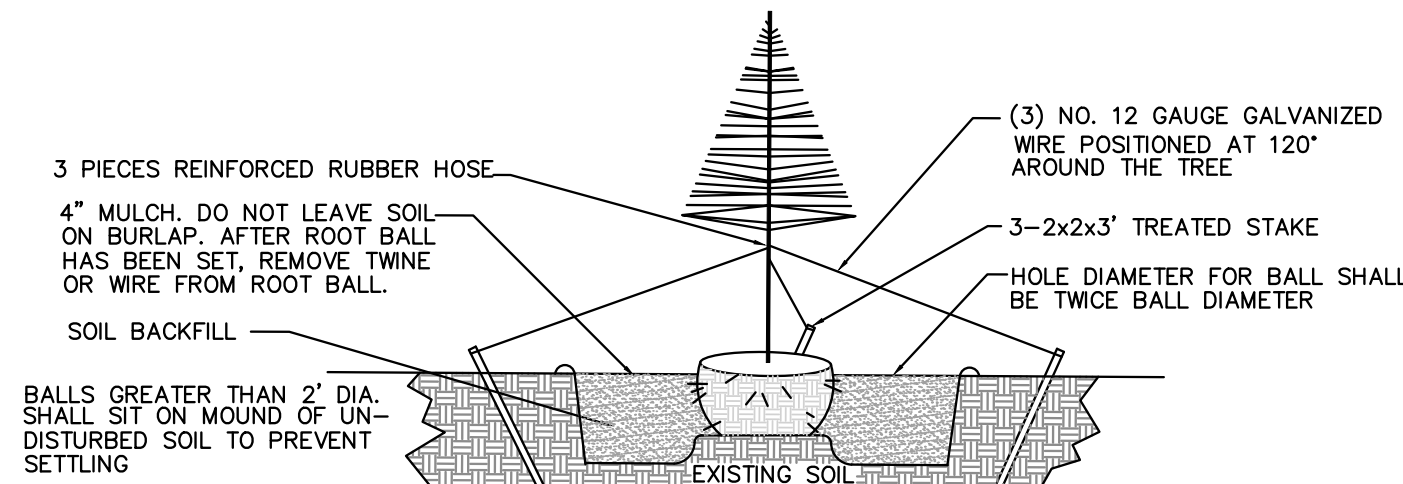


## TREE PLANTING SUMMARY

| REQUIRED                                                         |  | PROVIDED                                                         |  |
|------------------------------------------------------------------|--|------------------------------------------------------------------|--|
| CROATAN BUFFER (10' WIDE BUFFER):                                |  | CROATAN BUFFER (10' WIDE BUFFER):                                |  |
| 25 TREES (1 PER 10 LF)                                           |  | 25 TREES (1 PER 10 LF)                                           |  |
| 25 SHRUBS (1 PER 10 LF)                                          |  | 25 SHRUBS (1 PER 10 LF)                                          |  |
| LOT 1 BUFFER W/ FENCE (SHRUBS 1 PER 10 LF AND TREES 1 PER 30 LF) |  | LOT 1 BUFFER W/ FENCE (SHRUBS 1 PER 10 LF AND TREES 1 PER 30 LF) |  |
| 7 TREES                                                          |  | 7 TREES                                                          |  |
| 20 ORNAMENTAL GRASSES                                            |  | 20 ORNAMENTAL GRASSES                                            |  |
| LOT 3 BUFFER (SHRUBS 1 PER 10 LF AND TREES 1 PER 30 LF)          |  | LOT 3 BUFFER (SHRUBS 1 PER 10 LF AND TREES 1 PER 30 LF)          |  |
| 1 TREES (1 PER 30 LF)                                            |  | 1 TREES (1 PER 30 LF)                                            |  |
| 5 SHRUBS (1 PER 10 LF)                                           |  | 5 SHRUBS (1 PER 10 LF)                                           |  |
| WRIGHTSVILLE AVE. BUFFER (10' WIDE BUFFER):                      |  | WRIGHTSVILLE AVE. BUFFER (10' WIDE BUFFER):                      |  |
| 20 TREES (1 PER 10 LF)                                           |  | 20 TREES (1 PER 10 LF)                                           |  |
| 20 SHRUBS (1 PER 10 LF)                                          |  | 20 SHRUBS (1 PER 10 LF)                                          |  |
| EIGHTH STREET BUFFER (10' WIDE BUFFER):                          |  | EIGHTH STREET BUFFER (10' WIDE BUFFER):                          |  |
| 19 TREES (1 PER 10 LF)                                           |  | 19 TREES (1 PER 10 LF)                                           |  |
| 19 SHRUBS (1 PER 10 LF)                                          |  | 19 SHRUBS (1 PER 10 LF)                                          |  |

| SYMBOL | QUANTITY | COMMON NAME         | HEIGHT     | SPREAD    | MIN. SIZE @ PLANTING |
|--------|----------|---------------------|------------|-----------|----------------------|
|        | 30       | BALD CYPRESS        | 50' - 100' | 20' - 30' | 2" CAL, 8' HT.       |
|        | 42       | CRAPPE MYRTLE       | 15' - 30'  | 6' - 15'  | 1.5" CAL, 6' HT.     |
|        | 27       | GLOSSY ABELIA       | 3' - 6'    | 3' - 6'   | 3 GALLON             |
|        | 42       | DWARF YAUPOON HOLLY | 3' - 5'    | 3' - 6'   | 3 GALLON             |
|        | 20       | PINK MUHLY GRASS    | 3' - 5'    | 3'        | 1.5' HT              |

\* ORNAMENTAL GRASS/SHRUB SPECIES MAY BE SUBSTITUTED WITH APPROVED SPECIES IDENTIFIED BY THE TOWN OF KILL DEVIL HILLS.



## TREE PLANTING DETAIL

N.T.S.

ZONED: COMMERCIAL  
USE: SINGLE FAMILY DWELLING

## LEGEND

|  |                           |  |                            |
|--|---------------------------|--|----------------------------|
|  | EXISTING ASPHALT PAVEMENT |  | PROPOSED ASPHALT PAVEMENT  |
|  | EX. IRON PIPE, EIP        |  | PROPOSED CONCRETE PAVEMENT |
|  | EX. IRON ROD, EIR         |  | PROPOSED GRAVEL            |
|  | EX. TELEPHONE PEDESTAL    |  | PROPOSED STORM PIPE        |
|  | EX. ELECTRICAL BOX        |  | PROPOSED FIRE HYDRANT      |
|  | EX. UTILITY POLE          |  | PROPOSED BENDS & TEES      |
|  | EX. LIGHT POLE            |  | PROPOSED GATE VALVE        |
|  | EX. WATER LINE            |  | PROPOSED WATERLINE         |
|  |                           |  | PROPOSED SANITARY SEWER    |
|  |                           |  | PROPOSED TANK              |
|  |                           |  | PROPOSED CLEAN OUT         |



## VICINITY MAP (KILL DEVIL HILLS)

N.T.S.

- NOTES:**
- OWNER: TOWN OF KILL DEVIL HILLS  
P.O. BOX 1719  
KILL DEVIL HILLS, NC 27948
  - APPLICANT: MPF INVESTMENT COMPANY  
102 W. AIRSTRIP RD.  
KITTY HAWK, NC 27948
  - ENGINEER: QUILBE & ASSOCIATES, P.C.  
8466 CARATOKE HIGHWAY  
POWELLS POINT, NC 27966
  - PIN# 9893-1313-3228  
9893-1313-1395  
9893-1313-3272  
PID# 008351000  
026186000  
008350000
  - RECORDED REFERENCE: DB 1641, PG 0063 & DB 1641, PG 0062; PL 2, SL 68
  - PROPERTY ZONED: COMMERCIAL  
PROPOSED USE: CAR WASH  
PERMITTED USE: (N) RETAIL BUSINESS; CAR WASH
  - PARCEL AREA: 41,080 SQ.FT. - 0.94 acres
  - LOT COVERAGE:  
PROPOSED:  
BUILDING (INCLUDING COVERED ENTRANCE) = 3467.9 SQ.FT.  
CONCRETE WALK = 676.4 SQ.FT.  
ASPHALT/CONCRETE DRIVE (INCLUDING DUMPSTER PAD & HVAC) = 17,693.6 SQ.FT.  
TOTAL PROPOSED COVERAGE = 21,837.9 SQ.FT. (53.1%)  
TOTAL COVERAGE ALLOWED = 26,702.0 SQ.FT. (65.0%)
  - PARKING CALCULATIONS:  
REQUIRED:  
1 SPACE PER 1 EMPLOYEE x 3 EMPLOYEES = 3 SPACES  
TOTAL = 3 SPACES  
PROVIDED: 6 SPACES  
ADA SPACES REQUIRED: 1 SPACE  
ADA SPACES PROVIDED: 1 SPACE (1 VAN ACCESSIBLE)  
STACKING REQUIRED:  
5X WASHING OPERATION CAPACITY  
5 X 4 CARS = 20 STACKING SPACES  
PROVIDED: 20 STACKING SPACES
  - WASTEWATER CALCULATIONS:  
PER NCAC 02T 1,200 GAL/BAY REQUIRED. ANTICIPATED WASTEWATER EFFLUENT 4,500 GPD (80% OF WATER IS RECLAIMED).
  - PROPERTY IS LOCATED IN NFIP FLOOD ZONE X SHOWN AND SUBJECT TO CHANGES. BASED ON COMMUNITY CID NO. 37535; PANEL 9893; SUFFIX K. (MAP NUMBER 3720989300K) EFFECTIVE DATE: 06/19/2020. RFP# = 8'. ALL ELEVATIONS REFERENCED TO NAVD 88.
  - BOUNDARY INFORMATION SHOWN BASED UPON PL 2, SL 68 AND T.A. STOKELY, PLLC 10/07/2021.
  - TOPOGRAPHIC INFORMATION SHOWN BASED UPON FIELD SURVEY BY T.A.STOKELY, DATED 10/07/2021.
  - PROJECT SCOPE: THIS PLAN PROPOSES THE CONSTRUCTION OF A DRIVE THROUGH CAR WASH AND ASSOCIATED UTILITIES, PARKING AND WALKS.
  - BUILDING MAXIMUM HEIGHT = 50'  
PROPOSED HEIGHT = 31.0'

## SHEET INDEX

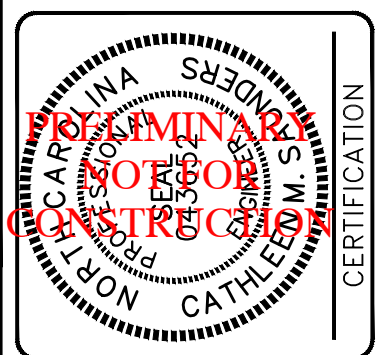
- 1 SITE PLAN
- 2 EXISTING CONDITIONS & DEMOLITION
- 3 UTILITY PLAN
- 4 GRADING & DRAINAGE PLAN
- 5 SOIL EROSION & SEDIMENTATION CONTROL PLAN
- 6 SITE DETAILS
- 7 GRADING & DRAINAGE DETAILS
- 8 UTILITY DETAILS
- 9 EROSION & SEDIMENT CONTROL DETAILS

**NOTE:**  
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**Quilbe & Associates, P.C.**  
ENGINEERING & SURVEYING  
ENVIRONMENTAL SCIENCES SURVEYING  
8466 CARATOKE HWY  
POWELLS POINT, NC 27966  
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WWW.QA-NC.COM



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| REVISIONS |          | COMMENTS                  |          |
|-----------|----------|---------------------------|----------|
| NO.       | DATE     | REVISION                  | COMMENTS |
| 1         | 02/02/22 | REVISED PER TOWN COMMENTS |          |
| 2         | 02/09/22 | REVISED PER TOWN COMMENTS |          |

### SITE PLAN

## CAR WASH

### 201 S CROATAN HIGHWAY

ATLANTIC TOWNSHIP DARE NORTH CAROLINA

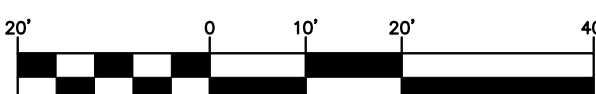
|             |          |
|-------------|----------|
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| DESIGNED BY | JJC      |
| DRAWN BY    | JJC      |
| CHECKED BY  | CMS      |
| ISSUE DATE  | 01/18/22 |

SHEET NO.  
**1**  
OF 9 SHEETS



Know what's below.  
Call before you dig.

## GRAPHIC SCALE



( IN FEET )  
1 inch = 20 ft.



- 

| NO. | DATE     | REVISIONS                 |
|-----|----------|---------------------------|
| 1   | 02/02/22 | REVISED PER TOWN COMMENTS |
| 2   | 02/09/22 | REVISED PER TOWN COMMENTS |
|     |          |                           |
|     |          |                           |
|     |          |                           |
|     |          |                           |
|     |          |                           |

**EXISTING CONDITIONS & DEMOLITION**

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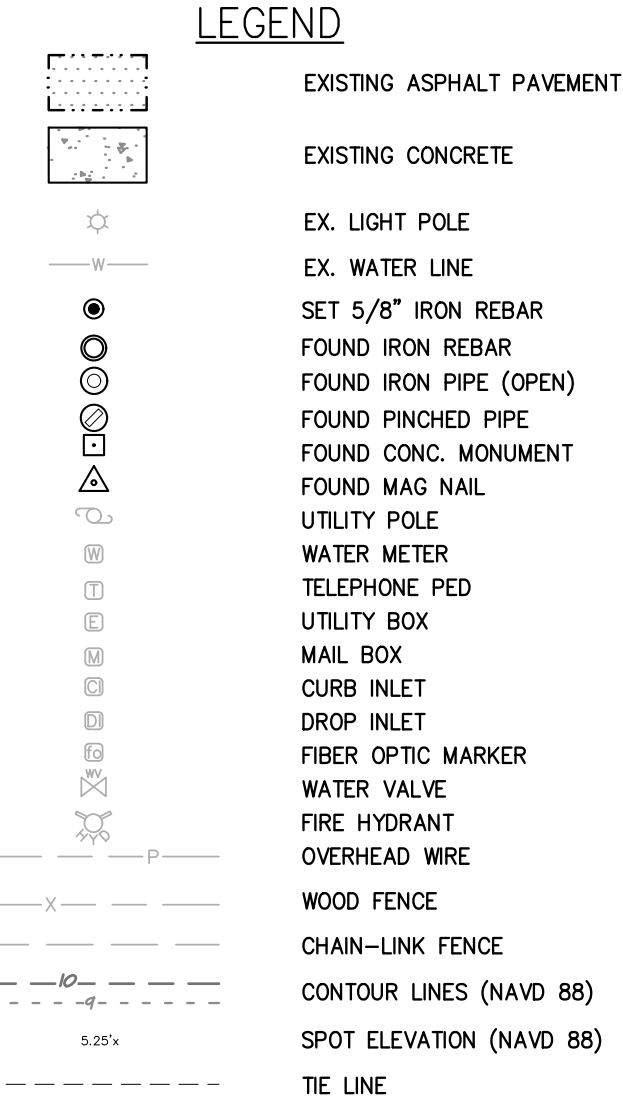
**CAR WASH**

**2011 S CROATAN HIGHWAY**

|                  |                |
|------------------|----------------|
| ALANTIC TOWNSHIP | DARE           |
|                  | NORTH CAROLINA |

|             |          |
|-------------|----------|
| PROJECT NO. | P21103   |
| DESIGNED BY | JJC      |
| DRAWN BY    | JJC      |
| CHECKED BY  | CMS      |
| ISSUE DATE  | 01/18/22 |

SHEET NO.  
2  
OF 9 SHEETS

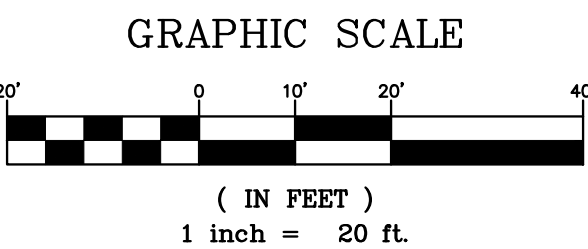


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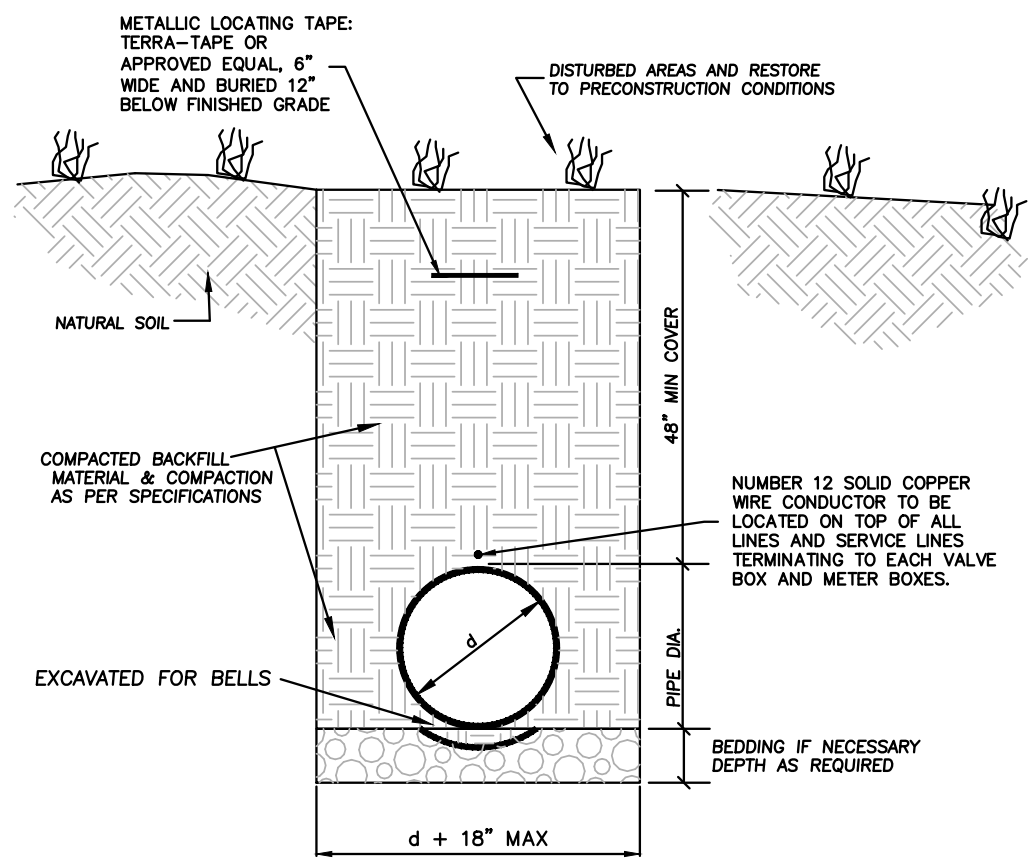
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Know what's **below**.  
**Call** before you dig



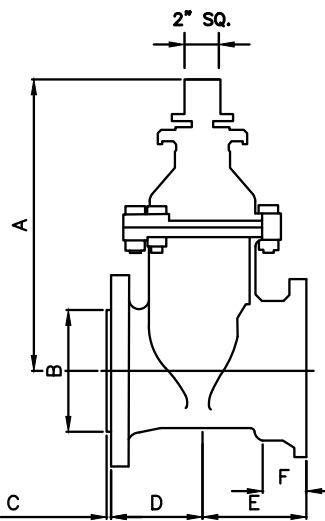




**TRENCH SECTION**  
N.T.S.

| DIMENSION            | VALVE SIZE |        |         |        |
|----------------------|------------|--------|---------|--------|
|                      | 4"         | 6"     | 8"      | 10"    |
| A                    | 13-3/8     | 16-3/4 | 20-3/16 | 24-1/8 |
| B +.000/-0.031       | 4.984      | 6.984  | 8.984   | 10.984 |
| C ±.016              | .188       | .250   | .250    | .250   |
| D (FLANGED END)      | 4-1/2      | 5-1/4  | 5-3/4   | 6-1/2  |
| E (M.J. END)         | 5-5/8      | 6      | 6-7/8   | 7-3/8  |
| F                    | 2-1/2      | 2-1/2  | 2-1/2   | 2-1/2  |
| NO. OF TURNS TO OPEN | 13         | 18     | 32      | 36     |
| MAX. CUTTER DIAMETER | 3-3/4      | 5-3/4  | 7-3/4   | 9-3/4  |

- NOTES:
- DO NOT EXCEED THE RECOMMENDED TAPPING MACHINE CUTTER DIAMETER LISTED IN THE TABLE. FAILURE TO DO SO MAY RESULT IN DAMAGE TO THE SEALING SURFACES OF THE VALVE.
  - VALVE MEETS OR EXCEEDS APPLICABLE REQUIREMENTS OF ANSI/AWWA C500 WITH WALL THICKNESS WHICH EXCEEDS THE MINIMUM REQUIREMENTS OF ANSI/AWWA C153/A21.53.
  - UL LISTED FM APPROVED. VALVE MUST BE ORDERED IN CONFIGURATIONS WHICH ARE UL LISTED AND FM APPROVED AND HAVE PERMANENT UL/FM MARKINGS.
  - 250 PSI RATED WORKING PRESSURE.
  - FUSION BONDED EPOXY COATING MEETS OR EXCEEDS REQUIREMENTS OF AWWA C550.
  - MECHANICAL JOINT ENDS ARE IN ACCORDANCE WITH ANSI/AWWA C111/A21.11.
| 7. | BOLT PATTERNS OF FLANGED ENDS ARE IN ACCORDANCE WITH ANSI/AWWA C110/A21.10 (ANSI B16.1, CLASS 1203). |
| 8. | RAISED PILOT DIMENSIONS OF FLANGED ENDS ON TAPPING VALVES ARE IN ACCORDANCE WITH MSS SP-60. |



**TYPICAL TAPPING VALVE DETAIL**  
AMERICAN FLOW CONTROL SERIES 2500 RESILIENT WEDGE VALVE

ZONE: COMMERCIAL  
USE: SINGLE FAMILY DWELLINGS

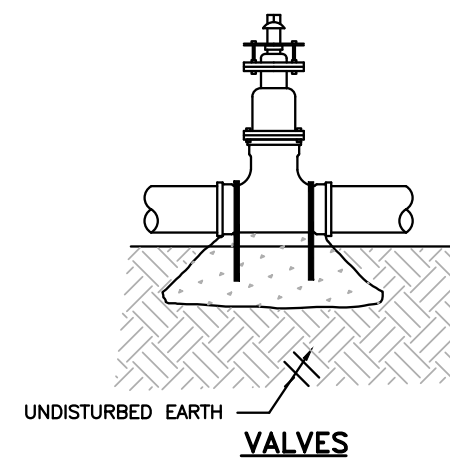
| NOMINAL PIPE SIZE | SLEEVE O.D. RANGE (INCHES) | CATALOG NUMBER         |    |                    | APPROX. WEIGHT (LBS) |
|-------------------|----------------------------|------------------------|----|--------------------|----------------------|
|                   |                            | SLEEVE NUMBER          | BY | BRANCH SIZE        |                      |
| 4"                | 4.40 - 4.80<br>4.70 - 5.00 | SET - 450<br>SET - 450 | X  | 1" P.L.<br>4" P.L. | 384<br>304           |
| 6"                | 6.60 - 7.00<br>7.10 - 7.50 | SET - 750<br>SET - 750 | X  | 3" P.L.<br>6" P.L. | 364<br>424           |
| 8"                | 8.60 - 9.00<br>9.10 - 9.50 | SET - 850<br>SET - 850 | X  | 3" P.L.<br>6" P.L. | 444<br>504           |

**TYPICAL TAPPING SLEEVE DETAIL**  
ROMAC INDUSTRIES, INC. "SS" STAINLESS STEEL TAPPING SLEEVE

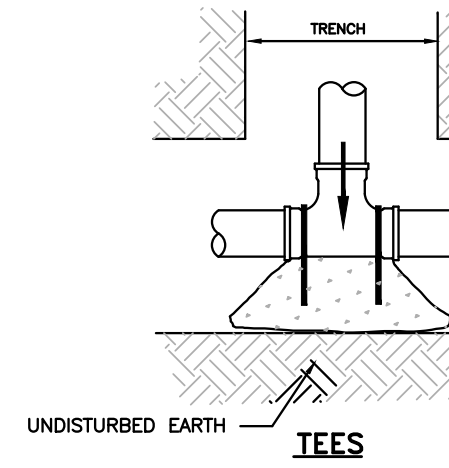
| PIPE SIZE | FITTING      | L (FT.) | H (FT.) | T (FT.) |
|-----------|--------------|---------|---------|---------|
| 2 - 3 - 4 | TEE OR BLOCK | 2.0     | 1.0     | 1.0     |
| 2 - 3 - 4 | 90           | 2.0     | 1.5     | 1.0     |
| 2 - 3 - 4 | 45           | 1.5     | 1.0     | 1.0     |
| 2 - 3 - 4 | 22 1/2       | 1.0     | 1.0     | 1.0     |
| 6         | TEE OR BLOCK | 2.0     | 2.0     | 1.0     |
| 6         | 90           | 3.0     | 2.0     | 1.5     |
| 6         | 45           | 2.0     | 1.5     | 1.0     |
| 6         | 22 1/2       | 1.5     | 1.0     | 1.0     |

NOTE: THIS TABLE BASED ON WATER PRESSURE 150 PSI  
SOIL BRG. 1500 #/SQ. FT. TO 2000 #/SQ. FT.

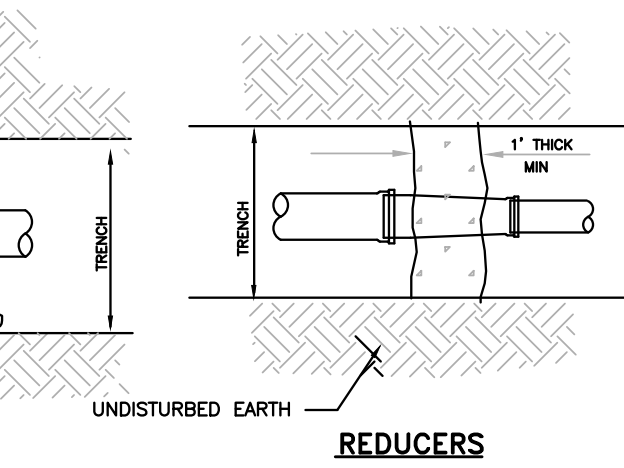
**CONCRETE THRUST BLOCK**



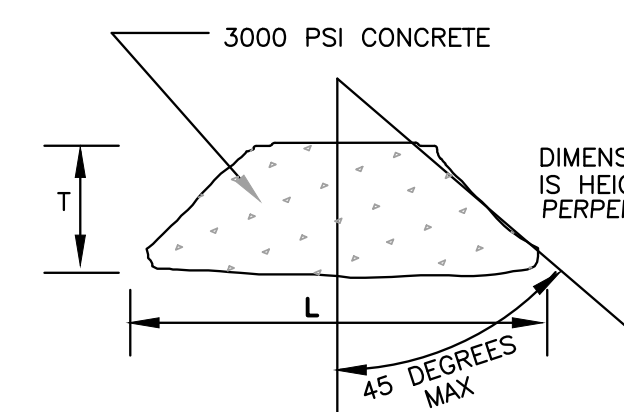
UNDISTURBED EARTH  
**VALVES**



UNDISTURBED EARTH  
**TEES**



UNDISTURBED EARTH  
**REDUCERS**



**TYPICAL THRUST BLOCK**

**ANCHOR ROD SIZES**

| PIPE SIZE  | ROD SIZE |
|------------|----------|
| 4" THRU 8" | #4       |

**LEGEND**

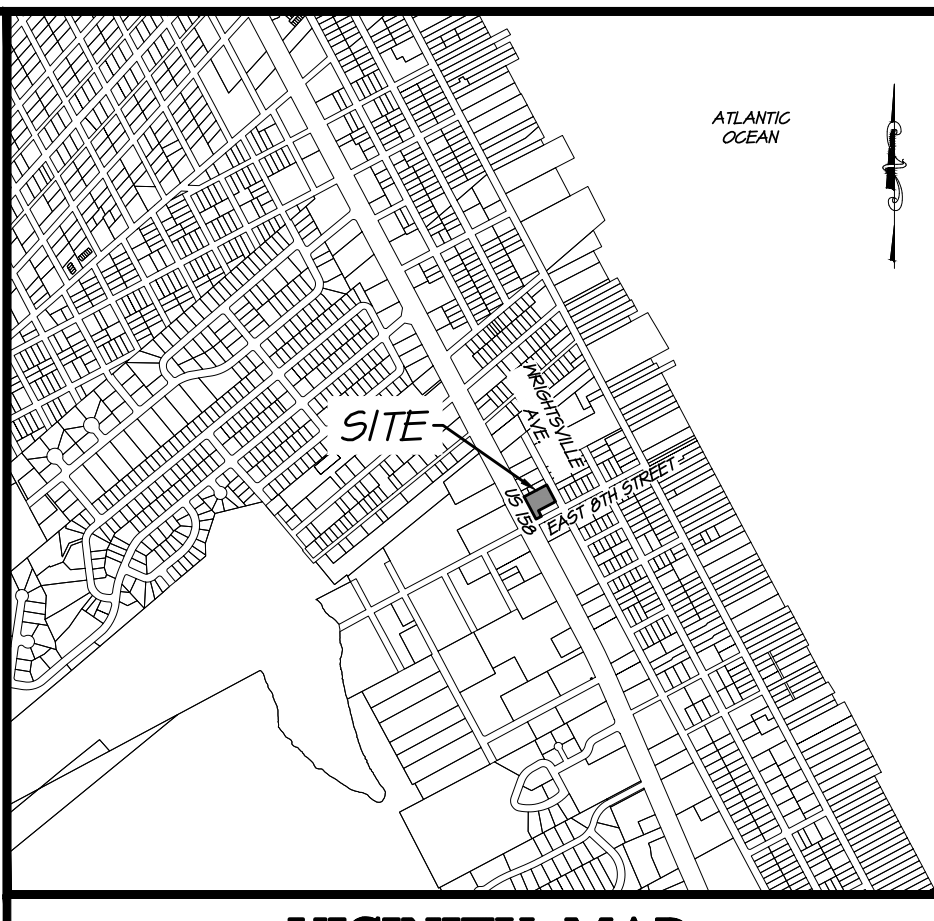
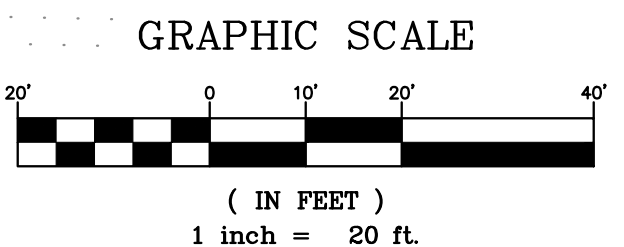
- EXISTING ASPHALT PAVEMENT
- EX. IRON PIPE, EIP
- EX. IRON ROD, EIR
- EX. TELEPHONE PEDESTAL
- EX. ELECTRICAL BOX
- EX. UTILITY POLE
- EX. LIGHT POLE
- EX. WATER LINE
- PROPOSED ASPHALT PAVEMENT
- PROPOSED CONCRETE PAVEMENT
- PROPOSED GRAVEL
- PROPOSED STORM PIPE
- PROPOSED FIRE HYDRANT
- PROPOSED BENDS & TEES
- PROPOSED GATE VALVE
- PROPOSED WATERLINE
- PROPOSED SANITARY SEWER
- PROPOSED TANK
- PROPOSED CLEAN OUT

- NOTES:
- OWNER: TOWN OF KILL DEVIL HILLS  
P.O. BOX 1719  
KILL DEVIL HILLS, NC 27948
  - APPLICANT: MPF INVESTMENT COMPANY  
102 W. AIRSTRIP RD.  
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PID#: 028351000  
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  - RECORDED REFERENCE: DB 1641, PG 0063 & DB 1641, PG 0062; PL 2, SL 68
  - PROPERTY ZONED: COMMERCIAL
  - PARCEL AREA: 41,080 SQ.FT. - 0.94 acres
  - WASTEWATER CALCULATIONS:  
PER NCAC 02T.1.200 GAL/BAY REQUIRED. ANTICIPATED WASTEWATER EFFLUENT 4,500 GPD (80% OF WATER IS RECLAIMED).
  - PROPERTY IS LOCATED IN NFIP FLOOD ZONE X SHOWN AND SUBJECT TO CHANGES. BASED ON COMMUNITY CID NO. 37535; PANEL 9893; SUFFIX K. (MAP NUMBER 3720989300K) EFFECTIVE DATE: 06/19/2020.
  - BOUNDARY INFORMATION SHOWN BASED UPON PL 2, SL 68 AND T.A. STOKELY. PLIC 10/07/2021.
  - TOPOGRAPHIC INFORMATION SHOWN BASED UPON FIELD SURVEY BY T.A. STOKELY. DATED 10/07/2021.
  - PROJECT SCOPE: THIS PLAN PROPOSES THE CONSTRUCTION OF A DRIVE THROUGH CAR WASH AND ASSOCIATED UTILITIES, PARKING AND WALKS.
  - ALL BUILDING ROOF DRAINS SHALL BE DIRECTED TO THE STORMWATER COLLECTION SYSTEM.
  - ALL DIMENSIONS ARE TO EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
  - ALL UTILITIES SERVING THIS SITE WILL BE PLACED UNDERGROUND.
  - EXISTING VEGETATION TO BE PRESERVED WHERE POSSIBLE.
  - REMOVE TREES, GRASSES, SHRUBS AND OTHER VEGETATION, IMPROVEMENTS OR OBSTRUCTIONS INTERFERING WITH INSTALLATION OF NEW CONSTRUCTION UNLESS NOTED OTHERWISE.
  - PRIOR TO LAND DISTURBANCE, A STATE APPROVED SOIL EROSION AND SEDIMENTATION CONTROL PLAN IS REQUIRED.
  - PRIOR TO CONSTRUCTION, A STATE STORMWATER PERMIT AND NCDOT ENCROACHMENT AGREEMENT ARE REQUIRED.
  - THE ENTIRE SITE WILL BE IN FULL COMPLIANCE WITH ALL APPLICABLE NFPA REGULATIONS PERTAINING TO FIRE PROTECTION INCLUDING BUT NOT LIMITED TO NFPA 30 AS WELL AS VOLUME V OF THE NC STATE BUILDING CODE.
  - BUILDING CONSTRUCTION SHALL COMPLY WITH ALL ASPECTS OF THE NORTH CAROLINA BUILDING AND FIRE CODE.
  - THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT ALL PROPERTY MONUMENTS DURING CONSTRUCTION. DISTURBED OR REMOVED PROPERTY MONUMENTS SHALL BE REPLACED BY A NORTH CAROLINA LICENSED PROFESSIONAL LAND SURVEYOR.
  - ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THESE DRAWINGS, APPLICABLE TOWN OF KILL DEVIL HILLS CODES AND ORDINANCES, AND NCDOT DIVISION OF ENERGY, MINERAL AND LAND RESOURCES REGULATIONS.
  - THE LOCATION, DIMENSIONS, AND ELEVATION OF EXISTING STRUCTURES, PIPING, AND UTILITIES SHOWN ARE BASED ON THE BEST AVAILABLE DATA AND ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY ALL DATA IN THE FIELD PRIOR TO CONSTRUCTION TO HIS/HER OWN SATISFACTION. THE CONTRACTOR SHALL PERFORM ANY TEST PIT WORK OR PROVIDE LOCATION SERVICES AS REQUIRED TO AVOID CONFLICTS WITH EXISTING UTILITIES. CONTACT NORTH CAROLINA ONE-CALL AT TELEPHONE NO. 1-800-632-4949, 48 HOURS PRIOR TO PERFORMING ANY EXCAVATION TO HAVE UTILITIES MARKED.
  - THE CONTRACTOR SHALL PROVIDE SMOOTH TRANSITIONS FROM PROPOSED FEATURES TO EXISTING FEATURES AS NECESSARY.
  - THE CONTRACTOR SHALL SEAL THE EDGE OF EXISTING ASPHALT PAVEMENT WITH TACK COAT IN ACCORDANCE WITH THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS WHERE NEW PAVEMENT JOINS EXISTING PAVEMENT.
  - ALL PAVEMENT JOINTS SHALL BE SAW-CUT PRIOR TO PAVING TO PROVIDE A DURABLE AND UNIFORM JOINT.
  - PROOF ROLL ALL NEW PAVED AREAS. NOTIFY OWNER AND ENGINEER OF ANY UNACCEPTABLE AREAS.
  - WATER IS PROVIDED VIA THE TOWN OF KILL DEVIL HILLS WATER SYSTEM. ALL WATER IMPROVEMENTS SHALL BE IN ACCORDANCE WITH THE TOWN OF KILL DEVIL HILLS STANDARD WATER SPECIFICATIONS AND DETAILS.
  - SEWER IS PROVIDED KDHWWTP, LLC CENTRAL SEWER.

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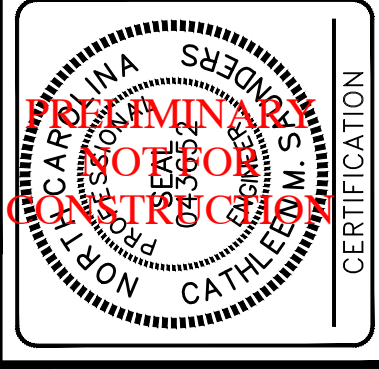
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| NO. | DATE     | REVISIONS                 |
|-----|----------|---------------------------|
| 1   | 02/02/22 | REVISED PER TOWN COMMENTS |
| 2   | 02/09/22 | REVISED PER TOWN COMMENTS |

**UTILITY PLAN**  
**CAR WASH**  
**201 S CROATAN HIGHWAY**  
NORTH CAROLINA  
DARE  
ALANTIC TOWNSHIP

PROJECT NO. **P21103**  
DESIGNED BY **JJC**  
DRAWN BY **JJC**  
CHECKED BY **CMS**  
ISSUE DATE **01/18/22**

SHEET NO. **3**  
OF 9 SHEETS







|   | NO. | DATE     | REVISIONS                 |
|---|-----|----------|---------------------------|
| C | 1   | 02/02/22 | REVISED PER TOWN COMMENTS |
| D | 2   | 02/09/22 | REVISED PER TOWN COMMENTS |
| E |     |          |                           |
| F |     |          |                           |
| G |     |          |                           |
| H |     |          |                           |

ALANTIC TOWNSHIP  
DARE  
NORTH CAROLINA

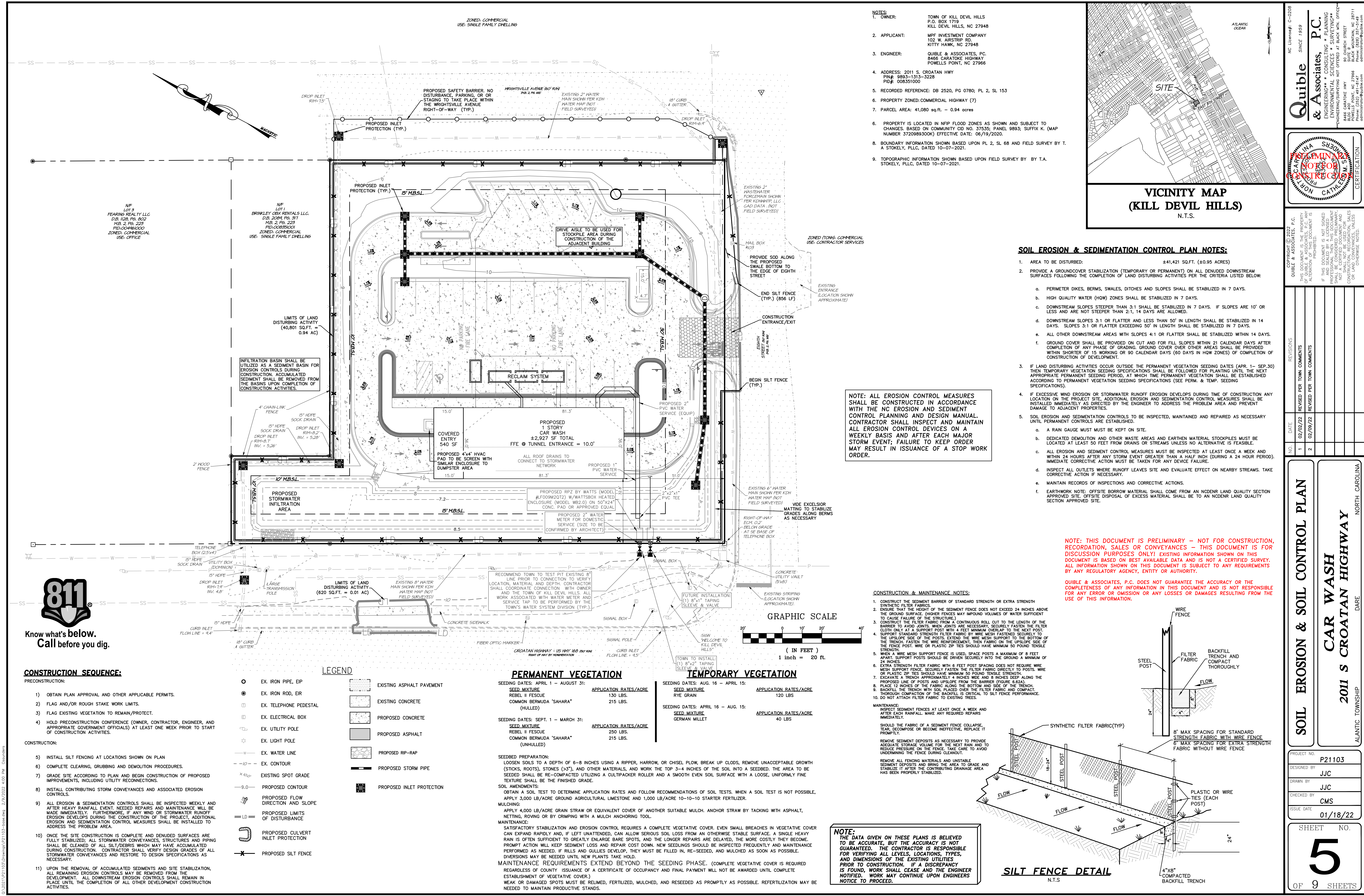
SHEET NO.  
4  
OF 9 SHEETS



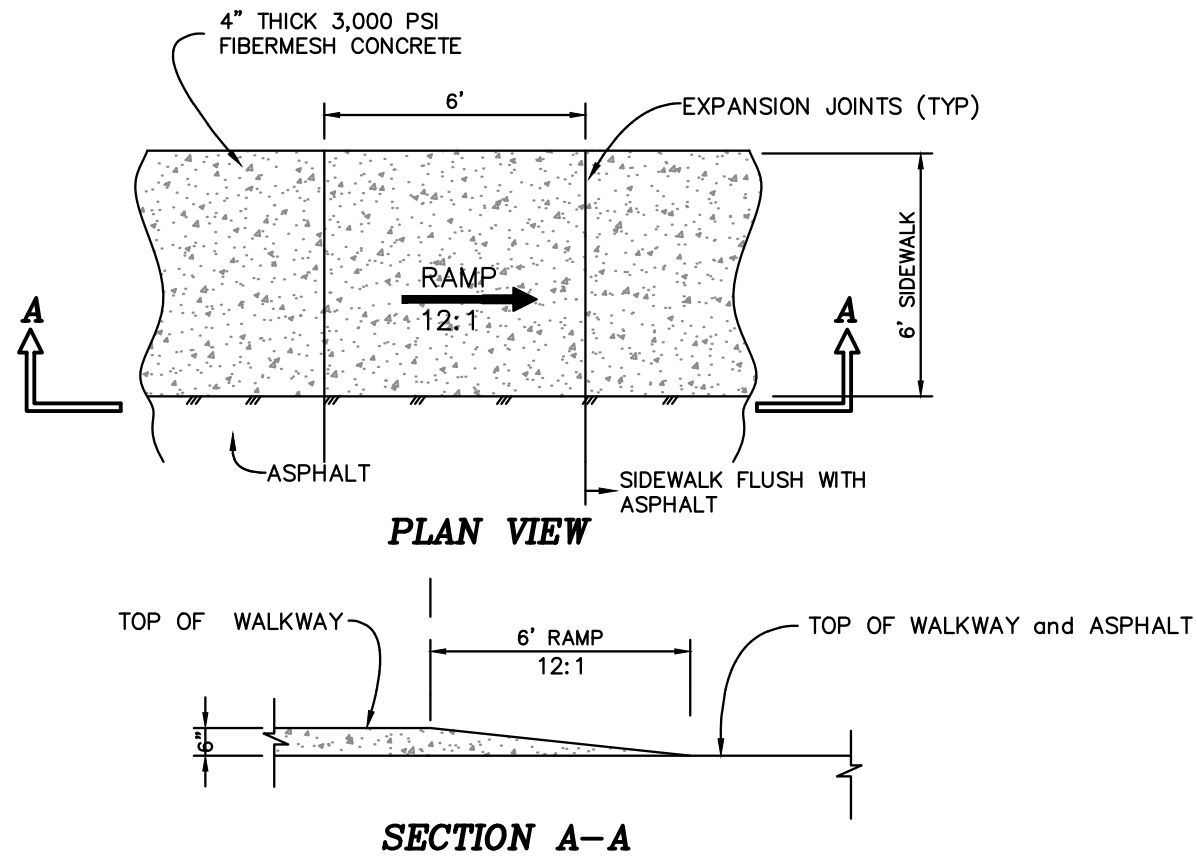
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( IN FEET )  
1 inch = 20 ft.

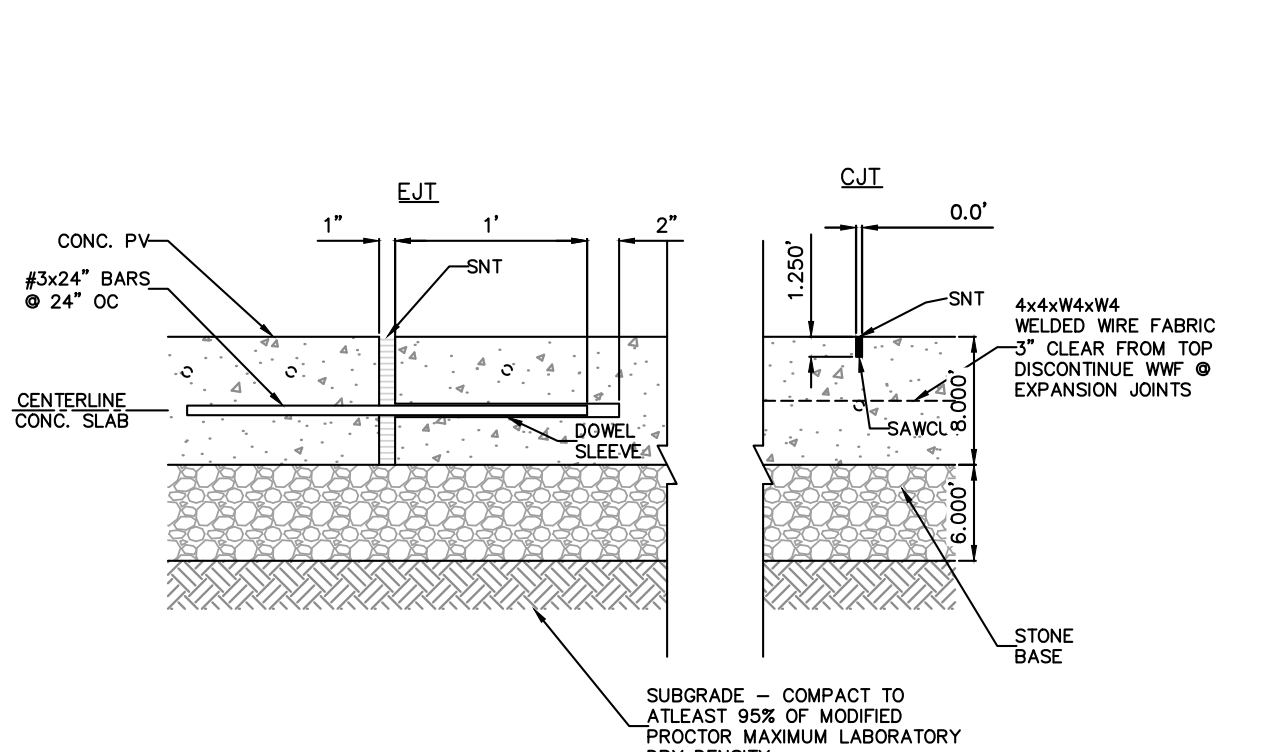




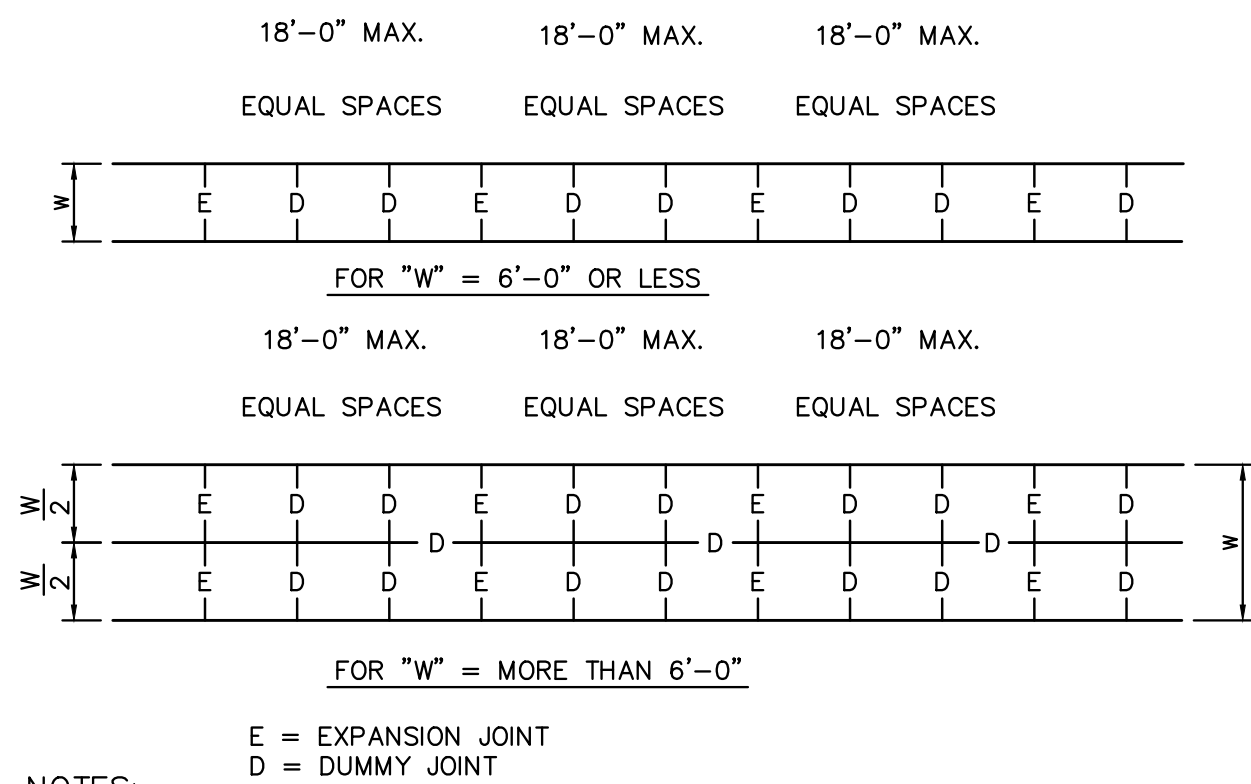
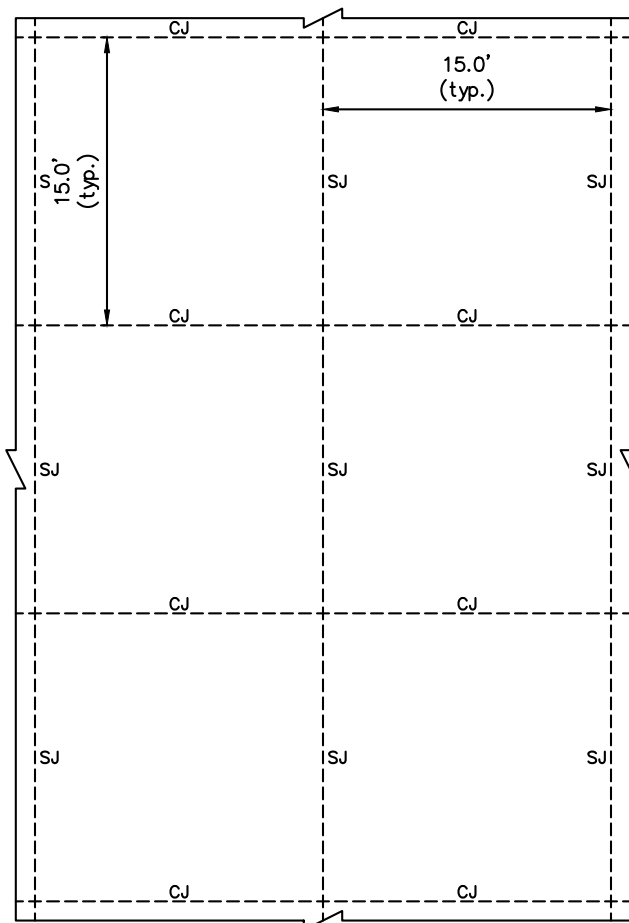




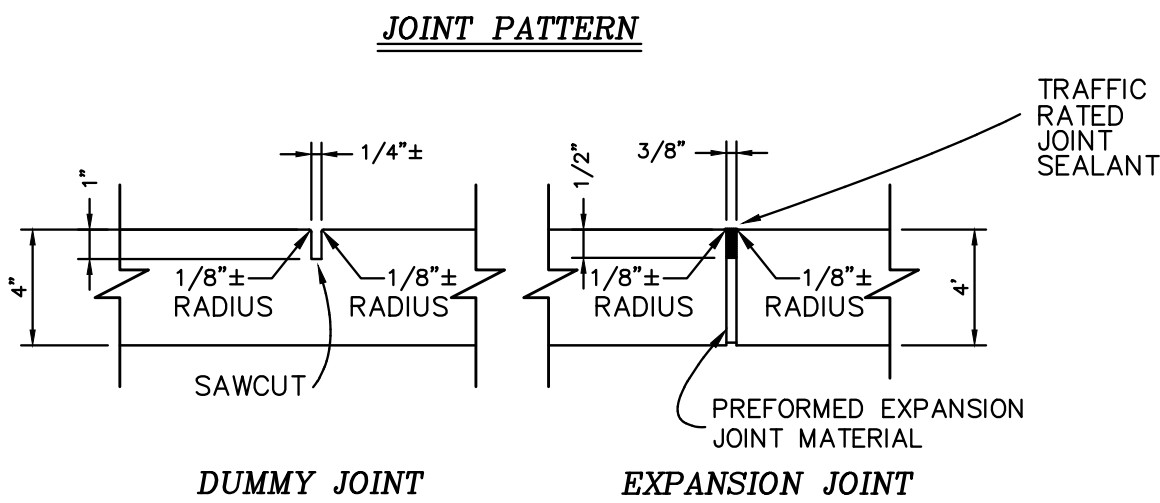
WHEELCHAIR  
RAMP WALKWAY  
N.T.S.



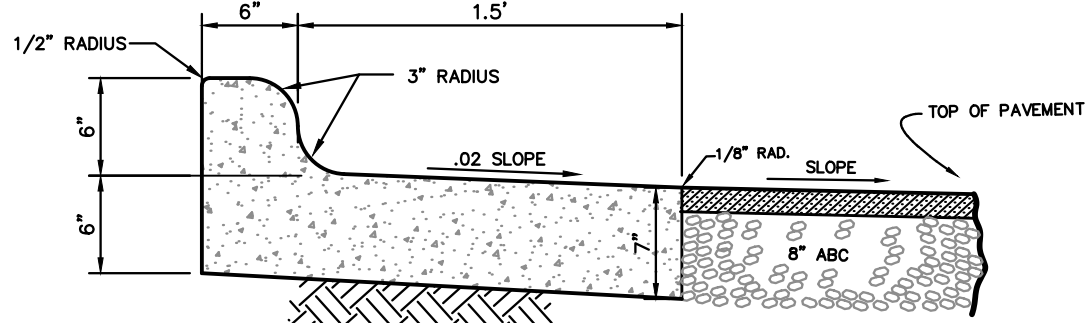
TYPICAL CONCRETE PAD JOINT SPACING  
N.T.S.



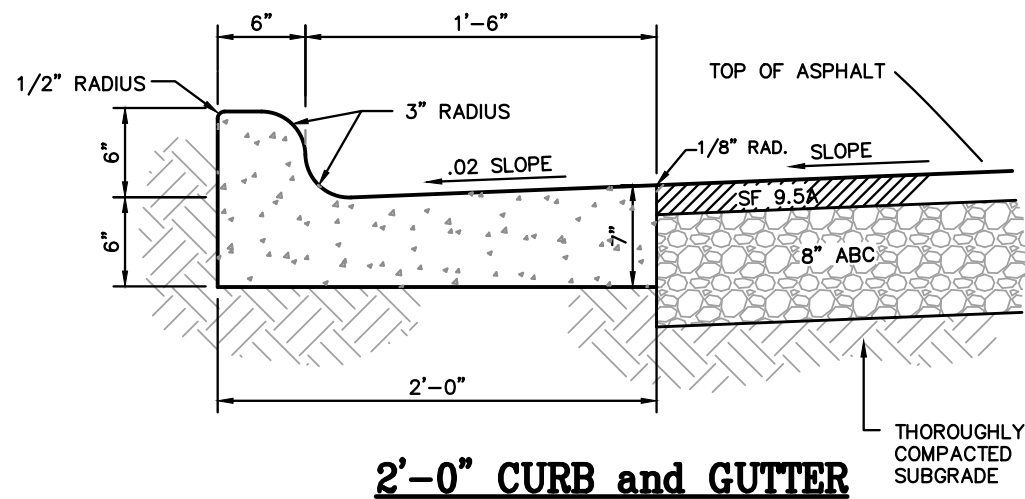
NOTES:  
-EXCEPT WHERE SHOWN IN THE PLAN, ALL NEW CONC. WALKS SHALL HAVE JOINTS SPACED AS SHOWN IN THESE DETAILS.  
-AN EXPANSION JOINT SHALL BE USED TO SEPARATE THE NEW CONC. WALK FROM OTHER NEW OR EXISTING CONCRETE CONSTRUCTION.  
-SEE ALSO ARCHITECTURAL PLANS



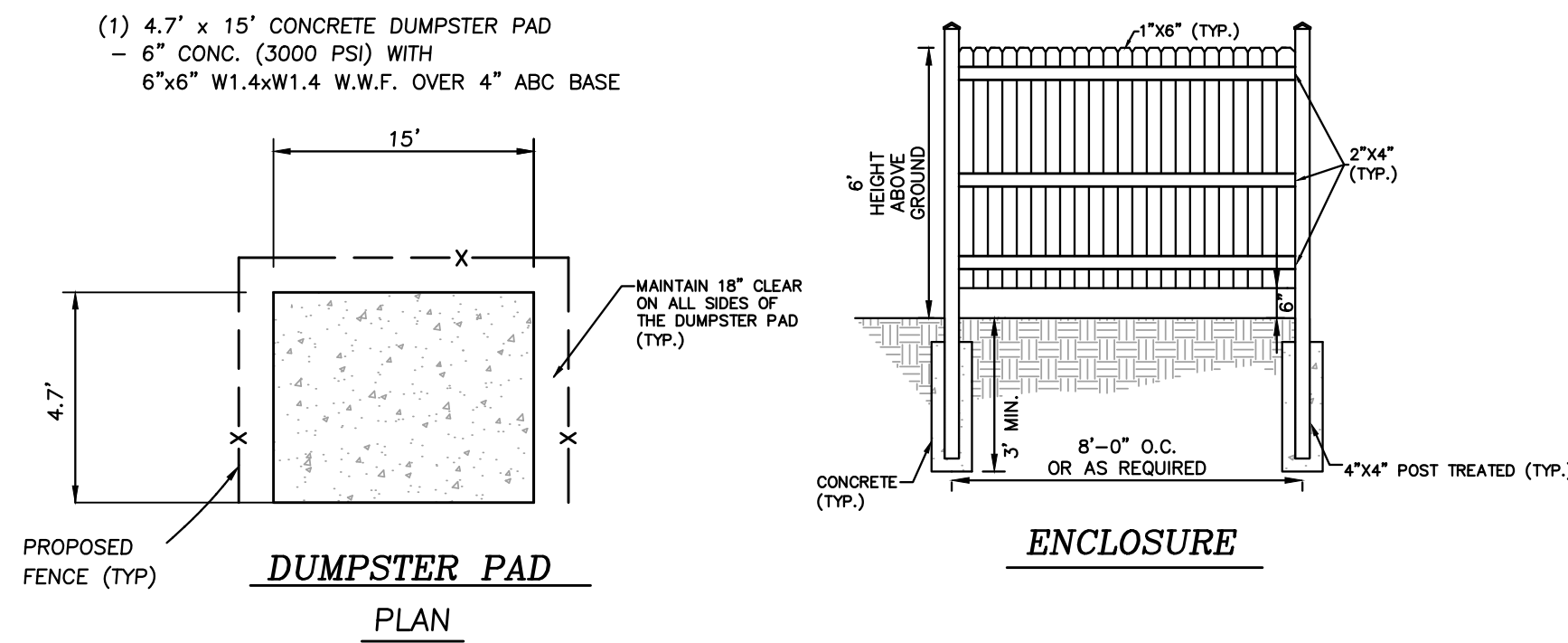
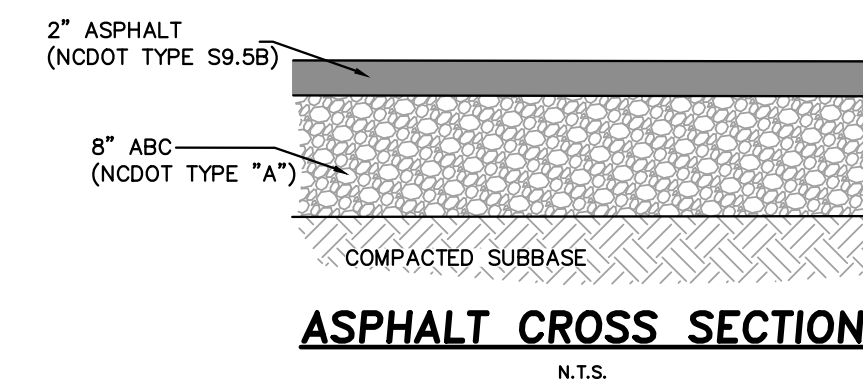
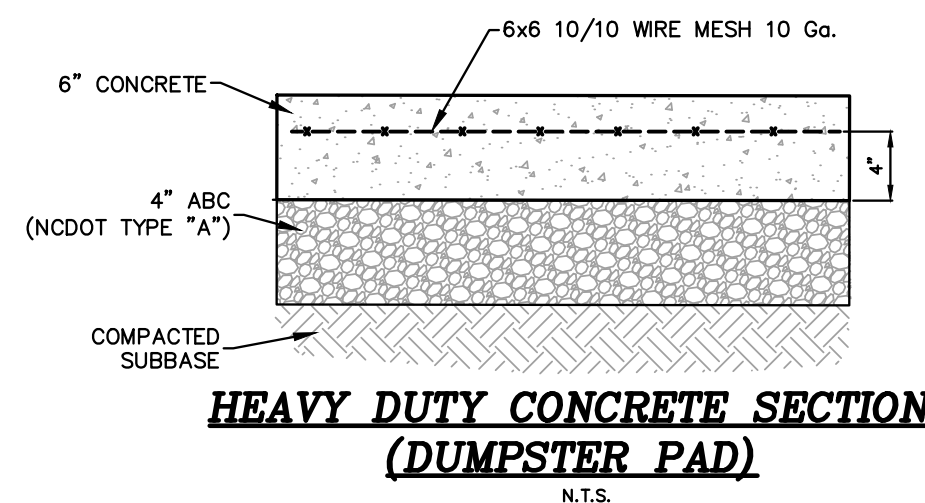
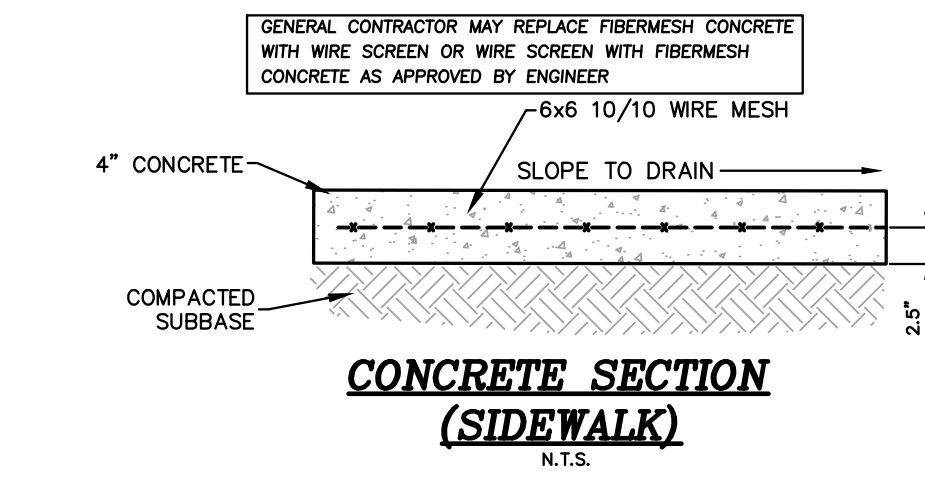
SIDEWALK JOINTS  
N.T.S.



2'-0" SPILL CURB & GUTTER CROSS SECTION  
N.T.S.



2'-0" CURB and GUTTER  
REF. NCDOT STD. 848.01  
N.T.S.

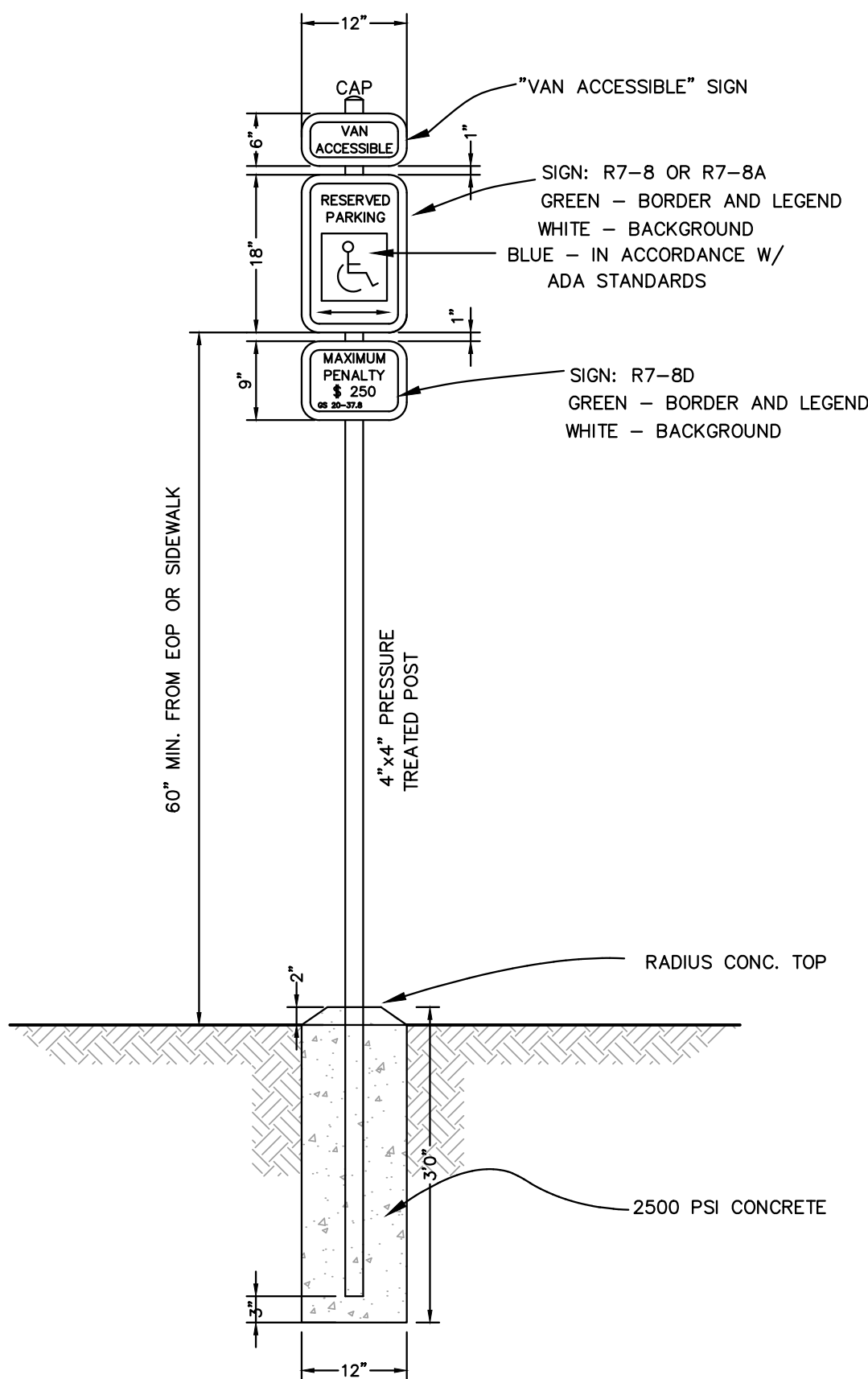


CONCRETE DUMPSTER PAD AND ENCLOSURE  
N.T.S.

COMPACTION NOTES:  
1. PROOF ROLL ALL NEW PAVED AREAS. NOTIFY OWNER AND ENGINEER OF ANY UNACCEPTABLE AREAS.  
2. COMPACT BACKFILL AND SUBGRADE TO 95% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM D1557) ALL BACKFILL MATERIAL SHALL BE SELECT BACKFILL UNLESS OTHERWISE SPECIFIED BY THE ENGINEER.  
3. SELECT FILL SHALL CONSIST OF SAND OR GRAVEL CONTAINING LESS THAN 20% BY WEIGHT OF FINES (SP, SM, SW, GP, GW) HAVING A LIQUID LIMIT LESS THAN 20 AND PLASTIC LIMIT LESS THAN 6, AND FREE OF RUBBLE, ORGANICS, CLAY, DEBRIS, AND OTHER UNSUITABLE MATERIAL.

COMPACTION NOTES

ADA RESERVED PARKING SIGN DETAIL  
N.T.S.



SITE DETAILS

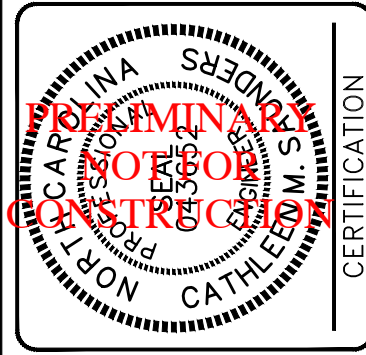
CAR WASH  
201 S CROATAN HIGHWAY

ALANTIC TOWNSHIP DARE NORTH CAROLINA

PROJECT NO. P21103  
DESIGNED BY JJC  
DRAWN BY JJC  
CHECKED BY CMS  
ISSUE DATE 01/18/22

SHEET NO.  
6  
OF 9 SHEETS

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NOTES:

1. ALL PIPE JOINTS SHALL BE WRAPPED WITH NCDOT TYPE II GEOTEXTILE OR APPROVED EQUIVALENT.
2. PERFORATED HDPE PIPES SHALL BE SLEEVED WITH NCDOT TYPE II GEOTEXTILE OR APPROVED EQUIVALENT.

| RCP PIPE DIA. "D" | "B" |
|-------------------|-----|
| 2'-15"            | 8"  |
| 18"-24"           | 10" |
| 30"-48"           | 18" |

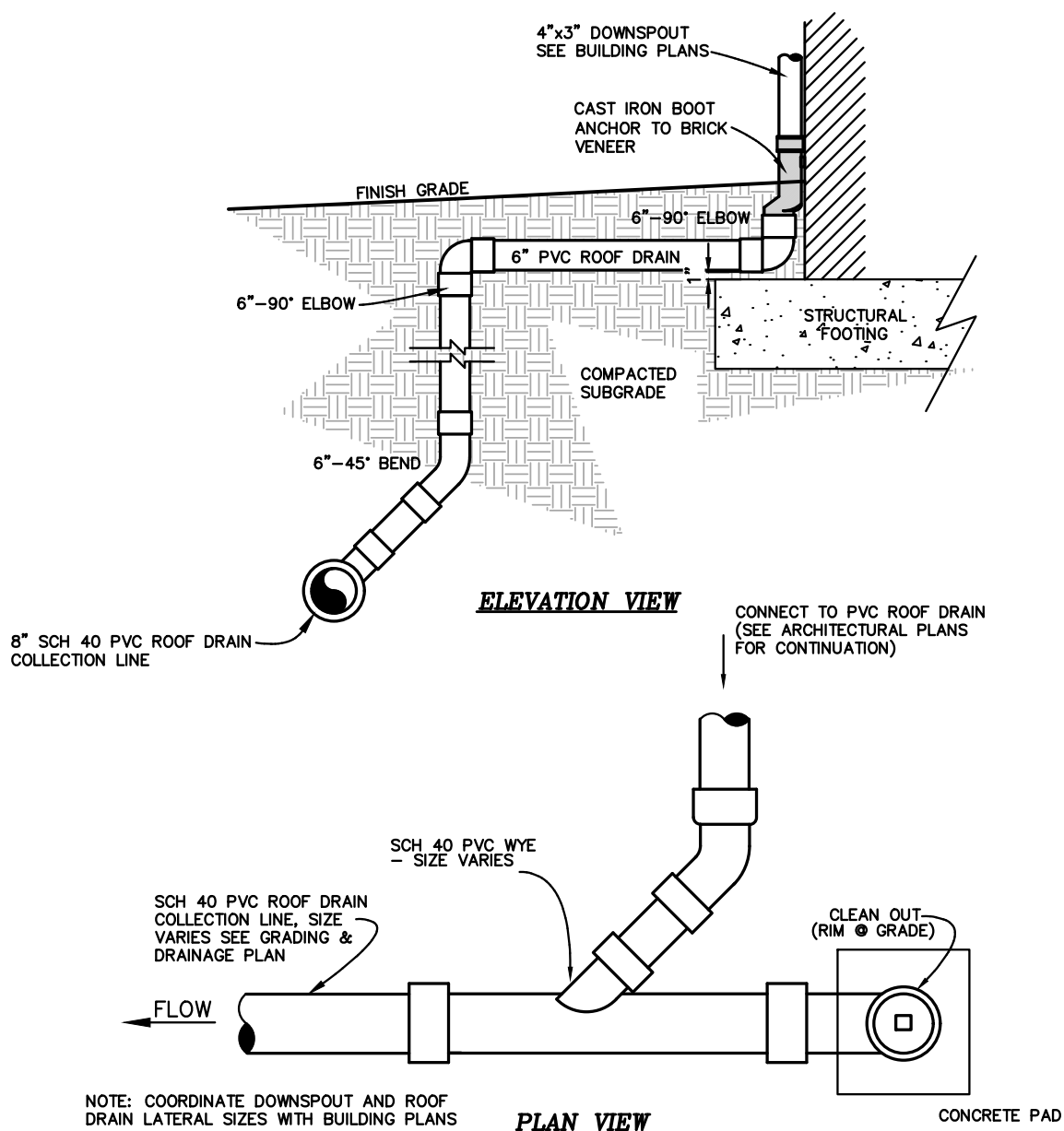
TRENCH SHALL BE BACKFILLED WITH CLEAN SAND AND TOPPED WITH TOP SOIL. IF LOCATED IN PAVEMENT, PAVE PER PAVEMENT SPECIFICATIONS.

ADDITIONAL (DO/2) NO. 57 STONE FOR HDPE  
4" NO. 57 STONE FOR RCP

**STORM PIPE TRENCH SECTION**

N.T.S.

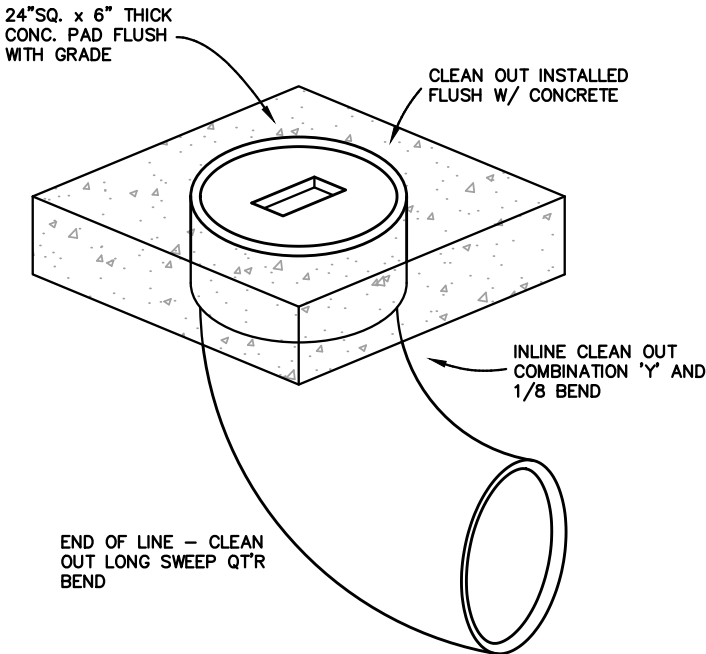
1. CLEAN OUTS INSTALLED OUTSIDE BUILDING AND FLUSH WITH GRADE SHALL BE INSTALLED FLUSH WITH 24"x24"x6" THICK CONCRETE PAD.
2. CLEAN OUTS INSTALLED OUTSIDE OF BUILDING AND IN SIDEWALKS SHALL HAVE ADJUSTABLE CAST IRON BODY WITH CAST BRASS FLUG, LEAD SEAL AND SQUARE NICKEL BRONZE TOP WITH WATER TIGHT GASKETED COVER.



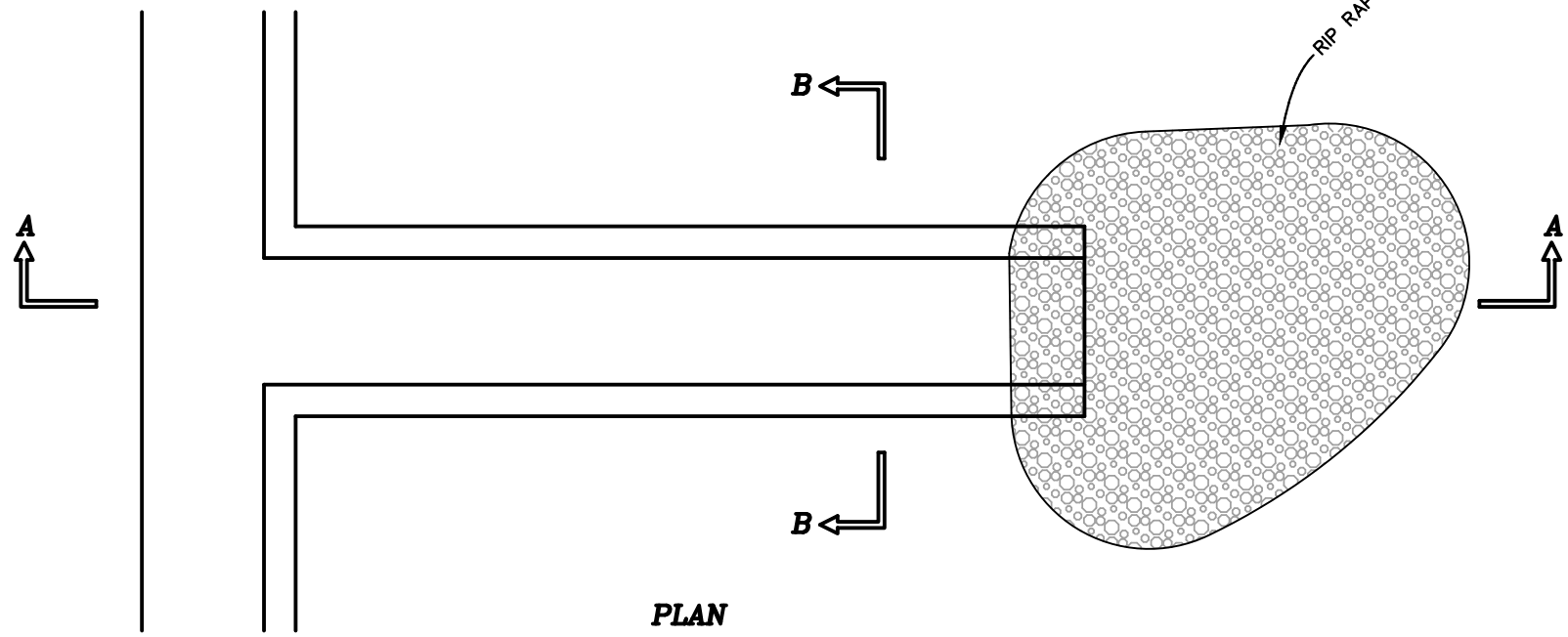
**PLAN VIEW**

N.T.S.

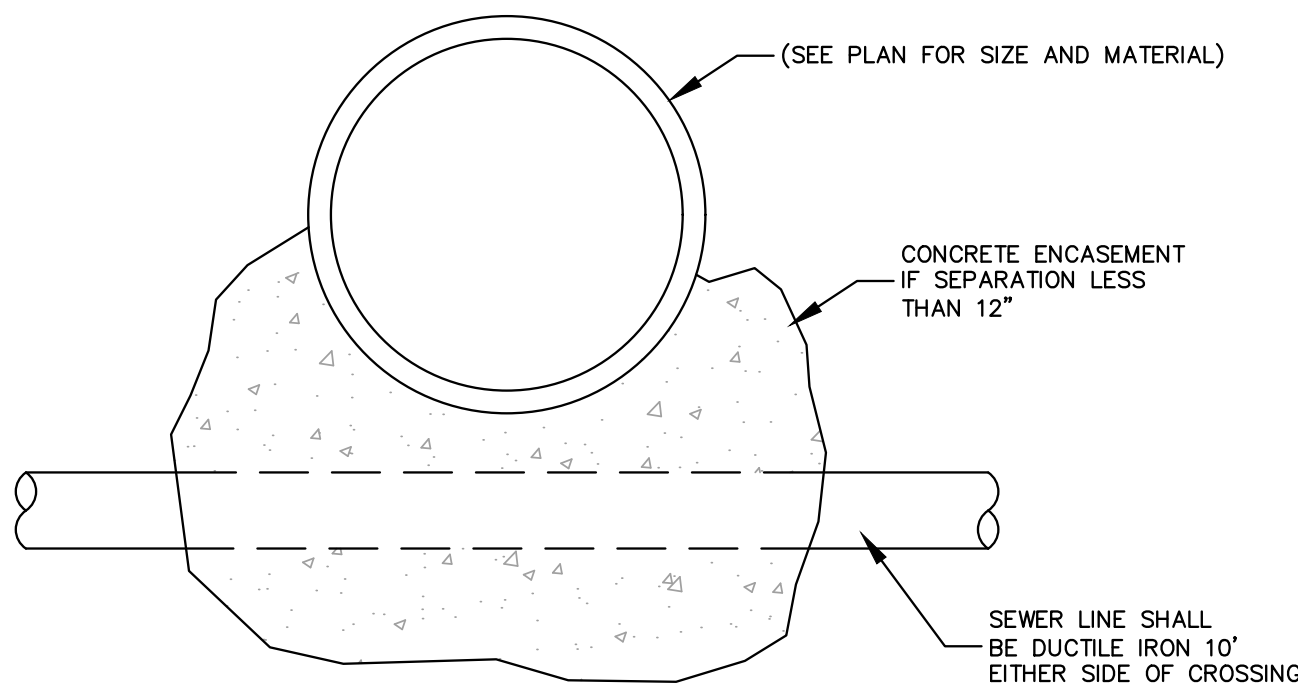
**ROOF DRAIN COLLECTION LATERAL**



**EXTERIOR CLEAN OUT DETAIL**



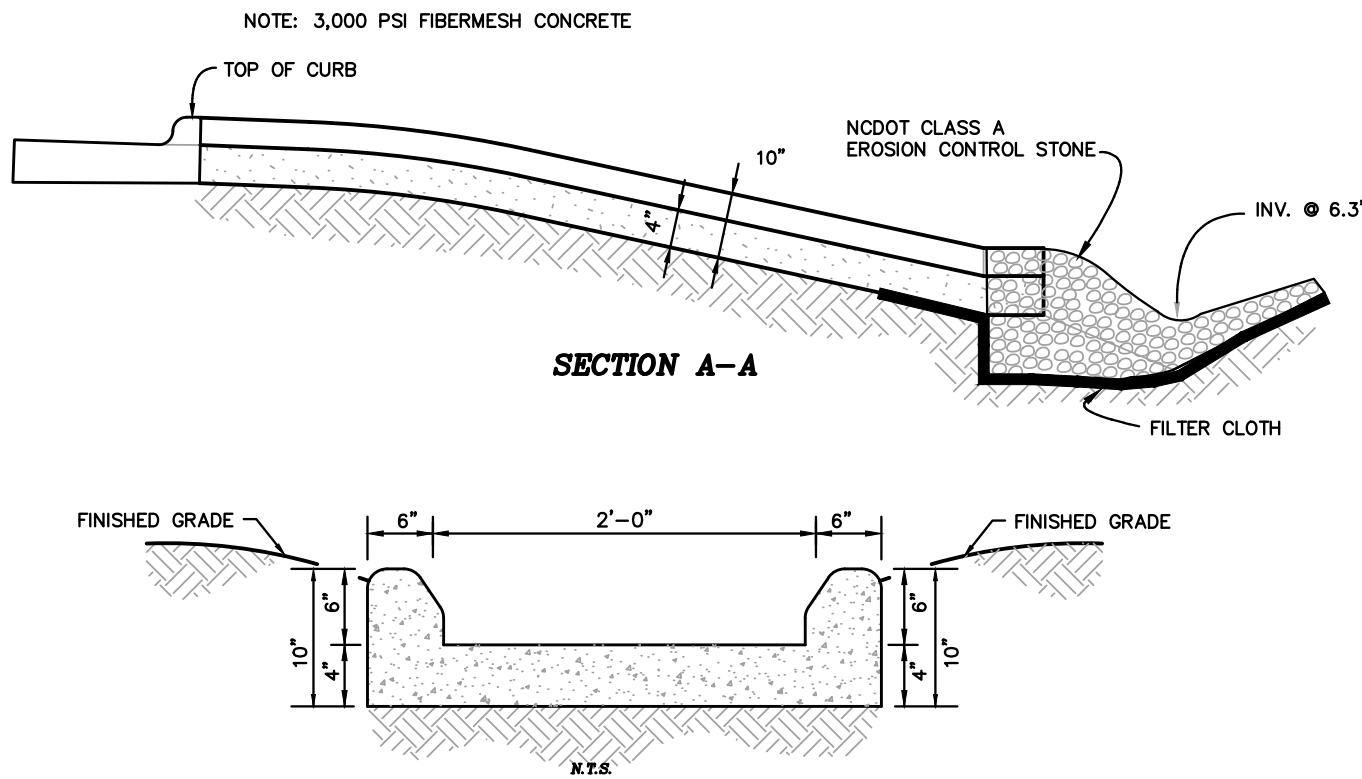
**PLAN**



STORM SEWER OVER SANITARY SEWER  
IF LESS THAN 12"

**STORM SEWER AND SANITARY SEWER CROSSING**

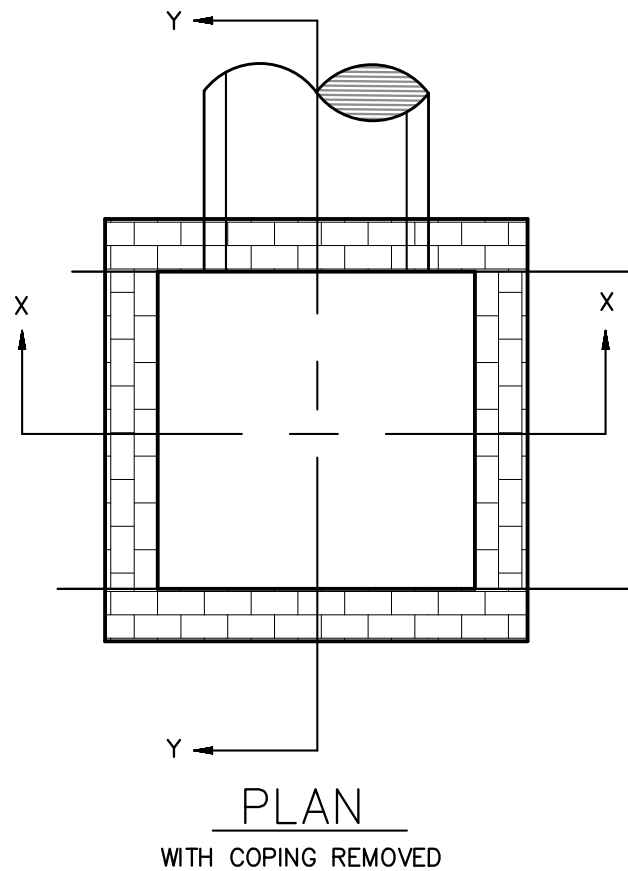
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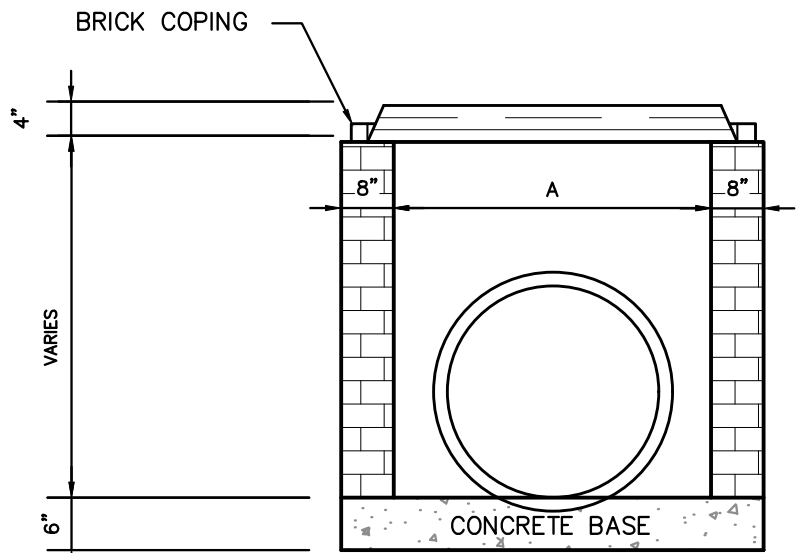
**SECTION A-A**

**FLUME DETAIL**

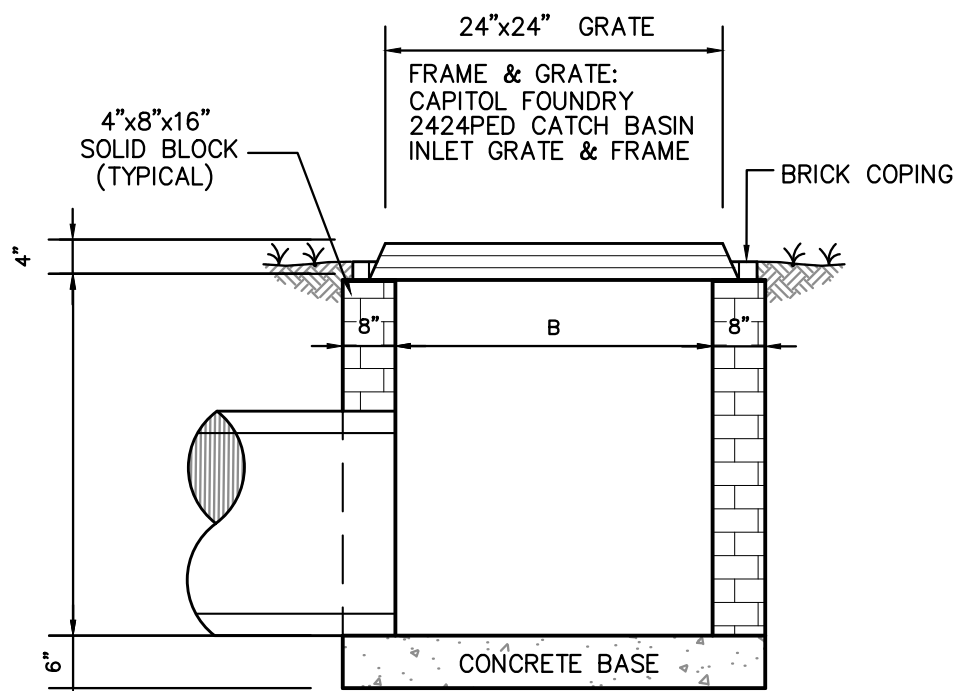
N.T.S.



**PLAN**  
WITH COPING REMOVED



**SECTION X-X**



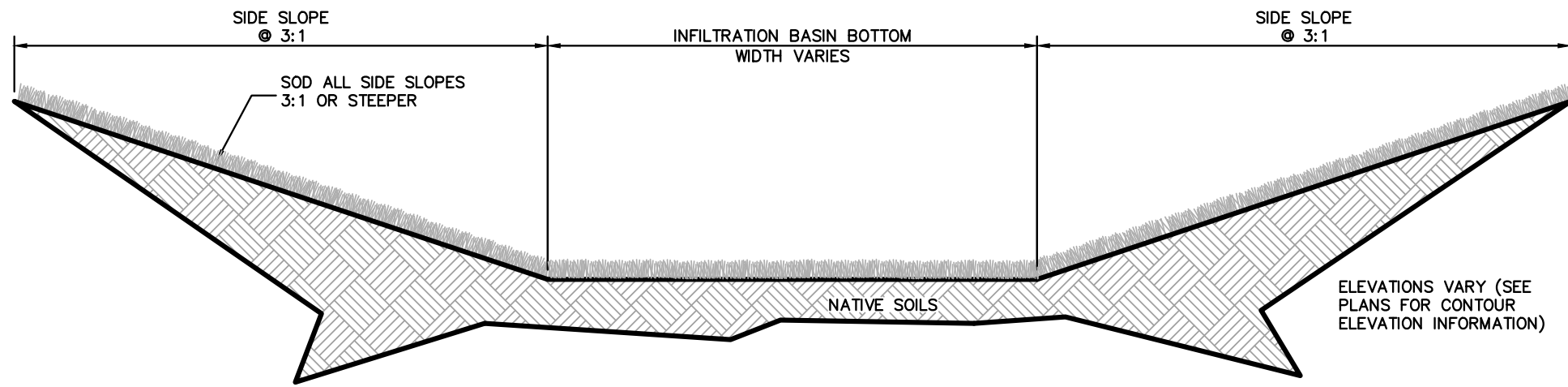
**SECTION Y-Y**

**STORM INLET DETAIL**

N.T.S.

NOTE: ALL CATCH BASINS WITHIN CURB AND GUTTER SHALL MEET NCDOT STANDARD DETAIL 840.02 WITH 840.03 STD. FRAME, GRATE, AND HOOD. DI #1&DI #2 SHALL HAVE 24"x24" GRATE SHOWN ON DETAIL.

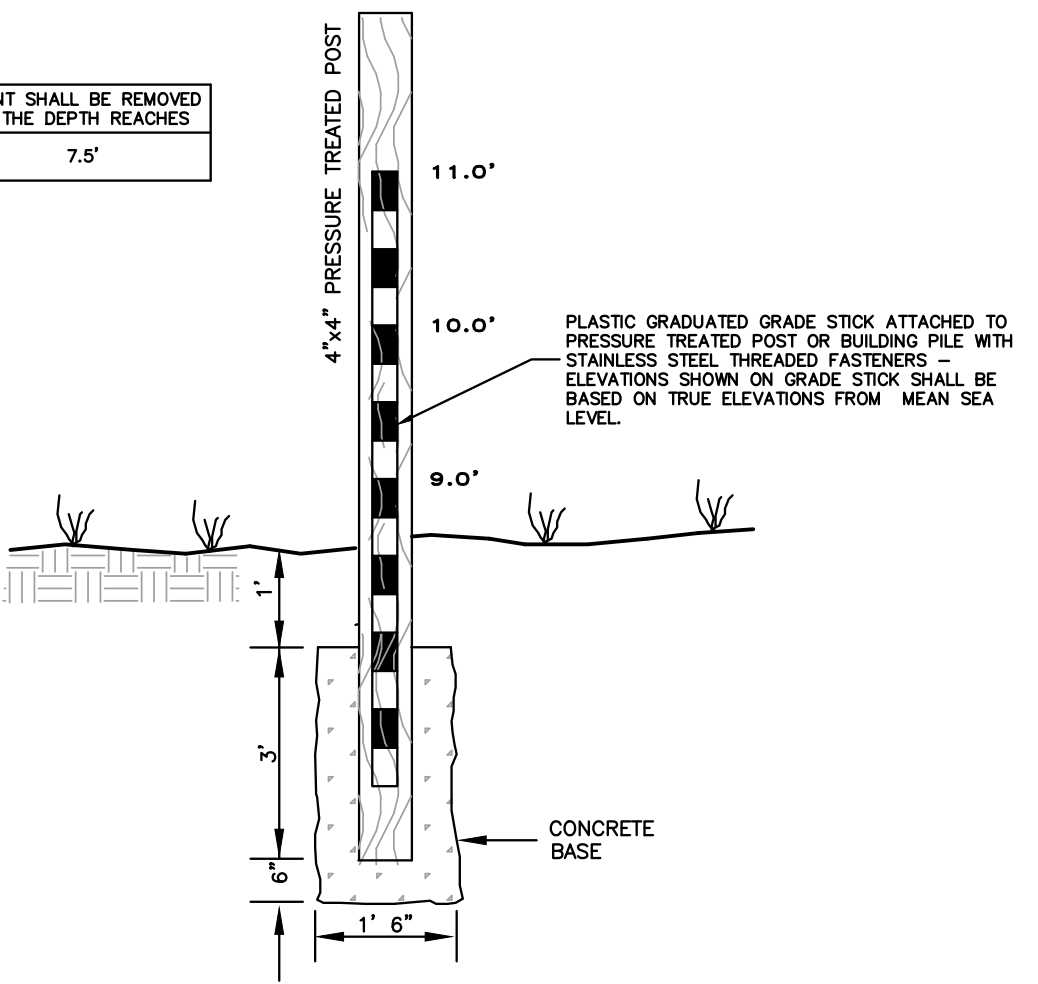
| MIN. DIMENSIONS FOR CATCH BASIN<br>(NCDOT 840.05) |           |            |             |  |
|---------------------------------------------------|-----------|------------|-------------|--|
| PIPE<br>D                                         | SPAN<br>A | WIDTH<br>B | HEIGHT<br>H |  |
| 12"                                               | 3'-6"     | 2'-3"      | 1'-10"      |  |
| 15"                                               | 3'-6"     | 2'-3"      | 2'-1"       |  |
| 18"                                               | 4'-0"     | 2'-8"      | 2'-4"       |  |



**TYPICAL INFILTRATION BASIN CROSS-SECTION DETAIL**

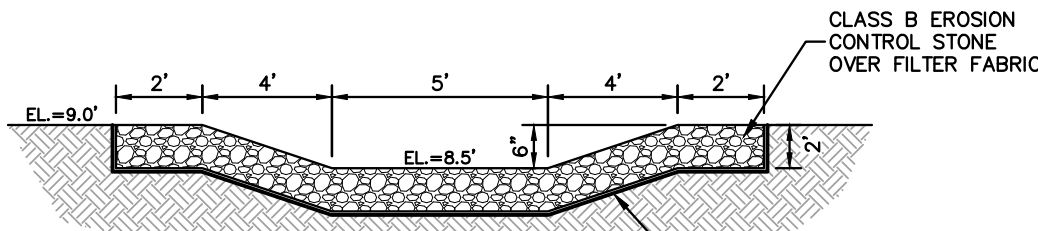
N.T.S.

| INFILTRATION BASIN | BOTTOM ELEVATION | SEDIMENT SHALL BE REMOVED WHEN THE DEPTH REACHES |
|--------------------|------------------|--------------------------------------------------|
| 1                  | 7.0'             | 7.5'                                             |



**DEPTH BENCHMARK**

N.T.S.



**BASIN OVERFLOW**

N.T.S.

**GRADING & DRAINAGE DETAILS**

**CAR WASH**  
**2011 S CROATAN HIGHWAY**

NORTH CAROLINA

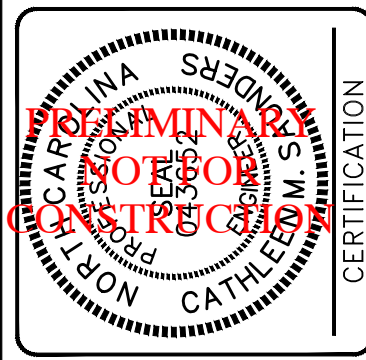
DARE

ALANTIC TOWNSHIP

|             |          |
|-------------|----------|
| PROJECT NO. | P21103   |
| DESIGNED BY | JJC      |
| DRAWN BY    | JJC      |
| CHECKED BY  | CMS      |
| ISSUE DATE  | 01/18/22 |

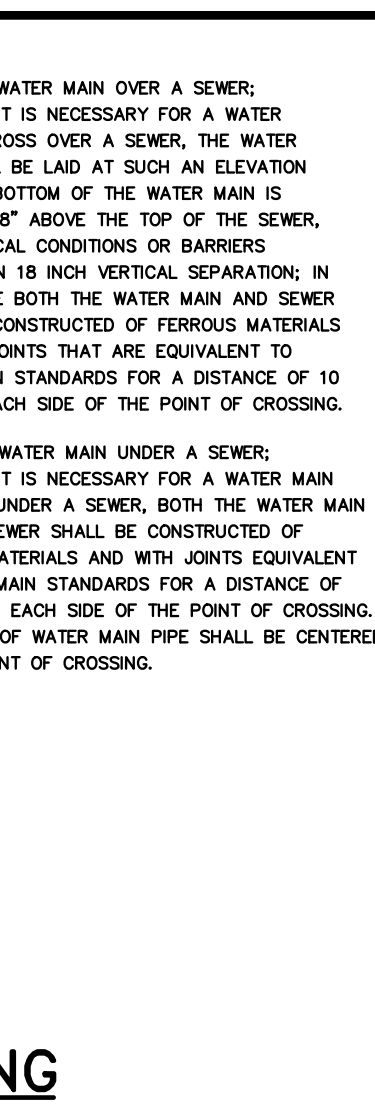
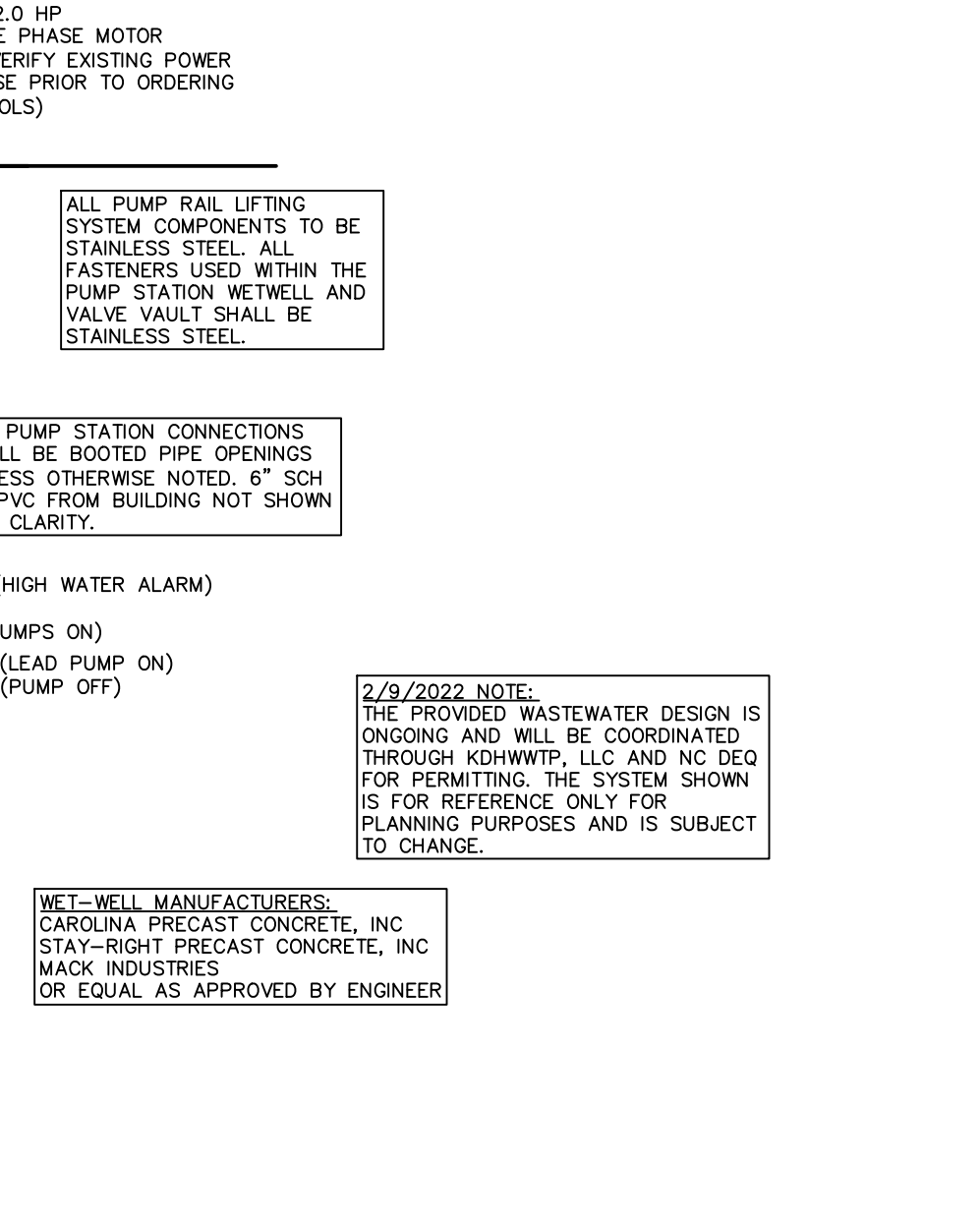
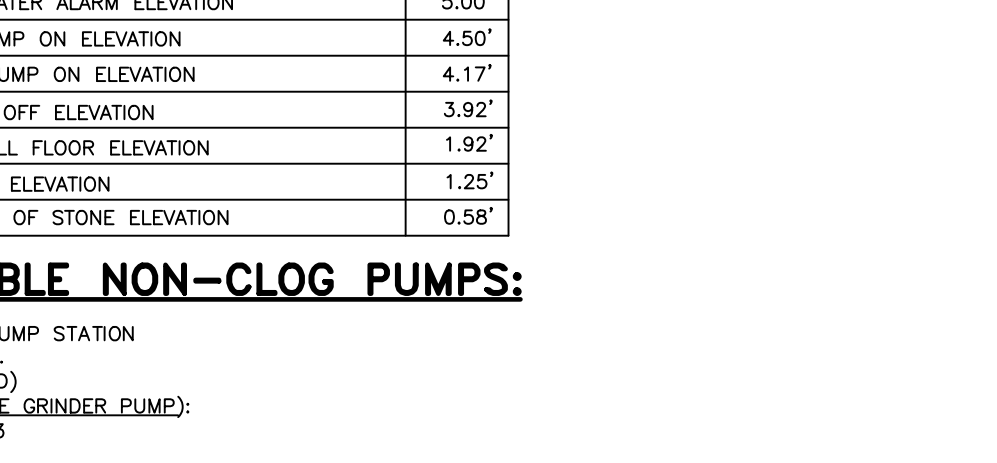
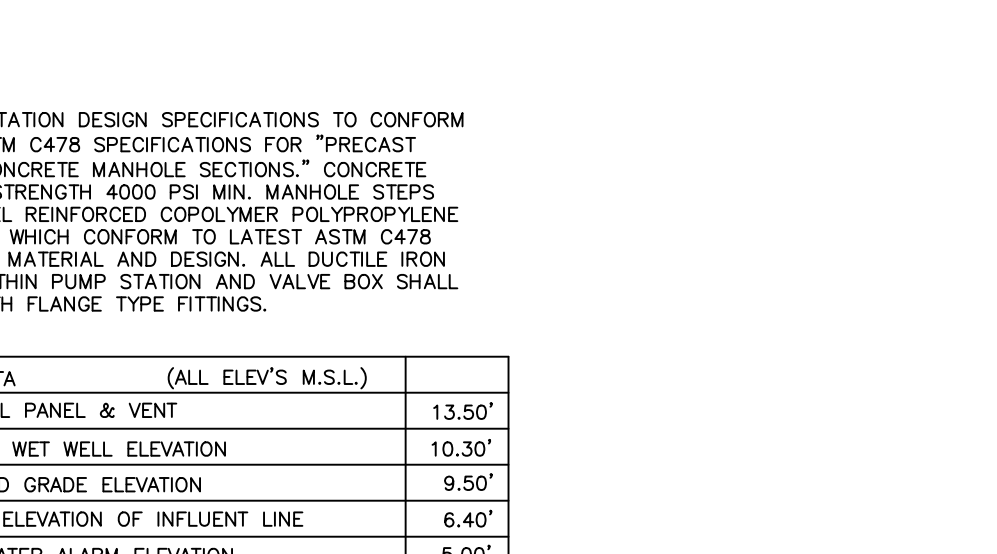
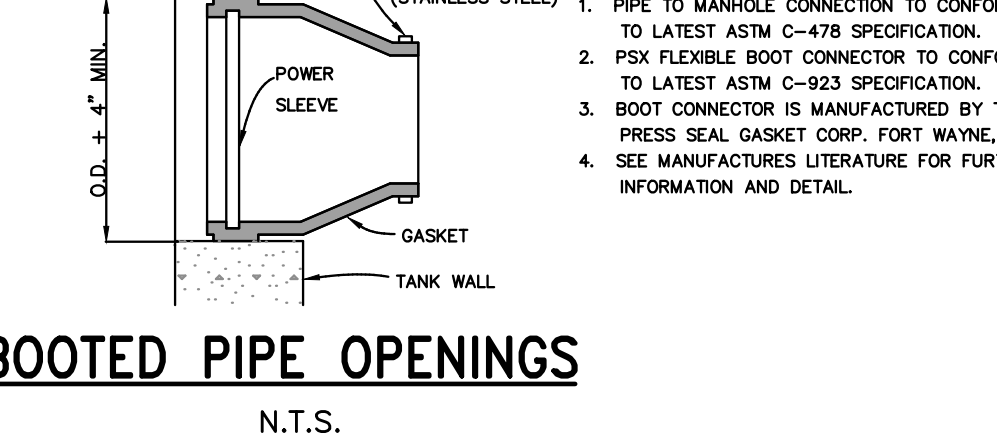
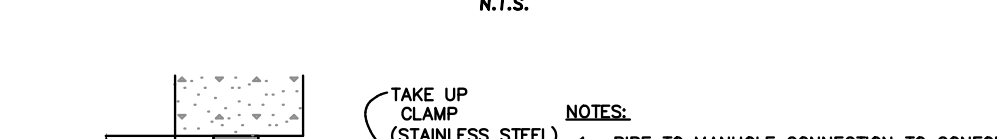
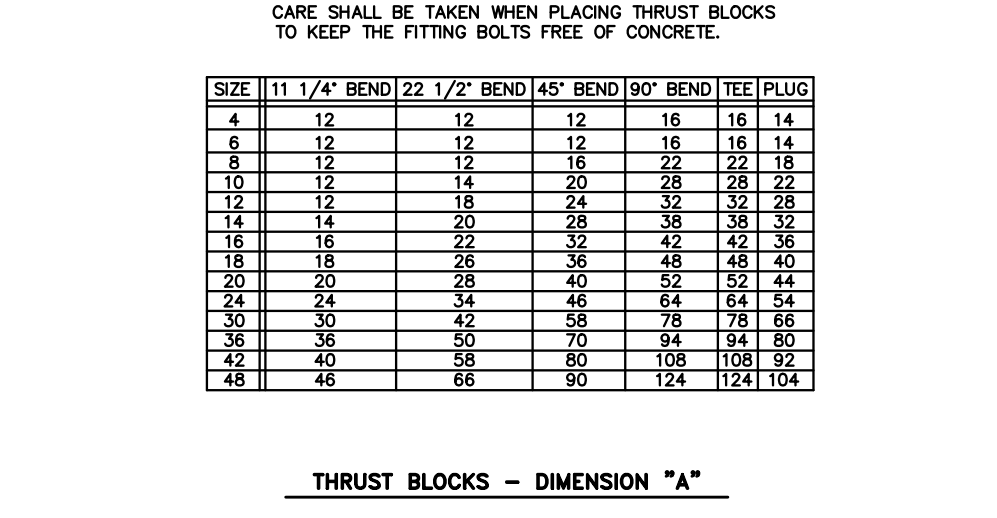
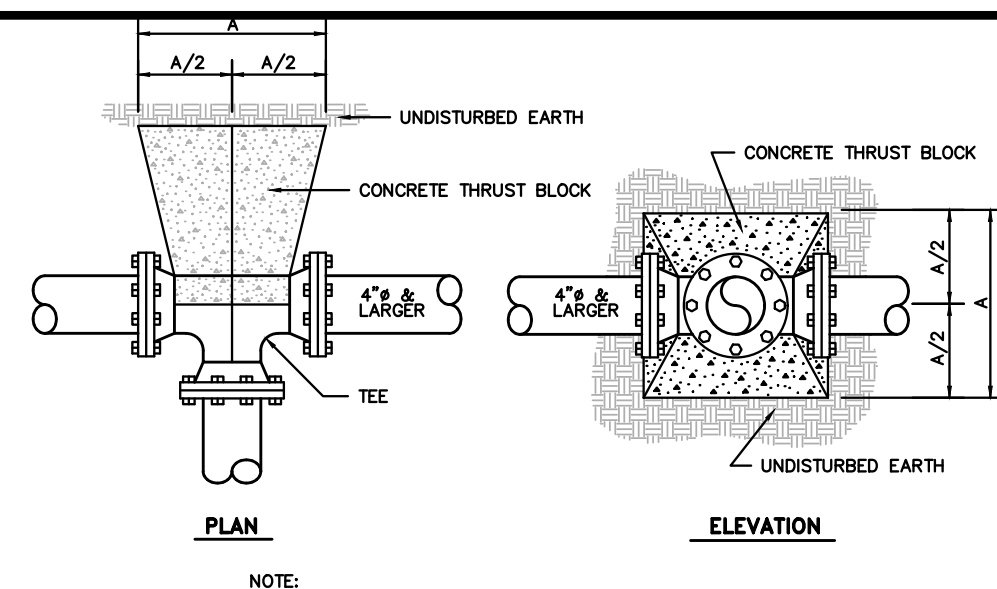
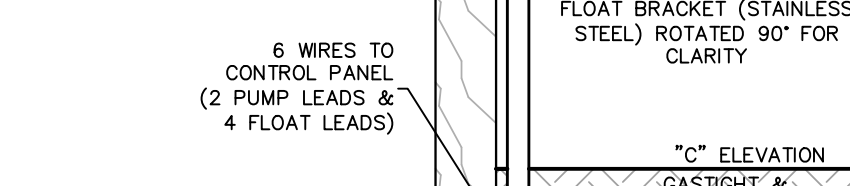
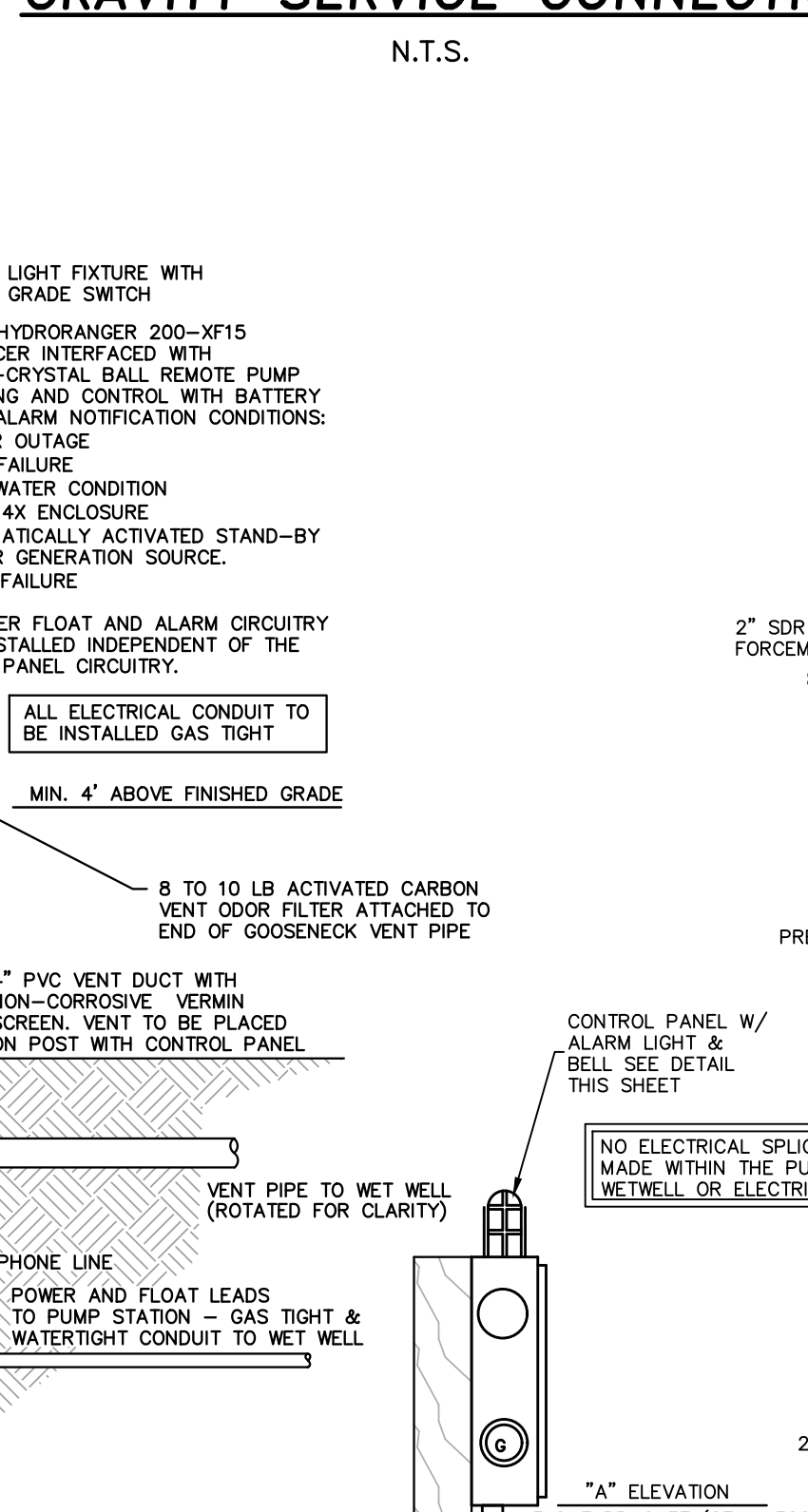
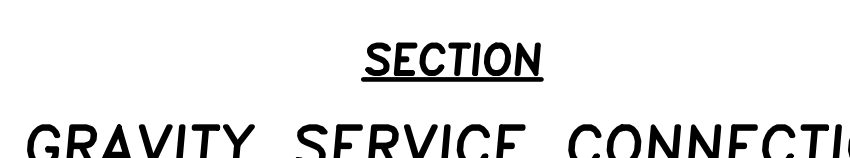
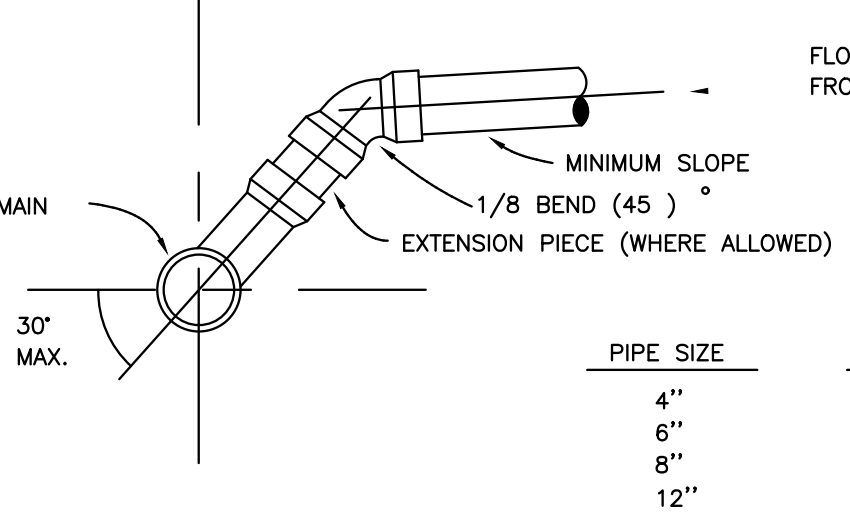
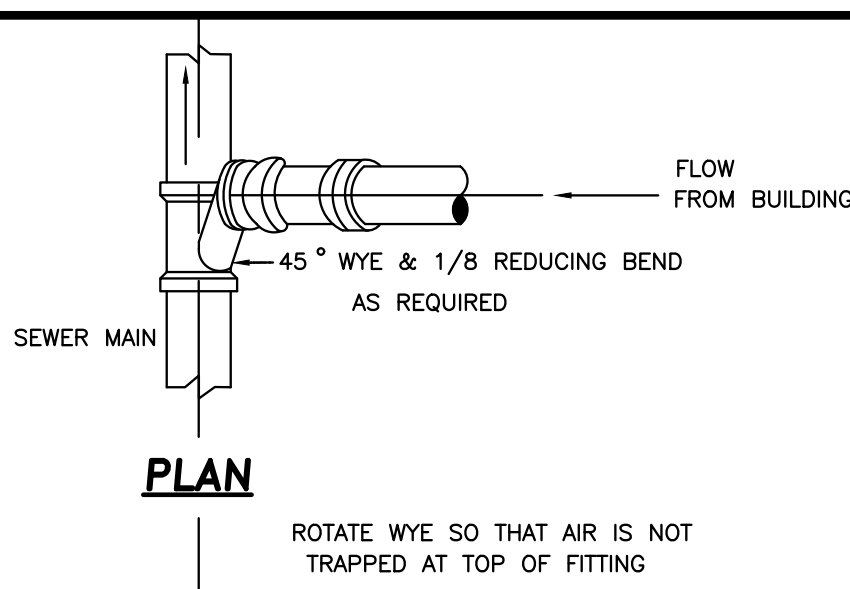
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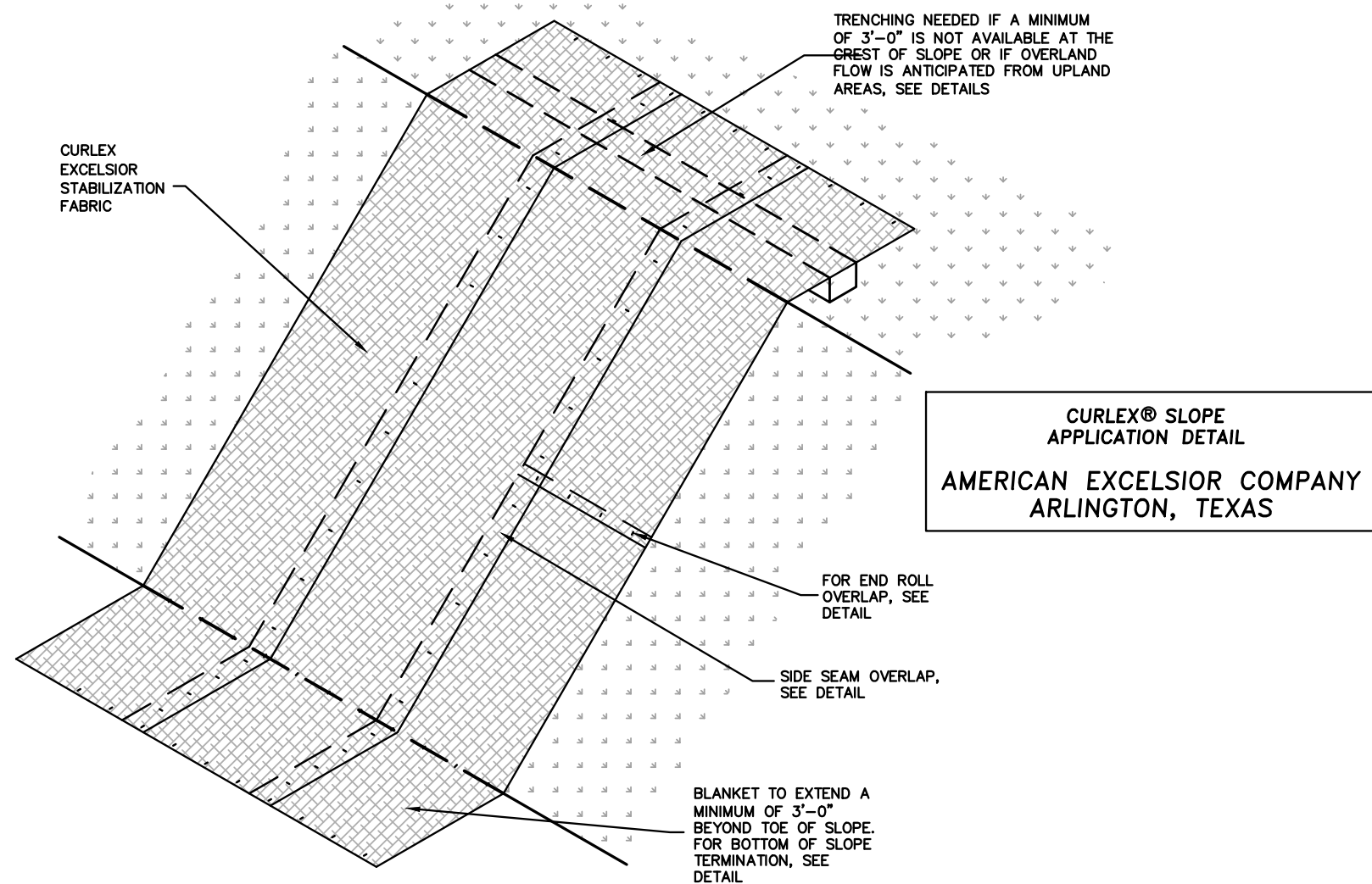


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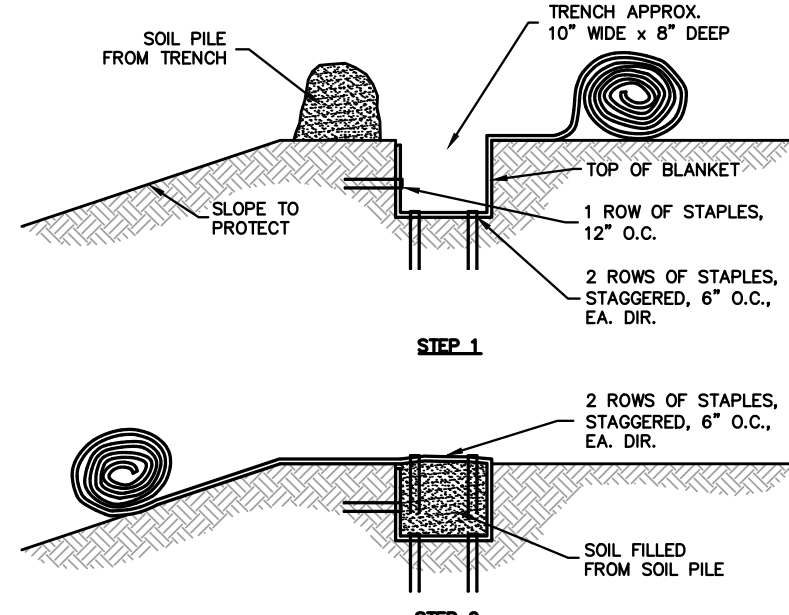




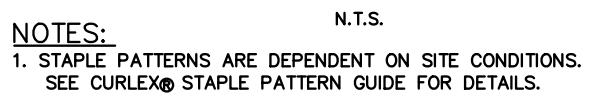




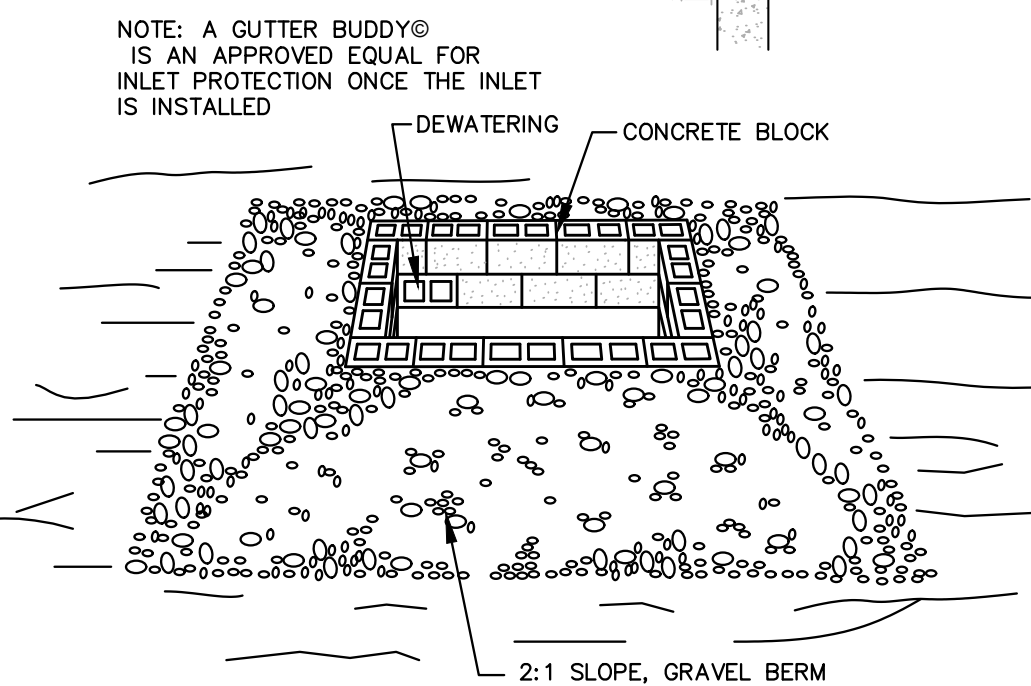
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## SLOPE TRENCHING METHOD "B"



**NOTES:**  
1. STAPLE PATTERNS ARE DEPENDENT ON SITE CONDITIONS.  
SEE CURLEX® STAPLE PATTERN GUIDE FOR DETAILS.



INLET PROTECTION SHALL BE PROVIDED AT ALL DROP INLETS, CURB INLETS, YARD INLETS AND ANY OTHER STORMWATER COLLECTION INLET.

BOTTOM OF SLOPE  
TERMINATION  
N.T.S.



**STAPLE DETAIL**

| Required Ground Stabilization Timeframes                   |                                                                         |                                                                                                                                                                                                      |
|------------------------------------------------------------|-------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Site Area Description                                      | Stabilize within this many calendar days after ceasing land disturbance | Timeframe variations                                                                                                                                                                                 |
| (a) Perimeter dikes, swales, ditches, and perimeter slopes | 7                                                                       | None                                                                                                                                                                                                 |
| (b) High Quality Water (HQQW) Zones                        | 7                                                                       | None                                                                                                                                                                                                 |
| (c) Slopes steeper than 3:1                                | 7                                                                       | If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed                                                                                                                |
| (d) Slopes 3:1 to 4:1                                      | 14                                                                      | -7 days for slopes greater than 50' in length and with slopes steeper than 4:1<br>-7 days for perimeter dikes, swales, ditches, perimeter slopes and HQQW Zones<br>-10 days for Falls Lake Watershed |
| (e) Areas with slopes flatter than 4:1                     | 14                                                                      | -7 days for perimeter dikes, swales, ditches, perimeter slopes and HQQW Zones<br>-10 days for Falls Lake Watershed unless there is zero slope                                                        |

| Stabilize the ground sufficiently so that rain will not dislodge the soil. Use one of the techniques in the table below:                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Temporary Stabilization                                                                                                                                                                                                                                                                                         | Permanent Stabilization                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <ul style="list-style-type: none"> <li>Temporary grass seed covered with straw or other mulches and tackifiers</li> <li>Hydroseeding</li> <li> Rolled erosion control products with or without temporary grass seed</li> <li> Inappropriately applied straw or other mulch</li> <li>Plastic sheeting</li> </ul> | <ul style="list-style-type: none"> <li>Permanent grass seed covered with straw or other mulches and tackifiers</li> <li>Geotextile fabrics such as permanent soil reinforcement matting</li> <li>Hydroseeding</li> <li>Shrubs, shrubs or other permanent plantings covered with mulch</li> <li>Uniform and evenly distributed ground cover sufficient to restrain erosion</li> <li>Structural methods such as concrete, asphalt or retaining walls</li> <li> Rolled erosion control products with grass seed</li> </ul> |

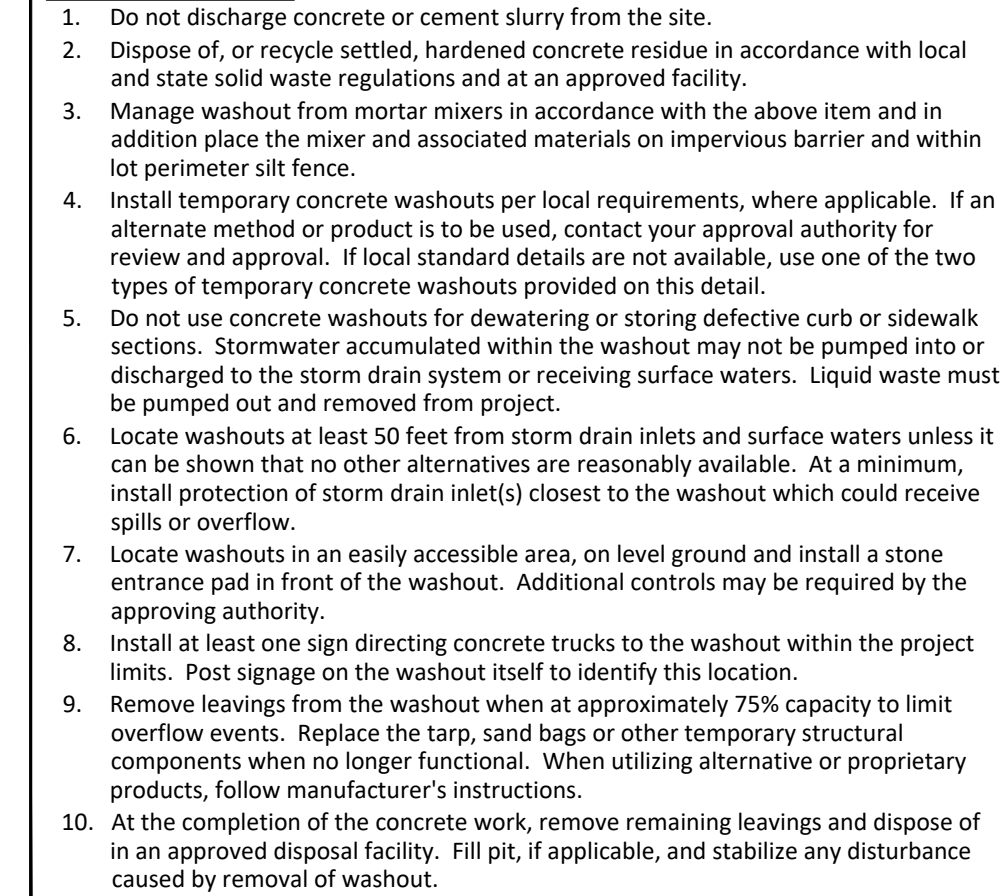
1. Select flocculants that are appropriate for the soils being exposed during construction, selecting from the *NC DWR List of Approved PAMS/Flocculants*.
2. Apply flocculants at or before the inlets to Erosion and Sediment Control Measures.
3. Apply flocculants at the concentrations specified in the *NC DWR List of Approved PAMS/Flocculants* and in accordance with the manufacturer's instructions.
4. Provide ponding area for containment of treated Stormwater before discharging offsite.
5. Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

1. Never bury or burn waste. Place litter and debris in approved waste containers.
2. Provide a sufficient number and size of waste containers (e.g. dumpster, trash receptacle) on site to contain construction and domestic wastes.
3. Locate waste containers at least 100 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
4. Locate waste containers on areas that do not receive substantial amounts of runoff from upland areas and does not drain directly to a storm drain, stream or wetland.
5. Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
6. Avoid lightweight debris in waste containers during times of high winds.
7. Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
8. Dispose waste off-site at an approved disposal facility.
9. On business days, clean up and dispose of waste in designated waste containers.

1. Do not dump paint and other liquid waste into storm drains, streams or wetlands.
2. Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
3. Contain liquid wastes in a controlled area.
4. Containment must be labeled, sized and placed appropriately for the needs of site.
5. Prevent the discharge of soaps, solvents, detergents and other liquid wastes from construction sites.

1. Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not attainable, provide relocation of portable toilet behind silt fence or place on a gravel pad and surround with sand bags.
2. Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
3. Monitor portable toilets for leaking and properly dispose of any leaked material. Utilize a licensed sanitary waste hauler to remove leaking portable toilets and replace with properly operating unit.

1. Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably available.
2. Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
3. Provide stable stone access point when feasible.
4. Stabilize stockpile within the timeframe provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.



1. Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
2. Store herbicides, pesticides and rodenticides in their original containers with the label, which lists directions for use, ingredients and first aid steps in case of accidental poisoning.
3. Do not store herbicides, pesticides and rodenticides in areas where flooding is possible or where they may spill or leak into wells, stormwater drains, ground water or surface water. If a spill occurs, clean area immediately.
4. Do not stockpile these materials onsite.

1. Create designated hazardous waste collection areas on-site.
2. Place hazardous waste containers under cover or in secondary containment.
3. Do not store hazardous chemicals, drums or bagged materials directly on the ground.

## EFFECTIVE: 04/01/19

Self-inspections are required during normal business hours in accordance with the table below. When adverse weather or site conditions would cause the safety of the inspection personnel to be in jeopardy, the inspection may be delayed until the next business day on which it is safe to perform the inspection. In addition, when a storm event of equal to or greater than 1.0 inch occurs outside of normal business hours, the self-inspection shall be performed upon the commencement of the next business day. Any time when inspections were delayed shall be noted in the Inspection Record.

| Insight                                                    | Frequency<br>(during normal business hours)                                                  | Inspection records must include:                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------------------------------------------------|----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (1) Rain gauge maintained in accordance with working order | Daily                                                                                        | Daily rainfall amounts.<br>If no daily rain gauge observations are made during weekend or holiday periods, or no individual-day rainfall information is available, record the cumulative rain measurement for those unattended days (and this will determine if a site inspection is needed). Days on which no rain occurred shall be recorded as "zero." The permittee may use any rain-monitoring device approved by the Division. |
| (2) E&S Measures                                           | At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours | 1. Identification of the measures inspected,<br>2. Date and time of the inspection,<br>3. Name of the person performing the inspection,<br>4. Identification of whether the measures were operating properly,<br>5. Description of maintenance needs for the measure, and<br>6. Description of any adverse or corrective actions taken.                                                                                              |
| (3) Stormwater discharge outfalls (SDOs)                   | At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours | 1. Identification of the discharge outfalls inspected,<br>2. Date and time of the inspection,<br>3. Name of the person performing the inspection,<br>4. Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or discoloration,<br>5. Evidence of sediment accumulation at the site,<br>6. Description, evidence, and date of corrective actions taken.                                     |
| (4) Perimeter of site                                      | At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours | If visible sedimentation is found outside site limits, then a record of the following information is required:<br>1. Actions taken to clean up or stabilize the sediment that has left the site limits,<br>2. Description, evidence, and date of corrective actions taken, and<br>3. An explanation as to the actions taken to control future releases.                                                                              |
| (5) Streams or wetlands onsite or offsite where accessible | At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours | If the stream or wetland has increased visible sedimentation or a stream has visible increased turbidity from the construction activity, then a record of the following shall be made:<br>1. Description, evidence, and date of corrective actions taken, and<br>2. Records of the required reports to the appropriate Division Regional Supervisor per Part II, Section C, Item (2)(a) of this permit.                              |
| (6) Ground disturbance measures                            | After each phase of grading                                                                  | 1. The phase of grading (installation of perimeter E&S measures, clearing and grubbing, installation of storm drainage facilities, completion of all land-disturbance activities, construction or redevelopment, stabilization ground cover).<br>2. Documentation that the required ground perturbation measures have been provided within the required timeframe or an assurance that they will be provided as soon as possible.    |

NOTE: The rain inspection resets the required 7 calendar day inspection requirement.

### 1. E&SC Plan Documentation

The approved E&SC plan as well as any approved deviation shall be kept on the site. The approved E&SC plan must be kept up-to-date throughout the coverage under this permit. The following items pertaining to the E&SC plan shall be documented in the manner described:

| Item to Document                                                                                                                                                      | Documentation Requirements                                                                                                                                                                                                                                                                                                                    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (a) Each E&S&C Measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved E&S&C Plan. | Initial and date each E&S&C Measure on a copy of the approved E&S&C Plan or complete, date and sign an inspection report that lists each E&S&C Measure shown on the approved E&S&C Plan. This documentation is required upon the initial installation of the E&S&C Measures or if the E&S&C Measures are modified after initial installation. |
| (b) A phase of grading has been completed.                                                                                                                            | Initial and date a copy of the approved E&S&C Plan or complete, date and sign an inspection report to indicate completion of the construction phase.                                                                                                                                                                                          |
| (c) Ground cover is located and installed in accordance with the approved E&S&C Plan.                                                                                 | Initial and date a copy of the approved E&S&C Plan or complete, date and sign an inspection report to indicate compliance with approved ground cover specifications.                                                                                                                                                                          |
| (d) The maintenance and repair requirements for all E&S&C Measures have been performed.                                                                               | Complete, date and sign an inspection report.                                                                                                                                                                                                                                                                                                 |
| (e) Corrective actions have been taken to E&S&C Measures.                                                                                                             | Initial and date a copy of the approved E&S&C Plan or complete, date and sign an inspection report to indicate the completion of the corrective action.                                                                                                                                                                                       |

In addition to the E&SC Plan documents above, the following items shall be kept on the site and available for agency inspectors at all times during normal business hours, unless the Division provides a site-specific exemption based on unique site conditions that make this requirement not practical:

- (a) This general permit as well as the certificate of coverage, after it is received.
- (b) Records of inspections made during the previous 30 days. The permittee shall record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes all the required elements. Use of electronically-available records in lieu of the required paper copies will be allowed if shown to provide equal access and utility as the hard-copy records.
- (c) All data used to complete the Notice of Intent and order inspection records shall be maintained for a period of three years after project completion and made available upon request. [40 CFR 122.41]

**1. Occurrences that must be reported**  
Permittees shall report the following occurrences:

- (a) Visible sediment deposition in a stream or wetland.

- (b) Oil spills if:
- They are 25 gallons or more,
  - They are less than 25 gallons but cannot be cleaned up within 24 hours,
  - They cause sheen on surface waters (regardless of volume), or
  - They are within 100 feet of surface waters (regardless of volume).

- (a) Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 143-215.85.
- (b) Anticipated bypasses and unanticipated bypasses.
- (c) Noncompliance with the conditions of this permit that may endanger health or the environment.

After a permittee becomes aware of an occurrence that must be reported, he shall contact the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below. Occurrences outside normal business hours may also be reported to the Division's Emergency Response personnel at (800) 662-7956, (800) 858-0368 or (919) 733-3300.

| Occurrence                                                                                                                           | Reporting Timeframes (After Discovery) and Other Requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (a) Visible sediment deposition in a stream or wetland                                                                               | <ul style="list-style-type: none"> <li>• <b>Within 24 hours</b>, an oral or electronic notification.</li> <li>• <b>Within 7 calendar days</b>, a report that contains a description of the sediment and actions taken to address the cause of the deposition. Division staff may waive the requirement for a written report on a case-by-case basis.</li> <li>• If the stream is named on the <a href="#">KC 303(a)(2) list</a> as impaired for sediment-related causes, the permittee may be required to perform additional monitoring, inspection, and/or testing. If the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue, and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. <a href="#">40 CFR 122.41(a)(1)(6)</a>.</li> <li>• Division staff may waive the requirement for a written report on a case-by-case basis.</li> </ul> |
| (b) Oil spills and release of hazardous substances per item 1(b)(1-c) above                                                          | <ul style="list-style-type: none"> <li>• <b>Within 24 hours</b>, an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill or release.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| (c) Anticipated noncompliance <a href="#">40 CFR 122.41(m)(3)</a>                                                                    | <ul style="list-style-type: none"> <li>• <b>A report at least ten days before the date of the bypass, if possible.</b> The report shall include an evaluation of the anticipated quality and effect of the bypass.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| (d) Unanticipated noncompliance <a href="#">40 CFR 122.41(m)(3)</a>                                                                  | <ul style="list-style-type: none"> <li>• <b>Within 24 hours</b>, an oral or electronic notification.</li> <li>• <b>Within 7 calendar days</b>, a report that includes an evaluation of the quality and effect of the bypass.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| (e) Noncompliance with the conditions of this permit that may endanger health or the environment <a href="#">40 CFR 122.41(f)(7)</a> | <ul style="list-style-type: none"> <li>• <b>Within 24 hours</b>, an oral or electronic notification.</li> <li>• <b>Within 7 calendar days</b>, a report that contains a description of the noncompliance, and its causes; the period of noncompliance, including start and end dates; and time taken to correct the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue, and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. <a href="#">40 CFR 122.41(f)(6)</a>.</li> <li>• Division staff may waive the requirement for a written report on a case-by-case basis.</li> </ul>                                                                                                                                                                                                                                                            |