLINE PIPING TO BE 18" MINIMUM
- PIPING SHALL BE PR 200 SOLVENT WELD PVC PIPE WITH SCHEDULE 40 PVC SOLVENT WELD FITTING UNLESS OTHERWISE NOTED.
- ALL PIPING RUNS SHALL BE "SNAKED" IN THE TRENCH DURING INSTALLATION TO PREVENT EXCESSIVE STRAIN DUE TO THERMAL EXPANSION OR CONTRACTION.
- THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO AVOID DAMAGING PLANTINGS (INCLUDING ROOTS) DURING INSTALLATION OF THE IRRIGATION SYSTEM AND SHALL COORDINATE HIS EFFORTS WITH THE LANDSCAPE CONTRACTOR SO AS TO OPTIMIZE THE EFFICIENCY AND THE AESTHETIC QUALITY OF THE INSTALLATION

DRIP IRRIGATION: (MAY BE OF COMPARABLE MANUFACTURE AND PERFORMANCE TO BRAND NAMED)

- 18" EMITTER SPACING INTERVALS AT 1 GPM EMITTERS IN LINE.
- LOCATION OF TORO NETA-FIM TECHLINE 1/2" P.E. TUBING. NETA-FIM (MODEL# TLDL-9-1810) TECHLINE, OR COMPARABLE, TO BE INSTALLED UNDER MULCH IN LANDSCAPE AREAS AS SHOWN ON THE IRRIGATION PLAN.
- LOCATION OF DRIP VALVE ASSEMBLY WHICH INCLUDES TORO TPVF-100DC SERIES REMOTE CONTROL VALVE WITH FLOW CONTROL FEATURE, NETA-FIM 200 MESH FILTER #DF150-140, AND NETA-FIM PRESSURE REGULATOR #PVR15045. FLOW CONTROL VALVES SHALL BE AS NOTED ON BOXES WITH LIDS MOUNTED AT GRADE LEVEL.

HEAD RADI

- THE IRRIGATION CONTRACTOR SHALL ADJUST THE RADIUS AND THROW OF EACH SPRINKLER HEAD TO PROVIDE OPTIMUM COVERAGE WHILE MINIMIZING OVER SPRAY ONTO HARDSCAPES OR BUILDINGS. ADJUST HEADS TO ELIMINATE DRY SPOTS.
- APPROXIMATE ARC AND RADIUS OF INDIVIDUAL SPRINKLER HEAD COVERAGE SHALL BE AS ILLUSTRATED. INDIVIDUAL HEAD OR NOZZLE MODEL NUMBERS MAY BE DEPENDENT UPON THESE SPECIFIC CHARACTERISTICS

VALVES: (may be of comparable manufacture and performance to brand named)

- LOCATION OF ELECTRIC 24 V.A.C. REMOTE CONTROL VALVE WITH FLOW CONTROL FEATURE (MODEL # TPVF100DC SOLENOIDS). SIZE OF ZONE CONTROL VALVES TO BE AS NOTED ON THE IRRIGATION PLANS.
- ALL IN-LINE REMOTE CONTROL VALVES SHALL BE INSTALLED IN CARSON VALVE BOXES WITH LIDS MOUNTED AT GRADE LEVEL. SINGLE VALVES MAY BE INSTALLED IN CARSON MODEL #910-1 VALVE BOX WITH #910-2 COVER, WHILE MULTIPLE VALVES (UP TO, TWO 1" VALVES OR ONE, 1-1/2" SHALL BE INSTALLED IN CARSON MODEL #1419-1 BOX WITH #1419-2 COVER

BACK FLOW PREVENTION

- DENOTES THE LOCATION OF REDUCED PRESSURE BACK FLOW PREVENTER ASSEMBLY WHICH SHALL BE THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR. THE BACK FLOW SHALL BE 1" IN SIZE. THE BACK FLOW ASSEMBLY SHALL BE INSTALLED DOWNSTREAM OF THE IRRIGATION METER AS SHOWN ON THE LAYOUT. THE UNIT MUST BE INSTALLED IN ACCORDANCE WITH ALL LOCAL AND STATE CODE REQUIREMENTS AND SHALL HAVE AN APPROVED COVER.

WATER SUPPLY

- CONTRACTOR SHALL TAP EXISTING WATER LINE AND INSTALL 1" SERVICE TO METER
- DENOTES THE LOCATION OF THE PROPOSED IRRIGATION METER. THE METER SHALL BE SUPPLIED BY THE TOWN OF SOUTHERN PINES AND INSTALLED BY THE CONTRACTOR. THE METER IS 1" IN SIZE. SINCE THE WATER SUPPLY FOR THE SYSTEM SHALL BE POTABLE WATER, THE CONTRACTOR WILL BE REQUIRED TO INSTALL BACK FLOW PREVENTION DEVICE WHICH WILL BE LOCATED DOWNSTREAM OF THE IRRIGATION METER AS NOTED ON PLAN. CONTRACTOR SHALL BORE UNDER EXISTING CURB/PAVEMENT TO INSTALL 4" SLEEVE AND WATER SUPPLY TO CIRCLE. NO OPEN CUTTING OF CURB/PAVEMENT WILL BE PERMITTED

THIS IRRIGATION SYSTEM SHALL BE CAPABLE OF DELIVERING 30 GPM MINIMUM WITH ONE CONTROL STATION OPERATING AT A TIME AT 60 PSI AT THE BASE OF THE HEAD FOR OPTIMUM PERFORMANCE OF THE IRRIGATION SYSTEM.

CONTROLLER: (may be of comparable manufacture and performance to named brand)

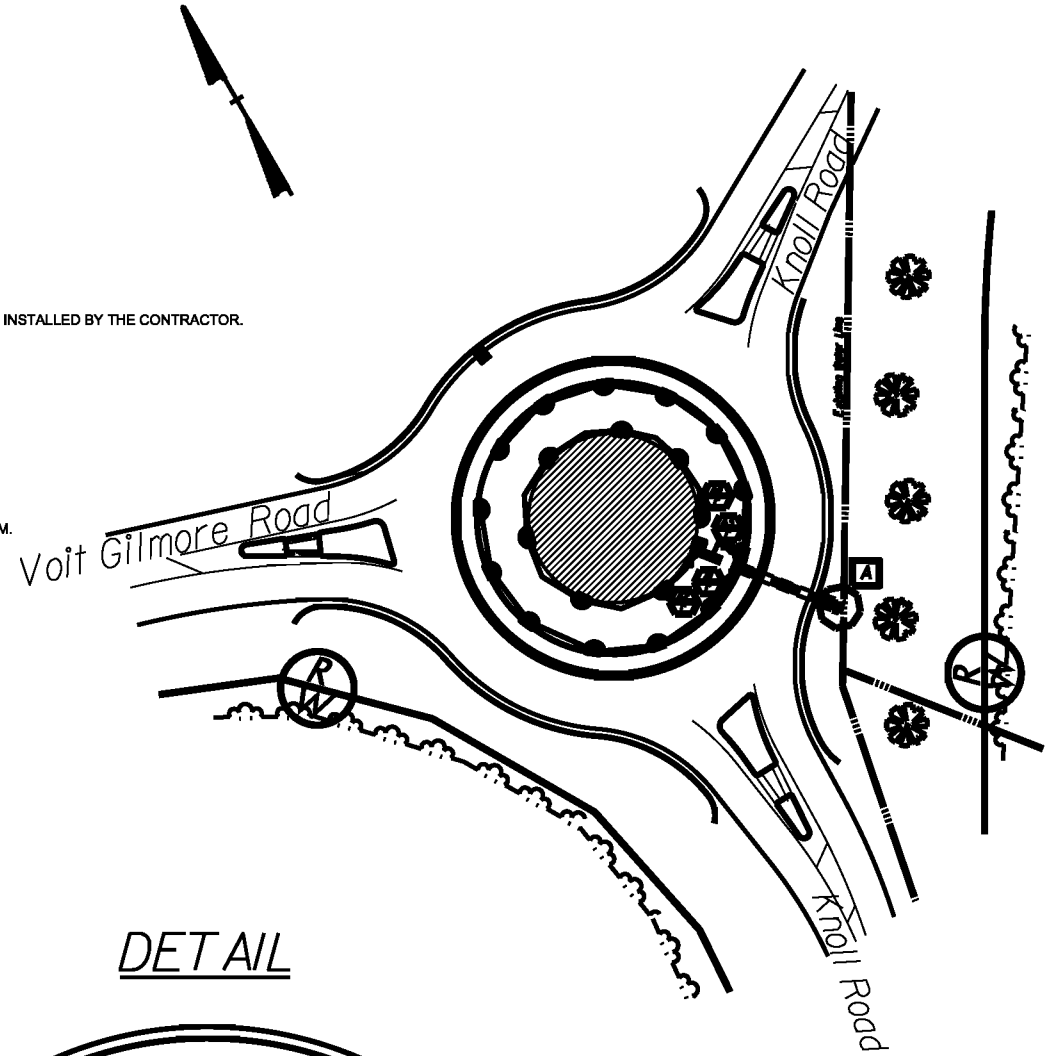
- LOCATION OF IRRIGATION CONTROLLER. THE CONTROLLER SHALL BE CUSTOM COMMAND (DDCWP-6-9V SERIES) SOLID STATE UNIT APPROXIMATE LOCATION SHOWN ON THE PLAN. BATTERY OPERATED CONTROLLER IS TO BE PLACED IN CARSON VALVE BOXES MODEL #910-1VALVE WITH #910-2 COVER

SLEEVING

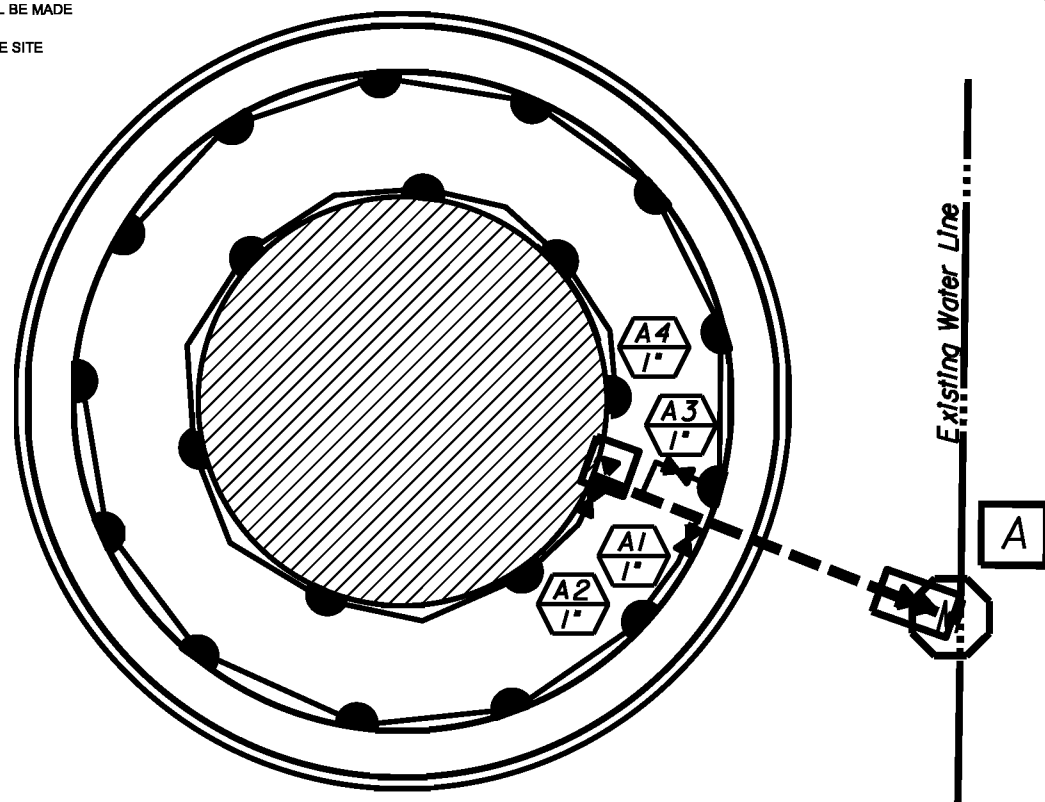
- SLEEVES SHALL BE 3" PVC FOR 24 VAC WIRING PER ELECTRICAL CODE. THE IRRIGATION CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE IRRIGATION SYSTEM WITH THE LANDSCAPE CONTRACTOR TO INSURE PROPER INSTALLATION OF BOTH THE IRRIGATION SYSTEM WITH THE LANDSCAPE AND HARDSCAPE

GENERAL

THE IRRIGATION SYSTEM IS DISPLAYED SCHEMATIC IN NATURE. THE IRRIGATION CONTRACTOR MAY BE REQUIRED TO MAKE MINOR ADJUSTMENTS IN THE FIELD. THESE MINOR ADJUSTMENTS SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER BUT SHALL BE MADE ONLY AFTER NOTIFICATION IS MADE TO OWNER. (NC DOT)
 - THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE SITE SO THAT HE IS AWARE OF ANY SPECIAL CONDITIONS WHICH EXIST THAT MAY AFFECT HIS BID PROPOSAL AND SHALL THEREAFTER BE RESPONSIBLE FOR ALL COST INCURRED BY HIMSELF IN RELATION TO THE INSTALLATION.



DETAIL



Knoll Rd. @
Voigt Gilmore Ln



LANDSCAPE DESIGN & DEVELOPMENT SECTION
 NCDOT ROADSIDE ENVIRONMENTAL UNIT
 1557 MAIL SERVICE CENTER
 RALEIGH NC 27699 919-733-2920

PLAN :
 Irrigation Plan
 Knoll Road @ Voigt Gilmore Traffic Lane Circle
 PROJECT DESCRIPTION : S. Pines Traffic Circles, Moore County
 NC 22@Airport Rd. and Knoll Rd.@Voigt Gilmore Ln.

| | |
|--------------|----------|
| DESIGNED BY: | BM |
| SHEET: | |
| DATE: | 8/2/2011 |
| SCALE: | |
| SHEET # | OF |
| L-5 | 6 |

NOTES & LEGENDS

HEADS: (May be of comparable manufacture and performance to Brand Named)

- TORO SERIES 570 PRX-6P POP UP - 6" POP UP SPRINKLER HEAD FITTED WITH PRECISION SPRAY 570 SERIES SPRAY NOZZLE
- ALL HEADS WITH A 12" POP UP STROKE, IF INSTALLED WITH LESS THAN 1/3 OF THE SPRINKLER BODY EXPOSED ABOVE GRADE, SHALL BE INSTALLED ON POLYETHYLENE FLEX SWING JOINTS POLY PIPE FITTED WITH (3/8" INSERT BY 1/2" M.P.T. AND/OR 3/4" INSERT BY 1/2" M.P.T.) ELBOWS. IF GREATER THAN 1/3 OF THE SPRINKLER BODY IS EXPOSED THEN THE 12" POP UP HEAD SHALL BE MOUNTED ON A SCHEDULE 40 PVC PIPE RISER AS DESCRIBED BELOW IN RELATION TO MOUNTING SHRUB HEAD MODELS. IN MOUNTING 12" POP UP HEADS ON SHRUBS TYPE RISERS CARE SHALL BE TAKEN TO INSTALL THE HEAD IN SUCH A MANNER THAT SURROUNDING PLANT MATERIAL (PLANNED OR EXISTING) WILL HIDE THE BODY OF THE SPRINKLER AS WELL AS POSSIBLE WHILE THE NOZZLE
- ALL POP UP IRRIGATION HEADS DESIGNED ADJACENT TO CURBS OR PAVEMENT SHALL BE INSTALLED WITH A CLEARANCE OF 12" FROM THE EDGES OF ALL PAVED AREAS TO PROVIDE FOR EDGING AND MAINTENANCE OPERATIONS. HEADS INSTALLED ON SHRUBS RISER OR WITH THE TOP OF THE HEAD MORE THAN 1/2" ABOVE GRADE SHALL BE INSTALLED WITH A MINIMUM 6" CLEARANCE FROM PAVED AREAS.
- ALL THREADED PIPE CONNECTIONS SHALL BE ASSEMBLED USING TEFLON THREAD SEALING TAPE.
- ALL HEADS MOUNTED IN THE LAWN AREAS SHALL BE MOUNTED ON TORO POLYETHYLENE PIPE FLEX SWING JOINTS COMPOSED OF MODEL #850-01 3/4" I.D. POLY PIPE FITTED WITH #850-31 (3/8" INSERT BY 1/2" M.P.T.) AND / OR #850-32 (3/8" INSERT BY 3/4" M.P.T.) ELBOWS.

PIPE

- DENOTES ROUTES OF PR 200 PVC LATERAL PIPING. SIZE OF LATERAL PIPING SHALL BE AS NOTED BELOW. MINIMUM DEPTH OF COVER OVER LATERAL PIPING TO BE 12"

LATERAL PIPING SIZING SCHEDULE;
SUMMATION OF GALLONAGE DEMAND ON THE PARTICULAR BRANCHES OF PIPE WITHIN A CONTROL SECTION SHALL BE DETERMINED BY USING THE GPM FOR A NOZZLE BASED ON A 50 PSI BASE OF HEAD PRESSURE AND FULL RADIUS AT THAT PRESSURE AS REPORTED IN THE TORO 2010 IRRIGATION PRODUCTS CATALOG. PIPE SIZES FOR THE LATERALS SHALL BE AS FOLLOWS:
ZERO TO FIFTEEN GPM ACCUMULATED FLOW USE 1" PR 200 PVC PIPE
GREATER THAN FIFTEEN UP TO THIRTY - FIVE GPM USE 1-1/2" PR 200 PVC PIPE
FRICTION LOSS ALLOWANCES FOR THIS PROJECT HAVE BEEN DETERMINED USING THE ABOVE FLOW RANGES AND DEMANDS

- DENOTES ROUTE OF PR 200 PVC MAIN LINE PIPING.
- SIZE OF PIPE TO BE 1-1/2" IN MINIMUM
- DEPTH OF MAINLINE PIPING TO BE 18" MINIMUM
- PIPING SHALL BE PR 200 SOLVENT WELD PVC PIPE WITH SCHEDULE 40 PVC SOLVENT WELD FITTING UNLESS OTHERWISE NOTED.
- ALL PIPING RUNS SHALL BE "SNAKED" IN THE TRENCH DURING INSTALLATION TO PREVENT EXCESSIVE STRAIN DUE TO THERMAL EXPANSION OR CONTRACTION.
- THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO AVOID DAMAGING PLANTINGS (INCLUDING ROOTS) DURING INSTALLATION OF THE IRRIGATION SYSTEM AND SHALL COORDINATE HIS EFFORTS WITH THE LANDSCAPE CONTRACTOR SO AS TO OPTIMIZE THE EFFICIENCY AND THE AESTHETIC QUALITY OF THE INSTALLATION

DRIP IRRIGATION: (MAY BE OF COMPARABLE MANUFACTURE AND PERFORMANCE TO BRAND NAMED)

- 18" EMITTER SPACING INTERVALS AT 1 GPM EMITTERS IN LINE.
- LOCATION OF TORO NETA-FIM TECHLINE 1/2" P.E. TUBING. NETA-FIM (MODEL# TLDL-9-1810) TECHLINE, OR COMPARABLE, TO BE INSTALLED UNDER MULCH IN LANDSCAPE AREAS AS SHOWN ON THE IRRIGATION PLAN.
- LOCATION OF DRIP VALVE ASSEMBLY WHICH INCLUDES TORO TPVF100DC SERIES REMOTE CONTROL VALVE WITH FLOW CONTROL FEATURE, NETA-FIM 200 MESH FILTER #DF150-140, AND NETA-FIM PRESSURE REGULATOR #PVR15045. FLOW CONTROL VALVES SHALL BE AS NOTED ON BOXES WITH LIDS MOUNTED AT GRADE LEVEL.

HEAD RADI

- THE IRRIGATION CONTRACTOR SHALL ADJUST THE RADIUS AND THROW OF EACH SPRINKLER HEAD TO PROVIDE OPTIMUM COVERAGE WHILE MINIMIZING OVER SPRAY ONTO HARDSCAPES OR BUILDINGS. ADJUST HEADS TO ELIMINATE DRY SPOTS.
- APPROXIMATE ARC AND RADIUS OF INDIVIDUAL SPRINKLER HEAD COVERAGE SHALL BE AS ILLUSTRATED. INDIVIDUAL HEAD OR NOZZLE MODEL NUMBERS MAY BE DEPENDENT UPON THESE SPECIFIC CHARACTERISTICS

VALVES: (may be of comparable manufacture and performance to brand named)

- LOCATION OF ELECTRIC 24 V.A.C. REMOTE CONTROL VALVE WITH FLOW CONTROL FEATURE (MODEL # TPVF100DC SOLENOIDS). SIZE OF ZONE CONTROL VALVES TO BE AS NOTED ON THE IRRIGATION PLANS.
- ALL IN-LINE REMOTE CONTROL VALVES SHALL BE INSTALLED IN CARSON VALVE BOXES WITH LIDS MOUNTED AT GRADE LEVEL. SINGLE VALVES MAY BE INSTALLED IN CARSON MODEL #910-1 VALVE BOX WITH #910-2 COVER, WHILE MULTIPLE VALVES (UP TO, TWO 1" VALVES OR ONE, 1-1/2" SHALL BE INSTALLED IN CARSON MODEL #1419-1 BOX WITH #1419-2 COVER

BACK FLOW PREVENTION

- DENOTES THE LOCATION OF REDUCED PRESSURE BACK FLOW PREVENTER ASSEMBLY WHICH SHALL BE THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR. THE BACK FLOW SHALL BE 1" IN SIZE. THE BACK FLOW ASSEMBLY SHALL BE INSTALLED DOWNSTREAM OF THE IRRIGATION METER AS SHOWN ON THE LAYOUT. THE UNIT MUST BE INSTALLED IN ACCORDANCE WITH ALL LOCAL AND STATE CODE REQUIREMENTS AND SHALL HAVE AN APPROVED COVER.

WATER SUPPLY

- (M) CONTRACTOR SHALL TAP EXISTING WATER LINE AND INSTALL 1" SERVICE TO METER. THE METER SHALL BE SUPPLIED BY THE TOWN OF SOUTHERN PINES AND INSTALLED BY THE CONTRACTOR. THE METER IS 1" IN SIZE. SINCE THE WATER SUPPLY FOR THE SYSTEM SHALL BE POTABLE WATER, THE CONTRACTOR WILL BE REQUIRED TO INSTALL BACK FLOW PREVENTION DEVICE WHICH WILL BE LOCATED DOWNSTREAM OF THE IRRIGATION METER AS NOTED ON PLAN. CONTRACTOR SHALL BORE UNDER EXISTING CURB/PAVEMENT TO INSTALL 4" SLEEVE AND WATER SUPPLY TO CIRCLE. NO OPEN CUTTING OF CURB/PAVEMENT WILL BE PERMITTED

THIS IRRIGATION SYSTEM SHALL BE CAPABLE OF DELIVERING 30 GPM MINIMUM WITH ONE CONTROL STATION OPERATING AT A TIME AT 60 PSI AT THE BASE OF THE HEAD FOR OPTIMUM PERFORMANCE OF THE IRRIGATION SYSTEM.

CONTROLLER: (may be of comparable manufacture and performance to named brand)

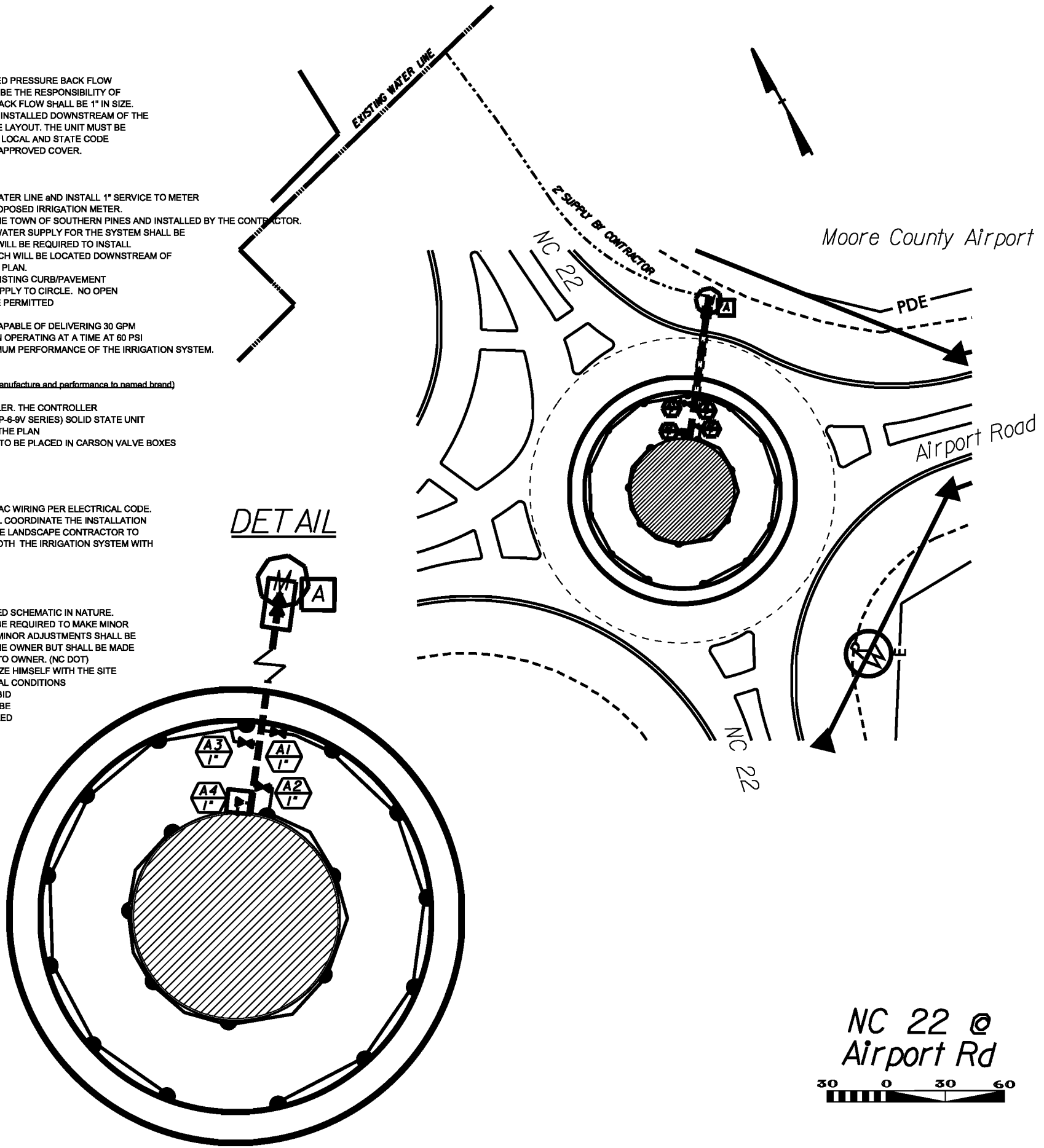
- (A) - LOCATION OF IRRIGATION CONTROLLER. THE CONTROLLER SHALL BE CUSTOM COMMAND (DDCWP-6-9V SERIES) SOLID STATE UNIT APPROXIMATE LOCATION SHOWN ON THE PLAN. BATTERY OPERATED CONTROLLER IS TO BE PLACED IN CARSON VALVE BOXES #910-1 VALVE WITH #910-2 COVER

SLEEVING

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NC 22 @ Airport Rd



STATE W.B.S. # 3708.3.17
I.T.P. #
PA #

LANDSCAPE DESIGN & DEVELOPMENT SECTION
NCDOT ROADSIDE ENVIRONMENTAL UNIT
1557 MAIL SERVICE CENTER
RALEIGH NC 27699 919-733-2920

PLAN: Irrigation Plan
NC 22 @ Airport Rd Traffic Circle
PROJECT DESCRIPTION: S. Pines Traffic Circles, Moore County NC 22@Airport Rd. and Knoll Rd.@Vot Gilmore Ln.

DESIGNED BY: BM
SHEET:
DATE: 8/2/2011
SCALE:
SHEET # OF: L-6 6