PROJECT SITE INFORMATION

1. PROJECT SITE USE CHANGES AND IMPROVEMENTS ARE PROPOSED UPON A 10.227±–ACRE PORTION OF THE 106±–ACRE TRACT DEPICTED AS LOTS 1, 2, 3, 4, 5, 7, 8, 9, 11, 12.01 & 12.02, BLOCK 39, UPON SHEET NO. 18 OF THE TAX MAP OF THE BOROUGH OF WEST LONG BRANCH AS REVISED THROUGH 06–30–09.

2. OWNER / APPLICANT: MONMOUTH UNIVERSITY
400 CEDAR AVENUE
WEST LONG BRANCH, NJ 07764
TELE: (732) 571–3400

3. ALL PROJECT IMPROVEMENTS PROPOSED UPON LOTS 1, 2, 3, 4, 5, 12.01 & 12.02 ARE LOCATED WITHIN THE R–22 SINGLE FAMILY RESIDENTIAL LAND USE ZONE. A SMALL PORTION OF THE IMPROVEMENTS ARE LOCATED UPON LOT 7 WITHIN THE 'I' INSTITUTIONAL MUNICIPAL LAND USE ZONE.

4. SITE PLAN IS BASED UPON:

– – SURVEY MAP OF PROERTY, MONMOUTH UNIVERSITY, BOROUGH OF WEST LONG BRANCH, MONMOUTH COUNTY, NEW JERSEY; PREPARED BY JOHN T. LUTS, LS, FOR MONMOUTH UNIVERSITY; DATED 04–19–96; REVISED THRU: 11–16–19

– – ONSITE FIELD RECONAISSANCE BY YORKANIS & WHITE, INC., ARTHUR SWENSON, LS, FOR MONMOUTH UNIVERSITY, ON 11–28–18, 12–05–18, 12–12–18, 3–11–19, 3–18–19, 4–15–19, 5–10–19, 6–11–19, 7–10–19, 7–31–19 AND 10–29–19.

5. TOPOGRAPHY DEPICTED UPON THIS PLAN IS BASED UPON THE N.A.V.D., 1988.

6. NO ENVIRONMENTALLY RESTRICTED AREAS INCLUDING FRESHWATER WETLANDS, WETLANDS TRANSITION AREAS, FLOOD HAZARD AREAS, RIPARIAN ZONES, TIDELANDS, ETC., EXIST WITHIN THE PROJECT SITE AREA OF THE MONMOUTH UNIVERSITY CAMPUS.

7. NO PUBLIC RIGHT–OF–WAY OR EASEMENT EXISTS UPON, OR WITHIN, THE PROJECT SITE AREA AND NONE IS PROPOSED FOR DEDICATION TO THE BOROUGH OF WEST LONG BRANCH.

8. LOTS 1, 2, 3, 4, AND 5 OF THE PROJECT SITE HAVE BEEN FULLY DEVELOPED AND UTILIZED, FOR MANY YEARS, AS RESIDENTIAL PROPERTIES. LOT 12.01 HAS BEEN UTILIZED AS THE UNIVERSITY'S ALUMNI CENTER SINCE 2011. LOT 12.02 HAS BEEN DEVELOPED AS A MIXED USE SITE INCLUDING A ONE (1) FAMILY RESIDENTIAL STRUCTURE AND PLAYING FIELD FACILITIES OF THE UNIVERSITY'S ATHLETIC COMPLEX SINCE 1996.

PLAN SHEET INDEX

UTILITY COMPANIES

NEW JERSEY – AMERICAN WATER COMPANY
CONSTRUCTION DEPARTMENT
661 SHREWSBURY AVENUE
SHREWSBURY, NEW JERSEY 07701

ATT: MR. SALVATORE J. MANZI

LONG BRANCH SEWERAGE AUTHORITY
JOLINE AVENUE
LONG BRANCH, NEW JERSEY 07740

ATT: MR. JOSEPH MARTONE, EXEC. DIR.

VERIZON NEW JERSEY, INC
5100 BELMAR BLVD.
FARMINGDALE, NEW JERSEY 07727

ATT: LORAINE GORMAN
RIGHT–OF–WAY AGENT

GPU ENERGY
400 LINCOLN STREET
PHILLIPSBURG, NEW JERSEY 08865

ATT: MR. ROBERT WALTERS

COMCAST CABLEVISION OF MONMOUTH COUNTY
403 SOUTH STREET
EATONTOWN, NEW JERSEY 07724

ATT: MR. GREGORY R. ARNOLD, VP / GEN. MGR.

NEW JERSEY NATURAL GAS CO.
1415 WYCKOFF ROAD
WALL, NEW JERSEY 07719

ATT: RIGHT–OF–WAY DEPT.

GRAPHIC SCALE
0 100 200 400 600 800 1,000

APPROVED AS THE FINAL PLAT OF A SITE PLAN BY THE ZONING BOARD OF THE BOROUGH OF WEST LONG BRANCH ON _____

CHAIRMAN

ATTEST:

SECRETARY DATE

ENGINEER DATE

REVISION NO.	REVISION DATE	DESCRIPTION OF REVISION
2	04–01–21	RELOC. PROP. ACCESS D'WAY.
1	12–3–20	NOTE #3; MISC REVS

VICINITY MAP; PROJECT SITE INFORMATION — CAMPUS USE AND SITE IMPROVEMENTS

MONMOUTH UNIVERSITY

'D' & 'C' VARIANCE / PRELIMINARY & FINAL SITE PLANS

BLOCK 39, LOTS 1 THRU 5, 7, 8, 9, 11, 12.01 & 12.02 – – TAX MAP SHEET NOS. 15 & 18
ADJACENT STREETS: LARCHWOOD, CEDAR & NORWOOD AVENUES – – LAND USE ZONES: R–22 & I

BOROUGH OF WEST LONG BRANCH — MONMOUTH COUNTY, NEW JERSEY

William E. Fitzgerald
Civil Engineers – Land Use Planners – Construction Managers
P.O. BOX 550 WEST LONG BRANCH, N.J. 07764 TELE: (732) 859–3481
WILLIAM E. FITZGERALD, PE, PP – N.J. LIC. NOS. 27369, 2888

DATE: 12–03–19	SCALE: 1"=200'
DRAWN:	CHKD.: W.E.F.
FILE: 0333	
DWG.: PARK19	SHEET: 1

NOTE: HALF-TONED IMAGES DEPICT EXISTING FEATURES AND/OR IMPROVEMENTS; FULL-TONED IMAGES DEPICT PLANNED AND/OR PROPOSED IMPROVEMENTS

DESCRIPTION OF PROJECT

PROPOSED CAMPUS USE CHANGES AND IMPROVEMENTS
BLOCK 39, LOTS 1, 2, 3, 4, 5, 7, 8, 9, 11, 12.01 & 12.02 / ZONES R-22 & I

NEW CAMPUS INGRESS/EGRESS DRIVEWAY FROM LARCHWOOD AVENUE: [LOTS 2, 3, 4 & 12.02; ZONE R-22] A NEW, 24-FOOT WIDE, CURBED/PAVED, TWO-WAY ACCESS DRIVEWAY IS PROPOSED TO CONNECT THE UNIVERSITY'S MAIN CAMPUS WITH NORTHBOUND LARCHWOOD AVENUE AT A POINT APPROXIMATELY 280 FEET SOUTH OF THE SIGNALIZED CEDAR AVENUE / LARCHWOOD AVENUE INTERSECTION. APPURTENANT IMPROVEMENTS INCLUDE SITE LIGHTING, PLANTING, STORMWATER COLLECTION AND MANAGEMENT AND TRAFFIC CONTROL DEVICES.

CONSTRUCTION OF NEW UNIVERSITY POLICE HEADQUARTERS: [LOTS 4, 5 & 12.01; ZONE R-22] TWO (2) EXISTING 2-STORY RESIDENTIAL STRUCTURES (TOTAL BUILDING AREA = 6,190± S.F.) WILL BE DEMOLISHED AND REMOVED. A NEW, 2-STORY, RESIDENTIAL-SCALE POLICE HEADQUARTERS BUILDING WILL BE CONSTRUCTED (BUILDING AREA = 4,287± S.F. / 6,667± G.F.A.). APPURTENANT IMPROVEMENTS INCLUDE A PARKING FIELD FOR 57 VEHICLES, PEDESTRIAN PATHWAYS, SITE LIGHTING, , AN EMERGENCY GENERATOR, A STORAGE SHED FOR PORTABLE TRAFFIC CONTROL DEVICES, FENCING, PLANTING, STORMWATER COLLECTION AND MANAGEMENT AND TRAFFIC CONTROL DEVICES.

RELOCATION OF EXISTING UNIVERSITY ALUMNI CENTER: [LOT 2; ZONE R-22] THE CURRENT ALUMNI CENTER WILL BE MOVED FROM ITS CURRENT LOCATION WITHIN A FORMER RESIDENTIAL STRUCTURE UPON LOT 12.01 (BUILDING AREA = 3,462± S.F. / 4,308± S.F.G.F.A.) TO THE EXISTING RESIDENTIAL STRUCTURE UPON LOT 2 (BUILDING AREA = 2,338 ±S.F. / 4,385± S.F.G.F.A.). RESIDENTIAL YARD-AREA IMPROVEMENTS WILL BE DEMOLISHED AND REMOVED. MINOR INTERIOR ALTERATIONS WILL BE MADE TO THE EXISTING STRUCTURE. AN EXISTING 2-STORY, REAR-YARD GARAGE/APARTMENT STRUCTURE (BUILDING AREA = 795± S.F.) WILL BE CONVERTED TO UNIVERSITY STORAGE SPACE. APPURTENANT IMPROVEMENTS INCLUDE A PARKING FIELD FOR 19 VEHICLES, VEHICLE AND PEDESTRIAN PATHWAYS, SITE LIGHTING, FENCING, PLANTING, STORMWATER COLLECTION AND MANAGEMENT AND TRAFFIC CONTROL DEVICES.

USE CHANGE(S) FOR EXISTING UNIVERSITY ALUMNI CENTER BUILDING: [LOT 12.01; ZONE R-22] THE EXISTING ALUMNI CENTER BUILDING (A FORMER RESIDENTIAL STRUCTURE / BUILDING AREA = 3,462 ± S.F. / 4,308± S.F.G.F.A.) WILL SERVE AS A TEMPORARY POLICE HEADQUARTERS UNTIL THE NEW HEADQUARTERS IS COMPLETED AND OCCUPIED. THE STRUCTURE WILL THEN RECEIVE INTERIOR ALTERATIONS TO SUPPORT THE UNIVERSITY'S SCHOOL FOR SOCIAL WORK. APPURTENANT IMPROVEMENTS INCLUDE PEDESTRIAN PATHWAYS AND PLANTING. SUPPORTING IMPROVEMENTS INCLUDE NEW, NEARBY PARKING, PEDESTRIAN PATHWAYS AND SITE LIGHTING.

CONVERSION OF EXISTING, 1-STORY, SINGLE FAMILY RESIDENCE TO UNIVERSITY GENERAL OFFICE USE: [LOT 12.02] AN EXISTING 1-STORY RESIDENTIAL STRUCTURE (BUILDING AREA = 2,350± S.F.) WILL HAVE ITS 1,860± S.F. LIVING AREA CONVERTED TO UNIVERSITY GENERAL OFFICE SPACE. ITS 490± S.F. GARAGE AREA WILL BE USED FOR GENERAL UNIVERSITY STORAGE SPACE. MINOR INTERIOR ALTERATIONS WILL BE MADE TO THE STRUCTURE. APPURTENANT IMPROVEMENTS INCLUDE A PARKING FIELD FOR 15 VEHICLES, PEDESTRIAN PATHWAYS, SITE LIGHTING, FENCING AND PLANTING. SUPPORTING IMPROVEMENTS INCLUDE A NEW ACCESS DRIVEWAY CONNECTION WITH THE UNIVERSITY'S MAIN CAMPUS AND NEARBY STORMWATER COLLECTION AND MANAGEMENT IMPROVEMENTS.

RELOCATION/CONSOLIDATION OF LOT 12.02 FACILITIES MANAGEMENT OPERATIONS: [LOT 12.02; ZONE R-22] EXISTING FACILITIES MANAGEMENT OPERATIONS CONDUCTED AT TWO (2) LOCATIONS UPON LOT 12.02 WILL BE CONSOLIDATED INTO A SINGLE LOCATION IMMEDIATELY ADJACENT TO THE OUTFIELD FENCING OF THE WOMEN'S SOFTBALL FIELD. TWO (2), PRE-ENGINEERED, 30' X 60' GENERAL USE BUILDINGS ARE PROPOSED FOR STORAGE AND INDOOR FACILITIES MANAGEMENT OPERATIONS. APPURTENANT IMPROVEMENTS INCLUDE CURBED/SURFACED YARD AREAS, FENCING, PLANTING AND STORMWATER COLLECTION/MANAGEMENT INSTALLATIONS. SUPPORTING IMPROVEMENTS INCLUDE A NEW ACCESS DRIVEWAY CONNECTION WITH THE UNIVERSITY'S MAIN CAMPUS

INDOOR GOLF PRACTICE CENTER: [LOT 12.02; ZONE R-22] AN EXISTING, 1-STORY, 1,360± S.F. FACILITIES MANAGEMENT BUILDING LOCATED NEAR THE EASTERLY END OF THE WOMEN'S FIELD HOCKEY PITCH WILL BE EXPANDED AND RENOVATED TO PROVIDE A 1-STORY 3,178± S.F. INDOOR GOLF PRACTICE CENTER. SUPPORTING IMPROVEMENTS INCLUDE NEARBY ACCESS DRIVEWAYS, PARKING, SITE LIGHTING, PEDESTRIAN PATHS AND athletic FACILITIES.

CONSTRUCTION OF ADDITIONAL PARKING: [LOTS 4, 5, 12.01 & 12.02; ZONE R-22] PARKING AREAS PROVIDING A TOTAL OF 246 VEHICLE STALLS WILL BE CONSTRUCTED UPON THE AREA BETWEEN THE EXISTING ALUMNI HOUSE STRUCTURE AND THE SITE OF THE NEW POLICE HEADQUARTERS AND WESTERLY OF THE EXISTING CEDAR AVENUE DRIVEWAY SERVING THE UNIVERSITY'S MAIN CAMPUS. APPURTENANT IMPROVEMENTS INCLUDE PEDESTRIAN PATHWAYS, SITE LIGHTING, FENCING, PLANTING, STORMWATER COLLECTION AND MANAGEMENT AND TRAFFIC CONTROL DEVICES.

NEW MONUMENT-STYLE UNIVERSITY IDENTIFICATION SIGN: [LOT 1; ZONE R-22] AT SUCH TIME AS THE EXISTING SINGLE FAMILY USE UPON LOT 1 IS TO BE ABANDONED, THE EXISTING RESIDENCE AND APPURTENANT YARD-AREA IMPROVEMENTS WILL BE DEMOLISHED AND REMOVED. A NEW, MONUMENT-STYLE, UNIVERSITY IDENTIFICATION SIGN WILL BE CONSTRUCTED. APPURTENANT SITE IMPROVEMENTS INCLUDE ORNAMENTAL FENCING AND PLANTING.

MISCELLANEOUS ANCILLARY IMPROVEMENTS: [LOTS 1, 2, 3, 4, 5, 7, 12.01 & 12.02; ZONES R-22 & I]

- -- EXISTING DEPRESSED CURBS AND DRIVEWAY APRONS WITHIN CEDAR AVENUE [FRONTAGES OF LOTS 1, 2, 3, 4, 5, 7 AND 12.01; ZONE R-22] WILL BE DEMOLISHED/REMOVED IN CONNECTION WITH ABOVE DESCRIBED IMPROVEMENTS AND REPLACED WITH NEW FULL-FACED CONCRETE CURBS AND WALKS.
- -- THE PATTERN OF ORNAMENTAL METAL FENCING AND LANDSCAPE IMPROVEMENTS ALONG THE EXTERIOR PERIMETER OF THE UNIVERSITY CAMPUS WILL BE CONTINUED/EXTENDED ACROSS THE FRONT YARD AREAS OF ALL LOTS [ZONE R-22].
- -- A NET TOTAL OF 339 PARKING STALLS (INCL. 13 B/F STALLS) WILL BE ADDED TO THE UNIVERSITY'S MAIN CAMPUS [LOTS 1, 2, 3, 4, 5, 12.01 & 12.02; ZONE R-22].
- -- AN ACCESS DRIVEWAY CONNECTING NEW PARKING WITH AN EXISTING INGRESS-EGRESS / PRIMARY CIRCULATION DRIVEWAY AND NEW SIDEWALKS WILL CONNECT NEW IMPROVEMENTS WITH EXISTING CAMPUS FACILITIES [LOT 7; ZONE I].
- -- AN EXISTING COMFORT STATION ADJACENT TO THE SOUTHWESTERLY CORNER OF THE SOFTBALL FIELD WILL BE RELOCATED TO AN ACCESSIBLE LOCATION ALONG THE EASTERLY SIDE OF THE SOFTBALL FIELD

CONSTRUCTION PHASING: PROJECT IMPROVEMENTS SHALL BE PHASED SO THAT ANY BUILDING REQUIRING A CERTIFICATE OF OCCUPANCY SHALL HAVE, IN PLACE AT THE TIME OF APPLICATION FOR C.O., SUPPORTING SITE IMPROVEMENTS INCLUDING SAFE ACCESS DRIVEWAY(S), PARKING, PEDESTRIAN PATHS, UTILITY SERVICES, DRAINAGE COLLECTION AND STORMWATER MANAGEMENT, SITE LIGHTING, FENCING AND, SEASON PERMITTING, PLANTING AND LANDSCAPING.

LAND USE CONSIDERATIONS: MONMOUTH UNIVERSITY IS REQUESTING PRELIMINARY AND FINAL MAJOR SITE PLAN APPROVALS, VARIANCES PURSUANT TO N.J.S.A. 40:55D-70(C) AND (D), AND, IF/AS NECESSARY, DESIGN WAIVERS TO REDEVELOP AND UTILIZE, FOR UNIVERSITY OPERATIONS, LANDS WHICH IT OWNS WITHIN BLOCK 39 WHICH LANDS ARE ZONED FOR R-22 SINGLE FAMILY RESIDENTIAL USE BUT WHICH ARE CONTIGUOUS WITH THE UNIVERSITY'S MAIN CAMPUS AND WHICH DO NOT ABUT ANY RESIDENTIAL PROPERTY THAT IS NOT UNIVERSITY-OWNED.

REQUESTED VARIANCES INCLUDE THE VARIANCES AND/OR WAIVERS DESCRIBED BY THE NOTES UNDER "REQUESTED VARIANCES" OF THIS SHEET. A VARIANCE OR WAIVER AS MAY BE NECESSARY FROM ORDINANCE SECTION 18-13.15 WHICH MAY REQUIRE PROVISION OF SITE PLAN DETAILS BEYOND THOSE DEPICTED UPON THIS PRELIMINARY AND FINAL SITE PLAN SUBMITTED BY THE APPLICANT AND ANY/ALL OTHER VARIANCES AND/OR WAIVERS WHICH MAY BE REQUIRED.

REQUIRED VARIANCES

THIS DEVELOPMENT PROPOSAL REQUIRES A NUMBER OF VARIANCES FROM BOROUGH ZONING ORDINANCE REQUIREMENTS INCLUDING:

18-4.1o.1 AND 18-6.5e.1 WHICH EXPRESSLY PROHIBIT ANY USE OTHER THAN ONE (1) FAMILY DWELLINGS WITHIN THE R-22 ZONE (BLOCK 39, LOTS 1, 2 3, 4, 5, 12.01 AND 12.02)

18-5.1 SCHEDULE OF AREA, YARD, BUILDING (BULK) AND UNIT REQUIREMENTS WHICH APPLIES TO THE USES OF LAND, BUILDINGS AND OPEN SPACES, MINIMUM SIZES OF LOTS, LOT AREAS, AND ALL OTHER MATTERS THEREIN CONTAINED AS INDICATED FOR THE VARIOUS ZONES ESTABLISHED (BLOCK 39, LOTS 1, 2, 3, 4, 5, 7, 1.01 AND 12.02)

18-6.2 WHICH STATES THAT NO BUILDING SHALL .BE ERECTED .NOR SHALL ANY LAND BE USED FOR ANY OTHER PURPOSE OTHER THAN .PERMITTED USES IN EACH ZONE. .FURTHERMORE, NO OPEN SPACE CONTIGUOUS TO ANY BUILDING SHALL BE ENCROACHED UPON OR REDUCED IN ANY MANNER, EXCEPT IN CONFORMITY TO THE AREA AND BULK REQUIREMENTS AND OTHER REQUIREMENTS .. THE APPLICANT IS PROPOSING TO REDUCE THE AMOUNT OF EXISTING OPEN SPACE UPON THE SITE (BLOCK 39, LOTS 1, 2, 4, 5, 7, 12.01 AND 12.02)

18-6.3f.2 WHICH REQUIRES A DETACHED ACCESSORY BUILDING TO BE SET BACK FROM A SIDE OR REAR LOT LINE AT LEAST A DISTANCE EQUAL TO THE HEIGHT OF SUCH BUILDING (BLOCK 39, LOTS 2, 5 AND 12.02)

18-6.3f3 WHICH REQUIRES THAT, IN ALL RESIDENTIAL ZONES, THE COMBINED AREAS OF ACCESSORY BUILDINGS AND STRUCTURES SHALL OCCUPY NO MORE THAN THE EQUIVALENT OF TWENTY-FIVE (25%) PERCENT OF THE AREA OF THE REAR YARD, AND THERE SHALL BE NO MORE THAN TWO (2) ACCESSORY BUILDINGS PERMITTED, EXCLUSIVE OF GARAGE(S) (BLOCK 39, LOT 12.02)

18-7.1o.7 WHICH PERMITS ONE (1) NON-FLASHING SIGN IDENTIFYING A SCHOOL WITHIN THE R-22 ZONE NOT TO EXCEED EIGHT (8) SQUARE FEET IN AREA ON ANY ONE (1) SIDE AND WHICH SHALL BE SITUATED WITHIN THE LOT NOT CLOSER THAN FIFTEEN (15') FEET FROM ANY STREET OR PROPERTY LINE (BLOCK 39, LOT 1)

18-7.2a WHICH STATES THAT FENCES MAY BE ERECTED, ALTERED OR RECONSTRUCTED IN ACCORDANCE WITH APPLICABLE PROVISIONS OF CHAPTER 18 OF THE BOROUGH'S GENERAL ORDINANCES (BLOCK 39, LOTS 1, 2, 4, 5, 12.01 AND 12.02)

18-7.2c WHICH PERMITS FENCES TO BE ERECTED, ALTERED OR RECONSTRUCTED TO A HEIGHT NOT TO EXCEED THREE (3') FEET ABOVE GROUND LEVEL WHEN LOCATED WITHIN THE REQUIRED FRONT YARD SETBACK (BLOCK 39, LOTS 1, 2, 4, 5, 12.01 AND 12.02)

18-7.2e WHICH STATES THAT BOROUGH FENCE REGULATIONS SHALL NOT BE APPLIED SO AS TO PREVENT THE ERECTION OF AN OPEN WIRE FENCE NOT EXCEEDING EIGHT (8') FEET ABOVE GROUND LEVEL ANYWHERE WITHIN SCHOOL PREMISES (BLOCK 39, LOTS 1, 2, 4, 5, 12.01 AND 12.02)

18-7.2l WHICH REQUIRES ALL SUPPORTING MEMBERS OF A FENCE TO BE ERECTED, ALTERED OR RECONSTRUCTED TO BE ON THE INSIDE SURFACE, MEANING THAT THE SUPPORTING MEMBERS SHALL FACE THE PROPERTY CONSTRUCTING THE FENCE, AND NOT THE NEIGHBORING PROPERTY (BLOCK 39, LOTS 1, 2, 4, 5, 12.01 AND 12.02)

18-8.1c WHICH STATES THAT NO NONCONFORMING USE MAY BE EXPANDED (BLOCK 39, LOTS 1, 2 3, 4, 5, 12.01 AND 12.02)

18-6.5.b WHICH REQUIRES THAT, IN ANY ZONE, ALL REQUIRED YARDS, OPEN SPACES, OFF-STREET PARKING AND LANDSCAPING MUST BE CONTAINED WITHIN THAT ZONE (BLOCK 39, LOT 12.01)

REVISION NO.	REVISION DATE	DESCRIPTION OF REVISION
2	04-01-21	RELOC. PROP. ACCESS D'WAY.; ADD ADDRESSES
1	12-3-20	MIS. REVS

OVERALL PROJECT/VARIANCE PLAN — CAMPUS USE AND SITE IMPROVEMENTS

MONMOUTH UNIVERSITY

'D' & 'C' VARIANCE / PRELIMINARY & FINAL SITE PLANS

BLOCK 39, LOTS 1 THRU 5, 7, 8, 9, 11, 12.01 & 12.02 -- -- TAX MAP SHEET NOS. 15 & 18
ADJACENT STREETS: LARCHWOOD, CEDAR & NORWOOD AVENUES -- -- LAND USE ZONES: R-22 & I

BOROUGH OF WEST LONG BRANCH — MONMOUTH COUNTY, NEW JERSEY

William E. Fitzgerald
Civil Engineers – Land Use Planners – Construction Managers
P.O. BOX 550 WEST LONG BRANCH, N.J. 07764 TELE: (732) 859-3481
WILLIAM E. FITZGERALD, PE, PP – N.J. LIC. NOS. 27369, 2888

DATE: 12-03-19	SCALE: 1"=50'
DRAWN:	CHKD.: W.E.F.
FILE: 0333	
DWG.: PARK19	SHEET: 2

0 25 50 100 150 200 250
GRAPHIC SCALE

REVISION NO.	REVISION DATE	DESCRIPTION OF REVISION
2	04-01-21	ADD EXIST. BLDG ADDRESS NOS.
1	12-3-20	MISC. REVS.

EXISTING CONDITIONS – 1

CAMPUS USE AND SITE IMPROVEMENTS

MONMOUTH UNIVERSITY

'D' & 'C' VARIANCE / PRELIMINARY & FINAL SITE PLANS

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DATE: 12-03-19	SCALE: 1"=30'
DRAWN:	CHKD.: W.E.F.
FILE: 0333	
DWG.: PARK19	SHEET: 3

BLOCK 39

BATTING CAGE

SOFTBALL FIELD

GRAVEL DR'WAY

EXISTING 2-STORY RESIDENCE #476 F.F.E. 46.18

DECK

PATIO

GRAVEL DRIVEWAY

EXIST. GARAGE

SCO 43.34

EXISTING 2-STY/4,310± SF "ALUMNI HOUSE" FFDR 42.5

12.01

BITUMINOUS DRIVEWAY

BITUMINOUS PARKING AREA ("LOT 16")

ZONE I

EXISTING 1-STORY BUILDING

EXISTING 3-STORY "McALLEN HALL" ACADEMIC BUILDING

EXISTING 3-STORY "PLANGERE CENTER" ACADEMIC BUILDING

WALK

FIELD HOCKEY TURF

EXISTING 1-STY/1,361±SF MAINT. & STORAGE BLDG. FFG 38.09

FFDR 38.70

FFDR 38.80

SHED

BITUMINOUS PAVEMENT

BITUMINOUS PARKING AREA ("LOT 25")

DENOTES EXISTING POLE-MOUNTED AREA LIGHT (TYP.)

TRACK JUMPING EVENTS

RUNNING TRACK

0 15 30 60 90 120 150

GRAPHIC SCALE

REVISION NO.	REVISION DATE	DESCRIPTION OF REVISION
2	04-01-21	ADD EXIST. BLDG ADDRESS NOS.
1	12-3-20	MISC. REVS.

EXISTING CONDITIONS – 2

CAMPUS USE AND SITE IMPROVEMENTS

MONMOUTH UNIVERSITY

'D' & 'C' VARIANCE PLAN / PRELIMINARY & FINAL SITE PLANS

BLOCK 39, LOTS 1 THRU 5, 7, 8, 9, 11, 12.01 & 12.02 – – TAX MAP SHEET NOS. 15 & 18

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BOROUGH OF WEST LONG BRANCH — MONMOUTH COUNTY, NEW JERSEY

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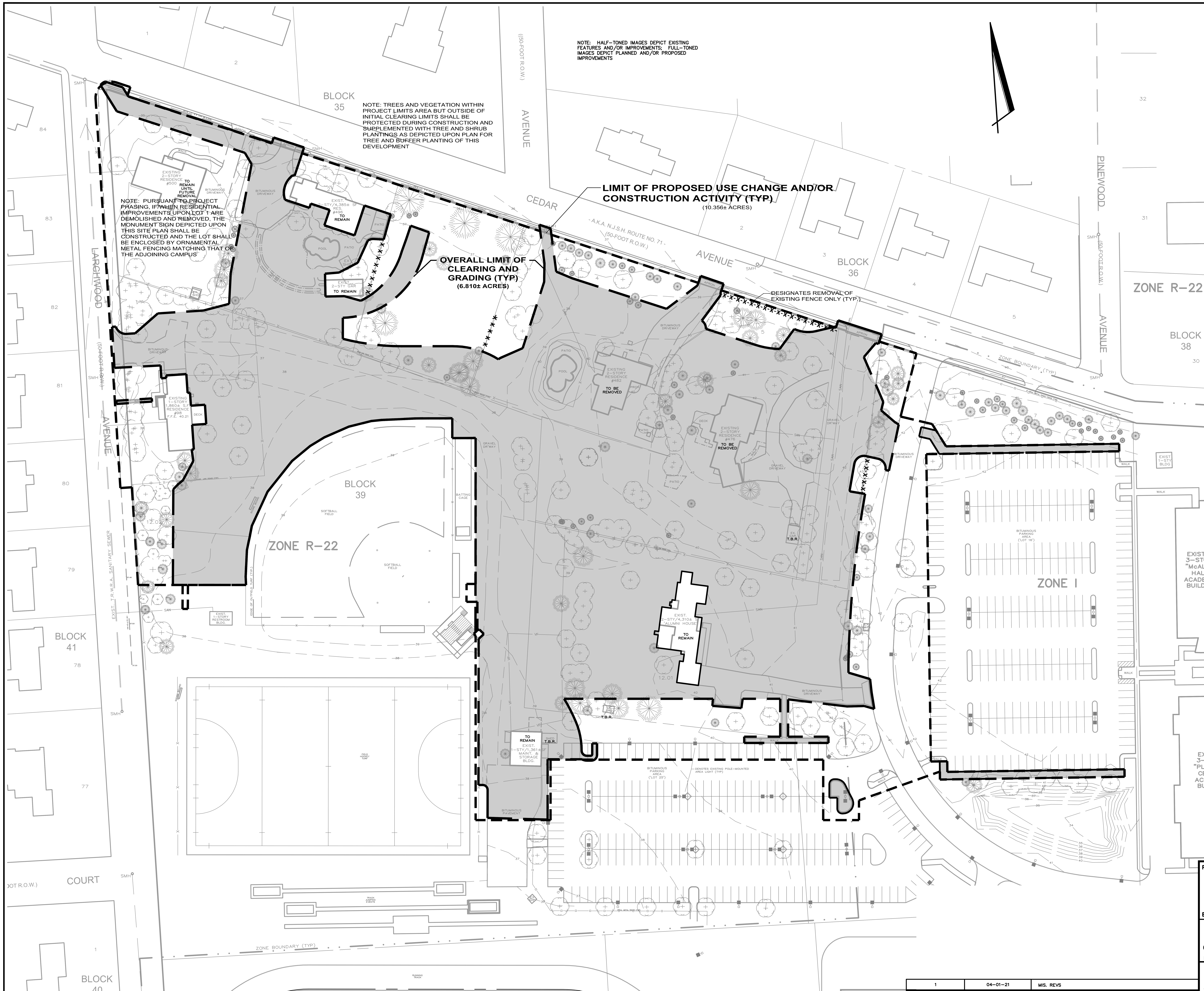
WILLIAM E. FITZGERALD, PE, PP – N.J. LIC. NOS. 27369, 2888

DATE: 12-03-19 SCALE: 1"=30'

DRAWN: CHKD.: W.E.F.

FILE: 0333

DWG.: PARK19 SHEET: 4


NOTE: HALF-TONED IMAGES DEPICT EXISTING FEATURES AND/OR IMPROVEMENTS; FULL-TONED IMAGES DEPICT PLANNED AND/OR PROPOSED IMPROVEMENTS
NOTE: TREES AND VEGETATION WITHIN PROJECT LIMITS AREA BUT OUTSIDE OF INITIAL CLEARING LIMITS SHALL BE PROTECTED DURING CONSTRUCTION AND SUPPLEMENTED WITH TREE AND SHRUB PLANTINGS AS DEPICTED UPON PLAN FOR TREE AND BUFFER PLANTING OF THIS DEVELOPMENT
NOTE: PURSUANT TO PROJECT PHASING, IF/WHEN RESIDENTIAL IMPROVEMENTS UPON LOT 1 ARE DEMOLISHED AND REMOVED, THE MONUMENT SIGN DEPICTED UPON THIS SITE PLAN SHALL BE CONSTRUCTED AND THE LOT SHALL BE ENCLOSED BY ORNAMENTAL METAL FENCING MATCHING THAT OF THE ADJOINING CAMPUS
LIMIT OF PROPOSED USE CHANGE AND/OR CONSTRUCTION ACTIVITY (TYP)
(10.356± ACRES)
OVERALL LIMIT OF CLEARING AND GRADING (TYP)
(6.810± ACRES)
DESIGNATES REMOVAL OF EXISTING FENCE ONLY (TYP.)
CEDAR AVENUE
- A.K.A. N.J.S.H. ROUTE NO. 71 -
(50-FOOT R.O.W.)
LARCHWOOD AVENUE
PINEWOOD AVENUE
BLOCK 35
BLOCK 36
BLOCK 38
BLOCK 39
BLOCK 41
BLOCK 40
ZONE R-22
ZONE I
EXISTING 2-STORY RESIDENCE #500 TO REMAIN UNTIL FUTURE REMOVAL
EXIST. 2-STY/4,385± SF RES. #496 TO REMAIN
EXIST. 2-STY GAR TO REMAIN
EXISTING 2-STORY RESIDENCE #482 TO BE REMOVED
TO BE REMOVED
TO REMAIN
COURT
ZONE BOUNDARY (TYP)
GRAPHIC SCALE
0 25 50 100 150 200 250

REVISION NO.	REVISION DATE	DESCRIPTION OF REVISION
1	04-01-21	MIS. REVS

PROJECT CLEARING / CONSTRUCTION LIMITS — **CAMPUS USE AND SITE IMPROVEMENTS**

MONMOUTH UNIVERSITY

'D' & 'C' VARIANCES / PRELIMINARY & FINAL SITE PLANS

BLOCK 39, LOTS 1 THRU 5, 7, 8, 9, 11, 12.01 & 12.02 — — TAX MAP SHEET NOS. 15 & 18

ADJACENT STREETS: LARCHWOOD, CEDAR & NORWOOD AVENUES — — LAND USE ZONES: R-22 & I

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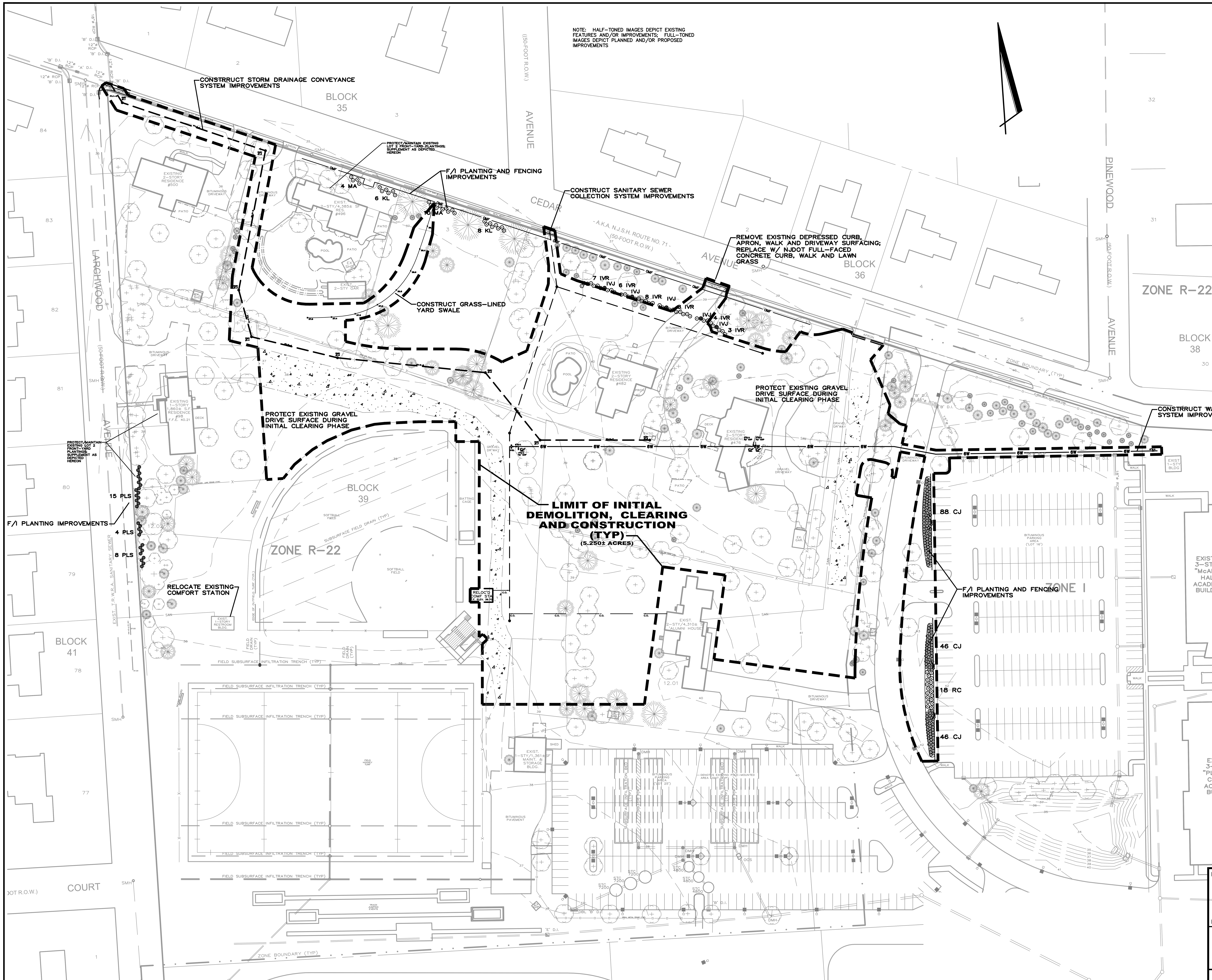
FILE: 0333	
DWG.: PARK19	SHEET: 5


NOTE: HALF-TONED IMAGES DEPICT EXISTING FEATURES AND/OR IMPROVEMENTS; FULL-TONED IMAGES DEPICT PLANNED AND/OR PROPOSED IMPROVEMENTS
CONSTRRUCT STORM DRAINAGE CONVEYANCE SYSTEM IMPROVEMENTS
BLOCK 35
AVENUE
F/I PLANTING AND FENCING IMPROVEMENTS
CONSTRUCT SANITARY SEWER COLLECTION SYSTEM IMPROVEMENTS
CEDAR
A.K.A N.J.S.H. ROUTE NO. 71
AVENUE
REMOVE EXISTING DEPRESSED CURB, APRON, WALK AND DRIVEWAY SURFACING; REPLACE W/ NJDOT FULL-FACED CONCRETE CURB, WALK AND LAWN GRASS
BLOCK 36
PINEWOOD
AVENUE
ZONE R-22
BLOCK 38
CONSTRUCT GRASS-LINED YARD SWALE
LARCHWOOD
AVENUE
PROTECT EXISTING GRAVEL DRIVE SURFACE DURING INITIAL CLEARING PHASE
PROTECT EXISTING GRAVEL DRIVE SURFACE DURING INITIAL CLEARING PHASE
CONSTRRUCT WATER DISTRIBUTION SYSTEM IMPROVEMENTS
4 MA
6 KL
8 KL
7 IVR
6 IVR
8 IVR
3 IVR
IVJ
BLOCK 39
LIMIT OF INITIAL DEMOLITION, CLEARING AND CONSTRUCTION (TYP)
(5.250± ACRES)
15 PLS
F/I PLANTING IMPROVEMENTS
4 PLS
8 PLS
ZONE R-22
RELOCATE EXISTING COMFORT STATION
88 CJ
46 CJ
18 RC
46 CJ
F/I PLANTING AND FENCING IMPROVEMENTS
ZONE I
EXISTING 3-STORY "McALLEN HALL" ACADEMIC BUILDING
BLOCK 41
COURT
BLOCK 40
ZONE BOUNDARY (TYP)
FIELD SUBSURFACE INFILTRATION TRENCH (TYP)

DESCRIPTION OF WORK: WITHIN THE LIMITS OF INITIAL DEMOLITION, CLEARING AND CONSTRUCTION, THE SITE SHALL BE CLEARED OF ALL BUILDINGS, STRUCTURES, WALKS, PAVEMENT, FENCES, TREES, SHRUBS AND ANY OTHER IMPROVEMENT NOT SECIFICALY NOTED TO REMAIN. UTILITIES SHALL BE DISCONNECTED AND CAPPED OR TERMINATED AS REQUIRED BY THE SERVICING AUTHORITY. ORNAMENTAL FENCING AND PERIMETER PLANTINGS DEPICTED UPON THIS PLAN SHALL BE INSTALLED. ANY/ALL DISTURBED AREAS SHALL BE GRADED FOR POSITIVE DRAINAGE, TOPSOILED, RAKED, FERTILIZED, SEEDED AND MULCHED.

0 25 50 100 150 200 250
GRAPHIC SCALE

REVISION NO.	REVISION DATE	DESCRIPTION OF REVISION
1	04-01-21	MIS. REVS

INITIAL IMPROVEMENT CONSTRUCTION PHASE — CAMPUS USE AND SITE IMPROVEMENTS

MONMOUTH UNIVERSITY

'D' & 'C' VARIANCES / PRELIMINARY & FINAL SITE PLANS
BLOCK 39, LOTS 1 THRU 5, 7, 8, 9, 11, 12.01 & 12.02 – – TAX MAP SHEET NOS. 15 & 18
ADJACENT STREETS: LARCHWOOD, CEDAR & NORWOOD AVENUES – – LAND USE ZONES: R-22 & I
BOROUGH OF WEST LONG BRANCH — MONMOUTH COUNTY, NEW JERSEY

William E. Fitzgerald
Civil Engineers – Land Use Planners – Construction Managers
P.O. BOX 550 WEST LONG BRANCH, N.J. 07764 TELE: (732) 859-3481
WILLIAM E. FITZGERALD, PE, PP – N.J. LIC. NOS. 27369, 2888

DATE: 12-03-20	SCALE: 1"=50'
DRAWN:	CHKD.: W.E.F.
FILE: 0333	
DWG.: PARK19	SHEET: 6

NOTE: HALF-TONED IMAGES DEPICT EXISTING FEATURES AND/OR IMPROVEMENTS; FULL-TONED IMAGES DEPICT PLANNED AND/OR PROPOSED IMPROVEMENTS

NOTE: FENCE TO BE 'STEPPED' AS NECESSARY TO PROTECT EXISTING HEALTHY TREES/SHRUBS WHICH ARE LOCATED ALONG FENCE LINE AND CANNOT BE RELOCATED

FIRE LANES TO BE DESIGNATED BY A CONTINUOUS FOUR INCH (4") WIDE YELLOW PAVEMENT STRIPE PARALLEL TO, AND SIX INCHES (6") DISTANT FROM THE ADJACENT CURB FACE AS WELL AS THE WORDS "NO PARKING FIRE LANE" PAINTED UPON THE TRAVELED WAY IN THREE FOOT (3') TALL LETTERS SPACED, ON AVERAGE, 100 FEET APART. PARKING WITHIN FIRE LANES SHALL BE RESTRICTED BY M.U.T.C.D.-COMPLIANT VERTICAL SIGNAGE INCLUDING THE R8-3FZ SERIES LEGENDS SPACED, ON AVERAGE, 100 FEET APART.

NOTE: PRE-DEVELOPMENT IMPROVIEMENTS DEPICTED HEREON ARE THOSE PROPOSED TO SURVIVE DEMOLITION AND SITE CLEARING OPERATIONS

GRAPHIC SCALE

0 15 30 60 90 120 150

LAYOUT, CIRCULATION & PARKING – 1 — CAMPUS USE AND SITE IMPROVEMENTS

MONMOUTH UNIVERSITY

'D' & 'C' VARIANCES / PRELIMINARY & FINAL SITE PLANS

BLOCK 39, LOTS 1 THRU 5, 7, 8, 9, 11, 12.01 & 12.02 – – TAX MAP SHEET NOS. 15 & 18

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WILLIAM E. FITZGERALD, PE, PP – N.J. LIC. NOS. 27369, 2888

DATE: 12-03-19	SCALE: 1"=30'
DRAWN:	CHKD.: W.E.F.
FILE: 0333	
DWG.: PARK19	SHEET: 7

REVISION NO.	REVISION DATE	DESCRIPTION OF REVISION
2	04-01-21	RELOC. PROP. DR'WAY.; ADD ADDRESS NOS.; MISC REVS
1	12-03-20	MISC. REVS.

PROPOSED 1,800 S.F. STORAGE / MAINT. BUILDING #1
F.F.E. 38.13

75W BLDG-MNTD SECURITY LIGHT ABOVE MAN DOOR (SEE DETAIL)

M.U. POLICE HEADQUARTERS
F.F.ELEV. 41.90

GATE

PROP. BITUM. DRWY.

CONC. APRON

DENOTES ORNAMENTAL POLE-MOUNTED SITE LIGHT (TYP)

CONC. WALK (TYP)

NO PARKING FIRE LANE

STOP

ONLY

BITUMINOUS DRIVEWAY

PROPOSED BITUMINOUS PARKING AREA

4"-INCH WIDE SOLID YELLOW LINE PARALLEL TO CURB (TYP)

RELOC'D. REST ROOM BUILDING
F.F.E. 38.12

EXISTING 2-STY/4,310± SF 'ALUMNI HOUSE'
FFE 42.2

CONVERT TO TEMP. POLICE HDQTRS. / FUTURE ACADEMIC BLDG.

EXISTING 1-STY/1,361±SF MAINT. & STORAGE BLDG.
FFE 38.70
FFE 38.59
FFE 38.09

EXPAND BY 1,605± S.F. CONVERT TO M.U. GOLF CENTER

35.3'±

BLOCK 39

BATTING CAGE

SOFTBALL FIELD

FIELD HOCKEY TURF

TRACK JUMPING EVENTS

RUNNING TRACK

BITUMINOUS PAVEMENT

BITUMINOUS PARKING AREA ('LOT 25')

DENOTES EXISTING POLE-MOUNTED AREA LIGHT (TYP)

BITUMINOUS PARKING AREA ('LOT 16')

3'-TALL ORNAM. METAL PICKET FENCE

70' MIN. ZONE I BLDG. SETB

ZONE I

EXISTING 3-STORY "McALLEN HALL" ACADEMIC BUILDING

EXISTING 3-STORY "PLANGERE CENTER" ACADEMIC BUILDING

NOTE: HALF-TONED IMAGES DEPICT EXISTING FEATURES AND/OR IMPROVEMENTS; FULL-TONED IMAGES DEPICT PLANNED AND/OR PROPOSED IMPROVEMENTS

NOTE: PRE-DEVELOPMENT IMPROVEMENTS DEPICTED HEREON ARE THOSE PROPOSED TO SURVIVE DEMOLITION AND SITE CLEARING OPERATIONS

0 15 30 60 90 120 150

GRAPHIC SCALE

TABULATION OF ZONING REQUIREMENTS - PROPOSED UNIVERSITY USE EXPANSION AND SITE IMPROVEMENTS

Lot	Zone	Descriptor	Permitted Use	Minimum Lot Size Area (sf)	Minimum Lot Size Width (ft)	Minimum Yard Requirements - Principal Building Front (ft)	Rear (ft)	One Side (ft)	Both Sides (ft)	Maximum Lot Coverage Buildings (% of Lot Area)	Maximum Lot Coverage Impervious Surfaces (% of Lot Area)	Maximum Height Principal Building Stories	Maximum Height Principal Building Feet	Maximum Height Accessory Building Feet
		Required	One-Family Dwellings	22,500	150	35	35	20	50	23.0%	30.0%	2.5	35	15
1	R-22	Pre-Development	One-Family Dwelling	28,148	164.9	21.4	89.3	44.2	N/A	10.9%	21.4%	2	24	9
		Post-Development	University-General	28,148	164.9	N/A	N/A	N/A	N/A	0.0%	0.5%	N/A	N/A	N/A
		Required	One-Family Dwellings	22,500	150	35	35	20	50	23.0%	30.0%	2.5	35	15
2	R-22	Pre-Development	One-Family Dwelling	33,249	170.2	26.7	126.1	30.5	85.8	9.8%	33.6%	2	26.5	23
		Post-Development	University Alumni Center	33,249	170.2	26.7	126.1	30.5	85.8	9.4%	35.6%	2	26.5	23
		Required	One-Family Dwellings	22,500	150	35	35	20	50	23.0%	30.0%	2.5	35	15
3	R-22	Pre-Development	One-Family Dwelling	28,700	148.2	N/A	N/A	N/A	N/A	0.0%	0.0%	N/A	N/A	N/A
		Post-Development	University - General	28,700	148.2	N/A	N/A	N/A	N/A	0.0%	0.0%	N/A	N/A	N/A
		Required	One-Family Dwellings	22,500	150	35	35	20	50	23.0%	30.0%	2.5	35	15
4	R-22	Pre-Development	One-Family Dwelling	43,687	235.2	106.8	24.3	14.4	138.7	6.2%	18.8%	2	30	9
		Post-Development	University - Parking for Police Hdqts.	43,687	235.2	N/A	N/A	N/A	N/A	0.0%	43.7%	N/A	N/A	N/A
		Required	One-Family Dwellings	22,500	150	35	35	20	50	23.0%	30.0%	2.5	35	15
5	R-22	Pre-Development	One-Family Dwelling	66,421	146.1	108.5	100	74.3	168.2	5.6%	14.5%	2	28	14
		Post-Development	University - Police Hdqts. w/ Parking	66,421	146.1	50	167.9	27.1	80.3	6.5%	80.5%	2	34.6	13
		Required	Uses Per 18-4.3	5 Acres	300	70	70	40	100	30.0%	50.0%	2.5	35	15
7	I	Pre-Development	University - Parking	206,148	309.6	N/A	N/A	N/A	N/A	0.024%	62.4%	N/A	N/A	13
		Post-Development	University - Parking	206,148	309.6	N/A	N/A	N/A	N/A	0.024%	63.9%	N/A	N/A	13
		Required	One-Family Dwellings	22,500	150	35	35	20	50	23.0%	30.0%	2.5	35	15
12.01	R-22	Pre-Development	University Alumni Center	81,024	50.75	313.8	47.3	19.7	128.1	4.4%	10.3%	2	28	12
		Post-Development	University - Academic Building	81,024	50.75	313.8	47.3	19.7	128.1	4.5%	71.0%	2	28	N/A
		Required	One-Family Dwellings	22,500	150	35	35	20	50	23.0%	30.0%	2.5	35	15
12.02	R-22	Pre-Development	One-Fam. Dwell'g. + Univ. Parking, Athletics & Maint.	374,300	762.5	42.5	391.1	82.2	657.9	1.4%	20.8%	1	17	13
		Post-Development	Univ. Offices, Parking, Athletics, Storage & Maint.	374,300	762.5	42.5	391.1	82.2	657.9	2.9%	32.2%	1	17	29

REVISION NO.	REVISION DATE	DESCRIPTION OF REVISION
2	04-01-21	MISC. REVS
1	12-3-20	MISC. REVS.

LAYOUT, CIRCULATION & PARKING - 2 — CAMPUS USE AND SITE IMPROVEMENTS

MONMOUTH UNIVERSITY

'D' & 'C' VARIANCES / PRELIMINARY & FINAL SITE PLANS

BLOCK 39, LOTS 1 THRU 5, 7, 8, 9, 11, 12.01 & 12.02 - - TAX MAP SHEET NOS. 15 & 18

ADJACENT STREETS: LARCHWOOD, CEDAR & NORWOOD AVENUES - - LAND USE ZONES: R-22 & I

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WILLIAM E. FITZGERALD, PE, PP - N.J. LIC. NOS. 27369, 2888

DATE: 12-03-19	SCALE: 1"=30'
DRAWN:	CHKD.: W.E.F.
FILE: 0333	
DWG.: PARK19	SHEET: 8

LUMINAIRE SCHEDULE

SYMBOL	MAKE	MODEL	PRODUCT #	TYPE	MTG HGT	L.L.F.	I.E.S. FILE	REMARKS:
A	STERNBERG	MAIN STREET	MS805LED (4670 INITIAL LUMENS)	94 WATT LED	16'	0.93	MS805LED-4A1R45T3-CG.IES	SNGL. POLE-MTD. / FULL CUTOFF / TYPE III
B	LITHONIA	D SERIES / SIZE 0	RCS-A10-P25-H4-F-Q-BL TILT: 0°	4000°K / LED	16'	0.93	DSX1_LED_P6_30K_T3M_MVOLT.IES	SNGL. POLE-MTD. / FULL CUTOFF / TYPE III
C	LITHONIA	D SERIES / SIZE 0	RCS-A10-P25-H4-F-Q-BL TILT: 0°	4000°K / LED	28'	0.93	DSX1_LED_P13_30K_T2S_MVOLT_R90.IES	SNGL. POLE-MTD. / FULL CUTOFF / TYPE IIS
D	LITHONIA	D SERIES / SIZE 0	RCS-A10-P25-H4-F-Q-BL TILT: 0°	4000°K / LED	16'	0.93	DSX1_LED_P1_30K_T3M_MVOLT_HS.IES	SNGL. POLE-MTD. / FULL+HS CUTOFF / TYPE III

NOTES: 1. ALL BALLASTS TO BE 240 / 208 DUAL VOLTAGE TYPES
2. ALL LUMINAIRES TO HAVE FULL-CUTOFF OPTICS

NOTE: PRE-DEVELOPMENT IMPROVEMENTS DEPICTED HEREON ARE THOSE PROPOSED TO SURVIVE DEMOLITION AND SITE CLEARING OPERATIONS

LIGHTING NOTES:

- ALL LUMINAIRES TO HAVE FULL-CUTOFF OPTICS
- THREE (3) LUMINAIRES ALONG NORTHERLY CURB LINES OF POLICE HEADQUARTERS PARKING FIELD TO HAVE FACTORY INSTALLED, FULL HOUSE-SIDE CUTOFF OPTICS AND/OR SHIELDING

GRAPHIC SCALE: 0 15 30 60 90 120 150

REVISION NO.	REVISION DATE	DESCRIPTION OF REVISION
2	21	RELOCA... DR'WAY; MISC REVS.
1	20	REV. POL... AREA LIGHTING

SITE LIGHTING CAMPUS USE AND SITE IMPROVEMENTS

MONMOUTH UNIVERSITY

'C' VARIANCES / PRELIMINARY & FINAL SITE PLANS

BLOCK 39, THRU 5, 7, 8, 9, 11, 12.01 & 12.02 — — TAX MAP SHEET NOS. 15 & 18

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DATE: 12-03-19	SCALE: 1"=30'
DRAWN:	CHKD.: W.E.F.
FILE: 0333	
DWG.: PARK19	SHEET: 9

PARKING AREA

MIN. ILLUMINATION LEVEL (f_c): 0.61
MAX. ILLUMINATION LEVEL (f_c): 8.85
AVE. ILLUMINATION LEVEL (f_c): 1.93
AVERAGE-TO-MINIMUM RATIO: 3.16
MAXIMUM TO MINIMUM RATIO: 14.51

TEMP. POLICE / ACADEMIC BLDG.

MIN. ILLUMINATION LEVEL (f_c): 0.69
MAX. ILLUMINATION LEVEL (f_c): 8.84
AVE. ILLUMINATION LEVEL (f_c): 2.26
AVERAGE-TO-MINIMUM RATIO: 3.28
MAXIMUM TO MINIMUM RATIO: 12.81

BLOCK 39

0.66
8.96
3.95
5.98
13.58

75W BLDG-MNTD SECURITY LIGHT ABOVE MAN DOOR (SEE DETAIL)

DENOTES POLE-MOUNTED ARCHITECTURAL LUMINAIRE (TYP)

DENOTES POLE-MNTD. AREA LIGHT (TYP)

DENOTES GROUND-LEVEL ILLUMINATION IN ISO-FOOTCANDLES (TYP)

LIMIT OF ILLUMINATION LEVEL ANALYSIS AREA (TYP)

DENOTES EXISTING POLE-MOUNTED AREA LIGHT (TYP)

DESIGNATES 1997 SITE PLAN ILLUMINATION LEVEL IN FOOTCANDLES (TYP.)

BATTING CAGE

SOFTBALL FIELD

FIELD HOCKEY TURF

TRACK JUMPING EVENTS

RUNNING TRACK

EXISTING 1-STY/4,310± SF ALUMNI HOUSE

FFE 42.01

EXISTING 1-STY/1,361±SF MAINT. & STORAGE BLDG.

FFE 38.70

FFBE 38.80

FFG

BITUMINOUS PARKING AREA ("LOT 25")

BITUMINOUS PAVEMENT

BITUMINOUS DRIVEWAY

BITUMINOUS PARKING AREA ("LOT 16")

ZONE 1

EXISTING 1-STORY BUILDING

EXISTING 3-STORY "McALLEN HALL" ACADEMIC BUILDING

EXISTING 3-STORY "PLANGERE CENTER" ACADEMIC BUILDING

WALK

NOTE: PRE-DEVELOPMENT IMPROVEMENTS DEPICTED HEREON ARE THOSE PROPOSED TO SURVIVE DEMOLITION AND SITE CLEARING OPERATIONS

LIGHTING NOTES:

- ALL LUMINAIRES TO HAVE FULL-CUTOFF OPTICS
- THREE (3) LUMINAIRES ALONG NORTHERLY CURB LINES OF POLICE HEADQUARTERS PARKING FIELD TO HAVE FACTORY INSTALLED, FULL HOUSE-SIDE CUTOFF OPTICS AND/OR SHIELDING

GRAPHIC SCALE
0 15 30 60 90 120 150

REVISION NO.	REVISION DATE	DESCRIPTION OF REVISION
2	04-01-21	MISC. REVS.
1	12-3-20	REV. POLICE AREA LIGHTING

SITE LIGHTING - 2

CAMPUS USE AND SITE IMPROVEMENTS

MONMOUTH UNIVERSITY

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DATE: 12-03-19 SCALE: 1"=30'
DRAWN: CHKD.: W.E.F.
FILE: 0333
DWG.: PARK19 SHEET: 10

TREE AND PLANT SCHEDULE

SYMBOL	BIOLOGICAL NAME	COMMON NAME	QTY.	SIZE	TYPE
DECIDUOUS TREES					
ARS	ACER RUBRUM 'Autumn Spire'	AUTUMN SPIRE MAPLE	10	2½" – 3½"	B+B
ASM	ACER SACCHARUM 'Green Mountain'	GREEN MOUNTAIN SUGAR MAPLE	5	2½" – 3½"	B+B
GTI	GLEDITSIA TRIACANTHOS INERMIS 'IMPERIAL'	IMPERIAL HONEY LOCUST	17	2½" – 3½"	B+B
QC	QUERCUS 'Crimschmidt'	CRIMSON SPIRE OAK	21	2½" – 3½"	B+B
QR	QUERCUS RUBRUM	RED OAK	16	2½" – 3½"	B+B
TCG	TILIA CORDATA 'Greenspire'	GREENSPIRE LINDEN	26	2½" – 3½"	B+B
ZS	ZELKOVA SERRATA	JAPANESE ZELKOVA	8	2½" – 3½"	B+B
EVERGREEN TREES					
PO	PICEA OMORIKA	SERBIAN SPRUCE	3	6' – 8'	B+B
PP	PICEA PUNGENS	COLORADO SPRUCE	12	6' – 8'	B+B
TM	TSUEDOTSUGA MEZIESII	DOUGLAS FIR	8	8' – 10'	B+B
TM2	TSUEDOTSUGA MEZIESII	DOUGLAS FIR	1	12' – 13'	B+B
ORNAMENTAL TREES					
LFK	LAGERSTROEMIA FAURIEI 'KIOWA'	KIOWA CREPE MYRTLE	4	3' – 4"	CONT
LIT	LAGERSTROEMIA INDICA 'TUSCARORA'	TUSCARORA CREPE MYRTLE	5	3' – 4"	CONT
LN	LAGERSTROEMIA x NATCHEZ	NATCHEZ CREPE MYRTLE	4	3' – 4"	CONT
DECIDUOUS SHRUBS					
CJR	CYDONIA JAPONICA RUBRA	RED FLOWERING QUNICE TREE	16	24" – 30"	CONT
LJT	LIGUSTRUM JAPONICUM 'TEXANUM'	WAXLEAF PRIVET	80	30" – 36"	CONT
RC	ROSA CAROLINA	CAROLINA ROSE	18	18" – 24"	CONT
EVERGREEN AND SEMI-EVERGREEN SHRUBS					
CJ	CHAENOMELES JAPONICA	JAPANESE QUINCE	180	15" – 18"	CONT
ED	ERICA DARLEYANSIS 'MEDITERRANEAN PINK'	MEDITERRANEAN PINK WINTER HEATH	36	6" – 8"	CONT
KL	KALMIA LATIFOLIA 'ELF'	ELF DWARF MOUNTAIN LAUREL	29	18" – 24"	CONT
KLR	KALMIA LATIFOLIA 'RASBERRY GLOW'	RASBERRY GLOW MOUNTAIN LAUREL	10	18" – 24"	CONT
IVJ	ILEX VERTICILLATA 'JIM DANDY' (POLLENATOR)	'JIM DANDY' WINTERBERRY HOLLY	11	24" – 30"	CONT
IVR	ILEX VERTICILLATA 'WINTER RED'	WINTER RED' WINTERBERRY HOLLY	93	24" – 30"	CONT
MA	MAHONIA AQUIFOLIUM	OREGON HOLLYGRAPE	35	18" – 24"	CONT
PJ	PIERIS JAPONICA 'MOUNTAIN FIRE'	MOUNTAIN FIRE ANDROMEDA	10	24" – 30"	CONT
PLS	PRUNUS LAUROCERASUS SCHPKAENSIS	SKIP LAUREL	27	24" – 30"	CONT
TMH	TAXUS x MEDIA HICKSII	HICKS UPRIGHT YEW	18	24" – 30"	CONT
VCC	VIBURNUM DILATATUM 'HENNEKE'	CARDINAL CANDY VIBURNUM	10	24" – 30"	CONT

REVISION NO.	REVISION DATE	DESCRIPTION OF REVISION
2	04-01-21	RELOC. PROP. DR'WAY; ADD'L SCREEN & FOUND'N PLANTS
1	12-3-20	MISC. REVS.

TREE AND BUFFER PLANTING – 1 — CAMPUS USE AND SITE IMPROVEMENTS

MONMOUTH UNIVERSITY

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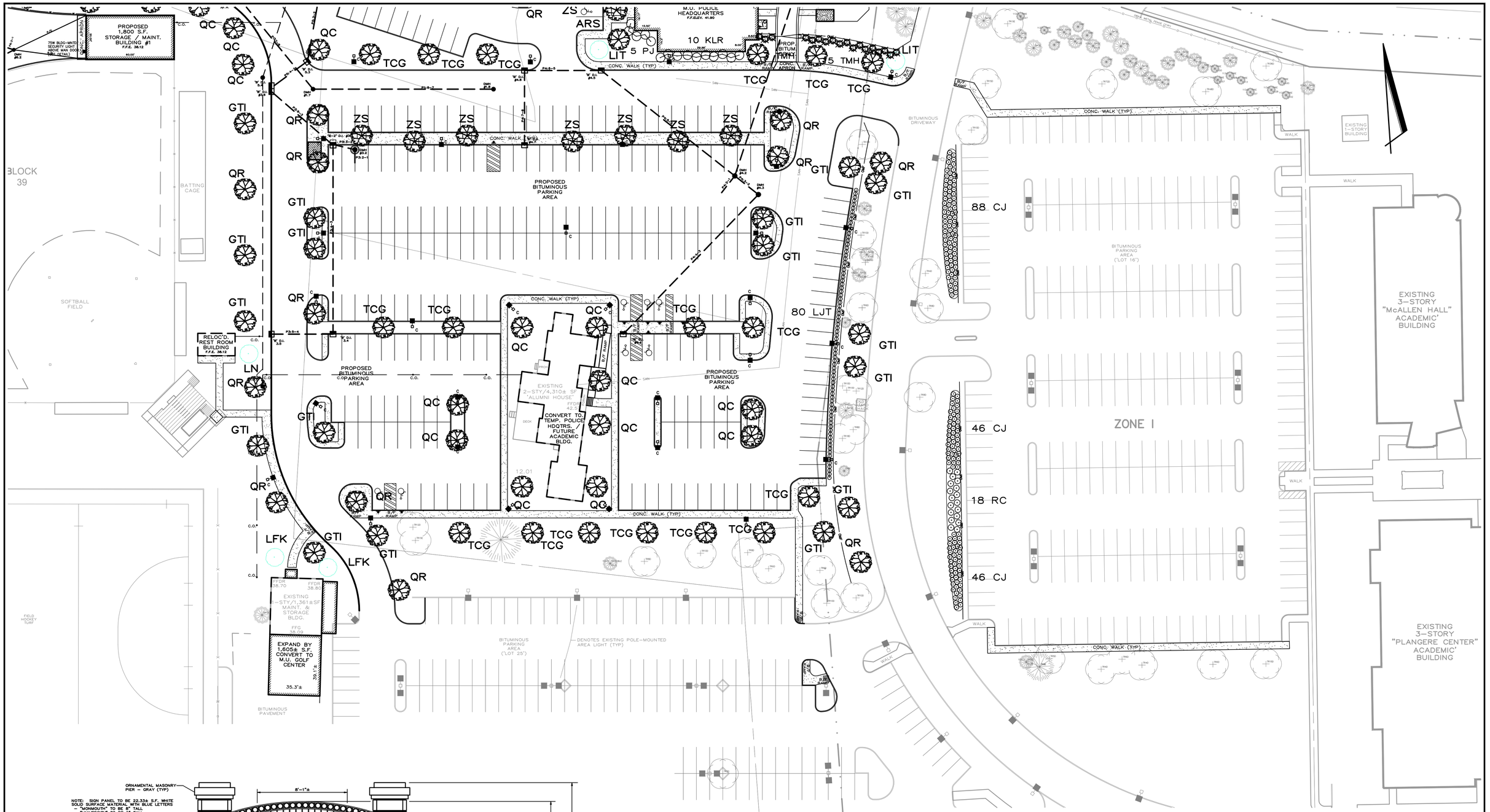
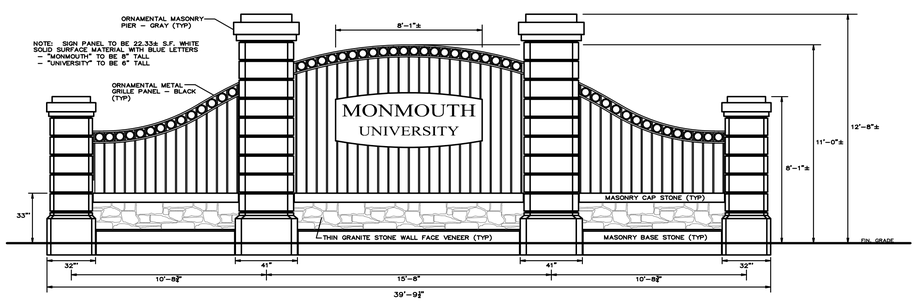
DATE: 12-03-19	SCALE: 1"=30'
DRAWN:	CHKD.: W.E.F.
FILE: 0333	
DWG.: PARK19	SHEET: 11





DETAIL: PROPOSED MONUMENT SIGN
SCALE: 1:40

REVISION NO.	REVISION DATE	DESCRIPTION OF REVISION
1	12-3-20	MISC. REVS.

TREE AND BUFFER PLANTING – 2

CAMPUS USE AND SITE IMPROVEMENTS

MONMOUTH UNIVERSITY

'D' & 'C' VARIANCES / PRELIMINARY & FINAL SITE PLANS

BLOCK 39, LOTS 1 THRU 5, 7, 8, 9, 11, 12.01 & 12.02 – – TAX MAP SHEET NOS. 15 & 18

ADJACENT STREETS: LARCHWOOD, CEDAR & NORWOOD AVENUES – – LAND USE ZONES: R-22 & I

BOROUGH OF WEST LONG BRANCH — MONMOUTH COUNTY, NEW JERSEY

William E. Fitzgerald

Civil Engineers – Land Use Planners – Construction Managers

P.O. BOX 550 WEST LONG BRANCH, N.J. 07764 TELE: (732) 859-3481

WILLIAM E. FITZGERALD, PE, PP – N.J. LIC. NOS. 27369, 2888

DATE: 12-03-19	SCALE: 1"=30'	
DRAWN:	CHKD.: W.E.F.	
FILE: 0333		
DWG.: PARK19	SHEET: 12	

REVISION NO.	REVISION DATE	DESCRIPTION OF REVISION
3	04-01-21	MISC. REVS
2	12-3-20	REV EXIST DRAIN INFO
1	09-10-20	REVISE IMPROVEMENT LAYOUT

STORMWATER MANAGEMENT AREAS — CAMPUS USE AND SITE IMPROVEMENTS

MONMOUTH UNIVERSITY

'D' & 'C' VARIANCES / PRELIMINARY & FINAL SITE PLANS

BLOCK 39, LOTS 1 THRU 5, 7, 8, 9, 11, 12.01 & 12.02 — — TAX MAP SHEET NOS. 15 & 18
ADJACENT STREETS: LARCHWOOD, CEDAR & NORWOOD AVENUES — — LAND USE ZONES: R-22 & I

BOROUGH OF WEST LONG BRANCH — MONMOUTH COUNTY, NEW JERSEY

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WILLIAM E. FITZGERALD, PE, PP – N.J. LIC. NOS. 27369, 2888

DATE: 12-03-19	SCALE: 1"=50'
DRAWN:	CHKD.: W.E.F.
FILE: 0333	
DWG.: PARK19	SHEET: 13

CONSTRUCT CONNECT TO EXIST D.I.
INV. 30.01 (30"ø)
CONSTRUCT 25± L.F. 30"ø R.C.P.
[P1:1–0] @ 0.20%
CONSTRUCT DMH #1.1
RIM 34.6
INV. 30.10 (30"ø IN)SE
INV. 30.06 (30"ø OUT)NW
CONSTRUCT 170± L.F. 30"ø R.C.P.
[P1:2–1] @ 0.20%

CONSTRUCT DMH #1.2
RIM 35.5
INV. 30.48 (30"ø IN)SW
INV. 30.44 (30"ø OUT)NW
CONSTRUCT 158± L.F. 30"ø R.C.P.
[P1:3–2] @ 0.20%
CONSTRUCT DMH #1.3
RIM 36.8
INV. 31.66 (15"ø IN)SE
INV. 30.84 (30"ø IN)S
INV. 30.80 (30"ø OUT)N

CONSTRUCT DMH #7.9
RIM 38.10
INV. 32.06 (24"ø OUT)
CONSTRUCT 8± L.F. 24"ø
H.D.P.E.P. [P7:9–0] @ 0.75%
CONSTRUCT 2,790± S.F. / 7,298± C.F. SUBSURFACE STORMWATER STORAGE BED #7.0
(SEE DETAILS)

BOTTOM ELEVS. OF STORAGE UNITS = 32.10'

BED TO BE CONSTRUCTED UPON A 6–INCH THICK, COMPACTED BED OF N.J.D.O.T. 'VIRGIN' DENSE GRADED AGGREGATE

BED SIDE WALLS SHALL BE GEOTEXTILE FABRIC WRAPPED, 24–INCH THICK, COMPACTED N.J.D.O.T. 'VIRGIN' DENSE GRADED AGGREGATE FOR STRUCTURAL SUPPORT

STABILIZED S.H.G.T.E BENEATH BED IS AT ELEV. 23.1' BASED UPON GEOPROBE EXCAVATIONS MADE 04–24–19

CONSTRUCT 10± L.F. 24"ø
H.D.P.E.P. [P7:0–8] @ 0.60%

CONSTRUCT OCS #7.8
RIM 37.34 (E)
RIM 37.25 (W)
INV. 32.77 (12"ø IN)SE
INV. 31.94 (24"ø IN)S
INV. 31.94 (24"ø IN)N
INV. 31.90 (HYDRO BRAKE SPIGOT)
SUMP 30.90
WEIR 33.47 (28.07' V–NOTCH WEIR)
WEIR 35.05 (5.0' CREST)
INV 31.84 (15"ø OUT) W

CONSTRUCT F.C.S. #7.1
RIM 37.18 (N)
RIM 37.11 (S)
INV. 33.16 (15"ø IN)S
INV. 33.16 (HYDR–BRAKE OUT)E
SUMP 31.19
WEIR 35.45 (42"ø' CREST)
INV. 32.84 (12"ø OUT)NE
INV. 31.97 (24"ø OUT)N
CONSTRUCT 13± L.F. 24"ø
C.M.P. [P7:1–8] @ 0.25%
CONSTRUCT 7± L.F. 12"ø
R.C.P. [P7:1–7] @ 0.58%

CONSTRUCT 'B' D.I. #7.5
T.C. 37.42
INV. 34.25 (12"ø OUT)S
CONSTRUCT 14± L.F. 12"ø
R.C.P. (P7:5–2) @ 0.20%
CONSTRUCT DMH #7.2
T.C. 0.00
INV. 34.22 (12"ø IN)NW
INV. 33.22 (15" IN)SW
INV. 34.14 (12"ø IN)E
INV. 33.20 (15"ø OUT)N
CONSTRUCT 5± L.F. 15"ø
R.C.P. (P7:2–1) @ 0.80%

CONSTRUCT 'B' D.I. #7.4
T.C. 36.76
INV. 33.85 (12"ø OUT)N
CONSTRUCT 24± L.F. 12"ø R.C.P.
[CL. V] (P7:4–3) @ 0.60%
CONSTRUCT 'B' D.I. #7.3
T.C. 36.76
INV. 33.71 (12"ø IN)S
INV. 33.46 (15"ø OUT)E
CONSTRUCT 87± L.F. 15"ø R.C.P.
(P7:3–2) @ 0.27%

CONSTRUCT 18± L.F.
15"ø R.C.P. [P7:8–1.3]
@ 1.00%

F/I 8' X 16.5' "UP FLO"
VAULT FILTER #7.7
(37 STD RIBBON FILTER UNITS)
RIM 37.51 (N)
RIM 37.22 (S)
RIM 37.31 (w)
T.O.S. 36.80
INV. 32.80 (12"ø IN)S
INV. 32.80 (12"ø OUT)W
FLOOR 30.82
CONSTRUCT 7± L.F. 12"ø P.V.C.
(SDR–35) [P7:7–8] @ 0.36%
NOTE: CONDUIT P7:7–8 TO HAVE CHECKMATE® INLINE ELASTOMERIC TIDE VALVE, OR A.E. INSERT AT DOWNSTREAM END / DISCHARGE INTO OCS #7.8

CONSTRUCT 'B' D.I. #7.6
T.C. 37.42
INV. 34.25 (12"ø OUT)W
CONSTRUCT 36± L.F. 12"ø
R.C.P. (P5:6–2) @ 0.22%

CONSTRUCT 54± L.F. 30"ø R.C.P.
[P1:4–3] @ 0.20%
CONSTRUCT DMH #1.4
RIM 36.7
INV. 30.99 (30"ø IN)SE
INV. 30.95 (30"ø OUT)N
CONSTRUCT 99± L.F. 30"ø R.C.P.
[P1:5–4] @ 0.20%
CONSTRUCT DMH #1.5
RIM 37.1
INV. 31.71 (18"ø IN)SE
INV. 31.19 (30"ø IN)E
INV. 31.15 (30"ø OUT)W
CONSTRUCT 167± L.F. 30"ø R.C.P.
[P1:6–5] @ 0.20%

GRAPHIC SCALE
0 10 20 40 60 80 100

REVISION NO.	REVISION DATE	DESCRIPTION OF REVISION
3	04–01–21	MISC. REVS
2	12–3–20	MISC. REVS
1	09–10–20	REVISE GRADING & IMPROVEMENTS

GRADING, DRAINAGE & STORMWATER –1: SWMA #7 CAMPUS USE AND SITE IMPROVEMENTS

MONMOUTH UNIVERSITY

'D' & 'C' VARIANCES / PRELIMINARY & FINAL SITE PLANS

BLOCK 39, LOTS 1 THRU 5, 7, 8, 9, 11, 12.01 & 12.02 – – TAX MAP SHEET NOS. 15 & 18
ADJACENT STREETS: LARCHWOOD, CEDAR & NORWOOD AVENUES – – LAND USE ZONES: R–22 & I

BOROUGH OF WEST LONG BRANCH — MONMOUTH COUNTY, NEW JERSEY

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WILLIAM E. FITZGERALD, PE, PP – N.J. LIC. NOS. 27369, 2888

DATE: 12–03–19	SCALE: 1"=20'
DRAWN:	CHKD.: W.E.F.
FILE: 0333	
DWG.: PARK19	SHEET: 14

ELMWOOD AVENUE (50–FOOT R.O.W.)
LARCHWOOD AVENUE (60–FOOT R.O.W.)
BLOCK 35


CEDAR AVENUE
(A.K.A. N.J.S.H. ROUTE NO. 71)
(50-FOOT R.O.W.)
BLOCK 36
CONSTRUCT DMH #5.10
RIM 39.57
INV. 32.33 (24"ø OUT)S
CONSTRUCT 6± L.F. 24"ø HDPEP [P5:10-0] @ 1.33%
CONSTRUCT 6,675± S.F. / 18,136± C.F. SUBSURFACE STORMWATER STORAGE BED #5.0
(SEE DETAILS)
BOTTOM ELEVS. OF STORAGE UNITS = 32.25'
BED TO BE CONSTRUCTED UPON A 6-INCH THICK, COMPACTED BED OF N.J.D.O.T. 'VIRGIN' DENSE GRADED AGGREGATE
BED SIDE WALLS SHALL BE GEOTEXTILE FABRIC WRAPPED, 24-INCH THICK, COMPACTED N.J.D.O.T. 'VIRGIN' DENSE GRADED AGGREGATE FOR STRUCTURAL SUPPORT
STABILIZED S.H.G.T.E BENEATH BED IS AT ELEV. 23.1' BASED UPON GEOPROBE EXCAVATIONS MADE 04-24-19
CONSTRUCT 12± L.F. 24"ø HDPEP [P5:0-9] @ 0.25%
CONSTRUCT 54± L.F. 30"ø R.C.P. [P1:4-3] @ 0.20%
CONSTRUCT DMH #1.4
RIM 36.7
INV. 30.99 (30"ø IN)SE
INV. 30.95 (30"ø OUT)N
CONSTRUCT 99± L.F. 30"ø R.C.P. [P1:5-4] @ 0.20%
CONSTRUCT DMH #1.5
RIM 37.1
INV. 31.71 (18"ø IN)SE
INV. 31.19 (30"ø IN)E
INV. 31.15 (30"ø OUT)W
CONSTRUCT 167± L.F. 30"ø R.C.P. [P1:6-5] @ 0.20%
CONSTRUCT DMH #1.6
RIM 37.5
INV. 31.62 (30"ø IN)E
INV. 31.52 (30"ø OUT)W
CONSTRUCT F.C.S. #5.1
T.C. 38.39(E)
T.C. 38.33(W)
INV. 32.99 (18" IN)W
INV. 32.92 (HYDR-BRAKE OUT)S
SUMP 31.57
WEIR 35.69 (42"ø CREST)
INV. 32.88 (12"ø OUT)S
INV. 32.35 (24"ø OUT)E
CONSTRUCT 13± L.F. 24"ø C.M.P. [P5:1-9] @ 0.82%
CONSTRUCT 7± L.F. 12"ø R.C.P. [P5:1-7] @ 0.58%
F/I 8' X 16.5' "UP FLO" VAULT FILTER #5.7
(37 STD RIBBON FILTER UNITS)
T.O.S. 37.70
INV. 32.84 (12"ø IN)N
INV. 32.74 (12"ø OUT)E
FLOOR 30.82
CONSTRUCT 11± L.F. 12"ø R.C.P. [P5:7-8] @ 0.30%
NOTE: CONDUIT P5:7-8 TO HAVE CHECKMATE® INLINE ELASTOMERIC TIDE VALVE, OR A.E., INSERT AT DOWNSTREAM END / DISCHARGE INTO OCS #5.8
CONSTRUCT 'B' D.I. #5.6
T.C. 37.04
INV. 34.45 (12"ø OUT)N
CONSTRUCT 24± L.F. 12"ø D.I.P. (CL 56) [P5:6-5] @ 0.60%
CONSTRUCT 'B' D.I. #5.5
T.C. 37.04
INV. 34.30(12"ø IN)S
INV. 33.74(15"ø OUT)E
CONSTRUCT 174± L.F. 15" RCP (CL IV) [P5:2-1] @ 0.42%
CONSTRUCT 'B' D.I. #5.2
T.C. 38.76
INV. 34.57 (15" IN)S
INV. 33.38 (15" IN)W
INV. 33.03 (18" OUT)E
CONSTRUCT 6± L.F. 18" RCP (CL IV) [P5:2-1] @ 0.72%
24" THICK X 3' TALL FABRIC WRAPPED D.G.A. (TYP)
SWMB #5.0
R-TankSD FIELD
62 ROWS X 31 UNITS/ROW X 4 UNITS HIGH
(81.4'W X 72.8'L)
SC-740 ISOLATOR ROW FIELD
CONSTRUCT 6± L.F. 24"ø HDPEP [P5:0-9] @ 0.50%
CONSTRUCT DMH #5.9
RIM 38.54
INV. 32.24 (24"ø IN)W
INV. 32.22 (24"ø IN)E
INV. 32.19 (24"ø OUT)W
CONSTRUCT 8± L.F. 24"ø HDPEP [P5:9-8] @ 0.50%
PROPOSED 2-STY/6,667± M.U. POLICE HEADQUARTERS
F.F.ELEV. 41.90
SHED
PROPOSED 1,800 S.F. STORAGE / MAINT. BUILDING #1
F.F.E. 38.12
75W BLDG-MNTD SECURITY LIGHT ABOVE MAN DOOR (SEE DETAIL)
CONSTRUCT 'B' D.I. #5.4
T.C. 38.03
INV. 35.03(12"ø OUT)NE
CONSTRUCT 28± L.F. 12"ø R.C.P. (P5:4-3) @ 0.20
CONSTRUCT 'B' D.I. #5.3
T.C. 38.03
INV. 34.97(12"ø IN)SW
INV. 34.72(15"ø OUT)N
CONSTRUCT 60± L.F. 15"ø R.C.P. (P5:3-2) @ 0.25%
CONSTRUCT OCS #5.8
RIM 38.65(N)
RIM 38.70(S)
INV. 32.15 (24"ø IN)N
INV. 32.71 (12"ø IN)W
INV. 32.15 (HYDRO BRAKE SPIGOT)
SUMP 31.15
WEIR 34.40 (0.20' CREST/28.07"-NOTCH)
WEIR 35.20 (5.0' CREST)
INV. 31.98 (24"ø OUT)S
CONSTRUCT 60± L.F. 24"ø R.C.P. [P5:8-1.7] @ 0.20%
CONSTRUCT 98± L.F. 30"ø R.C.P. [P1:7-6] @ 0.20%
CONSTRUCT DMH #1.7
RIM 37.7
INV. 31.86 (24"ø IN)NE
INV. 31.86 (30"ø IN)E
INV. 31.82 (30"ø OUT)NW
CONSTRUCT 123± L.F. 30"ø R.C.P. [P1:8-7] @ 0.20%
CONSTRUCT DMH #1.8
RIM 38.4
INV. 36.00 (6"ø IN)E
INV. 32.15 (30ø IN)S
INV. 32.11 (30"ø OUT)W
R-TankSD FIELD
6 ROWS X 29 UNITS/ROW X 4 UNITS HIGH
(7.9'W X 68.1'L)
SC-740 ISOLATOR ROW FIELD
2 ROWS X 9 CHAMBERS/ROW
(11.0'W X 65.7'L)
R-TankSD FIELD
6 ROWS X 45 UNITS/ROW X 4 UNITS HIGH
(7.9'W X 105.8'L)
SC-740 ISOLATOR ROW FIELD
2 ROWS X 14 CHAMBERS/ROW
(11.0'W X 103.3'L)
SWMB #4.0
R-TankSD FIELD
34 ROWS X 80 UNITS/ROW X 4 UNITS HIGH
(44.7'W X 187.7'L)
SC-740 ISOLATOR ROW
1 ROWS X 25 CHAMBERS / (5.3'W X 186.8'L)
R-TankSD FIELD
20 ROWS X 80 UNITS/ROW X 4 UNITS HIGH
(26.3'W X 187.7'L)
UP FLO FILTER (8' X 18.5')
UP FLO FILTER (8' X 18.5')
BATTING CAGE
SOFTBALL FIELD
RELOC'D. REST ROOM BUILDING
F.F.E. 38.12
GRAPHIC SCALE
0 10 20 40 60 80 100

REVISION NO.	REVISION DATE	DESCRIPTION OF REVISION
3	04-01-21	MISC. REVS.
2	12-3-20	MISC. REVS.
1	09-10-20	REVISE GRADING & IMPROVEMENTS

GRADING, DRAINAGE & STORMWATER -2: SWMA #5 CAMPUS USE AND SITE IMPROVEMENTS

MONMOUTH UNIVERSITY

'D' & 'C' VARIANCES / PRELIMINARY & FINAL SITE PLANS

BLOCK 39, LOTS 1 THRU 5, 7, 8, 9, 11, 12.01 & 12.02 — — TAX MAP SHEET NOS. 15 & 18

ADJACENT STREETS: LARCHWOOD, CEDAR & NORWOOD AVENUES — — LAND USE ZONES: R-22 & I

BOROUGH OF WEST LONG BRANCH — MONMOUTH COUNTY, NEW JERSEY

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WILLIAM E. FITZGERALD, PE, PP – N.J. LIC. NOS. 27369, 2888

DATE: 12-03-19	SCALE: 1"=20'
DRAWN:	CHKD.: W.E.F.
FILE: 0333	
DWG.: PARK19	SHEET: 15

CONSTRUCT 54± L.F. 30"ø R.C.P. [P1:4-3] @ 0.20%
CONSTRUCT DMH #1.4
RIM 36.7
INV. 30.99 (30"ø IN)SE
INV. 30.95 (30"ø OUT)N
CONSTRUCT 99± L.F. 30"ø R.C.P. [P1:5-4] @ 0.20%
CONSTRUCT DMH #1.5
RIM 37.1
INV. 31.71 (18"ø IN)SE
INV. 31.19 (30"ø IN)E
INV. 31.15 (30"ø OUT)W
CONSTRUCT 167± L.F. 30"ø R.C.P. [P1:6-5] @ 0.20%
CONSTRUCT DMH #1.6
RIM 37.5
INV. 31.62 (30"ø IN)E
INV. 31.52 (30"ø OUT)W
LARCHWOOD AVENUE (50 FOOT R.O.W.)
SWM BED #7.0
SWMB #5.0
R-TankSD FIELD
62 ROWS X 31 UNITS/ROW X 4 UNITS HIGH (81.4'W X 72.8'L)
24" THICK X 3' TALL FABRIC WRAPPED D.G.A.
SC-740 ISOLATOR ROW FIELD
CONVERT TO M.U. OFFICES
SWMB #6.0
R-TankXD FIELD
24 ROWS X 28 UNITS/ROW
SC-740 ISOLATOR ROW FIELD
2 ROWS / 6 UNITS PER ROW
NOTE: CONNECT PARALLEL SC7-40 CHAMBER UNITS USING 8" INSERTA TEES AND P.V.C. PIPE
ENTRY/EXIT LIGHTING TO MEET MINIMUM BUILDING CODE REQUIREMENTS
PROPOSED 1,800 S.F. STORAGE / MAINT. BUILDING #1
F.F.E. 38.12
75W BLDG-MNTD. SECURITY LIGHT ABOVE MAN DOOR (SEE DETAIL)
CONSTRUCT F.C.S. #6.1
RIM 37.22 (S)
RIM 37.28 (N)
INV. 33.24"ø IN)E
INV. 33.24 (HYDR-BRAKE OUT)W
SUMP 31.33
WEIR 35.63 (42"ø CREST)
INV. 33.20 (12" OUT)W
INV. 32.50 (24"ø OUT)NW
CONSTRUCT 10± L.F. 24"ø C.M.P. [P6:1-7] @ 2.50%
CONSTRUCT 6± L.F. 12"ø P.V.C. (SDR-35) [P6:1-6] @ 0.67%
F/I 8' X 16.5' "UP FLO" VAULT FILTER #6.6
(37 ST'D RIBBON FILTER UNITS)
T.O.S. 36.70
INV. 33.16 (12"ø IN)E
INV. 33.16 (12"ø OUT)N
FLOOR 31.16
CONSTRUCT 7± L.F. 12"ø R.C.P. [P6:6-7] @ 5.00%
NOTE: CONDUIT P6:6-7 TO HAVE CHECKMATE® INLINE ELASTOMERIC TIDE VALVE, OR A.E., INSERT AT DOWNSTREAM END / DISCHARGE INTO OCS #6.7
CONSTRUCT 2,662± S.F. / 7,462± C.F. SUBSURFACE STORMWATER STORAGE BED #6.0
(SEE DETAILS)
BOTTOM ELEVS. OF STORAGE UNITS = 32.00'
BED TO BE CONSTRUCTED UPON A 6-INCH THICK, COMPACTED BED OF N.J.D.O.T. 'VIRGIN' DENSE GRADED AGGREGATE
BED SIDE WALLS SHALL BE GEOTEXTILE FABRIC WRAPPED, 24-INCH THICK, COMPACTED N.J.D.O.T. 'VIRGIN' DENSE GRADED AGGREGATE FOR STRUCTURAL SUPPORT
STABILIZED S.H.G.T.E BENEATH BED IS AT ELEV. 23.1' BASED UPON GEOPROBE EXCAVATIONS MADE 04-24-19
CONSTRUCT 8± L.F. 24"ø R.C.P. [P6:0-7] @ 1.33%
CONSTRUCT OCS #6.7
RIM 37.50 (N)
RIM 37.44 (S)
INV. 31.92 (24"ø IN)W
INV. 32.81 (12"ø IN)S
INV. 32.25 (24"ø IN)SE
INV. 31.88 (HYDRO BRAKE SPIGOT)
SUMP 30.88
WEIR 34.08N(28.07° V-NOTCH WEIR)
WEIR 35.20 (5.0' CREST)
INV 31.29 (18"ø OUT) NW
CONSTRUCT 40± L.F. 18"ø R.C.P. [P6:6-1.5] @ 0.20%
CONSTRUCT 98± L.F. 30"ø R.C.P. [P1:7-6] @ 0.20%
CONSTRUCT DMH #1.7
RIM 37.7
INV. 31.86 (24"ø IN)NE
INV. 31.86 (30"ø IN)E
INV. 31.82 (30"ø OUT)NW
CONSTRUCT 123± L.F. 30"ø R.C.P. [P1:8-7] @ 0.20%
CONSTRUCT DMH #1.8
RIM 38.4
INV. 36.00 (6"ø IN)E
INV. 32.15 (30ø IN)S
INV. 32.11 (30"ø OUT)W
R-TankSD FIELD
6 ROWS X 29 UNITS/ROW X 4 UNITS HIGH (7.9'W X 68.1'L)
SC-740 ISOLATOR ROW FIELD
2 ROWS X 9 CHAMBERS/ROW (11.0'W X 65.7'L)
SWMB #4.0
BATTING CAGE
SCORE BOARD
ZONE R-22
PROPOSED 1,800 S.F. STORAGE/ MAINT. BUILDING #2
F.F. ELEV. 38.50
75W BLDG-MNTD. SECURITY LIGHT ABOVE MAN DOOR (SEE DETAIL)
CONSTRUCT 7± L.F. 15"ø R.C.P. (P6:2-1) @ 58%
CONSTRUCT DMH #6.2
GRATE 37.12
INV. 33.32 (15"ø IN)SW
INV. 33.28 (15" OUT)W
CONSTRUCT 65± L.F. 15"ø R.C.P. [P6:3-2] @ 0.20%
CONSTRUCT DMH #6.3
RIM 37.12
INV. 33.49 (15"ø IN)SW
INV. 33.45 (15" OUT)NE
CONSTRUCT 117± L.F. 15"ø R.C.P. [P6:4-3] @ 0.20%
CONSTRUCT DMH #6.4
RIM 37.12
INV. 33.76 (15"ø IN)SE
INV. 33.72 (15" OUT)NE
CONSTRUCT 59± L.F. 15"ø R.C.P. (CL V) [P6:5-4] @ 0.20%
CONSTRUCT DMH #6.5
GRATE 37.12
INV. 33.88 (15"ø OUT)N
SOFTBALL FIELD
EDGE OF OUTFIELD TURF (TYP.)
RELOC'D. REST ROOM BUILDING
F.F.E. 38.12
BLOCK 41
GRAPHIC SCALE
0 10 20 40 60 80 100

REVISION NO.	REVISION DATE	DESCRIPTION OF REVISION
3	04-01-21	MISC. REVS.
2	12-3-20	MISC. REVS.
1	09-10-20	REVISE GRADING & IMPROVEMENTS

GRADING, DRAINAGE & STORMWATER -3: SWMA #6 CAMPUS USE AND SITE IMPROVEMENTS

MONMOUTH UNIVERSITY

'D' & 'C' VARIANCES / PRELIMINARY & FINAL SITE PLANS

BLOCK 39, LOTS 1 THRU 5, 7, 8, 9, 11, 12.01 & 12.02 -- TAX MAP SHEET NOS. 15 & 18

ADJACENT STREETS: LARCHWOOD, CEDAR & NORWOOD AVENUES -- LAND USE ZONES: R-22 & I

BOROUGH OF WEST LONG BRANCH — MONMOUTH COUNTY, NEW JERSEY

William E. Fitzgerald

Civil Engineers - Land Use Planners - Construction Managers

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WILLIAM E. FITZGERALD, PE, PP - N.J. LIC. NOS. 27369, 2888

DATE: 12-03-19	SCALE: 1"=20'
DRAWN:	CHKD.: W.E.F.
FILE: 0333	
DWG.: PARK19	SHEET: 16

GRADING, DRAINAGE & STORMWATER -4: SWMAs #3, #4 CAMPUS USE AND SITE IMPROVEMENTS

MONMOUTH UNIVERSITY

'D' & 'C' VARIANCES / PRELIMINARY & FINAL SITE PLANS

BLOCK 39, LOTS 1 THRU 5, 7, 8, 9, 11, 12.01 & 12.02 -- TAX MAP SHEET NOS. 15 & 18

ADJACENT STREETS: LARCHWOOD, CEDAR & NORWOOD AVENUES -- LAND USE ZONES: R-22 & I

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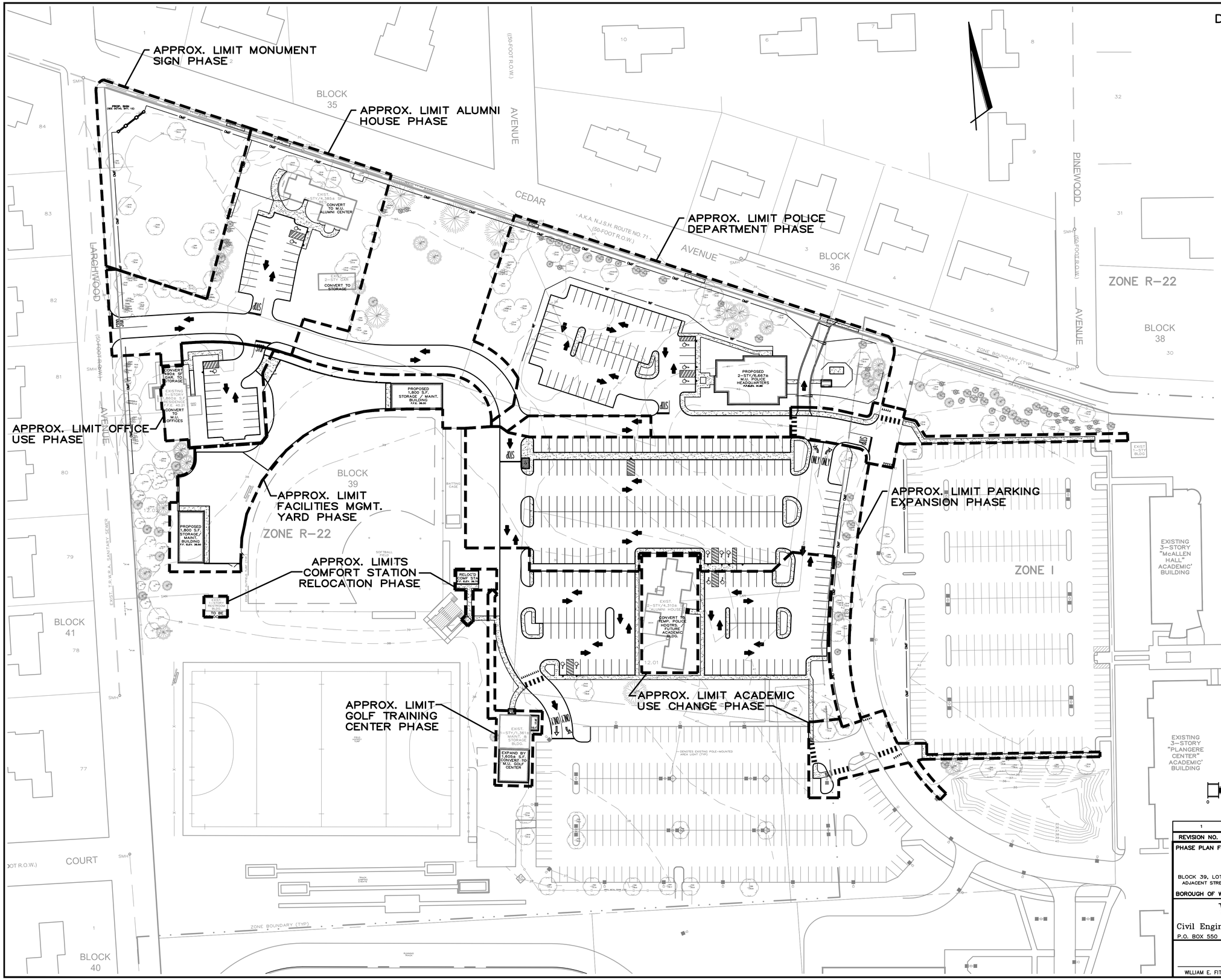
DATE: 12-03-19	SCALE: 1"=20'
DRAWN:	CHKD.: W.E.F.
FILE: 0333	
DWG.: PARK19	SHEET: 17

REVISION NO.	REVISION DATE	DESCRIPTION OF REVISION
3	04-01-21	MISC. REVS.
2	12-3-20	MISC. REVS.
1	09-10-20	REVISE GRADING AND IMPROVEMENTS



DESCRIPTION OF PHASING

INITIAL CLEARING & IMPROVEMENT CONSTRUCTION

- DEMOLITION AND SITE CLEARING
- ELIMINATION OF THREE (3) CEDAR AVENUE DRIVWAYS
- EXTENSION OF SEWER, WATER AND UTILITIES INTO PROJECT AREA
- RELOCATION OF EXISTING ONSITE COMFORT STATION
- SUPPLEMENTAL PLANTINGS ALONG CEDAR AND LARCHWOOD AVENUES
- EXTENSION OF CEDAR AVENUE ORNAMENTAL CAMPUS FENCING

DEPENDENCIES: STAND-ALONE PHASE

MONUMENT SIGN (LOT 1, BLOCK 39)

- DEMOLITION OF EXISTING RESIDENCE AND YARD IMPROVEMENTS
- REMOVAL OF CEDAR AVENUE DRIVEWAY
- INSTALLATION OF MONUMENT-SYTLE UNIVERSITY IDENTIFICATION SIGN
- INSTALLATION OF PERIMETER LANDSCAPING ALONG CEDAR AND LARCHWOOD AVENUES
- EXTENSION OF CAMPUS PERIMETER ORNAMENTAL FENCING

DEPENDENCIES: STAND-ALONE PHASE

ALUMNI CENTER RELOCATION (LOT 2, BLOCK 39)

- REMOVAL OF CEDAR AVENUE DRIVEWAY
- MINOR PRINCIPAL BUILDING INTERIOR MODIFICATIONS
- CONVERT ACCESSORY STRUCTURE TO STORAGE SPACE
- INSTALL ALL SITE IMPROVEMENTS
- INSTALL ACCESS DRIVEWAY FROM LARCHWOOD AVENUE

DEPENDENCIES: STAND-ALONE PHASE

POLICE HEADQUARTERS

- REMOVAL OF CEDAR AVENUE DRIVEWAY
- ACCESS DRIVEWAY CONNECTION TO EXISTING CAMPUS DRIVEWAY
- DEDICATED SITE IMPROVEMENTS INCLUDING PARKING, UTILITIES, STORMWATER

DEPENDENCIES: STAND-ALONE PHASE AS SHOWN; DRAINAGE AND ACCESS DRIVEWAY CONNECTION TO ALUMIN CENTER DRIVEWAY CAN BE COMPLETED WITH, OR AFTER ONSITE PARKING EXPANSION PHASE STORMEATER MANAGEMENT BASIN

RESIDENCE-TO-OFFICE CONVERSION

- ACCESS DRIVEWAY CONNECTION TO NEW ALUMNI CENTER ACCESS DRIVEWAY
- DEDICATED SITE IMPROVEMENTS INCLUDING PARKING, UTILITIES, STORMWATER

DEPENDENCIES: MUST BE COMPLETED SIMULTANEOUS WITH, OR AFTER, ALUMNI CENTER RELOCATION PHASE

FACILITIES MANAGEMENT YARD AREA

- DEDICATED SITE IMPROVEMENTS INCLUDING YARD AREA SURFACING, UTILITIES, STORMWATER

DEPENDENCIES: STAND-ALONE PHASE

ONSITE PARKING EXPANSION

- DEDICATED SITE IMPROVEMENTS INCLUDING UTILITIES, STORMWATER, CURBS, LIGHTING, PAVING

DEPENDENCIES: STAND-ALONE PHASE WITH CONNECTION TO EXISTING CAMPUS DRIVEWAY

ACADEMIC USE CHANGE

- UTILIZATION OF EXISTING ALUMNI CENTER BUILDING
- DEDICATED SITE IMPROVEMENTS INCLUDING UTILITIES, PEDESTRIAN WALKS, TRAFFIC CONTROL

DEPENDENCIES: STAND-ALONE PHASE

INDOOR GOLF TRAINING CENTER

- RENOVATION/EXPANSION OF EXISTING FACILITIES MGMT. BUILDING
- UTILIZATION OF EXISTING SITE IMPROVEMENTS

DEPENDENCIES: STAND-ALONE PHASE

REVISION NO.	REVISION DATE	DESCRIPTION OF REVISION
1	04-01-21	MISC. REVS

PHASE PLAN FOR DEVELOPMENT — CAMPUS USE AND SITE IMPROVEMENTS

MONMOUTH UNIVERSITY

D-VARIANCE PLAN – PRELIMINARY & FINAL SITE PLAN

BLOCK 39, LOTS 1 THRU 5, 7, 8, 9, 11, 12.01 & 12.02 – – TAX MAP SHEET NOS. 15 & 18

ADJACENT STREETS: LARCHWOOD, CEDAR & NORWOOD AVENUES – – LAND USE ZONES: R-22 & I

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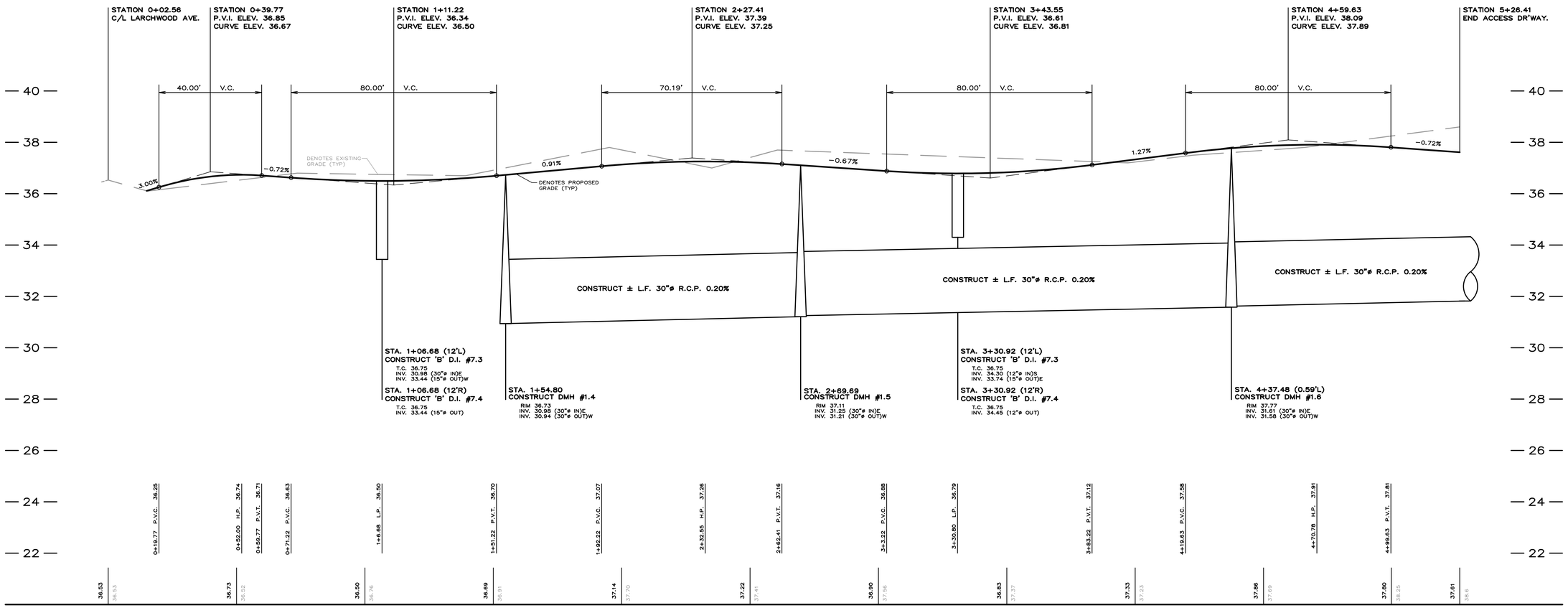
WILLIAM E. FITZGERALD, PE, PP – N.J. LIC. NOS. 27369, 2888

DATE: 12-03-20	SCALE: 1"=50'
DRAWN:	CHKD.: W.E.F.
FILE: 0333	
DWG.: PARK19	SHEET: 18



CENTERLINE PROFILE – PROPOSED ACCESS DRIVEWAY

HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 2'

REVISION NO.	REVISION DATE	DESCRIPTION OF REVISION
2	04-01-21	MISC. REVS.
1	11-23-20	REV PROP. C/L PROFILE AND DRAINS

PROPOSED ACCESS DRIVEWAY PROFILE — CAMPUS USE AND SITE IMPROVEMENTS

MONMOUTH UNIVERSITY

BIFURCATED VARIANCE APPLICATION

BLOCK 39, LOTS 1 THRU 5, 7, 8, 9, 11, 12.01 & 12.02 – – TAX MAP SHEET NOS. 15 & 18
ADJACENT STREETS: LARCHWOOD, CEDAR & NORWOOD AVENUES – – LAND USE ZONES: R-22 & I

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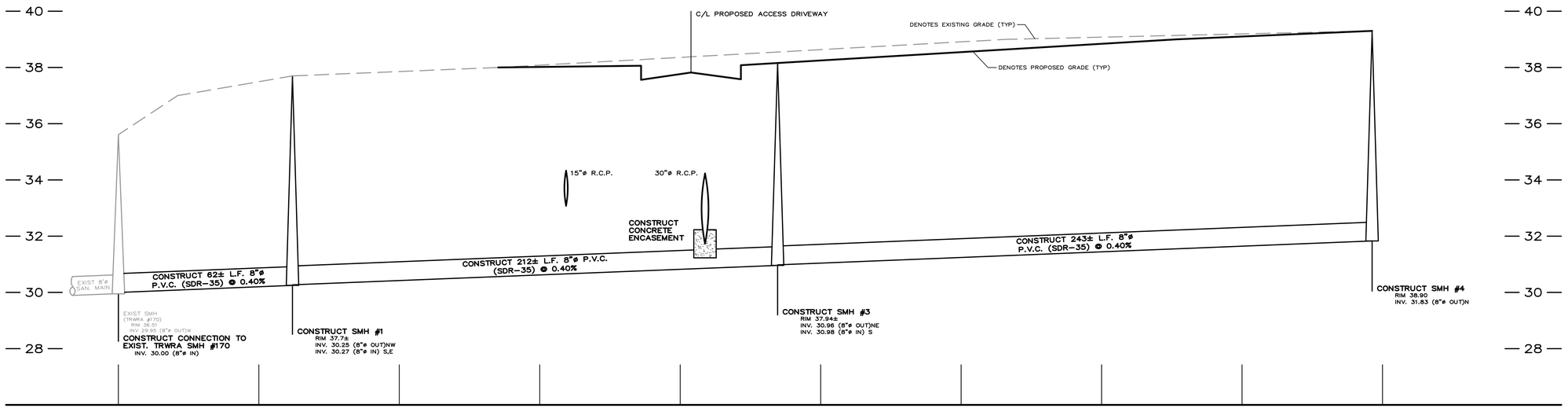
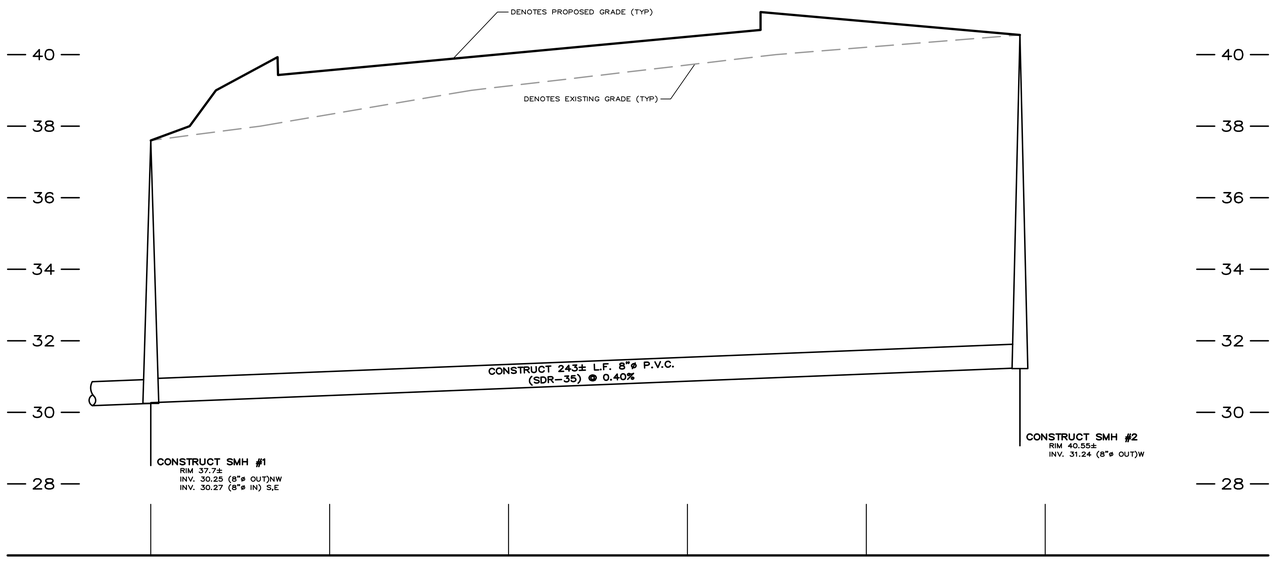
DATE: 12-03-19 | SCALE: 1"=20'
DRAWN: | CHKD.: W.E.F.
FILE: 0333
DWG.: PARK19 | SHEET: 19



CONSTRUCTION PROFILE – PROPOSED SANITARY SEWER
TRWRA SMH #170 – SMH #1 – SMH #3 – SMH #4
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 2'



CONSTRUCTION PROFILE – PROPOSED SANITARY SEWER
SMH #1 – SMH #2
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 2'

REVISION NO.	REVISION DATE	DESCRIPTION OF REVISION
1	04-01-21	MISC. REVS.

PROPOSED SANITARY SEWER PROFILES — CAMPUS USE AND SITE IMPROVEMENTS

MONMOUTH UNIVERSITY

'D' & 'C' VARIANCES / PRELIMINARY & FINAL SITE PLANS

BLOCK 39, LOTS 1 THRU 5, 7, 8, 9, 11, 12.01 & 12.02 – – TAX MAP SHEET NOS. 15 & 18
ADJACENT STREETS: LARCHWOOD, CEDAR & NORWOOD AVENUES – – LAND USE ZONES: R-22 & I

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WILLIAM E. FITZGERALD, PE, PP – N.J. LIC. NOS. 27369, 2888

DATE: 12-03-20	SCALE: SHOWN
DRAWN:	CHKD.: W.E.F.
FILE: 0333	
DWG.: PARK19	SHEET: 20

INSTALL STABILIZED CONSTRUCTION ENTRANCE (TYPICAL)
ENTRANCE PAD TO BE A 30±-FOOT WIDE, 285±-FOOT LONG, 12-INCH THICK PAD OF ASTM SIZE NO. 2 OR 3 CRUSHED STONE

TOPSOIL STOCKPILE AREA

CONSTRUCT STABILIZED SUBGRADE WITHIN 15 DAYS OF PRELIMINARY GRADING (TYP)

NOTE: CONSTRUCTED EMBANKMENTS SHALL BE MAINTAINED IN ROUGH GRADE AND TEMPORARILY STABILIZED UNTIL SUCH TIME AS PERMANENT STABILIZATION CAN BE COMPLETED.

NOTE: PRE-DEVELOPMENT IMPROVIEMENTS DEPICTED HEREON ARE THOSE PROPOSED TO SURVIVE DEMOLITION AND SITE CLEARING OPERATIONS

GRAPHIC SCALE
0 15 30 60 90 120 150

EROSION & SDEDIMENT CONTROL – 1 — CAMPUS USE AND SITE IMPROVEMENTS

MONMOUTH UNIVERSITY

'D' & 'C' VARIANCES / PRELIMINARY & FINAL SITE PLANS

BLOCK 39, LOTS 1 THRU 5, 7, 8, 9, 11, 12.01 & 12.02 – – TAX MAP SHEET NOS. 15 & 18
ADJACENT STREETS: LARCHWOOD, CEDAR & NORWOOD AVENUES – – LAND USE ZONES: R-22 & I

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WILLIAM E. FITZGERALD, PE, PP – N.J. LIC. NOS. 27369, 2888

DATE: 12-03-20	SCALE: 1"=30'
DRAWN:	CHKD.: W.E.F.
FILE: 0333	
DWG.: PARK19	SHEET: 21

NOTE: CONSTRUCTED EMBANKMENTS SHALL BE MAINTAINED IN ROUGH GRADE AND TEMPORARILY STABILIZED UNTIL SUCH TIME AS PERMANENT STABILIZATION CAN BE COMPLETED.

INSTALL STABILIZED CONSTRUCTION ENTRANCE (TYPICAL)

ENTRANCE PAD TO BE A 30±-FOOT WIDE, 85±-FOOT LONG, 12-INCH THICK PAD OF ASTM SIZE NO. 2 OR 3 CRUSHED STONE

INSTALL INLET SEDIMENT FILTER (TYP.)

INSTALL STABILIZED CONSTRUCTION ENTRANCE (TYPICAL)

ENTRANCE PAD TO BE A 30±-FOOT WIDE, 100±-FOOT LONG, 12-INCH THICK PAD OF ASTM SIZE NO. 2 OR 3 CRUSHED STONE

NOTE: IN THAT N.J.S.A. 4:24-39 et seq. REQUIRES THAT NO CERTIFICATE OF OCCUPANCY BE ISSUED BEFORE THE PROVISIONS OF THE CERTIFIED PLAN FOR SOIL EROSION AND SEDIMENT CONTROL HAVE BEEN COMPLIED WITH FOR PERMANENT MEASURES, ALL SITE WORK WILL HAVE TO BE COMPLETED PRIOR TO THE DISTRICT ISSUING A REPORT OF COMPLIANCE FOR THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY BY THE MUNICIPALITY

NOTE: PRE-DEVELOPMENT IMPROVEMENTS DEPICTED HEREON ARE THOSE PROPOSED TO SURVIVE DEMOLITION AND SITE CLEARING OPERATIONS

0 15 30 60 90 120 150

GRAPHIC SCALE

EROSION & SEDIMENT CONTROL - 2 — CAMPUS USE AND SITE IMPROVEMENTS

MONMOUTH UNIVERSITY

'D' & 'C' VARIANCES / PRELIMINARY & FINAL SITE PLANS

BLOCK 39, LOTS 1 THRU 5, 7, 8, 9, 11, 12.01 & 12.02 - - TAX MAP SHEET NOS. 15 & 18

ADJACENT STREETS: LARCHWOOD, CEDAR & NORWOOD AVENUES - - LAND USE ZONES: R-22 & I

BOROUGH OF WEST LONG BRANCH — MONMOUTH COUNTY, NEW JERSEY

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WILLIAM E. FITZGERALD, PE, PP - N.J. LIC. NOS. 27369, 2888

DATE: 12-03-20	SCALE: 1"=30'
DRAWN:	CHKD.: W.E.F.
FILE: 0333	
DWG.: PARK19	SHEET: 23

EROSION AND SEDIMENT CONTROL SPECIFICATIONS

GENERAL REQUIREMENTS

1. THE CONTRACTOR SHALL PERFORM ALL WORK, FURNISH ALL MATERIALS AND INSTALL ALL MEASURES REQUIRED TO REASONABLY CONTROL SOIL EROSION RESULTING FROM CONSTRUCTION OPERATIONS AND MINIMIZE LOSS OF SEDIMENT FROM THE CONSTRUCTION SITE. THE CONTRACTOR SHALL ADHERE TO THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN SHOWING THE METHODS TO BE USED FOR CONTROLLING EROSION DURING CONSTRUCTION WHICH INCLUDES SEQUENCE OF CONSTRUCTION OPERATIONS. WHEN NO WORK WILL BE PERFORMED ON CRITICAL AREAS FOR MORE THAN 60 DAYS, THEY SHALL BE PROTECTED BY TEMPORARY SEEDING, MULCHING, OR SODDING, OR THE SLOPE LENGTHS SHALL BE REDUCED BY THE INSTALLATION OF DIVERSIONS OR OTHER MEANS.

2. THE CONTRACTOR SHALL INSTALL EROSION CONTROLS ON ALL DISTURBED CRITICAL AREAS OR DISTURBANCES ADJACENT TO CRITICAL AREAS.

3. CRITICAL AREAS ARE ANY AREA SUBJECT TO EXCESSIVE EROSION DUE TO HIGHLY ERODIBLE SOILS, SLOPE LENGTH, STEEPNESS, WATER CONCENTRATION OR OTHER FACTORS. AREAS MAY BECOME CRITICAL WHEN THE VEGETATION OR OTHER SOIL SURFACE PROTECTION IS REMOVED.

4. THE PERMANENT VEGETATIVE COVER SUCH AS SEEDING OR SODDING ON ALL AREAS SHALL BE ACCOMPLISHED WITHIN 10 DAYS AFTER FINAL GRADING OPERATIONS HAVE BEEN COMPLETED. TIME EXTENSIONS BEYOND THE 10 DAY REQUIREMENT MAY BE REQUESTED IN WRITING AND ARE SUBJECT TO WRITTEN APPROVAL.

5. EXPOSED SOIL HAVING A PH VALUE OF LESS THAN 4 SHALL BE TREATED IN ACCORDANCE WITH THE STANDARD FOR MANAGEMENT OF HIGHLY ACID SOIL.

6. EXCAVATED SOIL MATERIAL SHALL NOT BE PLACED ADJACENT TO RIVERS, STREAMS, OR BODIES OF WATER IN A MANNER THAT WILL CAUSE IT TO BE WASHED AWAY BY HIGH WATER OR RUNOFF. EXCESS BORROW MATERIAL REMOVED FROM THE CONSTRUCTION SITE SHALL BE STABILIZED AT THE SITE OF PLACEMENT.

7. THE CONTRACTOR SHALL COMPLY WITH THE APPLICABLE STATE AND LOCAL REGULATIONS FOR PREVENTION AND ABATEMENT OF POLLUTION.

SITE PREPARATION

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.

IMMEDIATELY PRIOR TO SEEDING AND TOPSOIL APPLICATION, THE SURFACE SHOULD BE SCARIFIED 6" TO 12" WHERE THERE HAS BEEN SOIL COMPACTION. THIS PRACTICE IS PERMISSIBLE ONLY WHERE THERE IS NO DANGER TO UNDERGROUND UTILITIES (CABLES, IRRIGATION SYSTEMS, ECT.).

INSTALL NEEDED EROSION CONTROL PRACTICES OR FACILITIES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS. SEE STANDARDS 11 THROUGH 42.

SEEDBED PREPARATION

APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TESTS SUCH AS THOSE OFFERED BY RUTGERS COOPERATIVE EXTENSION. SOIL SAMPLE MAILERS ARE AVAILABLE FROM THE LOCAL RUTGERS COOPERATIVE EXTENSION OFFICES.

FERTILIZER SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE OR 11 POUNDS PER 1,000 SQUARE FEET USING 10-20-10 OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN UNLESS A SOIL TEST INDICATES OTHERWISE.

APPLY LIMESTONE AT THE RATE OF 2 TONS / ACRE UNLESS SOIL TESTING INDICATES OTHERWISE. CALCIUM CARBONATE IS THE EQUIVALENT AND STANDARD FOR MEASURING THE ABILITY OF LIMING MATERIALS TO NEUTRALIZE SOIL ACIDITY AND SUPPLY CALCIUM AND MAGNESIUM TO GRASSES AND LEGUMES. THE FOLLOWING TABLE IS A GENERAL GUIDELINE FOR LIMESTONE PREPARATION:

SOIL TEXTURE	TONS/ACRE	LBS./1,000 S.F.
CLAY, CLAY LOAM AND HIGH ORGANIC SOIL	4	180
SANDY LOAM, LOAM AND SILT LOAM	3	135
LOAMY SAND AND SAND	2	90

(NOTE: PULVERIZED DOLOMITIC LIMESTONE IS PREFERRED FOR MOST SOILS SOUTH OF THE NEW BRUNSWICK – TRENTON LINE)

WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES USING A DISC, SPRINGTOOTH HARROW OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR DISCING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLY UNIFORM, FINE SEEDBED IS PREPARED.

INSPECT SEEDBED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE RETILLED IN ACCORDANCE WITH THE ABOVE.

SOILS HAVING A PH OF 4 OR LESS, OR CONTAINING IRON SULFIDE SHALL BE COVERED WITH A MINIMUM OF 12 INCHES OF SOIL HAVING A PH OF 5 OR MORE BEFORE INITIATING SEEDBED PREPARATION (NOTE: ALL SUCH SOILS SHALL BE TREATED IN ACCORDANCE WITH THE STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOILS).

SEEDING

SELECT A SEED MIXTURE AS RECOMMENDED BY RUTGERS COOPERATIVE EXTENSION OR THE NATURAL RESOURCES CONSERVATION SERVICE OR A COMMERCIALLY AVAILABLE MIXTURE WHICH IS APPROVED BY THE SOIL CONSERVATION DISTRICT. SEED GERMINATION SHALL HAVE BEEN TESTED WITHIN 12 MONTHS OF THE PLANTING DATE. NO SEED SHALL BE ACCEPTED WITH A GERMINATION TEST DATE MORE THAN 12 MONTHS OLD UNLESS RETESTED.

– – 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 MEAN 80% VEGETATIVE COVERAGE WITH THE SPECIFIED SEED MIXTURE FOR THE SEEDED AREA AND MOWED ONCE.

– – WARM SEASON MIXTURES ARE GRASSES AND LEGUMES WHICH MAXIMIZE GROWTH AT HIGH TEMPERATURES, GENERALLY 85 F AND ABOVE. PLANTING RATES FOR WARM SEASON GRASSES SHALL BE THE AMOUNT OF PURE LIVE SEED (PLS) AS DETERMINED BY GERMINATION TESTING RESULTS.

– – COOL SEASON MIXTURES ARE GRASSES AND LEGUMES WHICH MAXIMIZE GROWTH AT TEMPERATURES BELOW 85 F. MANY GRASSES BECOME ACTIVE AT 65 F. ADJUSTMENT OF PLANTING RATES TO COMPENSATE FOR THE AMOUNT OF PURE LIVE SEED IS NOT REQUIRED FOR COOL SEASON GRASSES.

CONVENTIONAL SEEDING IS PERFORMED BY APPLYING SEED UNIFORMLY BY HAND, CYCLONE (CENTRIFUGAL) SEEDER, DROP SEEDER, DRILL OR CULTIPACKER SEEDER. EXCEPT FOR DRILLED, HYDROSEEDED OR CULTIPACKED SEEDING, SEED SHALL BE INCORPORATED INTO THE SOIL WITHIN 24 HOURS OF SEEDBED PREPERATION TO A DEPTH OF 1/4 TO 1/2 INCH, BY RAKING OR DRAGGING. DEPTH OF SEED PLACEMENT MAY BE 1/4 INCH DEEPER ON COARSE TEXTURED SOIL.

HYDROSEEDING IS A BROADCAST SEEDING METHOD USUALLY INVOLVING A TRUCK OR TRAILER MOUNTED TANK, WITH AN AGITATION SYSTEM AND HYDRAULIC PUMP FRO MIXING SEED, WATER AND FERTILIZER AND SPRAYING 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 IV MULCHING BELOW) HYDROSEEDING IS NOT A PREFERRED SEEDING METHOD BECAUSE SEED AND FERTILIZER ARE APPLIED TO THE SURFACE AND NOT INCORPORATED INTO THE SOIL. POOR SEED TO SOIL CONTACT OCCURS REDUCING SEED GERMINATION AND GROWTH. HYDROSEEDING MAY BE USED FOR AREAS TOO STEEP FOR CONVENTIONAL EQUIPMENT TO TRAVERSE OR TOO OBSTRUCTED WITH ROCKS, STUMPS, ETC.

AFTER SEEDING, FIRMING 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 MAXIMIZED.

SEEDING FOR TEMPORARY VEGETATIVE COVER

TEMPORARY VEGETATIVE COVER SHALL BE ESTABLISHED ON ALL EXPOSED SOILS WHICH HAVE THE POTENTIAL FOR CAUSING OFF-SITE ENVIRONMENTAL DAMAGE AND WHICH SHALL BE EXPOSED FOR PERIODS OF FROM TWO (2) TO SIX (6) MONTHS AND WHICH ARE NOT BEING GRADED, ARE NOT UNDER ACTIVE CONSTRUCTION OR ARE NOT SCHEDULED FOR PERMANENT VEGETATIVE COVER WITHIN SIXTY (60) DAYS.

TEMPORARY VEGETATIVE STABILIZATION

SEED SELECTIONS	SEEDING RATE (POUNDS)		OPTIMUM SEEDING DATES (BASED ON PLANT HARDINESS ZONES)			OPTIMUM SEED DEPTH (INCHES)
	PER ACRE	PER 1,000 S.F	ZONE 5B, 6S	ZONE 6B	ZONE 7A, B	
COOL SEASON GRASSES						
PERENNIAL RYEGRASS	100	1.0	3/15 – 6/1 8/1 – 9/15	3/1 – 5/15 8/15 – 10/1	2/15 – 5/1 8/15 – 10/15	0.5
SPRING OATS	86	2.0	3/15 – 6/1 8/1 – 9/15	3/1 – 5/15 8/15 – 10/1	2/15 – 5/1 8/15 – 10/15	1.0
WINTER BARLEY	96	2.2	8/1 – 9/15	8/15 – 10/1	8/15 / 10/15	1.0
WINTER CEREAL RYE	112	2.8	8/1 – 11/1	8/1 – 12/15	8/1 – 12/15	1.0
WARM SEASON GRASSES						
PEARL MILLET	20	0.5	6/1 – 8/1	5/15 – 8/15	5/1 – 9/1	1.0
MILLET (GERMAN OR HUNGARIAN)	30	0.7	6/1 – 8/1	5/15 – 8/15	5/1 – 9/1	1.0
WEEPING LOVEGRASS	5	0.2	6/1 – 8/1	5/15 – 8/15	5/1 – 9/1	0.25

SEEDING FOR PERMANENT VEGETATIVE COVER

ALL LAWN AREAS SHALL BE PLANTED WITH A TURF-TYPE TALL FESCUE MIX CONFORMING WITH SPECIFICATIONS OF SEED MIXTURE #14 WITHIN TABLE 4-3 OF THE "STANDARDS FOR EROSION AND SEDIMENT CONTROL IN NEW JERSEY" SUCH AS THE FOLLOWING:

DESCRIPTION	% OF MIX
'COYOTE' TALL FESCUE	30.0%
'RESERVE' TALL FESCUE	30.0%
'WYATT' TALL FESCUE	30.0%
'VICTA' KENTUCKY BLUEGRASS	10.0%

– SEED SHALL BE SOWN AT THE RATE OF 240 LBS PER ACRE.

– ALL SEEDED AREAS SHALL BE MULCHED WITH CELLULOSE-FIBER HYDRAULIC MULCH AT THE RATE OF 60 TO 75 LBS/1,000 SF

PERMANENT VEGETATIVE STABILIZATION WITH SOD

MATERIALS

CULTIVATED SOD IS PREFERRED OVER NATIVE OR PASTURE SOD. SPECIFY "CERTIFIED SOD," OR OTHER HIGH QUALITY CULTIVATED SOD.

SOD SHOULD BE FREE OF WEEDS AND UNDESIRABLE COARSE WEEDY GRASSES.

SOD SHOULD BE OF UNIFORM THICKNESS, APPROXIMATELY 5/8 INCH, PLUS OR MINUS ? INCH, AT TIME OF CUTTING (EXCLUDES TOP GROWTH.).

SOD SHOULD BE VIGOROUS AND DENSE AND BE ABLE TO RETAIN IT'S OWN SHAPE AND WEIGHT WHEN SUSPENDED VERTICALLY WITH A FIRM GRASP FROM THE UPPER 10 PERCENT OF THE STRIP. BROKEN PADS OR TORN AND UNEVEN ENDS WILL NOT BE ACCEPTABLE.

FOR DROUGHTY SITES, A SOD OF TURF-TYPE ALL FESCUE AND BLUEGRASS IS PREFERRED OVER STRAIGHT BLUEGRASS SOD.

INSTALLATION

ONLY MOIST, FRESH, UNHEATED SOD SHOULD BE USED. SOD SHOULD BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS OR LESS DURING SUMMER MONTHS.

SOD STRIPS SHOULD BE LAID ON THE CONTOUR, NEVER UP AND DOWN THE SLOPE, STARRING AT THE BOTTOM OF THE SLOPE AND WORKING UP. ON STEEP SLOPES, THE USE OF LADDERS WILL FACILITATE THE WORK AND PREVENT DAMAGE TO THE SOD. DURING PERIODS OF HIGH TEMPERATURE, LIGHTLY IRRIGATE THE SOIL IMMEDIATELY PRIOR TO LAYING THE SOD.

PLACE SOD STRIPS WITH SNUG, EVEN JOINTS THAT ARE STAGGERED. OPEN SPACES INVITE EROSION.

ROLL OR TAMP SOD IMMEDIATELY FOLLOWING PLACEMENT TO INSURE SOLID CONTACT OF ROOT MAT AND SOIL SURFACE. DO NOT OVERLAP SOD. ALL JOINTS SHOULD BE BUTTED LIGHTLY IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE DRYING OF THE ROOTS.

ON SLOPES GREATER THAN 3 TO 1, SECURE SOD TO SURFACE SOIL WITH WOOD PEGS, WIRE STAPLES BIODEGRADABLE PLASTIC SPIKES, OR SPLIT SHINGLES (8 TO 10 INCHES LONG BY INCH WIDE).

SURFACE WATER CANNOT ALWAYS BE DIVERTED FROM FLOWING OVER THE FACE OF THE SLOPE, BUT A CAPPING STRIP OF HEAVY JUTE OR PLASTIC NETTING, PROPERLY SECURED, ALONG THE CROWN OF THE SLOPE AND EDGES WILL PROVIDE EXTRA PROTECTION AGAINST LIFTING AND UNDERCUTTING OF SOD. THE SAME TECHNIQUE CAN BE USED TO ANCHOR SOD IN WATER-CARRYING CHANNELS AND OTHER CRITICAL AREAS. WIRE STAPLES MUST BE USED TO ANCHOR NETTING IN CHANNEL WORK.

IMMEDIATELY FOLLOWING INSTALLATION, SOD SHOULD BE WATERED UNTIL MOISTURE PENETRATES THE SOIL LAYER BENEATH SOD TO A DEPTH OF 1 INCH. MAINTAIN OPTIMUM MOISTURE FOR AT LEAST TWO WEEKS.

TOPDRESSING

SINCE SLOW RELEASE NITROGEN FERTILIZER (WATER INSOLUBLE) IS PRESCRIBED UNDER " SEEDBED PREPARATION," A FOLLOW-UP TOPDRESSING IS NOT MANDATORY, EXCEPT WHERE GROSS NITROGEN DEFICIENCY EXISTS TO THE EXTENT THAT TURF FAILURE MAY DEVELOP. TOPDRESSING SHALL THEN BE APPLIED USING 10-10-10 OR EQUIVALENT AT 400 POUNDS PER ACRE OR 10 POUNDS PER 1,000 SQUARE FEET.

MULCHING

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

STRAW OR HAY.

MATERIALS. UNROTTED SMALL GRAIN STRAW, HAY FREE OF SEEDS, OR SALT HAY 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 WHERE A CRIMPER IS USED INSTEAD OF A LIQUID MULCH-BINDER (TACKIFYING OR ADHESIVE AGENT), THE RATE OF APPLICATION IS 3 TONS PER ACRE. MULCH CHOPPER-BLOWERS MUST NOT GRIND THE MULCH. HAY MULCH IS NOT RECOMMENDED FOR ESTABLISHING FIRE TURF OR LAWNS DUE TO THE PRESENCE OF WED SEED.

APPLICATION. SPREAD MULCH UNIFORMLY BY HAND OR MECHANICALLY SO THAT THE APPROXIMATELY 85% OF THE SOIL SURFACE WILL BE COVERED. FOR UNIFORM DISTRIBUTION OF HAND-SPREAD MULCH, DIVIDE AREA INTO APPROXIMATELY 1,000 SQUARE FEET SECTIONS AND DISTRIBUTE 70 TO 90 POUNDS WITHIN 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.

PEG AND TWINE. DRIVE 8- TO 10-INCH LONG WOODEN PEGS TO WITHIN 2 TO 3 INCHES OF 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 CRIS-CROSS AND A SQUARE PATTERN. SECURE TWINE AROUND EACH PEG WITH TWO OR MORE ROUND TURNS,

MULCH NETTINGS STAPLE PAPER, JUTE, COTTON, OR PLASTIC NETTINGS TO THE SOIL SURFACE. USE A DEGRADABLE NETTING IN AREAS TO BE MOWED.

CRIMPER (MULCH ANCHORING COULTER TOOL) A TRACTOR-DRAWN IMPLEMENT, SOMEWHAT LIKE A DISC HARROW, ESPECIALLY DESIGNED TO PUSH OR CUT SOME OF THE BROADCAST LONG FIBER MULCH 3 TO 4 INCHES IN TO THE SOIL SO AS TO ANCHOR IT AND LEAVE PART STANDING UPRIGHT. THIS TECHNIQUE IS LIMITED TO AREAS TRAVERSABLE 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.

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 CREST OF BANKS. THE REMAINDER OF THE AREA SHOULD BE UNIFORM IN APPEARANCE. USE ON OF THE FOLLOWING:

EMULSIFIED ASPHALT (SS-1, CSS-1, CMS-2, MS-2, RS-1, RS-2, CRS-1, AND CRS-2). APPLY 0.04 GAL./SQ./YD. OR 194 GAL./ACRE ON FLAT AREA AND ON SLOPES LESS THAN 8 FEET OR MORE HIGH, USE 0.075 GAL./SQ. YD. OR 363 GAL./ACRE. THESE MATERIALS MAY BE DIFFICULT TO APPLY UNIFORMLY AND WILL DISCOLOR SURFACES.

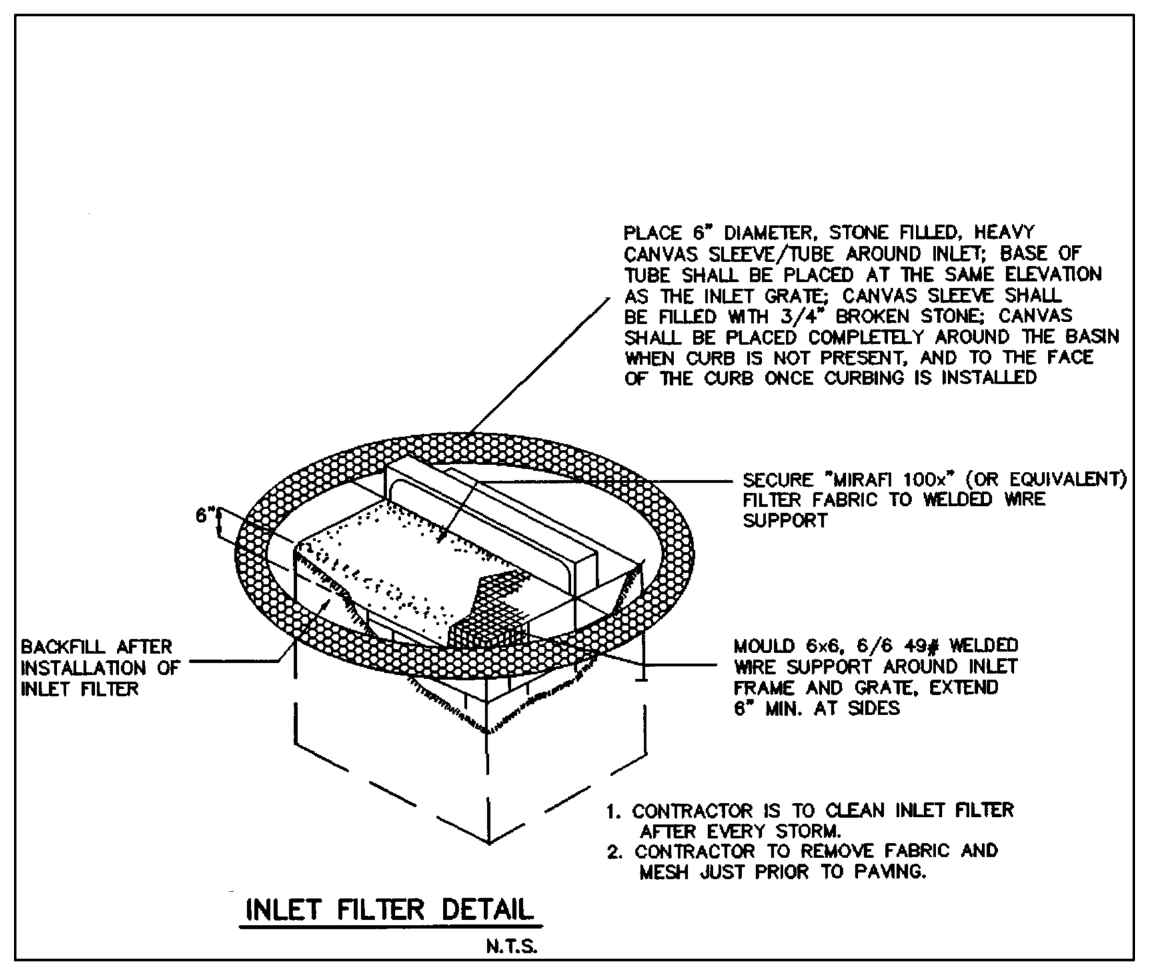
ORGANIC AND VEGETABLE BASE BINDERS NATURALLY OCCURRING, POWDER BASED, HYDROPHILIC MATERIALS WHEN MIXED WITH WATER FORMULATES A GEL AND WHEN APPLIED TO MULCH UNDER SATISFACTORY CURING CONDITIONS WILL FORM MEMBRANED NETWORKS OF INSOLUBLE POLYMERS. THE VEGETABLE GEL SHALL BE PHYSIOLOGICALLY HARMLESS AND NOT RESULT IN PHYTOTOXIC EFFECT OR IMPEDE GROWTH OF TURFGRASS. USE AT RATES AND WEATHER CONDITIONS AS RECOMMENDED BY THE MANUFACTURER TO ANCHOR MULCH MATERIALS. MANY NEW PRODUCTS ARE AVAILABLE, SOME OF WHICH MAY BE NEEDED FURTHER EVALUATION FOR USE IN THIS STATE.

SYNTHETIC BINDERS HIGH POLYMER SYNTHETIC EMULSION MISCIBLE WITH WATER WHEN DILUTED AND FOLLOWING APPLICATION TO MULCH, DRYING AND CURING SHALL NO LONGER BE SOLUBLE OR DISPERSIBLE IN WATER. IT SHALL BE APPLIED AT RATES RECOMMENDED BY THE MANUFACTURER AND REMAIN TACKY UNTIL GERMINATION OF GRASS.

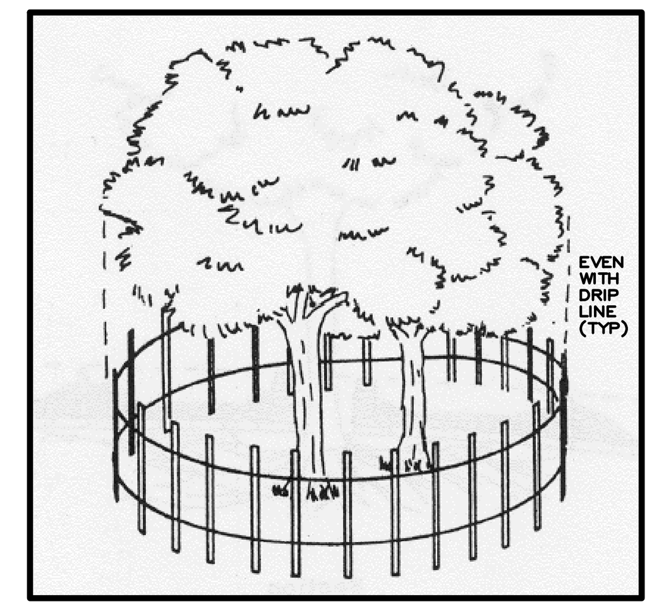
NOTE: ALL NAMES GIVEN ABOVE ARE REGISTERED TRADE NAMES. THIS DOES NOT CONSTITUTE A RECOMMENDATION OF THESE PRODUCTS TO THE EXCLUSION OF OTHER PRODUCTS.

WOOD-FIBER OR PAPER-FIBER MULCH SHALL BE MADE FROM WOOD, PLANT FIBERS OR PAPER CONTAINING NO GROWTH OR GERMINATION INHIBITING MATERIAL, USED AT THE RATE OF 1,500 POUNDS PER ACRE (OR AS RECOMMENDED BY THE PRODUCT MANUFACTURER) AND MAY BE APPLIED BY A HYDROSEEDER. THIS MULCH SHALL NOT BE MIXED IN THE TANK WITH SEED. USE IS LIMITED TO FLATTER SLOPES AND DURING OPTIMUM SEEDING PERIODS IN SPRING AND FALL.

PELLETIZED MULCH COMPRESSED AND EXTRUDED PAPER AND/OR WOOD FIBER PRODUCT, WHICH MAY CONTAIN CO-POLYMERS, TACKIFIERS, FERTILIZERS AND COLORING AGENTS. THE DRY PELLETS, WHEN APPLIED TO A SEEDED AREA AND WATERED, FORM A MULCH MAT. PELLETIZED MULCH SHALL BE APPLIED BY HAND OR MECHANICAL SPREADER AT THE RATE OF 60-75 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, SEEDED AREAS WHERE WEED-SEED FREE MULCH IS DESIRED OR ON SITES WHERE STRAW MULCH AND TACKIFIER AGENT ARE NOT PRACTICAL OR DESIRABLE.



INLET FILTER DETAIL
N.T.S.



NOTE: TREE PROTECTION FENING SHALL BE SNOW FENCE CONFORMING TO MATERIAL AND INSTALLATION STANDARDS OF SUBSECTION 907.04 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 1989, OF THE N.J.D.O.T.

DETAIL: TREE PROTECTION FENCING

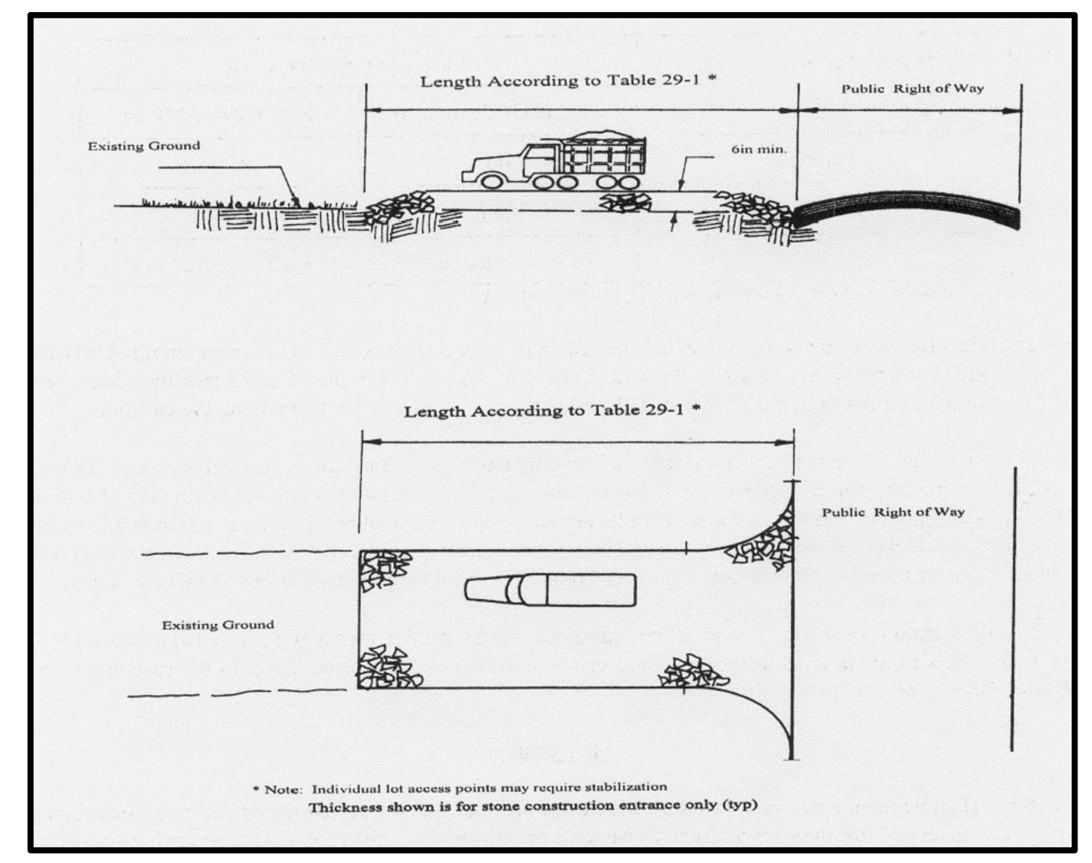


Table 29-1: Lengths of Construction Exits on Sloping Roadbeds

Percent Slope of Roadway	Length of Stone Required	
	Coarse Grained Soils	Fine Grained Soils
0 to 2%	50 ft	100 ft
2 to 5%	100 ft	200 ft
>5%	Entire surface stabilized with FABC base course[1]	

1. As prescribed by local ordinance or other governing authority.

DETAIL: STABILIZED CONSTRUCTION ACCESS

SOIL EROSION AND SEDIMENT CONTROL NOTES

1. THE FREEHOLD SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED SEVENTY-TWO (72) HOURS IN ADVANCE OF ANY LAND DISTURBING ACTIVITY.

2. ALL WORK IS TO BE DONE IN ACCORDANCE WITH THE STATE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL OF NEW JERSEY.

3. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES ARE TO BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCE, OR IN THEIR PROPER SEQUENCE, AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.

4. ANY CHANGES TO THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLANS WILL REQUIRE THE SUBMISSION OF REVISED SOIL EROSION AND SEDIMENT CONTROL PLANS TO THE DISTRICT FOR RECERTIFICATION. THE REVISED PLANS MUST MEET ALL CURRENT STATE SOIL EROSION AND SEDIMENT CONTROL STANDARDS.

5. IN THAT N.J.S.A. 4:24-39 ET. SEQ. REQUIRES THAT NO CERTIFICATE OF OCCUPANCY BE ISSUED BEFORE THE PROVISIONS OF THE CERTIFIED PLAN FOR EROSION CONTROL HAVE BEEN COMPLIED WITH FOR PERMANENT MEASURES. ALL SITE WORK AND ALL WORKAROUND INDIVIDUAL LOTS IN SUBDIVISIONS, WILL HAVE TO BE COMPLETED PRIOR TO THE DISTRICT ISSUING A REPORT OF COMPLIANCE FOR THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY BY THE MUNICIPALITY.

6. ANY DISTURBED AREAS THAT WILL BE LEFT EXPOSED MORE THAN THIRTY (30) DAYS, AND NOT SUBJECT TO CONSTRUCTION TRAFFIC, WILL-IMMEDIATELY RECEIVE A TEMPORARY SEEDING. IF THE SEASON PREVENTS THE ESTABLISHMENT OF TEMPORARY COVER, THE DISTURBED AREAS WILL BE MULCHED WITH STRAW,OR EQUIVALENT MATERIAL, AT A RATE OF 2.0 – 2.5 TONS PER ACRE, ACCORDING TO THE STANDARD FOR STABILIZATION WITH MULCH ONLY.

7. IMMEDIATELY FOLLOWING INITIAL DISTURBANCE OR ROUGH GRADING, ALL CRITICAL AREAS SUBJECT TO EROSION (I.E. STEEP SLOPES AND ROADWAY EMBANKMENTS) WILL RECEIVE TEMPORARY SEEDING IN COMBINATION WITH STRAW MULCH OR A SUITABLE EQUIVALENT, AT A RATE OF 1.5 ? 2.0 TONS PER ACRE, ACCORDING TO STATE STANDARDS.

8. A SUB-BASE COURSE WILL BE APPLIED IMMEDIATELY FOLLOWING ROUGH GRADING AND INSTALLATION OF IMPROVEMENTS TO STABILIZE STREETS, ROADS, DRIVEWAYS, AND PARKING AREAS. IN AREAS WHERE NO UTILITIES ARE PRESENT, THE SUB-BASE SHALL BE INSTALLED WITHIN FIFTEEN (15) DAYS OF PRELIMINARY GRADING.

9. ANY STEEP SLOPES RECEIVING PIPELINE INSTALLATION WILL BE BACKFILLED AND STABILIZED DAILY, AS THE INSTALLATION CONTINUES (I.E. SLOPES GREATER THAN 3H:1V).

10. THE STANDARD FOR STABILIZED CONSTRUCTION ACCESS REQUIRES THE INSTALLATION OF A PAD OF CLEAN CRUSHED STONE AT POINTS WHERE TRAFFIC WILL BE ACCESSING THE CONSTRUCTION SITE. AFTER INTERIOR ROADWAYS ARE PAVED, INDIVIDUAL LOTS REQUIRE A STABILIZED CONSTRUCTION ENTRANCE CONSISTING OF 1" – 2" STONE FOR A MINIMUM LENGTH OF 10' EQUAL TO THE LOT ENTRANCE WIDTH. ALL OTHER ACCESS POINTS SHALL BE BLOCKED OFF.

11. ALL SOIL WASHED, DROPPED, SPILLED, OR TRACKED OUTSIDE THE LIMIT OF DISTURBANCE OR ONTO PUBLIC RIGHTS-OF-WAY WILL BE REMOVED IMMEDIATELY.

12. PERMANENT VEGETATION IS TO BE SEEDED OR SODDED ON ALL EXPOSED AREAS WITHIN TEN (10) DAYS AFTER FINAL GRADING.

13. AT THE TIME THE SITE PREPARATION FOR PERMANENT VEGETATIVE STABILIZATION IS GOING TO BE ACCOMPLISHED, ANY SOIL THAT WILL NOT PROVIDE A SUITABLE ENVIRONMENT TO SUPPORT ADEQUATE VEGETATIVE GROUND COVER SHALL BE REMOVED OR TREATED IN SUCH A WAY THAT IT WILL PERMANENTLY ADJUST THE SOIL CONDITIONS AND RENDER IT SUITABLE FOR VEGETATIVE GROUND COVER.

IF THE REMOVAL OR TREATMENT OF THE SOIL WILL NOT PROVIDE SUITABLE CONDITIONS, NON-VEGETATIVE MEANS OF PERMANENT GROUND STABILIZATION WILL HAVE TO BE EMPLOYED.

14. IN ACCORDANCE WITH THE STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOILS, ANY SOIL HAVING A pH OF 4 OR LESS OR CONTAINING IRON SULFIDES SHALL BE COVERED WITH A MINIMUM OF TWELVE(12) INCHES OF SOIL HAVING A pH OF 5 OR MORE PRIOR TO SEEDBED PREPARATION. AREAS WHERE TREES OR SHRUBS ARE TO BE PLANTED SHALL BE COVERED WITH A MINIMUM OF TWENTY-FOUR (24) INCHES OF SOIL HAVING A pH OF 5 OR MORE.

15. CONDUIT OUTLET PROTECTION MUST BE INSTALLED AT ALL REQUIRED OUTFALLS PRIOR TO THE DRAINAGE SYSTEM BECOMING OPERATIONAL.

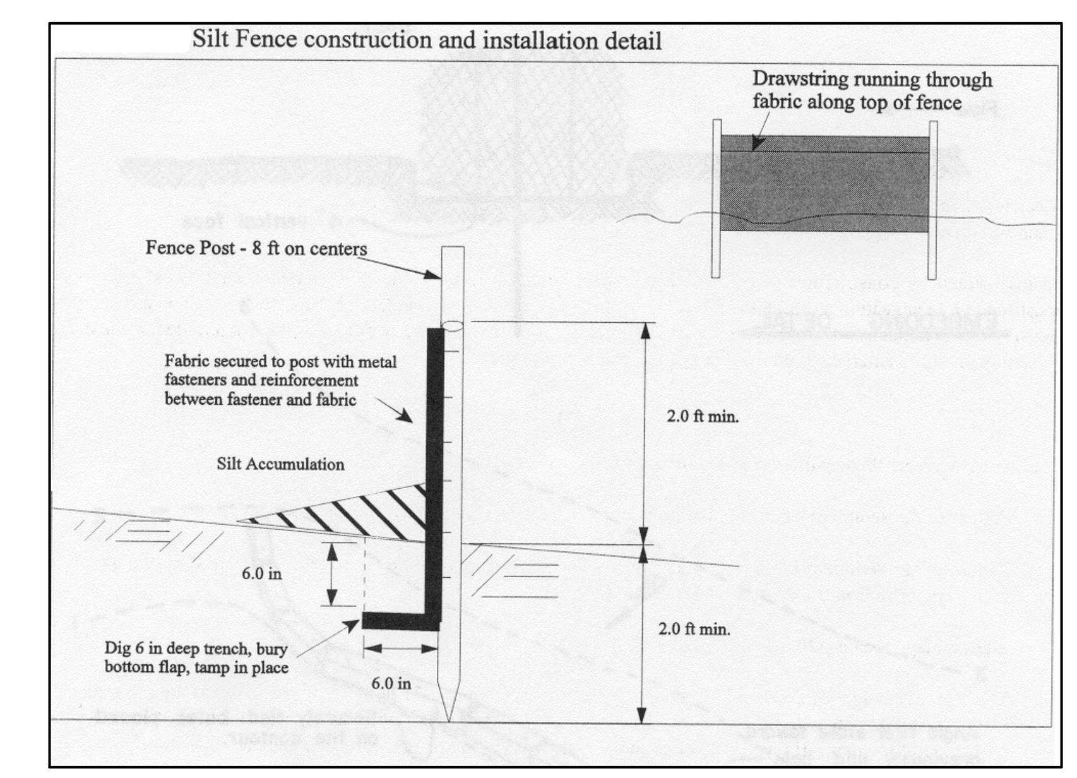
16. UNFILTERED DEWATERING IS NOT PERMITTED. NECESSARY PRECAUTIONS MUST BE TAKEN DURING ALL DEWATERING OPERATIONS TO MINIMIZE SEDIMENT TRANSFER. ANY DEWATERING METHODS USED MUST BE IN ACCORDANCE WITH STANDARD FOR DEWATERING.

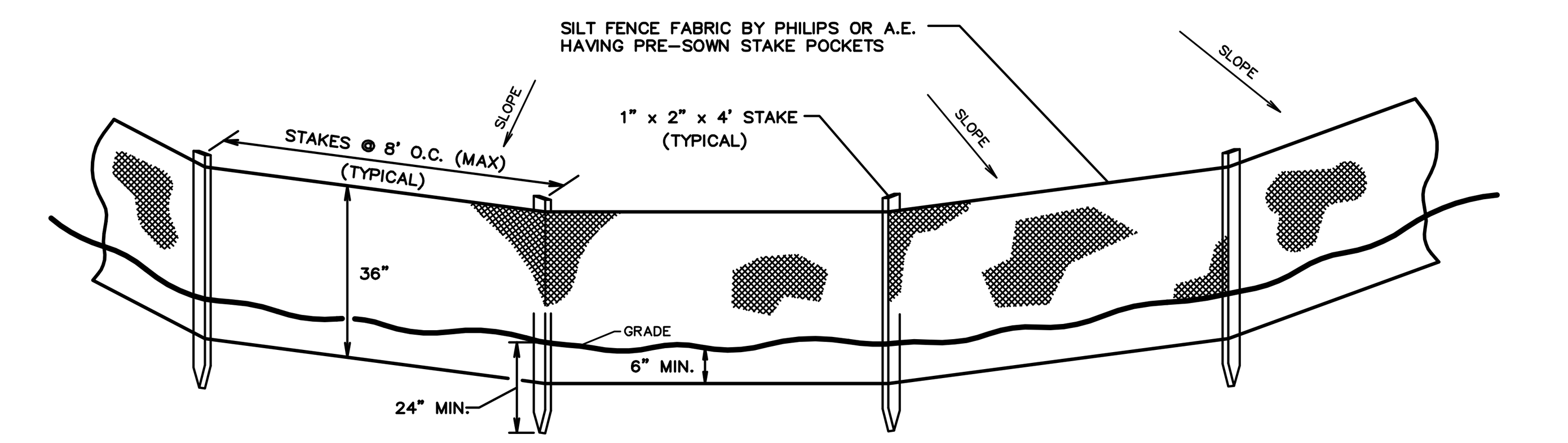
17. SHOULD THE CONTROL OF DUST AT THE SITE BE NECESSARY, THE SITE WILL BE SPRINKLED UNTIL THE SURFACE IS WET, TEMPORARY VEGETATIVE COVER SHALL BE ESTABLISHED OR MULCH SHALL BE APPLIED AS REQUIRED BY THE STANDARD FOR DUST CONTROL.

18. STOCKPILE AND STAGING LOCATIONS DETERMINED IN THE FIELD SHALL BE PLACED WITHIN THE LIMIT OF DISTURBANCE ACCORDING TO THE CERTIFIED PLAN. STAGING AREAS AND STOCKPILES NOT LOCATED WITHIN THE LIMIT OF DISTURBANCE WILL REQUIRE CERTIFICATION OF A REVISED SOIL EROSION AND SEDIMENT CONTROL PLAN. CERTIFICATION OF A NEW SOIL EROSION AND SEDIMENT CONTROL PLAN MAY BE REQUIRED FOR THESE ACTIVITIES IF AN AREA GREATER THAN 5,000 SQUARE FEET IS DISTURBED.

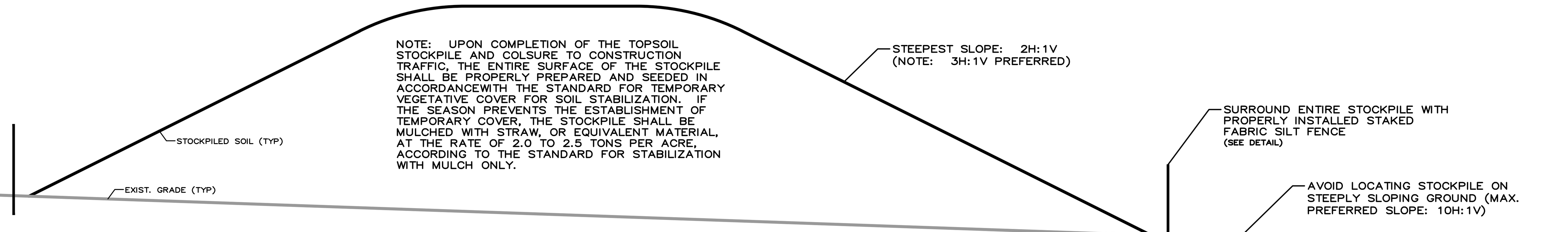
19. ALL SOIL STOCKPILES ARE TO BE TEMPORARILY STABILIZED IN ACCORDANCE WITH SOIL EROSION AND SEDIMENT CONTROL NOTE #6.

20. THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR ANY EROSION OR SEDIMENTATION THAT MAY OCCUR BELOW STORMWATER OUTFALLS OR OFFSITE AS A RESULT OF CONSTRUCTION OF THE PROJECT.





DETAIL: STAKED FABRIC SILT FENCE



DETAIL: TOPSOIL STOCKPILE
(NOT TO SCALE)

1	04-01-21	REISSUED
REVISION NO.	REVISION DATE	DESCRIPTION OF REVISION

EROSION & SEDIMENT CONTROL DETAILS / SPECS. CAMPUS USE AND SITE IMPROVEMENTS

MONMOUTH UNIVERSITY

'D' & 'C' VARIANCES / PRELIMINARY & FINAL SITE PLANS

BLOCK 39, LOTS 1 THRU 5, 7, 8, 9, 11, 12.01 & 12.02 – – TAX MAP SHEET NOS. 15 & 18

ADJACENT STREETS: LARCHWOOD, CEDAR & NORWOOD AVENUES – – LAND USE ZONES: R-22 & I

BOROUGH OF WEST LONG BRANCH MONMOUTH COUNTY, NEW JERSEY

William E. Fitzgerald

Civil Engineers – Land Use Planners – Construction Managers

P.O. BOX 550 WEST LONG BRANCH, N.J. 07764 TELE: (732) 859-3481

WILLIAM E. FITZGERALD, PE, PP – N.J. LIC. NOS. 27369, 2888

DATE: 12-03-19	SCALE: SHOWN
DRAWN:	CHKD.: W.E.F.
FILE: 0333	
DWG.: PARK19	SHEET: 23

SUBGRADE

ALL SUBGRADE AREAS SHALL BE GRADED AND SHAPED TO FIRM AND EVEN PLANAR SURFACES, FREE OF RIDGES, DEPRESSIONS AND/OR OTHER IRREGULARITIES, AND CONFORMING TO SLOPE(S) AND ELEVATIONS ESTABLISHED IN THE FIELD WITHIN A TOLERANCE OF THREE-QUARTERS OF ONE INCH (i.e., ±3/4").

IN SITU MATERIALS DISCLOSED, BY ROLLING, TO BE UNSTABLE SHALL BE REMOVED AND THE AREA BACKFILLED WITH APPROVED MATERIAL SELECTED FROM THE PROJECT EXCAVATION. IF SUCH APPROVABLE MATERIALS ARE NOT AVAILABLE, SUITABLE MATERIAL SHALL BE OBTAINED FROM OTHER APPROVED SOURCES. ANY/ALL SUBGRADE MATERIALS THAT CANNOT BE PROPERLY COMPACTED SHALL BE CONSIDERED UNSUITABLE. ALL EXCAVATED UNSUITABLE MATERIALS SHALL BE PROPERLY DISPOSED OF BY CONTRACTOR AT LOCATIONS OUTSIDE THE LIMITS OF THE UNIVERSITY CAMPUS AND IN ACCORDANCE WITH THE LAWS OF THE PLACE OF DISPOSAL.

SUBGRADE BACKFILLS AND/OR EMBANKMENT MATERIALS SHALL BE PLACED IN LAYERS NOT MORE THAN EIGHT (8) INCHES THICK, LOOSE MEASUREMENT. STARTING LAYERS SHALL BE PLACED IN THE DEEPEST/THICKEST PORTION OF THE FILL/EMBANKMENT. AS PLACEMENT PROGRESSES, LAYERS SHALL BE CONSTRUCTED APPROXIMATELY PARALLEL TO THE FINISHED GRADE LINE.

DURING COMPACTION OPERATIONS, SUBGRADE SOIL MOISTURE CONTENT SHALL BE WITHIN 2 PERCENT OF ITS OPTIMUM MOISTURE CONTENT. EACH LAYER SHALL BE COMPACTED TO A DENSITY OF AT LEAST 95 PERCENT OF MAXIMUM DENSITY DETERMINED ACCORDING TO AASHTO T 99, METHOD C, INCLUDING REPLACEMENT OPTION.

'VIRGIN' DENSE GRADED AGGREGATE (DGA)

'VIRGIN' DENSE GRADED AGGREGATE (DGA) SHALL BE PRODUCED FROM CRUSHED QUARRY STONE THAT IS UNIFORM IN TEXTURE AND QUALITY AND THAT CONFORMS WITH (1) REQUIREMENTS FOR BROKEN STONE SPECIFIED IN TABLE 901.03.01-1, AND, (2) GRADATION REQUIREMENTS FOR DGA OF TABLE 901.10.01-1 OF THE N.J.D.O.T. "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2007," WHEN TESTED ACCORDING TO AASHTO T 90, THE PORTION OF DGA PASSING THE NO. 40 SIEVE SHALL BE NON-PLASTIC.

DGA SUBBASE

DENSE GRADED AGGREGATE MATERIALS SHALL BE SPREAD UTILIZING MECHANICAL BOX SPREADERS AND/OR OTHER EQUIPMENT THAT WILL SPREAD THE MATERIALS WITHOUT CAUSING SEGREGATION.

ALL SUBBASE AREAS SHALL BE GRADED AND SHAPED TO FIRM AND EVEN PLANAR SURFACES, FREE OF RIDGES, DEPRESSIONS AND/OR OTHER IRREGULARITIES, AND CONFORMING TO SLOPE(S) AND ELEVATIONS ESTABLISHED IN THE FIELD WITHIN A TOLERANCE OF THREE-EIGHTS OF ONE INCH (i.e., ±3/8"). WHERE NECESSARY,

DURING PLACEMENT AND COMPACTION OPERATIONS, DGA MOISTURE CONTENT SHALL BE 6 ± 2 PERCENT BASED UPON DRY WEIGHT. EACH LAYER SHALL BE COMPACTED TO A DENSITY OF AT LEAST 95 PERCENT OF MAXIMUM DENSITY DETERMINED ACCORDING TO AASHTO T 99, METHOD C, INCLUDING REPLACEMENT OPTION. FINAL COMPACTION AND ROLLING SHALL BE BY SMOOTH-FACED, STEEL, POWER ROLLER(S). WATER SHALL BE APPLIED IF/WHEN NECESSARY TO FACILITATE COMPACTION.

COARSE AGGREGATE FOR DRAINAGE

COARSE AGGREGATE FOR DRAINAGE SHALL BE WASHED, ANGULAR BROKEN TRAP ROCK THAT IS UNIFORM IN TEXTURE AND QUALITY AND THAT CONFORMS TO (1) REQUIREMENTS FOR BROKEN STONE SPECIFIED WITHIN IN TABLE 901.03.01-1 OF THE N.J.D.O.T. "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2007," AND, (2) STANDARD GRADATION REQUIREMENTS FOR A.S.T.M. SIZE NO. 57 COARSE AGGREGATE WITHIN TABLE 901.03-1 OF THE N.J.D.O.T. SPECIFICATIONS. COARSE AGGREGATE FOR DRAINAGE SHALL BE WASHED AT LEAST 24 HOURS BEFORE USE.

COARSE AGGREGATE DRAINAGE BASE

COARSE AGGREGATE DRAINAGE BASE MATERIAL SHALL BE SPREAD UPON A PROPERLY AND COMPLETELY PREPARED DGA SUBBASE. MINIMUM LIFT THICKNESS SHALL BE FOUR (4) INCHES; BASE THICKNESSES GREATER THAN EIGHT (8) INCHES SHALL BE CONSTRUCTED IN MULTIPLE LIFTS. COARSE AGGREGATE DRAINAGE BASE(S) SHALL BE SHAPED AND GRADED TO SLOPE(S) AND ELEVATIONS ESTABLISHED IN THE FIELD WITHIN A TOLERANCE OF ONE-HALF OF ONE INCH (i.e., ±1/2"). COMPACTION SHALL BE VIA A MINIMUM OF FOUR (4) PASSES OF A STATIC, SMOOTH-WHEELED (I.E., STEEL DRUM) ROLLER HAVING A MINIMUM 10-TON DRUM WEIGHT.

WHEN RIDING UPON THE AGGREGATE BASE, EQUIPMENT OPERATORS MUST AVOID RAPID ACCELERATION, HARD BRAKING, AND/OR SHARP TURNING UPON COMPACTED AGGREGATE SURFACE(S). TRACKED EQUIPMENT IS STRONGLY RECOMMENDED FOR USE. IF/WHERE AGGREGATE SURFACES ARE DISTURBED, THEY SHALL BE RE-LEVELED AND RE-COMPACTED.

OPEN-GRADED BEDDING AGGREGATE FOR MODULAR PERVIOUS SURFACING

MODULAR PERVIOUS SURFACING SYSTEM UNITS (E.G., PAVERS, STONES, ETC.) SHALL BE INSTALLED UPON A ONE- TO TWO-INCH THICK SETTING BED OF WASHED, ANGULAR ASTM NO. 8 COARSE AGGREGATE CONSTRUCTED UPON THE COMPLETED COARSE AGGREGATE DRAINAGE BASE.

MODULAR CONCRETE PAVER UNITS: MODULAR CONCRETED PAVER UNITS SHALL CONFORM TO ASTM C 936 PAVER THICKNESSES SHALL BE A MINIMUM OF THREE-AND-ONE-EIGHT (3-1/8) INCHES (80 mm). JOINT WIDTHS BETWEEN ADJACENT PAVER UNITS SHALL BE ONE-QUARTER (¼) INCH.

PERMEABLE JOINT MATERIAL: MODULAR PERVIOUS SURFACING SYSTEM JOINT MATERIAL SHALL CONSIST OF WASHED ANGULAR, ASTM NO. 9 COARSE AGGREGATE.

POLYVINYL CHLORIDE PIPE (PVC)

POLYVINYL CHLORIDE PIPE (PVC) SHALL BE UNPLASTICIZED POLYVINYL CHLORIDE PLASTIC PIPE WITH INTEGRAL WALL BELL AND SPIGOT JOINTS SUITABLE FOR USE IN NON-PRESSURIZED / GRAVITY-FLOW SANITARY SEWAGE OR SURFACE WATER CONVEYANCE APPLICATIONS WHERE THE OPERATING TEMPERATURE WILL NOT EXCEED 140°F.

PVC SDR 35 PIPE SHALL BE MANUFACTURED FROM VIRGIN RIGID POLYVINYL CHLORIDE (PVC) VINYL COMPOUNDS WITH A CELL CLASS OF 12364 AS IDENTIFIED IN ASTM D 1784 AND SHALL CONFORM TO ASTM D 3034 FOR GASKET OR SOLVENT-WELD PIPE WITH A MINIMUM PIPE STIFFNESS OF 46.

BELL ENDS OF PVC PIPES SHALL BE INTEGRAL TO THE PIPE LENGTH, SHALL HAVE THE SAME STRENGTH AS THE PIPE LENGTH AND SHALL INCLUDE A FACTORY-INSTALLED FLEXIBLE ELASTOMERIC GASKET THAT ENABLES CEMENTLESS, 'PUSH TOGETHER' JOINTING AND COMPENSATES FOR EXPANSION AND CONTRACTION OF PIPE LENGTHS. GASKETS SHALL CONFORM TO ASTM F 477. SPIGOT PIPE ENDS SHALL BE FACTORY BEVELED.

PVC PIPE FITTINGS AND ACCESSORIES SHALL BE AS MANUFACTURED AND FURNISHED BY THE PIPE SUPPLIER AND SHALL HAVE BELL AND/OR SPIGOT CONFIGURATIONS COMPATIBLE WITH THOSE OF THE PIPE.

BURIED PIPE SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D 2321 AND ASTM F 1668. COMPLETED BELL-AND-SPIGOT JOINTS SHALL MEET OR EXCEED ASTM D3212 FOR JOINT TIGHTNESS.

ALL PVC PIPE ENDS NOT TERMINATING VIA CONNECTION TO STRUCTURE, OTHER PIPE OR APPURTENANCE SHALL BE CAPPED UNLESS SPECIFIED OTHERWISE.

PVC PIPE AND FITTINGS SHALL BE PROTECTED FROM CHEMICAL AGENTS, FIRE-STOPPING MATERIALS, THREAD SEALANT, PLASTICIZED-VINYL PRODUCTS OR OTHER AGGRESSIVE CHEMICAL AGENTS NOT COMPATIBLE WITH PVC COMPOUNDS.

HIGH DENSITY POLYETHYLENE PIPE

HIGH DENSITY POLYETHYLENE PIPE (HDPEP) AND HIGH DENSITY PERFORATED POLYETHYLENE PIPE (HDPPEP) FOR USE IN GRAVITY-FLOW DRAINAGE APPLICATIONS SHALL BE DUAL-WALL, plain-end PIPE HAVING annular exterior-WALL corrugations AND A SMOOTH INTERIOR WALL (MANNING'S 'n' for design = 0.012). PIPES HAVING DIAMETERS OF 4- THROUGH10-INCHES SHALL MEET THE AASHTO M252, TYPE S SPECIFICATION; PIPES HAVING DIAMETERS OF 12- THROUGH 60-INCHES SHALL MEET AASHTO M294, TYPE S AND/OR ASTM F2306 SPECIFICATION(S). FITTINGS SHALL CONFORM TO AASHTO M252, AASHTO M294 OR ASTM F2306.

HIGH DENSITY PERFORATED POLYETHYLENE PIPE (HDPPEP) SHALL HAVE AASHTO CLASS II PERFORATION PATTERNS MEETING AASHTO AND ASTM MINIMUM REQUIREMENTS FOR OPEN INLET AREAS. PERFORATIONS SHALL BE LOCATED IN THE OUTSIDE VALLEYS OF THE CORRUGATIONS, SHALL BE CIRCULAR AND/OR SLOTTED AND SHALL BE EVENLY SPACED AROUND THE CIRCUMFERENCE, AND ALONG THE LENGTH OF THE PIPE. WATER INLET AREAS PER RUNNING FOOT OF PIPE SHALL BE NOT LESS THAN 0.945 IN2 FOR PIPE DIAMETERS OF 4- THROUGH 10-INCHES, 1.42 IN2 FOR PIPE DIAMETERS OF 12- THROUGH 18-INCHES AND 1.89 IN2 FOR PIPE DIAMETERS OF 24 INCHES AND GREATER

INSTALLATION SHALL BE IN ACCORDANCE WITH ASTM D2321 AND ADS RECOMMENDED INSTALLATION GUIDELINES, WITH THE EXCEPTION THAT MINIMUM COVER IN TRAFFICKED AREAS FOR PIPES HAVING DIAMETERS OF 4- THROUGH 48-INCHES DIAMETERS SHALL BE ONE (1) FOOT.

END-TO-END PIPE JOINTS SHALL BE MADE WITH COUPLING BANDS COVERING AT LEAST TWO FULL CORRUGATIONS ON THE JOINED ENDS OF BOTH PIPES. STANDARD CONNECTIONS SHALL MEET OR EXCEED THE SOIL-TIGHT REQUIREMENTS OF AASHTO M252, AASHTO M294, OR ASTM F2306.

PIPE ENDS NOT TERMINATING AT CONNECTIONS TO STRUCTURES, OTHER PIPES OR APPURTENANCES SHALL BE CAPPED UNLESS SPECIFIED OTHERWISE.

END-TO-WALL PIPE CONNECTIONS

END-TO-WALL PIPE CONNECTIONS SHALL BE MADE USING INSERTA TEE SERVICE CONNECTIONS MANUFACTURED BY INSERTA FITTINGS CO., 3707 24TH AVE, FOREST GROVE, OR 97116; TELEPHONE: (503) 357-211. INSERTA TEE SERVICE CONNECTORS SHALL BE PROPERLY MATCHED TO THE SPECIFIC SIZES AND TYPES OF PIPES BEING JOINED. ALL INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDED INSTALLATION GUIDELINES.

GEOMEMBRANE LINER

TRENCH BOTTOMS, SIDES AND ADJACENT SUBBASES TO BE LINED USING 40-MIL, MULTI-LAYER, COEXTRUDED. LINEAR LOW-DENSITY POLYETHYLENE GEOMEMBRANE HAVING PUNCTURE RESISTANCE EXCEEDING 55 LBS. ADJACENT SHEETS SHALL OVERLAP A MINIMUM OF EIGHTEEN (18) INCHES AND ALL SHEETS SHALL OVERLAP D.G.A. SUBBASE STONE FOR A MIMIMUM DISTANCE OF FOUR (4) FEET. CONTRACTOR SHALL PROTECT LINER FROM PUNCTURES DURING INSTALLATION, PLACEMENT OF AGGREGATE DRAINAGE BASE AND/OR OTHER CONSTRUCTIONS WITHIN/UPON BED AREA.

PERVIOUS CONCRETE

AMERICAN CONCRETE INSTITUTE SPECIFICATION 522.1-13, "SPECIFICATION FOR PERVIOUS CONCRETE PAVEMENT," AS MODIFIED HEREIN, IS ADOPTED BY REFERENCE FOR ALL MATERIALS AND WORK RELATED TO THE PRODUCTION, DELIVERY, MIXING, FORMING, PLACEMENT, CONSOLIDATION AND FINISHING, CURING, JOINTING AND TESTING OF PERVIOUS CONCRETE IMPROVEMENTS. THE FOLLOWING ARE ALSO ADOPTED AS THEY APPLY TO SPECIFIC ELEMENTS OF THE PROJECT INCLUDING TESTING AND ACCEPTANCE:

ASTM C 150, SPECIFICATIONS FOR PORTLAND CEMENT (TYPES I OR II ONLY)

ASTM C 618, SPECIFICATION FOR COAL FLY ASH AND RAW OR CALCINED NATURAL POZZOLAN FOR USE AS A MINERAL ADMIXTURE IN PORTLAND CEMENT CONCRETE

ASTM C 989 – SPECIFICATION FOR GROUND GRANULATED BLAST FURNACE SLAG FOR USE IN CONCRETE AND MORTARS

ASTM C494 – STANDARD SPECIFICATION FOR CHEMICAL ADMIXTURES FOR CONCRETE

ASTM C260 / C260M – STANDARD SPECIFICATION FOR AIR-ENTRAINING ADMIXTURES FOR CONCRETE

ASTM C 94 – STANDARD SPECIFICATION FOR READY-MIXED CONCRETE

ASTM C172 – STANDARD PRACTICE FOR SAMPLING FRESHLY MIXED CONCRETE

ASTM C 1688 – STANDARD TEST METHOD FOR DENSITY AND VOID CONTENT OF FRESHLY MIXED PERVIOUS CONCRETE

ASTM C 1747 – DETERMINING POTENTIAL RESISTANCE TO DEGRADATION OF PERVIOUS CONCRETE BY IMPACT AND ABRASION

ASTM C 1701 – INFILTRATION RATE OF IN-PLACE PERVIOUS CONCRETE

ASTM C 1754 – DENSITY AND VOID CONTENT OF HARDENED PERVIOUS CONCRETE

ASTM C 1116 – STANDARD SPECIFICATION FOR FIBER-REINFORCED CONCRETE

N.J.D.O.T. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2007

AGGREGATE FOR PERVIOUS CONCRETE MIXES SHALL BE POORLY/OPEN GRADED UNCRUSHED, WASHED GRAVEL CONFORMING TO ASTM C 33 AND SUBSECTION 901.03.02, WASHED GRAVEL, OF THE N.J.D.O.T. STANDARD SPECIFICATIONS. UNLESS OTHERWISE APPROVED IN WRITING BY THE ENGINEER, THE LARGEST AGGREGATE PARTICLE DIAMETER OF THE MIX SHALL BE THREE-EIGHTS (3/8) OF AN INCH.

CEMENT FOR PERVIOUS CONCRETE MIXES SHALL BE PORTLAND CEMENT MEETING ASTM C 150. SUPPLEMENTARY CEMENTITIOUS MATERIALS SUCH AS FLY ASH, POZZOLANS (ASTM C 618), AND GROUND-GRANULATED BLAST FURNACE SLAG (ASTM C 989) MAY BE USED. COLOR OF PERVIOUS CONCRETE SHALL BE CAREFULLY CONTROLLED AND SHALL BE UNIFORM ACROSS THE ENTIRE PROJECT.

THE PERVIOUS CONCRETE MIX SHALL INCLUDE MONOFILAMENT, MICROSYNTHETIC FIBER REINFORCEMENT MEETING REQUIREMENTS OF ASTM C1116, SECTION 4.1.3 AND NOTE 2. FIBER LENGTHS SHALL BE A MINIMUM OF ON-HALF (1/2) INCH AND A MAXIMUM OF THREE-FOURTHS (3/4) OF AN INCH. TO ENSURE THAT THE FIBERS DISTRIBUTE UNIFORMLY IN THE PERVIOUS CONCRETE MIX, MONOFILAMENT FIBERS SHALL BE ADDED IN A UNIFORM, CONSISTENT MANNER OVER A SHORT PERIOD OF TIME AND SHALL NOT BE BULK FED INTO THE MIX.

POTABLE WATER SHALL BE UTILIZED FOR PERVIOUS CONCRETE MIXES. RECYCLED WATER FROM CONCRETE PRODUCTION OPERATIONS MAY BE USED IF IT MEETS PROVISIONS OF ASTM C 94 OR AASHTO M 157. WATER CONTENT OF PERVIOUS CONCRETE SHALL BE TIGHTLY CONTROLLED.

AGGREGATE AND CEMENT PROPORTIONS SHALL BE ESTABLISHED BYT THE CONCRETE SUPPLIER VIA TESTING AND BY EXPERIENCE WITH LOCALLY AVAILABLE MATERIALS THE CONCRETE SUPPLIER SHALL FURNISH ITS PERVIOUS CONCRETE MIX DESIGN(S) FOR ACCEPTANCE BY THE ENGINEER A MINIMUM OF FIFTEEN (15) WORKING DAYS PRIOR TO SCHEDULED PLACEMENT(S).

MIXING OF PERVIOUS CONCRETE SHALL BEGIN IMMEDIATELY AFTER CEMENT HAS BEEN ADDED TO AGGREGATES. WHEN TRANSPORTING PERVIOUS CONCRETE IN A READY-MIX TRUCK, THE MIXER DRUM SHOULD ROTATE AT THE LOWEST AGITATING SPEED. PERVIOUS CONCRETE SHOULD BE DISCHARGED FROM THE READY-MIX DELIVERY TRUCK WITHIN 30 MINUTES OF INTRODUCING WATER INTO THE MIX.

THE PROPERLY PREPARED SUBGRADE SHALL BE SOAKED OVER A PERIOD OF TWO (2) TO TWELVE (12) HOURS PRIOR TO PLACEMENT OF PERVIOUS CONCRETE. AT THE TIME OF PERVIOUS CONCRETE PLACEMENT, THE SUBGRADE SHALL BE SATURATED WITH NO STANDING WATER. BASE AGGREGATE SHALL BE WET IMMEDIATELY PRIOR TO PERVIOUS CONCRETE PLACEMENT.

DISCHARGE OF PERVIOUS CONCRETE FROM THE DELIVERY VEHICLE SHALL BE COMPLETE WITHIN 60 MINUTES OF THE INTRODUCTION OF MIX WATER OR AGGREGATE TO THE CEMENT. SPREADING, STRIKE-OFF, COMPACTION, CROSS-ROLLING AND EDGING SHALL BE CONTINUOUS AND RAPID. AFTER INITIAL STRIKE-OFF, COMPACTION TO THE HEIGHT OF THE FORMS SHALL BE ACCOMPLISHED USING A FULL-WIDTH, HEAVY STEEL ROLLER OR OTHER EQUIPMENT APPROVED BY THE ENGINEER THEN IMMEDIATELY CROSS-ROLLED AND EDGED. COMPACTED PERVIOUS CONCRETE SHALL PRESENT A DENSE, EVEN, OPEN-TEXTURED SURFACE THAT IS FREE OF DEPRESSIONS, ROLLER MARKS AND/OR DEFECTS. THE COMPLETED PERVIOUS CONCRETE SURFACE SHALL BE FOG-MISTED AND COVERED BY SIX (6) MIL, WHITE, POLYETHYLENE SHEETING TO BEGIN CURING WITIN TWENTY (20) MINUTES OF DISCHARGE FROM THE DELIVERY VEHICLE.

CRACK CONTROL JOINTS SHALL BE SAW CUT INTO THE COMPLETED PERVIOUS CONCRETE SURFACE BETWEEN TWENTY-FOUR (24) AND FORTY-EIGHT (48) HOURS AFTER PLACEMENT. JOINTS SHALL BE THREE-SIXTEENTHS (3/16) INCH IN WIDTH (+/- 1/16") AND SHALL HAVE MINIMUM DEPTHS OF ONE-QUARTER (1/4) INCH BUT SHALL NOT BE DEEPER THAN ONE-THIRD (1/3) THE SLAB THICKNESS. DURING JOINTING OPERATIONS, UNCOVERING OF THE CONCRETE SURFACE SHALL BE MINIMIZED. JOINTED CONCRETE SURFACE SHALL BE FOG-MISTED AND RE-COVERED IMMEDIATELY AFTER JOINTING.

PERVIOUS CONCRETE SURFACE SHALL NOT BE OPENED TO TRAFFIC UNTIL IT HAS CURED, INTERRUPTED FOR A PERIOD OF AT LEAST SEVEN DAYS.

COMPLETED PERVIOUS CONCRETE SURFACE REQUIREMENTS:

UNIT WEIGHT: 126 LBS/C.F. +/- 5 LBS.C.F. (ASTM C 1688, ASTM C 1754)

MINIMUM POROSITY: 20% ± 5% VOLUME OF VOIDS (ASTM C 1754)

MINIMUM PERMEABILITY: 300 INCHES PER HOUR PER SQUARE FOOT OF AREA (ASTM C 1701)

MINIMUM SERVICE STRENGTH: AASHTO H-20 VEHICLE LOADING

REVISION NO.	REVISION DATE	DESCRIPTION OF REVISION
1	04-01-21	REISSUED

MISCALLANEOUS CONSTRUCTION REQUIREMENTS CAMPUS USE AND SITE IMPROVEMENTS

MONMOUTH UNIVERSITY

'D' & 'C' VARIANCES / PRELIMINARY & FINAL SITE PLANS

BLOCK 39, LOTS 1 THRU 5, 7, 8, 9, 11, 12.01 & 12.02 – – TAX MAP SHEET NOS. 15 & 18

ADJACENT STREETS: LARCHWOOD, CEDAR & NORWOOD AVENUES – – LAND USE ZONES: R-22 & I

BOROUGH OF WEST LONG BRANCH MONMOUTH COUNTY, NEW JERSEY

William E. Fitzgerald

Civil Engineers – Land Use Planners – Construction Managers

P.O. BOX 550 WEST LONG BRANCH, N.J. 07764 TELE: (732) 859-3481

WILLIAM E. FITZGERALD, PE, PP – N.J. LIC. NOS. 27369, 2888

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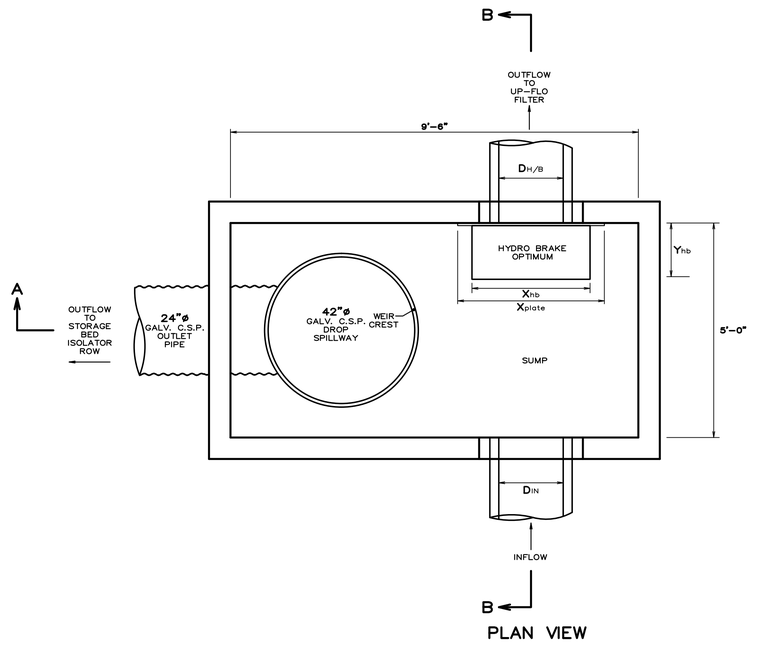
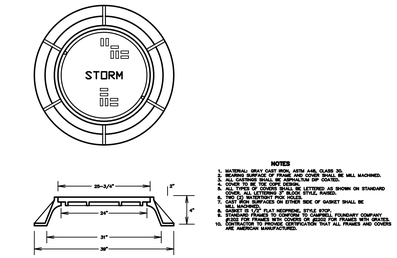
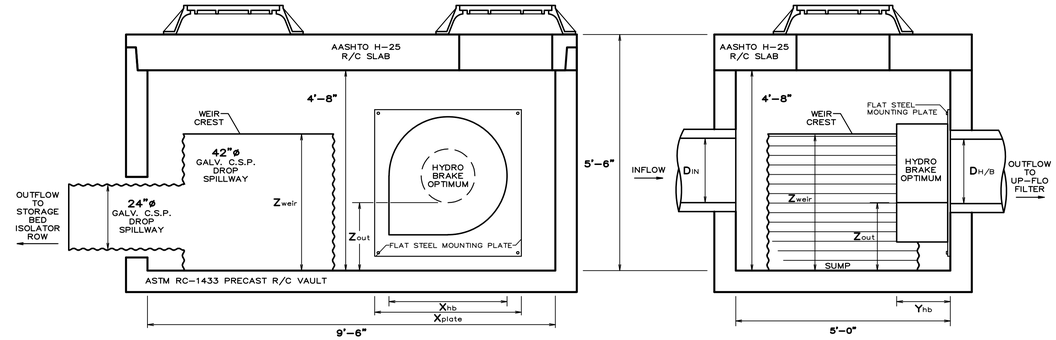


PLAN VIEW



DETAIL: STANDARD MANHOLE FRAME AND CASTING
(CAMPBELL PATTERN NO. 1203A OR A.E.)



SECTION A – A

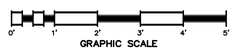
SECTION B – B

FLOW CONTROL STRUCTURES: SCHEDULE OF DIMENSIONS

STRUCTURE	CONDUITS			PRECAST R/C VAULT			HYDRO BRAKE OPTIMUM								ELEVATIONS					
	DIN	DH/B	DOUT	ZFCS	Zvault	Zweir	REF.	DESIGN HEAD	DESIGN FLOW	FLUSH FLOW	Xhb	Yhb	Xplate	Zout	VAULT FLOOR	INV. DIN	H/B SPIGOT	INV. DH/B	WEIR CREST	INV. DOUT
FCS #3.1	24"ø R.C.P.	15"ø R.C.P.	24"ø R.C.P.	5.03 FT.	4.67 FT.	2.73 FT.	SFF-0280-4530-0762-4275	2.50 FT.	1.60 CFS	1.509 CFS	27 IN.	11 IN.	34± IN.	18 IN.	32.03	34.12	34.12	34.08	36.07	33.30
FCS #4.1	21"ø R.C.P.	15"ø R.C.P.	24"ø R.C.P.	5.03 FT.	4.67 FT.	2.89 FT.	SHE-0361-7815-0701-7815	2.30 FT.	2.76 CFS	2.757 CFS	32 IN.	15 IN.	38± IN.	18 IN.	32.17	34.36	34.36	34.32	36.21	33.44
FCS #5.1	18"ø RCP	12"ø R.C.P.	24"ø R.C.P.	5.03 FT.	4.67 FT.	2.88 FT.	SFF-0227-3114-1006-2644	3.30 FT.	1.10 CFS	0.933 CFS	25 IN.	9 IN.	31± IN.	18 IN.	31.57	32.92	32.92	32.88	35.69	32.35
FCS #6.1	15"ø R.C.P.	12"ø R.C.P.	24"ø R.C.P.	5.03 FT.	4.67 FT.	3.30 FT.	SFF-0270-4247-1067-4077	3.50 FT.	1.50 CFS	1.438 CFS	32 IN.	11 IN.	38± IN.	18 IN.	31.33	33.24	33.24	33.20	35.63	32.50
FCS #7.1	15"ø R.C.P.	12"ø R.C.P.	24"ø R.C.P.	5.03 FT.	4.67 FT.	3.01 FT.	SFF-0196-2406-0853-1795	2.80 FT.	0.85 CFS	0.633 CFS	19 IN.	8 IN.	25± IN.	18 IN.	31.13	33.16	33.16	33.12	35.45	31.97

DESIGN DETAILS: FLOW CONTROL STRUCTURES

SCALE: 1:20



GRAPHIC SCALE

REVISION NO.	REVISION DATE	DESCRIPTION OF REVISION
1	12-03-20	REISSUED

STORMWATER CONSTRUCTION DETAILS — FLOW CONTROL STRUCTURES

MONMOUTH UNIVERSITY

"D" & "C" VARIANCES / PRELIMINARY & FINAL SITE PLANS

BLOCK 39, LOTS 1 THRU 5, 7, 8, 9, 11, 12.01 & 12.02 – – TAX MAP SHEET NOS. 15 & 18

ADJACENT STREETS: LARCHWOOD, CEDAR & NORWOOD AVENUES – – LAND USE ZONES: R-22 & I

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WILLIAM E. FITZGERALD, PE, PP – N.J. LIC. NOS. 27369, 2888

DATE: 09-10-20 | SCALE: SHOWN

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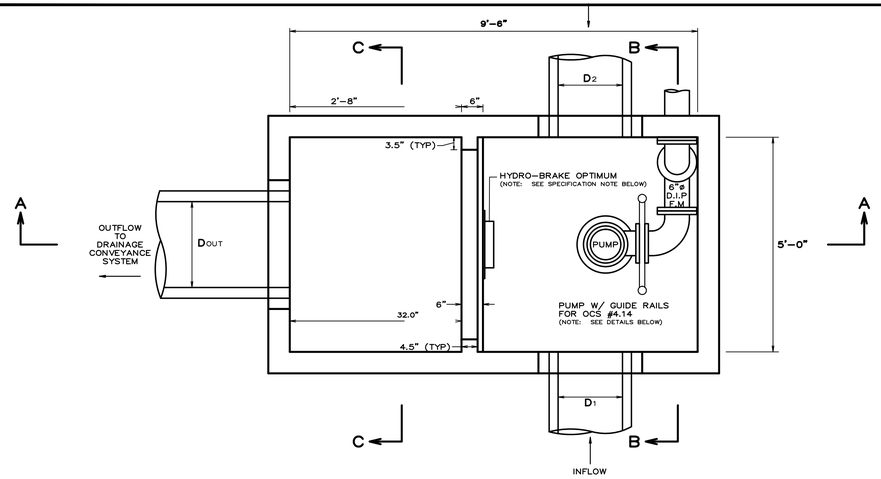
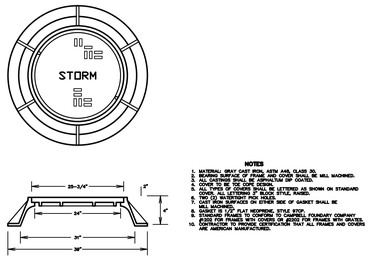
FILE: 0333

DWG.: PARK19 | SHEET: 25



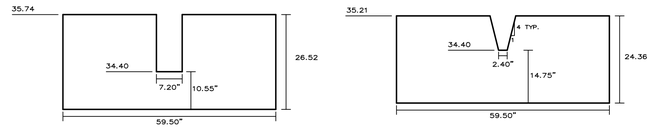
TYPICAL PLAN VIEW



DETAIL: STANDARD MANHOLE FRAME AND CASTING
(CAMPBELL PATTERN NO. 1203A OR A.E.)

OUTLET CONTROL STRUCTURES: SCHEDULE OF DIMENSIONS

STRUCTURE	CONDUITS				ELEVATIONS			
	D_1	D_2	D_3	D_{OUT}	H/B SPIGOT	VAULT FLOOR	WEIR CREST	INV. D_{OUT}
OCS #4.14	24"ø HDPEP	24"ø HDPEP		30"ø R.C.P.	34.36	31.50	34.40	32.24
OCS #5.8	24"ø HDPEP	12"ø R.C.P.		24"ø R.C.P.	32.92	31.57	34.40	31.98
OCS #6.7	24"ø HDPEP	12"ø R.C.P.	24"ø C.M.P.	18"ø R.C.P.	33.24	31.33	34.08	31.29
OCS #7.8	24"ø HDPEP	12"ø R.C.P.	24"ø C.M.P.	15"ø R.C.P.	33.16	31.13	34.47	31.84



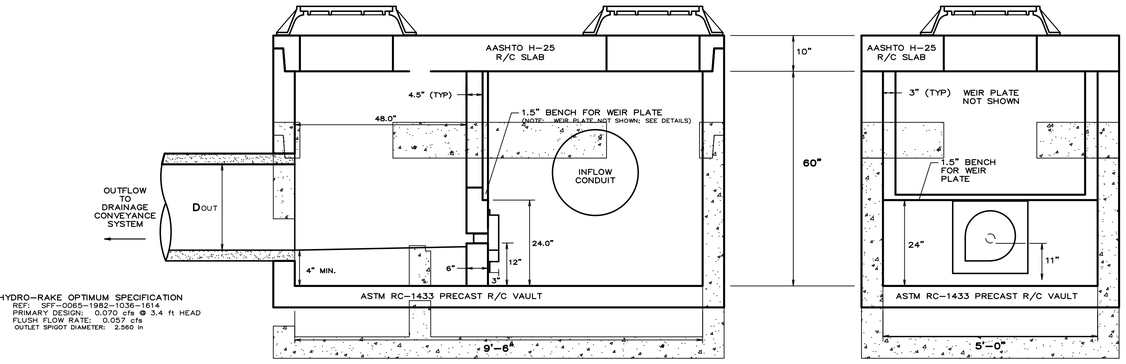
WEIR PLATE: O.C.S. #4.14

WEIR PLATE: O.C.S. #5.8

WEIR PLATE: O.C.S. #6.7

WEIR PLATE: O.C.S. #7.8

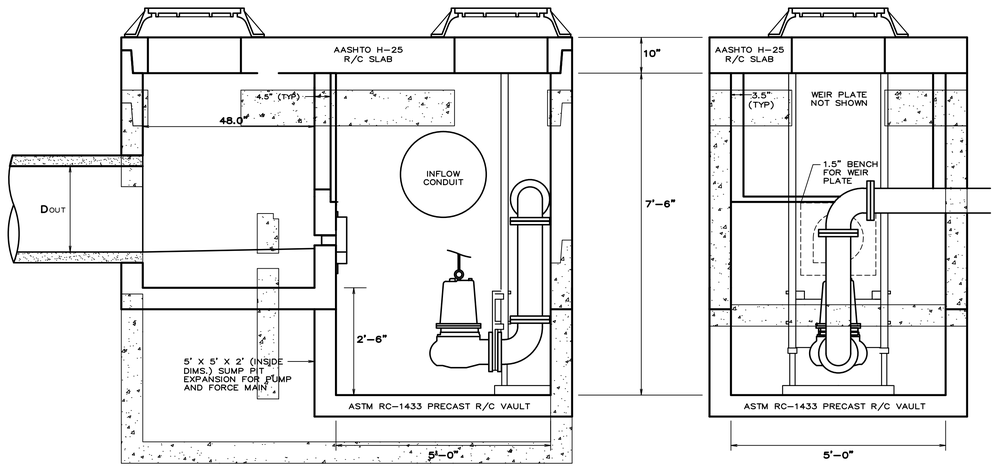
DETAIL: ORIFICE FLOW CONTROL PLATES



HYDRO-RAKE OPTIMUM SPECIFICATION
REF: SFF-0065-1982-1036-1614
PRIMARY DESIGN: 0.070 cfs @ 3.4 ft HEAD
FLUSH FLOW RATE: 0.057 cfs
OUTLET SPIGOT DIAMETER: 2.560 in

TYPICAL SECTION A – A

TYPICAL SECTION B – B



SECTION B – B

SECTION B – B

VAULT MODIFICATIONS FOR PUMP IN O.C.S. #4.14

GRAPHIC SCALE

REVISION NO.	REVISION DATE	DESCRIPTION OF REVISION
1	04-01-21	REISSUED
1	12-03-20	REISSUED

STORMWATER CONSTRUCTION DETAILS — OUTLET CONTROL STRUCTURES

MONMOUTH UNIVERSITY

LAND USE APPLICATION: 'D' AND 'C' VARIANCES / PRELIMINARY AND FINAL SITE PLAN
BLOCK 39, LOTS 1 THRU 5, 7, 8, 9, 11, 12.01 & 12.02 – – TAX MAP SHEET NOS. 15 & 18
ADJACENT STREETS: LARCHWOOD, CEDAR & NORWOOD AVENUES – – LAND USE ZONES: R-22 & I

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DATE: 09-10-20	SCALE: 1 : 20
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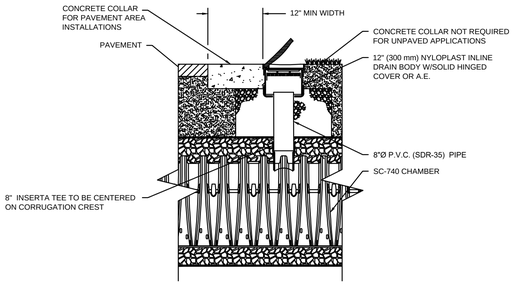
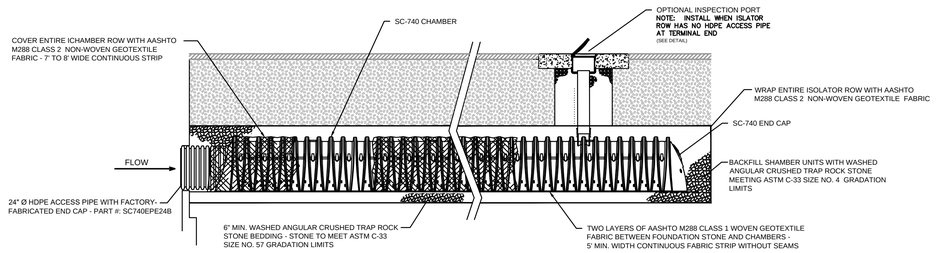
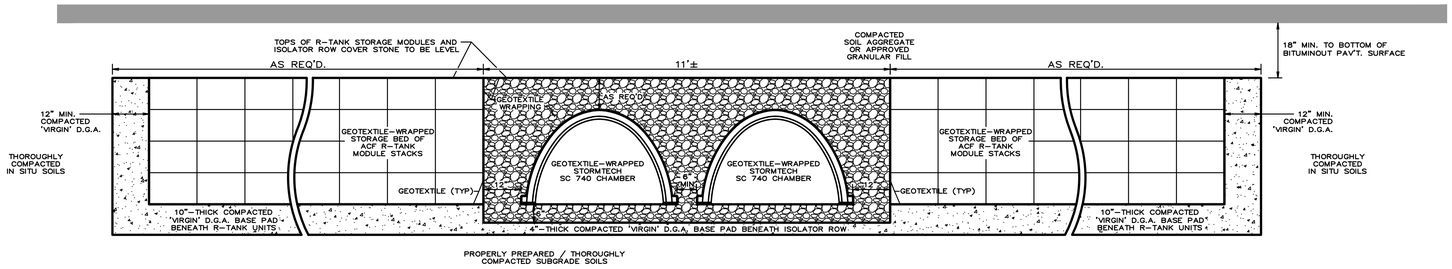
FILE: 0333	
DWG.: PARK19	SHEET: 26



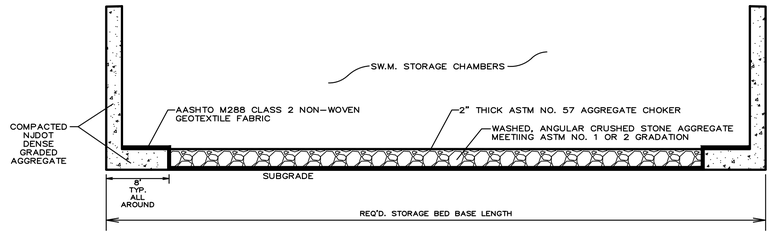
SC-740 8"Ø INSPECTION PORT DETAIL
NTS

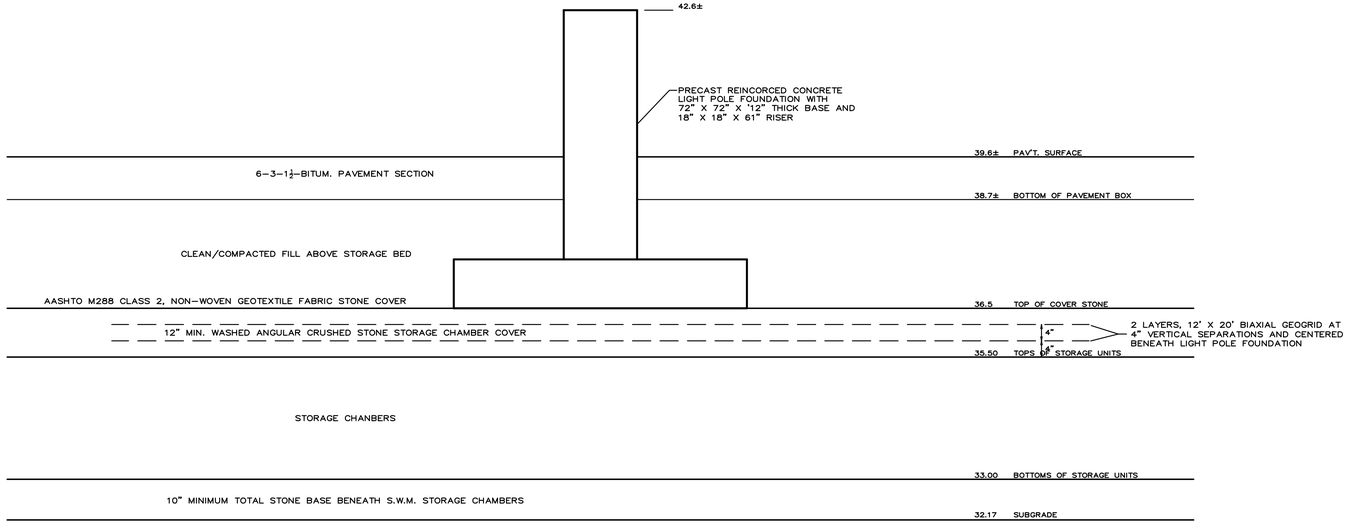


SC-740 ISOLATOR ROW DETAIL
NTS

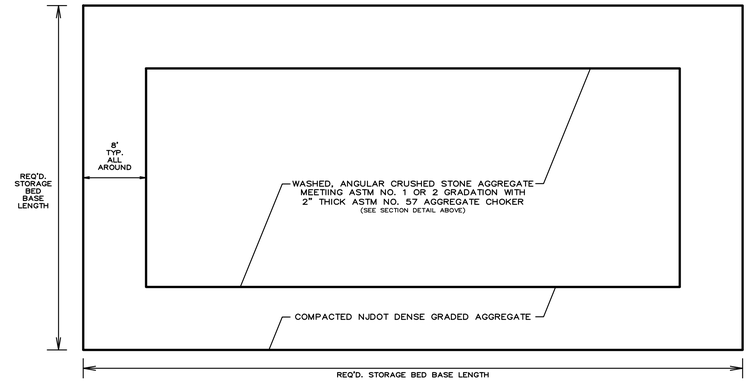


ILLUSTRATIVE CROSS SECTION: TYPICAL STORMWATER STORAGE BED
APPROXIMATE SCALE: 1" = 2'





DETAIL: PREFAST REINCORCED LIGHT POLE BASE SET UPON S.W.M. STORAGE BED



PLAN VIEW
DETAIL: STORAGE BED BASE MODIFIED FOR INFILTRATION
IF/WHERE SPECIFIED
(NTS)

REVISION NO.	REVISION DATE	DESCRIPTION OF REVISION
1	04-01-21	REVS. TO S.W.M. BED DETAILS; S.W.M. BED LIGHT POLE BASE

DETAILS: STORMWATER MGMT. STORAGE BEDS — CAMPUS USE AND SITE IMPROVEMENTS

MONMOUTH UNIVERSITY

'D' & 'C' VARIANCES / PRELIMINARY & FINAL SITE PLANS

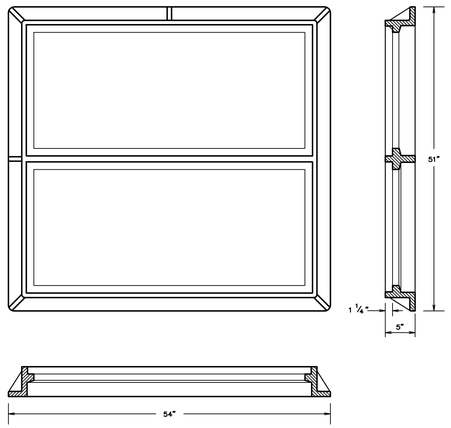
BLOCK 39, LOTS 1 THRU 5, 7, 8, 9, 11, 12.01 & 12.02 – – TAX MAP SHEET NOS. 15 & 18

ADJACENT STREETS: LARCHWOOD, CEDAR & NORWOOD AVENUES – – LAND USE ZONES: R-22 & I

BOROUGH OF WEST LONG BRANCH — MONMOUTH COUNTY, NEW JERSEY

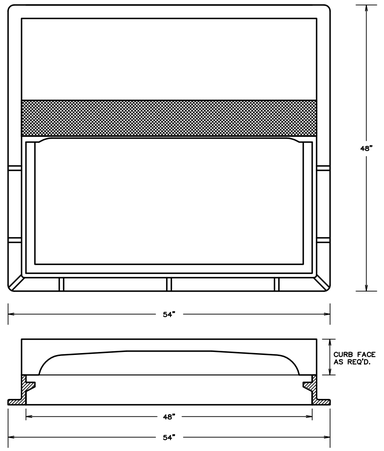
William E. Fitzgerald
Civil Engineers – Land Use Planners – Construction Managers
P.O. BOX 550 WEST LONG BRANCH, N.J. 07764 TELE: (732) 859-3481
WILLIAM E. FITZGERALD, PE, PP – N.J. LIC. NOS. 27369, 2888

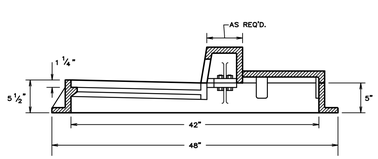
DATE: 12-03-19	SCALE: SHOWN
DRAWN:	CHKD.: W.E.F.
FILE: 0333	
DWG.: PARK19	SHEET: 27



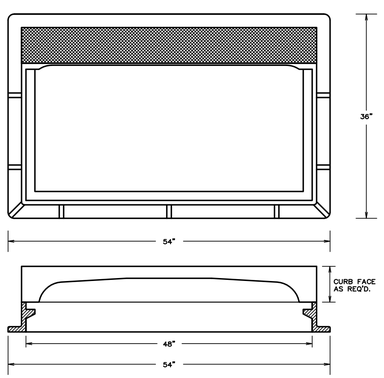
DETAIL: FRAME FOR INLET – TYPE 'E'

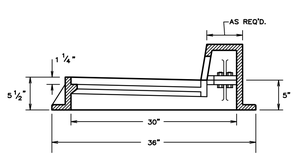
(CAMPBELL FOUNDRY PATTERN 3440 OR APPROVED EQUAL)



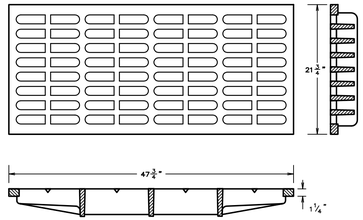


DETAIL: FRAME FOR INLET – TYPE 'B'





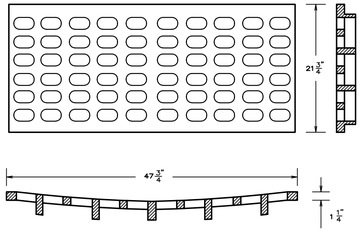
DETAIL: FRAME FOR INLET – TYPE 'D'



DETAIL: BICYCLE GRATE FOR INLETS

CAMPBELL PATTERN NUMBER 2617 0362 OR EQUAL)

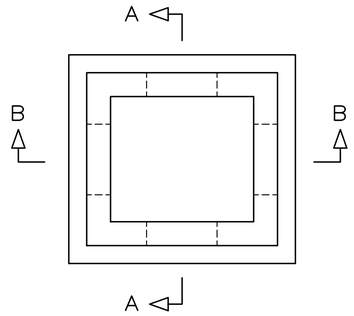
(FOR INSTALLATION IN ALL STREET INLETS)



DETAIL: HIGHWAY GRATE FOR INLETS

(CAMPBELL PATTERN NUMBER 2501 OR EQUAL)

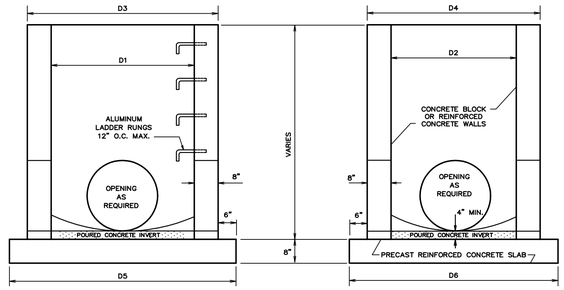
(FOR INSTALLATION IN ALL YARD INLETS)



PLAN VIEW

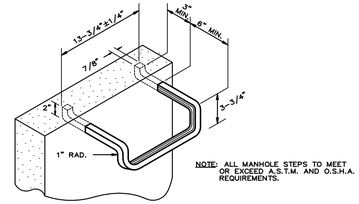
INLET CHAMBER DIMENSIONS

INLET TYPE	DIMENSION					
	D1	D2	D3	D4	D5	D6
A	48"	22"	64"	38"	76"	34"
B	48"	42"	64"	58"	76"	54"
D	48"	30"	64"	46"	76"	42"
E	48"	45"	64"	61"	76"	57"



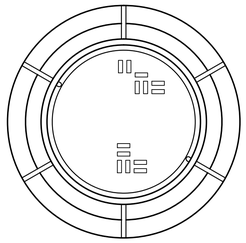
SECTION B–B SECTION A–A

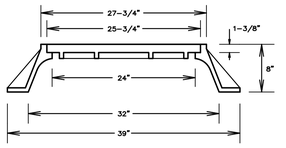
DETAIL: STANDARD DRAINAGE INLET CHAMBER



NOTE: ALL MANHOLE STEPS TO MEET OR EXCEED A.S.T.M. AND O.S.H.A. REQUIREMENTS.

DETAIL: ALUMINUM RUNG FOR INLETS AND MANHOLES





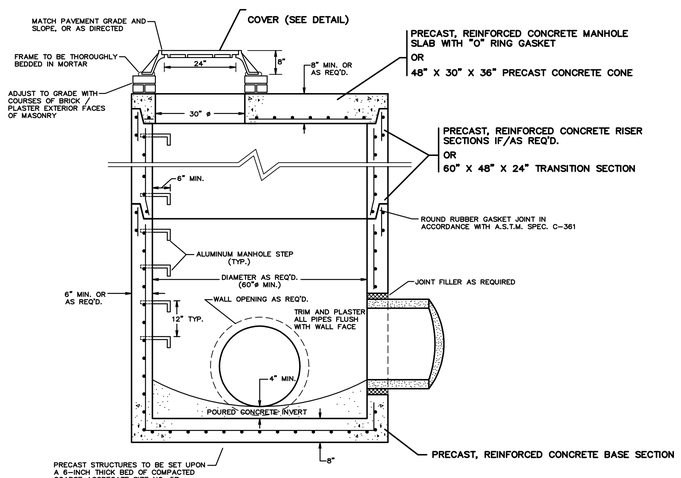
NOTES

1. MATERIAL: GRAY CAST IRON, ASTM A48, CLASS 30.
2. BEARING SURFACE OF FRAME AND COVER SHALL BE MILL MACHINED.
3. ALL CASTINGS SHALL BE ASPHALTUM DIP COATED.
4. COVER TO BE TOE COPE DESIGN.
5. ALL TYPES OF COVERS SHALL BE LETTERED AS SHOWN ON STANDARD COVER. ALL LETTERING 1–1/2" BLOCK STYLE, RAISED.
6. TWO (2) WATERTIGHT PICK HOLES.
7. CAST IRON SURFACES ON EITHER SIDE OF GASKET SHALL BE MILL MACHINED.
8. GASKET IS 1/2" FLAT NEOPRENE, STYLE 97CP.
9. STANDARD FRAMES AND COVERS TO CONFORM TO CAMPBELL FOUNDARY COMPANY, OR AN APPROVED EQUAL.
10. CONTRACTOR TO PROVIDE CERTIFICATION THAT ALL FRAMES AND COVERS ARE AMERICAN MANUFACTURED.

DETAIL: STANDARD MANHOLE FRAME AND CASTING

(CAMPBELL PATTERN NO. 1203B

STANDARD MANHOLE FRAME AND



DETAIL: PRECAST REINFORCED CONCRETE DRAINAGE MANHOLE

(NOT TO SCALE)

REVISION NO.	REVISION DATE	DESCRIPTION OF REVISION
1	04-01-21	REISSUED

STORMWATER CONSTRUCTION DETAILS — COLLECTION SYSTEM STRUCTURES

MONMOUTH UNIVERSITY

'D' & 'C' VARIANCES / PRELIMINARY & FINAL SITE PLANS

BLOCK 39, LOTS 1 THRU 5, 7, 8, 9, 11, 12.01 & 12.02 – – TAX MAP SHEET NOS. 15 & 18

ADJACENT STREETS: LARCHWOOD, CEDAR & NORWOOD AVENUES – – LAND USE ZONES: R-22 & I

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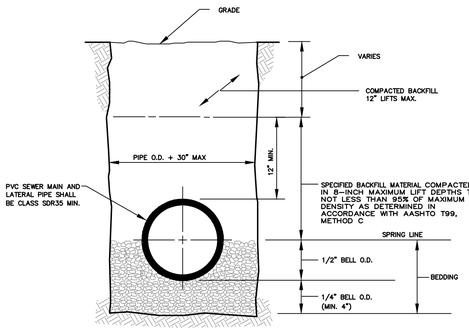
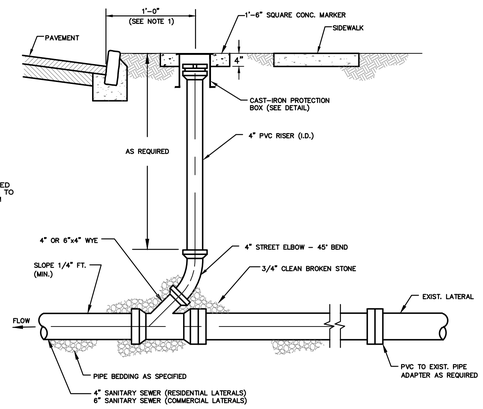
DATE: 12-03-20	SCALE: SHOWN		
DRAWN:	CHKD.: W.E.F.		
FILE: 0333			
DWG.: PARK19	SHEET: 28		



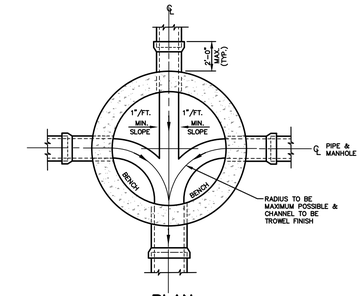
NOTES:
1. CONDUIT BEDDING SHALL BE ASTM C33 SAND.
2. HYDROHAMMERS ARE NOT TO BE USED 3' OR LESS FROM TOP OF PIPE.

STANDARD PVC PIPE BEDDING DETAIL
N.T.S.



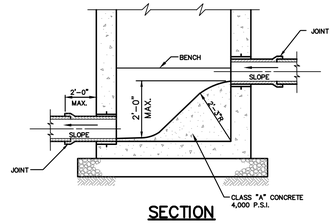
NOTES:
1. CLEANOUT SHALL BE LOCATED (1) ONE FOOT BEFORE PROPERTY LINE IF NO CURB EXISTS, OR AS DIRECTED BY THE ENGINEER.
2. CONTRACTOR SHALL FABRICATE AND SUPPLY (2) WRENCHES TO L.B.S.A. FOR REMOVAL OF CLEAN-OUT CAP.
3. PIPE SHALL BE SDR35 PVC UNLESS SPECIFICALLY APPROVED OTHERWISE.

STANDARD CLEANOUT DETAIL
N.T.S.



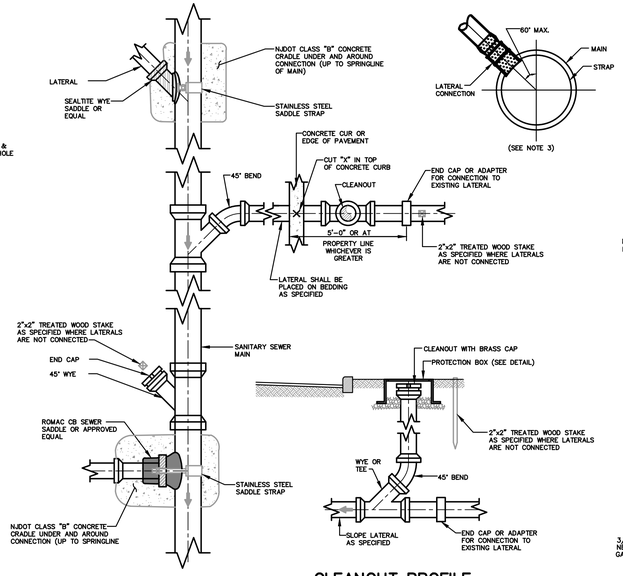
PLAN

NOTE:
MANHOLE CHUTE IS TO BE USED WHERE DIFFERENCE IN INVERT ELEVATIONS BETWEEN INCOMING PIPE AND OUTGOING PIPE IS LESS THAN 2'-0". IF THE DIFFERENCE IS 2'-0" OR GREATER, THEN DROP CONNECTION SHALL BE MADE AS SHOWN IN DETAIL BELOW. CHANNELING SHALL BE DONE AS SHOWN IN DETAIL ABOVE.



SECTION

MANHOLE CHUTE
N.T.S.

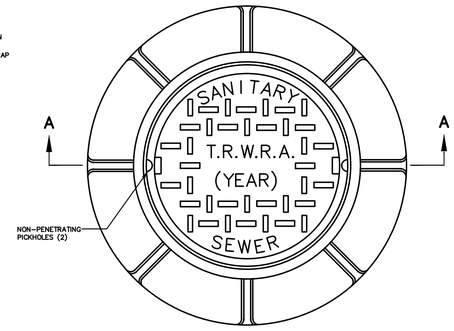


PLAN

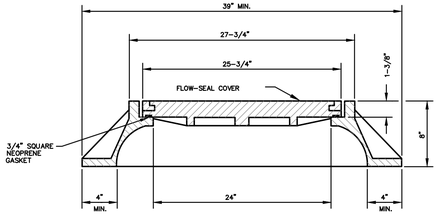
CLEANOUT PROFILE

CONSTRUCTION NOTES:
1. DETAIL SHOWS CONSTRUCTION OF A NEW BRANCH CONNECTION AND OF TWO (2) DIFFERENT ACCEPTABLE TYPES OF CUT IN CONNECTION. REFER TO INSERTA-TEE DETAIL FOR ANOTHER CUT IN TYPE CONNECTION. TYPE OF CUT IN CONNECTION IS AT CONTRACTORS OPTION.
2. SIZE OF LATERAL TO BE AS SHOWN ON THE PLANS, 4" FOR RESIDENTIAL AND 6" FOR COMMERCIAL MINIMUM.
3. WHEREVER POSSIBLE LATERAL CONNECTION TO MAIN PIPE SHALL BE POSITIONED AT 60° ANGLE OR LESS MEASURED FROM THE MAIN TOP. CONTRACTOR TO OBTAIN AUTHORITY'S APPROVAL FOR ANGLES LARGER THAN 60°.
4. ALL OPENINGS IN SANITARY SEWER MAIN FOR CUT IN TYPE OF LATERAL CONNECTION SHALL BE MADE USING CORE DRILLING. BREAK IN TECHNIQUE SHALL NOT BE USED.

BRANCH AND LATERAL CONNECTION
N.T.S.



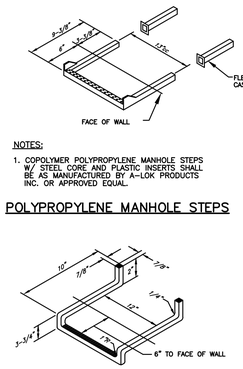
PLAN



NOTES:
1. MANHOLE FRAME AND COVER SHALL BE PATTERN NO. 1203B W/ FLOW-SEAL COVER AS MANUFACTURED BY THE CAMPBELL FOUNDARY CO., OR APPROVED EQUAL.
2. MANHOLE FRAME AND COVER TO BE HEAVY DUTY, CONFORMING TO A.S.T.M. SPECIFICATION A-48 CLASS 30-B WITH SHOP COAT OF ASPHALTIC PITCH.
3. IN EASEMENTS AND REMOTE AREAS COVER LOCKING DEVICES OF BRONZE AND KEY SHALL BE PROVIDED.

SECTION A-A

STANDARD OR WATERTIGHT SANITARY MANHOLE FRAME & COVER
N.T.S.



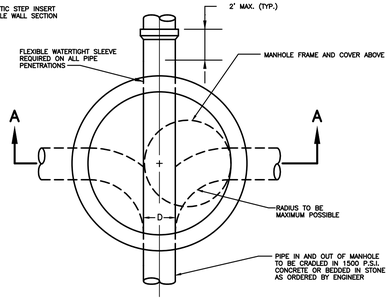
NOTES:
1. ALUMINUM MANHOLE STEPS SHALL BE EXTRUDED 6061-T6 ALUMINUM ALLOY OR APPROVED EQUAL.
2. PORTION EMBEDDED IN MASONRY TO BE COATED WITH ZINC CHROMATE, BITUMINOUS PAINT OR APPROVED EQUAL.

ALUMINUM MANHOLE STEPS

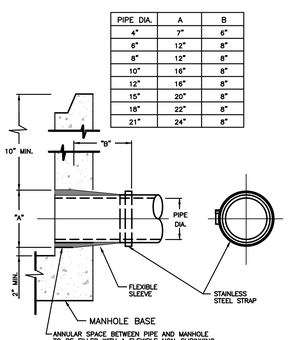
M.H. STEPS

NOTES:
1. COPOLYMER POLYPROPYLENE MANHOLE STEPS W/ STEEL CORE AND PLASTIC INSERTS SHALL BE AS MANUFACTURED BY A-LOK PRODUCTS INC. OR APPROVED EQUAL.

POLYPROPYLENE MANHOLE STEPS



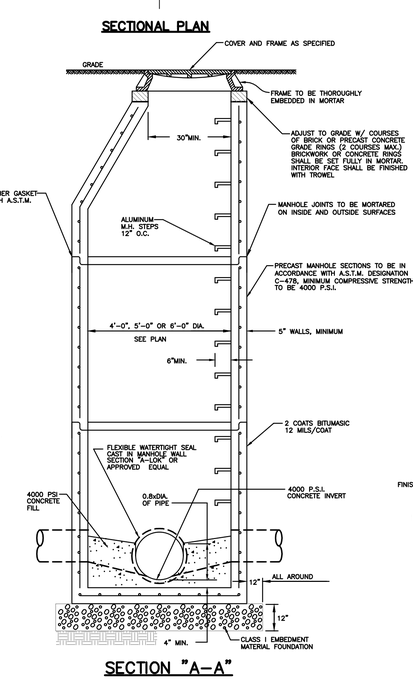
SECTIONAL PLAN



PIPE DIA.	A	B
4"	7"	6"
6"	12"	8"
8"	12"	8"
10"	16"	8"
12"	16"	8"
15"	20"	8"
18"	22"	8"
21"	24"	8"

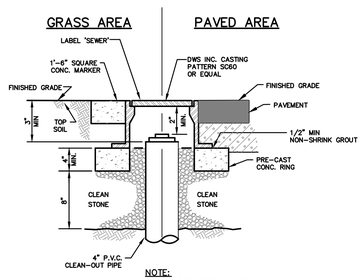
NOTES:
1. FLEXIBLE MANHOLE SLEEVE SHALL BE A-LOK OR APPROVED EQUAL.
2. FLEXIBLE MANHOLE SLEEVE SHALL BE USED WHENEVER ADVERSE FIELD CONDITIONS REQUIRE ADJUSTMENT TO PIPE POSITION. PIPE OPENING SHALL BE MADE USING CORE DRILLING UNLESS OTHERWISE APPROVED BY THE ENGINEER.

FLEXIBLE MANHOLE SLEEVE



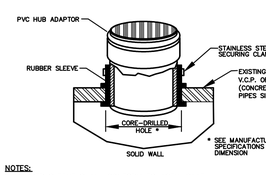
SECTION "A-A"

STANDARD PRECAST MANHOLE DETAIL
N.T.S.

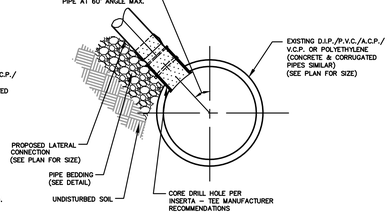


NOTE:
1. ALL PVC CLEAN-OUTS TO HAVE FRAME & COVER

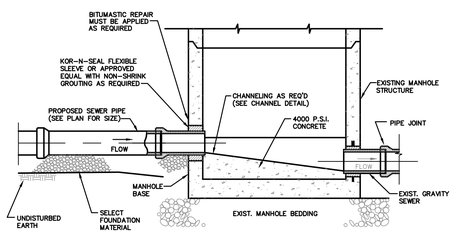
CLEAN-OUT PROTECTION BOX DETAIL
N.T.S.



NOTES:
1. RUBBER SLEEVE SHALL CONFORM TO ASTM-C443.
2. SECURING CLAMP SHALL BE SS#301 (BEND AND HOUSING), SS#305 (SCREW)
3. HUB ADAPTOR SHALL BE PVC PER ASTM D3034 (SDR SAME AS LATERAL PIPE).



DETAIL OF INSERTA TEE CONNECTION
N.T.S.



TYPICAL SECTION

CONSTRUCTION NOTES:
1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING OPERATION OF THE EXISTING SEWERS CONNECTED TO THE EXISTING MANHOLE. AT NO TIME SHALL THE CONSTRUCTION OF THE NEW SEWER MAIN IMPEDE THE OPERATION OF THE EXISTING SANITARY SEWERS.
2. WHERE NEW PIPE IS TO BE CONNECTED INTO AN EXISTING MANHOLE, THE CONTRACTOR SHALL CORE DRILL ALL HOLES INTO MANHOLE WALL AND SHALL PERFORM ALL CUTTING AND PATCHING NECESSARY FOR CHANNEL AND BENCH RECONSTRUCTION, TO CHANNEL FLOW INTO EXISTING SEWER.
   PIPE SHALL BE SEALED USING KOR-N-SEAL MANHOLE ADAPTERS OR APPROVED EQUAL AND NON-SHRINK GROUT.
   EXISTING BENCH SHALL BE CHIPPED AND CUT AWAY TO ALLOW FOR NEW CHANNEL TO BE CONSTRUCTED AND TO PROVIDE A GOOD, SOUND SURFACE FOR BONDING WITH NEW CONCRETE CHANNEL AND BENCH.
   ALL LOOSE CONCRETE, RUST OF REINFORCING RODS, AND OTHER FOREIGN MATERIALS SHALL BE REMOVED AND THE CAVITY CLEANED WITH WATER OR AIR UNDER PRESSURE, AS NECESSARY. APPLY EPOXY BONDING AGENT PRIOR TO POURING CONCRETE.
   THE CONCRETE USED TO CONSTRUCT BENCHES AND CHANNELS SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4000 P.S.I.
3. ANY DAMAGE TO THE EXISTING MANHOLE CAUSED BY THE CONSTRUCTION OPERATIONS SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER.

SEWER CONNECTION TO EXISTING MANHOLE DETAIL
N.T.S.

REVISION NO.	REVISION DATE	DESCRIPTION OF REVISION
1	04-01-21	REISSUED

CONSTRUCTION DETAILS - SANITARY SEWER / TREATMENT WORKS

MONMOUTH UNIVERSITY

"D" & "C" VARIANCES / PRELIMINARY & FINAL SITE PLANS

BLOCK 39, LOTS 1 THRU 5, 7, 8, 9, 11, 12.01 & 12.02 - - TAX MAP SHEET NOS. 15 & 18

ADJACENT STREETS: LARCHWOOD, CEDAR & NORWOOD AVENUES - - LAND USE ZONES: R-22 & I

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DATE: 12-03-20	SCALE: SHOWN
DRAWN:	CHKD.: W.E.F.
FILE: 0333	
DWG.: PARK19	SHEET: 29

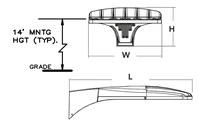
D-Series
Size 0
LED Area Luminaire

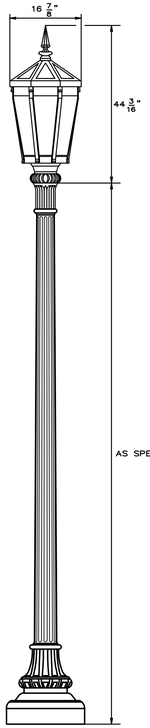
POLE TO BE SQUARE, STRAIGHT, STEEL POLE "SSS" SERIES BY LITHONIA BLACK FINISH OR A.E. — CROSS SECTION DIMENSION VARIES WITH POLE HEIGHT

dseries

Specifications

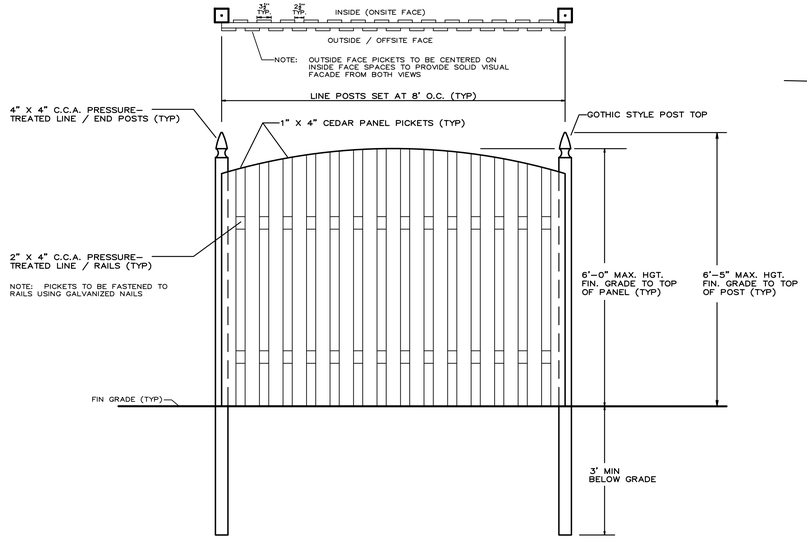
EPA:	0.8 ft² (.07 m²)
Length:	26" (66.0 cm)
Width:	13" (33.0 cm)
Height:	7" (17.8 cm)
Weight (max):	16 lbs (7.25 kg)





DETAIL: ORNAMENTAL SITE LIGHT

STERNBERG – MAIN STREET / BARRINGTON TAPERED FLUTED POST
(NOT TO SCALE)



DETAIL: TYPICAL 6'–TALL CEDAR SCREEN FENCE PANEL

NOTE: STYLE TO BE CUSTOM BOARD–ON–BOARD / CONVEX

NOTES

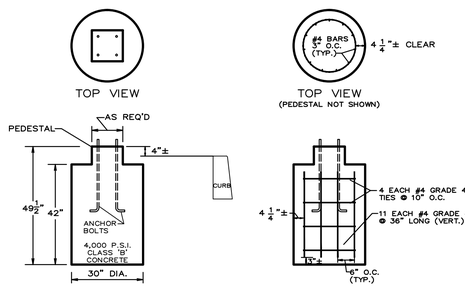
1. ALL ALUMINUM TO BE ALLOY 6061–T6 OR AS OTHERWISE APPROVED BY THE ENGINEER.
2. ROLLED BARS TO MEET ASTM B211; EXTRUDED BARS TO MEET ASTM B221.
3. FASTENERS/METHOD OF FASTENING STRINGERS TO PILLARS TO BE APPROVED BY THE ENGINEER PRIOR TO FABRICATION.

DETAIL: TYPICAL SECTION ORNAMENTAL METAL PICKET FENCE

NOTE: BUILDING MOUNTED SECURITY LIGHT TO BE 75W, L.E.D. FULL CUTOFF FIXTURE BY WARELIGHT OR A.E.

DETAIL: 75W WALL PACK

(NTS)



DIMENSIONS
(REINFORCEMENT NOT SHOWN)

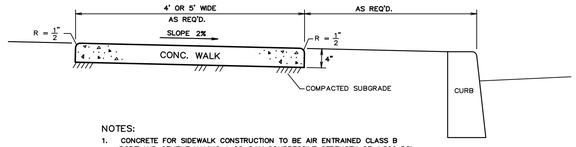
REINFORCING

DETAIL: ST'D. SITE LIGHT FOUNDATION

NOTES:

1. CONDUIT SWEEPS THROUGH FOUNDATIONS ARE NOT SHOWN.
2. WHERE POLE–MOUNTED SITE LIGHTS WILL BE INSTALLED DIRECTLY WITHIN BITUMINOUS PARKING AREAS OR WITHIN 3 FEET OF A CURB LINE BORDING HEAD–IN PARKING STALLS, REINFORCED CONCRETE FOUNDATIONS SHALL BE EXTENDED, VERTICALLY, A MINIMUM OF 36 INCHES ABOVE THE FINISHED PAVEMENT SURFACE. POLE HEIGHTS SHALL BE ADJUSTED ACCORDINGLY TO MEET DESIGN MOUNTING HEIGHTS.
3. THE PERMANENTLY EXPOSED CONCRETE SURFACE(S) OF ALL SITE LIGHT FOUNDATIONS LOCATED WITHIN PARKING AREAS (SEE NOTE 2 ABOVE) SHALL BE FINISHED WITH A CLASS 2 RUBBED FINISHED IN ACCORDANCE WITH NJDOT STANDARD SPECIFICATION SECTION 501.14(B).
4. PEDESTAL SHAPES/DIMENSIONS SHALL VARY AS NECESSARY TO PROVIDE A MINIMAL/SATISFACTORY STRUCTURE UPON WHICH TO MOUNT SITE LIGHT ASSEMBLIES

IN GENERAL, OUTSIDE DIMENSION OF PEDESTAL SHALL BE TWO TO THREE INCHES (2" – 3") LARGER THAN OUTSIDE DIMENSION OF LIGHT POLE BASE COVER

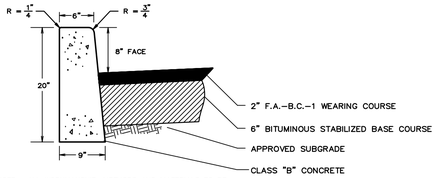


NOTES:

1. CONCRETE FOR SIDEWALK CONSTRUCTION TO BE AIR ENTRAINED CLASS B PORTLAND CEMENT HAVING A 28–DAY COMPRESSIVE STRENGTH OF 4,500 PSI.
2. 1/2" THICK PREFORMED BITUMINOUS JOINT FILLER SHALL BE USED TO CONSTRUCT TANSVERSE EXPANSION JOINTS AT 20' O.C.
3. TRANSVERSE GROOVES (CONSTRUCTION JOINTS) SHALL BE STRUCK AT 4' O.C. OR AS OTHERWISE REQUIRED BY THE PLAN.
4. WHERE CONCRETE SIDEWALK OR APRON SLABS ARE TO BE CONSTRUCTED IMMEDIATELY ADJACENT TO CONCRETE OR GRANITE CURB, A LONGITUDINAL EXPANSION JOINT CONSTUCTED OF 1/2" THICK PREFORMED BITUMINOUS JOINT FILLER SHALL SEPARATE SLAB AND CURB.
5. SIDEWALK SLABS SHALL BE CONSTUCTED 6" THICK AT DRIVEWAY ENTRANCES AND SHALL BE REINFORCED WITH 6"X6" #6 GAUGE WIRE MESH, SET 2" ABOVE OF THE BOTTOM OF THE SLAB.

DETAIL: CONCRETE WALK

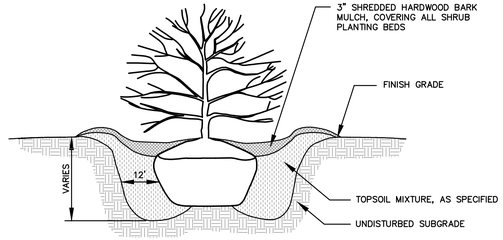
NOT TO SCALE



NOTE: ALL WORKMANSHIP, METHODS AND MATERIALS TO BE IN ACCORDANCE WITH N.J.D.O.T. "STANDARDS FOR ROAD AND BRIDGE CONSTRUCTION", LATEST EDITION

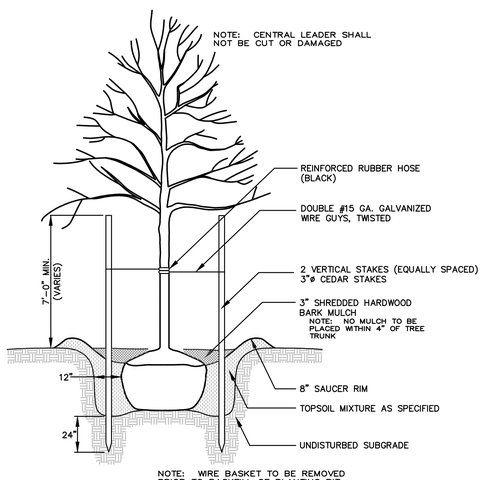
DETAIL: CURB AND PAVEMENT SECTION

(WITHIN COUNTY R.O.W.)



DETAIL: SHRUB PLANTING

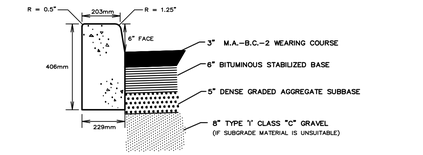
NOT TO SCALE



NOTE: WIRE BASKET TO BE REMOVED PRIOR TO BACKFILL OF PLANTING PIT

DETAIL: SHADE TREE STAKING

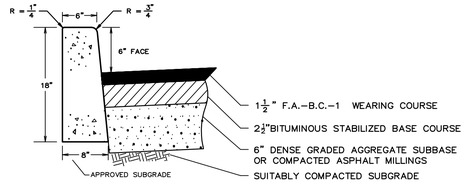
NOT TO SCALE



NOTE: ALL WORKMANSHIP AND MATERIALS TO BE IN ACCORDANCE WITH N.J.D.O.T. "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION," LATEST REVISION AND/OR SUPPLEMENT

DETAIL: N.J.D.O.T. WHITE CONCRETE CURB AND PAVEMENT

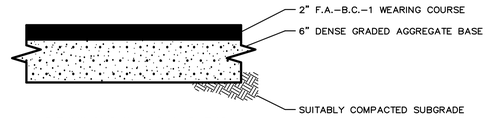
(FOR HIGHWAY PAVM'T. CONST. AND REPAIR)



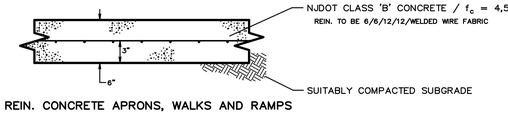
NOTES:
1. CONCRETE FOR CURB CONSTRUCTION TO BE A.E. CLASS B PORTLAND CEMENT CONCRETE HAVING A 28–DAY STRENGTH OF 4,500 P.S.I.
2. 1/2" THICK PREFORMED BITUMINOUS JOINT FILLER SHALL BE USED TO CONSTRUCT EXPANSION JOINTS AT 20' O.C.
3. CONSTRUCTION JOINTS SHALL BE CONSTRUCTED AT 20' O.C. AND OFFSET 10' O.C. FROM EXPANSION JOINTS

DETAIL: CONCRETE CURB AND PAVEMENT SECTION

(FOR ONSITE IMPROVEMENT CONSTRUCTION)



BITUMINOUS WALKS & PATHS



REIN. CONCRETE APRONS, WALKS AND RAMPS

DETAIL: MISCELLANEOUS PAVEMENT SECTIONS

REVISION NO.	REVISION DATE	DESCRIPTION OF REVISION
1	04–01–21	ADD LIGHTING, PLANTING DETAILS; MISC REVS

CONSTRUCTION DETAILS – MISC. SITE IMPROVEMENTS MISCELLANEOUS SITE IMPROVEMENTS

MONMOUTH UNIVERSITY

'D' & 'C' VARIANCES / PRELIMINARY & FINAL SITE PLANS

BLOCK 39, LOTS 1 THRU 5, 7, 8, 9, 11, 12.01 & 12.02 – – TAX MAP SHEET NOS. 15 & 18
ADJACENT STREETS: LARCHWOOD, CEDAR & NORWOOD AVENUES – – LAND USE ZONES: R–22 & I

BOROUGH OF WEST LONG BRANCH MONMOUTH COUNTY, NEW JERSEY

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WILLIAM E. FITZGERALD, PE, PP – N.J. LIC. NOS. 27369, 2888

DATE: 12–03–20	SCALE: SHOWN
DRAWN:	CHKD.: W.E.F.
FILE: 0333	
DWG.: PARK19	SHEET: 30