

**Municipality/Organization:** Town of Dennis

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**EPA NPDES Permit Number:** MAR041103

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**MADEP Transmittal Number:** W-041145

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**Annual Report Number** Year 14  
**& Reporting Period:** April 1, 2016 - March 31, 2017

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## **NPDES PII Small MS4 General Permit\ Annual Report**

### **Part I. General Information**

**Contact Person:** Thomas Andrade **Title:** Acting Town Engineer

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**Telephone #:** (508) 760-6166 **Email:** tandrade@town.dennis.ma.us

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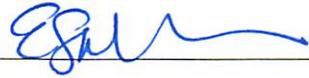
### **Certification:**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information,

including the possibility of fine and imprisonment for knowing violations.

Signature:

Printed Name: Elizabeth Sullivan



Title: Town Administrator

Date:

4/28/17

**Part II. Self-Assessment**

The Town of Dennis has completed the required self-assessment and has determined that our municipality is currently in compliance with all permit conditions. During the past year various responsible Town Departments have continued to educate the public on protecting our waterways, monitored and enforced protection standards. Updates to the storm water infrastructure database were also made. A program of installing BMPs and other pollution mitigation measures on town roads and paved parking lots was continued this past year with the goal of pollution reduction and improved water quality.

**Part III. Summary of Minimum Control Measures**

**1. Public Education and Outreach**

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year (Reliance on non-municipal partners indicated, if any)	Planned Activities – next Permit Year
1.1	Provide literature & pamphlets	Director of Natural Resources Karen Johnson	Provide literature w/ off-road & shellfish permits	Maintained brochures in information tree in office with the theme “Think Globally-Act Locally” and educational kiosks at Crowes Pasture, Chapin Beach, Flax Pond and other conservation areas.	Continue to expand and update brochure selection. Maintain educational material in the kiosks at all conservation areas regarding public and conservation management. Maintain educational information provided on the Town of Dennis Natural Resources Department web page.
Revised					

1.2	Provide Public awareness classes	Shellfish Officer Chris Southwood	Provide Information to school children	CRABS. (Commercial Recreational Association for Better Shellfish), a local volunteer group, held educational events to promote shellfish, clean herring runs, quahog seeding, oyster farming, and other educational instruction with a web site <a href="http://www.denniscrabs.com">www.denniscrabs.com</a> Provided educational program at the Dennis Public Library.	Continue to expand CRAB volunteer programs and activities aimed at educating public on aqua culture and pollution of estuaries.
Revised					
1.3	Provide Literature & Information	Acting Town Engineer Tom Andrade	Provide literature & Information to public	Maintained webpage with link to NPDES website.	Continue to improve website to include information and project related information. Continue to work with other Cape communities in public outreach under the Barnstable County Public Works Association.
Revised					
1.4	Provide Literature and Information	Town Planner Daniel Fortier	Provide information to the public through the Town of Dennis Planning Department Weblog	The Planning Department has made use of the Weblog to reach out to residents, property owners and builders to keep them aware of local issues. Storm water Management and other site design issues are addressed regularly on the Weblog	Continue to provide information on site design and storm water issues through the Weblog.
Revised					
1.5	Provide literature and information	DPW Director David Johansen	Provide "Project Storm" bookmarks and workbooks to children as well as pamphlets for adults.	DPW sponsored a booth at annual National Night Out.	Continue to have educational booth at National Night Out and other community education events.
Revised					

1.6	On-going educational programs on land stewardship, water quality & shell fishing.	Director of Natural Resources Karen Johnson	Participate in local fairs and educational events to provide information.	“Learn to Shellfish Day”; snow fencing installed on beach and conservation areas. Cleanup of beach and conservation areas.	Continue to hold and expand curriculum and work with AmeriCorps Cape Cod
Revised					

**1a. Additions**

## 2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year (Reliance on non-municipal partners indicated, if any)	Planned Activities – next Permit Year
2.1	Sponsor & Advertise Household Hazardous Waste Collection Days	Board of Health, Dennis Water District, DPW, Health Director Terry Hayes	Encourage proper disposal of hazardous materials	Two (2) Household Hazardous Waste Collection Days held: June 4, 2016 with 4,250 gallons and 19,325 pounds collected and September 10, 2016 with 2,925 gallons and 14,065 pounds collected.	Conduct two (2) Household Hazardous Waste Collection Days Continue to do advertisements & mailings to residents and businesses that are small quantity generators
Revised					
2.2	Volunteer Coast Sweep	Director of Recreation Dustin Pineau	Bi-Annual Town Beach Cleaning	Spring and fall cleanup of all town beaches by volunteers.	Expand volunteer network to monitor and expand sweep to include coastal conservation areas (Natural Resources). Develop an “Adopt a Beach” program.
Revised					
2.3	Pet waste management	Animal Control Officer Lori Miranda,	Dog Waste Mitt dispensers installed on public parks, beaches and conservation areas. Create “Waste Disposal” By-Law	Increased fines for Dog Waste By-law and added more stringent rules that require anyone with an animal have dog mitts or bags on their possession. Mitt dispensers maintained at 17 locations. Completed Fresh Pond Dog Park work, Mayflower Beach and West Dennis Beach Resident Parking area. Provided disposal mitts and waste receptacles at Town Beaches	Continue to maintain dog waste dispensers. Add dispensers to Bayview Beach & Flax Pond,
Revised					
2.4	Proper Disposal of Boat Septic Storage Tanks.	Harbor Master Terrence Clen	Notify Boat Owners annually	Posted notices and flyers sent promoting pump-out facility installed at Sesuit Harbor.	Continue to encourage public use of pump-out facility
Revised		Harbor Master Dawson Farber			

2.5	Develop dredge program for Swan Pond River and Bass River to increase flushing	Harbor Master Terrence Clen		Louis Berger Inc. Consulting Engineer, continued application for a 10 year comprehensive dredging permit for Bass River, Swan Pond River & Chase Garden Creek.	Continue permitting process for town wide dredging projects to increase tidal flushing. Finalize and seek approval for 10 year dredge permit.
Revised		Harbor Master Dawson Farber			
2.6	Enforcement Agency	Police Chief Peter DiMatteo	Enforcement of Sate Illegal Disposal Law	Enforcement of illegal dumping laws.	Add literature and information on illegal activities to Department web site.
Revised					
2.7	Volunteer Land Steward Program	Director of Natural Resources Karen Johnson	Quarterly land inspections	Inspections and cleanup of conservation lands quarterly.	Expand volunteer network to monitor and clean conservation areas periodically.
Revised					

**2a. Additions**

### 3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year (Reliance on non-municipal partners indicated, if any)	Planned Activities – next Permit Year
3.1	Identify Discharge and Map Discharges	Acting Town Engineer Tom Andrade	Identify & prioritize	Continued to identify and update Outfall map to include spillways and outfalls into non-Federal waters. Study of Pound Pond system completed by Tighe & Bond and recommendations made for water quality improvements.	Continue to request funding for installation of storm water mitigation measures. Review conceptual alternatives for storm water improvement at Pound Pond
Revised					
3.2	Notify Owners of Violation eliminate using BMP	Acting Town Engineer Thomas Andrade	Identify & eliminate all known discharges.	Monitored for illicit discharges.	Continue to monitor and investigate any reported or uncovered illicit stormwater discharges.
Revised					
3.3	Enforcement Agency	Police Chief Peter DiMatteo	Enforcement of Sate Illegal Disposal Law	Continued to enforce illegal dumping laws	Add literature and information on illegal activities to Department web site.
Revised					
3.4	Illicit Discharge/hazardous Spill investigation	Health Director Terry Hayes	Identify and investigate	No illicit discharges or hazardous material spills reported..	Continue to monitor for illicit discharge/hazardous spills.
Revised					
3.5	Identify and GIS Map Storm water discharges	GIS Specialist Alicia Messier	Identify & prioritize	80% of outfalls resurveyed with GPS and added more accurate locations to GIS maps	Complete outfall resurvey and continue to update mapping and database.
Revised					

#### 3a. Additions

#### 4. Construction Site Storm Water Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year (Reliance on non-municipal partners indicated, if any)	Planned Activities – next Permit Year
4.1	Storm Water Management By-Law	Dennis Board of Selectmen Chairman Paul McCormick	Storm water & erosion control Standards & Enforcement	Stormwater Management Rules and Regulations in effect. Stormwater Permit required for all site developments over 20,000 sf.	Review policy and update as needed.
Revised					
4.2	Order of Conditions	Conservation Commission- George Macdonald, Chairman	Eliminate Runoff & erosion during construction.	Enforced Order of Condition requirements for all projects.	Continue to monitor and enforce Order of Condition requirements for erosion protection and runoff elimination.
Revised					
4.3	Subdivision Rules & Regulations	Planning Board Robert Mezzadri, Chair	Eliminate runoff & erosion during construction.	Monitored all subdivision plans for possible storm water runoff.	Continue to monitor projects for and the elimination of storm water runoff
Revised					
4.4	Estuary study	Dennis Comprehensive Wastewater Management Task Force. Natural Resource Dept.	Evaluate Swan River, Swan Pond, Sesuit Creek and Chase Garden Creek and establish Total Maximum Daily Limit for nitrogen loading	Conducted water sampling using DNR staff and volunteers under the direction of the Department of Natural Resources as part of the DEP/SMAST study to establish the Total Maximum Daily Limit for Nitrogen Loading for estuaries.	Conducting water sampling using Department of Natural Resources staff and Water Quality Committee volunteers under the direction of the Department of Natural Resources until DEP/SMAST study com Collaborative project with the Town of Yarmouth & SMAST utilizing remote set oysters in Bass River to provide nitrogen remediation complete.
Revised					

4.5	Zoning	Zoning Board of Appeals Ernie Oliveira, Chair & Planning Board, R. Mezzadri, Chair	Eliminate runoff and erosion during construction	Monitored all commercial development for possible storm water run-off. Makes recommendations on storm water design and construction.	Continue to monitor projects for and the elimination of storm water runoff.
Revised					
4.6	Pond and Lake Stewards (PALS) Study	Water Quality Advisory Committee, Suzanne Brock, Chair.	Evaluate water quality in Dennis ponds.	Scargo Lake Water Quality Management Report completed. Cedar Pond data collection complete	Continue sampling and water quality investigations of Dennis ponds. Finalize contract with SMAST to review 10 years of data.
Revised					

#### 4a. Additions

4.7	Staff Review, Zoning and Subdivision	Staff Review Committee, Dan Fortier Town Planner	Review all projects in Dennis for Storm water impacts	The Staff Review process was established to coordinate the review of all development projects across a variety of subject areas. The review provides the opportunity for multi-jurisdictional involvement in new development.	Continue the weekly staff review meetings.
Revised					

## 5. Post-Construction Storm Water Management in New Development and Redevelopment

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year (Reliance on non-municipal partners indicated, if any)	Planned Activities – next Permit Year
5.1	Storm water By-Law and Regulations	Board of Selectmen Acting Town Engineer Thomas Andrade	Storm water & Erosion Control Standards & enforcement	Continued oversight, inspection and enforcement of the Storm water By-law. Reviewed 76 Building Permit applications for storm water compliance	Monitor Stormwater Management By-law and amend Rules and Regulations as necessary.
Revised					
5.2	Subdivision Rules & Regulations	Planning Board Rob. Mezzadri, Chair	Require conformity in all subdivisions with the Storm Water and Erosion Control Standards	Required all subdivisions to meet Town of Dennis Storm Water requirements.	Continue to require all subdivisions to meet Town of Dennis Storm Water requirements
Revised					
5.3	Zoning	Zoning Board of Appeals Ernie Oliveira, Chair & Planning Board, R. Mezzadri, Chair	Require conformity in all residential and commercial developments with the Storm Water and Erosion Control Standards	Require applicable commercial projects to meet Town of Dennis Storm Water requirements.	Continue to require all applicable commercial projects to meet Town of Dennis Storm Water requirements.
Revised					

### 5a. Additions

5.4	Building	Building Commissioner Brian Florence	Require conformity in all residential and commercial developments with the Storm Water and Erosion Control Standards	Require applicable commercial projects to meet Town of Dennis Storm Water requirements. Reviewed 35 site plans for conformance	Continue to require all applicable commercial projects to meet Town of Dennis Storm Water requirements.

Revised					
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## 6. Pollution Prevention and Good Housekeeping in Municipal Operations

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year (Reliance on non-municipal partners indicated, if any)	Planned Activities – next Permit Year
6.1 Revised	Street sweeping/ basin cleaning/ roadside mowing	DPW Director David Johansen	Maintenance of Drainage	Maintain Stormwater BMP for the Bass River/Kelly’s Bay/Follin’s Pond area. Beneficial use determination application submitted. Awaiting response from MassDEP.	Continue to request additional funding to increase number of basins cleaned. Beneficial Use Determination from MASSDEP (to dispose of catch basin cleanings on municipal property which would reduce per basin cost and increase number of basins cleaned) under review. Continue to maintain all Stormwater BMPs for the Bass River/Kelly’s Bay/Follins Pond area
6.2 Revised	Existing enclosed salt storage.	DPW Director David Johansen	Exposure reduction	Continued to maintain existing enclosed operations.	Maintain existing enclosed operations.
6.3 Revised	Regular vehicle maintenance	DPW Director David Johansen	Exposure reduction	Regular vehicle maintenance instituted.	Continue to refine and update maintenance programs. Implement “Equipment Tracker” operations program.
6.4 Revised	Existing enclosed vehicle storage & wash bay. Schedule weekly vehicle cleaning and assessment	DPW Director David Johansen	Exposure reduction	Maintained existing enclosed vehicle and wash bay.	Maintain existing enclosed operations.
6.5 Revised	Invite NEIWPC to speak. Employee education	DPW Director David Johansen	Provide information to employees. Exposure reduction	Enroll employees into seminars and demonstrations promoted by Bay State Roads and other organizations as they are scheduled.	Continue to enroll employees into seminars and demonstrations promoted by Bay State Roads and other organizations as they are scheduled.

6.6	Tidal stream cleanup.	Brian Everett, Land Manager, DNR	Pollutant removal	Instituted Bound Brook and Scargo Lake volunteer steward program to monitor herring run. Worked with AmeriCorps Cape Cod and Land Steward Program to clean up Sesuit Creek herring run.	Repeat and expand cleanup and monitoring program at Bound Brook and other locations including Scargo Lake.
Revised					
6.7	Control boat waste discharge	Harbormaster Dawson Farber	Exposure Reduction		Reevaluate pump out facility for south side boating. A new facility will provide better pump out options for boats using Bass River and Nantucket Sound which will improve water quality.
Revised					
6.8	Upgrade all beach/harbor bathhouse septic systems.	Dustin Pineau, Director of Recreation.	Exposure Reduction	Upgraded septic system to tight tank for Sesuit Harbor (East Side). Completed permitting.	Install tight tank and new bathroom facilities at Cold Storage Beach
Revised		DPW Deputy Director Greg Rounseville			
6.9	Erosion Control	DPW Director David Johansen Director of Natural Resources Karen Johnson	Prevent soil erosion from coastal and inland banks		Install retaining wall and beach grass at Corporation Beach to stabilize area
Revised					

## 6a. Additions

**7. BMPs for Meeting Total Maximum Daily Load (TMDL) Waste Load Allocations (WLA) <<if applicable>>**

<b>BMP ID #</b>	<b>BMP Description</b>	<b>Responsible Dept./Person Name</b>	<b>Measurable Goal(s)</b>	<b>Progress on Goal(s) – Permit Year (Reliance on non-municipal partners indicated, if any)</b>	<b>Planned Activities – next Permit Year</b>
7.1 Revised	Installation of leaching drainage systems	Acting Town Engineer Tom Andrade	Exposure reduction	Installed 13 drainage systems with deep sump catch basins and leaching structures, including installing BMP's on drainage system that flows to Corporation Beach, removing direct discharge and installing BMP's on Cedar Hill Road that discharged to Cedar Pond, and on Ellis Drive that discharged to wetland, put in grant application for stormwater improvements at town landing at Scargo Lake	Install remediation measures on Chase Avenue, Airline Road, Corporation Beach parking lot
7.2 Revised	Water quality sampling	Natural Resources Department Director of Natural Resources Karen Johnson	Ensure water quality	SMAST completed water quality data reports for Fresh and Cedar Ponds.	Continue and refine sampling program. Conduct monitoring annually.
7.3 Revised	Use compost material to stabilize shoulders	DPW Director David Johansen	Erosion control	Improved slope stabilization where necessary.	Continue and improve slope stabilization where necessary
7.4 Revised	Coastal Pollutant Remediation Program	Acting Town Engineer Tom Andrade	Exposure Reduction and/or elimination	Replace Fisk Street Culvert to replace failing culvert and improve flushing of Kelleys Bay	Replace portions of 30" tidal outfall that discharges at Inman Beach Continue to seek MassDOT assistance for Rte 28 at Bass River design and mitigation measures.
7.5	Weekly Water Sampling of Beaches during summer months	Health Director Terry Hayes	Ensure water quality	Weekly sampling of 22 beaches June thru August. Additional tests taken on days of 1" or greater rainfall. During	Repeat testing program.

Revised				summer of 2016 there was one (1) beach closure resulting in four (4) days closed	
7.6	Salt Marsh Restoration program	Director of Natural Resources Karen Johnson	Increase tidal flushing and improve fish and wildlife habitat.	Monitored and maintained herring runs. Conducted vegetation removal with volunteers.	Continue to coordinate with state agencies, COE and Town of Yarmouth for Bass River Railroad Bridge re-design. Pursue funding for post construction evaluation of Sesuit Creek/Bridge St Restoration project.
Revised					
7.7	Installation of Porous Pavement	Acting Town Engineer Thomas Andrade	Exposure Reduction	Did not install porous pavement	Propose installation of porous pavement on Sea Street.
Revised					

**7a. Additions**

**7b. WLA Assessment**

In 2002 the Town identified the Bass River and Kelley’s Bay area as the highest priority for immediate implementation of BMP solutions. Working with the Town of Yarmouth, most outfall locations along this water body have been identified and BMP solutions installed. The Town continues to seek funds to address mitigation measures for the MassDOT Route 28 outfall which flows into Bass River and the reconstruction of the Railroad bridge over Bass River to improve flushing. The Town has also identified Swan Pond and Swan Pond River as a high priority for an area of concern and is continues to institute mitigation measures and fund the dredging of the river mouth to increase flushing.

Based on the evaluation of the Division Street drainage system that drains a significant portion of Dennis Port Center into Pound Pond and a tidal creek outlets into Nantucket Sound, the town continues to pursue and fund mitigation measures to eliminate pollutant sources prior to their entering the system. Current plans for 2016 included additional subsurface leaching systems along a portion of Chase Avenue to eliminate first flush pollutants prior to them entering the system.

**Part IV. Summary of Information Collected and Analyzed**

A total of 22 Town beaches were tested on a weekly basis during the months of June, July and August 2015 and resulted in four (4) days of beach closures

**Part V. Program Outputs & Accomplishments (OPTIONAL)**

**Programmatic**

Storm water management position created/staffed	(y/n)	yes
Annual program budget/expenditures	(\$)	<\$50,000

**Education, Involvement, and Training**

Estimated number of residents reached by education program(s)	(# or %)	5 %
Storm water management committee established	(y/n)	Yes
Stream teams established or supported	(# or y/n)	No
Shoreline clean-up participation or quantity of shoreline miles cleaned	( yes)	3.2 mi
Household Hazardous Waste Collection Days		
▪ days sponsored	(#)	2
▪ community participation	(%)	944 households
▪ material collected	(tons or gal)	7,175 gal 33,390 lbs.
School curricula implemented	(y/n)	No

**Legal/Regulatory**

In Place  
Prior to      Under

	Phase II	Review	Drafted	Adopted
<b>Regulatory Mechanism Status (indicate with "X")</b>				
▪ Illicit Discharge Detection & Elimination	X			
▪ Erosion & Sediment Control				X
▪ Post-Development Stormwater Management				X
<b>Accompanying Regulation Status (indicate with "X")</b>				
▪ Illicit Discharge Detection & Elimination	X			
▪ Erosion & Sediment Control				X
▪ Post-Development Stormwater Management				X

### Mapping and Illicit Discharges

Outfall mapping complete	(%)	100%
Estimated or actual number of outfalls	(#)	90
System-Wide mapping complete	(%)	90%
<b>Mapping method(s)</b>		
▪ Paper/Mylar	(%)	100 %
▪ CADD	(%)	90 %
▪ GIS	(%)	80 %
Outfalls inspected/screened	(# or %)	100%
Illicit discharges identified	(#)	0
Illicit connections removed	(#) (est. gpd)	0
% of population on sewer	(%)	0 %
% of population on septic systems	(%)	100 %

### Construction

Number of construction starts (>1-acre)		6
Estimated percentage of construction starts adequately regulated for erosion and sediment control		100

Site inspections completed		30
Tickets/Stop work orders issued		0
Fines collected		0
Complaints/concerns received from public		2

### Post-Development Storm Water Management

Estimated percentage of development/redevelopment projects adequately regulated for post-construction storm water control	(%)	100
Site inspections completed	(# or %)	0
Estimated volume of storm water recharged	(gpy)	0

### Operations and Maintenance

Average frequency of catch basin cleaning (non-commercial/non-arterial streets)	(times/yr)	1 every 3 yrs
Average frequency of catch basin cleaning (commercial/arterial or other critical streets)	(times/yr)	1 every yr
Total number of structures cleaned	(#)	1,374
Storm drain cleaned	(LF or mi.)	15 LF
Qty. of screenings/debris removed from storm sewer infrastructure	(tons)	5,496
Disposal or use of sweepings (landfill, POTW, compost, recycle for sand, beneficial use, etc.)		Landfill
Cost of screenings disposal	(\$)	0

Average frequency of street sweeping (non-commercial/non-arterial streets)	(times/yr)	1 yr
Average frequency of street sweeping (commercial/arterial or other critical streets)	(times/yr)	3 x /yr
Qty. of sand/debris collected by sweeping	(lbs. or tons)	690 tons
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.)	(location)	Landfill

Cost of sweepings disposal	(\$)	0
Vacuum street sweepers purchased/leased	(#)	1
Vacuum street sweepers specified in contracts	(y/n)	0

Reduction in application on public land of: (“N/A” = never used; “100%” = elimination)		
▪ Fertilizers	(lbs. or %)	5%
▪ Herbicides	(lbs. or %)	5%
▪ Pesticides	(lbs. or %)	5%

Anti-/De-Icing products and ratios	% NaCl	50%
	% CaCl <sub>2</sub>	32%
	% MgCl <sub>2</sub>	0%
	% CMA	0%
	% Kac	0%
	% KCl	0%
	% Sand	50%
Pre-wetting techniques utilized	(y/n)	y
Manual control spreaders used	(y/n)	y
Automatic or Zero-velocity spreaders used	(y/n)	y
Estimated net reduction in typical year salt application	(lbs. or %)	0%
Salt pile(s) covered in storage shed(s)	(y/n)	y
Storage shed(s) in design or under construction	(y/n)	n