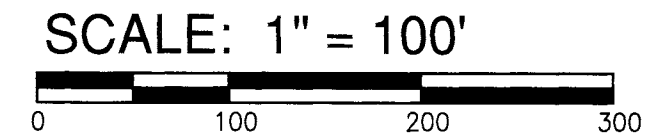


CITY OF WILMINGTON
 NORTH CAROLINA
 Public Services • Engineering Division
 APPROVED STORMWATER MANAGEMENT PLAN
 Date: _____ Permit # _____
 Signed: _____

| Approved Construction Plan | | |
|----------------------------|-------|--|
| Name | Date | |
| Planning | _____ | |
| Traffic | _____ | |
| Fire | _____ | |

| | |
|----------------------------|------------------------|
| NCDENR PWSS WATER PERMIT # | _____ |
| WATER CAPACITY | _____ GPD |
| DWQ SEWER PERMIT # | _____ |
| SEWER CAPACITY | _____ GPD |
| SEWER SHED # AND PLANT | _____ |
| SEWER TO FLOW THROUGH NEI | YES or NO (CIRCLE ONE) |

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.



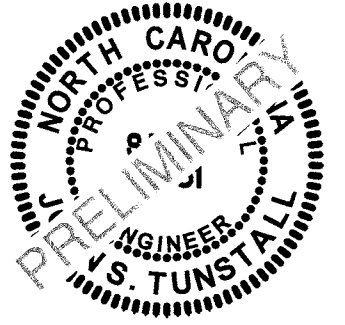
| | |
|--|---------------------------------|
| PARCEL ADDRESS: | 1202 EASTWOOD ROAD |
| PARCEL ID#: | R05000-004-147-000 |
| MAP ID#: | 314708.97.1975.000 |
| PARCEL OWNER: | TRASK D WEBSTER REVOCABLE TRUST |
| PARCEL AREA: | 73.37 ACRES (3,196,000 SF) |
| ZONING: | MX/R15/SH00 |
| SOIL TYPES: | Le, Ly, Be, Se, Jo, W |
| CAMA LAND USE: | WATERSHED RESOURCE PROTECTION |
| WETLANDS: | SEE PLAN |
| NO CAMA AEC OR SETBACKS WITHIN SITE AREA | |
| HISTORICAL SITE: | NONE |
| CEMETERY: | NONE |
| FORESTED AREA: | SEE PLAN FOR TREE SURVEY |
| ENDANGERED SPECIES/HABITAT: | NONE REPORTED |

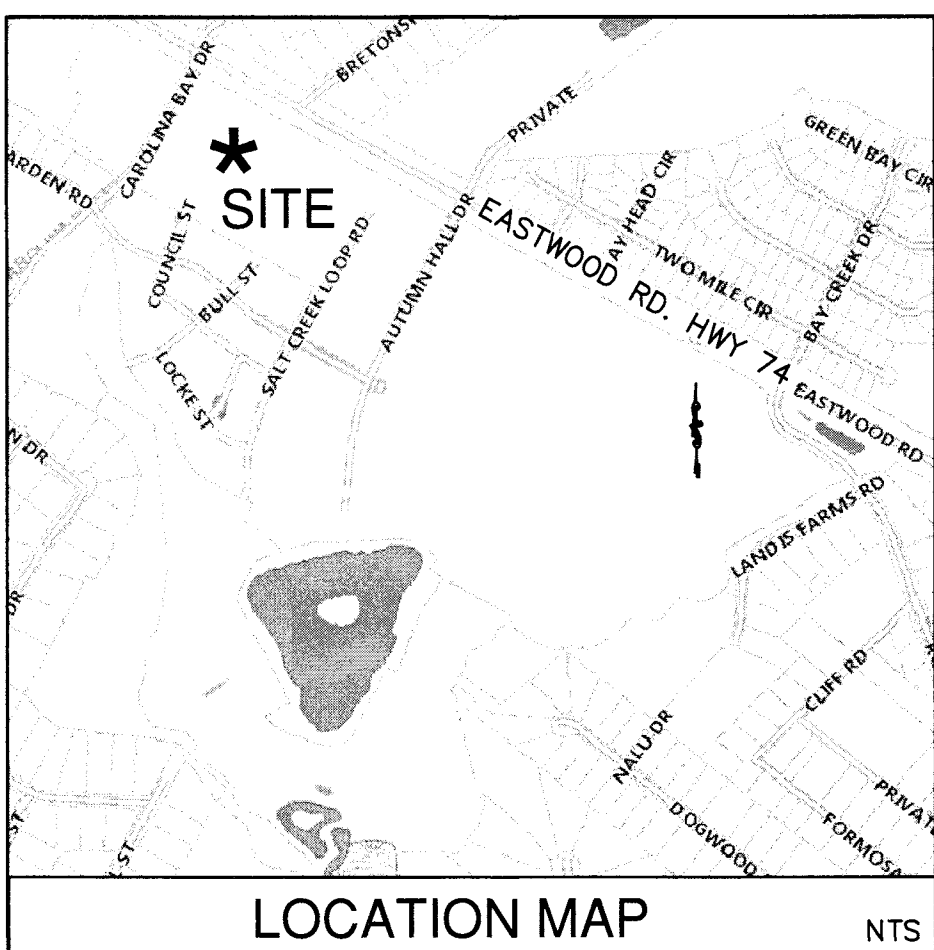
SITE INVENTORY PLAN
 AUTUMN HALL COMMERCIAL PH I
 1202 EASTWOOD ROAD
 WILMINGTON, NC
 NEW HANOVER COUNTY

DEVELOPER
 WEB TRASK CO MIKE BROWN
 CAPE FEAR COMMERCIAL, LLC
 1051 MILITARY CUTOFF RD.,
 SUITE 200
 WILMINGTON, NC 28405
 344-1010 (P) 622-4657 (CELL)

NORRIS & TUNSTALL
 CONSULTING ENGINEERS P.C.
 1429 ASH-LITTLE RIVER RD. NW
 WILMINGTON, NC 28403
 PHONE (910) 343-9653

| | |
|-----------------|----------|
| Licence #C-3641 | 18128 |
| DES. JUST | |
| CHK. JPN | |
| DRWN. NKS | |
| DATE | 02/05/19 |





LOCATION MAP

NTS

| BUILDING DATA PHASE I | | | | | | | | | | | | | |
|-----------------------|----------------------|--------------------|---------|-------|-------------------|----------------|----------------|----------------|----------|----------------|----------------|----------------------|-------------------|
| # | BUILDING | USE | STORIES | UNITS | GROUND FLOOR (SF) | 2ND FLOOR (SF) | 3RD FLOOR (SF) | 4TH FLOOR (SF) | GBA (SF) | FOOTPRINT (SF) | # OF BUILDINGS | HEIGHT | CONSTRUCTION TYPE |
| 1 | COFFEE SHOP/OFFICE * | RESTAURANT/OFFICE | 2 | | 11,020 | 9,995 | | | 21,015 | 13,070 | 1 | 21'-6"/44'-8"/68'-0" | V-A |
| 2,3 | OFFICE | OFFICE | 2 | | 13,586 | 13,664 | | | 27,250 | 14,330 | 2 | 41'-2" | V-A |
| 4 | MIXED USE | RETAIL/RESIDENTIAL | 4 | 60 | 23,873 ** | 24,714 *** | 24,714 *** | 24,714 *** | 98,015 | 27,500 | 1 | 14'-8"/63'-0" | V-A |
| 5,6 | RESIDENTIAL | RESIDENTIAL | 4 | 56 | 7,940 | 7,493 | 7,493 | 7,493 | 30,419 | 8,600 | 2 | 64'-8" | V-A |
| 7 | CAFE | SNACK/RESTROOMS | 1 | | 640 | | | | 640 | 640 | 1 | 14'± | - |
| TOTAL | | | | 116 | - | - | - | - | 234,368 | 87,070 | 7 | | |

* RESTAURANT/BAR SPACE ALLOCATION
 ** RETAIL
 *** RESIDENTIAL

OFFICE: 73,278 SF
 RETAIL: 23,873 SF
 RESTAURANT: 2,237 SF
 RESIDENTIAL: 134,980 SF
 TOTAL: 234,368 SF

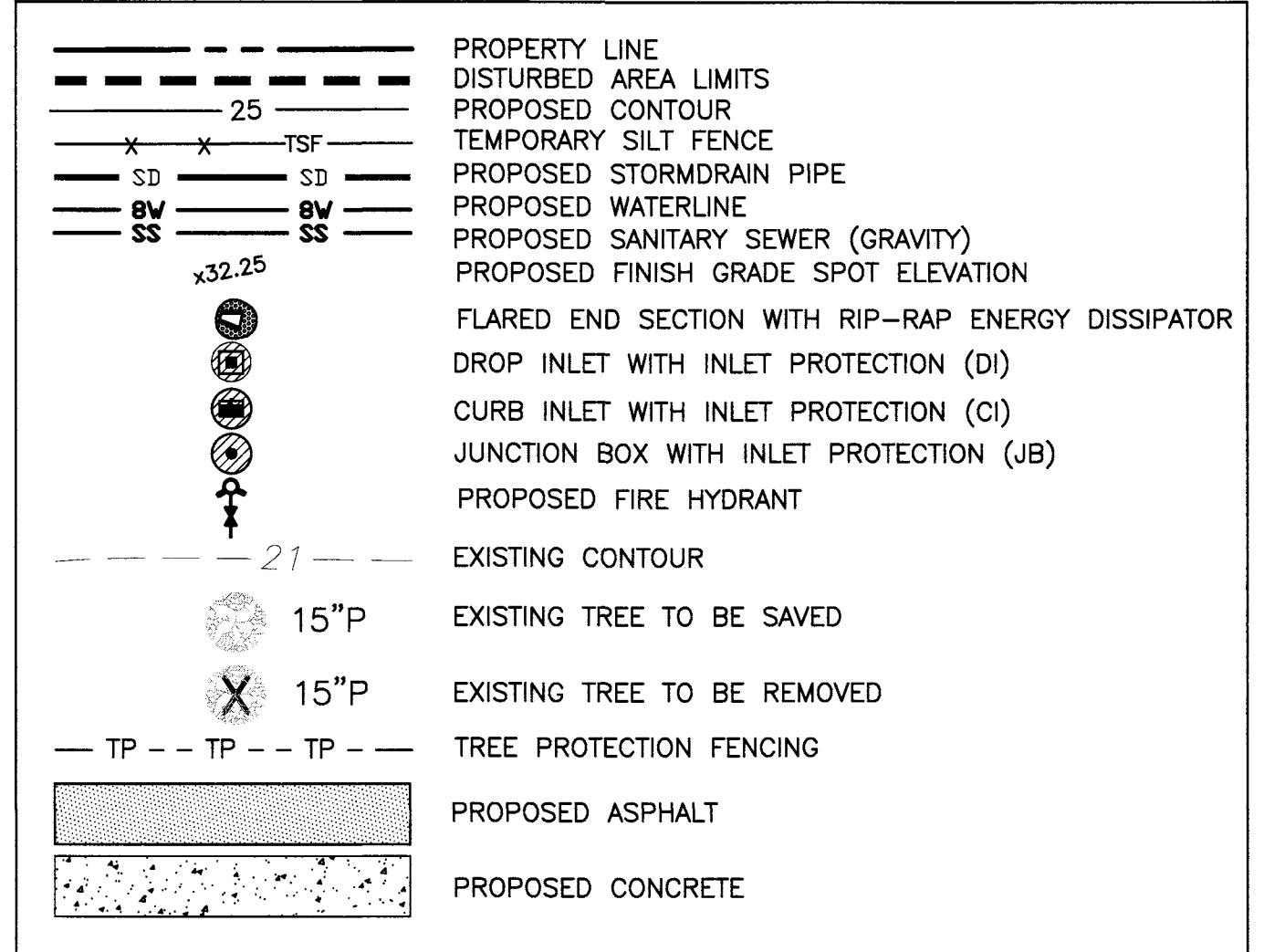
| PARKING DATA PHASE I | | | | | | | | | | | |
|----------------------|----------------------|--------------------|---------------|-----------|-----------|------------|------------|--------------------|--------------------|----------------|-----------------------|
| # | BUILDING | USE | SF RESTAURANT | SF OFFICE | SF RETAIL | 1 BR UNITS | 2 BR UNITS | MAX. PARKING REQD. | MIN. PARKING REQD. | PARKING PROVD. | HC ACCESSIBLE PARKING |
| 1 | COFFEE SHOP/OFFICE * | RESTAURANT/OFFICE | 2,237±(1,500) | 18,778 | | | | 23/94 (117) | 19/63 (82) | 90 | 4 |
| 2,3 | OFFICE | OFFICE | | 54,500 | | | | 273 | 182 | 216 | 8 |
| 4 | MIXED USE | RETAIL/RESIDENTIAL | | | 23,873 | 30 | 30 | 119/75/75 (269) | 60/45/60 (165) | 92 RET./110 | 10 |
| 5,6 | RESIDENTIAL | RESIDENTIAL | | | | 24 | 32 | 60/80 (140) | 30/64 (94) | 94 | 4 |
| 7 | BICYCLE PARKING | | | | | | | | | (35) | |
| TOTAL | | | | | | 54 | 62 | 799 | 523 | 602 | 26 |

PARKING REQUIREMENTS

PARKING REQUIREMENT PER USE, NO MINIMUM REQUIREMENT IN MX ZONE
 OFFICE: 1 PER 200 SF GFA MAX.
 1 PER 300 SF GFA MIN.
 RETAIL: 1 PER 200 SF GFA MAX.
 1 PER 400 SF GFA MIN.
 RESTAURANT: 1 PER 2.5 SEATS OR 1 PER 65 SQ FT GFA EXCLUSIVE OF KITCHEN AND RESTROOM FACILITIES MAX.
 1 PER 4 SEATS OR 1 PER 80 SQ FT GFA EXCLUSIVE OF KITCHEN RESTROOM FACILITIES MIN.
 RESIDENTIAL: 2.5 SPACES PER UNIT MAX.
 1.5 SPACE PER UNIT MIN. (1 BR)
 2.0 SPACES PER UNIT MIN. (2 BR)
 2.25 SPACES PER UNIT MIN. (3+ BR)
 BICYCLE PARKING: 5 BICYCLE PARKING FOR THE FIRST 25 CAR PARKING SPACES. EACH ADDITIONAL ONE HUNDRED (100) AUTOMOBILE PARKING SPACES ABOVE THE TWENTY-FIVE (25) MINIMUM SHALL REQUIRE PROVISIONS FOR PARKING AN ADDITIONAL FIVE (5) BICYCLES UP TO A BICYCLE PARKING SYSTEM THAT CAN ACCOMMODATE A MAXIMUM OF TWENTY (20) BICYCLES.

| SITE DATA TABLE | |
|--|--|
| USE: | OFFICE/RETAIL/RESTAURANT/RESIDENTIAL |
| PARCEL AREA: | 73.37 ACRES (3,198,000 SF) |
| PARCEL ID#: | RO5000-004-147-000 |
| PARCEL OWNER: | TRASK D WEBSTER REVOCABLE TRUST |
| MAP ID#: | 314708.97.1975.000 |
| ADDRESS: | 1202 EASTWOOD ROAD |
| ZONING: | MX/SHOD |
| CAMA LAND USE: | WATERSHED RESOURCE PROTECTION |
| BUILDING SETBACKS MX: (REQUIRED) | 20' MIN. FROM MX BOUNDARY 50' MIN. FROM US AND NC HIGHWAYS AND MAJOR THOROUGHFARES INTERIOR: NO MINIMUM, WITHIN 10' OF INTERNAL STREET R/W PREFERRED. |
| BUILDING SETBACKS: (PROPOSED) | 75' MIN. WITH 25% SHOD REDUCTION |
| SHOD SETBACKS: | BUILDING: 100' (75' MIN. WITH 25% SHOD REDUCTION) PARKING: 50' (37.5' MIN. WITH 25% SHOD REDUCTION) INTERIOR SIDE: 20' *ADDITIONAL STREETYARD PLANTINGS ARE REQUIRED WHEN TAKING THE SHOD 25% REDUCTION |
| SITE AREA PHASE I: | 559,520 SF (12.84 AC) |
| BUILDING LOT COVERAGE: | 6.42% ± |
| LANDSCAPING: | SEE PLANS BY MIHALY LAND DESIGN |
| FOUNDATION PLANTINGS (12%): | |
| LANDSCAPING REQ'D INTERIOR (AS PER O&I REGULATIONS): | |
| OPEN SPACE FOR MX DEVELOPMENT: | 35% (10% COMMON/25% OPEN) |
| TRASH SERVICE: | DUMPSTER/HANDCART |
| WATER/SEWER DEMANDS | |
| OFFICE/RETAIL = | 24,287 GPD |
| RESTAURANT = | 1,151 GPD |
| RESIDENTIAL = | 27,840 GPD |
| TOTAL = | 53,278 GPD |
| IMPERVIOUS AREA: | |
| BUILDINGS: | 87,070 SF |
| SIDEWALK: | 29,978 SF |
| ASPHALT/CONC./C&G: | 256,055 SF |
| TOTAL: | 373,103 SF |
| PERCENT IMP.: | 66.7% |

LEGEND



SITE DATA
 AUTUMN HALL COMMERCIAL PH I
 1202 EASTWOOD ROAD
 WILMINGTON, NC
 NEW HANOVER COUNTY

DEVELOPER
 WEB TRASK CO MIKE BROWN
 CAPE FEAR COMMERCIAL, LLC
 1051 MILITARY CUTOFF RD.,
 SUITE 200
 WILMINGTON, NC 28405
 344-1010 (P) 622-4657 (CELL)

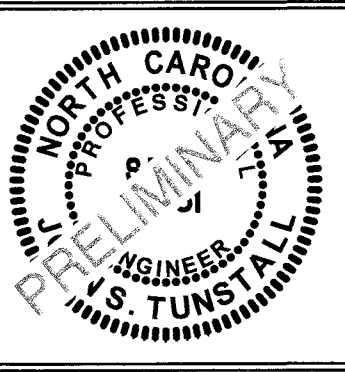
NORRIS & TUNSTALL
 CONSULTING ENGINEERS P.C.
 1090 EASTWOOD RD., SUITE #11
 WILMINGTON, NC 28403
 1429 ASH-LITTLE RIVER RD. NW
 ASH, NC 28420
 PHONE: (910) 343-9653

Licence #C-3641

18128

DES. JST
 CKD. JPN
 DRWN. NKS

DATE 02/05/19



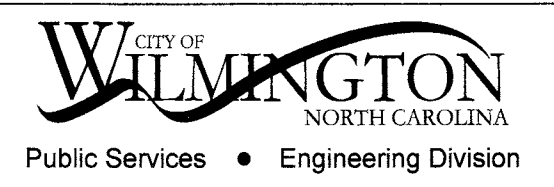
C1.2

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

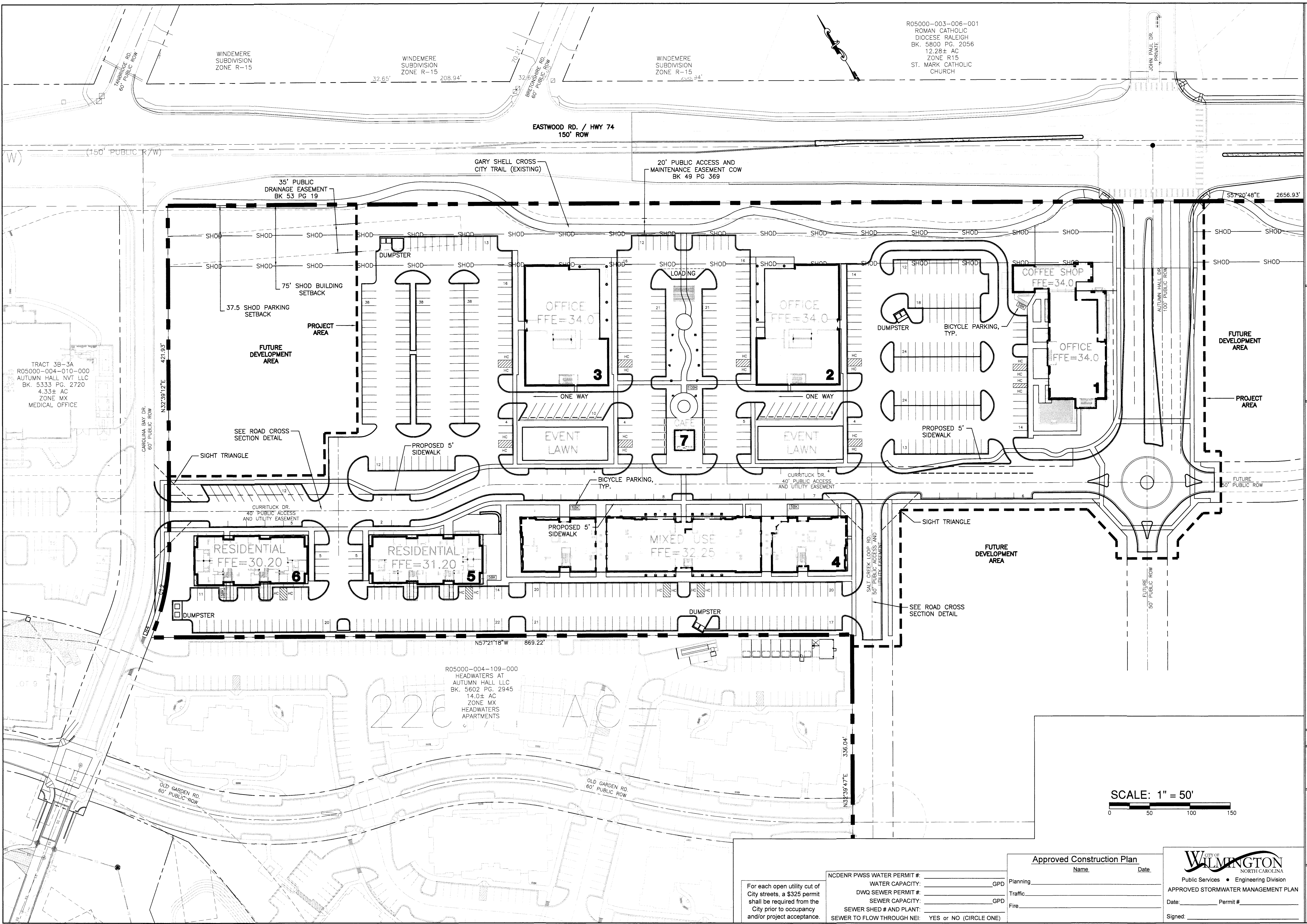
NC DENR PWSS WATER PERMIT #: _____
 WATER CAPACITY: _____ GPD
 DWQ SEWER PERMIT #: _____
 SEWER CAPACITY: _____ GPD
 SEWER SHED # AND PLANT: _____
 SEWER TO FLOW THROUGH NEI: YES or NO (CIRCLE ONE)

Approved Construction
 Name _____ Date _____
 Planning _____
 Traffic _____
 Fire _____

APPROVED STORMWATER MANAGEMENT PLAN
 Date: _____ Permit #: _____
 Signed: _____



Public Services • Engineering Division



R05000-003-006-001
 ROMAN CATHOLIC
 DIOCESE RALEIGH
 BK. 5800 PG. 2056
 12.28± AC
 ZONE R15
 ST. MARK CATHOLIC
 CHURCH

TRACT 3B-3A
 R05000-004-010-000
 AUTUMN HALL NVT LLC
 BK. 5333 PG. 2720
 4.33± AC
 ZONE MX
 MEDICAL OFFICE

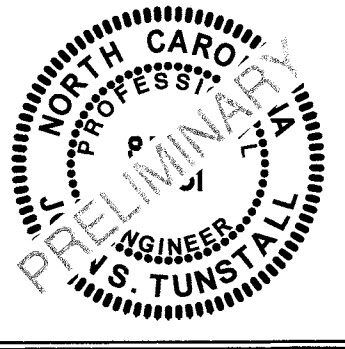
R05000-004-109-000
 HEADWATERS AT
 AUTUMN HALL LLC
 BK. 5602 PG. 2945
 14.0± AC
 ZONE MX
 HEADWATERS
 APARTMENTS

OVERALL SITE PLAN
 AUTUMN HALL COMMERCIAL PH I
 1202 EASTWOOD ROAD
 WILMINGTON, NC
 NEW HANOVER COUNTY

DEVELOPER
 WEB TRASK C/O MIKE BROWN
 CAPE FEAR COMMERCIAL LLC
 101 MILITARY CUTOFF RD.,
 SUITE 200
 WILMINGTON, NC 28405
 344-1010 (P) 625-4657 (CELL)

NORRIS & TUNSTALL
 CONSULTING ENGINEERS P.C.
 1000 EASTWOOD RD., SUITE #11
 WILMINGTON, NC 28403
 PHONE (910) 343-9653
 1429 ASH-LITTLE RIVER RD. NW
 ASH, NC 28420
 PHONE (910) 287-5900

Licence #C-3641
18128
 DES. JST
 CKD. JPN
 DRWN. NKS
 DATE 02/05/19



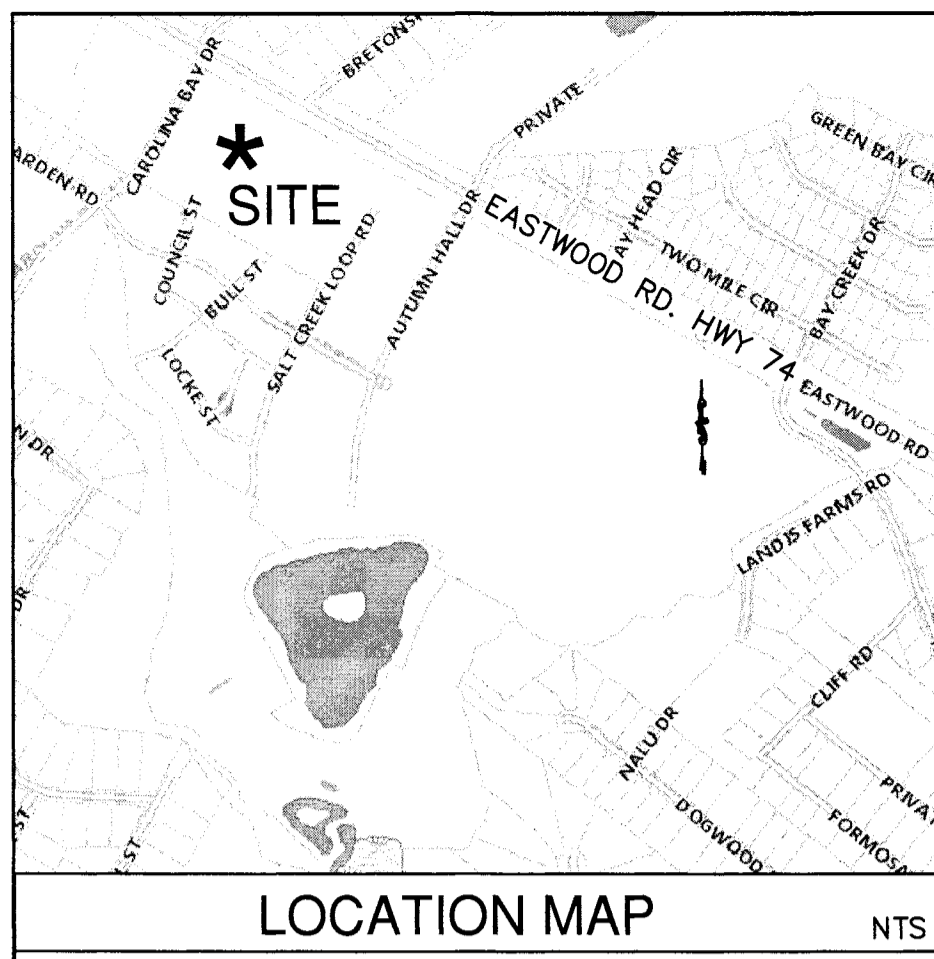
C1.1

SCALE: 1" = 50'
 0 50 100 150

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

NCDENR PWSS WATER PERMIT #: _____ GPD
 WATER CAPACITY: _____ GPD
 DWQ SEWER PERMIT #: _____ GPD
 SEWER CAPACITY: _____ GPD
 SEWER SHED # AND PLANT: _____
 SEWER TO FLOW THROUGH NEI: YES or NO (CIRCLE ONE)

Approved Construction Plan
 Name _____ Date _____
 Planning _____
 Traffic _____
 Fire _____
 Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
 Date: _____ Permit # _____
 Signed: _____



| SITE DATA TABLE | |
|--|---|
| USE: | OFFICE/RETAIL/RESTAURANT/RESIDENTIAL |
| PARCEL AREA: | 73.37 ACRES (3,196,000 SF) |
| PARCEL ID#: | RS0000-004-147-000 |
| PARCEL OWNER: | TRASK D WEBSTER REVOCABLE TRUST |
| MAP ID#: | 314708.97.1975.000 |
| ADDRESS: | 1202 EASTWOOD ROAD |
| ZONING: | MX/SHOD |
| CAMA LAND USE: | WATERSHED RESOURCE PROTECTION |
| BUILDING SETBACKS MX: (REQUIRED) | 20' MIN. FROM MX BOUNDARY 50' MIN. FROM US AND NC HIGHWAYS AND MAJOR THOROUGHFARES |
| BUILDING SETBACKS: (PROPOSED) | INTERIOR: NO MINIMUM, WITHIN 10' OF INTERNAL STREET R/W PREFERRED. 75' MIN. WITH 25% SHOD REDUCTION |
| SHOD SETBACKS: | BUILDING: 100' (75' MIN. WITH 25% SHOD REDUCTION) PARKING: 50' (37.5' MIN. WITH 25% SHOD REDUCTION) INTERIOR SIDE: 20' ADDITIONAL STREETYARD PLANTINGS ARE REQUIRED WHEN TAKING THE SHOD 25% REDUCTION |
| SITE AREA PHASE I: | 559,520 SF (12.84 AC) |
| BUILDING LOT COVERAGE: | 6.42% ± |
| LANDSCAPING: SEE PLANS BY MIHALY LAND DESIGN | |
| FOUNDATION PLANTINGS (12%) | |
| LANDSCAPING REQ'D INTERIOR (AS PER O&I REGULATIONS): | |
| OPEN SPACE FOR MX DEVELOPMENT: 35% (10% COMMON/25% OPEN) | |
| TRASH SERVICE: DUMPSTER/HANDCART | |
| WATER/SEWER DEMANDS | |
| OFFICE/RETAIL = 24,287 GPD | |
| RESTAURANT = 1,151 GPD | |
| RESIDENTIAL = 27,840 GPD | |
| TOTAL = 53,278 GPD | |
| IMPERVIOUS AREA: | |
| BUILDINGS: | 87,070 SF |
| SIDEWALK: | 29,978 SF |
| ASPHALT/CONC./C&G: | 256,055 SF |
| TOTAL: | 373,103 SF |
| PERCENT IMP.: | 66.7% |

| BUILDING DATA PHASE I | | | | | | | | | | | | | |
|-----------------------|----------------------|--------------------|---------|-------|-------------------|----------------|----------------|----------------|----------|----------------|----------------|----------------------|-------------------|
| # | BUILDING | USE | STORIES | UNITS | GROUND FLOOR (SF) | 2ND FLOOR (SF) | 3RD FLOOR (SF) | 4TH FLOOR (SF) | GBA (SF) | FOOTPRINT (SF) | # OF BUILDINGS | HEIGHT | CONSTRUCTION TYPE |
| 1 | COFFEE SHOP/OFFICE * | RESTAURANT/OFFICE | 2 | | 11,020 | 9,995 | | | 21,015 | 13,070 | 1 | 21'-6"/44'-8"/68'-0" | V-A |
| 2,3 | OFFICE | OFFICE | 2 | | 13,586 | 13,664 | | | 27,250 | 14,330 | 2 | 41'-2" | V-A |
| 4 | MIXED USE | RETAIL/RESIDENTIAL | 4 | 60 | 23,873 ** | 24,714 *** | 24,714 *** | 24,714 *** | 98,015 | 27,500 | 1 | 14'-8"/63'-0" | V-A |
| 5,6 | RESIDENTIAL | RESIDENTIAL | 4 | 56 | 7,940 | 7,493 | | | 30,419 | 8,600 | 2 | 64'-8" | V-A |
| 7 | CAFE | SNACK/RESTROOMS | 1 | | 640 | | | | 640 | 640 | 1 | 14' ± | - |
| TOTAL | | | | 116 | - | - | - | - | 234,368 | 87,070 | 7 | | |

* RESTAURANT/BAR SPACE ALLOCATION
 ** RETAIL
 *** RESIDENTIAL

OFFICE: 73,278 SF
 RETAIL: 23,873 SF
 RESTAURANT: 2,237 SF
 RESIDENTIAL: 134,980 SF
 TOTAL: 234,368 SF

| PARKING DATA PHASE I | | | | | | | | | | | |
|----------------------|----------------------|--------------------|-----------------|-----------|-----------|------------|------------|--------------------|--------------------|----------------|-----------------------|
| # | BUILDING | USE | SF RESTAURANT | SF OFFICE | SF RETAIL | 1 BR UNITS | 2 BR UNITS | MAX. PARKING REQD. | MIN. PARKING REQD. | PARKING PROVD. | HC ACCESSIBLE PARKING |
| 1 | COFFEE SHOP/OFFICE * | RESTAURANT/OFFICE | 2,237 ± (1,500) | 18,778 | | | | 23/94 (117) | 19/63 (82) | 90 | 4 |
| 2,3 | OFFICE | OFFICE | | 54,500 | | | | 273 | 182 | 216 | 8 |
| 4 | MIXED USE | RETAIL/RESIDENTIAL | | | 23,873 | 30 | 30 | 119/75/75 (269) | 60/45/60 (165) | 92 RET./110 | 10 |
| 5,6 | RESIDENTIAL | RESIDENTIAL | | | | 24 | 32 | 60/80 (140) | 30/64 (94) | 94 | 4 |
| 7 | BICYCLE PARKING | | | | | | | | | (35) | |
| TOTAL | | | | | | 54 | 62 | 799 | 523 | 602 | 26 |

PARKING REQUIREMENTS
 PARKING REQUIREMENT PER USE, NO MINIMUM REQUIREMENT IN MX ZONE

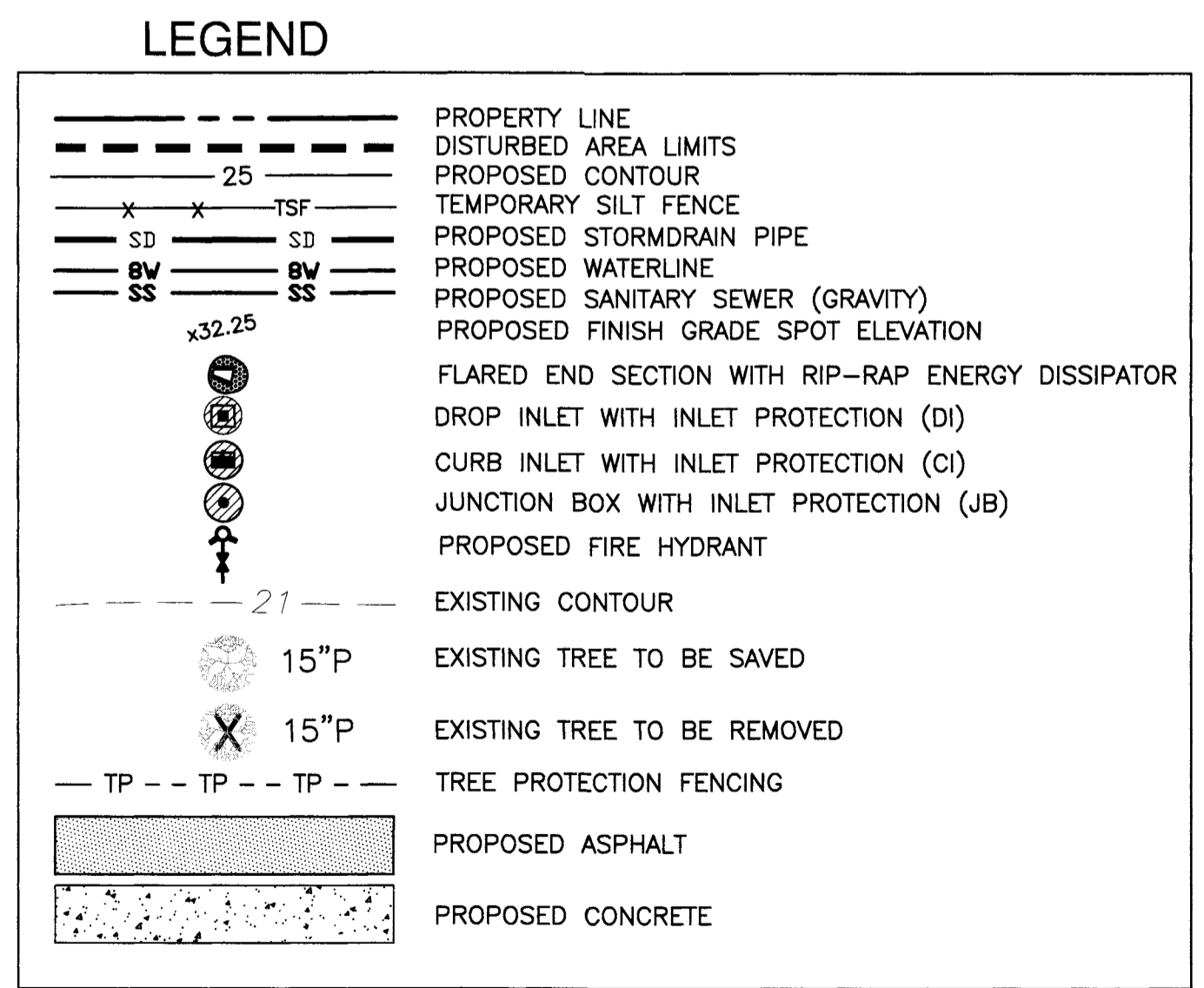
OFFICE: 1 PER 200 SF GFA MAX.
 1 PER 300 SF GFA MIN.

RETAIL: 1 PER 200 SF GFA MAX.
 1 PER 400 SF GFA MIN.

RESTAURANT: 1 PER 2.5 SEATS OR 1 PER 65 SQ FT GFA EXCLUSIVE OF KITCHEN AND RESTROOM FACILITIES MAX.
 1 PER 4 SEATS OR 1 PER 80 SQ FT GFA EXCLUSIVE OF KITCHEN RESTROOM FACILITIES MIN.

RESIDENTIAL: 2.5 SPACES PER UNIT MAX.
 1.5 SPACE PER UNIT MIN. (1 BR)
 2.0 SPACES PER UNIT MIN. (2 BR)
 2.25 SPACES PER UNIT MIN. (3+ BR)

BICYCLE PARKING: 5 BICYCLE PARKING FOR THE FIRST 25 CAR PARKING SPACES. EACH ADDITIONAL ONE HUNDRED (100) AUTOMOBILE PARKING SPACES ABOVE THE TWENTY-FIVE (25) MINIMUM SHALL REQUIRE PROVISIONS FOR PARKING AN ADDITIONAL FIVE (5) BICYCLES UP TO A BICYCLE PARKING SYSTEM THAT CAN ACCOMMODATE A MAXIMUM OF TWENTY (20) BICYCLES.

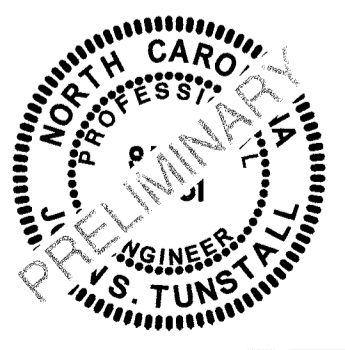


SITE DATA
 AUTUMN HALL COMMERCIAL PH I
 1202 EASTWOOD ROAD
 WILMINGTON, NC
 NEW HANOVER COUNTY

DEVELOPER
 WEB TRASK CO MIKE BROWN
 CAPE FEAR COMMERCIAL LLC
 1051 MILITARY CUTOFF RD.
 SUITE 200
 WILMINGTON, NC 28405
 344-1010 (P) 622-4657 (CELL)

NORRIS & TUNSTALL
 CONSULTING ENGINEERS P.C.
 1429 ASH LITTLE RIVER RD. NW
 WILMINGTON, NC 28403
 PHONE (910) 343-9653

Licence #C-3641
18128
 DES. JST
 Ckd. JPN
 DRWN. NKS
 DATE 02/05/19



C1.2

Approved Construction Plan

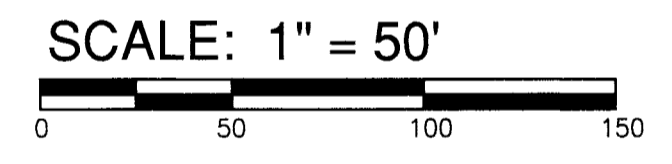
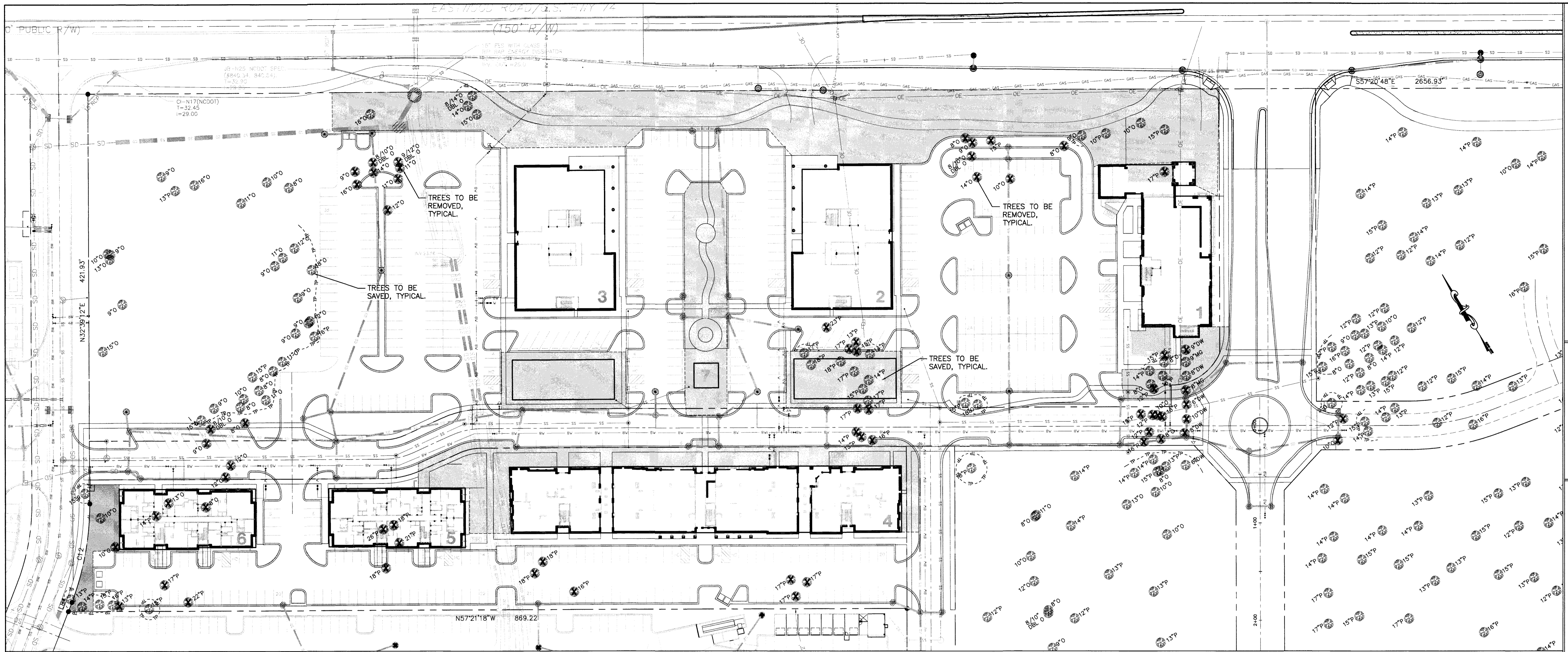
Name _____ Date _____

Planning _____
 Traffic _____
 Fire _____

WILMINGTON NORTH CAROLINA
 Public Services • Engineering Division
 APPROVED STORMWATER MANAGEMENT PLAN
 Date: _____ Permit # _____
 Signed: _____

NCDENR PWSS WATER PERMIT #: _____
 WATER CAPACITY: _____ GPD
 DWQ SEWER PERMIT #: _____
 SEWER CAPACITY: _____ GPD
 SEWER SHED # AND PLANT: _____
 SEWER TO FLOW THROUGH NEI: YES or NO (CIRCLE ONE)

For each open utility out of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.



TREE REMOVAL TABLE - REGULATED

| REGULATED PINES | REGULATED OAKS | REGULATED DOGWOOD |
|-----------------|----------------|-------------------|
| 8" (1) | 8" (7) | 6" (1) |
| 12" (4) | 9" (4) | |
| 13" (2) | 10" (7) | |
| 14" (1) | 11" (2) | |
| 15" (5) | 12" (4) | |
| 16" (4) | 13" (1) | |
| 17" (8) | 14" (3) | |
| 18" (4) | 16" (1) | |
| 21" (1) | | |
| 22" (1) | | |
| 23" (1) | | |

TREE REMOVAL TABLE - SIGNIFICANT

| SIGNIFICANT PINES | SIGNIFICANT DOGWOODS | SIGNIFICANT MAGNOLIA |
|-------------------|----------------------|----------------------|
| 26" (1) | 8" (1) | 8" (1) |
| | 9" (1) | |
| | 10" (1) | |

LEGEND

- 15" P EXISTING TREE TO BE REMOVED
- 15" P EXISTING TREE TO BE SAVED
- PRELIMINARY OPEN SPACE AREA AVAILABLE FOR DESIGNATION AS ACTIVE OR PASSIVE RECREATION AREAS AND OPEN SPACE. (2.3 AC±)

TREE REMOVAL PLAN AND OPEN SPACE
 AUTUMN HALL COMMERCIAL PH I
 1202 EASTWOOD ROAD
 WILMINGTON, NC
 NEW HANOVER COUNTY

DEVELOPER
 WEB TRASK C/O MIKE BROWN
 CAPE FEAR COMMERCIAL LLC
 1051 MILITARY CUTOFF RD.,
 SUITE 200
 WILMINGTON, NC 28405
 344-1010 (P) 622-4657 (CELL)

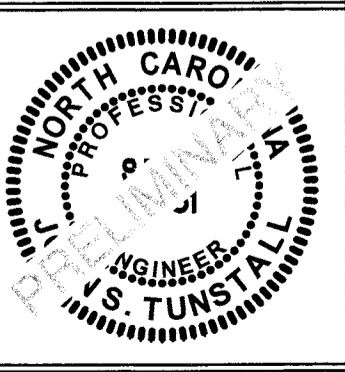
NORRIS & TUNSTALL
 CONSULTING ENGINEERS P.C.
 1900 EASTWOOD RD., SUITE #11
 WILMINGTON, NC 28403
 1429 ASH-LITTLE RIVER RD. NW
 ASH, NC 28420
 PHONE (910) 343-9633
 PHONE (910) 287-5900

Licence #C-3641

18128

DES. JST
 CKD. JPN
 DRWN. NKS

DATE 02/05/19



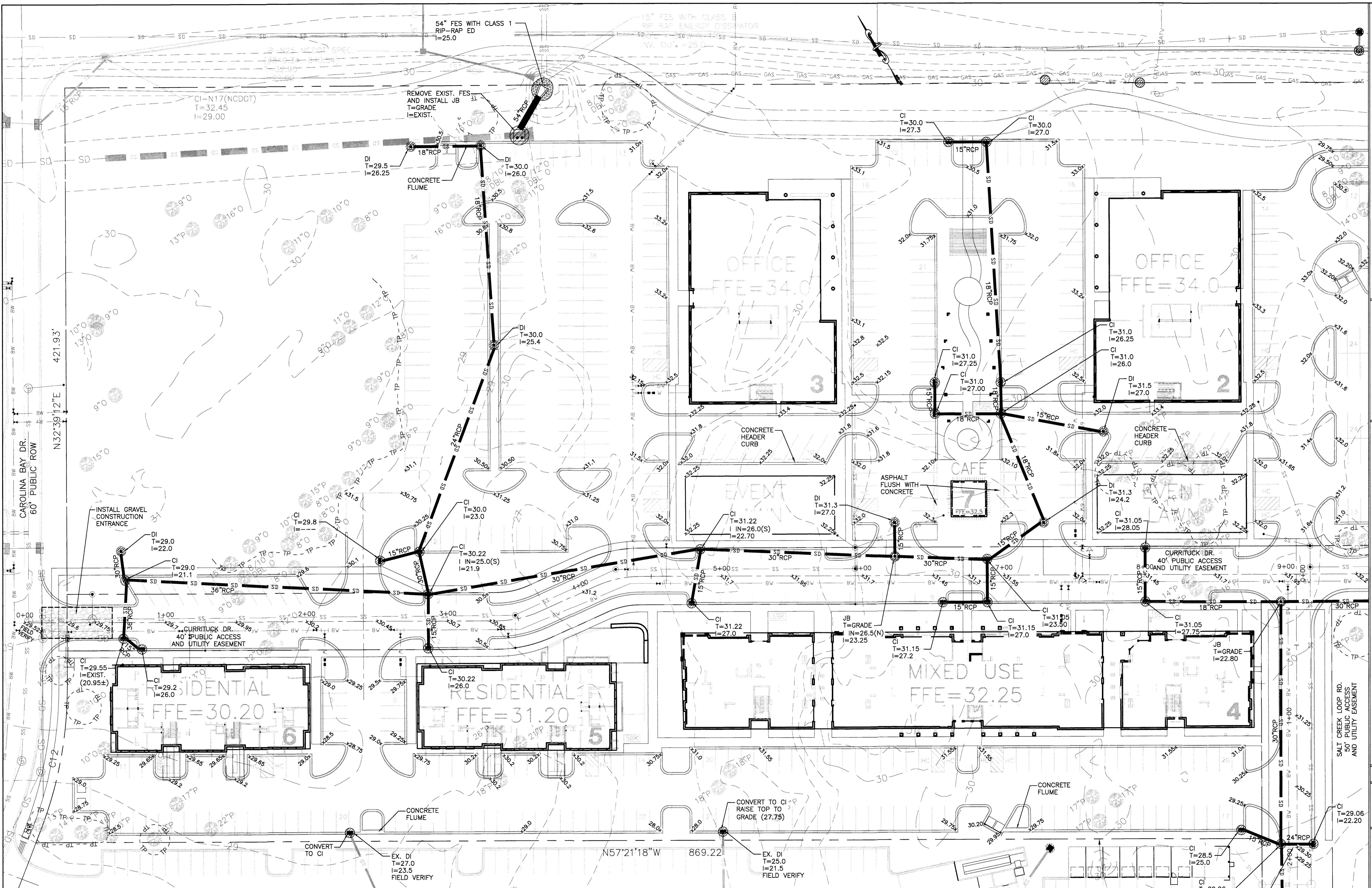
C1.3

CITY OF WILMINGTON
 NORTH CAROLINA
 Public Services • Engineering Division
 APPROVED STORMWATER MANAGEMENT PLAN
 Date: _____ Permit # _____
 Signed: _____

Approved Construction Plan
 Name _____ Date _____
 Planning _____
 Traffic _____
 Fire _____

NC DENR PWSS WATER PERMIT #: _____
 WATER CAPACITY: _____ GPD
 DWQ SEWER PERMIT #: _____
 SEWER CAPACITY: _____ GPD
 SEWER SHED # AND PLANT: _____
 SEWER TO FLOW THROUGH NEI: YES or NO (CIRCLE ONE)

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

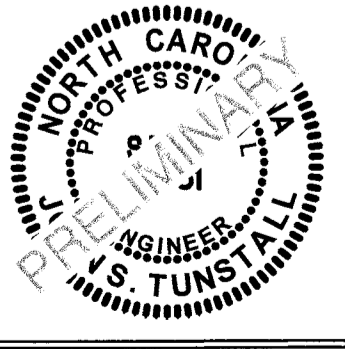


GRADING, DRAINAGE AND EROSION CONTROL PLAN
AUTUMN HALL COMMERCIAL PH I
 1202 EASTWOOD ROAD
 WILMINGTON, NC
 NEW HANOVER COUNTY

DEVELOPER
 WEB TRASK C/O MIKE BROWN
 CAPE FEAR COMMERCIAL LLC
 1051 MILITARY CUTOFF RD.,
 SUITE 200
 WILMINGTON, NC 28405
 344-1010 (P) 622-4657 (CELL)

NORRIS & TUNSTALL
 CONSULTING ENGINEERS P.C.
 1000 EASTWOOD RD., SUITE #1
 WILMINGTON, NC 28403
 PHONE (910) 343-9653
 1429 ASH-LITTLE RIVER RD. NW
 ASH, NC 28420
 PHONE (910) 287-5900

Licence #C-3641
18128
 DES. JST
 CKD. JPN
 DRWN. NKS
 DATE 02/05/19



C2.1

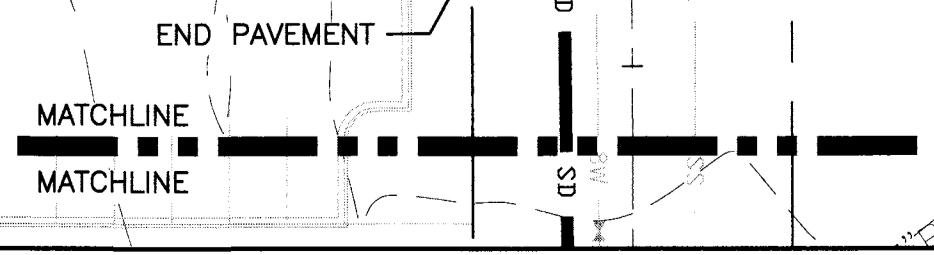
CITY OF WILMINGTON
 NORTH CAROLINA
 Public Services • Engineering Division
 APPROVED STORMWATER MANAGEMENT PLAN
 Date: _____ Permit # _____
 Signed: _____

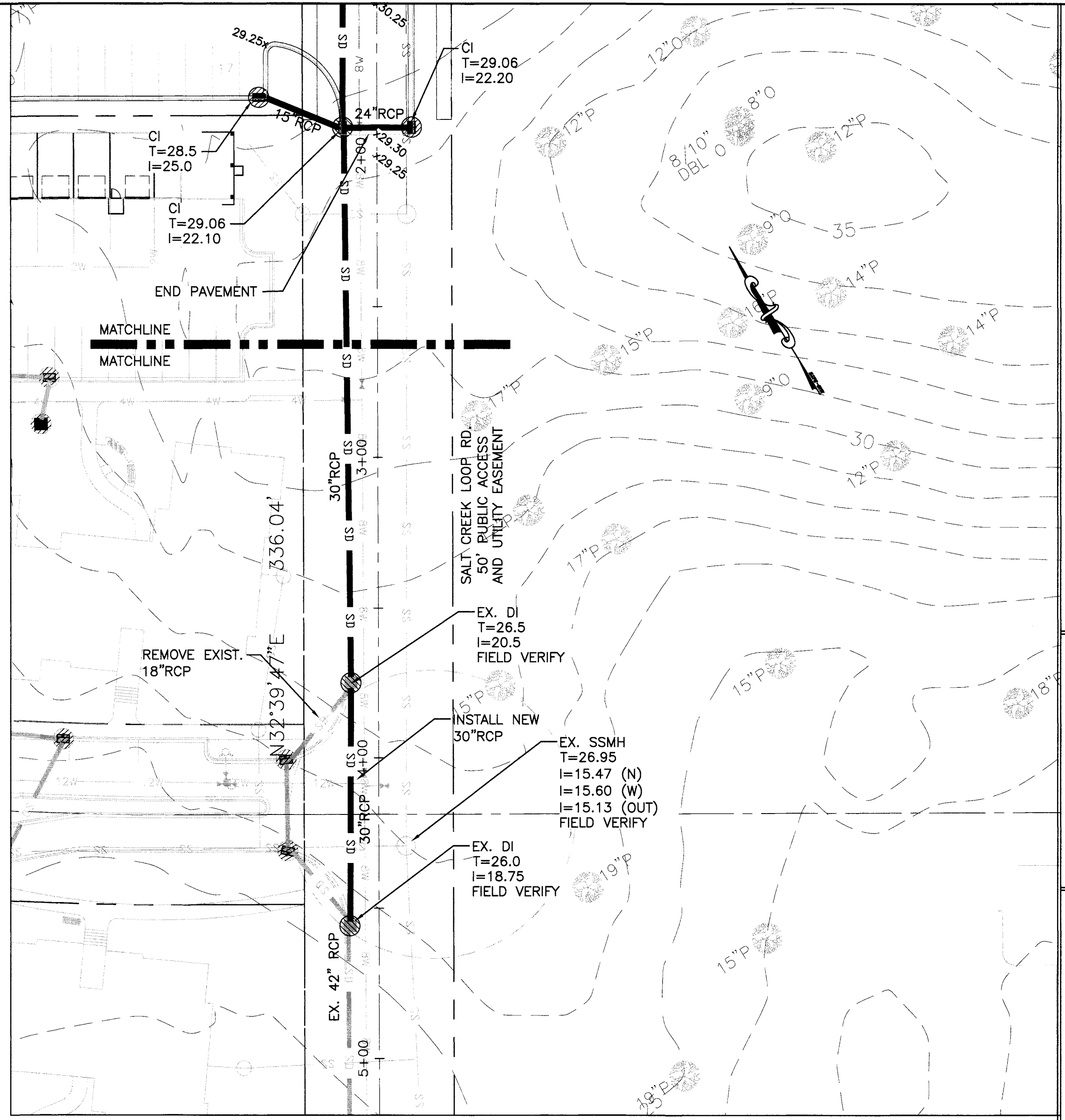
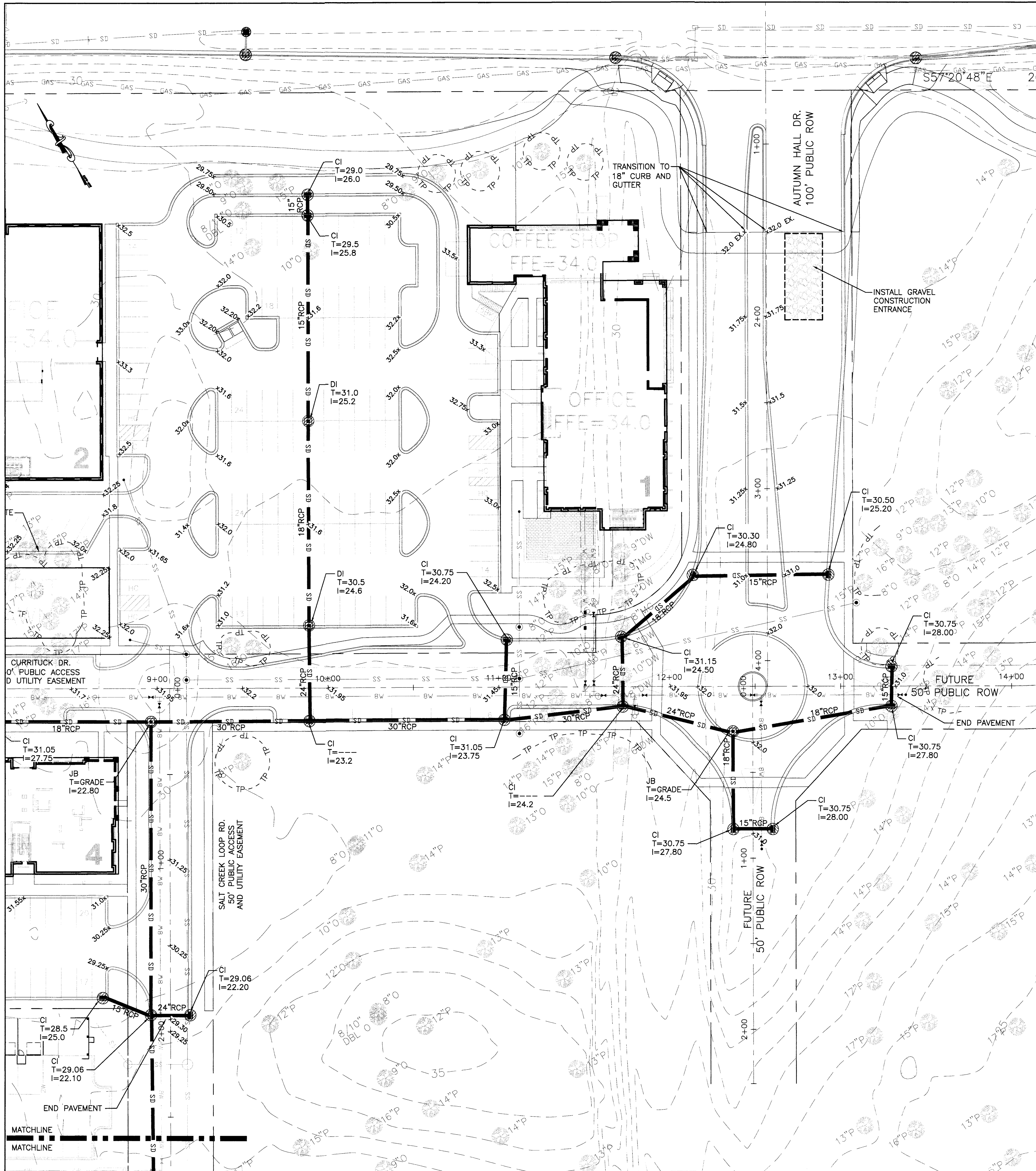
Approved Construction Plan
 Name _____ Date _____
 Planning _____
 Traffic _____
 Fire _____

NC DENR PWSS WATER PERMIT # _____
 WATER CAPACITY: _____ GPD
 DWQ SEWER PERMIT # _____
 SEWER CAPACITY: _____ GPD
 SEWER SHED # AND PLANT: _____
 SEWER TO FLOW THROUGH NEI: YES or NO (CIRCLE ONE)

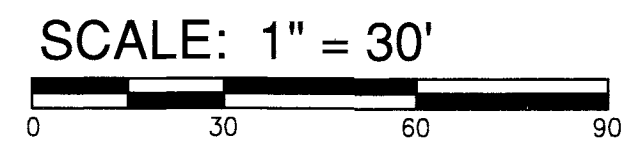
For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

NOTES:
 1. TOP OF CURB INLET REFERS TO THE FLOW LINE CURB AT GRATE.
 2. TOP OF DROP INLET REFERS TO GRATE ELEVATION.
SCALE: 1" = 30'
 0 30 60 90





- NOTES:**
1. TOP OF CURB INLET REFERS TO THE FLOW LINE CURB AT GRATE.
 2. TOP OF DROP INLET REFERS TO GRATE ELEVATION.



For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

NC DENR PWSS WATER PERMIT #: _____
 WATER CAPACITY: _____ GPD
 DWQ SEWER PERMIT #: _____
 SEWER CAPACITY: _____ GPD
 SEWER SHED # AND PLANT: _____
 SEWER TO FLOW THROUGH NEI: YES OR NO (CIRCLE ONE)

Approved Construction Plan

Name _____ Date _____

Planning _____
 Traffic _____
 Fire _____

CITY OF WILMINGTON
 NORTH CAROLINA
 Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN

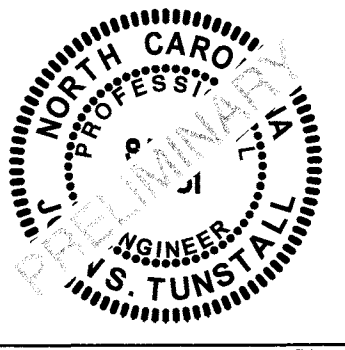
Date: _____ Permit #: _____
 Signed: _____

GRADING, DRAINAGE AND EROSION CONTROL PLAN
AUTUMN HALL COMMERCIAL PH I
 1202 EASTWOOD ROAD
 WILMINGTON, NC
 NEW HANOVER COUNTY

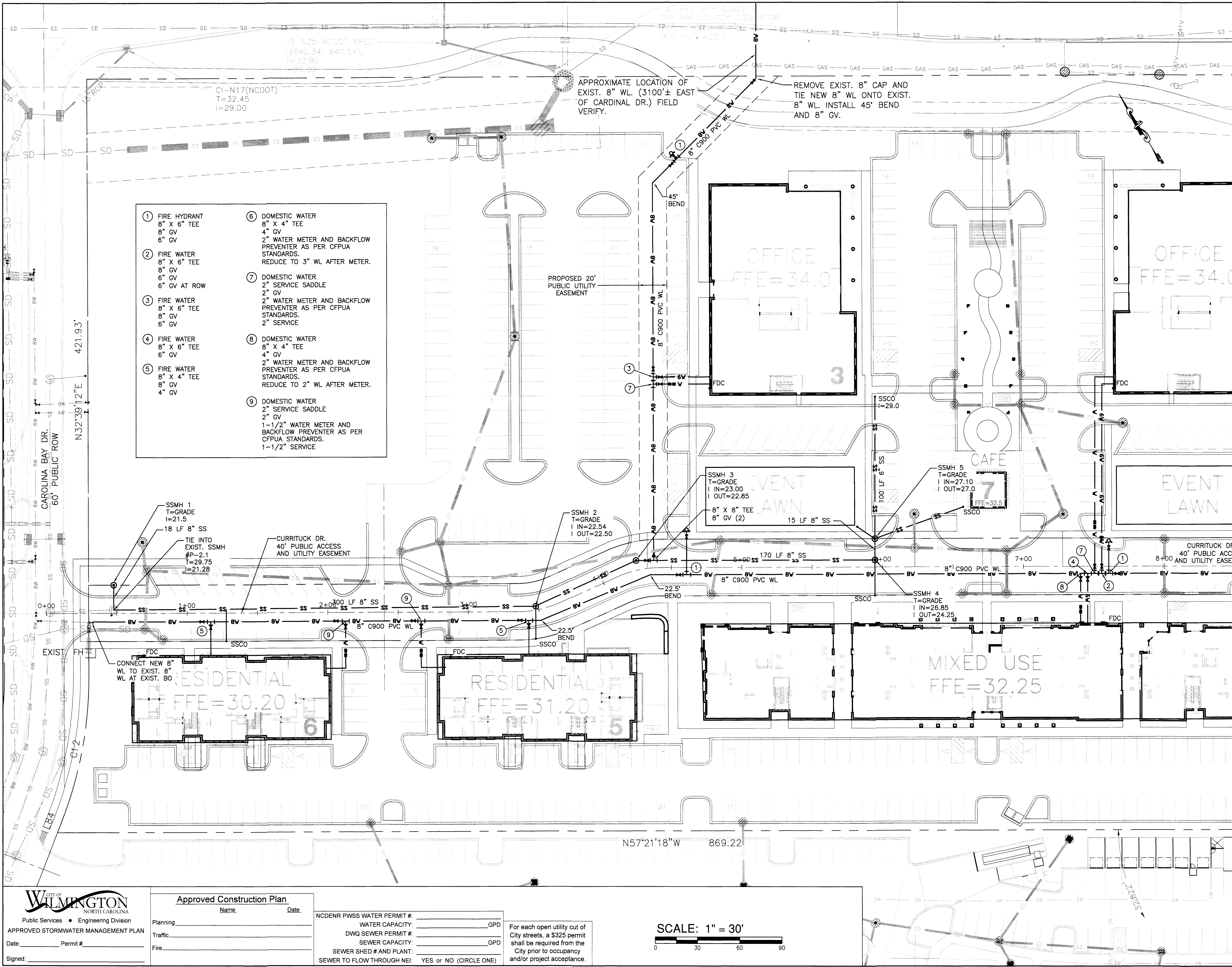
DEVELOPER
 WEB TRASK C/O MIKE BROWN
 CAPE FEAR COMMERCIAL LLC
 1051 MILITARY CUTOFF RD.,
 SUITE 200
 WILMINGTON, NC 28405
 344-1010 (P) 622-4657 (CELL)

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 PHONE (910) 343-9633
 PHONE (910) 287-5900

Licence #C-3641
18128
 DES. JST
 OCB. JPN
 DRWN. NKS
 DATE 02/05/19



C2.2



- ① FIRE HYDRANT
8" X 6" TEE
8" GV
6" GV
- ② FIRE WATER
8" X 6" TEE
8" GV
6" GV AT ROW
- ③ FIRE WATER
8" X 6" TEE
8" GV
6" GV
- ④ FIRE WATER
8" X 6" TEE
8" GV
- ⑤ FIRE WATER
8" X 4" TEE
8" GV
4" GV
- ⑥ DOMESTIC WATER
8" X 4" TEE
4" GV
2" WATER METER AND BACKFLOW PREVENTER AS PER CFPWA STANDARDS. REDUCE TO 3" WL AFTER METER.
- ⑦ DOMESTIC WATER
2" SERVICE SADDLE
2" GV
2" WATER METER AND BACKFLOW PREVENTER AS PER CFPWA STANDARDS. 2" SERVICE
- ⑧ DOMESTIC WATER
8" X 4" TEE
4" GV
2" WATER METER AND BACKFLOW PREVENTER AS PER CFPWA STANDARDS. REDUCE TO 2" WL AFTER METER.
- ⑨ DOMESTIC WATER
2" SERVICE SADDLE
2" GV
1-1/2" WATER METER AND BACKFLOW PREVENTER AS PER CFPWA STANDARDS. 1-1/2" SERVICE

UTILITY PLAN
AUTUMN HALL COMMERCIAL PH I
1202 EASTWOOD ROAD
WILMINGTON, NC
NEW HANOVER COUNTY

DEVELOPER
WEB TRASK C/O MIKE BROWN
CAPE FEAR COMMERCIAL, LLC
1051 MILITARY CUTOFF RD.,
SUITE 200
WILMINGTON, NC 28405
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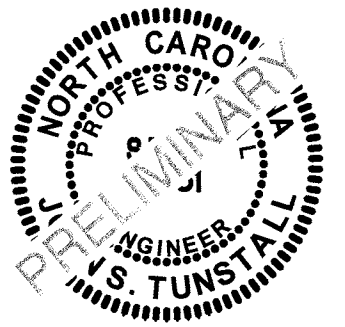
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CONSULTING ENGINEERS P.C.
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WILMINGTON, NC 28403
PHONE (910) 343-9633
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ASH, NC 28420
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18128

DES. JST
CKD. JPN
DRWN. NKS

DATE 02/05/19



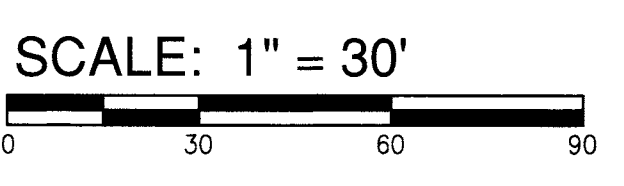
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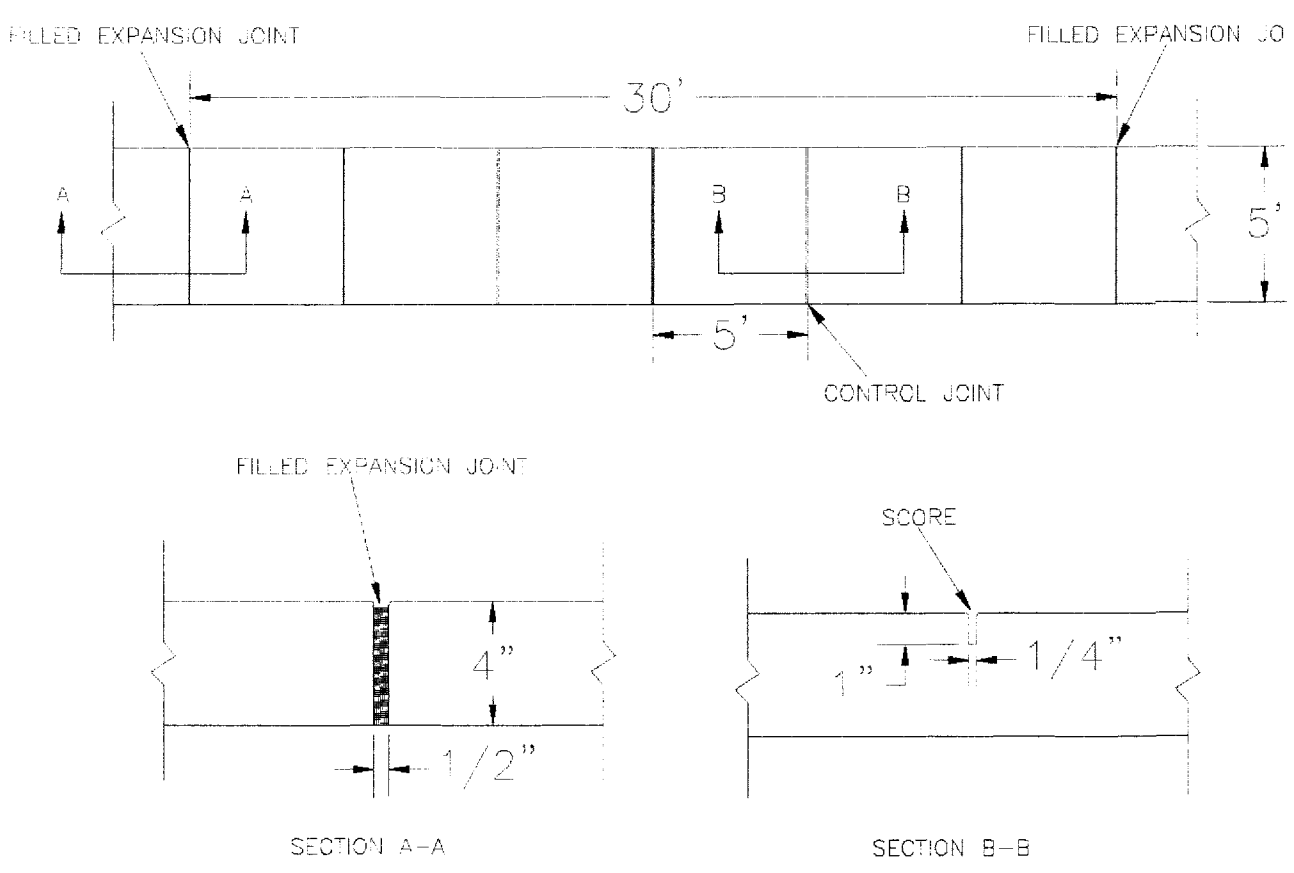
CITY OF WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date: _____ Permit # _____
Signed: _____

Approved Construction Plan
Name _____ Date _____
Planning _____
Traffic _____
Fire _____

NCDENR PWSS WATER PERMIT #: _____
WATER CAPACITY: _____ GPD
DWQ SEWER PERMIT #: _____
SEWER CAPACITY: _____ GPD
SEWER SHED # AND PLANT: _____
SEWER TO FLOW THROUGH NEI: YES or NO (CIRCLE ONE)

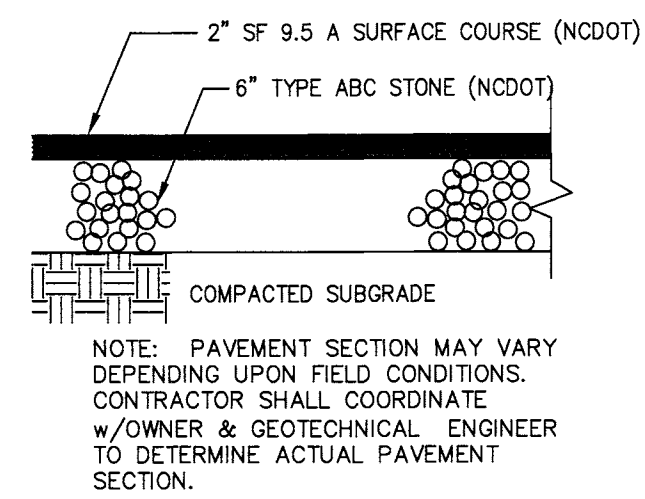
For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.





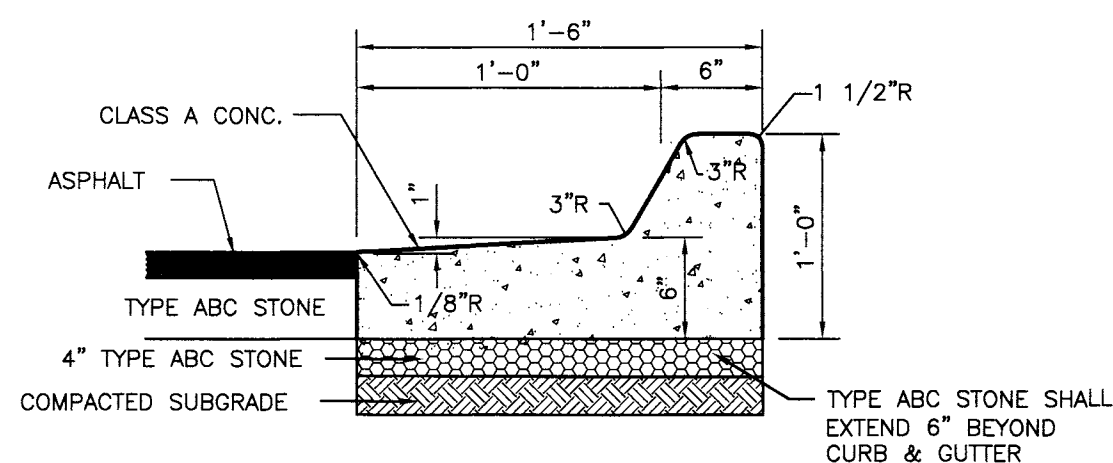
- NOTES:
1. JOINT MATERIAL TO COMPLY WITH CURRENT NCDOT STANDARDS.
 2. SANITARY SEWER CLEAN-OUTS, WATER METERS, MANHOLES, AND VALVE LIDS TO BE LOCATED OUTSIDE SIDEWALK WHERE FEASIBLE.
 3. MINIMUM SIDEWALK WIDTH TO BE 6' MINIMUM IF PLACED AT BACK OF CURB.
 4. CONCRETE FOR ALL SIDEWALKS (EXCEPT ANY PORTION CONTAIN WITHIN A DRIVEWAY APPROX.) SHALL BE CLASS "A" - 3,000 PSI.
 5. MINIMUM REPLACEMENT FOR REPAIRS IS A 5' X 5' PANEL.
 6. 4" STONE BASE MAY BE REQUIRED FOR POOR SOIL CONDITIONS.

NOT TO SCALE



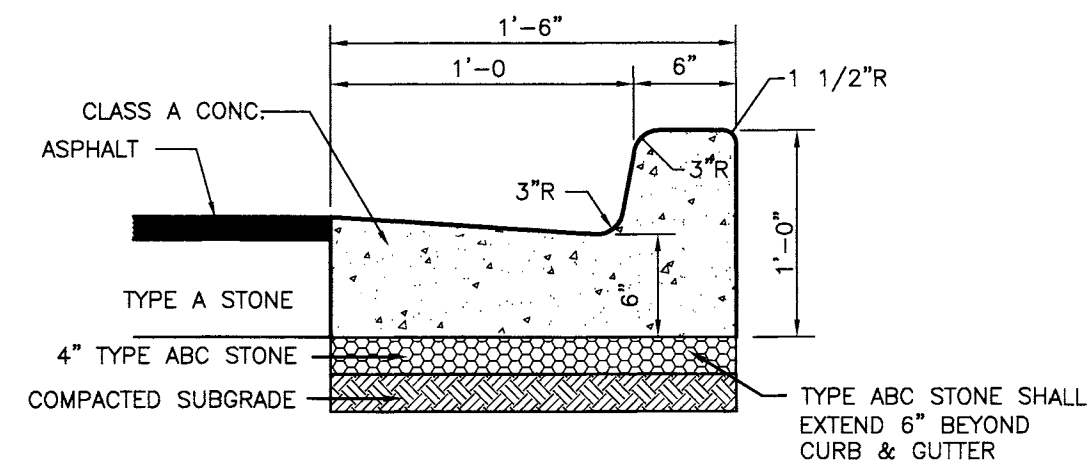
2 TYPICAL PARKING LOT PAVEMENT SECTION

NOT TO SCALE



NOTE: CURB TYPE DEPENDS ON GRADES SHOWN ON GRADING PLAN. GRADES INDICATING FALL AWAY FROM CURB SHALL BE SPILL OFF TYPE CURB. GRADES INDICATING CURB ACCEPTING FLOW SHALL BE FLOW LINE TYPE.

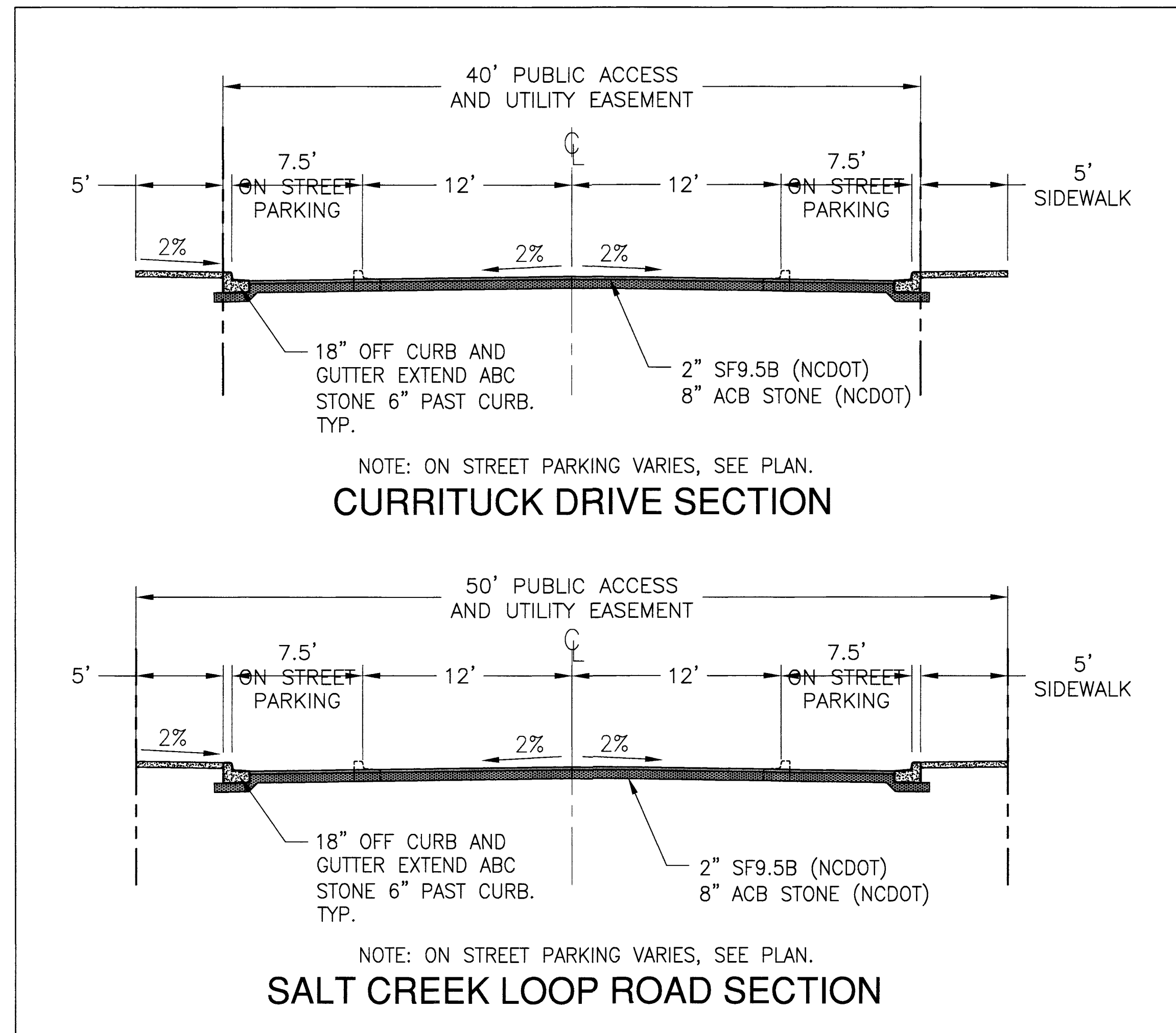
NOT TO SCALE



NOTE: CURB TYPE DEPENDS ON GRADES SHOWN ON GRADING PLAN. GRADES INDICATING FALL AWAY FROM CURB SHALL BE SPILL OFF TYPE CURB. GRADES INDICATING CURB ACCEPTING FLOW SHALL BE FLOW LINE TYPE.

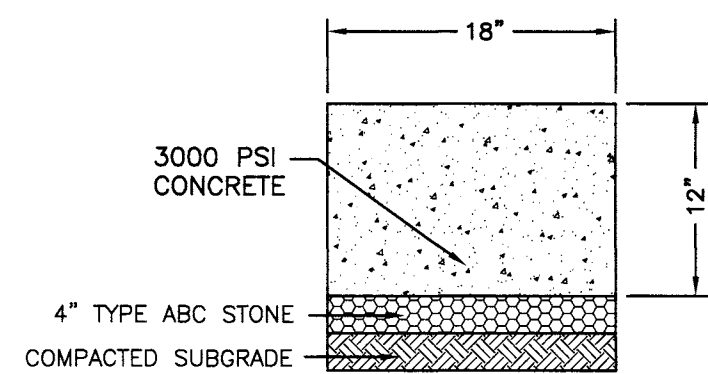
5 FLOW LINE CURB SECTION

NOT TO SCALE



NOTE: ON STREET PARKING VARIES, SEE PLAN.
CURRITUCK DRIVE SECTION

NOTE: ON STREET PARKING VARIES, SEE PLAN.
SALT CREEK LOOP ROAD SECTION



6 HEADER CURB DETAIL

PAVEMENT SCHEDULE

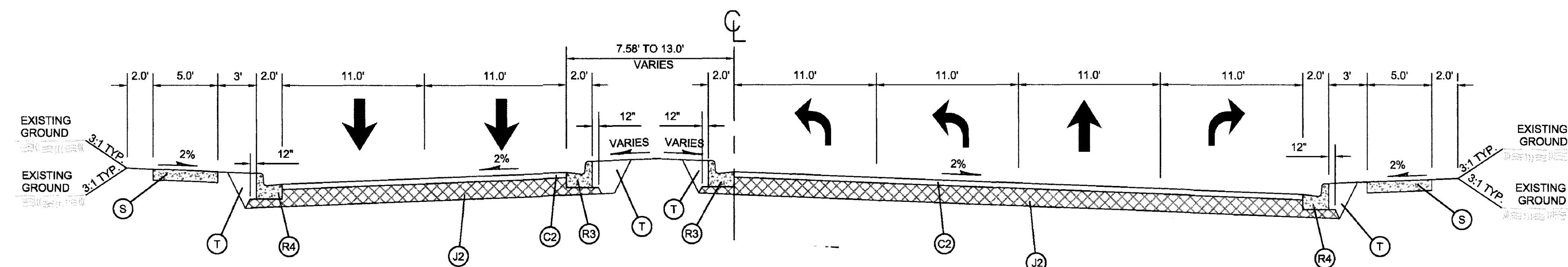
| | |
|------|---|
| (C1) | 1-1/2" OVERLAY ASPHALT SURFACE COURSE, TYPE S9.5C AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. |
| (C2) | 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS |
| (C3) | 1-1/2" ASPHALT SURFACE COURSE, TYPE S9.5C |
| (C4) | 6" STAMPED COLORED CONCRETE - SEE NOTE 6 |
| (D) | 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD. |
| (E) | 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD. |
| (J1) | PROP. 4" AGGREGATE BASE COURSE |
| (J2) | PROP 8" AGGREGATE BSE COURSE |
| (R1) | 5' MONOLITHIC CONCRETE ISLAND (SEE NOTE 5.) |
| (R2) | 2-6" CONCRETE CURB AND GUTTER (NCDOT) |
| (R3) | 1'-6" CONCRETE CURB AND GUTTER (NCDOT) |
| (R4) | 2'-0" CONCRETE CURB AND GUTTER (CITY OF WILMINGTON) |
| (R5) | 2'-6" MOUNTABLE CONCRETE CURB MODIFIED NCDOT MOUNTABLE CURB & GUTTER (SEE DETAIL) |
| (S) | 5' CONCRETE SIDEWALK |
| (T) | EARTH MATERIAL |
| (U1) | EXISTING ASPHALT PAVEMENT |
| (U2) | EXISTING CONCRETE CURB & GUTTER |
| (V) | 1.5" DEPTH MILLING |
| (W) | VARIABLE DEPTH (SEE WEDGING DETAIL) |

CITY OF WILMINGTON STANDARD NOTES:

1. CONTACT THE NORTH CAROLINA ONE CALL CENTER PRIOR TO DOING ANY DIGGING AT 1-800-632-4949.
2. PRIOR TO ANY CLEARING, GRADING OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING WILL BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES AND NO CONSTRUCTION WORKERS, TOOLS, MATERIALS, OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION FENCING.
3. ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY AND FOR DRIVEWAYS ARE TO BE THERMOPLASTIC AND MEET CITY AND/OR NCDOT STANDARDS.
4. ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE.
5. INSTALL REFLECTORS PER CITY AND NCDOT STANDARDS. TRAFFIC ENGINEERING MUST APPROVE OF PAVEMENT MARKING LAYOUT PRIOR TO ACTUAL STRIPING.
6. ALL TRAFFIC CONTROL SIGNS AND MARKINGS OFF THE RIGHTS-OF-WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER IN ACCORDANCE WITH MUTCD STANDARDS.
7. TRAFFIC CONTROL DEVICES (INCLUDING SIGNS AND PAVEMENT MARKINGS) IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES) STANDARDS.
8. IT SHALL BE THE RESPONSIBILITY OF THE SUBDIVIDER TO ERECT OFFICIAL STREET NAME SIGNS AT ALL INTERSECTIONS ASSOCIATED WITH THE SUBDIVISION IN ACCORDANCE WITH THE TECHNICAL STANDARDS AND SPECIFICATIONS MANUAL. THE SUBDIVIDER MAY ACQUIRE AND ERECT OFFICIAL STREET NAME SIGNS OR MAY CHOOSE TO CONTRACT WITH THE CITY TO INSTALL THE STREET SIGNS AND THE SUBDIVIDER SHALL PAY THE COST OF SUCH INSTALLATION. CONTACT TRAFFIC ENGINEERING AT 341-7888 TO DISCUSS INSTALLATION OF TRAFFIC AND STREET NAME SIGNS. POSTED STREET NAMES MUST BE APPROVED PRIOR TO INSTALLATION OF STREET NAME SIGNS.
9. CONTACT TRAFFIC ENGINEERING AT 341-7888 FORTY-EIGHT HOURS PRIOR TO ANY EXCAVATION IN THE RIGHT-OF-WAY.
10. A UTILITY CUT PERMIT IS REQUIRED FOR EACH OPEN CUT OF A CITY STREET. CONTACT 341-5888 FOR MORE DETAILS. IN CERTAIN CASES AN ENTIRE RESURFACING OF THE AREA BEING OPEN CUT MAY BE REQUIRED.
11. ANY BROKEN OR MISSING SIDEWALK PANELS, DRIVEWAY PANELS, AND CURBING WILL BE REPLACED.
12. CONTACT TRAFFIC ENGINEERING AT 341-7888 TO DISCUSS STREET LIGHTING OPTIONS.
13. PROJECT SHALL COMPLY WITH CFPWA CROSS CONNECTION CONTROL REQUIREMENTS. WATER METER(S) CANNOT BE RELEASED UNTIL ALL REQUIREMENTS ARE MET AND THE STATE HAS GIVEN THEIR FINAL APPROVAL. CALL 343-3910 FOR INFORMATION.
14. IF THE CONTRACTOR DESIRES CFPWA WATER FOR CONSTRUCTION HE SHALL APPLY IN ADVANCE FOR THIS SERVICE AND MUST PROVIDE A REDUCED PRESSURE ZONE (RPZ) BACKFLOW PREVENTION DEVICE ON THE DEVELOPER'S SIDE OF THE WATER METER BOX.
15. ANY IRRIGATION SYSTEM SUPPLIED BY CFPWA WATER SHALL COMPLY WITH CFPWA CROSS CONNECTION CONTROL REGULATIONS. CALL 332-6558 FOR INFORMATION.
16. ANY BACKFLOW PREVENTION DEVICES REQUIRED BY CFPWA WILL NEED TO BE ON THE LIST OF APPROVED DEVICES BY USFCCHHR OR ASSE.
17. WHEN PVC WATER MAINS AND/OR POLYETHYLENE SERVICES ARE PROPOSED, THE PIPES ARE TO BE MARKED WITH NO. 10 INSULATED SINGLE STRAND COPPER WIRE INSTALLED THE ENTIRE LENGTH AND SECURED TO ALL VALVES. THIS WIRE IS TO BE ACCESSIBLE AT ALL FIRE HYDRANTS AND WATER METER BOXES TO AID IN FUTURE LOCATION OF FACILITIES.
18. THE NUMBER AND SPACING OF DRIVEWAYS FOR ALL INTERCONNECTED SITES WILL BE DETERMINED BY THE COMBINED FRONTAGE OF THE INTERCONNECTED PROPERTIES.
19. UNDERGROUND FIRE LINE MUST BE PERMITTED AND INSPECTED BY THE WILMINGTON FIRE DEPARTMENT FROM THE PUBLIC ROW TO THE BUILDING. CONTACT THE WILMINGTON FIRE DEPARTMENT DIVISION OF FIRE AND LIFE SAFETY AT 910-343-0696 FOR ADDITIONAL INFORMATION.
20. A LANDSCAPE PLAN INDICATING THE LOCATION OF REQUIRED STREET TREES SHALL BE SUBMITTED TO THE CITY OF WILMINGTON TRAFFIC ENGINEER DIVISION AND PARKS AND RECREATION DEPARTMENT FOR REVIEW AND APPROVAL PRIOR TO THE RECORDING OF THE FINAL PLAN.
21. IF AN IRRIGATION SYSTEM IS PLANNED FOR THE SITE, UTILIZE MOISTURE SENSORS.
22. ALL PROPOSED VEGETATION WITHIN THE SIGHT TRIANGLES SHALL NOT INTERFERE WITH CLEAR VISUAL SIGHT LINES FROM 30'-10'.
23. PLEASE CONSIDER INCORPORATING XERIC LANDSCAPING FOR ALL NEW LANDSCAPING.
24. THE CONTRACTOR WILL MAINTAIN ALL-WEATHER EMERGENCY ACCESS TO CONSTRUCTION SITE AT ALL TIMES.

UTILITY NOTES FOR FIRE HYDRANTS:

1. FIRE HYDRANTS MUST BE WITHIN 150' OF THE FIRE DEPARTMENT CONNECTION.
2. THE FIRE DEPARTMENT CONNECTION MUST BE WITHIN 40' OF FIRE APPARATUS PLACEMENT.
3. LANDSCAPING AND PARKING CANNOT BLOCK OR IMPEDE THE FIRE DEPARTMENT CONNECTIONS OR FIRE HYDRANTS. A 3' CLEAR SPACE SHALL BE MAINTAINED AROUND THE CIRCUMFERENCE OF THE FIRE HYDRANT CONNECTION AND THE FIRE HYDRANT.
4. FIRE HYDRANTS MUST BE LOCATED WITHIN 8' OF THE CURB.
5. NEW HYDRANTS MUST BE AVAILABLE FOR USE PRIOR TO CONSTRUCTION OF THE BUILDINGS.
6. NEW HYDRANTS MUST BE BROUGHT INTO SERVICE PRIOR TO COMBUSTIBLE MATERIALS BEING DELIVERED TO THE JOB SITE.
7. THE CONTRACTOR SHALL MAINTAIN AN ALL WEATHER ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES DURING CONSTRUCTION.
8. TEMPORARY STREET SIGNS SHALL BE INSTALLED AT EACH STREET INTERSECTION WHEN CONSTRUCTION OF NEW ROADWAYS ALLOWS PASSAGE BY VEHICLES.
9. UNDERGROUND FIRE LINE AND PRIVATE WATER MAINS MUST BE PERMITTED AND INSPECTED BY THE WILMINGTON FIRE DEPARTMENT FROM THE PUBLIC RIGHT-OF-WAY TO THE BUILDING. CONTACT THE WILMINGTON FIRE DEPARTMENT DIVISION OF FIRE AND LIFE SAFETY AT 910-343-0696 FOR ADDITIONAL INFORMATION.
10. A MINIMUM OF 5' SHALL SEPARATE UNDERGROUND FIRE LINES OR PRIVATE WATER MAINS FROM OTHER UNDERGROUND UTILITIES.
11. HYDRANTS SHALL BE OF SUFFICIENT NUMBERS TO ACCOMMODATE BASE FIRE FLOW REQUIREMENTS OF THE STRUCTURE.
12. BUILDING CONSTRUCTION TYPE:



AUTUMN HALL DRIVE ENTRANCE SECTION (EXISTING)

NOTE: DESIGN BY OTHERS AS PART OF EASTWOOD ROAD IMPROVEMENTS PROJECT.

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

City of Wilmington
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date: _____ Permit # _____
Signed: _____

Approved Construction Plan
Name _____ Date _____
Planning _____
Traffic _____
Fire _____

NCDENR PWSS WATER PERMIT # _____
WATER CAPACITY: _____ GPD
DWQ SEWER PERMIT # _____
SEWER CAPACITY: _____ GPD
SEWER SHED # AND PLANT: _____
SEWER TO FLOW THROUGH NEI: YES or NO (CIRCLE ONE)

NOTES AND DETAILS
AUTUMN HALL COMMERCIAL PH I
1202 EASTWOOD ROAD
WILMINGTON, NC
NEW HANOVER COUNTY

DEVELOPER
WEB TRASK C/O MIKE BROWN
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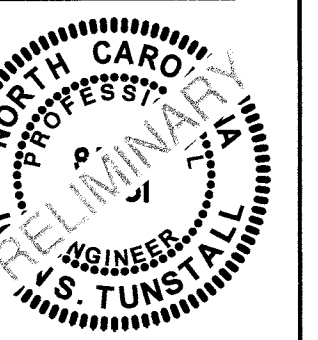
NORRIS & TUNSTALL
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1429 ASH-LITTLE RIVER RD. NW
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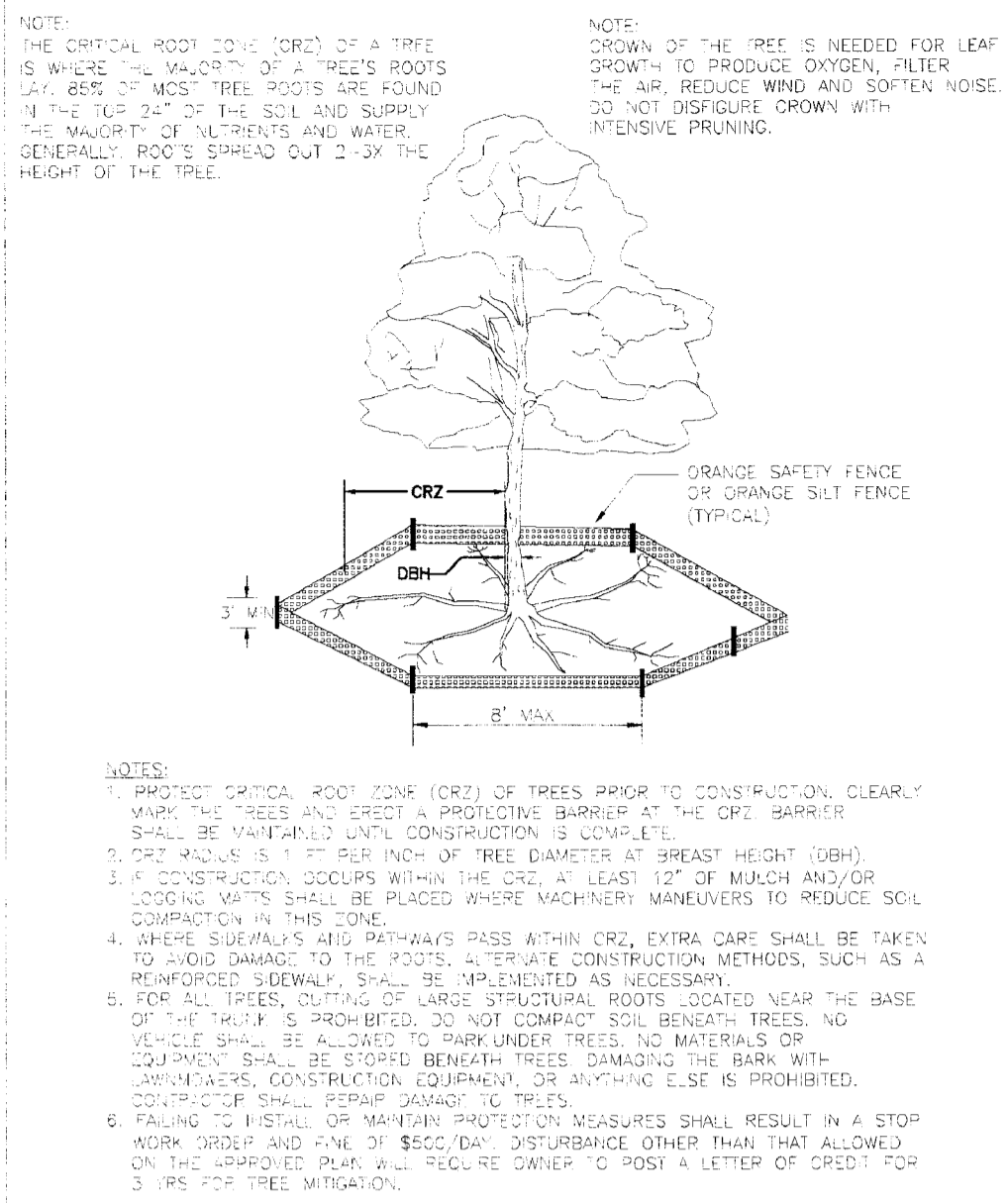
18128

DES. JST
CHK. JPN
DRWN. NKS

DATE 02/05/19



C5.1

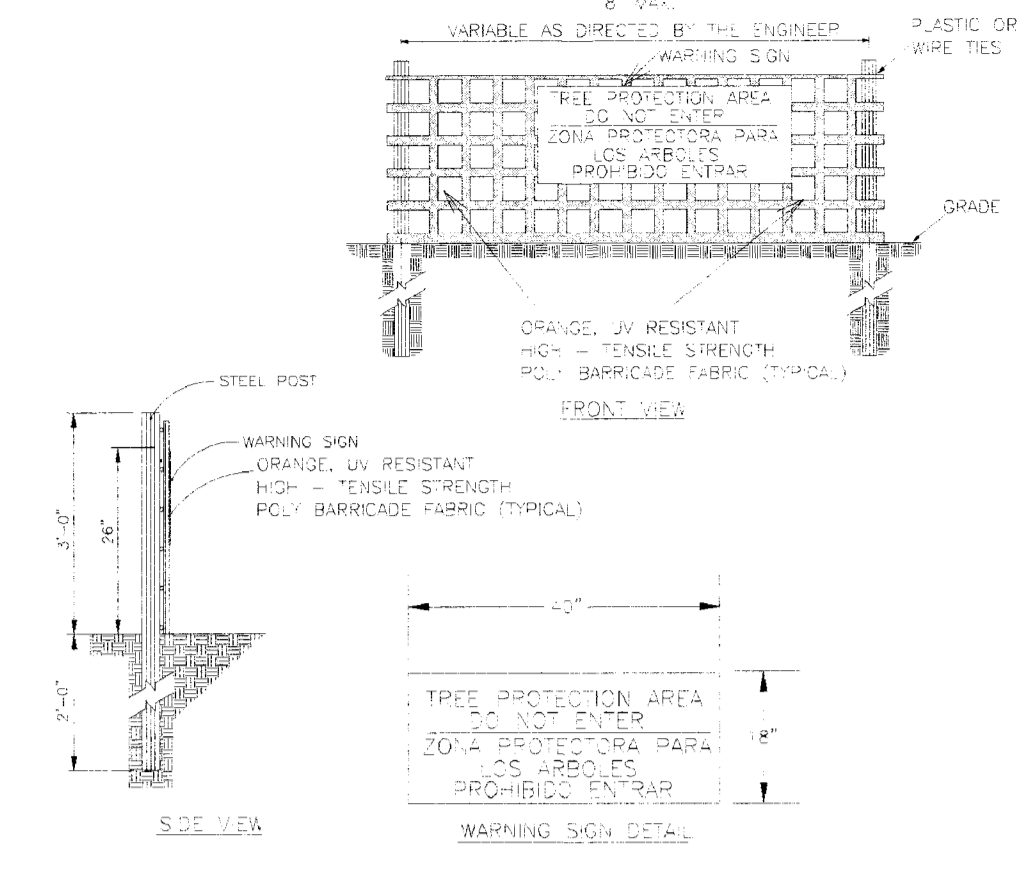


DATE: JAN 2015
 DRAWN BY: JRB
 CHECKED BY: RHP/PE
 SCALE: NOT TO SCALE

STANDARD DETAIL
TREE PROTECTION DURING CONSTRUCTION
 SHEET 1 of 2

City of Wilmington
 NORTH CAROLINA
 CITY OF WILMINGTON ENGINEERING
 101 EASTWOOD ROAD, SUITE 200
 WILMINGTON, NC 28405
 (910) 347-7800

SD 15-09

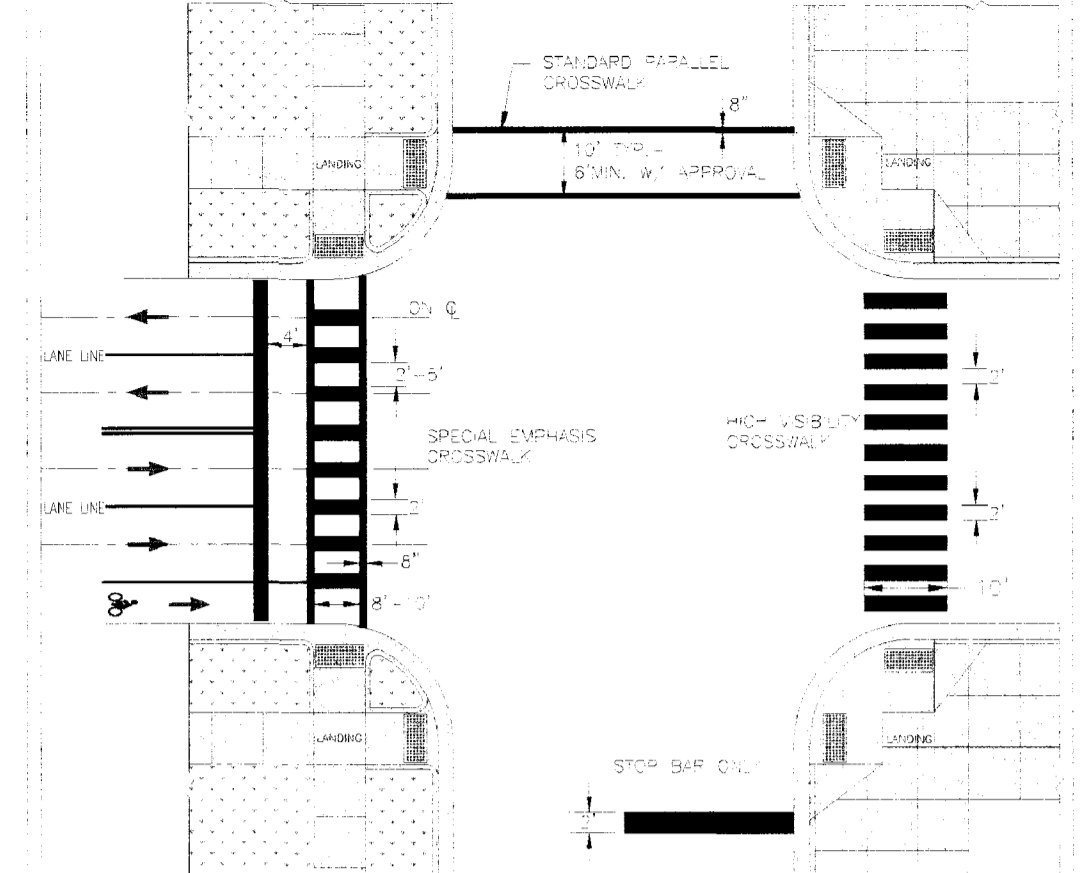


DATE: JAN 2015
 DRAWN BY: JRB
 CHECKED BY: RHP/PE
 SCALE: NOT TO SCALE

STANDARD DETAIL
TREE PROTECTION DURING CONSTRUCTION
 SHEET 2 of 2

City of Wilmington
 NORTH CAROLINA
 CITY OF WILMINGTON ENGINEERING
 101 EASTWOOD ROAD, SUITE 200
 WILMINGTON, NC 28405
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SD 15-09

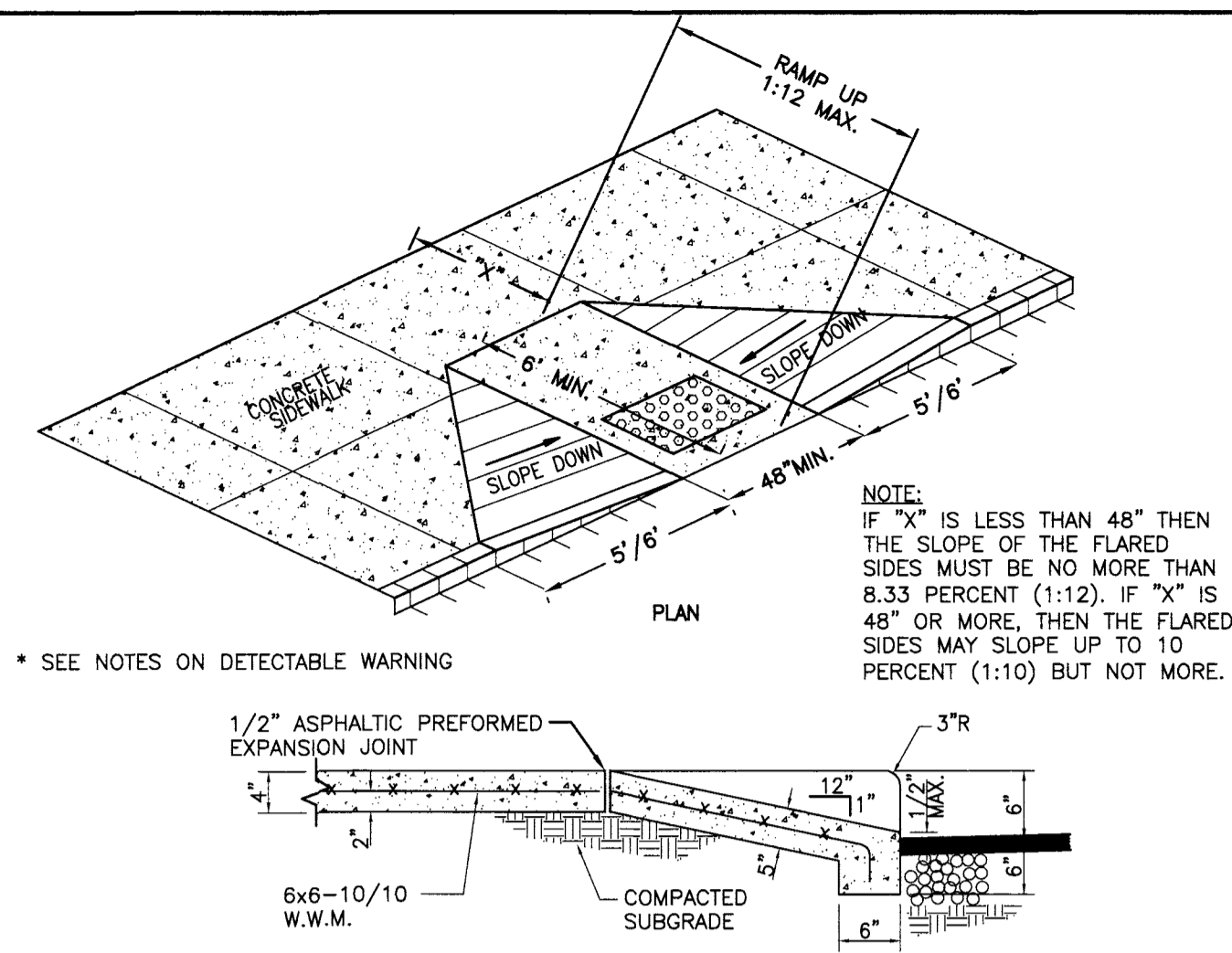


DATE: FEBRUARY 2011
 DRAWN BY: JRB
 CHECKED BY: RHP/PE
 SCALE: NOT TO SCALE

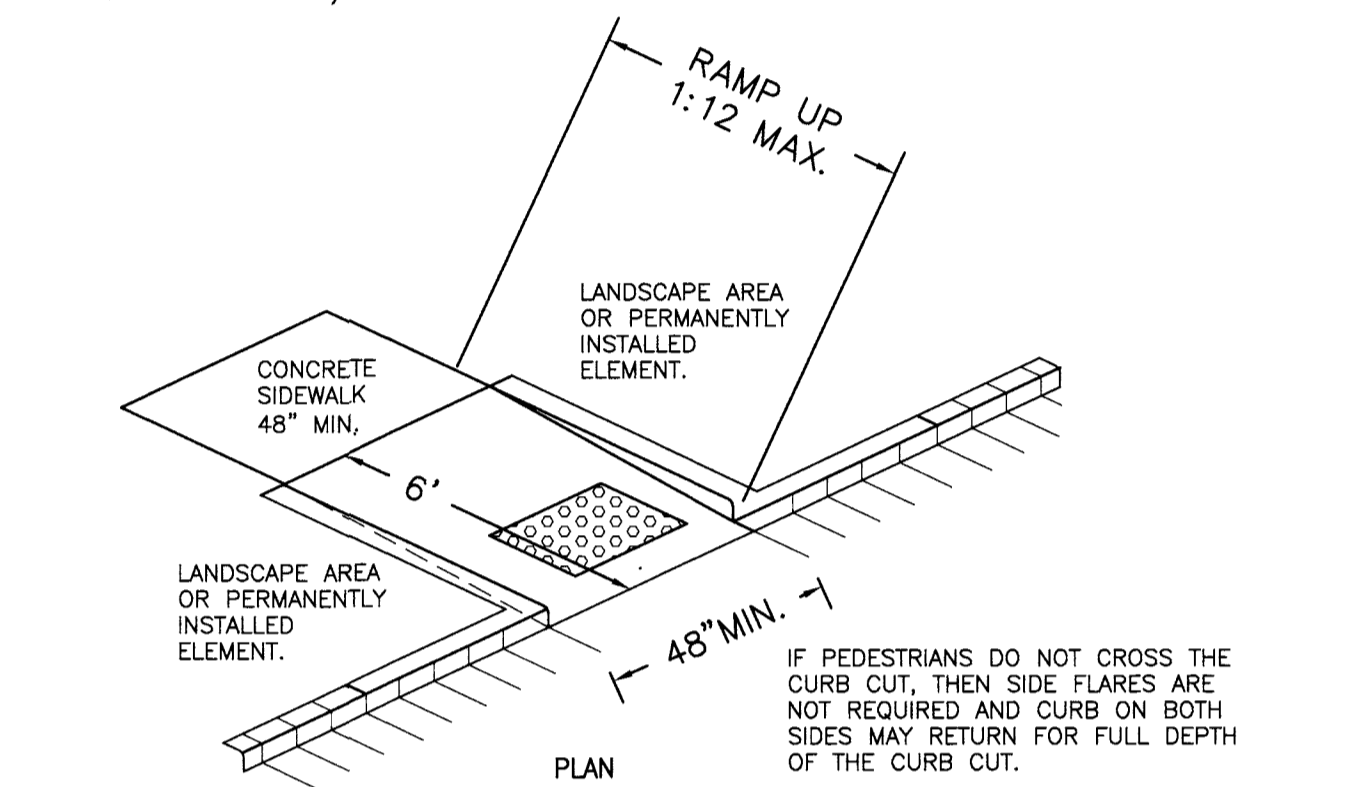
STANDARD DETAIL
CROSSWALK PAVEMENT MARKINGS
 SHEET 1 of 1

City of Wilmington
 NORTH CAROLINA
 CITY OF WILMINGTON ENGINEERING
 101 EASTWOOD ROAD, SUITE 200
 WILMINGTON, NC 28405
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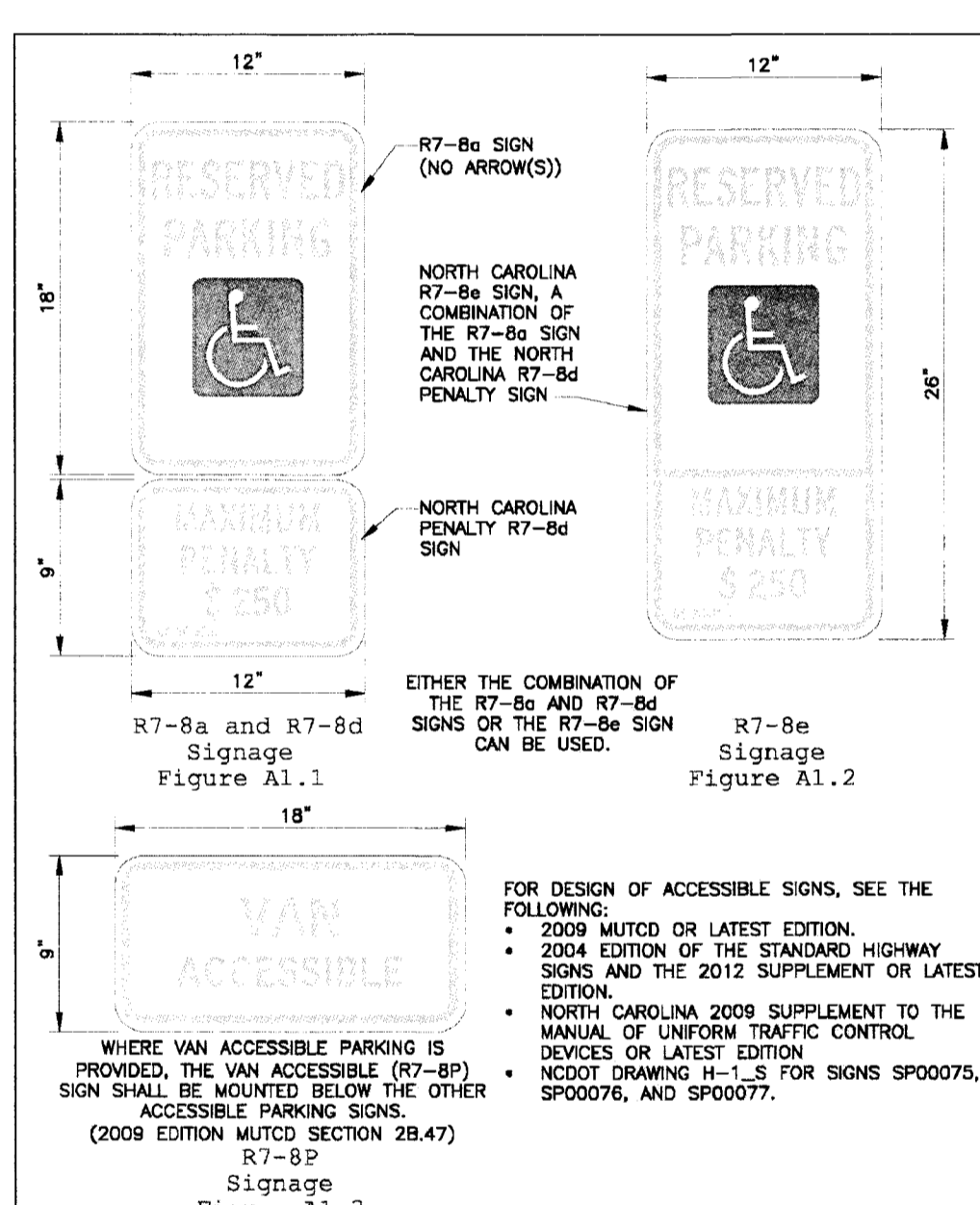
SD 11-11



SIDEWALK, CURB CUT AND WHEEL CHAIR RAMP DETAIL



SIDEWALK, CURB CUT AND WHEEL CHAIR RAMP DETAIL

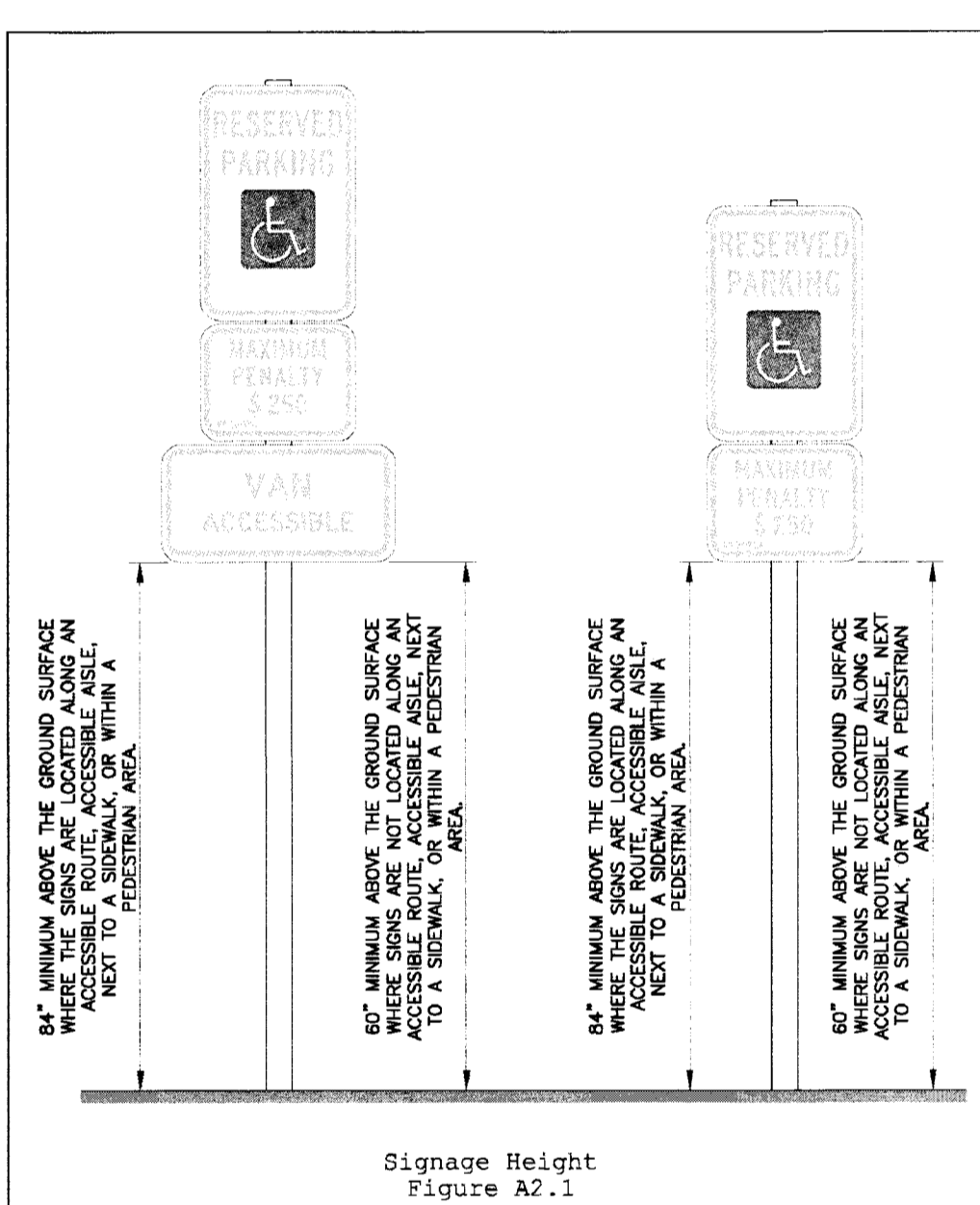


DATE: NOVEMBER 9, 2016
 DRAWN BY: DALE THOMPSON
 CHECKED BY: RANDALL GLASTER
 SCALE: NOT TO SCALE

STANDARD DETAIL
ACCESSIBLE PARKING SIGNS AND INSTALLATION DETAILS
 SHEET A1 OF 5

City of Wilmington
 NORTH CAROLINA
 CITY OF WILMINGTON ENGINEERING
 101 EASTWOOD ROAD, SUITE 200
 WILMINGTON, NC 28405
 (910) 347-7800

SD 15-09

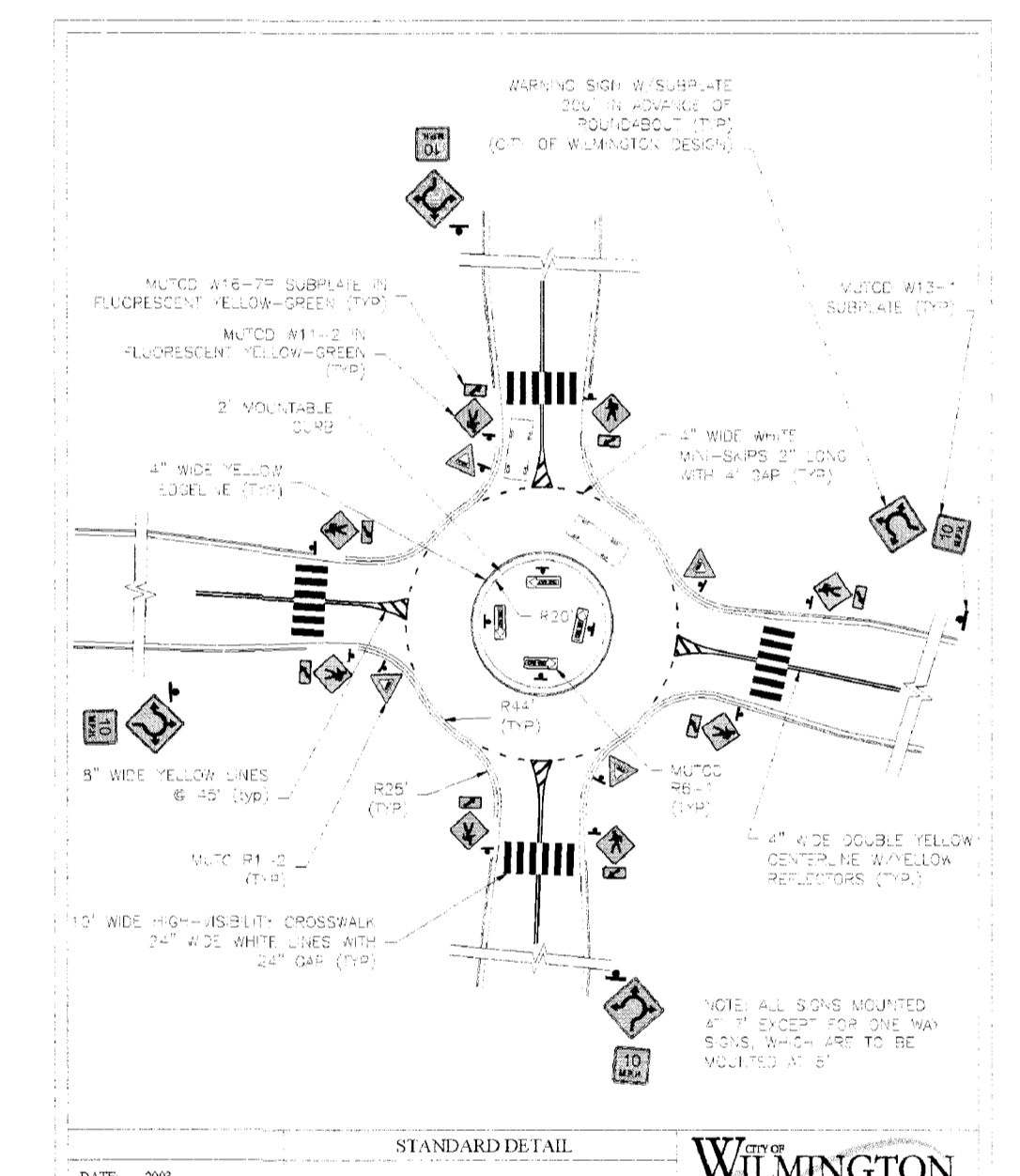


DATE: NOVEMBER 9, 2016
 DRAWN BY: DALE THOMPSON
 CHECKED BY: RANDALL GLASTER
 SCALE: NOT TO SCALE

STANDARD DETAIL
ACCESSIBLE PARKING SIGNS AND INSTALLATION DETAILS
 SHEET A2 OF 5

City of Wilmington
 NORTH CAROLINA
 CITY OF WILMINGTON ENGINEERING
 101 EASTWOOD ROAD, SUITE 200
 WILMINGTON, NC 28405
 (910) 347-7800

SD 15-09

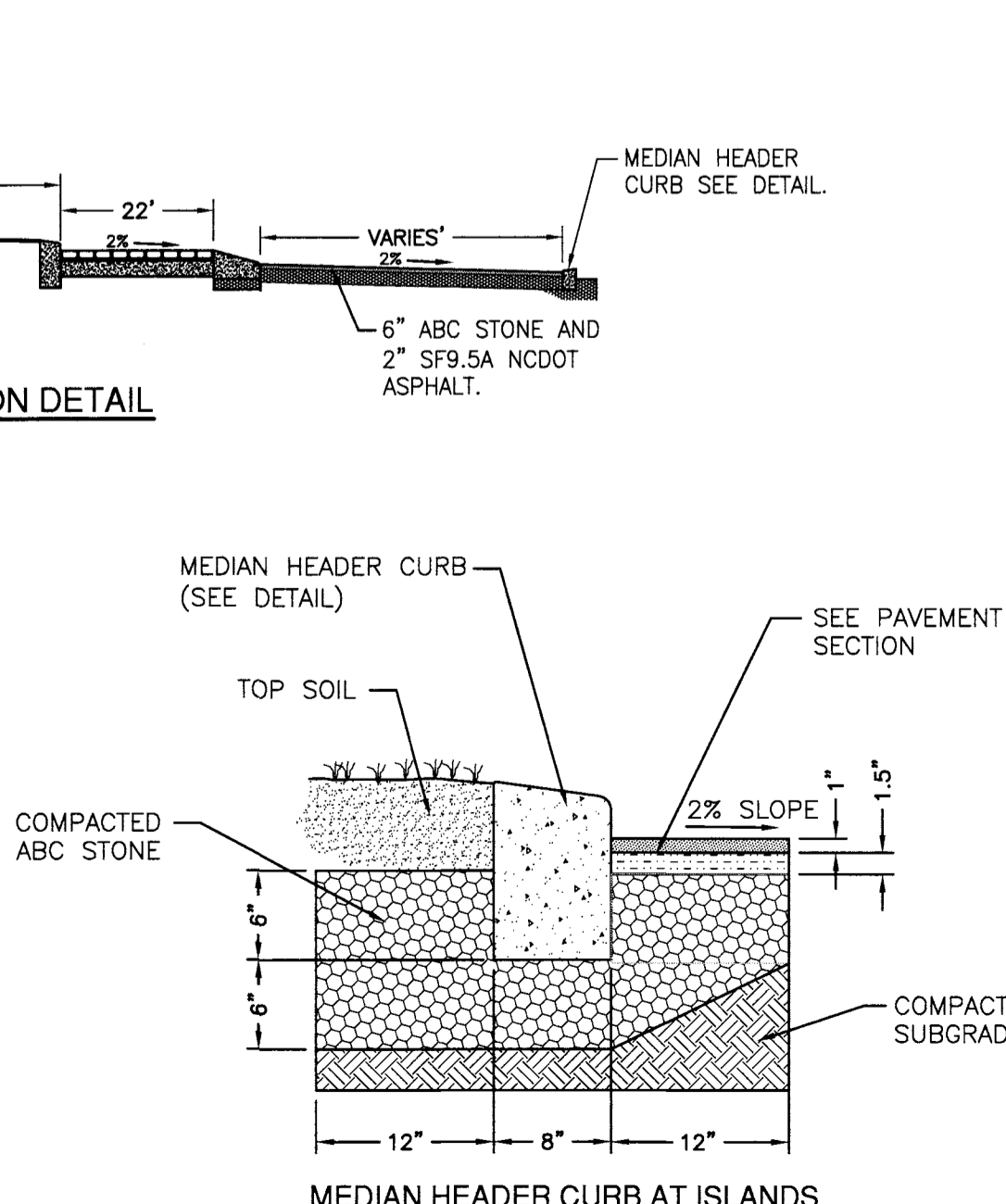
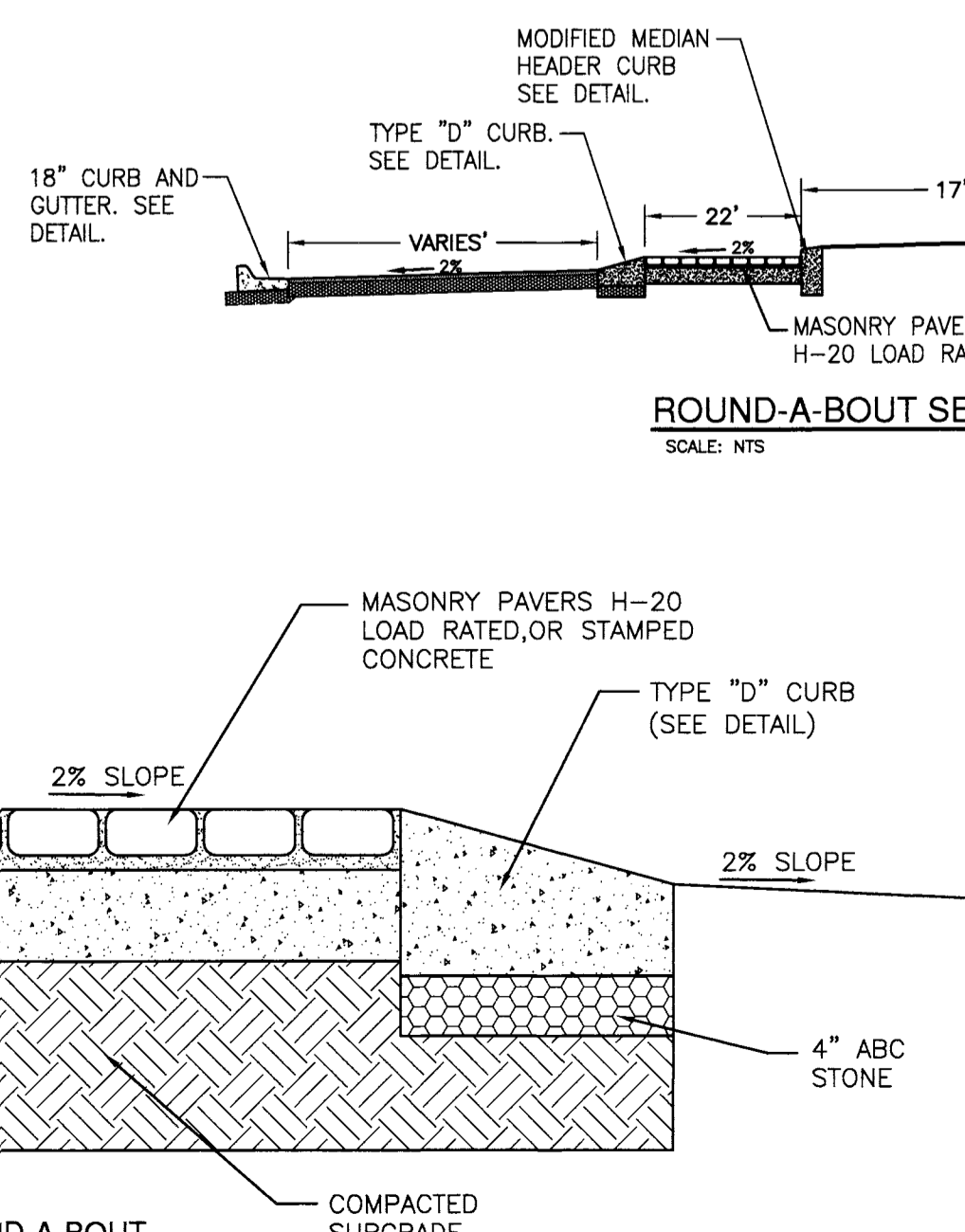
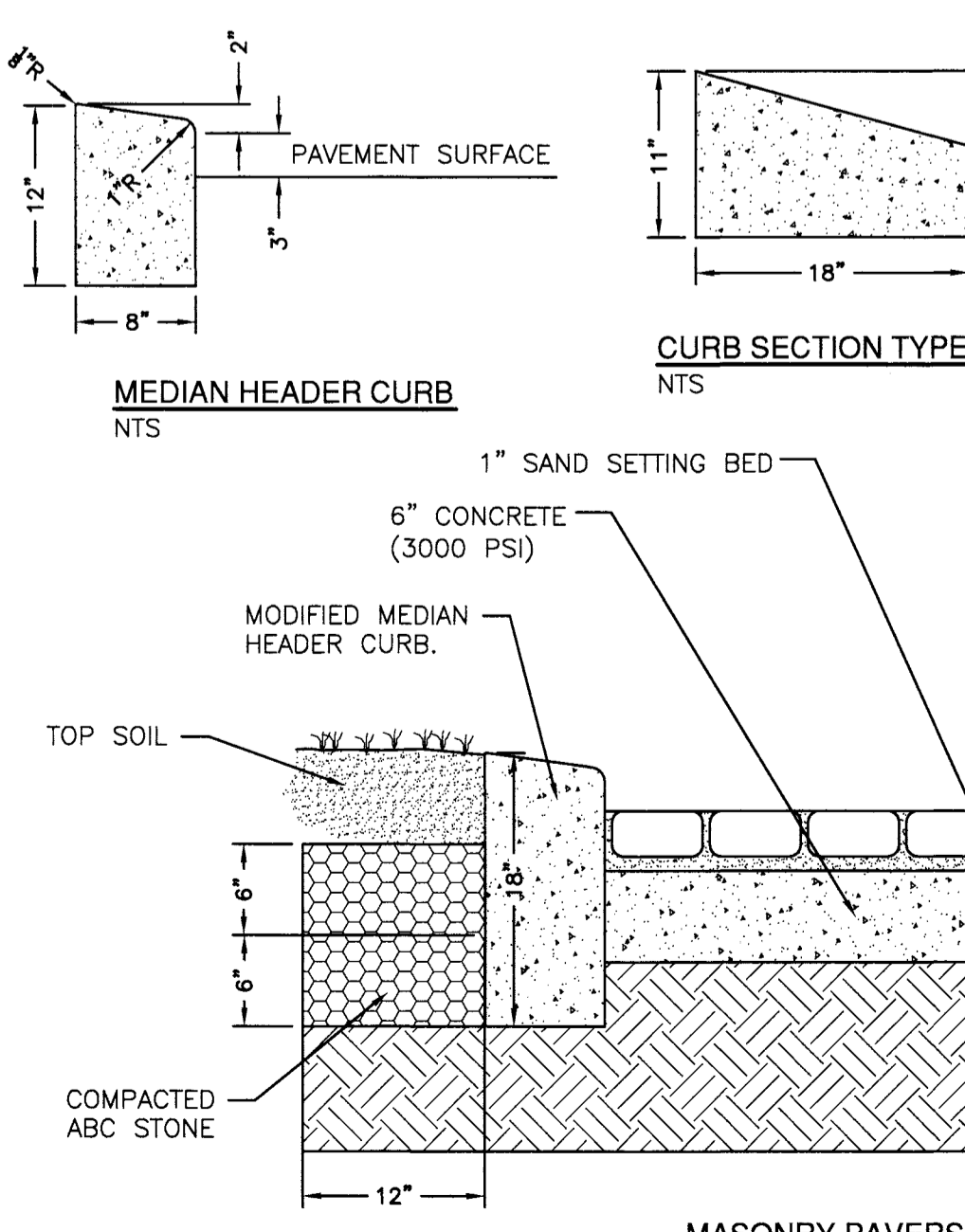


DATE: 2009
 DRAWN BY: JRB
 CHECKED BY: RHP
 SCALE: NOT TO SCALE

STANDARD DETAIL
PAVEMENT MARKINGS ROUNDABOUT
 SHEET 1 of 1

City of Wilmington
 NORTH CAROLINA
 CITY OF WILMINGTON ENGINEERING
 101 EASTWOOD ROAD, SUITE 200
 WILMINGTON, NC 28405
 (910) 347-7800

SD 11-14



UTILITY NOTES FOR FIRE HYDRANTS:

1. FIRE HYDRANTS MUST BE WITHIN 150' OF THE FIRE DEPARTMENT CONNECTION.
2. THE FIRE DEPARTMENT CONNECTION MUST BE WITHIN 40' OF FIRE APPARATUS PLACEMENT.
3. LANDSCAPING AND PARKING CANNOT BLOCK OR IMPEDE THE FIRE DEPARTMENT CONNECTIONS OR FIRE HYDRANTS. A 3' CLEAR SPACE SHALL BE MAINTAINED AROUND THE CIRCUMFERENCE OF THE FIRE HYDRANT CONNECTION AND THE FIRE HYDRANT.
4. FIRE HYDRANTS MUST BE LOCATED WITHIN 8' OF THE CURB.
5. NEW HYDRANTS MUST BE AVAILABLE FOR USE PRIOR TO CONSTRUCTION OF THE BUILDINGS.
6. NEW HYDRANTS MUST BE BROUGHT INTO SERVICE PRIOR TO COMBUSTIBLE MATERIALS BEING DELIVERED TO THE JOB SITE.
7. THE CONTRACTOR SHALL MAINTAIN AN ALL WEATHER ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES DURING CONSTRUCTION.
8. TEMPORARY STREET SIGNS SHALL BE INSTALLED AT EACH STREET INTERSECTION WHEN CONSTRUCTION OF NEW ROADWAYS ALLOWS PASSAGE BY VEHICLES.
9. UNDERGROUND FIRE LINE AND PRIVATE WATER MAINS MUST BE PERMITTED AND INSPECTED BY THE WILMINGTON FIRE DEPARTMENT FROM THE PUBLIC RIGHT-OF-WAY TO THE BUILDING. CONTACT THE WILMINGTON FIRE DEPARTMENT DIVISION OF FIRE AND LIFE SAFETY AT 910-343-0696 FOR ADDITIONAL INFORMATION.
10. A MINIMUM OF 5' SHALL SEPARATE UNDERGROUND FIRE LINES OR PRIVATE WATER MAINS FROM OTHER UNDERGROUND UTILITIES.
11. HYDRANTS SHALL BE OF SUFFICIENT NUMBERS TO ACCOMMODATE BASE FIRE FLOW REQUIREMENTS OF THE STRUCTURE.
12. BUILDING CONSTRUCTION TYPE:

CITY OF WILMINGTON STANDARD NOTES:

1. CONTACT THE NORTH CAROLINA ONE CALL CENTER PRIOR TO DOING ANY DIGGING AT 1-800-632-4949.
2. PRIOR TO ANY CLEARING, GRADING OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING WILL BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES AND NO CONSTRUCTION WORKERS, TOOLS, MATERIALS, OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION FENCING.
3. ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY AND FOR DRIVEWAYS ARE TO BE THERMOPLASTIC AND MEET CITY AND/OR NCDOT STANDARDS.
4. ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE.
5. INSTALL REFLECTORS PER CITY AND NCDOT STANDARDS. TRAFFIC ENGINEERING MUST APPROVE OF PAVEMENT MARKING LAYOUT PRIOR TO ACTUAL STRIPING.
6. ALL TRAFFIC CONTROL SIGNS AND MARKINGS OFF THE RIGHT-OF-WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER IN ACCORDANCE WITH MUTCD STANDARDS.
7. TRAFFIC CONTROL DEVICES (INCLUDING SIGNS AND PAVEMENT MARKINGS) IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES) STANDARDS.
8. IT SHALL BE THE RESPONSIBILITY OF THE SUBDIVIDER TO ERECT OFFICIAL STREET NAME SIGNS AT ALL INTERSECTIONS ASSOCIATED WITH THE SUBDIVISION IN ACCORDANCE WITH THE TECHNICAL STANDARDS AND SPECIFICATIONS MANUAL. THE SUBDIVIDER MAY ACQUIRE AND ERECT OFFICIAL STREET NAME SIGNS OR MAY CHOOSE TO CONTRACT WITH THE CITY TO INSTALL THE STREET SIGNS AND THE SUBDIVIDER SHALL PAY THE COST OF SUCH INSTALLATION. CONTACT TRAFFIC ENGINEERING AT 341-7888 TO DISCUSS INSTALLATION OF TRAFFIC AND STREET NAME SIGNS. POSTED STREET NAMES MUST BE APPROVED PRIOR TO INSTALLATION OF STREET NAME SIGNS.
9. CONTACT TRAFFIC ENGINEERING AT 341-7888 FORTY-EIGHT HOURS PRIOR TO ANY EXCAVATION IN THE RIGHT-OF-WAY.
10. A UTILITY CUT PERMIT IS REQUIRED FOR EACH OPEN CUT OF A CITY STREET. CONTACT 341-5888 FOR MORE DETAILS. IN CERTAIN CASES AN ENTIRE RESURFACING OF THE AREA BEING OPEN CUT MAY BE REQUIRED.
11. ANY BROKEN OR MISSING SIDEWALK PANELS, DRIVEWAY PANELS, AND CURBING WILL BE PLACED.
12. CONTACT TRAFFIC ENGINEERING AT 341-7888 TO DISCUSS STREET LIGHTING OPTIONS.
13. PROJECT SHALL COMPLY WITH CFPWA CROSS CONNECTION CONTROL REQUIREMENTS. WATER METER(S) CANNOT BE RELEASED UNTIL ALL REQUIREMENTS ARE MET AND THE STATE HAS GIVEN THEIR FINAL APPROVAL. CALL 343-3910 FOR INFORMATION.
14. IF THE CONTRACTOR DESIRES CFPWA WATER FOR CONSTRUCTION HE SHALL APPLY IN ADVANCE. FOR THIS SERVICE AND MUST PROVIDE A REDUCED PRESSURE ZONE (RPZ) BACKFLOW PREVENTION DEVICE ON THE DEVELOPER'S SIDE OF THE WATER METER BOX.
15. ANY IRRIGATION SYSTEM SUPPLIED BY CFPWA WATER SHALL COMPLY WITH CFPWA CROSS CONNECTION CONTROL REGULATIONS. CALL 332-6558 FOR INFORMATION.
16. ANY BACKFLOW PREVENTION DEVICES REQUIRED BY CFPWA WILL NEED TO BE ON THE LIST OF APPROVED DEVICES BY USCFCOCHR OR ASSE.
17. WHEN PVC WATER MAINS AND/OR POLYETHYLENE SERVICES ARE PROPOSED, THE PIPES ARE TO BE MARKED WITH NO. 10 INSULATED SINGLE STRAND COPPER WIRE INSTALLED THE ENTIRE LENGTH AND SECURED TO ALL VALVES. THIS WIRE IS TO BE ACCESSIBLE AT ALL FIRE HYDRANTS AND WATER METER BOXES TO AID IN FUTURE LOCATION OF FACILITIES.
18. THE NUMBER AND SPACING OF DRIVEWAYS FOR ALL INTERCONNECTED SITES WILL BE DETERMINED BY THE COMBINED FRONTAGE OF THE INTERCONNECTED PROPERTIES.
19. UNDERGROUND FIRE LINE MUST BE PERMITTED AND INSPECTED BY THE WILMINGTON FIRE DEPARTMENT FROM THE PUBLIC ROW TO THE BUILDING. CONTACT THE WILMINGTON FIRE DEPARTMENT DIVISION OF FIRE AND LIFE SAFETY AT 910-343-0696 FOR ADDITIONAL INFORMATION.
20. A LANDSCAPE PLAN INDICATING THE LOCATION OF REQUIRED STREET TREES SHALL BE SUBMITTED TO THE CITY OF WILMINGTON TRAFFIC ENGINEER DIVISION AND PARKS AND RECREATION DEPARTMENT FOR REVIEW AND APPROVAL PRIOR TO THE RECORDING OF THE FINAL PLAN.
21. IF AND IRRIGATION SYSTEM IS PLANNED FOR THE SITE, UTILIZE MOISTURE SENSORS.
22. ALL PROPOSED VEGETATION WITHIN THE SIGHT TRIANGLES SHALL NOT INTERFERE WITH CLEAR VISUAL SIGHT LINES FROM 30'-10'.
23. PLEASE CONSIDER INCORPORATING XERIC LANDSCAPING FOR ALL NEW LANDSCAPING.
24. THE CONTRACTOR WILL MAINTAIN ALL-WEATHER EMERGENCY ACCESS TO CONSTRUCTION SITE AT ALL TIMES.

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

City of Wilmington
 NORTH CAROLINA
 Public Services • Engineering Division

APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____

Signed: _____

Approved Construction Plan

| Name | Date |
|----------|------|
| Planning | |
| Traffic | |
| Fire | |

NCDNR PWSS WATER PERMIT # _____
 WATER CAPACITY: _____ GPD
 DWQ SEWER PERMIT # _____
 SEWER CAPACITY: _____ GPD
 SEWER SHED # AND PLANT: _____
 SEWER TO FLOW THROUGH NEI: YES OR NO (CIRCLE ONE)

NOTES AND DETAILS
 AUTUMN HALL COMMERCIAL PH I
 1202 EASTWOOD ROAD
 WILMINGTON, NC
 NEW HANOVER COUNTY

DEVELOPER
 WEB TRASK CO MIKE BROWN
 CAPE FEARY COMMERCIAL, LLC
 1051 MILITARY CUTOFF RD.,
 SUITE 200
 WILMINGTON, NC 28405
 344-1010 (P) 622-4657 (CELL)

NORRIS & TUNSTALL
 CONSULTING ENGINEERS P.C.

1900 EASTWOOD RD., SUITE #11
 WILMINGTON, NC 28403
 PHONE (910) 343-9653

1429 ASH-LITTLE RIVER RD. NW
 ASH, NC 28620
 PHONE (910) 287-5900

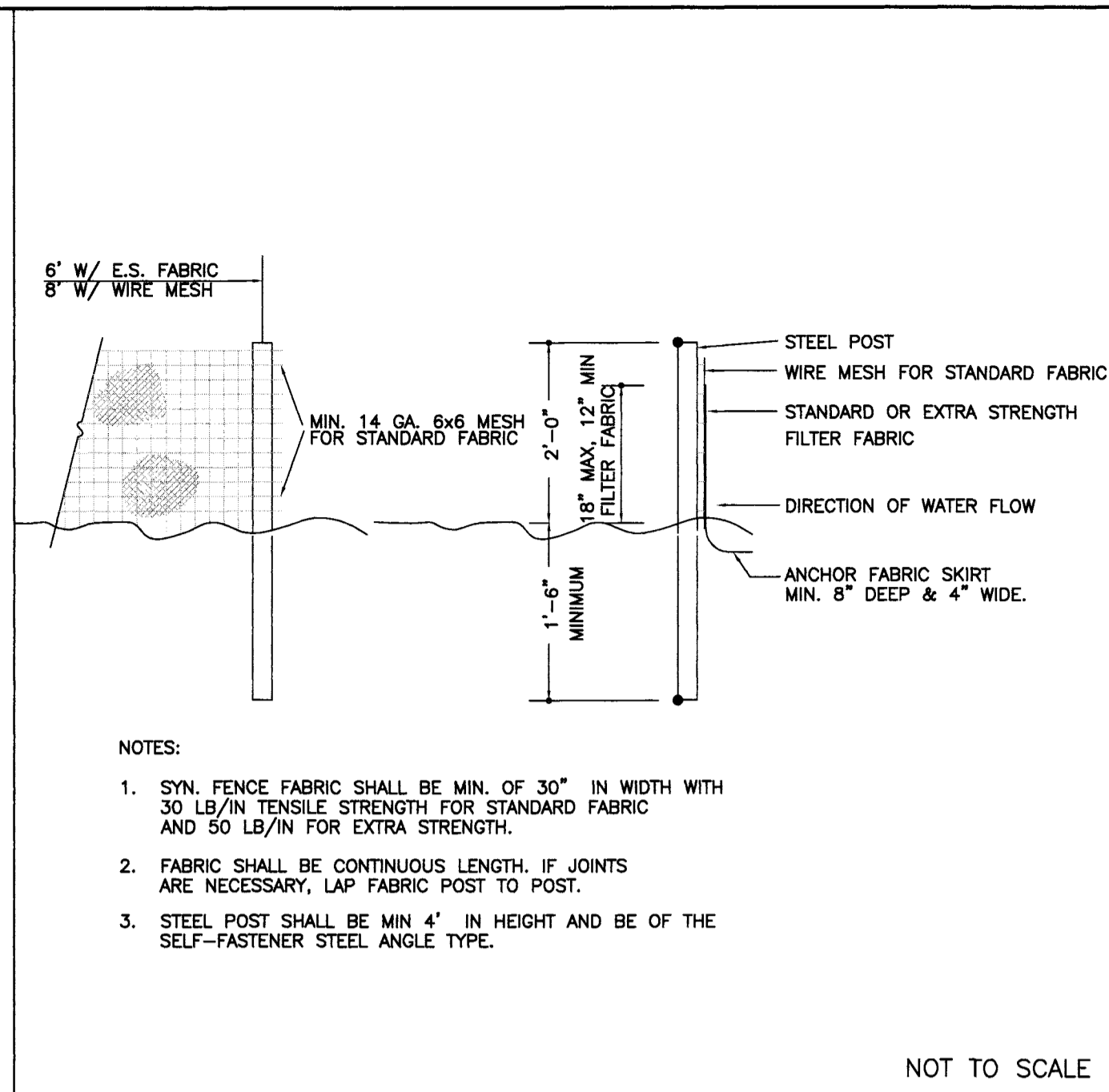
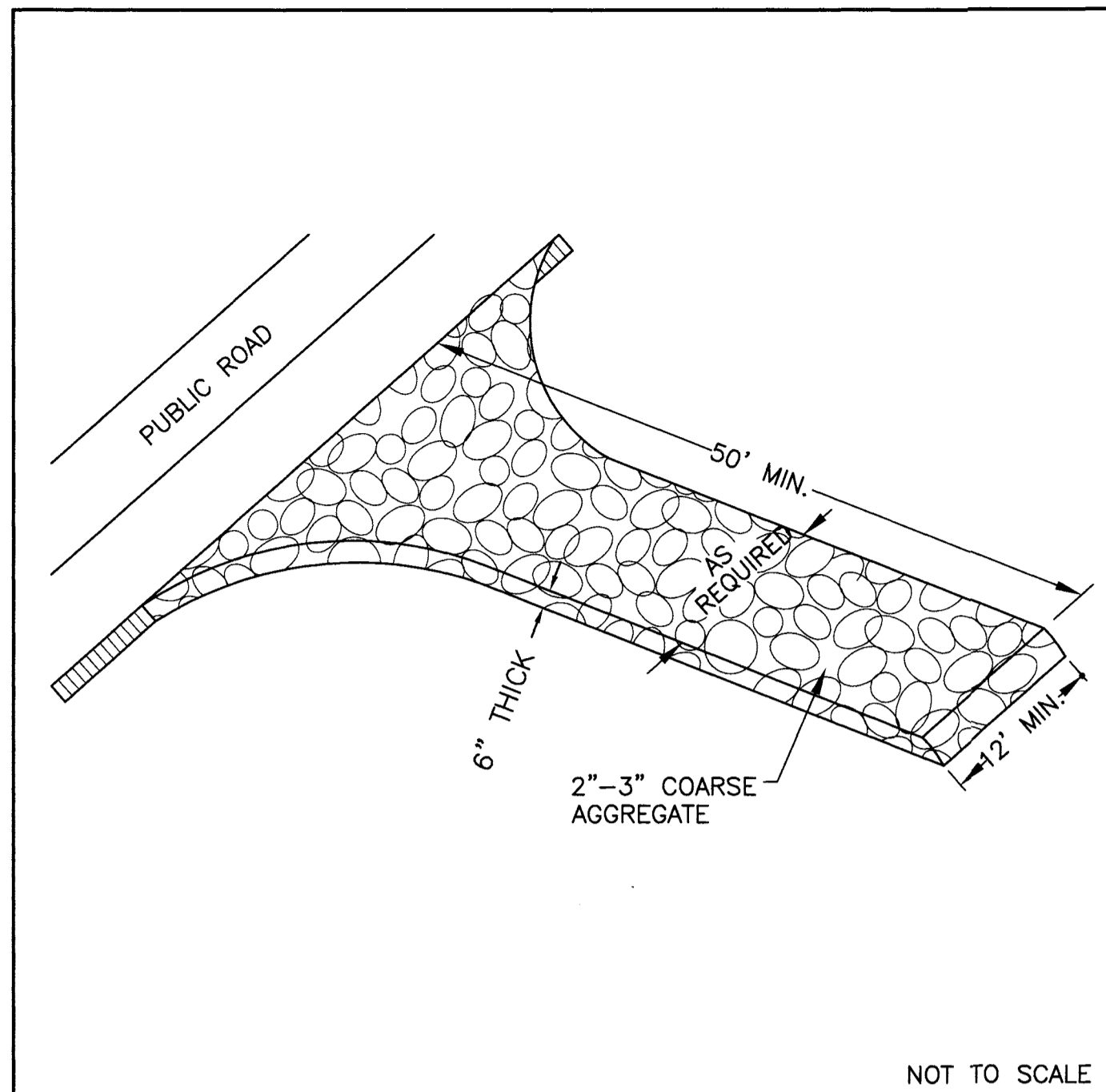
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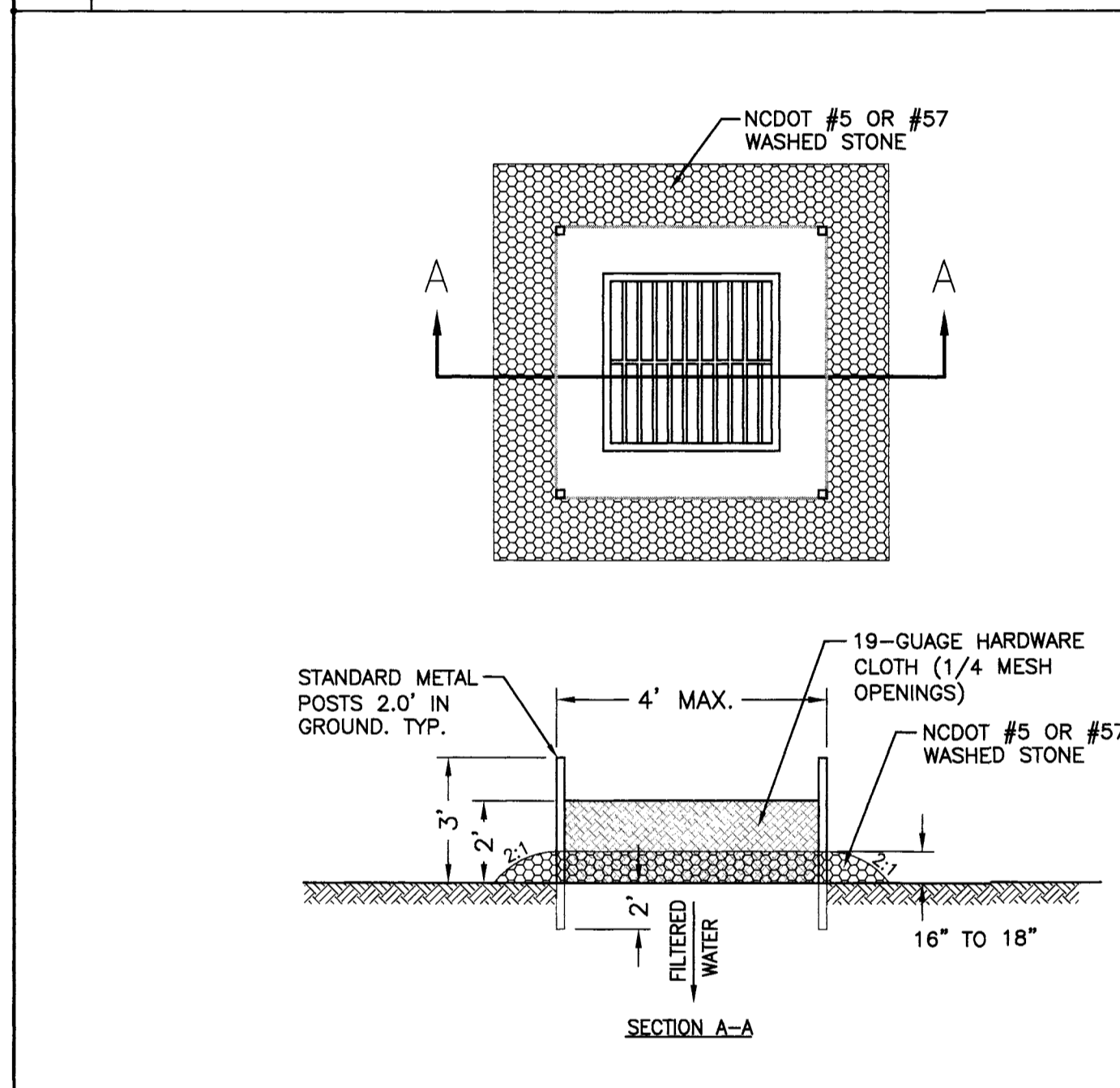
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- NOTES:
- SYN. FENCE FABRIC SHALL BE MIN. OF 30" IN WIDTH WITH 30 LB/IN TENSILE STRENGTH FOR STANDARD FABRIC AND 50 LB/IN FOR EXTRA STRENGTH.
 - FABRIC SHALL BE CONTINUOUS LENGTH. IF JOINTS ARE NECESSARY, LAP FABRIC POST TO POST.
 - STEEL POST SHALL BE MIN 4" IN HEIGHT AND BE OF THE SELF-FASTENER STEEL ANGLE TYPE.

1 TEMPORARY GRAVELLED CONSTRUCTION ENTRANCE

2 TEMPORARY SILT FENCE



- CONSTRUCTION SEQUENCE:
- UNIFORMLY GRADE A SHALLOW DEPRESSION APPROACHING THE INLET.
 - DRIVE 5" STEEL POST 2" INTO THE GROUND SURROUNDING THE INLET. SPACE POSTS EVENLY AROUND THE PERIMETER OF THE INLET, A MAXIMUM OF 4' APART.
 - SURROUND THE POST WITH WIRE MESH HARDWARE CLOTH. SECURE THE WIRE MESH TO THE STEEL POST AT THE TOP, MIDDLE AND BOTTOM. PLACING A 2" FLAP OF THE WIRE MESH UNDER THE GRAVEL FOR ANCHORING IS RECOMMENDED.
 - PLACE CLEAN GRAVEL (NCDOT #5 OR #57 STONE) ON A 2:1 SLOPE WITH A HEIGHT OF 16" TO 18" AROUND THE WIRE, AND SMOOTH TO AN EVEN GRADE.
 - ONCE THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED, REMOVE ACCUMULATED SEDIMENT, AND ESTABLISH FINAL GRADING ELEVATIONS.
 - COMPACT THE AREA PROPERLY AND STABILIZE IT WITH GROUND COVER.

- MAINTENANCE:
- INSPECT INLETS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2 INCH OR GREATER) RAINFALL EVENT. CLEAR THE MESH WIRE OF ANY DEBRIS OR OTHER OBJECTS TO PROVIDE ADEQUATE FLOW FOR SUBSEQUENT RAINS. TAKE CARE NOT TO DAMAGE OR UNDERCUT THE WIRE MESH DURING SEDIMENT REMOVAL. REMOVE SEDIMENT WHEN ACCUMULATION REACHES HALF THE DEPTH OF ROCK. REPLACE STONE WHEN IT NO LONGER DRAINS AS DESIGNED.

3 HARDWARE CLOTH AND GRAVEL INLET PROTECTION

| LEGEND | 1. GROUND STABILIZATION | | |
|--------|--|--------------------------|---|
| | SITE AREA DESCRIPTION | STABILIZATION TIME FRAME | STABILIZATION TIME FRAME EXCEPTIONS |
| | PERIMETER DIKES, SWALES, DITCHES AND SLOPES | 7 DAYS | NONE |
| | HIGH QUALITY WATER (HQW) ZONES. | 7 DAYS | NONE |
| | SLOPES STEEPER THAN 3:1 | 7 DAYS | IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED |
| | SLOPES 3:1 OR FLATTER | 14 DAYS | 7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH. |
| | ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1 | 14 DAYS | NONE (EXCEPT FOR HQW ZONES). |

2. BUILDING WASTES HANDLING

- NO PAINT OR LIQUID WASTES IN STREAM OR STORM DRAINS
- DEDICATED AREA FOR DEMOLITION, CONSTRUCTION AND OTHER WASTES MUST BE LOCATED 50' FROM STORM DRAINS AND STREAMS UNLESS NO ALTERNATIVE IS AVAILABLE.
- EARTHEN MATERIALS STOCKPILES MUST BE LOCATED 50' FROM STORM DRAINS AND STREAMS UNLESS NO REASONABLE ALTERNATIVE IS AVAILABLE.
- CONCRETE MATERIALS MUST BE CONTROLLED TO AVOID CONTACT WITH SURFACE WATERS, WETLANDS, OR BUFFERS.

3. INSPECTIONS

- SAME WEEKLY INSPECTION REQUIREMENTS
- SAME RAIN GAUGE AND INSPECTIONS AFTER 0.5" RAIN EVENT
- INSPECTIONS ARE ONLY REQUIRED DURING "NORMAL BUSINESS HOURS"
- RECORDS MUST BE KEPT FOR 3 YEARS AND AVAILABLE UPON REQUEST
- ELECTRONICALLY AVAILABLE RECORDS MAY BE SUBSTITUTED UNDER CERTAIN CONDITIONS

4. SEDIMENT BASINS

- OUTLET STRUCTURES MUST WITHDRAW FROM BASIN SURFACE UNLESS DRAINAGE AREA IS LESS THAN ONE ACRE
- USE ONLY DWQ APPROVED FLOCCULANTS

NPDES-SPECIFIC PLAN SHEET NOTES

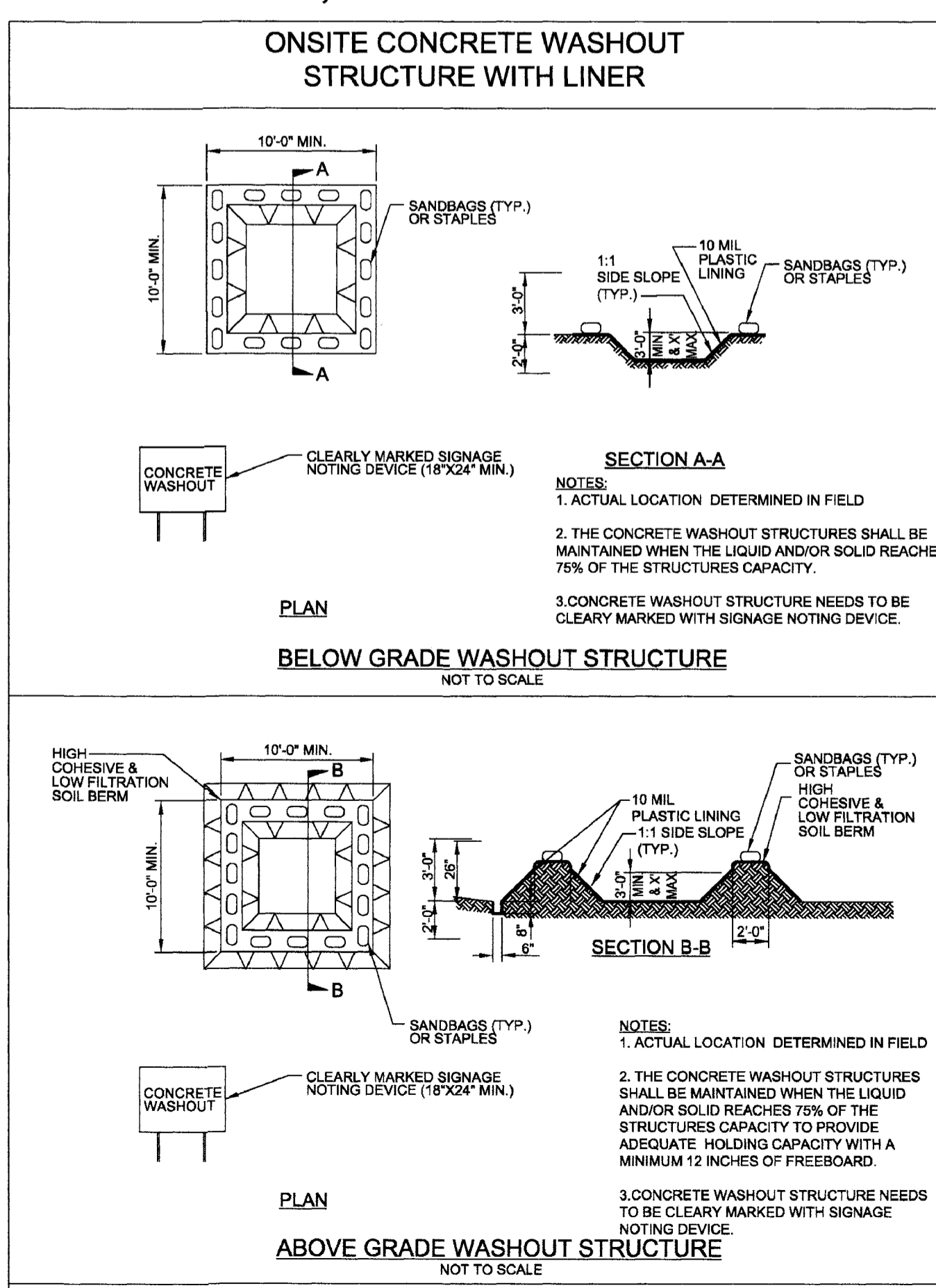
- THIS PAGE IS SUBMITTED TO COMPLY WITH NPDES GENERAL STORMWATER PERMIT NC0010000.
- THIS PAGE CAN BE APPROVED BY THE COUNTY PURSUANT TO NPDES GENERAL STORMWATER PERMIT NC0010000 ONLY.
- THIS PAGE OF THE APPROVED PLANS IS ENFORCEABLE EXCLUSIVELY PURSUANT TO NPDES GENERAL STORMWATER PERMIT NC0010000.
- THE COUNTY IS NOT AUTHORIZED TO ENFORCE THIS PAGE OF THE PLANS AND IT IS NOT PART OF THE APPROVED PLANS FOR THE PURPOSES OF ENFORCEMENT ACTION UNDER THE CITY CODE.

5 ENERGY DISSIPATOR DETAIL

| TEMPORARY SEEDING RECOMMENDATIONS FOR FALL | | |
|---|--|--------------|
| SEEDING MIXTURE | | |
| SPECIES | RATE (lb/acre) | (lb/1000 sf) |
| RYE (GRAIN) | 120 | 2.75 |
| SEEDING DATES: | | |
| MOUNTAINS - | AUG. 15 - DEC. 15 | |
| COASTAL PLAIN AND PIEDMONT - | AUG. 15 - DEC. 15 | |
| SOIL AMENDMENTS: | | |
| FOLLOW SOIL TEST OR APPLY 2,000 lb/acre GROUND AGRICULTURAL LIMESTONE AND 1,000 lb/acre 10-10-10 FERTILIZER. | | |
| MULCH: | | |
| APPLY 4,000 lb/acre STRAW. ANCHOR STRAW BY TACKLING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL. | | |
| MAINTENANCE: | | |
| REPAIR AND REFERTILIZE DAMAGE AREAS IMMEDIATELY. TOP DRESS WITH 50 lb/acre OF NITROGEN IN MARCH, IF IT IS NECESSARY TO EXTEND TEMPORARY COVER BEYOND JUNE 15, OVERSEED WITH 50 lb/acre KOBE (PIEDMONT AND COASTAL PLAIN) OR KOREAN (MOUNTAINS) LESPEDEZA IN LATE FEBRUARY OR EARLY MARCH. | | |
| TEMPORARY SEEDING RECOMMENDATIONS FOR SUMMER | | |
| SEEDING MIXTURE | | |
| SPECIES | RATE (lb/acre) | (lb/1000 sf) |
| GERMAN MILLET | 40 | 0.92 |
| IN THE PIEDMONT AND MOUNTAINS, A SMALL-STEMMED SUDAGRASS MAY BE SUBSTITUTED AT A RATE OF 50 lb/acre. | | |
| SEEDING DATES: | | |
| MOUNTAINS - | MAY 15 - AUG. 15 | |
| PIEDMONT - | MAY 1 - AUG. 15 | |
| COASTAL PLAIN - | APR. 15 - AUG. 15 | |
| SOIL AMENDMENTS: | | |
| FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 lb/acre GROUND AGRICULTURAL LIMESTONE AND 750 lb/acre 10-10-10 FERTILIZER. | | |
| MULCH: | | |
| APPLY 4,000 lb/acre STRAW. ANCHOR STRAW BY TACKLING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL. | | |
| MAINTENANCE: | | |
| REFERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, REFERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE. | | |
| TEMPORARY SEEDING RECOMMENDATIONS FOR LATE WINTER AND EARLY SPRING | | |
| SEEDING MIXTURE | | |
| SPECIES | RATE (lb/acre) | (lb/1000 sf) |
| RYE (GRAIN) | 120 | 2.75 |
| ANNUAL LESPEDEZA | 50 | 1.15 |
| (KOBE IN PIEDMONT AND COASTAL PLAIN, KOREAN IN MOUNTAINS) | | |
| OMIT ANNUAL LESPEDEZA WHEN DURATION OF TEMPORARY COVER IS NOT TO EXTEND BEYOND JUNE. | | |
| SEEDING DATES: | | |
| MOUNTAINS - | ABOVE 2,500 FEET: FEB. 15 - MAY 15 BELOW 2,500 FEET: FEB. 1 - MAY 1 | |
| PIEDMONT - | JAN. 1 - MAY 1 | |
| COASTAL PLAIN - | DEC. 1 - APRIL 15 | |
| SOIL AMENDMENTS: | | |
| FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 lb/acre GROUND AGRICULTURAL LIMESTONE AND 750 lb/acre 10-10-10 FERTILIZER. | | |
| MULCH: | | |
| APPLY 4,000 lb/acre STRAW. ANCHOR STRAW BY TACKLING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL. | | |
| MAINTENANCE: | | |
| REFERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, REFERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE. | | |

| PERMANENT SEEDING RECOMMENDATIONS FOR FALL AND EARLY SPRING | | |
|--|-----------------|--------------|
| SEEDING MIXTURE | | |
| SPECIES | RATE (lb/acre) | (lb/1000 sf) |
| TALL FESCUE | 80 | 1.84 |
| PENSACOLA BAHIAGRASS | 50 | 1.15 |
| SERICA LESPEDEZA | 30 | 0.69 |
| KOBE LESPEDEZA | 10 | 0.23 |
| SEEDING NOTES: | | |
| 1. FROM SEPT. 1 THRU MAR. 1, USE UNSCARIFIED SERICEA SEED. | | |
| 2. ON POORLY DRAINED SITES OMIT SERICEA AND INCREASE KOBE TO 30 lbs/acre. | | |
| 3. WHERE A NEAT APPEARANCE IS DESIRED, OMIT SERICEA AND INCREASE KOBE TO 40 lbs/acre. | | |
| NURSE PLANTS: BETWEEN APR. 15 AND AUG. 15, ADD 10 lbs/acre GERMAN MILLET OR 15 lbs/acre SUDAGRASS. PRIOR TO MAY 1 OR AFTER AUG. 15 ADD 25 lbs/acre RYE (GRAIN). | | |
| SEEDING DATES: | | |
| EARLY SPRING: FEB 15-MAR. 20 | POSSIBLE | |
| FALL: SEPT. 1-SEPT. 30 | FEB. 15-APR. 30 | |
| SOIL AMENDMENTS: | | |
| APPLY LIME AND FERTILIZE ACCORDING TO SOIL TESTS, OR APPLY 3,000-5,000 lbs/acre (68.9-114.8 lbs/1,000 sf) GROUND AGRICULTURAL LIMESTONE (USE THE LOWER RATE ON SANDY SOILS) AND 1,000 lbs/acre (22.9 lbs/1,000 sf) 10-10-10 FERTILIZER. | | |
| MULCH: | | |
| APPLY 4,000 lb/acre (91.8 lbs/1,000 sf) GRAIN STRAW OR EQUIVALENT COVER OF ANOTHER SUITABLE MULCH. ANCHOR STRAW BY TACKLING WITH ASPHALT, NETTING, OR ROVING OR BY CRIMPING WITH A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL. | | |
| MAINTENANCE: | | |
| IF GROWTH IS LESS THAN FULLY ADEQUATE, REFERTILIZE IN THE SECOND YEAR, ACCORDING TO SOIL TESTS OR TOPDRESS WITH 500 lbs/acre (11.5 lbs/1,000 sf) 10-10-10 FERTILIZER. MOW AS NEEDED WHEN SERICEA IS OMITTED FROM THE MIXTURE. RESEED, FERTILIZE, AND MULCH DAMAGED AREAS IMMEDIATELY. | | |
| PERMANENT SEEDING RECOMMENDATIONS FOR LATE SPRING AND EARLY SUMMER | | |
| SEEDING MIXTURE | | |
| SPECIES | RATE (lb/acre) | (lb/1000 sf) |
| PENSACOLA BAHIAGRASS | 50 | 1.15 |
| SERICA LESPEDEZA | 30 | 0.69 |
| COMMON BERMUDA | 10 | 0.23 |
| GERMAN MILLET | 10 | 0.23 |
| SEEDING NOTES: | | |
| 1. WHERE A NEAT APPEARANCE IS DESIRED, OMIT SERICEA. | | |
| 2. USE COMMON BERMUDAGRASS ONLY ON ISOLATED SITES WHERE IT CANNOT BECOME A PEST. BERMUDAGRASS MAY BE REPLACED WITH 5 lbs/acre CENTIPEDEGRASS. | | |
| SEEDING DATES: | | |
| APRIL 1-JULY 15 | | |
| SOIL AMENDMENTS: | | |
| APPLY LIME AND FERTILIZE ACCORDING TO SOIL TESTS, OR APPLY 3,000 lbs/acre (68.9 lbs/1,000 sf) GROUND AGRICULTURAL LIMESTONE AND 500 lbs/acre (11.5 lbs/1,000 sf) 10-10-10 FERTILIZER. | | |
| MULCH: | | |
| APPLY 4,000 lb/acre (91.8 lbs/1,000 sf) GRAIN STRAW OR EQUIVALENT COVER OF ANOTHER SUITABLE MULCH. ANCHOR STRAW BY TACKLING WITH ASPHALT, NETTING, OR ROVING OR BY CRIMPING WITH A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL. | | |
| MAINTENANCE: | | |
| REFERTILIZE THE FOLLOWING APRIL WITH 50 lbs/acre (1.15 lbs/1,000 sf) NITROGEN. REPEAT AS GROWTH REQUIRES. MAY BE MOWED ONLY ONCE A YEAR. WHERE A NEAT APPEARANCE IS DESIRED, OMIT SERICEA AND MOW AS OFTEN AS NEEDED. | | |

WITH LINER, NO GRAVEL APPROACH



EROSION CONTROL NOTES AND MAINTENANCE PLAN:

- ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE CHECKED FOR STABILITY AND OPERATION FOLLOWING EVERY RUNOFF-PRODUCING RAINFALL, BUT IN NO CASE, LESS THAN ONCE EVERY WEEK AND WITHIN 24 HOURS OF EVERY HALF-INCH RAINFALL.
- ALL POINTS OF EGRESS WILL HAVE CONSTRUCTION ENTRANCES THAT WILL BE PERIODICALLY TOP-DRESSED WITH AN ADDITIONAL 2 INCHES OF #4 STONE TO MAINTAIN PROPER DEPTH. THEY WILL BE MAINTAINED IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING THE SITE. IMMEDIATELY REMOVE OBJECTIONABLE MATERIAL SPILLED WASHED OR TRACKED ONTO THE CONSTRUCTION ENTRANCE OR ROADWAYS.
- SEDIMENT WILL BE REMOVED FROM HARDWARE CLOTH AND GRAVEL INLET PROTECTION, BLOCK AND GRAVEL INLET PROTECTION, ROCK DOUGHNUT INLET PROTECTION AND ROCK PIPE INLET PROTECTION WHEN THE DESIGNED STORAGE CAPACITY HAS BEEN HALF FILLED WITH SEDIMENT. ROCK WILL BE CLEANED OR REPLACED WHEN THE SEDIMENT POOL NO LONGER DRAINS AS DESIGNED. DEBRIS WILL BE REMOVED FROM THE ROCK AND HARDWARE CLOTH TO ALLOW PROPER DRAINAGE. SILT SACKS WILL BE EMPTIED ONCE A WEEK AND AFTER EVERY RAIN EVENT. SEDIMENT WILL BE REMOVED FROM AROUND WATTLES, BEAVER DAMS, DANDY SACKS AND SOCKS ONCE A WEEK AND AFTER EVERY RAIN EVENT.
- DIVERSION DITCHES WILL BE CLEANED OUT IMMEDIATELY TO REMOVE SEDIMENT OR OBSTRUCTIONS FROM THE FLOW AREA. THE DIVERSION RIDGES WILL ALSO BE REPAIRED. SWALES MUST BE TEMPORARILY STABILIZED WITHIN 21 CALENDAR DAYS OF CEASE OF ANY PHASE OF ACTIVITY ASSOCIATED WITH A SWALE.
- SEDIMENT WILL BE REMOVED FROM BEHIND THE SEDIMENT FENCE WHEN IT BECOMES HALF FILLED. THE SEDIMENT FENCE WILL BE REPAIRED AS NECESSARY TO MAINTAIN A BARRIER. STAKES MUST BE STEEL. STAKE SPACING WILL BE 6 FEET MAX. WITH THE USE OF EXTRA STRENGTH FABRIC, WITHOUT WIRE BACKING, STAKE SPACING WILL BE 8 FEET MAX. WHEN STANDARD STRENGTH FABRIC AND WIRE BACKING ARE USED. IF ROCK FILTERS ARE DESIGNED AT LOW POINTS IN THE SEDIMENT FENCE, THE ROCK WILL BE REPAIRED OR REPLACED IF IT BECOMES HALF-FULL OF SEDIMENT, NO LONGER DRAINS AS DESIGNED OR IS DAMAGED.
- SEDIMENT WILL BE REMOVED FROM SEDIMENT TRAPS WHEN THE DESIGNED STORAGE CAPACITY HAS BEEN HALF FILLED WITH SEDIMENT. THE ROCK WILL BE CLEANED OR REPLACED WHEN THE SEDIMENT POOL NO LONGER DRAINS OR WHEN THE ROCK IS DISLODGED. Baffles WILL BE REPAIRED OR REPLACED IF THEY COLLAPSE, TEAR, DECOMPOSE OR BECOME INEFFECTIVE. THEY WILL BE REPLACED PROMPTLY. SEDIMENT WILL BE REMOVED WHEN DEPOSITS REACH HALF THE HEIGHT OF THE 1ST BAFFLE. FLOATING SKIMMERS WILL BE INSPECTED AND KEPT CLEAN WEEKLY.
- SEDIMENT WILL BE REMOVED FROM THE SEDIMENT BASIN WHEN THE DESIGN STORAGE CAPACITY HAS BEEN HALF FILLED WITH SEDIMENT. ROCK WILL BE CLEANED OR REPLACED WHEN THE SEDIMENT POOL NO LONGER DRAINS OR IF THE ROCK IS DISLODGED. Baffles WILL BE REPAIRED OR REPLACED IF THEY COLLAPSE, TEAR, DECOMPOSE OR BECOME INEFFECTIVE. THEY WILL BE REPLACED PROMPTLY. SEDIMENT WILL BE REMOVED FROM BAFFLES WHEN DEPOSITS REACH HALF THE HEIGHT OF THE 1ST BAFFLE. FLOATING SKIMMERS WILL BE INSPECTED WEEKLY AND WILL BE KEPT CLEAN.
- LAND QUALITY REQUIRES: ALL SEEDING AREAS WILL BE FERTILIZED, RESEED AS NECESSARY, AND MULCHED, ACCORDING TO SPECIFICATIONS IN THE VEGETATIVE PLAN, TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER. ALL SLOPES WILL BE STABILIZED WITHIN 15 WORKING DAYS. WATER QUALITY REQUIRES: ALL SEEDING AREAS WILL BE FERTILIZED, RESEED AS NECESSARY AND MULCHED ACCORDING TO SPECIFICATIONS IN THE VEGETATIVE PLAN TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER. ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, ALL SLOPES STEEPER THAN 3:1 HORIZONTAL TO 1' VERTICAL (3:1) AND ALL HIGH QUALITY WATER (HQW) ZONES SHALL BE PROVIDED TEMPORARY OR PERMANENT STABILIZATION WITH GROUND COVER AS SOON AS PRACTICABLE BUT IN ANY EVENT WITHIN SEVEN (7) CALENDAR DAYS FROM THE LAST LAND-DISTURBING ACTIVITY. ALL OTHER DISTURBED AREAS SHALL BE PROVIDED TEMPORARY OR PERMANENT STABILIZATION WITH GROUND COVER AS SOON AS PRACTICABLE BUT IN ANY EVENT WITHIN 15 CALENDAR DAYS FROM THE LAST LAND-DISTURBING ACTIVITY.
- FLOCCULANTS WILL BE USED TO ADDRESS TURBIDITY ISSUES. THE PUMPS, TANKS, HOSES AND INJECT SYSTEMS WILL BE CHECKED FOR PROBLEMS OR TURBID DISCHARGES DAILY.
- BASIN OUTLET STRUCTURES AND SKIMMERS SHALL WITHDRAW WATER FROM THE SURFACE.
- CONCRETE WASHOUTS SHOULD BE INSPECTED DAILY AND AFTER HEAVY RAINS. DAMAGES SHOULD BE REPAIRED PROMPTLY. IF FILLED TO OVER 75% CAPACITY WITH RAIN WATER IT SHOULD BE VACUUMED OR ALLOWED TO EVAPORATE TO AVOID OVERFLOWS. BEFORE HEAVY RAINS THE CONTAINERS LIQUID LEVEL SHOULD BE LOWERED OR THE CONTAINER COVERED TO AVOID AN OVER FLOW DURING RAIN. WHEN SOLIDS HAVE HARDENED THEY SHOULD BE REMOVED AND RECYCLED.

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

City of WILMINGTON NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date: _____ Permit # _____
Signed: _____
Approved Construction Plan
Name: _____ Date: _____

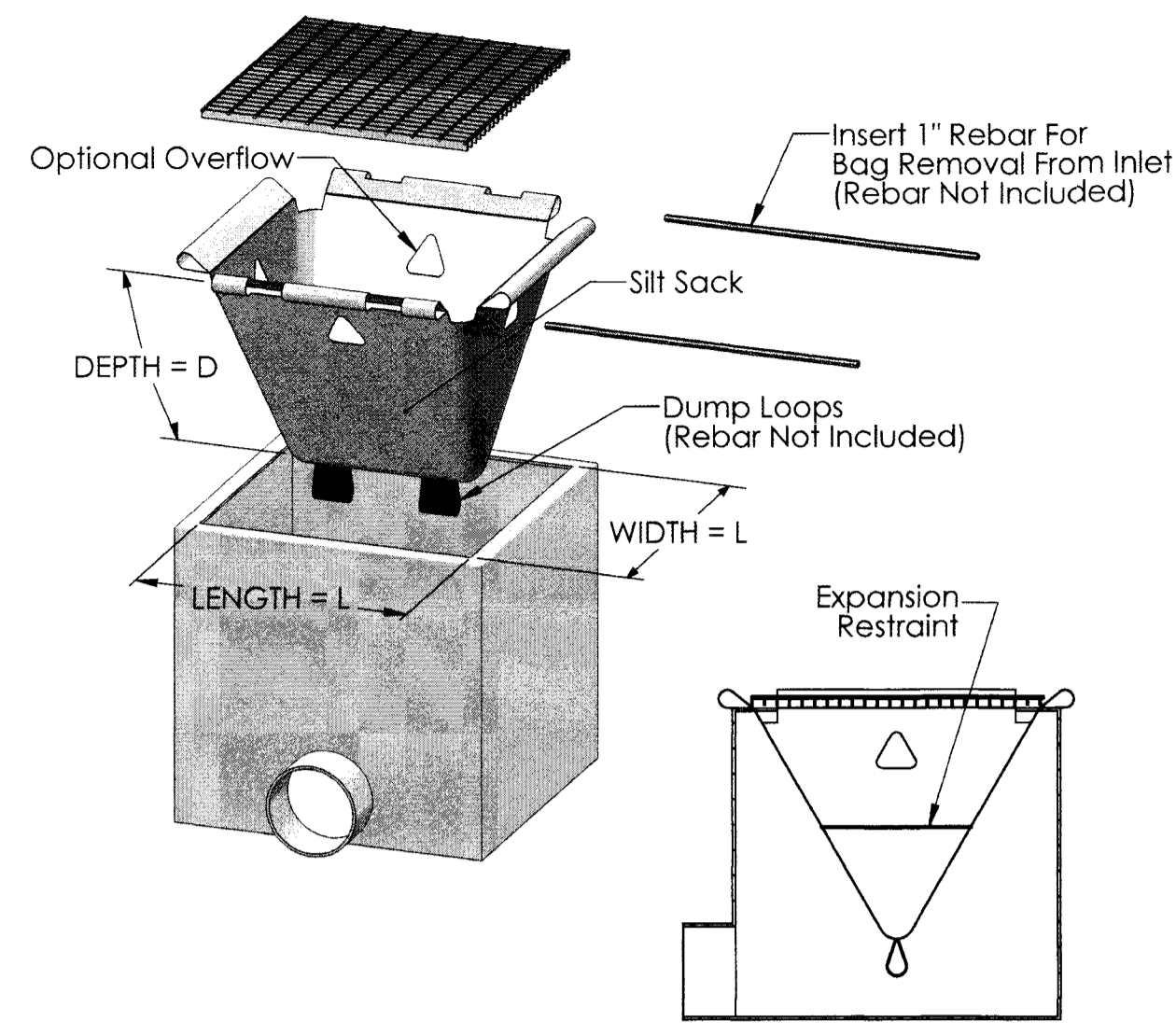
Planning _____
Traffic _____
Fire _____
NCDENR PWSS PERMIT #: _____
WATER CAPACITY: _____ GPD
DWQ SEWER PERMIT #: _____
SEWER CAPACITY: _____ GPD
SEWER SHED # AND PLANT: _____
SEWER TO FLOW THROUGH NEI: YES OR NO (CIRCLE ONE)

NOTES AND DETAILS
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1202 EASTWOOD ROAD
WILMINGTON, NC
NEW HANOVER COUNTY

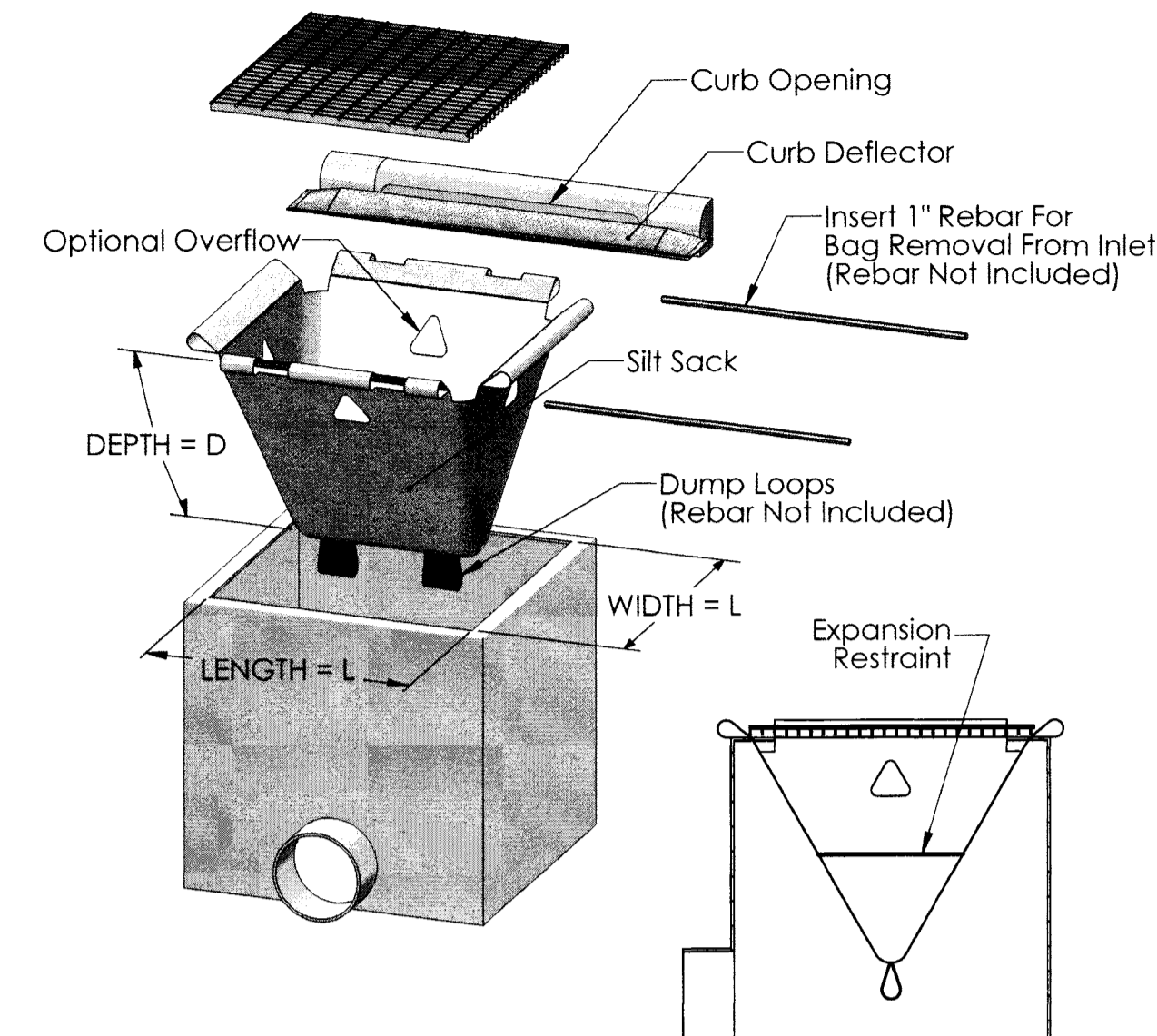
DEVELOPER
WEB TRASK CO MIKE BROWN
CAPE FEAR COMMERCIAL, LLC
1051 MILITARY CUTOFF RD.,
SUITE 500
WILMINGTON, NC 28405
344-1010 (P) 622-4657 (CELL)

NORRIS & TUNSTALL
CONSULTING ENGINEERS P.C.
1429 ASH-LITTLE RIVER RD. NW
ASH, NC 28420
PHONE (910) 343-5900

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DATE 02/05/19
PRELIMINARY
C5.3



NOT TO SCALE



NOT TO SCALE

NOTES:

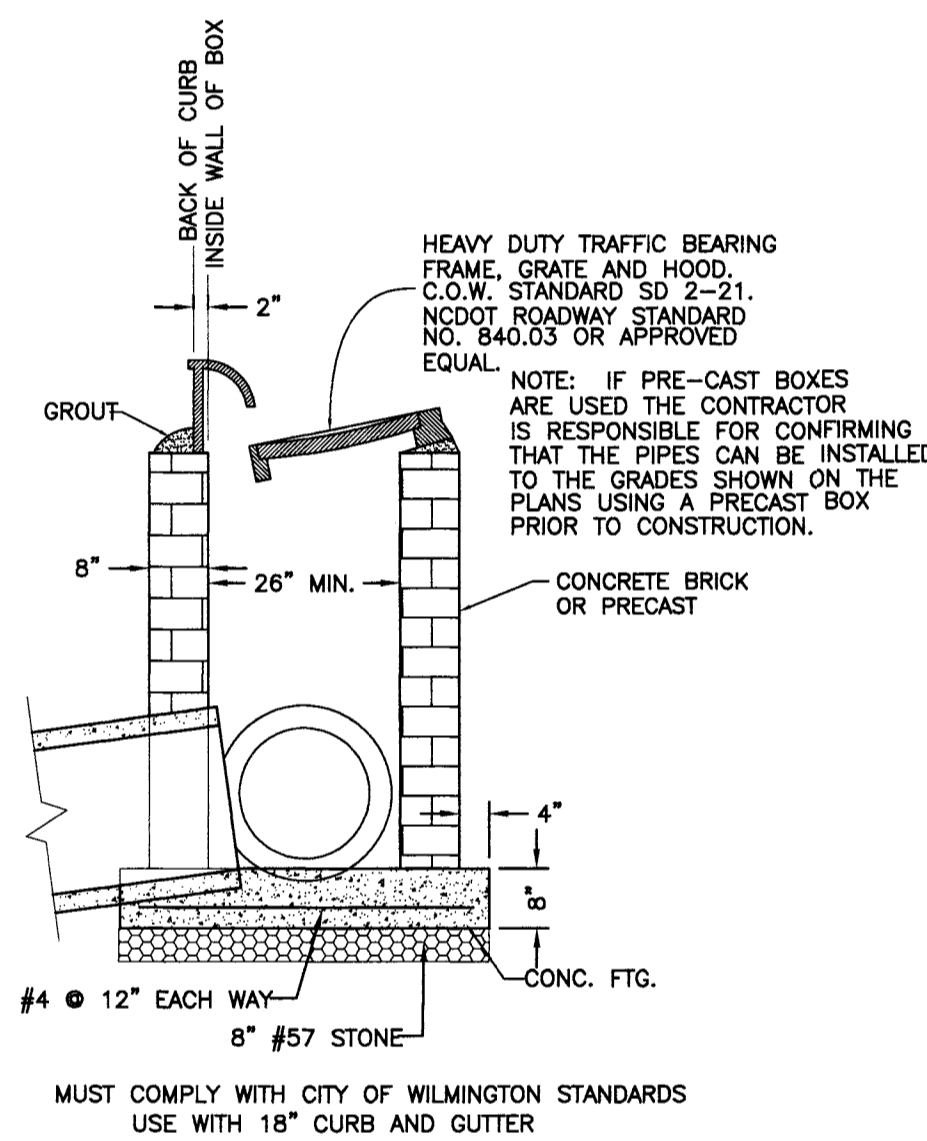
1. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING THE OPENING SIZE OF THE EXISTING OR PROPOSED CATCH BASIN OR DROP INLET. THE SILTSACK WILL BE MANUFACTURED TO FIT THE OPENING OF THE EXISTING OR PROPOSED CATCH BASIN OR DROP INLET.
2. TO INSTALL THE SILTSACK IN THE CATCH BASIN, REMOVE THE GRATE AND PLACE THE SACK IN THE OPENING. HOLD OUT APPROXIMATELY SIX INCHES OF THE SACK OUTSIDE THE FRAME. THIS IS THE AREA OF THE LIFTING STRAPS. REPLACE THE GRATE TO HOLD THE SACK IN PLACE.
3. THE SILTSACK IS FULL AND SHOULD BE EMPTIED WHEN THE RESTRAINT CORD IS NO LONGER VISIBLE.
4. TO REMOVE THE SILTSACK, TAKE TWO PIECES OF 1" DIAMETER REBAR AND PLACE THROUGH THE LIFT STRAPS (CONNECTED TO THE BOTTOM OF THE SACK) AND LIFT. THIS WILL TURN THE SILTSACK INSIDE OUT AND EMPTY THE CONTENTS. CLEAN OUT AND RINSE. RETURN THE SILTSACK TO ITS ORIGINAL SHAPE AND PLACE BACK IN THE BASIN.
5. TO EMPTY THE SILTSACK, PLACE IT WHERE THE CONTENTS WILL BE COLLECTED. PLACE THE REBAR THROUGH THE LIFT STRAPS (CONNECTED TO THE BOTTOM OF THE SACK) AND LIFT. THIS WILL TURN THE SILTSACK INSIDE OUT AND EMPTY THE CONTENTS. CLEAN OUT AND RINSE. RETURN THE SILTSACK TO ITS ORIGINAL SHAPE AND PLACE BACK IN THE BASIN.

NOT TO SCALE

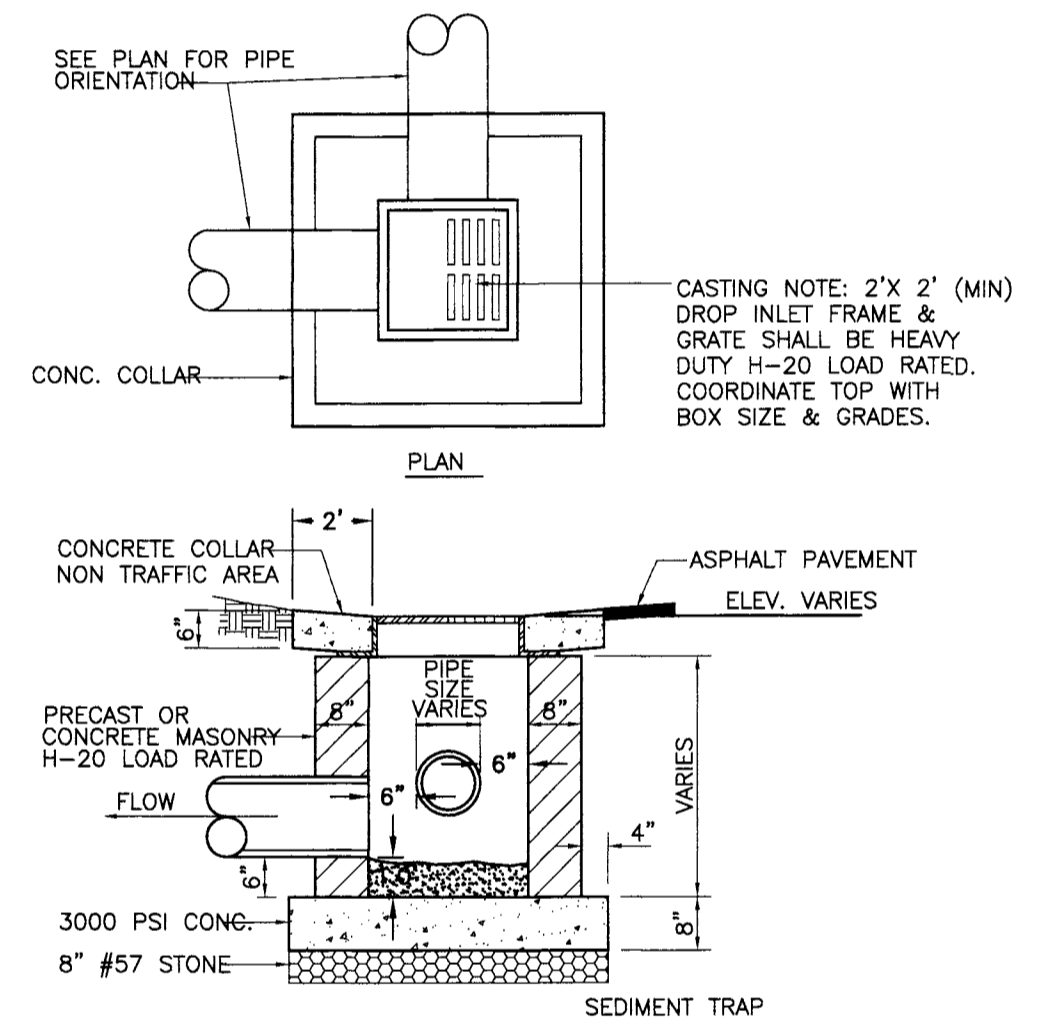
1 SILT SACK DETAIL FOR DROP INLETS

2 SILT SACK DETAIL FOR CURB INLETS

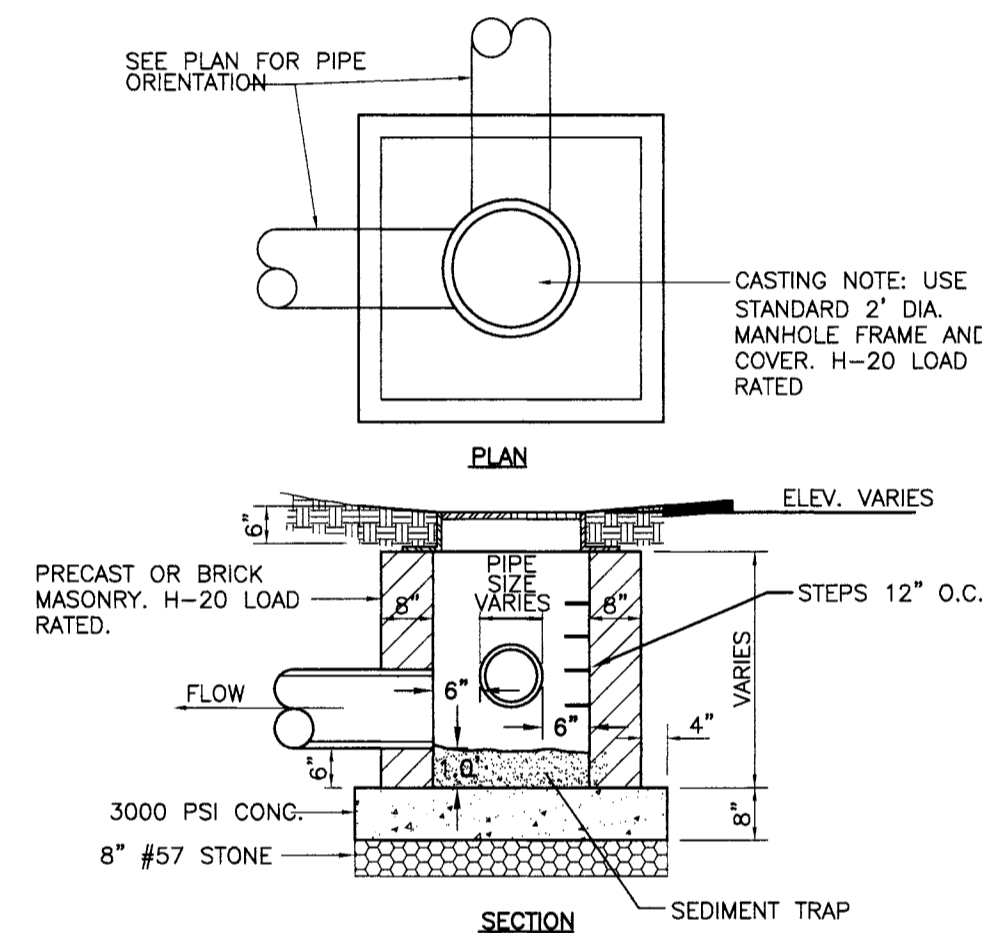
3 SILT SACK NOTES



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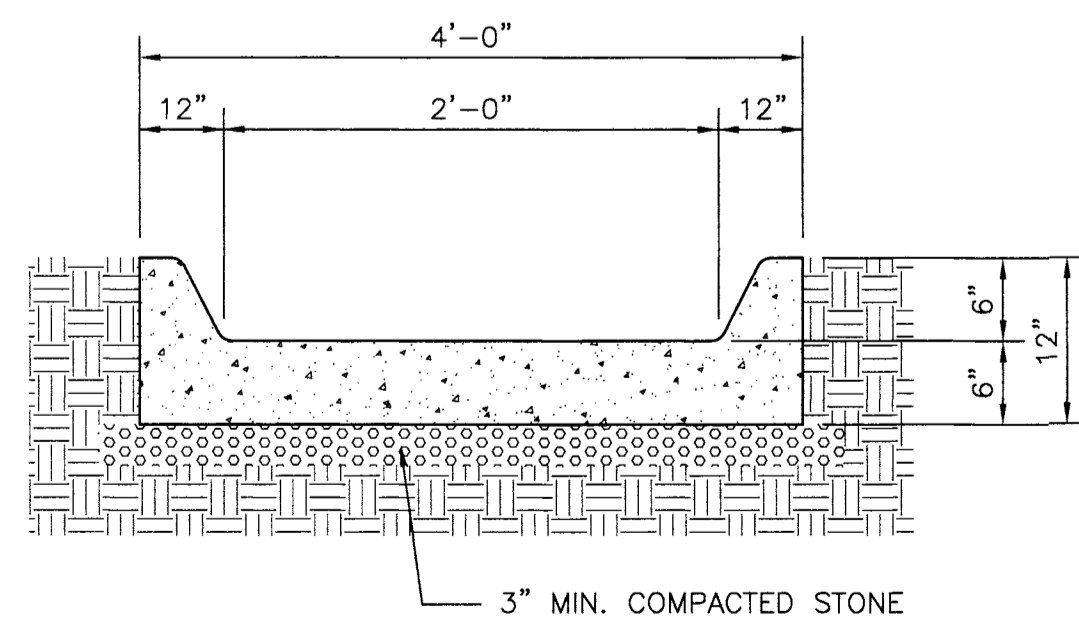


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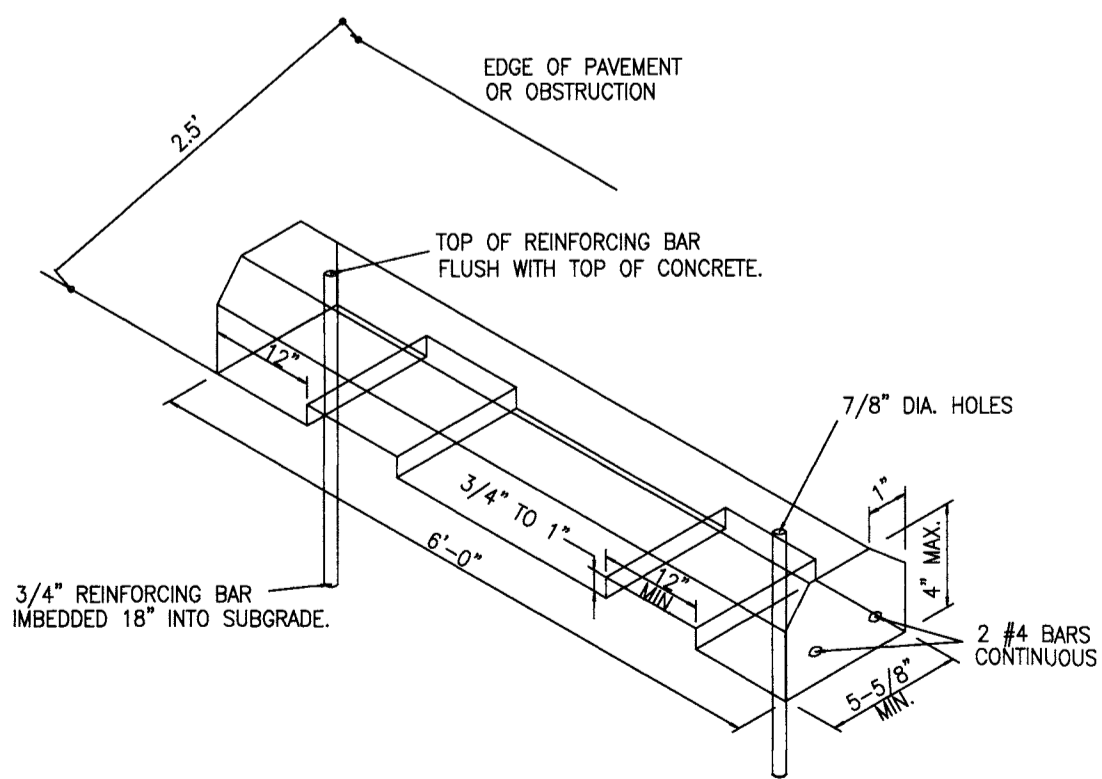
4 TYPICAL CATCH BASIN

5 TYPICAL DROP INLET

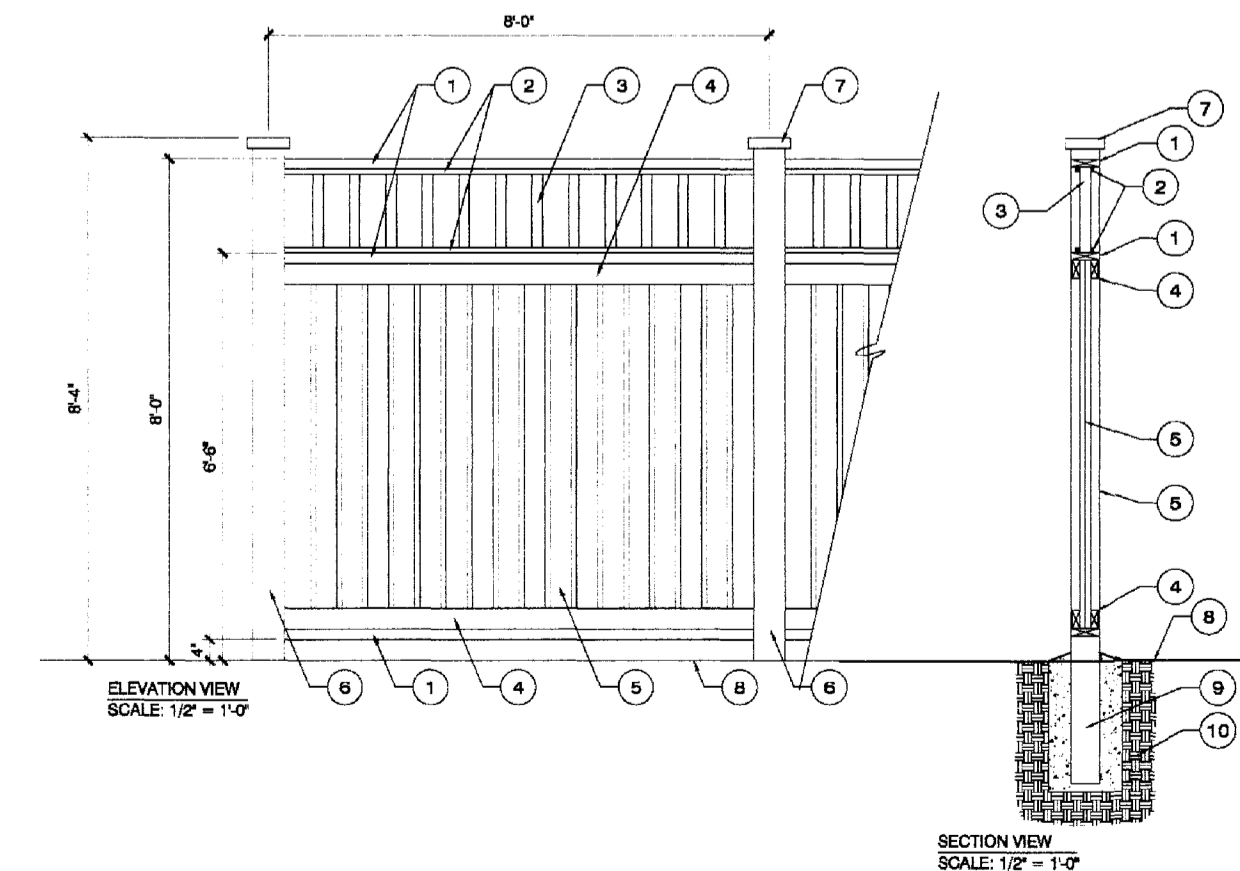
6 TYPICAL JUNCTION BOX



NOT TO SCALE



NOT TO SCALE



NOTE: DETAIL SHOWN FOR THE INTENTION OF COMPLIANCE WITH COW CODE. ACTUAL SCREENING USED MAY VARY.

7 CONCRETE FLUME SECTION

8 CONCRETE WHEEL STOPS

9 TYPICAL DUMPSTER SCREENING DETAIL

SITE WORK NOTES:

1. THE CONTRACTOR SHALL VISIT THE SITE TO BECOME FAMILIAR WITH FIELD CONSTRUCTION CONDITIONS.
2. CONTRACTOR SHALL COORDINATE WORK WITHIN NCDOT AND LOCAL RIGHT OF WAYS WITH PROPER AUTHORITIES AND SHALL MEET ANY REQUIREMENTS AS TO TRAFFIC CONTROL AND CONNECTION TO EXISTING STREETS.
3. CLEARING AND GRUBBING: REMOVE ALL TREES AS REQUIRED UNLESS OTHERWISE NOTED TO REMAIN, STUMPS, ROOTS, SHRUBBERY, ASPHALT, CONCRETE, STRUCTURES, BURIED UTILITIES, STORAGE TANKS, ETC. WITHIN LIMITS OF CONSTRUCTION.
4. STRIPPING: BEFORE EXCAVATING OR FILLING, REMOVE ALL TOPSOIL, WOOD, LEAVES, AND ANY OTHER UNSUITABLE MATERIAL.
5. MUCKING: REMOVE ANY SOFT, ORGANIC SILT MATERIALS AND EXISTING BURIED CONSTRUCTION DEBRIS AS REQUIRED AND FILL TO SUBGRADE ELEVATIONS WITH A CLEAN SELECT-FILL COMPACTED AS SPECIFIED.
6. DISPOSAL: CLEARED, GRUBBED, STRIPPED OR EXCAVATED SPOIL SHALL BE REMOVED FROM SITE AND DISPOSED OF IN ACCORDANCE WITH ALL APPLICABLE LOCAL AND STATE CODES.
7. BORROW MATERIAL: THE CONTRACTOR SHALL FURNISH BORROW MATERIAL REQUIRED FROM OFF SITE AND OBTAIN ALL REQUIRED PERMITS ASSOCIATED WITH BORROW OPERATIONS.
8. FILL AND COMPACTION: AFTER STRIPPING THOSE AREAS DESIGNATED TO RECEIVE FILL SHOULD BE PROFFERED. THE TOP 8" OF SUBGRADE SHALL BE COMPACTED TO AT LEAST 98% OF MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT. ANY AREA WHICH PUMPS OR RUTS EXCESSIVELY SHOULD BE UNDERCUT AND REPLACED WITH A CLEAN, SILTY OR CLAYEY SAND HAVING A UNIFIED SOIL CLASSIFICATION OF SP, SM, OR SC. FILL MATERIAL 5" OUTSIDE OF BUILDING AREAS SHALL THEN BE PLACED IN LAYERS NOT TO EXCEED 8" AND COMPACTED TO AT LEAST 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM D-698) WITH THE UPPER 12 INCHES OF SUBGRADE BEING COMPACTED TO 98% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY. FILL MATERIALS WITHIN BUILDING AREAS TO A LINE OUTSIDE THE BUILDING AREAS SHALL BE PLACED IN LAYERS NOT TO EXCEED 8" AND COMPACTED TO AT LEAST 98% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM D-698) WITH THE UPPER 12 INCHES OF SUBGRADE BEING COMPACTED IN 6 INCH LAYERS TO 100% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY. IN AREAS WHERE NO STRUCTURAL FILL IS TO BE PLACED THE UPPER 12 INCHES OF IN-PLACE SUBGRADE SHOULD BE COMPACTED TO AT LEAST 98% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY. IF THE MATERIAL IS TOO DRY TO COMPACT TO THE REQUIRED DENSITY EACH LAYER SHALL BE WETTED IN ACCORDANCE WITH COMPACTION REQUIREMENTS. IF THE MATERIAL IS TOO WET TO SECURE PROPER COMPACTION, IT SHALL BE HARROWED REPEATEDLY OR OTHERWISE AERATED WITH SUITABLE EQUIPMENT UNTIL OPTIMUM MOISTURE CONTENT IS OBTAINED. FILL SHALL BE PLACED IN SUCH A MANNER THAT THE SURFACE WILL DRAIN READILY AT ALL TIMES. SEE STRUCTURAL NOTES AND SOILS REPORT FOR ADDITIONAL REQUIREMENTS.
9. LAYOUT: THE CONTRACTOR SHALL PROVIDE ALL LAYOUT REQUIRED TO CONSTRUCT HIS WORK.
10. THE CONTRACTOR IS RESPONSIBLE FOR THE LOCATION AND PROTECTION OF EXISTING UTILITIES DURING CONSTRUCTION.
11. EXISTING BOUNDARY AND TOPOGRAPHIC INFORMATION FROM SURVEY BY ARNOLD CARSON AND PROVIDED BY OWNER. TREE SURVEY BY MICHAEL UNDERWOOD AND ASSOC. PA.
12. THE CONTRACTOR SHALL VERIFY DIMENSIONS AT JOBSITE.
13. THE CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF RELOCATION OR DISCONNECTION OF ALL EXISTING UTILITIES WITH APPLICABLE AGENCIES AND AUTHORITIES.
14. ALL PAVEMENT AND BASE MATERIALS AND WORKMANSHIP SHALL CONFORM TO NCDOT STANDARDS.
15. WATER AND SEWER SERVICES SHALL BE INSTALLED TO MEET LOCAL AND STATE PLUMBING CODES. METER AND TAPS SHALL MEET ALL LOCAL REQUIREMENTS.
16. ALL AREAS SHALL BE GRADED FOR POSITIVE DRAINAGE.
17. SEE SOILS REPORT FOR ADDITIONAL REQUIREMENTS.
18. CONTRACTOR SHALL NOTE THAT EARTHWORK QUANTITIES ARE HIS RESPONSIBILITY. PLANS DO NOT REPRESENT A BALANCED EARTHWORK CONDITION.
19. REINF. CONC. PIPE SHALL BE CLASS III W/RUBBER GASKETED JOINT OR "RAM NECK". INSTALL PER MANUFACTURER'S REQUIREMENTS.
20. USE WHITE LANE MARKING PAINT FOR ALL PAVEMENT MARKINGS. PAINT SHALL BE A CHLORINATED RUBBER ALKYD, FS TT-P-115, TYPE III, FACTORY MIXED, QUICK DRYING, NON-BLEEDING.
21. REFER TO THE PLUMBING DRAWINGS FOR LOCATION AND INVERTS OF NEW WASTE, WATER AND ROOF DRAIN LINES.

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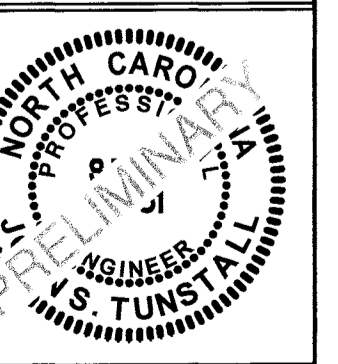
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DATE 02/05/19



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City of WILMINGTON NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date: _____ Permit # _____
Signed: _____

Approved Construction Plan
Name _____ Date _____
Planning _____
Traffic _____
Fire _____

NCDENR PWSS WATER PERMIT #: _____ GPD
WATER CAPACITY: _____ GPD
DWQ SEWER PERMIT #: _____ GPD
SEWER CAPACITY: _____ GPD
SEWER SHED # AND PLANT: _____
SEWER TO FLOW THROUGH NEI: YES or NO (CIRCLE ONE)

C5.4