

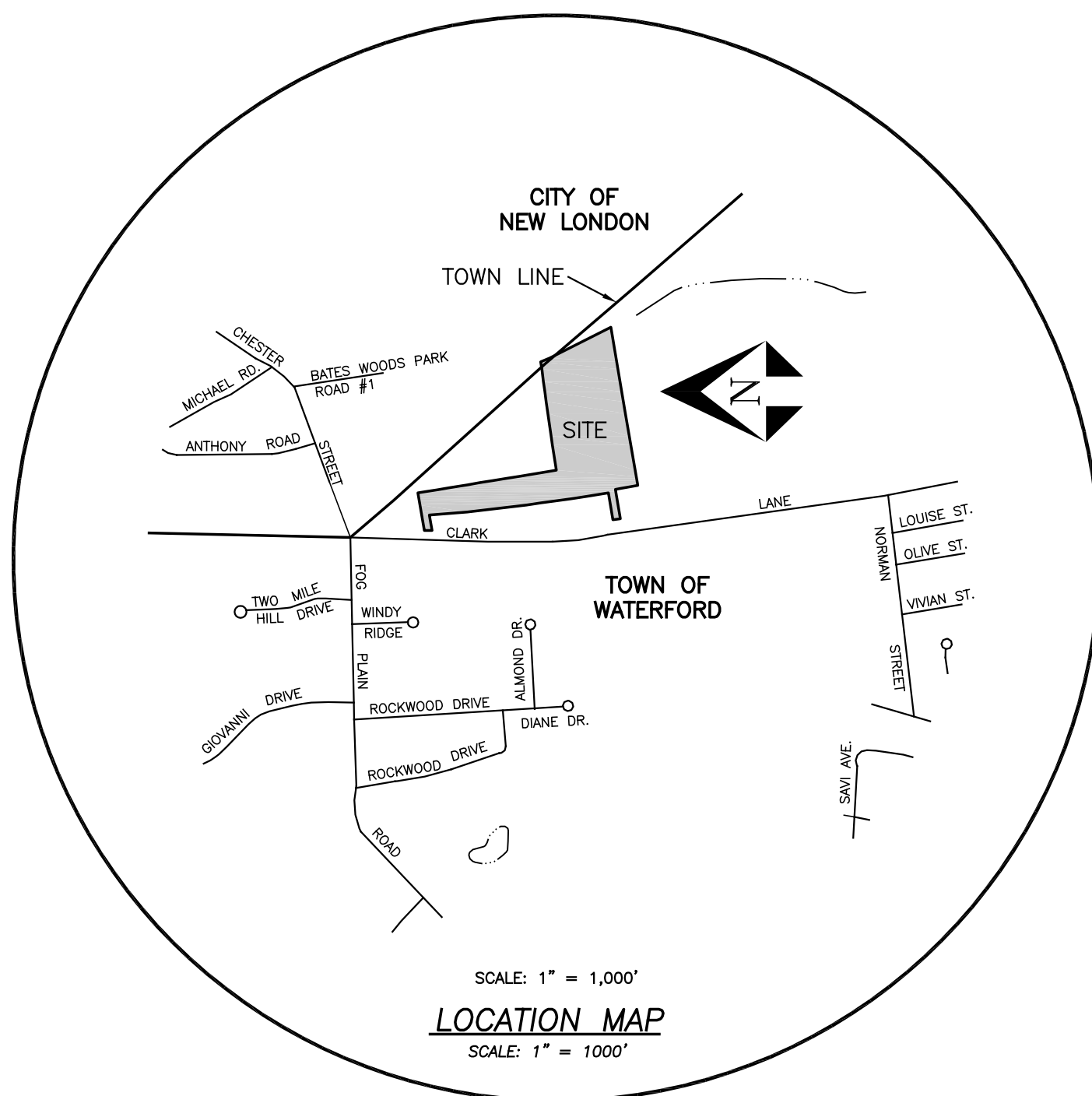
PROPOSED AFFORDABLE HOUSING DEVELOPMENT

131 & 109R CLARK LANE
WATERFORD, CONNECTICUT

APPLICANT
KINGSTOWN PROPERTIES LLC
P.O. BOX 827
NORWICH, CT 06360

OWNER

LEO J. ARCHAMBAULT AND MARY P.T. ARCHAMBAULT,
TRUSTEES OF THE ARCHAMBAULT LIVING TRUST



PREPARED BY:

Provost & Rovero, Inc.

**Civil Engineering • Surveying • Site Planning
Structural • Mechanical • Architectural Engineering**

57 East Main Street, P.O. Box 191
Plainfield, Connecticut 06374
(860) 230-0856 - FAX: (860) 230-0860
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REVISIONS	
DATE	DESCRIPTION
10/12/2022	I.W. PREAPPLICATION COMMENTS
12/5/2022	I.W. APPLICATION SUBMISSION
2/5/2023	I.W. REVIEW COMMENTS
2/21/2023	ENV. PLANNER COMMENTS
3/30/2023	SIGHTLINES, I.W. CONDITIONS

MAY 14, 2022

LEGEND

- MONUMENT FOUND
- IRON PIN OR PIPE FOUND
- DRILL HOLE FOUND
- DRILL HOLE SET
- # WETLAND FLAG
- EXISTING SIGN
- EXISTING MANHOLE
- EXISTING UTILITY POLE
- ▣ EXISTING CATCH BASIN
- ⊗ EXISTING HYDRANT
- EXISTING BUSH
- PROPOSED MANHOLE
- ▣ PROPOSED CATCH BASIN
- ⊗ PROPOSED HYDRANT
- PROPOSED LIGHT POLE
- PROPOSED WETLAND BUFFER SIGN

- | | |
|--|---------------------------------|
| | STONE WALL |
| | STONE WALL REMAINS |
| | EXISTING INDEX CONTOUR |
| | EXISTING CONTOUR |
| | EXISTING TREE LINE |
| | EXISTING STORM DRAIN |
| | EXISTING SANITARY SEWER |
| | EXISTING WATER LINE |
| | PROPOSED CONTOUR |
| | PROPOSED WATER MAIN |
| | PROPOSED SANITARY FORCE MAIN |
| | PROPOSED STORM DRAIN |
| | PROPOSED WATER SERVICE LINE |
| | PROPOSED SANITARY SEWER |
| | PROPOSED SANITARY LATERAL |
| | PROPOSED ROOF DRAIN LEADER |
| | PROPOSED SILT FENCE |
| | PROPOSED STAKED HAY BALES |
| | PROPOSED CLEARING LIMITS & |
| | WETLAND NON-ENCROACHMENT LIMITS |

INDEX TO DRAWINGS

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UTILITIES PLANS 1-3	7-9 OF 22
LANDSCAPING PLANS 1-3	10-12 OF 22
EROSION & SEDIMENTATION CONTROL PLANS 1-3	13-15 OF 22
DETAIL SHEETS 1-6	16-21 OF 22
SIGHTLINE DEMONSTRATION PLAN	22 OF 22

ENGINEER

DAT

SHEET 1 OF 22

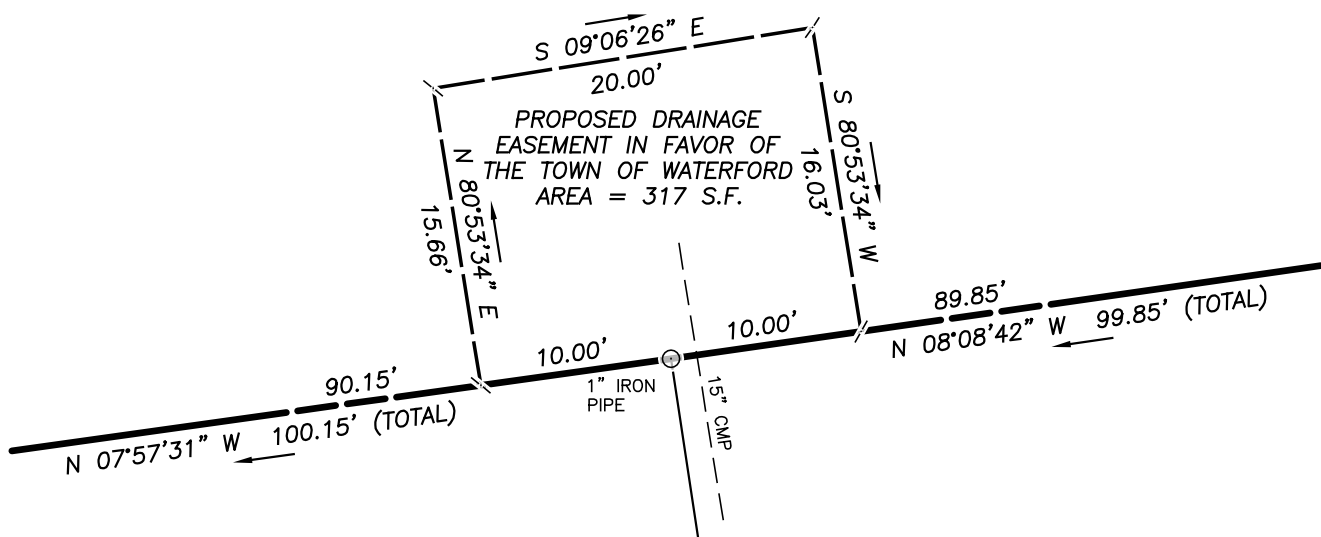
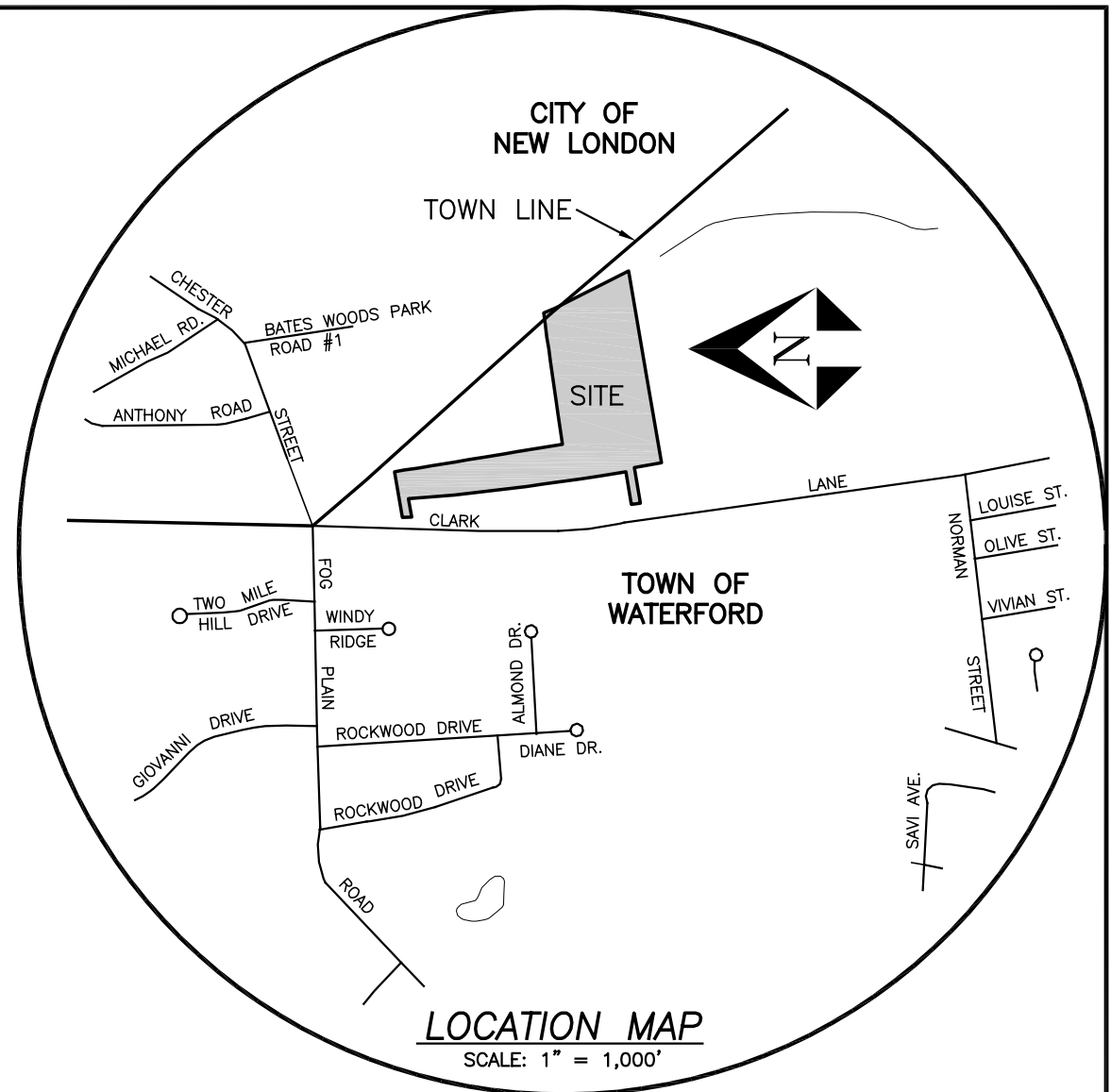
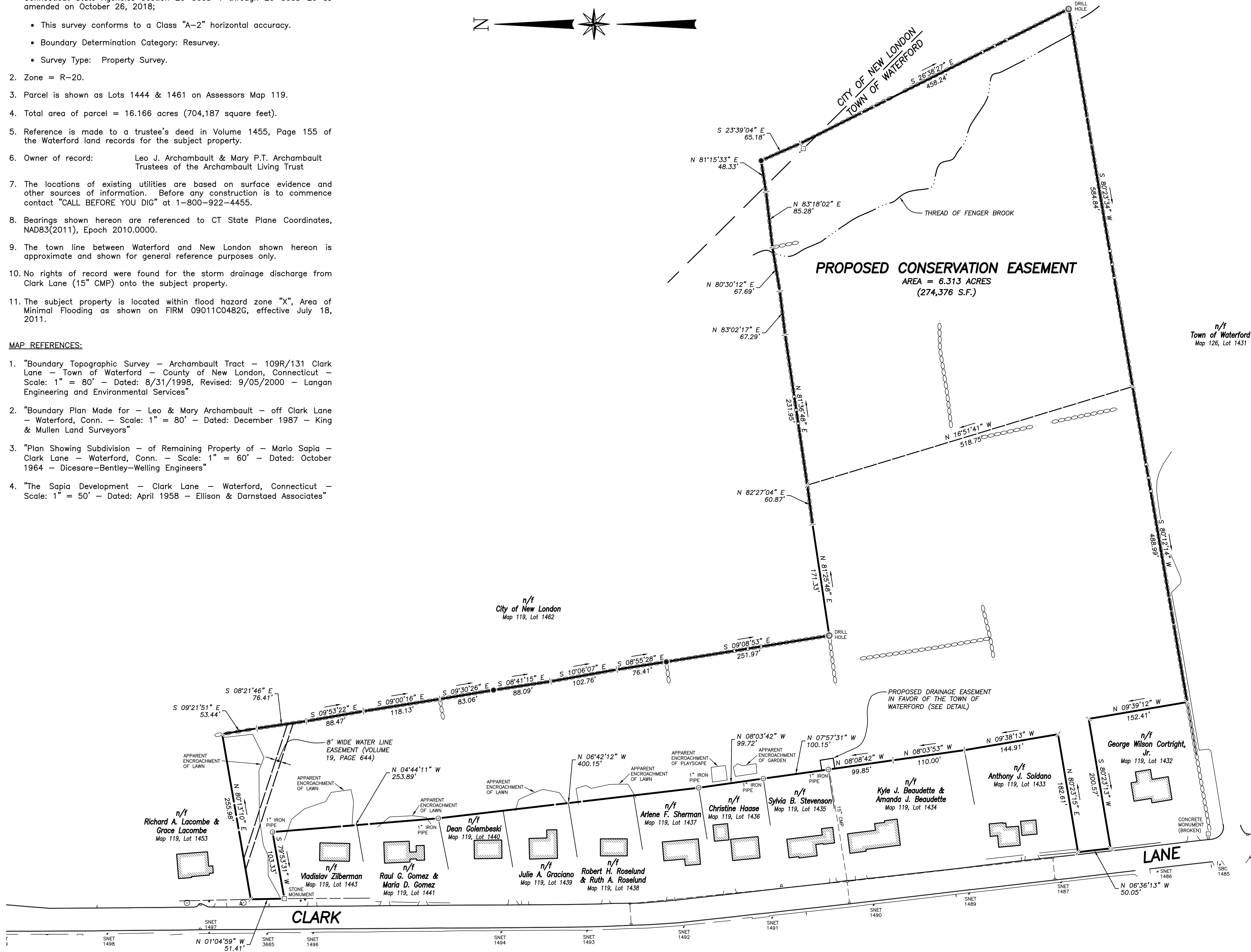
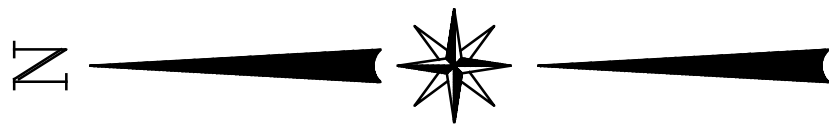
JOB NO: 213009
DWG NO: Client File

NOTES:

- This survey has been prepared pursuant to the Regulations of Connecticut State Agencies Section 20-300b-1 through 20-300b-20 as amended on October 26, 2018;
 - This survey conforms to a Class "A-2" horizontal accuracy.
 - Boundary Determination Category: Resurvey.
 - Survey Type: Property Survey.
- Zone = R-20.
- Parcel is shown as Lots 1444 & 1461 on Assessors Map 119.
- Total area of parcel = 16.166 acres (704,187 square feet).
- Reference is made to a trustee's deed in Volume 1455, Page 155 of the Waterford land records for the subject property.
- Owner of record: Leo J. Archambault & Mary P.T. Archambault Trustees of the Archambault Living Trust
- The locations of existing utilities are based on surface evidence and other sources of information. Before any construction is to commence contact "CALL BEFORE YOU DIG" at 1-800-922-4455.
- Bearings shown hereon are referenced to CT State Plane Coordinates, NAD83(2011), Epoch 2010.0000.
- The town line between Waterford and New London shown hereon is approximate and shown for general reference purposes only.
- No rights of record were found for the storm drainage discharge from Clark Lane (15" CMP) onto the subject property.
- The subject property is located within flood hazard zone "X", Area of Minimal Flooding as shown on FIRM 09011C0482G, effective July 18, 2011.

MAP REFERENCES:

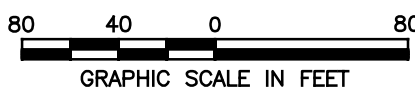
- "Boundary Topographic Survey - Archambault Tract - 109R/131 Clark Lane - Town of Waterford - County of New London, Connecticut - Scale: 1" = 80' - Dated: 8/31/1998, Revised: 9/05/2000 - Langan Engineering and Environmental Services"
- "Boundary Plan Made for - Leo & Mary Archambault - off Clark Lane - Waterford, Conn. - Scale: 1" = 80' - Dated: December 1987 - King & Mullen Land Surveyors"
- "Plan Showing Subdivision - of Remaining Property of - Mario Sapia - Clark Lane - Waterford, Conn. - Scale: 1" = 60' - Dated: October 1964 - Dicesare-Bentley-Welling Engineers"
- "The Sapia Development - Clark Lane - Waterford, Connecticut - Scale: 1" = 50' - Dated: April 1958 - Ellison & Darnstaed Associates"



DRAINAGE EASEMENT DETAIL
SCALE: 1" = 10'

LEGEND

- MONUMENT FOUND
- IRON PIN OR PIPE FOUND
- DRILL HOLE FOUND
- DRILL HOLE SET
- STONE WALL
- STONE WALL REMAINS



PROPERTY SURVEY
PREPARED FOR
KINGSTOWN PROPERTIES LLC
PROPOSED AFFORDABLE HOUSING DEVELOPMENT
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WATERFORD, CONNECTICUT

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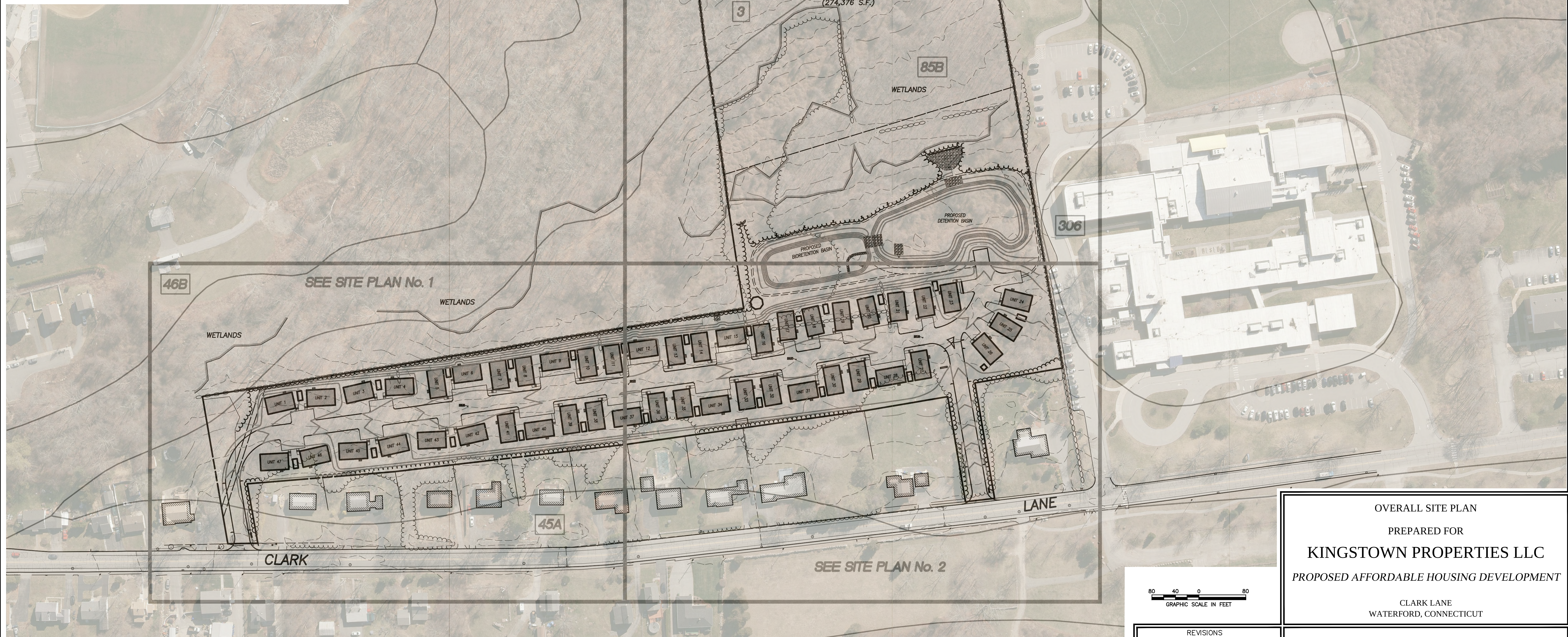
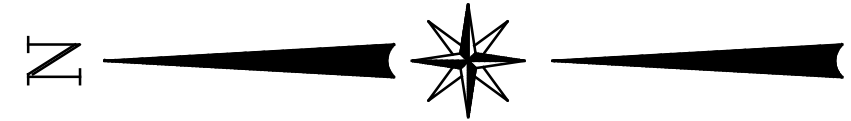
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2/21/2023	ENV. PLANNER COMMENTS
3/30/2023	SIGHTLINES, I.W. CONDITIONS
DATE: 5/14/2022	DRAWN: DJH
SCALE: 1" = 80'	DESIGN: DJH
SHEET: 2 OF 22	CHK BY: ---
DWG. No: Client File	JOB No: 213009

TO MY KNOWLEDGE AND BELIEF, THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON,

DAVID J. HELD, L.S. LIC. NO. 24267 DATE

NO CERTIFICATION IS EXPRESSED OR IMPLIED UNLESS THIS MAP BEARS THE ORIGINAL SEAL AND SIGNATURE OF THE LAND SURVEYOR.

1. This survey has been prepared pursuant to the Regulations of Connecticut State Agencies Section 20-300b-1 through 20-300b-20 as amended on October 26, 2018;
2. This map was prepared from record research, other maps, limited field measurements and other sources. It is not to be construed as a Property/Boundary or Limited Property/Boundary Survey and is subject to such facts as said surveys may disclose.
 - This survey conforms to a Class "C" horizontal accuracy.
 - Topographic features conform to a Class "I-2" accuracy.
 - Survey Type: General Location Survey.
3. The subject property is shown as lot 23 on assessor's map 36A and lot on assessor's map 36E.
4. Zone: R-20.
5. Owner of record: Leo J. & Mary P.T. Archambault, Trustees
141 Noble Hill Road
Oakdale, CT 06370
6. The intent of this survey is to show existing conditions for the development of the subject property.
7. Elevations based on NAVD 1988. Contour interval = 2'.
8. The locations of existing utilities are based on surface evidence and other sources of information. Before any construction is to commence contact "CALL BEFORE YOU DIG" at 1-800-922-4455.
9. Wetlands shown were flagged in the field by Joseph Theroux, certified soil scientist in April, 2021.
10. The subject property is located within flood hazard zone "X", Area of Minimal Flooding as shown on FIRM 09011C0482G, effective July 18, 2011.
11. Background aerial photography was captured in the spring of 2016.



Certified Soil Scientist
Date

NO CERTIFICATION IS EXPRESSED OR IMPLIED UNLESS THIS MAP BEARS
THE ORIGINAL SEAL AND SIGNATURE OF THE LAND SURVEYOR.

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3/30/2023	SIGHTLINES, I.W. CONDITIONS

DATE: 5/14/2022	DRAWN: DJH
SCALE: 1" = 80'	DESIGN: DJH
SHEET: 3 OF 22	CHK BY: ---
DWG. NO: Client File	JOB NO: 213009

OVERALL SITE PLAN

PREPARED FOR

KINGSTOWN PROPERTIES LLC

PROPOSED AFFORDABLE HOUSING DEVELOPMENT

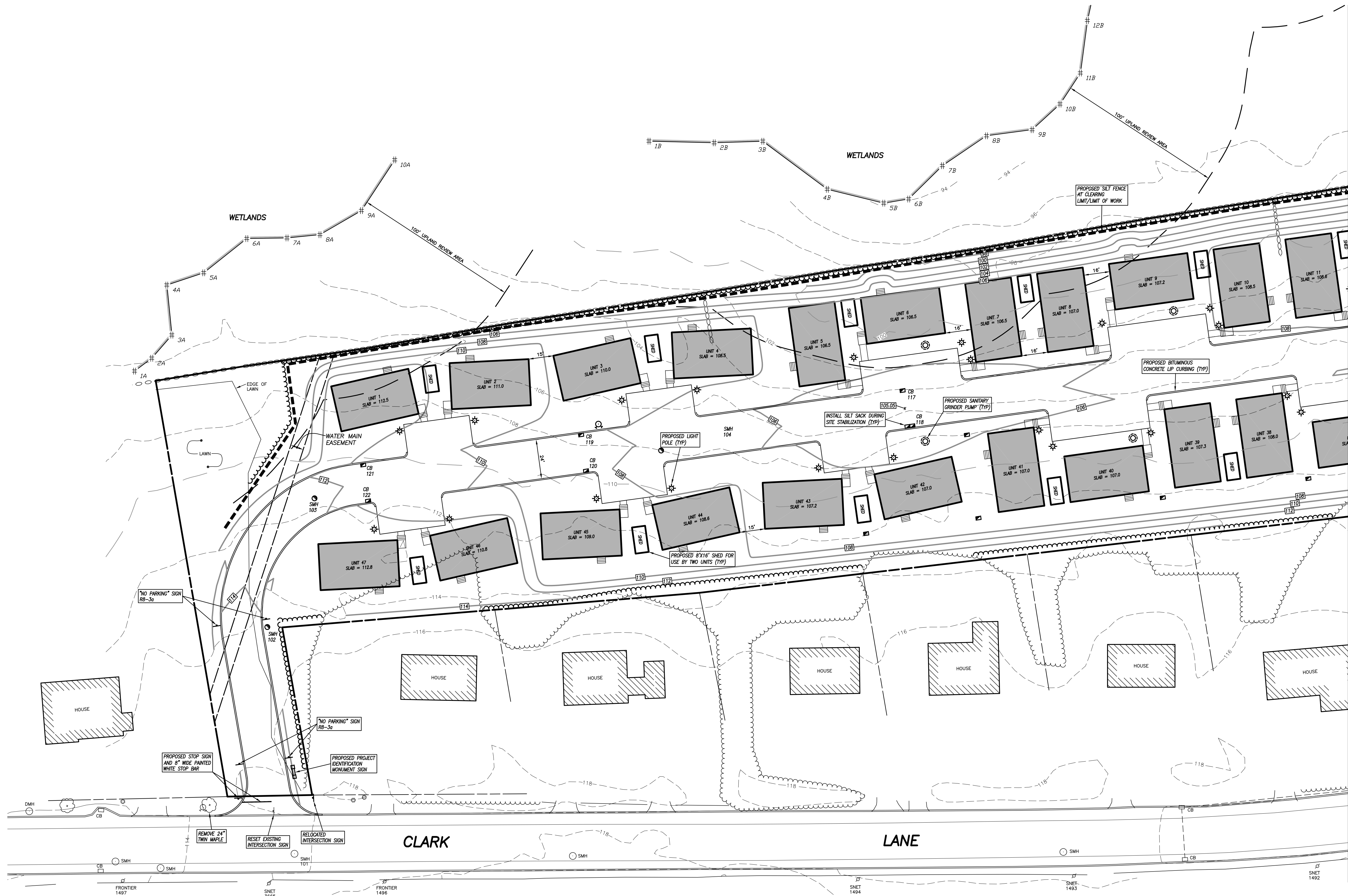
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WATERFORD, CONNECTICUT

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C:\Users\Dave\Desktop\0653\213009\Drawings\04 SITE PLAN.dwg Apr 17, 2023 - 10:51 AM



- NOTES:
- This survey has been prepared pursuant to the Regulations of Connecticut State Agencies Section 20-300b-1 through 20-300b-20 as amended on October 26, 2018; This map was prepared from record research, other maps, limited field measurements and other sources. It is not to be construed as a Property/Boundary or Limited Property/Boundary Survey and is subject to such facts as said surveys may disclose.
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 - Survey Type: General Location Survey.
 - The subject property is shown as lot 23 on assessor's map 36A and lot on assessor's map 36E.
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 - Wetlands shown were flagged in the field by Joseph Theroux, certified soil scientist in April, 2021.
 - All proposed roads within this project are private. Snow removal, waste collection and all road maintenance is the responsibility of the property owner and no such services will be provided by the town of Waterford.
 - All proposed units shown are 28'x48'. Actual units constructed on site may have minor variations from these dimensions.

SITE PLAN No. 1
PREPARED FOR
KINGSTOWN PROPERTIES LLC
PROPOSED AFFORDABLE HOUSING DEVELOPMENT
CLARK LANE
WATERFORD, CONNECTICUT

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I HAVE REVIEWED THE FLAGGED INLAND WETLANDS LOCATIONS SHOWN ON THIS PLAN AND THEY APPEAR TO BE SUBSTANTIALLY CORRECT.

Certified Soil Scientist _____ Date _____

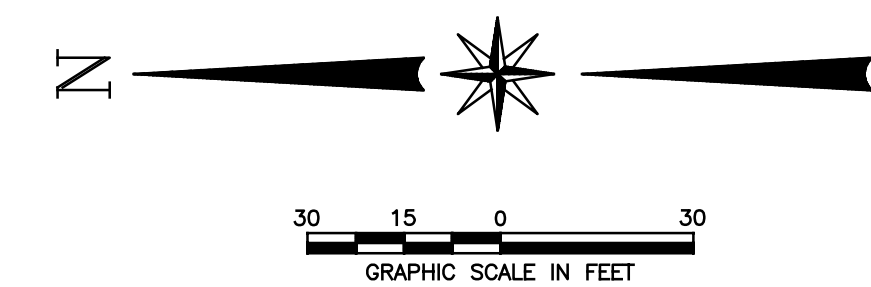
ENGINEER _____ DATE _____

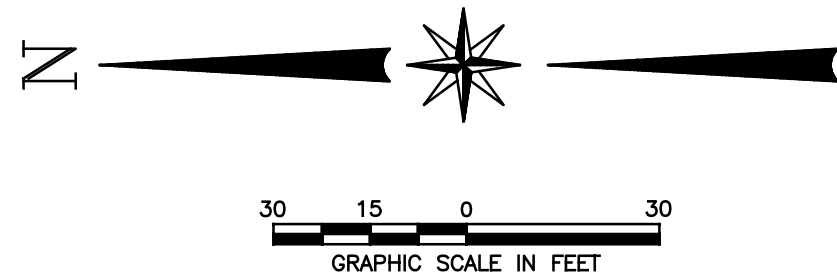
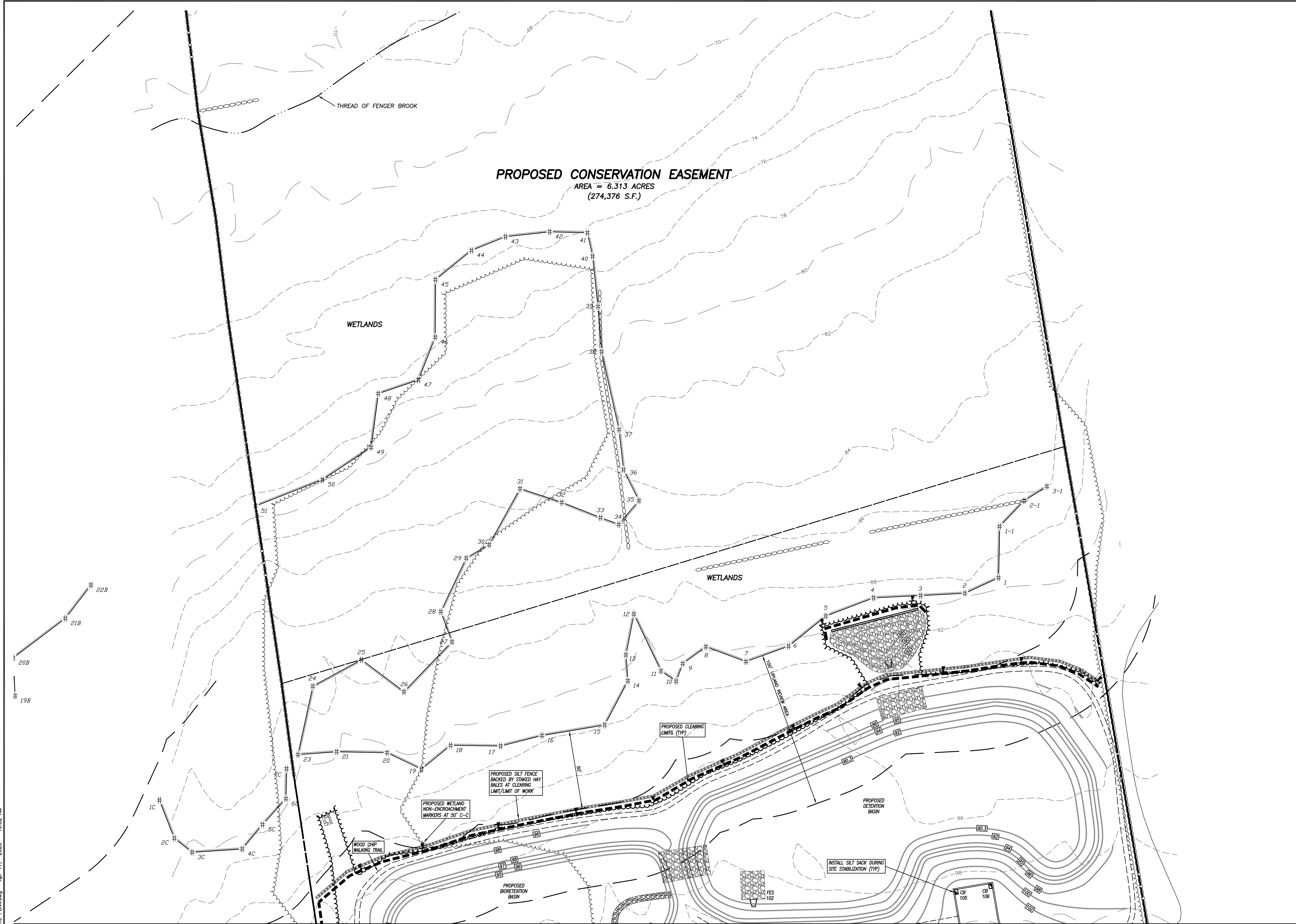
TO MY KNOWLEDGE AND BELIEF, THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON,

DAVID J. HELD, L.S. LIC. NO. 24267 DATE _____

NO CERTIFICATION IS EXPRESSED OR IMPLIED UNLESS THIS MAP BEARS THE ORIGINAL SEAL AND SIGNATURE OF THE LAND SURVEYOR.

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2/21/2023	ENV. PLANNER COMMENTS
3/30/2023	SIGHTLINES, I.W. CONDITIONS
DATE: 5/14/2022	DRAWN: DJH
SCALE: 1" = 30'	DESIGN: DJH
SHEET: 4 OF 22	CHK BY: ---
DWG. No: Client File	JOB No: 213009





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 - All proposed units shown are 28'x48'. Actual units constructed on site may have minor variations from these dimensions.

SITE PLAN No. 3

PREPARED FOR

KINGSTOWN PROPERTIES LLC

PROPOSED AFFORDABLE HOUSING DEVELOPMENT

CLARK LANE
WATERFORD, CONNECTICUT

I HAVE REVIEWED THE FLAGGED INLAND WETLANDS LOCATIONS SHOWN ON THIS PLAN AND THEY APPEAR TO BE SUBSTANTIALLY CORRECT.

Certified Soil Scientist Date

ENGINEER DATE

TO MY KNOWLEDGE AND BELIEF, THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON,

DAVID J. HELD, L.S. LIC. NO. 24267 DATE

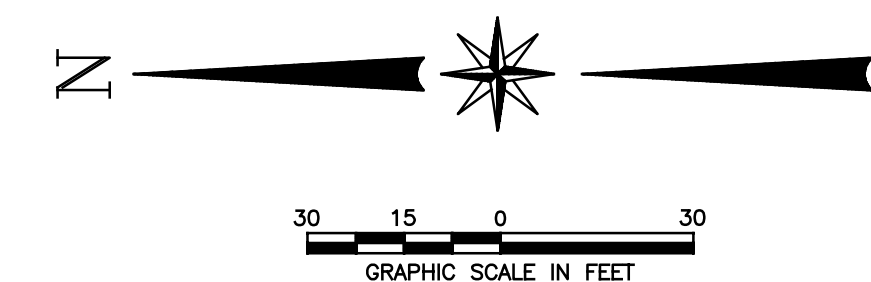
NO CERTIFICATION IS EXPRESSED OR IMPLIED UNLESS THIS MAP BEARS THE ORIGINAL SEAL AND SIGNATURE OF THE LAND SURVEYOR.

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2/21/2023	ENV. PLANNER COMMENTS
3/30/2023	SIGHTLINES, I.W. CONDITIONS
DATE: 5/14/2022	DRAWN: DJH
SCALE: 1" = 30'	DESIGN: DJH
SHEET: 6 OF 22	CHK BY: ---
DWG. No: Client File	JOB No: 213009

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1. Gravity sanitary sewer mains shall be constructed of 8" SDR 35 PVC with rubber gasket joints.
2. Water mains shall be constructed of 8" cement lined class 52 ductile iron pipe in accordance with the town of Waterford and city of New London requirements. All water mains shall be installed with 54" minimum cover.
3. Roadway storm sewers shall be constructed of ADS N-12 or equivalent HDPE with a smooth wall interior.
4. Roadway storm sewers shall be equipped with tee fittings to allow connection of house roof drains from units 1 through 23 where roof drains cannot be connected directly to catch basins or manholes. House roof drains for units 1 through 23 shall be connected to the roadway storm sewer system. Roof drain connections shall be made with 4" diameter (one unit) or 6" diameter (two or more units) SDR 35 PVC.
5. House roof drains for units 24-47 shall be directed to yard areas to the rear of each unit. Downspout discharges shall be equipped with splash blocks to prevent localized erosion at the downspout.
6. Yard drain structures designated "YD" shall be Nyloplast inline drain structures or similar.
7. The low pressure sanitary force main shall be constructed of 2" Schedule 40 PVC with solvent welded joints and fittings.
8. Sanitary grinder pump stations shall be Barnes EcoTRAN. Pump stations serving single units may be simplex (single pump) or duplex (double pump) systems. Pump stations serving multiple units shall be duplex systems.
9. Pole mounted site lights shall be Valiant Full Cutoff fixtures, series AVPLC2 by American Electric Lighting or equivalent. Fixtures shall be mounted on 7' poles to provide a 10± height between ground level and the top of the fixture. Colors shall be coordinated with the site owner. See Detail Sheet No. 5 for further information.

SEE UTILITIES PLAN No. 2

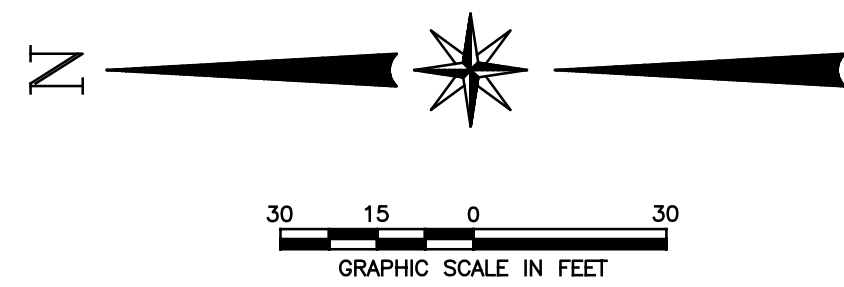
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DATE: 5/14/2022	DRAWN: DJH
SCALE: 1" = 30'	CHK: DJH
SHEET: 7 OF 22	DSG BY: ---
DWG. NO: Client File	JOB NO: 213009

ENGINEER _____ DATE _____

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UTILITIES PLAN No. 2

PREPARED FOR

KINGSTOWN PROPERTIES LLC

PROPOSED AFFORDABLE HOUSING DEVELOPMENT

CLARK LANE
WATERFORD, CONNECTICUT

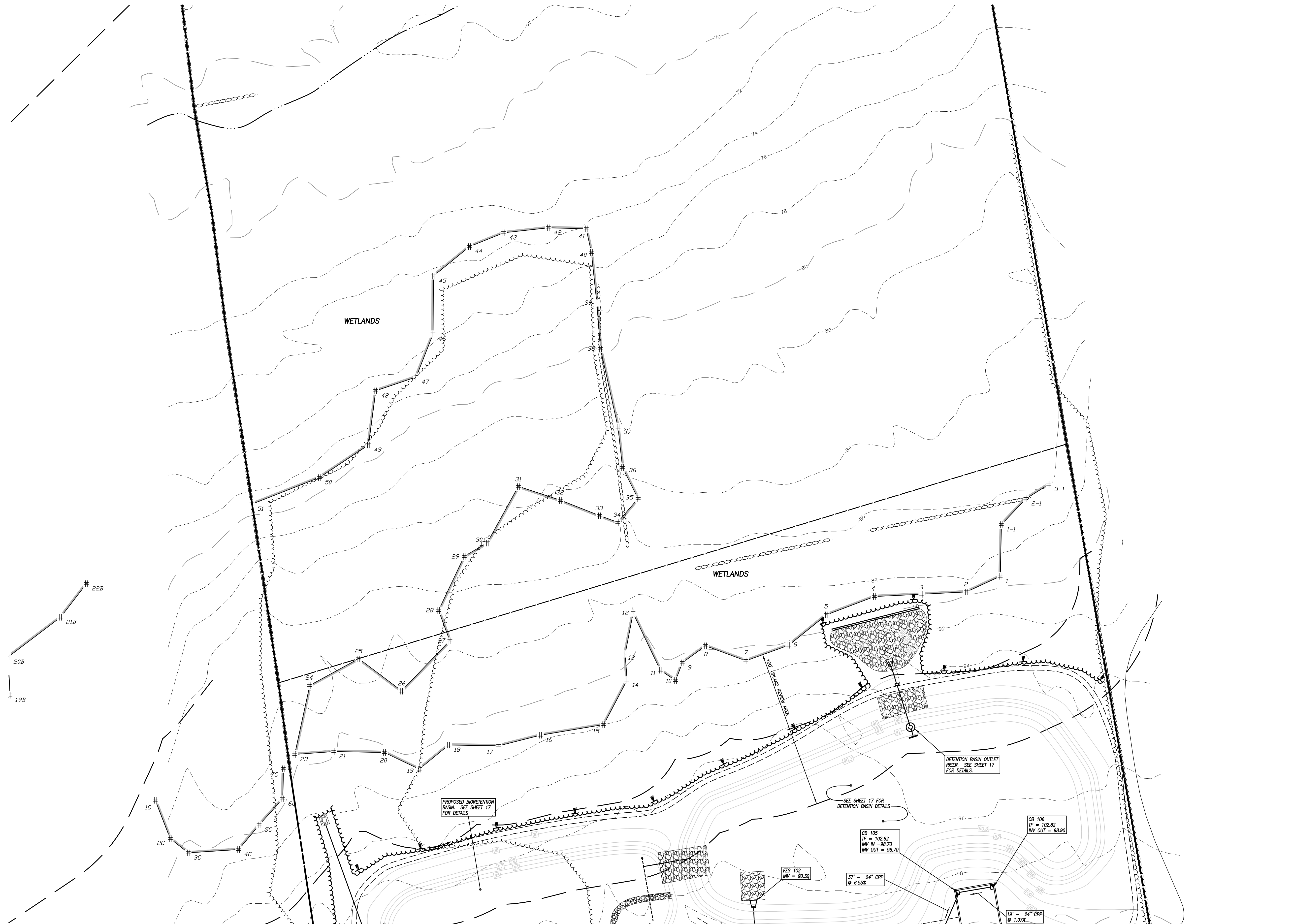
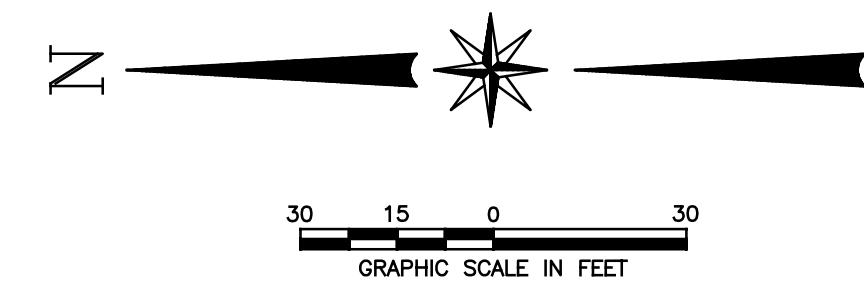
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SCALE: 1" = 30'	DESIGN: DJH
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DWG. No: Client File	JOB No: 213009

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ENGINEER _____ DATE _____



UTILITIES PLAN No. 3

PREPARED FOR

KINGSTOWN PROPERTIES LLC

PROPOSED AFFORDABLE HOUSING DEVELOPMENT

CLARK LANE
WATERFORD, CONNECTICUT

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DATE: 5/14/2022	DRAWN: DJH
SCALE: 1" = 30'	DESIGN: DJH
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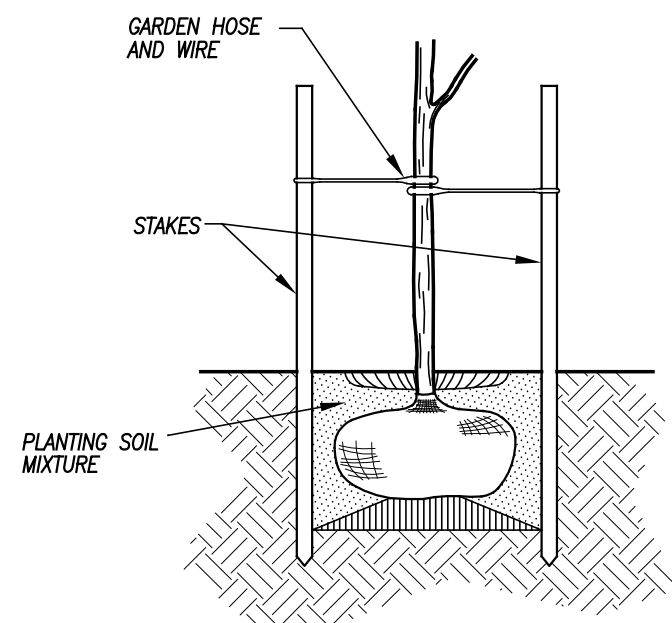
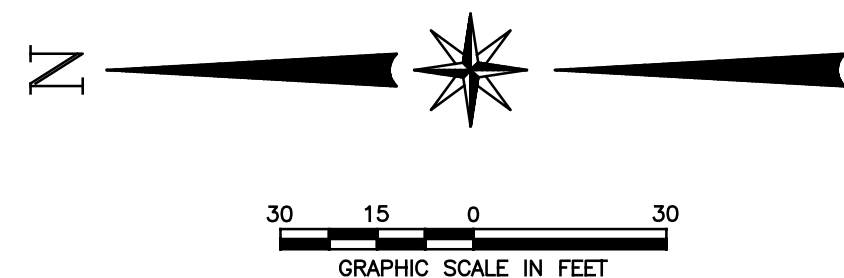
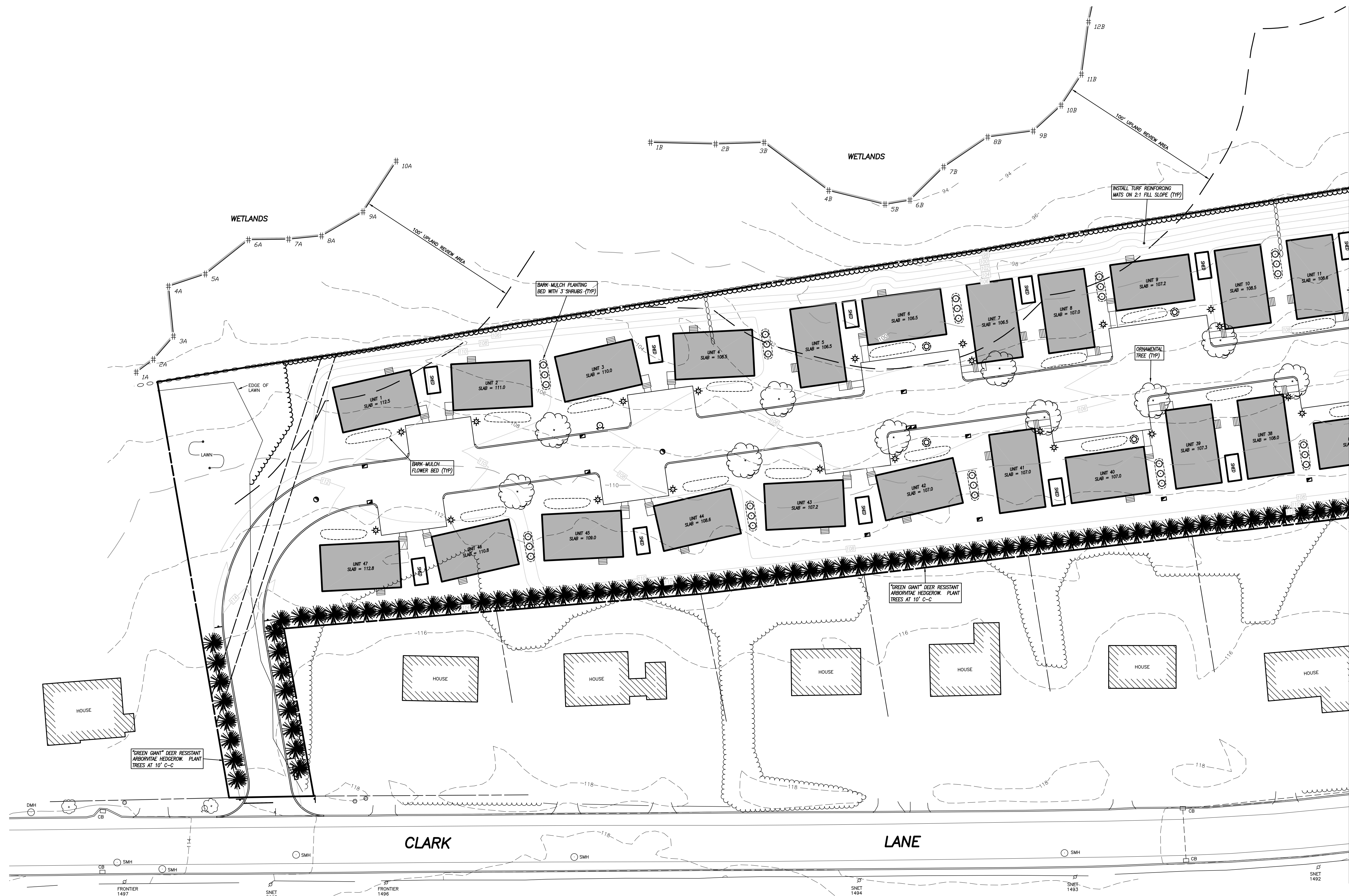
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ENGINEER _____ DATE _____

C:\Users\Dave\Desktop\0653 (213008)\Drawings\10 LANDSCAPING.dwg Apr 17, 2023 10:54 AM



REFERENCE: GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL

PLANTING CROSS SECTION FOR TREES UNDER 20'

NOT TO SCALE

LANDSCAPING NOTES:

- All landscape plants shall be first quality nursery stock. Substitution of similar species will be allowed at the owner's discretion.
- Planting beds shall be mulched with bark mulch with a weed free fabric below the mulch. Decorative mulch shall be reviewed and approved by the owner prior to ordering and installation.
- Cleared areas not scheduled for specific plantings or hardscape installation shall be planted with a low maintenance turf type tall fescue or similar suitable low maintenance seed mix.
- Flower species shall be approved by the owner and shall not include any invasive species.
- Ornamental trees shall be Bradford pear (*Pyrus calleryana*), Japanese flowering cherry (*Prunus serrulata*), Kousa dogwood (*Cornus kousa*) or similar species which shall be at the owner's discretion.
- Shrubs shall be Blue Prince holly, Blue Princess holly or similar species which shall be at the owner's discretion.

LANDSCAPING PLAN No. 1

PREPARED FOR

KINGSTOWN PROPERTIES LLC

PROPOSED AFFORDABLE HOUSING DEVELOPMENT

CLARK LANE
WATERFORD, CONNECTICUT

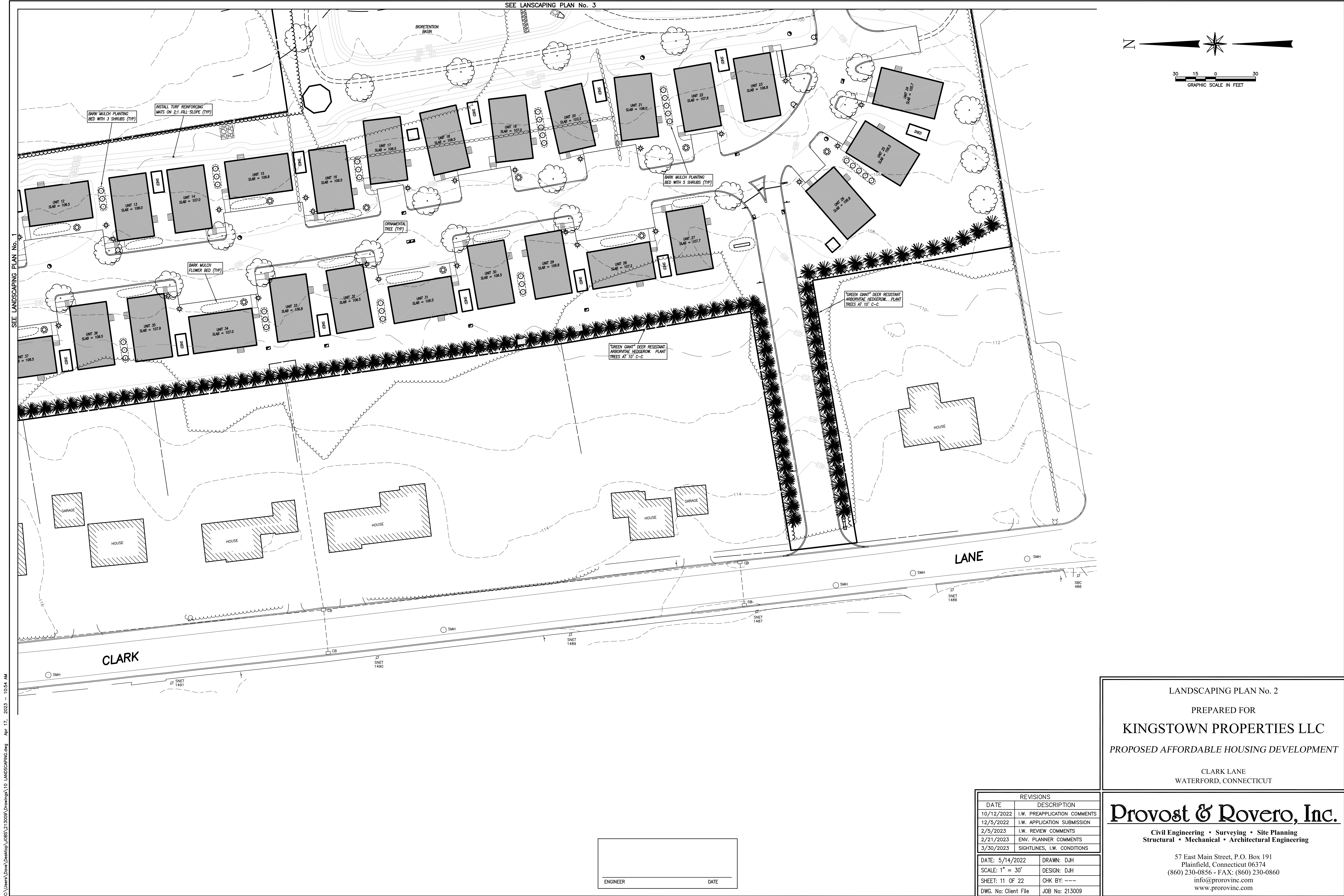
Provost & Rovero, Inc.

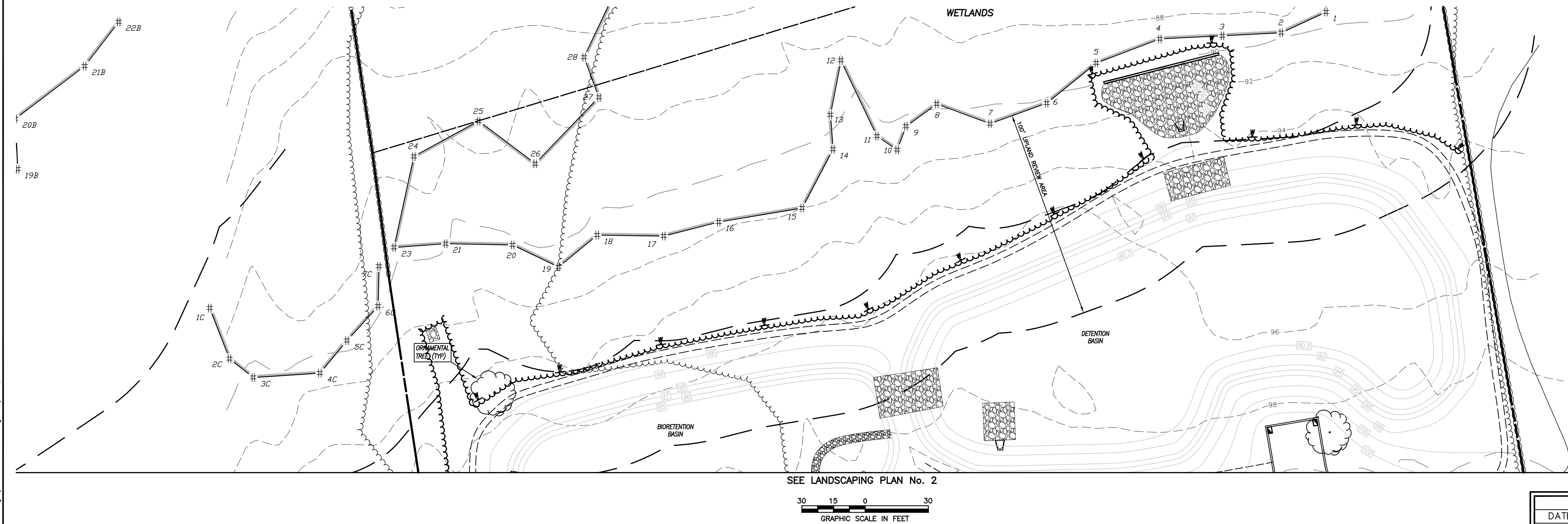
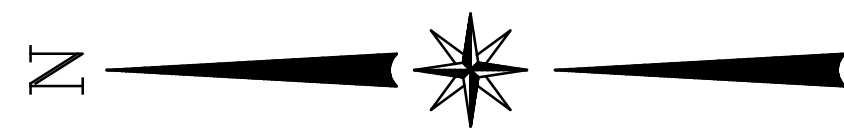
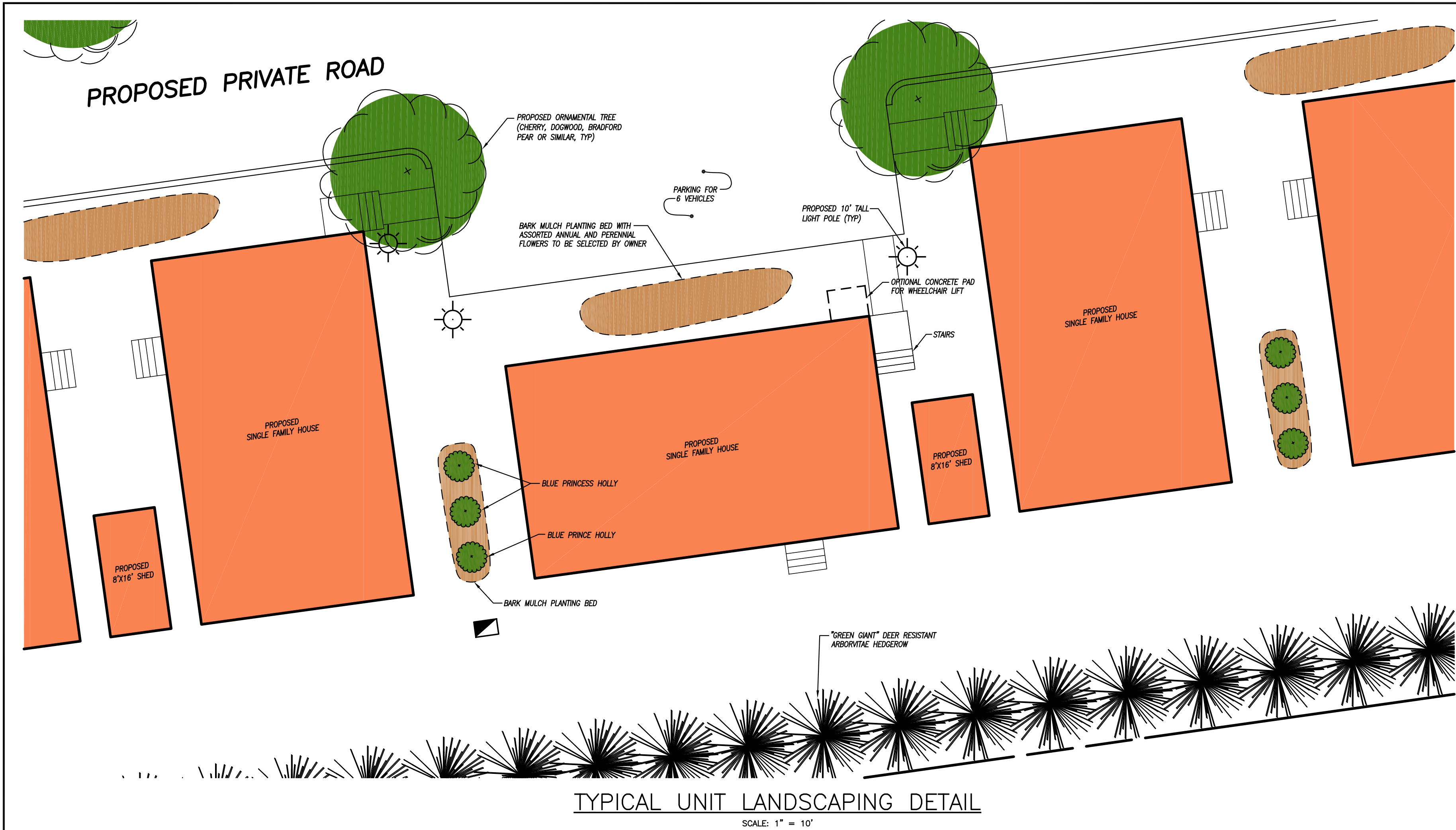
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10/12/2022	I.W. PREAPPLICATION COMMENTS
12/5/2022	I.W. APPLICATION SUBMISSION
2/5/2023	I.W. REVIEW COMMENTS
2/21/2023	ENV. PLANNER COMMENTS
3/30/2023	SIGHTLINES, I.W. CONDITIONS
DATE: 5/14/2022	DRAWN: DJH
SCALE: 1" = 30'	DESIGN: DJH
SHEET: 10 OF 22	CHK BY: ---
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ENGINEER _____ DATE _____





LANDSCAPING PLAN No. 3

PREPARED FOR

KINGSTOWN PROPERTIES LLC

PROPOSED AFFORDABLE HOUSING DEVELOPMENT

CLARK LANE
WATERFORD, CONNECTICUT

REVISIONS	
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10/12/2022	I.W. PREAPPLICATION COMMENTS
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2/21/2023	ENV. PLANNER COMMENTS
3/30/2023	SIGHTLINES, I.W. CONDITIONS
DATE: 5/14/2022	DRAWN: DJH
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SHEET: 12 OF 22	CHK BY: ---
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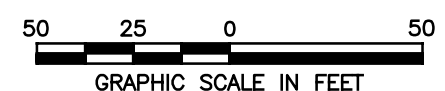
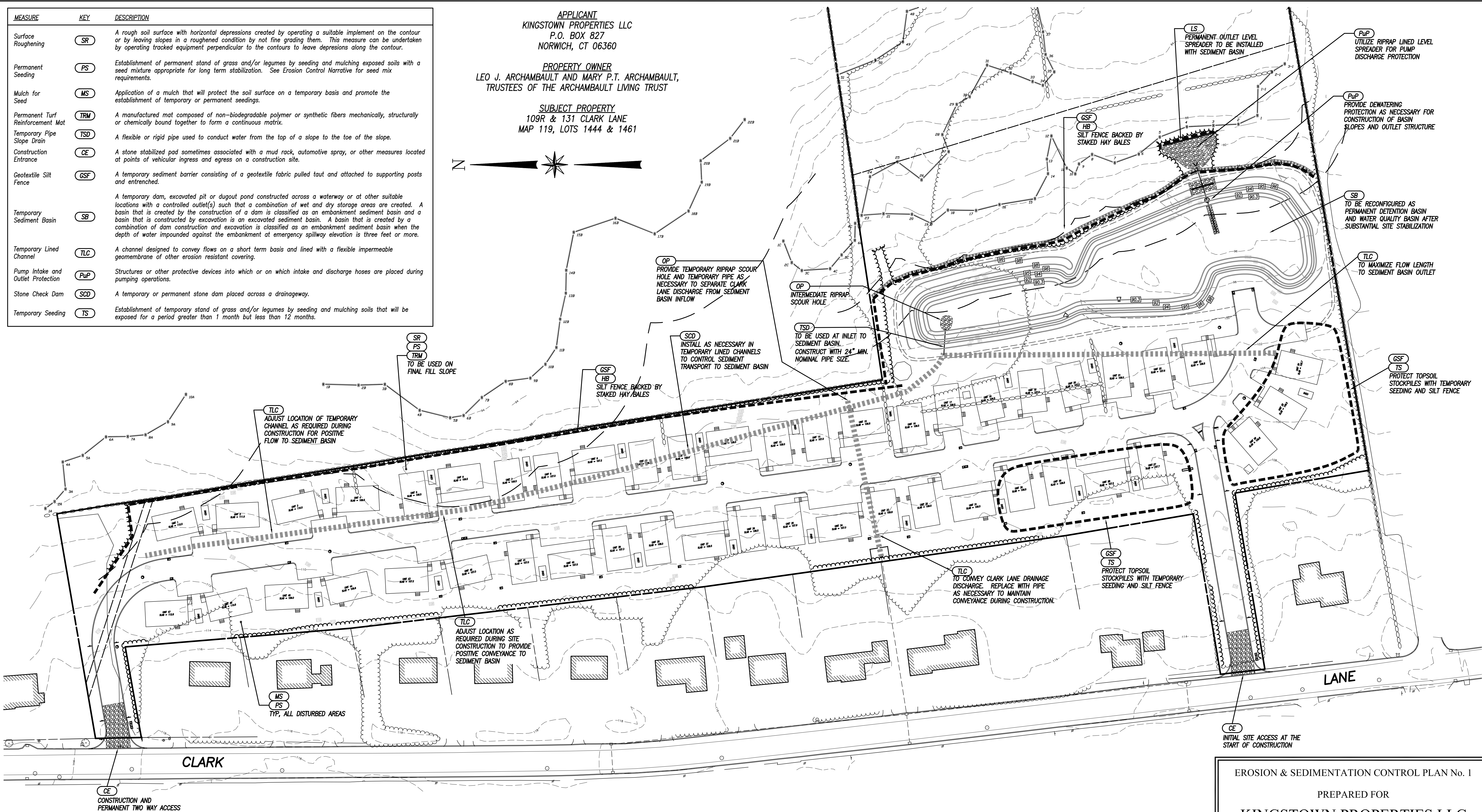
57 East Main Street, P.O. Box 191
Plainfield, Connecticut 06374
(860) 230-0856 - FAX: (860) 230-0860
info@prorovinc.com
www.prorovinc.com

MEASURE	KEY	DESCRIPTION
Surface Roughening	SR	A rough soil surface with horizontal depressions created by operating a suitable implement on the contour or by leaving slopes in a roughened condition by not fine grading them. This measure can be undertaken by operating tracked equipment perpendicular to the contours to leave depressions along the contour.
Permanent Seeding	PS	Establishment of permanent stand of grass and/or legumes by seeding and mulching exposed soils with a seed mixture appropriate for long term stabilization. See Erosion Control Narrative for seed mix requirements.
Mulch for Seed	MS	Application of a mulch that will protect the soil surface on a temporary basis and promote the establishment of temporary or permanent seedings.
Permanent Turf Reinforcement Mat	TRM	A manufactured mat composed of non-biodegradable polymer or synthetic fibers mechanically, structurally or chemically bound together to form a continuous matrix.
Temporary Pipe Slope Drain	TSD	A flexible or rigid pipe used to conduct water from the top of a slope to the toe of the slope.
Construction Entrance	CE	A stone stabilized pad sometimes associated with a mud rack, automotive spray, or other measures located at points of vehicular ingress and egress on a construction site.
Geotextile Silt Fence	GSF	A temporary sediment barrier consisting of a geotextile fabric pulled taut and attached to supporting posts and entrenched.
Temporary Sediment Basin	SB	A temporary dam, excavated pit or dugout pond constructed across a waterway or at other suitable locations with a controlled outlet(s) such that a combination of wet and dry storage areas are created. A basin that is created by the construction of a dam is classified as an embankment sediment basin and a basin that is constructed by excavation is an excavated sediment basin. A basin that is created by a combination of dam construction and excavation is classified as an embankment sediment basin when the depth of water impounded against the embankment at emergency spillway elevation is three feet or more.
Temporary Lined Channel	TLC	A channel designed to convey flows on a short term basis and lined with a flexible impermeable geomembrane or other erosion resistant covering.
Pump Intake and Outlet Protection	PuP	Structures or other protective devices into which or on which intake and discharge hoses are placed during pumping operations.
Stone Check Dam	SCD	A temporary or permanent stone dam placed across a drainageway.
Temporary Seeding	TS	Establishment of temporary stand of grass and/or legumes by seeding and mulching soils that will be exposed for a period greater than 1 month but less than 12 months.

APPLICANT
KINGSTOWN PROPERTIES LLC
P.O. BOX 827
NORWICH, CT 06360

PROPERTY OWNER
LEO J. ARCHAMBAULT AND MARY P.T. ARCHAMBAULT,
TRUSTEES OF THE ARCHAMBAULT LIVING TRUST

SUBJECT PROPERTY
109R & 131 CLARK LANE
MAP 119, LOTS 1444 & 1461



REVISIONS	
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SCALE: 1" = 50'	DESIGN: DJH
SHEET: 13 OF 22	CHK BY: ---
DWG. No: Client File	JOB No: 213009

EROSION & SEDIMENTATION CONTROL PLAN No. 1

PREPARED FOR

KINGSTOWN PROPERTIES LLC

PROPOSED AFFORDABLE HOUSING DEVELOPMENT

CLARK LANE
WATERFORD, CONNECTICUT

Provost & Rovero, Inc.

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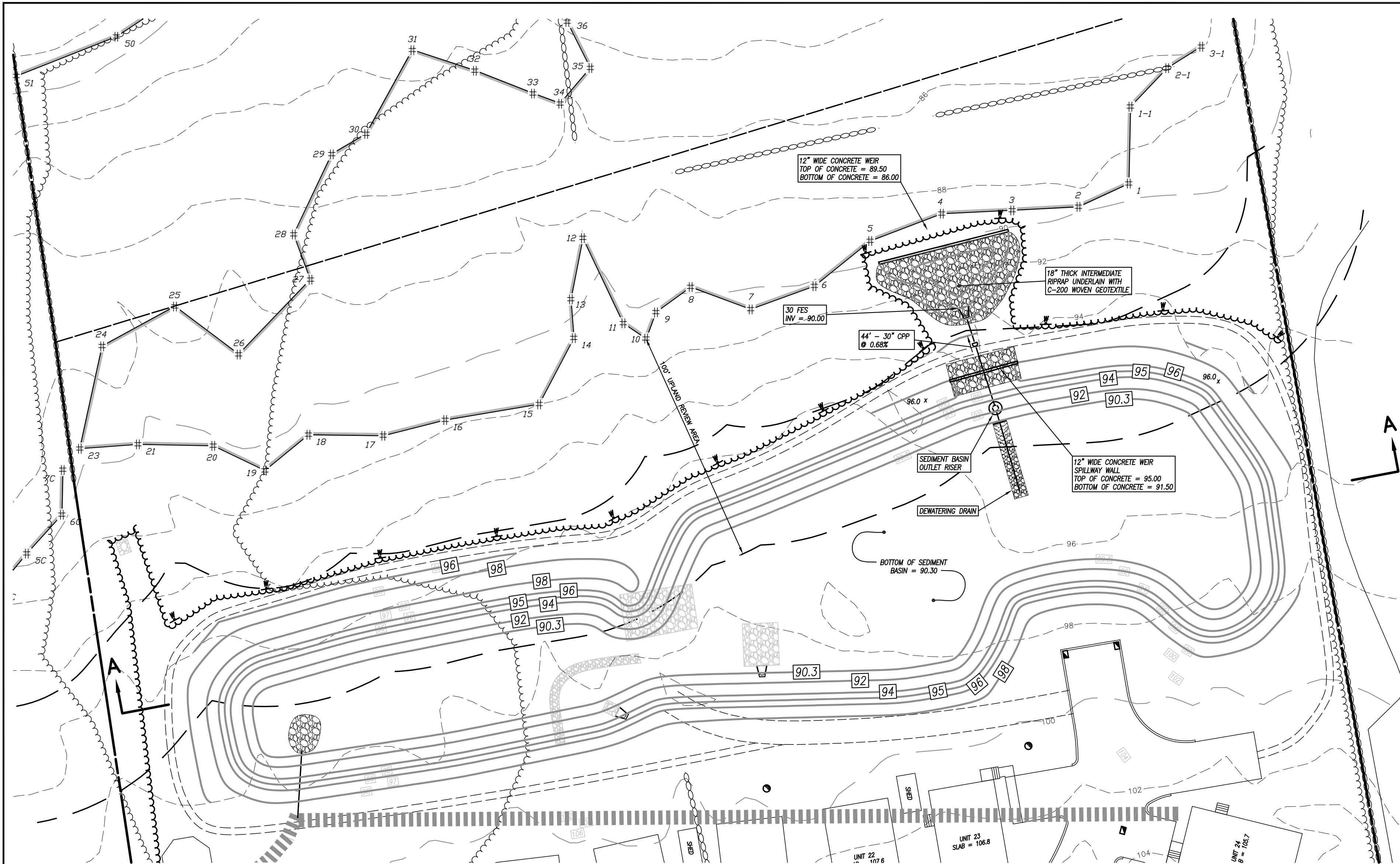
EROSION AND SEDIMENTATION CONTROL PLAN
CERTIFIED BY VOTE OF THE WATERFORD
PLANNING & ZONING COMMISSION

CHAIRMAN/SECRETARY _____ DATE _____

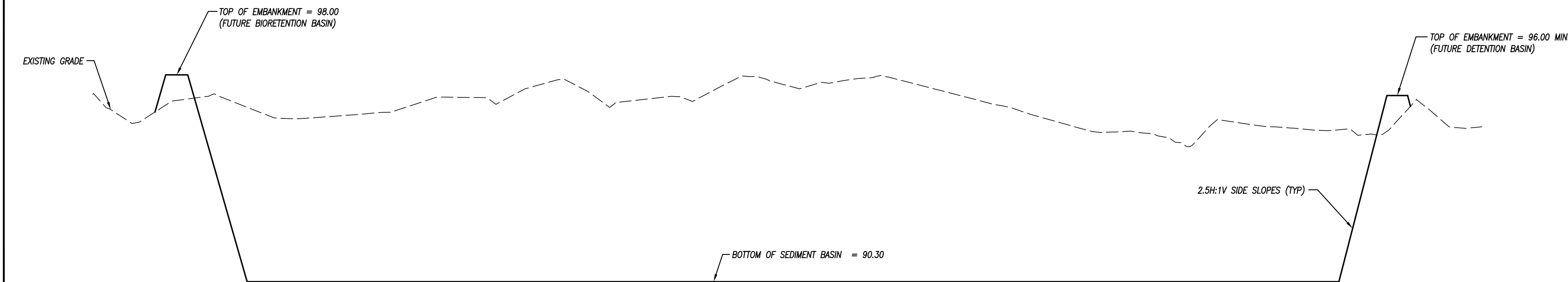
SEE STORM DRAINAGE REPORT
FOR THE DESIGN OF THE
TEMPORARY SEDIMENT BASIN

ENGINEER _____ DATE _____

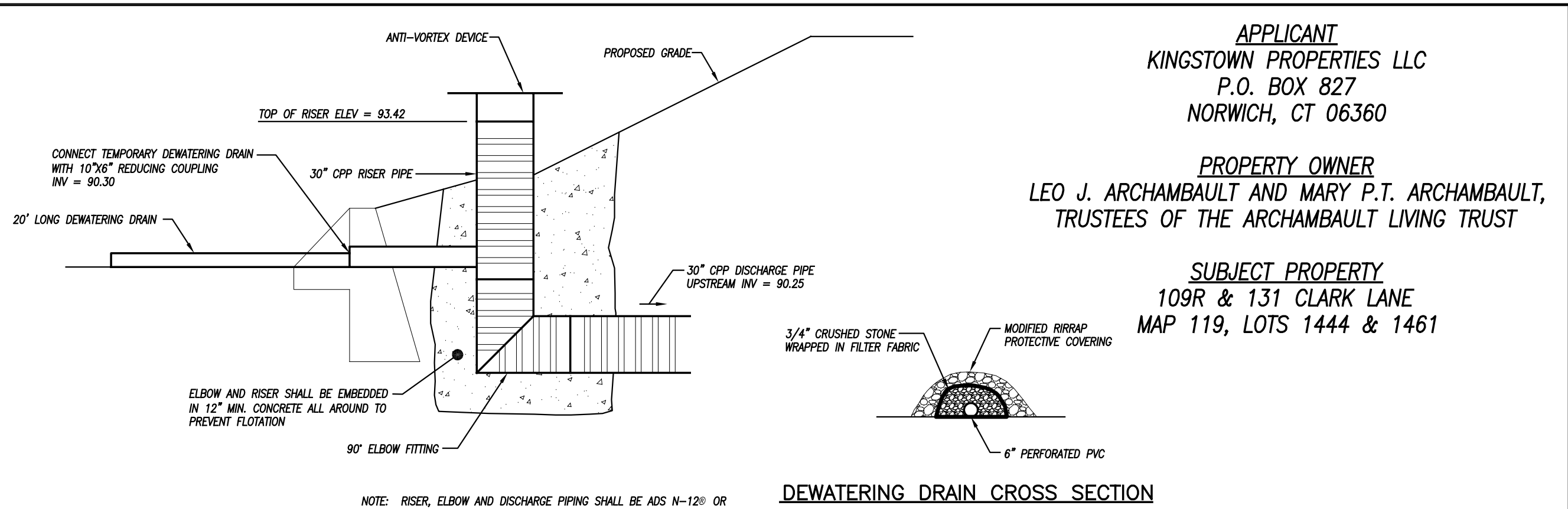
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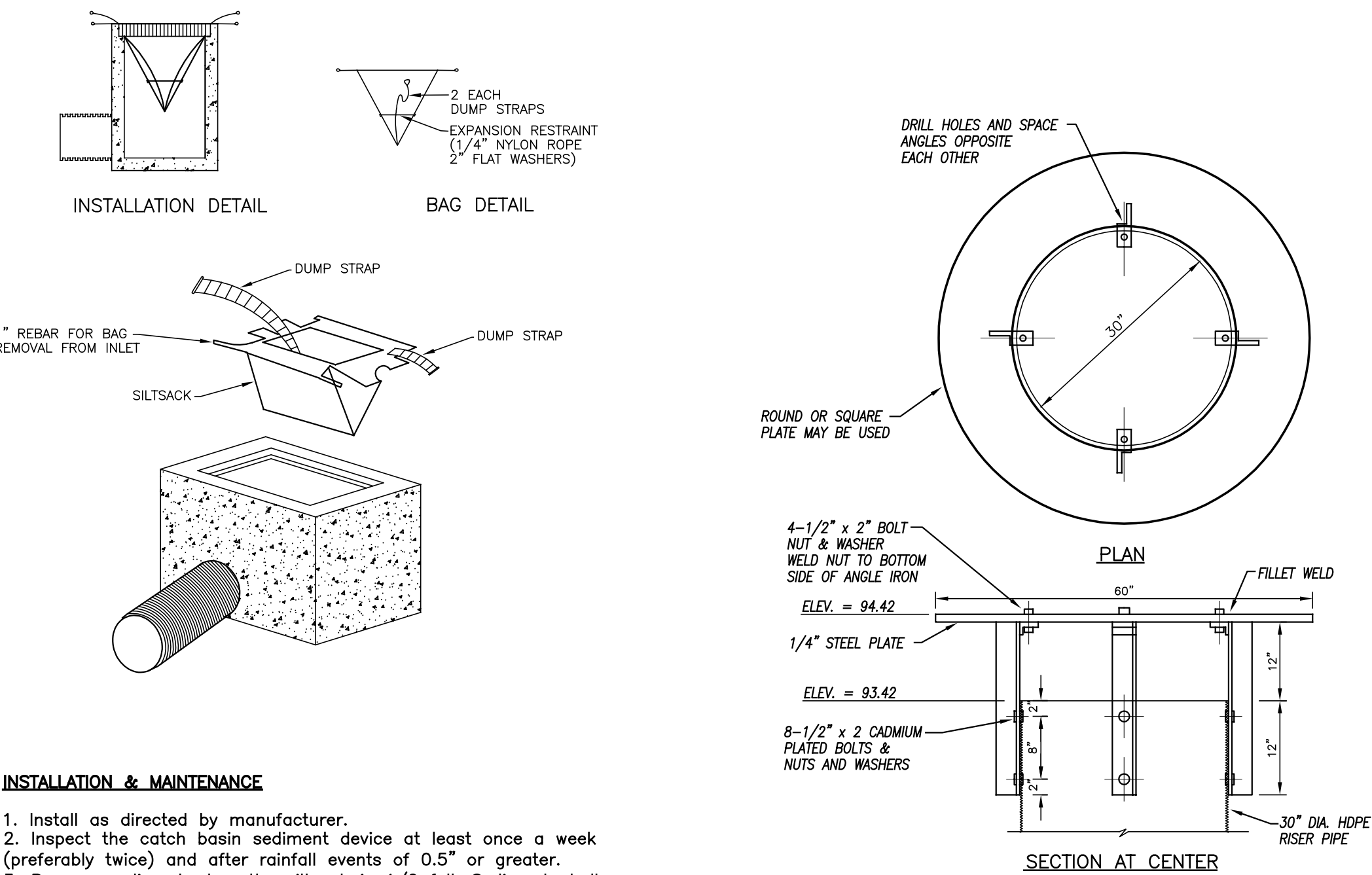
TEMPORARY SEDIMENT BASIN DETAIL
SCALE: 1" = 30'



TEMPORARY SEDIMENT BASIN CROSS SECTION A-A
NOT TO SCALE



SEDIMENT BASIN OUTLET RISER
NOT TO SCALE



- INSTALLATION & MAINTENANCE**
1. Install as directed by manufacturer.
 2. Inspect the catch basin sediment device at least once a week (preferably twice) and after rainfall events of 0.5" or greater.
 3. Remove sediment when the siltsack is 1/2 full. Sediment shall be deposited in an area which is not regulated by the Inland Wetlands Commission.
 4. Replace or repair within 24-hours of observed failure. Failure may include:
 - Overtopping, or bypassed by runoff water.
 - The geotextile has decomposed or has been damaged.

SILT SACK INLET SEDIMENT CONTROL DEVICE
NOT TO SCALE

SEDIMENT BASIN CONSTRUCTION NOTES:

1. Basin embankments shall be constructed of silty sand and/or clayey sand materials. On-site borrow material may be used if suitable deposits are found. Embankment fill shall contain at least 15% by weight of material passing the #200 sieve and not more than 50% passing the #100 sieve.
2. Embankment fill shall have no stones larger than 6" in their greatest dimension. No stones larger than 3" in their greatest dimension shall be allowed within 2 feet of structures or pipes.
3. All fill material shall be free of topsoil, roots, stumps, organics, frozen material and other deleterious matter.
4. The contractor shall submit the results of laboratory testing certified by a professional engineer licensed in the State of Connecticut verifying that all proposed fill material meets the required specifications. Any change in source or apparent change in character of material from the same source will require additional testing to ensure conformance with the required specifications.
5. All embankment material shall be compacted to 95% minimum relative compaction as determined by ASTM D1557 - Modified Proctor. The maximum loose lift thickness of embankment fill shall be 12".
6. Sufficient dewatering equipment shall be provided to dewater excavations for proposed embankments, cutoff trenches and other construction.
7. All topsoil, organics, roots and other deleterious matter shall be removed from the existing ground surface prior to construction of the proposed embankments. The subgrade shall be proof rolled prior to placement of fill. Any soft or yielding material shall be replaced with suitable material.
8. All embankments and disturbed areas on the exterior of the basin shall be permanently stabilized with 4" of loam, seed and mulch. Suitable hydroseeding equipment may be used for application of seed, mulch and/or fertilizer.

SEDIMENT BASIN OPERATION AND MAINTENANCE NOTES:

1. Upon stabilization of the project site, the sediment basin will be reconfigured to a permanent detention basin and bioretention basin. Accumulated sediment within the sediment basin may be used in part for this reconfiguration grading in areas where the material is suitable.
2. The anticipated design life for the sediment basin is 18 months. The site contractor is responsible for monitoring the accumulation of sediment in the basin and shall remove accumulated sediment as necessary to maintain an average bottom of basin elevation no higher than 90.40 (0.40' maximum sediment depth).
3. The sediment basin shall be inspected on a weekly basis or within 24 hours after a rainfall event of 0.5" or greater. Any erosion of embankments or outlet areas shall be repaired promptly. Any debris shall be removed from trash racks and disposed of. Sedimentation that would interfere with proper operation of the basin shall be removed and disposed of and the area restored and stabilized as required.

EROSION & SEDIMENTATION CONTROL PLAN No. 2

PREPARED FOR
KINGSTOWN PROPERTIES LLC
PROPOSED AFFORDABLE HOUSING DEVELOPMENT

CLARK LANE
WATERFORD, CONNECTICUT

Provost & Rovero, Inc.

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EROSION AND SEDIMENT CONTROL PLAN
CERTIFIED BY VOTE OF THE WATERFORD
PLANNING & ZONING COMMISSION

CHAIRMAN/SECRETARY DATE

ENGINEER DATE

EROSION AND SEDIMENT CONTROL PLAN NARRATIVE:

REFERENCE IS MADE TO:

1. Connecticut Guidelines for Soil Erosion and Sediment Control 2002 (2002 Guidelines).
2. Soil Survey of Connecticut, N.R.C.S.

PROJECT SUMMARY:

The project proposed hereon will develop approximately 8 acres of an undeveloped 16.166 acre parcel to create 47 single family affordable homes. This project is proposed per CGS Section 8-30g. The project is being developed by Kingstown Properties LLC, P.O. Box 827, Norwich, CT 06360. Prior to the start of construction, a designated party will be selected with responsibility for implementing the erosion and sediment control plan. Contact information for the designated party will be provided to the Town of Waterford Planning Department and all site construction subcontractors. Prior to that designation, the responsible party for the project is Scott Gladstone, (860) 608-5900. The subject property is primarily wooded and has historically been utilized for agricultural purposes as evidenced by existing stone walls and a review of aerial photography. The subject property generally slopes from west to east with a gradient between 5% - 10%. NRCS mapped soil units on the subject property include 45A (Woodbridge fine sandy loam), 51B (Canton fine sandy loam), 61B (Canton and Charlton fine sandy loam), 85B (Paxton and Montauk fine sandy loam) and 3 (Ridgebury, Leicester and Whitman). Field delineated wetlands are located in the southeasterly portion of the property and form the headwaters of Fenger Brook which flows through the property. The property is currently wooded with the exception of a small area of successional growth at the southerly end of the property.

Construction of the project will require the creation of approximately 2.9 acres of additional impervious surface consisting of building roof area, access roads and paved parking. Because of the proximity of the proposed construction to wetlands associated with Fenger Brook, the project design includes multiple measures to maintain or enhance water quality in stormwater discharges to the wetland system. The project also includes the capture and treatment of an existing stormwater discharge from the Clark Lane storm drainage system. The storm drainage system includes catch basin sumps to capture sediment, a hydrodynamic separator to remove sediment and floatable debris and an off-line bioretention basin for stormwater quality treatment and a detention basin to prevent peak flow rate increases at the boundaries of the subject property.

Because the project proposes approximately 8 acres of disturbance, registration under the CT DEEP General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities will be required. The Town of Waterford Planning Department shall be provided with a copy of the Stormwater Pollution Control Plan (SWPCP) developed during the registration process. The Town of Waterford Planning Department shall also be provided with copies of all inspection and monitoring reports associated with the permit registration and SWPCP. Approximately 20,000 CY of cut/fill will be required for construction of the project. It is anticipated that excavated material will be suitable for filling to proposed grades. The existing site topography and proposed grading plan allow for the construction of a temporary sediment basin at the southeasterly corner of the project at the outset of construction. The sediment basin has been designed in accordance with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control and will be reconfigured into the permanent bioretention basin and detention basin after substantial site stabilization. The sediment basin has been designed to accommodate flows from both off site areas and the proposed construction area and sized for an 18 month sediment load. It is assumed that the 18 month time period will conservatively accommodate site construction activities up to substantial stabilization. Temporary channels will be utilized to direct stormwater from the majority of the construction site into the sediment basin. The sediment basin configuration maximizes the flow length between inlet and outlet locations for maximum sediment settling efficiency.

Test pits have been excavated in the area of the proposed stormwater basins and based on soils mapping, this will be indicative of upland soil conditions within the proposed construction area. An adequate quantity of topsoil and subsoil exists on the site for final vegetative stabilization without the need to import topsoil. Several designated soil stockpiles are shown at the southerly end of the project for topsoil, subsoil and common fill material. Soil stockpiles will be managed with both temporary perimeter erosion control measures (silt fence or haybales) and vegetative cover. We anticipate that topsoil stockpiles will quickly vegetate outside of the winter season through the natural latent seed bank within the soil which will also be supplemented with temporary seeding as necessary.

The most critical site area during construction will be the easterly limit of disturbance which is the down gradient limit of work. The sediment basin location and system of temporary stormwater diversions will limit the watershed to perimeter silt fence and staked hay bales along the easterly limit of work and will divert the majority of the on-site generated runoff to the sediment basin.

During the mass excavation and grading process, heavy equipment should generally be parked a minimum of 100' from the boundaries of wetlands at the end of each work day. All fueling of construction equipment should take place a minimum of 100' from the boundaries of wetlands. Fueling operations shall not be left unattended. A spill kit shall be maintained at the site throughout the duration of site construction. The spill kit shall be kept in a convenient location to facilitate its use as required for fueling or maintenance activities. Equipment used for site construction should be well maintained and inspected daily for leaks and any leaks shall be repaired promptly or the equipment shall be removed from the site. In general, major equipment repairs should not be completed on site, but if they are necessary, appropriate ground protection measures shall be utilized to prevent leaking fluids and lubricants from landing on the soil.

SILT FENCE INSTALLATION AND MAINTENANCE:

1. Dig a 6" deep trench on the uphill side of the barrier location.
2. Position the posts on the downhill side of the barrier and drive the posts 1.5 feet into the ground.
3. Lay the bottom 6" of the fabric in the trench to prevent undermining and backfill.
4. Inspect and repair barrier after heavy rainfall.
5. Inspections will be made at least once per week and within 24 hours of the end of a storm with a rainfall amount of 0.5 inch or greater to determine maintenance needs.
6. Sediment deposits are to be removed when they reach a height of 1 foot behind the barrier or half the height of the barrier and are to be deposited in an area which is not regulated by the inland wetlands commission.
7. Replace or repair the fence within 24 hours of observed failure. Failure of the fence has occurred when sediment fails to be retained by the fence because:
 - the fence has been overtopped, undercut or bypassed by runoff water,
 - the fence has been moved out of position (knocked over), or
 - the geotextile has decomposed or been damaged.

HAY BALE INSTALLATION AND MAINTENANCE:

1. Bales shall be placed as shown on the plans with the ends of the bales tightly abutting each other.
2. Each bale shall be securely anchored with at least 2 stakes and gaps between bales shall be wedged with straw to prevent water from passing between the bales.
3. Inspect bales at least once per week and within 24 hours of the end of a storm with a rainfall amount of 0.5 inches or greater to determine maintenance needs.
4. Remove sediment behind the bales when it reaches half the height of the bale and deposit in an area which is not regulated by the Inland Wetlands Commission.
5. Replace or repair the barrier within 24 hours of observed failure. Failure of the barrier has occurred when sediment fails to be retained by the barrier because:
 - the barrier has been overtopped, undercut or bypassed by runoff water,
 - the barrier has been moved out of position (knocked over), or
 - the hay bales have deteriorated or been damaged.

TEMPORARY VEGETATIVE COVER:

SEED SELECTION

Grass species shall be appropriate for the season and site conditions. Appropriate species are outlined in Figure TS-2 in the 2002 Guidelines.

TIMING CONSIDERATIONS

Seed with a temporary seed mixture within 7 days after the suspension of grading work in disturbed areas where the suspension of work is expected to be more than 30 days but less than 1 year.

SITE PREPARATION

Install needed erosion control measures such as diversions, grade stabilization structures, sediment basins and grassed waterways.

Grade according to plans and allow for the use of appropriate equipment for seedbed preparation, seeding, mulch application, and mulch anchoring.

SEEDBED PREPARATION

Loosen the soil to a depth of 3-4 inches with a slightly roughened surface. If the area has

been recently loosened or disturbed, no further roughening is required. Soil preparation can be accomplished by treading with a bulldozer, discing, harrowing, raking or dragging with a section of chain link fence. Avoid excessive compaction of the surface by equipment traveling back and forth over the surface. If the slope is tracked, the cleat marks shall be perpendicular to the anticipated direction of the flow of surface water.

If soil testing is not practical or feasible on small or variable sites, or where timing is critical, fertilizer may be applied at the rate of 300 pounds per acre or 7.5 pounds per 1,000 square feet of 10-10-10 or equivalent. Additionally, lime may be applied using rates given in Figure TS-1 in the 2002 Guidelines.

SEEDING

Apply seed uniformly by hand cyclone seeder, drill, cultipacker type seeder or hydroseeder at a minimum rate for the selected species. Increase seeding rates by 10% when hydroseeding.

MULCHING

Temporary seedings made during optimum seeding dates shall be mulched according to the recommendations in the 2002 Guidelines. When seeding outside of the recommended dates, increase the application of mulch to provide 95%-100% coverage.

MAINTENANCE

Inspect seeded area at least once a week and within 24 hours of the end of a storm with a rainfall amount of 0.5 inch or greater for seed and mulch movement and rill erosion.

Where seed has moved or where soil erosion has occurred, determine the cause of the failure. Repair eroded areas and install additional controls if required to prevent recurrence of erosion.

Continue inspections until the grasses are firmly established. Grasses shall not be considered established until a ground cover is achieved which is mature enough to control soil erosion and to survive severe weather conditions (approximately 80% vegetative cover).

PERMANENT VEGETATIVE COVER:

Refer to Permanent Seeding Measure in the 2002 Guidelines for specific applications and details related to the installation and maintenance of a permanent vegetative cover. In general, the following sequence of operations shall apply:

1. Topsoil will be placed as called for in the construction sequence. In general, topsoil should be spread to a minimum compacted thickness of 4". If topsoil and subsoil (A and B soil horizons) have been mixed during stripping and stockpiling, a minimum compacted thickness of 6" should be used.
2. Apply agricultural ground limestone. Apply fertilizer. Quantities shall be determined based on laboratory soil tests. Work lime and fertilizer into the soil to a depth of 4".
3. Inspect seeded before seeding. If traffic has compacted the soil, retilt compacted areas.
4. Apply the chosen grass seed mix. The recommended seeding dates are: April 1 to June 15 & August 15 - October 1.
5. Following seeding, firm seedbed with a roller. Mulch immediately following seeding. If a permanent vegetative stand cannot be established by September 30, apply a temporary cover on the topsoil such as netting, mat or organic mulch.

EROSION AND SEDIMENT CONTROL NARRATIVE:

PRINCIPLES OF EROSION AND SEDIMENT CONTROL

The primary function of erosion and sediment controls is to absorb erosional energies and reduce runoff velocities that force the detachment and transport of soil and/or encourage the deposition of eroded soil particles before they reach any sensitive area.

KEEP LAND DISTURBANCE TO A MINIMUM

The more land that is in vegetative cover, the more surface water will infiltrate into the soil, thus minimizing stormwater runoff and potential erosion. Keeping land disturbance to a minimum not only involves minimizing the extent of exposure at any one time, but also the duration of exposure. Phasing, sequencing and construction scheduling are interrelated. Phasing divides a large project into distinct sections where construction work over a specific area occurs over distinct periods of time and each phase is not dependent upon a subsequent phase in order to be functional. A sequence is the order in which construction activities are to occur during any particular phase. A sequence should be developed on the premise of "first things first" and "last things last" with proper attention given to the inclusion of adequate erosion and sediment control measures. A construction schedule is a sequence with time lines applied to it and should address the potential overlap of actions in a sequence which may be in conflict with each other.

- Limit areas of clearing and grading. Protect natural vegetation from construction equipment with fencing, tree armoring, and retaining walls or tree wells.
- Route traffic patterns within the site to avoid existing or newly planted vegetation.

- Phase construction so that areas which are actively being developed at any one time are minimized and only that area under construction is exposed. Clear only those areas essential for construction.

- Sequence the construction of storm drainage systems so that they are operational as soon as possible during construction. Ensure all outlets are stable before outletting storm drainage flow into them.

- Schedule construction so that final grading and stabilization is completed as soon as possible.

SLOW THE FLOW

Detachment and transport of eroded soil must be kept to a minimum by absorbing and reducing the erosive force of the erosive energy of water increases as the volume and velocity of runoff increases. The volume and velocity of runoff increases during development as a result of reduced infiltration rates caused by the removal of existing vegetation, removal of topsoil, compaction of soil and the construction of impervious surfaces.

- Use diversions, stone dikes, silt fences and similar measures to break flow lines and dissipate storm water energy.

- Avoid diverting one drainage system into another without calculating the potential for downstream flooding or erosion.

KEEP CLEAN RUNOFF SEPARATED

Clean runoff should be kept separated from sediment laden water and should not be directed over disturbed areas without additional controls. Additionally, prevent the mixing of clean off-site generated runoff with sediment laden runoff generated on-site until after adequate filtration of on-site waters has occurred.

- Segregate construction waters from clean water.

- Divert site runoff to keep it isolated from wetlands, watercourses and drainage ways that flow through or near the development until the sediment in that runoff is trapped or detained.

REDUCE ON SITE POTENTIAL INTERNALLY AND INSTALL PERIMETER CONTROLS

While it may seem less complicated to collect all waters to one point of discharge for treatment and just install a perimeter control, it can be more effective to apply controls to many small sub-drainage basins within the site. By reducing sediment loading from within the site, the chance of perimeter control failure and the potential off-site damage that it can cause is reduced. It is generally more expensive to correct off-site damage than it is to install proper internal controls.

- Control erosion and sedimentation in the smallest drainage area possible. It is easier to control erosion than to contend with sediment after it has been carried downstream and deposited in unwanted areas.

- Direct runoff from small disturbed areas to adjoining undisturbed vegetated areas to reduce the potential for concentrated flows and increase settlement and filtering of sediments.
- Concentrated runoff from development should be safely conveyed to stable outlets using rip rapped channels, waterways, diversions, storm drains or similar measures.

- Determine the need for sediment basins. Sediment basins are required on larger developments where major grading is planned and where it is impossible or impractical to control erosion at the source. Sediment basins are needed on large and small sites when sensitive areas such as wetlands, watercourses, and streets would be impacted by off-site sediment deposition. Do not locate sediment basins in wetlands or permanent or intermittent watercourses. Sediment basins should be located to intercept runoff prior to its entry into the wetland or watercourse.

- Grade and landscape around buildings and septic systems to divert water away from them.

CONSTRUCTION SEQUENCE

This project will require registration under the CT DEEP General Permit for the Discharge of Stormwater and Dewatering Wastewaters From Construction Activities. No site construction shall

be started until the registration process has been completed. It is anticipated that the maximum duration of construction between initial land disturbance and substantial site stabilization will be 18 months.

1. Hold preconstruction meeting prior to the start of site work. Those present at the preconstruction meeting should include the project developer/owner, civil engineer of record, site contractor, zoning official and wetlands official.
2. Stake or flag clearing limits and limits of disturbance. The northerly, southerly and westerly limits of disturbance shall be protected with temporary construction fencing as soon as practical to provide a safety barrier to existing developed areas.

3. Post a notification sign at the construction site entrance to notify abutting and nearby property owners that work will be commencing.

4. Contact CALL BEFORE YOU DIG at 1-800-922-4455 to verify the location of underground utilities prior to commencing any ground disturbance.

5. Install a stabilized construction entrance at the southerly site access from Clark Lane. This access should be utilized until a secondary access can be established at the northerly end of the project.

6. Clear trees and brush in the area of the sediment basin and soil stockpiles. Wood shall be removed from the site for disposal/recycling or chipped on site and used for erosion control and site stabilization. At the time of clearing, invasive bittersweet vines in canopy trees and saplings in the wetland and wetland non-encroachment areas are to be cut and treated with an approved herbicide by a licensed applicator. Invasive non-native species shall be treated and removed from the wetland and wetland non-encroachment area bordering the proposed bioretention and detention basins to prevent encroachment of invasive vegetation into the stormwater treatment basins and to maintain and protect canopy coverage in the adjacent wetland. A report shall be submitted to the Conservation Commission's agent documenting the location and types of invasive species control implemented in the wetland and wetland non-encroachment area.

7. Install perimeter erosion controls for construction of the sediment basin and establishment of the soil stockpile areas.

8. Install a temporary gravel driveway from the stabilized construction entrance to the interior work area of the site. An adequate parking area should be provided to prevent parking of construction personnel along Clark Lane.

9. Grub stumps in the cleared area. Stumps shall either be removed from the site for disposal/recycling or ground for on site use in erosion control and site stabilization.

10. Construct the sediment basin. Topsoil, subsoil and excavated common fill shall be stockpiled in the designated area and protected with perimeter erosion controls and/or temporary vegetative cover.

11. Clear the remaining area of the site. Wood shall be removed from the site for disposal/recycling or chipped on site and used for erosion control and site stabilization.

12. Install perimeter erosion controls along the easterly edge of the site. If wood and stumps have been chipped and stockpiled on site, perimeter controls may include wood chip berms in addition to silt fence and staked hay bales.

13. Install temporary lined channels and diversion berms as necessary to direct sediment laden stormwater to the sediment basin. Temporary lined channels and diversions shall be adjusted as required during site construction to maintain positive flow to the sediment basin.

14. Grub stumps from the work area. Stumps shall be either removed from the site for disposal/recycling or chipped for on site use.

15. Install a stabilized construction entrance at the northerly site access from Clark Lane. Construct a gravel driveway to the interior of the site and a temporary gravel parking area to accommodate construction personnel. Upon establishment of the northerly site access, the southerly site access shall be used only to enter the site all existing vehicles shall utilize the northerly site access.

16. Strip and stockpile topsoil that is within the footprint of proposed grading and site construction.

17. Make cuts and fills to bring the site to the required subgrade elevations. Mass grading work should begin with the construction of a ditch along the westerly project boundary to provide temporary diversion of groundwater from the primary cut areas. Intercepted groundwater shall be conveyed to the sediment basin with channels and/or temporary pipes.

18. Install storm drainage, sanitary sewer, water and electric/communication utilities. The storm drainage system should not be used to convey sediment laden stormwater during site construction operations. Catch basin inlets should be protected with silt sack or equivalent protective measures prior to site stabilization.

19. Place, grade and compact the gravel subbase for proposed roads and parking areas.

20. Install concrete pads for houses.

21. Loom and seed fill slopes at the easterly edge of the project behind units 1-16 and install turf reinforcing mats. Mats may be used which will provide both permanent turf reinforcement and mulch for rapid establishment of permanent vegetative cover.

22. Place, grade and compact the processed gravel base for proposed roads and parking areas.

23. Loom, seed and mulch the site as final grading is completed and as seasonal conditions allow for establishment of permanent vegetative cover.

24. Install the binder course of bituminous concrete pavement.

25. Install houses on concrete pads.

26. When the site has been substantially stabilized, the sediment basin should be converted to the permanent detention basin and bioretention basin. The bioretention basin should not receive stormwater flows until it has been substantially stabilized with permanent vegetation. Temporary diversions should be used as necessary in the storm drainage system to allow for stabilization of the bioretention basin. The recommended method is a temporary diversion in the weir manhole.

27. Install the top course of bituminous concrete pavement when the installation of homes is substantially complete.

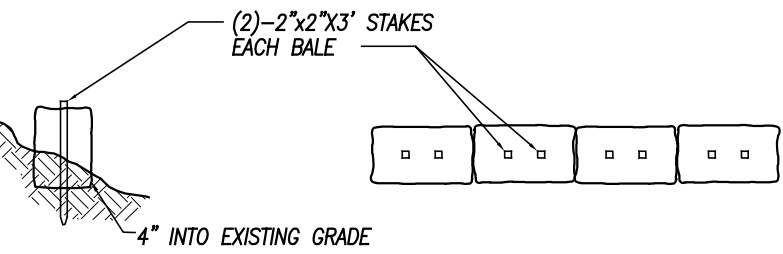
28. Loom and seed any remaining disturbed site areas. When the site is permanently stabilized, temporary erosion and sediment controls (silt fences, haybales, silt sacks, etc.) shall be removed and disposed of.

29. Inspect the storm drainage system and clean any accumulated sediment in structures and stormwater basins.

APPLICANT
KINGSTOWN PROPERTIES LLC
P.O. BOX 827
NORWICH, CT 06360

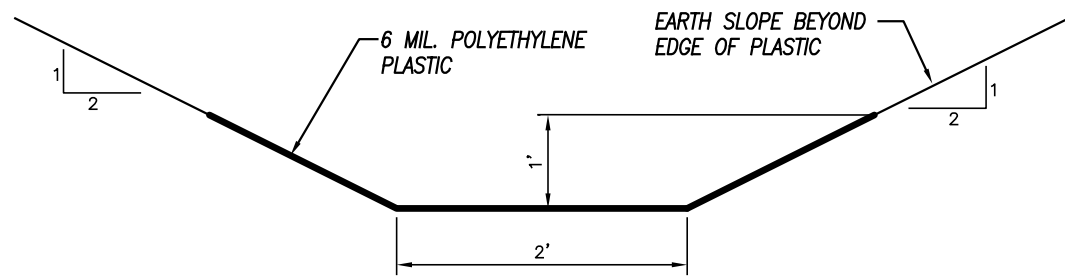
PROPERTY OWNER
LEO J. ARCHAMBAULT AND MARY P.T. ARCHAMBAULT,
TRUSTEES OF THE ARCHAMBAULT LIVING TRUST

SUBJECT PROPERTY
109R & 131 CLARK LANE
MAP 119, LOTS 1444 & 1461



HAYBALE BARRIER

NOT TO SCALE

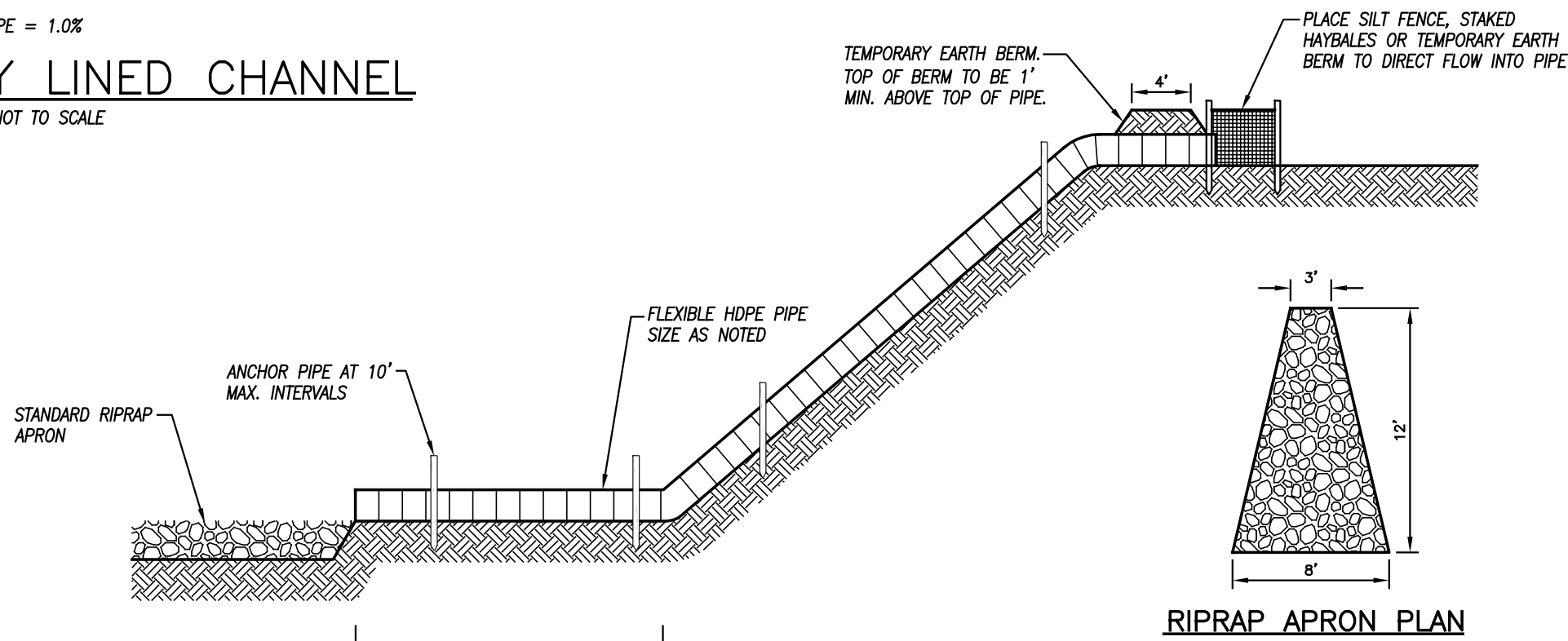


PLASTIC SHALL BE ENTRENCHED AT LEAST 6" AT EACH
EDGE FOR ANCHORING. ANCHORING SHALL BE
PROVIDED EVERY 40' ALONG THE CHANNEL INVERT WITH
A 3" OVERLAP BETWEEN SHEETS AT EACH ANCHORING
POINT.

MINIMUM CHANNEL SLOPE = 1.0%

TEMPORARY LINED CHANNEL

NOT TO SCALE

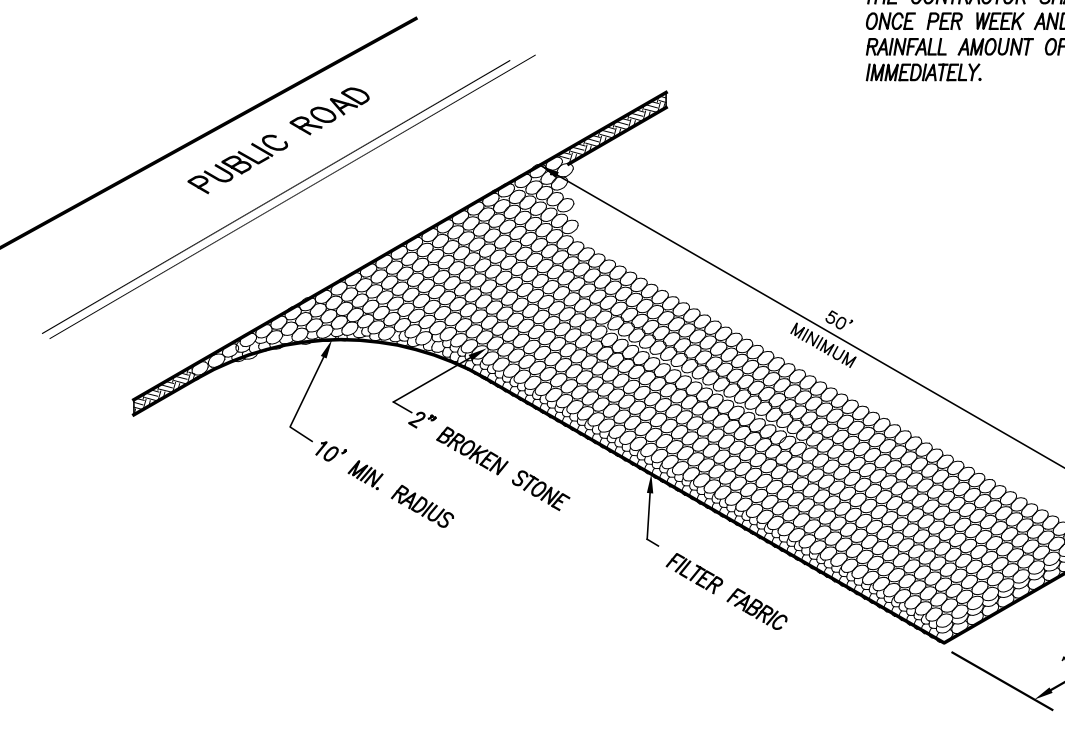


RIPPRAP APRON PLAN

THE CONTRACTOR SHALL INSPECT THE TEMPORARY PIPE SLOPE DRAIN AT LEAST
ONCE PER WEEK AND WITHIN 24 HOURS OF THE END OF A STORM WITH
RAINFALL AMOUNT OF 0.5 INCH OR GREATER. ANY DAMAGE SHALL BE REPAIRED
IMMEDIATELY.

TEMPORARY PIPE SLOPE DRAIN

NOT TO SCALE



ANTI-TRACKING PAD

NOT TO SCALE

EROSION AND SEDIMENT CONTROL PLAN
CERTIFIED BY VOTE OF THE WATERFORD
PLANNING & ZONING COMMISSION

ENGINEER	DATE

CHAIRMAN/SECRETARY	DATE

EROSION & SEDIMENTATION CONTROL PLAN No. 3

PREPARED FOR
KINGSTOWN PROPERTIES LLC
PROPOSED AFFORDABLE HOUSING DEVELOPMENT

CLARK LANE
WATERFORD, CONNECTICUT

Provost & Rovero, Inc.

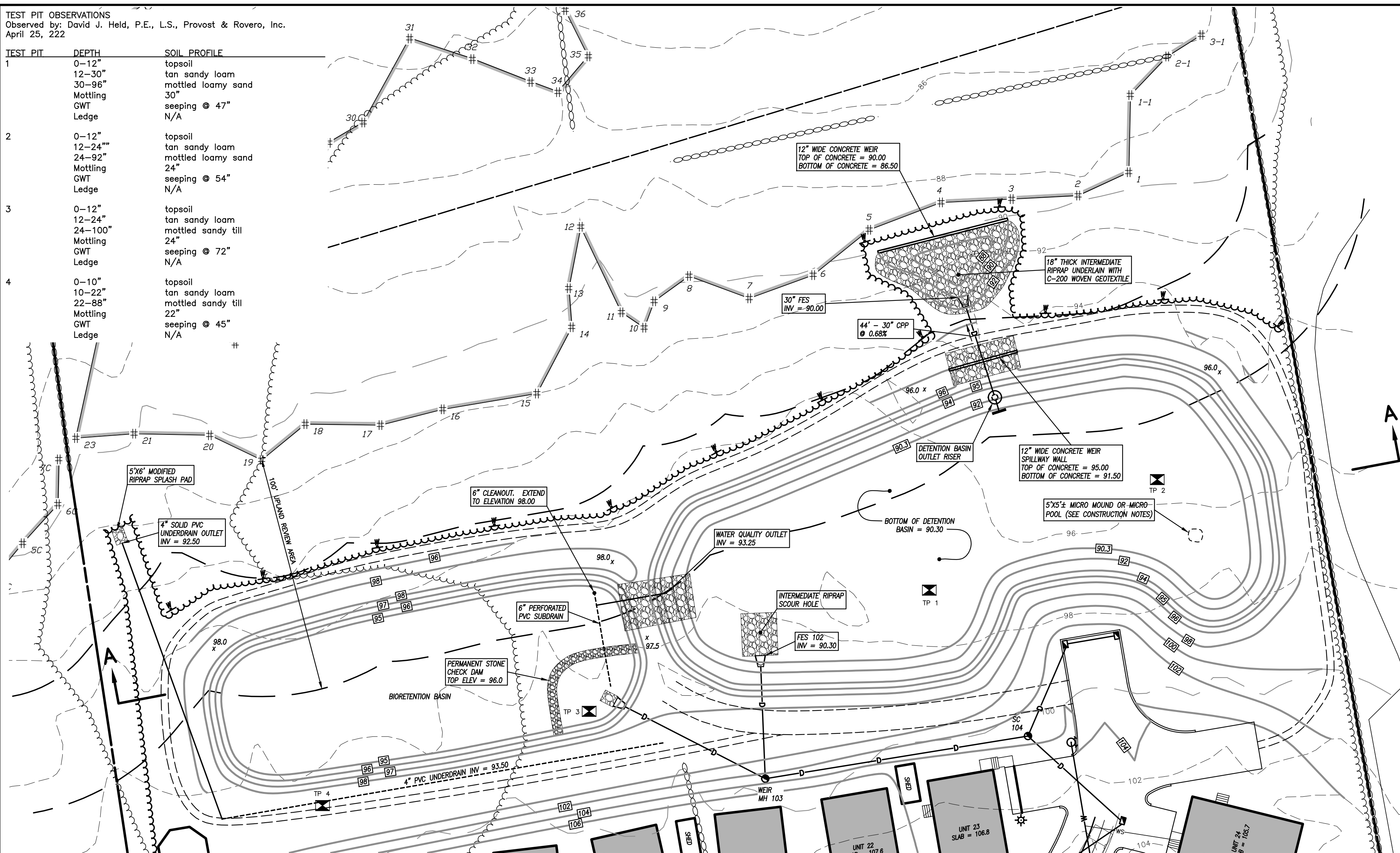
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www.prorovinc.com

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DATE: 5/14/2022	DRAWN: DJH
SCALE: AS SHOWN	DESIGN: DJH
SHEET: 15 OF 22	CHK BY: ---
DWG. No: Client File	JOB No: 213009

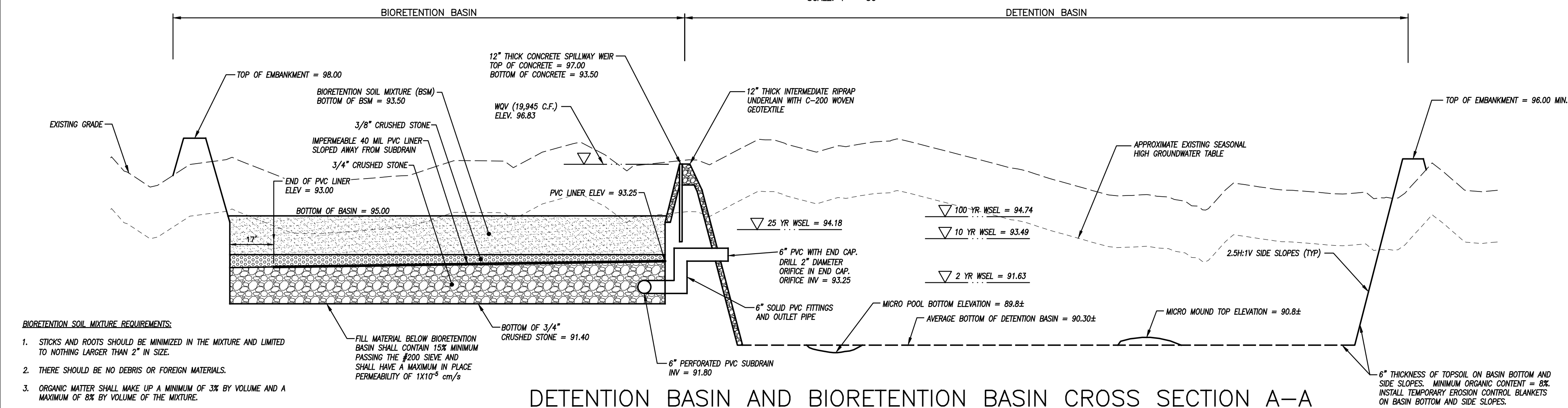
TEST PIT OBSERVATIONS
Observed by: David J. Held, P.E., L.S., Provost & Rovero, Inc.
April 25, 222

TEST PIT	DEPTH	SOIL PROFILE
1	0-12" 12-30" 30-96" Matting GWT Ledge	topsoil tan sandy loam mottled loamy sand 30" seeping @ 47" N/A
2	0-12" 12-24" 24-92" Matting GWT Ledge	topsoil tan sandy loam mottled loamy sand 24" seeping @ 54" N/A
3	0-12" 12-24" 24-100" Matting GWT Ledge	topsoil tan sandy loam mottled sandy till 24" seeping @ 72" N/A
4	0-10" 10-22" 22-88" Matting GWT Ledge	topsoil tan sandy loam mottled sandy till 22" seeping @ 45" N/A



STORMWATER MANAGEMENT SYSTEM DETAIL PLAN VIEW

SCALE: 1" = 30'



DETENTION BASIN AND BIORETENTION BASIN CROSS SECTION A-A

NOT TO SCALE

DETENTION BASIN SHRUB PLANTING PLAN

VARIETY	SIZE @ PLANTING	WETLAND STATUS	LOCATION	QUANTITY
Buttonbush (Cephalanthus occidentalis)	18"-24"	OBL	micro pool and basin bottom	20
Sweet Pepperbush (Clethra alnifolia)	18"-24"	FAC+	western bank	20
Silky Dogwood (Cornus amomum)	18"-24"	FACW	micro mound	20
Red-osier Dogwood (Cornus sericea)	18"-24"	FACW+	micro mound	20
Mountain Holly (Ilex mucronata)	18"-24"	OBL	basin bottom	20
Common Spicebush (Lindera benzoin)	18"-24"	FACW-	micro mound	20
Bayberry (Morella pensylvanica)	18"-24"	FAC	western bank	20
Rhodora (Rhododendron canadense)	18"-24"	FACW	micro mound	10
Swamp Rose (Rosa palustrine)	18"-24"	OBL	micro pool and basin bottom	20

DETENTION BASIN AND BIORETENTION BASIN CONSTRUCTION NOTES:

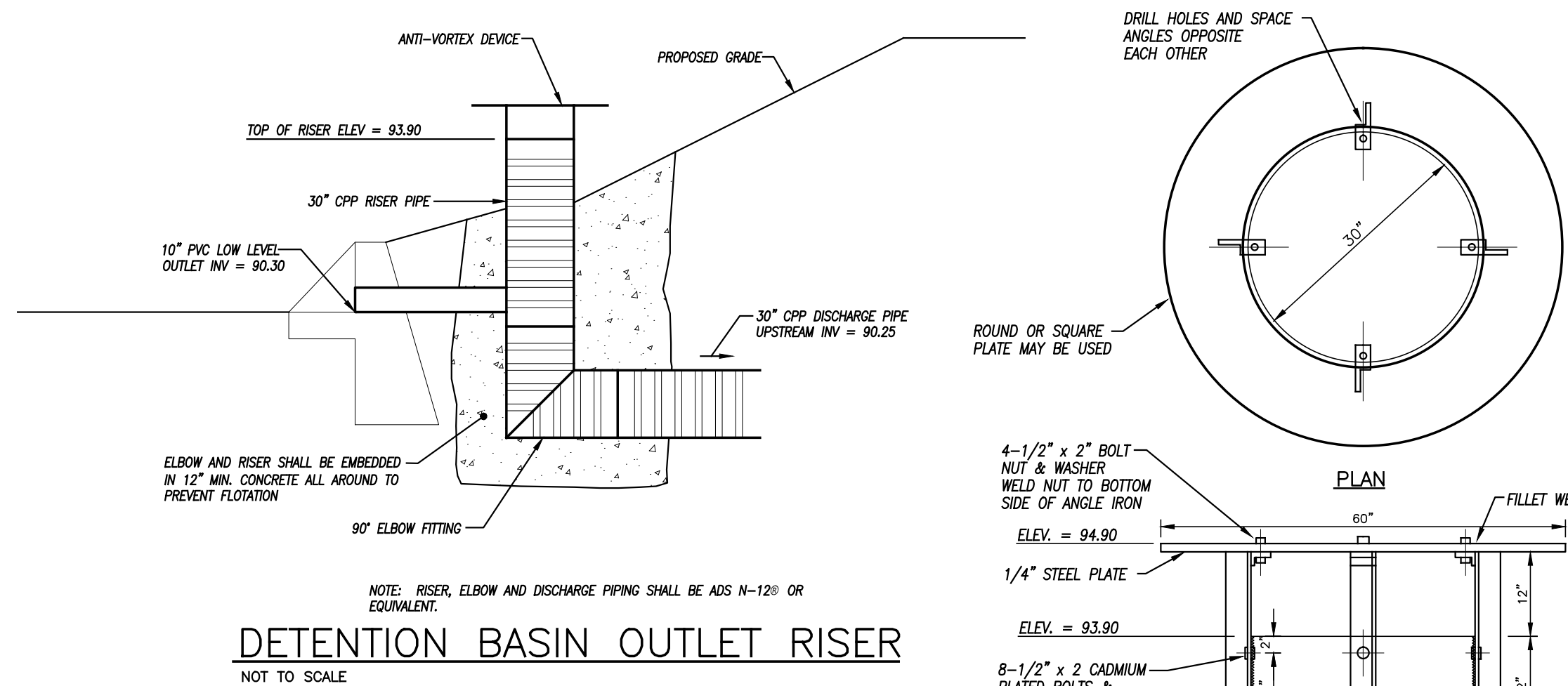
- Basin embankments shall be constructed of silty sand and/or clayey sand materials. On-site borrow material may be used if suitable deposits are found. Embankment fill shall contain at least 15% by weight of material passing the #200 sieve and not more than 50% passing the #100 sieve.
- Embankment fill shall have no stones larger than 6" in their greatest dimension. No stones larger than 3" in their greatest dimension shall be allowed within 2 feet of structures or pipes.
- A preconstruction meeting shall be conducted at the site with the contractor, project engineer and Conservation Commission's agent prior to the start of construction of the bioretention basin and detention basin.
- Construction of the bioretention basin and detention basin shall be inspected by the project engineer during construction to verify that the construction is completed in accordance with the approved plans and specifications.
- All fill material shall be free of topsoil, roots, stumps, organics, frozen material and other deleterious matter.
- The contractor shall submit the certified results of laboratory testing verifying that all proposed fill material and filter media material meets the required specifications. Any change in source or apparent change in character of material from the same source will require additional testing to ensure conformance with the required specifications.
- Two groundwater monitoring standpipes shall be installed in the detention basin at the onset of construction to a minimum depth of 2' below the completed depth of the basin. Depth to seasonal high groundwater shall be monitored during the construction period on a monthly basis. The final basin planting plan shall be prepared by a wetland scientist based on the collected data and submitted to the Conservation Commission's agent for approval prior to planting the basin.
- Prior to the issuance of a certificate of occupancy, an as-built plan and inspection report shall be submitted to the Conservation Commission's agent with a written verification that the stormwater treatment system, detention basin and level spreader were constructed in accordance with the approved plans and design infiltration rate.
- All embankment material shall be compacted to 95% minimum relative compaction as determined by ASTM D1557 - Modified Proctor. The maximum loose lift thickness of embankment fill shall be 12".
- Sufficient dewatering equipment shall be provided to dewater excavations for proposed embankments, cutoff trenches and other construction.
- All topsoil, organics, roots and other deleterious matter shall be removed from the existing ground surface prior to construction of the proposed embankments. The subgrade shall be proof rolled prior to placement of fill. Any soft or yielding material shall be replaced with suitable material.
- All embankments and disturbed areas of the basin shall be permanently stabilized with 6" of topsoil, seed and mulch with the exception of the bottom of the bioretention basin. Suitable hydroseeding equipment may be used for application of seed, mulch and/or fertilizer. The seeding shall be in accordance with the Stormwater Basin Planting Plan.
- The bottom of the detention basin shall include 25 micro mounds and 25 micro pools randomly distributed across the bottom of the basin.

DETENTION BASIN AND BIORETENTION BASIN OPERATION AND MAINTENANCE NOTES:

- Upon completion of the project, the basins shall be maintained by the site owner. The contractor shall be responsible for all maintenance and inspections during the construction period.
- During the first year of operation, the basins shall be inspected on a weekly basis or within 24 hours after a rainfall event of 0.5" or greater. Any erosion of embankments or outlet areas shall be repaired promptly. Any debris shall be removed from trash racks and disposed of. Sedimentation that would interfere with proper operation of the basin shall be removed and disposed of and the area restored and stabilized as required.
- After the basins have been in operation for one year, inspections shall be performed quarterly or within 24 hours after a storm event of 4.0" or greater. Quarterly inspections shall include the following items:
 - Noxious weeds shall be removed. Perform any mowing or pruning operations required.
 - Inspect constructed embankments for any woody growth. All trees, vines and other woody plants shall be removed and voids left from their removal shall be repaired.
 - Inspect embankments for animal burrows. All burrows and voids shall be repaired immediately.
 - Accumulated sediment shall be removed from the riprap inlets and other areas to restore original design grades. Disturbed areas shall be restabilized as required after removal of sediment.
 - Inlets and outlets shall be inspected for scour damage and erosion and repaired as required.
 - Outlet structures shall be cleaned of accumulated sediment.
 - Any evidence of piping or seepage at the toe of the embankments or around inlet/outlet structures shall be investigated by a qualified professional engineer. Required repairs shall be implemented as soon as possible.
 - Inspect the conservation easement area downgradient of the level spreader for soil erosion and channelization due to stormwater discharge. All corrective measures shall be approved by the Conservation Commission or its agent.

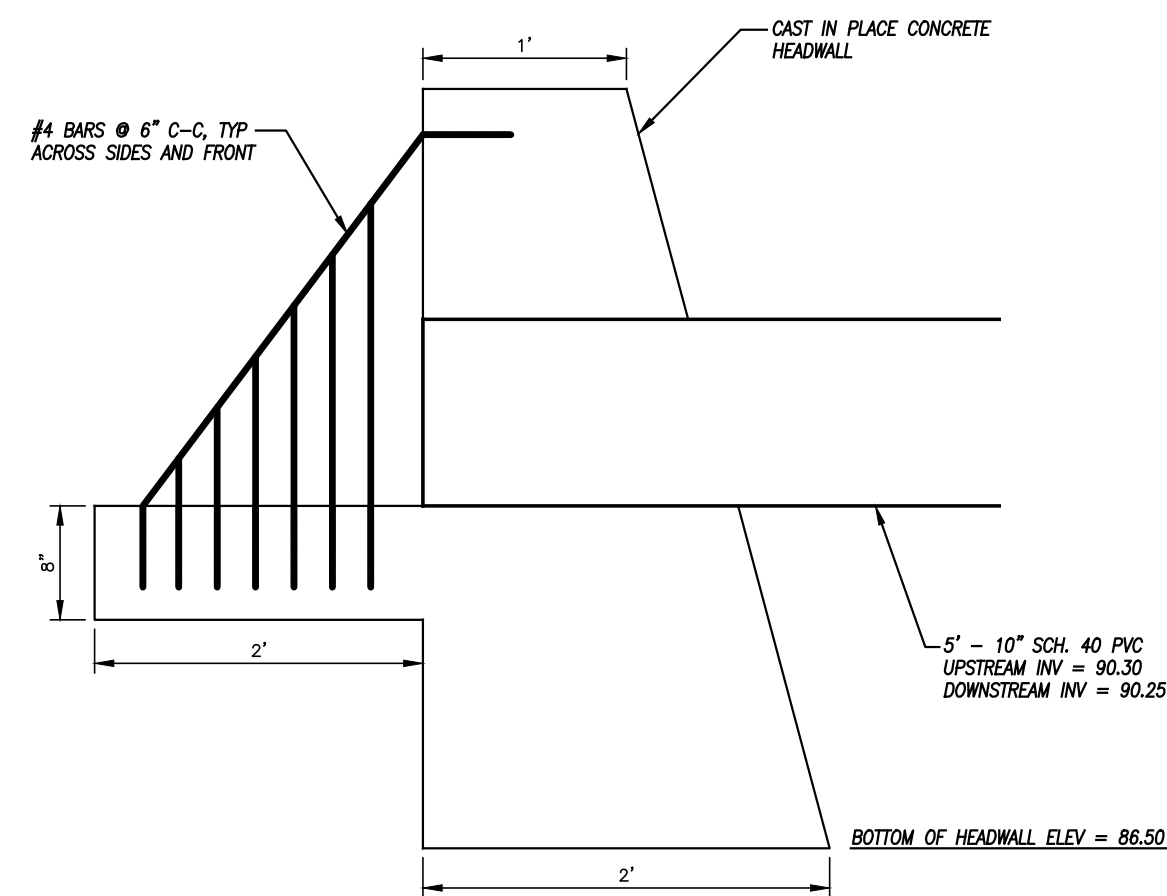
STORM DRAINAGE SYSTEM OPERATION AND MAINTENANCE NOTES:

- The stormwater conveyance system (catch basins, manholes and hydrodynamic separator) shall be inspected quarterly to determine any maintenance needs.
- Street sweeping shall be performed in early spring each year after any anticipated need for spreading of road sand. Catch basin sumps shall be cleaned of accumulated sediment concurrently with street sweeping operations.
- The hydrodynamic separator shall be cleaned of accumulated sediment at least once per year in the early spring.



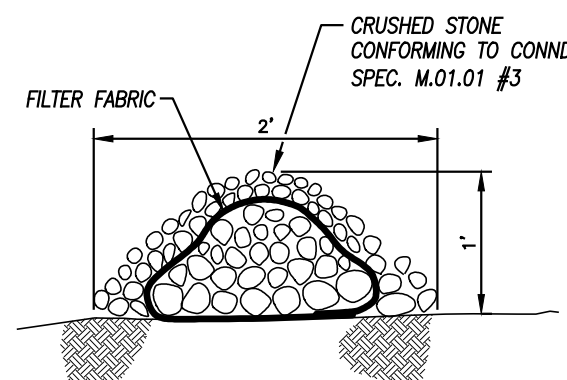
DETENTION BASIN OUTLET RISER

NOT TO SCALE



DETENTION BASIN ANTI-VORTEX & TRASH RACK DEVICE

NOT TO SCALE



STONE CHECK DAM

NOT TO SCALE

DETAIL SHEET No. 2

PREPARED FOR

KINGSTOWN PROPERTIES LLC

PROPOSED AFFORDABLE HOUSING DEVELOPMENT

CLARK LANE
WATERFORD, CONNECTICUT

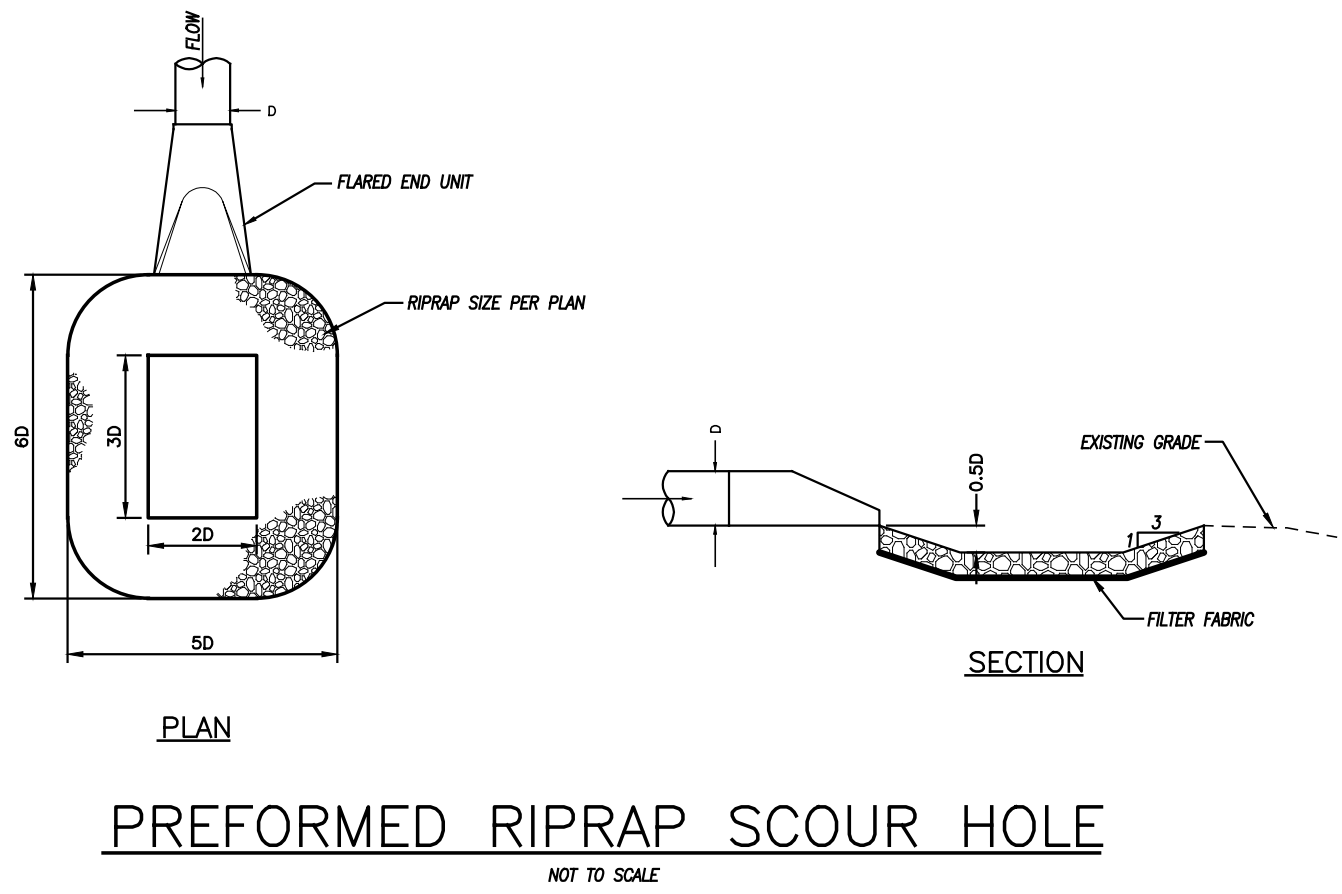
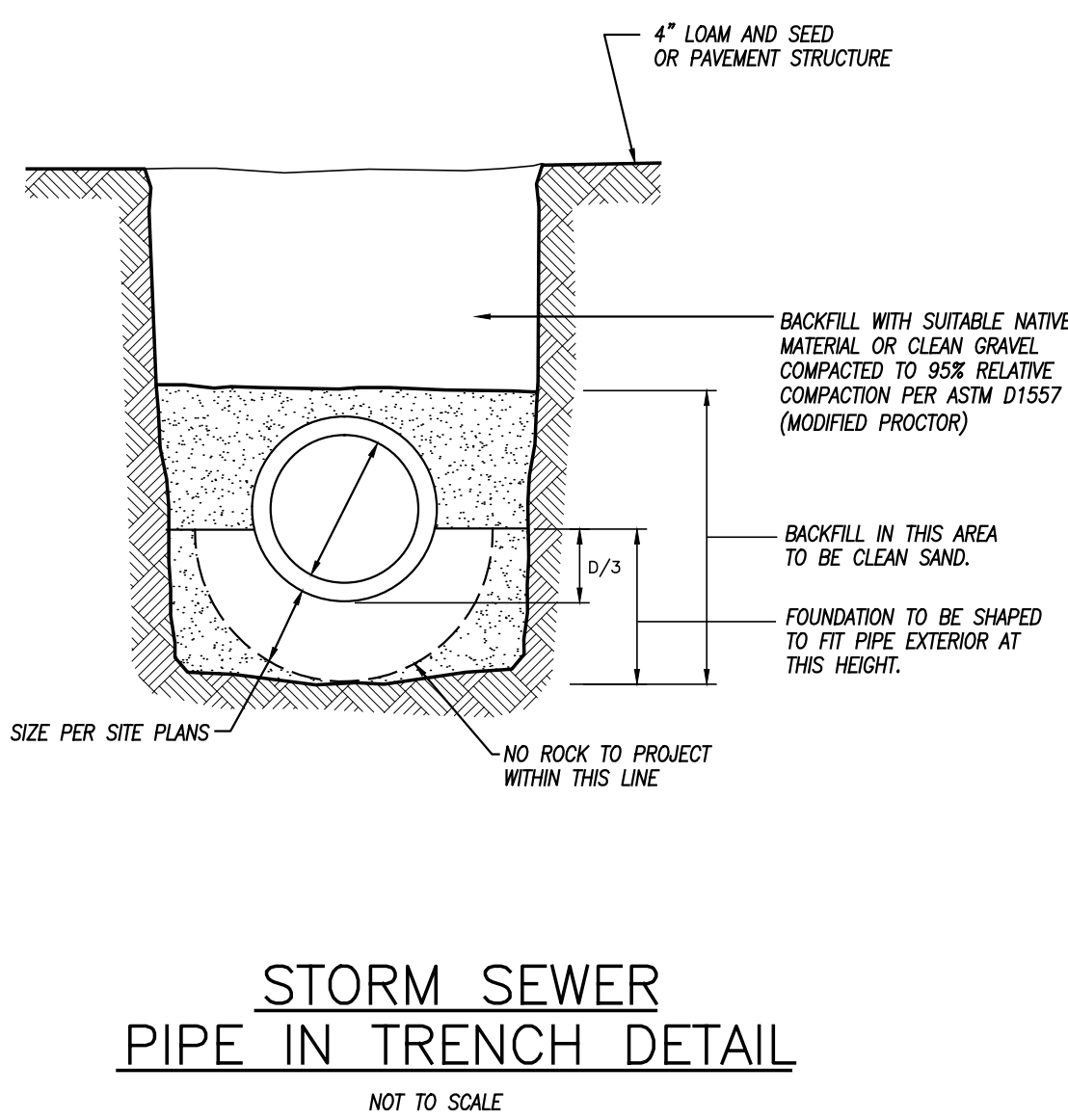
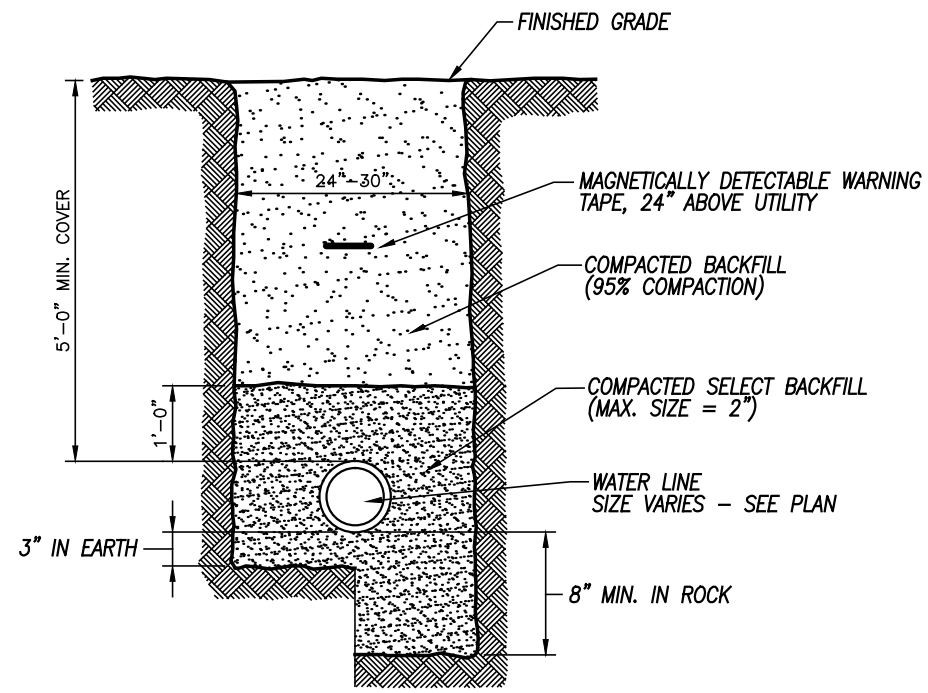
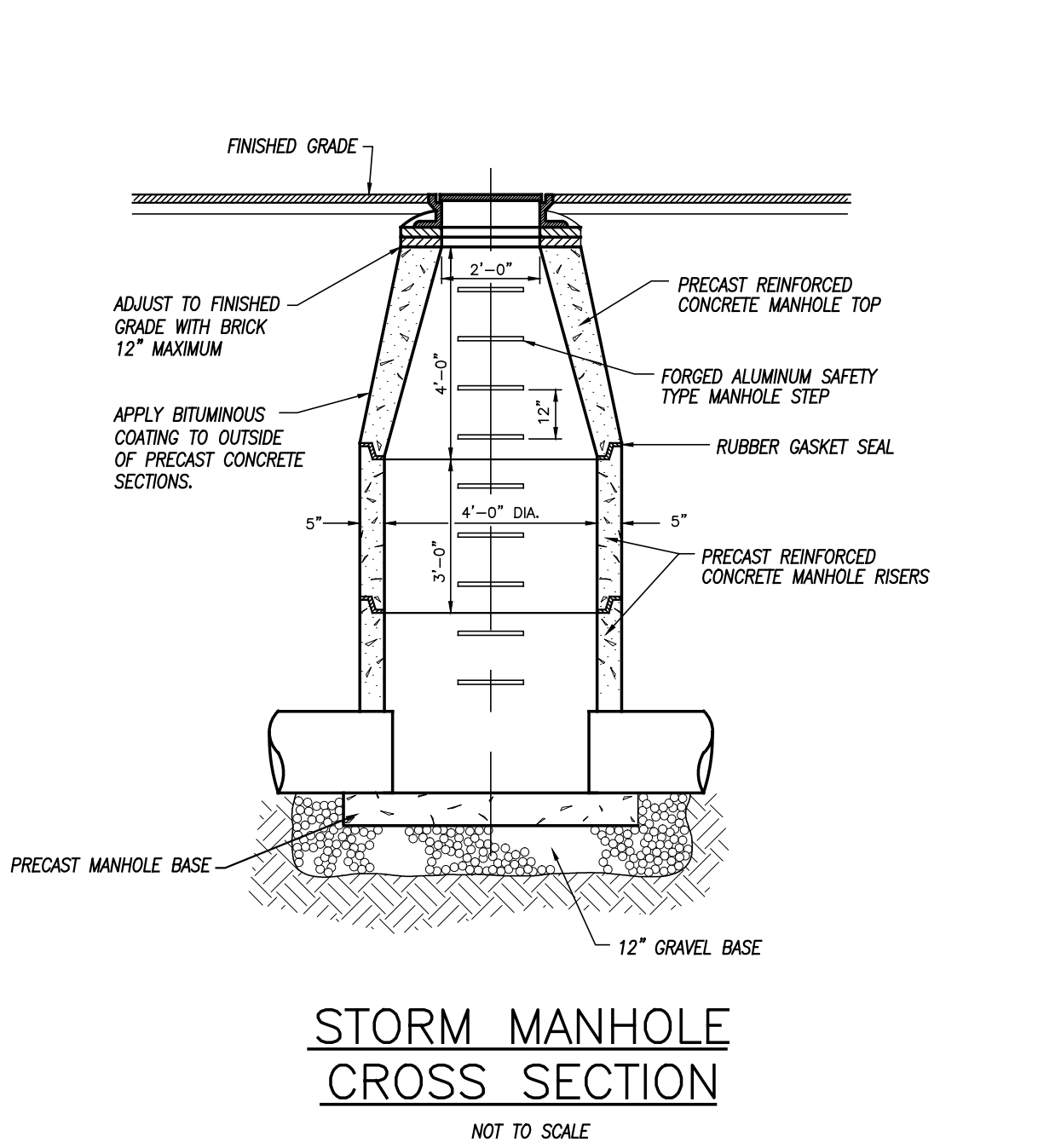
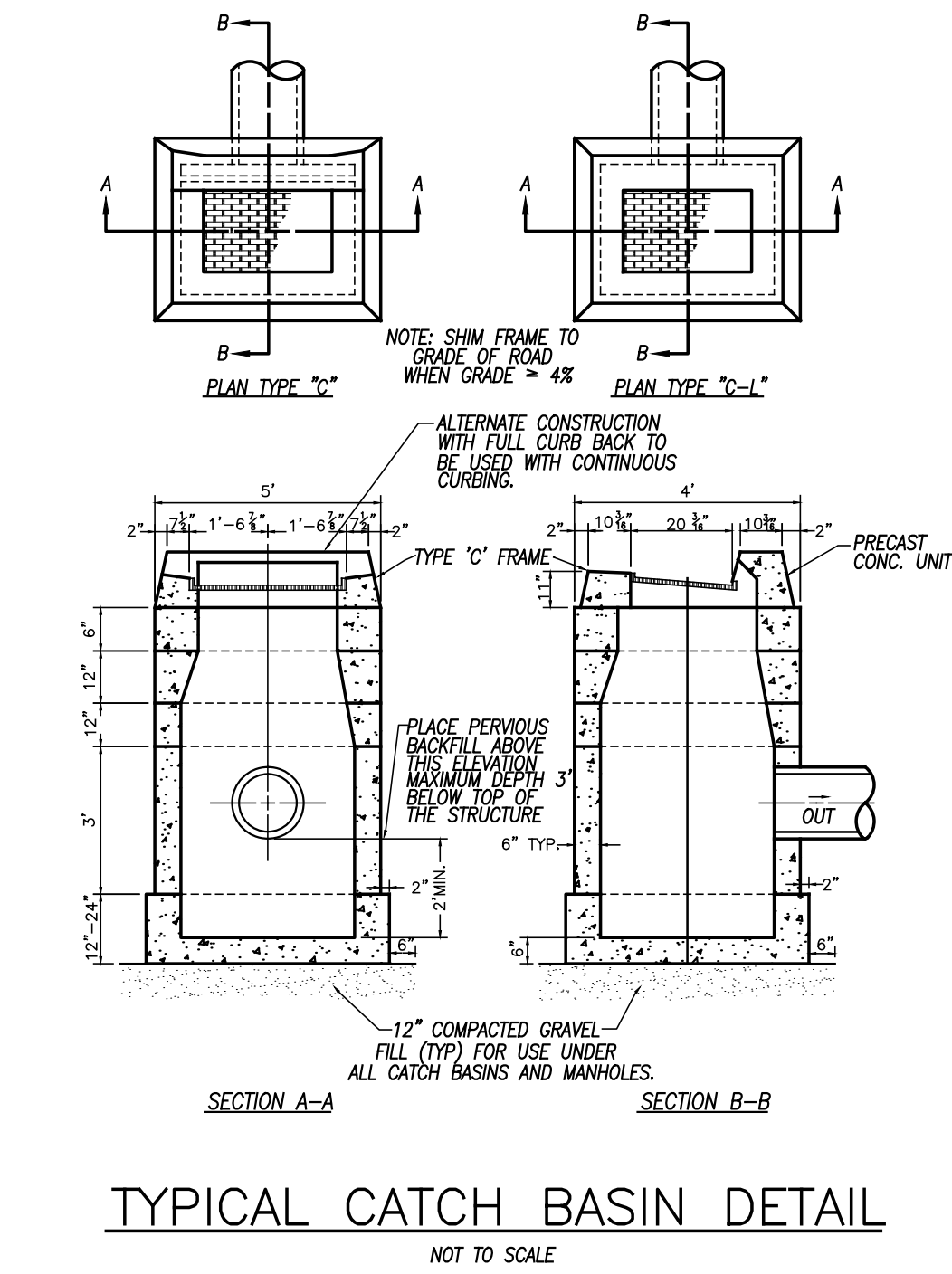
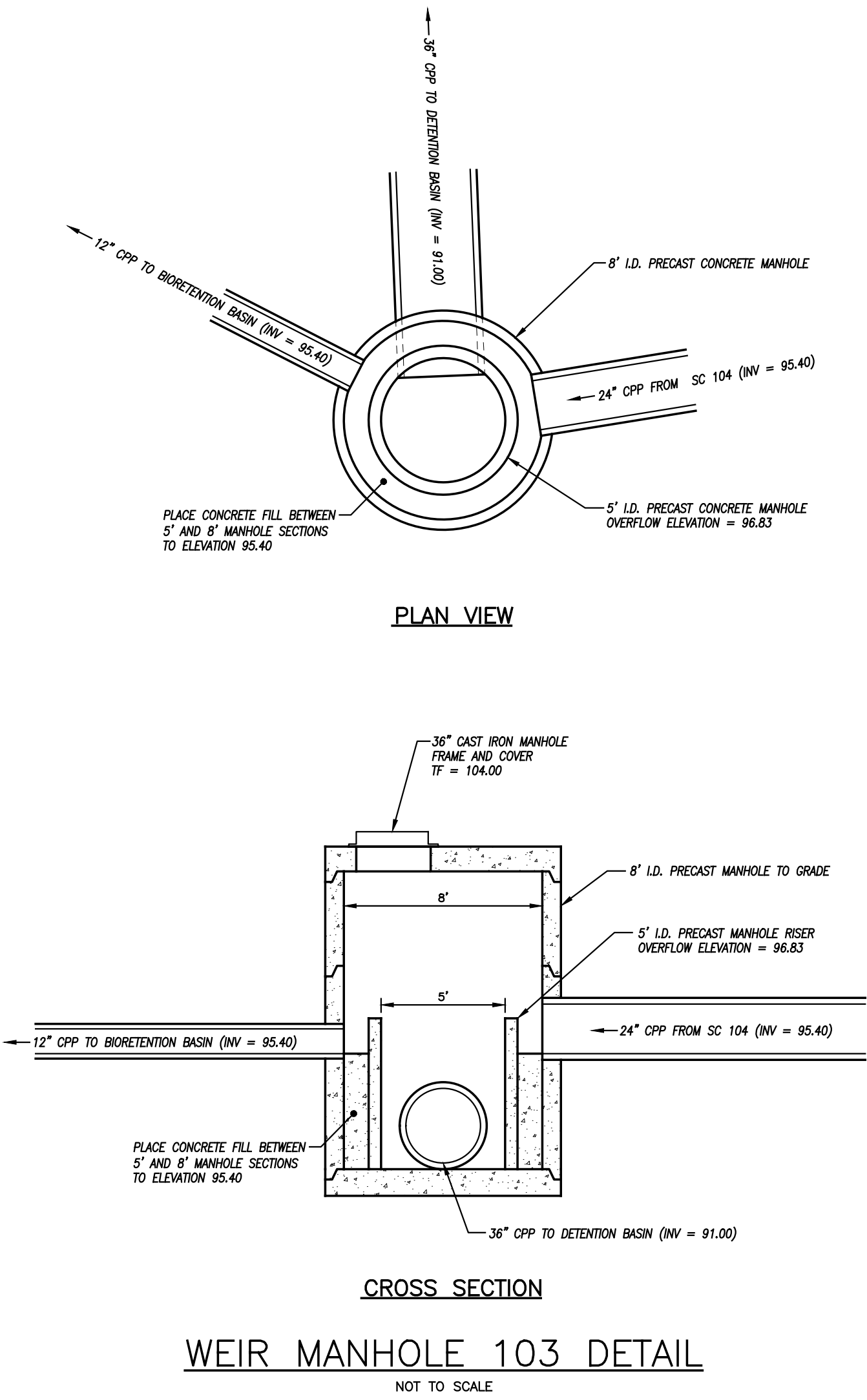
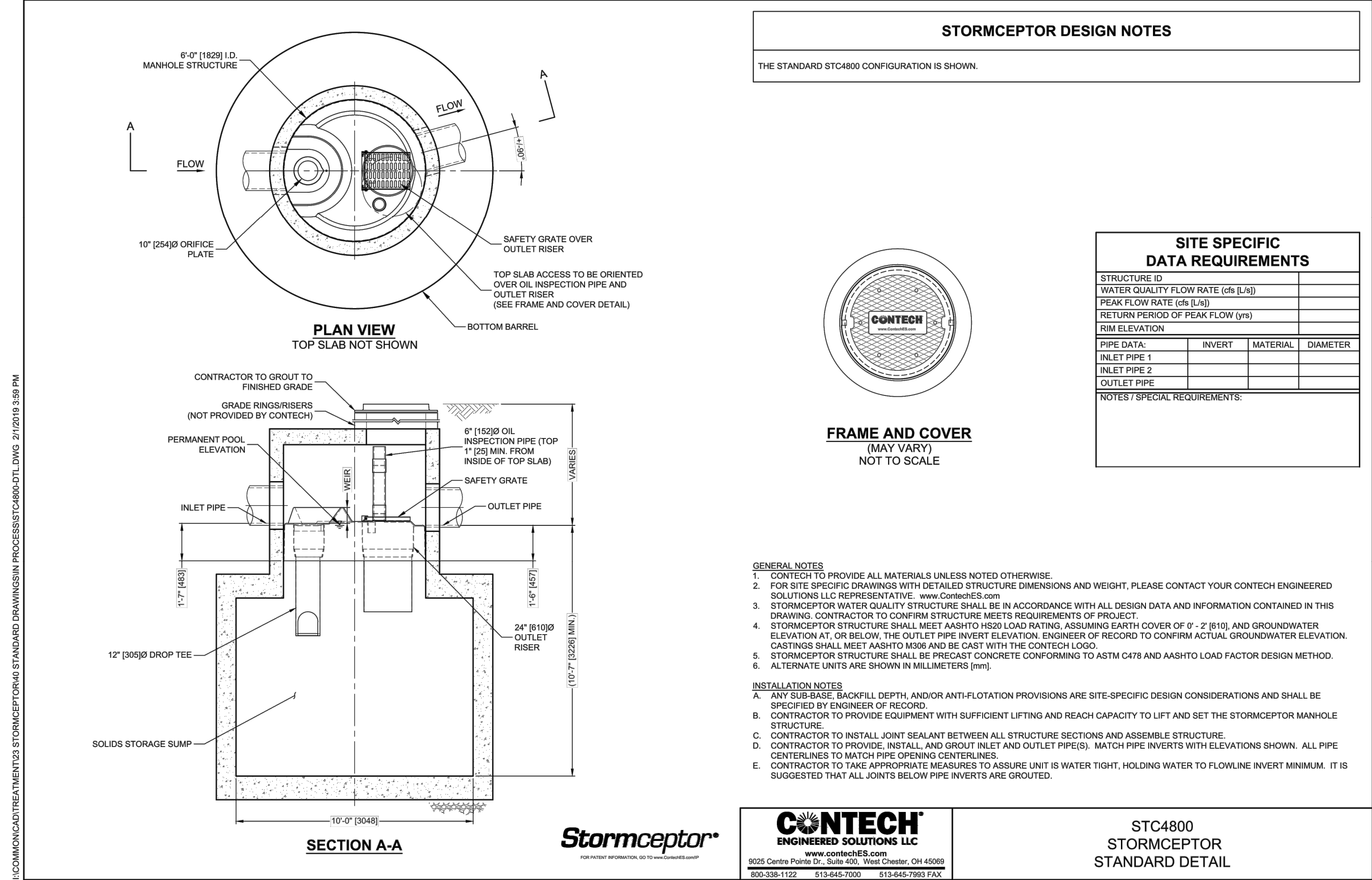
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DATE: 5/14/2022 DRAWN: DJH	
SCALE: AS SHOWN DESIGN: DJH	
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DETAIL SHEET No. 3

PREPARED FOR

KINGSTOWN PROPERTIES LLC

PROPOSED AFFORDABLE HOUSING DEVELOPMENT

CLARK LANE
WATERFORD, CONNECTICUT

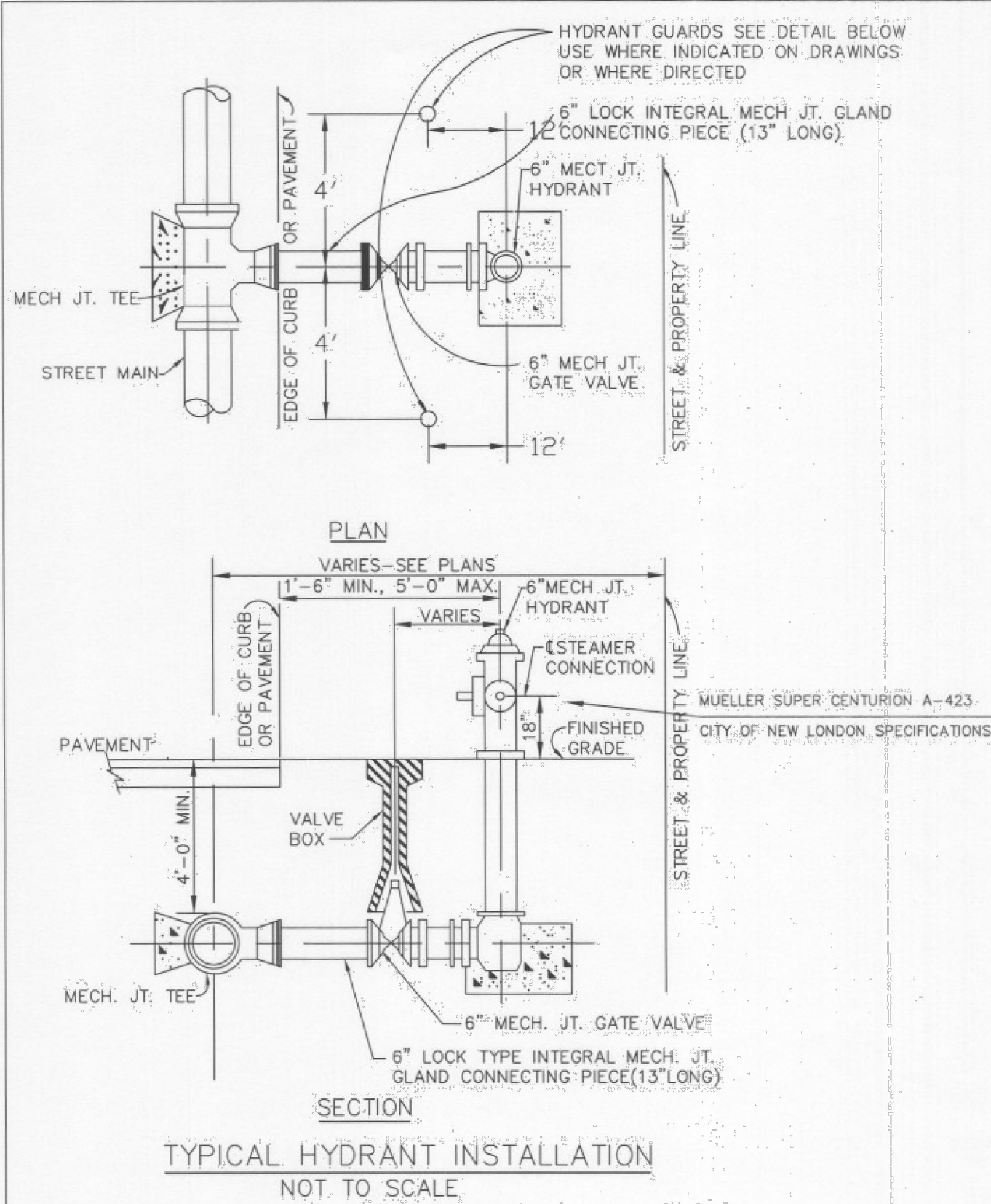
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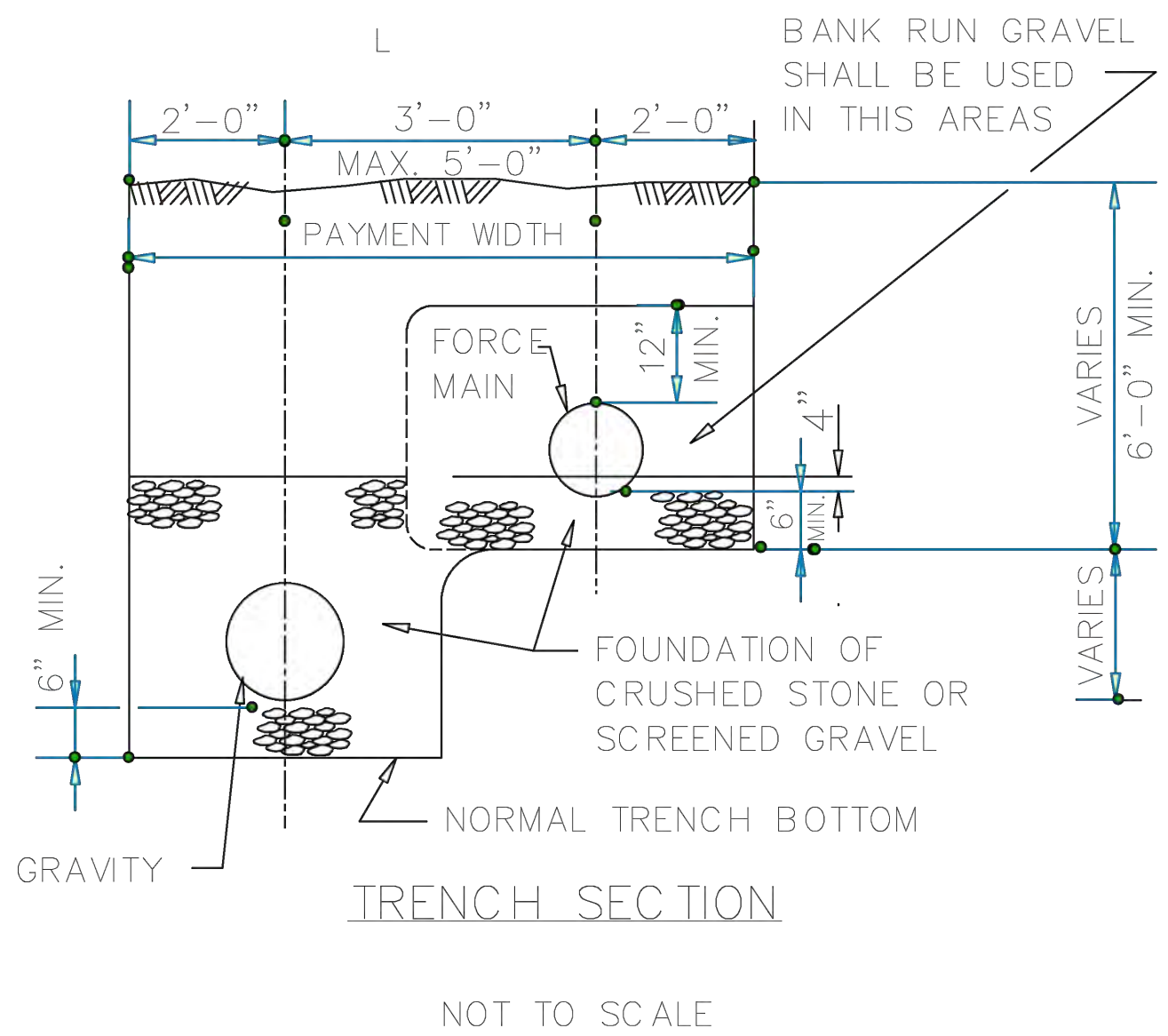
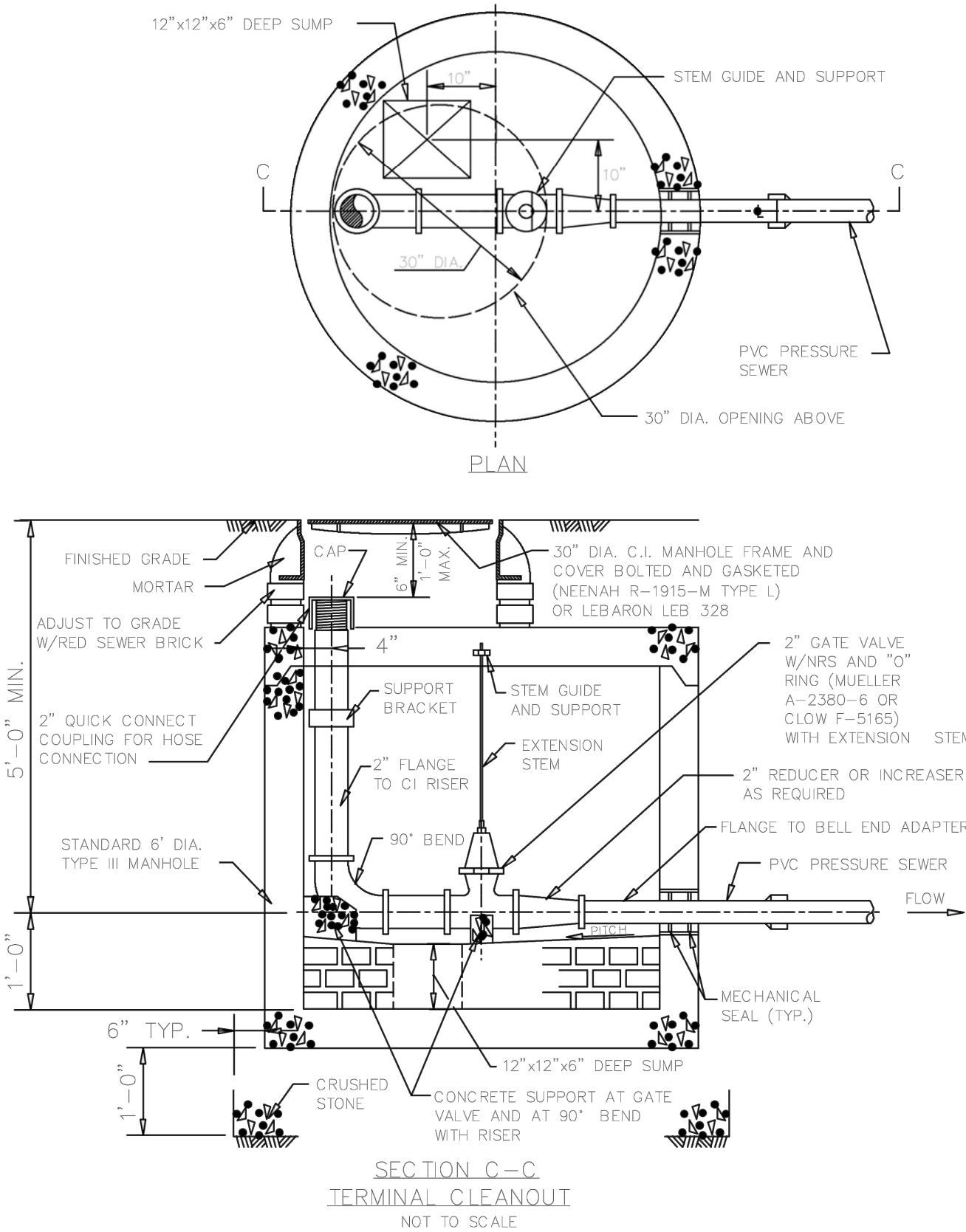
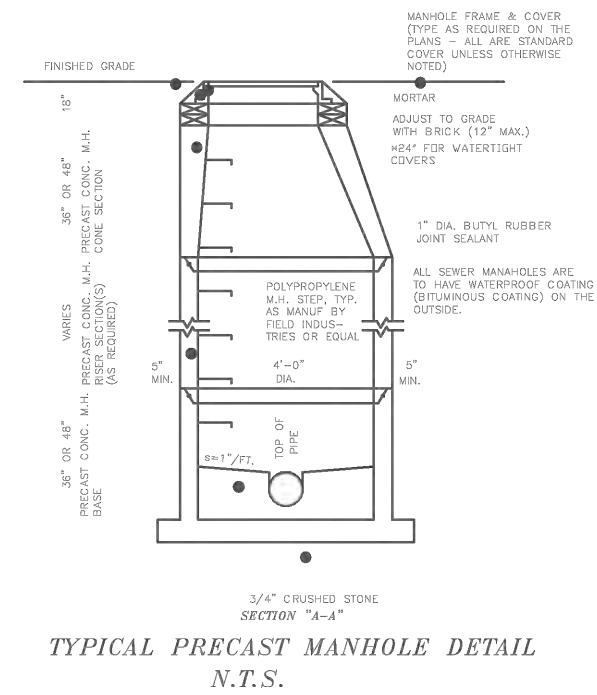
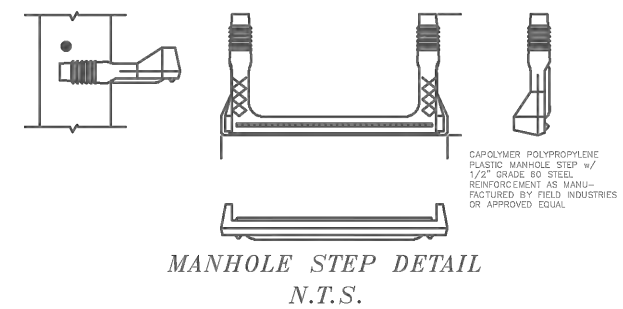
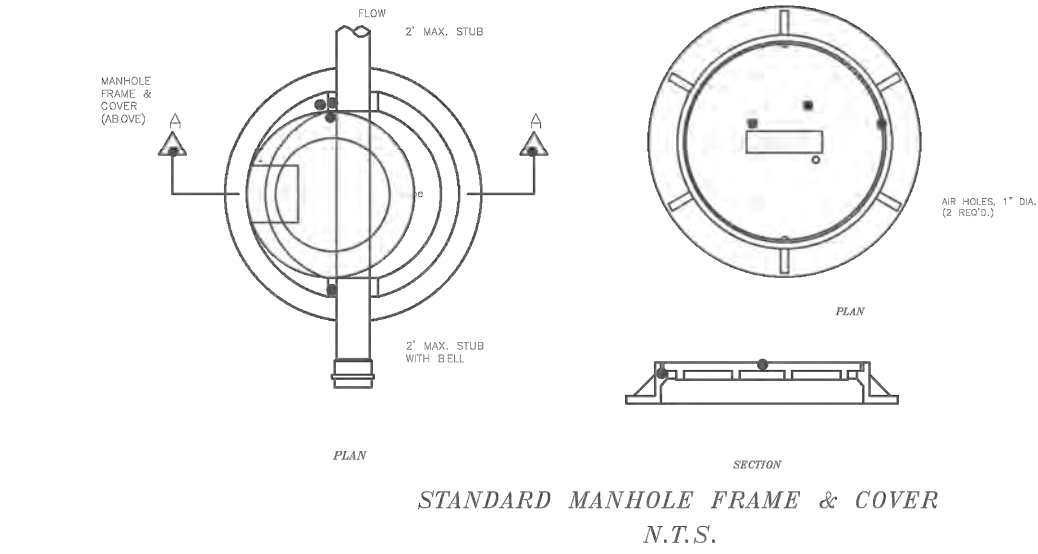
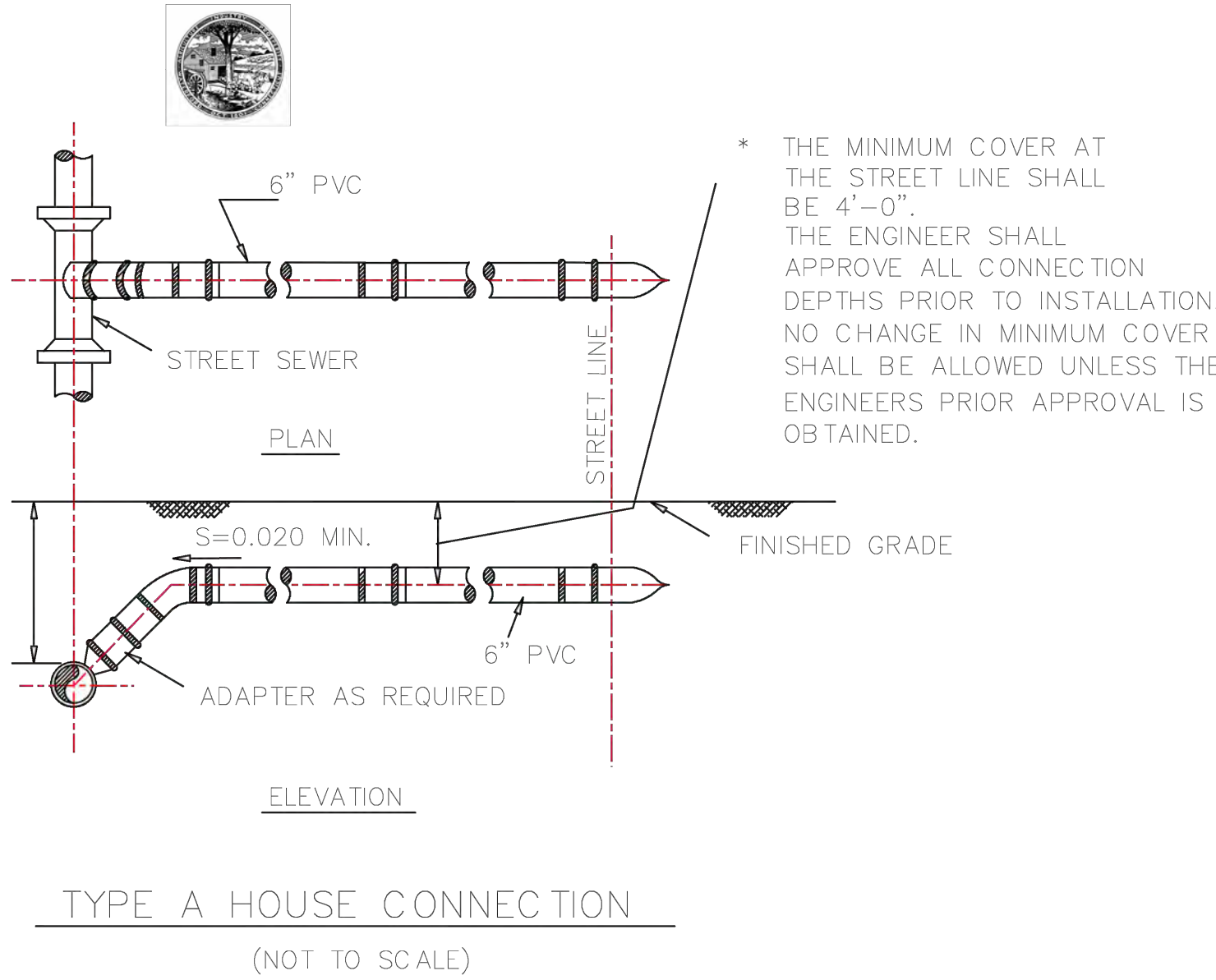
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DATE: 5/14/2022	DRAWN: DJH
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SHEET: 18 OF 22	CHK BY: ---
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WATERFORD UTILITY COMMISSION
TOWN OF WATERFORD, CT
STANDARD DETAILS

DETAIL:
HYDRANT
DATE:
2010



ENGINEER _____ DATE _____

REVISIONS	
DATE	DESCRIPTION
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DWG. No: Client File	JOB No: 213009

DETAIL SHEET No. 4
PREPARED FOR
KINGSTOWN PROPERTIES LLC
PROPOSED AFFORDABLE HOUSING DEVELOPMENT
CLARK LANE
WATERFORD, CONNECTICUT

Provost & Rovero, Inc.
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(860) 230-0856 - FAX: (860) 230-0860
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PRODUCT OVERVIEW



LED



ORDERING INFORMATION

Series	Performance Package			Voltage	Color Temperature (CCT)
AVPCL2 Valiant Full Cutoff LED	Package	Input Watts	Lumens (nominal)	HV0LT 120-277V XVOLT 347-480V 277-480V with enhanced power quality protection	27K 2700K 30K 3000K 40K 4000K
	P101	30	3,200		
	P102	40	4,100		
	P103	50	4,900		
	P151	50	5,300		
	P152	60	6,300		
	P153	70	7,100		
	P201	70	7,400		
	P202	80	8,200		
	P203	90	8,900		
	P300	61	7,100		
	P301	70	7,800		
	P302	80	8,500		
	P303	90	9,800		
	P304	100	10,600		
	P451	100	11,600		
	P452	110	12,600		

Distribution	Finish	Cupola	Photocontrol Receptacle
R2 Type II	BK Black matte texture	SCC Standard cupola	NR No photocontrol receptacle
R3 Type III	GY Gray, smooth gloss	SMC Smart node cupola	PR3 3 pin NEMA photocontrol
R4 Type IV	DDB Dark Bronze, smooth gloss	XC No cupola	PR7 7 pin NEMA photocontrol
R5 Type V	WH White, smooth gloss		
	BZ Bronze, smooth gloss		

Options		
Controls	Miscellaneous	Accessory
PCCL Solid state long life photoconductor 120-277V (fail off)	SS Stainless steel hardware	House Side Shield Shield separately and installed in the field
P34 Solid state long life photoconductor, 347V only (fail off)	LS Lead-in trigger latch entry	FW Field Wrench
P34 Solid state long life photoconductor, 347V only (fail off)	ML121 7 x 1/2" NEMA label	FW 10 to 15" powered leads
P34 Solid state photoconductor, 490V only (fail off)	ML121 7 x 1/2" NEMA label	CS 3 to 6" powered leads
PCSS Solid state photoconductor, 120-277V (CS Listed) (fail on)	LD Ladder	CS 6 to 12" powered leads
PCSS Solid state photoconductor, 120-277V (CS Listed) (fail on)	LR Ladder	CS 120 to 251" powered leads
SH Shutting up	RC Easy Rep-reat Finish	CS 150 to 251" powered leads
FE Field adjustable output module	200V 200V/10k surge protection device	CS 130 to 301" powered leads
DALI DALI driver (BFD required)	YKCA VLT Option with Clear Acrylic Lens	CS View Option

Note: Check the OPTIONS MATRIX on Page 3 for compatibility & restrictions.



AEL Headquarters, 3825 Columbus Road, Granville, OH 43023
www.americanelectriclighting.com
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Warranty Five-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.aquitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.

Warranty Five-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.aquitybrands.com/support/warranty/terms-and-conditions

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Please contact your sales representative for the latest product information.

OPTIONS MATRIX

MATRIX KEY
Y = Option combination is available
N = Option combination is not available
RFD = Option combination is available but additional information required. Consult factory.



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Please contact your sales representative for the latest product information.

OPERATING CHARACTERISTICS

Performance	Wattage	R2			AVC12			B4			R5		
		ACT Lumens	UPW Lumens	UPW Lumens	ACT Lumens	UPW Lumens	UPW Lumens	ACT Lumens	UPW Lumens	UPW Lumens	ACT Lumens	UPW Lumens	
P101	2700	3,114	1,094	1,094	3,114	1,094	1,094	3,114	1,094	1,094	3,114	1,094	
	3000	3,254	1,088	1,229	3,080	1,381	1,113	3,362	1,113	1,362	3,114	1,094	
	4000	3,396	1,113	1,370	3,114	1,550	1,108	3,508	1,113	1,442	3,114	1,094	
P102	3000	3,509	1,094	1,094	3,509	1,094	1,094	3,509	1,094	1,094	3,509	1,094	
	4000	4,111	1,103	1,408	4,024	1,472	1,047	4,247	1,047	1,442	4,111	1,103	
	4000	4,290	1,107	1,457	4,066	1,466	1,111	4,412	1,111	1,442	4,111	1,103	
P103	3700	4,170	1,103	1,474	3,999	1,478	1,094	4,338	1,094	1,442	4,170	1,103	
	4000	4,979	1,100	1,491	4,979	1,517	1,033	5,144	1,033	1,442	4,979	1,100	
	4000	5,196	1,104	1,516	5,103	1,502	1,088	5,367	1,088	1,442	5,196	1,104	
P151	3000	5,098	1,094	1,094	5,098	1,094	1,094	5,098	1,094	1,094	5,098	1,094	
	4000	5,321	1,066	1,280	5,306	1,066	1,066	5,497	1,066	1,280	5,321	1,066	
	4000	5,552	1,111	1,510	5,100	1,066	1,066	5,735	1,066	1,280	5,552	1,111	
P152	4000	6,301	1,094	1,094	6,301	1,094	1,094	6,301	1,094	1,094	6,301	1,094	
	4000	6,368	1,066	1,319	6,301	1,066	1,066	6,578	1,066	1,319	6,368	1,066	
	4000	6,645	1,111	1,594	6,100	1,066	1,066	6,864	1,066	1,319	6,645	1,111	
P153	4000	6,817	1,066	1,066	6,817	1,066	1,066	6,817	1,066	1,066	6,817	1,066	
	4000	7,136	1,062	1,081	7,091	1,062	1,062	7,372	1,062	1,081	7,136	1,062	
	4000	7,446	1,066	1,389	7,066	1,066	1,066	7,692	1,066	1,389	7,446	1,066	
P201	2700	7,180	1,103	1,212	7,180	1,244	1,094	7,417	1,094	1,212	7,180	1,103	
	3000	7,494	1,094	1,477	7,066	1,291	1,111	7,641	1,111	1,244	7,494	1,094	
	4000	7,840	1,124	1,760	7,111	1,479	1,108	8,078	1,108	1,479	7,840	1,124	
P202	3000	7,935	1,094	1,094	7,935	1,094	1,094	7,935	1,094	1,094	7,935	1,094	
	4000	8,271	1,066	1,209	8,193	1,599	1,067	8,545	1,067	1,209	8,271	1,066	
	4000	8,611	1,088	1,365	8,065	1,597	1,072	8,916	1,072	1,209	8,611	1,088	
P203	3000	8,619	1,094	1,094	8,619	1,094	1,094	8,619	1,094	1,094	8,619	1,094	
	4000	8,997	1,066	1,298	8,997	1,533	1,064	9,294	1,064	1,298	8,997	1,066	
	4000	9,386	1,124	1,517	8,717	1,533	1,066	9,688	1,066	1,298	9,386	1,124	
P204	3000	6,846	1,094	1,094	6,846	1,094	1,094	6,846	1,094	1,094	6,846	1,094	
	4000	7,124	1,124	1,700	6,700	1,740	1,211	7,360	1,211	1,700	7,124	1,124	
	4000	7,456	1,066	1,066	7,456	1,066	1,066	7,456	1,066	1,066	7,456	1,066	
P301	2700	7,657	1,099	1,299	7,650	1,400	1,110	7,910	1,110	1,290	7,657	1,099	
	3000	7,992	1,141	1,391	7,911	1,430	1,109	8,256	1,109	1,386	7,992	1,141	
	4000	8,328	1,191	1,621	7,891	1,621	1,109	8,593	1,109	1,616	8,328	1,191	
P302	3000	8,631	1,088	1,566	8,067	1,597	1,072	8,917	1,072	1,597	8,631	1,088	
	4000	9,069	1,113	1,841	8,112	1,596	1,112	9,307	1,112	1,807	9,069	1,113	
	4000	9,469	1,139	1,913	8,411	1,621	1,111	9,713	1,111	1,881	9,469	1,139	
P303	3000	9,648	1,085	1,596	9,044	1,581	1,099	9,781	1,099	1,581	9,648	1,085	
	4000	9,882	1,100	1,687	9,024	1,621	1,109	9,209	1,109	1,621	9,882	1,100	
	4000	10,312	1,124	1,821	9,121	1,621	1,111	9,653	1,111	1,644	10,312	1,124	
P451	2700	10,287	1,027	10,129	9,101	1,061	1,066	10,544	1,066	1,054	10,287	1,027	
	3000	10,653	1,067	10,672	9,066	1,076	1,111	10,500	1,111	1,050	10,653	1,067	
	4000	11,136	1,100	11,001	9,101	1,067	1,111	11,441	1,111	1,044	11,136	1,100	
P452	2700	12,126	1,121	11,311	1,111	—	—	11,587	1,166	—	12,126	1,121	
	3000	11,207	1,127	11,038	1,111	—	—	10,994	1,211	—	11,207	1,127	
	4000	12,276	1,129	12,233	1,111	—	—	12,420	1,200	—	12,276	1,129	
P453	2700	12,182	1,111	12,090	1,111	—	—	12,585	1,141	—	12,182	1,111	
	3000	12,275	1,116	12,099	1,115	—	—	11,515	1,119	—	12,275	1,116	
	4000	13,498	1,146	13,434	1,116	—	—	13,706	1,116	—	13,498	1,146	



AEL Headquarters, 3825 Columbus Road, Granville, OH 43023
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Warranty Five-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.scudibrand.com/support/warranty-terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.

Please contact your sales representative for the latest product information.

PROJECTED LED LUMEN MAINTENANCE

Data references the extrapolated performance projections for the platforms noted in a 25°C ambient, based on 6,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11). To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

LUMEN AMBIENT TEMPERATURE (LAT) MULTIPLIERS

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient Temperature Lumen Multipliers								
0°C	5°C	10°C	15°C	20°C	25°C	30°C	35°C	40°C
1.04	1.03	1.02	1.02	1.01	1.00	0.99	0.98	0.97



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Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.

Please contact your sales representative for the latest product information.

DETAIL SHEET No. 5

PREPARED FOR

KINGSTOWN PROPERTIES LLC

PROPOSED AFFORDABLE HOUSING DEVELOPMENT

CLARK LANE
WATERFORD, CONNECTICUT

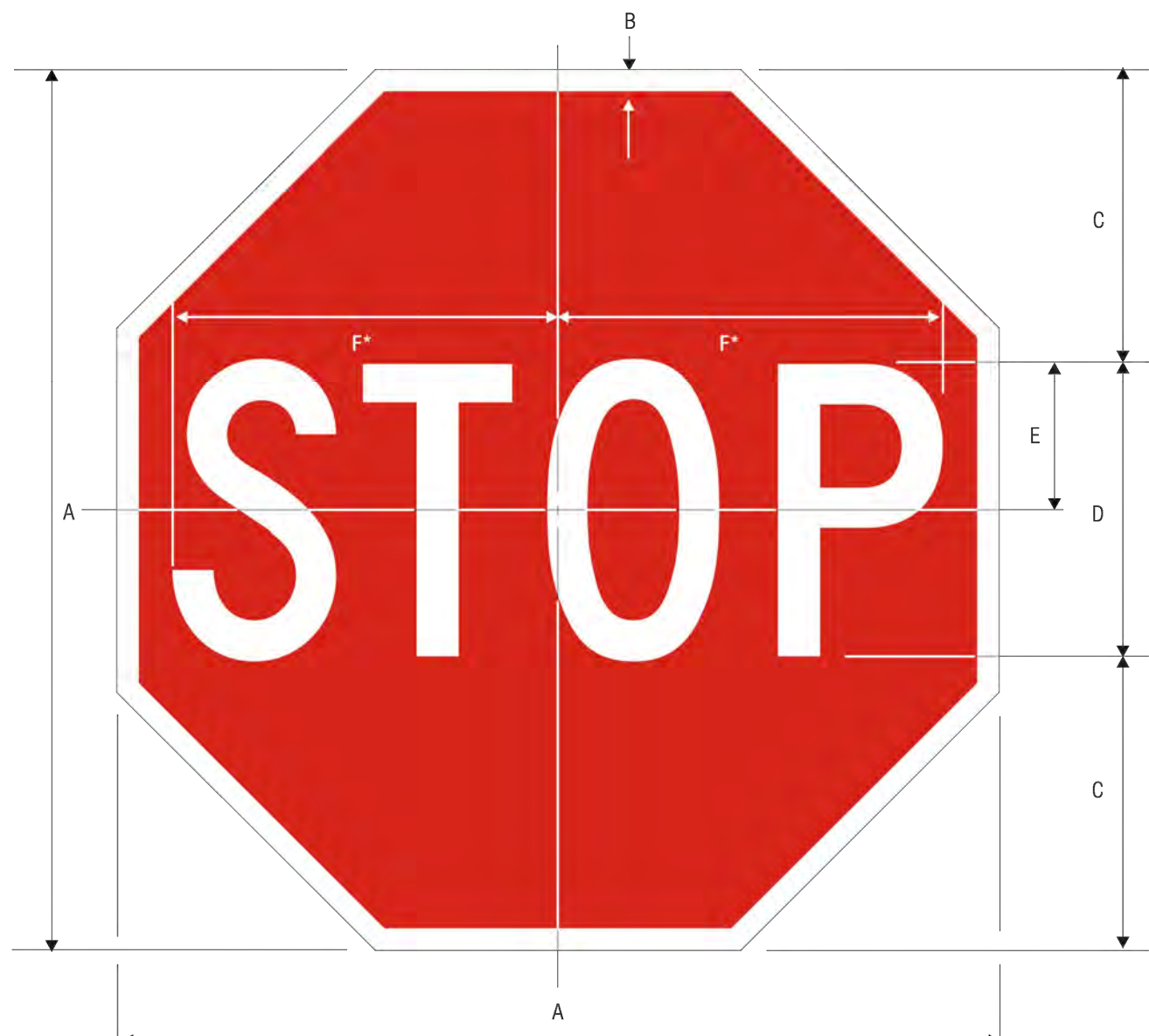
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REVISIONS	
DATE	DESCRIPTION
10/12/2022	I.W. PREAPPLICATION COMMENTS
12/5/2022	I.W. APPLICATION SUBMISSION
2/5/2023	I.W. REVIEW COMMENTS
2/21/2023	ENV. PLANNER COMMENTS
3/30/2023	SIGHTLINES, I.W. CONDITIONS
DATE: 5/14/2022	DRAWN: DJH
SCALE: AS SHOWN	DESIGN: DJH
SHEET: 20 OF 22	CHK BY: ---
DWG. No: Client File	JOB No: 213009



R1-1
STOP

*Reduce spacing 40%

A	B	C	D	E	F
18	.375	6	6 C	3	7.75
24	.625	8	8 C	4	10
30	.75	10	10 C	5	12.5
36	.875	12	12 C	6	15
48	1.25	16	16 C	8	20

COLORS: LEGEND — WHITE (RETROREFLECTIVE)
BACKGROUND — RED (RETROREFLECTIVE)

ALL TRAFFIC SIGNS SHALL BE OF THE SIZE AND DESIGN INDICATED HEREON. SIGN LOCATIONS SHALL BE AS SHOWN ON SITE PLANS.



R8-3a
NO PARKING (SYMBOL)

A	B	C	D	E	F	G	H	J
12	.375	.375	3	6 EM	4.875	3.875	1	1.5
18	.375	.625	4.5	9 EM	7.5	6	1.5	1.5
24	.375	.625	6	12 EM	10.5	8.5	2	1.5
36	.625	.875	9	18 EM	15.75	12.75	3	2.25
48	.75	1.25	12	24 EM	21	17	4	3

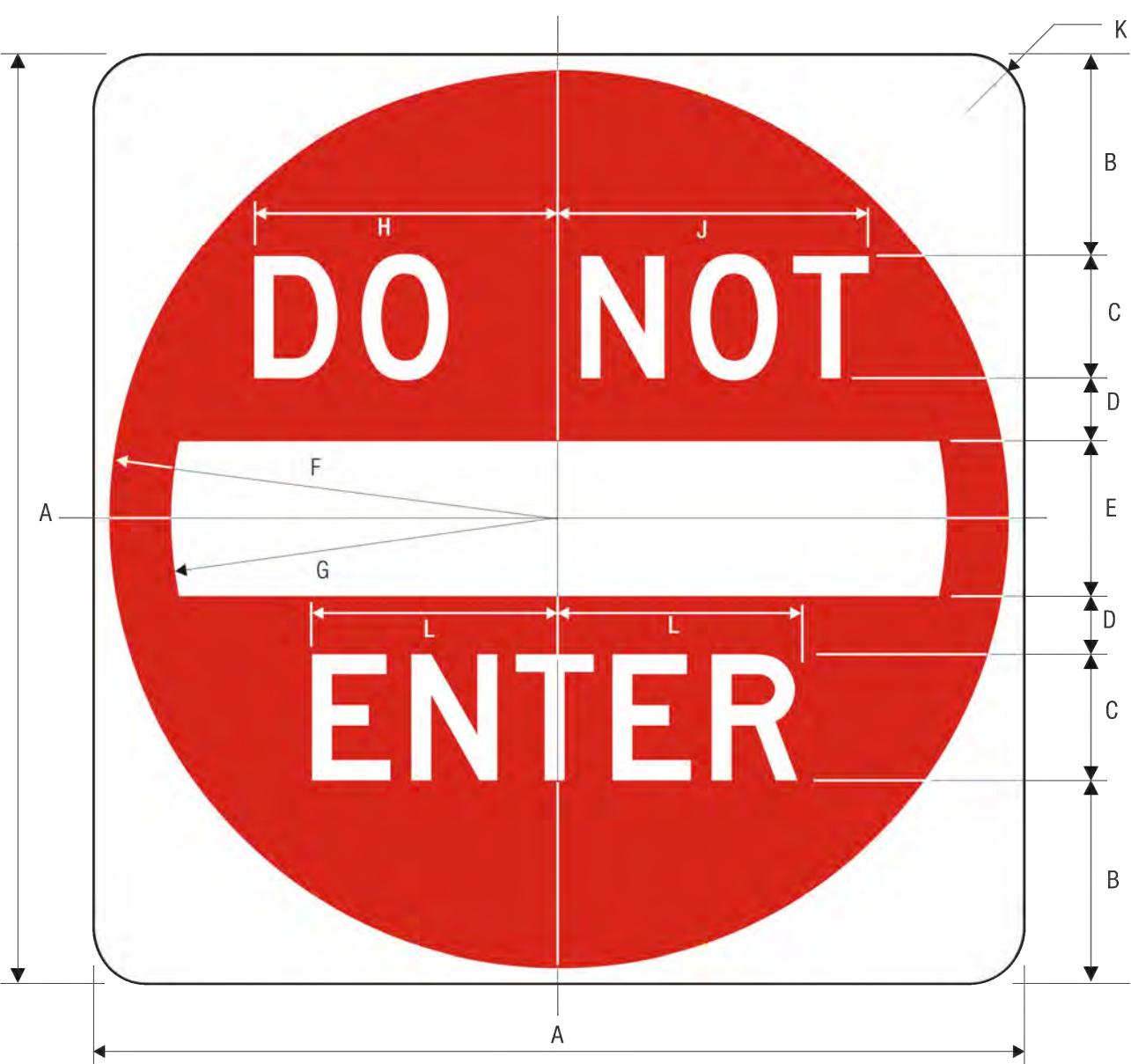
COLORS: CIRCLE & DIAGONAL — RED (RETROREFLECTIVE)
LETTER, BORDER — BLACK
BACKGROUND — WHITE (RETROREFLECTIVE)



THE DESIGN VEHICLE UTILIZED FOR THE TURNING MOVEMENTS SHOWN IS BASED ON THE DIMENSIONS OF A TYPICAL TRASH AND RECYCLING COLLECTION TRUCK.

VEHICLE TURNING DETAIL

SCALE: 1" = 30'



R5-1
DO NOT ENTER

A	B	C	D	E	F	G	H	J	K	L
30	6.5	4 D	2	5	14.5	12.5	9.75	10	1.875	7.875
36	7.5	5 D	2.5	6	17.5	15	12	12.375	2.25	9.613
48	11	6 D	3	6	23.5	20	14.5	15	3	11.75

COLORS: SYMBOL — RED (RETROREFLECTIVE)
LEGEND & BACKGROUND — WHITE (RETROREFLECTIVE)

DETAIL SHEET No. 6

PREPARED FOR

KINGSTOWN PROPERTIES LLC

PROPOSED AFFORDABLE HOUSING DEVELOPMENT

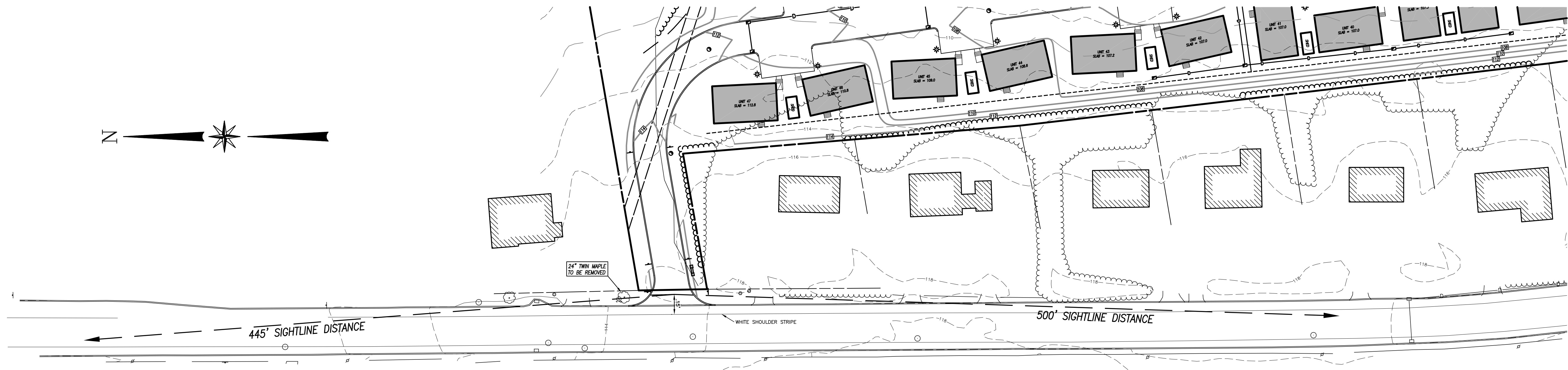
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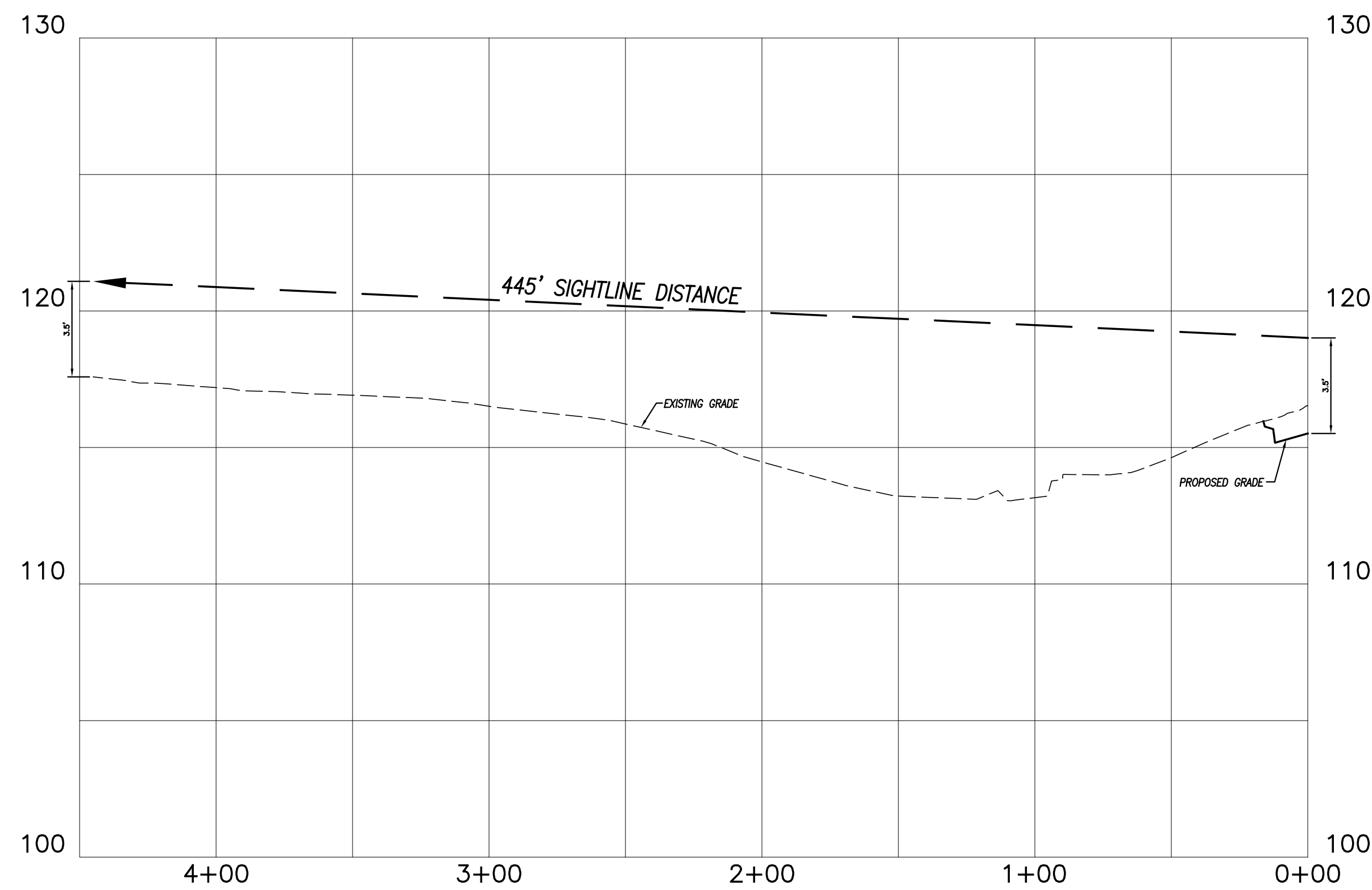
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3/30/2023	SIGHTLINES, I.W. CONDITIONS
DATE: 5/14/2022	DRAWN: DJH
SCALE: AS SHOWN	DESIGN: DJH
SHEET: 21 OF 22	CHK BY: ---
DWG. No: Client File	JOB No: 213009

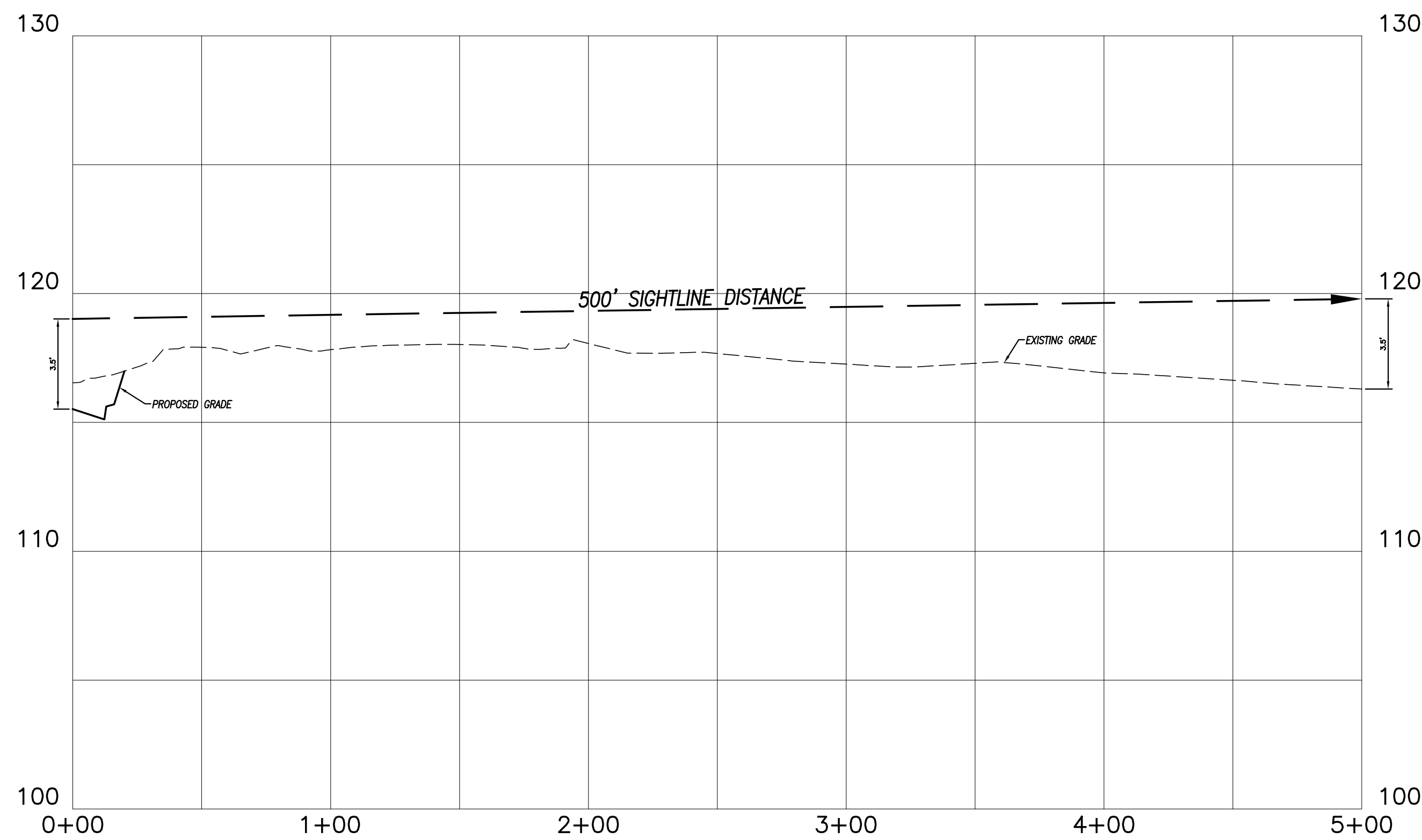


PLAN VIEW
SCALE: 1" = 40'



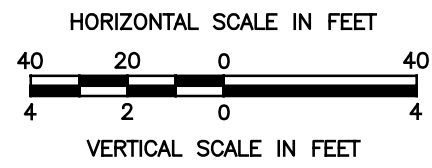
NORTHERLY SIGHTLINE PROFILE

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'



SOUTHERLY SIGHTLINE PROFILE

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'



SIGHTLINE DEMONSTRATION PLAN
PREPARED FOR
KINGSTOWN PROPERTIES LLC
PROPOSED AFFORDABLE HOUSING DEVELOPMENT
CLARK LANE
WATERFORD, CONNECTICUT

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DATE: 5/14/2022	DRAWN: DJH
SCALE: AS SHOWN	DESIGN: DJH
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ENGINEER	DATE
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