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- C2 Site and Utility Plan
- C3 Grading and Drainage Plan
- C4 Landscape Plan
- C5 Lighting Plan
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- C7 Grading and Drainage Detail Plan
- C8 Landscape and Lighting Detail Plan

INCIDENTAL DRAINAGE

1. TEMPORARY DRAINAGE DURING CONSTRUCTION WILL BE PROVIDED BY THE OWNER/DEVELOPER/CONTRACTOR TO RELIEVE AREAS THAT MAY CAUSE DAMAGE TO ROADWAYS AND/OR ADJACENT PROPERTIES AS DIRECTED BY PLANNING/CIVIL INSPECTORS.
2. THE PLANNING/CIVIL INSPECTOR WILL PERFORM AN ON-SITE INSPECTION OF STORM SEWER PIPE INSTALLATION PRIOR TO ANY BACKFILLING OF THE INSTALLED PIPE.
3. IF PRECAST DRAINAGE STRUCTURES ARE USED, SHOP DRAWINGS WILL BE SUBMITTED TO THE DESIGN ENGINEER BY THE OWNER/DEVELOPER/CONTRACTORS DESIGN CONSULTANT, ALONG WITH THE PROPER CERTIFICATIONS, UNLESS PREVIOUSLY APPROVED BY THE DARE COUNTY PLANNER.
4. ALL STORM SEWER PIPE JOINTS WILL BE INSTALLED, SILT FREE, OR WILL BE COMPLETELY WRAPPED WITH TWO FEET (2') WIDE APPROVED FILTER FABRIC, SECURED IN PLACE PRIOR TO BACKFILLING.

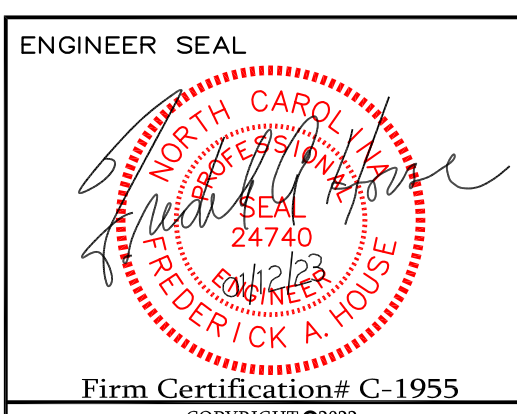
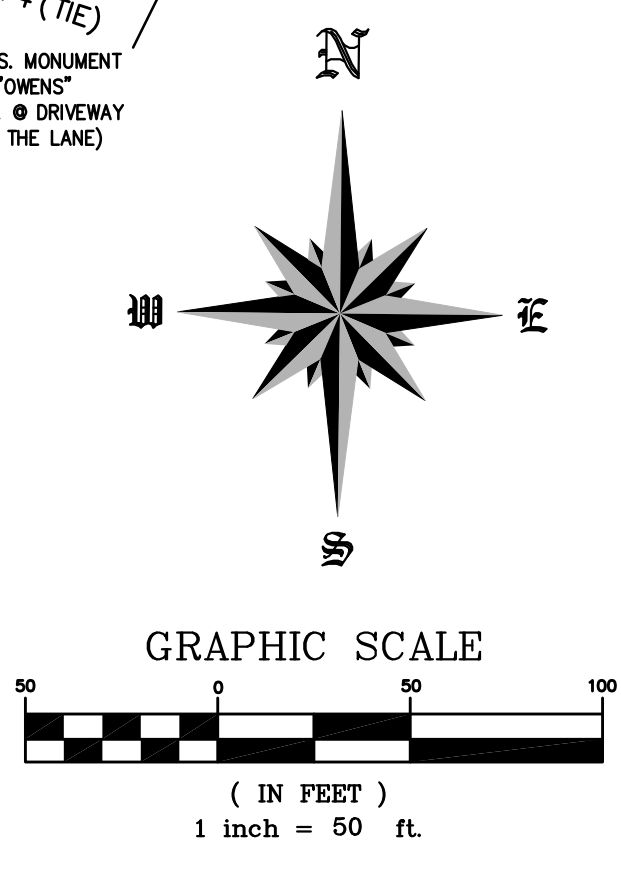
- LEGEND**
- AG - EX. 2" OPEN PIPE
 - - EX. 5/8" REBAR
 - - 1/2" REBAR SET
 - - EX. CONC. MON.
 - - SET HUB & TACK
 - △ - EX. MAG NAIL
 - ▲ - MAG NAIL SET
 - - CALCULATED POINT
 - - WATER METER
 - - PHONE PEDESTAL
 - - C.A.T.V.
 - - UTILITY POLE
 - - GUY WIRE
 - - FIRE HYDRANT
 - - ELEC. TRANS.
 - AG - ABOVE GRADE
 - BG - BELOW GRADE
 - PL - PROPERTY LINE
 - - WATER VALVE
 - - BENCHMARK

LINE TABLE

LINE	LENGTH	BEARING
L1	91.39	N88°08'00"W
L2	696.05	N22°48'06"W
L3	167.84	N69°24'05"E
L4	30.32	S27°22'50"E
L5	33.80	S86°15'59"E
L6	163.61	N11°42'25"W
L7	129.24	N22°39'59"W

CURVE TABLE

CURVE	RADIUS	DELTA	LENGTH	CHORD	CHD.BRG.
C1	611.24	51°29'13"	549.27	530.98	N68°26'53"E



HOUSE ENGINEERING, P.C.
 Post Office Box 466 - 6475 N. Croatan Hwy, Suite 201
 Kitty Hawk North Carolina 27949
 Office# (252) 261-8253 E-Mail: info@houseengineering.net

APPROVALS

Drawn:	DATE
D. NEFF	01/12/23
Checked: R. HOUSE	01/12/23
Engineer: R. HOUSE	01/12/23

REVISIONS

No.	Date	Description

Existing Condition and Cover Sheet
 For:
The Village at Old Wharf Road
 Location:
0 Old Wharf Road
 Parcel in Wanchese
 Wanchese Dare County North Carolina

SIZE	PROJECT NUMBER	REV	SHEET NO.
D	226800	-	C1 OF 8

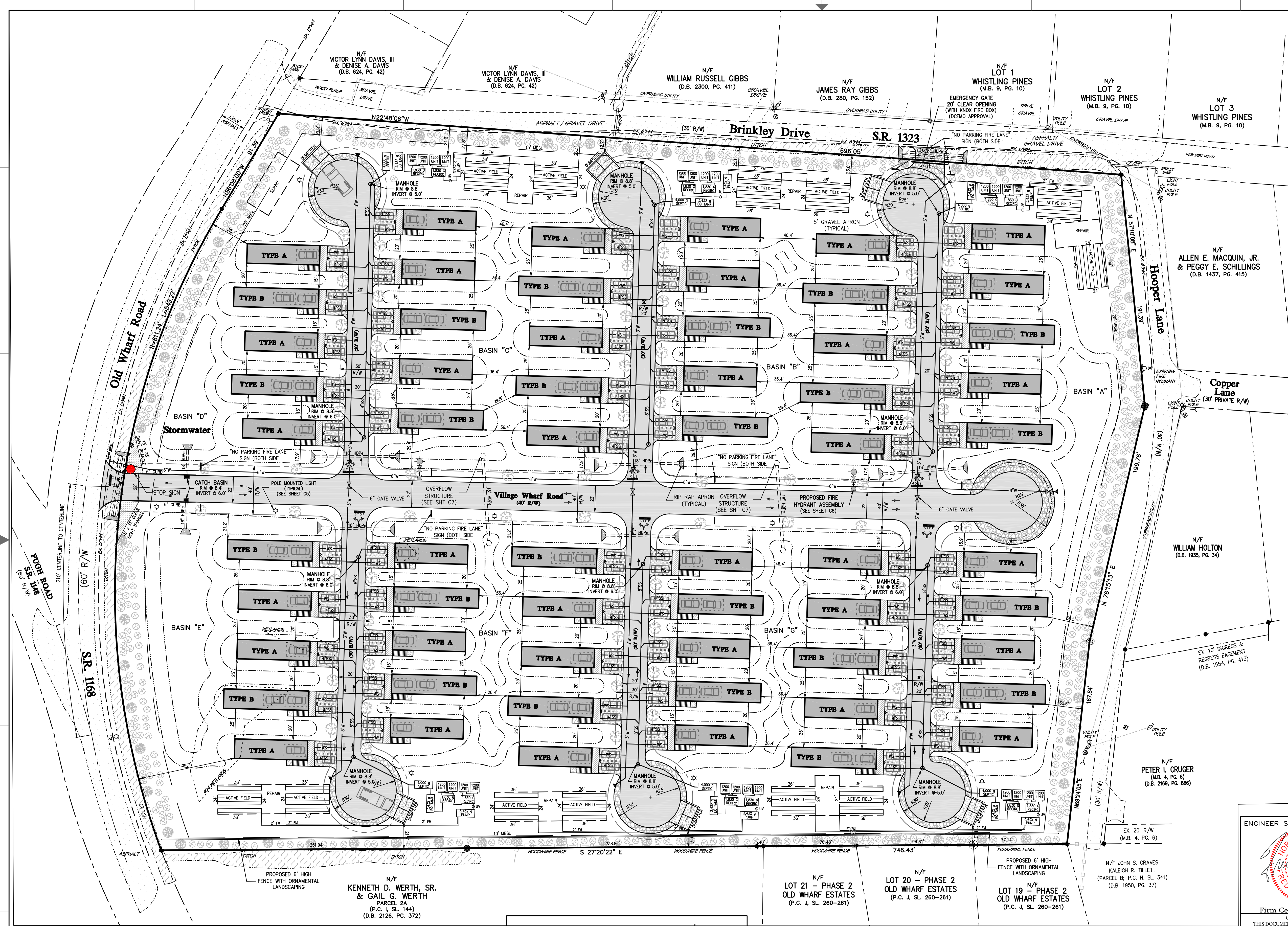
CAD FILENAME: 226800 SCALE: 1" = 50'-0"

GENERAL NOTES:

- SUBJECT PROPERTY: PARCEL IN WANCHESE James and Yvonne Daughtry (Owners)
- STREET ADDRESS: 0 Old Wharf Rd Wanchese, Nc 27981
- DEVELOPER: ARIA CONSTRUCTION AND DEVELOPMENT PO Box 321 Creswell, NC 27928
- PARCEL ID NUMBER: 025921000
- GLOBAL PIN: 17 979706 48 2784
- RECORDED REFERENCE: P.C. H. SL. 359; D.B. 245, PG. 801
- TOTAL PARCEL AREA: 458,715 SQ. FT. (10.53 AC.)
- PROPOSED DEVELOPMENT: (36) 2 BEDROOM RESIDENTIAL COTTAGE DWELLINGS (24) 3 BEDROOM RESIDENTIAL COTTAGE DWELLINGS (60) TOTAL RESIDENTIAL COTTAGE DWELLINGS (Single-Family) WOOD FRAME STRUCTURE ON PILINGS WITH CONCRETE PARKING AREA UNDERNEATH
- LOT COVERAGE: BUILDING AND DECKS - 72,600 SQ. FT. VEHICULAR SURFACE - 55,954 SQ. FT. CONCRETE SURFACE - 1,500 SQ. FT. TOTAL COVERAGE 130,054 SQ. FT. 28.35%
- PARKING DATA: 60 UNITS @ 1 SPACE PER BEDROOM = 144 SPACES TOTAL SPACES REQUIRED = 144 SPACES TOTAL SPACES PROVIDED = 204 SPACES
- PARCEL ZONING: VR (WANCHESE VILLAGE RESIDENTIAL)
- BOUNDARY AND TOPO INFORMATION TAKEN FROM SEABOARD SURVEYING
- FLOOD ZONE "X" (R.F.P.E.: 8.0' MINIMUM)
- ALL WATER LINES FOR THE FIRE HYDRANTS AND BASIC ROAD IMPROVEMENTS MUST BE INSTALLED AND APPROVED PRIOR TO THE COMMENCEMENT OF ANY HOME CONSTRUCTION
- ALL ROADS SHALL BE CONSTRUCTED OF A MATERIAL TO HAVE AN ALL-WEATHER SURFACE CAPABLE OF CARRYING THE IMPOSED WEIGHT OF FIRE APPARATUS OF AT LEAST 75,000 POUNDS
- NO PARKING WILL BE ALLOWED ON ANY STREET. "NO PARKING FIRE LANE" SIGNS MUST BE POSTED ACCORDING TO DCFMO GUIDELINES.

LEGEND:

- PROPOSED DWELLING AREA
- PROPOSED VEHICLE CIRCULATION AREA
- PROPOSED CONCRETE AREA
- EXISTING ROAD SURFACE
- PROPOSED DECK
- PROPOSED VEHICULAR CIRCULATION AREA
- PROPOSED GRAVEL SURFACE
- PROPOSED PARKING SPACE (10'x20')
- PROPOSED WATER SERVICE LINE (SIZED BY DARE COUNTY WATER)
- PROPOSED WATER MAIN (SIZED BY DARE COUNTY WATER)
- PROPOSED WATER MAIN GATE VALVE
- PROPOSED STORM PIPE
- EXISTING WATERMAIN



ENGINEER SEAL

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No.	Description

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 For:
The Village at Old Wharf Road
 Location:
0 Old Wharf Road
 Parcel in Wanchese
 Wanchese Dare County North Carolina

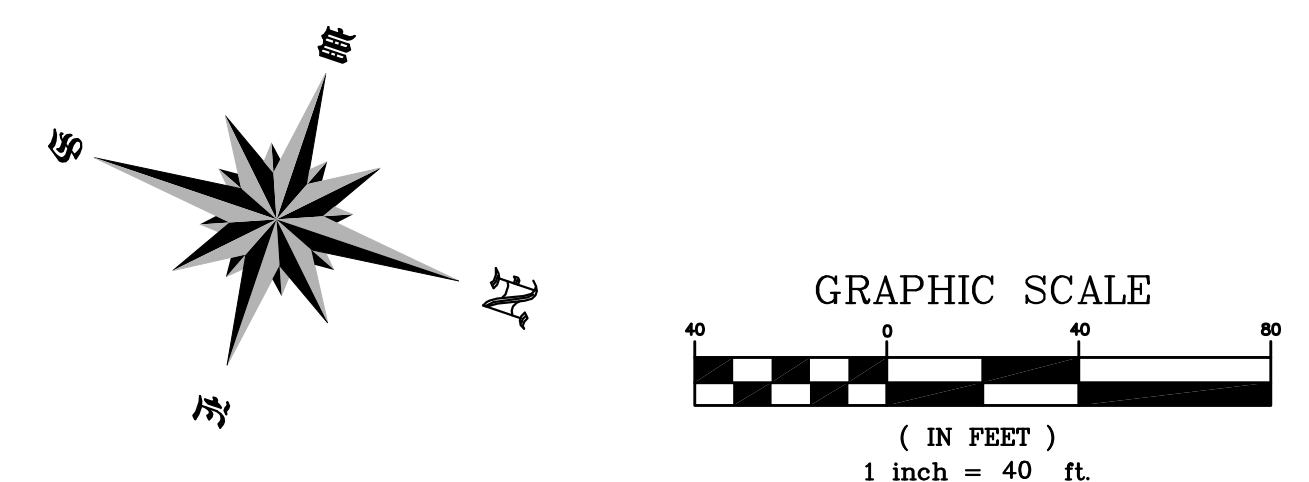
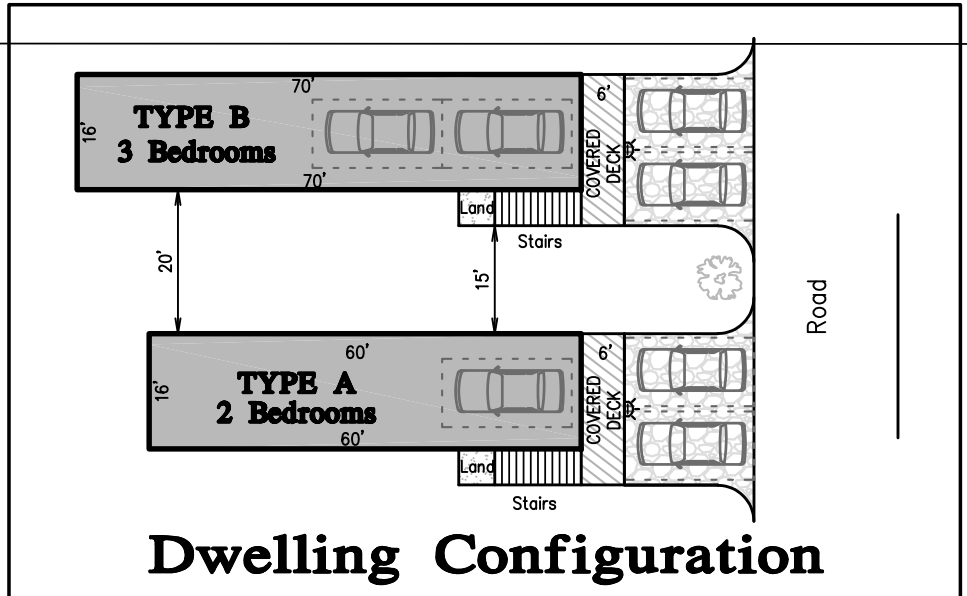
SIZE	PROJECT NUMBER	REV	SHEET NO.
D	226800	-	C2 OF 8

CAD FILENAME: 226800 SCALE: 1" = 40'-0"

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NOTE:
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- PROPOSED VEHICLE CIRCULATION AREA
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- PROPOSED STONE BASE TURFSTONE
- PROPOSED CURB INLET / CATCH BASIN
- PROPOSED STORMWATER PIPE
- PROPOSED RUNOFF DIRECTIONAL ARROW
- PROPOSED FINISHED GRADE CONTOUR
- PROPOSED FINISHED SPOT GRADE
- EXISTING SPOT GRADE

Stormwater Narrative

STORMWATER MANAGEMENT NARRATIVE
 THE STORMWATER MANAGEMENT PLAN SHOWN HEREON HAS BEEN PREPARED TO ADDRESS STORMWATER MANAGEMENT ON THE SUBJECT PROPERTY.
 THE STORMWATER RUNOFF WILL BE MANAGED THROUGH PROPOSED ON SITE SHALLOW INFILTRATION SWALES AND OPEN LAWN AREAS.
 THE CALCULATIONS WILL SHOW THAT THE HIGHLY PERVIOUS SOILS, COUPLED WITH THE SHALLOW INFILTRATION SWALES ARE ADEQUATE TO RETAIN AND INFILTRATE THE STORMWATER GENERATED FROM THE DESIGN RAINFALL EVENT.
 PROJECT DESIGNS SHALL UTILIZE LOW-IMPACT DEVELOPMENT PRINCIPLES AND BEST MANAGEMENT PRACTICES AS THE PRIMARY METHOD FOR THE TREATMENT OF STORMWATER.
DESIGN STORM EVENT:
 4.3 INCHES OF RAINFALL OVER A STORM EVENT
TOTAL RUNOFF TO BE MANAGED FROM DESIGN STORM:
IMPERVIOUS SURFACES:
 TOTAL IMPERVIOUS PROJECT COVERAGE - 130,054 SQ. FT.
RATIONAL RUNOFF COEFFICIENT = C
 CONCRETE COEFFICIENT = 0.95
 ROOF INCLINED COEFFICIENT = 1.0
 UNIMPROVED AREA COEFFICIENT = 0.35
 USE C = 1.00 AS COMPOSITE RUNOFF FACTOR
TOTAL RUNOFF:
 PROJECT SITE: 130,054 SQ. FT. x 4.3/12 x 1.00 = 46,603 CU. FT.

EXISTING SOIL DATA:
 SOURCE: USDA, NATURAL RESOURCES CONSERVATION SERVICE, SOIL SURVEY
 SOIL TYPE: IaA - Icaia loamy fine sand, 0 to 2 percent slopes, rarely flooded
 DRAINAGE CLASS: POORLY
 SOIL TYPE: JoA - Johns loamy sand, 0 to 2 percent slopes
 DRAINAGE CLASS: MODERATELY WELL
 SEASONAL HIGH WATER TABLE ELEVATION = 5.0' +/- MSL
CALCULATE HOLDING CAPACITY FOR INFILTRATION BASINS:
 ASSUME SOIL INFILTRATION RATE = GREATER THAN 20 INCHES PER HOUR
 SOIL VOID RATIO = 20%
 ALL SIDE SLOPES 3:1 OR FLATTER

Stormwater Storage Calculations

STORMWATER MANAGEMENT BASIN "A-G" (CONTINUOUS STORAGE)
BASIN DATA
 TOP ELEVATION = 8.0'
 TOP AREA = 103,239 SQ. FT.
 BOTTOM ELEVATION = 6.5'
 BOTTOM AREA = 17,162 SQ. FT.
CALCULATE OPEN VOLUME IN BASIN
 $V_1 = \text{OPEN VOLUME} = \frac{(\text{TOP AREA} + \text{BOTTOM AREA}) \times \text{DEPTH OF BASIN}}{2}$
 $V_1 = \text{OPEN VOLUME} = \frac{103,239 + 17,162}{2} \times 1.5 = 90,300 \text{ CU. FT.}$
 $V_1 = \text{OPEN VOLUME} = 90,300 \text{ CU. FT.}$
TOTAL STORAGE IN SWALE AND UNDERLYING SOILS
 TOTAL STORAGE PROVIDED = 90,300 CU. FT.
 TOTAL STORAGE REQUIRED = 46,603 CU. FT.

CALCULATION SUMMARY:
 ADDITIONAL STORMWATER STORAGE IS AVAILABLE IN DRY GRASS INFILTRATION SWALES. A DESIGN VOLUME REDUCTION FOR DRY GRASS SWALE WITH LESS THAN 1.5% SLOPE THIS STORAGE IS NOT INCLUDED IN THE ABOVE CALCULATIONS AND WILL RESULT IN ADDITIONAL STORMWATER MANAGEMENT BUFFERING.
 SWALES REMOVE POLLUTANTS FROM STORMWATER BY BIORETENTION, SETTLING, AND INFILTRATION. GRASS SWALES FILTER POLLUTANTS AS STORMWATER RUNOFF MOVES THROUGH THE GRASS. BY REDUCING FLOW VELOCITIES AND INCREASING A SITE'S TIME OF CONCENTRATION, GRASS SWALES CONTRIBUTE TO REDUCING RUNOFF PEAKS. GRASS SWALES THAT ARE DESIGNED WITH INCORPORATED DEPRESSION STORAGE PROMOTE INFILTRATION AND CAN HELP CONTRIBUTE TO SATISFYING A SITE RUNOFF CAPTURE/STORAGE REQUIREMENT.

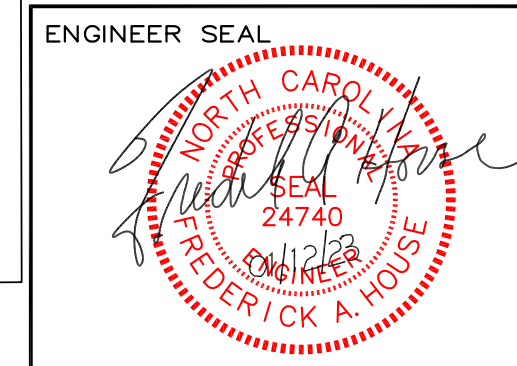
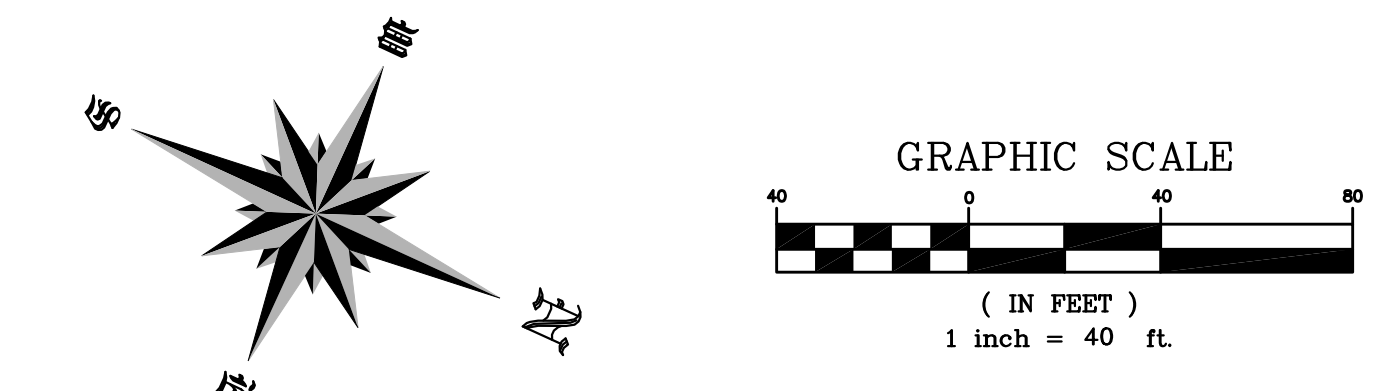
GENERAL NOTES:

- * SUBJECT PROPERTY: PARCEL IN WANCHESE WANCHESE NC 27981 0 Old Wharf Rd Wanchese, Nc 27981
- * STREET ADDRESS: WANCHESE NC 27981
- * PARCEL ID NUMBER: 025921000
- * GLOBAL PIN: 17 979706 48 2784
- * RECORDED REFERENCE: P.C. H. SL. 359; D.B. 245, PG. 801
- * TOTAL PARCEL AREA: 458,715 SQ. FT. (10.53 AC.)
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- * PARCEL ZONING: V1 (WANCHESE VILLAGE RESIDENTIAL)
- * BOUNDARY AND TOPO INFORMATION TAKEN FROM SEABOARD SURVEYING

LOT 21 - PHASE 2 OLD WHARF ESTATES
 LOT 20 - PHASE 2 OLD WHARF ESTATES
 LOT 19 - PHASE 2 OLD WHARF ESTATES

KENNETH D. WERTH, SR. & GAIL G. WERTH

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APPROVALS	DATE
Drawn: D. NEFF	01/12/23
Checked: R. HOUSE	01/12/23
Engineer: R. HOUSE	01/12/23

REVISIONS		
No.	Date	Description

Grading and Drainage
 For:
The Village at Old Wharf Road
 Location:
0 Old Wharf Road
 Parcel in Wanchese
 Wanchese Dare County North Carolina

SIZE	PROJECT NUMBER	REV	SHEET NO.
D	226800	-	C3 OF 8

CAD FILENAME: 226800 SCALE: 1" = 40'-0"



LEGEND:

- PROPOSED DWELLING AREA
- PROPOSED VEHICLE CIRCULATION AREA
- PROPOSED CONCRETE AREA
- EXISTING ROAD SURFACE
- PROPOSED DECK
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- PROPOSED CURB INLET / CATCH BASIN
- PROPOSED STORMWATER PIPE
- PROPOSED RUNOFF DIRECTIONAL ARROW
- PROPOSED FINISHED GRADE CONTOUR
- PROPOSED FINISHED SPOT GRADE
- EXISTING SPOT GRADE

1" = 12' HORIZONTAL
1" = 8' VERTICAL

GENERAL NOTES:

- SUBJECT PROPERTY: PARCEL IN WANCHESE WANCHESE NC 27981
- STREET ADDRESS: 0 Old Wharf Rd Wanchese, Nc 27981
- PARCEL ID NUMBER: 025921000
- GLOBAL PIN: 979706482784
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- BOUNDARY AND TOPO INFORMATION TAKEN FROM SEABOARD SURVEYING

LANDSCAPE LEGEND:

COMMON NAME	HEIGHT	SPREAD	SCIENTIFIC NAME	QUANTITY	SYMBOL
FLOWERING DOGWOODS	10' - 25'	20' - 30'	Cornus florida	60	
CRAPE MYRTLE	10' - 30'	6' - 15'	Lagerstroemia indica	95	
JAPANESE PRIVET	6' - 12'	3' - 8'	Ligustrum japonicum	532	

ENGINEER SEAL

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Drawn: D. NEFF	01/12/23
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Engineer: R. HOUSE	01/12/23

REVISIONS

No.	Date	Description

Landscaping Plan
 For:
The Village at Old Wharf Road
 Location:
0 Old Wharf Road
 Parcel in Wanchese
 Wanchese Dare County North Carolina

SIZE	PROJECT NUMBER	REV	SHEET NO.
D	226800	-	C4 OF 8

CAD FILENAME: 226800 SCALE: 1" = 40'-0"

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NOTE:
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GRAPHIC SCALE
 (IN FEET)
 1 inch = 40 ft.



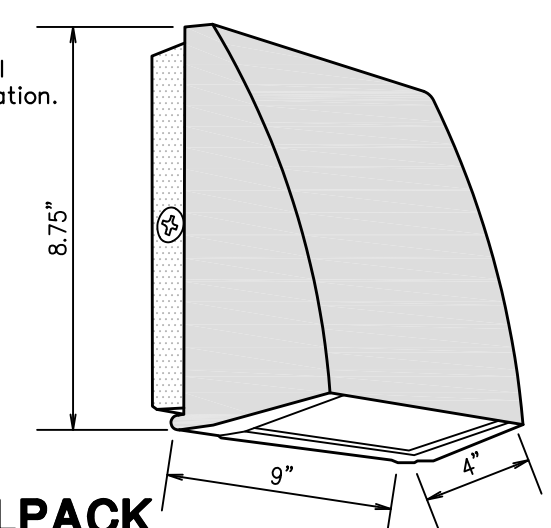
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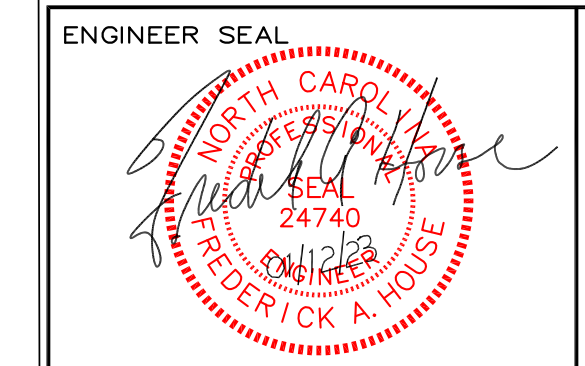
LIGHTING LEGEND

- PROPOSED POLE LIGHT
RAB LIGHTING (MODEL: ALEDDC52)
RAB STEEL POLE (MODEL: PS4-07-2502)
(OR APPROVED EQUAL)
MOUNTING HEIGHT @ 15'
(SEE DETAIL SHT C8)
- PROPOSED WALL PACK LIGHT
RAB LIGHTING (MODEL: ALEDDC52)
(OR APPROVED EQUAL)
MOUNTING HEIGHT @ 15'
(SEE DETAIL SHT C8)
- PHOTOMETRIC ILLUMINATION SPOT NUMBER
- PHOTOMETRIC ILLUMINATION CONTOURS
APPROVED BY TOWN OF KILL DEVIL HILLS

- * Mounting:
Die-cast back box with four (4) conduit entry points and knockout pattern for junction box or direct wall mounting. Hinged housing and bubble level for easy installation.
- * Full Cutoff:
Full cutoff meets dark-sky requirements
- * Recommended Mounting Height:
Up to 20 ft
- * RAB 12, Watt SLIM Wallpacks are designed to cover the footprint of most traditional wallpacks. They are suitable for mounting heights from 15' to 30'. These ultra-high efficiency fixtures are full cutoff



RAB SLIM POLE AND WALLPACK (MODEL# SLIM2N)
NOT TO SCALE



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Lighting Plan
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The Village at Old Wharf Road
Location:
0 Old Wharf Road
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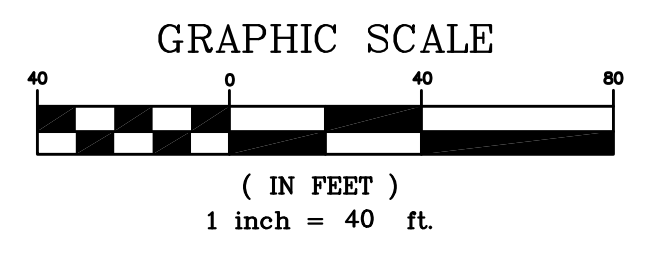
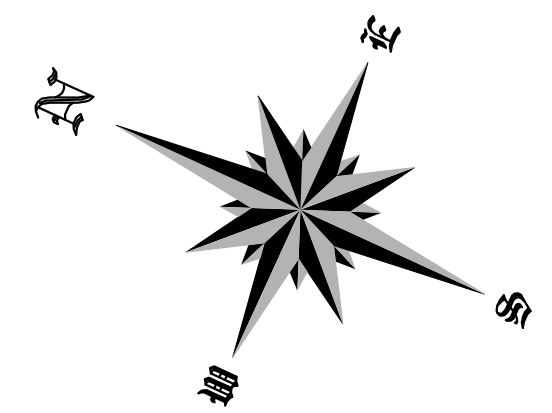
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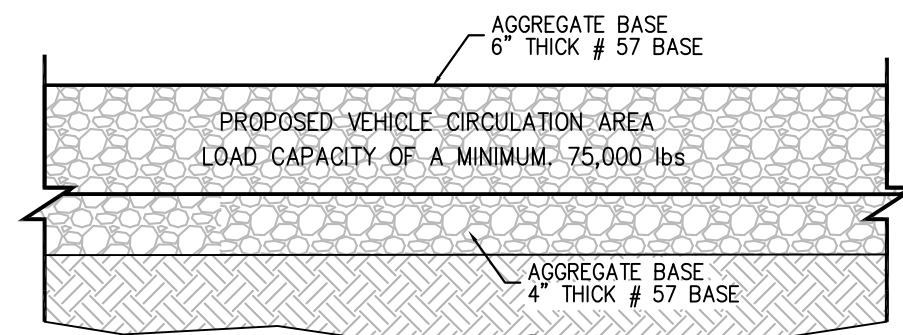
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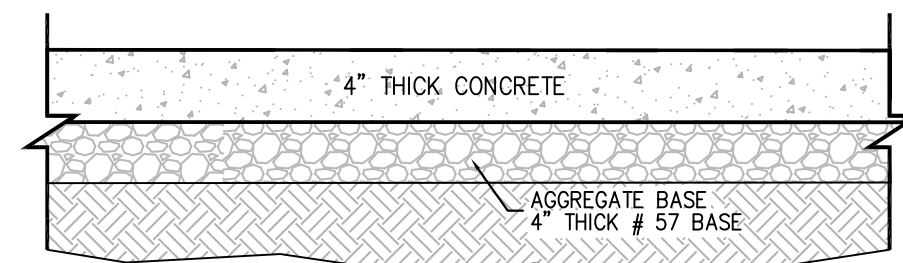
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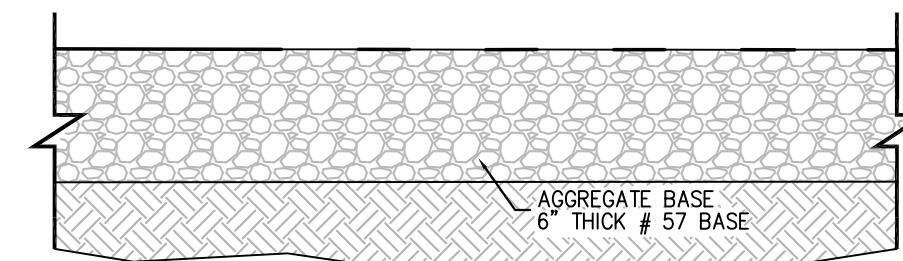




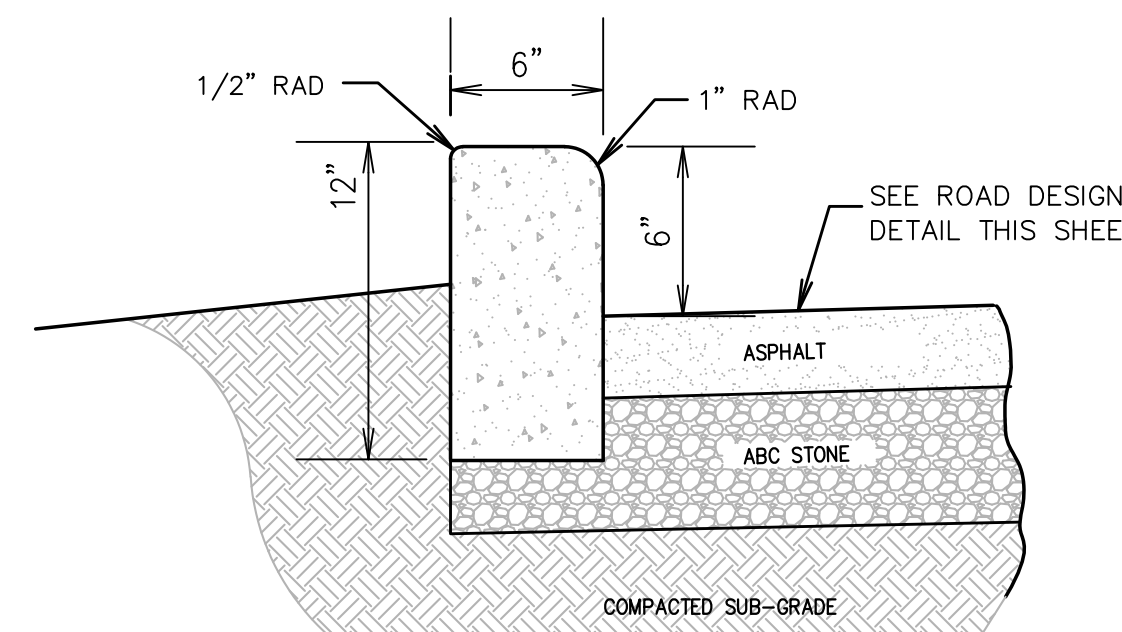
**STONE BASE
VEHICULAR CIRCULATION AREA**
N.T.S.



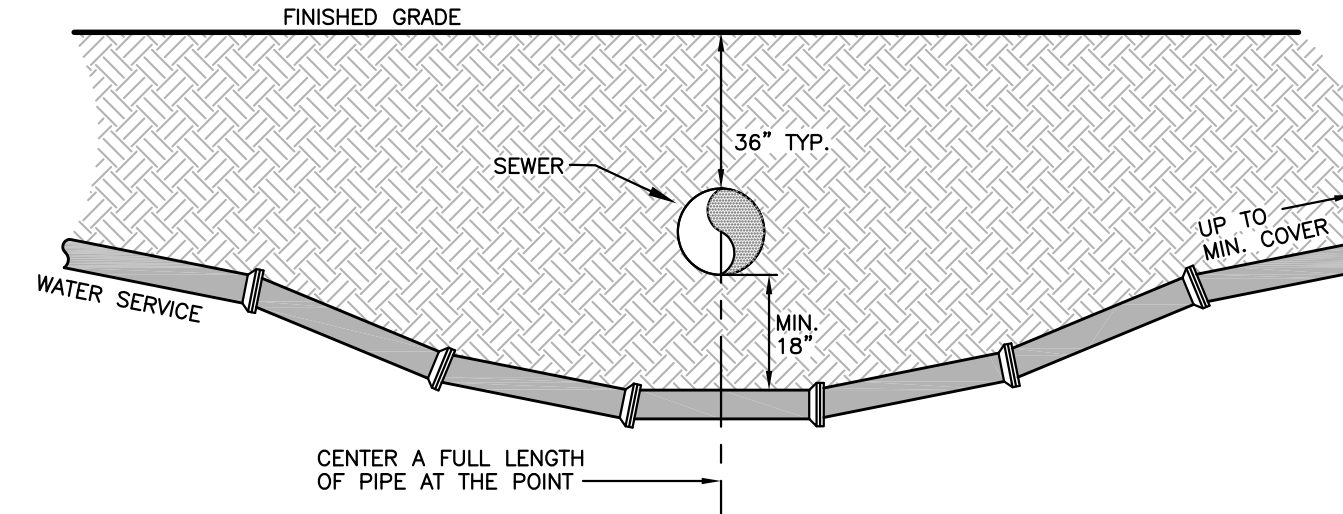
**STONE BASE
CONCRETE PARKING AREA**
N.T.S.



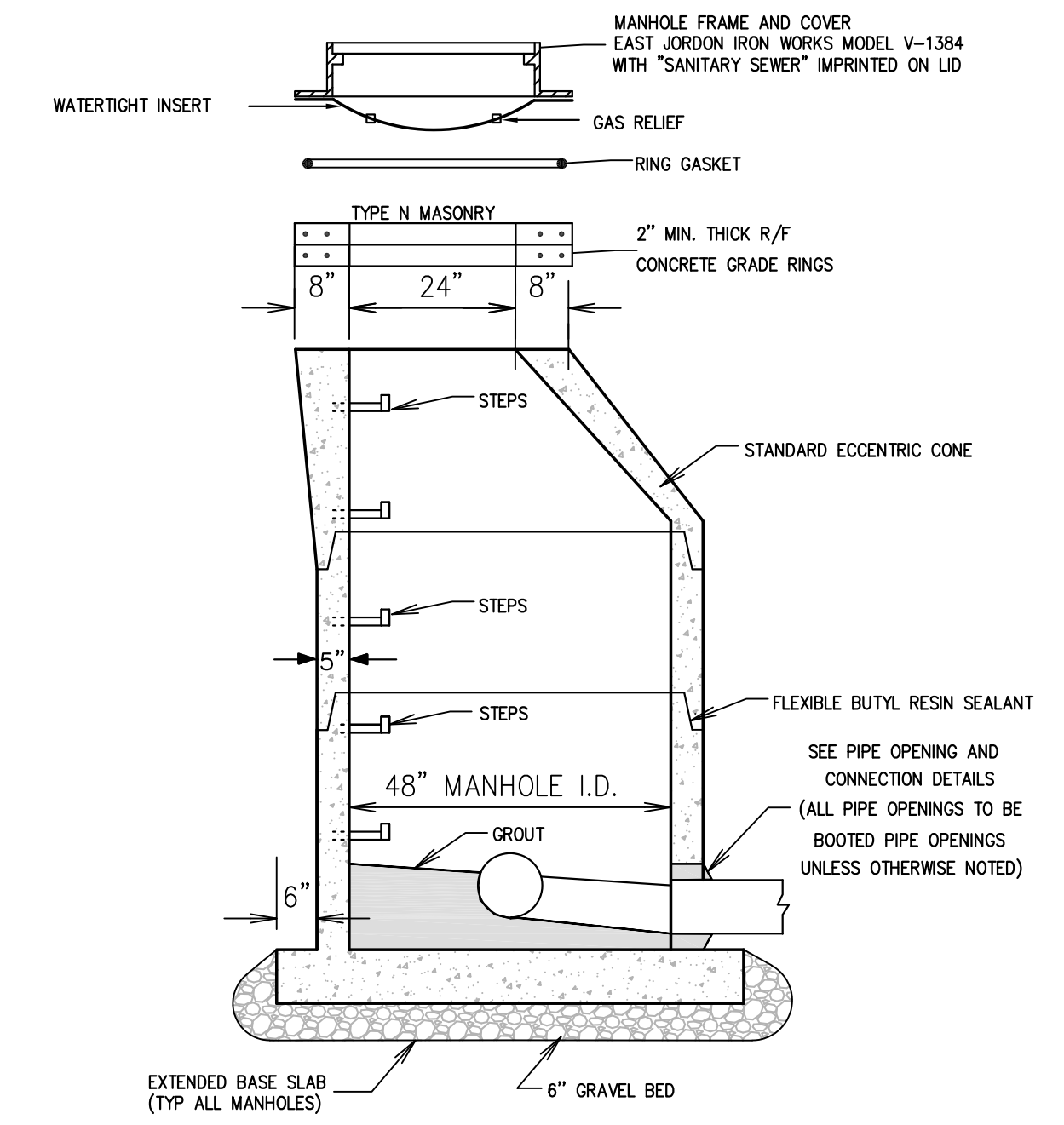
**STONE BASE
PARKING AREA**
N.T.S.



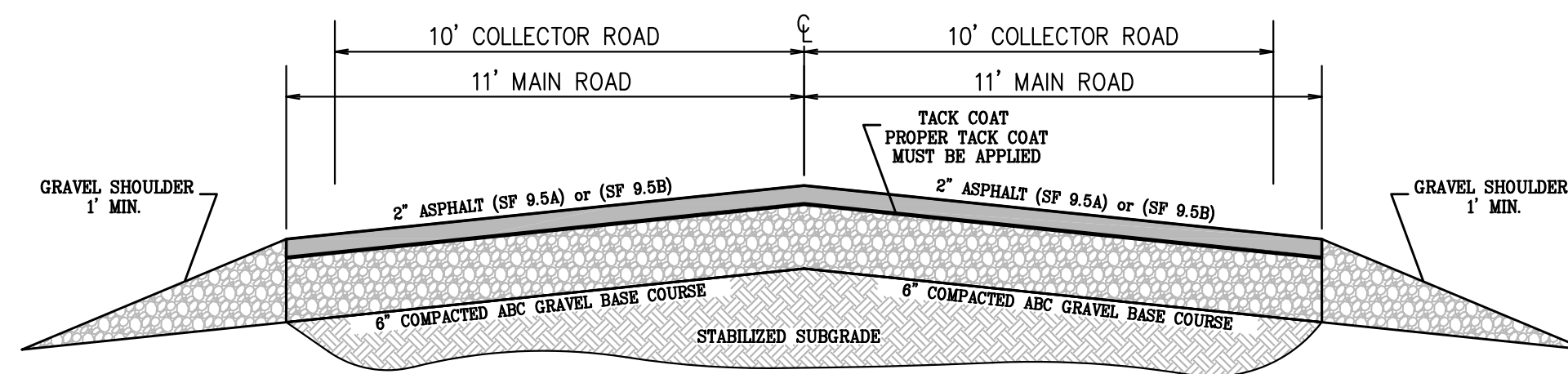
VERTICAL CURB DETAIL
N.T.S.



UTILITY CROSSING - DEFLECTION
N.T.S.

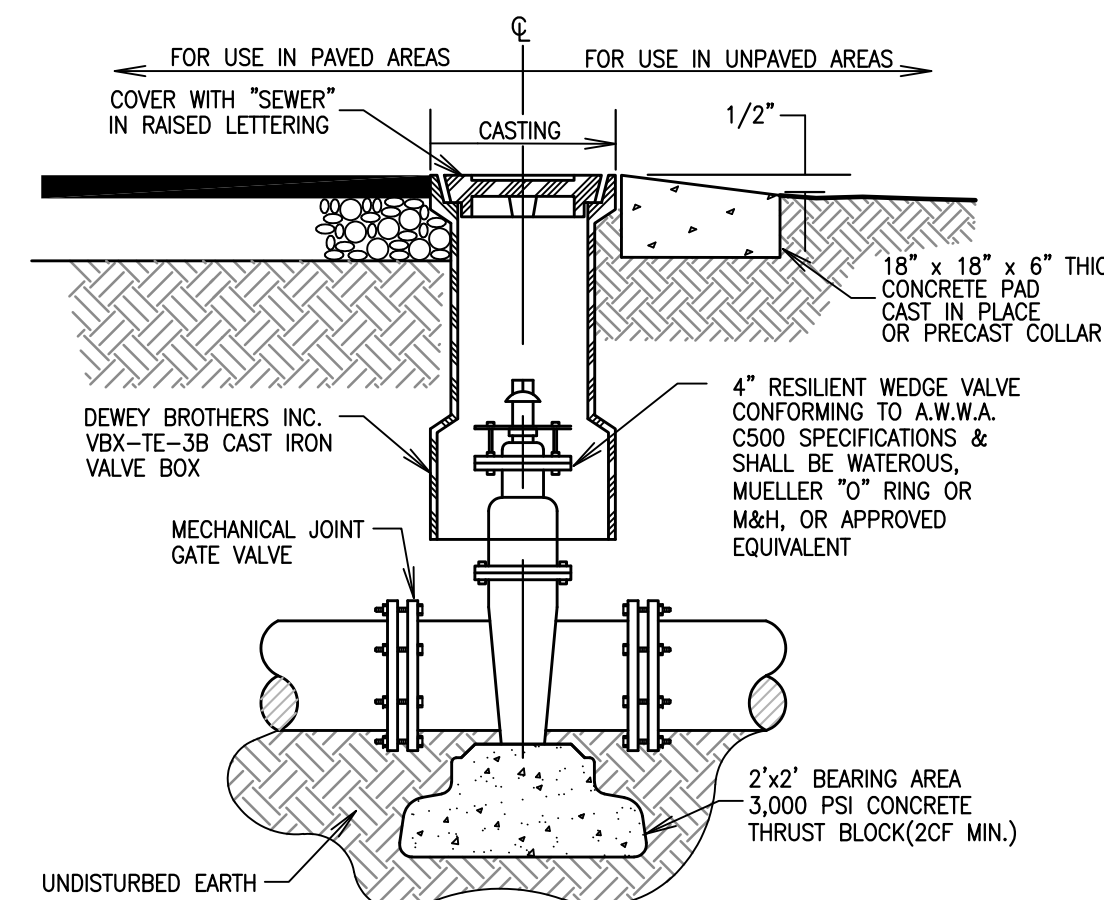


STANDARD PRECAST CONCRETE MANHOLE
NO SCALE

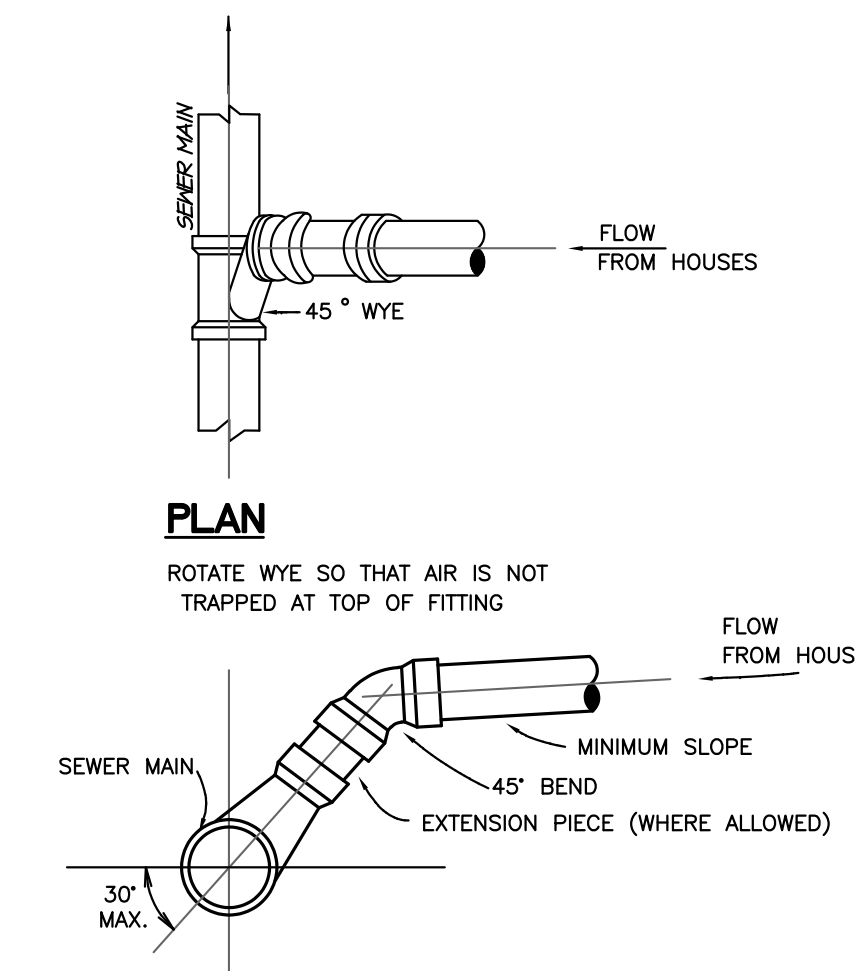


PAVEMENT DESIGN MEETS THE REQUIREMENTS OF THE MINIMUM DESIGN AND CONSTRUCTION STANDARDS OUTLINED IN THE NCDOT SUBDIVISION MANUAL
ROAD DESIGN AT FINISHED DEVELOPMENT
NO SCALE

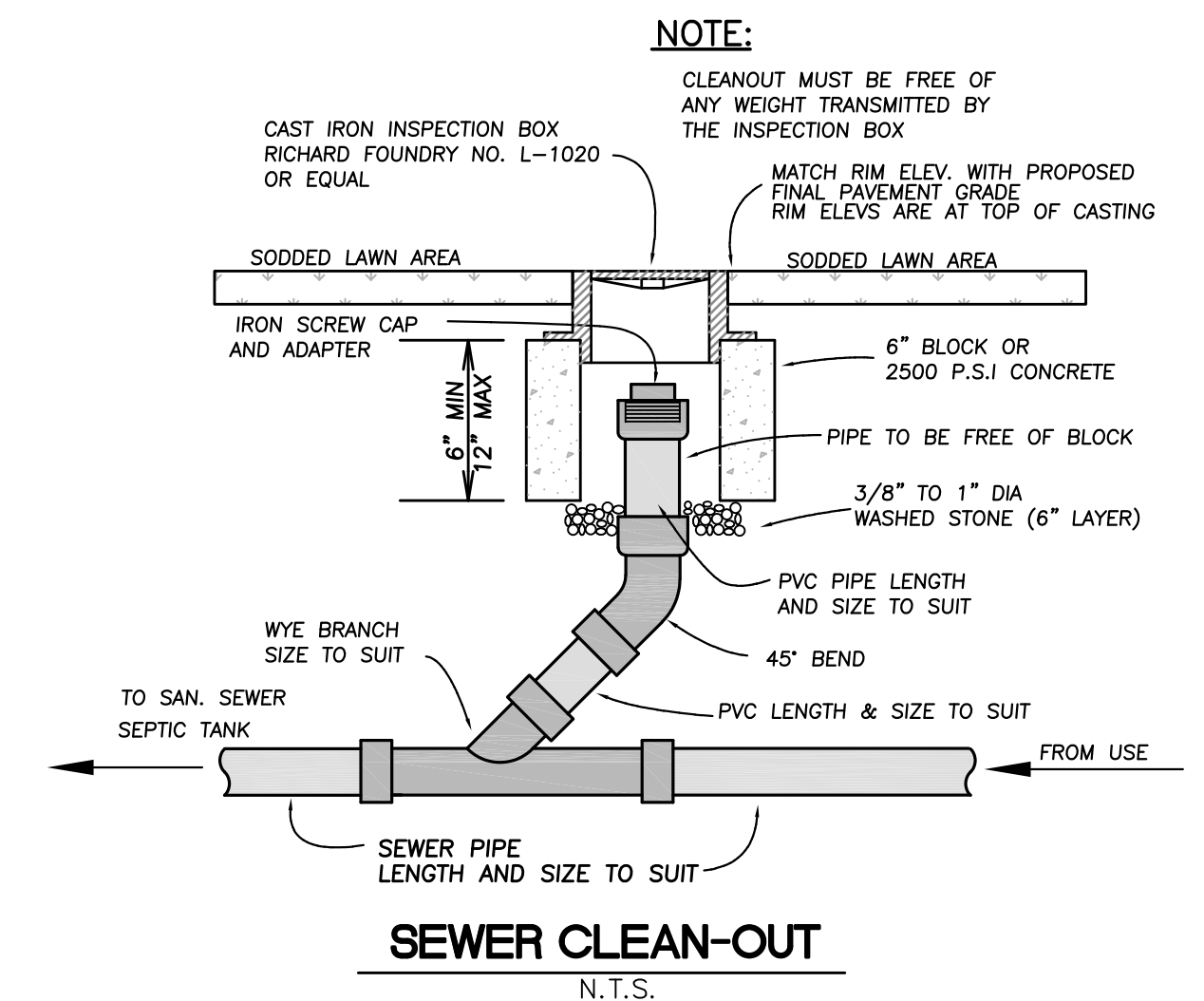
Fire Apparatus Access
Roadways and driveway driving surfaces shall be designed and constructed with an all weather driving surface. This surface shall consist of compacted 6" ABC and a 2" asphalt top coat. Material shall be such that it has a load capacity of min. 75,000 lbs.



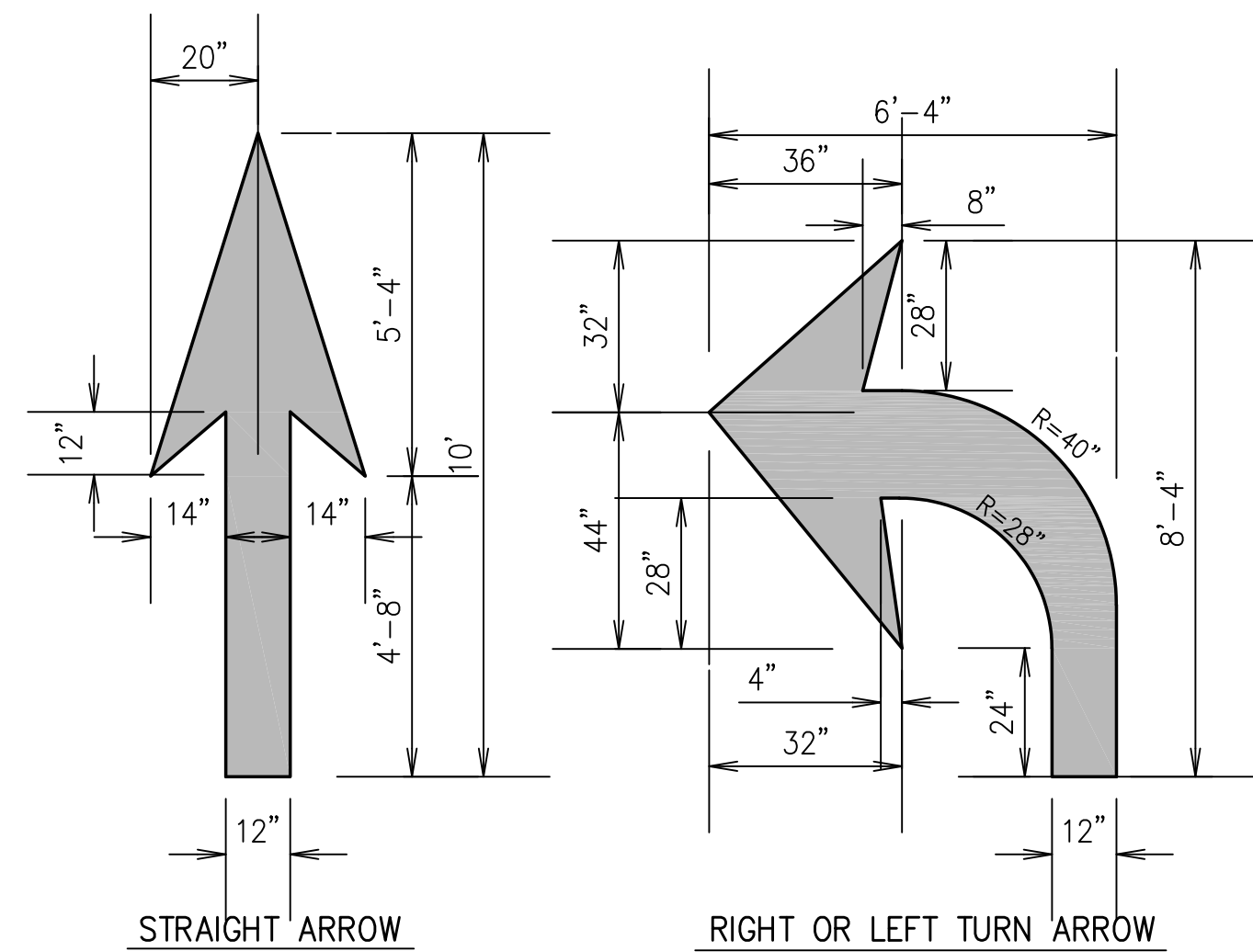
VALVE BOX ASSEMBLY
N.T.S.



**SECTION
SERVICE CONNECTION**
N.T.S.
(OR APPROVED EQUAL)

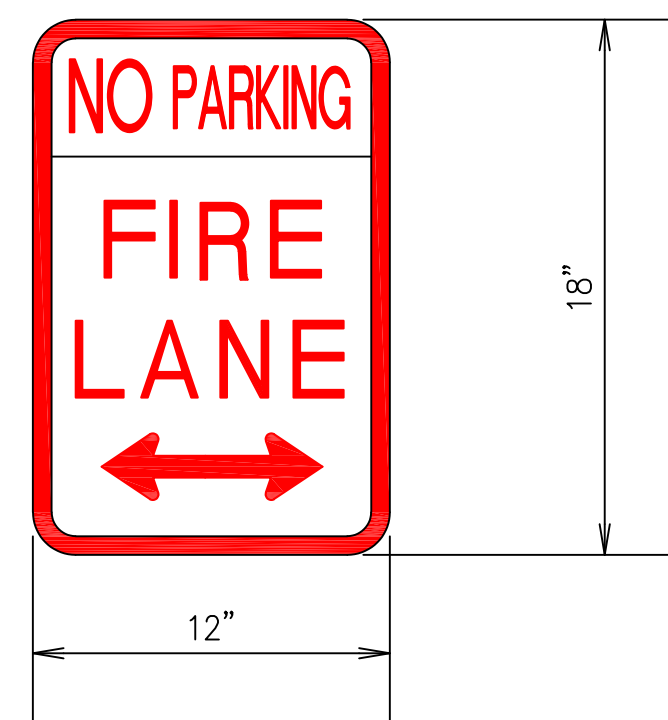


SEWER CLEAN-OUT
N.T.S.



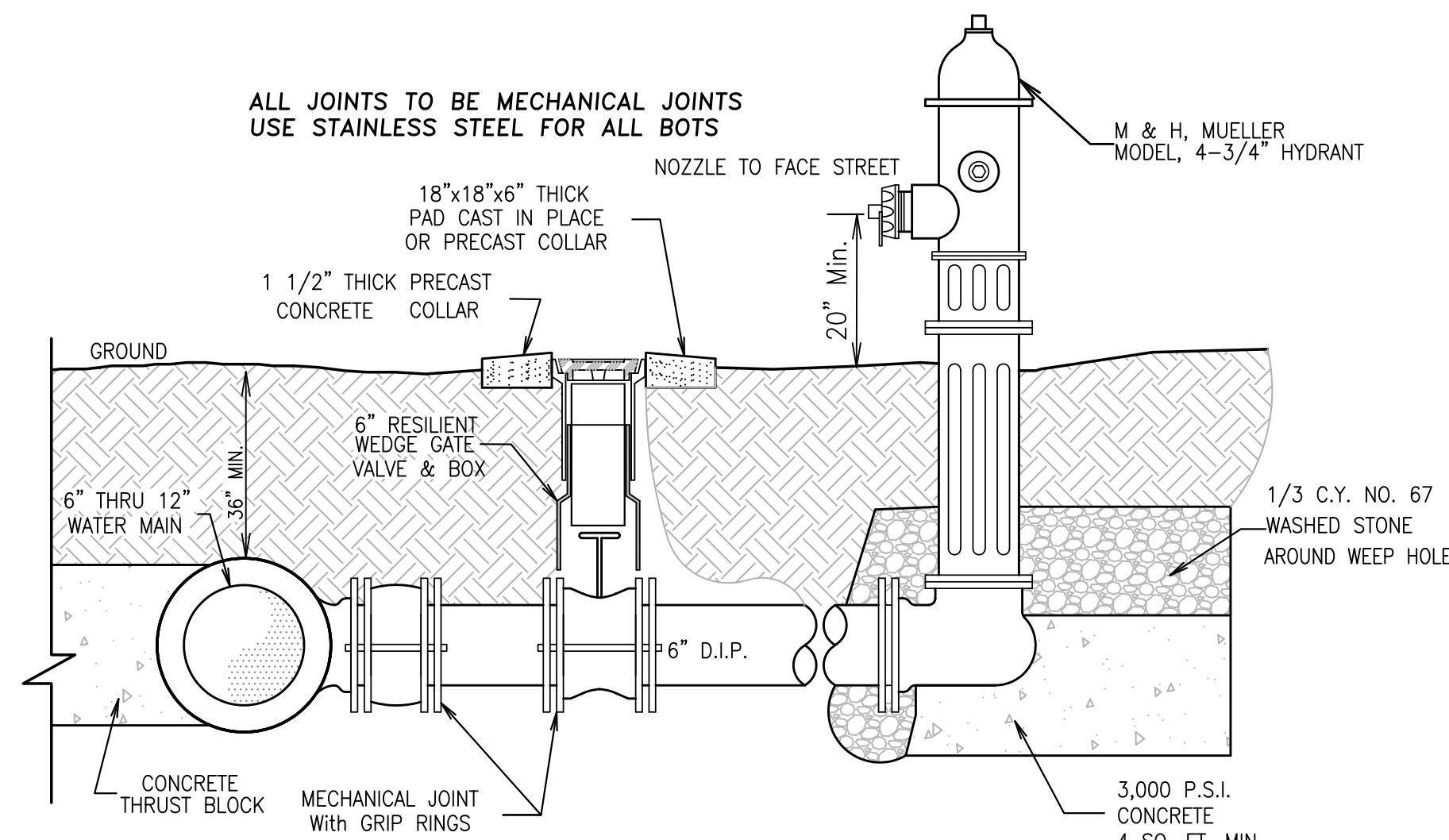
-ALL PAVEMENT MARKING SYMBOLS SHALL BE WHITE IN COLOR. PAVEMENT MARKING SYMBOLS SHALL NOT BE LOCATED AS TO ENCRoACH INTO INTERSECTION AREAS.
-ON CONCRETE PAVEMENTS, PAVEMENT MARKING SYMBOLS SHALL NOT BE PLACED ACROSS TRANSVERSE EXPANSION JOINTS, UNLESS APPROVED BY THE ENGINEER.
-ALL SYMBOLS SHALL CONFORM TO THE FHWA "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS" REFER TO SHEET 4 THRU 7). SYMBOL DIMENSIONS MAY VARY ALONG MANUFACTURERS, THEREFORE SLIGHT VARIANCES ARE ACCEPTABLE, HOWEVER, ALL SYMBOLS ARE REQUIRED TO BE APPROVED BY THE DEPARTMENT.

PAVEMENT MARKING-ARROW SYMBOLS
N.T.S.



* ALL SIGN TYPES AND LOCATION AS PER DCFMO REQUIREMENT

FIRE LANE SIGNAGE
N.T.S.



TYPICAL FIRE HYDRANT ASSEMBLY
N.T.S.

ENGINEER SEAL

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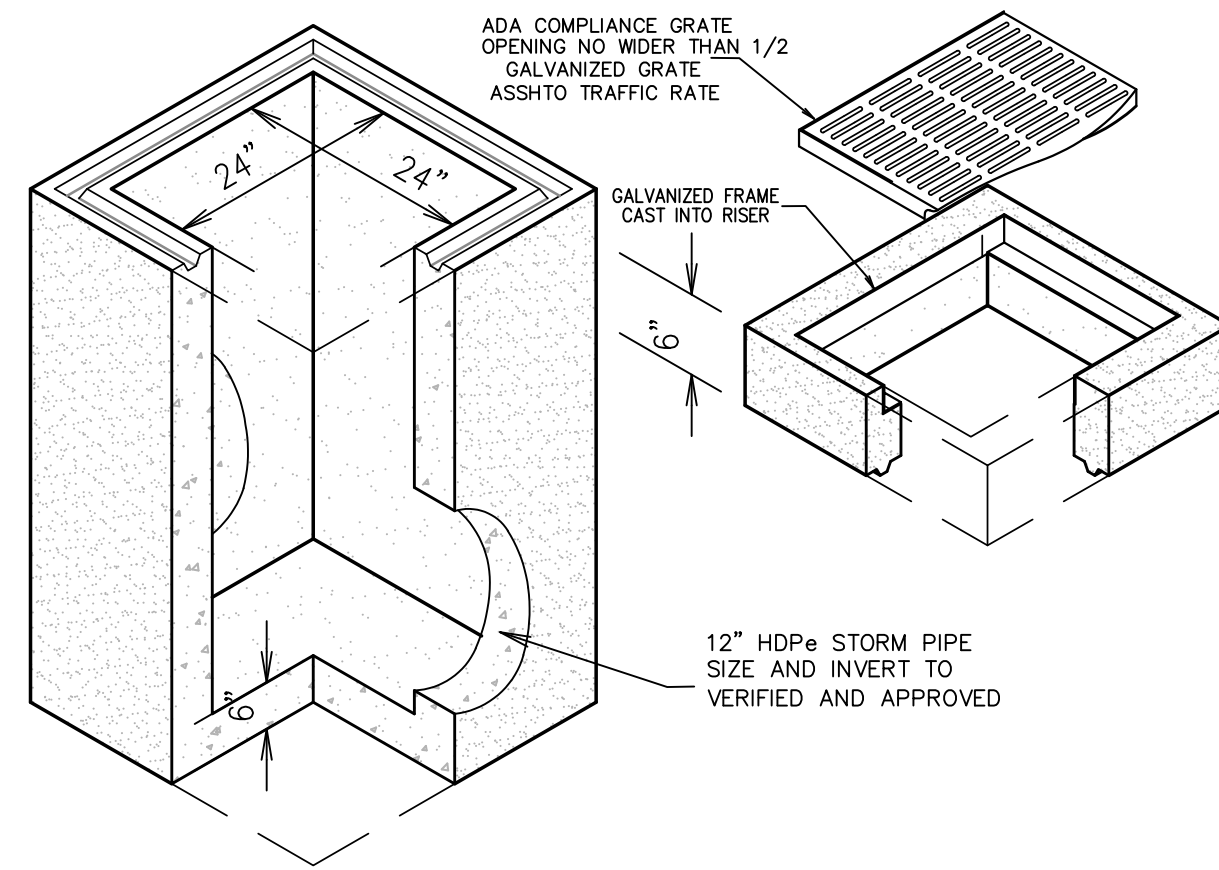
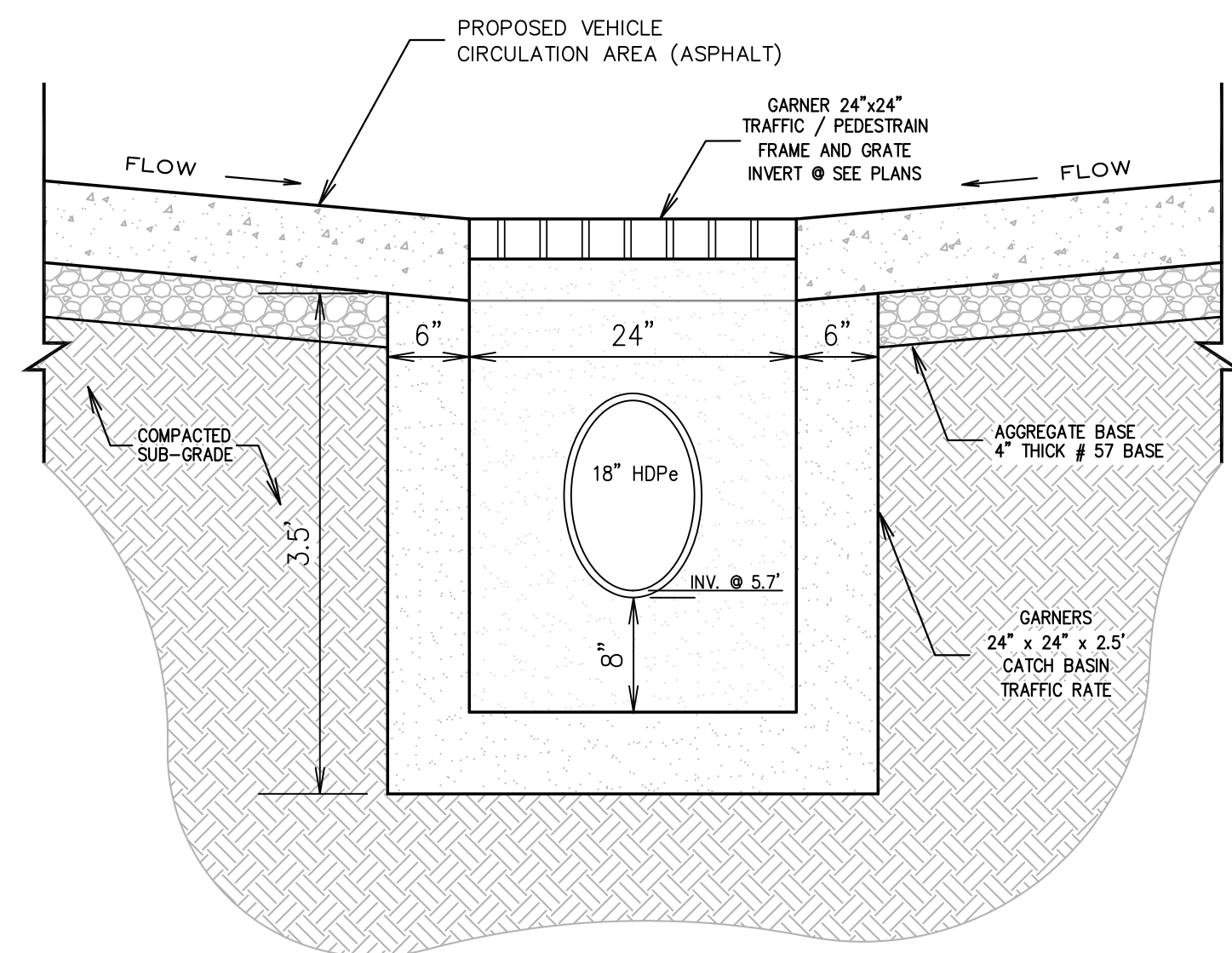
APPROVALS	DATE
Drawn: D. NEFF	01/12/23
Checked: R. HOUSE	01/12/23
Engineer: R. HOUSE	01/12/23

REVISIONS		
No.	Date	Description

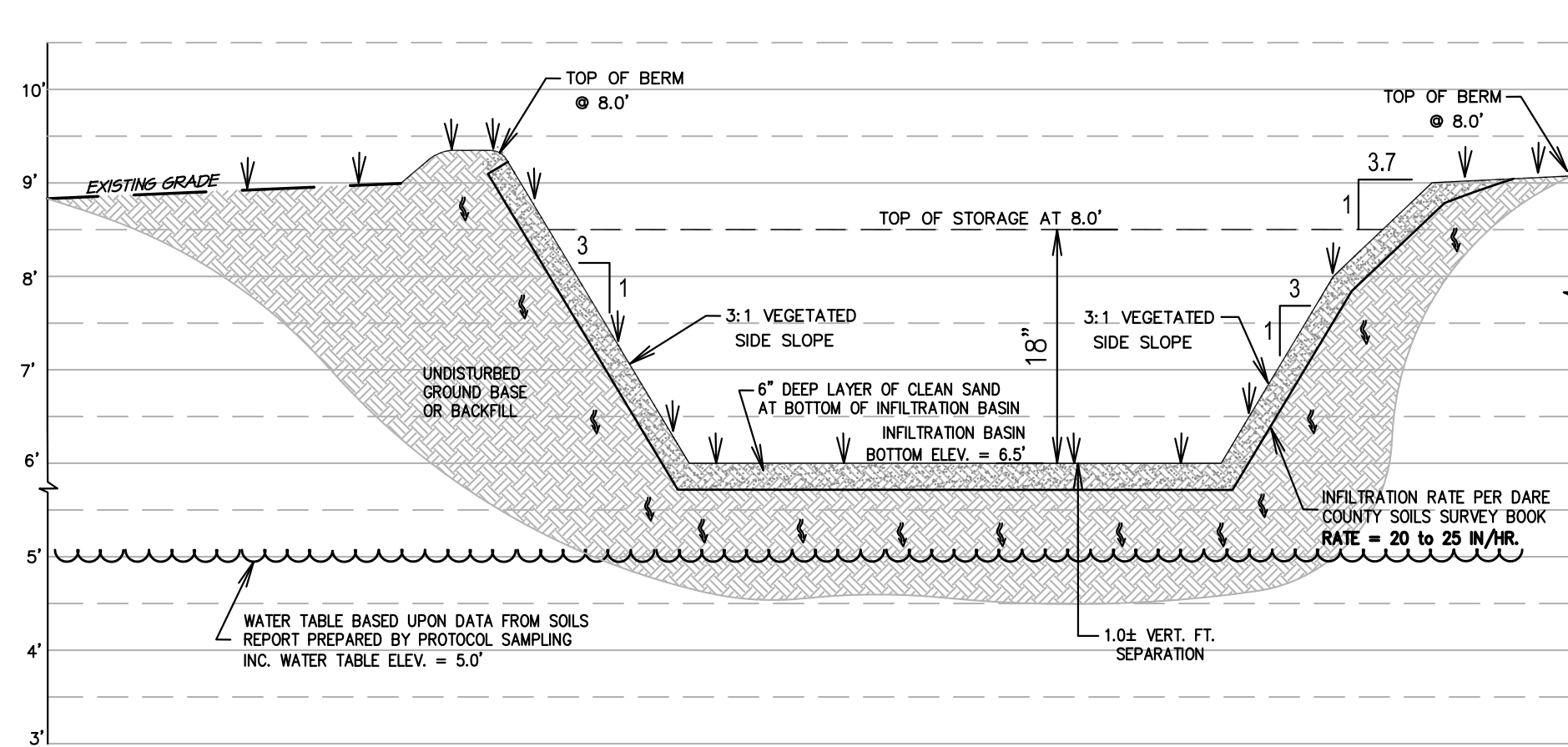
Site and Utility Detail Plan
 For:
The Village at Old Wharf Road
 Location:
0 West Martin Street
Parcel in Kill Devil Hills
 Kill Devil Hills Dare County North Carolina

SIZE	PROJECT NUMBER	REV	SHEET NO.
D	226800	-	C6 OF 8

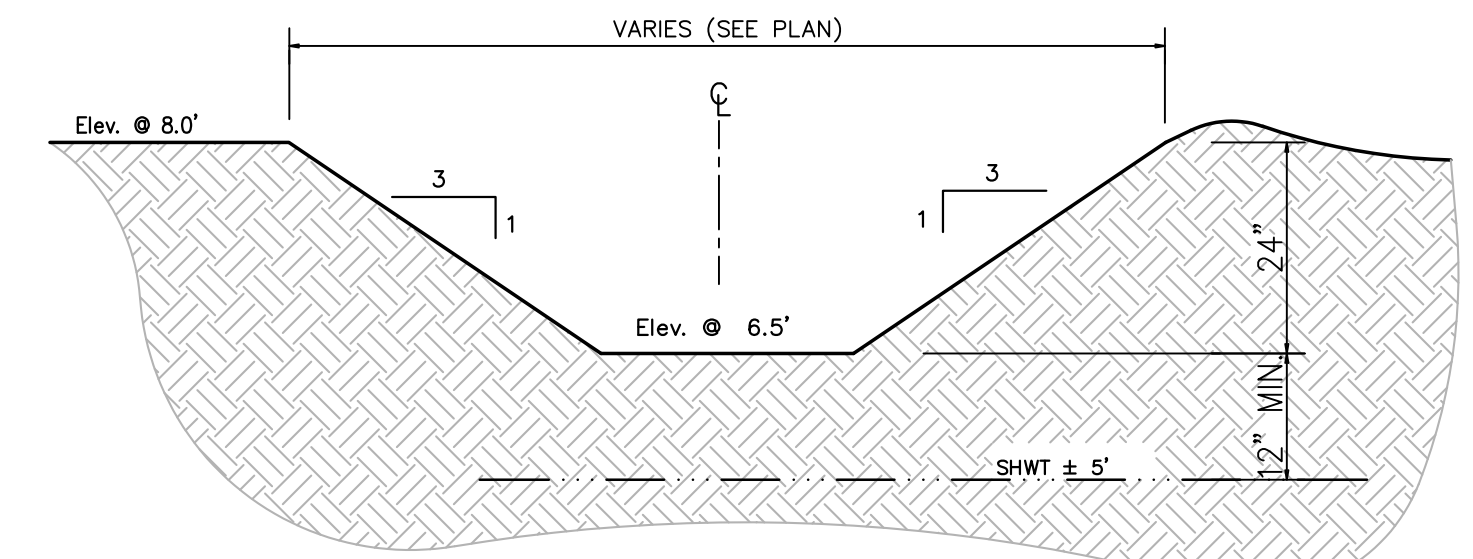
CAD FILENAME: 226800 SCALE: 1" = 40'-0"



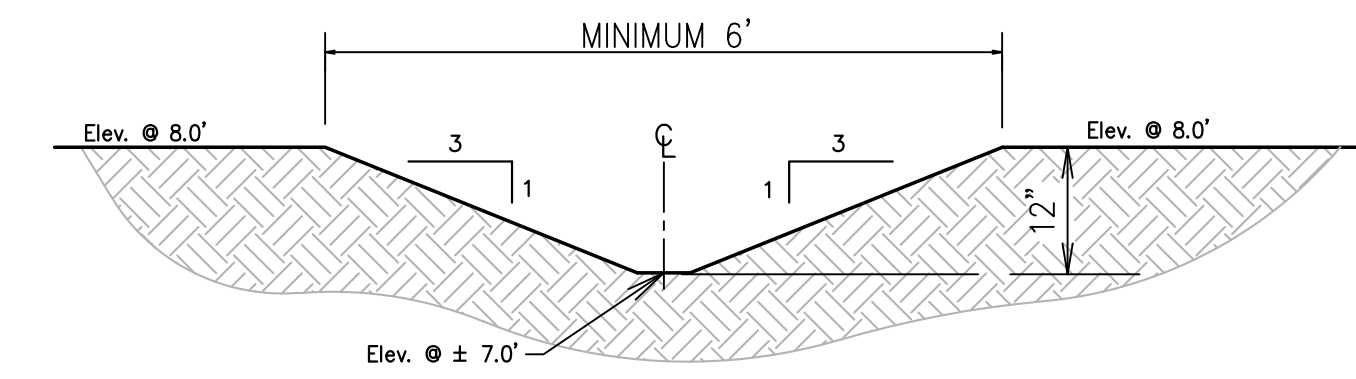
GARNER 24' x 24' x 2.5' STORM INLET BOX DETAIL
N.T.S.



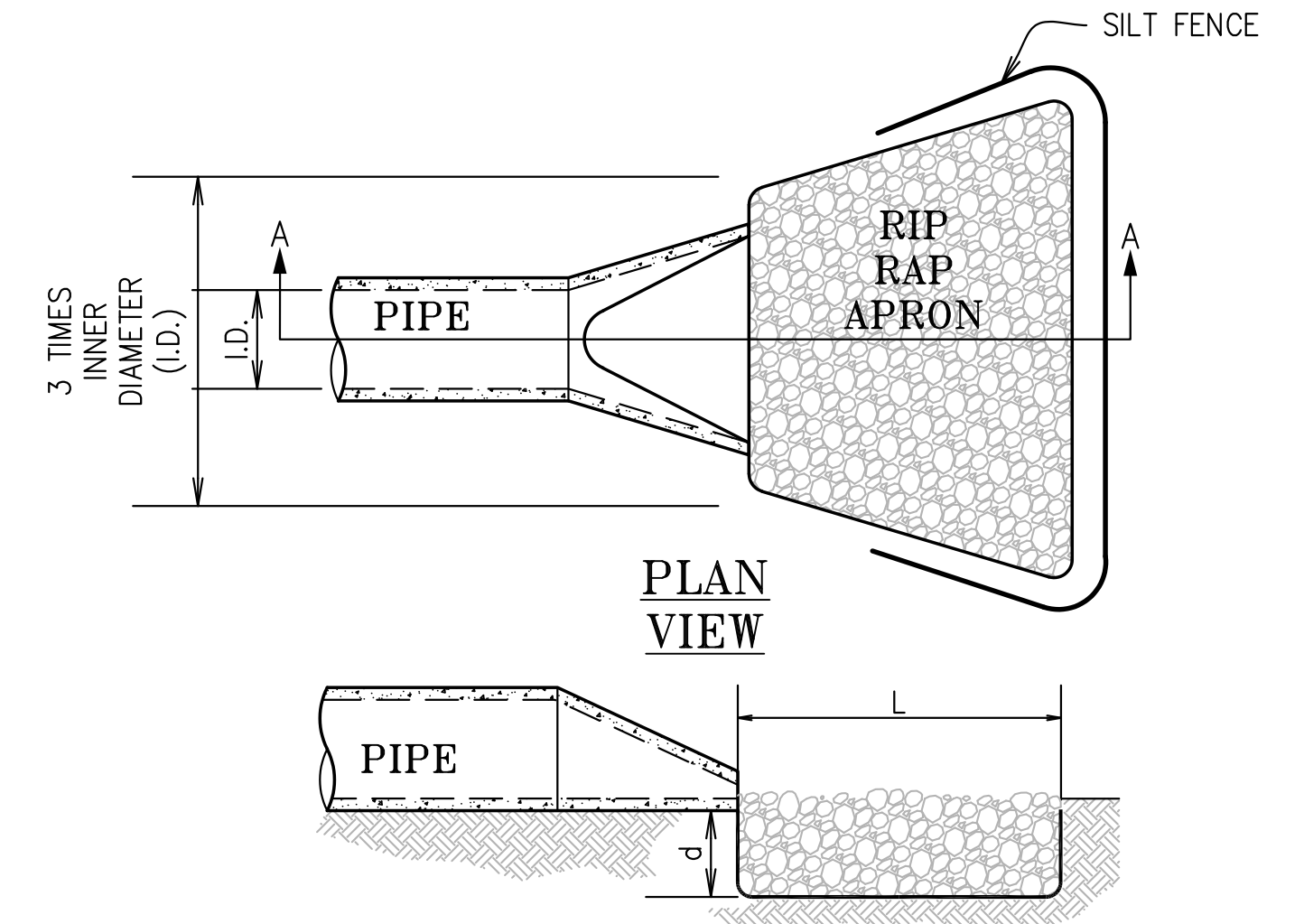
SECTION 'A' - 'A' 'BMP' INFILTRATION BASIN
N.T.S.



Typical Basin Detail
N.T.S.

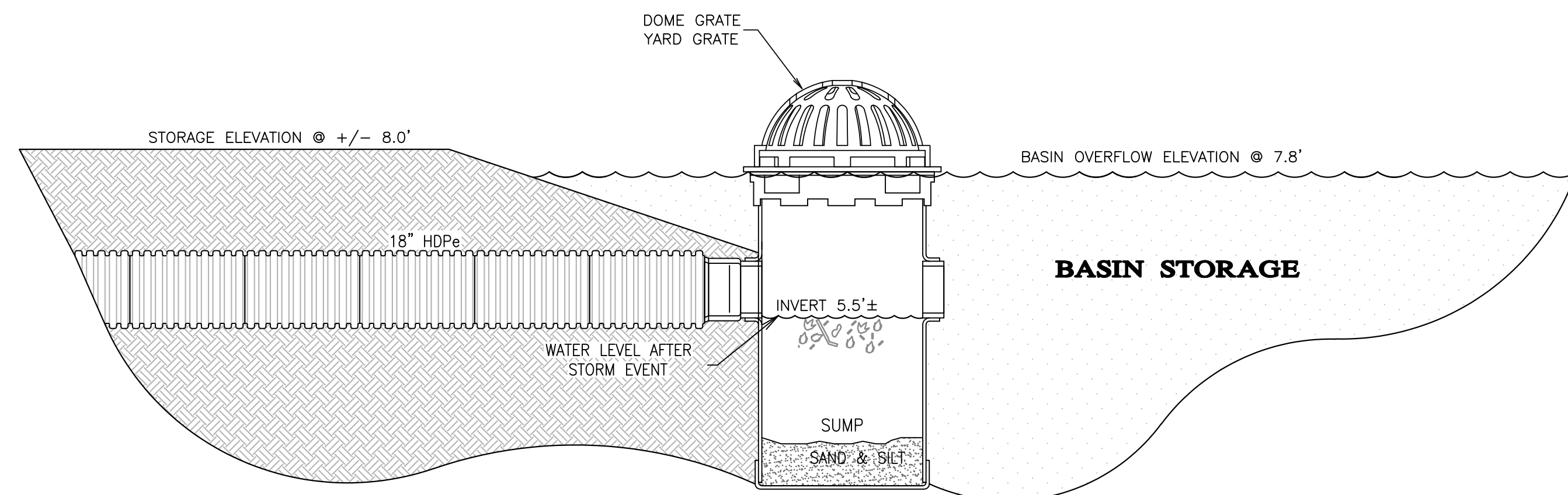


Overflow Diversion Grass Swale Detail
N.T.S.

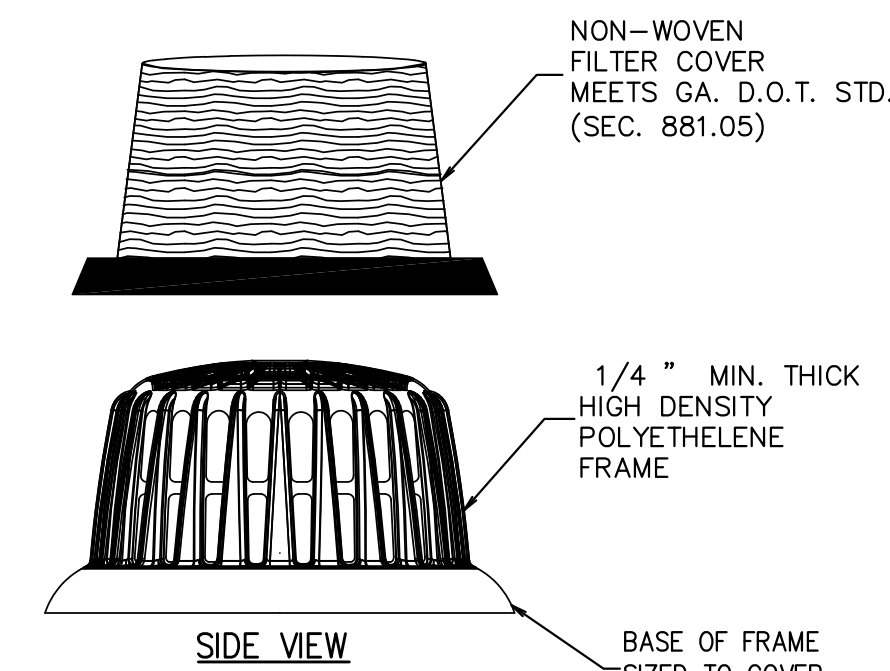


- L = THE LENGTH OF THE RIPRAP APRON
- d = 1.5 TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS THAN 12 INCHES
- A FILTER BLANKET OR FILTER FABRIC SHOULD BE INSTALLED BETWEEN THE RIP RAP AND SOIL FOUNDATION.
- IN A WELL-DEFINED CHANNEL EXTEND THE APRON UP THE CHANNEL BANKS TO 6 INCHES ABOVE THE MAXIMUM TAILWATER DEPTH OR THE TOP OF THE BANK, WHICHEVER IS LESS.

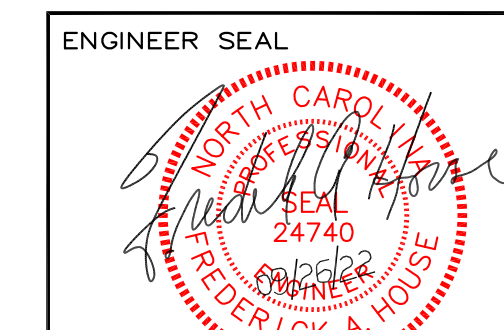
PIPE OUTLET PROTECTION
N.T.S.



Overflow Structure with Dome Grate
N.T.S.



- TYPICAL CONSTRUCTION SEQUENCE FOR SILT-SAVER FRAME & FILTER ASSEMBLY**
- EXCAVATE APPROXIMATELY 4" TO 6" BELOW THE TOP OF THE INLET STRUCTURE.
 - PLACE THE FRAME ONTO THE INLET STRUCTURE, ENSURE THE FRAME COVERS STRUCTURE COMPLETELY
 - PLACE THE FILTER OVER THE FRAME.
 - FILL THE FILTER POCKETS WITH SOIL, #57 GRAVEL OR EQUAL. THE FILTER POCKETS SHOULD BE COMPLETELY FILLED TO A GOOD SEAL BETWEEN THE GROUND AND THE INLET STRUCTURE.
 - BACKFILL AROUND THE FRAME AND FILTER ASSEMBLY IS NOT REQUIRED TO COMPLETE INSTALLATION. HOWEVER BACKFILLING MAY BE NECESSARY TO COMPLETE EXCAVATION REQUIREMENTS FOR THE SITE.



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REVISIONS		
No.	Date	Description

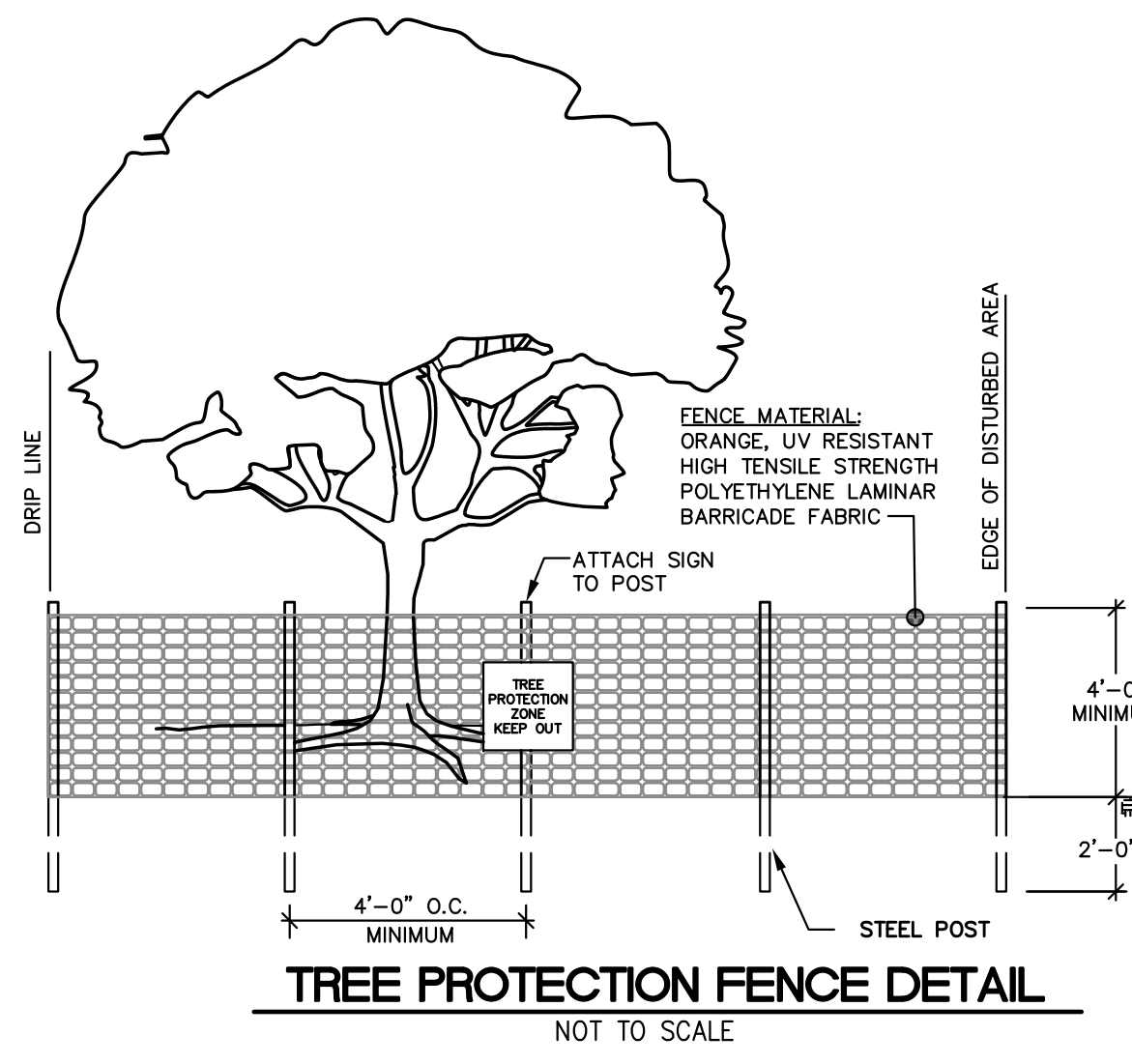
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Kitty Hawk North Carolina 27949
Office# (252) 261-8253 E-Mail: info@houseengineering.net

Grading and Drainage Detail Plan

For:
The Village at Old Wharf Road
Location:
0 West Martin Street
Parcel in Kill Devil Hills

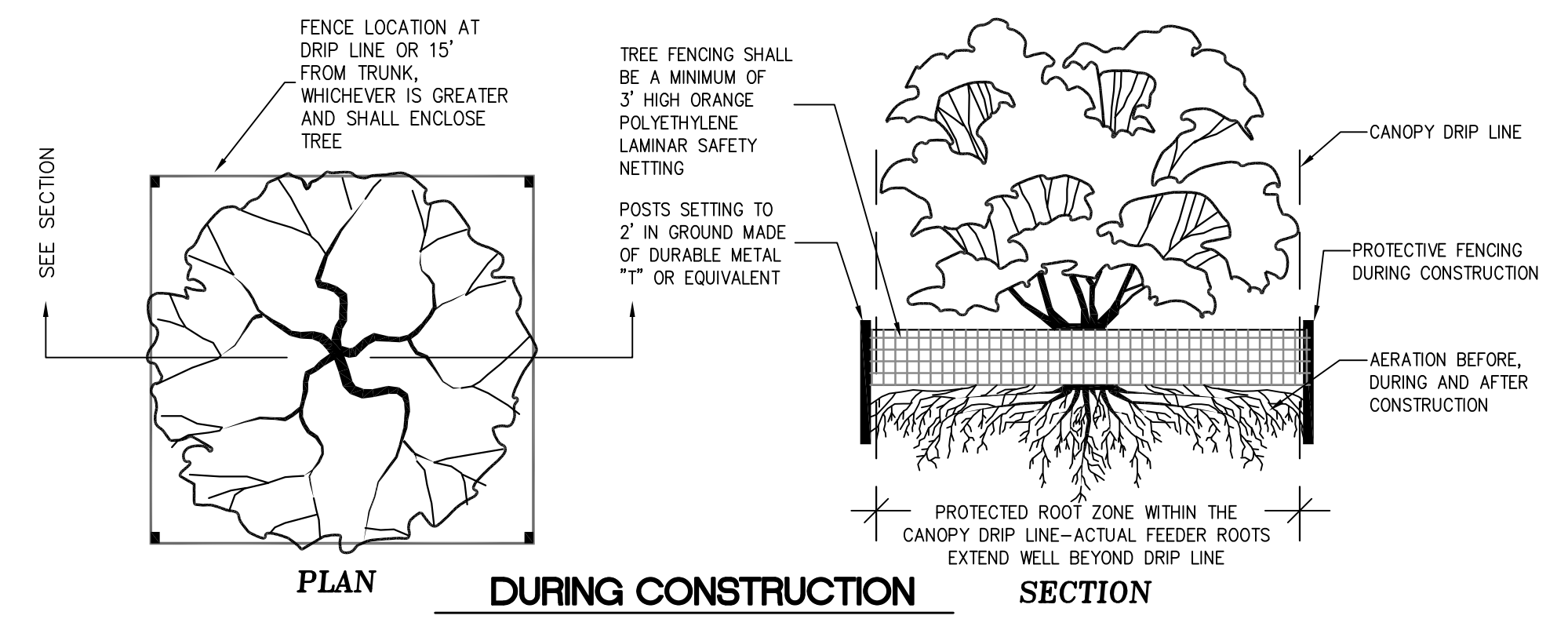
SIZE	PROJECT NUMBER	REV	SHEET NO.
D	226800	-	C7 OF 8

CAD FILENAME: 226800 SCALE: 1" = 40'-0"

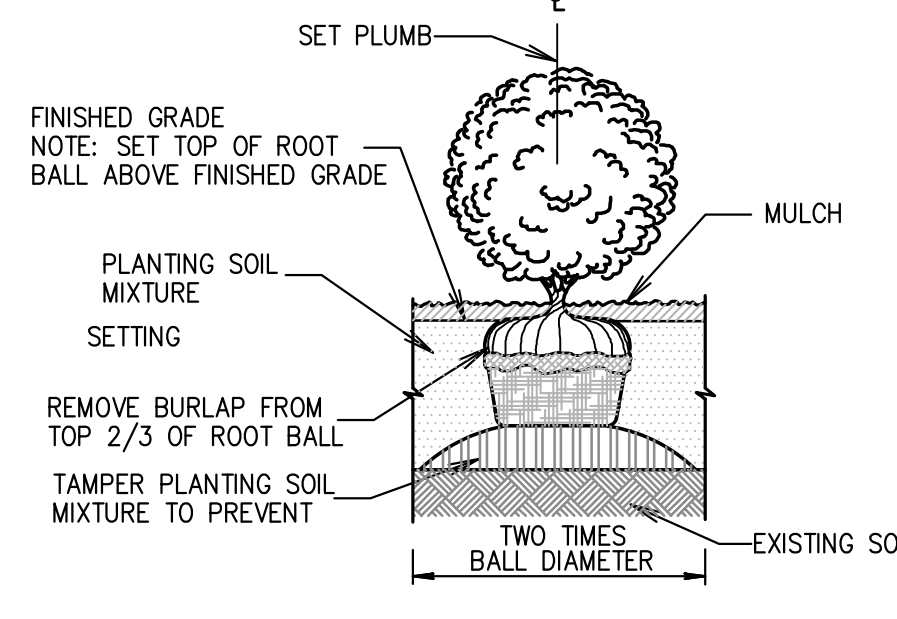


- NOTES:**
1. INSTALL TREE PROTECTION FENCE AT TREE DRIP LINE OR AT EDGE OF DISTURBED AREA, AS SHOWN ON PLANS, PRIOR TO COMMENCEMENT OF CONSTRUCTION.
 2. PLACE TREE PROTECTION ZONE SIGNS. SIGN MUST BE A MINIMUM OF 2' x 2' AND BE VISIBLE FROM BOTH SIDES OF THE FENCE. THE SIGN MUST CONTAIN THE FOLLOWING LANGUAGE IN BOTH ENGLISH & SPANISH: "TREE PROTECTION ZONE, KEEP OUT".
 3. THERE SHALL BE NO STORAGE OF MATERIAL WITHIN THE BOUNDARIES OF THE TREE PROTECTION FENCING.
 4. TREE PROTECTION FENCING SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT.

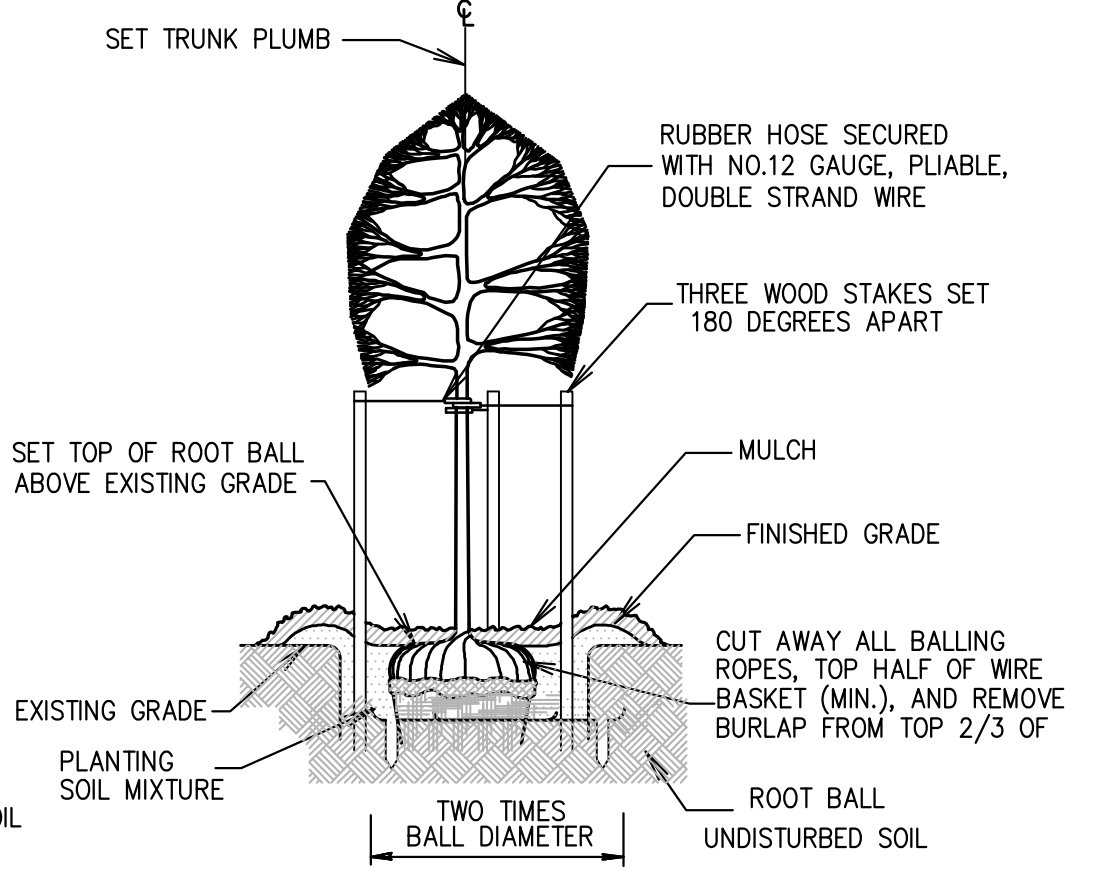
TREE PROTECTION FENCE DETAIL
NOT TO SCALE



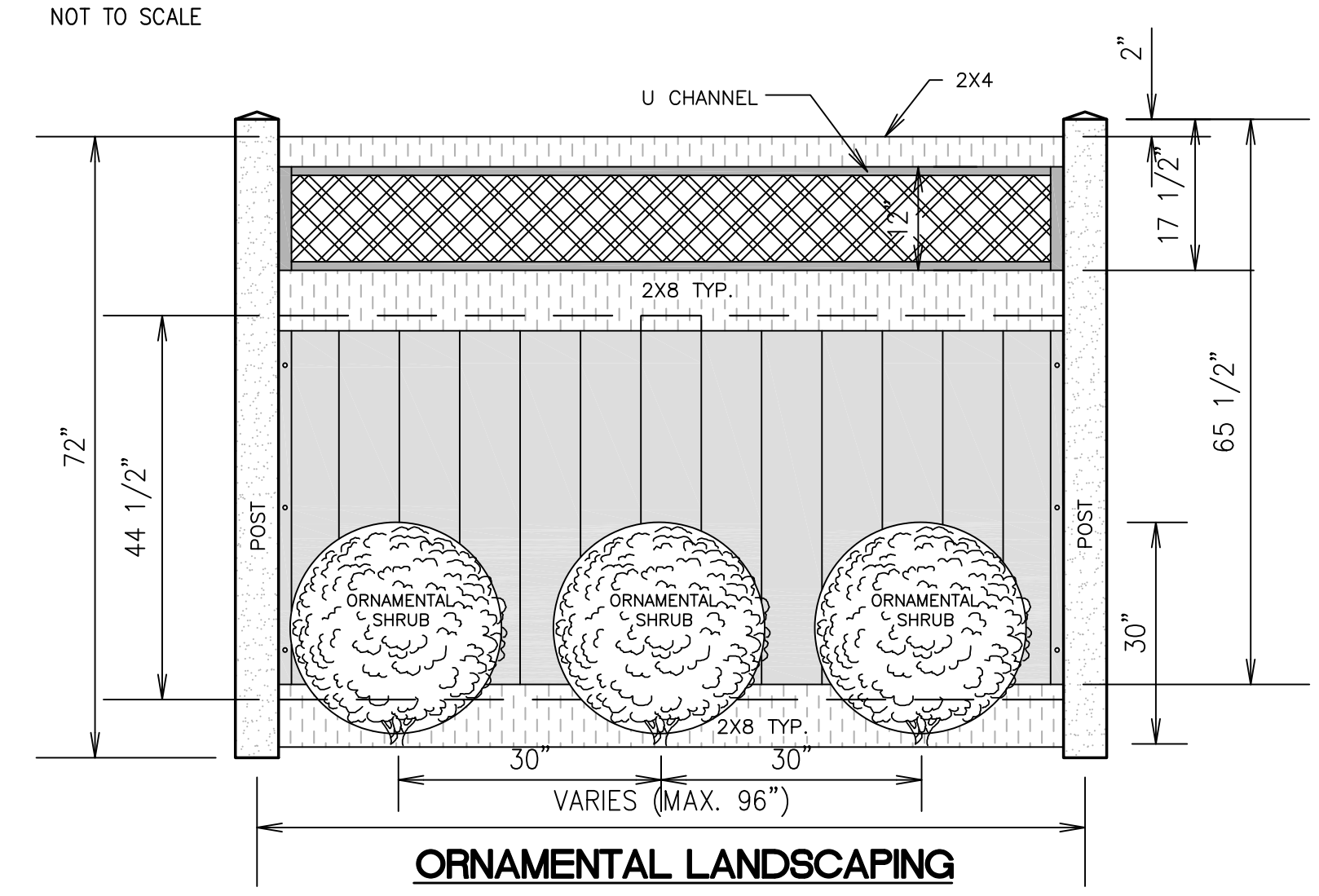
ROOT ZONE and DRIP LINE PROTECTION
NOT TO SCALE



SHRUB PLANTING DETAIL
N.T.S.



TREE PLANTING DETAIL
N.T.S.

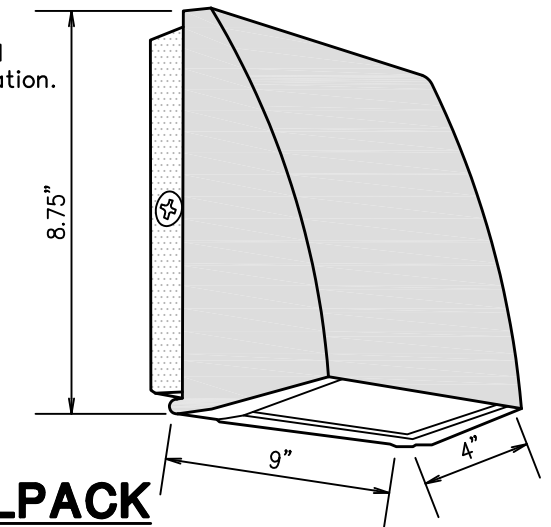


ORNAMENTAL LANDSCAPING
6' HIGH PRIVACY FENCE
OR APPROVED EQUAL
NO SCALE

LANDSCAPE NOTES

- Landscape areas shall be properly maintained. The owner shall be notified in writing by the zoning official of the town of any areas which are not being properly maintained, and the owner shall, within 15 calendar days of receipt of the notice, restore the landscaped area to a satisfactory condition, meet the requirements of this code.
- Landscaping shall not be considered to be complete until after 90 days of healthy growth. Contractor shall be responsible to replace all unhealthy or dead landscaping. Contractor shall remain responsible for all replaced landscape with the 90 day healthy growth requirement. Being applicable to all replaced landscaping.
- Dig planting hole no deeper than the root ball height. Excavate hole 2-3 times the width of the root ball diameter.
- Roughen the sides of the planting hole, before placing the tree in the planting hole, prune any dead or broken branches and remove any tree wrap, tape, string, and tags from tree trunk and branches.
- Gently lower the tree into the hole so that the trunk flare is at or slightly above the original grade.
- Backfill 1/3 of the planting hole with original soil to stabilize root ball and keep tree upright.
- Cut and remove top 2/3 of the wire basket. Cut and remove top 2/3 of the burlap from Completely backfill hole with original soil and add soil amendment if needed.
- Create a mulch ring around the tree and a 3-6" high soil and mulch berm at the edge of the hole. Keep mulch away from the trunk.
- Contractor shall be responsible for all plant counts and square footage. If any part of this plan can not be followed due to site conditions contact owner/town prior to commencing work.
- All trees in rows to be aligned unless shown otherwise
- Plant all trees a minimum of 2 feet from any drain lines. The Landscape contractor shall verify the location of all drain lines prior to commencing work.
- Trees are to be a minimum of 3 1/2 feet away from any hardscape such as curbs, walks parking stalls, ect.
- Prior to any excavating to any landscaping purposes, the location of all under ground utilities shall be determined.
- Grass and ground cover: Ground cover shall be placed or planted on all disturbed portions of exposed ground or earth not occupied by natural or other landscape material.
- All dumpsters shall be screened on three sides by a fence. The screening shall exceed the height of the interior container by 12 inches. The opening for the removal of trash pickup shall allow for a clearance of 12 inches on each side of the container and 24 inches at the rear of the container. Design shall be approved by the Department of Public Services, Public Works Division.
- Any existing natural landscape shall be preserved whenever possible. Existing natural landscape that meets minimum requirements may be credited towards the proposed landscape requirements.
- Where a vegetative screen is required between two incompatible uses, the perimeter landscape area shall contain one shrub, at least 30 inches high planted 2 1/2 feet on center. The type of shrub used needs to be capable of attaining a height of at least 6 feet at maturity. Plant materials and/or planted plants shall be installed so as to screen the parking areas from adjacent properties and streets.
- Within the sight triangle, no plant material, signage or any other obstruction shall interfere with an individual's vehicle sight line. No plant material shall exceed 30 inches in height at maturity; trees shall be trimmed so that branches are at least seven feet above curb level
- plants shall be sufficiently sized to ensure screening within three years. Where a vegetative screen is required, plant materials shall be sufficiently sized as practicable to ensure obscuring within three years. Seeding plants may be used where berms or structures are required or where the proposed use is contiguous to a street or vacant land that does not have proposed development in the review process.

- Mounting: Die-cast back box with four (4) conduit entry points and knockout pattern for junction box or direct wall mounting. Hinged housing and bubble level for easy installation.
- Full Cutoff: Full cutoff meets dark-sky requirements
- Recommended Mounting Height: Up to 20 ft
- RAB 12 Watt SLIM Wallpacks are designed to cover the footprint of most traditional wallpacks. They are suitable for mounting heights from 15' to 30'. These ultra-high efficiency fixtures are full cutoff



RAB SLIM POLE AND WALLPACK
(MODEL# SLIM12N)
NOT TO SCALE

WPLED52



LED 52W Wallpack. 3 cutoff options. Patent Pending thermal management system. 100,000 hour L70 lifespan. 5 Year Warranty.
Color: Bronze Weight: 17.6 lbs

Project:	Type:
Prepared By:	Date:

Driver Info	LED Info
Type: Constant Current	Watts: 52W
120V: 0.51A	Color Temp: 5000K
208V: 0.33A	Color Accuracy: 73 CRI
240V: 0.29A	L70 Lifespan: 100000
277V: 0.24A	Lumens: 7122
Input Watts: 59W	Efficacy: 121 LPW
Efficiency: 89%	

Technical Specifications

Listings:
UL Listing: 6.5% at 120V, 7.8% at 277V
Suitable for wet locations.

DLC Listed:
This product is on the Design Lights Consortium (DLC) Qualified Products List and is eligible for rebates from DLC Member Utilities.
DLC Product Code: R0000173W

IESNA LM-79 & IESNA LM-80 Testing:
RAB LED luminaires have been tested by an independent laboratory in accordance with IESNA LM-79 and 80, and have received the Department of Energy "Lighting Facts" label.

LED Characteristics

Lifespan:
100,000-hour LED lifespan based on ES LM-80 results and TM-21 calculations.

LEDs:
Two (2) multi-chip, high-output, long-life LEDs.

Color Consistency:
7-step MacAdam Ellipse binning to achieve consistent fixture-to-fixture color.

Color Stability:
LED color temperature is warranted to shift no more than 200K in CCT over a 5-year period.

Color Uniformity:
RAB's range of CCT (Correlated Color Temperature) follows the guidelines of the American National Standard for Specifications for the Chromaticity of Solid State Lighting (SSL) Products, ANSI C78-377-2017.

Electrical

Drivers:
Two drivers, constant current, 720mA Class 2, 100-277V, 50-60 Hz, 100-277VAC 8 Amps.

Reflector:
Specular vacuum-metallized polycarbonate

Gaskets:
High temperature silicone.

Lens:
Tempered glass

Finish:
Formulated for high-durability and long lasting color.

Green Technology:
Mercury and UV free. RoHS compliant components. Polyester powder coat finish formulated without the use of VOC or toxic heavy metals.

Other

California Title 24:
See WPLED52BL for a 2013 California Title 24 compliant product. Any additional component requirements will be listed in the Title 24 section under technical specifications on the product page.

Warranty:
RAB warrants that our LED products will be free from defects in materials and workmanship for a period of five (5) years from the date of delivery to the end user, including coverage of light output, color stability, driver performance and future finish.

Patents:
The WPLED design is protected by patents in the U.S. Pat 6953,377, Canada Pat. 142252, China Pat. ZL201130356930.8, and Mexico Pat. 36921 and pending patent in TW.

RAB LIGHT DETAIL (WPLED52)
N.T.S.

WPLED52

Technical Specifications (continued)

Other

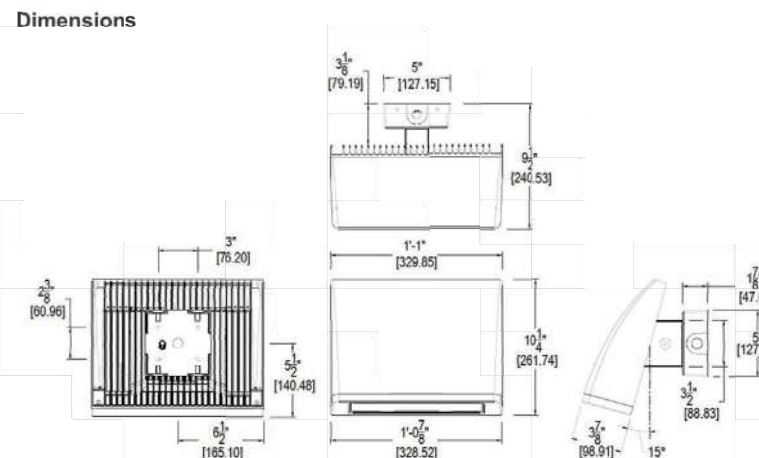
Replacement:
Replaces 250W HID.

Buy American Act Compliance:
RAB values USA manufacturing! Upon request, RAB may be able to manufacture this product to be compliant with the Buy American Act (BAA). Please contact customer service to request a quote for the product to be made BAA compliant.

Optical

BUG Rating:
80 U2 G3

Dimensions



Features

- High performance LED light engine
- Maintains 70% of initial lumens at 100,000 hours
- Weatherproof high temperature silicone gaskets
- Superior heat sinking with die cast aluminum housing and external fins
- Replaces 250W MH
- Traditional wallpack look from the front
- 3 cutoff options
- 5-year warranty

Ordering Matrix

Family	Cutoff	Wattage	Color Temp	Finish	Driver Options	Options
WPLED	Blank = Standard (15°) C = Cutoff (7.5°) FC = Full Cutoff (0°)	80 = 80W 52 = 52W	Blank = 5000K (Cool) N = 4000K (Neutral) Y = 3000K (Warm)	Blank = Bronze W = White	Blank = 120-277V /A80 = 480V /BL = 0-Level /D10 = 0-10V Dimming	Blank = No Option /PCS = 120V Swivel Photocell /PCS2 = 277V Swivel Photocell /PCS4 = 480V Swivel Photocell /LC = Lightcote

10.34.1. Light fixtures shall be located on the site and designed, shielded, or oriented in such a manner as to minimize light spill across property lines and prevent glare at any location on or off the property.

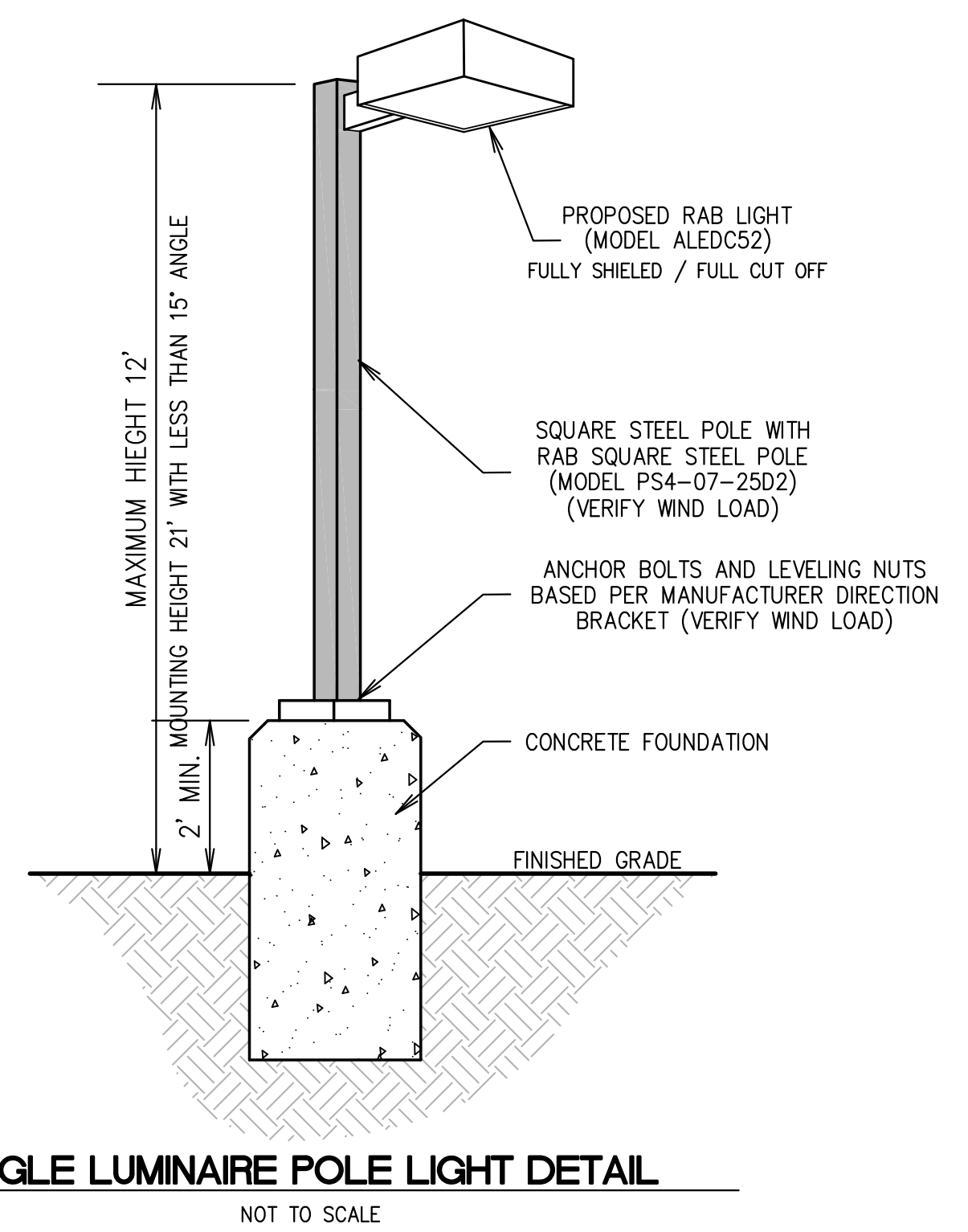
10.34.2. Except for fixtures which are permitted by this Article to be used for vertical illumination or for multi-purpose recreation fields, all light fixtures shall be cut-off fixtures as defined in Appendix A - Definitions.

10.34.3. All wiring to light fixtures not located on a building shall be placed underground.

10.34.4. Principal buildings shall provide security lighting.

10.34.5. Light fixtures and supporting structures shall be designed and constructed to comply with state building code requirements.

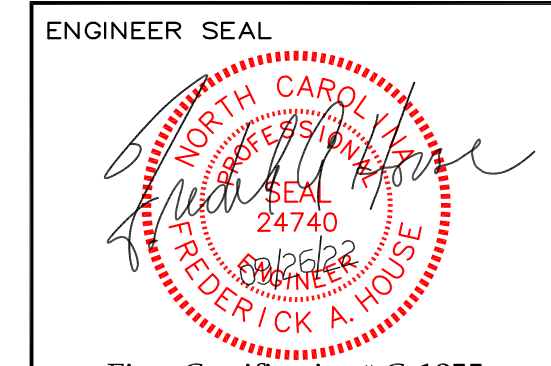
10.34.6. No light fixture, including signs, shall exceed thirty-five (35) feet in height, except as specified in subsections 10.34.7 or 10.37.6.6. Where existing nonconforming light fixtures exist, including signs, such light fixtures and sign may be replaced provided there is no increase in the degree of nonconformity.



SINGLE LUMINAIRE POLE LIGHT DETAIL
NOT TO SCALE

LIGHTING NOTES

- 1) REFER TO DARE COUNTY ZONING ORDINANCE, SECTION 22-60 OUTDOOR LIGHTING
- 2) DOMINION POWER MAY PROVIDE SITE LIGHTING - OWNERS OPTION.
- 3) EXTERIOR LIGHTING SHALL BE FIXTURES WITH TRUE FULL CUT-OFF AND FULLY SHIELDED. WALL PACKS LIGHTS SHALL BE MOUNTED 15 ±
- 4) EXTERIOR LIGHTING CONTROLLED BY A TIMER SYSTEM. FOR STANDARD TIME, LIGHTS SHALL BE SET TO TURN ON AT 5:00 PM AND OFF AT 7:00 AM. FOR DAYLIGHT SAVING TIME, LIGHTS SHALL BE SET TO CUT ON AT 7:00 PM AND TURN OFF AT 6:00 AM UNLESS OTHERWISE SPECIFIED BY THE DEMAND OR THE PROPERTY OWNER AND/OR TOWN OF KILL DEVIL HILLS.
- 5) ALL WALL MOUNTED SITE LIGHTS TO BE PROVIDED WITH MANUAL OVERRIDES.
- 6) ALL ARCHITECTURAL AND LANDSCAPE LIGHTING TO BE 40 WATTS OR LESS.
- 7) LUMINAIRE CALCULATIONS BASED ON THE PROPOSED SITE LOCATION, LIGHT POLE HEIGHT AND FIXTURE AND ARE APPROXIMATE. FOOTCANDLE READINGS AT THE PROPERTY LINES SHALL BE CERTIFIED BY A REGISTERED ENGINEER BEFORE A CERTIFICATE OF OCCUPANCY WILL BE ISSUED FOR THE STRUCTURE.
- 8) ILLUMINATION STANDARDS MUST BE MET PRIOR TO FINAL APPROVAL
- 9) IN NO INSTANCE SHALL ILLUMINATION LEVELS WITH IN THE SITE EXCEED 30 FOOT CANDLES
- 10) ALL LIGHTING ILLUMINATION SHALL MEET INTERNATIONAL DARK SKY REQUIREMENTS
- 11) ALL UNDERGROUND CONDUITS SHALL BE SCHEDULE 40 PVC AND BE A MINIMUM OF 1 INCH, UNLESS NOTED OTHERWISE
- 12) ALL ELECTRIC WIRING FOR POLE MOUNTED LIGHTS SHALL BE UNDERGROUND.
- 13) CONTRACTOR TO PROVIDE PROTECTION FROM PHYSICAL DAMAGE FOR SWITCHBOARDS, PANEL BOARD AND OTHER ELECTRICAL EQUIPMENT (3' FROM EQUIPMENT)




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Location:
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SIZE	PROJECT NUMBER	REV	SHEET NO.
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