

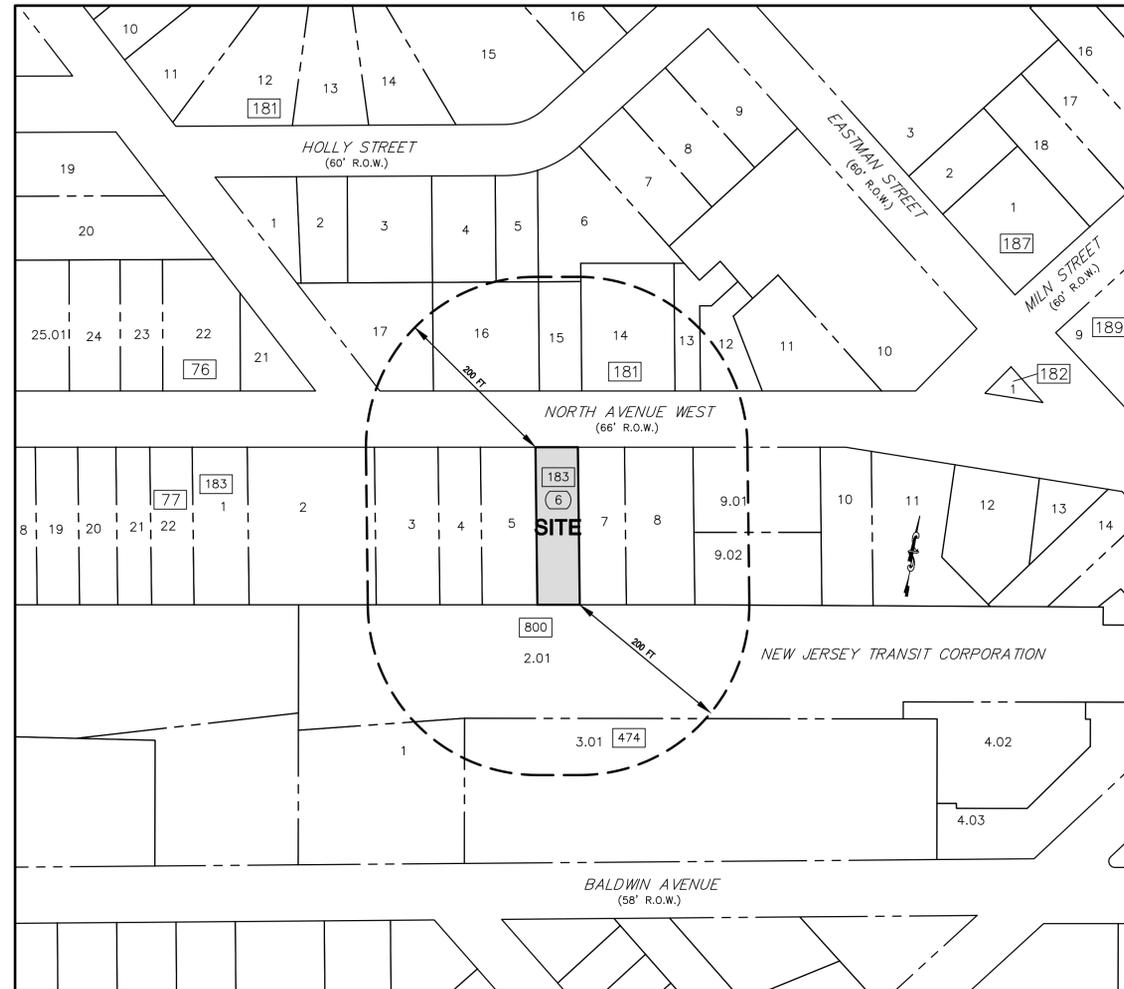
PRELIMINARY & FINAL SITE PLAN

**No. 113 NORTH AVENUE WEST
LOT 6, BLOCK 183
TAX MAP SHEET No. 31**

TOWNSHIP OF CRANFORD UNION COUNTY NEW JERSEY

LIST PROPERTY OWNERS & UTILITIES 200 FEET

| BLOCK & LOT | PROPERTY LOCATION | OWNER/MAIL ADDRESS |
|-------------|-------------------|--|
| 181 4 | 18 HOLLY ST | BIRD, DOROTHY 18 HOLLY ST Cranford, NJ 07016 |
| 181 5 | 20 HOLLY ST | JOHNSON, DORIS ESTATE OF 20 HOLLY ST Cranford, NJ 07016 |
| 181 6 | 22 HOLLY ST | FERRERA, ROSA 22 HOLLY ST Cranford, NJ 07016 |
| 181 12 | 110 NORTH AVE W | CRANFORD NORTH LLC 213 SOUTH AVE EAST Cranford, NJ 07016 |
| 181 13 | 112 NORTH AVE W | CRANFORD NORTH LLC 213 SOUTH AVE EAST Cranford, NJ 07016 |
| 181 14 | 114 NORTH AVE W | 114 NORTH AVENUE LLC 66 MARSH DR Watchung, NJ 07069 |
| 181 15 | 116 NORTH AVE W | REKEMEIER, JOHN 116 NORTH AVE W Cranford, NJ 07016 |
| 181 16 | 118 NORTH AVE W | 118 NAW LLC 118 NORTH AVE W Cranford, NJ 07016 |
| 181 17 | 120 NORTH AVE W | 120 NORTH AVE CORP 120 NORTH AVE W Cranford, NJ 07016 |
| 183 2 | 201 NORTH AVE W | UNION COUNTY SAVINGS BANK 320 N BROAD ST Elizabeth, NJ 07208 |
| 183 3 | 119 NORTH AVE W | SALES MANAGEMENT REALTY LLC 119 NORTH AVE W Cranford, NJ 07016 |
| 183 4 | 117 NORTH AVE W | SALES MANAGEMENT REALTY LLC 119 NORTH AVE W Cranford, NJ 07016 |
| 183 5 | 115 NORTH AVE W | SPENCER, MARK S & BRIANETTE, RALPH V 101 FOREST AVE Cranford, NJ 07016 |
| 183 7 | 11 NORTH AVE W | SEW CENTERS OF N J INC 20 SCOTCH RD West Trenton, NJ 08628 |
| 183 8 | 109 NORTH AVE W | RUSTIC MILL DINER REALTY LLC 783 SPRINGFIELD AVE Summit, NJ 07901 |
| 183 9.01 | 105 NORTH AVE W | MY WAY DEVELOPMENT LLC, ACCT. DEPT. 101 JFK PKWY Short Hills, NJ 07078 |
| 183 9.02 | 109 NORTH AVE W | 109 NORTH AVENUE LLC 1 CEDAR ST Cranford, NJ 07027 |
| 474 1 | 24 SOUTH AVE W | CRANFORD HARRISON DEVELOPERS LLC 253 MAIN ST Matawan, NJ 07747 |
| 474 3.01 | 6 SOUTH AVE W | CRANFORD SQUARE LLC 219 SOUTH ST S108 New Providence, NJ 07974 |



PROJECT AREA
1"=100'

PREPARED MAY 2022

FOR

CARWEN MANAGEMENT, LLC

113 NORTH AVENUE WEST
CRANFORD, NJ 07016

CERTIFICATION OF APPROVAL

APPROVED BY THE PLANNING BOARD
OF THE TOWNSHIP OF CRANFORD

CHAIRMAN DATE

SECRETARY DATE

ENGINEER DATE

APPLICANT/OWNER
CARWEN MANAGEMENT, LLC
113 NORTH AVENUE WEST
CRANFORD, NJ 07016

MUNICIPAL & UTILITIES CONTACT LIST

COMCAST CABLEVISION
C/O- CORPORATION TRUST CO.
800 BEAR TOWN ROAD
WEST TRENTON, NJ 08628

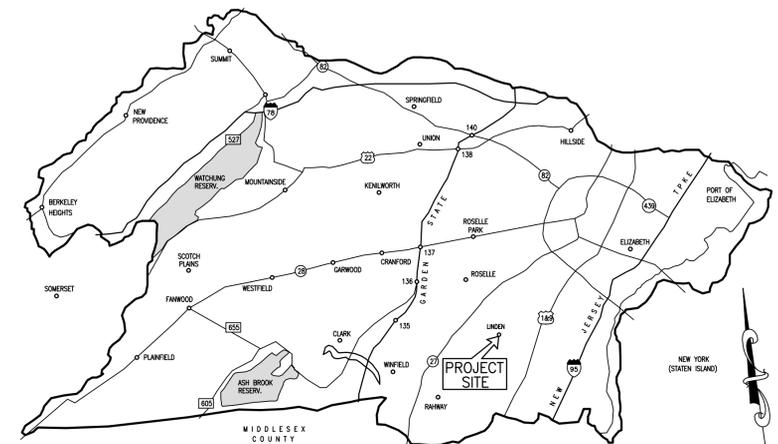
PUBLIC SERVICE ELECTRIC & GAS COMPANY
MANAGER, CORPORATE PROPERTIES
80 PARK PLAZA, 108
NEWARK, NJ 07101

NEW JERSEY AMERICAN WATER, INC.
ATTN: GIS SUPERVISOR
1025 LAUREL OAK ROAD
VOORHEES, NJ 08843

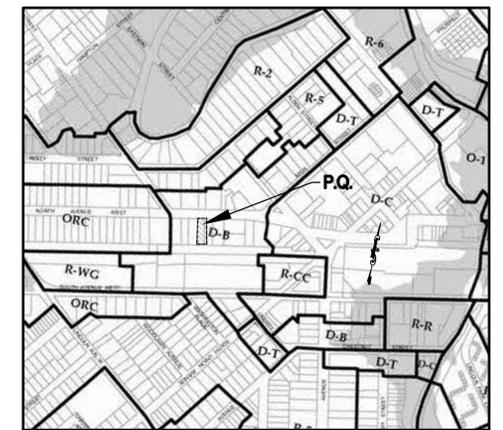
ELIZABETHTOWN GAS COMPANY
ENGINEERING DEPARTMENT
520 GREEN LANE
UNION, NJ 07053

VERIZON
EXECUTIVE OFFICES
1 VERIZON WAY
ATTN: CORPORATE SECRETARY,
BRONX, NJ 07002

RAHWAY VALLEY SEWERAGE AUTHORITY
ATTN: CHIEF ENGINEER
1050 EAST HAZELWOOD AVENUE
RAHWAY, NJ 07065



UNION COUNTY KEY MAP
N.T.S.



TOWNSHIP OF CRANFORD ZONING MAP
1"=600'

| SHEET INDEX | | | |
|-------------|---|------------|--------------|
| SHEET No. | DESCRIPTION | PREPARED | LAST REVISED |
| 1 | COVER SHEET | 05/10/2022 | 05/24/2023 |
| 2 | EXISTING CONDITIONS, DEMOLITION, LAYOUT & DIMENSIONING PLAN | 05/10/2022 | 05/24/2023 |
| 3 | GRADING & UTILITY / LIGHTING & LANDSCAPING PLAN | 05/10/2022 | 05/24/2023 |
| 4 | SOIL EROSION & SEDIMENT CONTROL PLAN | 05/10/2022 | 05/24/2023 |
| 5 | CONSTRUCTION DETAILS | 05/10/2022 | 05/24/2023 |

ARCHITECTURAL PLANS PREPARED BY: WAGA ENTERPRISES ARCHITECTS, LLC
2109 ST. GEORGES AVENUE
RAHWAY, NJ 07065
PHONE: 732-382-2000

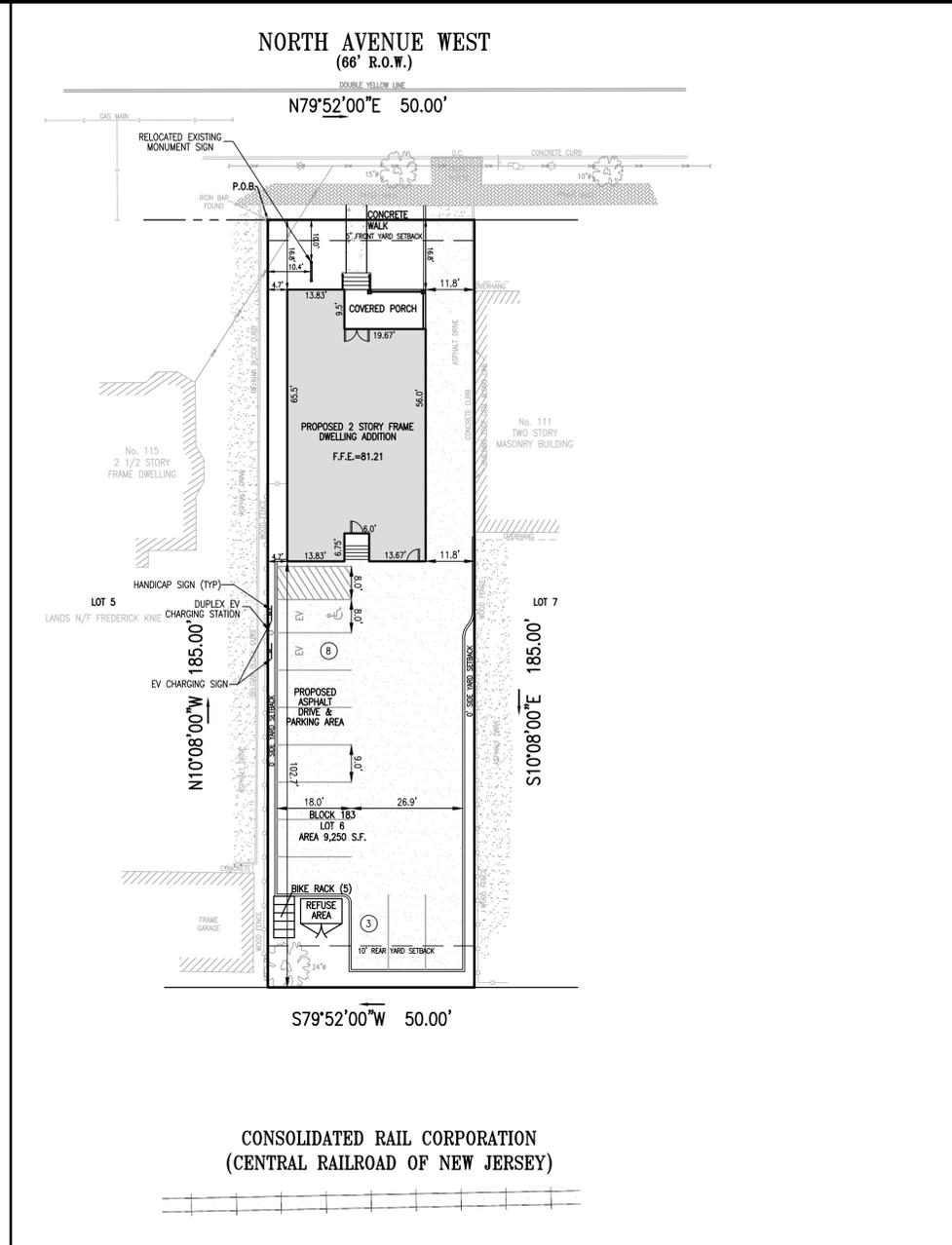
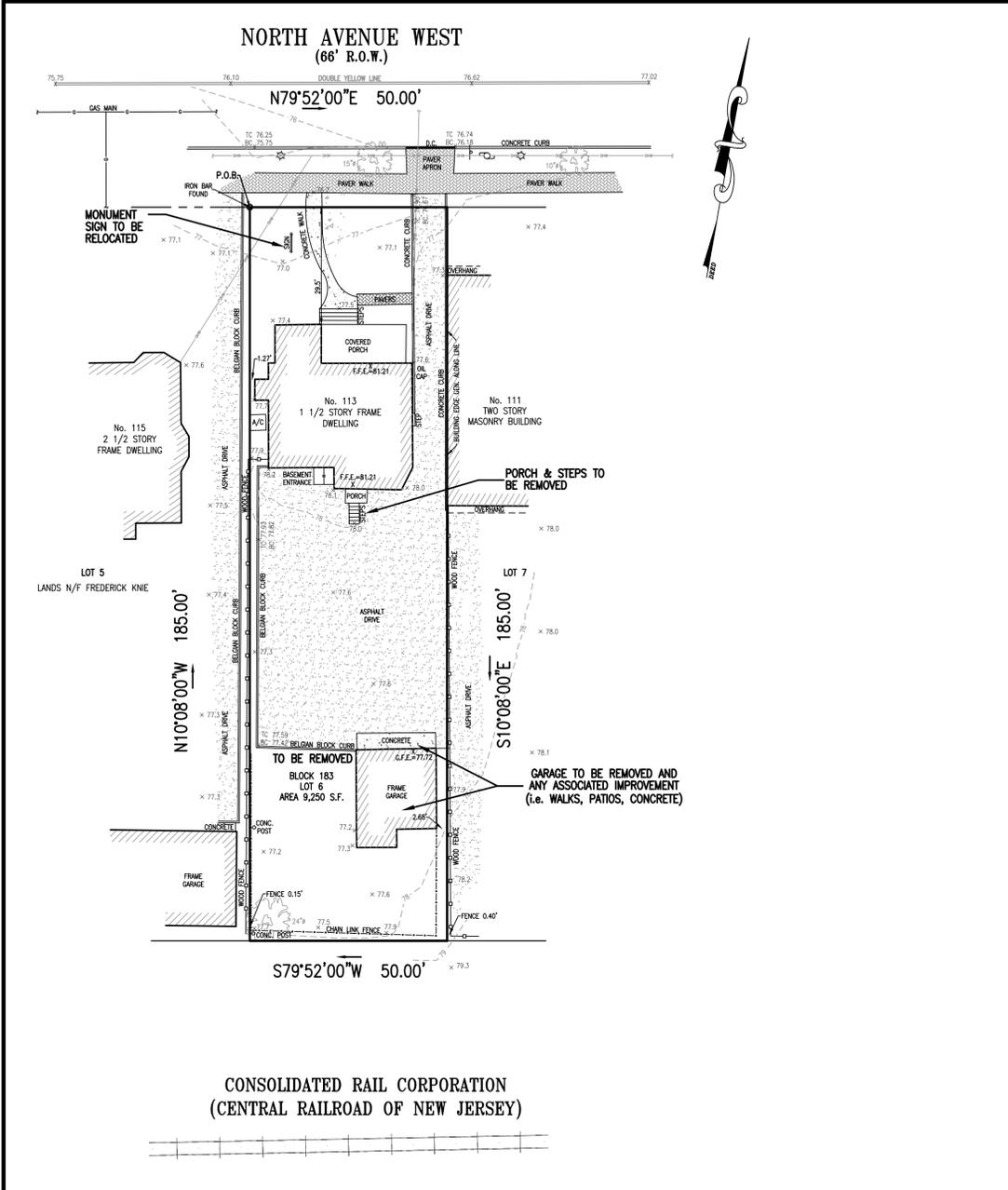
| REV. | DATE | DESCRIPTION | CHK'D. | APP'VD. |
|------|------------|--|--------|---------|
| 3 | 05/24/2023 | REVISED AS PER DRC MEETING | | A.M. |
| 2 | 11/07/2022 | REVISED AS PER TOWNSHIP OF CRANFORD COMMENTS | | A.M. |
| 1 | 08/25/2022 | REVISED AS PER TOWNSHIP OF CRANFORD COMMENTS | | S.P. |



Harbor Consultants Inc.
Engineers & Surveyors
320 NORTH AVENUE EAST
CRANFORD, N.J. 07016
Phone (908) 276-2715 Fax (908) 709-1738
Email: info@hcieg.net

VICTOR E. VINEGRA
PROFESSIONAL ENGINEER & LAND SURVEYOR
NEW JERSEY LICENSE No. 34460

| PRELIMINARY & FINAL SITE PLAN COVER SHEET | | | | | |
|---|------------|--------------|-----------|---------------|-----------------------------------|
| No. 113 NORTH AVENUE WEST LOT 6, BLOCK 183 TOWNSHIP OF CRANFORD UNION COUNTY NEW JERSEY | | | | | |
| SCALE: | DATE: | DESIGNED BY: | DRAWN BY: | WORK FILE: | CERTIFICATE OF AUTHORIZATION No.: |
| AS-SHOWN | 05/10/2022 | V.E.V. | S.P. | 2021038_COVER | 24GA27962100 |
| | | | | | PROJECT No: 2021038 |



TOWNSHIP OF CRANFORD, UNION COUNTY, NEW JERSEY
SCHEDULE OF ZONE DISTRICT AREA, YARD & BUILDING REQUIREMENTS
ZONE D-B (DOWNTOWN BUSINESS DISTRICT)

| ITEM | REQUIRED | EXISTING | COMPLY | PROPOSED | COMPLY |
|--|---------------------------|--|------------|---|---------------|
| PRINCIPAL STRUCTURE PERMITTED USE | SINGLE FAMILY | OFFICE | YES | OFFICE/MULTI-FAMILY | NO (2) |
| MINIMUM LOT DIMENSION | N/A | 9,250 S.F. 50.00 FEET | YES YES | 9,250 S.F. 50.00 FEET | YES YES |
| MINIMUM YARDS (PRINCIPAL) | | | | | |
| FRONT YARD | 5 FEET | 29.50 FEET | YES | 16.8 FEET | YES |
| REAR YARD | 10 FEET | 113.80 FEET | YES | 102.7 FEET | YES |
| SIDE YARD (ONE SIDE) | 0 FEET | 1.27 FEET | YES | 4.7 FEET | YES |
| SIDE YARD (BOTH SIDES) | 0 FEET | 10.02 FEET | YES | 13.07 FEET | YES |
| MAXIMUM BULK STANDARDS | | | | | |
| MAXIMUM FLOOR AREA RATIO | 2.5 (80%) | N/A | YES | 0.7 | YES |
| MAXIMUM LOT IMPERVIOUS COVERAGE | N/A | 5,977 S.F. (64.6%) 1,403 S.F. (15.2%) | YES | 7,624 S.F. (82.4%) 2,194.25 S.F. (23.7%) | NO (1) YES |
| MAXIMUM BUILDING HEIGHT | 3 STORES/ 45.0 FEET | 1 1/2 STORES | YES | 3 STORES | YES |
| MINIMUM DISTANCE FROM BUILDING TO 1 OR 2 FAMILY RESIDENCE ZONE | 20 FEET | >200 FEET | YES | >200 FEET | YES |
| GROSS DENSITY (MAXIMUM DWELLING UNITS PER ACRE) | 10 UNITS/AC (3) (2 UNITS) | N/A | N/A | 18 UNITS/AC (4 UNITS) | NO (3) |
| SIGNS - 255-386(4)(g) | | | | | |
| SIGN AREA | 12 S.F. | 11.5 S.F. | YES | 11.5 S.F. | YES |
| SIGN HEIGHT | 4 FEET | 3.5 FEET | YES | 3.5 FEET | YES |
| SIGN SETBACK | 10 FEET | 6.7 FEET | NO | 10.0 FEET | YES |
| BUILDING FRONT YARD SETBACK | 15 FEET | 29.5 FEET | YES | 16.8 FEET | YES |

NOTE:
(1) VARIANCE REQUESTED
(2) CONDITIONAL USE VARIANCES REQUESTED - SEE BELOW.
(3) SECTION 255-39B(22)(c) ALLOWS A GROSS DENSITY NOT TO EXCEED 10 UNITS/ACRE, WHICH ALLOWS 2 UNITS ON THE LOT.

- VARIANCES REQUESTED:**
- "D" VARIANCES:**
- D.3 CONDITIONAL USE VARIANCE, SEE BELOW.
 - D.5 DENSITY VARIANCE FOR 18 UNITS/ACRE, WHERE 10 UNITS/ACRE IS ALLOWED.
- "C" VARIANCES:**
- LOT IMPERVIOUS COVERAGE OF 82.4%, WHERE 80% IS ALLOWED.
 - 11 PARKING SPACES PROVIDED, WHERE 15 SPACES REQUIRED.
- DESIGN WAIVERS:**
- PARKING SPACE DIMENSIONS OF 9' X 18', WHERE 10' X 18' IS REQUIRED.
 - NO LOADING SPACE, WHERE 1 (ONE) SPACE IS REQUIRED.

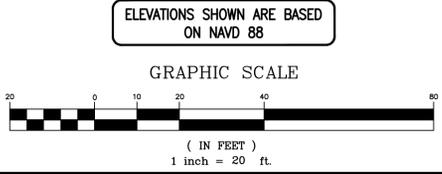
- CONDITIONAL USE VARIANCES:**
- § 255-39.B(18) - OFFICES, PROFESSIONAL, BUSINESS AND ADMINISTRATIVE USES
(a) - PROPOSED 1,967 S.F. FIRST FLOOR OFFICE (ONE TENANT), WHERE MAXIMUM 1,000 S.F. ALLOWED PER TENANT.
- § 255-39.B(22) - RESIDENTIAL USES
(g) - GROSS DENSITY OF 18 UNITS/AC, MAXIMUM 10 UNITS/AC ALLOWED.

OFF-STREET PARKING SCHEDULE
255-44-B-CRANFORD PARKING SCHEDULE II (PARKING REQUIREMENTS FOR RESIDENTIAL LAND USE)

| USE | NUMBER OF UNITS | PARKING CRITERIA | REQUIRED | PROPOSED | COMPLY |
|----------------------------|-----------------|--------------------------------------|-------------|-------------|--------|
| OFFICE, OTHER USE | 1,967 S.F.± | 1 PER 325 S.F. OF NET FLOOR AREA | 6.0 SPACES | | |
| 2-BEDROOM GARDEN APARTMENT | 4-UNITS | 2.0 SPACES PER UNIT | 8.0 SPACES | | |
| EV CHARGING STATION | | 15% OF PROPOSED PARKING (2.0 SPACES) | 14.0 SPACES | | |
| EV CHARGING STATION CREDIT | | 1:1 UP TO 10% OF REQUIRED PARKING | -2.0 SPACES | 2.0 SPACES | |
| | | TOTAL WITH CREDIT | 12.0 SPACES | 11.0 SPACES | NO (1) |

NOTE:
(1) - VARIANCE REQUESTED

- GENERAL NOTES:**
- SITE AREA LOT 6, BLOCK 183 = 9,250 S.F. (0.212 Ac.).
 - BEING KNOWN AS 113 NORTH AVENUE WEST, TOWNSHIP OF CRANFORD, NEW JERSEY
 - LOT IS SITUATED IN ZONE D-B (DOWNTOWN BUSIN DETACHED RESIDENTIAL) AS SHOWN ON TOWNSHIP OF CRANFORD ZONING MAP.
 - BOUNDARY INFORMATION PREPARED BY BRAGINSKY SURVEYING, INC., DATED FEBRUARY 12, 2021.
 - PUBLIC SEWER, WATER, GAS, ELECTRIC, CATV, AND TELEPHONE SERVICES ARE PRESENTLY SERVING THE PROPERTY.
 - DISTURBANCE IS WITHIN EXISTING FOOTPRINT THEREFORE SOIL EROSION CERTIFICATION APPROVAL IS NOT REQUIRED.



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LEGEND

| | | | |
|-----|----------------------|--------|-----------------------|
| —+— | STREET SIGN | ○ | IRON BAR FOUND |
| ● | CLEANOUT | □ | MAILBOX |
| ⊙ | SANITARY MANHOLE | ⊙ | STREET TREE |
| ⊙ | DRAINAGE MANHOLE | x 0.00 | EXIST. SPOT ELEVATION |
| — | CATCH BASIN | - - - | EXISTING CONTOUR LINE |
| — | CATCH BASIN | - - - | GAS LINE |
| ⊙ | SOIL BORING | — | WATER LINE |
| ⊙ | GUY WIRE | ⊙ | GAS VALVE |
| ⊙ | UTILITY POLE | ⊙ | WATER VALVE |
| ⊙ | P.K. NAIL FOUND | ⊙ | FIRE HYDRANT |
| ⊙ | CONC. MONUMENT FOUND | ⊙ | LIGHT POST |

| | | | | | |
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2

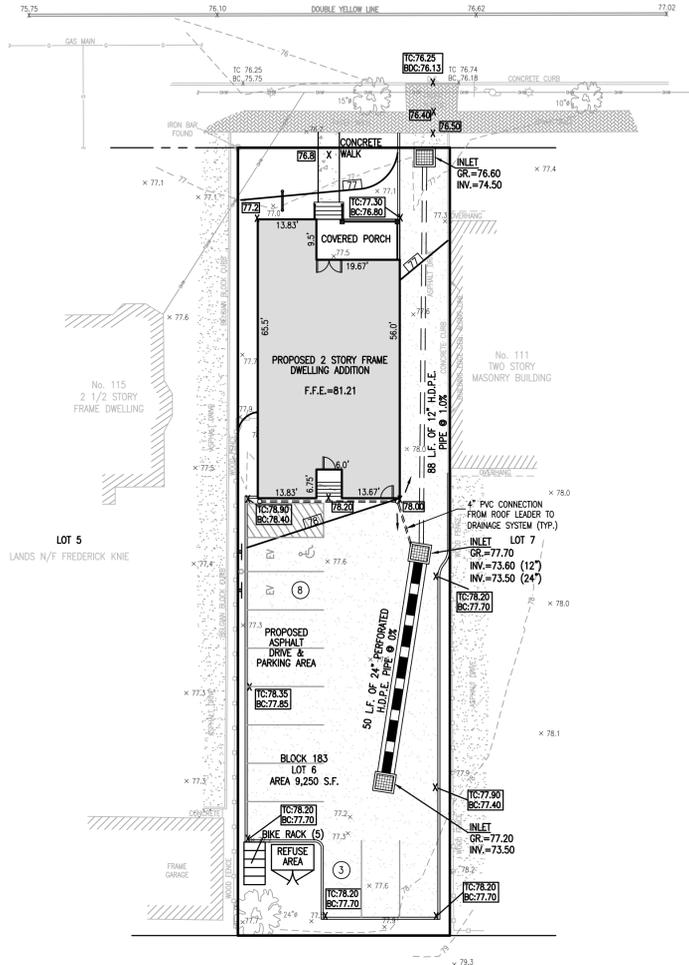
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PRELIMINARY & FINAL SITE PLAN
EXIST. CONDITIONS & DEMO/LAYOUT & DIMENSIONING PLAN
No. 113 NORTH AVENUE WEST
LOT 6, BLOCK 183
TOWNSHIP OF CRANFORD UNION COUNTY NEW JERSEY

VICTOR E. VINEGRA
PROFESSIONAL ENGINEER & LAND SURVEYOR
NEW JERSEY LICENSE No. 34460

| | | | | | | |
|--------|------------|--------------|-----------|-----------------------|-----------------------------------|--------------|
| SCALE: | DATE: | DESIGNED BY: | DRAWN BY: | WORK FILE: | CERTIFICATE OF AUTHORIZATION No.: | PROJECT No.: |
| 1"=20' | 05/10/2022 | V.E.V. | S.P. | 2021038_Exist&Demo&LD | 24GA27962100 | 2021038 |

NORTH AVENUE WEST
(66' R.O.W.)

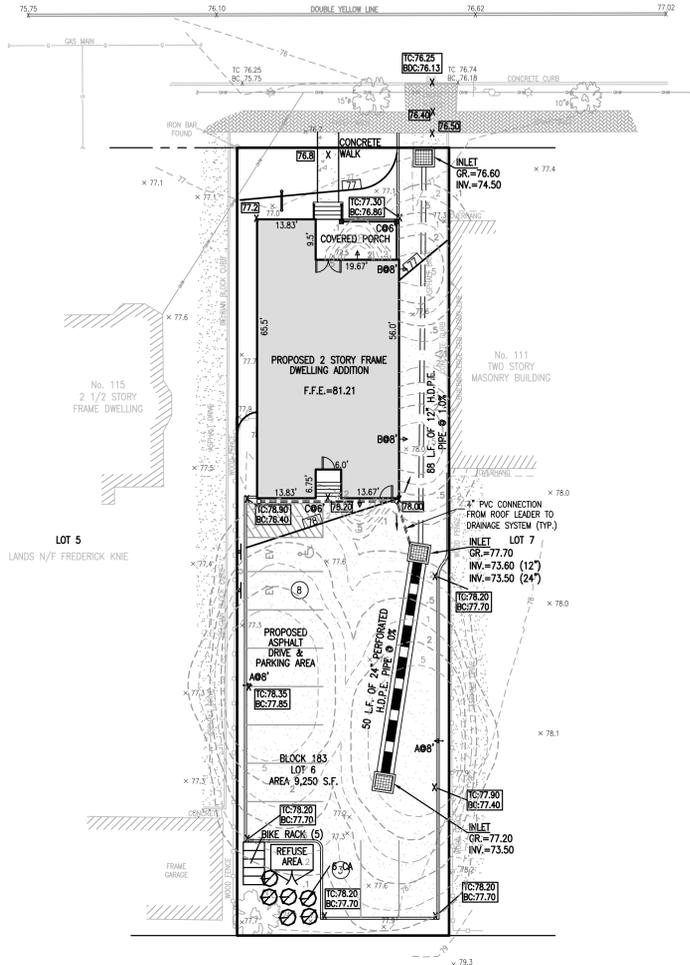


CONSOLIDATED RAIL CORPORATION
(CENTRAL RAILROAD OF NEW JERSEY)

GRADING & UTILITY PLAN

SCALE: 1"=20'

NORTH AVENUE WEST
(66' R.O.W.)



CONSOLIDATED RAIL CORPORATION
(CENTRAL RAILROAD OF NEW JERSEY)

LIGHTING & LANDSCAPING PLAN

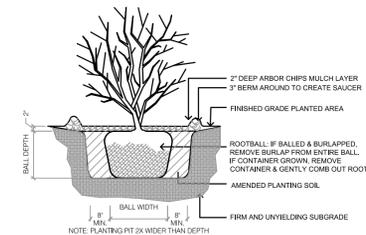
SCALE: 1"=20'

NOTES:

- ELEVATIONS SHOWN ARE BASED ON NAVD88 DATUM.
- UNDERGROUND UTILITIES WERE MARKED OUT AT TIME OF SURVEY.
- THE LOCATION OF UNDERGROUND UTILITIES SHOWN HEREON IS APPROXIMATE AND BASED UPON FIELD OBSERVATION AND THE TOWNSHIP OF CRANFORD UTILITY KEY MAPS.
- PUBLIC SEWER, WATER, GAS, ELECTRIC, CATV, AND TELEPHONE SERVICES ARE PRESENTLY SERVING THE PROPERTY, AND WILL SERVE THE PROPOSED ADDITION.
- THE LOCATION OF ALL UNDERGROUND UTILITIES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE TO BE FIELD VERIFIED PRIOR TO ANY CONSTRUCTION ACTIVITIES. ANY DISCREPANCIES BETWEEN PLAN AND FIELD INFORMATION ARE TO BE REPORTED IMMEDIATELY TO HARBOR CONSULTANTS.
- THE DISRUPTION OF EXISTING UTILITY SERVICES SHALL BE AVOIDED TO THE GREATEST EXTENT POSSIBLE. ANY REQUIRED DISRUPTION OF SERVICES SHALL BE COORDINATED IN ADVANCE WITH THE RESPECTIVE AUTHORITY AND AFFECTED USERS SHALL BE ADEQUATELY NOTIFIED.
- THIS SITE PLAN MAKES NO CERTIFICATION OR REPRESENTATION AS TO THE LOCATION OF ANY UNDERGROUND, ELECTRICAL, PHONE OR CABLE CONDUITS AND/OR WIRES WHICH MAY BE PRESENT ON THE SITE.
- ALL PROPOSED CONSTRUCTION TO BE IN CONFORMANCE WITH TOWNSHIP OF CRANFORD STANDARD DETAILS.
- ALL ROOF LEADERS/DOWN SPOUTS WILL BE CONNECTED TO THE DRAINAGE SYSTEM.
- PROPERTY IS SITUATED IN FLOOD AREA OF MINIMAL FLOOD HAZARD WHICH IS ZONE X (BASE FLOOD ELEVATIONS DETERMINED) PER A PLAN ENTITLED "FIRM" FLOOD INSURANCE RATE MAP, FOR THE TOWNSHIP OF CRANFORD COMMUNITY/PANEL No. 345291 0032F, No. 34039C0032F EFFECTIVE DATE SEPTEMBER 20TH, 2006
- WATER, GAS AND SANITARY SEWER SERVICE LINES SHOULD BE PROVIDED INVERTS DURING CONSTRUCTION
- THE APPLICANT SHALL CONTACT THE ENGINEERING OFFICE 48 HOURS IN ADVANCE FOR INSPECTION OF SEEPAGE PIT INSTALLATION AND RIGHT-OF-WAY IMPROVEMENTS.
- TELEPHONE, CABLE AND ELECTRICITY CONNECTIONS WILL BE INSTALLED AS DIRECTED BY EACH UTILITY COMPANY.

PLANTING NOTES

- CONTRACTOR SHALL INSPECT SITE PRIOR TO BEGINNING PLANTING OPERATIONS AND NOTIFY THE ENGINEER OF ANY CONDITIONS THAT ARE NOT SUITABLE TO PERFORMING PLANTING OPERATIONS. CONTRACTOR SHALL NOTIFY OWNER'S REP. OR LANDSCAPE ARCHITECT OF ANY CONDITIONS THAT WOULD PREVENT HEALTHY GROWTH OF PLANT MATERIAL.
- NO HEAVY EQUIPMENT, MACHINERY OR STOCK PILING OF MATERIAL IS EXISTING TREES THROUGHOUT THE COURSE OF THE CONTRACT.
- EXISTING TREES SHALL BE PROTECTED WITH TEMPORARY WOODEN TREE GUARDS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING TREES INCLUDING BUT NOT LIMITED TO INSTALLING TREE GUARDS AND WOOD CHIPS.
- THE CONTRACTOR SHALL TAKE EXTREME CARE TO PROTECT THE ROOT SYSTEMS OF EXISTING TREES. HAND/PNEUMATIC EXCAVATE WITHIN THE DRP LINES OF EXISTING TREES.
- PLANT GROUPINGS & LOCATIONS ARE DIAGRAMMATIC. THE LOCATION OF PLANTS SHALL BE APPROVED IN THE FIELD BY THE LANDSCAPE ARCHITECT.
- PLANT GROUPINGS & LOCATIONS ARE DIAGRAMMATIC. THE LOCATION OF PLANTS SHALL BE APPROVED IN THE FIELD BY THE LANDSCAPE ARCHITECT.
- ALL PLANT MATERIAL SHALL CONFORM TO THE MOST CURRENT ISSUE OF "ANSI Z601-2014 NURSERY STOCK STANDARDS" OR LATEST EDITION. ALL PLANTS TO BE NURSERY-GROWN UNDER SIMILAR CLIMATIC CONDITIONS AS JOB SITE FOR AT LEAST 2 YEARS. PLANTS SHALL BE DISEASE FREE, VIGOROUS, WITH WELL DEVELOPED ROOT SYSTEMS. TREES SHALL HAVE STRAIGHT TRUNKS, LEADER INTACT, UN-DAMAGED & UN-CUT.
- THERE WILL BE NO SUBSTITUTIONS OF PLANT MATERIAL WITHOUT PRIOR WRITTEN APPROVAL BY THE LANDSCAPE ARCHITECT.
- CONTRACTOR SHALL CONTACT AGENCIES FOR UTILITY MARK-OUT PRIOR TO PLANTING.
- ALL PLANTS TO BE APPROVED BY THE LANDSCAPE ARCHITECT.
- PLANTING OPERATIONS SHALL BE PERFORMED DURING PERIODS WITHIN THE PLANTING SEASON WHEN WEATHER AND SOIL CONDITIONS ARE SUITABLE. SPRING PLANTING SEASON SHALL BE MARCH 15 THROUGH MAY 15; FALL PLANTING SEASON SHALL BE OCT. 15 THROUGH DEC. 15. PLANTING IS ACCEPTABLE DURING OTHER TIMES IF WEATHER PERMITS, THE GROUND IS NOT FROZEN AND SUPPLEMENTAL WATERING IS PROVIDED (IN SUMMER MONTHS). NO PLANT, OTHER THAN GROUNDCOVER, MAY BE PLANTED CLOSER THAN TWO FEET TO EXISTING STRUCTURES OR SIDEWALKS.
- THE FOLLOWING "FALL PLANTING HAZARD" TREE SPECIES SHALL BE PLANTED IN THE SPRING SEASON ONLY:
ACER RUBRUM
LIQUIDAMBAR
QUERCUS (EXCEPT Q. pedunculata)
- THE CONTRACTOR SHALL LAYOUT ALL TREES, TREE PITS, SHRUBS, AND SHRUB BEDS PRIOR TO INSTALLATION FOR APPROVAL. FINAL LOCATION OF ALL PLANTS TO BE DETERMINED IN THE FIELD BY THE LANDSCAPE ARCHITECT.
- SOIL TEST SHALL BE PERFORMED AND ADJUSTMENTS TO pH AND AMENDMENTS MADE IN ACCORDANCE WITH RECOMMENDATIONS FROM TESTING LAB (I.E. RUTGERS SOIL TESTING LAB), AT A MINIMUM. TREES PITS & SHRUB BEDS SHALL HAVE COMPOST ADDED TO THE TOPSOIL MIX AT THE RATIO OF 2 PARTS COMPOST TO 7 PARTS TOPSOIL.
- TREES AND SHRUBS SHALL BE PLANTED SO THAT THE ROOT FLARE IS LEVEL OR SLIGHTLY ABOVE FINISHED GRADE AFTER ALLOWING FOR WATERING & SETTLING. REMOVE EXCESS SOIL FROM TOP OF BALL AS REQUIRED TO EXPOSE ROOT FLARE.
- PLANTS MUST BE WATERED AS THEY ARE PLANTED. TREES TO BE WATERED WITH 10 GALLONS OF POTABLE WATER WHEN BACKFILLED TO ONE HALF FINISHED HEIGHT. AN ADDITIONAL 10 GALLONS AFTER COMPLETELY BACKFILLED AND MULCHED.
- TOPSOIL FOR PLANTING PITS AND BEDS SHALL BE SANDY LOAM: FREE FROM SUBSOIL, STONES LARGER THAN 1", OR ANY UNDESIRABLE MATERIAL: CONTAIN SR ORGANIC MATTER, pH 5.0 TO 7.0 INCLUSIVE. DO NOT PLACE ANY SOIL ON TOP OF ROOT BALL.
- CUT AND REMOVE ALL BURLAP & STRING FROM ROOT BALL. REMOVE ENTIRE WIRE BASKET & DISPOSE OF LEGALLY OFF SITE.
- LOCATE TREE SUPPORT SYSTEM SO THAT IT WILL NOT PULL CROTCH APART. USE ARBOR-TIE, 3/4" FLAT WOVEN POLYPROPYLENE STRAPS. TIE TO STAKES IN A MANNER THAT PERMITS SOME TREE MOVEMENT AND SUPPORTS TREE.
- UPON COMPLETION OF THE TWO (2) YEAR PLANT WARRANTY PERIOD, THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR ADJUSTING OR REMOVING ALL STAKES, AS WELL AS STAKING MATERIAL. WARRANTY BEGINS AT DATE OF ACCEPTANCE.
- ALL PLANTS AND ENTIRE SHRUB BEDS TO RECEIVE 3" MAX. LAYER OF MULCH. MULCH SHALL NOT COME IN DIRECT CONTACT WITH TREE TRUNKS.
- IF THERE IS A DISCREPANCY BETWEEN THE PLANT COUNT SHOWN IN THE PLANT LIST AND THE PLANTING GRAPHIC, THE GRAPHIC SHALL TAKE PRECEDENCE.
- IF THE CONTRACTOR DETERMINES THE SUB-GRADE SOIL CONDITIONS ARE DELETERIOUS TO PLANT GROWTH OR WILL INHIBIT DRAINAGE, THE LANDSCAPE ARCHITECT SHALL BE NOTIFIED IMMEDIATELY AND PRIOR TO INSTALLATION OF PLANT MATERIAL.
- MAINTAIN TREES AND GROUNDCOVER UPON COMPLETION OF PLANTING OPERATIONS AND UNTIL ISSUANCE OF FINAL ACCEPTANCE.
- PLANTED AREAS SHALL BE WATERED BY THE CONTRACTOR WHEN RAINFALL IS LESS THAN 1" PER WEEK. SHRUBS SHALL RECEIVE 3-5 GALLONS PER PLANT AND TREES 7-10 GALLONS PER INCH OF CALIPER PER WEEK, OR AS DIRECTED BY THE LANDSCAPE ARCHITECT.
- CONTRACTOR SHALL PROVIDE A MINIMUM OF 6" TOPSOIL IN ALL LAWN AREAS. PLANT PERENNIALS AND GROUNDCOVER IN 8" DEEP TOPSOIL BED CONSISTING OF 2/3 TOPSOIL AND 1/3 HUMUS. PLANT BULBS IN NATURALIZED DRIPETS. PLANT SHRUBS AND TREES AS PER PLANT DETAILS.
- TOPSOIL AND SEED ALL AREAS DISTURBED AS A RESULT OF ANY AND ALL DISTURBANCES, CONSTRUCTION, OR STORAGE OF EQUIPMENT WHETHER SUCH AREAS ARE SHOWN ON THE PLANS OR NOT.

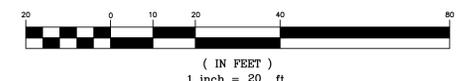


SHRUB PLANTING

N.T.S.

ELEVATIONS SHOWN ARE BASED ON NAVD 88

GRAPHIC SCALE



(IN FEET)
1 inch = 20 ft.

| Symbol | Label | Quantity | Manufacturer | Catalog Number | Description | Lamp | Number Lamps | Lumens Per Lamp | Light Loss Factor | Wattage |
|--------|-------|----------|-------------------|--|--|------|--------------|-----------------|-------------------|---------|
| ▲ | A | 2 | Lithonia Lighting | ESX1 LED P2 400K R3 MVOLT UPA BLS DDBXD W2 | ESX1 LED, P2 Package, 4000K, Type 3, House Side Shield | LED | 1 | 13,917 | 0.97 | 98 |
| ▲ | B | 2 | Lithonia Lighting | WDC1 LED P1 27K 80CRI VW | WDC1 LED, P1 Package, 2700K, Visual comfort wide | LED | 1 | 1122 | 0.97 | 10 |
| ▲ | C | 2 | Lithonia Lighting | OLLWD LED P1 40K MVOLT | OLLWD LED, P1 Package, 4000K | LED | 1 | 938 | 0.97 | 14 |

| KEY | QTY | BOTANICAL NAME | COMMON NAME | SIZE | ROOT | SPC | COMMENTS |
|-----|-----|----------------------|-------------|---------|---------|----------|--------------------------------------|
| CA | 6 | Ceanothus americanus | NJ Tea | 18"-24" | # 3 Can | 24" O.C. | Well established, heavy, symmetrical |

LEGEND

- STREET SIGN
- CLEANOUT
- SANITARY MANHOLE
- DRAINAGE MANHOLE
- CATCH BASIN
- CATCH BASIN
- SOIL BORING
- GUY WIRE
- UTILITY POLE
- P.K. NAIL FOUND
- CONC. MONUMENT FOUND
- IRON BAR FOUND
- MAILBOX
- STREET TREE
- x 0.00 EXIST. SPOT ELEVATION
- - - - - EXISTING CONTOUR LINE
- GAS LINE
- WATER LINE
- GAS VALVE
- WATER VALVE
- FIRE HYDRANT
- LIGHT POST

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| REV. | DATE | DESCRIPTION | CHK'D. | APP'VD |
|------|------------|--|--------|--------|
| 3 | 05/24/2023 | REVISED AS DRC MEETING | | A.M. |
| 2 | 11/07/2022 | REVISED AS PER TOWNSHIP OF CRANFORD COMMENTS | | A.M. |
| 1 | 08/25/2022 | REVISED AS PER TOWNSHIP OF CRANFORD COMMENTS | | S.P. |

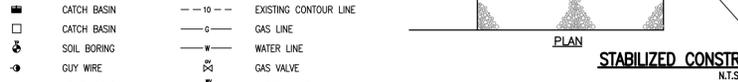
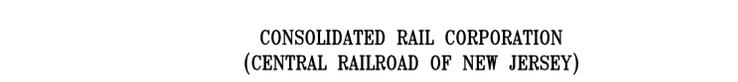
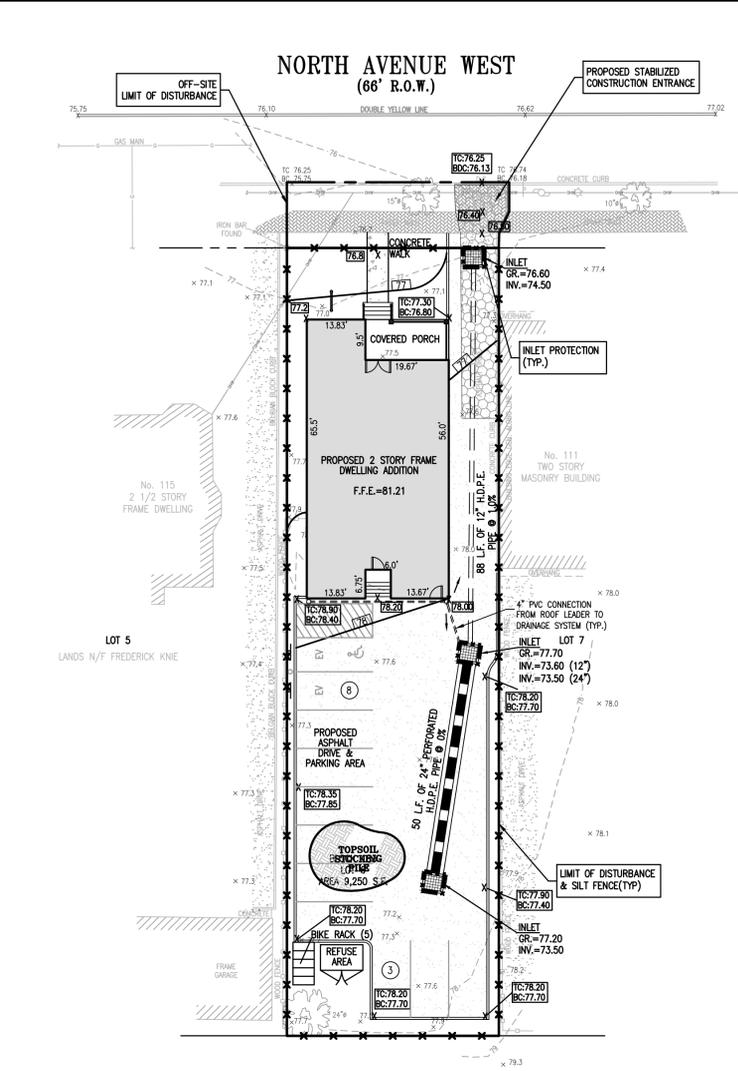
Harbor Consultants Inc.
Engineers & Surveyors
320 NORTH AVENUE EAST
CRANFORD, N.J. 07016
Phone (908) 276-2715 Fax (908) 709-1738
Email: info@hcicg.net

PRELIMINARY & FINAL SITE PLAN
GRADING & UTILITY / LIGHTING & LANDSCAPING PLAN
No. 113 NORTH AVENUE WEST
LOT 6, BLOCK 183
TOWNSHIP OF CRANFORD UNION COUNTY NEW JERSEY

SCALE: 1"=20'
DATE: 05/10/2022
DESIGNED BY: V.E.V.
DRAWN BY: S.P.
WORK FILE: 2021038_G&U
PROJECT NO.: 24GA27962100
CERTIFICATE OF AUTHORIZATION NO.: 2021038

VICTOR E. VINEGRA
PROFESSIONAL ENGINEER & LAND SURVEYOR
NEW JERSEY LICENSE NO. 34460

3



TEMPORARY & PERMANENT SEEDING SCHEDULE

(REVISED PER NJ STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL 7th EDITION, DECEMBER 2017)

- REMOVE FROM THE SURFACE ALL STONES TWO INCHES OR LARGER IN ANY DIMENSION, REMOVE ALL OTHER DEBRIS, SUCH AS WIRE, CABLE, TREE ROOTS, PIECES OF CONCRETE, CLODS, LUMPS OR OTHER UNSUITABLE MATERIAL.
- INSPECT SEEDBED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT SOIL COMPACTED, THE AREA MUST BE RETILLED AND FIRMED AS ABOVE.
- TEMPORARY SEEDING SHALL CONSIST OF SPRING OATS APPLIED AT A RATE OF 2.0 LBS. PER 1,000 SF OR GRASS RYE APPLIED AT A RATE OF 2.4 LBS. PER 1,000 SF. TEMPORARY SEEDING SHALL BE MAINTAINED UNTIL DISTURBED AREAS ARE PERMANENTLY STABILIZED WITH PERMANENT SEEDING. IF ANY SERIOUS EROSION PROBLEM OCCURS, THE ERODED AREAS SHALL BE REPAIRED AND STABILIZED WITH A MULCH AS INDICATED IN NOTE 6.
- PERMANENT SEEDING SHALL CONSIST OF THE FOLLOWING MIXTURE OR APPROVED EQUAL. SITE CONTAINS SOIL HALEDON-URBAN LAND-HASBROUCK COMPLEX, 0 TO 10 PERCENT SLOPES CLASSIFIED AS "SOMEWHAT POORLY DRAINED" AS PER NJ WEB SOIL SURVEY USDA.

PLANTING MIXTURE TO BE USED: MIX-16 (RESIDENTIAL/COMMERCIAL USE)
 ROUGH BLUEGRASS @ 90 lb/ac.
 STRONG CREEPING RED FESCUE @ 130 lb/ac.

NOTE: SITE IS LOCATED WITHIN USDA PLANT HARDINESS ZONE 6a. PLANTING DATES:
 ACCEPTABLE DATE: 3/01 TO 4/30
 ACCEPTABLE DATE: 5/01 TO 8/14 (**)
 OPTIMAL DATE: 8/15 TO 10/15

(**) SUMMER SEEDINGS SHOULD ONLY BE CONDUCTED WHEN THE SITE IS IRRIGATED. MIXES INCLUDING WHITE CLOVER REQUIRE THAT AT LEAST SIX WEEKS OF GROWING SEASON REMAIN AFTER SEEDING TO ENSURE ESTABLISHMENT BEFORE FREEZING CONDITIONS.

- SEEDING RATES SPECIFIED ARE REQUIRED WHEN A REPORT OF COMPLIANCE IS REQUESTED PRIOR TO ACTUAL ESTABLISHMENT OF PERMANENT VEGETATION. UP TO 50% REDUCTION IN RATES MAY BE USED WHEN PERMANENT VEGETATION IS ESTABLISHED PRIOR TO A REPORT OF COMPLIANCE INSPECTION. THESE RATES APPLY TO ALL METHODS OF SEEDING. ESTABLISHING PERMANENT VEGETATION MEANS SOIL VEGETATIVE COVERAGE WITH THE SPECIFIED SEED MIXTURE FOR THE SEEDING AREA AND MOVED ONCE.
- WARM-SEASON MIXTURES ARE GRASSES AND LEGUMES WHICH MAXIMIZE GROWTH AT HIGH TEMPERATURES, GENERALLY 85°F AND ABOVE. SEE TABLE 4-3 MIXTURES 1 TO 7. PLANTING RATES FOR WARM-SEASON GRASSES SHALL BE THE AMOUNT OF PURE LIVE SEED (PLS) AS DETERMINED BY GERMINATION TESTING PER GENERATION TESTING RESULTS.
- COOL-SEASON MIXTURES ARE GRASSES AND LEGUMES WHICH MAXIMIZE GROWTH AT TEMPERATURES BELOW 85°F. MANY GRASSES BECOME ACTIVE AT 65°F. SEE TABLE 4-3 MIXTURES 8 TO 20. ADJUSTMENT OF PLANTING RATES TO COMPENSATE FOR THE AMOUNT OF PLS IS NOT REQUIRED FOR COOL-SEASON GRASSES.

- CONVENTIONAL SEEDING IS PERFORMED BY APPLYING SEED UNIFORMLY BY HAND, CYCLONE (CENTRIFUGAL) SEEDER, DROP SEEDER, DRILL OR CULTPACKER SEEDER, EXCEPT FOR DRILLED, HYDROSEEDER OR CULTPACKED SEEDINGS. SEED SHALL BE INCORPORATED INTO THE SOIL WITHIN 24 HOURS OF SEEDING PREPARATION TO A DEPTH OF 1/2 TO 3/4 INCH, BY RAKING OR DRAGGING. DEPTH OF SEED PLACEMENT MAY BE 1/4 INCH DEEPER ON COMPACTED OR TEXTURED SOIL.
- AFTER SEEDING, FIRING THE SOIL WITH A CORRUGATED ROLLER WILL ASSURE GOOD SEED-TO-SOIL CONTACT, RESTORE CAPILLARITY, AND IMPROVE SEEDLING EMERGENCE. THIS IS THE PREFERRED METHOD. WHEN PERFORMED ON THE CONTOUR, SHEET EROSION WILL BE MINIMIZED AND WATER CONSERVATION ON SITE WILL BE MAINTAINED.
- HYDROSEEDING IS A BROADCAST SEEDING METHOD USUALLY INVOLVING A TRUCK OR TRAILER-MOUNTED TANK WITH AN AGITATION SYSTEM AND HYDRAULIC PUMP FOR SPREADING SEED, WATER AND FERTILIZER AND SPRINKLING THE MIX ONTO THE PREPARED SEEDBED. MULCH SHALL NOT BE INCLUDED IN THE TANK WITH SEED. SHORT-FIBERED MULCH MAY BE APPLIED WITH A HYDROSEEDER FOLLOWING SEEDING. (ALSO SEE SECTION 4-MULCHING BELOW). HYDROSEEDING IS NOT A PREFERRED SEEDING METHOD BECAUSE SEED AND FERTILIZER ARE APPLIED TO THE SURFACE AND NOT INCORPORATED INTO THE SOIL. WHEN POOR SEED TO SOIL CONTACT OCCURS, THERE IS A REDUCED SEED GERMINATION AND GROWTH.

- MULCHING IS REQUIRED ON ALL SEEDING. MULCH WILL PROTECT AGAINST EROSION BEFORE GRASS IS ESTABLISHED AND WILL PROMOTE FASTER AND EARLIER ESTABLISHMENT. THE EXISTENCE OF VEGETATION SUFFICIENT TO CONTROL SOIL EROSION SHALL BE DETERMINED COMPLIANCE WITH THIS MULCHING REQUIREMENT.

- STRAW OF HAY, UNHAYED SMALL GRASS STRAW, HAY FREE OF SEEDS, TO BE APPLIED AT THE RATE OF 1-1/2 TO 2 TONS PER ACRE (70 TO 90 POUNDS PER 1,000 SQUARE FEET), EXCEPT THAT A COMBER IS USED INSTEAD OF A LIQUID MULCH-BINDER (TACKIFYING OR ADHESIVE AGENT), THE RATE OF APPLICATION IS 3 TONS PER ACRE. MULCH CHIPPERS-BLOWERS MUST NOT GRIND THE MULCH. HAY MULCH IS NOT RECOMMENDED FOR ESTABLISHING FINE TURF OR LAWN DUE TO THE PRESENCE OF WEED SEED.

- APPLICATION - SPREAD MULCH UNIFORMLY BY HAND OR MECHANICALLY SO THAT AT LEAST 85% OF THE SOIL SURFACE IS COVERED. FOR UNIFORM DISTRIBUTION OF HAND-SPREAD MULCH, DIVIDE EACH AREA INTO APPROXIMATELY 1,000 SQUARE FOOT SECTIONS AND DISTRIBUTE 70 TO 90 POUNDS WITH EACH SECTION.

- ANCHORING SHALL BE ACCOMPLISHED IMMEDIATELY AFTER PLACEMENT TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS, DEPENDING UPON THE SIZE OF THE AREA, STEEPNESS OF SLOPES, AND COSTS.
 - 1 PEG AND TWINE. DRIVE 8 TO 10 INCH WOODEN PEGS WITHIN 2 TO 3 INCHES OF THE SOIL SURFACE EVERY 4 FEET IN ALL DIRECTIONS. STAKES MAY BE DRIVEN BEFORE OR AFTER APPLYING MULCH. SECURE MULCH TO SOIL SURFACE BY STRETCHING TWINE BETWEEN PEGS IN A CROSS-CROSS AND A SQUARE PATTERN. SECURE TWINE AROUND EACH PEG WITH TWO OR MORE ROUND TURNS.
 - 2 MULCH NETTINGS - STAPLE PAPER, JUTE, COTTON, OR PLASTIC NETTINGS TO THE SOIL SURFACE. USE A DEGRADABLE NETTING OR CRIMPER (MULCH ANCHORING COLLIER TOOL) - A TRACTOR-DRAWN IMPLEMENT, SOMETHING LIKE A DISC HARROW, ESPECIALLY DESIGNED TO PUSH OR CUT SOME OF THE BROADCAST LONG FIBER MULCH 3 TO 4 INCHES INTO THE SOIL SO AS TO ANCHOR IN AND LEAVE PLANT STANDING UPRIGHT. THIS TECHNIQUE IS LIMITED TO AREAS TRAVELABLE BY A TRACTOR, WHICH MUST OPERATE ON THE CONTOUR OF SLOPES. STRAW MULCH RATE MUST BE 3 TONS PER ACRE. NO TACKIFYING OR ADHESIVE AGENT IS REQUIRED.
 - 3 LIQUID MULCH-BINDERS - MAY BE USED TO ANCHOR SALT HAY, HAY OR STRAW MULCH.

- APPLICATIONS SHOULD BE HEAVIER AT EDGES WHERE WIND MAY CATCH THE MULCH, IN VALLEYS, AND AT CRESTS OF BANKS. THE REMAINDER OF THE AREA SHOULD BE UNIFORM IN APPEARANCE.
 - (A) USE ONE OF THE FOLLOWING:
 - (1) ORGANIC AND VEGETABLE BASED BINDERS - NATURALLY OCCURRING, POWDER-BASED, HYDROPHILIC MATERIALS WHEN MIXED WITH WATER FORMULATES A GEL AND WHEN APPLIED TO MULCH UNDER SATISFACTORY CURING CONDITIONS WILL FORM MEMBRANED NETWORKS OF INSOLUBLE POLYMERS. THE VEGETABLE GEL SHALL BE PHYSIOLOGICALLY HARMLESS AND NOT RESULT IN A PHYTOLOGICAL EFFECT OR IMPIDE GROWTH OF TURF GRASS. USE AT RATES AND WEATHER CONDITIONS AS RECOMMENDED BY THE MANUFACTURER TO ANCHOR MULCH MATERIALS. MANY NEW PRODUCTS ARE AVAILABLE, SOME OF WHICH MAY NEED FURTHER EVALUATION FOR USE IN THIS STATE.
 - (2) SYNTHETIC BINDERS - HIGH POLYMER SYNTHETIC EMULSION, MISCIBLE WITH WATER WHEN DILUTED AND, FOLLOWING APPLICATION OF MULCH, DRYING AND CURING, SHALL NO LONGER BE SOLUBLE OR DISPERSIBLE IN WATER. BINDER SHALL BE APPLIED AT RATES RECOMMENDED BY THE MANUFACTURER AND REMAIN TACKY UNTIL GERMINATION OF GRASS.
 - (B) WOOD-FIBER OR PAPER-FIBER MULCH - SHALL BE MADE FROM WOOD, PLANT FIBERS OR PAPER CONTAINING NO GROWTH OF GERMINATING SEEDS. USED AT THE RATE OF 1,500 POUNDS PER ACRE (OR AS RECOMMENDED BY THE PRODUCT MANUFACTURER) AND MAY BE APPLIED BY A HYDROSEEDER. MULCH SHALL NOT BE MOVED IN THE TANK WITH SEED. USE IS LIMITED TO FLATTER SLOPED AND DURING OPTIMUM SEEDING PERIODS IN SPRING AND FALL.

- RETTICULATED MULCH - COMPRESSED AND EXTRUDED PAPER AND/OR WOOD FIBER PRODUCT, WHICH CONTAIN CO-POLYMERS, TACKIFIERS, FERTILIZERS, AND COLORING AGENTS. WHEN APPLIED TO A SEEDING AREA AND WATERED, FORM A MULCH MAT. FERTICULATED MULCH SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. MULCH MAY BE APPLIED BY HAND OR MECHANICAL SPREADER AT THE RATE OF 80-75 LBS/1,000 SQUARE FEET AND ACTIVATED WITH 0.2 TO 0.4 INCHES OF WATER. THIS MATERIAL HAS BEEN FOUND TO BE BENEFICIAL FOR USE ON SMALL LAWN OR RENOVATION AREAS. SEEDS ARE WHERE WEED-SEED FREE MULCH IS DESIRED, OR ON SITES WHERE STRAW MULCH AND TACKIFYING AGENT ARE NOT PRACTICAL OR DESIRABLE. APPLYING THE FULL 0.2 TO 0.4 INCHES OF WATER AFTER SPREADING FERTICULATED MULCH ON THE SEED BED IS EXTREMELY IMPORTANT FOR SUFFICIENT ACTIVATION AND EXPANSION OF THE MULCH TO PROVIDE SOIL COVERAGE.

- IRRIGATION (WHERE FEASIBLE)

IF SOIL MOISTURE IS DEFICIENT SUPPLY NEW SEEDING WITH ADEQUATE WATER (A MINIMUM OF 1/2 INCH APPLIED UP TO TWICE A DAY UNTIL VEGETATION IS WELL ESTABLISHED). THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE IN ABNORMALLY HOT OR DRY WEATHER OR ON DROUGHTY SITES.

- TOPDRESSING

SINCE SOIL ORGANIC MATTER CONTENT AND SLOW RELEASE NITROGEN FERTILIZER (WATER INSOLUBLE) ARE PRESCRIBED IN SECTION 2A - SEEDBED PREPARATION IN THIS STANDARD, NO FOLLOW-UP OF TOPDRESSING IS MANDATORY. AN EXCEPTION MAY BE MADE WHERE GROSS NITROGEN DEFICIENCY EXISTS IN THE SOIL TO THE EXTENT THAT TURF FAILURE MAY DEVELOP. IN THAT INSTANCE, TOPDRESS WITH 10-10-10 OR EQUIVALENT AT 300 POUNDS PER ACRE OR 7 POUNDS PER 1,000 SQUARE FEET EVERY 3 TO 5 WEEKS UNTIL THE GROSS NITROGEN DEFICIENCY IN THE TURF IS AMELIORATED.

- ESTABLISHING PERMANENT VEGETATIVE STABILIZATION

THE QUALITY OF PERMANENT VEGETATION RESISTS WITH THE CONTRACTOR. THE TIMING OF SEEDING, PREPARING THE SEEDBED, APPLYING NUTRIENTS, MULCH AND OTHER MANAGEMENT ARE ESSENTIAL. THE SEED APPLICATION RATES IN TABLE 4-3 ARE REQUIRED WHEN A REPORT OF COMPLIANCE IS REQUESTED PRIOR TO THE ACTUAL ESTABLISHMENT OF PERMANENT VEGETATION UP TO 50% REDUCTION IN APPLICATION RATES MAY BE USED WHEN PERMANENT VEGETATION IS ESTABLISHED PRIOR TO REQUESTING A REPORT OF COMPLIANCE FROM THE DISTRICT. THESE RATE APPLY TO ALL METHODS OF SEEDING. ESTABLISHING PERMANENT VEGETATION MEANS SOIL VEGETATIVE COVER (OF THE SEEDING SPACES) AND MOVED ONCE.

- SEQUENCE OF CONSTRUCTION OPERATIONS

| ACTIVITY | TIME PERIOD |
|---|-------------|
| 1. Install silt fence and inlet protection. | 1 Day |
| 2. Install stabilized construction entrance. | 1 Day |
| 3. Demolish existing structures and associated improvements. | 1 Week |
| 4. Strip topsoil, stockpile and stabilize. | 2 Days |
| 5. Excavate and construct Foundation. | 2 Month |
| 6. Back fill Foundation, rough grade site and apply temporary seeding and/or mulch as required. | 3 Days |
| 7. Begin Building construction. | 1 Year |
| 8. Connect underground utilities. | 2 Week |
| 9. Install services walkways and pave driveway. | 3 Days |
| 10. Finish grading site and apply permanent stabilization measures. | 1 Week |
| 11. Remove temporary soil erosion control measures. | 1 Day |
| 12. Complete Building and Landscaping. | 2 Weeks |

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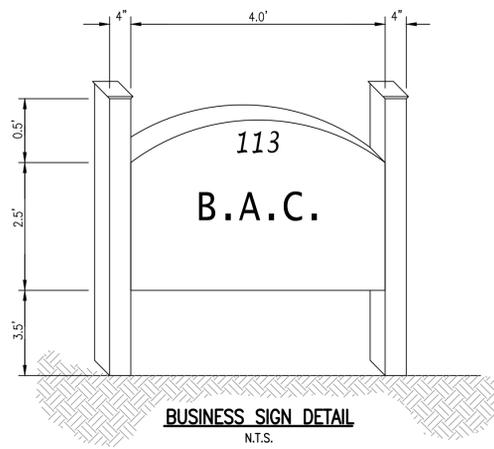
STANDARD FOR STABILIZATION WITH VEGETATIVE COVER

(REVISED PER NJ STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL 7th EDITION, JULY 2017)

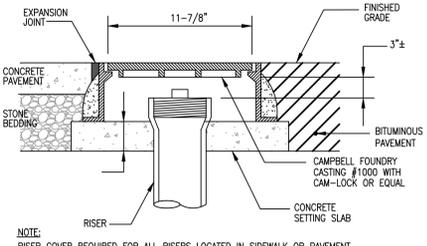
1. SITE PREPARATION
 - A. GRADE AS NEEDED AND FEASIBLE, TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARDS FOR LAND GRADING.
 - B. IMMEDIATELY PRIOR TO SEEDING AND TOPSOIL APPLICATION, THE SUBSOIL SHALL BE EVALUATED FOR COMPACTION IN ACCORDANCE WITH THE STANDARD FOR LAND GRADING.
 - C. TOPSOIL SHOULD BE HANDLED ONLY WHEN IT IS DRY ENOUGH TO WORK WITHOUT DAMAGING THE SOIL STRUCTURE. A UNIFORM APPLICATION TO A DEPTH OF 5 INCHES (UNSETTLED) IS REQUIRED ON ALL SITES. TOPSOIL SHALL BE AMENDED WITH ORGANIC MATTER, AS NEEDED, IN ACCORDANCE WITH THE STANDARD FOR TOPSOILING.
 - D. INSTALL NEEDED EROSION CONTROL PRACTICES OR FACILITIES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS.
2. SEEDBED PREPARATION
 - A. UNIFORMLY APPLY GROUND LIMESTONE AND FERTILIZER TO TOPSOIL WHICH HAS BEEN SPREAD AND FIRMED, ACCORDING TO SOIL TEST RECOMMENDATIONS SUCH AS OFFERED BY Rutgers CO-OPERATIVE EXTENSION. FERTILIZER SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE OR 11 POUNDS PER 1,000 SQUARE FEET OF 10-10-10 OR EQUIVALENT, WITH 50% WATER INSOLUBLE NITROGEN. UNLESS A SOIL TEST INDICATES OTHERWISE AND INCORPORATED INTO THE SURFACE 4 INCHES. IF FERTILIZER IS NOT INCORPORATED, APPLY ONE-HALF THE RATE DESCRIBED ABOVE DURING SEEDBED PREPARATION AND REPEAT ANOTHER ONE-HALF RATE APPLICATION OF THE SAME FERTILIZER WITHIN 3 TO 5 WEEKS AFTER SEEDING.
 - B. WORK LINE AND FERTILIZER INTO THE TOPSOIL AS NEARLY PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC, SPRING-TOOTH HARROW, OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR DISKING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLE UNIFORM SEEDBED IS PREPARED.
 - C. HIGH ACID PRODUCING SOILS HAVING A PH OF 4 OR LESS OR CONTAINING ION SULFIDE SHALL BE COVERED WITH A MINIMUM OF 12 INCHES OF SOIL HAVING A PH OF 5 OR MORE BEFORE INITIATING SEEDBED PREPARATION. SEE STANDARD FOR MANAGEMENT OF HIGH ACID-PRODUCING SOILS OF SPECIFIC REQUIREMENTS.
3. SEEDING
 - A. SELECT A MIXTURE FROM TABLE 4-3 OR USE A MIXTURE RECOMMENDED BY Rutgers CO-OPERATIVE EXTENSION OR NATURAL RESOURCES CONSERVATION SERVICE WHICH IS APPROVED BY THE SOIL CONSERVATION DISTRICT. SEED GERMINATION SHALL HAVE BEEN TESTED WITH 12 MONTHS OF THE PLANTING DATE. NO SEED SHALL BE ACCEPTED WITH A GERMINATION TEST DATE MORE THAN 12 MONTHS OLD UNLESS RETESTED.
 - B. SEEDING RATES SPECIFIED ARE REQUIRED WHEN A REPORT OF COMPLIANCE IS REQUESTED PRIOR TO ACTUAL ESTABLISHMENT OF PERMANENT VEGETATION. UP TO 50% REDUCTION IN RATES MAY BE USED WHEN PERMANENT VEGETATION IS ESTABLISHED PRIOR TO A REPORT OF COMPLIANCE INSPECTION. THESE RATES APPLY TO ALL METHODS OF SEEDING. ESTABLISHING PERMANENT VEGETATION MEANS SOIL VEGETATIVE COVERAGE WITH THE SPECIFIED SEED MIXTURE FOR THE SEEDING AREA AND MOVED ONCE.
 - C. WARM-SEASON MIXTURES ARE GRASSES AND LEGUMES WHICH MAXIMIZE GROWTH AT HIGH TEMPERATURES, GENERALLY 85°F AND ABOVE. SEE TABLE 4-3 MIXTURES 1 TO 7. PLANTING RATES FOR WARM-SEASON GRASSES SHALL BE THE AMOUNT OF PURE LIVE SEED (PLS) AS DETERMINED BY GERMINATION TESTING PER GENERATION TESTING RESULTS.
 - D. COOL-SEASON MIXTURES ARE GRASSES AND LEGUMES WHICH MAXIMIZE GROWTH AT TEMPERATURES BELOW 85°F. MANY GRASSES BECOME ACTIVE AT 65°F. SEE TABLE 4-3 MIXTURES 8 TO 20. ADJUSTMENT OF PLANTING RATES TO COMPENSATE FOR THE AMOUNT OF PLS IS NOT REQUIRED FOR COOL-SEASON GRASSES.
4. MULCHING
 - A. CONVENTIONAL SEEDING IS PERFORMED BY APPLYING SEED UNIFORMLY BY HAND, CYCLONE (CENTRIFUGAL) SEEDER, DROP SEEDER, DRILL OR CULTPACKER SEEDER, EXCEPT FOR DRILLED, HYDROSEEDER OR CULTPACKED SEEDINGS. SEED SHALL BE INCORPORATED INTO THE SOIL WITHIN 24 HOURS OF SEEDING PREPARATION TO A DEPTH OF 1/2 TO 3/4 INCH, BY RAKING OR DRAGGING. DEPTH OF SEED PLACEMENT MAY BE 1/4 INCH DEEPER ON COMPACTED OR TEXTURED SOIL.
 - B. AFTER SEEDING, FIRING THE SOIL WITH A CORRUGATED ROLLER WILL ASSURE GOOD SEED-TO-SOIL CONTACT, RESTORE CAPILLARITY, AND IMPROVE SEEDLING EMERGENCE. THIS IS THE PREFERRED METHOD. WHEN PERFORMED ON THE CONTOUR, SHEET EROSION WILL BE MINIMIZED AND WATER CONSERVATION ON SITE WILL BE MAINTAINED.
 - C. HYDROSEEDING IS A BROADCAST SEEDING METHOD USUALLY INVOLVING A TRUCK OR TRAILER-MOUNTED TANK WITH AN AGITATION SYSTEM AND HYDRAULIC PUMP FOR SPREADING SEED, WATER AND FERTILIZER AND SPRINKLING THE MIX ONTO THE PREPARED SEEDBED. MULCH SHALL NOT BE INCLUDED IN THE TANK WITH SEED. SHORT-FIBERED MULCH MAY BE APPLIED WITH A HYDROSEEDER FOLLOWING SEEDING. (ALSO SEE SECTION 4-MULCHING BELOW). HYDROSEEDING IS NOT A PREFERRED SEEDING METHOD BECAUSE SEED AND FERTILIZER ARE APPLIED TO THE SURFACE AND NOT INCORPORATED INTO THE SOIL. WHEN POOR SEED TO SOIL CONTACT OCCURS, THERE IS A REDUCED SEED GERMINATION AND GROWTH.

- MULCHING IS REQUIRED ON ALL SEEDING. MULCH WILL PROTECT AGAINST EROSION BEFORE GRASS IS ESTABLISHED AND WILL PROMOTE FASTER AND EARLIER ESTABLISHMENT. THE EXISTENCE OF VEGETATION SUFFICIENT TO CONTROL SOIL EROSION SHALL BE DETERMINED COMPLIANCE WITH THIS MULCHING REQUIREMENT.

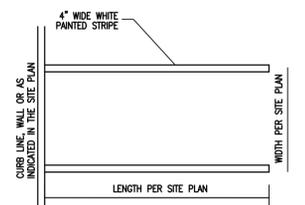
- STRAW OF HAY, UNHAYED SMALL GRASS STRAW, HAY FREE OF SEEDS, TO BE APPLIED AT THE RATE OF 1-1/2 TO 2 TONS PER ACRE (70 TO 90 POUNDS PER 1,000 SQUARE FEET), EXCEPT THAT A COMBER IS USED INSTEAD OF A LIQUID MULCH-BINDER (TACKIFYING OR ADHESIVE AGENT), THE RATE OF APPLICATION IS 3 TONS PER ACRE. MULCH CHIPPERS-B



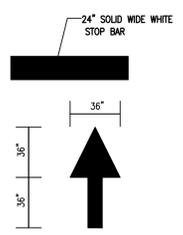
BUSINESS SIGN DETAIL
N.T.S.



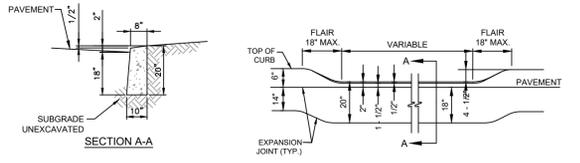
CLEANOUT RISER COVER DETAIL
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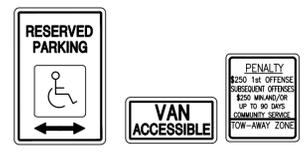
TYPICAL PARKING STALL MARKINGS
NOT TO SCALE



PAINTED MARKING DETAILS
NOT TO SCALE



METHOD OF DEPRESSING CURB AT DRIVEWAYS
N.T.S.
(AT NORTH AVENUE WEST, STATE ROAD 59, DETAIL 1.07)

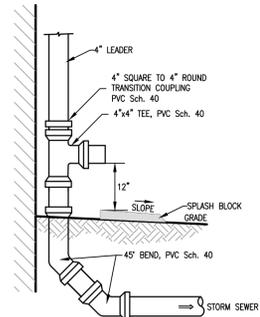


HANDICAPPED PARKING
R7-B w/ PENALTY PLATE (R7-BP)
AND VAN ACCESSIBLE PLATE (R7-BA)
12' x 18', 10' x 12' and 12' x 6'
(R7-B) (R7-BA) (R7-BP)

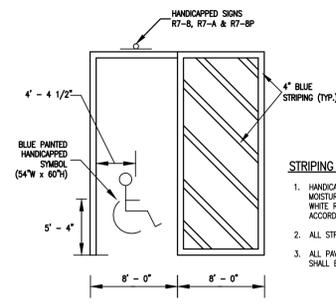
PENALTY
\$250 1st OFFENSE
SUBSEQUENT OFFENSES
\$500 MINIMUM OR
UP TO 90 DAYS
CONFINEMENT
TOW-AWAY ZONE

ALL SIGNAGE SHALL CONFORM TO M.U.T.C.D. STANDARDS, LATEST EDITION.

PROPOSED SIGNAGE DETAILS
N.T.S.



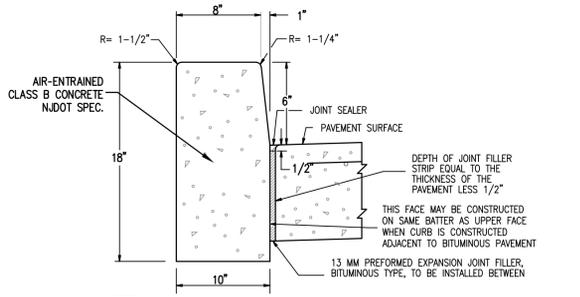
ROOF LEADER SPILL-OFF
N.T.S.



STRIPING AND PAVEMENT MARKING NOTES:

- HANDICAPPED RAMP SHALL BE DELINEATED WITH A "SAFETY RED" MOISTURE-CURED POLYURETHANE COATING WITH SELF-CONTAINED WHITE RUBBER GRIT OR A PREPARED PLASTIC MARKING TAPE IN ACCORDANCE WITH NJDOT STANDARDS.
- ALL STRIPING SHALL BE EPOXY-BASED PAINT.
- ALL PAVEMENT MARKINGS - i.e., ARROWS, STOP BARS, ETC. - SHALL BE EXTRUDED THERMOPLASTIC.

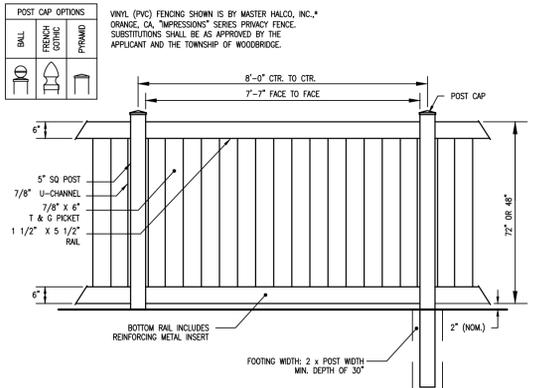
HANDICAPPED PARKING MARKINGS
N.T.S.



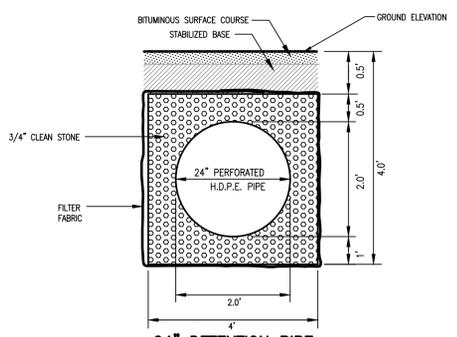
NOTES:

- TRANSVERSE JOINTS 1/2" WIDE SHALL BE INSTALLED IN THE CURB 10' APART AND SHALL BE FILLED WITH PREPARED BITUMINOUS-IMPREGNATED FIBER JOINT FILLER, COMPLYING WITH THE REQUIREMENTS OF ASTHO M-213 RECESSED 1/4" IN FROM FRONT FACE AND TOP OF CURB.
- EXPANSION JOINTS THRU AND ADJACENT TO THE CURB SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CURB.
- CONCRETE TO NJDOT CLASS "B" (4000 PSI, 28 DAY STRENGTH)

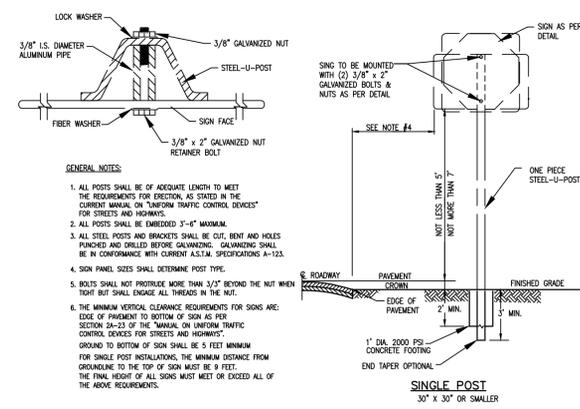
CONCRETE CURB DETAIL (ON SITE)
N.T.S.



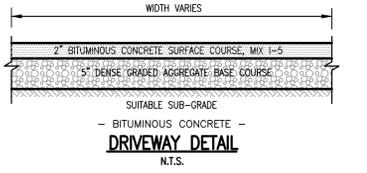
DECORATIVE VINYL FENCE
N.T.S.



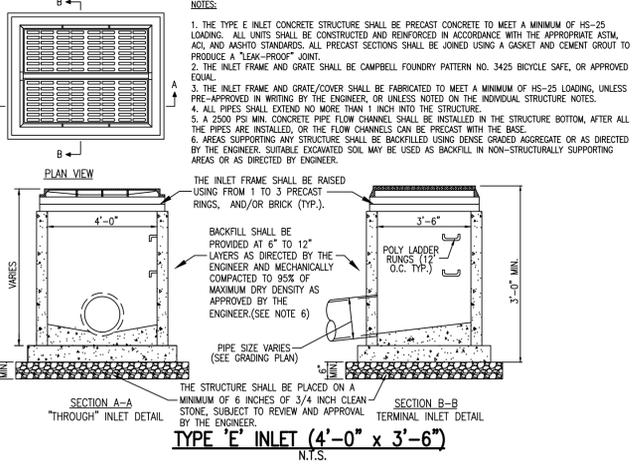
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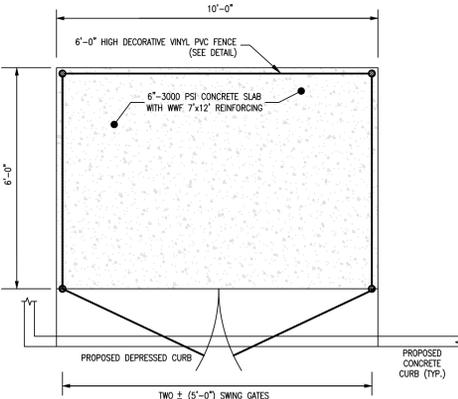
TYPICAL SIGN & MOUNTING DETAIL
N.T.S.



DRIVEWAY DETAIL
N.T.S.



TYPE 'E' INLET (4'-0\"/>



DUMPSTER ENCLOSURE DETAIL (TYP.)
N.T.S.

DIG SAFELY - NEW JERSEY

CALL BEFORE YOU DIG
1-800-272-1000
IT'S THE LAW

Dig Safely

NEW JERSEY ONE CALL
CONTRACTORS SHALL CALL 1-800-272-1000
MINIMUM THREE DAYS, MAXIMUM 10 DAYS NOTICE PRIOR TO BEGINNING EXCAVATION

| REV. | DATE | DESCRIPTION | CHK'D. | APP'VD |
|------|------------|--|--------|--------|
| 3 | 05/24/2023 | REVISED AS PER DRC MEETING | | A.M. |
| 2 | 11/07/2022 | REVISED AS PER TOWNSHIP OF CRANFORD COMMENTS | | A.M. |
| 1 | 08/25/2022 | REVISED AS PER TOWNSHIP OF CRANFORD COMMENTS | | S.P. |

Harbor Consultants Inc.
Engineers & Surveyors
320 NORTH AVENUE EAST
CRANFORD, N.J. 07016
Phone (908) 276-2715 Fax (908) 709-1738
Email: info@hcic.net

PRELIMINARY & FINAL SITE PLAN
CONSTRUCTION DETAILS
No. 113 NORTH AVENUE WEST
LOT 6, BLOCK 183
TOWNSHIP OF CRANFORD UNION COUNTY NEW JERSEY

5

VICTOR E. VINEGRA
PROFESSIONAL ENGINEER & LAND SURVEYOR
NEW JERSEY LICENSE No. 34460

| SCALE: | DATE: | DESIGNED BY: | DRAWN BY: | WORK FILE: | CERTIFICATE OF AUTHORIZATION No.: | PROJECT No.: |
|--------|------------|--------------|-----------|----------------|-----------------------------------|--------------|
| N.T.S. | 05/10/2022 | V.E.V. | S.P. | 2021038_Detail | 24GA27962100 | 2021038 |

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